STS Association

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April 2023

**Compliance Test Specification – Entity Type F –
MeterApplicationProcess
for TCT = 01 and TCT = 02, Using EA=11**

CONTENTS

Revision History

Edition	Clause	Date	Change details from previous Edition
1.1		22 Feb 2015	Updated Edition number from 1 to 1.1 to match document set

1.4	General	Oct 2015	Updated Edition number from 1.1 to 1.4 to match document set. Corrected various token amounts in CTSF07, CTSF60 for Time and Currency tests.
1.5	General	April 2016	Changed to new Logo
1.6	General	June 2016	Highlighted UUT number in each test set
1.7	General	Nov 2016	Only Edition number changed from 1.6 to 1.7 to match the document suite
1.8			Not published
1.8.1	various	Sept 2017	Changed 'maximum power load' to 'maximum power limit' in various places.
	Annexure		Removed reference to token lockout since this only applies to VTC, and meter leaving the factory in DITK since this is the manufacture's responsibility only and cannot be tested
	CTSF74		Added note for TID stack depth of 62 and 63
1.8.2	CTSF77		Changed date of token to remove incorrect 'Old' error
1.9	Annexure	Aug 2017	Removed reference to token lockout since this only applies to VTC, and meter leaving the factory in DITK since this is the manufacture's responsibility only and cannot be tested
	various		Reformatted spaces in tests for readability Changed 'maximum power load' to 'maximum power limit' throughout the document.
	CTSF02		Changed unit resolution to 0.1 credit units for non currency payment meters, and 1 credit unit for currency based payment meters. (Ed3)
	CTSF03, 16, 17, 18, 36, 37, 55, 69, 70, 71		Added additional Test/Display tokens in all related tests. (Ed3)
	CTSF04, 19, 39, 72		Added token extension token tests as defined in STS202-5
	CTSF19, 39, 72		Changed Class 2 Subclass 10 tests for reserved tokens to Class 2 Subclass 11 since Subclass 10 is no longer reserved. (STS202-5)
1.9.1	4.1.4	March 2019	Added note to 4.1.4 regarding token combinations
	CTSF19, CTSF39, CTSF72		Added note to indicate that Class 2 subclass 11 may be accepted if proprietary tokens are implemented, but shall not be tested. Updated Annexure A1.
	Test/Display Test 0 reponses in various tests		Remove references to Table 1 for the tests that are no longer optional.
	Annexures		Changed submission label information
	4.1.81 CTSF77 Step 2		Updated TID of token
	general		Added foreword

1.9.2	general	July 2019	Only Edition number changed to match the document suite
1.9.3	Annexure A1	Jan 2020	Updated Annexure A1 for Class2 Subclass10
1.9.4	CTSF39 Step 4	Jan 2021	Changed TID to 1 minute later than Step 2
	CTSF74 Step 1		Changed TID to 1 minute later as it conflicted with CTSF72 Step 2.
	CTSF74		Swapped tokens 1 and 2 in the 60 token tests to test acceptance of out of date sequence tokens
	CTSF55 Step 2		Changed no of KCT to display to 4
	Foreword		Added note on voting
	CTSF16, Steps 9,10 CTSF35, Steps 9,10 CTSF69, Steps 9,10		Added Step 10 with token TID smaller than Step 9 to ensure that the TID is not filled with the first token the meter receives after a Rollover event
1.9.5	CTSF17 – Step 2 CTSF36 – Step 4 CTSF69 – Step 10 CTSF 72 – Steps 1,2,4,6,8 CTSF74 – Step 1	Apr 2022	Changed TID value of tokens due to clashes with previous TID values
	CTSF35 – Step 10		Editorial – removed comment
	CTSF44		Removed reference to kwh in Test3
1.9.6	CTSF21, CTSF56, CTSF75	April 2023	Updated test to reject the keychange token on the first token

STANDARD TRANSFER SPECIFICATION ASSOCIATION

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STANDARD TRANSFER SPECIFICATION –

Compliance Test Specification – Entity Type F – MeterApplicationProcess
for TCT = 01 and TCT = 02, Using EA=11

FOREWORD

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Standard Transfer Specification STS531-6-1-11has been prepared by working group 8.

The text of this standard is based on the following documents:

FDS	Report on voting
STS531-6-1-11/CD	See note1

Note1: due to the large number of documents in the test set, member voting is not performed prior to publication. However, corrections will be made to the document set if errors are reported.

This publication has been drafted in accordance with STSA Directive STS 2100-1 with the exception of Note1

1 Scope

1.1 General

This document provides the compliance criteria and test descriptions for prepayment meters designed to accept tokens that comply with the STS and POS systems designed to produce STS-compliant tokens.

2 Normative references

2.1 General

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62051 - *ELECTRICITY METERING – Glossary of terms*

IEC 62055-41 - *ELECTRICITY METERING – PAYMENT SYSTEMS – Part 41: Standard Transfer Specification – Application layer protocol for one-way token carrier systems*

STS531-0 *Compliance Test Specification – Quality plan*

3 Terms and definitions

3.1 Definitions

For the purposes of this test specification, the definitions given in the normative references identified in paragraph 2 apply.

3.2 Terms

For the purposes of this test specification, the terms given in the normative references identified in paragraph 2 apply.

4 Test requirements and specifications

4.1 Entity type F: Meter Application Process

4.1.1 General

Each test comprises a number of steps with associated recordings and expected results. Any deviation from these shall be interpreted as non-compliance and a failure recorded against that step.

The tests below indirectly test the following,
- general token acceptance;
- the PM's display indicators and markings;

in addition to the specific test in question.

4.1.2 Equipment to be submitted

The following equipment is required for certification:

- 3 meters loaded with following $DITK_1$: $11111111111111111111111111111111_{16}$. The meters' entire TID stack shall be preloaded with the TID $5A45A1_{16}$; this TID corresponds to the token issue date and time of 2004-04-01 09:05. The meters shall have an available credit balance of zero units. These meters shall be referred to as UUT01-11, UUT02-11, and UUT03-11.
- If the payment meter stores its manufacturing date in non-volatile RAM and uses this to determine the validity of a token, then the meters submitted must have this date set to 1st January 1993 00h00.
- The meters shall either support TCT=01 or TCT=02. For meters that support more than one TCT type, a separate set of 3 meters must be supplied for each TCT type supported.

The following keys are used for these tests:

$DITK_1$ = 11111111111111111111111111111111
$DCTK_0$ = 77777777777777777777777777777777
$DCTK_1$ = ABABABABABABABABABABABABABABABAB
$DCTK_2$ = 37373737373737373737373737373737
$DCTK_3$ = BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB
$DDTK_0$ = 1234567890ABCDEF1234567890ABCDEF
$DDTK_1$ = FEDCBA0987654321FEDCBA0987654321
$DDTK_2$ = F1F1F1F1F1F1F1F1F1F1F1F1F1F1F1F1
$DUTK_0$ = 45454545454545454545454545454545
$DUTK_1$ = ABABABABABABABABABABABABABABABAB
$DUTK_2$ = 37373737373737373737373737373737

4.1.3 Required information to be submitted

Annexure A and A.1 must be completed by the manufacturer.

4.1.4 Test equipment required

The following test equipment is required for electricity meters:
- A 1.2kW load.

Note: This set of tests covers utility types – Electricity, Water, Gas, Connection Time, and Currency, as well as meters with 4 digit manufacturer codes. Do only the tests required for the submitted utility type. Meters supporting multiple utility types must be tested separately for each utility type.

Note: For tests CTSF01 to CTSF22, use UUT01.
Power up UUT01 according to the manufacturers instructions. The PM or customer interface terminal should indicate that it is ready to accept a token

All token acceptance and rejection will be indicated as described by the manufacturer in Table1.

Note: during a keychange operation, some meters may reject a keychange token immediately, while others may only reject a token after the token pair has been entered. Both are acceptable. The manufacturer should specify which process his meter follows in Annexure A1.

In all keychange operations, the new SGC to be transmitted with the 4 keychange tokens is SGC = 123456.

Note: The tests in this document do not test all combinations of tokens. It is the manufacturer's responsibility to ensure that all the required tokens for the entity type, as specified in IEC62055-41, are supported.

4.1.5 CTSF01 – DITK to DITK key change

This test currently not done due to queries in IEC62055-41(6.5.2.5) handling of KRN with a DITK.

4.1.6 CTSF02 – DITK coded accepting credit token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of a TransferCredit token while loaded with a DITK.

Step	Instruction	Expected Result
1	**Power up UUT01** Insert the following token encoded using $DITK_1$ electricity meters: 0.1 kWh credit token **7348 1945 4299 5968 7775** water meters: 0.1 kl credit token: **1619 8018 1118 7696 6172** gas meters: 0.1 m^3 credit token: **6856 0661 3283 1164 5853** time meters: 0.1 min credit token: **3250 6607 4491 0418 3635** **For currency bases meters:** electricity currency meter, 1 units electricity currency token **0329 9615 0670 7006 5276** water currency meter, 1 units water currency token **1336 5391 8624 5725 8252** gas currency meter, 1 units gas currency token **6315 7409 8624 2955 8234** time currency meter, 1 units time currency token **0655 1149 5365 1339 1037**	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be incremented from 0 to the specified value of the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.7   CTSF03 – DITK coded accepting non-PM-specific management token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of non-PM-specific management tokens while loaded with a DITK. This test uses the InitiateMeterTest/Display token to verify the processing of non-PM-specific management tokens.

Step	Instruction	Expected Result
1	Insert the following token. For 11 digit DRN meters: **5649 3153 7254 5031 3471** For 13 digit DRN meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: 1. Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. 2. Test the meter information display services. 3. Display the cumulative consumption register totals. 4. Display the KRN. 5. Display the TI. 6. If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. 7. If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. 8. If the response in Table 1 indicates that test number 8 token is supported, display the tamper status. 9. If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. 10. Display the software version. 11. If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit. 12. Reserved 13. Reserved 14. Display the EA value 15. Display the number of keychange tokens supported 16. If the response in Table 1 indicates that test number 16 token is supported, display the SGC value 17. Display the KEN value 18. Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.8   CTSF04 – DITK coded accepting PM-specific management token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of PM-specific management tokens while loaded with a DITK. This test uses the ClearCredit token to verify the processing of PM-specific management tokens.

Step	Instruction	Expected Result
1	Insert the following clear credit token encoded using the $DITK_1$. for electricity meters **5718 1066 8373 9232 3929** for water meters **2332 6858 5825 9374 7145** for gas meters **1475 0350 0014 8503 1811** for time meters **5806 7137 5829 7433 3474** **For currency based meters insert the following:** for electricity currency **5087 5240 3724 1145 6402** for water currency **1572 4283 3423 2028 0230** for gas currency **6293 6731 2711 5099 2144** for time currency **3520 1366 8484 7961 0209**	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 credit units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token **0015 8266 3755 2698 8421** $DITK_1$ coded Class2 SubClass10 token. (Index = 63, FlagIndex = 0, FlagValue = 0)	If the manufacturer has stated in Table 1 that the payment meter supports Class2 Subclass10 tokens as specified in STS202-5 for Flag setting, then the PM or customer interface terminal shall accept the token. Otherwise, the PM or customer interface shall reject the token, and Steps 3 to 5 may be omitted. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Read the flag 0 **0344 0750 1154 4527 9822**	The PM shall indicate a value of 0 for the flag value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
4	Insert the following token **6305 7076 7691 5000 6267** $DITK_1$ coded Class2 SubClass10 token. (Index = 63, FlagIndex = 0, FlagValue = 1)	The PM or customer interface terminal shall accept the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Read the flag 0 **0344 0750 1154 4527 9822**	The PM shall indicate a value of 1 for the flag value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
6	Insert the following token **0644 0810 0107 4714 1457** $DITK_1$ coded Class2 SubClass10 token. (Index = 0, ControlValue = 0)	If the manufacturer has stated in Table 1 that the payment meter supports Class2 Subclass10 tokens for ControlValue setting as specified in STS202-5, then the PM or customer interface terminal shall accept the token. Otherwise, the PM or customer interface shall reject the token, and Steps 7 to 9 may be omitted. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
7	Read the control value **0230 5843 0093 4791 4912**	The PM shall indicate a value of 0 for the control value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
8	Insert the following token **6160 9120 2411 9056 8834** $DITK_1$ coded Class2 SubClass10 token. (Index = 0, ControlValue = 0123)	The PM or customer interface terminal shall accept the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
9	Read the control value **0230 5843 0093 4791 4912**	The PM shall indicate a value of 0123 for the control value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.9   CTSF05 – DITK to DCTK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DITK to DCTK key change.

Step	Instruction	Expected Result
1	Insert the following token. **1870 9475 8558 5354 7916** First token of Set PM Key token set. $DITK_1$ to $DCTK_0$ key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 3)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.

Step	Instruction	Expected Result
2	Insert the following token. **4478 0088 1837 6023 5137** Second token of Set PM Key token set. $DITK_1$ to $DCTK_0$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
3	Insert the following token. **5530 6433 5427 6628 6614** Third token of Set PM Key token set. $DITK_1$ to $DCTK_0$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.
4	Insert the following token. **7158 9878 4509 2670 4819** Fourth token of Set PM Key token set. $DITK_1$ to $DCTK_0$ key-change token. (KENHO = F, TI = 01)	The PM or customer interface terminal shall reject the token if the meter supports any TCT other than TCT=01.

Note: Tests CTSF06 to CTSF22 are only to be performed for PM's supporting TCT=01.

4.1.10 CTSF06 – DCTK to DCTK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DCTK to DCTK key change, with two invalid tokens entered.

Step	Instruction	Expected Result
1	Insert the following token **5802 8287 6425 1552 4697** First token of Set PM Key token set. $DCTK_0$ to $DCTK_1$ key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 3)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.
2	Insert the following (invalid) token **0541 7192 0068 0370 8424**	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Insert the following (invalid) token **0646 7192 0068 0380 8444**	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
4	Insert the following token **4255 2817 7025 0865 5934** Second token of Set PM Key token set. $DCTK_0$ to $DCTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
5	Insert the following token **7271 1912 9274 8235 4079** Third token of Set PM Key token set. $DCTK_0$ to $DCTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.
6	Insert the following token **3107 7786 6280 7185 4752** Fourth token of Set PM Key token set. $DCTK_0$ to $DCTK_1$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.11 CTSF07 – DCTK coded accepting credit token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of a TransferCredit token while loaded with a DCTK.

For Electricity meters – do steps 1 to 6.

Step	Instruction	Expected Result
1	Insert the following token **0792 2754 8963 3890 7272** 5 kilowatt-hour credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token. **3055 9185 4458 2388 0037** 1638.4 kilowatt-hour credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 1643.4 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Insert the following token. **6660 5582 9192 0179 4940** 18022.4 kilowatt-hour credit token encoded using $DCTK_1$.	If 19665.8 kilowatt-hours is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 19665.8 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
4	Insert the following token. **6900 4049 3248 2182 3304** 181862.4 kilowatt-hour credit token encoded using $DCTK_1$.	If 201528.2 kilowatt-hours is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 201528.2 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Insert the following token. **0792 2754 8963 3890 7272** 5 kilowatt-hour credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
6	Insert the following token. **3055 9185 4458 2388 0037** 1638.4 kilowatt-hour credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For water meters – do steps 7 to 12.

