Testing Laboratory
3787

RADIO TEST REPORT

FCC ID	:	JNZVR0054
Equipment	:	Meeting Room Controller
Brand Name	:	Logitech, logitech, logi
Model Name	:	VR0054
Applicant	:	Logitech Far East Ltd #2 Creation Rd., 4, Science-Based Ind. Park,HsinChu , Taiwan
Standard	:	47 CFR FCC Part 15 Subpart C § 15.249

The product was received on May 23, 2026, and testing was started from May 23, 2026 and completed on Oct. 01, 2026. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2020 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

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Appendix A. Test Photos

Photographs of EUT v01

History of this test report

Report No.	Version	Description	Issued Date
FR661606-01	01	Initial issue of report	Sep. 03, 2026
FR661606-01	02	Follow CW mode re-test.	Oct. 06, 2026
FR661606-01	03	1. Revise configuration to "CW" from "CTX" of AC Power Line Conducted Emissions. 2. Add 20dB Spectrum Bandwidth_CW in section 1.6.	Oct. 08, 2026

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2.1	15.207	AC Power Line Conducted Emissions	PASS	-
2.2	15.249(a)	Field Strength of Fundamental Emissions	PASS	-
2.3	15.215(c)	20dB Spectrum Bandwidth	PASS	-
2.4	15.249(a)/(d)	Radiated Emissions	PASS	-
2.5	15.249(d)	Band Edge Emissions	PASS	-
2.6	15.203	Antenna Requirements	PASS	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sam Chen

Report Producer: Lavender Zeng

1 General Information

1.1 Product Details

Items	Description
Power Type	From PoE
Modulation	FMCW
Frequency Range	24000 ~ 24250 MHz
Operation Frequency Range	24000 ~ 24250 MHz
Channel Bandwidth (99%)	172.231 MHz
Max. Field Strength	66.52 dBuV/m at 3m(Average) / 76.07 dBuV/m at 1m (Average) 98.46 dBuV/m at 3m(Peak) / 108 dBuV/m at 1m (Peak)
Firmware Number	N2 V0.200.172
Serial Number	2621VDC00KH8

Note: The above information was declared by manufacturer.

1.2 Accessories

N/A

1.3 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	MicRadar	24G1T1R-5F	Microstrip	N/A	5

Note: The above information was declared by manufacturer.

For 24GHz function (1TX/1RX):
Only Ant. 1 can be used as transmitting/receiving antenna.

1.4 Table for Test Modes

The following table is a list of the test modes shown in this test report.

Test Items	Mode
AC Power Line Conducted Emissions Test Voltage: 120Vac / 60Hz	CW
Field Strength of Fundamental Emissions	CW
20dB Spectrum Bandwidth	FMCW&CW
Radiated Emissions 30MHz~1GHz	CW
Radiated Emissions 1GHz~40GHz	CW
Radiated Emissions 40GHz~100GHz	CW
Band Edge Emissions	CW

Note: The PoE is for measurement only, would not be marketed.

Power	Brand	Model
PoE	BulletPoE	BPI100-H

< AC Power Line Conduction Emissions>

After evaluating, the worst case was found at 24150 MHz, thus the measurement will follow this same test configuration.

Mode 1: EUT with 24150 MHz + PoE

< Radiated Emissions below 1GHz Test >

After evaluating, the worst case was found at X axis and 24150 MHz, thus the measurement will follow this same test configuration.

Mode 1: EUT in X axis with 24150 MHz + PoE

< Radiated Emissions above 1GHz Test >

After evaluating, the worst case was found at X axis, thus the measurement will follow this same test configuration.

Mode 1: EUT in X axis + PoE

1.5 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ANSI C63.10-2020
- 47 CFR FCC Part 15 Subpart C § 15.249

The following reference test guidance is not within the scope of accreditation of TAF.

- FCC KDB 414788 D01 v01r01

1.6 Table for Testing Locations

Testing Location Information
Test Lab.：Sporton International Inc. Hsinchu Laboratory Hsinchu (TAF: 3787) ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) TEL: 886-3-656-9065 FAX: 886-3-656-9085 Test site Designation No. TW3787 with FCC. Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated (Below 1GHz)	03CH01-CB	Eason Chan	24.0~24.7 / 51~53	Sep. 23, 2026~ Oct. 01, 2026
Radiated (1~40GHz&20dB Spectrum Bandwidth_CW)	03CH01-CB	Eason Chan	24.3~24.9 / 57~65	
Radiated (Above 40GHz)	03CH01-CB	Eason Chan	24.0~24.7 / 51~53	
Radiated (20dB Spectrum Bandwidth_FMCW)	03CH03-CB	George Fan	24.6~25.0 / 59~69	May 23, 2026~ Jul. 20, 2026
AC Conduction	CO01-CB	Joe Chu	21~22 / 58~59	Oct. 01, 2026

1.7 Table for Supporting Units

For AC Conduction

No.	Support Unit	Brand	Model	FCC ID
A	PoE	BulletPoE	BPI100-H	N/A
B	Notebook	Lenovo	X260	N/A

For Radiated

No.	Support Unit	Brand	Model	FCC ID
A	PoE	BulletPoE	BPI100-H	N/A
B	Notebook	DELL	E4300	N/A

1.8 Duty Cycle

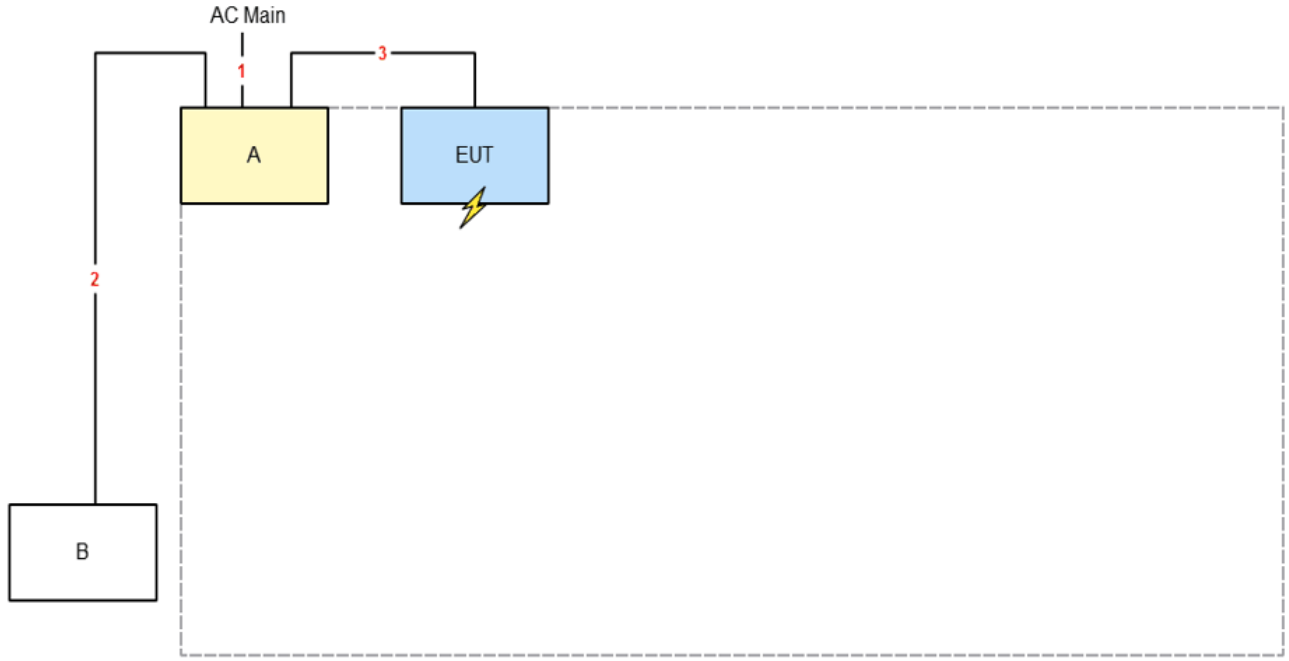
TX-on (ms)	TX-on+TX-off (ms) at 100ms	Duty Cycle (%)	Correction Factor (dB)
5.063	200	0.02532	-31.93

1.9 Table for Parameters of Test Software Setting

Test Software Version	Default			
Frequency	24075 MHz (CW)	24150 MHz (CW)	24165 MHz (FMCW)	24240 MHz (CW)
Software Setting	Default	Default	Default	Default

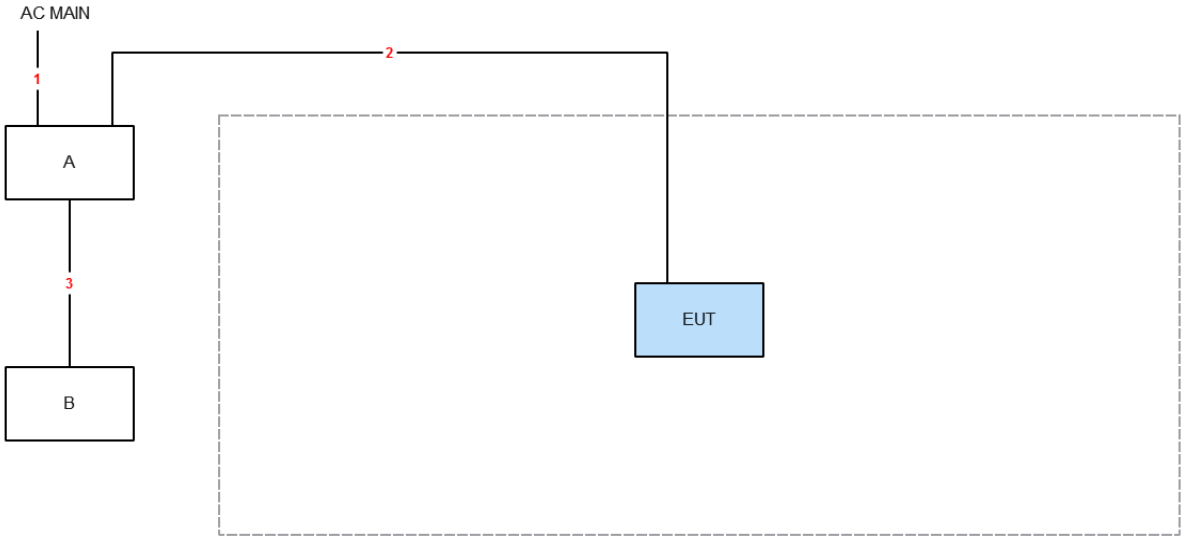
1.10 Test Configurations

1.10.1 AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	1m

1.10.2 Radiation Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	1.5m

2 Test Result

2.1 AC Power Line Conducted Emissions Measurement

2.1.1 Limit

For this product which is designed to be connected to the 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 below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

2.1.2 Measuring Instruments and Setting

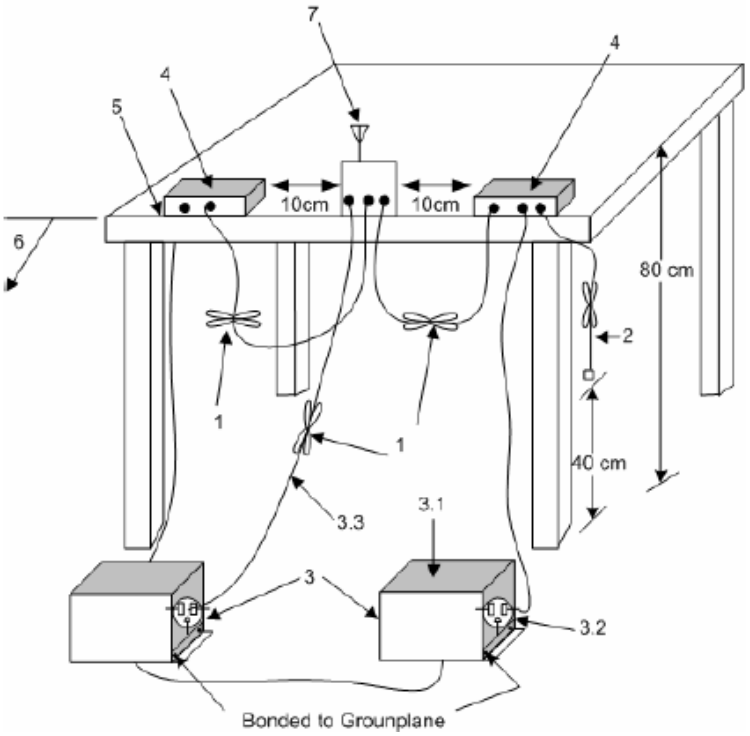
Refer a test equipment and calibration data table in this test report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

2.1.3 Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

2.1.4 Test Setup Layout



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

2.1.5 Test Deviation

There is no deviation with the original standard.

