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als Kalibrierlaboratorium im / as calibration laboratory in the

Deutschen Kalibrierdienst
DKD

Kalibrierschein
Calibration Certificate

Deutsche
Akkreditierungsstelle
D-K-15195-01-00

Kalibrierzeichen
Calibration Mark

606107
D-K- 15195-01-00
2021-07

Gegenstand <i>Object</i>	EMI Test Receiver
Hersteller <i>Manufacturer</i>	ROHDE & SCHWARZ
Typ <i>Type</i>	ESU26
Fabrikat/Serien-Nr. <i>Serial number</i>	100409 Inventarienummer: 901553
Auftraggeber <i>Customer</i>	RISE Research Institutes of Sweden AB Brinellgatan 4 SE 504 62 Borås
Auftragsnummer <i>Order No.</i>	8800006606 10, X1004157
Anzahl der Seiten des Kalibrierscheins <i>Number of pages of the certificate</i>	41
Ort, Datum der Kalibrierung <i>Place, date of calibration</i>	Köln, 2021-07-22

Dieser Kalibrierschein dokumentiert die Rückführung auf nationale Normale zur Darstellung der Einheiten in Übereinstimmung mit dem Internationalen Einheitensystem (SI).

Die DAkkS ist Unterzeichner der multilateralen Übereinkommen der European co-operation for Accreditation (EA) und der International Laboratory Accreditation Cooperation (ILAC) zur gegenseitigen Anerkennung der Kalibrierscheine.

Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich.

This calibration certificate documents the traceability to national standards, which realize the units of measurement according to the International System of Units (SI).

The DAkkS is signatory to the multilateral agreements of the European co-operation for Accreditation (EA) and of the International Laboratory Accreditation Cooperation (ILAC) for the mutual recognition of calibration certificates.

The user is obliged to have the object recalibrated at appropriate intervals.

Dieser Kalibrierschein darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung des ausstellenden Kalibrierlaboratoriums. Kalibrierscheine sind bei Nennung des für die Freigabe Verantwortlichen in Klarschrift auch ohne Unterschrift gültig.

This calibration certificate may not be reproduced other than in full except with the permission of the issuing laboratory. Calibration certificates with the full name of the approval responsible person are valid without signature.

Datum der Ausstellung
Date of issue

2021-07-22

Freigabe des Kalibrierscheins durch
Approval of the calibration certificate by


Christian May
Leitung des Laboratoriums
Laboratory management


Uwe Reinacher
Bearbeiter
Person in charge



Object	EMI Test Receiver	Serial No.	100409
Type	ESU26	Material No.	1302.6005K26
Date	2021-07-22	Calibration Mark	606107-D-K-15195-01-00-2021-07
Page	2 of 41		

Calibration Procedure

The calibration was performed according to service manual 1302.6163.82-04 following the procedures as described in calibration guideline VDI/VDE/DGQ/DKD 2622 part 12 by comparing the relevant measurands of the instrument under test with the numerical values of the quantities represented by the reference standards used. The receiver fulfills the requirements of the international standard CISPR 16-1-1:2015 Edition 4.0.

Statement of Compliance

Incoming: All measured values are within the datasheet specifications.

Outgoing: All measured values are within the datasheet specifications.

Working Standards used

Item	Type	Serial Number	Calibration Certificate Number	Cal. Due
Signal Generator	SMF100A	105795	602089-D-K-15195-01-00-2021-06	2022-06-30
Signal Generator	SMA100B	102331	597407-D-K-15195-01-00-2021-04	2023-04-30
Signal Generator	SMF100A	105796	K20-948-D-K-15195-01-00-2020-09	2021-09-30
Step Attenuator 139dB 6GHz	RSC	101943	593163-D-K-15195-01-00-2021-03	2022-03-31
Spectrum Analyzer	FSW50	103192	598705-D-K-15195-01-00-2021-05	2022-05-31
Power Sensor	NRP18A	101217	593167-D-K-15195-01-00-2021-03	2022-03-31
Power Sensor	NRP-Z55	130785	593173-D-K-15195-01-00-2021-03	2022-03-31
Power Splitter	1534	1319	604492-D-K-15195-01-00-2021-06	2022-06-30
Calibration Kit	ZV-Z229	101005	564640-D-K-15195-01-00-2020-08	2021-08-31
Network Analyzer	ZVA40	100418	587949-D-K-15195-01-00-2021-02	2022-02-28
Calibration Pulse Gen. CIS	IGUU2918	100969	564697-D-K-15195-01-00-2020-09	2021-09-30
Frequency Standard	XSRM	300877/030	K20-1365-D-K-15195-01-00-2020-11	2021-11-30

Remarks

SelfTest passed

TotalCal passed

Section 23,24 contains customer requested "ClickRateAnalyzer" measurements.



Object	EMI Test Receiver	Serial No.	100409
Type	ESU26	Material No.	1302.6005K26
Date	2021-07-22	Calibration Mark	606107-D-K-15195-01-00-2021-07
Page	3 of 41		

Environmental Conditions

Ambient Temperature	(23 ± 3) °C	Relative Humidity	(45 ± 30) %
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Comments on the measured results

The measurement results in the test report stated below have been tested for compliance with the given specifications and marked if necessary. The associated uncertainty of measurement has been taken into account. Measurement results that are not covered by the DAkkS accreditation are marked with ¹.

Ref.: ILAC G8:09/2019 'Guidelines on Decision Rules and Statements of Conformity'.

The expanded measurement uncertainty corresponds to the measurement results from the standard measurement uncertainty multiplied by the coverage factor $k = 2$.

It was determined in accordance with EA-4/02 M:2013. The true value is located in the corresponding interval with a probability of 95 %.

In addition to the calibration results, the calibration certificate includes functional measurements that might have an influence on the measurement uncertainty of the calibration results. The functional measurement results are marked and are not intended to be used to support the further dissemination of metrological traceability. They are intended to verify the requirements on the measurement object according to manufacturer specifications and technical standards.

The following abbreviations may be used in this certificate:

- ¹ Measurement results that are not covered by the DAkkS accreditation.
- {a} No measurement uncertainty stated because the errors always add together. So it is sure that a measurement result evaluated as "PASS" is pass.
- {b} The measurement uncertainty depends on the measurement result. The stated measurement uncertainty is valid for the close area around the specification. Measurement results outside the close area have a higher measurement uncertainty but are within the specification.
- {c}, ² Functional test, therefore no measurement uncertainty is stated.
- {d} Typical value, refer to performance test.
- {e} The measurement uncertainty is taken into account when setting the measuring system.
- {f} Functional measurement result, not to be used for metrological traceability
- DL, DT Data Limit for symmetrical tolerance limits
- UGB Uncertainty guard band: Measuring uncertainty violates the data sheet tolerance
- UGB1, u Measurement results marked as UGB1 show conformity with a probability of >50 % and <95 %.
- UGB2, u Measurement results marked as UGB2 show non-conformity with a probability of >50 % and <95 %.
- FAIL, f Measurement results marked as FAIL show non-conformity
- n. i. not installed: Does not apply due to instrument configuration
- n. m. not measured
- ref. Reference value, used for relative measurements

Object Data

Firmware version:	4.73 SP5
Installed options:	B2, B16, B24

Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 4 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

Page	Section	Test Description	Result
6	1	Ref.-Frequency Accuracy	PASS (1 n. i.)
6	2	1st IF Image Freq. Rejection	PASS
6	3	2nd IF Image Freq. Rejection	see Section 2
6	4	3rd IF Image Freq. Rejection	see Section 2
6	5	1st IF Rejection	see Section 2
6	6	2nd IF Rejection	see Section 2
6	7.1	3rd-order Intercept (Presel. off, Preamp. off)	PASS
7	7.2	3rd-order Intercept (Presel. on, Preamp. off)	PASS
7	7.3	3rd-order Intercept (Presel. on, Preamp. on)	PASS
7	8.1	2nd-order Intercept (Presel. off, Preamp. off)	PASS
7	8.2	2nd-order Intercept (Presel. on, Preamp. off)	PASS
7	8.3	2nd-order Intercept (Presel. on, Preamp. on)	PASS
8	9	IF Bandwidths, Level Error	PASS
9	10	IF Bandwidths	see Section 9
10	11	IF Bandwidths, Shape Factor	see Section 9
10	12.1	Noise Display (Presel. off, Preamp. off)	PASS
11	12.2	Noise Display (Presel. on, Preamp. off)	PASS
11	12.3	Noise Display (Presel. on, Preamp. on)	PASS
12	12.4	Noise Display (LN Preamp on, only ESU B24)	PASS
12	13	Level Accuracy	PASS
13	14.1	Frequency Response (Presel. off, Preamp. off)	PASS
13	14.2	Frequency Response (Presel. off, Preamp. off)	PASS
14	14.3	Frequency Response (Presel. off, Preamp. off)	PASS
14	14.4	Frequency Response (Presel. off, Preamp. off)	PASS
15	14.5	Frequency Response (Presel. off, Preamp. off)	PASS
15	14.6	Frequency Response (Presel. on, Preamp. off)	PASS
16	14.7	Frequency Response (Presel. on, Preamp. on)	PASS
16	14.8	Frequency Response (Presel. off, Preamp. off)	PASS
17	14.9	Frequency Response (Presel. on, Preamp. off)	PASS
17	14.10	Frequency Response (Presel. on, Preamp. on)	PASS
18	14.11	Frequency Response (Freq > 3,6 GHz)	PASS
19	14.12	Frequency Response (LN Preamp on, only ESU B24)	PASS
20	15.1	Display Linearity at 500 Hz RBW	PASS
20	15.2	Display Linearity at 300 kHz RBW	PASS
21	16	Input-Attenuator Accuracy	PASS
21	17	IF Gain Switching Accuracy	PASS
22	18.1	Sinewave Voltage Accuracy (Receiver Mode)	PASS
22	18.1	Sinewave Voltage Accuracy (Receiver Mode) (cont)	see Section 18.1
23	18.2	Peak and Quasipeak Detector Amplitude Relationship (Receiver Mode)	PASS
23	18.3	Quasipeak Variation with Repetition Frequency (Receiver Mode)	PASS
24	18.3	Quasipeak Variation with Repetition Frequency (Receiver Mode) (cont)	see Section 18.3
24	18.3	Quasipeak Variation with Repetition Frequency (Receiver Mode) (cont)	see Section 18.3
24	18.4	CISPR Average Amplitude Relationship (Receiver Mode)	PASS
25	18.5	CISPR Average Variation with Repetition Frequency (Receiver Mode)	PASS
25	18.5	CISPR Average Variation with Repetition Frequency (Receiver Mode) (	see Section 18.5
26	18.6	CISPR Average Response to Intermittent Disturbance (Receiver Mode)	PASS
26	18.7	RMS Average Amplitude Relationship (Receiver Mode)	PASS
26	18.8	RMS Average Variation with Repetition Frequency (Receiver Mode)	PASS
27	18.8	RMS Average Variation with Repetition Frequency (Receiver Mode) (cc	see Section 18.8
27	18.8	RMS Average Variation with Repetition Frequency (Receiver Mode) (cc	see Section 18.8
27	18.9	RMS Average Response to Intermittent Disturbance (Receiver Mode)	PASS

Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 5 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

Page	Section	Test Description	Result
28	19.1	Sinewave Voltage Accuracy (Time Domain Mode)	n. i.
28	19.1	Sinewave Voltage Accuracy (Time Domain Mode) (cont)	see Section 19.1
29	19.2	Peak and Quasipeak Detector Amplitude Relationship (Time Domain Mode)	n. i.
29	19.3	Quasipeak Variation with Repetition Frequency (Time Domain Mode)	n. i.
30	19.3	Quasipeak Variation with Repetition Frequency (Time Domain Mode) (cont)	see Section 19.3
30	19.3	Quasipeak Variation with Repetition Frequency (Time Domain Mode) (cont)	see Section 19.3
30	19.4	CISPR Average Amplitude Relationship (Time Domain Mode)	n. i.
31	19.5	CISPR Average Variation with Repetition Frequency (Time Domain Mode)	n. i.
31	19.5	CISPR Average Variation with Repetition Frequency (Time Domain Mode) (cont)	see Section 19.5
32	19.6	CISPR Average Response to Intermittent Disturbance (Time Domain Mode)	n. i.
32	19.7	RMS Average Amplitude Relationship (Time Domain Mode)	n. i.
32	19.8	RMS Average Variation with Repetition Frequency (Time Domain Mode)	n. i.
33	19.8	RMS Average Variation with Repetition Frequency (Time Domain Mode) (cont)	see Section 19.8
33	19.8	RMS Average Variation with Repetition Frequency (Time Domain Mode) (cont)	see Section 19.8
33	19.9	RMS Average Response to Intermittent Disturbance (Time Domain Mode)	n. i.
33	20	Phase Noise	PASS
34	21.1	Return Loss (Freq <2,0 GHz)	PASS
34	21.2	Return Loss (Freq >2,0 GHz)	PASS
35	22.1	TG - Abs. amplitude accuracy	n. i.
36	22.2	TG - Frequency response	n. i.
36	22.3	TG - Dynamic Range	n. i.
36	22.4	TG - IQ-Modulator	n. i.
37	22.5	Amplitude Modulation	see Section 22.4
37	22.6	Frequency Modulation	see Section 22.4
37	23.1	Test 1 (acc. to CISPR16-1-1 (2010) table 17)	PASS
37	23.2	Test 2	PASS
37	23.3	Test 3	PASS
37	23.4	Test 4	PASS
38	23.5	Test 5	PASS
38	23.6	Test 6	PASS
38	23.7	Test 7	PASS
38	23.8	Test 8	PASS
38	23.9	Test 9	PASS
38	23.10	Test 10	PASS
39	23.11	Test 11	PASS
39	23.12	Test 12	PASS
39	24.1	Test 1 (acc. to CISPR16-1-1 (2010) table F1)	PASS
39	24.2	Test 2 (F1)	PASS
39	24.3	Test 3 (F1)	PASS
39	24.4	Test 4 (F1)	PASS
40	24.5	Test 5 (F1)	PASS
40	24.6	Test 6 (F1)	PASS
40	24.7	Test 7 (F1)	PASS
40	24.8	Test 8 (F1)	PASS
40	24.9	Test 9 (F1)	PASS
40	24.10	Test 10 (F1)	PASS
41	24.11	Test 11 (F1)	PASS
41	24.12	Test 12 (F1)	PASS