Step	Instruction	Expected Result
7	Insert the following token **0703 2874 1448 7480 4487** 5 kl credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
8	Insert the following token. **0134 9491 9063 0099 5452** 1638.4 kl credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 1643.4 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
9	Insert the following token. **6612 5404 1393 1246 5496** 18022.4 kl credit token encoded using $DCTK_1$.	If 19665.8 kl is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 19665.8 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
10	Insert the following token. **6236 0229 0125 1042 3088** 181862.4 kl credit token encoded using $DCTK_1$.	If 201528.2 kl is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 201528.2 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
11	Insert the following token **0703 2874 1448 7480 4487** 5 kl credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
12	Insert the following token. **0134 9491 9063 0099 5452** 1638.4 kl credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For gas meters – do steps 13 to 18.

Step	Instruction	Expected Result
13	Insert the following token **1061 3268 0286 8093 4066** 5 m^3 credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
14	Insert the following token. **7338 6769 3465 6721 0287** 1638.4 m^3 credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 1643.4 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
15	Insert the following token. **0716 7007 4671 0720 3674** 18022.4 m^3 credit token encoded using $DCTK_1$.	If 19665.8 m^3 is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 19665.8 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
16	Insert the following token. **3587 9124 3000 9863 8928** 181862.4 m^3 credit token encoded using $DCTK_1$.	If 201528.2 m^3 is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 201528.2 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
17	Insert the following token **1061 3268 0286 8093 4066** 5 m^3 credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
18	Insert the following token. **7338 6769 3465 6721 0287** 1638.4 m^3 credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For time meters – do steps 19 to 24.

Step	Instruction	Expected Result
19	Insert the following token **5593 8781 2591 1042 4085** 5 min credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
20	Insert the following token. **6593 3644 1763 0676 4231** 1638 min credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 1643 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
21	Insert the following token. **2827 4898 5445 8257 6648** 18022.4 min credit token encoded using $DCTK_1$.	If 19665.4 min is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 19665.4 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
22	Insert the following token. **4341 1726 8785 1892 4198** 181862.4 min credit token encoded using $DCTK_1$.	If 201527.8 min is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 201527.8 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
23	Insert the following token **5593 8781 2591 1042 4085** 5 min credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
24	Insert the following token. **6593 3644 1763 0676 4231** 1638 min credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For electricity currency meters – do steps 25 to 30.

Step	Instruction	Expected Result
25	Insert the following token **5379 0516 7571 0182 7530** 5000.4 unit credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5000.4 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
26	Insert the following token. **7027 9343 3103 8843 9545** 16384.4 unit credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 21384.8 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
27	Insert the following token. **1072 5135 3980 9967 7428** 180224.4 unit credit token encoded using $DCTK_1$.	If 201609.2 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 201609.2 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
28	Insert the following token. **1766 7263 2710 5021 0627** 1818644.5 units credit token encoded using $DCTK_1$.	If 2020253.7 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 2020253.7 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
29	Insert the following token **5379 0516 7571 0182 7530** 5000.4 unit credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
30	Insert the following token. **7027 9343 3103 8843 9545** 16384.4 unit credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For water currency meters – do steps 31 to 36.

Step	Instruction	Expected Result
31	Insert the following token **0795 5099 8612 3814 3317** 5000.4 unit credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5000.4 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
32	Insert the following token. **7263 8202 5438 7775 2582** 16384.4 unit credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 21384.8 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
33	Insert the following token. **5175 6986 3803 2016 5973** 180224.4 unit credit token encoded using $DCTK_1$.	If 201609.2 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 201609.2 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
34	Insert the following token. **4843 8372 6623 9322 1604** 1818644.5 units credit token encoded using $DCTK_1$.	If 2020253.7 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 2020253.7 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
35	Insert the following token **0795 5099 8612 3814 3317** 5000 unit credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
36	Insert the following token. **7263 8202 5438 7775 2582** 16384 unit credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For gas currency meters – do steps 37 to 42.

Step	Instruction	Expected Result
37	Insert the following token **5819 2279 9899 9006 0594** 5000.4 unit credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5000.4 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
38	Insert the following token. **3314 2720 3059 0060 6425** 16384.4 unit credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 21384.8 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
39	Insert the following token. **3299 0066 1822 5422 7439** 180224.4 unit credit token encoded using $DCTK_1$.	If 201609.2 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 201609.2 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
40	Insert the following token. **2682 5395 7092 9257 9568** 1818644.5 units credit token encoded using $DCTK_1$.	If 2020253.7 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 2020253.7 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
41	Insert the following token **5819 2279 9899 9006 0594** 5000 unit credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
42	Insert the following token. **3314 2720 3059 0060 6425** 16384 unit credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For time currency meters – do steps 43 to 48.

Step	Instruction	Expected Result
43	Insert the following token **6006 2419 9694 8976 5366** 5000 unit credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5000.4 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
44	Insert the following token. **3236 8649 8435 2038 7824** 16384 unit credit token encoded using $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 21384.8 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
45	Insert the following token. **0399 7538 1446 6214 0229** 180224 unit credit token encoded using $DCTK_1$.	If 201609.2 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 201609.2 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
46	Insert the following token. **3952 6725 5132 0198 1997** 1818624 units credit token encoded using $DCTK_1$.	If 2020253.7 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 2020253.7 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
47	Insert the following token **6006 2419 9694 8976 5366** 5000 unit credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
48	Insert the following token. **3236 8649 8435 2038 7824** 16384 unit credit token encoded using $DCTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

4.1.12 CTSF08 – DCTK coded accepting maximum power limit token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of a SetMaximumPowerLimit token while loaded with a DCTK.

Note: this test only required for electricity meters that support this feature.

Step	Instruction	Expected Result
1	If the manufacturer's response in Table 1 inidicates that initiate test number 7 is supported, insert token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit), otherwise, skip this step.	The PM or customer interface terminal shall display the maximum power limit.
2	Insert the following token **2002 7164 3254 2981 4039** 2.3 kilowatt Set maximum power limit token encoded using $DCTK_1$.	The PM or customer interface terminal shall indicate acceptance of the token.
3	If the manufacturer's response in Table 1 inidicates that initiate test number 7 is supported, insert token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit), otherwise, skip this step.	The PM or customer interface terminal shall display the maximum power limit of 2.3 kilowatts.
4	Insert the following token **6852 0976 2693 0771 1104** 1.0 kilowatt Set maximum power limit token encoded using $DCTK_1$.	The PM or customer interface terminal shall indicate acceptance of the token.
5	If the manufacturer's response in Table 1 inidicates that initiate test number 7 is supported, insert token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit), otherwise, skip this step.	The PM or customer interface terminal shall display the maximum power limit of 1.0 kilowatts.

4.1.13   CTSF09 – DCTK coded accepting clear PM electricity credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DCTK and explicitly nominating the electricity register in the PM.

Note: this test only required for electricity meters.

Step	Instruction	Expected Result
1	Insert the following token **5877 9054 0280 3453 6261** Clear electricity credit token encoded using the $DCTK_1$	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.14   CTSF10 – DCTK coded accepting clear PM water credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DCTK and explicitly nominating the water register in the PM.

Note: this test only required for water meters.

Step	Instruction	Expected Result
1	Insert the following token **3414 8998 8707 6264 5858** Clear water credit token encoded using the $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.15   CTSF11 – DCTK coded accepting clear PM gas credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DCTK and explicitly nominating the gas register in the PM.

Note: this test only required for gas meters.

Step	Instruction	Expected Result
1	Insert the following token **2679 6007 1993 3023 8359** Clear gas credit token encoded using the $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.16 CTSF12 – DCTK coded accepting clear PM connection time credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DCTK and explicitly nominating the connection time register in the PM.

Note: this test only required for connection time meters.

Step	Instruction	Expected Result
1	Insert the following token **6396 3055 2645 6768 5316** Clear connection time credit token encoded using the DCTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.17 CTSF13 – DCTK coded accepting clear PM currency credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DCTK and explicitly nominating the connection time register in the PM.

Note: this test only required for currency based meters.
Do only tests steps for the currency type supported by the PM.

Step	Instruction	Expected Result
1	Insert the following token For electricity currency **3888 7190 1132 5901 9610** Clear electricity currency credit token encoded using the DCTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 currency units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token For water currency **2125 4965 0624 1104 4672** Clear water currency credit token encoded using the DCTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 currency units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Insert the following token For gas currency **4348 1809 5052 4053 6387** Clear gas currency credit token encoded using the DCTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 currency units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
4	Insert the following token For time currency **0558 6707 5636 9298 7956** Clear time currency credit token encoded using the $DCTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 currency units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.18 CTSF14 – DCTK coded accepting clear PM all credit registers

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the ClearCredit token while loaded with a DCTK and explicitly nominating all registers in the PM.

Step	Instruction	Expected Result
1	Insert the following token **6519 1104 5965 2669 4157** Clear all credit registers token encoded using the $DCTK_1$	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.19 CTSF15 – DCTK coded accepting clear PM reserved credit registers

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the ClearCredit token while loaded with a DCTK and explicitly nominating reserved registers.

Step	Instruction	Expected Result
1	Insert the following token **1241 8763 6137 5301 2371** Clear credit register number 8 token encoded using the $DCTK_1$	The PM or customer interface terminal shall reject the token.
2	Insert the following token **5820 4014 9469 6856 7523** Clear credit register number $FFFE_{16}$ token encoded using the $DCTK_1$	The PM or customer interface terminal shall reject the token.

4.1.20 CTSF16 – DCTK coded processing set PM key with roll over

Overview: This test verifies the MeterApplicationProcess for compliance with respect to a DCTK key change with the roll over flag set.

Step	Instruction	Expected Result
1	Insert the following token **2158 3798 9013 7073 5240** First token of Set PM Key token set. $DCTK_1$ to $DCTK_2$ key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 3)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.
2	Insert the following token **2736 9608 9008 7256 2986** Second token of Set PM Key token set. $DCTK_1$ to $DCTK_2$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
3	Insert the following token **4381 3336 7267 6709 4724** Third token of Set PM Key token set. $DCTK_1$ to $DCTK_2$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.
4	Insert the following token **1148 3578 1708 4622 0797** Fourth token of Set PM Key token set. $DCTK_1$ to $DCTK_2$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Insert the following token **0416 9407 4417 7478 4901** First token of Set PM Key token pair. $DCTK_2$ = 3737373737373737373737373737373737 to $DCTK_1$ key-change token. (KENHO = F, KRN = 1, RO = 1, Res = 0, KT = 3)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.
6	Insert the following token **4736 3484 7560 4696 7881** Second token of Set PM Key token set. $DCTK_1$ to $DCTK_2$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
7	Insert the following token **6595 5530 2282 5581 7084** Third token of Set PM Key token set. $DCTK_1$ to $DCTK_2$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.

Step	Instruction	Expected Result
8	Insert the following token **6645 1620 0221 1387 8460** Fourth token of Set PM Key token set. DCTK$_2$ to DCTK$_1$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
9	Insert the following token **0372 3741 7425 4811 3205** Clear all credit registers token encoded using the DCTK$_1$. TID greater than Step 10.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
10	Insert the following token **7203 6616 6599 4936 6802** Clear all credit registers token encoded using the DCTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
11	Insert the following token. For 11 digit DRN meters: **5649 3153 7254 5031 3471** For 13 digit DRN meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: **1.** Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. **2.** Test the meter information display services. **3.** Display the cumulative consumption register totals. **4. Display the KRN=1.** **5.** Display the TI. **6.** If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. **7.** If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. **8.** If the response in Table 1 indicates that test number 8 token is supported, display the tamper status. **9.** If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. **10.** Display the software version. **11.** If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit. **12.** Reserved **13.** Reserved **14.** Display the EA value **15.** Display the number of keychange tokens supported **16.** If the response in Table 1 indicates that test number 16 token is supported, display the SGC value **17.** Display the KEN value **18.** Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.21 CTSF17 – DCTK coded processing clear tamper condition

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the ClearTamperCondition token while loaded with a DCTK.

Step	Instruction	Expected Result
1	If the manufacturer's response in Table 1 indicates that the submitted meter has a tamper detect capability, and it is activated, place the meter in a tamper state following the manufacturer's instructions as described in Table 1.	The PM or customer interface terminal should indicate that it is in a tamper state if this functionality is supported.
2	Insert the following token: **6837 7678 6143 4005 8089** Clear tamper condition encoded using $DCTK_1$.	If the manufacturer's response in Table 1 indicates that the submitted meter has a tamper detect capability, and it is activated, the PM or customer interface terminal should indicate the acceptance of the token. Note that this token may be accepted even if the tamper detect capability is disabled. If the manufacturer's response in Table 1 indicates that the meter does not support tamper, the PM or customer interface terminal shall reject the token After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
3	Insert the following token. For 11 digit DRN meters: **5649 3153 7254 5031 3471** For 13 digit DRN meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: 1. Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. 2. Test the meter information display services. 3. Display the cumulative consumption register totals. 4. Display 1 for the key revision number. 5. Display the Tariff Index 6. If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. 7. If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. **8. If the response in Table 1 indicates that test number 8 token is supported, display the tamper status as clear.** 9. If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. 10. Display the software version. 11. If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit. 12. Reserved 13. Reserved 14. Display the EA value 15. Display the number of keychange tokens supported 16. If the response in Table 1 indicates that test number 16 token is supported, display the SGC value 17. Display the KEN value 18. Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.22 CTSF18 – DCTK coded processing set phase unbalance limit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the SetMaximumPhasePowerUnbalanceLimit token while loaded with a DCTK.

Note: this test only required for electricity meters that support this feature..

Step	Instruction	Expected Result
1	If the manufacturer's response in Table 1 indicates that the meter is a poly-phase meter, insert token **6467 0513 5373 4295 2900** set maximum phase power unbalance limit token encoded using $DCTK_1$. (MPPUL = 1 kilowatt), otherwise, skip this step.	The PM or customer interface terminal should indicate the acceptance of the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
2	If the manufacturer's response in Table 1 indicates that the meter is not a poly-phase meter, or does not support phase unbalance, insert token **6467 0513 5373 4295 2900** Set maximum phase power unbalance limit token encoded using $DCTK_1$. (MPPUL = 1 kilowatt).	The PM or customer interface terminal shall reject the token.
3	Insert the following token. For 11 digit DRN meters: **5649 3153 7254 5031 3471** For 13 digit DRN meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: 1. Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. 2. Test the meter information display services. 3. Display the cumulative consumption register totals. 4. Display 1 for the key revision number. 5. Display the Tariff Index. 6. If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. 7. If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. 8. If the response in Table 1 indicates that test number 8 token is supported, display the tamper status as clear. 9. If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. 10. Display the software version. **11. If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit as 1 kilowatt.** 12. Reserved 13. Reserved 14. Display the EA value 15. Display the number of keychange tokens supported 16. If the response in Table 1 indicates that test number 16 token is supported, display the SGC value 17. Display the KEN value 18. Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.23 CTSF19 – DCTK coded class 2 STS reserved token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of class 2 reserved tokens while loaded with a DCTK.

