Certificate of Test

NCT CO., LTD. 211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, 18511, Republic of Korea (Tel: +82-31-323-6070 / Fax: +82-31-323-6071)	Report No.: NW2411-F005 Page (1) / (36)	element

1. **Client**
   - ○ Name : Remote Solution Co., Ltd.
   - ○ Address(FCC) : 92, Chogokri, Nammyun, Kimchon City, Kyungbuk, Republic of Korea
   - ○ Address(IC) : 326-14, Apo-daero, Nam-myeon, Gimcheon-si, Gyeongsangbuk-do 39662, Korea (Republic Of)
   - ○ Date of Receipt : 2024-07-16

2. **Use of Report :** FCC/IC Certification

3. **Test Sample**
   - ○ Description / Model Name : Proflame Remote Control Plus / Remote on/off
   - ○ FCC ID : TX4RE40A
   - ○ IC : 11438A-RE40A

4. **Place of Test :** ■ Fixed test □ Field test
   (Address:211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, 18511, Republic of Korea)

5. **Date of Test :** 2024-10-10 ~ 2024-11-01

6. **Test method used :** FCC Part 15 Subpart C 15.247, RSS-247 Issue 3(2023-08)
   RSS-GEN Issue 5 A2(2021-02)

7. **Testing Environment :**
   - ○ Temperature: (25 ± 5) °C, Humidity: Less than 75 % R.H.
   - * Unless specified otherwise in the individual methods, the tests were conducted on ambient conditions.

8. **Test Results :** Refer to the test results

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This Test Report cannot be reproduced, except in full
This test report is not related to KOLAS recognition and RRA designation.

Affirmation	**Tested by** Namhyoung, Kwon (signature)	**Technical Manager** Il-shin, Kim (signature)

Nov 21, 2024

NCT CO., LTD.

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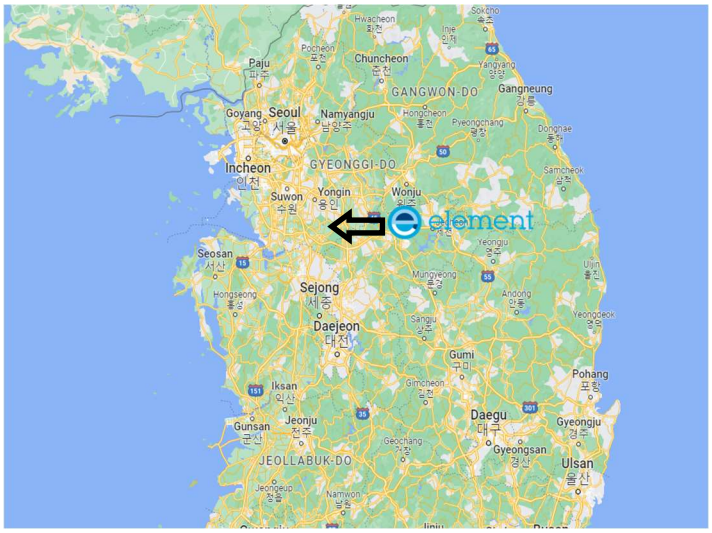
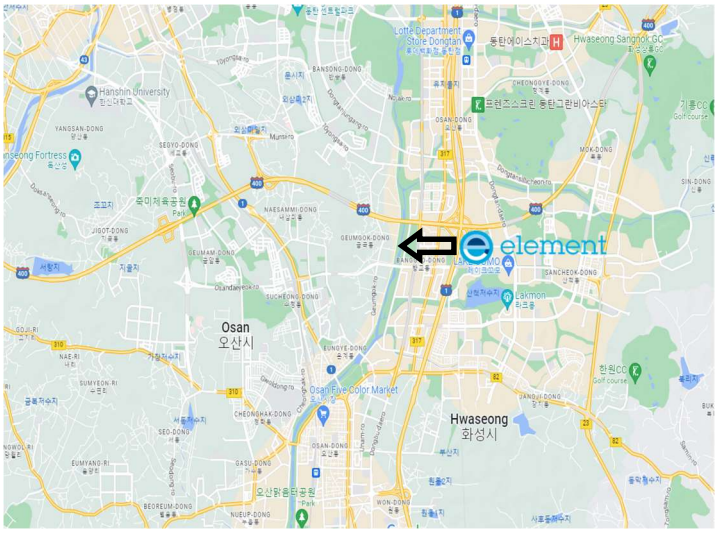
1. General Information's

1.1 Test Performed

Laboratory	:	NCT Co., Ltd.
Address	:	211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, 18511, Korea
Telephone	:	+82-31-323-6070
Facsimile	:	+82-31-323-6071
FCC designation no.	:	KR0166
FCC registration number	:	409631

1.2 Site Map





2. Information's about Test Item

2.1 Applicant Information

Company name	:	Remote Solution Co., Ltd.
Address(FCC)	:	92, Chogokri, Nammyun, Kimchon City, Kyungbuk, Republic of Korea
Address(IC)	:	326-14, Apo-daero, Nam-myeon, Gimcheon-si, Gyeongsangbuk-do 39662, Korea (Republic Of)
Telephone	:	+82 31-390-1592
Facsimile	:	-

2.2 Equipment Information

Equipment description	Proflame Remote Control Plus
Model and/or type reference	Remote on/off
Additional model name	-
Serial number	Prototype
EUT condition	Pre-production, not damaged
Frequency range(s)	2 402 MHz to 2 480 MHz
Number of channels	40 ch
Modulation type	GFSK
EUT power source	DC 3.0 V
Hardware version	V 1.0
Software version	V 1.0
Test software name(version)	V 2.1

2.3 Antenna Information

Type	Model name	Gain	Note.
PCB Antenna	-	5.35 dBi	-

2.4 Tested Frequency

Test mode	Low frequency (MHz)	Middle frequency (MHz)	High frequency (MHz)
2.4 GHz Transceiver	2 402	2 440	2 480

2.5 Used Test Software Setting Value

Test mode	Setting item
	Power
2.4 GHz Transceiver	3.5 dBm

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3. Test Report

3.1 Test Summary

Applied	Test items	FCC clause	IC clause	Test condition	Result
☒	Antenna Requirement	15.203 15.247(b)	-	-	C
☒	6 dB Bandwidth	15.247(a)	RSS-247 5.2(a)	Conducted	C
☒	Occupied Bandwidth	-	RSS- GEN 6.7		C
☒	Maximum Peak Output Power	15.247(b)	RSS-247 5.4(d)		C
☒	Peak Power Spectral Density	15.247(e)	RSS-247 5.2(b)		C
☒	Conducted Spurious Emission	15.247(d)	RSS-247 5.5		C
☒	Radiated Spurious Emission	15.247(d) 15.205(a) 15.209(a)	RSS-247 5.5 RSS-GEN 8.9 RSS-GEN 8.10	Radiated	C
☒	Conducted Emissions	15.207	RSS- GEN 8.8	AC Line Conducted	N/A[Note 2]

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: This product is only using DC power. So, AC conducted emission test has not been performed.

The sample was tested according to the following specification: ANSI C63.10:2020

Compliance was determined by specification limits of the applicable standard according to customer requirements.

3.2 Test Report Version

Test report no.	Date	Description
NW2411-F005	2024-11-21	Initial issue

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3.3 Transmitter Requirements

3.3.1 Antenna Requirement

Accoding to §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.

Accoding to §15.247(b)(4) e conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.1.1 Result

Complies

(The transmitter has a Internal PCB antenna. The directional peak gain of the antenna is 5.35 dBi.)

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3.3.2 6 dB Bandwidth

3.3.2.1 Test Setup

Refer to the APPENDIX I.

3.3.2.2 Limit

The minimum permissible 6 dB bandwidth is 500 kHz.

3.3.2.3 Test Procedure

The bandwidth at 6 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the EUT's antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = Max Hold.
5. Sweep = Auto
6. Allow the trace to stabilize.
7. Option 1 - Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

   Option 2 - The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW ≥ 3 x RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

3.3.2.4 Test Result

Test mode	Test frequency	6 dB bandwidth (MHz)	Occupied bandwidth (MHz)
2.4 GHz Transceiver	Low	0.672	1.040
	Middle	0.677	1.043
	High	0.672	1.042

