

TEST REPORT

of

FCC Part 15 Subpart C §15.225
RSS-210 Issue 11 and RSS-Gen Issue 5

FCC ID: NYOMBECNEE2606
IC Certification: 3109A-MBECNEE2606

Equipment Under Test : UNIT ASSY-WIRELESS CHARGING
Model Name : MBECNEE2606
Variant Model Name(s) : -
Applicant : MOBASE ELECTRONICS CO., LTD.
Manufacturer : MOBASE ELECTRONICS CO., LTD.
Date of Receipt : 2025.11.03
Date of Test(s) : 2026.01.30 ~ 2026.06.04
Date of Issue : 2026.06.05

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

- 1) The results of this test report are effective only to the items tested.
- 2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.
- 3) This test report cannot be reproduced, except in full, without prior written permission of the Company.
- 4) The data marked ※ in this report was provided by the customer and may affect the validity of the test results.
We are responsible for all the information of this test report except for the data(※) provided by the customer.

Tested by:



Jangwon Lee

Technical
Manager:



Jinhyoung Cho

SGS Korea Co., Ltd. Gunpo Laboratory

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>.

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1.2. Details of Applicant

Applicant : MOBASE ELECTRONICS CO., LTD.

Address : 100, Saneop-ro 156beon-gil, Gwonseon-gu, Suwon-si, Gyeonggi-do,
 South Korea, 16648

Contact Person : Ryu, Hee-tack

Phone No. : +82 31 8090 2611

1.3. Details of manufacturer

Company : Same as applicant

Address : Same as applicant

1.4. Description of EUT

Kind of Product	UNIT ASSY-WIRELESS CHARGING
Model Name	MBECNEE2606
Serial Number	001
Power Supply	DC 12.0 V
Frequency Range	13.56 MHz (NFC)
Modulation Technique	ASK
Number of Channels	1 channel
Antenna Type	PCB Pattern antenna
H/W Version	1.0
S/W Version	1.0
FVIN	N/A

1.5. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Signal Generator	R&S	SMBV100A	259067	06/24/2025	Annual	06/24/2026
DC Power Supply	Agilent	U8002A	MY50060028	09/18/2025	Annual	09/18/2026
Spectrum Analyzer	R&S	FSV30	103455	02/02/2026	Annual	02/02/2027
Loop Antenna	Schwarzbeck Mess-Elektronik	HFRAE 5161	5161-028	11/14/2025	Annual	11/14/2026
Amplifier	H.P.	8447F	2944A03909	08/07/2025	Annual	08/07/2026
Loop Antenna	Schwarzbeck Mess-Elektronik	FMZB 1519	1519-039	10/01/2025	Biennial	10/01/2027
Bilog Antenna ¹⁾	Schwarzbeck Mess-Elektronik	VULB 9163	01126	03/05/2025	Biennial	03/05/2027
				03/09/2026		03/09/2028
EMI Test Receiver	R&S	ESU26	100109	01/21/2026	Annual	01/21/2027
Turn Table	Innco systems GmbH	DS 1200 S	N/A	N.C.R.	N/A	N.C.R.
Controller	Innco systems GmbH	CONTROLLER CO3000-4P	CO3000/963/3 8330516/L	N.C.R.	N/A	N.C.R.
Antenna Mast	Innco systems GmbH	MA4640-XP-ET	MA4640/536/3 8330516/L	N.C.R.	N/A	N.C.R.
Anechoic Chamber	SY Corporation	L × W × H (9.6 m × 6.4 m × 6.6 m)	N/A	N.C.R.	N/A	N.C.R.
Coaxial Cable ²⁾	SENSORVIEW	NMST-13A26-NMST-5 m	TPC24021900 04	10/13/2025	Semi-annual	04/13/2026
				04/17/2026		10/17/2026
Coaxial Cable ³⁾	SENSORVIEW	NMST-13A26-NMST-10 m	TPC24021900 01	10/13/2025	Semi-annual	04/13/2026
				04/17/2026		10/17/2026
Coaxial Cable ⁴⁾	RADIAL	TESTPRO 3	182287	10/10/2025	Semi-annual	04/10/2026
				04/10/2026		10/10/2026

Note;

- 1) The equipment was not used for testing during the period from [02/28/2026] to [03/16/2026].
- 2) The equipment was not used for testing during the period from [04/13/2026] to [04/20/2026].
- 3) The equipment was not used for testing during the period from [04/13/2026] to [04/20/2026].
- 4) The equipment was not used for testing during the period from [04/08/2026] to [04/14/2026].

1.6. Summary of Test Results

The EUT has been tested according to the following specifications:

Applied standard : FCC Part15 subpart C, IC RSS-210 Issue 11, RSS-Gen Issue 5			
Section in FCC	Section in IC	Test item(s)	Result
15.225(a)(b)(c)(d) 15.209	RSS-210 Issue 11 B.6 RSS-Gen Issue 5 8.9	Radiated Emission, Spurious Emission and Field Strength of Fundamental	Pass
15.225(e)	RSS-210 Issue 11 B.6 RSS-Gen Issue 5 6.11	Frequency Stability	Pass
15.215(c)	RSS-Gen Issue 5 6.7	20 dB Bandwidth & 99 % Bandwidth	Pass
15.207	RSS-Gen Issue 5 8.8	AC Power Line Conducted Emissions	N/A ¹⁾

Note;

1) The AC power line test was not performed because the EUT use battery power for operation and which do not operate from the AC power lines.

1.7. Sample calculation

Where relevant, the following sample calculation is provided:

1.7.1. Radiation test

Field strength level (dB μ V/m) = Measured level (dB μ V) + Antenna factor (dB/m) + Cable loss (dB) - Amplifier gain(dB)

1.8. Information of software for test.

Using the software of Internal to testing of EUT.

1.9. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty	
99 % Bandwidth	0.04 kHz	
20 dB Bandwidth	0.04 kHz	
Frequency Stability	0.70 kHz	
Radiated Emission, 9 kHz to 30 MHz	H	3.60 dB
	V	3.60 dB
Radiated Emission, below 1 GHz	H	5.50 dB
	V	5.10 dB

All measurement uncertainty values are shown with a coverage factor $k = 2$ to indicate a 95 % level of confidence.

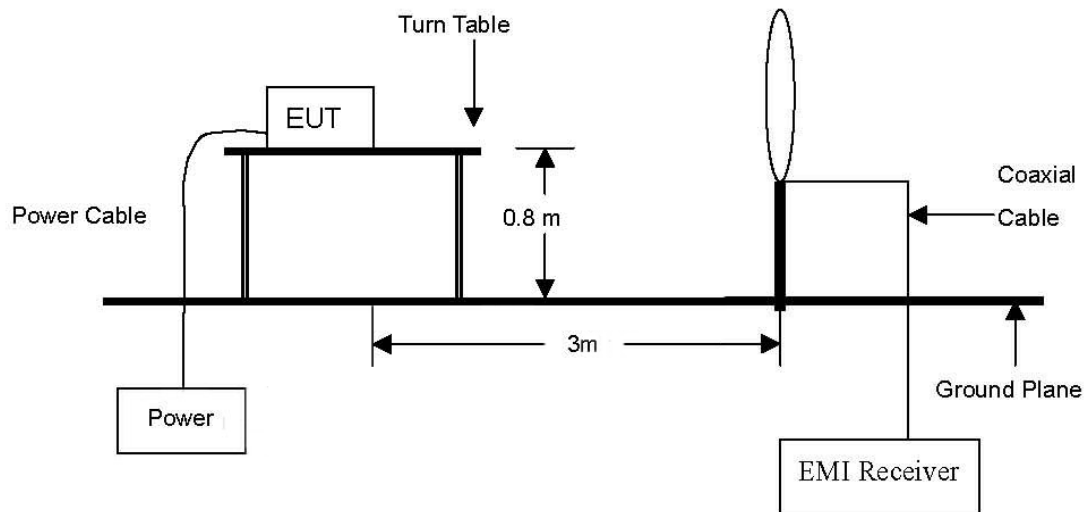
1.10. Test report revision

Revision	Report number	Date of Issue	Description
0	F690501-RF-RTL007041	2026.06.05	Initial

