LTA
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Dates of Tests: Jun 19, 2026 ~ Oct 08,2026
Test Report S/N: LR500112609G
Test Site : LTA CO., LTD.

CERTIFICATION OF COMPLIANCE

FCC ID. **2BH6E-NCWB87R01VI**

APPLICANT **Nucode Co., Ltd.**

Equipment Class	:	**Digital Transmission System (DTS)**
Manufacturing Description	:	**Bluetooth/WiFi Module**
Manufacturer	:	**Nucode Co., Ltd.**
Model name	:	**NCWB87R01VI**
Variant Model name	:	**NCWB87R01VC**
Test Device Serial No.:	:	**Identical prototype**
Rule Part(s)	:	**FCC Part 15.407 Subpart E ; ANSI C63.10 - 2020**
Frequency Range	:	**WLAN-5180 ~ 5240 MHz** **5190 ~ 5230 MHz**
Max. Output Power	:	**Max 2.32 dBm - Conducted**
Data of issue	:	**October 20 ,2026**

This test report is issued under the authority of:

Eun-Hwan Jung, Manager

The test was supervised by:

In-Sun Lee, Test Engineer

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Revision history

Revision	Date of issue	Description	Revised by
--	Oct 20 ,2026	Initial	-

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1. General information

1-1 Test Performed

Company name : LTA Co., Ltd.

Address : 243, Jubug-ri,Yangji-Myeon,Youngin-Si, Kyunggi-Do, Korea. 17159

Web site : http://www.ltalab.com

E-mail : chahn@ltalab.com

Telephone : +82-31-323-6008

Facsimile +82-31-323-6010

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the “General requirements for the competents of calibration and testing laboratory”.

1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

Agency	Country	Accreditation No.	Validity	Reference
RRA	KOREA	KR0049	-	EMC accredited Lab.
FCC	U.S.A	649054	2027-02-27	FCC CAB
VCCI	JAPAN	C-14948,	2026-09-10	VCCI registration
VCCI	JAPAN	T-12416,	2026-09-10	VCCI registration
VCCI	JAPAN	R-14483	2026-10-15	VCCI registration
VCCI	JAPAN	G-10847	2027-12-13	VCCI registration
IC	CANADA	5799A-1	2028-07-31	IC filing

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2. Information about test item

2-1 Client & Manufacturer

Client Company name	:	Nucode Co., Ltd.
Address	:	3rd floor, 557 Yeok-Sam-Ro, Gangnam-Gu, Seoul, South Korea
Tel / Fax	:	+82-10-5061-5233
Manufacturer	:	Nucode Co., Ltd.
Address	:	3rd floor, 557 Yeok-Sam-Ro, Gangnam-Gu, Seoul, South Korea
Tel / Fax	:	+82-10-5061-5233

2-2 Equipment Under Test (EUT)

Model name	:	NCWB87R01VI
Serial number	:	Identical prototype
Date of receipt	:	Jun 19, 2025
EUT condition	:	Pre-production, not damaged
Antenna type	:	FPC Antenna (Gain : 7.7 dBi)
Frequency Range	:	5180 ~ 5240 MHz 5190 ~ 5230 MHz
RF output power	:	Max 2.32 dBm – Conducted
Type of Modulation	:	OFDM
Power Source	:	DC 3.3 V

2-3 Tested frequency

	LOW	MID	HIGH
Frequency (MHz)	5180	5220	5240

2-4 Ancillary Equipment

Equipment	Model No.	Serial No.	Manufacturer
Notebook	-	MS-1736	MSI

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3. Test Report

3.1 Summary of tests

FCC Part Section(s)	Parameter	Test Condition	Status (note 1)
15.407(a)	26 dB Bandwidth &99% Occupied Bandwidth	Conducted	C
15.407(a)	Transmitter Peak Output Power		C
15.407(a)	Transmitter Power Spectral Density		C
15.407(b)	Band Edge & Conducted Spurious emission		C
15.407(g)	Frequency Stability		C
15.209	Transmitter emission	Radiated	C
15.207	AC Conducted Emissions	Conducted	N/A
15.407©	Transmission discontinuation requirement	-	C
15.203	Antenna requirement	-	C

N/A : This product is only operated with DC voltage.

The above equipment was tested by LTA Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10-2020 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 2 and Part 15.407 The test results of this report relate only to the tested sample identified in this report.
The tests were performed according to the method of measurements prescribed in KDB No.789033.

→ Antenna Requirement
Nucode Co., Ltd. FCC ID: 2BH6E-NCWB87R01VI unit complies with the requirement of §15.203.
The antenna type is FPCAntenna

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3.2 Technical Characteristics Test

3.2.1 26 dB Bandwidth & 99% Occupied Bandwidth

Procedure:

The 99% occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. Measurement of the 99% occupied bandwidth is required only as a condition for using the optional band- edge measurement techniques described in II.G.3.d). Measurements of 99% occupied bandwidth may also optionally be used in lieu of the EBW to define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with Section 15.407(a)

26dB Bandwidth

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = approximately 1% of the emission bandwidth. Span = 1.5 X OBW

VBW ≥ RBW Sweep = auto

Trace = max hold Detector function = peak

99% Occupied Bandwidth

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 1% to 5% of OBW Span = 1.5 X OBW

VBW ≥ 3 X RBW Sweep = auto

Trace = max hold Detector function = peak

Measurement Data : Complies

Mode:a mode

Test voltage	5,180 MHz	5,220 MHz	5,240 MHz	Result
	26dB (MHz)	26dB (MHz)	26dB (MHz)	
Normal Voltage	14.69	14.69	14.64	Pass
Low Voltage	14.71	14.70	14.65	Pass
High Voltage	14.69	14.66	14.62	Pass
Test voltage	**99% (MHz)**	**99% (MHz)**	**99% (MHz)**	
Normal Voltage	9.49	9.49	9.44	Pass
Low Voltage	9.51	9.52	9.46	Pass
High Voltage	9.49	9.49	9.43	Pass

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Mode:n20 mode

Test voltage	5,180 MHz	5,220 MHz	5,240 MHz	Result
	26dB (MHz)	26dB (MHz)	26dB (MHz)	
Normal Voltage	14.69	14.69	14.64	Pass
Low Voltage	14.71	14.70	14.65	Pass
High Voltage	14.69	14.66	14.62	Pass
Test voltage	**99% (MHz)**	**99% (MHz)**	**99% (MHz)**	
Normal Voltage	9.49	9.49	9.44	Pass
Low Voltage	9.51	9.52	9.46	Pass
High Voltage	9.49	9.49	9.43	Pass

Mode:n40 mode

Test voltage	5,190 MHz	5,230 MHz	Result
	26dB (MHz)	26dB (MHz)	
Normal Voltage	14.69	14.64	Pass
Low Voltage	14.71	14.65	Pass
High Voltage	14.69	14.62	Pass
Test voltage	**99% (MHz)**	**99% (MHz)**	
Normal Voltage	9.49	9.44	Pass
Low Voltage	9.51	9.46	Pass
High Voltage	9.49	9.43	Pass

- See next pages for actual measured spectrum plots.

Minimum Standard:

The 26 dB bandwidth is used to determine the conducted power limits.

There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C.

Measurement Setup

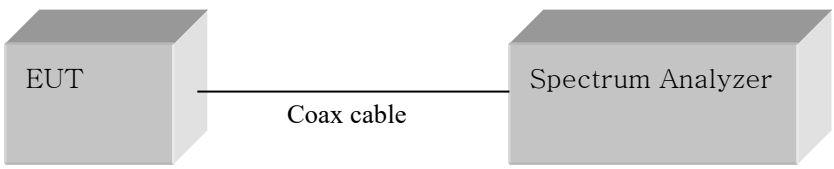

Figure 1: Measurement setup for the carrier frequency separation

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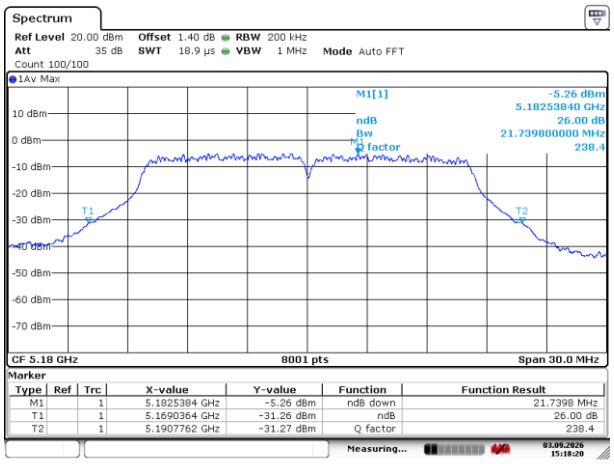
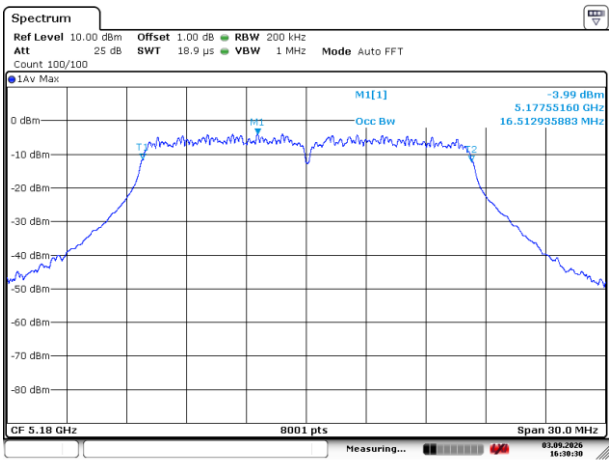
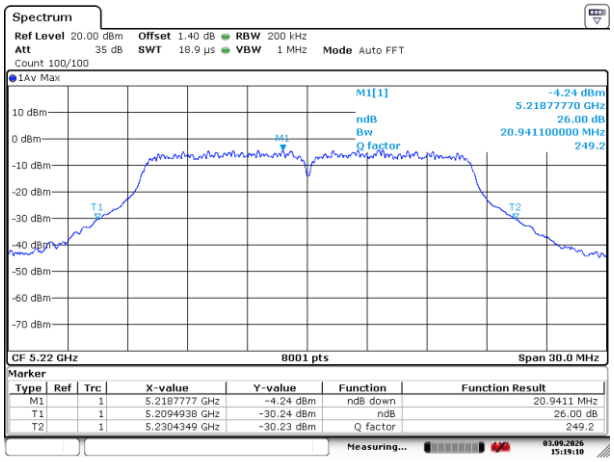
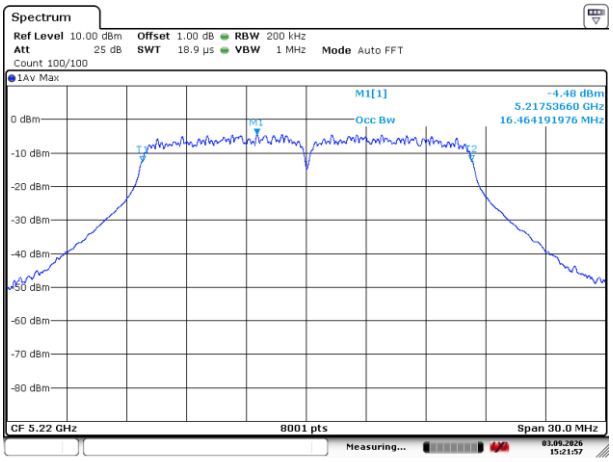
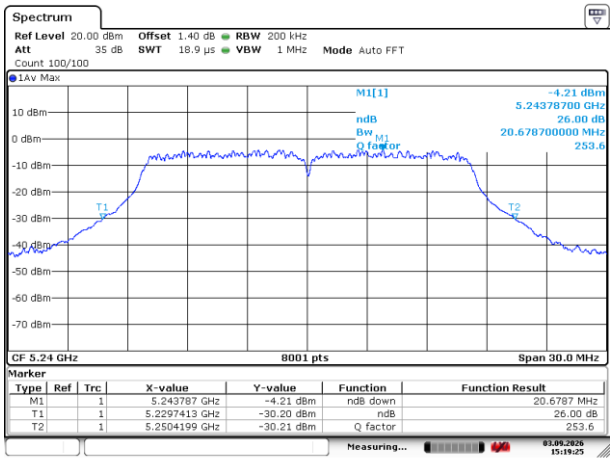
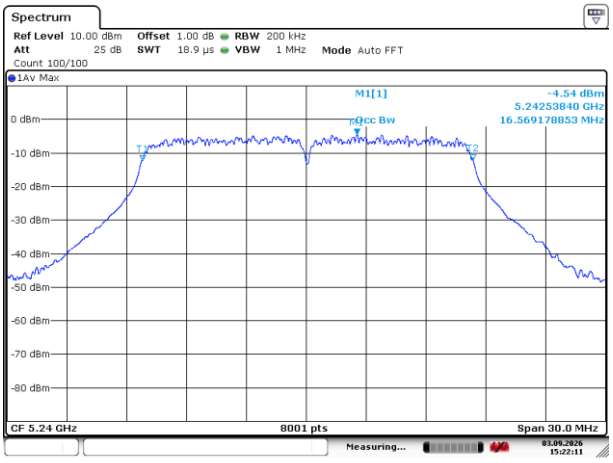
Test Mode : a mode	
26dB OBW	**99 % OBW**
	