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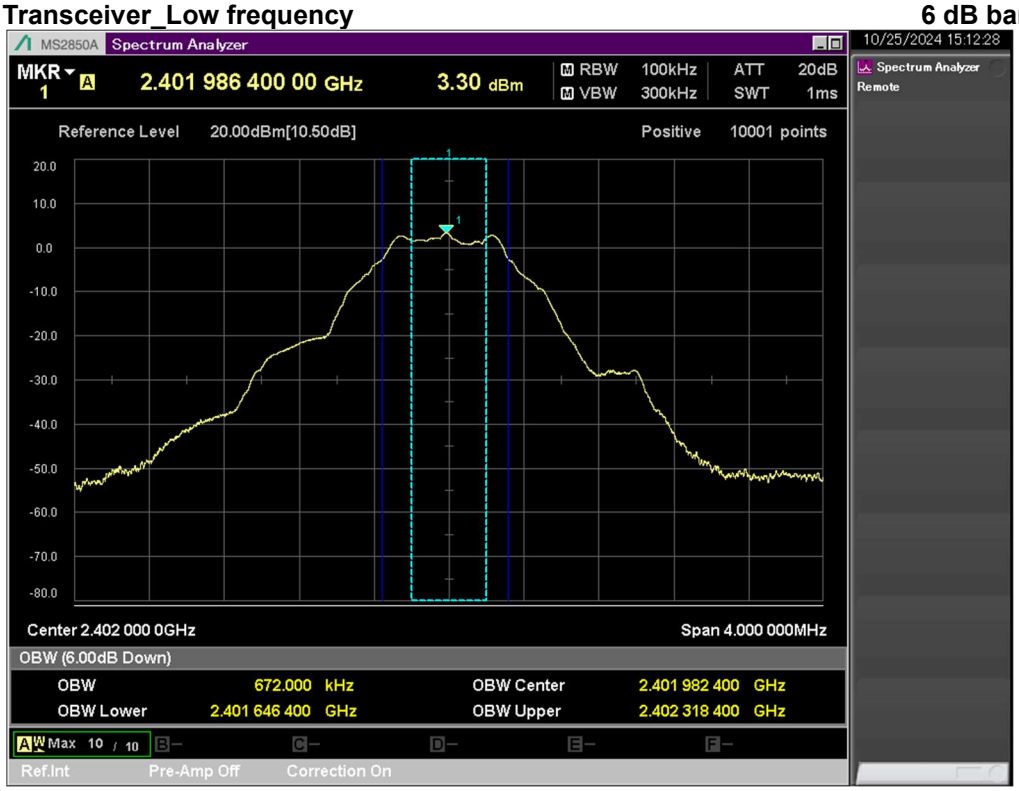
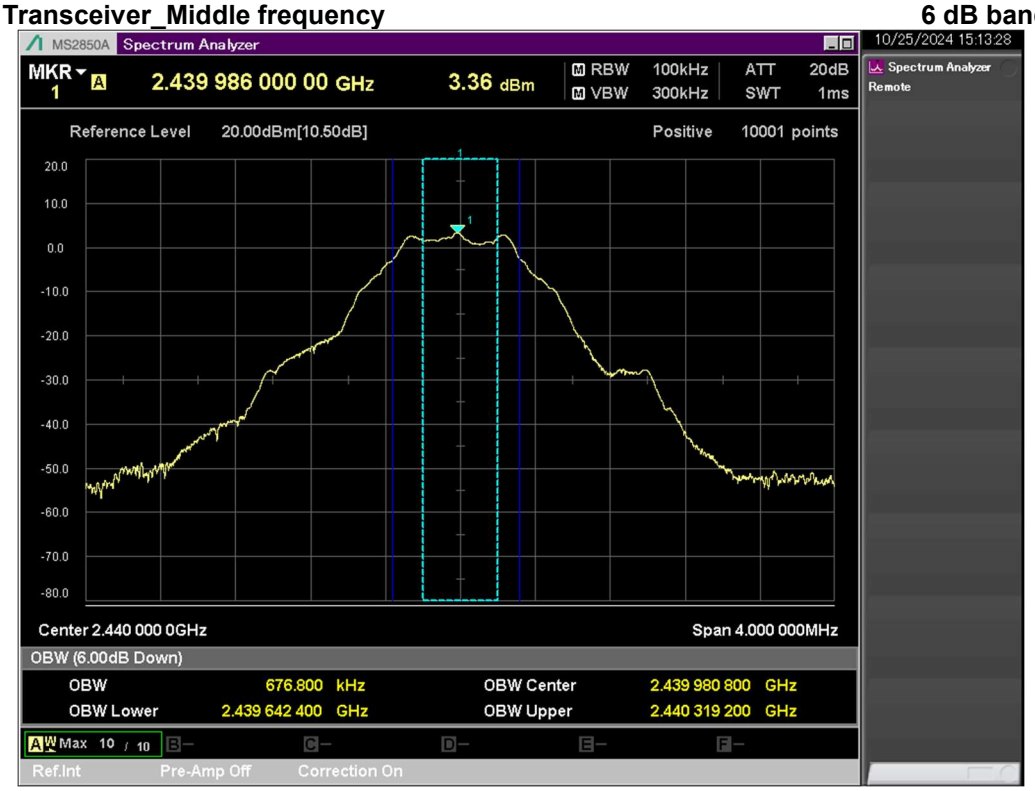
3.3.2.5 Test Plot

2.4 GHz Transceiver_Low frequency **6 dB bandwidth**

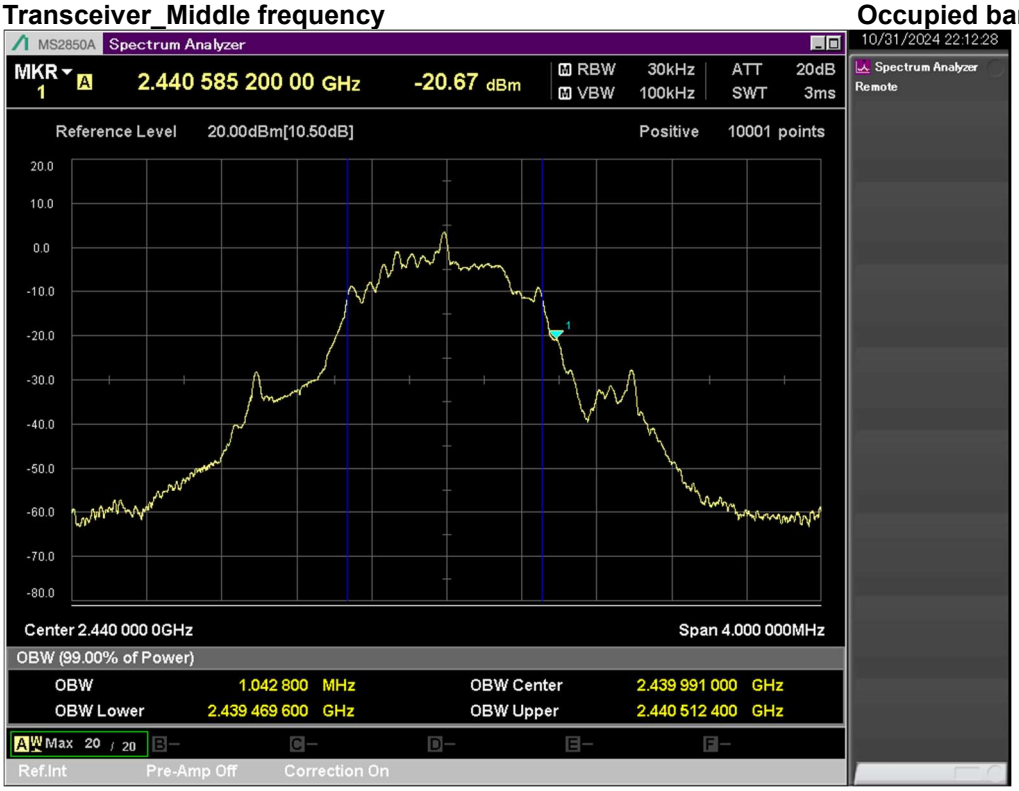


2.4 GHz Transceiver_Low frequency **Occupied bandwidth**

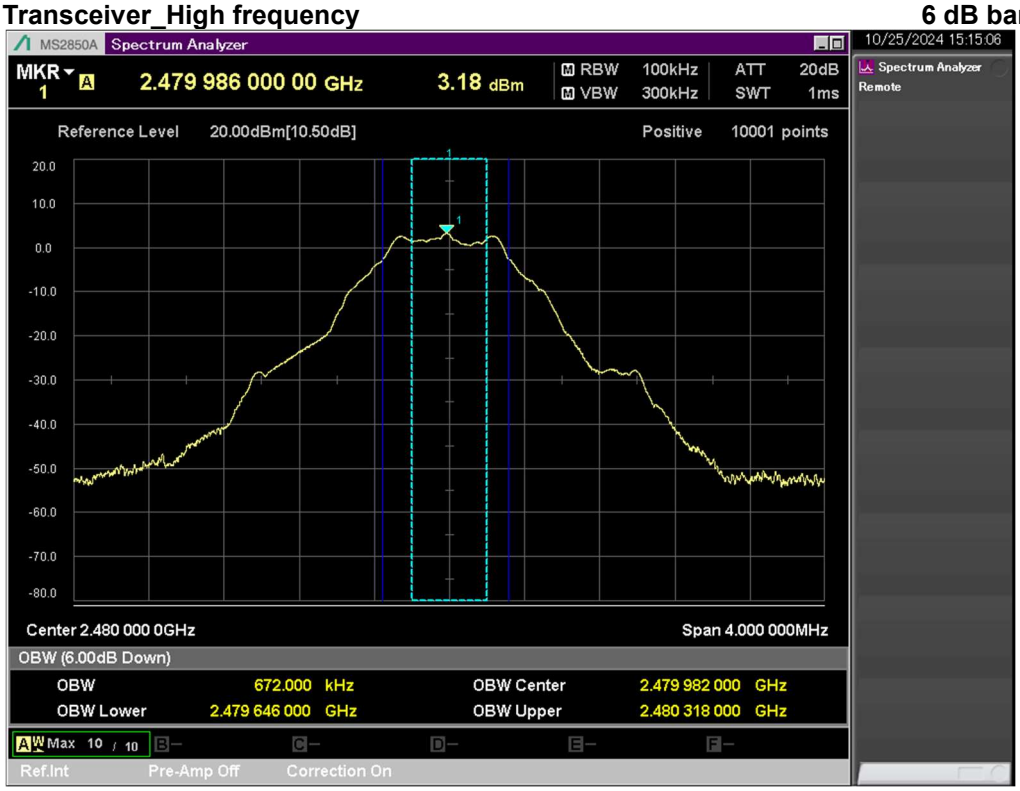
2.4 GHz Transceiver_Middle frequency **6 dB bandwidth**



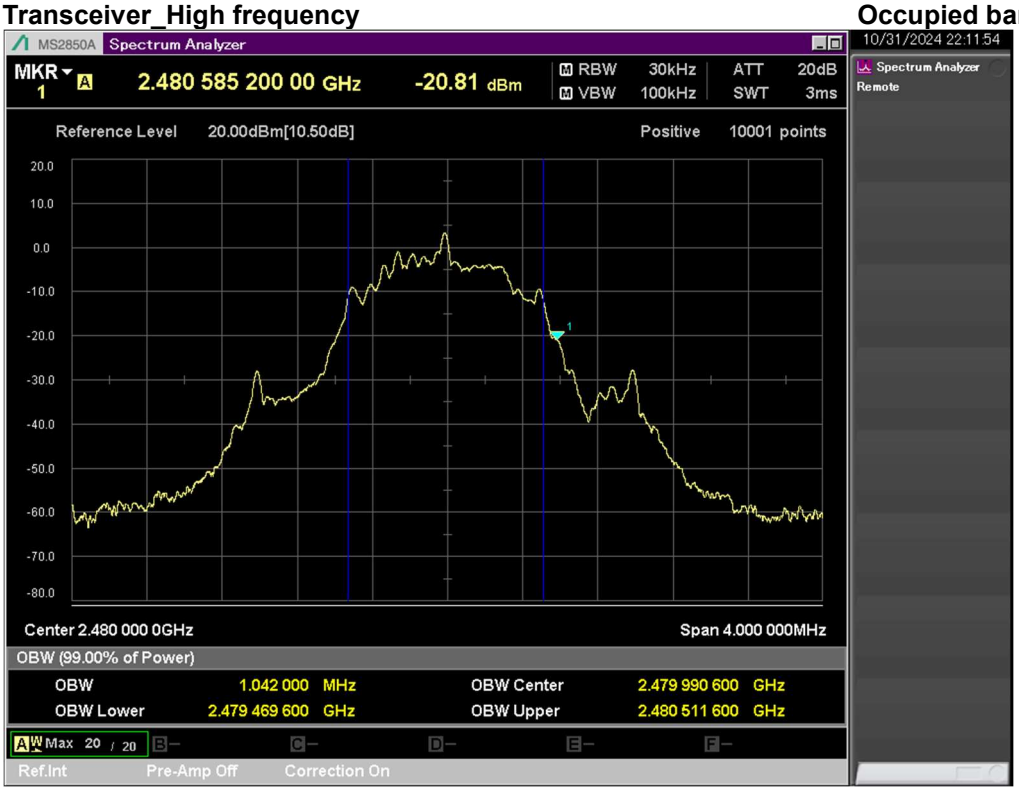
2.4 GHz Transceiver_Middle frequency **Occupied bandwidth**



2.4 GHz Transceiver_High frequency **6 dB bandwidth**



2.4 GHz Transceiver_High frequency **Occupied bandwidth**



3.3.3 Maximum Peak Output Power

3.3.3.1 Test Setup

Refer to the APPENDIX I.