Step	Instruction	Expected Result
1	Insert the following token **4392 2554 8577 3848 8287** STS reserved token in class 10_2 encoded using $DCTK_1$. (Sub class = 11)	The PM or customer interface terminal shall reject the token. Note that a payment meter may accept this token if proprietary tokens have been implemented, but in this case, this shall not form part of the test. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token **2336 1927 7636 8112 8001** $DCTK_1$ coded Class2 SubClass10 token. (Index = 63, FlagIndex = 0, FlagValue = 0)	If the manufacturer has stated in Table 1 that the payment meter supports Class2 SubClass10 SetFlag tokens as specified in STS202-5, the PM or customer interface terminal shall accept the token. Otherwise, the payment meter shall reject the token and Steps 3-5 may be omitted. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Read the flag 0 **0344 0750 1154 4527 9822**	The PM shall indicate a value of 0 for the flag value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
4	Insert the following token **5649 9902 3357 6195 0204** $DCTK_1$ coded Class2 SubClass10 token. (Index = 63, FlagIndex = 0, FlagValue = 1)	The PM or customer interface terminal shall accept the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Read the flag 0 **0344 0750 1154 4527 9822**	The PM shall indicate a value of 1 for the flag value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
6	Insert the following token **6515 5046 8267 2975 7348** $DCTK_1$ coded Class2 SubClass10 token. (Index = 0, ControlValue = 0)	If the manufacturer has stated in Table 1 that the payment meter supports Class2 SubClass10 SetControlValue tokens as specified in STS202-5, the PM or customer interface terminal shall accept the token. Otherwise, the payment meter shall reject the token and Steps 7-9 may be omitted After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
7	Read the control value **0230 5843 0093 4791 4912**	The PM shall indicate a value of 0 for the control value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
8	Insert the following token **1652 5279 7203 0245 6294** $DCTK_1$ coded Class2 SubClass10 token. (Index = 0, ControlValue = 0123)	The PM or customer interface terminal shall accept the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
9	Read the control value **0230 5843 0093 4791 4912**	The PM shall indicate a value of 0123 for the control value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.24 CTSF20 – DCTK coded class 3 STS reserved token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of Class 3 reserved tokens while loaded with a DCTK.

Step	Instruction	Expected Result
1	Insert the following token **4522 0958 3096 2249 2907** STS reserved token in class 11_2 encoded using $DCTK_1$. (Sub class = 0)	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.25 CTSF21 – DCTK to DITK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DCTK to DITK key change.

Step	Instruction	Expected Result
1	Insert the following token **6469 9207 7135 3260 6124** First token of Set PM Key token set. $DCTK_1$ to $DITK_1$ key-change token. (KENHO = F, KRN = 1, RO = 1, Res = 0, KT = 0)	The meter shall reject this key change request with a TokenResult of Reject. . (if the token is rejected at this stage, do not continue with this test). After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token **3502 2887 5969 5195 9908** Second token of Set PM Key token set. $DCTK_1$ to $DITK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
3	Insert the following token **3474 5694 5454 1743 5440** Third token of Set PM Key token set. $DCTK_1$ to $DITK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.
4	Insert the following token. **6725 3023 8791 8195 8745** Fourth token of Set PM Key token set. $DCTK_1$ to $DITK_1$ key-change token. (KENHO = F, TI = 01)	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.26 CTSF22 – DCTK coded accepting tokens when in power limiting state

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the meter accepting tokens while in a power limiting state.

Note: this test only required for electricity meters that support this feature..

Step	Instruction	Expected Result
1	Unpower the PM, Connect the 1.2kW load, and re-power the PM.	After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token. Wait for the PM to enter a power limiting state as described by the manufacturer in Table1.
2	Insert the following token **6775 1629 3748 8413 2353** Clear electricity credit token encoded using DCTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Note: For tests CTSF23 to CTSF57, use UUT02.

Power up UUT02 according to the manufacturers instructions. The PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.

4.1.27 CTSF23 – DITK to DDTK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DITK to DDTK key change.

Step	Instruction	Expected Result
1	**Power up UUT02** Insert the following token **4178 2268 6649 1570 2769** First token of Set PM Key token set. $DITK_1$ to $DDTK_0$ key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 1)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.
2	Insert the following token **5844 0403 3557 2958 2418** Second token of Set PM Key token set. $DITK_1$ to $DDTK_0$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
3	Insert the following token **3452 2234 5035 6213 3658** Third token of Set PM Key token set. $DITK_1$ to $DDTK_0$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.
4	Insert the following token **3605 7269 2390 9598 6387** Fourth token of Set PM Key token set. $DITK_1$ to $DDTK_0$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.28 CTSF24 – DDTK to DDTK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DDTK to DDTK key change.

Step	Instruction	Expected Result
1	Insert the following token **3355 6029 4795 3515 5352** First token of Set PM Key token set. $DDTK_0$ to $DDTK_1$ 1 key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 1)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.
2	Insert the following token **0128 5232 8955 9546 4462** Second token of Set PM Key token set. $DDTK_0$ to $DDTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
3	Insert the following token **2128 4424 2302 6987 3233** Third token of Set PM Key token set. $DDTK_0$ to $DDTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.
4	Insert the following token **5170 6947 2156 0328 4261** Fourth token of Set PM Key token set. $DDTK_0$ to $DDTK_1$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.29 CTSF25 – DDTK coded accepting credit token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of a TransferCredit token while loaded with a DDTK. This test verifies that TransferCredit tokens are not accepted when loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token encoded using $DDTK_1$. electricity meters: 5 kWh credit token **5199 3030 0836 8655 9616** water meters: 5 kl credit token **3874 9336 1002 8420 4829** gas meters: 5 m^3 credit token **3237 9280 9719 9254 5672** time meters: 5 min credit token **2275 0838 5618 5106 1306** **For currency based meters insert the following :** electricity currency meters: 5000 unit currency token **1466 3859 9801 7722 5348** water currency meters: 5000 unit currency token **5923 7376 4839 7573 9300** gas currency meters: 5000 unit currency token **2639 6926 9510 9603 0801** time currency meters: 5000 unit currency token **4578 1428 0740 9597 2991**	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.30 CTSF26 – DDTK coded accepting maximum power limit token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of a SetMaximumPowerLimit token while loaded with a DDTK.

Note: this test only required for electricity meters that support this feature..

Step	Instruction	Expected Result
1	Insert token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit).	The PM or customer interface terminal shall display the maximum power limit if this function is supported, otherwise, skip this step.
2	Insert the following token **5493 7521 7426 3574 2969** 2.3 kW Set maximum power limit token encoded using DDTK$_1$.	The PM or customer interface terminal shall indicate acceptance of the token.
3	Insert token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit).	The PM or customer interface terminal shall display the maximum power limit of 2.3 kW if this function is supported, otherwise, skip this step.
4	Insert the following token **2550 7741 7565 6848 4020** 1 kW Set maximum power limit token encoded using DDTK$_1$.	The PM or customer interface terminal shall indicate acceptance of the token.
5	Insert token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit).	The PM or customer interface terminal shall display the maximum power limit of 1.0 kW if this function is supported, otherwise, skip this step.

4.1.31 CTSF27 – DDTK coded accepting clear PM electricity credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DDTK and explicitly nominating the utility register in the PM.

Note: this test only required for electricity meters

Step	Instruction	Expected Result
1	Insert the following token **3590 4658 3495 8497 2646** Clear electricity credit token encoded using the $DDTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 kWh. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.32 CTSF28 – DDTK coded accepting clear PM water credit

Note: this test only required for water meters

Step	Instruction	Expected Result
1	Insert the following token **5485 9602 0480 5928 6835** Clear water credit token encoded using the $DDTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 kL. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.33 CTSF29 – DDTK coded accepting clear PM gas credit

Note: this test only required for gas meters

Step	Instruction	Expected Result
1	Insert the following token **2462 2246 0953 2146 3179** Clear gas credit token encoded using $DDTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.34 CTSF30 – DDTK coded accepting clear PM connection time credit

Note: this test only required for connection time meters

Step	Instruction	Expected Result
1	Insert the following token **7178 0816 5091 7106 7180** Clear time credit token encoded using $DDTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.35 CTSF31 – DDTK coded accepting clear PM currency credit

Note: this test only required for currency based meters.

Step	Instruction	Expected Result
1	Insert the following token **3516 9674 1747 3187 8335** Clear electricity currency credit token encoded using $DDTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 units After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token **1553 3512 1542 1843 6492** Clear water currency credit token encoded using $DDTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 units After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Insert the following token **3854 9838 8183 4442 8339** Clear gas currency credit token encoded using $DDTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 units After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
4	Insert the following token **4603 6246 7182 7532 2864** Clear time currency credit token encoded using $DDTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 units After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.36 CTSF32 – DDTK coded accepting clear PM all credit registers

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the ClearCredit token while loaded with a DDTK and explicitly nominating all registers in the PM.

Step	Instruction	Expected Result
1	Insert the following token **0435 3384 5553 0094 2025** Clear all credit registers token encoded using DDTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 credit units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.37 CTSF33 – DDTK coded accepting clear PM reserved credit registers

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the ClearCredit token while loaded with a DDTK and explicitly nominating reserved registers.

Step	Instruction	Expected Result
1	Insert the following token **3547 5786 1254 4022 2001** Clear credit register number 8 token encoded using the DDTK$_1$.	The PM or customer interface terminal shall reject the token.
2	Insert the following token **5516 9188 7443 8230 9906** Clear credit register number FFFE$_{16}$ token encoded using the DDTK$_1$.	The PM or customer interface terminal shall reject the token.

4.1.38 CTSF34 – DDTK coded processing set tariff rate

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of SetTarrifRate token while loaded with a DDTK.

Note: this test only required for electricity meters

Step	Instruction	Expected Result
1	Insert the following token **5464 1700 6109 5194 2334** Set tariff rate token encoded using the DDTK$_1$.	The PM or customer interface terminal shall reject the token.

4.1.39 CTSF35 – DDTK coded processing set PM key with roll over

Overview: This test verifies the MeterApplicationProcess for compliance with respect to a DDTK key change with the roll over flag set.

Step	Instruction	Expected Result
1	Insert the following token **0161 9647 8738 6093 6207** First token of Set PM Key token set. $DDTK_1$ to $DDTK_2$ key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 1)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.
2	Insert the following token **0504 6809 2569 9891 5168** Second token of Set PM Key token set. $DDTK_1$ to $DDTK_2$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
3	Insert the following token **5755 0604 2323 1061 6861** Third token of Set PM Key token set. $DDTK_1$ to $DDTK_2$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.
4	Insert the following token **6538 2592 5141 0420 2586** Fourth token of Set PM Key token set. $DDTK_1$ to $DDTK_2$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Insert the following token **2380 6030 2124 5879 8852** First token of Set PM Key token set. $DDTK_2$ to $DDTK_1$ key-change token. (KENHO = F, KRN = 1, RO = 1, Res = 0, KT = 1)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.
6	Insert the following token **4578 8733 6945 4094 1751** Second token of Set PM Key token set. $DDTK_2$ to $DDTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
7	Insert the following token **1500 0850 4900 6531 2793** Third token of Set PM Key token set. $DDTK_2$ to $DDTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.

Step	Instruction	Expected Result
8	Insert the following token **4319 2655 4699 9011 0042** Fourth token of Set PM Key token set. $DDTK_2$ to $DDTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
9	Insert the following token **2052 3353 1982 5824 6864** Clear all credit registers token encoded using the $DDTK_1$. TID greater than Step 10.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
10	Insert the following token **4025 8672 4328 6123 8792** Clear all credit registers token encoded using the $DDTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.40 CTSF36 – DDTK coded processing clear tamper condition

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the ClearTamperCondition token while loaded with a DDTK.

Step	Instruction	Expected Result
1	If the manufacturer's response in Table 1 indicates that the submitted meter has a tamper detect capability, and it is activated, place the meter in a tamper state following the manufacturer's instructions as described in Table 1.	The PM or customer interface terminal should indicate that it is in a tamper state as described by the manufacturer in Table 1.

Step	Instruction	Expected Result
2	Insert the following token. For 11 digit DRN meters: **5649 3153 7254 5031 3471** For 13 digit DRN meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: 1. Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. 2. Test the meter information display services. 3. Display the cumulative consumption register totals. 4. Display 1 for the key revision number. 5. Display the TI. 6. If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. 7. If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. **8. If the response in Table 1 indicates that test number 8 token is supported, display the tamper status as set if the meter supports tamper.** 9. If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. 10. Display the software version. 11. If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit. 12. Reserved 13. Reserved 14. Display the EA value 15. Display the number of keychange tokens supported 16. If the response in Table 1 indicates that test number 16 token is supported, display the SGC value 17. Display the KEN value 18. Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Insert the following token **2919 1924 9429 3677 6708** Clear tamper condition encoded using $DDTK_1$.	If tamper is supported, the PM or customer interface terminal should indicate the acceptance of the token. If the PM has a tamper detect capability implemented, but disabled, the interface terminal may accept the token but take no action. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
4	Insert the following token For 11 digit DRN meters: **5649 3153 7254 5031 3471** For 13 digit DRN Meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: 1. Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. 2. Test the meter information display services. 3. Display the cumulative consumption register totals. 4. Display 1 for the key revision number. 5. Display the Tariff Index 6. If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. 7. If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. 8. If the response in Table 1 indicates that test number 8 token is supported, display the tamper status as clear. 9. If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. 10. Display the software version. 11. If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit. 12. Reserved 13. Reserved 14. Display the EA value 15. Display the number of keychange tokens supported 16. If the response in Table 1 indicates that test number 16 token is supported, display the SGC value 17. Display the KEN value 18. Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.41 CTSF37 – DDTK coded processing set phase unbalance limit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the SetMaximumPhasePowerUnbalanceLimit token while loaded with a DDTK.

Note: this test only required for electricity meters

Step	Instruction	Expected Result
1	If the meter is a poly-phase meter and supports phase unbalance, insert token **6679 5301 8882 9933 6358** set maximum phase power unbalance limit token encoded using $DDTK_1$. (MPPUL = 1 kilowatt), otherwise, skip this step.	The PM or customer interface terminal should indicate the acceptance of the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	If the meter is not a poly –phase meter, or does not support phase unbalance, insert token **6679 5301 8882 9933 6358** set maximum phase power unbalance limit token encoded using $DDTK_1$. (MPPUL = 1 kilowatt), otherwise, skip this step.	The PM or customer interface terminal shall reject the token.
3	Insert the following token For 11 digit DRN meters: **5649 3153 7254 5031 3471** For 13 digit DRN Meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: 1. Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. 2. Test the meter information display services. 3. Display the cumulative consumption register totals. 4. Display 1 for the key revision number. 5. Display the Tariff Index 6. If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. 7. If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. 8. If the response in Table 1 indicates that test number 8 token is supported, display the tamper status as clear. 9. If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. 10. Display the software version. **11. If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit as 1 kilowatt.** 12. Reserved 13. Reserved 14. Display the EA value 15. Display the number of keychange tokens supported 16. If the response in Table 1 indicates that test number 16 token is supported, display the SGC value 17. Display the KEN value 18. Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.42 CTSF38 – DDTK coded processing set water meter factor

This token is reserved by the STS Association and compliance is currently not required.