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
1 Ref.-Frequency Accuracy without Opt. B4 10 MHz with Opt. B4 10 MHz	-1,00 Hz -0,30 Hz	0,11 Hz n. i.	1,00 Hz 0,30 Hz	0,05 Hz 0,05 Hz
2 1st IF Image Freq. Rejection fin = 11 MHz 101 MHz 1701 MHz 3001 MHz	-- -- -- --	-105,3 dBc -105,9 dBc -102,2 dBc -100,1 dBc	-90,0 dBc -90,0 dBc -90,0 dBc -90,0 dBc	0,5 dB 0,5 dB 0,5 dB 0,5 dB
3 2nd IF Image Freq. Rejection fin = 101 MHz 3700 MHz 5000 MHz 7999 MHz 26000 MHz	-- -- -- -- --	-105,9 dBc -102,3 dBc -101,5 dBc -100,5 dBc -92,7 dBc	-90,0 dBc -70,0 dBc -70,0 dBc -70,0 dBc -70,0 dBc	0,5 dB 0,5 dB 0,5 dB 0,5 dB 0,5 dB
4 3rd IF Image Freq. Rejection fin = 101 MHz 4500 MHz 26000 MHz	-- -- --	-98,2 dBc -96,8 dBc -95,9 dBc	-90,0 dBc -70,0 dBc -70,0 dBc	0,5 dB 0,5 dB 0,5 dB
5 1st IF Rejection fin = 11 MHz 101 MHz 1701 MHz 2990 MHz	-- -- -- --	-105,8 dBc -105,6 dBc -102,1 dBc -99,8 dBc	-90,0 dBc -90,0 dBc -90,0 dBc -90,0 dBc	0,5 dB 0,5 dB 0,5 dB 0,5 dB
6 2nd IF Rejection fin = 101 MHz 4500 MHz	-- --	-105,5 dBc -103,9 dBc	-90,0 dBc -70,0 dBc	0,5 dB 0,5 dB
7.1 3rd-order Intercept (Presel. off, Preamp. off) results calculated from power and attenuation measurements				
fin = 28 MHz	17,0 dBm	23,6 dBm	--	1,5 dB
106 MHz	17,0 dBm	42,7 dBm	--	1,5 dB
261 MHz	17,0 dBm	26,5 dBm	--	1,5 dB
640 MHz	22,0 dBm	25,9 dBm	--	1,5 dB
1000 MHz	22,0 dBm	29,4 dBm	--	1,5 dB
1700 MHz	22,0 dBm	28,1 dBm	--	1,5 dB
2500 MHz	22,0 dBm	31,7 dBm	--	1,5 dB
3590 MHz	22,0 dBm	32,1 dBm	--	1,5 dB
4001 MHz	12,0 dBm	18,2 dBm	--	1,5 dB
5001 MHz	12,0 dBm	19,0 dBm	--	1,5 dB
7999 MHz	12,0 dBm	21,3 dBm	--	1,5 dB
12000 MHz	12,0 dBm	20,8 dBm	--	1,5 dB
20000 MHz	12,0 dBm	24,4 dBm	--	1,5 dB
26000 MHz	12,0 dBm	20,6 dBm	--	1,5 dB


Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 7 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
7.2 3rd-order Intercept (Presel. on, Preamp. off) results calculated from power and attenuation measurements fin = 28 MHz 106 MHz 261 MHz 640 MHz 1000 MHz 1700 MHz 2500 MHz 3590 MHz	9,0 dBm 9,0 dBm 9,0 dBm 12,0 dBm 12,0 dBm 12,0 dBm 12,0 dBm 12,0 dBm	16,4 dBm 16,2 dBm 16,1 dBm 18,6 dBm 20,2 dBm 19,8 dBm 18,9 dBm 19,8 dBm	-- -- -- -- -- -- -- --	1,5 dB 1,5 dB 1,5 dB 1,5 dB 1,5 dB 1,5 dB 1,5 dB 1,5 dB
7.3 3rd-order Intercept (Presel. on, Preamp. on) results calculated from power and attenuation measurements fin = 28 MHz 106 MHz 261 MHz 640 MHz 1000 MHz 1700 MHz 2500 MHz 3590 MHz	-10,0 dBm -10,0 dBm -10,0 dBm -10,0 dBm -10,0 dBm -10,0 dBm -10,0 dBm -10,0 dBm	-2,2 dBm -2,1 dBm -0,1 dBm 0,4 dBm 4,6 dBm 4,4 dBm 5,6 dBm 8,4 dBm	-- -- -- -- -- -- -- --	1,5 dB 1,5 dB 1,5 dB 1,5 dB 1,5 dB 1,5 dB 1,5 dB 1,5 dB
8.1 2nd-order Intercept (Presel. off, Preamp. off) results calculated from power and attenuation measurements fin = 40 MHz 290 MHz 1790 MHz	35,0 dBm 45,0 dBm 35,0 dBm	63,3 dBm 69,5 dBm 58,8 dBm	-- -- --	1,0 dB 1,0 dB 1,0 dB
8.2 2nd-order Intercept (Presel. on, Preamp. off) results calculated from power and attenuation measurements fin = 40 MHz 290 MHz 1790 MHz	40,0 dBm 55,0 dBm 55,0 dBm	70,0 dBm 72,4 dBm 79,5 dBm	-- -- --	1,0 dB 1,0 dB 1,0 dB
8.3 2nd-order Intercept (Presel. on, Preamp. on) results calculated from power and attenuation measurements fin = 40 MHz 290 MHz 1790 MHz	35,0 dBm 45,0 dBm 45,0 dBm	68,0 dBm 72,2 dBm 59,2 dBm	-- -- --	1,0 dB 1,0 dB 1,0 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 8 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
9 IF Bandwidths, Level Error				
100 Hz Analog 3dB	-0,10 dB	0,00 dB	0,10 dB	0,02 dB
1 kHz	-0,10 dB	0,02 dB	0,10 dB	0,02 dB
10 kHz	--	0,00 dB	--	reference
100 kHz	-0,10 dB	-0,03 dB	0,10 dB	0,02 dB
300 kHz	-0,20 dB	0,04 dB	0,20 dB	0,02 dB
1 MHz	-0,20 dB	0,04 dB	0,20 dB	0,02 dB
3 MHz	-0,20 dB	0,03 dB	0,20 dB	0,02 dB
10 MHz	-0,50 dB	0,03 dB	0,50 dB	0,02 dB
100 Hz Analog 6dB	-0,10 dB	-0,01 dB	0,10 dB	0,02 dB
200 Hz	-0,10 dB	-0,01 dB	0,10 dB	0,02 dB
1 kHz	-0,10 dB	0,02 dB	0,10 dB	0,02 dB
9 kHz	-0,10 dB	-0,01 dB	0,10 dB	0,02 dB
100 kHz	-0,10 dB	-0,03 dB	0,10 dB	0,02 dB
120 kHz	-0,10 dB	-0,03 dB	0,10 dB	0,02 dB
1 MHz	-0,20 dB	0,01 dB	0,20 dB	0,02 dB
100 Hz FFT 3dB	-0,20 dB	-0,07 dB	0,20 dB	0,02 dB
300 Hz	-0,20 dB	-0,07 dB	0,20 dB	0,02 dB
1 kHz	-0,20 dB	-0,07 dB	0,20 dB	0,02 dB
3 kHz	-0,20 dB	-0,07 dB	0,20 dB	0,02 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 9 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
10 IF Bandwidths				
100 Hz 3dB bandwidth	97,0 Hz	100,5 Hz	103,0 Hz	1,0 Hz
1 kHz	970 Hz	1000 Hz	1030 Hz	10 Hz
10 kHz	9,70 kHz	10,05 kHz	10,30 kHz	100 Hz
100 kHz	97,0 kHz	99,5 kHz	103,0 kHz	1,0 kHz
300 kHz	270,0 kHz	315,9 kHz	330,0 kHz	3,0 kHz
1 MHz	900 kHz	1014 kHz	1100 kHz	10 kHz
3 MHz	2,700 MHz	2,971 MHz	3,300 MHz	30 kHz
10 MHz	7,00 MHz	9,86 MHz	11,00 MHz	100 kHz
100 Hz 3dB bandwidth	97,0 Hz	100,0 Hz	103,0 Hz	1,0 Hz
200 Hz	194 Hz	200 Hz	206 Hz	2 Hz
1 kHz	0,97 kHz	1,00 kHz	1,03 kHz	10 Hz
9 kHz	8,7 kHz	9,0 kHz	9,3 kHz	100 Hz
10 kHz	9,7 kHz	10,0 kHz	10,3 kHz	100 Hz
100 kHz	97 kHz	99 kHz	103 kHz	1 kHz
120 kHz	116,4 kHz	118,8 kHz	123,6 kHz	1,0 kHz
1 MHz	900 kHz	1000 kHz	1100 kHz	10 kHz
200 Hz 6dB Filter:				
-20 dB left	-220,0 Hz	-181,9 Hz	-90,0 Hz	1,0 Hz
-6 dB left	-110,0 Hz	-99,4 Hz	-90,0 Hz	1,0 Hz
-1,5 dB left	-110,0 Hz	-49,7 Hz	-45,0 Hz	1,0 Hz
-1,5 dB right	45,0 Hz	49,7 Hz	110,0 Hz	1,0 Hz
-6 dB right	90,0 Hz	99,4 Hz	110,0 Hz	1,0 Hz
-20 dB right	90,0 Hz	181,9 Hz	220,0 Hz	1,0 Hz
9 kHz 6dB Filter:				
-20 dB left	-10,00 kHz	-8,30 kHz	-4,00 kHz	10 Hz
-6 dB left	-5,00 kHz	-4,52 kHz	-4,00 kHz	10 Hz
-1,5 dB left	-5,00 kHz	-2,28 kHz	-2,00 kHz	10 Hz
-1,5 dB right	2,00 kHz	2,24 kHz	5,00 kHz	10 Hz
-6 dB right	4,00 kHz	4,52 kHz	5,00 kHz	10 Hz
-20 dB right	4,00 kHz	8,27 kHz	10,00 kHz	10 Hz
120 kHz 6dB Filter:				
-20 dB left	-140,0 kHz	-108,2 kHz	-50,0 kHz	100 Hz
-6 dB left	-70,0 kHz	-59,3 kHz	-50,0 kHz	100 Hz
-1,5 dB left	-70,0 kHz	-29,6 kHz	-20,0 kHz	100 Hz
-1,5 dB right	20,0 kHz	29,6 kHz	70,0 kHz	100 Hz
-6 dB right	50,0 kHz	59,3 kHz	70,0 kHz	100 Hz
-20 dB right	50,0 kHz	108,2 kHz	140,0 kHz	100 Hz
1 MHz 6dB Filter:				
-20 dB left	-1,350 MHz	-0,909 MHz	-0,450 MHz	1 kHz
-9 dB left	-1,000 MHz	-0,611 MHz	-0,450 MHz	1 kHz
-6 dB left	-0,550 MHz	-0,495 MHz	-0,375 MHz	1 kHz
-3 dB left	-0,550 MHz	-0,351 MHz	-0,250 MHz	1 kHz
-3 dB right	0,250 MHz	0,356 MHz	0,550 MHz	1 kHz
-6 dB right	0,375 MHz	0,505 MHz	0,550 MHz	1 kHz
-9 dB right	0,450 MHz	0,615 MHz	1,000 MHz	1 kHz
-20 dB right	0,450 MHz	0,918 MHz	1,350 MHz	1 kHz


Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 10 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
11 IF Bandwidths, Shape Factor				
100 Hz (60 dB / 3 dB)	--	4,88	6,00	0,20
1 kHz	--	4,67	6,00	0,19
10 kHz	--	5,30	6,00	0,21
100 kHz	--	4,52	6,00	0,18
300 kHz	--	9,20	12,00	0,4
1 MHz	--	8,92	12,00	0,4
3 MHz	--	5,15	7,00	0,21
10 MHz	--	3,37	7,00	0,14
100 Hz (60 dB / 6 dB)	--	3,78	5,00	0,15
200 Hz	--	3,35	5,00	0,13
1 kHz	--	3,24	5,00	0,13
9 kHz	--	3,23	5,00	0,13
10 kHz	--	3,39	5,00	0,14
100 kHz	--	3,16	5,00	0,13
120 kHz	--	3,16	5,00	0,13
1 MHz	--	3,19	5,00	0,13
12.1 Noise Display (Presel. off, Preamp. off)				{f}
results are readings on DUT traceable to power and attenuation normalized to 1 HZ RBW				
fin = 20 Hz	--	-114,4 dBm	-90,0 dBm	0,5 dB
90 Hz	--	-118,0 dBm	-110,0 dBm	0,5 dB
900 Hz	--	-126,3 dBm	-120,0 dBm	0,5 dB
9 kHz	--	-139,6 dBm	-130,0 dBm	0,5 dB
95 kHz	--	-147,9 dBm	-130,0 dBm	0,5 dB
999 kHz	--	-153,1 dBm	-140,0 dBm	0,5 dB
9,99 MHz	--	-155,4 dBm	-153,0 dBm	0,5 dB
19,99 MHz	--	-155,4 dBm	-152,0 dBm	0,5 dB
49,99 MHz	--	-155,2 dBm	-152,0 dBm	0,5 dB
99,99 MHz	--	-155,5 dBm	-152,0 dBm	0,5 dB
199,9 MHz	--	-154,9 dBm	-152,0 dBm	0,5 dB
499,9 MHz	--	-154,2 dBm	-152,0 dBm	0,5 dB
999,9 MHz	--	-153,4 dBm	-152,0 dBm	0,5 dB
1499 MHz	--	-152,3 dBm	-150,0 dBm	0,5 dB
1999 MHz	--	-151,9 dBm	-150,0 dBm	0,5 dB
2499 MHz	--	-149,5 dBm	-145,0 dBm	0,5 dB
2999 MHz	--	-149,6 dBm	-145,0 dBm	0,5 dB
3599 MHz	--	-147,6 dBm	-145,0 dBm	0,5 dB
3601 MHz	--	-153,1 dBm	-147,0 dBm	0,5 dB
6999 MHz	--	-151,9 dBm	-147,0 dBm	0,5 dB
9999 MHz	--	-151,9 dBm	-147,0 dBm	0,5 dB
12999 MHz	--	-151,1 dBm	-145,0 dBm	0,5 dB
17999 MHz	--	-151,0 dBm	-145,0 dBm	0,5 dB
21999 MHz	--	-149,3 dBm	-142,0 dBm	0,5 dB
26499 MHz	--	-146,1 dBm	-140,0 dBm	0,5 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 11 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
12.2 Noise Display (Presel. on, Preamp. off) results are readings on DUT traceable to power and attenuation normalized to 1 HZ RBW fin = 90 Hz 900 Hz 9 kHz 95 kHz 999 kHz 9,99 MHz 19,99 MHz 49,99 MHz 99,99 MHz 199,9 MHz 499,9 MHz 999,9 MHz 1499 MHz 1999 MHz 2499 MHz 2999 MHz 3599 MHz	--	-124,4 dBm	-110,0 dBm	0,5 dB
	--	-139,9 dBm	-120,0 dBm	0,5 dB
	--	-145,3 dBm	-130,0 dBm	0,5 dB
	--	-151,7 dBm	-130,0 dBm	0,5 dB
	--	-156,8 dBm	-140,0 dBm	0,5 dB
	--	-161,3 dBm	-153,0 dBm	0,5 dB
	--	-161,3 dBm	-152,0 dBm	0,5 dB
	--	-161,1 dBm	-152,0 dBm	0,5 dB
	--	-161,2 dBm	-152,0 dBm	0,5 dB
	--	-160,5 dBm	-152,0 dBm	0,5 dB
	--	-160,1 dBm	-152,0 dBm	0,5 dB
	--	-157,3 dBm	-152,0 dBm	0,5 dB
	--	-157,3 dBm	-152,0 dBm	0,5 dB
	--	-155,9 dBm	-147,0 dBm	0,5 dB
	--	-155,6 dBm	-147,0 dBm	0,5 dB
	--	-155,3 dBm	-147,0 dBm	0,5 dB
	--	-155,2 dBm	-142,0 dBm	0,5 dB
12.3 Noise Display (Presel. on, Preamp. on) results are readings on DUT traceable to power and attenuation normalized to 1 HZ RBW fin = 900 Hz 9 kHz 95 kHz 999 kHz 9,99 MHz 19,99 MHz 49,99 MHz 99,99 MHz 199,9 MHz 499,9 MHz 999,9 MHz 1499 MHz 1999 MHz 2499 MHz 2999 MHz 3599 MHz	--	-148,6 dBm	-130,0 dBm	0,5 dB
	--	-156,0 dBm	-140,0 dBm	0,5 dB
	--	-156,5 dBm	-140,0 dBm	0,5 dB
	--	-159,8 dBm	-150,0 dBm	0,5 dB
	--	-167,5 dBm	-165,0 dBm	0,5 dB
	--	-167,8 dBm	-162,0 dBm	0,5 dB
	--	-167,6 dBm	-162,0 dBm	0,5 dB
	--	-167,5 dBm	-162,0 dBm	0,5 dB
	--	-166,8 dBm	-162,0 dBm	0,5 dB
	--	-166,5 dBm	-162,0 dBm	0,5 dB
	--	-164,9 dBm	-160,0 dBm	0,5 dB
	--	-164,1 dBm	-160,0 dBm	0,5 dB
	--	-163,1 dBm	-160,0 dBm	0,5 dB
	--	-162,4 dBm	-158,0 dBm	0,5 dB
	--	-161,9 dBm	-158,0 dBm	0,5 dB
	--	-161,6 dBm	-155,0 dBm	0,5 dB