3.3.3.2 Limit

The maximum permissible conducted output power is 1 Watt.

3.3.3.3 Test Procedure

PKPM1 Peak Power Meter Method

1. The maximum peak conducted output power may be measured using a broadband peak RF power meter.
2. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

3.3.3.4 Test Result

Test mode	Test frequency	Peak output power	
		(dBm)	(mW)
2.4 GHz Transceiver	Low	3.91	2.46
	Middle	4.02	2.52
	High	3.86	2.43

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3.3.4 Peak Power Spectral Density

3.3.4.1 Test Setup

Refer to the APPENDIX I.

3.3.4.2 Limit

The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission

3.3.4.3 Test Procedure

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW : 3 kHz ≤ RBW ≤ 100 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = Peak.
6. Sweep time = Auto
7. Trace mode = Max Hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

3.3.4.4 Test Result

Test mode	Test frequency	Peak power spectral density (dBm)
2.4 GHz Transceiver	Low	-8.26
	Middle	-8.16
	High	-8.32

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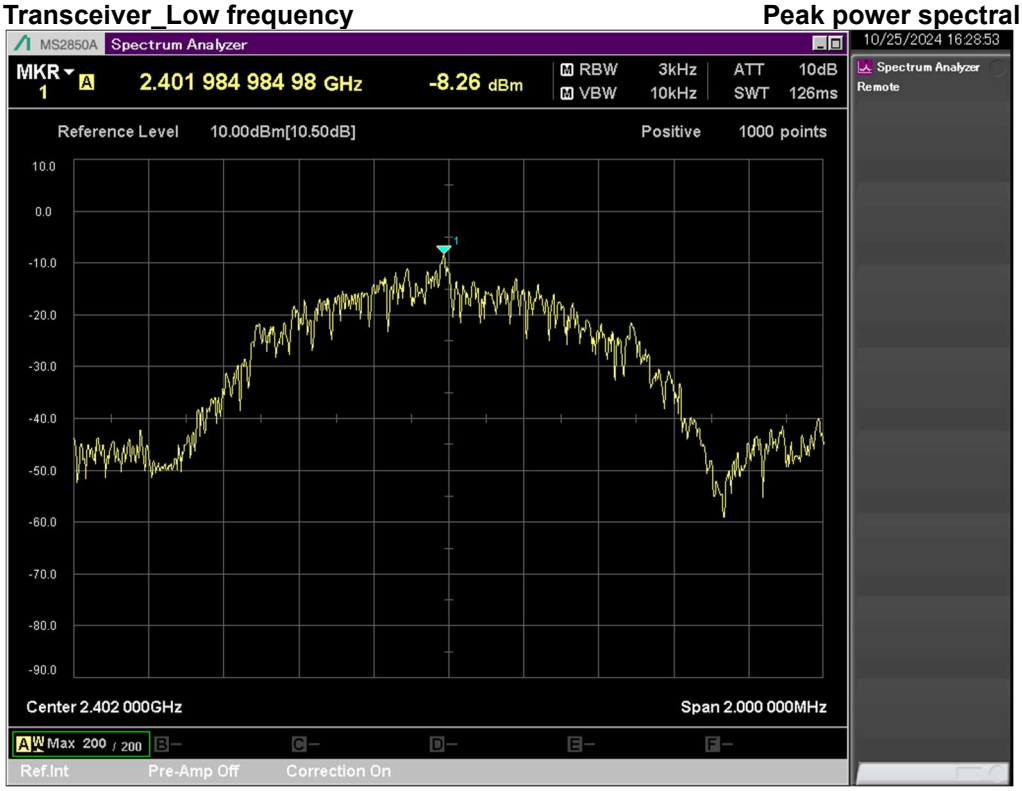
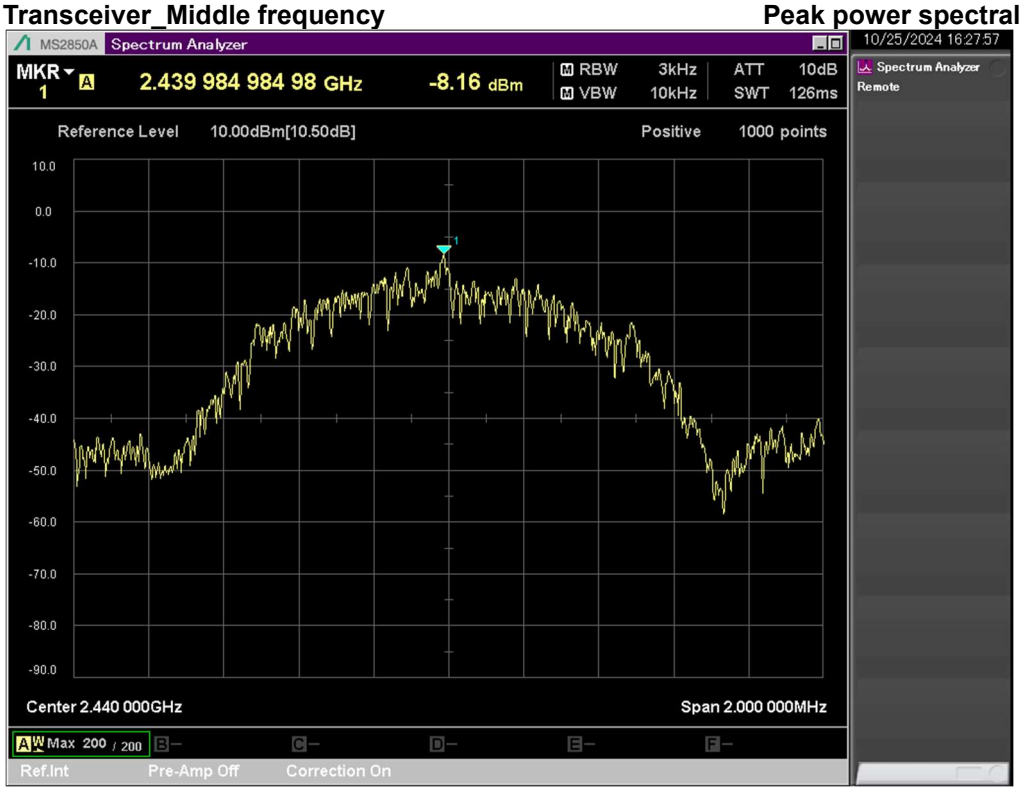
3.3.4.5 Test Plot

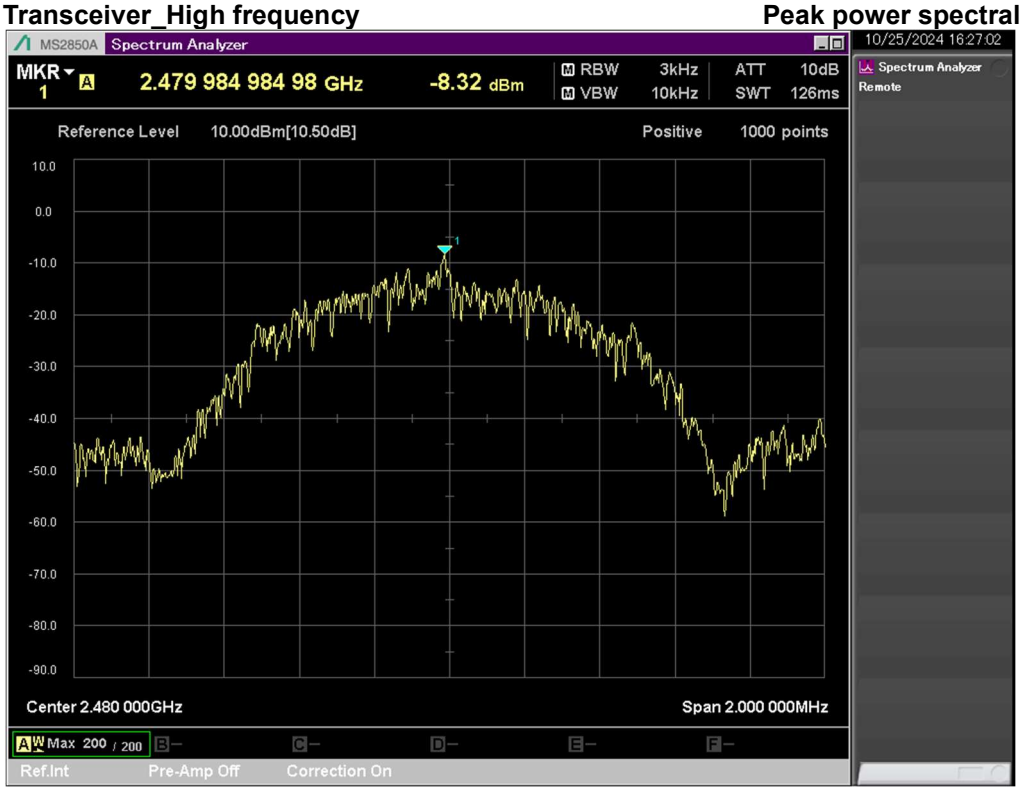
2.4 GHz Transceiver_Low frequency **Peak power spectral density**



2.4 GHz Transceiver_Middle frequency **Peak power spectral density**



2.4 GHz Transceiver_High frequency **Peak power spectral density**



3.3.5 TX Radiated Spurious Emission

3.3.5.1 Test Setup

Refer to the APPENDIX I.

3.3.5.2 Limit

According to §15.247(d) and RSS-247 §5.5, in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in section §15.209(a) is not required. In addition, radiated emission which in the restricted band, as define in section §15.205(a), must also comply the radiated emission limits specified in section §15.209(a) (see section §15.205(c))

According to § 15.209(a) and RSS-GEN §8.9, 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)	Limit (uV/m)	Measurement distance (meter)
0.009 - 0.490	2 400/F(kHz)	300
0.490 - 1.705	24 000/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 15.209(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.