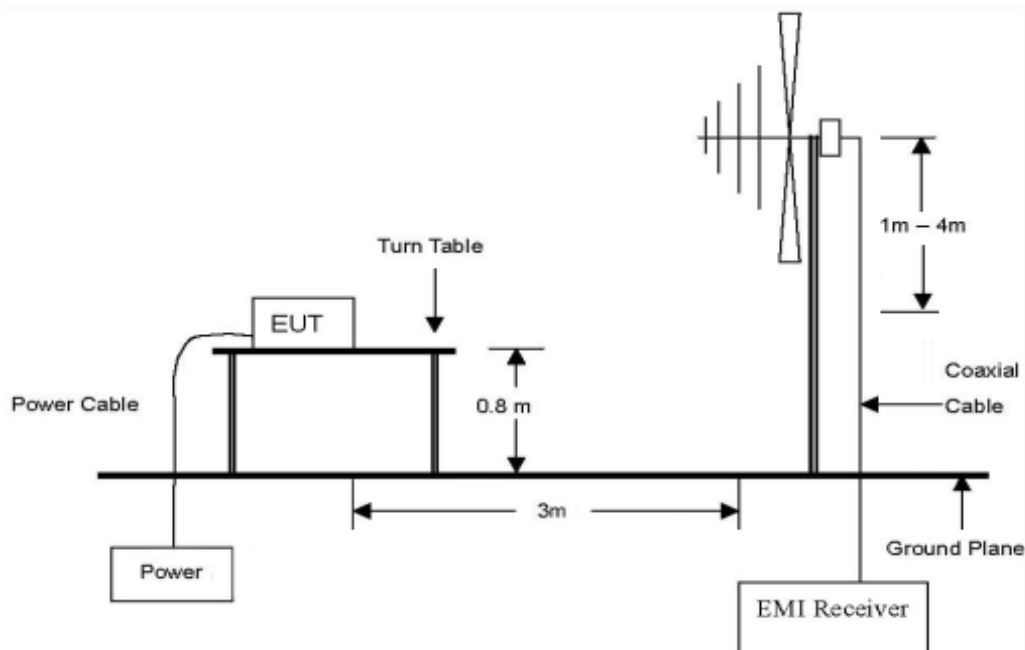
2. Radiated Emissions

2.1. Test Setup

The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 000 MHz Emissions.



2.2. Limit

FCC

According to §15.225,

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15 848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

According to §15.209,

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

IC

According to RSS-210 Issue 11, B.6

The field strength of any emission shall not exceed the following limits:

- (a) 15.848 millivolts/m (84 dB μ V/m) at 30 m, within the band 13.553-13.567 MHz.
- (b) 334 microvolts/m (50.47 dB μ V/m) at 30 m, within the bands 13.410-13.553 MHz and 13.567-13.710 MHz.
- (c) 106 microvolts/m (40.51 dB μ V/m) at 30 m, within the bands 13.110-13.410 MHz and 13.710-14.010 MHz.
- (d) RSS-Gen general field strength limits for frequencies outside the band 13.110-14.010 MHz.

According to RSS-Gen Issue 5, 8.9

Except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table 5 and table 6. Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

Table 5 - General field strength limits at frequencies above 30 MHz

Frequency (MHz)	Field Strength (μ V/m at 3 m)
30-88	100
88-216	150
216-960	200
Above 960	500

Table 6 - General field strength limits at frequencies below 30 MHz

Frequency	Magnetic Field Strength (H-Field) (μ A/m)	Measurement Distance (m)
9-490 kHz ¹	6.37/F (F in kHz)	300
490-1 705 kHz	63.7/F (F in kHz)	30
1.705-30 MHz	0.08	30

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

2.3. Test Procedures

Radiated emissions from the EUT were measured according to the dictates of ANSI C63.10-2020 for FCC and ANSI C63.10-2020+Cor.1-2023+C63.10a-2024 + Errata to C63.10a-2024 for ISSED.

2.3.1. Test Procedures for emission below 30 MHz

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

2.3.2. Test Procedures for emission from 30 MHz to 1 000 MHz

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- For measurements below 1 GHz resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

2.3.3. Test Procedures for emission above 1 GHz

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1 GHz.

2.4. Test Result

Ambient temperature : (23 ± 1) °C
Relative humidity : 47 %

The following table shows the highest levels of radiated emissions.

Ant.1

- Fundamental within the band 13.553 MHz - 13.567 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dB μ V/m) at 3 m	Actual (dB μ V/m) at 30 m	Limit (dB μ V/m) at 30 m	Margin (dB)
13.561	55.73	Peak	H	18.77	0.56	75.06	35.06	84.00	48.94

- Spurious emission within the bands 13.410 MHz - 13.553 MHz and 13.567 MHz - 13.710 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dB μ V/m) at 3 m	Actual (dB μ V/m) at 30 m	Limit (dB μ V/m) at 30 m	Margin (dB)
13.553	49.33	Peak	H	18.77	0.56	68.66	28.66	50.47	21.81
13.567	52.48	Peak	H	18.77	0.56	71.81	31.81	50.47	18.66

- Spurious emission within the bands 13.110 MHz - 13.410 MHz and 13.710 MHz - 14.010 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dB μ V/m) at 3 m	Actual (dB μ V/m) at 30 m	Limit (dB μ V/m) at 30 m	Margin (dB)
13.350	43.36	Peak	H	18.77	0.56	62.69	22.69	40.51	17.82
*13.408	37.60	Peak	H	18.77	0.56	56.93	16.93	29.54	12.61
13.770	34.94	Peak	H	18.78	0.57	54.29	14.29	40.51	26.22

- Spurious emission within the bands 9 MHz - 13.110 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dB μ V/m) at 3 m	Actual (dB μ V/m) at 30 or 300 m	Limit (dB μ V/m) at 30 or 300 m	Margin (dB)
0.034	38.94	Peak	H	18.29	0.03	57.26	-22.74	36.97	59.71
0.169	21.81	Peak	H	18.07	0.07	39.95	-40.05	23.05	63.10
*12.292	10.72	Peak	H	18.75	0.55	30.02	-9.98	29.54	39.52

- Spurious emission within the bands 14.010 MHz - 30 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dB μ V/m) at 3 m	Actual (dB μ V/m) at 30 m	Limit (dB μ V/m) at 30 m	Margin (dB)
*16.422	10.10	Peak	H	18.86	0.65	29.61	-10.39	29.54	39.93
*25.640	10.01	Peak	H	19.23	0.78	30.02	-9.98	29.54	39.52
27.122	28.10	Peak	H	19.28	0.82	48.20	8.20	29.54	21.34
Above 28.000	Not detected	-	-	-	-	-	-	-	-

Ant.2

- Fundamental within the band 13.553 MHz - 13.567 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dB μ V/m) at 3 m	Actual (dB μ V/m) at 30 m	Limit (dB μ V/m) at 30 m	Margin (dB)
13.561	57.60	Peak	H	18.77	0.56	76.93	36.93	84.00	47.07

- Spurious emission within the bands 13.410 MHz - 13.553 MHz and 13.567 MHz - 13.710 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dB μ V/m) at 3 m	Actual (dB μ V/m) at 30 m	Limit (dB μ V/m) at 30 m	Margin (dB)
13.553	51.17	Peak	H	18.77	0.56	70.50	30.50	50.47	19.97
13.567	53.03	Peak	H	18.77	0.56	72.36	32.36	50.47	18.11

- Spurious emission within the bands 13.110 MHz - 13.410 MHz and 13.710 MHz - 14.010 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dBμV/m) at 3 m	Actual (dBμV/m) at 30 m	Limit (dBμV/m) at 30 m	Margin (dB)
13.350	44.65	Peak	H	18.77	0.56	63.98	23.98	40.51	16.53
*13.409	39.48	Peak	H	18.77	0.56	58.81	18.81	29.54	10.73
13.772	36.99	Peak	H	18.78	0.57	56.34	16.34	40.51	24.17

- Spurious emission within the bands 9 kHz - 13.110 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dBμV/m) at 3 m	Actual (dBμV/m) at 30 or 300 m	Limit (dBμV/m) at 30 or 300 m	Margin (dB)
0.034	39.10	Peak	H	18.29	0.03	57.42	-22.58	36.97	59.55
0.176	22.37	Peak	H	18.06	0.07	40.50	-39.50	22.69	62.19
*12.292	10.59	Peak	H	18.75	0.55	29.89	-10.11	29.54	39.65

- Spurious emission within the bands 14.010 MHz - 30 MHz

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	Cable loss (dB)	Actual (dBμV/m) at 3 m	Actual (dBμV/m) at 30 m	Limit (dBμV/m) at 30 m	Margin (dB)
*16.423	12.09	Peak	H	18.86	0.65	31.60	-8.40	29.54	37.94
*25.561	10.22	Peak	H	19.22	0.78	30.22	-9.78	29.54	39.32
27.122	26.96	Peak	H	19.28	0.82	47.06	7.06	29.54	22.48
Above 28.000	Not detected	-	-	-	-	-	-	-	-