4.1.43 CTSF39 – DDTK coded class 2 STS reserved token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of Class 2 reserved tokens while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token **5420 7693 2309 7475 0090** STS reserved token in class 10_2 encoded using $DDTK_1$. (Sub class = 11)	The PM or customer interface terminal shall reject the token. Note that a payment meter may accept this token if proprietary tokens have been implemented, but in this case, this shall not form part of the test. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token **5023 3941 9836 6655 0406** $DDTK_1$ coded Class2 SubClass10 token. (Index = 63, FlagIndex = 0, FlagValue = 0)	If the manufacturer has stated in Table 1 that the payment meter supports Class2 SubClass10 SetFlag tokens, the PM or customer interface terminal shall accept the token. Otherwise, the payment meter shall reject the token and Steps 3-5 may be omitted. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Read the flag 0 **0344 0750 1154 4527 9822**	The PM shall indicate a value of 0 for the flag value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
4	Insert the following token **5750 1019 3384 3221 5946** $DDTK_1$ coded Class2 SubClass10 token. (Index = 63, FlagIndex = 0, FlagValue = 1)	The PM or customer interface terminal shall accept the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Read the flag 0 **0344 0750 1154 4527 9822**	The PM shall indicate a value of 1 for the flag value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
6	Insert the following token **3988 8186 7339 4067 0513** $DDTK_1$ coded Class2 SubClass10 token. (Index = 0, ControlValue = 0)	If the manufacturer has stated in Table 1 that the payment meter supports Class2 SubClass10 SetControlValue tokens, the PM or customer interface terminal shall accept the token. Otherwise, the payment meter shall reject the token and Steps 7-9 may be omitted After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
7	Read the control value **0230 5843 0093 4791 4912**	The PM shall indicate a value of 0 for the control value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
8	Insert the following token **4075 3131 7158 5533 6044** $DDTK_1$ coded Class2 SubClass10 token. (Index = 0, ControlValue = 0123)	The PM or customer interface terminal shall accept the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
9	Read the control value **0230 5843 0093 4791 4912**	The PM shall indicate a value of 0123 for the control value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.44 CTSF40 – DDTK coded class 3 STS reserved token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of Class 3 reserved tokens while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token **5987 8988 2602 4322 6963** STS reserved token in class 11_2 encoded using $DDTK_1$. (Sub class = 0)	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.45 CTSF41 – DDTK coded class 0 STS reserved token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of class 0 reserved tokens while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token **6657 8520 6716 8447 8480** STS reserved token in class 00_2 encoded using $DDTK_1$. (Sub class = 10)	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.46 CTSF42 – DDTK coded accepting non-PM-specific test 1 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 1, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0001 5099 7584** For 13 digit DRN meters: **0115 2921 5090 3605 4672** Test token – Test number 1. (Test the load switch)	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then NOT test the load switch since the PM has no credit. If the manufacturers's response in Table1 is that the latch should close under these Conditions, then the load switch should be tested. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.47 CTSF43 – DDTK coded accepting non-PM-specific test 2 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 2, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0001 6777 4880** For 13 digit DRN meters: **0115 2921 5133 3104 2448** Test token – Test number 2. (Test information display devices)	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then test the meter information display services. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.48 CTSF44 – DDTK coded accepting non-PM-specific test 3 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 3, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0002 0132 8896** For 13 digit DRN meters: **0115 2921 5219 2095 2465** Test token – Test number 3. (Display cumulative register totals)	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then display the cumulative consumption register totals, which must be zero. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.49 CTSF45 – DDTK coded accepting non-PM-specific test 4 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 4, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **1844 6744 0738 4377 2416** For 13 digit DRN meters: **0115 2921 5391 0083 8034** Test token – Test number 4. (Display the KRN)	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then display the key revision number. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.50 CTSF46 – DDTK coded accepting non-PM-specific test 5 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 5, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **3689 3488 1475 5332 2496** For 13 digit DRN meters: **0115 2921 5734 6054 3637** Test token – Test number 5. (Display the TI)	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then display the loaded tariff index. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.51 CTSF47 – DDTK coded accepting non-PM-specific test 6 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 6, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0006 7109 3248** For 13 digit DRN meters: **0115 2921 6421 8002 0378** Test token – Test number 6. (Test token reader device).	The PM or customer interface terminal should indicate the acceptance of the token if the manufacturer has indicated that test number 6 is supported. The PM or customer interface terminal should then perform a token reader device test. The PM or customer interface terminal shall reject the token if this test is not supported. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.52 CTSF48 – DDTK coded accepting non-PM-specific test 7 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 7, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit).	The PM or customer interface terminal should indicate the acceptance of the token if the manufacturer has indicated that test number 7 is supported. The PM or customer interface terminal should then display the maximum power limit. The PM or customer interface terminal shall reject the token if this test is not supported. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.53 CTSF49 – DDTK coded accepting non-PM-specific test 8 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 8, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0022 8172 8512** For 13 digit DRN meters: **0115 2922 0544 9688 0824** Test token – Test number 8. (Display tamper status).	The PM or customer interface terminal should indicate the acceptance of the token if the manufacturer has indicated that test number 8 is supported. The PM or customer interface terminal should then display the tamper status. The PM or customer interface terminal shall reject the token if this test is not supported. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.54 CTSF50 – DDTK coded accepting non-PM-specific test 9 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 9, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0044 2920 8064** For 13 digit DRN meters: **0115 2922 6042 5269 4700** Test token – Test number 9. (Display power consumption).	The PM or customer interface terminal should indicate the acceptance of the token if the manufacturer has indicated that test number 9 is supported. The PM or customer interface terminal should then display the power consumption. The PM or customer interface terminal shall reject the token if this test is not supported. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.55 CTSF51 – DDTK coded accepting non-PM-specific test 10 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 10, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0087 2419 5840** For 13 digit DRN meters: **0115 2923 7037 6432 2536** Test token – Test number 10. (Display software version).	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then display the software version. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.56 CTSF52 – DDTK coded accepting non-PM-specific test 11 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 11, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0173 1410 5857** For 13 digit DRN meters: **0115 2925 9027 8757 7952** Test token – Test number 11. (Display phase power unbalance limit).	The PM or customer interface terminal should indicate the acceptance of the token if the manufacturer has indicated that test number 11 is supported. The PM or customer interface terminal should then display the phase power unbalance limit. The PM or customer interface terminal shall reject the token if this test is not supported. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.57 CTSF53 – DDTK coded accepting non-PM-specific test 12 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 12, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0344 9399 1426** For 13 digit DRN meters: **0115 2930 3008 3408 9776** Test token – Test number 12. (Reserved – Display Water Meter factor).	The PM or customer interface terminal should indicate the acceptance of the token if the manufacturer has indicated that test number 12 is supported. The PM or customer interface terminal should then display the water meter factor. The PM or customer interface terminal shall reject the token if this test is not supported. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.58 CTSF54 – DDTK coded accepting non-PM-specific test 13 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the InitiateMeterTest/Display token, test 13, while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 0688 5369 7029** For 13 digit DRN meters: **0115 2939 0969 2711 2592** Test token – Test number 13. (Reserved – Display tariff rate).	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.59 CTSF55 – DDTK coded accepting non-PM-specific STS tests 14 to 18 and reserved tokens

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of InitiateMeterTest/Display, tests 14 to 18 and reserved tokens while loaded with a DDTK.

Step	Instruction	Expected Result
1	Insert the following token For 11 digit DRN meters: **0000 0000 1375 7317 3770** STS token in class 01_2 (Sub class = 0, Control field = 2000_{16}) – Display EA number For 13 digit DRN meters: **0115 2956 6891 1315 4192** STS token in class 01_2 (Sub class = 1, Control field = 2000_{16}) – Display EA number	The PM or customer interface terminal shall reject the token – (see note below) After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token. Note: If the STS202-3 specification has been adhered to in the payment meter design, then Test 14 to Test 19 tokens may be accepted by the payment meter. In this case, this step may be 55mitted.
2	Insert the following token For 11 digit DRN meters: **0000 0000 2750 1212 7252** STS token in class 01_2 (Sub class = 0, Control field = 4000_{16}) – Display number of keychange tokens supported (2 or 3) For 13 digit DRN meters: **0115 2991 8734 8524 9680** STS token in class 01_2 (Sub class = 1, Control field = 4000_{16}) – Display number of keychange tokens supported (4)	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then display the number of keychange tokens supported (4) . After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Insert the following token For 11 digit DRN meters: **0000 0000 5498 9003 4216** STS token in class 01_2 (Sub class = 0, Control field = 8000_{16}) – Display the SGC number For 13 digit DRN meters: **0115 3062 2422 2942 8368** STS token in class 01_2 (Sub class = 1, Control field = 8000_{16}) – Display the SGC number.	The PM or customer interface terminal should indicate the acceptance of the token if the manufacturer has indicated that the payment meter supports a 3 keychange token set. The PM or customer interface terminal should then display the SGC number. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
4	Insert the following token For 11 digit DRN meters: **0000 0001 0996 4584 8124** STS token in class 01_2 (Sub class = 0, Control field = 10000_{16}) – Display KEN. For 13 digit DRN meters: **0115 3202 9797 1778 8816** STS token in class 01_2 (Sub class = 1, Control field = 10000_{16}) – Display the KEN.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then display the KEN. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Insert the following token For 11 digit DRN meters: **0000 0002 1991 5747 5960** STS token in class 01_2 (Sub class = 0, Control field = 20000_{16}) – Display the DRN. For 13 digit DRN meters: **0115 3484 4546 9451 4832** STS token in class 01_2 (Sub class = 1, Control field = 20000_{16}) – Display the DRN.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then display the DRN. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
6	Insert the following token For 11 digit DRN meters: **5779 0190 4181 3301 4705** For 13 digit DRN meters: **0345 8764 5096 6635 1492** STS reserved token in class 01_2 (Sub class = 2, Control field = $FFFFFFFF_{16}$) – Reserved sub class	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
7	Insert the following token For 11 digit DRN meters **5894 3111 9227 3986 2049** For 13 digit DRN meters: **0461 1686 0142 7319 8868** STS reserved token in class 01_2 (Sub class = 3, Control field = $FFFFFFFF_{16}$) – Reserved sub class	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
8	Insert the following token For 11 digit DRN meters **6009 6033 4273 4670 6705** For 13 digit DRN meters: **0576 4607 5188 8004 3044** STS reserved token in class 01_2 (Sub class = 4, Control field = $FFFFFFFF_{16}$) – Reserved sub class	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
9	Insert the following token For 11 digit DRN meters: **6124 8954 9319 5355 4305** For 13 digit DRN meters: **0691 7529 0234 8689 0676** STS reserved token in class 01_2 (Sub class = 5, Control field = $FFFFFFFF_{16}$) – Reserved sub class	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.60 CTSF56 – DDTK to DITK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DDTK to DITK key change.

Step	Instruction	Expected Result
1	Insert the following token **3276 3745 5731 7365 0614** First token of Set PM Key token set. $DDTK_1$ to $DITK_1$ key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 0)	The PM or customer interface terminal shall accept the token. (if the token is rejected at this stage, do not continue with this test). The meter shall reject this key change request with a TokenResult of Reject. . (if the token is rejected at this stage, do not continue with this test). After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token **5769 6564 5023 8793 8772** Second token of Set PM Key token set. $DDTK_1$ to $DITK_1$ key-change token.	The PM or customer interface terminal shall accept the token.
3	Insert the following token **3380 5637 8960 4811 4702** Third token of Set PM Key token set. $DDTK_1$ to $DITK_1$ key-change token.	The PM or customer interface terminal shall accept the token.

Step	Instruction	Expected Result
4	Insert the following token. **4479 8855 6371 3544 7614** Fourth token of Set PM Key token set. $DDTK_1$ to $DITK_1$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.61 CTSF57 – DDTK to DCTK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DDTK to DCTK key change.

Step	Instruction	Expected Result
1	Insert the following token **0804 2805 3641 0093 8449** First token of Set PM Key token set. $DDTK_1$ to $DCTK_1$ key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 3)	The PM or customer interface terminal shall accept the token.
2	Insert the following token **5663 9679 5810 6847 2205** Second token of Set PM Key token set. $DDTK_1$ to $DCTK_1$ key-change token.	The PM or customer interface terminal shall accept the token.
3	Insert the following token **5712 6315 3664 2501 1456** Third token of Set PM Key token set. $DDTK_1$ to $DCTK_1$ key-change token.	The PM or customer interface terminal shall accept the token.
4	Insert the following token. **6337 9365 5341 5523 5444** Fourth token of Set PM Key token set. $DDTK_1$ to $DCTK_1$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall reject the token if the PM is not of type TCT=01. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Note: For tests CTSF58 to CTSF77, use UUT03.
Power up UUT03 according to the manufacturers instructions. The PM or customer interface terminal should indicate that it is ready to accept a token.
Token acceptance or rejection is as described by the manufacturer in Table1.

4.1.62 CTSF58 – DITK to DUTK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DITK to DUTK key change.

Step	Instruction	Expected Result
1	Power up UUT03 Insert the following token **2215 0480 9252 3324 0656** First token of Set PM Key token set. $DITK_1$ to DUTK0 key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 2)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key".
2	Insert the following token **0352 3724 9576 4140 6718** Second token of Set PM Key token set. $DITK_1$ to $DUTK_0$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key".
3	Insert the following token **2427 4366 5170 4940 4419** Third token of Set PM Key token set. $DITK_1$ to $DUTK_0$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key".
4	Insert the following token **5419 5343 8915 9445 5455** Fourth token of Set PM Key token set. $DITK_1$ to $DUTK_0$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.63 CTSF59 – DUTK to DUTK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DUTK to DUTK key change, with two invalid tokens entered.

Step	Instruction	Expected Result
1	Insert the following token **5210 2377 0381 6821 0191** First token of Set PM Key token set. $DUTK_0$ to $DUTK_1$ key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 2)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.

Step	Instruction	Expected Result
2	Insert the following (invalid) token **0541 7192 0068 0370 8424**	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Insert the following (invalid) token **0646 7192 0068 0380 8444**	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
4	Insert the following token **4417 5386 2638 1342 2620** Second token of Set PM Key token set. $DUTK_0$ to $DUTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key".
5	Insert the following token **3952 8962 1445 6286 5667** Third token of Set PM Key token set. $DUTK_0$ to $DUTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key".
6	Insert the following token **5636 2436 0909 6976 2506** Fourth token of Set PM Key token set. $DUTK_0$ to $DUTK_1$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.64 CTSF60 – DUTK coded accepting credit token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of a TransferCredit token while loaded with a DUTK.

For Electricity meters – do steps 1 to 6.