According to § 15.205(a) and (b), only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.009 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.694 75 - 16.695 25	608 - 614	5.35 - 5.46
2.173 5 - 2.190 5	16.804 25 - 16.804 75	960 – 1 240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1 300 – 1 427	8.025 - 8.5
4.177 25 - 4.177 75	37.5 - 38.25	1 435 – 1 626.5	9.0 - 9.2
4.207 25 - 4.207 75	73 - 74.6	1 645.5 – 1 646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1 660 – 1 710	10.6 - 12.7
6.267 75 - 6.268 25	108 - 121.94	1 718.8 – 1 722.2	13.25 - 13.4
6.311 75 - 6.312 25	123 - 138	2 200 – 2 300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2 310 – 2 390	15.35 - 16.2
8.362 - 8.366	156.524 75 - 156.525 25	2 483.5 – 2 500	17.7 - 21.4
8.376 25 - 8.386 75	156.7 - 156.9	2 690 – 2 900	22.01 - 23.12
8.414 25 - 8.414 75	162.012 5 - 167.17	3 260 – 3 267	23.6 - 24.0
12.29 - 12.293	167.72 – 173.2	3 332 – 3 339	31.2 - 31.8
12.519 75 - 12.520 25	240 - 285	3 345.8 – 3 358	36.43 - 36.5
12.576 75 - 12.577 25	322 - 335.4	3 600 – 4 400	Above 38.6
13.36 - 13.41			

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1 000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1 000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

According to RSS-GEN §8.10, Unwanted emissions that fall into restricted frequency bands listed in table 7 shall comply with the limits specified in table 5 and table 6.

MHz	MHz	MHz	GHz
0.009 - 0.110	13.36 - 13.41	960 - 1 427	9.0 - 9.2
0.495 - 0.505	16.42 - 16.423	1 435 - 1 626.5	9.3 - 9.5
2.173 5 - 2.190 5	16.694 75 - 16.695 25	1 645.5 - 1 646.5	10.6 - 12.7
4.125 - 4.128	16.804 25 - 16.804 75	1 660 - 1 710	13.25 - 13.4
3.020 - 3.026	25.5 - 25.67	1 718.8 - 1 722.2	14.47 - 14.5
4.177 25 - 4.177 75	37.5 - 38.25	2 200 - 2 300	15.35 - 16.2
4.207 25 - 4.207 75	73 - 74.6	2 310 - 2 390	17.7 - 21.4
5.677 - 5.683	74.8 - 75.2	2 483.5 - 2 500	22.01 - 23.12
6.215 - 6.218	108 - 138	2 655 - 2 900	23.6 - 24.0
6.267 75 - 6.268 25	149.9 - 150.05	3 260 - 3 267	31.2 - 31.8
6.311 75 - 6.312 25	156.524 75 - 156.525 25	3 332 - 3 339	36.43 - 36.5
8.291 - 8.294	156.7 - 156.9	3 345.8 - 3 358	Above 38.6
8.362 - 8.366	162.012 5 - 167.17	3 500 - 4 400	
8.376 25 - 8.386 75	167.72 - 173.2	4 500 - 5 150	
8.414 25 - 8.414 75	240 - 285	5 350 - 5 460	
12.29 - 12.293	322 - 335.4	7 250 - 7 750	
12.519 75 - 12.520 25	399.9 - 410	8 025 - 8 500	
12.576 75 - 12.577 25	608 - 614		

3.3.5.3 Test Procedure for Radiated Spurious Emission

1. The EUT is placed on a non-conductive table. For emission measurements at or below 1 GHz, the table height is 80 cm. For emission measurements above 1 GHz, the table height is 1.5 m. The table was rotated 360 degrees to determine the position of the highest radiation.
2. 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. During performing radiated emission above 1 GHz, the EUT was set 1 or 3 meter away from the interference-receiving antenna.
3. For measurements above 1 GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.
4. 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.
5. 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.
   (The EUT was pre-tested with three axes (X, Y, Z) and the final test was performed at the worst case.)
6. Repeat above procedures until the measurements for all frequencies are complete

Measurement Instrument Setting

1. Frequency Range: Below 1 GHz

   RBW = 100 or 120 kHz, VBW = 3 x RBW, Detector = Peak or Quasi Peak

2. Frequency Range: Above 1 GHz

   Peak Measurement

   RBW = 1 MHz, VBW = 3 MHz, Detector = Peak, Sweep time = Auto,

   Trace mode = Max Hold until the trace stabilizes

   Average Measurement

   RBW = 1 MHz, VBW = 3 MHz, Detector = RMS (Number of points ≥ 2 x Span / RBW),

   Trace Mode = Average (Averaging type = power(i.e. RMS)), Sweep Time = Auto,

   Sweep Count = at least 100 traces

3.3.5.4 Test Procedure for Band-edge of Conducted Spurious Emission

3.3.5.4.1 Reference Level Measurement

Establish a reference level by using the following procedure:

1. Set instrument center frequency to DTS channel center frequency.
2. Set the span to ≥ 1.5 times the DTS bandwidth.
3. Set the RBW = 100 kHz.
4. Set the VBW ≥ [3 x RBW].
5. Detector = peak.
6. Sweep time = No faster than coupled (auto) time.
7. Trace mode = max-hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum PSD level.

3.3.5.4.2 Emissions Level Measurement

1. Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.
2. Set the RBW = 100 kHz.
3. Set the VBW ≥ [3 x RBW].
4. Detector = peak.
5. Sweep time = No faster than coupled (auto) time.
6. Trace mode = max-hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

3.3.5.4.3 Conducted Spurious Emissions

Set the spectrum analyzer as follows:

1. Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
2. RBW = 100 kHz
3. VBW ≥ 3 x RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold
7. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
8. Each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector function with specified bandwidth.

3.3.5.5 Test Result for Radiated Spurious Emission

- **Test mode : Below 1 GHz (Worst case : High frequency)**

Frequency	Detector	Reading	Pol.	Factor	Result	Limit	Margin
(MHz)		(dBuV)		(dB)	(dBuV/m)	(dBuV/m)	(dB)
259.890	QP	53.64	H	-24.30	29.34	46.00	16.66
299.951	QP	53.02	H	-22.90	30.12	46.00	15.88

Note 1: Factor(For below 30 MHz) = Cable loss - Antenna factor
Factor(For below 1 GHz) = Antenna factor + Cable loss – Amp gain
Note 2: Result = Reading + Factor
Note 3: Peak measurement did not take place because it is more than 20 dB difference in the limit

- **Test mode : Above 1 GHz_Low frequency**

Frequency	Detector	Reading	Pol.	Factor	DCCF	Result	Limit	Margin
(MHz)		(dBuV)		(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
2 389.739	PK	73.28	H	-13.47	-	59.81	74.00	14.19
	AV	73.28	H	-13.47	-20.01	39.80	54.00	14.20
4 803.328	PK	62.94	H	-7.20	-	55.74	74.00	18.26
	AV	62.94	H	-7.20	-20.01	35.73	54.00	18.27
12 008.963	PK	50.66	H	5.20	-	55.86	74.00	18.14
	AV	50.66	H	5.20	-20.01	35.85	54.00	18.15

- **Test mode : Above 1 GHz_Middle frequency**

Frequency	Detector	Reading	Pol.	Factor	DCCF	Result	Limit	Margin
(MHz)		(dBuV)		(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
4 879.331	PK	61.95	H	-6.90	-	55.05	74.00	18.95
	AV	61.95	H	-6.90	-20.01	35.04	54.00	18.96
12 200.873	PK	50.44	V	5.40	-	55.84	74.00	18.16
	AV	50.44	V	5.40	-20.01	35.83	54.00	18.17

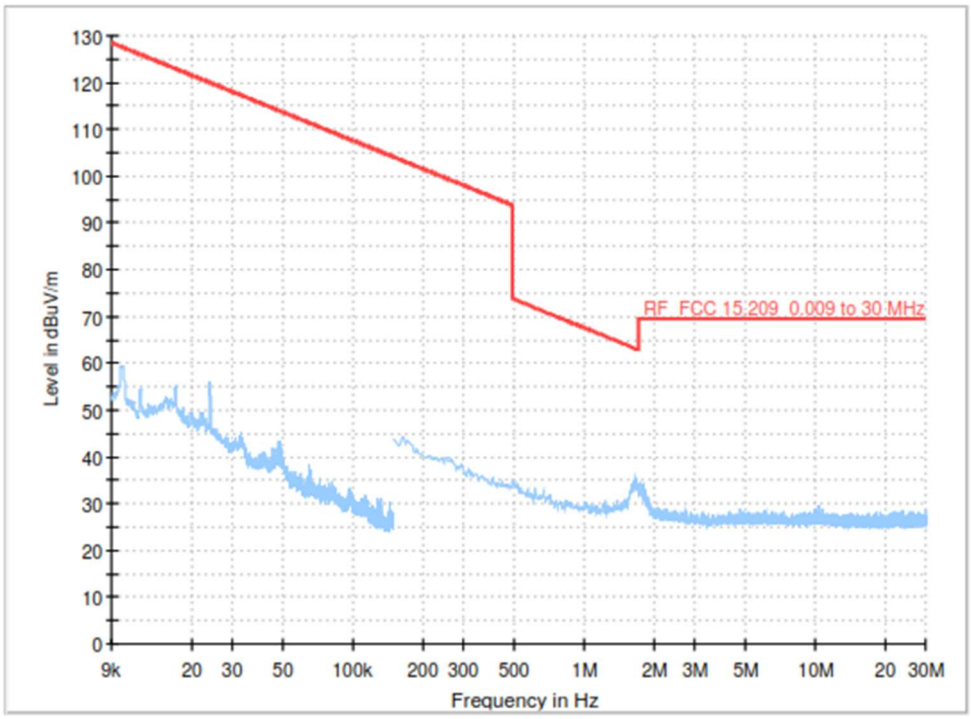
- **Test mode : Above 1 GHz_High frequency**

Frequency	Detector	Reading	Pol.	Factor	DCCF	Result	Limit	Margin
(MHz)		(dBuV)		(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
2 495.725	PK	75.09	H	-13.11	-	61.98	74.00	12.02
	AV	75.09	H	-13.11	-20.01	41.97	54.00	12.03
4 960.561	PK	62.51	V	-6.60	-	55.91	74.00	18.09
	AV	62.51	V	-6.60	-20.01	35.90	54.00	18.10
7 439.234	PK	53.14	V	1.00	-	54.14	74.00	19.86
	AV	53.14	V	1.00	-20.01	34.13	54.00	19.87