Remark;

1. Fundamental limit ($\mu V/m$) = $20 \log(15\ 848) = 84.00$ dBμV/m.
2. 30 m distance compensation = $40 \log(3/30) = -40$ dBμV/m.
3. 300 m distance compensation = $40 \log(3/300) = -80$ dBμV/m.
4. “*” means the restricted band.
5. If the spurious emissions are in the restricted band, the limit complied with §15.209.
6. All data were recorded using a spectrum analyzer employing a peak detector.
If PK results were meet Quasi-peak limit, Quasi-peak measurements were omitted.
7. Radiated spurious emission measurement as below 30 MHz.
(Actual (dBμA/m) at 3m = Reading (dBμV) + AF (dB/m) + CL (dB))

- Spurious emission above 30 MHz

Ant.1

Radiated Emissions			Ant.	Correction (dB/m)	Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.		Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
40.62	37.83	Quasi Peak	V	-8.31	29.52	40.00	10.48
54.14	44.97	Quasi Peak	V	-7.46	37.51	40.00	2.49
135.57	43.30	Quasi Peak	H	-11.81	31.49	43.50	12.01
379.69	36.08	Quasi Peak	H	-3.82	32.26	46.00	13.74
Above 400.00	Not detected	-	-	-	-	-	-

Ant.2

Radiated Emissions			Ant.	Correction (dB/m)	Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.		Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
40.62	37.53	Quasi Peak	V	-8.31	29.22	40.00	10.78
54.14	34.33	Quasi Peak	V	-7.46	26.87	40.00	13.13
135.57	45.96	Quasi Peak	H	-11.81	34.15	43.50	9.35
230.47	34.97	Quasi Peak	H	-7.20/	27.77	46.00	18.23
Above 300.00	Not detected	-	-	-	-	-	-

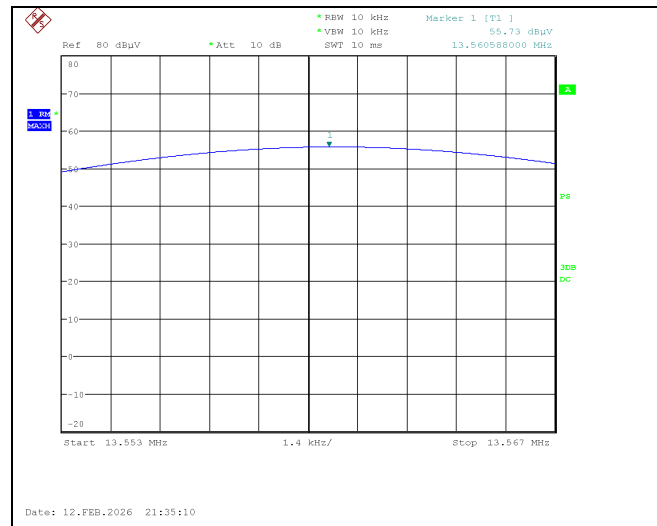
Remark;

1. Radiated spurious emission measurement as below.
(Actual (dB μ A/m) = Reading (dB μ V) + Correction)
(Correction = Antenna Factor (dB/m) + AMP Factor (dB) + Cable Loss (dB))
2. According to §15.31(o), emission levels are not report much lower than the limits by over 20 dB.
3. Test from 30 MHz to 1 000 MHz was performed using the software of ELEKTRA(V5.02.1) from Rohde & Schwarz GmbH & Co. KG.

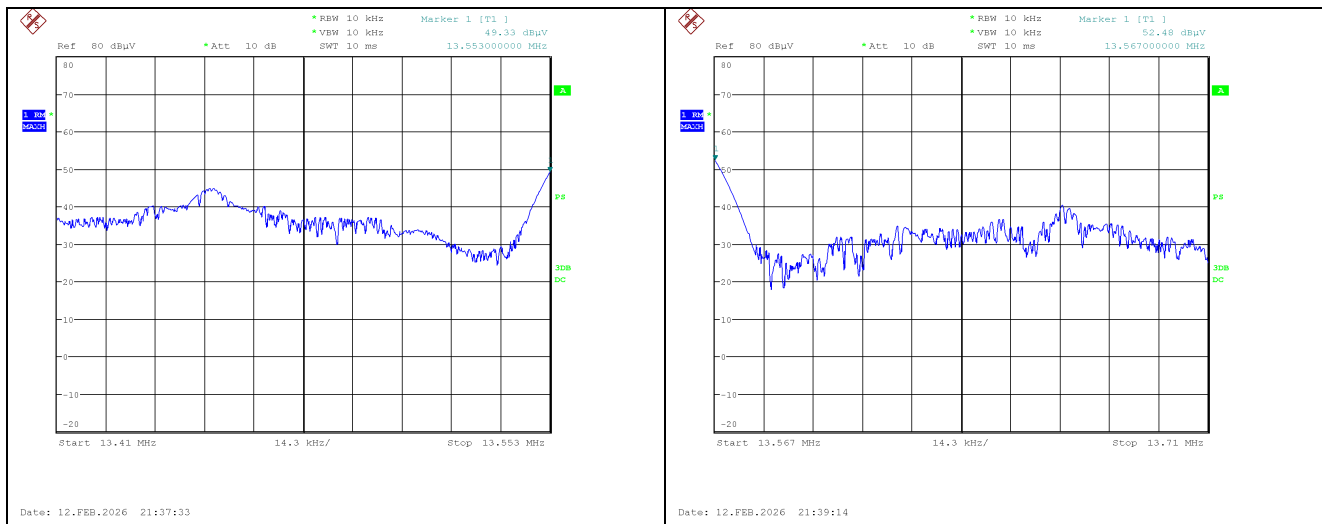
Test plots

Ant.1

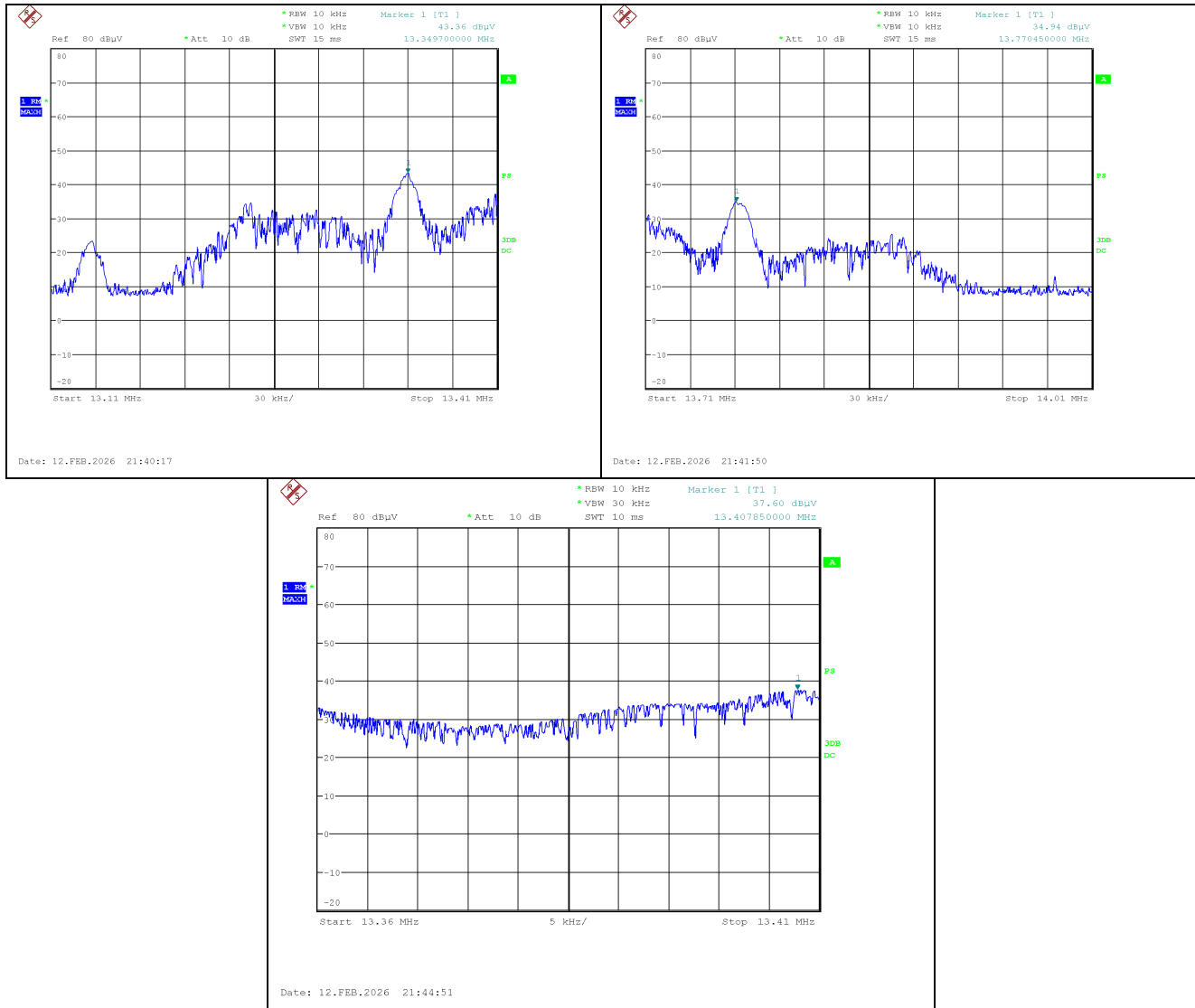
- Fundamental within the band 13.553 MHz - 13.567 MHz