2.1.6 EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

2.1.7 Measurement Results Calculation

The measured Level is calculated using:

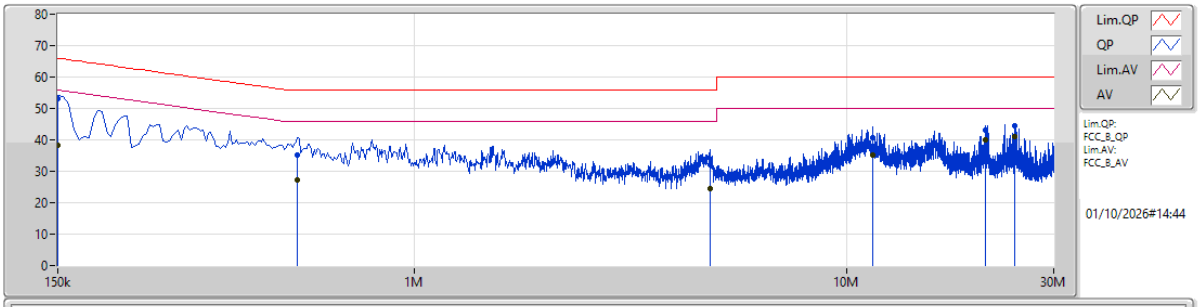
a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level

b. Margin = -Limit + Level

2.1.8 Results of AC Power Line Conducted Emissions Measurement

Configuration	CW	Phase	Line

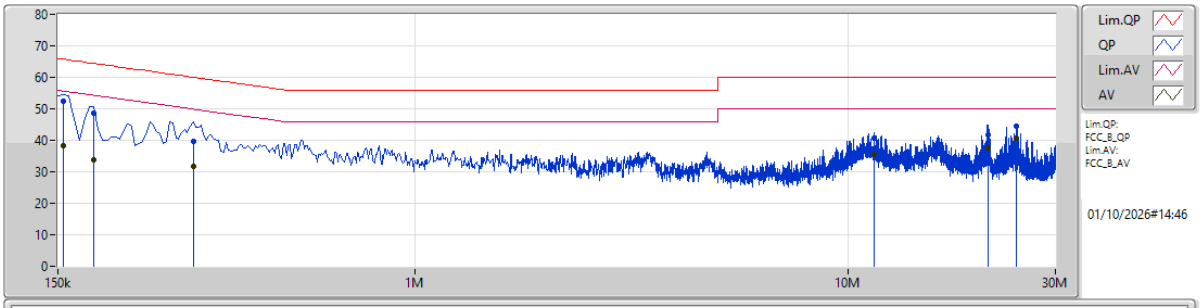
Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150k	53.27	66.00	-12.73	10.06	Line	-	43.21	0.08	0.10	9.88
AV	150k	38.40	56.00	-17.60	10.06	Line	-	28.34	0.08	0.10	9.88
QP	537k	35.21	56.00	-20.79	10.12	Line	-	25.09	0.09	0.13	9.90
AV	537k	27.40	46.00	-18.60	10.12	Line	-	17.28	0.09	0.13	9.90
QP	4.812M	32.00	56.00	-24.00	10.17	Line	-	21.83	0.17	0.17	9.83
AV	4.812M	24.52	46.00	-21.48	10.17	Line	-	14.35	0.17	0.17	9.83
QP	11.468M	40.63	60.00	-19.37	10.74	Line	-	29.89	0.25	0.30	10.19
AV	11.468M	35.27	50.00	-14.73	10.74	Line	-	24.53	0.25	0.30	10.19
QP	20.81M	43.26	60.00	-16.74	11.01	Line	-	32.25	0.29	0.36	10.36
AV	20.81M	39.96	50.00	-10.04	11.01	Line	-	28.95	0.29	0.36	10.36
QP	24.351M	44.45	60.00	-15.55	11.04	Line	-	33.41	0.31	0.42	10.31
AV	24.351M	41.00	50.00	-9.00	11.04	Line	"Worst"	29.96	0.31	0.42	10.31

Configuration	CW	Phase	Neutral

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	154.5k	52.57	65.75	-13.18	10.01	Neutral	-	42.56	0.06	0.09	9.86
AV	154.5k	38.14	55.75	-17.61	10.01	Neutral	-	28.13	0.06	0.09	9.86
QP	181.5k	48.70	64.41	-15.71	9.93	Neutral	-	38.77	0.06	0.07	9.80
AV	181.5k	33.90	54.41	-20.51	9.93	Neutral	-	23.97	0.06	0.07	9.80
QP	307.5k	39.71	60.03	-20.32	10.01	Neutral	-	29.70	0.06	0.10	9.85
AV	307.5k	31.74	50.03	-18.29	10.01	Neutral	-	21.73	0.06	0.10	9.85
QP	11.463M	40.71	60.00	-19.29	10.71	Neutral	-	30.00	0.22	0.30	10.19
AV	11.463M	35.67	50.00	-14.33	10.71	Neutral	-	24.96	0.22	0.30	10.19
QP	20.994M	41.67	60.00	-18.33	10.97	Neutral	-	30.70	0.26	0.36	10.35
AV	20.994M	37.74	50.00	-12.26	10.97	Neutral	-	26.77	0.26	0.36	10.35
QP	24.351M	44.39	60.00	-15.61	11.04	Neutral	-	33.35	0.31	0.42	10.31
AV	24.351M	40.65	50.00	-9.35	11.04	Neutral	"Worst"	29.61	0.31	0.42	10.31

2.2 Field Strength of Fundamental Emissions Measurement

2.2.1 Limit

The field strength of fundamental emissions within these bands specified at a distance of 3 meters (measurement instrumentation employing an average detector) shall comply with the following table.

Frequency Band	Fundamental Emissions Limit Average/Peak (dBuV/m) at 3m
24000 ~ 24250 MHz	107.96/127.96

Note 1: 107.96 dBuV/m rounding to 108dBuV/m and 127.96 dBuV/m rounding to 128dBuV/m

Note 2: Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

Average limit = 108dBuV/m + distance extrapolation factor (9.54 dB) =117.54dBuV/m.

Peak limit = 128dBuV/m + distance extrapolation factor (9.54 dB) =137.54dBuV/m.

2.2.2 Measuring Instruments and Setting

Refer a test equipment and calibration data table in this test report. The following table is the setting of the spectrum analyzer.

Power Meter Parameter	Setting
RBW	1 MHz
VBW	3 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

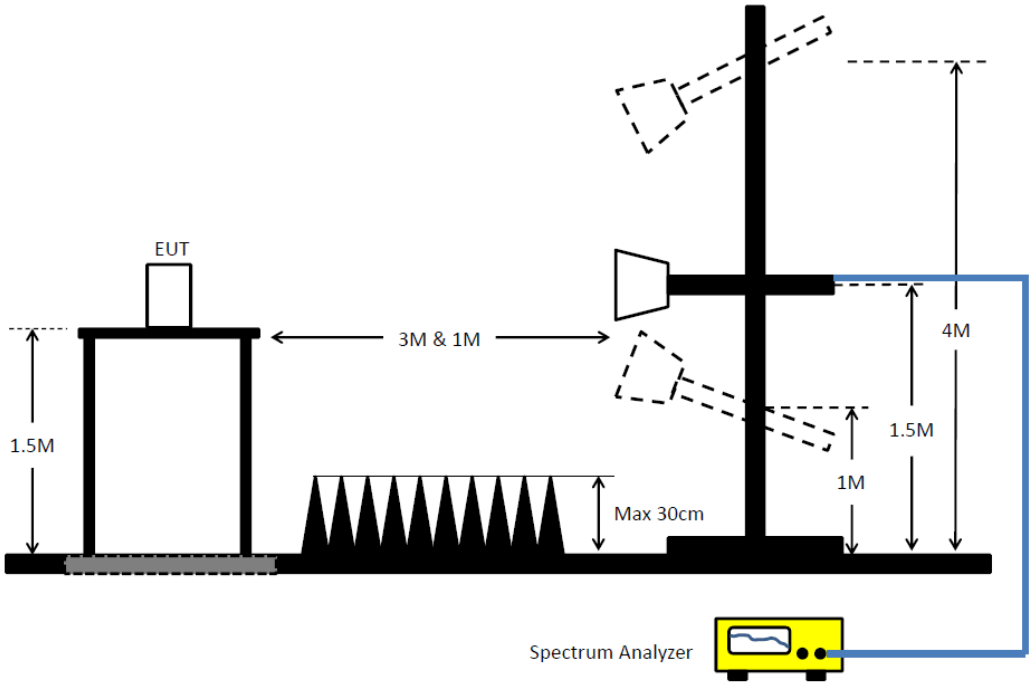
2.2.3 Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. For Fundamental emissions, use 1MHz RBW and 3MHz VBW for peak reading. The average is used

peak level + correction factor.

6. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

2.2.4 Test Setup Layout



2.2.5 Test Deviation

There is no deviation with the original standard.

2.2.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.2.7 Measurement Results Calculation

The measured Level is calculated using:

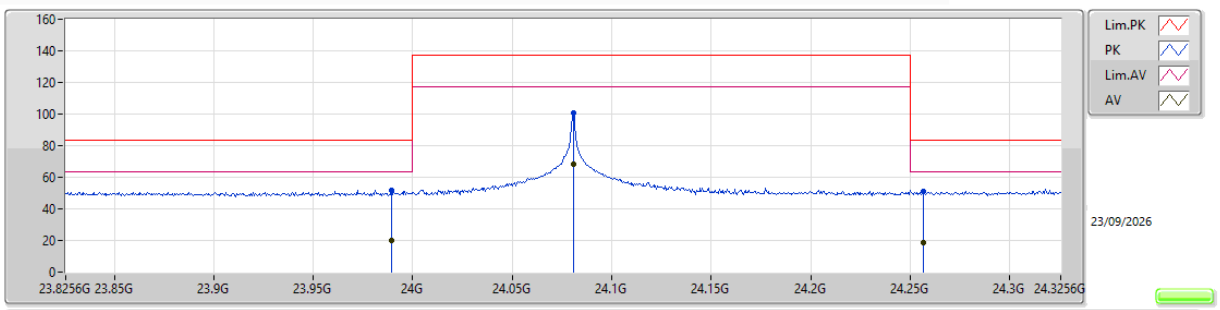
Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

Average Level(dBuV/m)=Peak Level(dBuV/m)+Duty Cycle Correction Factor(dB)