	
	

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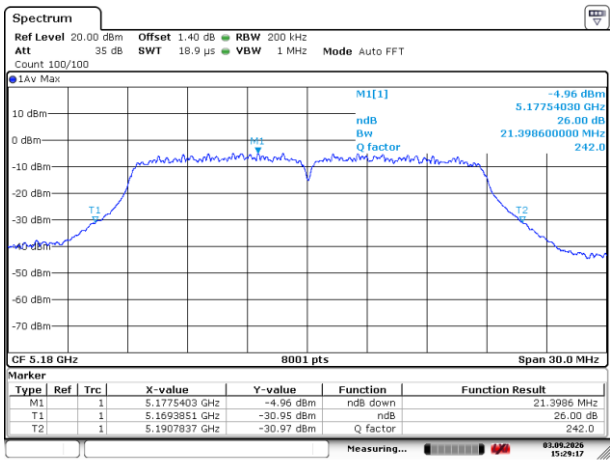
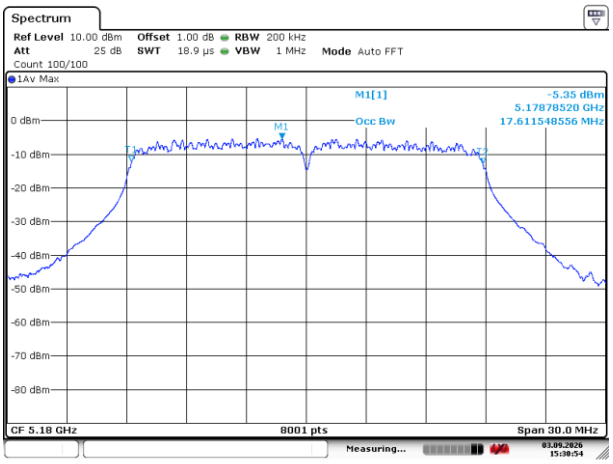
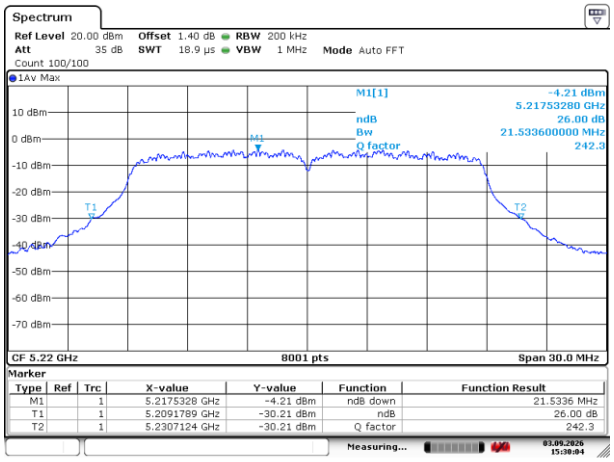
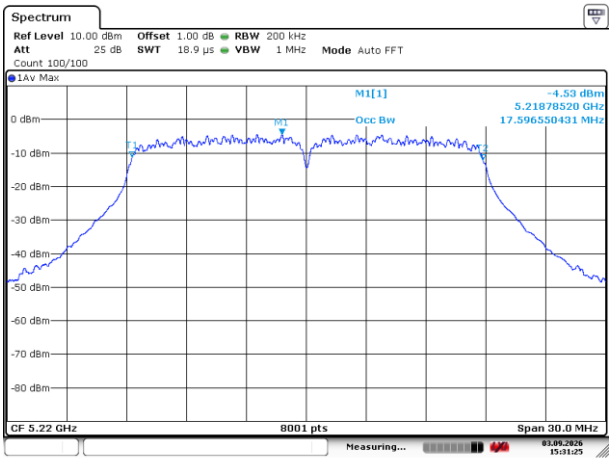
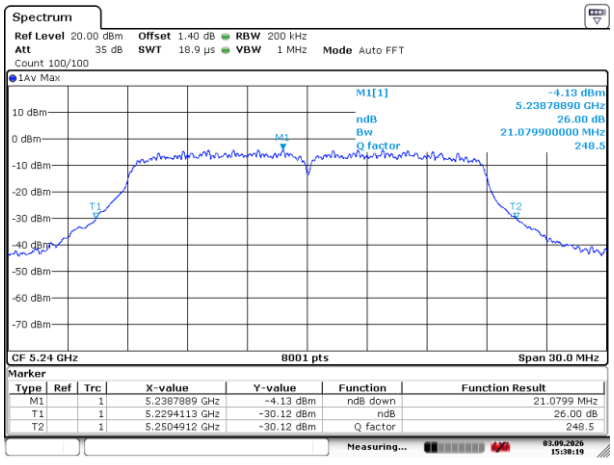
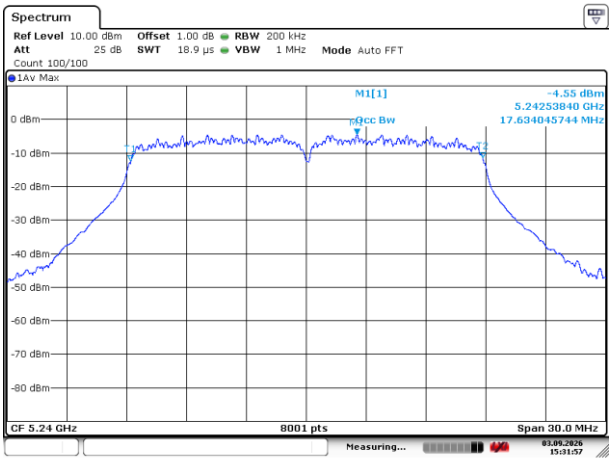
Test Mode : n20 mode	
26dB OBW	**99 % OBW**
	
	
	

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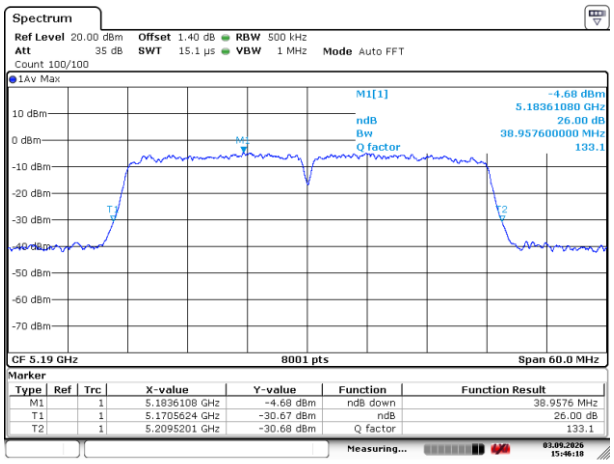
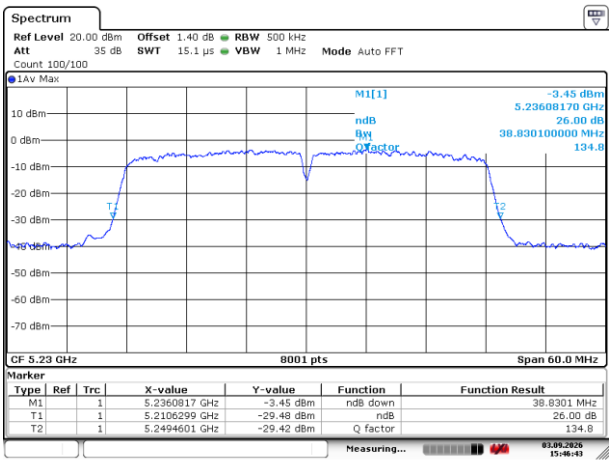
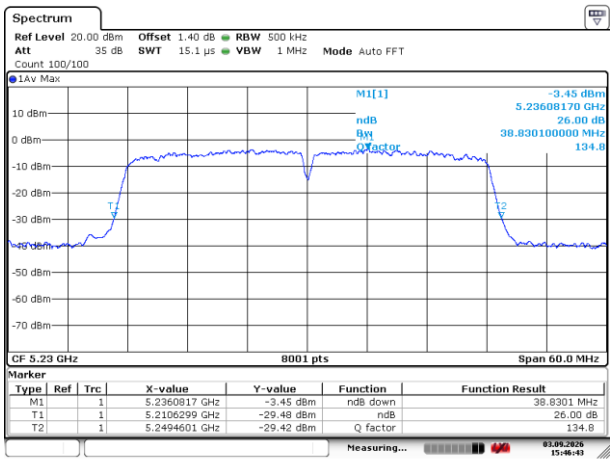
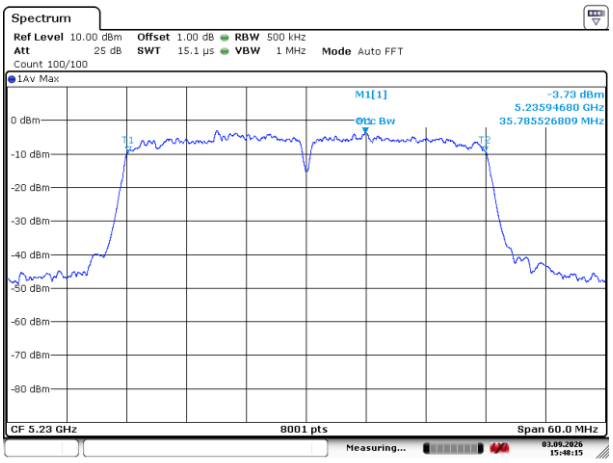
Test Mode : n40 mode	
26dB OBW	**99 % OBW**
	
	

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3.2.2 Peak Output Power Measurement

Procedure:

Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99% occupied bandwidth of the signal.1 However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with Section 15.407(a).

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 1 MHz

Span ≥ 1.5 X EBW

VBW ≥ 3 MHz

Sweep = auto

Detector function = RMS

Measurement Data : Complies

Mode:a mode

Frequency (MHz)	Test Results	
	Measured data (dBm)	Result
5180	1.39	Complies
5220	1.43	Complies
5240	2.03	Complies

Mode:n20 mode

Frequency (MHz)	Test Results	
	Measured data (dBm)	Result
5180	1.68	Complies
5220	1.47	Complies
5240	2.32	Complies

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Mode:n40 mode

Frequency (MHz)	Test Results	
	Measured data (dBm)	Result
5190	**-0.95**	Complies
5230	**0.13**	Complies

- See next pages for actual measured spectrum plots.

Minimum Standard:

Peak output power	≤ 22.3 dBm=24 dBm-(ANT Gain : 7.7dBi - 6dBi)

Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

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3.2.3 Power Spectral Density

Procedure:

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance.

The spectrum analyzer is set to:

RBW ≥ 1MHz — Span = the frequency band of operation

VBW ≥ 3 X RBW — Sweep = auto

Detector function = RMS — Trace = max hold

Measurement Data : Complies

Mode:a mode

Frequency (MHz)	Test Results	
	dBm / MHz BW	Result
5180	1.11	Complies
5220	1.16	Complies
5240	1.85	Complies

Mode:n20 mode

Frequency (MHz)	Test Results	
	dBm / MHz BW	Result
5180	1.44	Complies
5220	1.39	Complies
5240	2.20	Complies

Mode:n40 mode

Frequency (MHz)	Test Results	
	dBm / MHz BW	Result
5190	-1.44	Complies
5230	-0.02	Complies

- See next pages for actual measured spectrum plots.