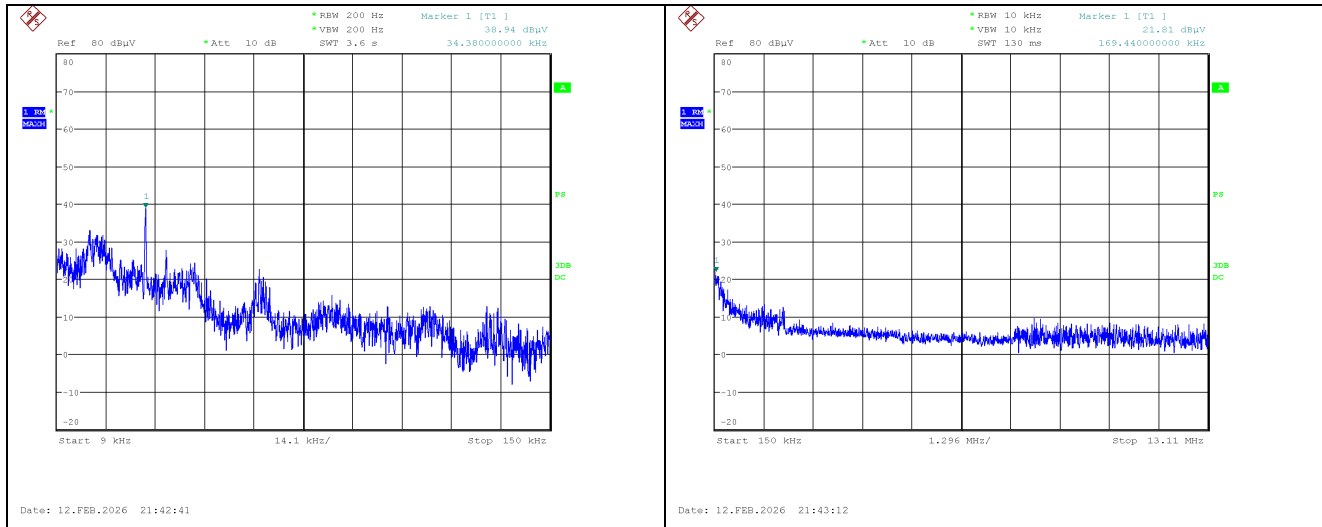
- Spurious emission within the bands 13.410 MHz - 13.553 MHz and 13.567 MHz - 13.710 MHz



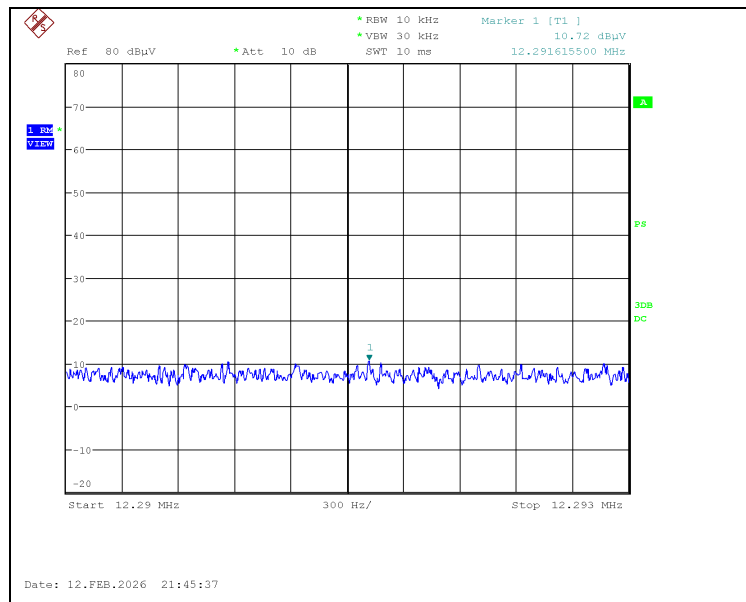
- Spurious emission within the bands 13.110 MHz - 13.410 MHz and 13.710 MHz - 14.010 MHz



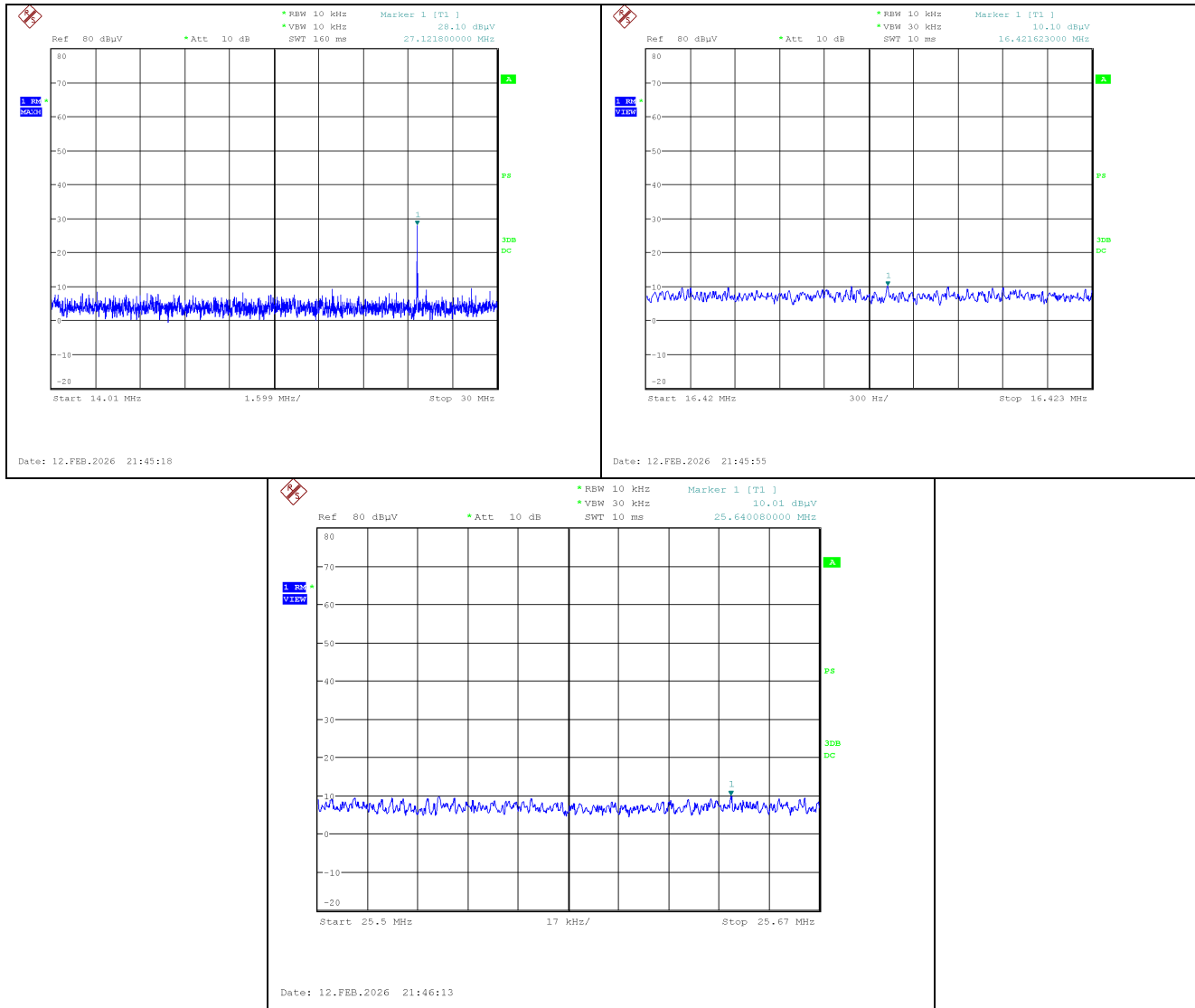
- Spurious emission within the bands 9 MHz – 13.110 MHz