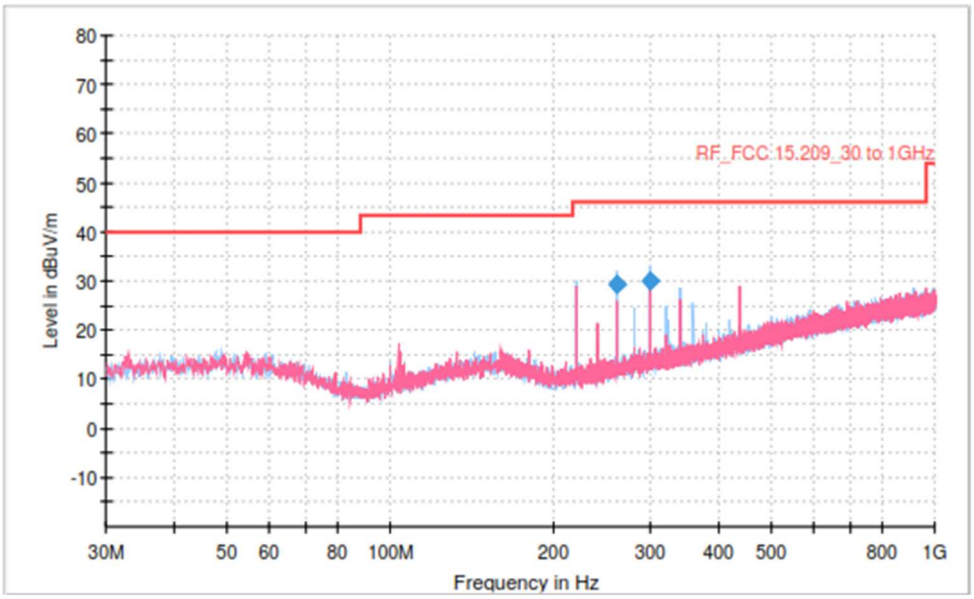
Note 1: Measured distance(For below 12.75 GHz) = 3 m
Measured distance(For Above 12.75 GHz) = 1 m, Distance factor = 20*log(1/3) = -9.54
Note 2: Factor(For below 12.75 GHz) = Antenna factor + Cable loss – Amp gain
Factor(For above 12.75 GHz) = Antenna factor + Cable loss – Amp gain + Distance factor
Note 3: Peak result = Reading + Factor, Average result = Reading + Factor + DCCF
Note 4: Average measurement did not take place because the peak data did not exceed average limit
Note 5: Not detected means that peak data does not exceed the average limit.

3.3.5.6 Test Plot for Radiated Spurious Emission

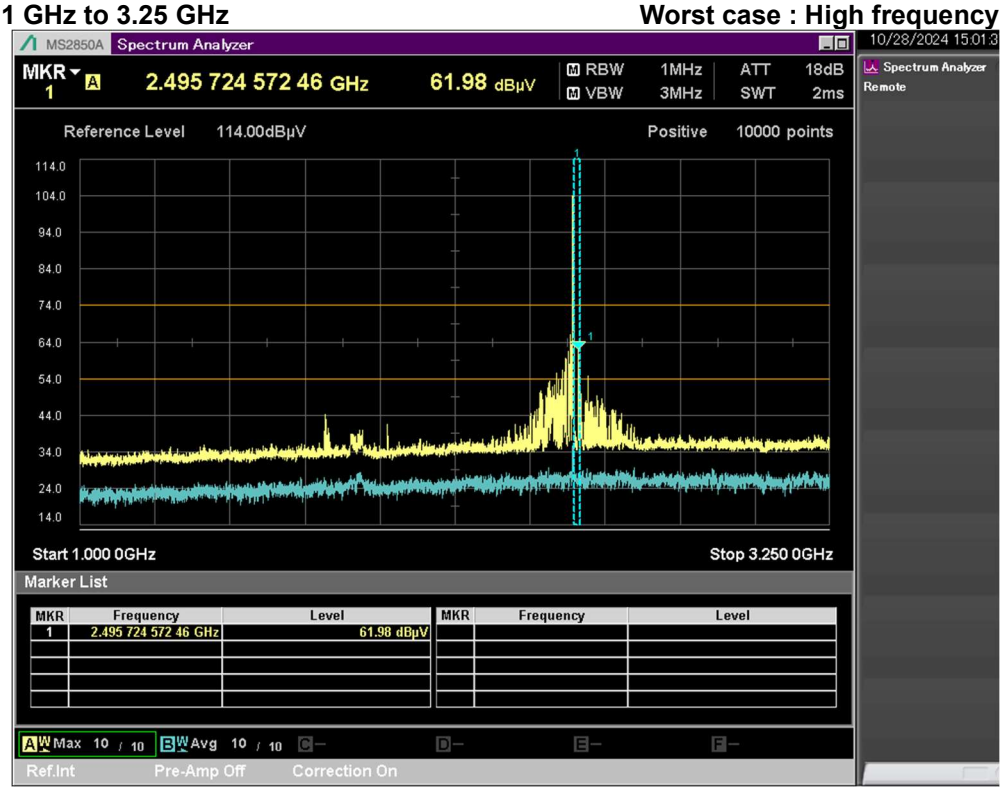
Below 30 MHz **Worst case : High frequency**



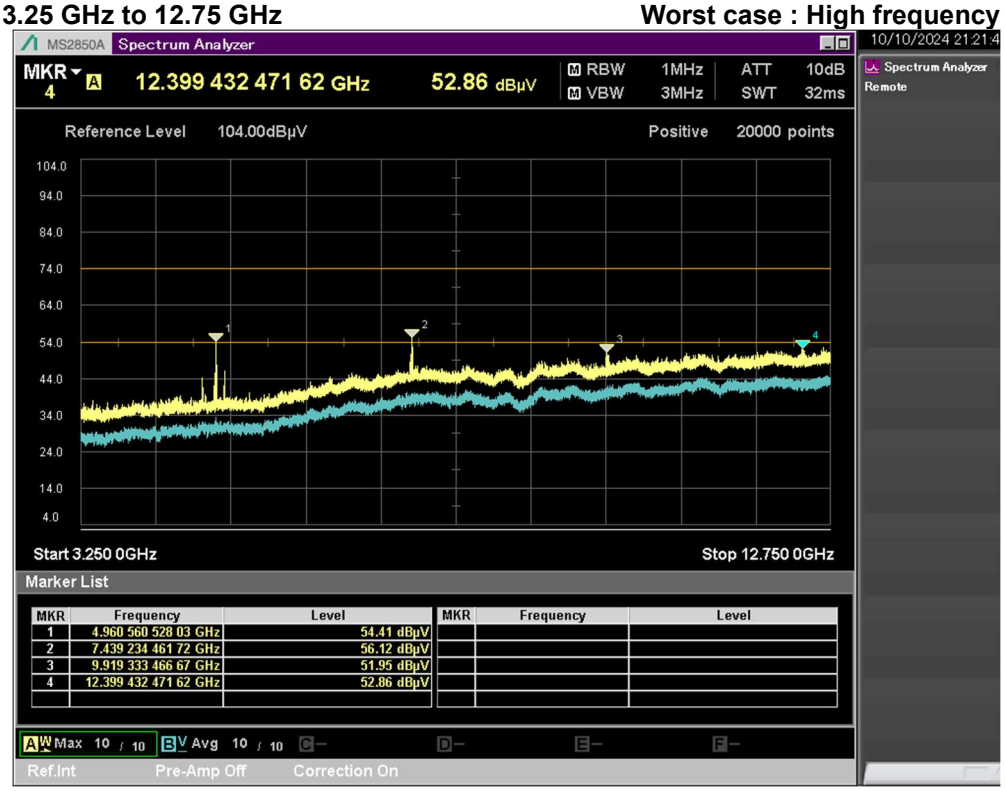
30 MHz to 1 GHz **Worst case : High frequency**



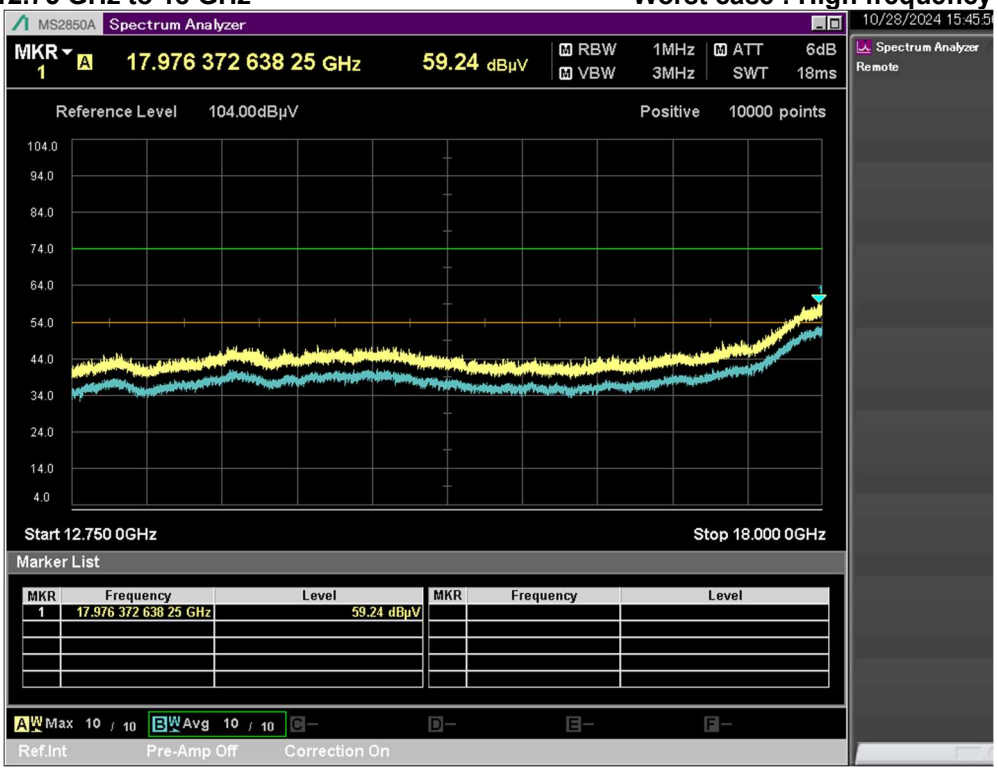
1 GHz to 3.25 GHz **Worst case : High frequency**