Step	Instruction	Expected Result
1	Insert the following token **2251 1374 4614 7470 5504** 5 kilowatt-hour credit token encoded using $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token. **5399 0280 3455 4099 2260** 1638.4 kilowatt-hour credit token encoded using $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 1643.4 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
3	Insert the following token. **0948 3643 5299 2747 2103** 18022.4 kilowatt-hour credit token encoded using DUTK$_1$.	If 19665.8 kilowatt-hours is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 19665.8 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
4	Insert the following token. **2158 2353 5491 1065 4832** 181862.4 kilowatt-hour credit token encoded using DUTK$_1$.	If 201528.2 kilowatt-hours is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 201528.2 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Insert the following token **2251 1374 4614 7470 5504** 5 kilowatt-hour credit token encoded using DUTK$_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
6	Insert the following token. **5399 0280 3455 4099 2260** 1638.4 kilowatt-hour credit token encoded using DUTK$_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For water meters – do steps 7 to 12.

Step	Instruction	Expected Result
7	Insert the following token **6908 6495 7269 3855 7655** 5 kl credit token encoded using DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
8	Insert the following token. **3080 7078 4441 9595 4196** 1638.4 kl credit token encoded using DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 1643.4 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
9	Insert the following token. **3449 2666 6061 6739 3555** 18022.4 kl credit token encoded using DUTK$_1$.	If 19665.8 kl is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 19665.8 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
10	Insert the following token. **5844 5590 0905 9909 8323** 181862.4 kl credit token encoded using DUTK$_1$.	If 201528.2 kl is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 201528.2 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
11	Insert the following token **6908 6495 7269 3855 7655** 5 kl credit token encoded using DUTK$_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
12	Insert the following token. **3080 7078 4441 9595 4196** 1638 kl credit token encoded using DUTK$_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For gas meters – do steps 13 to 18.

Step	Instruction	Expected Result
13	Insert the following token **1941 0104 6380 3225 4601** 5 m^3 credit token encoded using DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
14	Insert the following token. **1797 2655 7444 0494 1932** 1638.4 m^3 credit token encoded using DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 1643.4 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
15	Insert the following token. **5702 7841 6889 6343 9911** 18022.4 m^3 credit token encoded using $DUTK_1$.	If 19665.8 m^3 is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 19665.8 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
16	Insert the following token. **6977 0585 0680 8732 7943** 181862.4 m^3 credit token encoded using $DUTK_1$.	If 201528.2 m^3 is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 201528.2 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
17	Insert the following token **1941 0104 6380 3225 4601** 5 m^3 credit token encoded using $DUTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
18	Insert the following token. **1797 2655 7444 0494 1932** 1638.4 m^3 credit token encoded using $DUTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For time meters – do steps 19 to 24.

Step	Instruction	Expected Result
19	Insert the following token **6582 5043 8452 0461 5707** 5 min credit token encoded using $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
20	Insert the following token. **1501 3521 6912 1055 9266** 1638.4 min credit token encoded using $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 1643 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
21	Insert the following token. **2352 9234 7912 5172 5043** 18022 min credit token encoded using $DUTK_1$.	If 19665.4 min is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 19665.4 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
22	Insert the following token. **5959 9748 6949 6619 7942** 181862 min credit token encoded using $DUTK_1$.	If 201527.8 min is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 201527.8 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
23	Insert the following token **6582 5043 8452 0461 5707** 5 min credit token encoded using $DUTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
24	Insert the following token. **1501 3521 6912 1055 9266** 1638.4 min credit token encoded using $DUTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For electricity currency meters – do steps 25 to 30.

Step	Instruction	Expected Result
25	Insert the following token **5379 0516 7571 0182 7530** 5000 unit credit token encoded using $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5000.4 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
26	Insert the following token. **7027 9343 3103 8843 9545** 16384 unit credit token encoded using $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 21384.8 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
27	Insert the following token. **1072 5135 3980 9967 7428** 180224 unit credit token encoded using $DUTK_1$.	If 201609.2 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 201609.2 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
28	Insert the following token. **1766 7263 2710 5021 0627** 1818644 units credit token encoded using $DUTK_1$.	If 2020253.7 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 2020253.7 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
29	Insert the following token **5379 0516 7571 0182 7530** 5000 unit credit token encoded using $DUTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
30	Insert the following token. **7027 9343 3103 8843 9545** 16384 unit credit token encoded using $DUTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For water currency meters – do steps 31 to 36.

Step	Instruction	Expected Result
31	Insert the following token **0795 5099 8612 3814 3317** 5000 unit credit token encoded using $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5000.4 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
32	Insert the following token. **7263 8202 5438 7775 2582** 16384 unit credit token encoded using $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 21384.8 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
33	Insert the following token. **5175 6986 3803 2016 5973** 180224 unit credit token encoded using DUTK$_1$.	If 201609.2 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 201609.2 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
34	Insert the following token. **4843 8372 6623 9322 1604** 1818644 units credit token encoded using DUTK$_1$.	If 202025.7 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 2020253.7 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
35	Insert the following token **0795 5099 8612 3814 3317** 5000 unit credit token encoded using DUTK$_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
36	Insert the following token. **7263 8202 5438 7775 2582** 16384 unit credit token encoded using DUTK$_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For gas currency meters – do steps 37 to 42.

Step	Instruction	Expected Result
37	Insert the following token **5819 2279 9899 9006 0594** 5000 unit credit token encoded using DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5000.4 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
38	Insert the following token. **3314 2720 3059 0060 6425** 16384 unit credit token encoded using DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 21384.8 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
39	Insert the following token. **3299 0066 1822 5422 7439** 180224 unit credit token encoded using DUTK$_1$.	If 201609.2 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 201609.2 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
40	Insert the following token. **2682 5395 7092 9257 9568** 181864units credit token encoded using DUTK$_1$.	If 20202537 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 20202537 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
41	Insert the following token **5819 2279 9899 9006 0594** 5000 unit credit token encoded using DUTK$_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
42	Insert the following token. **3314 2720 3059 0060 6425** 16384 unit credit token encoded using DUTK$_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

For time currency meters – do steps 43 to 48.

Step	Instruction	Expected Result
43	Insert the following token **6006 2419 9694 8976 5366** 5000 unit credit token encoded using DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 5000.4 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
44	Insert the following token. **3236 8649 8435 2038 7824** 16384 unit credit token encoded using DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 21384.8 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
45	Insert the following token. **0399 7538 1446 6214 0229** 180224 unit credit token encoded using $DUTK_1$.	If 201609.2 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 201609.2 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
46	Insert the following token. **3952 6725 5132 0198 1997** 1818624 units credit token encoded using $DUTK_1$.	If 20202537 units is greater than the maximum amount of available credit that the meter can store as specified in Table 1 then the meter shall reject the token. Otherwise, the meter shall indicate the acceptance of the token as described by the manufacturer in Table 1. The available credit in the meter shall be 2020253.7 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
47	Insert the following token **6006 2419 9694 8976 5366** 5000 unit credit token encoded using $DUTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.
48	Insert the following token. **3236 8649 8435 2038 7824** 16384 unit credit token encoded using $DUTK_1$.	Record the available credit in the PM or customer interface terminal to ensure that this step does not alter the available credit in any way. The PM or customer interface terminal shall reject the token as "Used". The available credit in the meter shall not change.

4.1.65   CTSF61 – DUTK coded accepting maximum power limit token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of a SetMaximumPowerLimit token while loaded with a DUTK.

Note: this test only required for electricity meters that support this feature..

Step	Instruction	Expected Result
1	If the manufacturer's response in Table 1 inidicates that initiate test number 7 is supported, insert token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit), otherwise, skip this step.	The PM or customer interface terminal shall display the maximum power limit.
2	Insert the following token **7131 8445 1189 4777 6030** 2.3 kilowatt Set maximum power limit token encoded using $DUTK_1$.	The PM or customer interface terminal shall indicate acceptance of the token.
3	If the manufacturer's response in Table 1 inidicates that initiate test number 7 is supported, insert token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit), otherwise, skip this step.	The PM or customer interface terminal shall display the maximum power limit of 2.3 kilowatts.
4	Insert the following token **0002 9099 8538 8319 4799** 1kilowatt Set maximum power limit token encoded using $DUTK_1$.	The PM or customer interface terminal shall indicate acceptance of the token.
5	If the manufacturer's response in Table 1 inidicates that initiate test number 7 is supported, insert token For 11 digit DRN meters: **0000 0000 0012 0797 4400** For 13 digit DRN meters: **0115 2921 7796 1897 3828** Initiate PM Test number 7 (Display maximum power limit), otherwise, skip this step.	The PM or customer interface terminal shall display the maximum power limit of 1.0 kilowatts.

4.1.66 CTSF62 – DUTK coded accepting clear PM electricity credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DUTK and explicitly nominating the electricity register in the PM.

Note: this test only required for electricity meters.

Step	Instruction	Expected Result
1	Insert the following token **4398 4031 7048 7743 8545** Clear electricity credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.67 CTSF63 – DUTK coded accepting clear PM water credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DUTK and explicitly nominating the water register in the PM.

Note: this test only required for water meters.

Step	Instruction	Expected Result
1	Insert the following token **1184 4775 1498 7498 2822** Clear water credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.68 CTSF64 – DUTK coded accepting clear PM gas credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DUTK and explicitly nominating the gas register in the PM.

Note: this test only required for gas meters.

Step	Instruction	Expected Result
1	Insert the following token **0897 6016 9657 9008 7168** Clear gas credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.69 CTSF65 – DUTK coded accepting clear PM connection time credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DUTK and explicitly nominating the connection time register in the PM.

Note: this test only required for connection time meters.

Step	Instruction	Expected Result
1	Insert the following token **5913 0789 1388 0746 6271** Clear connection time credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.70 CTSF66 – DUTK coded accepting clear PM currency credit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of ClearCredit token while loaded with a DUTK and explicitly nominating the connection time register in the PM.

Note: this test only required for currency based meters.
Do only tests steps for the currency type supported by the PM.

Step	Instruction	Expected Result
1	Insert the following token For electricity currency **0485 5186 5863 8435 9290** Clear electricity currency credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 currency units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token For water currency **5596 2174 8805 0369 4604** Clear water currency credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 currency units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Insert the following token For gas currency **1803 2921 0185 3210 7062** Clear gas currency credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 currency units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
4	Insert the following token For time currency **3428 5407 0159 8112 6215** Clear time currency credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 currency units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.71 CTSF67 – DUTK coded accepting clear PM all credit registers

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the ClearCredit token while loaded with a DUTK and explicitly nominating all registers in the PM.

Step	Instruction	Expected Result
1	Insert the following token **0692 5133 5402 4452 1761** Clear all credit registers token encoded using the DUTK$_1$	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.72 CTSF68 – DUTK coded accepting clear PM reserved credit registers

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the ClearCredit token while loaded with a DUTK and explicitly nominating reserved registers.

Step	Instruction	Expected Result
1	Insert the following token **7019 1092 2606 8910 2437** Clear credit register number 8 token encoded using the DUTK$_1$	The PM or customer interface terminal shall reject the token.
2	Insert the following token **0217 8535 9542 0584 5673** Clear credit register number FFFE$_{16}$ token encoded using the DUTK$_1$	The PM or customer interface terminal shall reject the token.

4.1.73 CTSF69 – DUTK coded processing set PM key with roll over

Overview: This test verifies the MeterApplicationProcess for compliance with respect to a DUTK key change with the roll over flag set.

Step	Instruction	Expected Result
1	Insert the following token **1045 5644 6399 0146 4788** First token of Set PM Key token set. $DUTK_1$ to $DUTK_2$ key-change token. (KENHO = F, KRN = 1, RO = 0, Res = 0, KT = 2)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.
2	Insert the following token **2736 9608 9008 7256 2986** Second token of Set PM Key token set. $DUTK_1$ to $DUTK_2$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
3	Insert the following token **4381 3336 7267 6709 4724** Third token of Set PM Key token set. $DUTK_1$ to $DUTK_2$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.
4	Insert the following token **1148 3578 1708 4622 0797** Fourth token of Set PM Key token set. $DUTK_1$ to $DUTK_2$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Insert the following token **7174 3534 3472 7290 4268** First token of Set PM Key token pair. $DUTK_2$ to $DUTK_1$ key-change token. (KENHO = F, KRN = 1, RO = 1, Res = 0, KT = 2)	The PM or customer interface terminal shall indicate the acceptance of the first "Set PM key" token.
6	Insert the following token **4736 3484 7560 4696 7881** Second token of Set PM Key token set. $DUTK_2$ to $DUTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the second "Set PM key" token.
7	Insert the following token **6595 5530 2282 5581 7084** Third token of Set PM Key token set. $DUTK_2$ to $DUTK_1$ key-change token.	The PM or customer interface terminal shall indicate the acceptance of the third "Set PM key" token.
8	Insert the following token **6645 1620 0221 1387 8460** Fourth token of Set PM Key token pair. $DUTK_2$ to $DUTK_1$ key-change token. (KENLO = F, TI = 01)	The PM or customer interface terminal shall indicate the acceptance of the fourth "Set PM key" token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
9	Insert the following token **0372 3741 7425 4811 3205** Clear all credit registers token encoded using the DUTK$_1$. TID greater than Step 10.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
10	Insert the following token **7203 6616 6599 4936 6802** Clear all credit registers token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token. The available credit in the meter shall be 0. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
11	Insert the following token. For 11 digit DRN meters **5649 3153 7254 5031 3471** For 13 digit DRN meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: 1. Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. 2. Test the meter information display services. 3. Display the cumulative consumption register totals. **4. Display 1 for the KRN.** 5. Display the Tariff Index 6. If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. 7. If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. 8. If the response in Table 1 indicates that test number 8 token is supported, display the tamper status. 9. If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. 10. Display the software version. 11. If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit. 12. Reserved 13. Reserved 14. Display the EA value 15. Display the number of keychange tokens supported 16. If the response in Table 1 indicates that test number 16 token is supported, display the SGC value 17. Display the KEN value 18. Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.74 CTSF70 – DUTK coded processing clear tamper condition

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the ClearTamperCondition token while loaded with a DUTK.

Step	Instruction	Expected Result
1	Place the meter in a tamper state following the manufacturer's instructions as described in Table 1.	The PM or customer interface terminal should indicate that it is in a tamper state if this functionality is supported .
2	Insert the following token: **2717 7774 9677 6679 2082** Clear tamper condition encoded using $DUTK_1$.	If the manufacturer's response in Table 1 indicates that the submitted meter has a tamper detect capability, and it is activated, the PM or customer interface terminal should indicate the acceptance of the token. Note that this token may be accepted even if the tamper detect capability is disabled. If the manufacturer's response in Table 1 indicates that the meter does not support tamper, the PM or customer interface terminal shall reject the token After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Insert the following token. For 11 digit DRN meters: **5649 3153 7254 5031 3471** For 13 digit DRN meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: 1. Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. 2. Test the meter information display services. 3. Display the cumulative consumption register totals. 4. Display 1 for the key revision number. 5. Display the Tariff Index 6. If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. 7. If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. **8. If the response in Table 1 indicates that test number 8 token is supported, display the tamper status as clear.** 9. If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. 10. Display the software version. **11.** If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit. 12. Reserved 13. Reserved 14. Display the EA value 15. Display the number of keychange tokens supported 16. If the response in Table 1 indicates that test number 16 token is supported, display the SGC value 17. Display the KEN value 18. Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.75 CTSF71 – DUTK coded processing set phase unbalance limit

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of the SetMaximumPhasePowerUnbalanceLimit token while loaded with a DUTK.