Minimum Standard:

Power Spectral Density	≤ 11 dBm / MHz

Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

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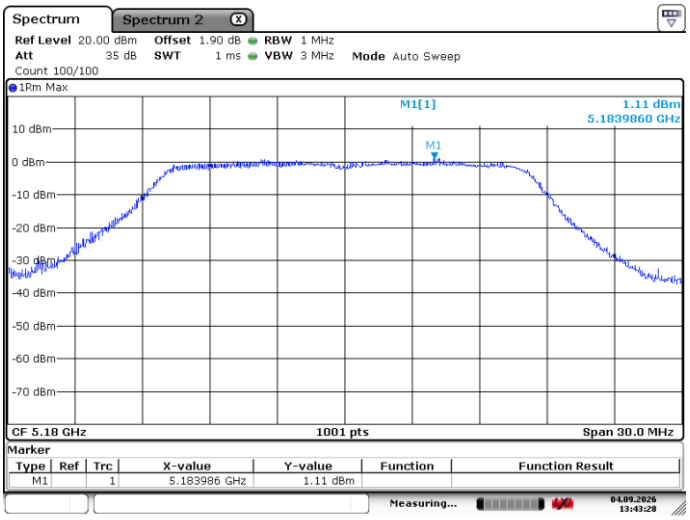
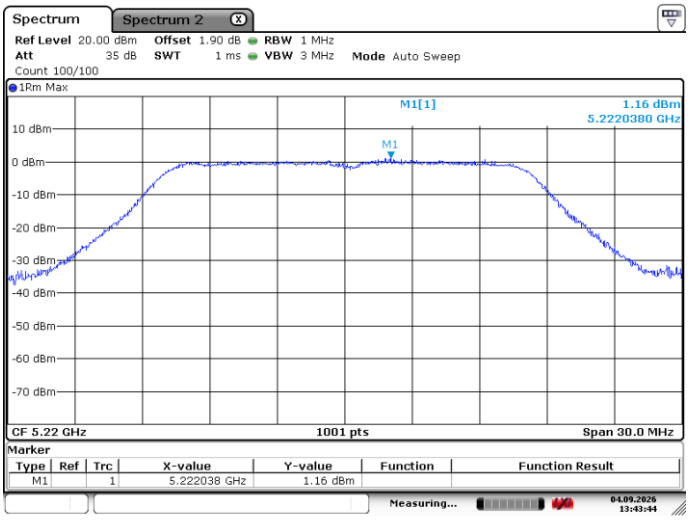
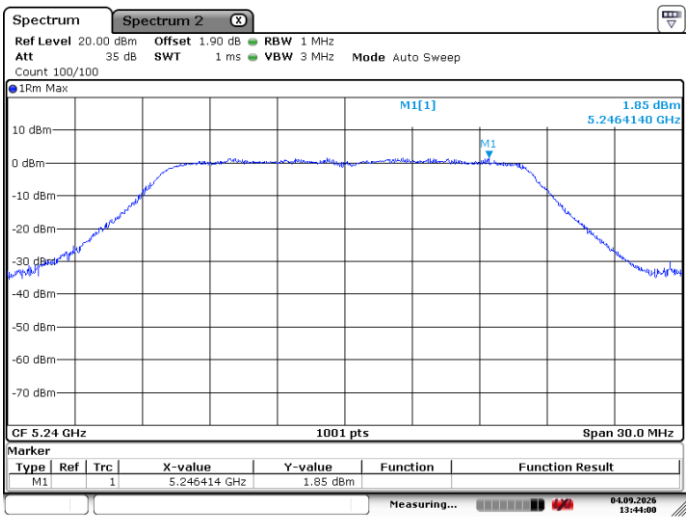
A mode







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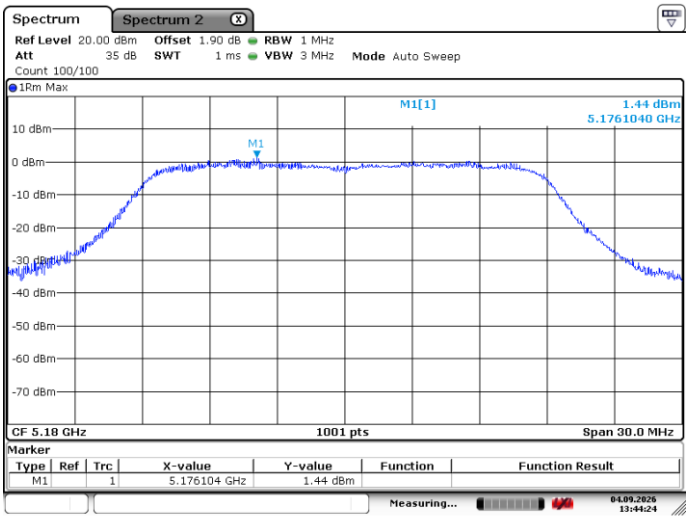
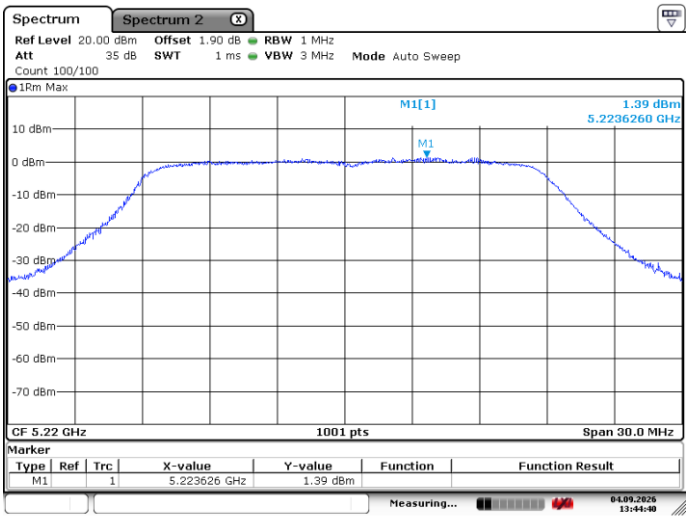
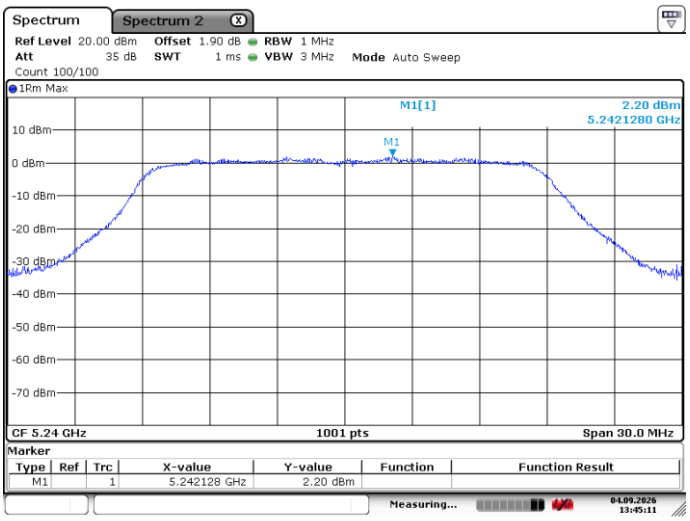
N20 mode







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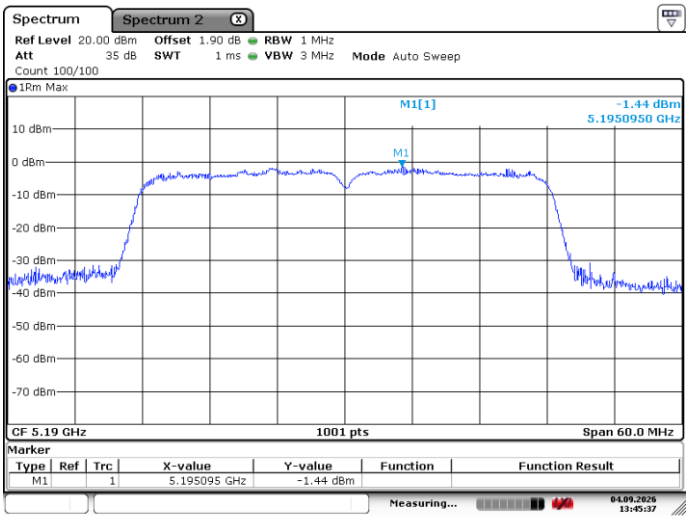
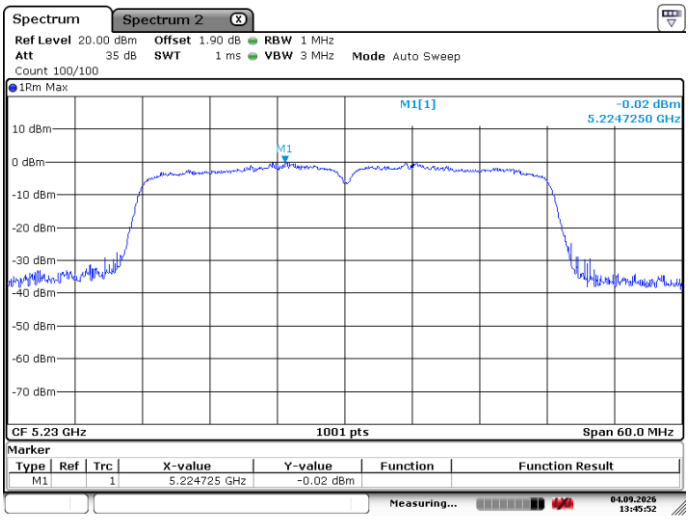
N40 mode





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3.2.4 Band Edge

Procedure:

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 1 MHz VBW ≥ 3 MHz

Detector function = peak Trace = max hold

Sweep = auto Antenna gain : 7.7 dBi

Measurement Data: **Complies**

Mode:a mode

Frequency (MHz)	Test Results	
	dBm/MHz	Result
Low edge	**-50.06**	Complies
High edge	**-39.27**	Complies

Mode:n20 mode

Frequency (MHz)	Test Results	
	dBm/MHz	Result
Low edge	**-49.23**	Complies
High edge	**-36.52**	Complies

Mode:n40 mode

Frequency (MHz)	Test Results	
	dBm/MHz	Result
Low edge	**-49.62**	Complies
High edge	**-42.53**	Complies

- See next pages for actual measured spectrum plots.

Minimum Standard:	≤ −27 dBm/MHz

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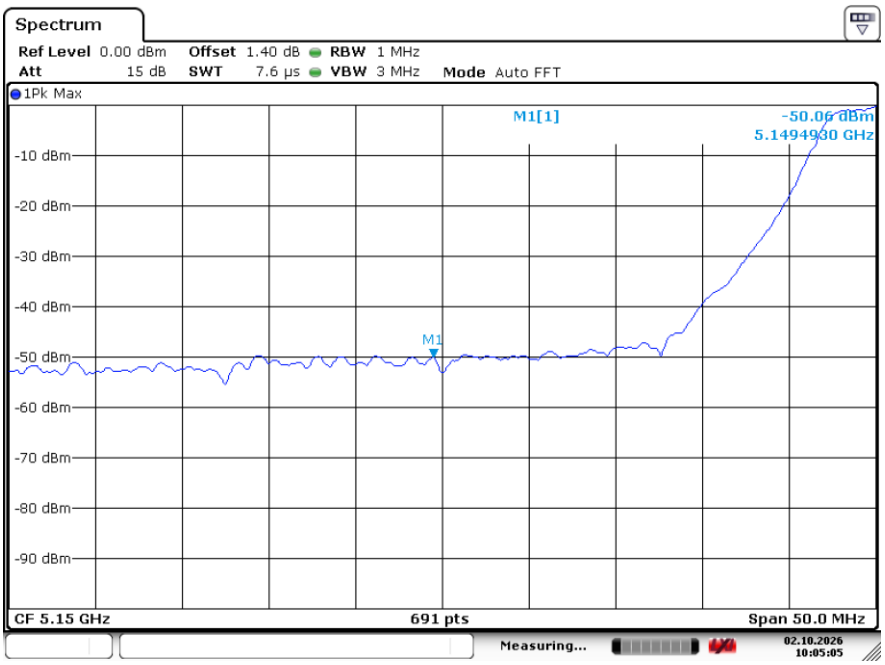
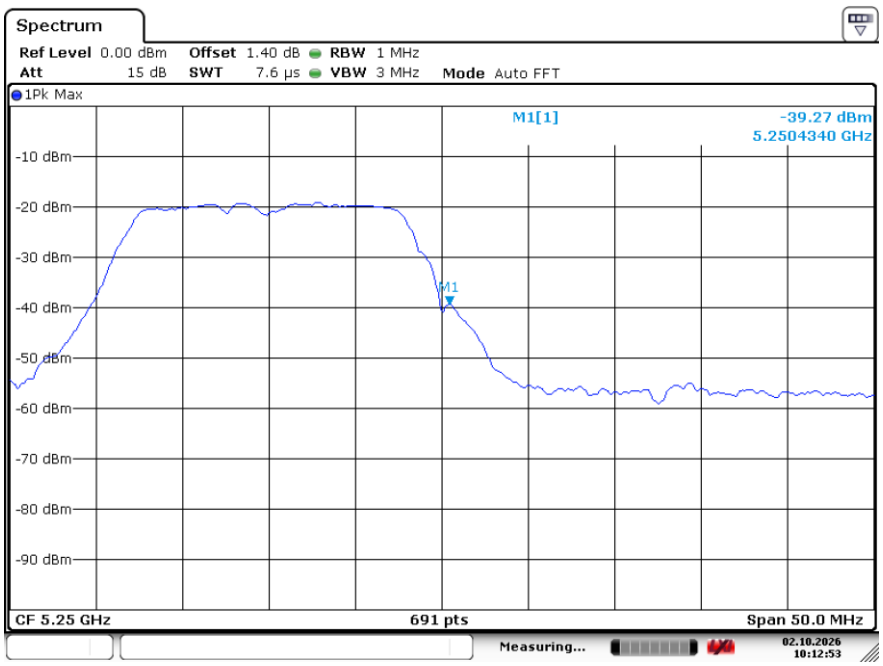
A mode