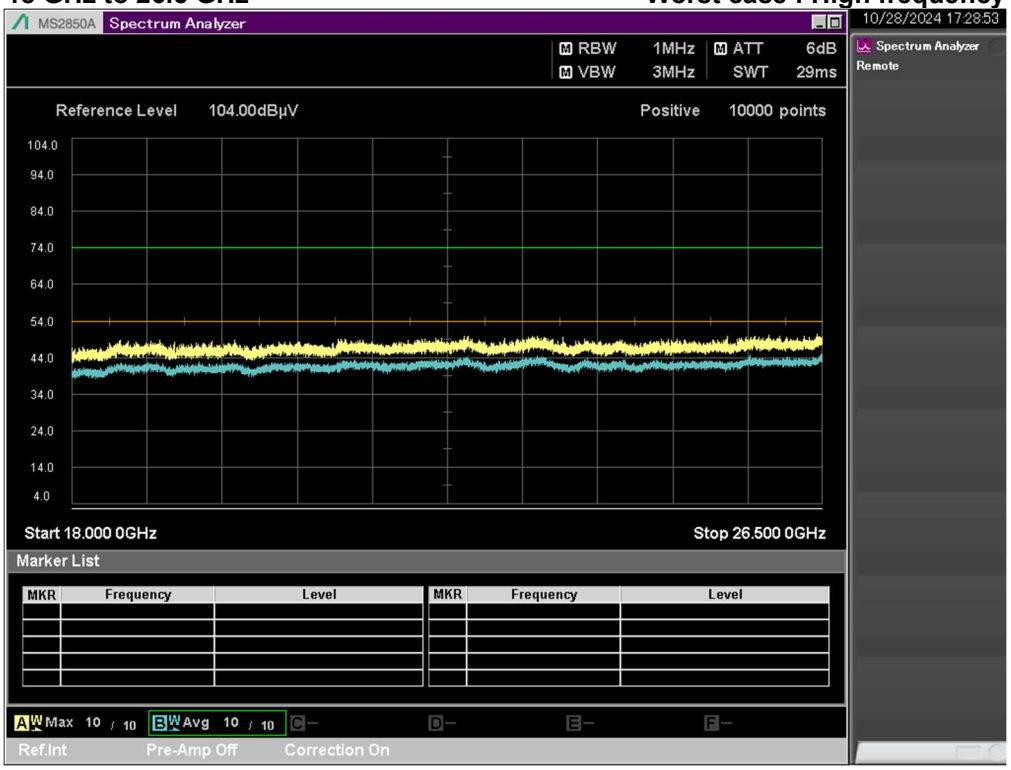
3.25 GHz to 12.75 GHz **Worst case : High frequency**



12.75 GHz to 18 GHz[Note 1] **Worst case : High frequency**



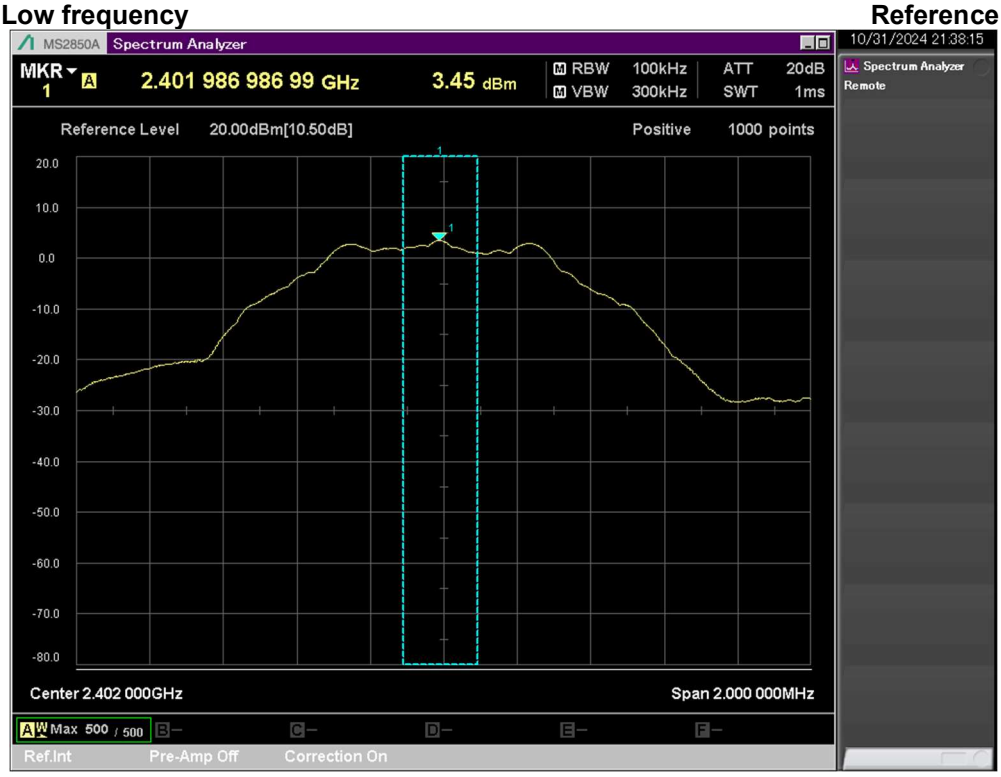
18 GHz to 26.5 GHz[Note 1] **Worst case : High frequency**