Note: this test only required for electricity meters.

Step	Instruction	Expected Result
1	If the manufacturer's response in Table 1 indicates that the meter is a poly-phase meter, insert token **7310 1840 6318 2499 4277** Set maximum phase power unbalance limit token encoded using DUTK$_1$. (MPPUL = 1 kilowatt), otherwise, skip this step.	The PM or customer interface terminal should indicate the acceptance of the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	If the manufacturer's response in Table 1 indicates that the meter is not a poly-phase meter, or does not support phase unbalance, insert token **7310 1840 6318 2499 4277** Set maximum phase power unbalance limit token encoded using DUTK$_1$. (MPPUL = 1 kilowatt).	The PM or customer interface terminal shall reject the token.
3	Insert the following token. For 11 digit DRN meters: **5649 3153 7254 5031 3471** For 13 digit DRN meters: **0230 5843 0050 5295 1967** Test token – Test number 0.	The PM or customer interface terminal should indicate the acceptance of the token. The PM or customer interface terminal should then perform the following tests: 1. Test the load switch. If the manufacturers response in Table1 is that the load switch test is not supported, then the load switch should not be tested and this step may be skipped. 2. Test the meter information display services. 3. Display the cumulative consumption register totals. 4. Display 1 for the key revision number. 5. Display the Tariff Index. 6. If the response in Table 1 indicates that test number 6 token is supported, test the token reader device. 7. If the response in Table 1 indicates that test number 7 token is supported, display the maximum power limit. 8. If the response in Table 1 indicates that test number 8 token is supported, display the tamper status as clear. 9. If the response in Table 1 indicates that test number 9 token is supported, display the power consumption. 10. Display the software version. 11. If the response in Table 1 indicates that test number 11 token is supported, display the phase power unbalance limit as 1 kilowatt. 12. Reserved 13. Reserved 14. Display the EA value 15. Display the number of keychange tokens supported 16. If the response in Table 1 indicates that test number 16 token is supported, display the SGC value 17. Display the KEN value 18. Display the DRN After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.76 CTSF72 – DUTK coded class 2 token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of class 2 tokens while loaded with a DUTK.

Step	Instruction	Expected Result
1	Insert the following token **6465 0505 3141 2946 9019** STS reserved token in class 10_2 encoded using $DUTK_1$. (Sub class = 11)	The PM or customer interface terminal shall reject the token. Note that a payment meter may accept this token if proprietary tokens have been implemented, but in this case, this shall not form part of the test. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token **4379 8253 3830 1696 7121** $DUTK_1$ coded Class2 SubClass10 token. (Index = 63, FlagIndex = 0, FlagValue = 0)	If the manufacturer has stated in Table 1 that the payment meter supports Class2 SubClass10 SetFlag tokens as specified in STS202-5, the PM or customer interface terminal shall accept the token. Otherwise, the payment meter shall reject the token and Steps 3-5 may be omitted. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
3	Read the flag 0 **0344 0750 1154 4527 9822**	The PM shall indicate a value of 0 for the flag value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
4	Insert the following token **4880 2209 7446 5630 7503** $DUTK_1$ coded Class2 SubClass10 token. (Index = 63, FlagIndex = 0, FlagValue = 1)	The PM or customer interface terminal shall accept the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
5	Read the flag 0 **0344 0750 1154 4527 9822**	The PM shall indicate a value of 1 for the flag value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
6	Insert the following token **2759 3387 9438 7949 2026** $DUTK_1$ coded Class2 SubClass10 token. (Index = 0, ControlValue = 0)	If the manufacturer has stated in Table 1 that the payment meter supports Class2 SubClass10 SetControlValue tokens as specified in STS202-5, the PM or customer interface terminal shall accept the token. Otherwise, the payment meter shall reject the token and Steps 7-9 may be omitted After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
7	Read the control value **0230 5843 0093 4791 4912**	The PM shall indicate a value of 0 for the control value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
8	Insert the following token **6565 9527 7645 8893 9573** $DUTK_1$ coded Class2 SubClass10 token. (Index = 0, ControlValue = 0123)	The PM or customer interface terminal shall accept the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

Step	Instruction	Expected Result
9	Read the control value **0230 5843 0093 4791 4912**	The PM shall indicate a value of 0123 for the control value. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.77 CTSF73 – DUTK coded class 3 STS reserved token

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the processing of Class 3 reserved tokens while loaded with a DUTK.

Step	Instruction	Expected Result
1	Insert the following token **4522 0958 3096 2249 2907** STS reserved token in class 11_2 encoded using $DUTK_1$. (Sub class = 0)	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.78 CTSF74 – DUTK coded non-volatile memory TID store

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the non-volatile memory TID store and that the PM can store at least 50 TIDs while loaded with a DUTK.

Do Steps 1 to 5 for electricity meters.

Step	Instruction	Expected Result
1	Insert the following token **5034 6653 8343 7710 2327** Clear electricity credit token encoded using the $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be 0 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
2	Examine the maximum number of TID's specified by the manufacturer in Table1	The value shall be greater than or equal to 50. If not, the test fails.

Step	Instruction	Expected Result
3	Insert the following 1kWh credit tokens, encoded using DUTK1. 5858 4912 5954 7431 6123 0621 8936 6304 1287 4436 5578 1922 9658 7501 9089 2743 4167 7050 7102 2666 0735 3469 0490 3246 3763 1516 7257 1283 0887 0046 2224 6950 5065 0323 5916 0604 7536 4842 1932 3628 6142 2487 8175 9152 9312 4348 8986 1784 2158 1431 3409 6577 9162 7377 1897 4247 4390 2474 8188 8475 3594 6440 8707 6541 2738 6193 8814 2619 1786 4211 1112 1523 7984 4922 4536 0327 7623 3598 0160 2493 4227 3826 0815 0963 1753 1390 3646 3332 1676 3421 6540 6560 3555 5458 1483 4662 3871 1866 2257 0891 2696 4846 3244 9515 3882 1635 4746 3545 5341 4988 4742 6318 1656 1396 9045 0394 5782 9034 9790 3462 5160 1453 4828 6132 9036 1785 5590 4386 5265 6785 2279 6153 4454 2494 6810 5714 1857 7543 6310 8602 6734 4251 6390 7158 7236 0140 7781 8268 9444 7631 1705 5180 4041 5059 8935 4747 3677 7918 5623 9795 6002 1934 3911 1151 9228 6277 6368 7851 7213 3792 4081 1567 6823 6508 1150 2249 5484 0573 4249 1738 3231 3959 7475 4128 7992 7123 6618 2548 5242 3478 3710 1944 8221 8396 9710 2343 9215 6430 0802 9724 3325 7551 9924 9746 7995 3772 9401 8826 5680 9839 1760 3504 4933 6190 9872 0088 3142 0707 4540 4335 5820 3478 8644 1304 5486 2787 8742 8670 9228 6251 6077 4996 7426 0660 2944 0879 2742 4893 3740 7252 1071 3039 5788 3726 6033 2275 7143 0363 4845 3115 7304 1809 7039 2785 9202 7142 0563 1985 8727 9385 2274 0213 8929 2374 4111 2699 6213 5068 3657 6378 6140 1716 2423 3309 1578 4437 4474 0571 5518 4936 2343 5173 6267 2729 7508 3233 9526 9479 4951 2649 5408 3543 2007 3086 6096 7068 9941 9550 8384 3255	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be incremented by 1 kilowatt-hour after acceptance of each token. The meter credit should read 5kWh The meter credit should read 10kWh The meter credit should read 15kWh The meter credit should read 20kWh The meter credit should read 25kWh The meter credit should read 30kWh The meter credit should read 35kWh The meter credit should read 40kWh The meter credit should read 45kWh The meter credit should read 50kWh The meter credit should read 55kWh The meter credit should read 60kWh

Step	Instruction	Expected Result
4	Insert the following token **0621 8936 6304 1287 4436** 1 kilowatt-hour credit token encoded using $DUTK_1$.	If the value specified by the manufacturer in Table1is less than or equal 60 then the PM or customer interface terminal shall reject the token as "Old" as described by the manufacturer in Table1. If the value specified by the manufacturer in Table1 is greater than 60 then the PM or customer interface terminal shall reject the token as "Duplicate" as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
5	Insert the following token **6193 8814 2619 1786 4211** 1 kilowatt-hour credit token encoded using $DUTK_1$.	The PM or customer interface terminal shall reject the token as "Duplicate", as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.

Do Steps 6 to 10 for water meters.

Step	Instruction	Expected Result
6	Insert the following token **4957 6512 4531 6961 9890** Clear water credit token encoded using the $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be 0 kl. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
7	Examine the maximum number of TID's specified by the manufacturer in Table1	The value shall be greater than or equal to 50. If not, the test fails.

Step	Instruction	Expected Result
8	Insert the following 1kl credit tokens, encoded using DUTK1. 4810 0199 8835 1943 5784 2903 3116 2870 9054 4394 2505 3747 8561 1493 6793 6747 3613 0830 3015 6341 2037 9620 3794 7719 0222 4361 4684 5176 5324 5890 3324 1684 3442 7016 0662 6035 3504 8592 1837 8174 4458 9871 0897 6597 5537 3309 6068 6788 0543 2839 4857 4114 9630 8387 4921 0532 0870 1175 7925 5334 5691 3558 5894 7073 5027 5006 5555 5157 8430 6258 7189 5074 0211 2793 8874 1387 4837 0374 6438 8876 3294 7867 9771 9454 0738 1678 8501 7138 2462 0654 5230 7473 4258 6754 0131 2779 6203 8751 4064 0158 0849 1412 1869 7895 9994 2484 5519 7132 8769 2747 3834 3836 0482 2523 5060 6770 1188 2581 2396 6814 3206 5047 2457 2583 9568 1912 7197 4111 1906 0628 2650 1610 4009 0248 9768 2984 5173 0218 6187 1479 5912 2859 1288 5364 8225 2275 7104 3059 8498 8597 6718 2804 9581 5233 5298 4888 9032 8115 4729 1209 5858 2981 3714 7270 7497 3671 9060 2919 0783 2179 2825 5447 8875 7682 6658 1266 2327 8271 3506 0220 5275 7618 5795 8330 6405 4037 4220 5181 7905 8155 2017 6560 8869 1331 8418 1627 2960 3965 1631 1990 1496 4959 1402 5425 0132 1825 6061 5923 6583 6763 5026 5785 1039 6433 1827 1022 0761 8342 6516 8405 5802 2214 8774 0403 6334 2479 7795 3460 9419 7506 1892 9748 6613 2276 8933 1447 3313 4012 5239 1985 3981 2687 4781 5657 5565 1942 4039 6910 4815 3526 6977 5065 3261 5351 4172 7281 0980 9359 7170 4985 5644 4037 7726 5641 4484 0955 5329 4552 0144 9820 2593 3235 9843 8400 4996 4706 9787 2212 9582 6526 5009 2400 1077 3217 3942 1600 7480 0380 1520 7973 2033 3492 1972 2023 6868 1671 1016 4541 4088 6404	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be incremented by 1 kl after acceptance of each token. The meter credit should read 5kl The meter credit should read 10kl The meter credit should read 15kl The meter credit should read 20kl The meter credit should read 25kl The meter credit should read 30kl The meter credit should read 35kl The meter credit should read 40kl The meter credit should read 45kl The meter credit should read 50kl The meter credit should read 55kl The meter credit should read 60kl

Step	Instruction	Expected Result
9	Insert the following token **2903 3116 2870 9054 4394** 1 kl credit token encoded using $DUTK_1$.	If the value specified by the manufacturer in Table1 is less than or equal 60 then the PM or customer interface terminal shall reject the token as "Old" as described by the manufacturer in Table1. If the value specified by the manufacturer in Table1 is greater than 60 then the PM or customer interface terminal shall reject the token as "Duplicate" as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
10	Insert the following token **5006 5555 5157 8430 6258** 1 kl credit token encoded using $DUTK_1$.	The PM or customer interface terminal shall reject the token as "Duplicate", as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.

Do Steps 11 to 15 for Gas meters.

Step	Instruction	Expected Result
11	Insert the following token **1702 1989 6390 8743 1455** Clear Gas credit token encoded using the $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be 0 m^3. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
12	Examine the maximum number of TID's specified by the manufacturer in Table1	The value shall be greater than or equal to 50. If not, the test fails.

Step	Instruction	Expected Result
13	Insert the following 1m3 credit tokens, encoded using DUTK1.	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be incremented by 1 m^3 after acceptance of each token.
	5981 9045 0978 4269 1535 6322 7778 9033 7097 0076 3191 6258 0369 2501 4364 3746 9594 7104 6608 7186 3580 1765 2850 5717 6517	 The meter credit should read 5 m^3
	5527 7842 1931 5632 4744 3943 8695 1683 0330 3681 7360 0403 1109 8425 2157 1591 4840 4372 3316 8075 1023 0790 0852 3883 0199	 The meter credit should read 10 m^3
	5501 1693 3268 3563 0563 6947 3190 6620 2670 8643 5886 0243 5839 5015 6634 7185 1216 5199 5257 3599 6483 8090 1649 4196 1765	 The meter credit should read 15 m^3
	5139 6031 2481 5825 7656 0941 3215 7154 8125 6669 1825 2542 1979 6841 6371 0550 0824 3665 9208 7611 4079 9487 0432 4177 6607	 The meter credit should read 20 m^3
	4404 4914 4717 4313 5366 6564 9020 9767 5518 8512 3463 3757 6159 7182 8494 0519 5508 8005 7486 1801 4371 1087 4370 1785 7793	 The meter credit should read 25 m^3
	1855 3621 7085 4163 7697 3540 2144 2964 1722 7165 2586 1484 5807 2092 6260 2931 2899 4626 9093 6366 5564 0999 3341 3930 8602	 The meter credit should read 30 m^3
	4637 0983 2942 8720 7325 3624 4677 9076 4049 8022 1275 6687 0377 9734 3983 2454 4638 9973 6020 6979 7323 2844 6663 1439 9045	 The meter credit should read 35 m^3
	5487 1841 3603 3455 1048 6054 4767 7818 8293 0154 7341 9000 3165 9981 0090 2713 4433 5811 9497 5878 4677 9726 3682 1414 5798	 The meter credit should read 40 m^3
	3245 0078 7227 9842 1231 0611 1928 6241 0552 5500 4026 8649 2352 6147 2649 2676 6064 5183 4650 9151 3090 0925 9622 0433 6182	 The meter credit should read 45 m^3
	0305 0711 6519 2399 5400 3290 9135 8697 5726 8352 7178 3501 8352 0703 5319 4824 4416 9606 1876 5599 1701 4389 8483 9529 0507	 The meter credit should read 50 m^3
	4256 4918 3323 0469 7913 2340 0303 4089 5873 0710 2028 9666 7240 8051 1207 7143 5001 8268 8689 1813 1285 0651 4835 1218 6762	 The meter credit should read 55 m^3
	1231 8539 9009 5215 7194 3571 6326 7827 3357 8545 1993 1562 4484 0550 2611 5135 2299 0809 6847 1806 0756 5804 7460 1784 2376	 The meter credit should read 60 m^3

Step	Instruction	Expected Result
14	Insert the following token **6322 7778 9033 7097 0076** 1 m^3 credit token encoded using DUTK$_1$.	If the value specified by the manufacturer in Table1is less than or equal 60 then the PM or customer interface terminal shall reject the token as "Old" as described by the manufacturer in Table1. If the value specified by the manufacturer in Table1 is greater than 60 then the PM or customer interface terminal shall reject the token as "Duplicate" as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
15	Insert the following token **7185 1216 5199 5257 3599** 1 m^3 credit token encoded using DUTK$_1$.	The PM or customer interface terminal shall reject the token as "Duplicate", as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.