2.2.8 Test Result of Field Strength of Fundamental Emissions

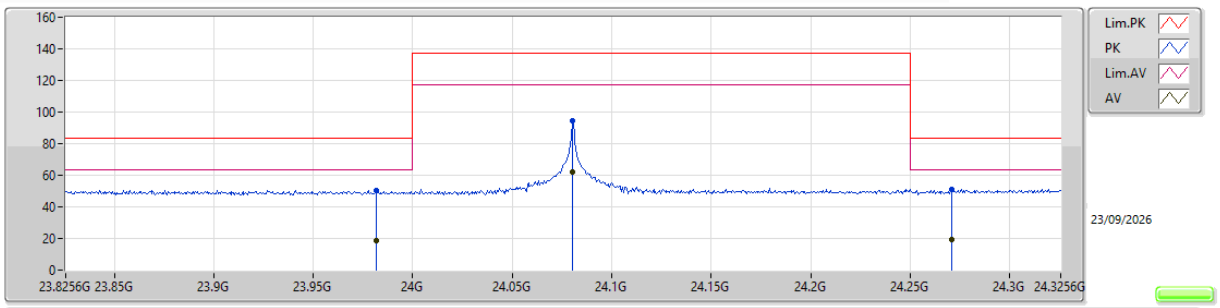
Test Frequency (MHz): 24075

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.9891G	51.84	83.54	-31.70	11.35	1	Horizontal	322.9	1.71	-	40.49	38.82	19.55	47.02
AV	23.9891G	19.91	63.54	-43.63	11.35	1	Horizontal	322.9	1.71	-	8.56	38.82	19.55	47.02
PK	24.0806G	100.51	137.54	-37.03	11.52	1	Horizontal	322.9	1.71	-	88.99	38.86	19.63	46.97
AV	24.0806G	68.58	117.54	-48.96	11.52	1	Horizontal	322.9	1.71	-	57.06	38.86	19.63	46.97
PK	24.2566G	50.87	83.54	-32.67	11.97	1	Horizontal	322.9	1.71	-	38.90	39.01	19.81	46.85
AV	24.2566G	18.94	63.54	-44.60	11.97	1	Horizontal	322.9	1.71	-	6.97	39.01	19.81	46.85

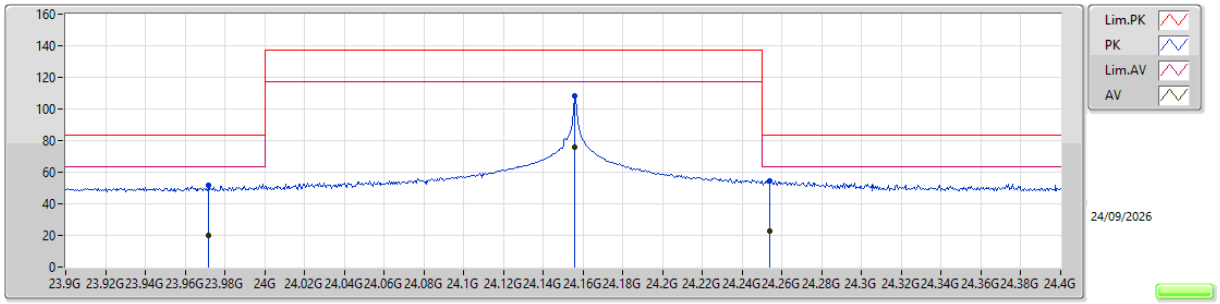
Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.9816G	50.22	83.54	-33.32	11.36	1	Vertical	306.9	1.71	-	38.86	38.84	19.55	47.03
AV	23.9816G	18.29	63.54	-45.25	11.36	1	Vertical	306.9	1.71	-	6.93	38.84	19.55	47.03
PK	24.0801G	94.20	137.54	-43.34	11.52	1	Vertical	306.9	1.71	-	82.68	38.86	19.63	46.97
AV	24.0801G	62.27	117.54	-55.27	11.52	1	Vertical	306.9	1.71	-	50.75	38.86	19.63	46.97
PK	24.2711G	51.25	83.54	-32.29	12.02	1	Vertical	306.9	1.71	-	39.23	39.04	19.82	46.84
AV	24.2711G	19.32	63.54	-44.22	12.02	1	Vertical	306.9	1.71	-	7.30	39.04	19.82	46.84

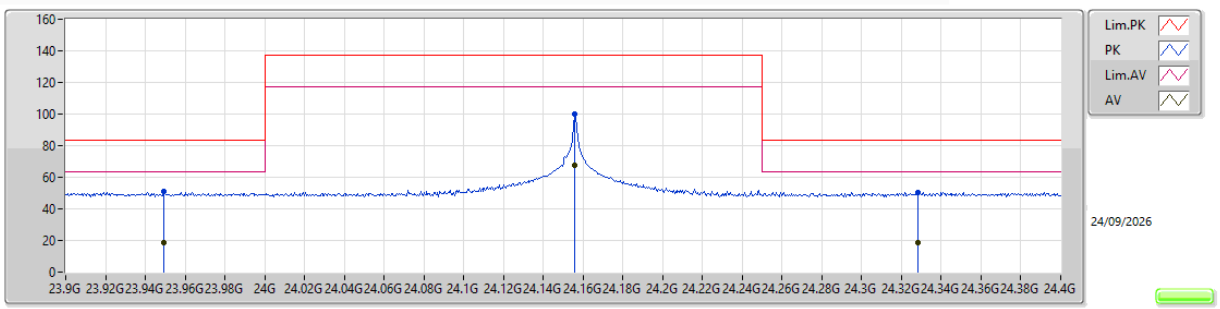
Test Frequency (MHz): 24150

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.972G	51.62	83.54	-31.92	9.26	1	Horizontal	324.3	1.72	-	42.36	38.96	18.20	47.90
AV	23.972G	19.69	63.54	-43.85	9.26	1	Horizontal	324.3	1.72	-	10.43	38.96	18.20	47.90
PK	24.156G	108.00	137.54	-29.54	9.40	1	Horizontal	324.3	1.72	-	98.60	39.00	18.24	47.84
AV	24.156G	76.07	117.54	-41.47	9.40	1	Horizontal	324.3	1.72	-	66.67	39.00	18.24	47.84
PK	24.254G	54.64	83.54	-28.90	9.37	1	Horizontal	324.3	1.72	-	45.27	38.91	18.26	47.80
AV	24.254G	22.71	63.54	-40.83	9.37	1	Horizontal	324.3	1.72	-	13.34	38.91	18.26	47.80

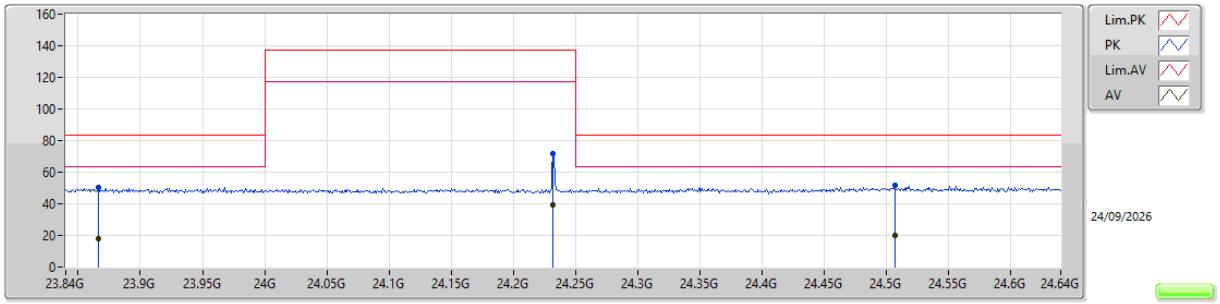
Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.9495G	50.79	83.54	-32.75	9.29	1	Vertical	306.6	1.64	-	41.50	39.00	18.19	47.90
AV	23.9495G	18.86	63.54	-44.68	9.29	1	Vertical	306.6	1.64	-	9.57	39.00	18.19	47.90
PK	24.156G	99.79	137.54	-37.75	9.40	1	Vertical	306.6	1.64	-	90.39	39.00	18.24	47.84
AV	24.156G	67.86	117.54	-49.68	9.40	1	Vertical	306.6	1.64	-	58.46	39.00	18.24	47.84
PK	24.328G	50.55	83.54	-32.99	9.56	1	Vertical	306.6	1.64	-	40.99	39.06	18.27	47.77
AV	24.328G	18.62	63.54	-44.92	9.56	1	Vertical	306.6	1.64	-	9.06	39.06	18.27	47.77

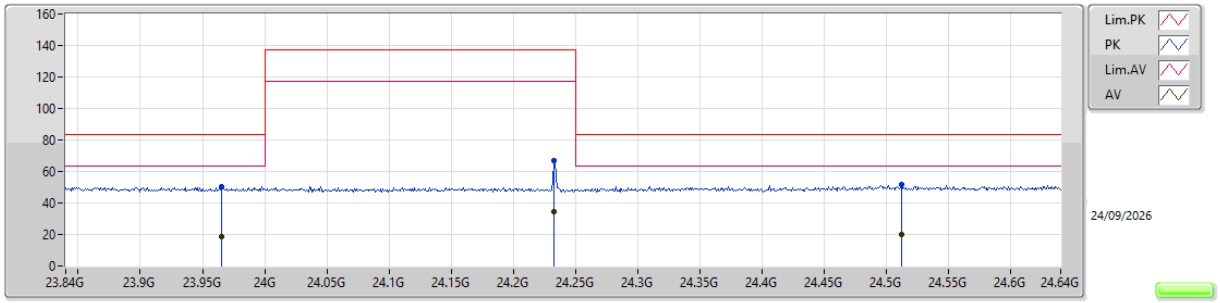
Test Frequency (MHz): 24240

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.8664G	50.18	83.54	-33.36	9.14	1	Horizontal	4.7	1.51	-	41.04	38.90	18.14	47.90
AV	23.8664G	18.25	63.54	-45.29	9.14	1	Horizontal	4.7	1.51	-	9.11	38.90	18.14	47.90
PK	24.232G	71.42	137.54	-66.12	9.38	1	Horizontal	4.7	1.51	-	62.04	38.94	18.25	47.81
AV	24.232G	39.49	117.54	-78.05	9.38	1	Horizontal	4.7	1.51	-	30.11	38.94	18.25	47.81
PK	24.5064G	51.67	83.54	-31.87	9.85	1	Horizontal	4.7	1.51	-	41.82	39.25	18.30	47.70
AV	24.5064G	19.74	63.54	-43.80	9.85	1	Horizontal	4.7	1.51	-	9.89	39.25	18.30	47.70

Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.9656G	50.21	83.54	-33.33	9.27	1	Vertical	116	1.55	-	40.94	38.97	18.20	47.90
AV	23.9656G	18.28	63.54	-45.26	9.27	1	Vertical	116	1.55	-	9.01	38.97	18.20	47.90
PK	24.2328G	66.64	137.54	-70.90	9.37	1	Vertical	116	1.55	-	57.27	38.93	18.25	47.81
AV	24.2328G	34.71	117.54	-82.83	9.37	1	Vertical	116	1.55	-	25.34	38.93	18.25	47.81
PK	24.512G	51.90	83.54	-31.64	9.80	1	Vertical	116	1.55	-	42.10	39.20	18.30	47.70
AV	24.512G	19.97	63.54	-43.57	9.80	1	Vertical	116	1.55	-	10.17	39.20	18.30	47.70

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

2.3 20dB Spectrum Bandwidth Measurement

2.3.1 Limit

Intentional radiators must be designed to ensure that the 20 dB bandwidth of the emissions in the specific band (24000 ~ 24250 MHz).