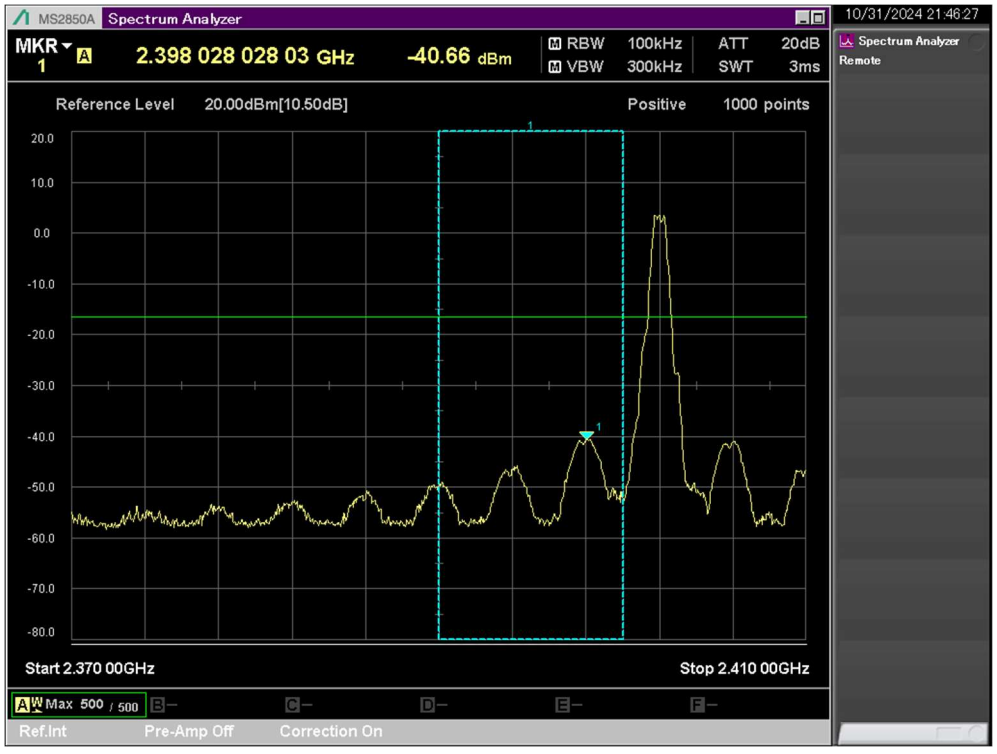
Note 1 : Measured distance = 1 m

3.3.5.7 Test Plot for Conducted Spurious Emission

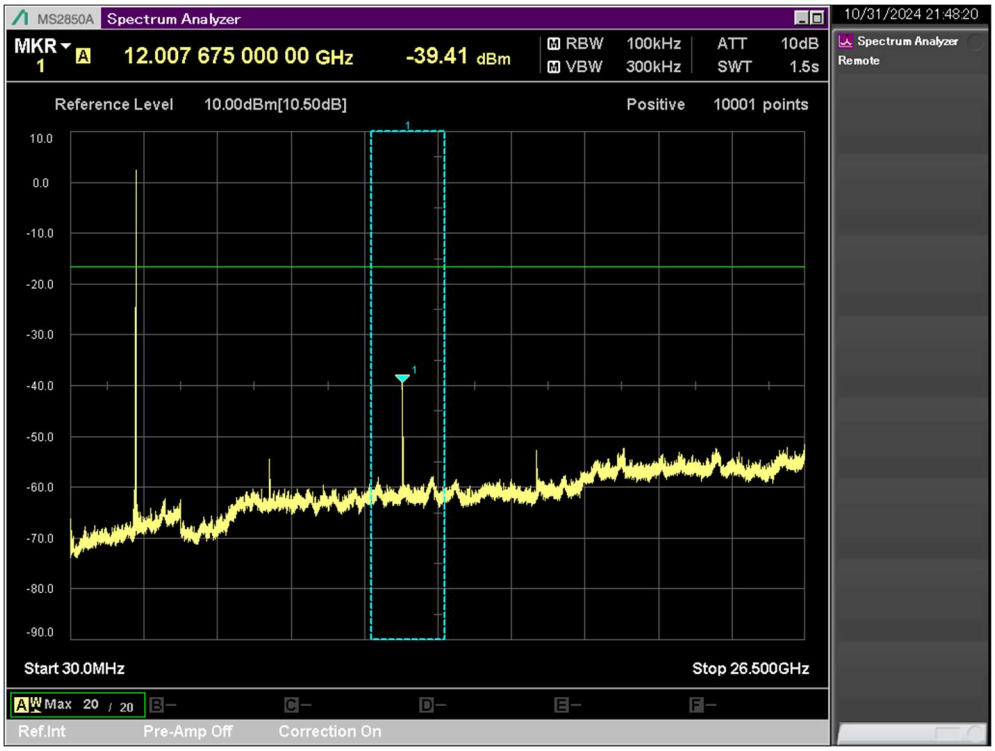
Low frequency **Reference**



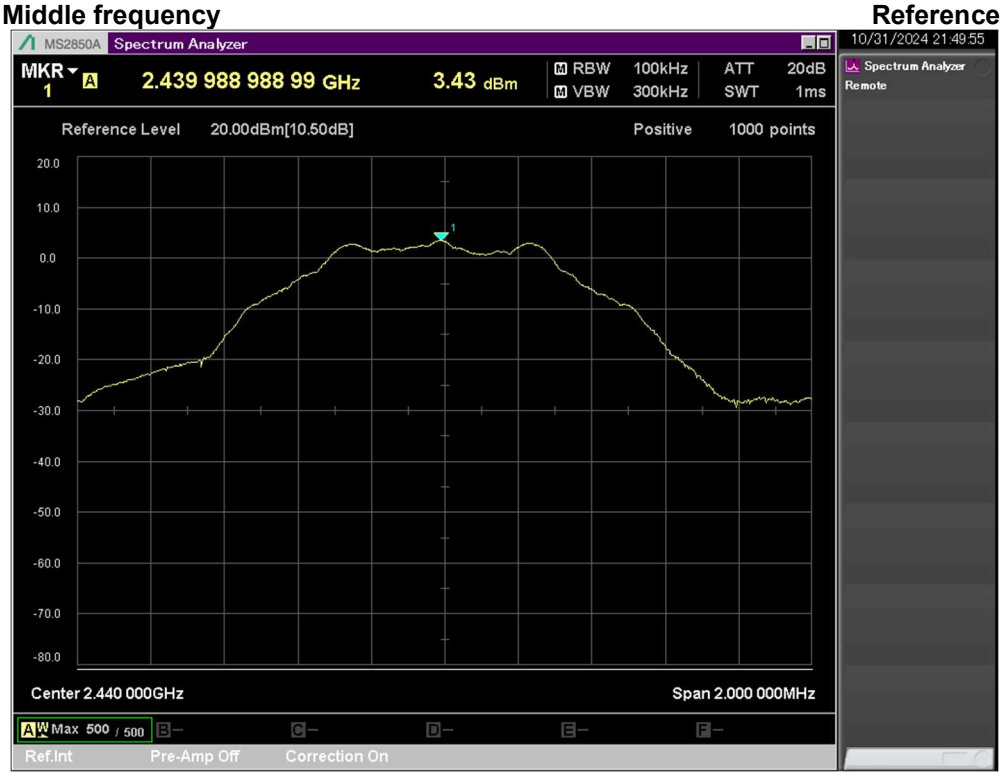
Low frequency **Band edge**



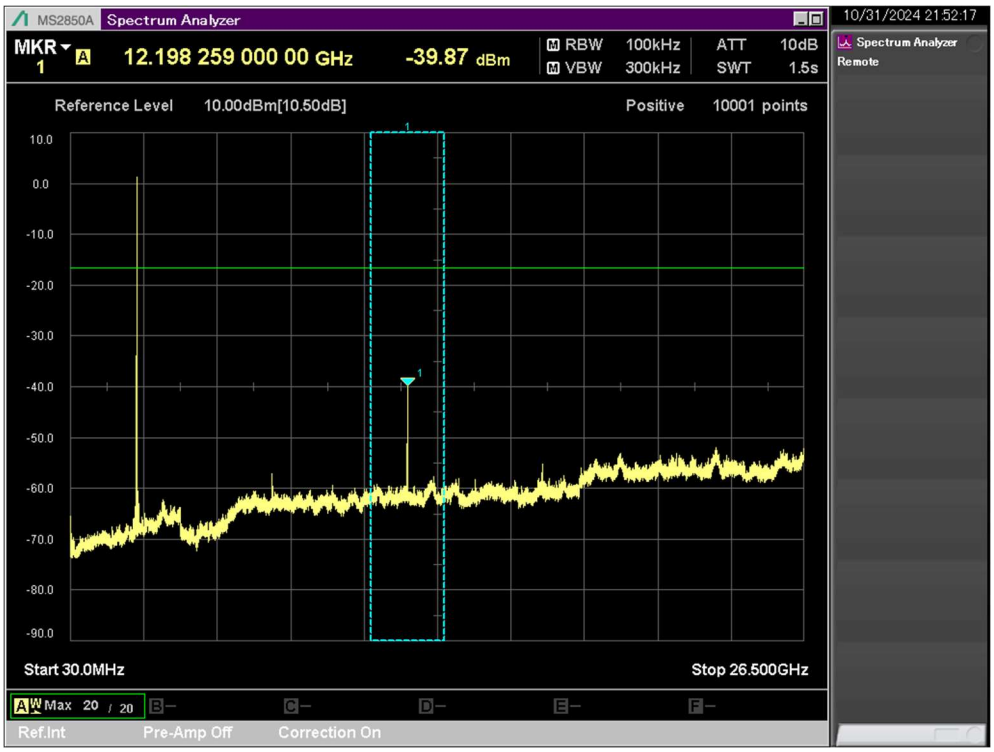
Low frequency **Spurious**



Middle frequency **Reference**

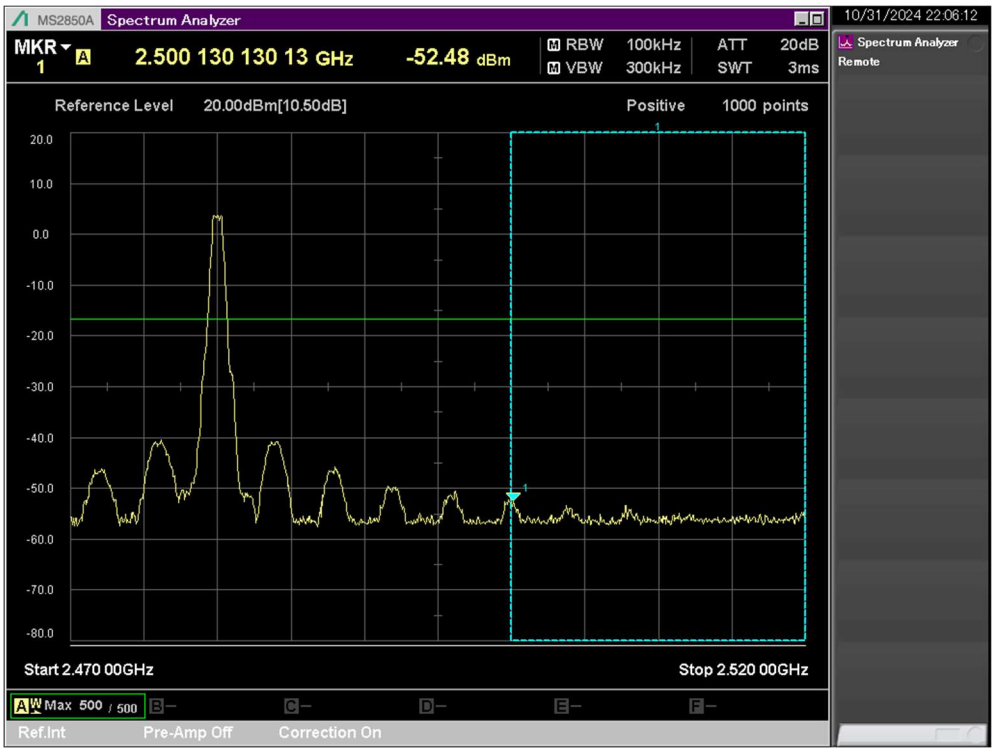


Middle frequency **Spurious**

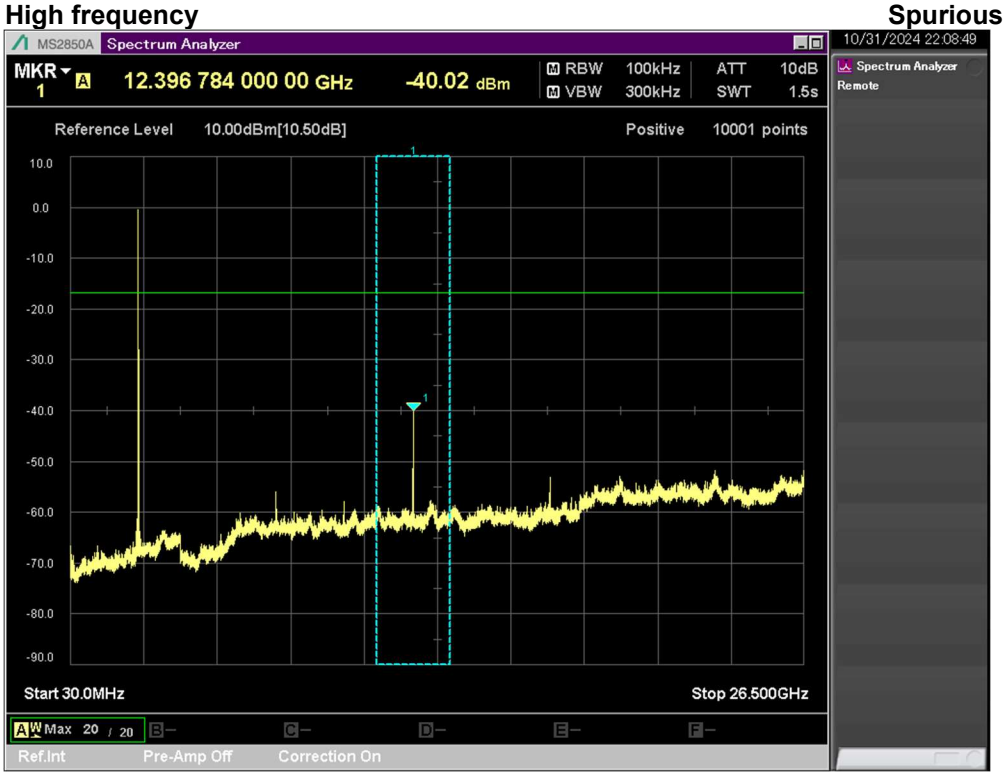


High frequency **Reference**

High frequency **Band edge**

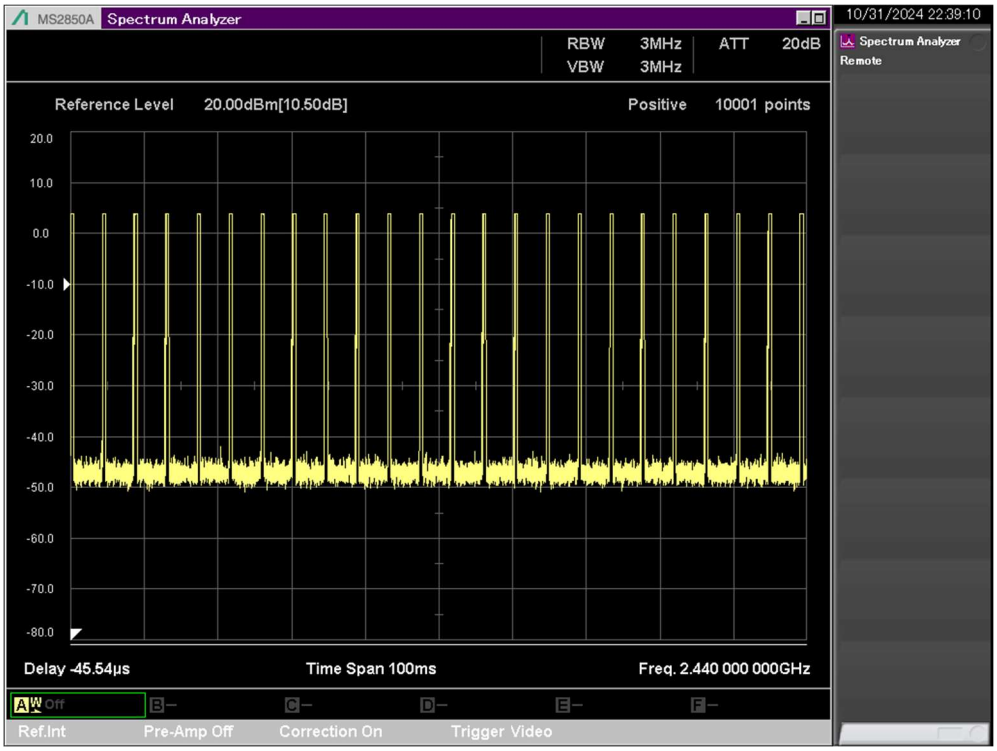


High frequency **Spurious**

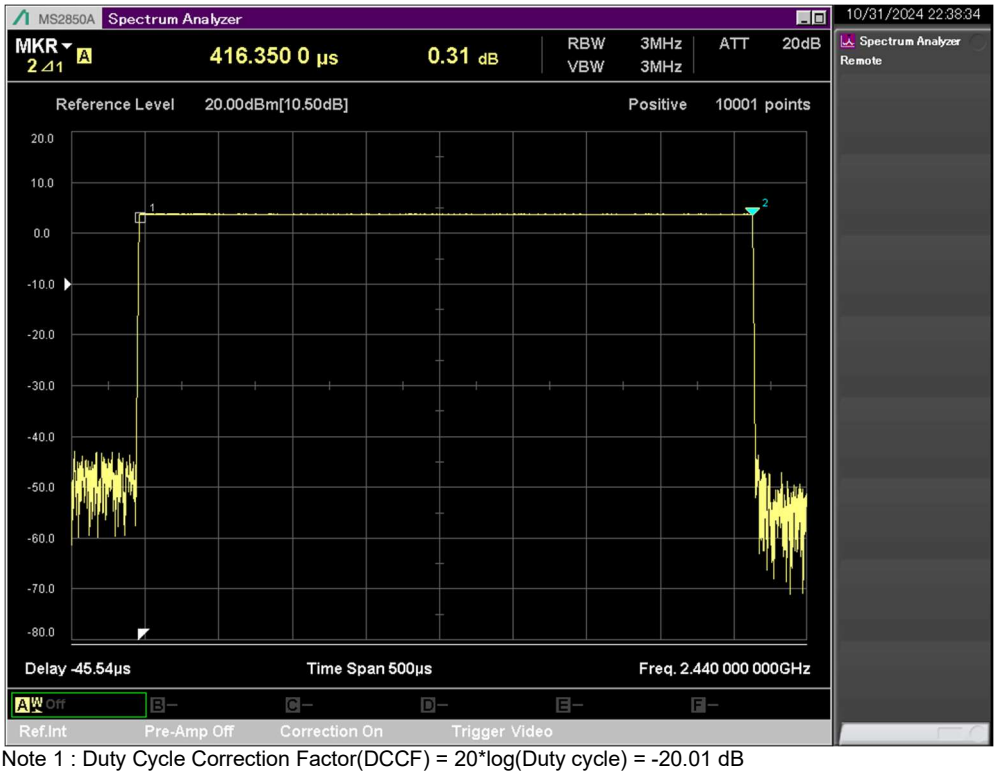


3.3.5.8 Duty Cycle Test Plot

100 ms



On time



Note 1 : Duty Cycle Correction Factor(DCCF) = 20*log(Duty cycle) = -20.01 dB

3.3.6 Conducted Emission

3.3.6.1 Test Setup

See test photographs for the actual connections between EUT and support equipment.

3.3.6.2 Limit

According to §15.207(a) and RSS-GEN §8.8 for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 uH/50 ohm line impedance stabilization network (LISN).
Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequency ranges.

Frequency range (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency

3.3.6.3 Test Procedure

Conducted emissions from the EUT were measured according to the ANSI C63.10.

1. The test procedure is performed in a 6.5 m × 3.5 m × 3.5 m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.
4. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

3.3.6.4 Test Result

Not Applicable

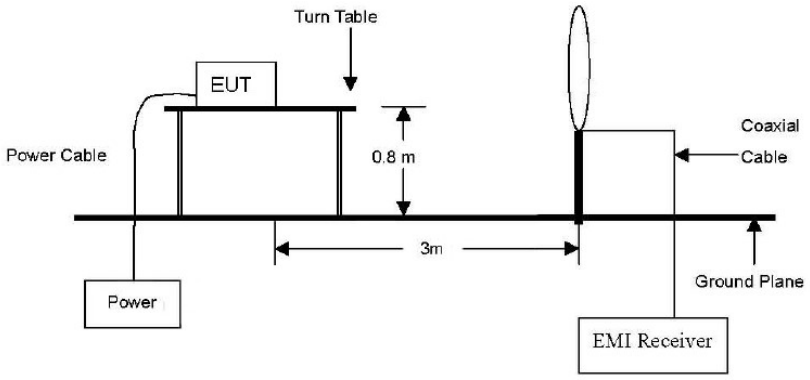
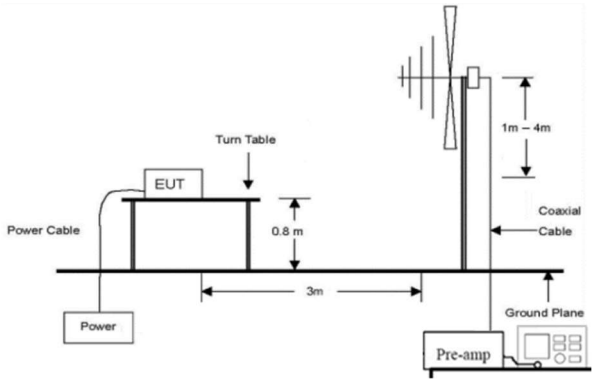
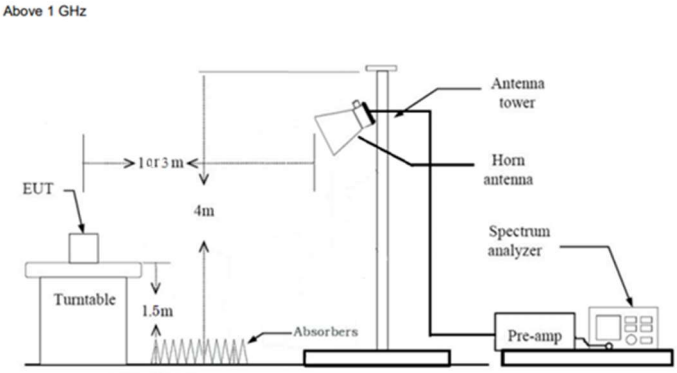
(This product is only using Alkaline battery. So, AC conducted emission test has not been performed.)

APPENDIX I

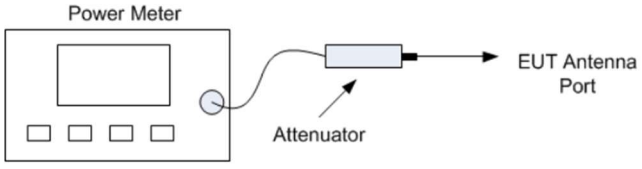
TEST SETUP

211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, Korea 18511
www.nct.re.kr TEL: +82-31-323-6070 FAX: +82-31-323-6071

- **Radiated Measurement**

Below 30 MHz	
Below 1 GHz	
Above 1 GHz	

- **Conducted Measurement**

Conducted	