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
12.4 Noise Display (LN Preamp on, only ESU B24)				{f}
results are readings on DUT traceable to power and attenuation normalized to 1 HZ RBW				
f _{in} = 101 kHz	--	-157,5 dBm	-140,0 dBm	0,5 dB
999 kHz	--	-160,8 dBm	-150,0 dBm	0,5 dB
9,99 MHz	--	-168,8 dBm	-163,0 dBm	0,5 dB
19,99 MHz	--	-169,1 dBm	-164,0 dBm	0,5 dB
49,99 MHz	--	-169,4 dBm	-164,0 dBm	0,5 dB
99,99 MHz	--	-169,0 dBm	-164,0 dBm	0,5 dB
199,9 MHz	--	-168,9 dBm	-164,0 dBm	0,5 dB
499,9 MHz	--	-168,3 dBm	-164,0 dBm	0,5 dB
999,9 MHz	--	-168,2 dBm	-164,0 dBm	0,5 dB
1499 MHz	--	-167,7 dBm	-164,0 dBm	0,5 dB
1999 MHz	--	-167,4 dBm	-164,0 dBm	0,5 dB
2499 MHz	--	-166,6 dBm	-163,0 dBm	0,5 dB
2999 MHz	--	-166,3 dBm	-163,0 dBm	0,5 dB
3599 MHz	--	-166,0 dBm	-163,0 dBm	0,5 dB
3601 MHz	--	-168,8 dBm	-165,0 dBm	0,5 dB
6999 MHz	--	-169,2 dBm	-165,0 dBm	0,5 dB
9999 MHz	--	-169,3 dBm	-165,0 dBm	0,5 dB
12999 MHz	--	-168,7 dBm	-165,0 dBm	0,5 dB
17999 MHz	--	-167,4 dBm	-163,0 dBm	0,5 dB
21999 MHz	--	-166,2 dBm	-163,0 dBm	0,5 dB
26499 MHz	--	-164,6 dBm	-160,0 dBm	0,5 dB
13 Level Accuracy				
level deviation of cal. signal				
-30 dBm 128 MHz				
Input1 (Presel. off. Preamp. off)	-0,20 dB	0,05 dB	0,20 dB	0,05 dB
Input1 (Presel. on. Preamp. off)	-0,30 dB	0,08 dB	0,30 dB	0,05 dB
Input1 (Presel. on. Preamp. on)	-0,30 dB	0,08 dB	0,30 dB	0,05 dB
Input1 (LNA on) Opt B24 only	-0,30 dB	0,05 dB	0,30 dB	0,05 dB
Input2 (Presel. off. Preamp. off)	-0,20 dB	0,06 dB	0,20 dB	0,05 dB
Input2 (Presel. on. Preamp. off)	-0,30 dB	0,03 dB	0,30 dB	0,05 dB
Input2 (Presel. on. Preamp. on)	-0,30 dB	0,03 dB	0,30 dB	0,05 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 13 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
14.1 Frequency Response (Presel. off, Preamp. off)				
Input1, Att 10 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,50 dB	0,01 dB	0,50 dB	0,10 dB
1 MHz	-0,50 dB	-0,15 dB	0,50 dB	0,10 dB
10 MHz	-0,30 dB	-0,04 dB	0,30 dB	0,10 dB
50 MHz	-0,30 dB	-0,05 dB	0,30 dB	0,10 dB
100 MHz	-0,30 dB	0,00 dB	0,30 dB	0,10 dB
200 MHz	-0,30 dB	0,02 dB	0,30 dB	0,10 dB
300 MHz	-0,30 dB	-0,03 dB	0,30 dB	0,10 dB
400 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
500 MHz	-0,30 dB	0,00 dB	0,30 dB	0,10 dB
600 MHz	-0,30 dB	-0,02 dB	0,30 dB	0,10 dB
700 MHz	-0,30 dB	-0,02 dB	0,30 dB	0,10 dB
800 MHz	-0,30 dB	-0,06 dB	0,30 dB	0,10 dB
900 MHz	-0,30 dB	-0,06 dB	0,30 dB	0,10 dB
1000 MHz	-0,30 dB	-0,10 dB	0,30 dB	0,10 dB
1500 MHz	-0,30 dB	-0,13 dB	0,30 dB	0,11 dB
2000 MHz	-0,50 dB	-0,17 dB	0,50 dB	0,11 dB
2500 MHz	-0,50 dB	-0,21 dB	0,50 dB	0,11 dB
3000 MHz	-0,50 dB	-0,14 dB	0,50 dB	0,12 dB
3599 MHz	-0,50 dB	-0,34 dB	0,50 dB	0,12 dB
14.2 Frequency Response (Presel. off, Preamp. off)				
Input1, Att 10 dB, AC-Coup. at -10 dBm referred to 128 MHz				
10 MHz	-0,30 dB	-0,04 dB	0,30 dB	0,10 dB
50 MHz	-0,30 dB	-0,05 dB	0,30 dB	0,10 dB
100 MHz	-0,30 dB	0,00 dB	0,30 dB	0,10 dB
200 MHz	-0,30 dB	0,03 dB	0,30 dB	0,10 dB
300 MHz	-0,30 dB	-0,03 dB	0,30 dB	0,10 dB
400 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
500 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
600 MHz	-0,30 dB	-0,03 dB	0,30 dB	0,10 dB
700 MHz	-0,30 dB	-0,05 dB	0,30 dB	0,10 dB
800 MHz	-0,30 dB	-0,09 dB	0,30 dB	0,10 dB
900 MHz	-0,30 dB	-0,06 dB	0,30 dB	0,10 dB
1000 MHz	-0,30 dB	-0,11 dB	0,30 dB	0,10 dB
1500 MHz	-0,30 dB	-0,13 dB	0,30 dB	0,11 dB
2000 MHz	-0,50 dB	-0,16 dB	0,50 dB	0,11 dB
2500 MHz	-0,50 dB	-0,20 dB	0,50 dB	0,11 dB
3000 MHz	-0,50 dB	-0,11 dB	0,50 dB	0,12 dB
3599 MHz	-0,50 dB	-0,30 dB	0,50 dB	0,12 dB

Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 14 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
14.3 Frequency Response (Presel. off, Preamp. off)				
Input1, Att 15 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,50 dB	0,04 dB	0,50 dB	0,10 dB
1 MHz	-0,50 dB	-0,12 dB	0,50 dB	0,10 dB
10 MHz	-0,30 dB	-0,02 dB	0,30 dB	0,10 dB
50 MHz	-0,30 dB	-0,04 dB	0,30 dB	0,10 dB
100 MHz	-0,30 dB	0,00 dB	0,30 dB	0,10 dB
200 MHz	-0,30 dB	0,04 dB	0,30 dB	0,10 dB
300 MHz	-0,30 dB	-0,02 dB	0,30 dB	0,10 dB
400 MHz	-0,30 dB	0,00 dB	0,30 dB	0,10 dB
500 MHz	-0,30 dB	0,01 dB	0,30 dB	0,10 dB
600 MHz	-0,30 dB	-0,03 dB	0,30 dB	0,10 dB
700 MHz	-0,30 dB	-0,04 dB	0,30 dB	0,10 dB
800 MHz	-0,30 dB	-0,07 dB	0,30 dB	0,10 dB
900 MHz	-0,30 dB	-0,06 dB	0,30 dB	0,10 dB
1000 MHz	-0,30 dB	-0,10 dB	0,30 dB	0,10 dB
1500 MHz	-0,30 dB	-0,13 dB	0,30 dB	0,11 dB
2000 MHz	-0,50 dB	-0,14 dB	0,50 dB	0,11 dB
2500 MHz	-0,50 dB	-0,16 dB	0,50 dB	0,11 dB
3000 MHz	-0,50 dB	-0,12 dB	0,50 dB	0,12 dB
3599 MHz	-0,50 dB	-0,28 dB	0,50 dB	0,12 dB
14.4 Frequency Response (Presel. off, Preamp. off)				
Input1, Att 20 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,50 dB	0,04 dB	0,50 dB	0,10 dB
1 MHz	-0,50 dB	-0,11 dB	0,50 dB	0,10 dB
10 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
50 MHz	-0,30 dB	-0,03 dB	0,30 dB	0,10 dB
100 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
200 MHz	-0,30 dB	0,05 dB	0,30 dB	0,10 dB
300 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
400 MHz	-0,30 dB	0,00 dB	0,30 dB	0,10 dB
500 MHz	-0,30 dB	0,00 dB	0,30 dB	0,10 dB
600 MHz	-0,30 dB	-0,02 dB	0,30 dB	0,10 dB
700 MHz	-0,30 dB	-0,04 dB	0,30 dB	0,10 dB
800 MHz	-0,30 dB	-0,07 dB	0,30 dB	0,10 dB
900 MHz	-0,30 dB	-0,05 dB	0,30 dB	0,10 dB
1000 MHz	-0,30 dB	-0,10 dB	0,30 dB	0,10 dB
1500 MHz	-0,30 dB	-0,12 dB	0,30 dB	0,11 dB
2000 MHz	-0,50 dB	-0,14 dB	0,50 dB	0,11 dB
2500 MHz	-0,50 dB	-0,17 dB	0,50 dB	0,11 dB
3000 MHz	-0,50 dB	-0,11 dB	0,50 dB	0,12 dB
3599 MHz	-0,50 dB	-0,30 dB	0,50 dB	0,12 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 15 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
14.5 Frequency Response (Presel. off, Preamp. off)				
Input1, Att 40 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,50 dB	0,04 dB	0,50 dB	0,10 dB
1 MHz	-0,50 dB	-0,12 dB	0,50 dB	0,10 dB
10 MHz	-0,30 dB	-0,02 dB	0,30 dB	0,10 dB
50 MHz	-0,30 dB	-0,03 dB	0,30 dB	0,10 dB
100 MHz	-0,30 dB	0,00 dB	0,30 dB	0,10 dB
200 MHz	-0,30 dB	0,05 dB	0,30 dB	0,10 dB
300 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
400 MHz	-0,30 dB	0,00 dB	0,30 dB	0,10 dB
500 MHz	-0,30 dB	0,02 dB	0,30 dB	0,10 dB
600 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
700 MHz	-0,30 dB	-0,05 dB	0,30 dB	0,10 dB
800 MHz	-0,30 dB	-0,06 dB	0,30 dB	0,10 dB
900 MHz	-0,30 dB	-0,06 dB	0,30 dB	0,10 dB
1000 MHz	-0,30 dB	-0,09 dB	0,30 dB	0,10 dB
1500 MHz	-0,30 dB	-0,12 dB	0,30 dB	0,11 dB
2000 MHz	-0,50 dB	-0,13 dB	0,50 dB	0,11 dB
2500 MHz	-0,50 dB	-0,14 dB	0,50 dB	0,11 dB
3000 MHz	-0,50 dB	-0,06 dB	0,50 dB	0,12 dB
3599 MHz	-0,50 dB	-0,31 dB	0,50 dB	0,12 dB
14.6 Frequency Response (Presel. on, Preamp. off)				
Input1, Att 10 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,80 dB	-0,02 dB	0,80 dB	0,10 dB
1 MHz	-0,80 dB	-0,17 dB	0,80 dB	0,10 dB
10 MHz	-0,60 dB	-0,07 dB	0,60 dB	0,10 dB
50 MHz	-0,60 dB	-0,07 dB	0,60 dB	0,10 dB
100 MHz	-0,60 dB	0,01 dB	0,60 dB	0,10 dB
200 MHz	-0,60 dB	-0,03 dB	0,60 dB	0,10 dB
300 MHz	-0,60 dB	-0,04 dB	0,60 dB	0,10 dB
400 MHz	-0,60 dB	-0,09 dB	0,60 dB	0,10 dB
500 MHz	-0,60 dB	0,00 dB	0,60 dB	0,10 dB
600 MHz	-0,60 dB	-0,07 dB	0,60 dB	0,10 dB
700 MHz	-0,60 dB	-0,06 dB	0,60 dB	0,10 dB
800 MHz	-0,60 dB	-0,08 dB	0,60 dB	0,10 dB
900 MHz	-0,60 dB	-0,06 dB	0,60 dB	0,10 dB
1000 MHz	-0,60 dB	-0,09 dB	0,60 dB	0,10 dB
1500 MHz	-0,60 dB	-0,14 dB	0,60 dB	0,11 dB
2000 MHz	-0,80 dB	-0,18 dB	0,80 dB	0,11 dB
2500 MHz	-0,80 dB	-0,22 dB	0,80 dB	0,11 dB
3000 MHz	-0,80 dB	-0,18 dB	0,80 dB	0,12 dB
3599 MHz	-0,80 dB	-0,41 dB	0,80 dB	0,12 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 16 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
14.7 Frequency Response (Presel. on, Preamp. on)				
Input1, Att 30 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,80 dB	-0,06 dB	0,80 dB	0,10 dB
1 MHz	-0,80 dB	-0,15 dB	0,80 dB	0,10 dB
10 MHz	-0,60 dB	-0,04 dB	0,60 dB	0,10 dB
50 MHz	-0,60 dB	-0,06 dB	0,60 dB	0,10 dB
100 MHz	-0,60 dB	-0,03 dB	0,60 dB	0,10 dB
200 MHz	-0,60 dB	-0,01 dB	0,60 dB	0,10 dB
300 MHz	-0,60 dB	-0,01 dB	0,60 dB	0,10 dB
400 MHz	-0,60 dB	-0,04 dB	0,60 dB	0,10 dB
500 MHz	-0,60 dB	-0,01 dB	0,60 dB	0,10 dB
600 MHz	-0,60 dB	-0,03 dB	0,60 dB	0,10 dB
700 MHz	-0,60 dB	-0,07 dB	0,60 dB	0,10 dB
800 MHz	-0,60 dB	-0,09 dB	0,60 dB	0,10 dB
900 MHz	-0,60 dB	-0,04 dB	0,60 dB	0,10 dB
1000 MHz	-0,60 dB	-0,07 dB	0,60 dB	0,10 dB
1500 MHz	-0,60 dB	-0,09 dB	0,60 dB	0,11 dB
2000 MHz	-0,80 dB	-0,14 dB	0,80 dB	0,11 dB
2500 MHz	-0,80 dB	-0,24 dB	0,80 dB	0,11 dB
3000 MHz	-0,80 dB	-0,14 dB	0,80 dB	0,12 dB
3599 MHz	-0,80 dB	-0,05 dB	0,80 dB	0,12 dB
14.8 Frequency Response (Presel. off, Preamp. off)				
Input2, Att 10 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,50 dB	-0,05 dB	0,50 dB	0,10 dB
1 MHz	-0,50 dB	-0,26 dB	0,50 dB	0,10 dB
10 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
50 MHz	-0,30 dB	-0,01 dB	0,30 dB	0,10 dB
100 MHz	-0,30 dB	-0,03 dB	0,30 dB	0,10 dB
200 MHz	-0,30 dB	-0,04 dB	0,30 dB	0,10 dB
300 MHz	-0,30 dB	-0,04 dB	0,30 dB	0,10 dB
400 MHz	-0,30 dB	-0,04 dB	0,30 dB	0,10 dB
500 MHz	-0,30 dB	-0,07 dB	0,30 dB	0,10 dB
600 MHz	-0,30 dB	-0,09 dB	0,30 dB	0,10 dB
700 MHz	-0,30 dB	-0,12 dB	0,30 dB	0,10 dB
800 MHz	-0,30 dB	-0,18 dB	0,30 dB	0,10 dB
900 MHz	-0,30 dB	-0,13 dB	0,30 dB	0,10 dB
999 MHz	-0,30 dB	-0,19 dB	0,30 dB	0,10 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 17 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
14.9 Frequency Response (Presel. on, Preamp. off)				
Input2, Att 10 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,80 dB	-0,07 dB	0,80 dB	0,10 dB
1 MHz	-0,80 dB	-0,30 dB	0,80 dB	0,10 dB
10 MHz	-0,60 dB	-0,02 dB	0,60 dB	0,10 dB
50 MHz	-0,60 dB	0,00 dB	0,60 dB	0,10 dB
100 MHz	-0,60 dB	0,03 dB	0,60 dB	0,10 dB
200 MHz	-0,60 dB	-0,09 dB	0,60 dB	0,10 dB
300 MHz	-0,60 dB	0,01 dB	0,60 dB	0,10 dB
400 MHz	-0,60 dB	-0,09 dB	0,60 dB	0,10 dB
500 MHz	-0,60 dB	-0,13 dB	0,60 dB	0,10 dB
600 MHz	-0,60 dB	-0,05 dB	0,60 dB	0,10 dB
700 MHz	-0,60 dB	-0,05 dB	0,60 dB	0,10 dB
800 MHz	-0,60 dB	-0,12 dB	0,60 dB	0,10 dB
900 MHz	-0,60 dB	-0,10 dB	0,60 dB	0,10 dB
999 MHz	-0,60 dB	-0,12 dB	0,60 dB	0,10 dB
14.10 Frequency Response (Presel. on, Preamp. on)				
Input2, Att 30 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,80 dB	-0,05 dB	0,80 dB	0,10 dB
1 MHz	-0,80 dB	-0,19 dB	0,80 dB	0,10 dB
10 MHz	-0,60 dB	0,01 dB	0,60 dB	0,10 dB
50 MHz	-0,60 dB	-0,04 dB	0,60 dB	0,10 dB
100 MHz	-0,60 dB	-0,01 dB	0,60 dB	0,10 dB
200 MHz	-0,60 dB	-0,09 dB	0,60 dB	0,10 dB
300 MHz	-0,60 dB	-0,04 dB	0,60 dB	0,10 dB
400 MHz	-0,60 dB	-0,10 dB	0,60 dB	0,10 dB
500 MHz	-0,60 dB	-0,07 dB	0,60 dB	0,10 dB
600 MHz	-0,60 dB	-0,11 dB	0,60 dB	0,10 dB
700 MHz	-0,60 dB	-0,18 dB	0,60 dB	0,10 dB
800 MHz	-0,60 dB	-0,19 dB	0,60 dB	0,10 dB
900 MHz	-0,60 dB	-0,13 dB	0,60 dB	0,10 dB
999 MHz	-0,60 dB	-0,20 dB	0,60 dB	0,10 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 18 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
14.11 Frequency Response (Freq > 3,6 GHz)				
Input1, Att 10 dB, DC-Coup.				
at -10 dBm referred to 128 MHz				
3610 MHz	-1,50 dB	-0,09 dB	1,50 dB	0,12 dB
4000 MHz	-1,50 dB	-0,12 dB	1,50 dB	0,13 dB
4500 MHz	-1,50 dB	-0,20 dB	1,50 dB	0,13 dB
5000 MHz	-1,50 dB	-0,22 dB	1,50 dB	0,14 dB
5500 MHz	-1,50 dB	0,04 dB	1,50 dB	0,14 dB
6000 MHz	-1,50 dB	-0,15 dB	1,50 dB	0,15 dB
6500 MHz	-1,50 dB	-0,17 dB	1,50 dB	0,15 dB
7000 MHz	-1,50 dB	-0,34 dB	1,50 dB	0,16 dB
7500 MHz	-1,50 dB	-0,44 dB	1,50 dB	0,17 dB
7990 MHz	-1,50 dB	-0,27 dB	1,50 dB	0,17 dB
9000 MHz	-2,00 dB	-0,36 dB	2,00 dB	0,19 dB
10000 MHz	-2,00 dB	-0,34 dB	2,00 dB	0,20 dB
11000 MHz	-2,00 dB	-0,39 dB	2,00 dB	0,22 dB
12000 MHz	-2,00 dB	-0,63 dB	2,00 dB	0,23 dB
13000 MHz	-2,00 dB	-0,53 dB	2,00 dB	0,25 dB
14000 MHz	-2,00 dB	-0,08 dB	2,00 dB	0,27 dB
15000 MHz	-2,00 dB	-0,27 dB	2,00 dB	0,28 dB
16000 MHz	-2,00 dB	-0,49 dB	2,00 dB	0,30 dB
17000 MHz	-2,00 dB	-0,23 dB	2,00 dB	0,3 dB
18000 MHz	-2,00 dB	-0,12 dB	2,00 dB	0,3 dB
19000 MHz	-2,00 dB	-0,21 dB	2,00 dB	0,4 dB
20000 MHz	-2,00 dB	0,06 dB	2,00 dB	0,4 dB
21000 MHz	-2,00 dB	-0,25 dB	2,00 dB	0,4 dB
22000 MHz	-2,00 dB	0,32 dB	2,00 dB	0,4 dB
23000 MHz	-2,00 dB	-0,07 dB	2,00 dB	0,5 dB
24000 MHz	-2,00 dB	0,14 dB	2,00 dB	0,5 dB
25000 MHz	-2,00 dB	0,33 dB	2,00 dB	0,5 dB
26000 MHz	-2,00 dB	0,16 dB	2,00 dB	0,5 dB



Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 19 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
14.12 Frequency Response (LN Preamp on, only ESU B24)				
Input1, Att 30 dB, DC-Coup. at -10 dBm referred to 128 MHz				
100 kHz	-0,80 dB	-0,43 dB	0,80 dB	0,10 dB
1 MHz	-0,80 dB	-0,08 dB	0,80 dB	0,10 dB
10 MHz	-0,80 dB	0,00 dB	0,80 dB	0,10 dB
50 MHz	-0,60 dB	-0,04 dB	0,60 dB	0,10 dB
100 MHz	-0,60 dB	-0,03 dB	0,60 dB	0,10 dB
200 MHz	-0,60 dB	-0,01 dB	0,60 dB	0,10 dB
300 MHz	-0,60 dB	-0,01 dB	0,60 dB	0,10 dB
400 MHz	-0,60 dB	-0,01 dB	0,60 dB	0,10 dB
500 MHz	-0,60 dB	-0,01 dB	0,60 dB	0,10 dB
600 MHz	-0,60 dB	-0,07 dB	0,60 dB	0,10 dB
700 MHz	-0,60 dB	-0,03 dB	0,60 dB	0,10 dB
800 MHz	-0,60 dB	-0,05 dB	0,60 dB	0,10 dB
900 MHz	-0,60 dB	-0,01 dB	0,60 dB	0,10 dB
1000 MHz	-0,60 dB	-0,08 dB	0,60 dB	0,10 dB
1500 MHz	-0,60 dB	-0,14 dB	0,60 dB	0,11 dB
2000 MHz	-0,60 dB	-0,26 dB	0,60 dB	0,11 dB
2500 MHz	-0,60 dB	-0,13 dB	0,60 dB	0,11 dB
3000 MHz	-0,60 dB	-0,09 dB	0,60 dB	0,12 dB
3599 MHz	-0,60 dB	-0,43 dB	0,60 dB	0,12 dB
3610 MHz	-1,50 dB	-0,33 dB	1,50 dB	0,12 dB
4000 MHz	-1,50 dB	-0,30 dB	1,50 dB	0,13 dB
4500 MHz	-1,50 dB	-0,29 dB	1,50 dB	0,13 dB
5000 MHz	-1,50 dB	-0,25 dB	1,50 dB	0,14 dB
5500 MHz	-1,50 dB	-0,13 dB	1,50 dB	0,14 dB
6000 MHz	-1,50 dB	-0,23 dB	1,50 dB	0,15 dB
6500 MHz	-1,50 dB	-0,06 dB	1,50 dB	0,15 dB
7000 MHz	-1,50 dB	-0,39 dB	1,50 dB	0,16 dB
7500 MHz	-1,50 dB	-0,42 dB	1,50 dB	0,17 dB
7990 MHz	-1,50 dB	-0,24 dB	1,50 dB	0,17 dB
9000 MHz	-2,00 dB	-0,37 dB	2,00 dB	0,19 dB
10000 MHz	-2,00 dB	-0,35 dB	2,00 dB	0,20 dB
11000 MHz	-2,00 dB	-0,45 dB	2,00 dB	0,22 dB
12000 MHz	-2,00 dB	-0,83 dB	2,00 dB	0,23 dB
13000 MHz	-2,00 dB	-0,57 dB	2,00 dB	0,25 dB
14000 MHz	-2,00 dB	-0,12 dB	2,00 dB	0,27 dB
15000 MHz	-2,00 dB	-0,27 dB	2,00 dB	0,28 dB
16000 MHz	-2,00 dB	-0,52 dB	2,00 dB	0,30 dB
17000 MHz	-2,00 dB	-0,25 dB	2,00 dB	0,3 dB
18000 MHz	-2,00 dB	-0,25 dB	2,00 dB	0,3 dB
19000 MHz	-2,00 dB	-0,27 dB	2,00 dB	0,4 dB
20000 MHz	-2,00 dB	0,17 dB	2,00 dB	0,4 dB
21000 MHz	-2,00 dB	-0,20 dB	2,00 dB	0,4 dB
22000 MHz	-2,00 dB	0,32 dB	2,00 dB	0,4 dB
23000 MHz	-2,00 dB	-0,16 dB	2,00 dB	0,5 dB
24000 MHz	-2,00 dB	0,02 dB	2,00 dB	0,5 dB
25000 MHz	-2,00 dB	0,07 dB	2,00 dB	0,5 dB
26000 MHz	-2,00 dB	0,06 dB	2,00 dB	0,5 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 20 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
15.1 Display Linearity at 500 Hz RBW				
reference point is approx. 1 div (10 dB) below fullscale.				
10 dB	9,90 dB	10,00 dB	10,10 dB	0,02 dB
15 dB	4,90 dB	5,00 dB	5,10 dB	0,02 dB
20 dB	--	0,00 dB	--	reference
25 dB	-5,10 dB	-5,00 dB	-4,90 dB	0,02 dB
30 dB	-10,10 dB	-10,00 dB	-9,90 dB	0,02 dB
35 dB	-15,10 dB	-15,00 dB	-14,90 dB	0,02 dB
40 dB	-20,10 dB	-20,01 dB	-19,90 dB	0,02 dB
45 dB	-25,10 dB	-25,01 dB	-24,90 dB	0,02 dB
50 dB	-30,10 dB	-30,01 dB	-29,90 dB	0,03 dB
55 dB	-35,10 dB	-35,01 dB	-34,90 dB	0,03 dB
60 dB	-40,10 dB	-40,02 dB	-39,90 dB	0,03 dB
65 dB	-45,10 dB	-45,02 dB	-44,90 dB	0,04 dB
70 dB	-50,10 dB	-50,02 dB	-49,90 dB	0,04 dB
75 dB	-55,10 dB	-55,01 dB	-54,90 dB	0,05 dB
80 dB	-60,10 dB	-60,02 dB	-59,90 dB	0,06 dB
85 dB	-65,30 dB	-65,03 dB	-64,70 dB	0,06 dB
90 dB	-70,30 dB	-70,00 dB	-69,70 dB	0,07 dB
95 dB	-75,30 dB	-75,06 dB	-74,70 dB	0,08 dB
100 dB	-80,30 dB	-80,07 dB	-79,70 dB	0,09 dB
15.2 Display Linearity at 300 kHz RBW				
reference point is approx. 1 div (10 dB) below fullscale.				
10 dB	9,80 dB	10,02 dB	10,20 dB	0,02 dB
15 dB	4,80 dB	5,01 dB	5,20 dB	0,02 dB
20 dB	--	0,00 dB	--	reference
25 dB	-5,20 dB	-5,01 dB	-4,80 dB	0,02 dB
30 dB	-10,20 dB	-10,02 dB	-9,80 dB	0,02 dB
35 dB	-15,20 dB	-15,05 dB	-14,80 dB	0,02 dB
40 dB	-20,20 dB	-20,07 dB	-19,80 dB	0,02 dB
45 dB	-25,20 dB	-25,08 dB	-24,80 dB	0,02 dB
50 dB	-30,20 dB	-30,09 dB	-29,80 dB	0,03 dB
55 dB	-35,20 dB	-35,09 dB	-34,80 dB	0,03 dB
60 dB	-40,20 dB	-40,11 dB	-39,80 dB	0,03 dB
65 dB	-45,50 dB	-45,10 dB	-44,50 dB	0,04 dB
70 dB	-50,50 dB	-50,08 dB	-49,50 dB	0,04 dB
75 dB	-55,50 dB	-55,02 dB	-54,50 dB	0,05 dB
80 dB	-60,50 dB	-60,01 dB	-59,50 dB	0,06 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 21 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
16 Input-Attenuator Accuracy RF = 128 MHz				
0 dB	-10,20 dB	-10,00 dB	-9,80 dB	0,02 dB
5 dB	-5,20 dB	-5,00 dB	-4,80 dB	0,02 dB
10 dB	--	0,00 dB	--	reference
15 dB	4,80 dB	5,00 dB	5,20 dB	0,02 dB
20 dB	9,80 dB	10,01 dB	10,20 dB	0,03 dB
25 dB	14,80 dB	15,00 dB	15,20 dB	0,03 dB
30 dB	19,80 dB	20,00 dB	20,20 dB	0,03 dB
35 dB	24,80 dB	25,00 dB	25,20 dB	0,03 dB
40 dB	29,80 dB	30,01 dB	30,20 dB	0,03 dB
50 dB	39,80 dB	40,01 dB	40,20 dB	0,03 dB
60 dB	49,80 dB	50,02 dB	50,20 dB	0,03 dB
70 dB	59,80 dB	60,02 dB	60,20 dB	0,03 dB
17 IF Gain Switching Accuracy RF = 5 MHz reference level -10 dBm				
0 dBm	9,85 dB	10,00 dB	10,15 dB	0,02 dB
-10 dBm	--	0,00 dB	--	reference
-11 dBm	-1,15 dB	-1,01 dB	-0,85 dB	0,02 dB
-12 dBm	-2,15 dB	-2,00 dB	-1,85 dB	0,02 dB
-13 dBm	-3,15 dB	-3,01 dB	-2,85 dB	0,02 dB
-14 dBm	-4,15 dB	-4,01 dB	-3,85 dB	0,02 dB
-15 dBm	-5,15 dB	-5,01 dB	-4,85 dB	0,02 dB
-16 dBm	-6,15 dB	-6,01 dB	-5,85 dB	0,02 dB
-17 dBm	-7,15 dB	-7,01 dB	-6,85 dB	0,02 dB
-18 dBm	-8,15 dB	-8,01 dB	-7,85 dB	0,02 dB
-19 dBm	-9,15 dB	-9,02 dB	-8,85 dB	0,02 dB
-20 dBm	-10,15 dB	-10,01 dB	-9,85 dB	0,02 dB
-30 dBm	-20,15 dB	-19,98 dB	-19,85 dB	0,03 dB
-40 dBm	-30,15 dB	-30,00 dB	-29,85 dB	0,03 dB
-50 dBm	-40,15 dB	-40,01 dB	-39,85 dB	0,04 dB

Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 22 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
18 CISPR 16-1-1 Receiver Mode Accuracy				
18.1 Sinewave Voltage Accuracy (Receiver Mode)				
Band A: RBW 200 Hz; Level 97 dBμV Detector Freq (Hz)				
PK+ 75 k	96,00 dBμV	96,84 dBμV	98,00 dBμV	0,10 dB
QPK 75 k	96,00 dBμV	96,84 dBμV	98,00 dBμV	0,10 dB
CAV 75 k	96,00 dBμV	96,95 dBμV	98,00 dBμV	0,10 dB
CRMS 75 k	96,00 dBμV	96,95 dBμV	98,00 dBμV	0,10 dB
Band B: RBW 9 kHz; Level 97 dBμV Detector Freq (Hz)				
PK+ 15 M	96,00 dBμV	97,01 dBμV	98,00 dBμV	0,10 dB
QPK 15 M	96,00 dBμV	96,97 dBμV	98,00 dBμV	0,10 dB
CAV 15 M	96,00 dBμV	97,11 dBμV	98,00 dBμV	0,10 dB
CRMS 15 M	96,00 dBμV	97,11 dBμV	98,00 dBμV	0,10 dB
18.1 Sinewave Voltage Accuracy (Receiver Mode) (cont)				
Band C/D: RBW 120 kHz; Level 97 dBμV Detector Freq (Hz)				
PK+ 165 M	96,20 dBμV	97,12 dBμV	97,80 dBμV	0,10 dB
QPK 165 M	96,20 dBμV	97,04 dBμV	97,80 dBμV	0,10 dB
CAV 165 M	96,20 dBμV	97,24 dBμV	97,80 dBμV	0,10 dB
CRMS 165 M	96,20 dBμV	97,24 dBμV	97,80 dBμV	0,10 dB
PK+ 650 M	96,20 dBμV	97,00 dBμV	97,80 dBμV	0,10 dB
QPK 650 M	96,20 dBμV	96,91 dBμV	97,80 dBμV	0,10 dB
CAV 650 M	96,20 dBμV	97,12 dBμV	97,80 dBμV	0,10 dB
CRMS 650 M	96,20 dBμV	97,12 dBμV	97,80 dBμV	0,10 dB
Band E: RBW 1 MHz; Level 97 dBμV Detector Freq (Hz)				
PK+ 9500 M	95,20 dBμV	97,11 dBμV	98,80 dBμV	0,10 dB
CAV 9500 M	95,20 dBμV	96,82 dBμV	98,80 dBμV	0,10 dB
CRMS 9500 M	95,20 dBμV	96,83 dBμV	98,80 dBμV	0,10 dB


Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 23 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
18.2 Peak and Quasipeak Detector Amplitude Relationship (Receiver Mode)				
Band A:				
RBW 200 Hz; Level 60 dB μ V				
PRF Detector Freq (Hz)				
25 Hz PK+ 75 k	64,60 dB μ V	65,94 dB μ V	67,60 dB μ V	0,20 dB
25 Hz QPK 75 k	58,50 dB μ V	59,26 dB μ V	61,50 dB μ V	0,20 dB
Band B:				
RBW 9 kHz; Level 60 dB μ V				
PRF Detector Freq (Hz)				
100 Hz PK+ 15 M	65,10 dB μ V	66,63 dB μ V	68,10 dB μ V	0,20 dB
100 Hz QPK 15 M	58,50 dB μ V	59,98 dB μ V	61,50 dB μ V	0,20 dB
Band C/D:				
RBW 120 kHz; Level 50 dB μ V				
PRF Detector Freq (Hz)				
100 Hz PK+ 165 M	60,50 dB μ V	62,35 dB μ V	63,50 dB μ V	0,20 dB
100 Hz QPK 165 M	48,50 dB μ V	50,52 dB μ V	51,50 dB μ V	0,20 dB
100 Hz PK+ 650 M	60,50 dB μ V	62,33 dB μ V	63,50 dB μ V	0,20 dB
100 Hz QPK 650 M	48,50 dB μ V	50,37 dB μ V	51,50 dB μ V	0,20 dB
Band E:				
RBW 1 MHz; Level 60 dB μ V/MHz				
PRF Detector Freq (Hz)				
50000 Hz PK+ 9500 M	58,50 dB μ V	60,78 dB μ V	61,50 dB μ V	0,20 dB
18.3 Quasipeak Variation with Repetition Frequency (Receiver Mode)				
Band A: RBW 200 Hz; Level 60 dB μ V				
response rel. to 25 Hz: Freq (Hz)				
25 Hz QPK 75 k	--	58,98 dB μ V	--	reference
100 Hz QPK 75 k	3,00 dB	3,93 dB	5,00 dB	0,10 dB
60 Hz QPK 75 k	2,00 dB	2,77 dB	4,00 dB	0,10 dB
10 Hz QPK 75 k	-5,00 dB	-4,16 dB	-3,00 dB	0,10 dB
5 Hz QPK 75 k	-9,00 dB	-8,22 dB	-6,00 dB	0,10 dB
2 Hz QPK 75 k	-15,00 dB	-14,21 dB	-11,00 dB	0,10 dB
1 Hz QPK 75 k	-19,00 dB	-17,96 dB	-15,00 dB	0,10 dB
single pulse QPK 75 k	-21,00 dB	-19,69 dB	-17,00 dB	0,10 dB
Band B: RBW 9 kHz; Level 60 dB μ V				
response rel. to 100 Hz: Freq (Hz)				
100 Hz QPK 15 M	--	59,93 dB μ V	--	reference
20 Hz QPK 15 M	-7,50 dB	-6,62 dB	-5,50 dB	0,10 dB
10 Hz QPK 15 M	-11,50 dB	-10,79 dB	-8,50 dB	0,10 dB
2 Hz QPK 15 M	-22,50 dB	-21,27 dB	-18,50 dB	0,10 dB
1 Hz QPK 15 M	-24,50 dB	-22,63 dB	-20,50 dB	0,10 dB
single pulse QPK 15 M	-25,50 dB	-22,77 dB	-21,50 dB	0,10 dB

Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 24 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
18.3 Quasipeak Variation with Repetition Frequency (Receiver Mode) (cont)				
Band C/D: RBW 120 kHz; Level 50 dB μ V response rel. to 100 Hz: Freq (Hz)				
100 Hz QPK 165 M	--	50,37 dB μ V	--	reference
20 Hz QPK 165 M	-10,00 dB	-9,65 dB	-8,00 dB	0,10 dB
10 Hz QPK 165 M	-15,50 dB	-14,73 dB	-12,50 dB	0,10 dB
2 Hz QPK 165 M	-28,00 dB	-26,53 dB	-24,00 dB	0,10 dB
1 Hz QPK 165 M	-30,50 dB	-29,13 dB	-26,50 dB	0,10 dB
single pulse QPK 165 M	-33,50 dB	-29,71 dB	-29,50 dB	0,10 dB
100 Hz QPK 650 M	--	49,92 dB μ V	--	reference
20 Hz QPK 650 M	-10,00 dB	-9,64 dB	-8,00 dB	0,10 dB
10 Hz QPK 650 M	-15,50 dB	-14,73 dB	-12,50 dB	0,10 dB
18.3 Quasipeak Variation with Repetition Frequency (Receiver Mode) (cont)				
Band B: RBW = 9 kHz response rel. to 100 Hz: Freq (Hz)				
100 Hz QPK 15 M	--	60,02 dB μ V	--	reference
1000 Hz QPK 15 M	3,50 dB	3,73 dB	5,50 dB	0,10 dB
Band C/D: RBW 120 kHz response rel. to 100 Hz: Freq (Hz)				
100 Hz QPK 165 M	--	40,40 dB μ V	--	reference
1000 Hz QPK 165 M	7,00 dB	7,25 dB	9,00 dB	0,10 dB
100 Hz QPK 650 M	--	40,53 dB μ V	--	reference
1000 Hz QPK 650 M	7,00 dB	7,19 dB	9,00 dB	0,10 dB
18.4 CISPR Average Amplitude Relationship (Receiver Mode)				
Band A: RBW 200 Hz; Level 60 dB μ V PRF Detector Freq (Hz)				
25 Hz CAV 75 k	46,10 dB μ V	47,45 dB μ V	49,10 dB μ V	0,20 dB
25 Hz CAV/Ed 3.2 75 k	47,10 dB μ V	47,45 dB μ V	50,10 dB μ V	0,20 dB
Band B: RBW 9 kHz PRF Detector Freq (Hz)				
500 Hz CAV 15 M	39,50 dB μ V	42,06 dB μ V	42,50 dB μ V	0,20 dB
500 Hz CAV/Ed 3.2 15 M	40,50 dB μ V	42,06 dB μ V	43,50 dB μ V	0,20 dB
Band C/D: RBW 120 kHz PRF Detector Freq (Hz)				
5000 Hz CAV 165 M	22,50 dB μ V	25,28 dB μ V	25,50 dB μ V	0,20 dB
5000 Hz CAV/Ed 3.2 165 M	23,50 dB μ V	25,28 dB μ V	26,50 dB μ V	0,20 dB
5000 Hz CAV 650 M	22,50 dB μ V	25,28 dB μ V	25,50 dB μ V	0,20 dB
5000 Hz CAV/Ed 3.2 650 M	23,50 dB μ V	25,28 dB μ V	26,50 dB μ V	0,20 dB
Band E: RBW 1000 kHz PRF Detector Freq (Hz)				
50000 Hz CAV 9500 M	58,50 dB μ V	60,22 dB μ V	61,50 dB μ V	0,20 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 25 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
18.5 CISPR Average Variation with Repetition Frequency (Receiver Mode)				
Band A: RBW 200 Hz; Level 60 dB μ V response rel. to 25 Hz: Freq (Hz)				
70 Hz CAV 75 k	--	55,99 dB μ V	--	reference
35 Hz CAV 75 k	-7,00 dB	-5,93 dB	-3,00 dB	0,10 dB
17,5 Hz CAV 75 k	-13,00 dB	-11,70 dB	-9,00 dB	0,10 dB
Band B: RBW 9 kHz response rel. to 500 Hz: Freq (Hz)				
3180 Hz CAV 15 M	--	57,07 dB μ V	--	reference
1590 Hz CAV 15 M	-7,00 dB	-5,90 dB	-3,00 dB	0,10 dB
795 Hz CAV 15 M	-13,00 dB	-11,74 dB	-9,00 dB	0,10 dB
398 Hz CAV 15 M	-19,00 dB	-17,28 dB	-15,00 dB	0,10 dB
18.5 CISPR Average Variation with Repetition Frequency (Receiver Mode) (cont)				
Band C/D: RBW 120 kHz response rel. to 5000 Hz: Freq (Hz)				
42400 Hz CAV 165 M	--	42,70 dB μ V	--	reference
21200 Hz CAV 165 M	-7,00 dB	-5,83 dB	-3,00 dB	0,10 dB
10600 Hz CAV 165 M	-13,00 dB	-11,46 dB	-9,00 dB	0,10 dB
5300 Hz CAV 165 M	-19,00 dB	-16,72 dB	-15,00 dB	0,10 dB
2650 Hz CAV 165 M	-25,00 dB	-21,27 dB	-21,00 dB	0,10 dB
42400 Hz CAV 650 M	--	42,75 dB μ V	--	reference
21200 Hz CAV 650 M	-7,00 dB	-5,77 dB	-3,00 dB	0,10 dB
10600 Hz CAV 650 M	-13,00 dB	-11,33 dB	-9,00 dB	0,10 dB
5300 Hz CAV 650 M	-19,00 dB	-16,50 dB	-15,00 dB	0,10 dB
2650 Hz CAV 650 M	-25,00 dB	-21,22 dB	-21,00 dB	0,10 dB
Band E: RBW 1000 kHz response rel. to 50000 Hz: Freq (Hz)				
353500 Hz CAV 9500 M	--	77,04 dB μ V	--	reference
176750 Hz CAV 9500 M	-7,00 dB	-5,99 dB	-3,00 dB	0,10 dB
17675 Hz CAV 9500 M	-27,00 dB	-25,46 dB	-23,00 dB	0,10 dB

Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 26 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
18.6 CISPR Average Response to Intermittent Disturbance (Receiver Mode)				
Band A: RBW 200 Hz				
PRF Detector Freq (Hz)				
intermittent CAV/PK+ 75 k	-10,00 dB	-9,60 dB	-8,00 dB	0,30 dB
Band B: RBW 9 kHz				
PRF Detector Freq (Hz)				
intermittent CAV/PK+ 15 M	-10,00 dB	-9,21 dB	-8,00 dB	0,30 dB
Band C/D: RBW 120 kHz				
PRF Detector Freq (Hz)				
intermittent CAV/PK+ 165 M	-10,00 dB	-8,89 dB	-8,00 dB	0,30 dB
intermittent CAV/PK+ 650 M	-10,00 dB	-8,87 dB	-8,00 dB	0,30 dB
Band E: RBW 1000 kHz				
PRF Detector Freq (Hz)				
intermittent CAV/PK+ 9500 M	-10,00 dB	-9,03 dB	-8,00 dB	0,30 dB
18.7 RMS Average Amplitude Relationship (Receiver Mode)				
Band A: RBW 200 Hz; Level 144,2 dB μ V/MHz				
PRF Detector Freq (Hz)				
25 Hz CRMS 75 k	54,30 dB μ V	54,97 dB μ V	57,30 dB μ V	0,20 dB
Band B: RBW 9 kHz; Level 111,7 dB μ V/MHz				
PRF Detector Freq (Hz)				
1000 Hz CRMS 15 M	58,50 dB μ V	59,16 dB μ V	61,50 dB μ V	0,20 dB
Band C/D: RBW 120 kHz; Level 100,4 dB μ V/MHz				
PRF Detector Freq (Hz)				
1000 Hz CRMS 165 M	58,50 dB μ V	59,04 dB μ V	61,50 dB μ V	0,20 dB
1000 Hz CRMS 650 M	58,50 dB μ V	59,04 dB μ V	61,50 dB μ V	0,20 dB
Band E: RBW 1000 kHz; Level 91,5 dB μ V/MHz				
PRF Detector Freq (Hz)				
1000 Hz CRMS 9500 M	58,50 dB μ V	60,40 dB μ V	61,50 dB μ V	0,20 dB
18.8 RMS Average Variation with Repetition Frequency (Receiver Mode)				
Band A: RBW 200 Hz; Level 60 dB μ V				
response rel. to 25 Hz: Freq (Hz)				
25 Hz CRMS 75 k	--	44,36 dB μ V	--	reference
100 Hz CRMS 75 k	5,40 dB	6,05 dB	6,60 dB	0,10 dB
10 Hz CRMS 75 k	-4,40 dB	-3,94 dB	-3,60 dB	0,10 dB
5 Hz CRMS 75 k	-9,70 dB	-9,56 dB	-8,30 dB	0,10 dB
Band B: RBW 9 kHz; Level 111,7 dB μ V/MHz				
response rel. to 1000 Hz: Freq (Hz)				
1000 Hz CRMS 15 M	--	59,16 dB μ V	--	reference
316 Hz CRMS 15 M	-5,50 dB	-5,00 dB	-4,50 dB	0,10 dB
100 Hz CRMS 15 M	-11,00 dB	-10,00 dB	-9,00 dB	0,10 dB
32 Hz CRMS 15 M	-16,50 dB	-14,87 dB	-13,50 dB	0,10 dB
25 Hz CRMS 15 M	-17,60 dB	-16,05 dB	-14,40 dB	0,10 dB
10 Hz CRMS 15 M	-22,00 dB	-20,00 dB	-18,00 dB	0,10 dB
5 Hz CRMS 15 M	-27,30 dB	-25,81 dB	-22,70 dB	0,10 dB


Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 27 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
18.8 RMS Average Variation with Repetition Frequency (Receiver Mode) (cont)				
Band C/D: RBW 120 kHz; Level 100,4 dB μ V/MHz response rel. to 1000 Hz: Freq (Hz)				
1000 Hz CRMS 165 M	--	59,04 dB μ V	--	reference
10000 Hz CRMS 165 M	9,00 dB	9,97 dB	11,00 dB	0,10 dB
316 Hz CRMS 165 M	-5,50 dB	-5,00 dB	-4,50 dB	0,10 dB
100 Hz CRMS 165 M	-11,00 dB	-9,99 dB	-9,00 dB	0,10 dB
32 Hz CRMS 165 M	-22,00 dB	-19,50 dB	-18,00 dB	0,10 dB
1000 Hz CRMS 650 M	--	59,05 dB μ V	--	reference
10000 Hz CRMS 650 M	9,00 dB	9,98 dB	11,00 dB	0,10 dB
316 Hz CRMS 650 M	-5,50 dB	-5,00 dB	-4,50 dB	0,10 dB
100 Hz CRMS 650 M	-11,00 dB	-9,99 dB	-9,00 dB	0,10 dB
32 Hz CRMS 650 M	-22,00 dB	-19,47 dB	-18,00 dB	0,10 dB
18.8 RMS Average Variation with Repetition Frequency (Receiver Mode) (cont)				
Band E: RBW 1000 kHz; Level 91,5 dB μ V/MHz response rel. to 1000 Hz: Freq (Hz)				
1000 Hz CRMS 9500 M	--	60,38 dB μ V	--	reference
10000 Hz CRMS 9500 M	9,00 dB	10,00 dB	11,00 dB	0,10 dB
316 Hz CRMS 9500 M	-11,00 dB	-9,51 dB	-9,00 dB	0,10 dB
100 Hz CRMS 9500 M	--	-18,14 dB	--	0,10 dB
18.9 RMS Average Response to Intermittent Disturbance (Receiver Mode)				
Band A: RBW 200 Hz PRF Detector Freq (Hz) intermittent CRMS/PK+ 75 k	-8,90 dB	-8,26 dB	-6,90 dB	0,30 dB
Band B: RBW 9 kHz PRF Detector Freq (Hz) intermittent CRMS/PK+ 15 M	-8,90 dB	-7,58 dB	-6,90 dB	0,30 dB
Band C/D: RBW 120 kHz PRF Detector Freq (Hz) intermittent CRMS/PK+ 165 M	-10,00 dB	-8,58 dB	-8,00 dB	0,30 dB
intermittent CRMS/PK+ 650 M	-10,00 dB	-8,77 dB	-8,00 dB	0,30 dB
Band E: RBW 1000 kHz PRF Detector Freq (Hz) intermittent CRMS/PK+ 9500 M	-10,00 dB	-8,99 dB	-8,00 dB	0,30 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 28 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
19 CISPR 16-1-1 Time Domain Mode Accuracy (Opt ESU-K53 only)				
19.1 Sinewave Voltage Accuracy (Time Domain Mode)				
Band A: RBW 200 Hz; Level 97 dBμV Detector Freq (Hz)				
PK+ 75 k	96,00 dBμV	n. i.	98,00 dBμV	0,10 dB
QPK 75 k	96,00 dBμV	n. i.	98,00 dBμV	0,10 dB
CAV 75 k	96,00 dBμV	n. i.	98,00 dBμV	0,10 dB
CRMS 75 k	96,00 dBμV	n. i.	98,00 dBμV	0,10 dB
Band B: RBW 9 kHz; Level 97 dBμV Detector Freq (Hz)				
PK+ 15 M	96,00 dBμV	n. i.	98,00 dBμV	0,10 dB
QPK 15 M	96,00 dBμV	n. i.	98,00 dBμV	0,10 dB
CAV 15 M	96,00 dBμV	n. i.	98,00 dBμV	0,10 dB
CRMS 15 M	96,00 dBμV	n. i.	98,00 dBμV	0,10 dB
19.1 Sinewave Voltage Accuracy (Time Domain Mode) (cont)				
Band C/D: RBW 120 kHz; Level 97 dBμV Detector Freq (Hz)				
PK+ 165 M	96,20 dBμV	n. i.	97,80 dBμV	0,10 dB
QPK 165 M	96,20 dBμV	n. i.	97,80 dBμV	0,10 dB
CAV 165 M	96,20 dBμV	n. i.	97,80 dBμV	0,10 dB
CRMS 165 M	96,20 dBμV	n. i.	97,80 dBμV	0,10 dB
PK+ 650 M	96,20 dBμV	n. i.	97,80 dBμV	0,10 dB
QPK 650 M	96,20 dBμV	n. i.	97,80 dBμV	0,10 dB
CAV 650 M	96,20 dBμV	n. i.	97,80 dBμV	0,10 dB
CRMS 650 M	96,20 dBμV	n. i.	97,80 dBμV	0,10 dB
Band E: RBW 1 MHz; Level 97 dBμV Detector Freq (Hz)				
PK+ 9500 M	95,20 dBμV	n. i.	98,80 dBμV	0,10 dB
CAV 9500 M	95,20 dBμV	n. i.	98,80 dBμV	0,10 dB
CRMS 9500 M	95,20 dBμV	n. i.	98,80 dBμV	0,10 dB


Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 29 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
19.2 Peak and Quasipeak Detector Amplitude Relationship (Time Domain Mode)				
Band A: RBW 200 Hz; Level 60 dB μ V				
PRF Detector Freq (Hz)				
25 Hz PK+ 75 k	64,60 dB μ V	n. i.	67,60 dB μ V	0,20 dB
25 Hz QPK 75 k	58,50 dB μ V	n. i.	61,50 dB μ V	0,20 dB
Band B: RBW 9 kHz; Level 60 dB μ V				
PRF Detector Freq (Hz)				
100 Hz PK+ 15 M	65,10 dB μ V	n. i.	68,10 dB μ V	0,20 dB
100 Hz QPK 15 M	58,50 dB μ V	n. i.	61,50 dB μ V	0,20 dB
Band C/D: RBW 120 kHz; Level 50 dB μ V				
PRF Detector Freq (Hz)				
100 Hz PK+ 165 M	60,50 dB μ V	n. i.	63,50 dB μ V	0,20 dB
100 Hz QPK 165 M	48,50 dB μ V	n. i.	51,50 dB μ V	0,20 dB
100 Hz PK+ 650 M	60,50 dB μ V	n. i.	63,50 dB μ V	0,20 dB
100 Hz QPK 650 M	48,50 dB μ V	n. i.	51,50 dB μ V	0,20 dB
Band E: RBW 1 MHz; Level 60 dB μ V/MHz				
PRF Detector Freq (Hz)				
50000 Hz PK+ 9500 M	58,50 dB μ V	n. i.	61,50 dB μ V	0,20 dB
19.3 Quasipeak Variation with Repetition Frequency (Time Domain Mode)				
Band A: RBW 200 Hz; Level 60 dB μ V response rel. to 25 Hz: Freq (Hz)				
25 Hz QPK 75 k	--	n. i.	--	reference
100 Hz QPK 75 k	3,00 dB	n. i.	5,00 dB	0,10 dB
60 Hz QPK 75 k	2,00 dB	n. i.	4,00 dB	0,10 dB
10 Hz QPK 75 k	-5,00 dB	n. i.	-3,00 dB	0,10 dB
5 Hz QPK 75 k	-9,00 dB	n. i.	-6,00 dB	0,10 dB
2 Hz QPK 75 k	-15,00 dB	n. i.	-11,00 dB	0,10 dB
1 Hz QPK 75 k	-19,00 dB	n. i.	-15,00 dB	0,10 dB
single pulse QPK 75 k	-21,00 dB	n. i.	-17,00 dB	0,10 dB
Band B: RBW 9 kHz; Level 60 dB μ V response rel. to 100 Hz: Freq (Hz)				
100 Hz QPK 15 M	--	n. i.	--	reference
20 Hz QPK 15 M	-7,50 dB	n. i.	-5,50 dB	0,10 dB
10 Hz QPK 15 M	-11,50 dB	n. i.	-8,50 dB	0,10 dB
2 Hz QPK 15 M	-22,50 dB	n. i.	-18,50 dB	0,10 dB
1 Hz QPK 15 M	-24,50 dB	n. i.	-20,50 dB	0,10 dB
single pulse QPK 15 M	-25,50 dB	n. i.	-21,50 dB	0,10 dB



Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 30 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
19.3 Quasipeak Variation with Repetition Frequency (Time Domain Mode) (cont)				
Band C/D: RBW 120 kHz; Level 50 dB μ V response rel. to 100 Hz: Freq (Hz)				
100 Hz QPK 165 M	--	n. i.	--	reference
20 Hz QPK 165 M	-10,00 dB	n. i.	-8,00 dB	0,10 dB
10 Hz QPK 165 M	-15,50 dB	n. i.	-12,50 dB	0,10 dB
2 Hz QPK 165 M	-28,00 dB	n. i.	-24,00 dB	0,10 dB
1 Hz QPK 165 M	-30,50 dB	n. i.	-26,50 dB	0,10 dB
single pulse QPK 165 M	-33,50 dB	n. i.	-29,50 dB	0,10 dB
100 Hz QPK 650 M	--	n. i.	--	reference
20 Hz QPK 650 M	-10,00 dB	n. i.	-8,00 dB	0,10 dB
10 Hz QPK 650 M	-15,50 dB	n. i.	-12,50 dB	0,10 dB
19.3 Quasipeak Variation with Repetition Frequency (Time Domain Mode) (cont)				
Band B: RBW = 9 kHz response rel. to 100 Hz: Freq (Hz)				
100 Hz QPK 15 M	--	n. i.	--	reference
1000 Hz QPK 15 M	3,50 dB	n. i.	5,50 dB	0,10 dB
Band C/D: RBW 120 kHz response rel. to 100 Hz: Freq (Hz)				
100 Hz QPK 165 M	--	n. i.	--	reference
1000 Hz QPK 165 M	7,00 dB	n. i.	9,00 dB	0,10 dB
100 Hz QPK 650 M	--	n. i.	--	reference
1000 Hz QPK 650 M	7,00 dB	n. i.	9,00 dB	0,10 dB
19.4 CISPR Average Amplitude Relationship (Time Domain Mode)				
Band A: RBW 200 Hz; Level 60 dB μ V PRF Detector Freq (Hz)				
25 Hz CAV 75 k	46,10 dB μ V	n. i.	49,10 dB μ V	0,20 dB
25 Hz CAV/Ed 3.2 75 k	47,10 dB μ V	n. i.	50,10 dB μ V	0,20 dB
Band B: RBW 9 kHz PRF Detector Freq (Hz)				
500 Hz CAV 15 M	39,50 dB μ V	n. i.	42,50 dB μ V	0,20 dB
500 Hz CAV/Ed 3.2 15 M	40,50 dB μ V	n. i.	43,50 dB μ V	0,20 dB
Band C/D: RBW 120 kHz PRF Detector Freq (Hz)				
5000 Hz CAV 165 M	22,50 dB μ V	n. i.	25,50 dB μ V	0,20 dB
5000 Hz CAV/Ed 3.2 165 M	23,50 dB μ V	n. i.	26,50 dB μ V	0,20 dB
5000 Hz CAV 650 M	22,50 dB μ V	n. i.	25,50 dB μ V	0,20 dB
5000 Hz CAV/Ed 3.2 650 M	23,50 dB μ V	n. i.	26,50 dB μ V	0,20 dB
Band E: RBW 1000 kHz PRF Detector Freq (Hz)				
50000 Hz CAV 9500 M	58,50 dB μ V	n. i.	61,50 dB μ V	0,20 dB


Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 31 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
19.5 CISPR Average Variation with Repetition Frequency (Time Domain Mode)				
Band A: RBW 200 Hz; Level 60 dB μ V response rel. to 25 Hz: Freq (Hz)				
70 Hz CAV 75 k	--	n. i.	--	reference
35 Hz CAV 75 k	-7,00 dB	n. i.	-3,00 dB	0,10 dB
17,5 Hz CAV 75 k	-13,00 dB	n. i.	-9,00 dB	0,10 dB
Band B: RBW 9 kHz response rel. to 500 Hz: Freq (Hz)				
3180 Hz CAV 15 M	--	n. i.	--	reference
1590 Hz CAV 15 M	-7,00 dB	n. i.	-3,00 dB	0,10 dB
795 Hz CAV 15 M	-13,00 dB	n. i.	-9,00 dB	0,10 dB
398 Hz CAV 15 M	-19,00 dB	n. i.	-15,00 dB	0,10 dB
19.5 CISPR Average Variation with Repetition Frequency (Time Domain Mode) (cont)				
Band C/D: RBW 120 kHz response rel. to 5000 Hz: Freq (Hz)				
42400 Hz CAV 165 M	--	n. i.	--	reference
21200 Hz CAV 165 M	-7,00 dB	n. i.	-3,00 dB	0,10 dB
10600 Hz CAV 165 M	-13,00 dB	n. i.	-9,00 dB	0,10 dB
5300 Hz CAV 165 M	-19,00 dB	n. i.	-15,00 dB	0,10 dB
2650 Hz CAV 165 M	-25,00 dB	n. i.	-21,00 dB	0,10 dB
42400 Hz CAV 650 M	--	n. i.	--	reference
21200 Hz CAV 650 M	-7,00 dB	n. i.	-3,00 dB	0,10 dB
10600 Hz CAV 650 M	-13,00 dB	n. i.	-9,00 dB	0,10 dB
5300 Hz CAV 650 M	-19,00 dB	n. i.	-15,00 dB	0,10 dB
2650 Hz CAV 650 M	-25,00 dB	n. i.	-21,00 dB	0,10 dB
Band E: RBW 1000 kHz response rel. to 50000 Hz: Freq (Hz)				
353500 Hz CAV 9500 M	--	n. i.	--	reference
176750 Hz CAV 9500 M	-7,00 dB	n. i.	-3,00 dB	0,10 dB
17675 Hz CAV 9500 M	-27,00 dB	n. i.	-23,00 dB	0,10 dB



Object EMI Test Receiver

Type ESU26

Serial No. 100409

Date 2021-07-22

Material No. 1302.6005K26

Page 32 of 41

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
19.6 CISPR Average Response to Intermittent Disturbance (Time Domain Mode)				
Band A: RBW 200 Hz				
PRF Detector Freq (Hz)				
intermittent CAV/PK+ 75 k	-10,00 dB	n. i.	-8,00 dB	0,30 dB
Band B: RBW 9 kHz				
PRF Detector Freq (Hz)				
intermittent CAV/PK+ 15 M	-10,00 dB	n. i.	-8,00 dB	0,30 dB
Band C/D: RBW 120 kHz				
PRF Detector Freq (Hz)				
intermittent CAV/PK+ 165 M	-10,00 dB	n. i.	-8,00 dB	0,30 dB
intermittent CAV/PK+ 650 M	-10,00 dB	n. i.	-8,00 dB	0,30 dB
Band E: RBW 1000 kHz				
PRF Detector Freq (Hz)				
intermittent CAV/PK+ 9500 M	-10,00 dB	n. i.	-8,00 dB	0,30 dB
19.7 RMS Average Amplitude Relationship (Time Domain Mode)				
Band A: RBW 200 Hz; Level 144,2 dB μ V/MHz				
PRF Detector Freq (Hz)				
25 Hz CRMS 75 k	54,30 dB μ V	n. i.	57,30 dB μ V	0,20 dB
Band B: RBW 9 kHz; Level 111,7 dB μ V/MHz				
PRF Detector Freq (Hz)				
1000 Hz CRMS 15 M	58,50 dB μ V	n. i.	61,50 dB μ V	0,20 dB
Band C/D: RBW 120 kHz; Level 100,4 dB μ V/MHz				
PRF Detector Freq (Hz)				
1000 Hz CRMS 165 M	58,50 dB μ V	n. i.	61,50 dB μ V	0,20 dB
1000 Hz CRMS 650 M	58,50 dB μ V	n. i.	61,50 dB μ V	0,20 dB
Band E: RBW 1000 kHz; Level 91,5 dB μ V/MHz				
PRF Detector Freq (Hz)				
1000 Hz CRMS 9500 M	58,50 dB μ V	n. i.	61,50 dB μ V	0,20 dB
19.8 RMS Average Variation with Repetition Frequency (Time Domain Mode)				
Band A: RBW 200 Hz; Level 60 dB μ V				
response rel. to 25 Hz: Freq (Hz)				
25 Hz CRMS 75 k	--	n. i.	--	reference
100 Hz CRMS 75 k	5,40 dB	n. i.	6,60 dB	0,10 dB
10 Hz CRMS 75 k	-4,40 dB	n. i.	-3,60 dB	0,10 dB
5 Hz CRMS 75 k	-9,70 dB	n. i.	-8,30 dB	0,10 dB
Band B: RBW 9 kHz; Level 111,7 dB μ V/MHz				
response rel. to 1000 Hz: Freq (Hz)				
1000 Hz CRMS 15 M	--	n. i.	--	reference
316 Hz CRMS 15 M	-5,50 dB	n. i.	-4,50 dB	0,10 dB
100 Hz CRMS 15 M	-11,00 dB	n. i.	-9,00 dB	0,10 dB
32 Hz CRMS 15 M	-16,50 dB	n. i.	-13,50 dB	0,10 dB
25 Hz CRMS 15 M	-17,60 dB	n. i.	-14,40 dB	0,10 dB
10 Hz CRMS 15 M	-22,00 dB	n. i.	-18,00 dB	0,10 dB
5 Hz CRMS 15 M	-27,30 dB	n. i.	-22,70 dB	0,10 dB


Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 33 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
19.8 RMS Average Variation with Repetition Frequency (Time Domain Mode) (cont)				
Band C/D: RBW 120 kHz; Level 100,4 dB μ V/MHz response rel. to 1000 Hz: Freq (Hz)				
1000 Hz CRMS 165 M	--	n. i.	--	reference
10000 Hz CRMS 165 M	9,00 dB	n. i.	11,00 dB	0,10 dB
316 Hz CRMS 165 M	-5,50 dB	n. i.	-4,50 dB	0,10 dB
100 Hz CRMS 165 M	-11,00 dB	n. i.	-9,00 dB	0,10 dB
32 Hz CRMS 165 M	-22,00 dB	n. i.	-18,00 dB	0,10 dB
1000 Hz CRMS 650 M	--	n. i.	--	reference
10000 Hz CRMS 650 M	9,00 dB	n. i.	11,00 dB	0,10 dB
316 Hz CRMS 650 M	-5,50 dB	n. i.	-4,50 dB	0,10 dB
100 Hz CRMS 650 M	-11,00 dB	n. i.	-9,00 dB	0,10 dB
32 Hz CRMS 650 M	-22,00 dB	n. i.	-18,00 dB	0,10 dB
19.8 RMS Average Variation with Repetition Frequency (Time Domain Mode) (cont)				
Band E: RBW 1000 kHz; Level 91,5 dB μ V/MHz response rel. to 1000 Hz: Freq (Hz)				
1000 Hz CRMS 9500 M	--	n. i.	--	reference
10000 Hz CRMS 9500 M	9,00 dB	n. i.	11,00 dB	0,10 dB
316 Hz CRMS 9500 M	-11,00 dB	n. i.	-9,00 dB	0,10 dB
100 Hz CRMS 9500 M	--	n. i.	--	0,10 dB
19.9 RMS Average Response to Intermittent Disturbance (Time Domain Mode)				
Band A: RBW 200 Hz PRF Detector Freq (Hz)				
intermittent CRMS/PK+ 75 k	-8,90 dB	n. i.	-6,90 dB	0,30 dB
Band B: RBW 9 kHz PRF Detector Freq (Hz)				
intermittent CRMS/PK+ 15 M	-8,90 dB	n. i.	-6,90 dB	0,30 dB
Band C/D: RBW 120 kHz PRF Detector Freq (Hz)				
intermittent CRMS/PK+ 165 M	-10,00 dB	n. i.	-8,00 dB	0,30 dB
intermittent CRMS/PK+ 650 M	-10,00 dB	n. i.	-8,00 dB	0,30 dB
Band E: RBW 1000 kHz PRF Detector Freq (Hz)				
intermittent CRMS/PK+ 9500 M	-10,00 dB	n. i.	-8,00 dB	0,30 dB
20 Phase Noise				
referred to 1 Hz RBW, calculated from power and attenuation measurements				
100 Hz	--	¹ -113,3 dBc	-98,0 dBc	0,5 dB
1 kHz	--	¹ -127,9 dBc	-116,0 dBc	0,5 dB
10 kHz	--	¹ -130,7 dBc	-128,0 dBc	0,5 dB
100 kHz	--	¹ -130,3 dBc	-128,0 dBc	0,5 dB
1 MHz	--	¹ -144,1 dBc	-140,0 dBc	0,5 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 34 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
21.1 Return Loss (Freq <2,0 GHz)				
Input1, Att 10 dB, DC-Coup.				
100 kHz	20,0 dB	46,3 dB	--	4 dB
1 MHz	20,0 dB	50,1 dB	--	5 dB
10 MHz	20,0 dB	37,8 dB	--	1,9 dB
250 MHz	20,0 dB	45,6 dB	--	4 dB
500 MHz	20,0 dB	31,4 dB	--	1,1 dB
750 MHz	20,0 dB	27,4 dB	--	0,8 dB
999 MHz	20,0 dB	26,4 dB	--	0,7 dB
1000 MHz	20,0 dB	26,5 dB	--	0,7 dB
1250 MHz	14,0 dB	28,0 dB	--	0,8 dB
1500 MHz	14,0 dB	33,8 dB	--	1,3 dB
1750 MHz	14,0 dB	36,9 dB	--	1,8 dB
2000 MHz	14,0 dB	28,2 dB	--	0,8 dB
Input1, Att 0 dB, DC-Coup.				
100 kHz	9,5 dB	26,8 dB	--	0,7 dB
1 MHz	9,5 dB	28,8 dB	--	0,9 dB
10 MHz	9,5 dB	19,8 dB	--	0,4 dB
250 MHz	9,5 dB	24,6 dB	--	0,6 dB
500 MHz	9,5 dB	27,2 dB	--	0,7 dB
750 MHz	9,5 dB	25,0 dB	--	0,6 dB
999 MHz	9,5 dB	15,8 dB	--	0,3 dB
1000 MHz	9,5 dB	15,8 dB	--	0,3 dB
Input2, Att 10 dB, DC-Coup.				
100 kHz	20,0 dB	39,8 dB	--	2,3 dB
1 MHz	20,0 dB	40,0 dB	--	2,3 dB
10 MHz	20,0 dB	29,3 dB	--	0,9 dB
250 MHz	20,0 dB	41,7 dB	--	2,7 dB
500 MHz	20,0 dB	36,8 dB	--	1,7 dB
750 MHz	20,0 dB	27,5 dB	--	0,8 dB
999 MHz	20,0 dB	29,6 dB	--	0,9 dB
Input2, Att 0 dB, DC-Coup.				
100 kHz	9,5 dB	26,2 dB	--	0,7 dB
1 MHz	9,5 dB	30,7 dB	--	1,0 dB
10 MHz	9,5 dB	18,4 dB	--	0,4 dB
250 MHz	9,5 dB	24,2 dB	--	0,6 dB
500 MHz	9,5 dB	25,5 dB	--	0,7 dB
750 MHz	9,5 dB	31,1 dB	--	1,0 dB
999 MHz	9,5 dB	16,8 dB	--	0,4 dB