2.3.2 Measuring Instruments and Setting

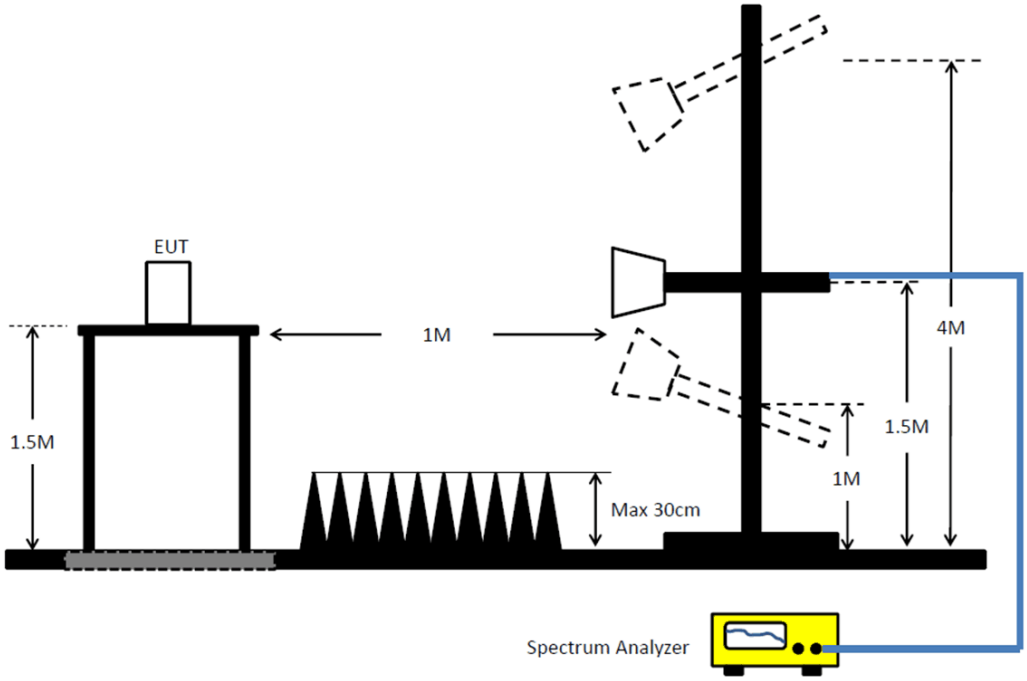
Refer a test equipment and calibration data table in this test report. The following table is the setting of the spectrum analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span (20 dBc BW)	> 20dB Bandwidth
Span(99% OBW)	1.5 to 5.0 times the OBW
RBW (20 dBc BW)	20 dB Bandwidth 1% to 5%
RBW (99% OBW)	1% to 5% of the OBW
VBW	3 times RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

2.3.3 Test Procedures

1. The test procedure is the same as section 2.4.3.
2. The resolution bandwidth (20 dB Bandwidth 1%~5%) and the video bandwidth (3 time RBW) were used.
3. Measured the spectrum width with power higher than 20dB below carrier.
4. Measured the spectrum width with power higher than 20dB below carrier and record the measured data
5. Set the span range between 1.5 times and 5.0 times the OBW.
6. Set the RBW to 1% to 5% of the anticipated OBW.
7. Set the VBW 3 times RBW.
8. Set the detector to peak and trace mode to max hold. Allow the trace to stabilize.
9. Use the 99% power bandwidth function of the instrument and record the measured data.

2.3.4 Test Setup Layout



2.3.5 Test Deviation

There is no deviation with the original standard.

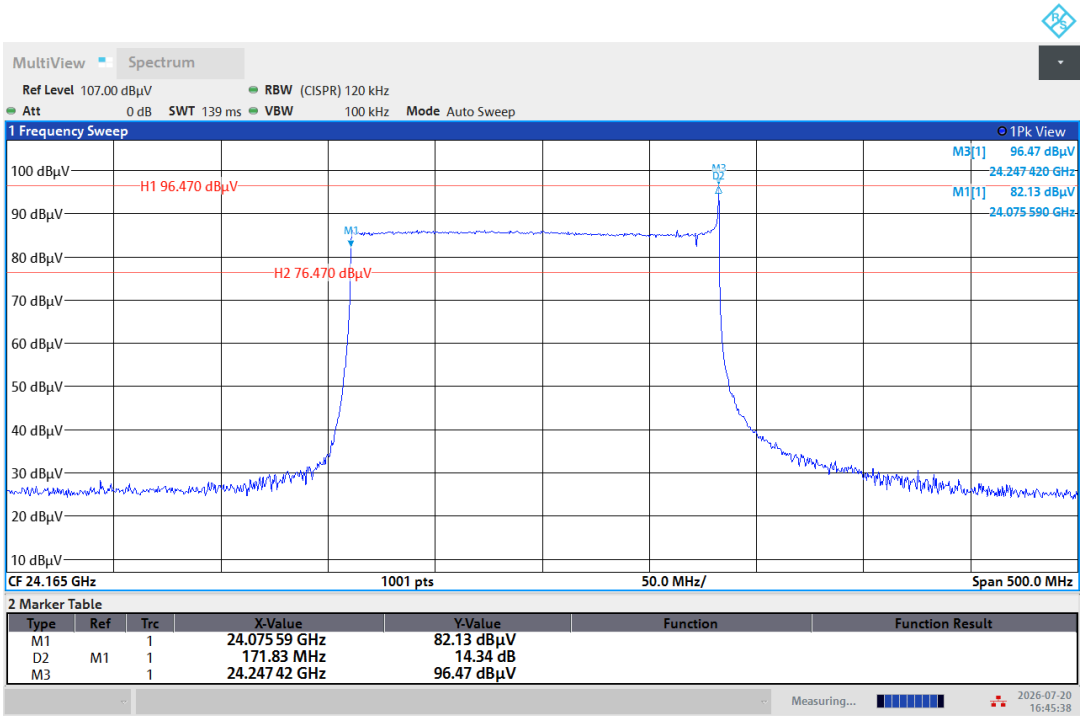
2.3.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.3.7 Test Result of 20dB Spectrum Bandwidth

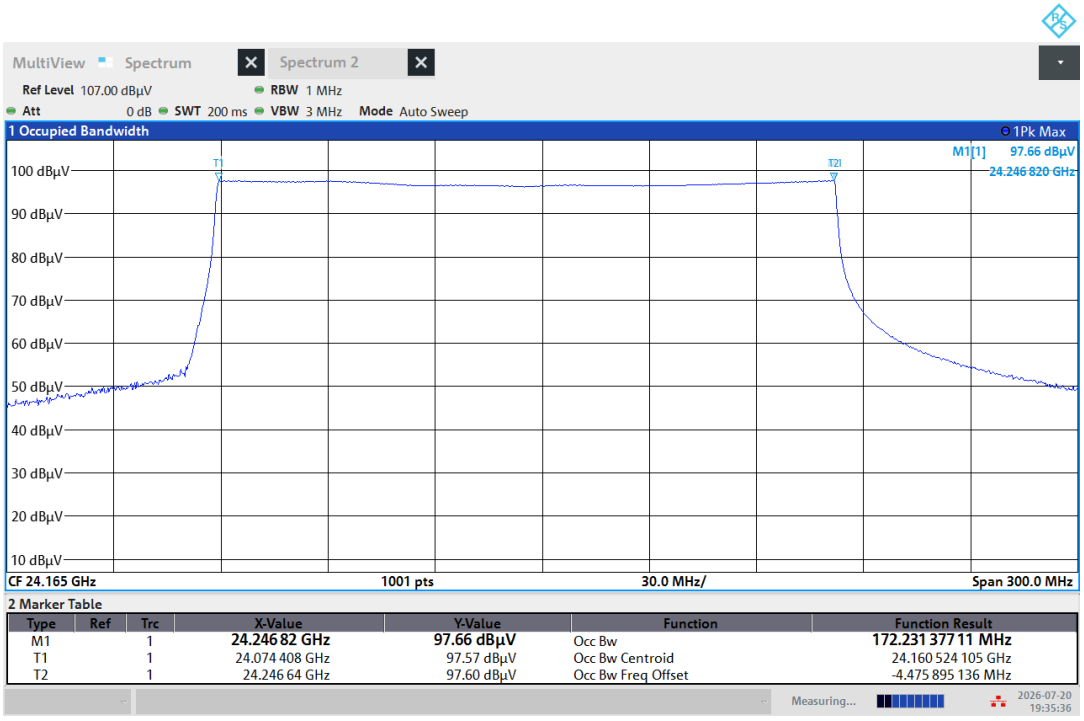
Frequency	20dB BW (MHz)	99% OBW (MHz)	Frequency range (MHz) f_L > 24000MHz	Frequency range (MHz) f_H < 24250MHz	Test Result
24165 (FMCW)	171.830	172.231	24075.5900	24247.4200	PASS
24075 (CW)	0.645	1.421	24080.5173	24080.5818	PASS
24150 (CW)	0.642	1.534	24156.2085	24156.8505	PASS
24240 (CW)	0.099	0.083	24220.5798	24220.6788	PASS