- Spurious emission within the bands 12.290 MHz – 12.293 MHz

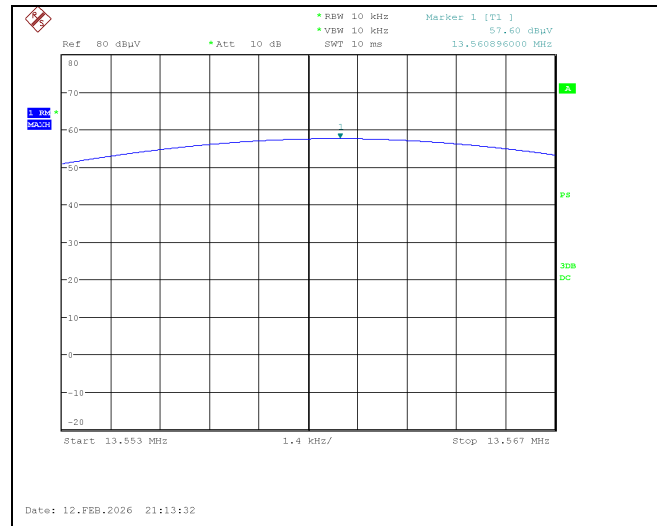


- Spurious emission within the bands 14.010 MHz – 30 MHz

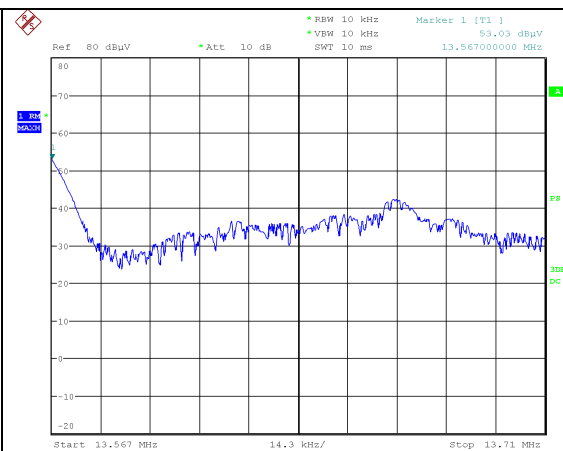
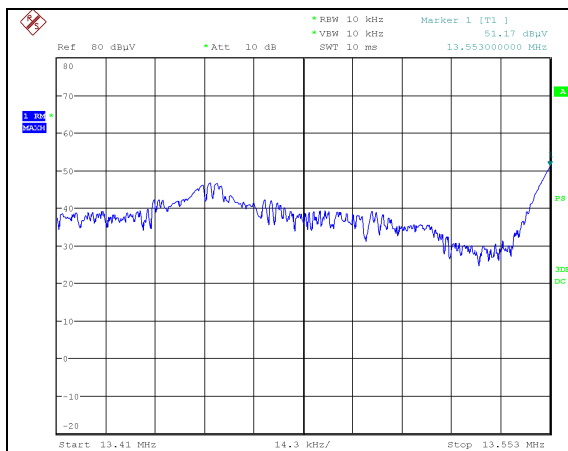


Ant.2

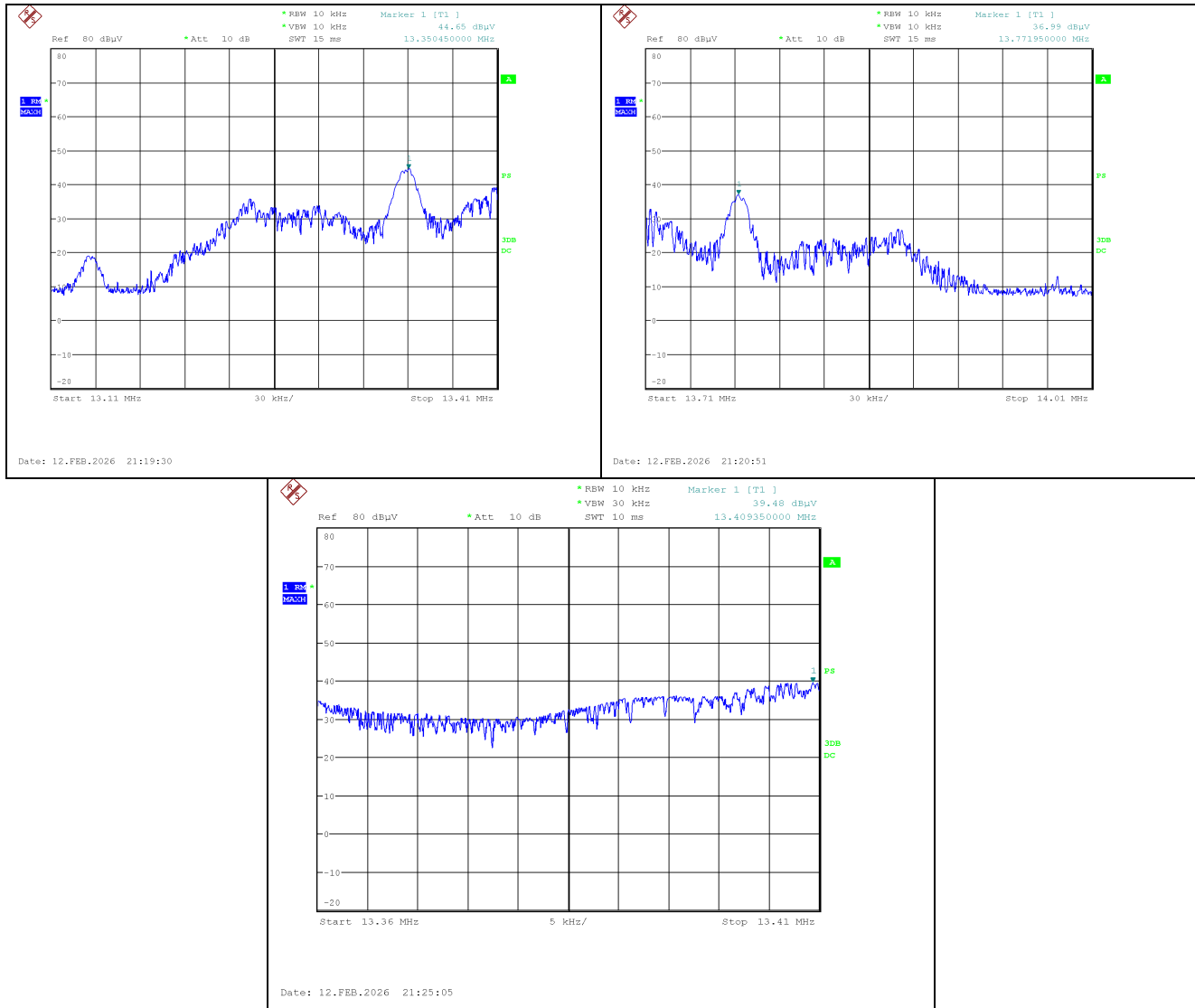
- Fundamental within the band 13.553 MHz - 13.567 MHz