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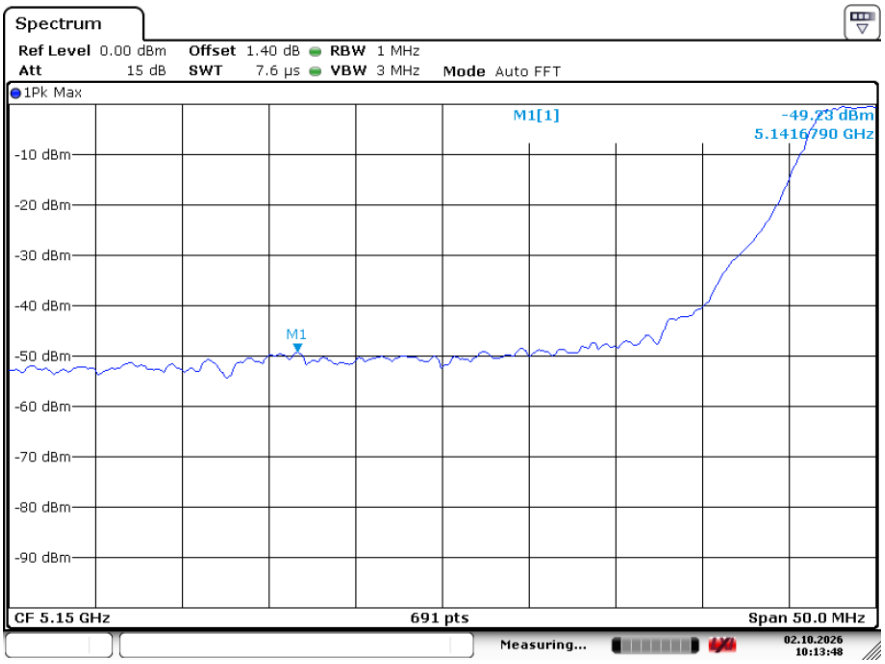
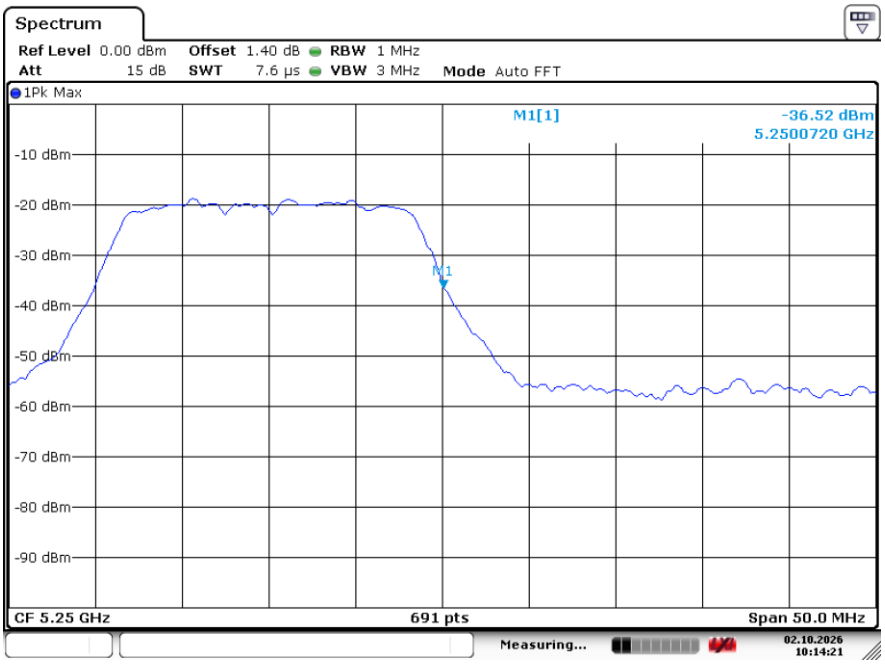
N20 mode





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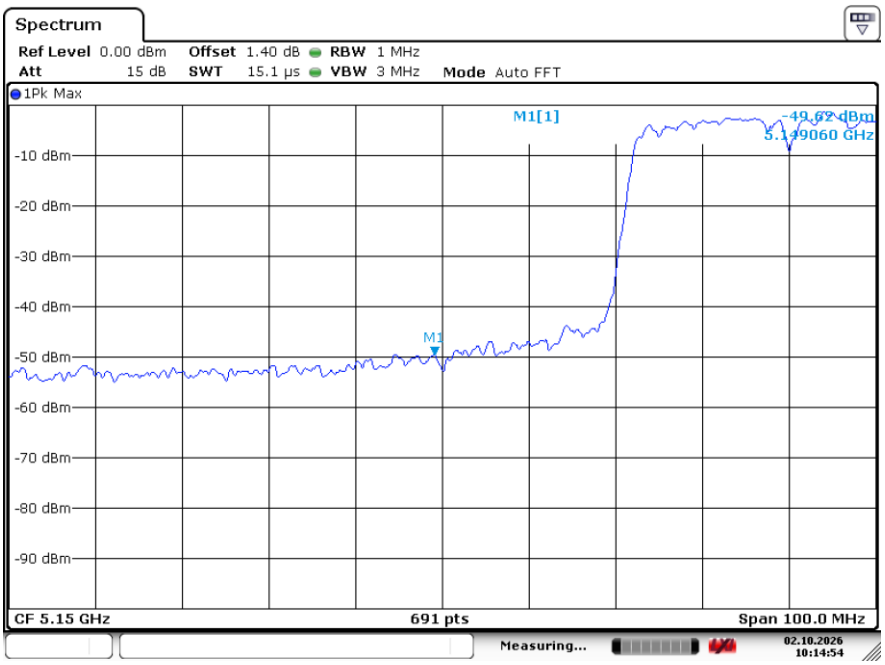
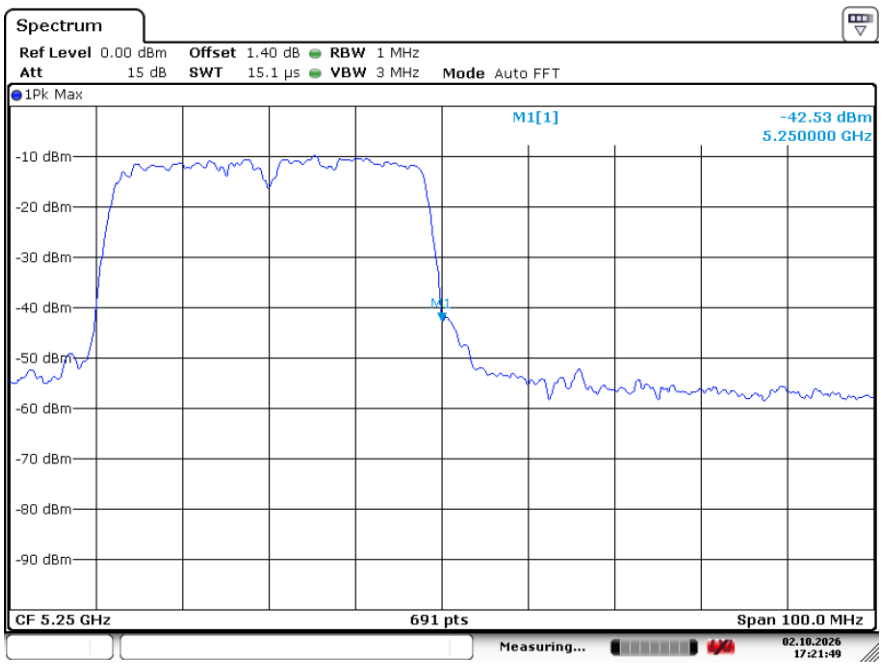
N40 mode





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3.2.5 Conducted Spurious Emissions

Procedure:

the unwanted emissions were measured using a spectrum analyzer connected to the antenna terminal, in accordance with KDB 789033 D02 General U-NII Test Procedures.

After the trace being stable, set the marker on the peak of any spurious emission recorded.

The spectrum analyzer is set to:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions

RBW = 1 MHz — Sweep = auto

VBW ≥ 3 MHz — Detector function = peak

Trace = max hold — Antenna gain : 7.7 dBi

Measurement Data: Complies

Mode:a mode

Frequency (MHz)	Test Results	
	dBm/MHz	Result
5180	-46.75	Complies
5220	-47.29	Complies
5240	-47.23	Complies

Mode:n20 mode

Frequency (MHz)	Test Results	
	dBm/MHz	Result
5180	-47.62	Complies
5220	-46.39	Complies
5240	-46.82	Complies

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Mode:n40 mode

Frequency (MHz)	Test Results	
	dBm/MHz	Result
5190	**-49.16**	Complies
5230	**-48.62**	Complies

- See next pages for actual measured spectrum plots.

Minimum Standard:	≤ -27 dBm/MHz

Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

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3.2.6 Radiated Spurious Emissions

Procedure:

Radiated emissions from 30 MHz to 40 GHz were measured according to the methods defines in ANSI C63.10-2020. The EUT is a placed on as turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

The spectrum analyzer is set to:

Center frequency = the worst channel

Frequency Range = 9 kHz ~ 10^{th} harmonic.

RBW = 120 kHz (30 MHz ~ 1 GHz) VBW ≥ RBW

= 1 MHz (1 GHz ~ 10^{th} harmonic)

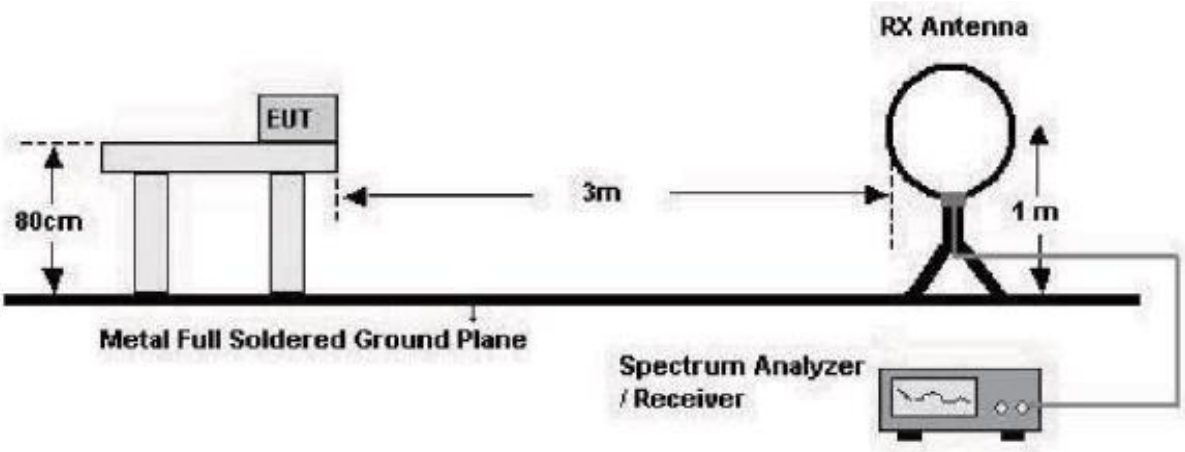
Trace = max hold Detector function = peak

Sweep = auto

Duty cycle : 98.93 %

The EUT configureal to transmit continuously(D ≥ 98%)/ Duty Factor = 0

below 30 MHz



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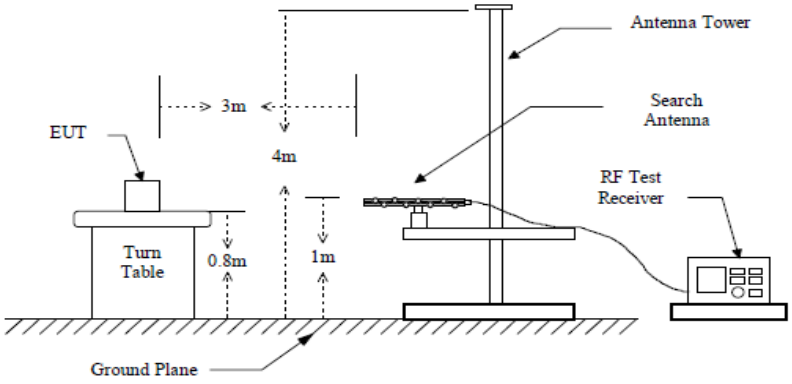
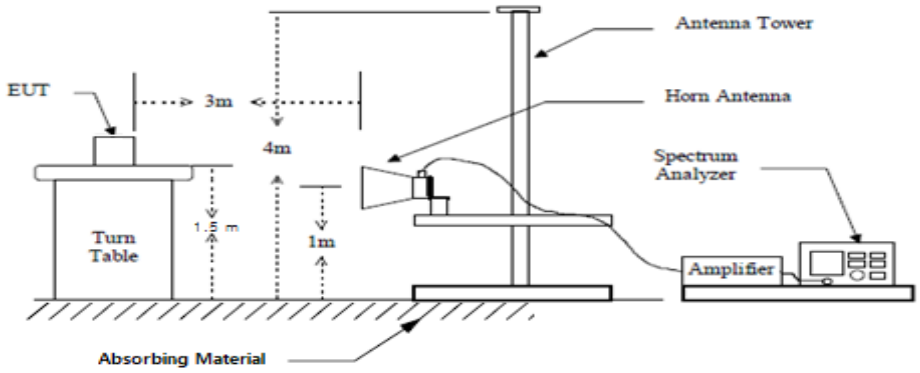
below 1 GHz (30 MHz to 1 GHz)



above 1 GHz



Measurement Data: Complies

- See next pages for actual measured data.
- No other emissions were detected at a level greater than 20 dB below limit include from 9 kHz to 30MHz.
- The test results for the worst of the various operating modes are presented in accordance with 6.3.4 of ANSI C63.10.
- Checked with a red circle is the fundamental frequency.