20 dB Bandwidth Plot on 24165 MHz



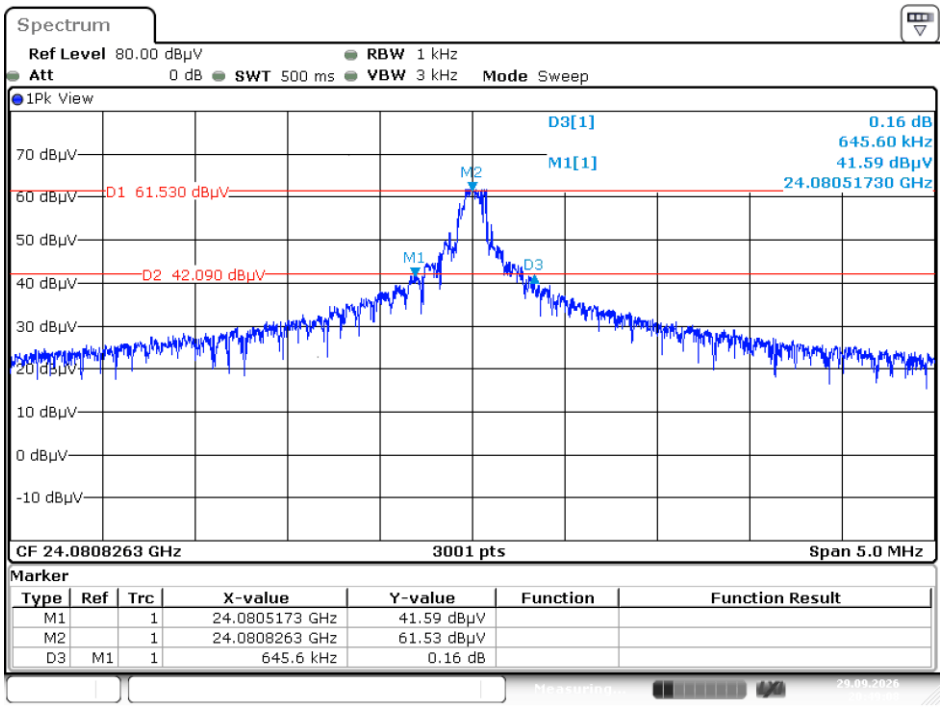
04:45:39 PM 07/20/2026

99% Bandwidth Plot on 24165 MHz



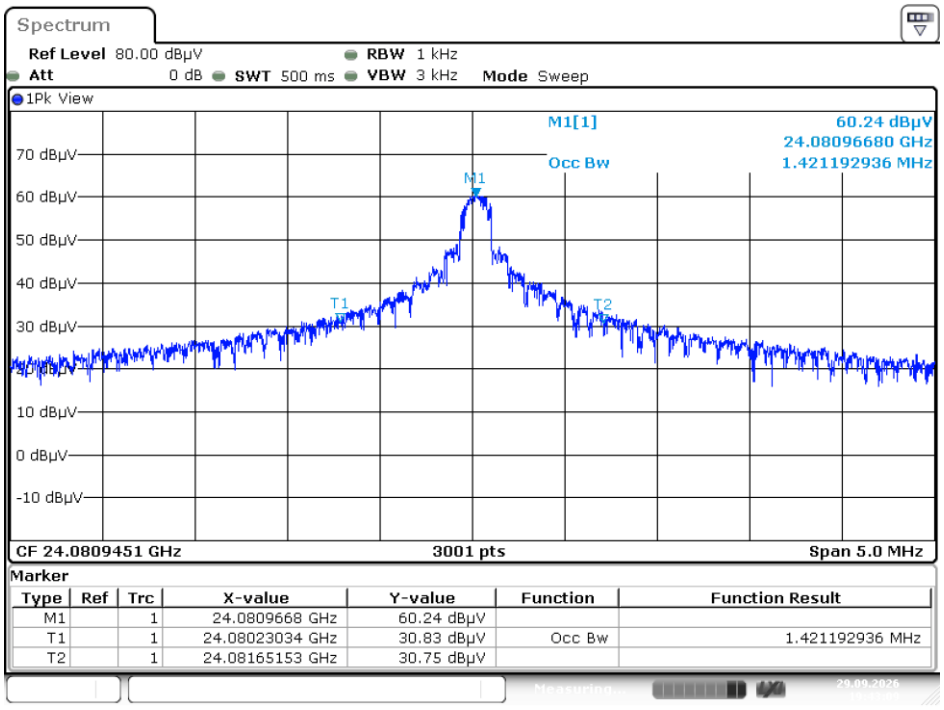
07:35:37 PM 07/20/2026

20 dB Bandwidth Plot on 24075 MHz



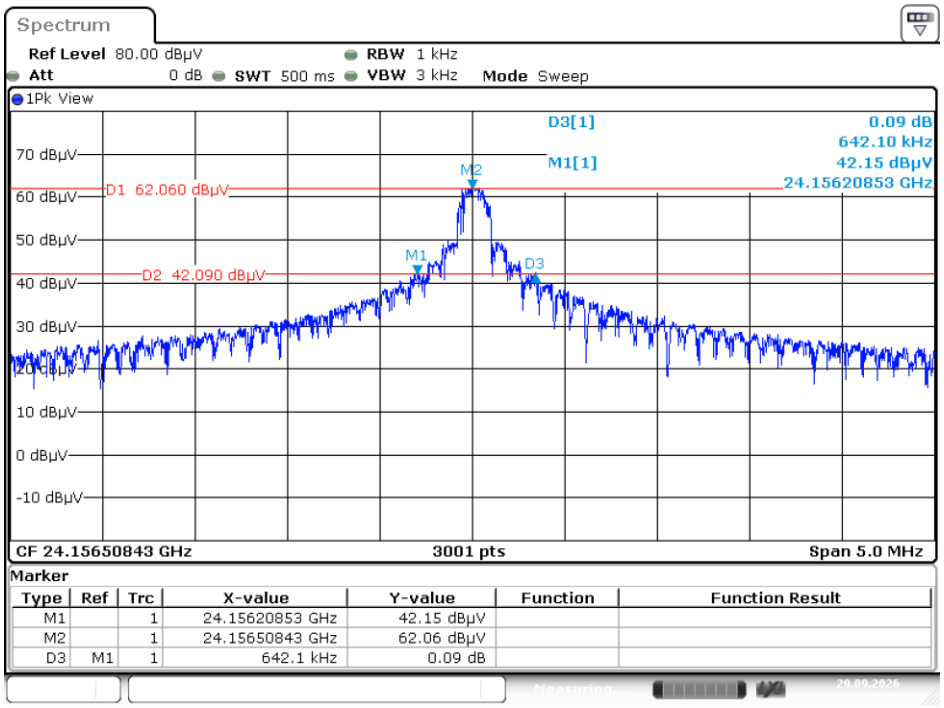
Date: 29.SEP.2026 20:49:08

99% Bandwidth Plot on 24075 MHz



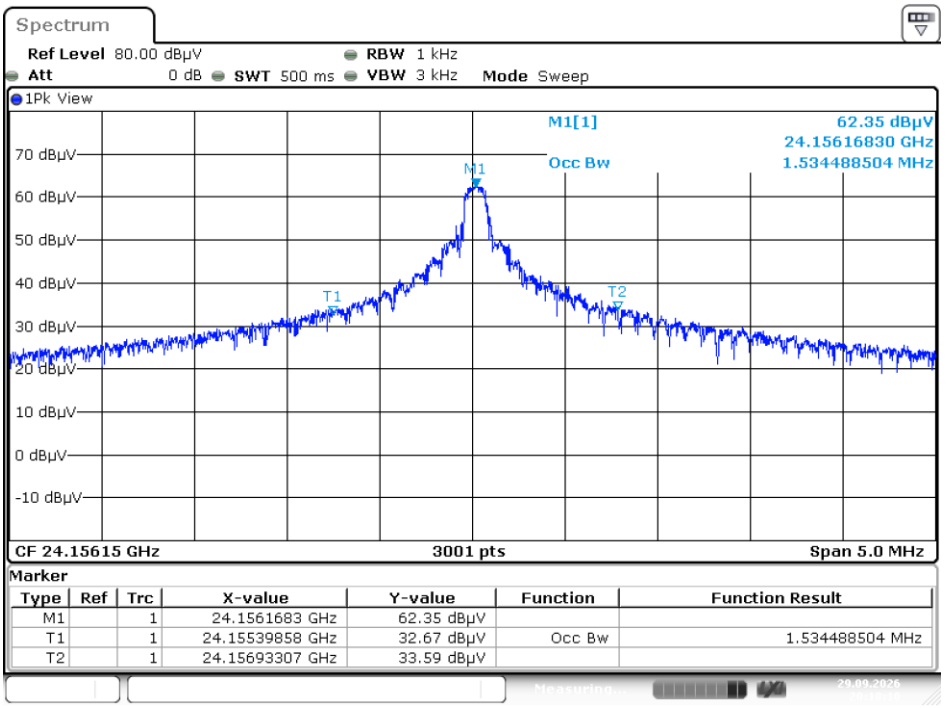
Date: 29.SEP.2026 19:43:09

20 dB Bandwidth Plot on 24150 MHz



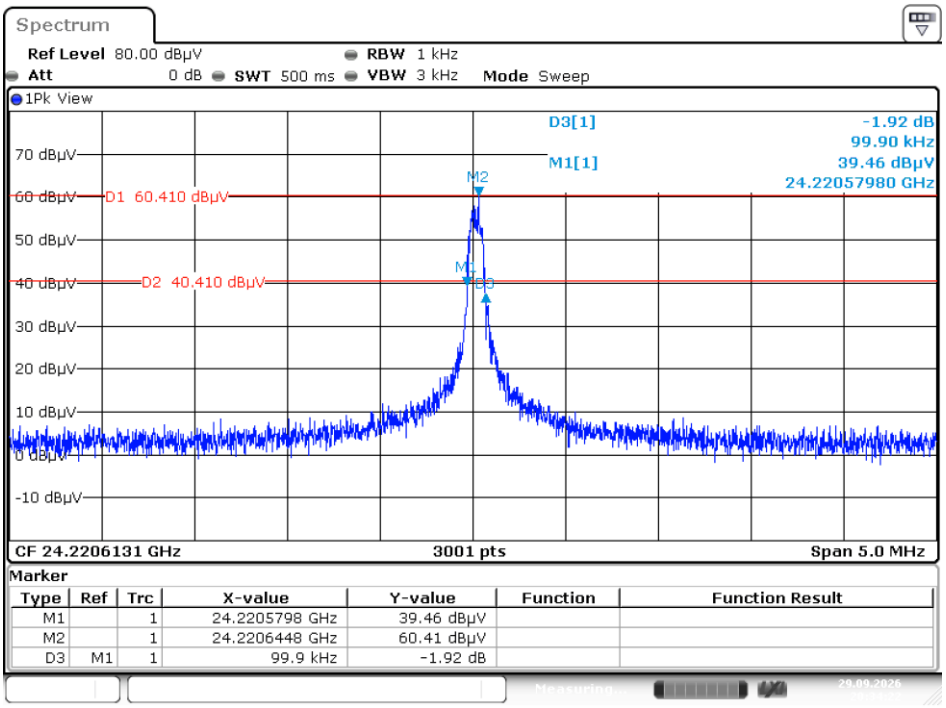
Date: 29.SEP.2026 20:45:38

99% Bandwidth Plot on 24150 MHz



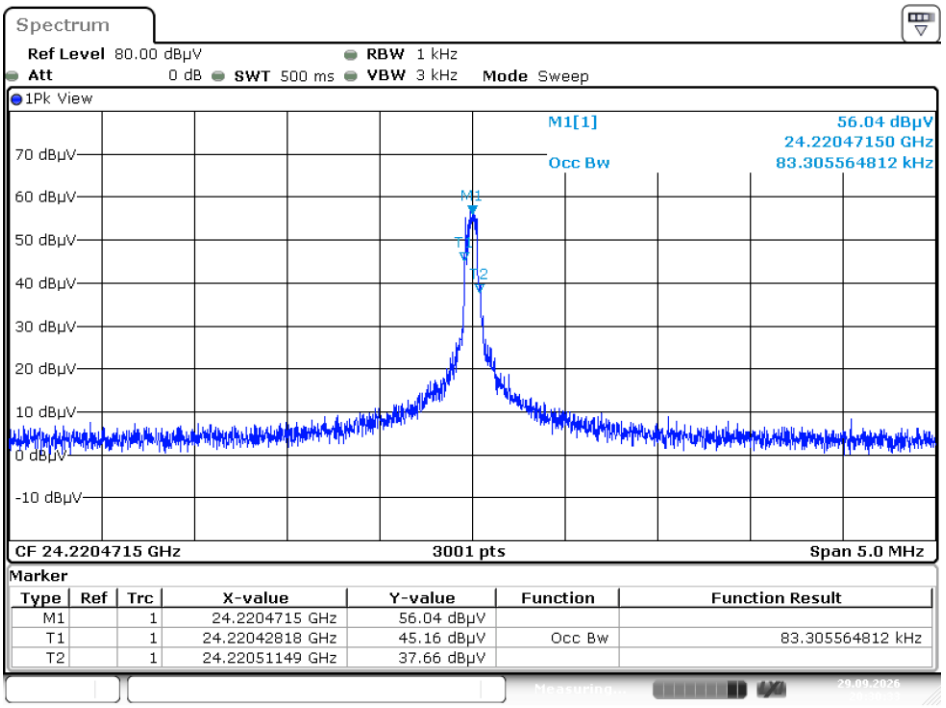
Date: 29.SEP.2026 20:18:11

20 dB Bandwidth Plot on 24240 MHz



Date: 29.SEP.2026 20:34:23

99% Bandwidth Plot on 24240 MHz



Date: 29.SEP.2026 20:30:34

2.4 Radiated Emissions Measurement

2.4.1 Limit

For 9kHz~40GHz

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
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

For 40GHz~100GHz

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in 47 CFR Part 15.249, whichever is the lesser attenuation.

Operating Frequencies	Harmonics Strength (micorvolts/meter)	Harmonics Strength (dBuV/m) at 3m
24000 ~ 24250 MHz	2500 at 3m	67.96 (Average)
24000 ~ 24250 MHz	25000 at 3m	87.96 (Peak)

2.4.2 Measuring Instruments and Setting

Refer a test equipment and calibration data table in this test report. The following table is the setting of the spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW	1MHz / 3MHz for Peak

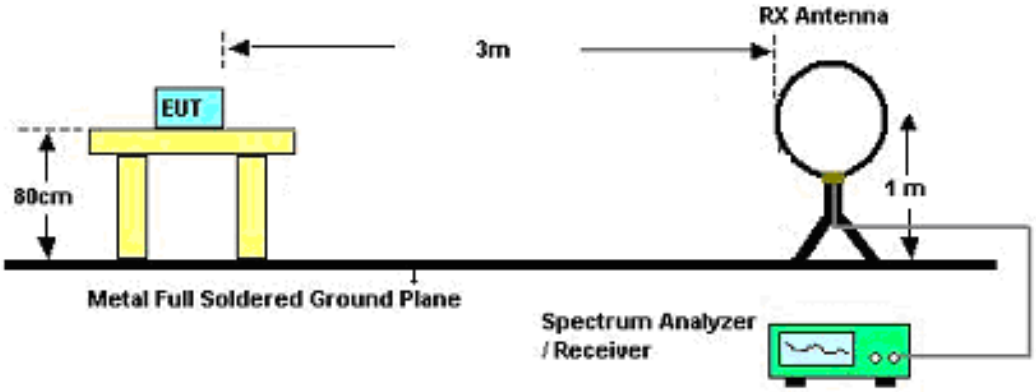
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