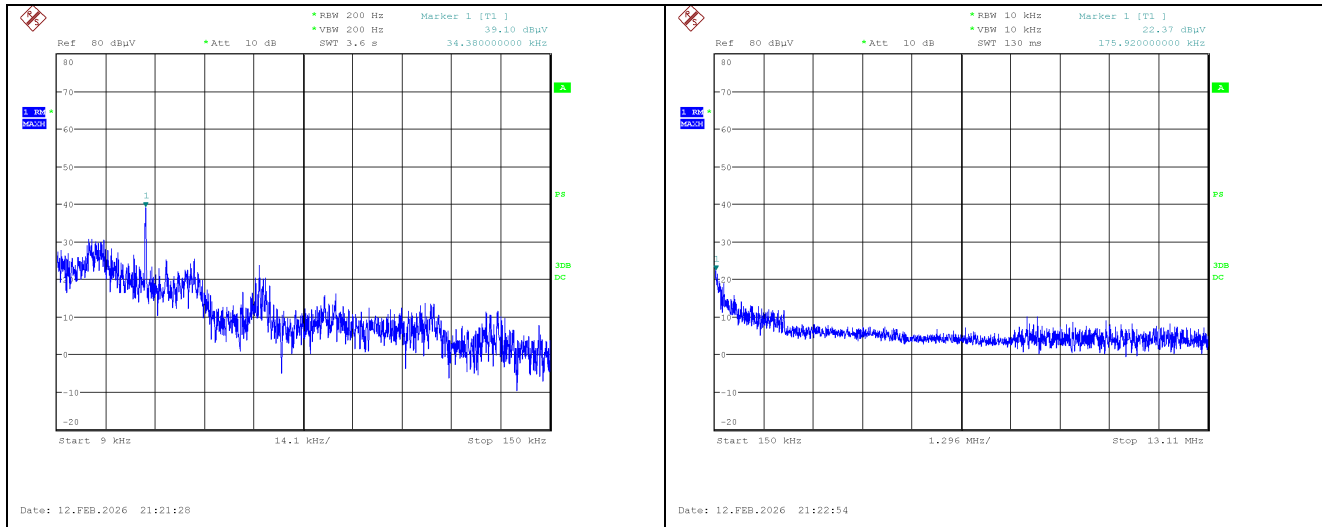
- Spurious emission within the bands 13.410 MHz - 13.553 MHz and 13.567 MHz - 13.710 MHz



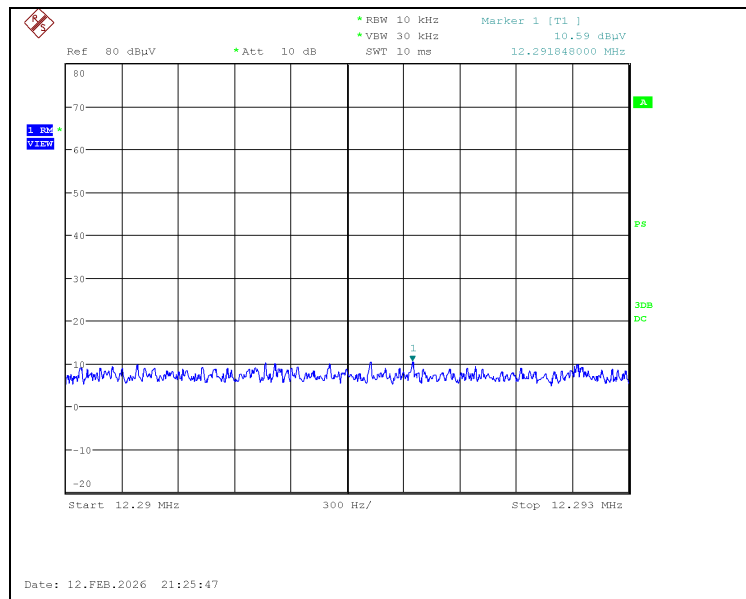
- Spurious emission within the bands 13.110 MHz - 13.410 MHz and 13.710 MHz - 14.010 MHz



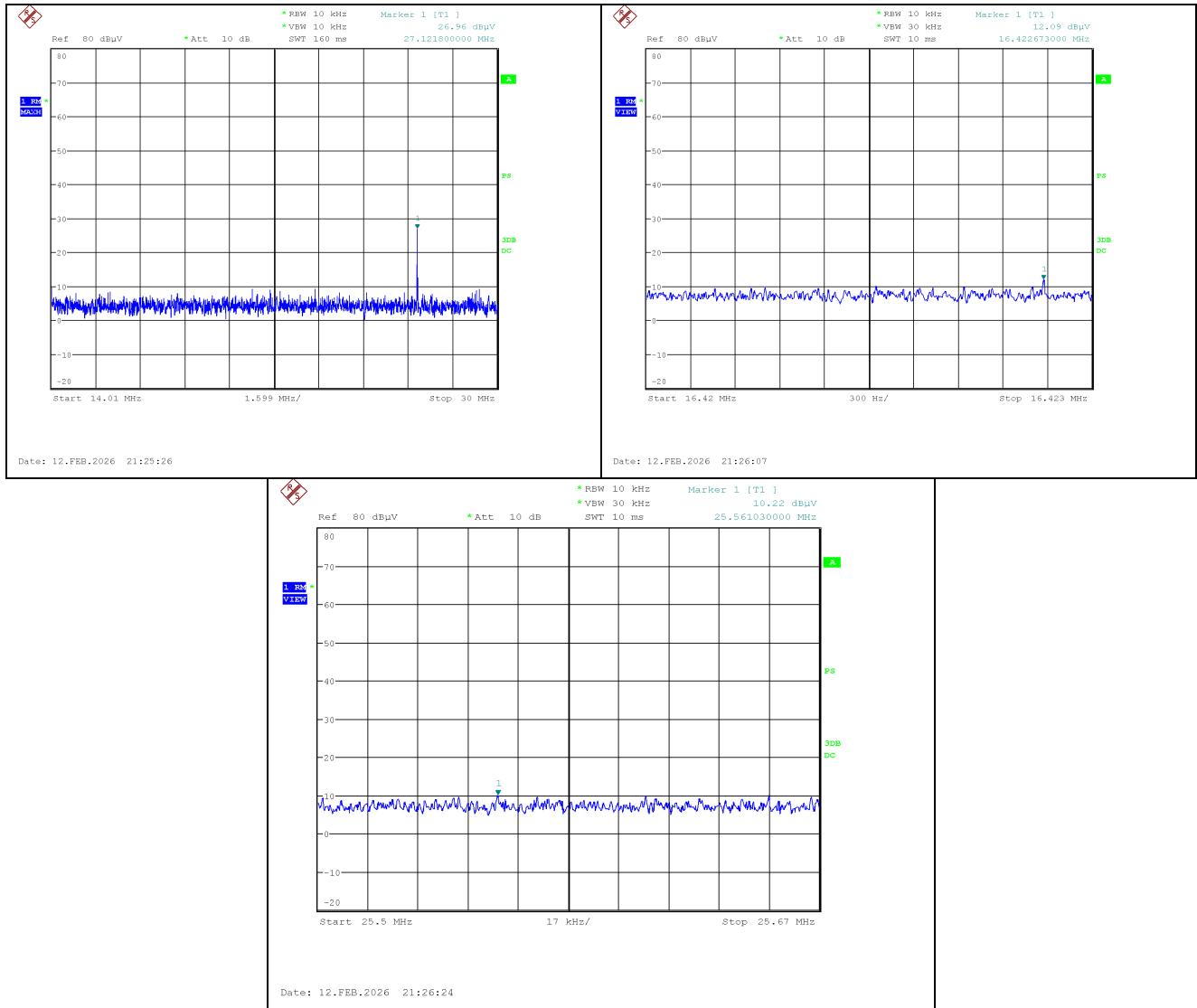
- Spurious emission within the bands 9 MHz – 13.110 MHz