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 35 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
21.2 Return Loss (Freq >2,0 GHz)				
Input1, Att 10 dB, DC-Coup.				
2250 MHz	14,0 dB	36,0 dB	--	1,6 dB
2500 MHz	14,0 dB	33,0 dB	--	1,2 dB
2750 MHz	14,0 dB	23,4 dB	--	0,6 dB
3000 MHz	14,0 dB	25,1 dB	--	0,6 dB
3250 MHz	14,0 dB	24,8 dB	--	0,6 dB
3500 MHz	14,0 dB	24,7 dB	--	0,6 dB
4000 MHz	10,5 dB	29,5 dB	--	0,9 dB
6000 MHz	10,5 dB	22,3 dB	--	0,5 dB
7990 MHz	10,5 dB	32,2 dB	--	1,5 dB
10000 MHz	10,5 dB	25,8 dB	--	0,9 dB
12000 MHz	10,5 dB	23,7 dB	--	0,7 dB
14000 MHz	10,5 dB	18,6 dB	--	0,6 dB
16000 MHz	10,5 dB	21,2 dB	--	0,7 dB
18000 MHz	9,5 dB	21,7 dB	--	0,8 dB
20000 MHz	9,5 dB	22,2 dB	--	1,2 dB
22000 MHz	9,5 dB	20,9 dB	--	1,0 dB
24000 MHz	9,5 dB	40,5 dB	--	5 dB
26000 MHz	9,5 dB	18,1 dB	--	0,8 dB
22 Tracking Generator FSU-B9				
22.1 TG - Abs. amplitude accuracy				
at 128 MHz (without Option FSU-B12)				
0 dBm	-1,00 dBm	n. i.	1,00 dBm	0,05 dB
-5 dBm	-6,00 dBm	n. i.	-4,00 dBm	0,05 dB
-10 dBm	-11,00 dBm	n. i.	-9,00 dBm	0,05 dB
-15 dBm	-16,00 dBm	n. i.	-14,00 dBm	0,05 dB
-20 dBm	-21,00 dBm	n. i.	-19,00 dBm	0,10 dB
(= Option FSU-B12)				
0 dBm	-1,00 dBm	n. i.	1,00 dBm	0,05 dB
-10 dBm	-11,00 dBm	n. i.	-9,00 dBm	0,05 dB
-20 dBm	-21,00 dBm	n. i.	-19,00 dBm	0,05 dB
-40 dBm	-41,00 dBm	n. i.	-39,00 dBm	0,05 dB

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
22.2 TG - Frequency response				
(without Option FSU-B12)				
source level 0 dBm				
100kHz -3.6GHz maximum	--	n. i.	3,00 dB	0,16 dB
minimum	-3,00 dB	n. i.	--	0,16 dB
source level -5 dBm				
100kHz -3.6GHz maximum	--	n. i.	3,00 dB	0,16 dB
minimum	-3,00 dB	n. i.	--	0,16 dB
source level -10 dBm				
100kHz -3.6GHz maximum	--	n. i.	3,00 dB	0,16 dB
minimum	-3,00 dB	n. i.	--	0,16 dB
source level -15 dBm				
100kHz -3.6GHz maximum	--	n. i.	3,00 dB	0,16 dB
minimum	-3,00 dB	n. i.	--	0,16 dB
source level -20 dBm				
100kHz -3.6GHz maximum	--	n. i.	3,00 dB	0,16 dB
minimum	-3,00 dB	n. i.	--	0,16 dB
(with Option FSU-B12)				
source level 0 dBm				
100kHz -3.6GHz maximum	--	n. i.	4,00 dB	0,16 dB
minimum	-4,00 dB	n. i.	--	0,16 dB
source level -10 dBm				
100kHz -3.6GHz maximum	--	n. i.	4,00 dB	0,16 dB
minimum	-4,00 dB	n. i.	--	0,16 dB
source level -20 dBm				
100kHz -3.6GHz maximum	--	n. i.	4,00 dB	0,16 dB
minimum	-4,00 dB	n. i.	--	0,16 dB
source level -40 dBm				
100kHz -3.6GHz maximum	--	n. i.	4,00 dB	0,16 dB
minimum	-4,00 dB	n. i.	--	0,16 dB
22.3 TG - Dynamic Range				
at 128 MHz				
reference level	-1,00 dBm	n. i.	1,00 dBm	0,20 dB
isolation	--	n. i.	-100 dBc	2 dB
22.4 TG - IQ-Modulator				
modulation +90°				
signal 1001 MHz	-5,0 dBm	n. i.	3,0 dBm	0,5 dB
residual carrier 1000 MHz	--	n. i.	-27,0 dBc	0,5 dB
spur. sideband 999 MHz	--	n. i.	-27,0 dBc	0,5 dB
modulation -90°				
signal 999 MHz	-5,0 dBm	n. i.	3,0 dBm	0,5 dB
residual carrier 1000 MHz	--	n. i.	-27,0 dBc	0,5 dB
spur. sideband 1001 MHz	--	n. i.	-27,0 dBc	0,5 dB
modulation off				
residual carrier 1000 MHz	--	n. i.	-27,0 dBm	0,5 dB


Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 37 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeasFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
22.5 Amplitude Modulation				
carrier level 1000 MHz	-5,0 dBm	n. i.	3,0 dBm	0,5 dB
upper sideband 1001 MHz	-8,0 dBc	n. i.	-4,0 dBc	0,5 dB
lower sideband 999 MHz	-8,0 dBc	n. i.	-4,0 dBc	0,5 dB
22.6 Frequency Modulation				
carrier level 1000 MHz	-5,0 dBm	n. i.	1,0 dBm	0,5 dB
upper sideband 1000.1 MHz	-6,0 dBc	n. i.	-3,0 dBc	0,5 dB
lower sideband 999.9 MHz	-6,0 dBc	n. i.	-3,0 dBc	0,5 dB
23 Click Rate Analyzer Windows application software (acc. table 17)				
23.1 Test 1 (acc. to CISPR16-1-1 (2010) table 17)				
stimulus: 0,11 ms / 1 dB				
Freq: Result:				
150 kHz 1 click	--	² pass	--	{c}
500 kHz 1 click	--	² pass	--	{c}
1.4 MHz 1 click	--	² pass	--	{c}
30 MHz 1 click	--	² pass	--	{c}
23.2 Test 2				
stimulus: 9,5 ms / 1 dB				
Freq: Result:				
150 kHz 1 click	--	² pass	--	{c}
500 kHz 1 click	--	² pass	--	{c}
1.4 MHz 1 click	--	² pass	--	{c}
30 MHz 1 click	--	² pass	--	{c}
23.3 Test 3				
stimulus: 190 ms / 1 dB				
Freq: Result:				
150 kHz 1 click	--	² pass	--	{c}
500 kHz 1 click	--	² pass	--	{c}
1.4 MHz 1 click	--	² pass	--	{c}
30 MHz 1 click	--	² pass	--	{c}
23.4 Test 4				
stimulus: 1333 ms / 1 dB				
Freq: Result:				
150 kHz other than click	--	² pass	--	{c}
500 kHz other than click	--	² pass	--	{c}
1.4 MHz other than click	--	² pass	--	{c}
30 MHz other than click	--	² pass	--	{c}



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 38 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
23.5 Test 5 stimulus: 210 ms / 1 dB Freq: Result: 150 kHz other than click 500 kHz other than click 1.4 MHz other than click 30 MHz other than click	--	2 pass 2 pass 2 pass 2 pass	--	{c}
23.6 Test 6 stimulus: 2* 30 ms / 5 dB Freq: Result: 150 kHz other than click 500 kHz other than click 1.4 MHz other than click 30 MHz other than click	--	2 pass 2 pass 2 pass 2 pass	--	{c}
23.7 Test 7 stimulus: 2* 30 ms / 5 dB Freq: Result: 150 kHz 1 click 500 kHz 1 click 1.4 MHz 1 click 30 MHz 1 click	--	2 pass 2 pass 2 pass 2 pass	--	{c}
23.8 Test 8 stimulus: 2* 30 ms / 5 dB Freq: Result: 150 kHz 2 click 500 kHz 2 click 1.4 MHz 2 click 30 MHz 2 click	--	2 pass 2 pass 2 pass 2 pass	--	{c}
23.9 Test 9 stimulus: periodicity 10ms / 1 dB Freq: Result: 150 kHz other than click 500 kHz other than click 1.4 MHz other than click 30 MHz other than click	--	2 pass 2 pass 2 pass 2 pass	--	{c}
23.10 Test 10 stimulus: 30ms/-2,5 dB 30ms/25dB Freq: Result: 150 kHz 1 click 500 kHz 1 click 1.4 MHz 1 click 30 MHz 1 click	--	2 pass 2 pass 2 pass 2 pass	--	{c}


Object EMI Test Receiver

Type ESU26

Date 2021-07-22

Page 39 of 41

Serial No. 100409

Material No. 1302.6005K26

Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
23.11 Test 11 stimulus: 190ms/25dB 30ms/-2,5dB Freq: Result: 150 kHz 2 click 500 kHz 2 click 1.4 MHz 2 click 30 MHz 2 click	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
23.12 Test 12 stimulus: 190ms/25dB 30ms/-2,5dB Freq: Result: 150 kHz 1 click 500 kHz 1 click 1.4 MHz 1 click 30 MHz 1 click	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
24 Click Rate Analyzer Windows application software (acc. table F1)				
24.1 Test 1 (acc. to CISPR16-1-1 (2010) table F1) stimulus: 0,11 ms / 1 dB Freq: Result: 150 kHz 1 click <= 10 ms 500 kHz 1 click <= 10 ms 1.4 MHz 1 click <= 10 ms 30 MHz 1 click <= 10 ms	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
24.2 Test 2 (F1) stimulus: 9,5 ms / 1 dB Freq: Result: 150 kHz 1 click <= 10 ms 500 kHz 1 click <= 10 ms 1.4 MHz 1 click <= 10 ms 30 MHz 1 click <= 10 ms	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
24.3 Test 3 (F1) stimulus: 10,5 ms / 1 dB Freq: Result: 150 kHz 1 click >10ms. <= 20 ms 500 kHz 1 click >10ms. <= 20 ms 1.4 MHz 1 click >10ms. <= 20 ms 30 MHz 1 click >10ms. <= 20 ms	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
24.4 Test 4 (F1) stimulus: 19 ms / 1 dB Freq: Result: 150 kHz 1 click >10ms. <= 20 ms 500 kHz 1 click >10ms. <= 20 ms 1.4 MHz 1 click >10ms. <= 20 ms 30 MHz 1 click >10ms. <= 20 ms	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 40 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
24.5 Test 5 (F1) stimulus: 21 ms / 1 dB Freq: Result: 150 kHz 1 click > 20 ms 500 kHz 1 click > 20 ms 1.4 MHz 1 click > 20 ms 30 MHz 1 click > 20 ms	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
24.6 Test 6 (F1) stimulus: 190 ms / 1 dB Freq: Result: 150 kHz 1 click > 20 ms 500 kHz 1 click > 20 ms 1.4 MHz 1 click > 20 ms 30 MHz 1 click > 20 ms	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
24.7 Test 7 (F1) stimulus: 2* 210 ms / 5 dB Freq: Result: 150 kHz 1 click <= 600 ms 500 kHz 1 click <= 600 ms 1.4 MHz 1 click <= 600 ms 30 MHz 1 click <= 600 ms	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
24.8 Test 8 (F1) stimulus: 2* 220 ms / 5 dB Freq: Result: 150 kHz cont. disturbance 500 kHz cont. disturbance 1.4 MHz cont. disturbance 30 MHz cont. disturbance	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
24.9 Test 9 (F1) stimulus: 2* 190 ms / 5 dB Freq: Result: 150 kHz 1 click <= 600 ms 500 kHz 1 click <= 600 ms 1.4 MHz 1 click <= 600 ms 30 MHz 1 click <= 600 ms	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
24.10 Test 10 (F1) stimulus: 2* 50 ms / 5 dB Freq: Result: 150 kHz 1 click <= 600 ms 500 kHz 1 click <= 600 ms 1.4 MHz 1 click <= 600 ms 30 MHz 1 click <= 600 ms	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}
	--	2 pass	--	{c}



Object EMI Test Receiver
Type ESU26
Date 2021-07-22
Page 41 of 41

Serial No. 100409
Material No. 1302.6005K26
Calibration Mark 606107-D-K-15195-01-00-2021-07

EXE-Vers: 3.1.13.0/MeaFse1.13/2021-07-09 16:28 INI-Vers: V1-22/730602/2021-05-05 V1-04/EU11/End/2005-01

V1-07/Temp/End/2015-04

Test Description	Lower Limit	Result Measured	Upper Limit	Uncertainty
24.11 Test 11 (F1) stimulus: 15ms/20dB 9* 5ms/20dB Freq: Result: 150 kHz 36 clicks + 4 clicks 500 kHz 36 clicks + 4 clicks 1.4 MHz 36 clicks + 4 clicks 30 MHz 36 clicks + 4 clicks	-- -- -- --	² pass ² pass ² pass ² pass	-- -- -- --	{c} {c} {c} {c}
24.12 Test 12 (F1) stimulus: 15ms/20dB 9* 5ms/20dB Freq: Result: 150 kHz 35 clicks + 5 clicks 500 kHz 35 clicks + 5 clicks 1.4 MHz 35 clicks + 5 clicks 30 MHz 35 clicks + 5 clicks	-- -- -- --	² pass ² pass ² pass ² pass	-- -- -- --	{c} {c} {c} {c}