Do Steps 16 to 20 for Connection Time meters.

Step	Instruction	Expected Result
16	Insert the following token **4092 9143 0834 8220 6443** Clear Connection Time credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be 0 min. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
17	Examine the maximum number of TID's specified by the manufacturer in Table1	The value shall be greater than or equal to 50. If not, the test fails.

Step	Instruction	Expected Result
18	Insert the following 1min credit tokens, encoded using DUTK1. 6630 1829 3887 8341 1102 4833 5035 1151 9569 9725 2854 1335 6821 9700 0056 3650 8386 9287 1802 7303 3031 9155 2988 3965 3571 1920 1115 4276 2689 8508 0189 5486 6124 2117 2343 6604 1325 4972 2145 1718 2934 0368 9471 6915 7526 1248 9510 9037 9521 1811 2237 5897 4425 3963 6297 2832 6946 5915 1490 4300 6752 1224 4140 7726 2423 1959 6084 9344 1802 8111 2424 3017 9337 9703 7595 4091 9666 1046 6749 1278 1031 4295 6354 5115 9350 6336 6222 2075 7659 9550 3533 9363 0011 7912 9638 6450 0188 5919 0340 1212 5014 6561 5518 6900 1762 0660 1848 3617 9478 0809 5050 3099 2290 4700 9406 5687 9811 9421 0190 2062 0581 8360 0877 9489 8900 0225 6198 3262 9837 3701 4718 1899 1805 5061 7679 6118 4839 4543 9386 6575 1506 3572 5208 3348 5362 1013 9702 8848 0119 1001 3093 5048 4422 7515 8474 0109 6981 4996 1015 9390 0949 1854 5700 2970 4453 7361 8059 3779 6639 3352 0120 3142 1460 7506 6452 2890 4551 3028 9904 7248 5191 7764 7949 2495 0767 2460 6834 5857 8856 7305 1680 5354 6270 2746 0710 5142 8066 8046 7234 9250 2796 2134 1894 6859 6066 1916 2900 9453 4226 9765 7153 3702 7946 7044 6654 5214 2726 6525 2714 3791 6798 1561 4753 1781 9850 6533 3082 5129 8942 2875 2050 6649 8682 2457 8618 0964 4902 1315 0345 3540 7358 5991 5474 3119 7963 1375 0707 2147 7618 0920 0577 2892 2873 8031 2891 4866 3711 4935 9716 3313 0888 0956 3200 8113 3012 7108 3976 5940 9179 5013 6875 0693 8822 5981 2151 1731 8394 3948 3334 0054 6931 1895 7582 5752 4574 3332 1975 7513 3507 4073 6679 0699 1765 8426 9350 4125 7742 8808 4037 6767	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be incremented by 1 min after acceptance of each token. The meter credit should read 5 min The meter credit should read 10 min The meter credit should read 15 min The meter credit should read 20 min The meter credit should read 25 min The meter credit should read 30 min The meter credit should read 35 min The meter credit should read 40 min The meter credit should read 45 min The meter credit should read 50 min The meter credit should read 55 min The meter credit should read 60 min

Step	Instruction	Expected Result
19	Insert the following token **4833 5035 1151 9569 9725** 1 min credit token encoded using $DUTK_1$.	If the value specified by the manufacturer in Table1 is less than or equal 60 then the PM or customer interface terminal shall reject the token as "Old" as described by the manufacturer in Table1. If the value specified by the manufacturer in Table1 is greater than 60 then the PM or customer interface terminal shall reject the token as "Duplicate" as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
20	Insert the following token **1959 6084 9344 1802 8111** 1 min credit token encoded using $DUTK_1$.	The PM or customer interface terminal shall reject the token as "Duplicate", as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.

Do Steps 21 to 25 for Electricity Currency meters.

Step	Instruction	Expected Result
21	Insert the following token **1390 4657 3129 2697 9895** Clear electricity currency credit token encoded using the $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be 0 currency units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
22	Examine the maximum number of TID's specified by the manufacturer in Table1	The value shall be greater than or equal to 50. If not, the test fails.

Step	Instruction	Expected Result
23	Insert the following 1currency unit credit tokens, encoded using DUTK1. 3776 6760 0016 5327 5259 6627 8509 1540 9419 9068 1175 3295 3118 5945 1233 6214 4282 8753 4892 4184 2098 2752 6612 6277 3453 0794 0142 9903 8879 5568 3341 7518 7790 5040 7300 2668 4278 1577 0647 1372 2767 1873 8973 9795 3646 5400 4654 5654 5676 7749 5276 8088 9699 4223 7220 1527 6212 8770 2470 7759 2950 8640 8614 9192 9595 7039 2761 0378 4514 8987 1021 2136 9462 5610 2941 3740 3525 7740 3566 0821 1713 0462 9855 4085 3755 3829 4009 9274 8695 3641 0302 1302 2165 6960 1627 1205 6022 3269 0969 4686 5877 6282 3887 4324 7145 5134 8863 9956 9435 4090 1689 9340 0691 8015 7041 0224 7842 1650 7958 3204 0201 2835 4242 3291 4119 6529 6318 7697 5660 9482 3246 3818 3097 8784 2823 1734 1700 3380 9307 1013 5374 8577 2146 9072 4386 1562 7387 5489 5833 1743 2025 8920 8764 7010 5204 7326 5092 0190 1401 1426 0408 3010 7330 8673 7849 5822 5335 0392 4074 9983 7191 7606 7387 1644 7799 4178 6762 9029 4913 4036 6451 6174 9884 2952 7764 5092 9046 5268 0796 6772 6873 7247 4595 8497 7281 4490 7203 5544 5680 7519 1729 7370 2024 2739 8140 0967 6329 9297 7216 7607 0111 0526 2228 4895 6140 5542 7595 6092 8389 4944 6442 4693 6802 0558 8684 6159 8652 7237 5692 6216 2437 3630 8265 3065 7702 5935 4305 8342 2193 9925 2045 7524 4667 1316 1246 0539 6972 6768 9152 2449 2614 5107 8507 1176 4908 1962 5443 7256 7457 0201 3333 5721 4935 1960 1157 5563 4209 6860 9616 2975 4384 4261 8927 5266 6905 1703 5930 2088 4678 1441 6971 6218 2327 7242 2957 1126 2696 3390 0010 8055 0914 2728 0827 9113 6305 6740 0474 7469 1596 3967	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be incremented by 1 currency unit after acceptance of each token. The meter credit should read 5 units The meter credit should read 10 units The meter credit should read 15 units The meter credit should read 20 units The meter credit should read 25 units The meter credit should read 30 units The meter credit should read 35 units The meter credit should read 40 units The meter credit should read 45 units The meter credit should read 50 units The meter credit should read 55 units The meter credit should read 60 units

Step	Instruction	Expected Result
24	Insert the following token **6627 8509 1540 9419 9068** 1 currency unit credit token encoded using $DUTK_1$.	If the value specified by the manufacturer in Table1is less than or equal 60 then the PM or customer interface terminal shall reject the token as "Old" as described by the manufacturer in Table1. If the value specified by the manufacturer in Table1 is greater than 60 then the PM or customer interface terminal shall reject the token as "Duplicate" as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
25	Insert the following token **7039 2761 0378 4514 8987** 1 currency unit credit token encoded using $DUTK_1$.	The PM or customer interface terminal shall reject the token as "Duplicate", as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.

Do Steps 26 to 30 for Water Currency meters.

Step	Instruction	Expected Result
26	Insert the following token **2125 4965 0624 1104 4672** Clear water currency credit token encoded using the $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be 0 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
27	Examine the maximum number of TID's specified by the manufacturer in Table1	The value shall be greater than or equal to 50. If not, the test fails.

Step	Instruction	Expected Result
28	Insert the following 1currency unit credit tokens, encoded using DUTK1. 2477 5386 6189 5281 1039 4223 8378 9830 5977 0324 6971 8454 4564 7185 2074 0212 6505 9008 5150 8840 7337 6219 8482 1605 1577 6648 6138 3738 1827 9519 1785 0497 4309 4399 1479 3841 0670 3473 7350 5412 1957 2795 2193 5136 7190 4520 9600 6562 5722 2426 0149 0093 1185 3404 7576 3147 2153 1330 1063 2295 5704 4953 8491 2125 0688 0572 6102 5222 5915 5946 4402 0033 2919 2692 9778 2745 4268 3034 2169 3876 1773 5422 2009 1780 1004 0630 7007 1574 9765 0683 3165 5602 7305 9031 6195 1639 4307 5060 9261 2484 2340 9609 7623 2830 1492 6945 0501 3574 3924 8102 6116 7441 4448 8603 0322 5092 6865 9552 8616 4539 5336 7651 1176 2105 8060 4964 7383 6222 7440 3960 3206 3720 1540 2013 9840 6579 9649 2997 2233 2236 4127 4801 3296 4368 4680 2461 1779 3440 8704 4776 5287 2397 6709 4770 1306 3204 0688 5588 1783 3317 2833 3803 0096 1241 7672 1429 5408 9784 8066 0763 5690 0995 4213 9415 8956 4500 2614 7797 0794 3661 1773 4709 6530 3465 5621 1050 5521 6294 0369 4243 0576 4693 4788 4008 3672 6193 6839 3103 7330 8897 3759 2236 9142 7616 1625 1627 3926 9638 4823 2765 4293 3747 8247 9873 5835 3744 4337 3998 7162 3058 5639 4204 9151 9451 8240 0393 1037 6843 4986 7548 2808 5026 4237 3279 7948 2135 6618 0399 5179 9294 1702 2434 0445 7748 9790 0191 5875 8825 4712 0933 3675 1783 0003 6891 7145 1590 0195 1957 7822 7948 7350 5410 9102 0726 9584 2107 1754 7270 8648 3035 1074 1799 5051 1435 9076 2746 0313 2712 3101 6272 0264 8140 8206 1883 3511 0738 1369 3691 3243 8961 0021 6141 4535 6389 8939 1100 1629 2499 4766 8941	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be incremented by 1 currency unit after acceptance of each token. The meter credit should read 5 units The meter credit should read 10 units The meter credit should read 15 units The meter credit should read 20 units The meter credit should read 25 units The meter credit should read 30 units The meter credit should read 35 units The meter credit should read 40 units The meter credit should read 45 units The meter credit should read 50 units The meter credit should read 55 units The meter credit should read 60 units

Step	Instruction	Expected Result
29	Insert the following token **4223 8378 9830 5977 0324** 1 unit currency credit token encoded using $DUTK_1$.	If the value specified by the manufacturer in Table1is less than or equal 60 then the PM or customer interface terminal shall reject the token as "Old" as described by the manufacturer in Table1. If the value specified by the manufacturer in Table1 is greater than 60 then the PM or customer interface terminal shall reject the token as "Duplicate" as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
30	Insert the following token **0572 6102 5222 5915 5946** 1 unit currency credit token encoded using $DUTK_1$.	The PM or customer interface terminal shall reject the token as "Duplicate", as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.

Do Steps 31 to 35 for Gas Currency meters.

Step	Instruction	Expected Result
31	Insert the following token **4348 1809 5052 4053 6387** Clear Gas currency credit token encoded using the $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be 0 units. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
32	Examine the maximum number of TID's specified by the manufacturer in Table1	The value shall be greater than or equal to 50. If not, the test fails.

Step	Instruction	Expected Result
33	Insert the following 1currency unit credit tokens, encoded using DUTK1. 3487 2929 2538 0241 0035 2540 2428 3404 4631 0087 6911 0258 6589 7440 5789 2227 9443 4432 9267 5727 7314 4831 9344 9428 5492 4251 7376 2762 6906 1364 0263 4877 9144 5747 1914 6760 2882 6801 0515 6438 1451 7723 3684 9351 0160 5036 5283 6627 8330 3028 0889 6931 6382 6747 9292 2361 3921 2341 4900 6447 6217 2003 5836 4763 7791 2038 1941 3170 2495 2788 5021 9742 9492 8561 5957 1133 8848 6249 8495 3698 3258 0640 5188 3033 4576 6300 2618 1387 6958 0453 0097 4107 1427 1010 7072 1251 0864 5136 4848 4220 4098 5407 3899 4612 1421 7306 6448 6766 3534 1758 4829 8198 0975 9267 4331 6868 4578 5913 1645 8557 0954 3854 6298 1107 7440 2077 4392 1343 3212 5369 3566 3340 3434 1636 8647 4019 4636 8824 6730 2373 5182 1848 3676 2696 4720 3915 0056 9946 6547 3900 6333 8484 8604 7451 8063 4389 8193 0444 1639 6122 0542 3365 1574 4587 5864 1910 7983 9570 4979 3455 0441 2083 4531 5865 7223 1240 0709 6309 1349 1615 0084 8639 7662 4426 0214 2874 9359 2036 2428 7301 3885 2979 1409 8871 8607 2830 1418 8809 9813 7474 6684 6550 1056 6108 0617 3445 8496 4649 0326 0133 3212 2557 4719 6583 1414 5144 5128 0442 0520 0512 5380 3273 8261 4262 8318 6587 3032 4735 7523 7725 2669 0719 3336 0142 6205 0847 1236 7391 6864 7681 1587 7994 4817 9250 1921 5424 3695 1874 0787 2069 1619 5175 5826 9952 2710 1944 2391 4673 4480 2785 6839 2710 7574 9349 1914 6235 7311 3038 6658 2323 4862 6785 6582 4689 1305 4254 8692 8563 6603 1909 3514 8112 6902 4931 3125 1121 4241 7871 8241 8934 0525 2400 9542 0049 8605 2872 3584 0220 0093 2060	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be incremented by 1 currency unit after acceptance of each token. The meter credit should read 5 units The meter credit should read 10 units The meter credit should read 15 units The meter credit should read 20 units The meter credit should read 25 units The meter credit should read 30 units The meter credit should read 35 units The meter credit should read 40 units The meter credit should read 45 units The meter credit should read 50 units The meter credit should read 55 units The meter credit should read 60 units

Step	Instruction	Expected Result
34	Insert the following token **2540 2428 3404 4631 0087** 1 unit currency credit token encoded using DUTK$_1$.	If the value specified by the manufacturer in Table1is less than or equal 60 then the PM or customer interface terminal shall reject the token as "Old" as described by the manufacturer in Table1. If the value specified by the manufacturer in Table1 is greater than 60 then the PM or customer interface terminal shall reject the token as "Duplicate" as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
35	Insert the following token **2038 1941 3170 2495 2788** 1 unit currency credit token encoded using DUTK$_1$.	The PM or customer interface terminal shall reject the token as "Duplicate", as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.