- Spurious emission within the bands 12.290 MHz – 12.293 MHz

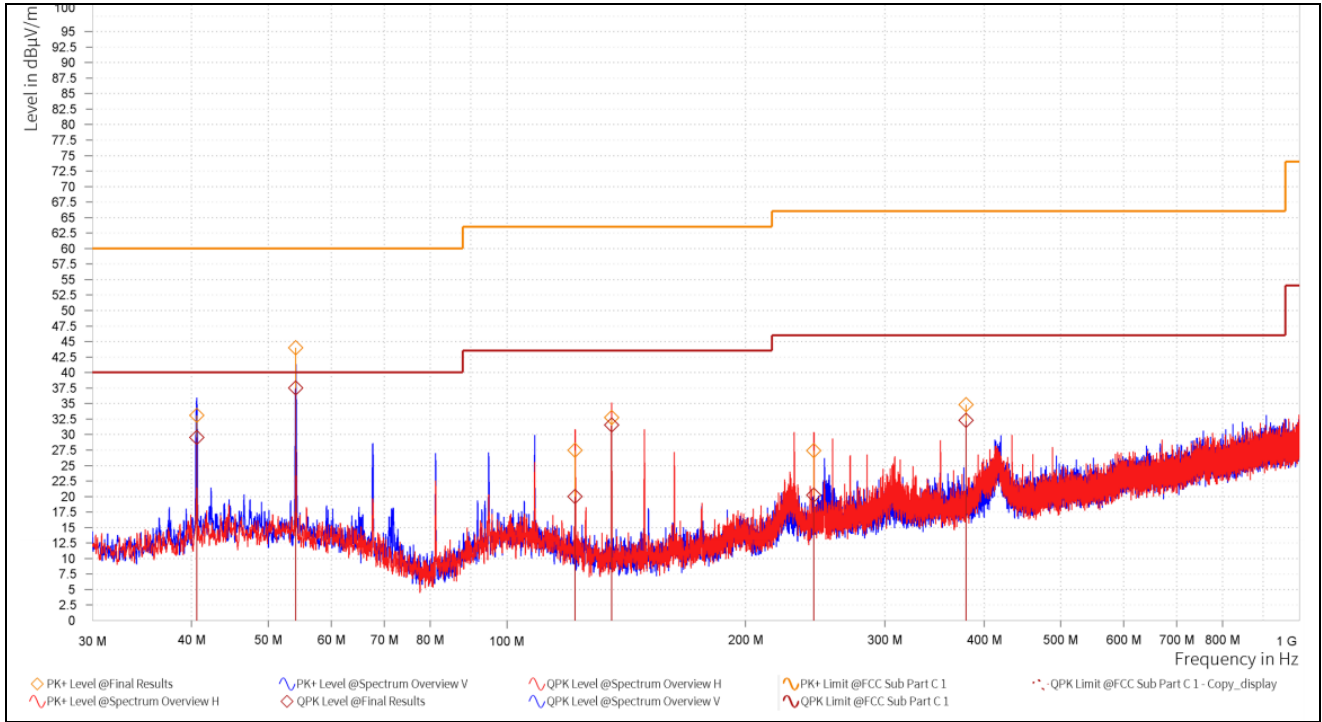


- Spurious emission within the bands 14.010 MHz – 30 MHz

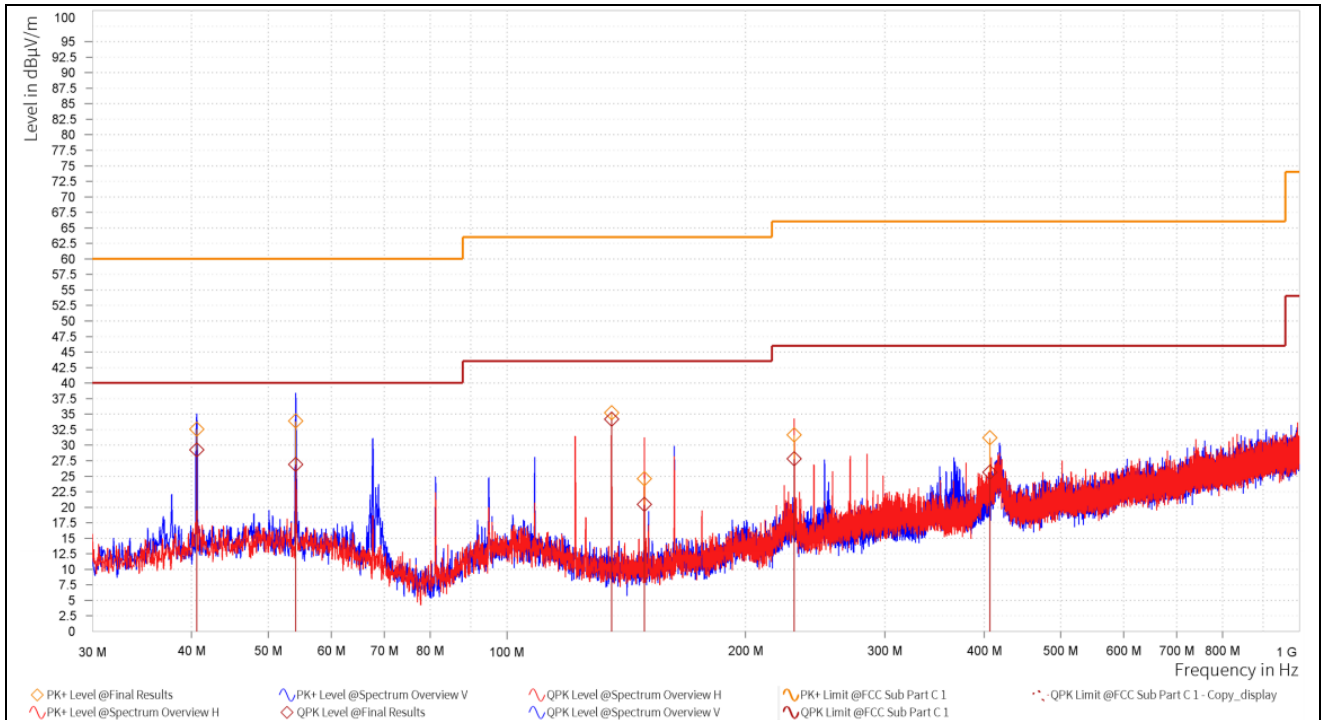


- Spurious emission above 30 MHz

Ant.1

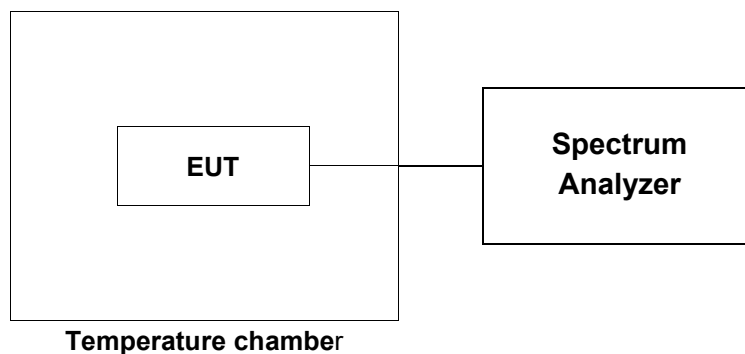


Ant.2



4. Frequency Stability

4.1. Test Setup



4.2. Limit

FCC

According to §15.225(e), the frequency tolerance of the carrier signal shall be maintained within ± 0.01 % of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85 % to 115 % of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

IC

According to RSS-210 Issue 11, Annex B, Section B.6
The carrier frequency stability shall not exceed ± 100 ppm.

4.3. Test Procedures

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the environment into appropriate environment.
4. Set the spectrum analyzer as RBW = 100 Hz, VBW = 100 Hz, Span = 10 kHz, Sweep time = auto.
5. Mark the peak frequency and measure the frequency tolerance using frequency counter function.
6. Repeat until all the results are investigated.

4.4. Test Result

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 %

Operating Frequency : 13 560 000 Hz
 Deviation Limit : ± 0.01 % = ± 1 356 Hz

Startup

Ant.1

Temperature Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
12.00	-20	13 560 900	900	0.006 637
	-10	13 560 700	700	0.005 162
	0	13 560 600	600	0.004 425
	+10	13 560 500	500	0.003 687
	+20	13 560 400	400	0.002 950
	+30	13 560 600	600	0.004 425
	+40	13 560 400	400	0.002 950
	+50	13 560 500	500	0.003 687

Voltage Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
115 % (13.80)	+20	13 560 800	800	0.005 900
85 % (10.20)	+20	13 560 600	600	0.004 425

2 minutes

Temperature Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
12.00	-20	13 560 800	800	0.005 900
	-10	13 560 900	900	0.006 637
	0	13 560 200	200	0.001 475
	+10	13 560 600	600	0.004 425
	+20	13 560 700	700	0.005 162
	+30	13 560 400	400	0.002 950
	+40	13 560 400	400	0.002 950
	+50	13 560 500	500	0.003 687

Voltage Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
115 % (13.80)	+20	13 560 400	400	0.002 950
85 % (10.20)	+20	13 560 600	600	0.004 425

5 minutes

Temperature Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
12.00	-20	13 560 800	800	0.005 900
	-10	13 560 400	400	0.002 950
	0	13 560 300	300	0.002 212
	+10	13 560 200	200	0.001 475
	+20	13 560 400	400	0.002 950
	+30	13 560 500	500	0.003 687
	+40	13 560 400	400	0.002 950
	+50	13 560 700	700	0.005 162

Voltage Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
115 % (13.80)	+20	13 560 800	800	0.005 900
85 % (10.20)	+20	13 560 600	600	0.004 425

10 minutes

Temperature Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
12.00	-20	13 560 600	600	0.004 425
	-10	13 560 500	500	0.003 687
	0	13 560 400	400	0.002 950
	+10	13 560 600	600	0.004 425
	+20	13 560 700	700	0.005 162
	+30	13 560 700	700	0.005 162
	+40	13 560 600	600	0.004 425
	+50	13 560 800	800	0.005 900