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Minimum Standard: FCC Part 15.209(a)

Frequency (MHz)	Limit (uV/m) @ 3 m
0.009 ~ 0.490	2400/F(kHz) **(@ 300 m)**
0.490 ~ 1.705	24000/F(kHz) **(@ 30 m)**
1.705 ~ 30	30**(@ 30 m)**
30 ~ 88	100 **
88 ~ 216	150 **
216 ~ 960	200 **
Above 960	500

** 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.

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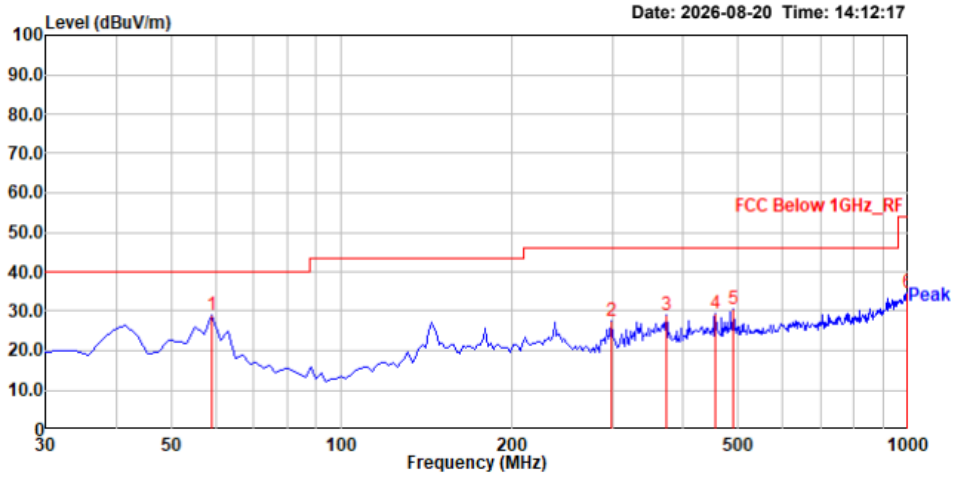
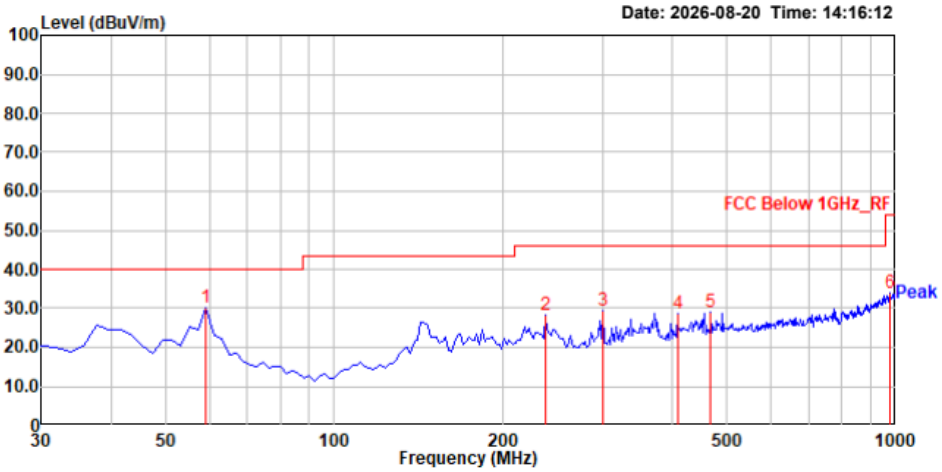
A mode-Radiated Emissions



No.	Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
	MHz	dBµV	dB	dBµV/m	dBµV/m	dB	cm	deg	
1.	59.10	41.79	-12.77	29.02	40.00	10.98	0	196	vertical
2.	299.66	37.28	-9.85	27.43	46.00	18.57	0	360	vertical
3.	373.38	36.80	-7.81	28.99	46.00	17.01	0	278	vertical
4.	456.80	35.29	-5.67	29.62	46.00	16.38	0	44	vertical
5.	491.72	35.92	-5.18	30.74	46.00	15.26	0	0	vertical
6.	992.24	30.47	4.30	34.77	54.00	19.23	0	148	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain



No.	Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
	MHz	dBµV	dB	dBµV/m	dBµV/m	dB	cm	deg	
1.	59.10	42.78	-12.77	30.01	40.00	9.99	0	65	horizontal
2.	237.58	40.76	-12.42	28.34	46.00	17.66	0	5	horizontal
3.	301.60	39.35	-9.77	29.58	46.00	16.42	0	310	horizontal
4.	408.30	35.95	-7.14	28.81	46.00	17.19	0	350	horizontal
5.	468.44	34.70	-5.65	29.05	46.00	16.95	0	59	horizontal
6.	978.66	30.67	3.43	34.10	54.00	19.90	0	113	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

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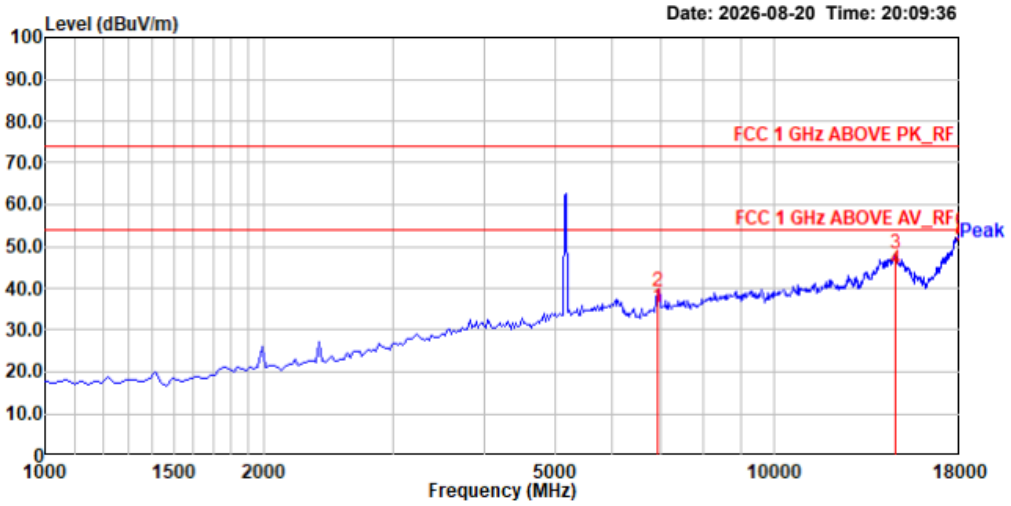
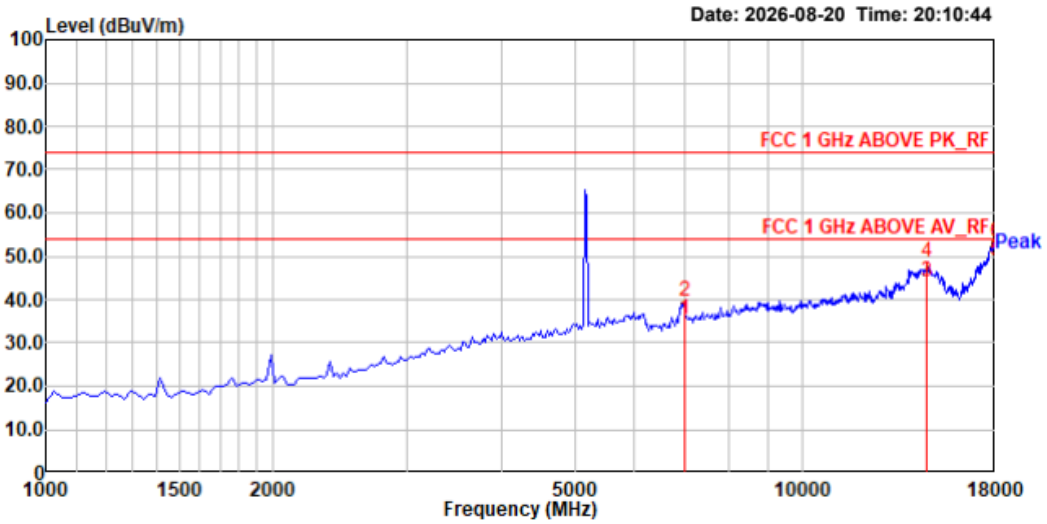


No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
1.	6913.04	------	24.39	11.07	------	35.46	------	54.00	------	18.54	0	261	horizontal
2.	6913.04	28.06	24.39	11.07	39.13	35.46	74.00	54.00	34.87	18.54	0	261	horizontal
3.	14649.28	27.16	------	20.96	48.12	------	74.00	------	25.88	------	0	136	horizontal
4.	14649.28	------	23.45	20.96	------	44.41	------	54.00	------	9.59	0	136	horizontal
6.	18000.00	27.00	23.36	26.66	53.66	50.02	74.00	54.00	20.34	3.98	0	40	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain



No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
1.	6986.96	------	24.33	11.09	------	35.42	------	54.00	------	18.58	0	291	vertical
2.	6986.96	28.42	24.33	11.09	39.51	35.42	74.00	54.00	34.49	18.58	0	291	vertical
4.	14600.00	27.49	23.09	21.09	48.58	44.18	74.00	54.00	25.42	9.82	0	192	vertical
6.	18000.00	26.70	22.27	26.66	53.36	48.93	74.00	54.00	20.64	5.07	0	263	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain

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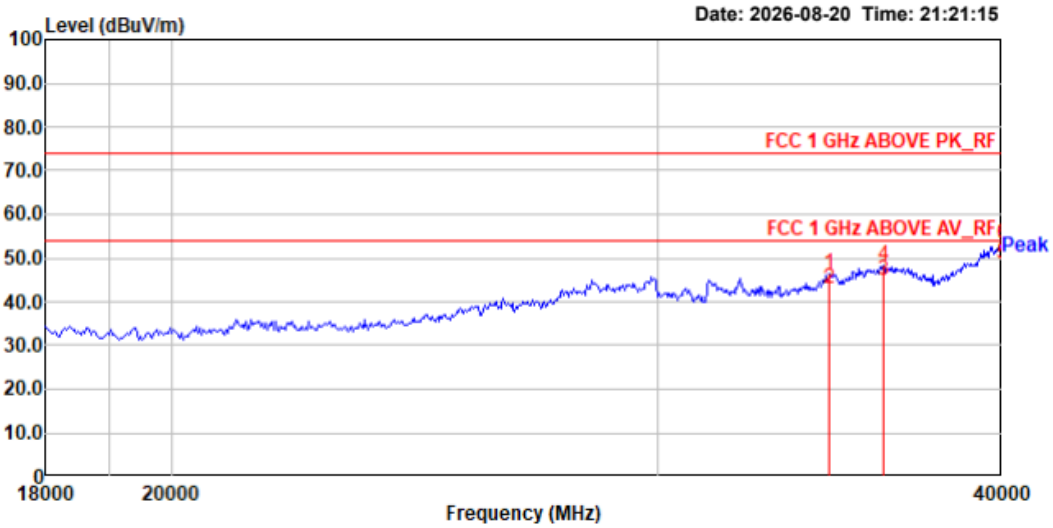
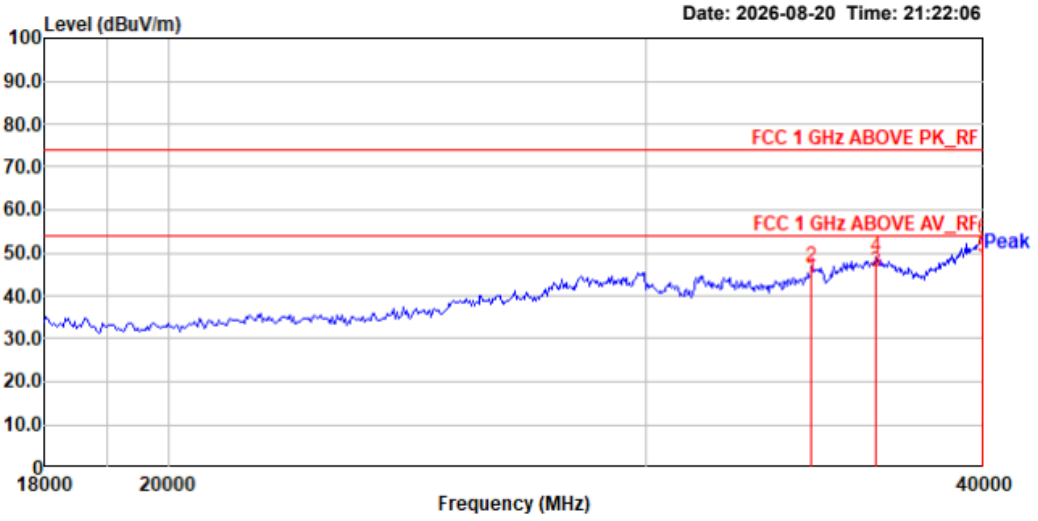


No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
1.	34643.48	22.76	------	23.80	46.56	------	74.00	------	27.44	------	0	82	horizontal
2.	34643.48	------	19.23	23.80	------	43.03	------	54.00	------	10.97	0	82	horizontal
4.	36237.68	23.75	20.25	24.59	48.34	44.84	74.00	54.00	25.66	9.16	0	220	horizontal
6.	40000.00	25.59	21.27	27.51	53.10	48.78	74.00	54.00	20.90	5.22	0	108	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain



No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
1.	34547.82	------	20.38	23.80	------	44.18	------	54.00	------	9.82	0	331	vertical
2.	34547.82	23.14	------	23.80	46.94	------	74.00	------	27.06	------	0	331	vertical
4.	36460.87	24.37	21.08	24.51	48.88	45.59	74.00	54.00	25.12	8.41	0	331	vertical
6.	39936.23	25.91	21.46	27.46	53.37	48.92	74.00	54.00	20.63	5.08	0	355	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain

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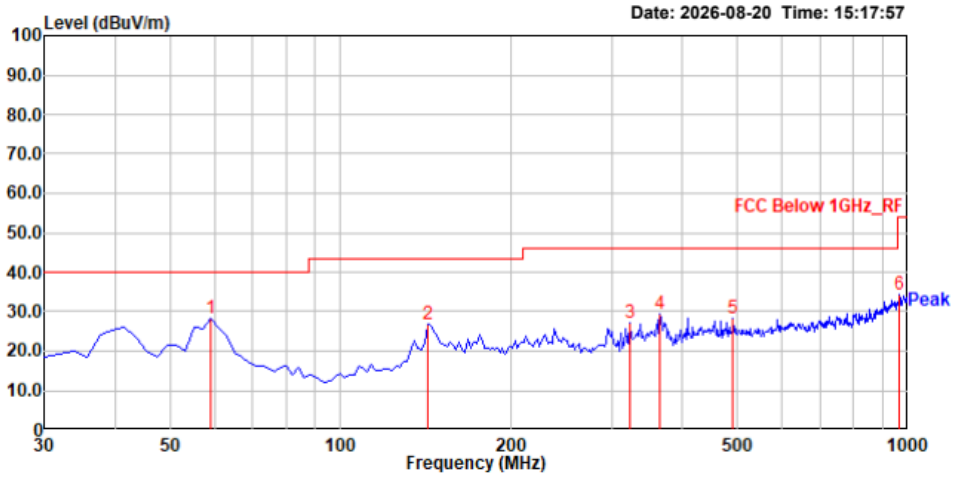
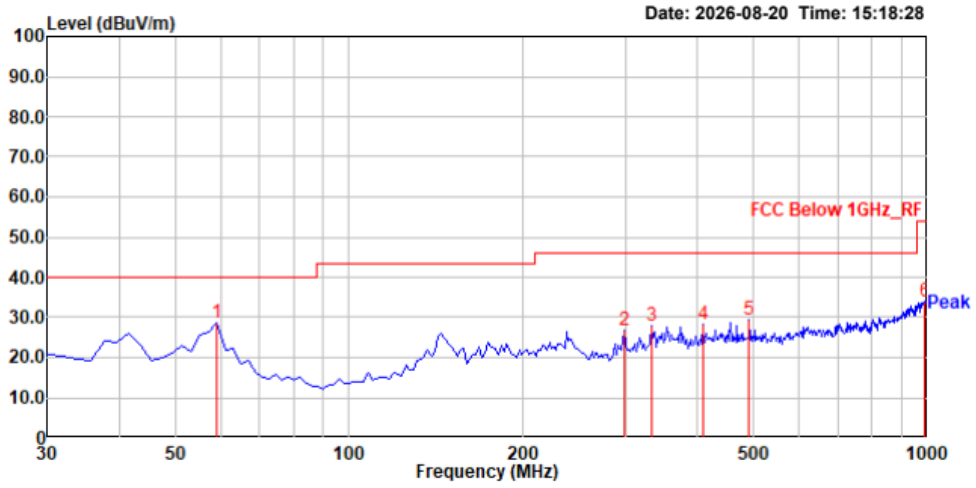
N20 mode-Radiated Emissions



No.	Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
	MHz	dBµV	dB	dBµV/m	dBµV/m	dB	cm	deg	
1.	59.10	40.96	-12.77	28.19	40.00	11.81	0	147	horizontal
2.	142.52	38.55	-11.62	26.93	43.50	16.57	0	238	horizontal
3.	322.94	36.16	-8.98	27.18	46.00	18.82	0	258	horizontal
4.	365.62	37.44	-8.08	29.36	46.00	16.64	0	285	horizontal
5.	491.72	33.60	-5.18	28.42	46.00	17.58	0	0	horizontal
6.	965.08	31.45	2.94	34.39	54.00	19.61	0	160	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain



No.	Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
	MHz	dBµV	dB	dBµV/m	dBµV/m	dB	cm	deg	
1.	59.10	41.55	-12.77	28.78	40.00	11.22	0	144	vertical
2.	299.66	36.59	-9.85	26.74	46.00	19.26	0	184	vertical
3.	332.64	36.78	-8.79	27.99	46.00	18.01	0	246	vertical
4.	408.30	35.38	-7.14	28.24	46.00	17.76	0	360	vertical
5.	491.72	34.58	-5.18	29.40	46.00	16.60	0	360	vertical
6.	986.42	30.18	3.90	34.08	54.00	19.92	0	313	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

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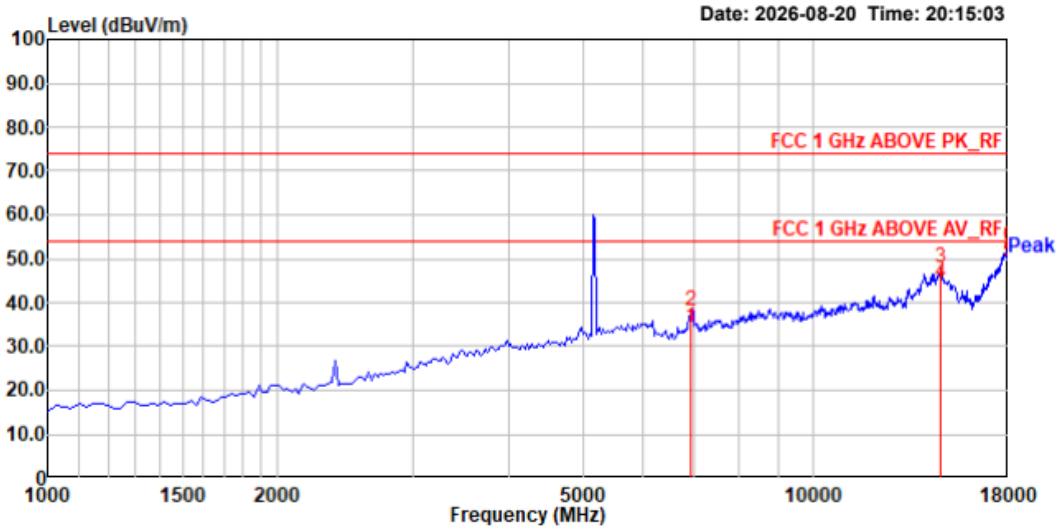
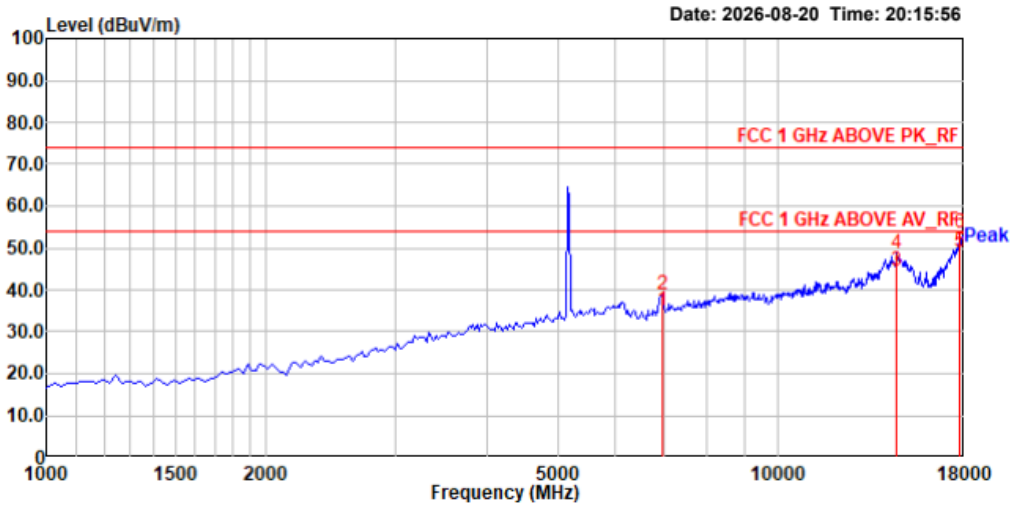


No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
2.	6937.68	27.07	23.20	11.11	38.18	34.31	74.00	54.00	35.82	19.69	0	95	horizontal
3.	14649.28	27.13	------	20.96	48.09	------	74.00	------	25.91	------	0	12	horizontal
4.	14649.28	------	23.46	20.96	------	44.42	------	54.00	------	9.58	0	12	horizontal
6.	18000.00	26.23	22.94	26.66	52.89	49.60	74.00	54.00	21.11	4.40	0	254	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain



No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
2.	6962.32	27.80	23.88	11.11	38.91	34.99	74.00	54.00	35.09	19.01	0	0	vertical
3.	14550.72	------	23.57	21.11	------	44.68	------	54.00	------	9.32	0	339	vertical
4.	14550.72	27.41	------	21.11	48.52	------	74.00	------	25.48	------	0	339	vertical
5.	17753.62	------	23.19	25.68	------	48.87	------	54.00	------	5.13	0	0	vertical
6.	17753.62	27.72	------	25.68	53.40	------	74.00	------	20.60	------	0	0	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain

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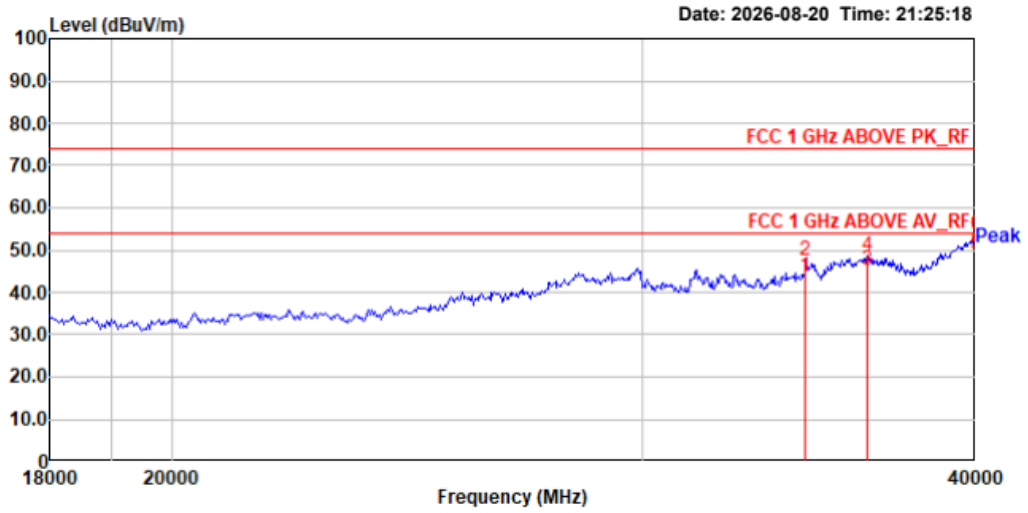
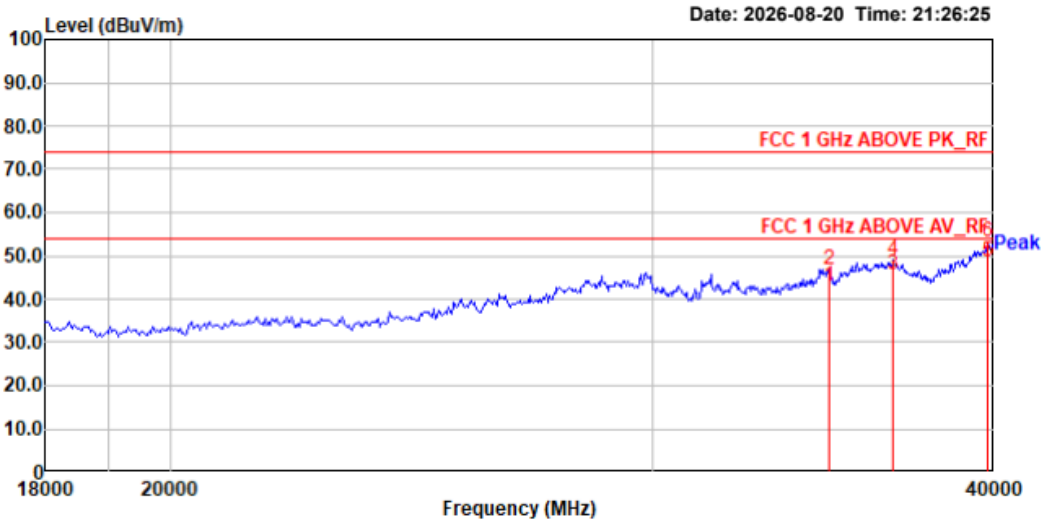


No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
1.	34547.82	------	20.14	23.80	------	43.94	------	54.00	------	10.06	0	58	horizontal
2.	34547.82	23.75	------	23.80	47.55	------	74.00	------	26.45	------	0	58	horizontal
3.	36428.98	------	20.62	24.54	------	45.16	------	54.00	------	8.84	0	165	horizontal
4.	36428.98	24.01	------	24.54	48.55	------	74.00	------	25.45	------	0	165	horizontal
6.	40000.00	25.90	21.39	27.51	53.41	48.90	74.00	54.00	20.59	5.10	0	237	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain



No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
2.	34802.90	22.92	19.21	23.81	46.73	43.02	74.00	54.00	27.27	10.98	0	165	vertical
4.	36715.94	24.76	21.36	24.36	49.12	45.72	74.00	54.00	24.88	8.28	0	156	vertical
5.	39776.81	------	21.57	27.05	------	48.62	------	54.00	------	5.38	0	39	vertical
6.	39776.81	26.18	------	27.05	53.23	------	74.00	------	20.77	------	0	39	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain

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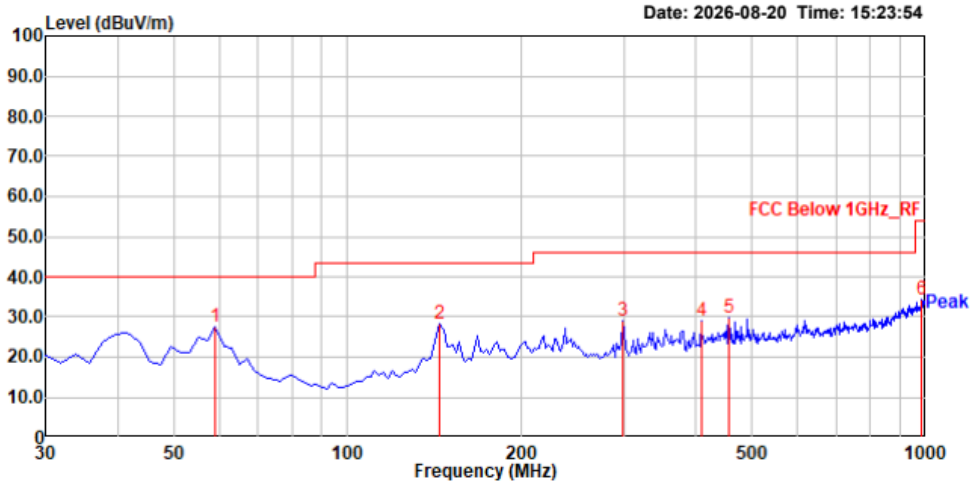
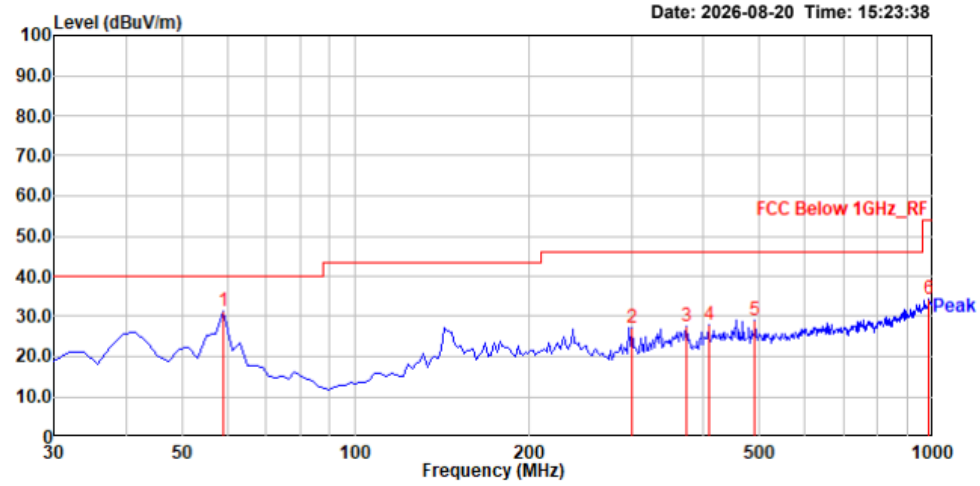
N40 mode-Radiated Emissions



No.	Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
	MHz	dBµV	dB	dBµV/m	dBµV/m	dB	cm	deg	
1.	59.10	40.21	-12.77	27.44	40.00	12.56	0	137	horizontal
2.	144.46	39.54	-11.39	28.15	43.50	15.35	0	226	horizontal
3.	299.66	39.03	-9.85	29.18	46.00	16.82	0	327	horizontal
4.	408.30	36.20	-7.14	29.06	46.00	16.94	0	2	horizontal
5.	456.80	35.37	-5.67	29.70	46.00	16.30	0	318	horizontal
6.	982.54	30.66	3.63	34.29	54.00	19.71	0	57	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain



No.	Freq	Reading	C.F	Result QP	Limit	Margin	Height	Angle	Polarity
	MHz	dBµV	dB	dBµV/m	dBµV/m	dB	cm	deg	
1.	59.10	44.03	-12.77	31.26	40.00	8.74	0	69	vertical
2.	301.60	37.10	-9.77	27.33	46.00	18.67	0	301	vertical
3.	373.38	35.44	-7.81	27.63	46.00	18.37	0	216	vertical
4.	408.30	35.07	-7.14	27.93	46.00	18.07	0	360	vertical
5.	491.72	34.35	-5.18	29.17	46.00	16.83	0	353	vertical
6.	982.54	30.64	3.63	34.27	54.00	19.73	0	129	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

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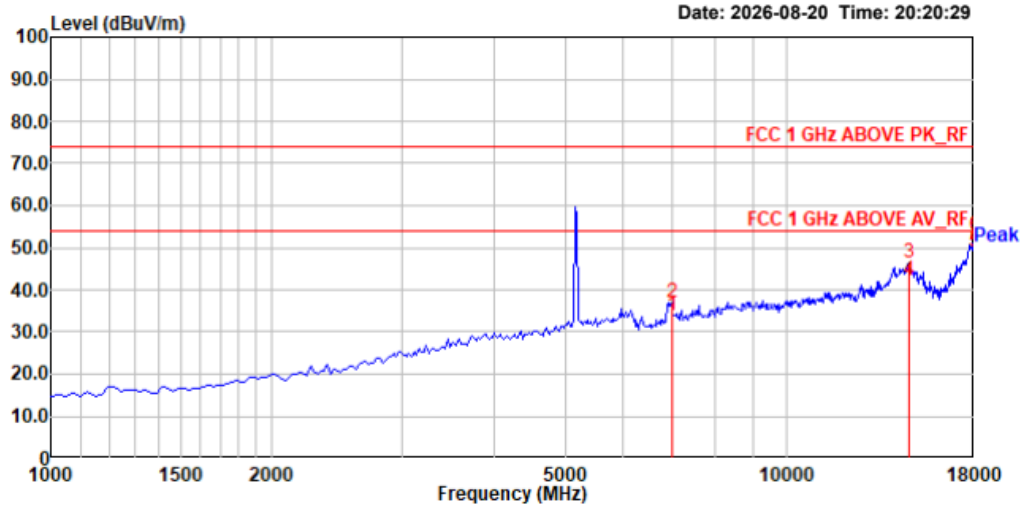
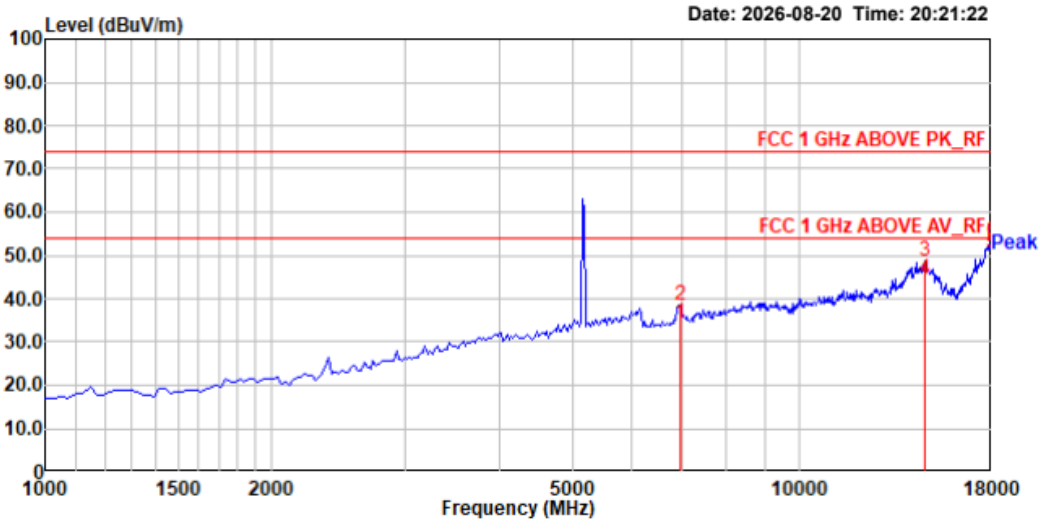


No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
1.	6986.96	------	22.88	11.09	------	33.97	------	54.00	------	20.03	0	10	horizontal
2.	6986.96	26.01	22.88	11.09	37.10	33.97	74.00	54.00	36.90	20.03	0	10	horizontal
3.	14649.28	25.27	------	20.96	46.23	------	74.00	------	27.77	------	0	352	horizontal
4.	14649.28	------	21.38	20.96	------	42.34	------	54.00	------	11.66	0	352	horizontal
6.	18000.00	26.24	22.31	26.66	52.90	48.97	74.00	54.00	21.10	5.03	0	153	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain



No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
2.	6962.32	27.48	23.38	11.11	38.59	34.49	74.00	54.00	35.41	19.51	0	360	vertical
3.	14649.28	27.75	------	20.96	48.71	------	74.00	------	25.29	------	0	0	vertical
4.	14649.28	------	23.73	20.96	------	44.69	------	54.00	------	9.31	0	0	vertical
6.	18000.00	26.39	23.86	26.66	53.05	50.52	74.00	54.00	20.95	3.48	0	360	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain

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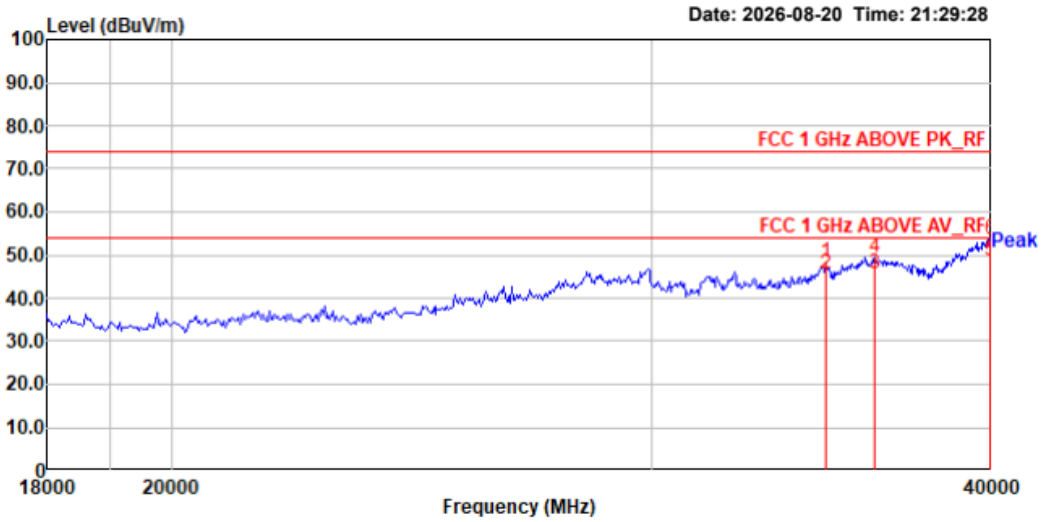
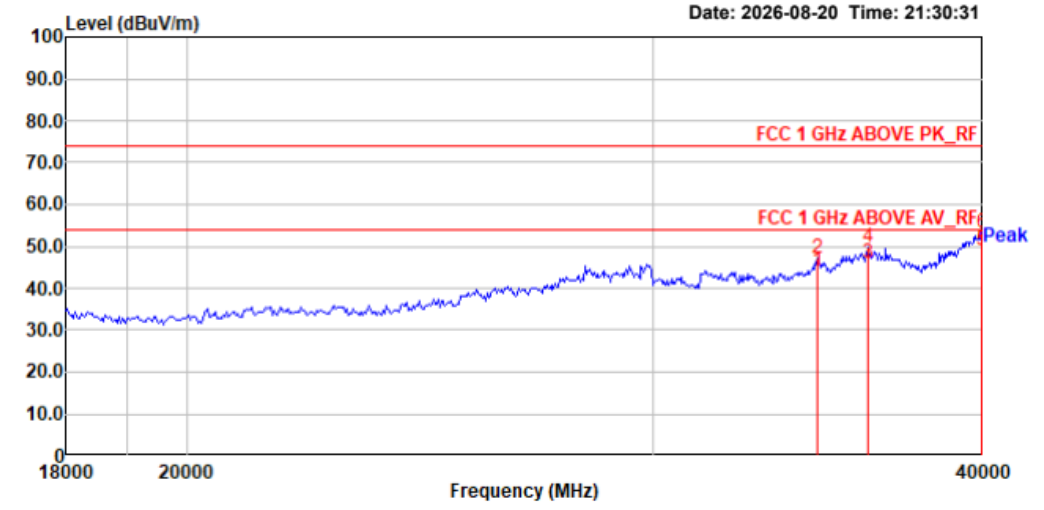


No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
1.	34771.02	24.38	------	23.81	48.19	------	74.00	------	25.81	------	0	101	horizontal
2.	34771.02	------	21.75	23.81	------	45.56	------	54.00	------	8.44	0	101	horizontal
4.	36237.68	24.82	20.98	24.59	49.41	45.57	74.00	54.00	24.59	8.43	0	20	horizontal
6.	39936.23	26.19	21.34	27.46	53.65	48.80	74.00	54.00	20.35	5.20	0	202	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain



No.	Freq	RD PK	RD AV	C.F	Result PK	Result AV	Limit PK	Limit AV	Margin PK	Margin AV	Height	Angle	Polarity
	MHz	dBµV	dBµV	dB	dBµV	dBµV	dBµV	dBµV	dB	dB	cm	deg	
1.	34611.59	------	20.21	23.80	------	44.01	------	54.00	------	9.99	0	338	vertical
2.	34611.59	23.31	------	23.80	47.11	------	74.00	------	26.89	------	0	338	vertical
3.	36173.91	------	21.36	24.62	------	45.98	------	54.00	------	8.02	0	316	vertical
4.	36173.91	25.06	------	24.62	49.68	------	74.00	------	24.32	------	0	316	vertical
6.	39936.23	25.89	21.54	27.46	53.35	49.00	74.00	54.00	20.65	5.00	0	236	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain

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3.2.7 AC Conducted Emissions

Procedure:

The conducted emissions are measured in the shielded room with a spectrum analyzer in peak hold. While the measurement, EUT had its hopping function disabled at the middle channels in line with Section 15.31(m). Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation and Exerciser operation. The highest emissions relative to the limit are listed.

Minimum Standard: FCC Part 15.207(a) / EN 55022

Measurement Data: N/A

Class B

Frequency Range	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

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3.2.8 Frequency Stability

Procedure:

1. The EUT was placed inside the temperature chamber and powered by a nominal DC voltage.
2. The EUT was operated in an unmodulated transmission mode (or normal operation mode) tuned to the operating channel.
3. The output of the EUT was connected to the spectrum analyzer through a coaxial cable.
4. The temperature chamber was set to the required temperature (e.g., from -20°C to +50°C) and sufficient time (approximately 30 minutes) was allowed for thermal stabilization.
5. The operating frequency was measured and recorded at each temperature step and voltage variation (85% to 115% of nominal voltage).

Minimum Standard: No deviation

Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

Test Voltage(V)	Test Temp(°C)	Measured Frequency(MHz)	Spctrum Frequency(MHz)		Frequency(MHz)	
			a	N20	a	N20
3.63	-20	5180	5179.759	5179.747	5179.729	5179.737
		5220	5219.664	5219.706	5219.733	5219.692
		5240	5239.687	5239.724	5239.680	5239.675
2.97		5180	5179.670	5179.708	5179.713	5179.695
		5220	5219.759	5219.746	5219.745	5219.749
		5240	5239.681	5239.754	5239.666	5239.683
3.30	25	5180	5179.691	5179.741	5179.694	5179.714
		5220	5219.757	5219.732	5219.724	5219.660
		5240	5239.665	5239.734	5239.675	5239.755
3.63	50	5180	5179.676	5179.671	5179.752	5179.696
		5220	5219.745	5219.702	5219.755	5219.702
		5240	5239.677	5239.704	5239.727	5239.723
2.97	50	5180	5179.674	5179.715	5179.678	5179.740
		5220	5219.694	5219.697	5219.717	5219.680
		5240	5239.667	5239.728	5239.685	5239.680

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Test Voltage(V)	Test Temp(°C)	Measured Frequency(MHz)	Spctrum Frequency(MHz)	Frequency(MHz)
			N40	N40
3.63	-20	5190	5189.687	5189.735
		5230	5229.732	5229.666
2.97		5190	5189.677	5189.755
		5230	5229.734	5229.661
3.30	25	5190	5189.703	5189.709
		5230	5229.681	5229.670
3.63	50	5190	5189.732	5189.712
		5230	5229.694	5229.756
2.97	50	5190	5189.661	5189.704
		5230	5229.758	5229.748

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3.2.9 Transmission Discontinuation Requirement.

STANDARD REQUIREMENT

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. The provisions in this paragraph (c) are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how the requirement in this paragraph (c) is met.

The following requirements shall apply:

a) The device shall automatically discontinue transmission in cases of absence of information to transmit, or operational failure. A description on how this is done shall accompany the application for equipment certification. Note that this is not intended to prohibit transmission of control or signalling information or the use of repetitive codes where required by the technology.

b) All LE-LAN devices must contain security features to protect against modification of software by unauthorized parties.

Manufacturers must implement security features in any digitally modulated devices capable of operating in any of the frequency ranges within the 5 GHz band, so that third parties are not able to reprogram the device to operate outside the parameters for which the device was certified. The software must prevent the user from operating the transmitter with operating frequencies, output power, modulation types or other radio frequency parameters outside those that were approved for the device. Manufacturers may use various means, including the use of a private network that allows only authenticated users to download software, electronic signatures in software or coding in hardware that is decoded by software to verify that new software can be legally loaded into a device to meet these requirements and must describe the methods in their application for equipment certification.

Manufacturers must take steps to ensure that DFS functionality cannot be disabled by the operator of the LE-LAN device

TEST RESULT

Pass.

Note:

■ Antenna use a permanently attached antenna which is not replaceable.

□ Not using a standard antenna jack or electrical connector for antenna replacement

□ The antenna has to be professionally installed (please provide method of installation) Please refer to the attached document Internal Photos to show the antenna connector.

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APPENDIX

TEST EQUIPMENT USED FOR TESTS

	Use	Description	Model No.	Serial No.	Manufacturer	Interval	Next Cal. Date
1		ATTENUATOR	BM2360	48-40-34	WEINSCHEL	1 year	2027-03-04
2		ATTENUATOR	CL5418	66-30-33	AEROFLEX/WEINSCHEL	1 year	2027-08-14
3		POWER DIVIDER	1506A	TU981	WEINSCHEL	1 year	2027-03-04
4		Digital Multi Meter	34401A	US36062141	H.P	1 year	2027-03-06
5	■	Power Meter	EPM-441A	GB32481702	H.P	1 year	2027-03-05
6	■	Power Sensor	8481A	3318A94972	H.P	1 year	2027-08-14
7		SIGNAL GENERATOR	83711B	US34490456	H.P	1 year	2027-03-05
8	■	VECTOR SIGNAL GENERATOR	SMBV100A	255081	ROHDE&SCHWARZ	1 year	2027-03-04
9		Drop tester	DT-1800	LS06053	LTA	—	N/A
10		TEMP HUMIDITY CHAMBER	NONE	LTAS06041	—	1 year	2027-03-04
11	■	Constant Temp & Humidity Test Chamber	SJ-503H	SJ10051301	—	1 year	2027-08-13
12	■	SIGNAL ANALYZER (10 Hz ~ 40 GHz)	FSV40	101259	ROHDE&SCHWARZ	1 year	2027-03-05
13	■	SIGNAL ANALYZER (10 Hz~40 GHz)	FSV40	101367	ROHDE&SCHWARZ	1 year	2027-08-14
14		WIDEBAND RADIO COMMUNICATION TESTER	CMW500	122216	ROHDE&SCHWARZ	1 year	2027-03-04
15		Active Loop Antenna	HFH2-Z2	—	ROHDE&SCHWARZ	2 year	2027-01-14
16	■	Signal Generator (~3.2 GHz)	8648C	3623A02597	HP	1 year	2027-03-04
17	■	EMI Test Receiver (~7 GHz)	ESCI7	100772	R&S	1 year	2027-08-13
18	■	RF Amplifier (~1.3 GHz)	8447D OPT 010	2944A07684	HP	—	N/A
19	■	RF Amplifier (1~26.5 GHz)	8449B	3008A02126	HP	1 year	2027-03-04
20	■	Horn Antenna (1~18 GHz)	3115	00055005	ETS	1 year	2027-03-26
21	■	DRG Horn (Small)	3116B	81109	ETS-Lindgren	2 year	2027-03-19
22	■	TRILOG Antenna	VULB 9160	9160-3237	SCHWARZBECK	—	N/A
23		Mini-Circuits Splitter	ZFSC-2-2500	SF617800326	Mini-Circuits	-	N/A
24		Audio Analyzer	8903B	3729A18901	HP	1 year	2027-08-13
25		Moduleation Analyzer	8901B	3749A05878	HP	1 year	2027-08-14
26		LISN	KNW-407	8-1430-1	Kyoritsu	1 year	2027-08-13
27		UNIVERSAL RADIO COMMUNICATION TESTER	CMU200	106243	R&S	1 year	2027-03-04
28		Highpass Filter	WHKX1.5/15G-10SS	74	Wainwright Instruments	1 year	2027-03-05
29		Highpass Filter	WHKX3.0/18G-10SS	118	Wainwright Instruments	1 year	2027-03-05
30		OSP120 BASE UNIT	OSP120	101230	R&S	1 year	2027-03-05
31	■	Cable	RG400	-	HUBER SUHNER	1 year	2026-10-31

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