Power meter conducted	

APPENDIX II

TEST EQUIPMENT USED FOR TESTS

211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, Korea 18511
www.nct.re.kr TEL: +82-31-323-6070 FAX: +82-31-323-6071

	Description	Manufacturer	Serial No.	Model No.	Cal. Date	Next Cal. Date
1	Signal Analyzer	Anritsu	6261831920	MS2850A	2024-01-10	2025-01-10
2	Power supply	GWInstek	EH120798	PST-3202	2024-02-26	2025-02-26
3	ATTENUATOR	Weinschel	none	WA-9-10-21	2024-02-26	2025-02-26
4	8360B SERIES SWEPT SIGNAL GENERATOR	HP	3614A00312	83640B	2024-07-17	2025-07-17
5	USB Peak & Average Power Sensor	KEYSIGHT	MY58140003	U2044XA	2024-07-19	2025-07-19
6	Humi./Baro/Temp. data recorder	Lutron	89503	MHB-382SD	2024-07-22	2025-07-22
7	TRILOG Broadband Antenna	Schwarzbeck	01027	VULB 9168	2023-05-23	2025-05-23
8	Double Ridged Broadband Horn Antenna	Schwarzbeck	02087	BBHA 9120 D	2024-04-24	2025-04-24
9	Broadband Horn Antenna	Schwarzbeck	00938	BBHA 9170	2024-05-24	2025-05-24
10	LOOP-ANTENNA	Schwarzbeck	00124	FMZB1519 B	2023-05-25	2025-05-25
11	Amplifier	TESTEK	190008-L	TK-PA1840H	2024-05-04	2025-05-04
12	Amplifier	TESTEK	190007-L	TK-PA18H	2024-05-21	2025-05-22
13	Amplifier	TESTEK	190009-L	TK-PA01S	2024-05-21	2025-05-22
14	EMI Test Receiver	ROHDE&SCHWARZ	102138	ESR	2024-05-21	2025-05-22
15	High Pass Filter	WT Microwave INC	WT210907-1-2	WT-A3289-HS	2024-07-17	2025-07-17
16	TRUE RMS MULTIMETER	FLUKE	42120033	175	2024-08-28	2025-08-28

APPENDIX III

UNCERTAINTY

211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, Korea 18511
www.nct.re.kr TEL: +82-31-323-6070 FAX: +82-31-323-6071

Measurement item	Expanded uncertainty U = *k*Uc (*k*=2)	
Conducted RF Power	1.00 dB	(The confidence level is about 95 %, k=2)
Conducted Spurious Emissions	1.06 dB	(The confidence level is about 95 %, k=2)
Radiated Spurious Emissions_Below 1 GHz	4.30 dB	(The confidence level is about 95 %, k=2)
Radiated Spurious Emissions_Above 1 GHz	5.74 dB	(The confidence level is about 95 %, k=2)

211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, Korea 18511
www.nct.re.kr TEL: +82-31-323-6070 FAX: +82-31-323-6071