Voltage Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
115 % (13.80)	+20	13 560 500	500	0.003 687
85 % (10.20)	+20	13 560 500	500	0.003 687

Ant.2

Temperature Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
12.00	-20	13 560 500	500	0.003 687
	-10	13 560 600	600	0.004 425
	0	13 560 300	300	0.002 212
	+10	13 560 200	200	0.001 475
	+20	13 560 700	700	0.005 162
	+30	13 560 700	700	0.005 162
	+40	13 560 600	600	0.004 425
	+50	13 560 500	500	0.003 687

Voltage Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
115 % (13.80)	+20	13 560 600	600	0.004 425
85 % (10.20)	+20	13 560 600	600	0.004 425

2 minutes

Temperature Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
12.00	-20	13 560 500	500	0.003 687
	-10	13 560 600	600	0.004 425
	0	13 560 300	300	0.002 212
	+10	13 560 200	200	0.001 475
	+20	13 560 300	300	0.002 212
	+30	13 560 700	700	0.005 162
	+40	13 560 500	500	0.003 687
	+50	13 560 400	400	0.002 950

Voltage Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
115 % (13.80)	+20	13 560 500	500	0.003 687
85 % (10.20)	+20	13 560 600	600	0.004 425

5 minutes

Temperature Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
12.00	-20	13 560 600	600	0.004 425
	-10	13 560 600	600	0.004 425
	0	13 560 500	500	0.003 687
	+10	13 560 700	700	0.005 162
	+20	13 560 400	400	0.002 950
	+30	13 560 600	600	0.004 425
	+40	13 560 400	400	0.002 950
	+50	13 560 700	700	0.005 162

Voltage Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
115 % (13.80)	+20	13 560 600	600	0.004 425
85 % (10.20)	+20	13 560 400	400	0.002 950

10 minutes

Temperature Variations

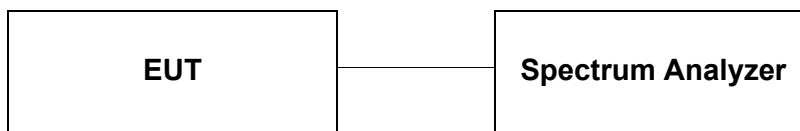
Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
12.00	-20	13 560 800	800	0.005 900
	-10	13 560 300	300	0.002 212
	0	13 560 300	300	0.002 212
	+10	13 560 400	400	0.002 950
	+20	13 560 600	600	0.004 425
	+30	13 560 700	700	0.005 162
	+40	13 560 800	800	0.005 900
	+50	13 560 500	500	0.003 687

Voltage Variations

Power (V _{d.c})	Temperature (°C)	Frequency (Hz)	Freq. Dev. (Hz)	Deviation (%)
115 % (13.80)	+20	13 560 600	600	0.004 425
85 % (10.20)	+20	13 560 500	500	0.003 687

5. 20 dB Bandwidth & 99 % Bandwidth

5.1. Test Setup



5.2. Limit

None; for reporting purposes only.

5.3. Test Procedures

20 dB Bandwidth

1. Span = set to capture all products of the modulation process, including the emission skirts. RBW = 200 Hz, VBW = 3 X RBW Hz, Sweep = auto, Detector = peak, Trace = max hold.
2. The marker-to-peak function to set the mark to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is 20 dB bandwidth of the emission.

99 % Bandwidth

1. Set the spectrum analyzer as Span = set to capture all products of the modulation process, including the emission skirts, RBW = 200 Hz, VBW = 3 X RBW Hz, Detector = Peak, Trace mode = max hold.
2. Measure lowest and highest frequencies are placed in a running sum until 0.5 % and 99.5 % of the total is reached.
3. The difference between the two recorded frequencies is the occupied bandwidth.

5.4. Test Result

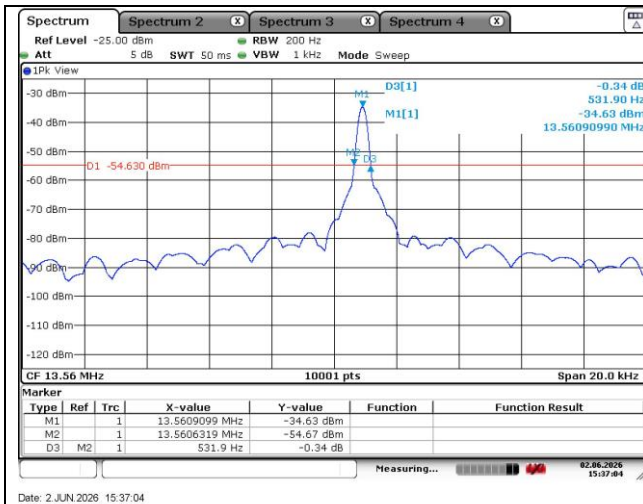
Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 %

Antenna	Frequency (MHz)	20 dB Bandwidth (kHz)	99 % Bandwidth (kHz)
1	13.56	0.532	0.532
2	13.56	0.548	0.528

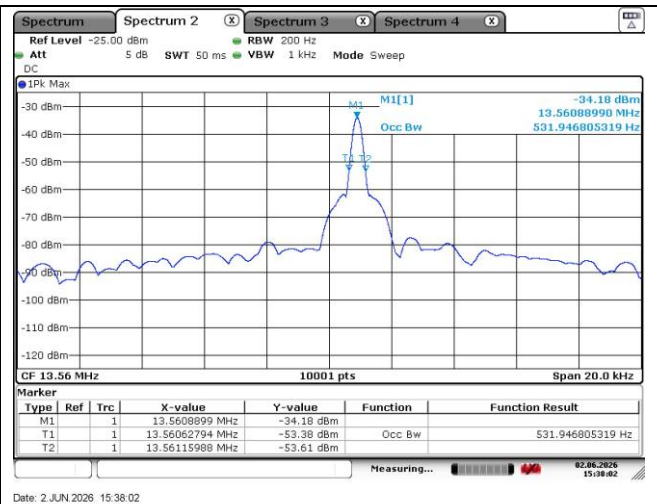
-Test plots

Ant.1

20 dB Bandwidth

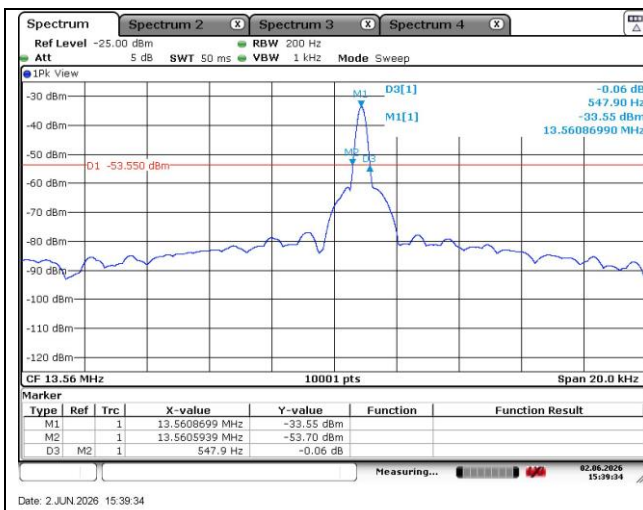


99 % Bandwidth

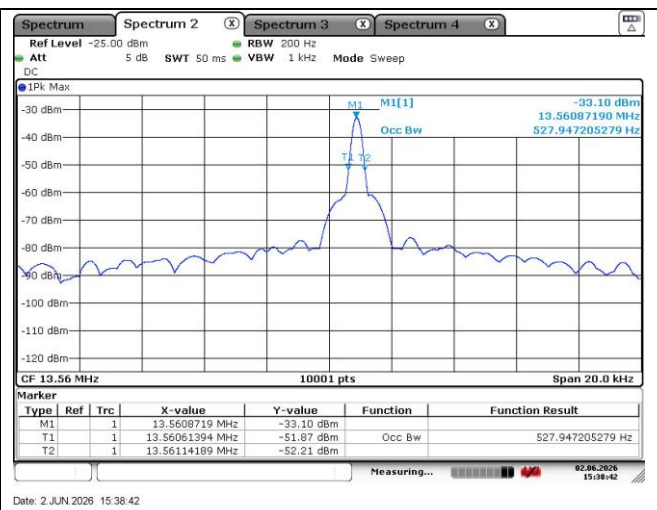


Ant.2

20 dB Bandwidth



99 % Bandwidth



6. Antenna Requirement

6.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

-End of the Test report-