2.4.3 Test Procedures

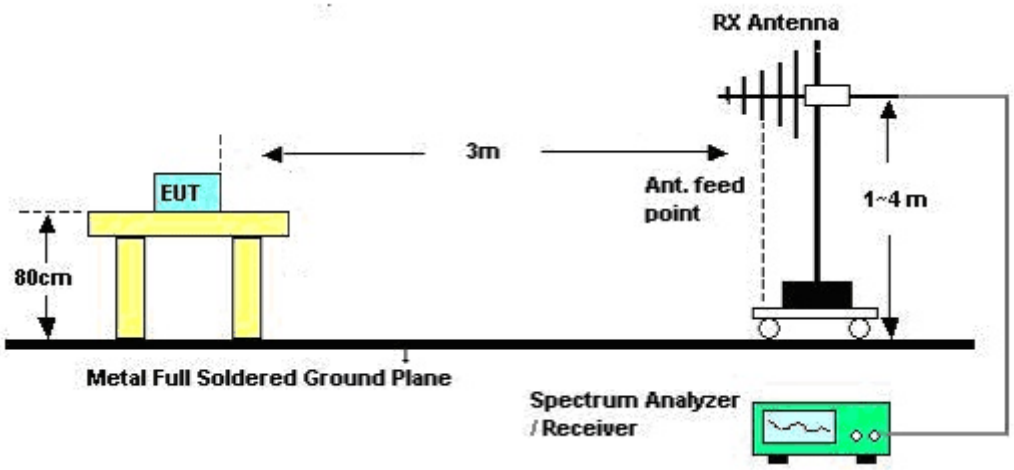
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. The average is used peak level + correction factor.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

2.4.4 Test Setup Layout

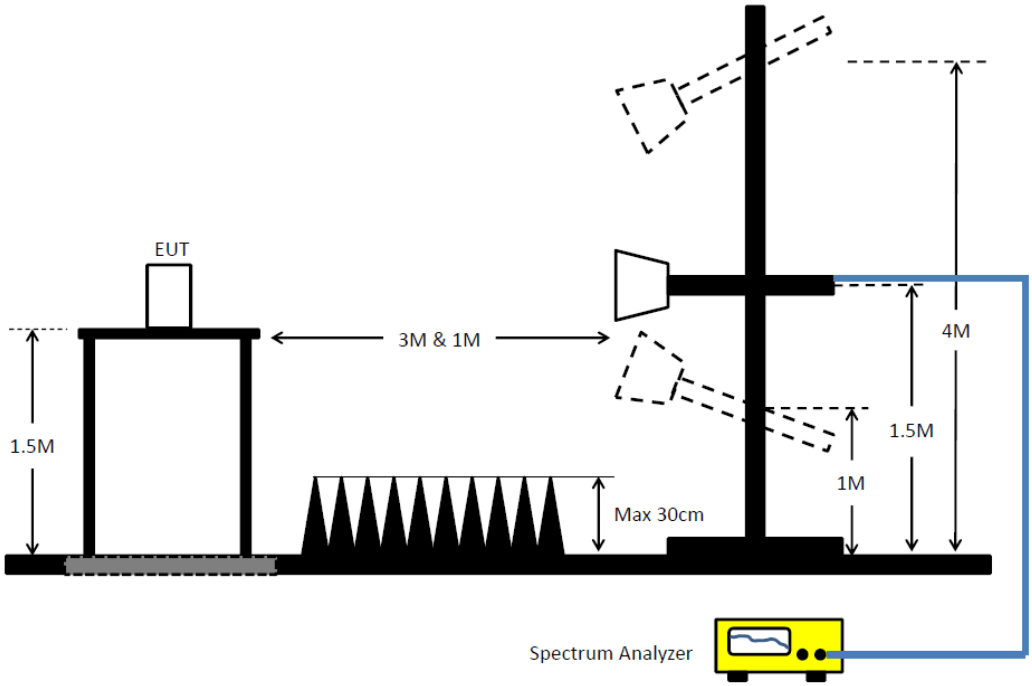
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For radiated emissions: 1GHz~40GHz

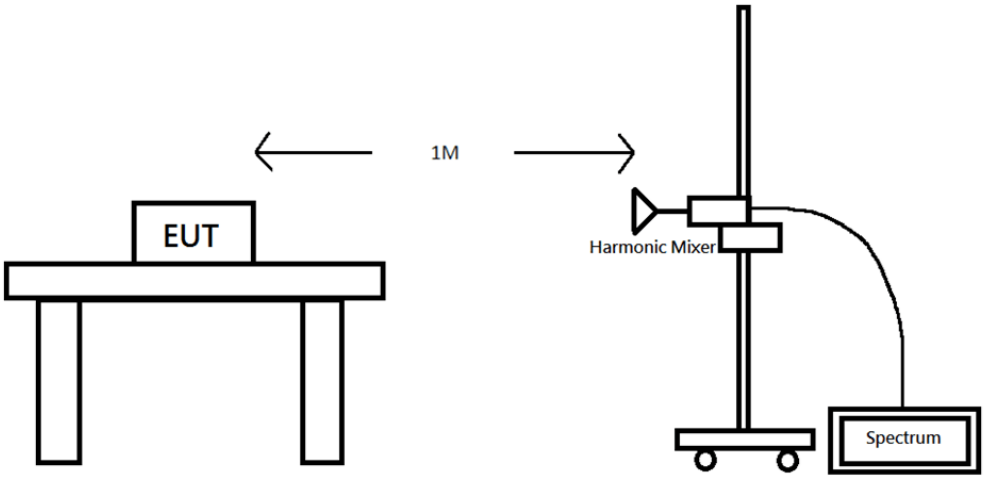


Above 10 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

For radiated emissions: 40GHz~100GHz



2.4.5 Test Deviation

There is no deviation with the original standard.

2.4.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4.7 Measurement Results Calculation

The measured Level is calculated using:

For below 40GHz

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

For above 40GHz

E-field strength = 126.8 20log(λ) + P – G

where

E is the field strength of the emission at the measurement distance, in dBuV/m
λ is the wavelength of the emission under investigation [300/f(MHz)], in m
P is the power measured at the output of the measurement antenna, in dBm
G is the gain of the measurement antenna, in dBi

2.4.8 Results of Radiated Emissions (9kHz~30MHz)

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

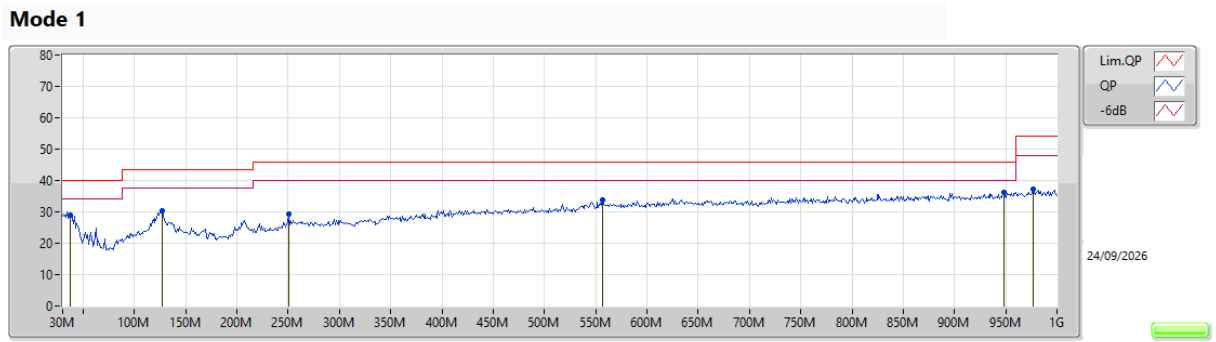
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

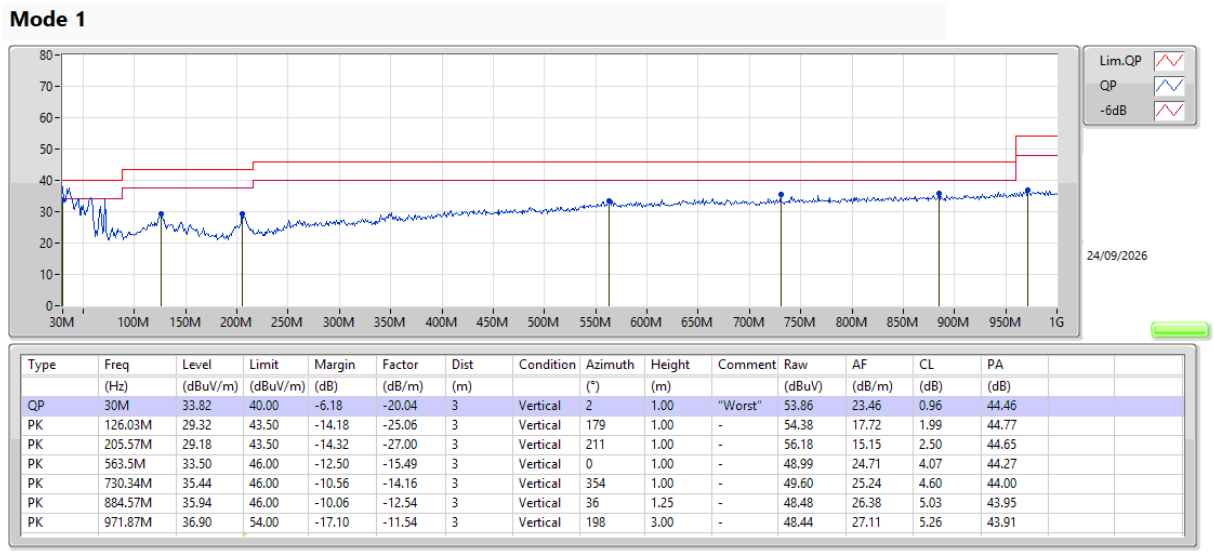
2.4.9 Results of Radiated Emissions (30MHz~1GHz)

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	37.76M	28.98	40.00	-11.02	-23.31	3	Horizontal	262	1.00	-	52.29	20.22	1.06	44.59
PK	127M	30.38	43.50	-13.12	-25.08	3	Horizontal	107	3.00	-	55.46	17.69	2.00	44.77
PK	250.19M	29.30	46.00	-16.70	-23.60	3	Horizontal	267	1.25	-	52.90	18.22	2.78	44.60
PK	556.71M	33.89	46.00	-12.11	-15.53	3	Horizontal	230	2.00	-	49.42	24.70	4.05	44.28
PK	948.59M	36.29	46.00	-9.71	-12.13	3	Horizontal	229	1.00	"Worst"	48.42	26.61	5.19	43.93
PK	976.72M	37.34	54.00	-16.66	-11.29	3	Horizontal	360	1.00	-	48.63	27.34	5.28	43.91

Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
QP	30M	33.82	40.00	-6.18	-20.04	3	Vertical	2	1.00	"Worst"	53.86	23.46	0.96	44.46
PK	126.03M	29.32	43.50	-14.18	-25.06	3	Vertical	179	1.00	-	54.38	17.72	1.99	44.77
PK	205.57M	29.18	43.50	-14.32	-27.00	3	Vertical	211	1.00	-	56.18	15.15	2.50	44.65
PK	563.5M	33.50	46.00	-12.50	-15.49	3	Vertical	0	1.00	-	48.99	24.71	4.07	44.27
PK	730.34M	35.44	46.00	-10.56	-14.16	3	Vertical	354	1.00	-	49.60	25.24	4.60	44.00
PK	884.57M	35.94	46.00	-10.06	-12.54	3	Vertical	36	1.25	-	48.48	26.38	5.03	43.95
PK	971.87M	36.90	54.00	-17.10	-11.54	3	Vertical	198	3.00	-	48.44	27.11	5.26	43.91

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

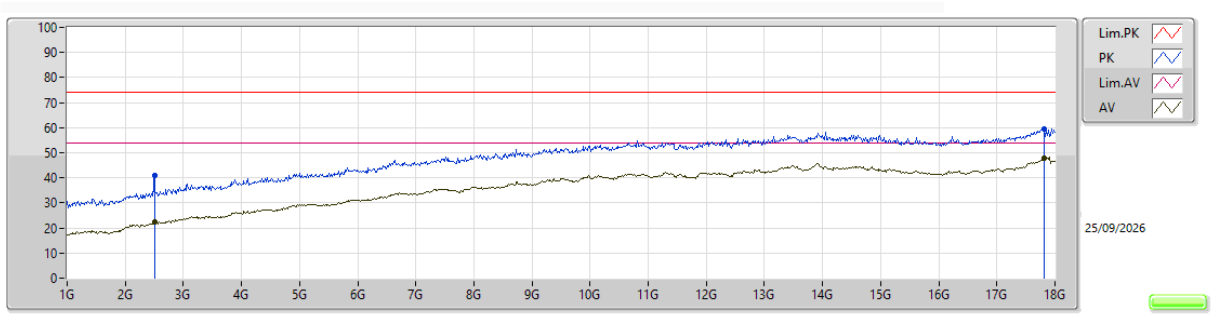
Emission level (dBuV/m) = 20 log Emission level (uV/m).