Do Steps 36 to 40 for Time Currency meters.

Step	Instruction	Expected Result
36	Insert the following token **0558 6707 5636 9298 7956** Clear time currency credit token encoded using the DUTK$_1$.	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be 0 kilowatt-hours. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
37	Examine the maximum number of TID's specified by the manufacturer in Table1	The value shall be greater than or equal to 50. If not, the test fails.

Step	Instruction	Expected Result
38	Insert the following 1currency unit credit tokens, encoded using DUTK1. 0087 6539 8233 8154 6151 5290 7410 4370 8930 4389 4440 0114 7477 0770 3266 3295 1669 8789 8992 3613 2788 5466 1713 1272 3934	The PM or customer interface terminal should indicate the acceptance of the token as described by the manufacturer in Table1. The available credit in the meter shall be incremented by 1 currency unit after acceptance of each token. The meter credit should read 5 units
	0741 5071 8765 6418 9436 6111 4106 5603 1382 6585 4509 1396 3939 4193 3091 5311 3424 4254 5374 8941 6117 7247 7421 5211 9442	The meter credit should read 10 units
	5231 2506 3838 5911 4355 5896 9902 9170 4771 9768 5417 7208 5551 1673 2837 5388 0601 3096 1424 6160 4631 8131 7572 8460 3862	The meter credit should read 15 units
	0521 0937 8337 6839 7794 1460 4335 8292 6234 2558 1289 6414 6837 7586 6237 3636 2389 0864 0676 9630 2744 5755 9353 9601 0448	The meter credit should read 20 units
	7071 6580 4015 1906 2522 5794 0759 5224 1666 1934 0801 8685 0046 9497 5592 5578 4465 7841 2408 7686 6607 0591 8698 6076 4118	The meter credit should read 25 units
	0677 4271 9494 6263 3870 1850 0246 4642 4518 0895 4059 9081 2577 6090 7644 6508 5962 6403 7035 2445 2382 0902 4029 9662 0002	The meter credit should read 30 units
	1533 7187 3880 4164 5254 2923 1189 3720 6913 4287 0340 4579 7675 1756 4886 6986 0800 8024 7674 6628 6365 2266 1501 1975 6146	The meter credit should read 35 units
	6341 5168 0655 7949 0431 3578 1500 9206 6192 2611 6951 1859 4170 2274 1466 4915 8996 3939 2193 8170 4619 3826 5673 9196 6144	The meter credit should read 40 units
	3212 8014 2885 7570 9904 4470 4481 9328 1371 0974 4073 3468 6933 8899 7505 4621 1222 3573 8292 4538 2121 7658 0275 9797 9740	The meter credit should read 45 units
	1399 0375 7287 9702 6744 4383 9417 2533 1711 3378 6237 5536 9019 1496 5655 1669 1395 8383 1210 4344 3949 2294 3908 2628 8453	The meter credit should read 50 units
	7015 9519 5236 2050 0879 6501 5680 0790 3081 6895 4413 1806 1075 7106 4033 2324 0451 1857 8174 0793 3343 9024 9971 7864 4788	The meter credit should read 55 units
	0733 2752 6200 0224 8971 2416 3273 1331 8127 1709 4697 2839 4542 8519 0330 7106 2678 7688 3978 7657 0578 8471 2059 1852 3091	The meter credit should read 60 units

Step	Instruction	Expected Result
39	Insert the following token **5290 7410 4370 8930 4389** 1 unit currency credit token encoded using $DUTK_1$.	If the value specified by the manufacturer in Table1 is less than or equal 60 then the PM or customer interface terminal shall reject the token as "Old" as described by the manufacturer in Table1. If the value specified by the manufacturer in Table1 is greater than 60 then the PM or customer interface terminal shall reject the token as "Duplicate" as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.
40	Insert the following token **5388 0601 3096 1424 6160** 1 unit currency credit token encoded using $DUTK_1$.	The PM or customer interface terminal shall reject the token as "Duplicate", as described by the manufacturer in Table1. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token as described by the manufacturer in Table1.

4.1.79 CTSF75 – DUTK to DITK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DUTK to DITK key change.

Step	Instruction	Expected Result
1	Insert the following token **2567 5098 6221 8004 1618** First token of Set PM Key token set. $DUTK_1$ to $DITK_1$ key-change token. (KENHO = F, KRN = 1, RO = 1, Res = 0, KT = 0)	The meter shall reject this key change request with a TokenResult of Reject. . (if the token is rejected at this stage, do not continue with this test). After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.
2	Insert the following token **3502 2887 5969 5195 9908** Second token of Set PM Key token set. $DUTK_1$ to $DITK_1$ key-change token.	The PM or customer interface terminal shall accept the token.
3	Insert the following token **3474 5694 5454 1743 5440** Third token of Set PM Key token set. $DUTK_1$ to $DITK_1$ key-change token.	The PM or customer interface terminal shall accept the token.
4	Insert the following token. **6725 3023 8791 8195 8745** Fourth token of Set PM Key token set. $DUTK_1$ to $DITK_1$ key-change token. (KENHO = F, TI = 01)	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.80 CTSF76 – DUTK to DCTK key change

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the DUTK to DCTK key change.

Step	Instruction	Expected Result
1	Insert the following token **3625 8943 4974 3856 9902** First token of Set PM Key token set. $DUTK_1$ to $DCTK_1$ key-change token. (KENHO = F, KRN = 1, RO = 1, Res = 0, KT = 3)	The PM or customer interface terminal shall accept the token.
2	Insert the following token **6977 2864 8735 7497 2779** Second token of Set PM Key token set. $DUTK_1$ to $DCTK_1$ key-change token.	The PM or customer interface terminal shall accept the token.
3	Insert the following token **7054 9670 0285 9373 3676** Third token of Set PM Key token set. $DUTK_1$ to $DCTK_1$ key-change token.	The PM or customer interface terminal shall accept the token.
4	Insert the following token. **3886 3324 5921 8466 2532** Fourth token of Set PM Key token set. $DUTK_1$ to $DCTK_1$ key-change token. (KENHO = F, TI = 01)	The PM or customer interface terminal shall reject the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

4.1.81 CTSF77 – DUTK coded accepting tokens when in power limiting state

Overview: This test verifies the MeterApplicationProcess for compliance with respect to the meter accepting tokens while in a power limiting state.
Note: this test only required for electricity meters (currency and kWh) that support a power limiting feature.

Step	Instruction	Expected Result
1	Unpower the PM, Connect the 1.2kW load, and re-power the PM.	After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token. Wait for the PM to enter a power limiting state as described by the manufacturer in Table1.
2	Insert the following token **5300 5476 1512 1778 6532** Clear credit token encoded using $DUTK_1$.	The PM or customer interface terminal should indicate the acceptance of the token. After a period of time the PM or customer interface terminal should indicate that it is ready to accept a token.

5 Annexure A – Compliance Verification Request

1.	Manufacturer:	
2.	Product Name/Model:	
3.	Product Firmware Version:	
4.	Contact Name:	
5.	Mobile Number: Phone Number: Faxcimile Number: Email Address:	
6.	Physical and Postal Address	
7.	Date:	
8.	Indicate if the samples will be collected or destroyed after test	Collected	Destroyed

6 Annexure A.1 – Entity F Additional Information

Table 1 - Entity F Supplier Submitted Information

1.	Allocated Manufacturer Code:			
2.	Poly-phase meter:	Yes	No	(Tick what is applicable)
3.	Does the payment meter support MaximumPowerLoad tokens	Yes	No	(Tick what is applicable)
4.	Does the meter support Tamper	Yes	No	(Tick what is applicable)
5.	No of keychange tokens supported	2	3	(Tick what is applicable)
6.	Initiate test number 6 token supported:	Yes	No	(Tick what is applicable)
7.	Initiate test number 7 token supported:	Yes	No	(Tick what is applicable)
8.	Initiate test number 8 token supported:	Yes	No	(Tick what is applicable)
9.	Initiate test number 9 token supported:	Yes	No	(Tick what is applicable)
10.	Initiate test number 11 token supported:	Yes	No	(Tick what is applicable)
11.	Initiate test number 16 token supported:	Yes	No	(Tick what is applicable)
12.	Does the meter support decoder key expiration:	Yes	No	(Tick what is applicable)
13.	Does the meter support phase unbalance:	Yes	No	(Tick what is applicable)
14.	Does the meter have a tamper detect capability:	Yes	No	(Tick what is applicable)
15.	Does the meter's internal latch switch on with zero credit during test number 0?	Yes	No	(Tick what is applicable)
16.	Does the meter support a load switch test?	Yes	No	(Tick what is applicable)
17.	Does the meter support SetFlag tokens defined in STS202-5? (Class2 Subclass10)	Yes	No	(Tick what is applicable)
18.	Does the meter support SetControlValue tokens defined in STS202-5? (Class2 Subclass 10)	Yes	No	(Tick what is applicable)
19.	Does the meter support Class2 Subclass 11 tokens?	Yes	No	(Tick what is applicable)
20.	Describe how the meter indicates that it is ready to receive a token:			
21.	Describe how the meter indicates the acceptance of a token:			
22.	Describe how the meter indicates the rejection of a token:			
23.	Describe how the meter indicates that a token is old or has expired:			
24.	Describe how the meter indicates that a token has been previously used:			
25.	Describe how the meter indicates that a key change operation completed successfully:			
26.	Describe how the meter indicates that a credit token has been rejected due to a credit overflow condition:			

27.	Describe how the meter indicates that a token has been rejected due to the expiration of the decoder key:				
28.	Describe how the meter indicates that a token has been rejected due to the incorrect insertion of the token in the case of a magnetic token; or incorrectly typed in where the meter is a numeric meter.				
29.	Describe how the meter indicates the acceptance of the first "Set PM key" token of the "Set PM key" token pair.				
30.	Describe how the meter indicates the acceptance of the second "Set PM key" token of the "Set PM key" token pair. This may be identical to the indication described in 25 above.				
31.	Maximum amount of available credit the meter can store in kilowatt-hours:				
32.	Maximum number of TIDs that can be stored in the meter's non-volatile memory store:				
33.	If the meter has a tamper detect capability; describe the process to be followed to place the meter in a tampered state/condition and describe how the meter indicates that it is in a tampered state.				
34.	Describe how the meter indicates that it is in a power limiting state.				
35.	State which utility is supported if this is a units based meter	Electricity	Water	Gas	Time
36.	State which currency is supported if this is a currency based meter	Electricity	Water	Gas	Time

7 Annexure B – Test Overviews

All tests test for the general token acceptance and PM display indicators as well indirectly testing for the implementations indicated in the comments column.

Test No	Description	IEC62055-41 ED3 Applicable Clause	Other implementations tested
CTSF01	DITK-DITK key change		This test currently not done.
CTSF02	DITK coded accepting a credit token	8.2, 8.3, 8.4	Transfer credit token
CTSF03	DITK coded PM-specific management tokens	8.2, 8.3, 8.7	ClearCredit token
CTSF04	DITK coded non-PM-specific management tokens	8.2, 8.3, 8.5	InitiateMeterTest/Display token
CTSF05	DITK to DCTK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF06	DCTK to DCTK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF07	DCTK coded accepting credit token	8.2, 8.3, 8.4	Transfer credit token
CTSF08	DCTK coded accepting maximum power limit token	8.2, 8.3, 8.6	SetMaximumPowerLimit token
CTSF09 - CTSF15	DCTK coded accepting clear PM electricity credit	8.2, 8.3, 8.7	ClearCredit token
CTSF16	DCTK coded processing set PM key with roll over	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF17	DCTK coded processing clear tamper condition	8.2, 8.3, 8.11	ClearTamperCondition token
CTSF18	DCTK coded processing set phase unbalance limit	8.2, 8.3, 8.12	SetMaximumPhasePowerUnbalanceLimit token
CTSF19	DCTK coded class 2 STS reserved token	8.2, 8.3, 8.14	
CTSF20	DCTK coded class 3 STS reserved token	8.2, 8.3, 8.16	
CTSF21	DCTK to DITK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF22	DCTK coded accepting tokens when in power limiting state	8.2, 8.3, 8.11	
CTSF23	DITK to DDTK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF24	DDTK to DDTK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token

CTSF25	DDTK coded accepting credit token	8.2, 8.3, 8.4	Transfer credit token
CTSF26	DDTK coded accepting maximum power limit token	8.2, 8.3, 8.6	Management token
CTSF27 - CTSF32	DDTK coded accepting clear PM credit (all utilities)	8.2, 8.3, 8.7	Management token
CTSF33	DDTK coded accepting clear PM reserved credit registers	8.2, 8.3, 8.7	Management token
CTSF34	DDTK coded processing set tariff rate	8.2, 8.3, 8.8	Management token (reserved)
CTSF35	DDTK coded processing set PM key with roll over	8.2, 8.3, 8.5, 8.7, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF36	DDTK coded processing clear tamper condition	8.2, 8.3, 8.5, 8.11	InitiateMeterTest/Display token ClearTamperCondition token
CTSF37	DDTK coded processing set phase unbalance limit	8.2, 8.3, 8.5, 8.12	InitiateMeterTest/Display token
CTSF38	DDTK coded processing set water meter factor		Compliance not required (reserved token)
CTSF39	DDTK coded class 2 STS reserved token	8.2, 8.3, 8.14	
CTSF40	DDTK coded class 3 STS reserved token	8.2, 8.3, 8.16	
CTSF41	DDTK coded class 0 STS reserved token	8.2, 8.3	
CTSF42 - CTSF55	DDTK coded accepting non-PM-specific test tokens	6.2.3, 6.3.3, 6.3.8, 8.2, 8.3, 8.5	
CTSF56	DDTK to DITK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF57	DDTK to DCTK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF58	DITK to DUTK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF59	DUTK to DUTK key change	6.2.7.1, 8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token Set3rdSectionDecoderKey token (if implemented)
CTSF60	DUTK coded accepting credit token	8.2, 8.3, 8.4	
CTSF61	DUTK coded accepting maximum power limit token	8.2, 8.3, 8.6	
CTSF62 - CTSF68	DUTK coded accepting clear PM credit	8.2, 8.3, 8.7	
CTSF69	DUTK coded processing set PM key with roll over	8.2, 8.3, 8.5, 8.7, 8.9	Set1stSectionDecoderKey token

			Set2ndSectionDecoderKey token
CTSF70	DUTK coded processing clear tamper condition	8.2, 8.3, 8.5, 8.11	InitiateMeterTest/Display token
CTSF71	DUTK coded processing set phase unbalance limit	8.2, 8.3, 8.5, 8.12	InitiateMeterTest/Display token
CTSF72	DUTK coded class 2 STS reserved token	8.2, 8.3, 8.14	
CTSF73	DUTK coded class 3 STS reserved token	8.2, 8.3, 8.16	
CTSF74	DUTK coded non-volatile memory TID store	7.3.7, 8.2, 8.3, 8.4	TransferCredit token ClearCredit token
CTSF75	DUTK to DITK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF76	DUTK to DCTK key change	8.2, 8.3, 8.9	Set1stSectionDecoderKey token Set2ndSectionDecoderKey token
CTSF77	DUTK coded accepting tokens when in power limiting state	8.2, 8.3, 8.11	