2.4.10 Results for Radiated Emissions (1GHz~40GHz)

Test Range	1~18 GHz

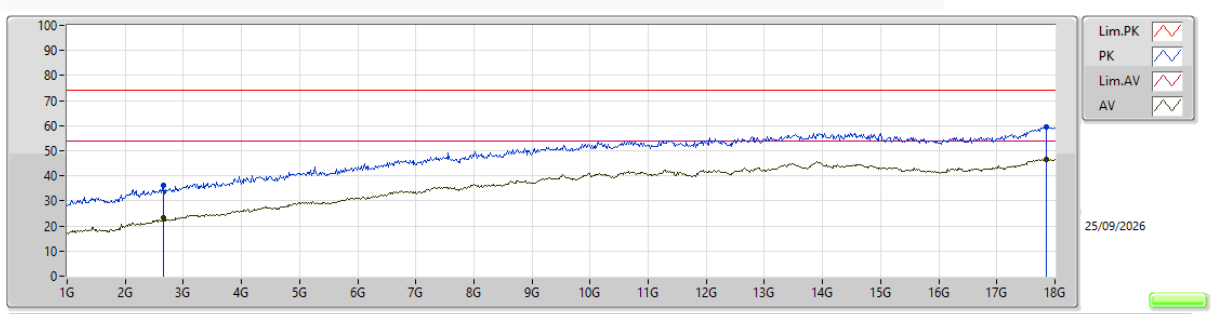
Test Frequency (MHz): 24075

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	2.5G	41.15	74.00	-32.85	1.77	3	Horizontal	39	2.14	-	39.38	28.10	6.60	32.93
AV	2.5G	22.31	54.00	-31.69	1.77	3	Horizontal	39	2.14	-	20.54	28.10	6.60	32.93
PK	17.813G	59.50	74.00	-14.50	26.78	3	Horizontal	360	150	-	32.72	42.06	15.86	31.14
AV	17.813G	47.71	54.00	-6.29	26.78	3	Horizontal	360	150	-	20.93	42.06	15.86	31.14

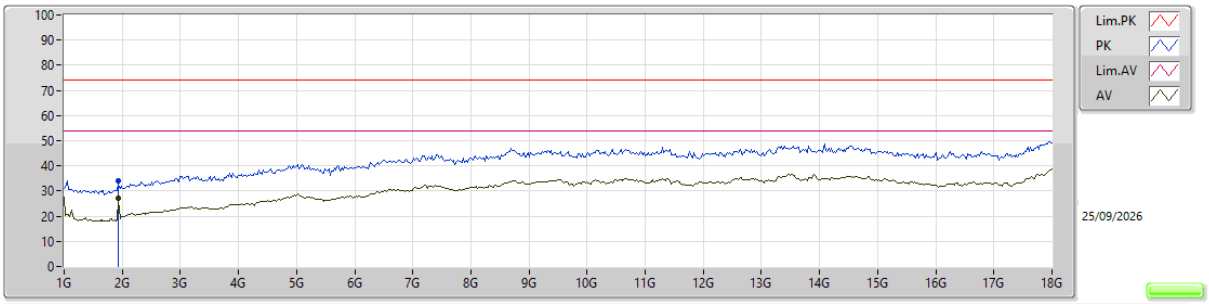
Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	2.666G	36.06	74.00	-37.94	1.91	3	Vertical	360	1.90	-	34.15	28.14	6.75	32.98
AV	2.666G	23.35	54.00	-30.65	1.91	3	Vertical	360	1.90	-	21.44	28.14	6.75	32.98
PK	17.847G	59.31	74.00	-14.69	27.20	3	Vertical	28	1.50	-	32.11	42.46	15.87	31.13
AV	17.857G	46.51	54.00	-7.49	27.34	3	Vertical	28	1.50	-	19.17	42.60	15.87	31.13

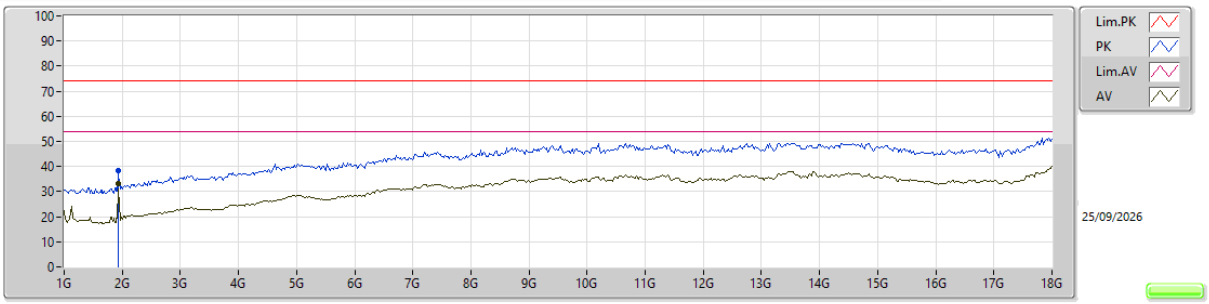
Test Frequency (MHz): 24150

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	1.93585G	34.05	74.00	-39.95	-33.75	3	Horizontal	227	1.80	-	67.80	25.76	5.72	65.23
AV	1.93599G	26.95	54.00	-27.05	-33.75	3	Horizontal	227	1.80	-	60.70	25.76	5.72	65.23

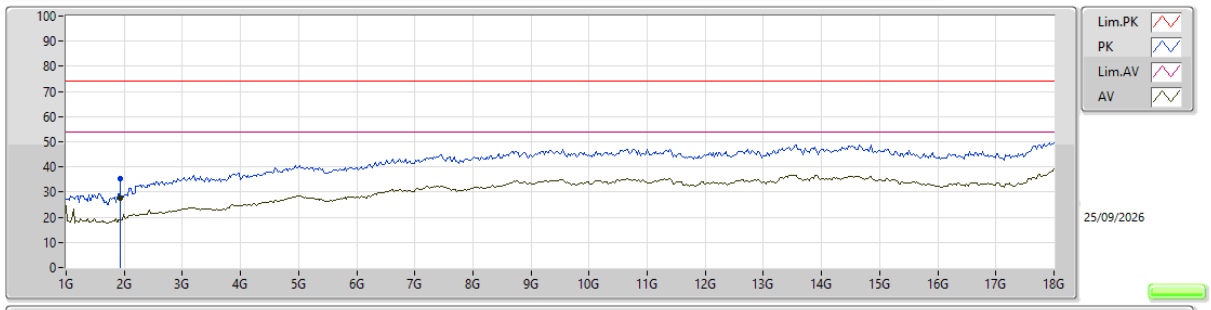
Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	1.93599G	38.56	74.00	-35.44	-33.75	3	Vertical	352	2.82	-	72.31	25.76	5.72	65.23
AV	1.93591G	33.24	54.00	-20.76	-33.75	3	Vertical	352	2.82	-	66.99	25.76	5.72	65.23

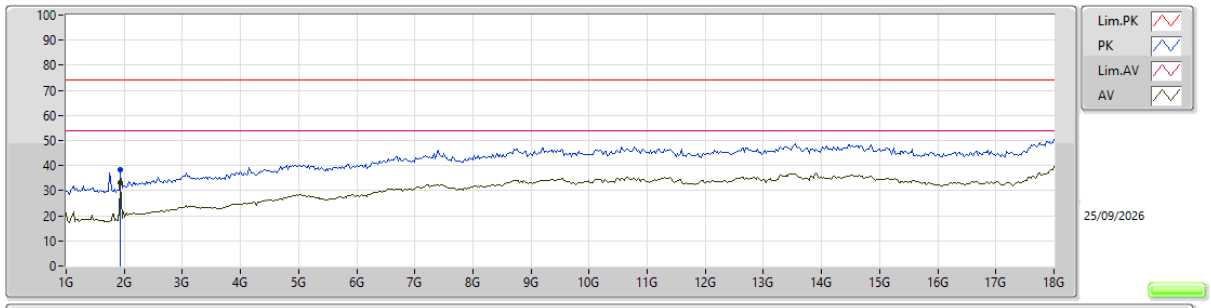
Test Frequency (MHz): 24240

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	1.93564G	35.20	74.00	-38.80	-33.75	3	Horizontal	229	1.80	-	68.95	25.76	5.72	65.23
AV	1.93592G	27.52	54.00	-26.48	-33.75	3	Horizontal	229	1.80	-	61.27	25.76	5.72	65.23

Vertical

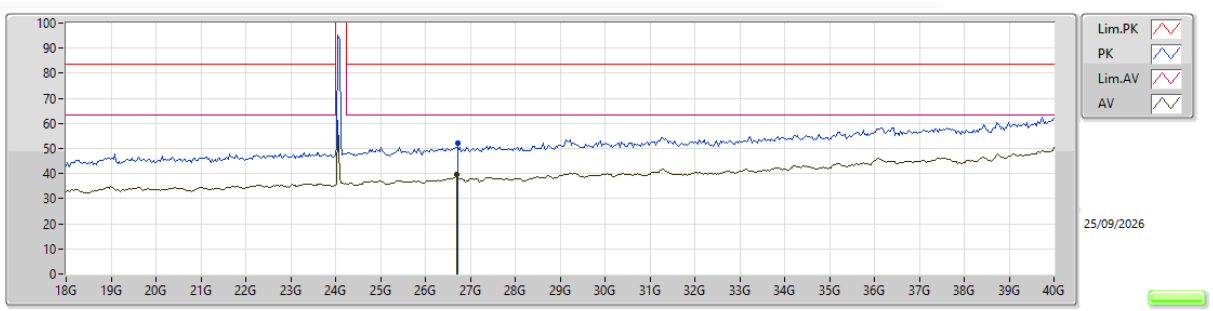


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	1.9358G	38.30	74.00	-35.70	-33.75	3	Vertical	354	2.84	-	72.05	25.76	5.72	65.23
AV	1.93594G	33.11	54.00	-20.89	-33.75	3	Vertical	354	2.84	-	66.86	25.76	5.72	65.23

Test Range	18~40 GHz

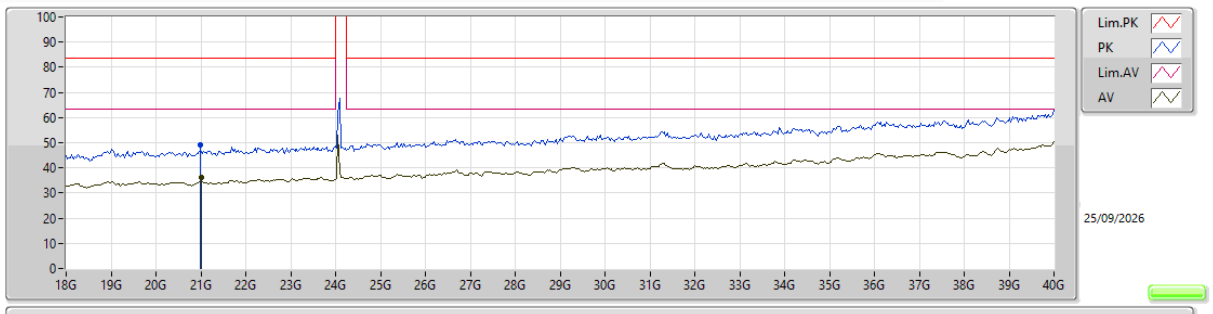
Test Frequency (MHz): 24075

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	26.7179G	52.03	83.54	-31.51	16.15	1	Horizontal	234	1.50	-	35.88	40.51	21.44	45.80
AV	26.69858G	39.44	63.54	-24.10	16.40	1	Horizontal	234	1.50	-	23.04	40.77	21.43	45.80

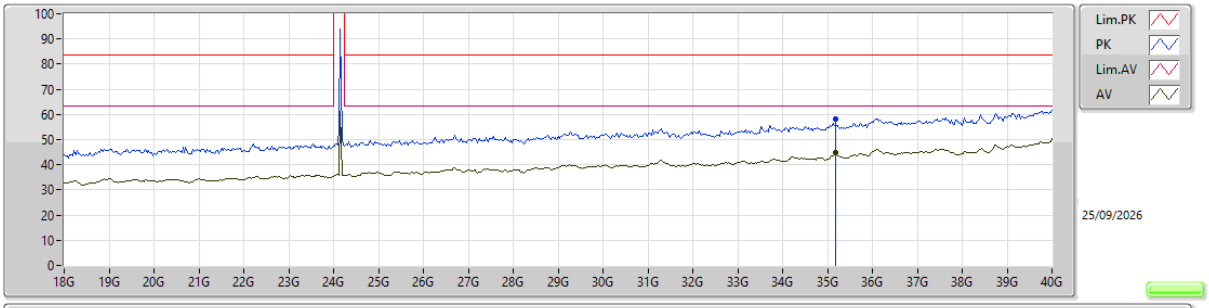
Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	20.98677G	49.00	83.54	-34.54	7.34	1	Vertical	220	1.50	-	41.66	37.97	18.33	48.96
AV	21.00622G	36.34	63.54	-27.20	7.39	1	Vertical	220	1.50	-	28.95	38.00	18.34	48.95

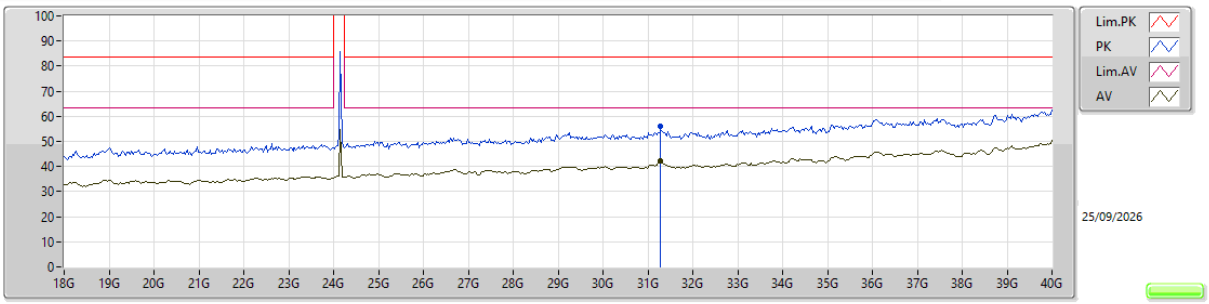
Test Frequency (MHz): 24150

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	35.18356G	58.01	83.54	-25.53	22.12	1	Horizontal	114	1.50	-	35.89	41.97	25.16	45.01
AV	35.17314G	44.79	63.54	-18.75	22.10	1	Horizontal	114	1.50	-	22.69	41.95	25.16	45.01

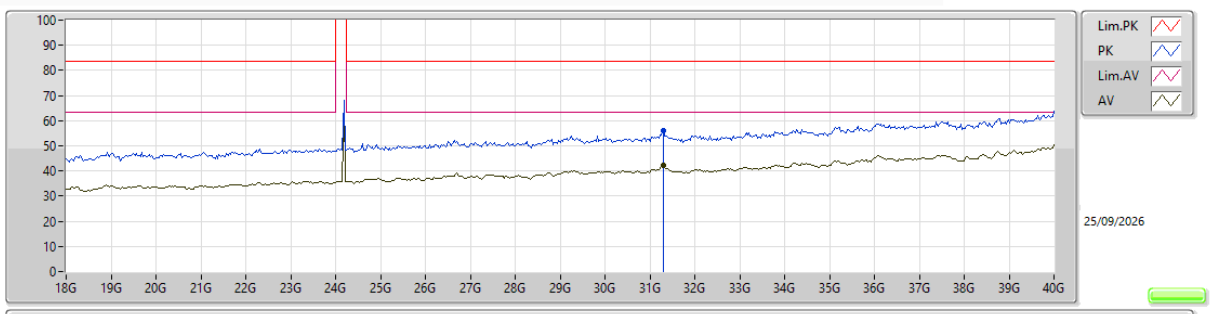
Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	31.26768G	55.85	83.54	-27.69	20.04	1	Vertical	0	1.50	-	35.81	42.06	23.15	45.17
AV	31.27545G	42.21	63.54	-21.33	20.02	1	Vertical	0	1.50	-	22.19	42.05	23.15	45.18

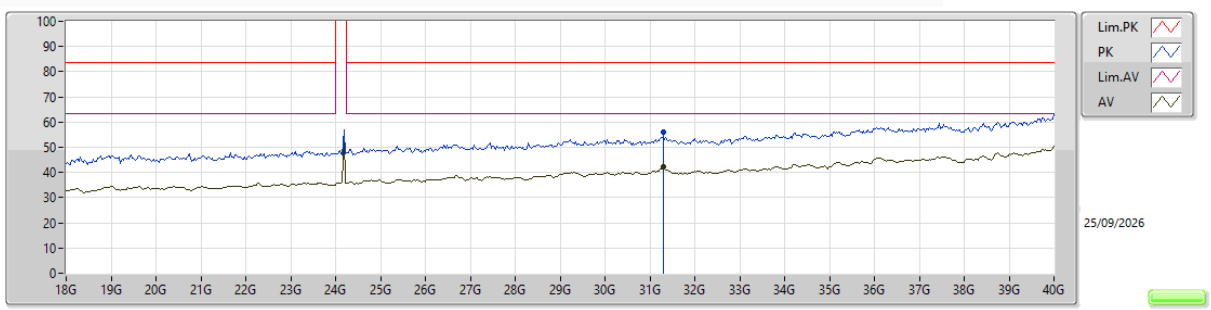
Test Frequency (MHz): 24240

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	31.29252G	55.85	83.54	-27.69	19.99	1	Horizontal	210	1.50	-	35.86	42.01	23.16	45.18
AV	31.30403G	42.05	63.54	-21.49	19.90	1	Horizontal	210	1.50	-	22.15	41.92	23.16	45.18

Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	31.30498G	56.04	83.54	-27.50	19.88	1	Vertical	88	1.50	-	36.16	41.90	23.16	45.18
AV	31.30811G	42.11	63.54	-21.43	19.82	1	Vertical	88	1.50	-	22.29	41.84	23.16	45.18

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

2.4.11 Results for Radiated Emissions (40GHz~100GHz)

Test Range	40~60G

Frequency (MHz)	Emission Freq. (GHz)	Measurement Distance (m)	Read Level (dBm)	Rx Antenna Gain (dBi)	Measurement Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Result
24075	48.151	1	-64.57	22.7	83.64	97.50	-13.86	Peak	Pass
	48.151	1	-96.50	22.7	51.71	77.50	-25.79	Average	Pass
24150	48.302	1	-64.88	22.7	83.36	97.50	-14.15	Peak	Pass
	48.302	1	-96.81	22.7	51.43	77.50	-26.08	Average	Pass
24240	48.415	1	-64.98	22.8	83.18	97.50	-14.33	Peak	Pass
	48.415	1	-96.91	22.8	51.25	77.50	-26.26	Average	Pass

Note: The average 2nd harmonic is calculated using the peak level plus a correction factor.

Test Range	60~90G

Frequency (MHz)	Emission Freq. (GHz)	Measurement Distance (m)	Read Level (dBm)	Rx Antenna Gain (dBi)	Measurement Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Result
24075	60.075	1	-76.66	23.8	72.37	97.50	-25.13	Peak	Pass
	60.075	1	-87.03	23.8	62.00	77.50	-15.50	Average	Pass
24150	60.405	1	-77.25	23.8	71.83	97.50	-25.67	Peak	Pass
	60.405	1	-87.21	23.8	61.87	77.50	-15.63	Average	Pass
24240	60.105	1	-77.07	23.8	71.97	97.50	-25.54	Peak	Pass
	60.105	1	-87.42	23.8	61.62	77.50	-15.89	Average	Pass

Test Range	90~100G

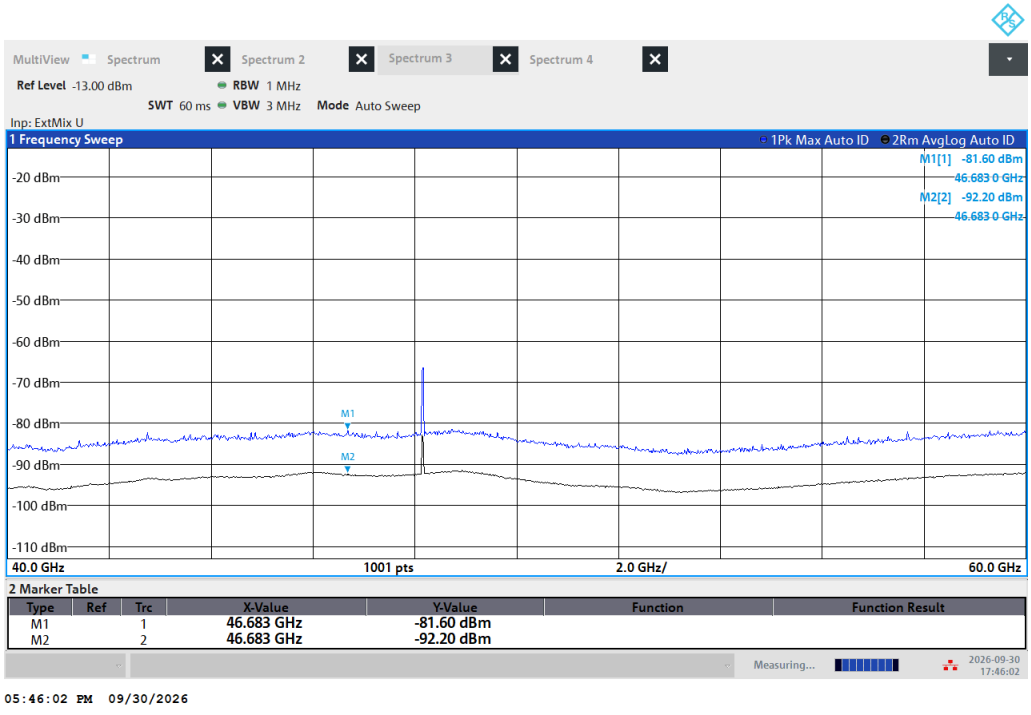
Frequency (MHz)	Emission Freq. (GHz)	Measurement Distance (m)	Read Level (dBm)	Rx Antenna Gain (dBi)	Measurement Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Result
24075	91.354	1	-75.86	23.6	77.01	97.50	-20.49	Peak	Pass
	91.354	1	-86.00	23.6	66.87	77.50	-10.63	Average	Pass
24150	91.973	1	-75.65	23.6	77.28	97.50	-20.22	Peak	Pass
	91.973	1	-85.63	23.6	67.30	77.50	-10.20	Average	Pass
24240	92.023	1	-76.05	23.6	76.89	97.50	-20.62	Peak	Pass
	92.023	1	-86.04	23.6	66.90	77.50	-10.61	Average	Pass

Distance extrapolation factor = 20 log (specific distance [3m] / test distance [1m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [9.54 dB].

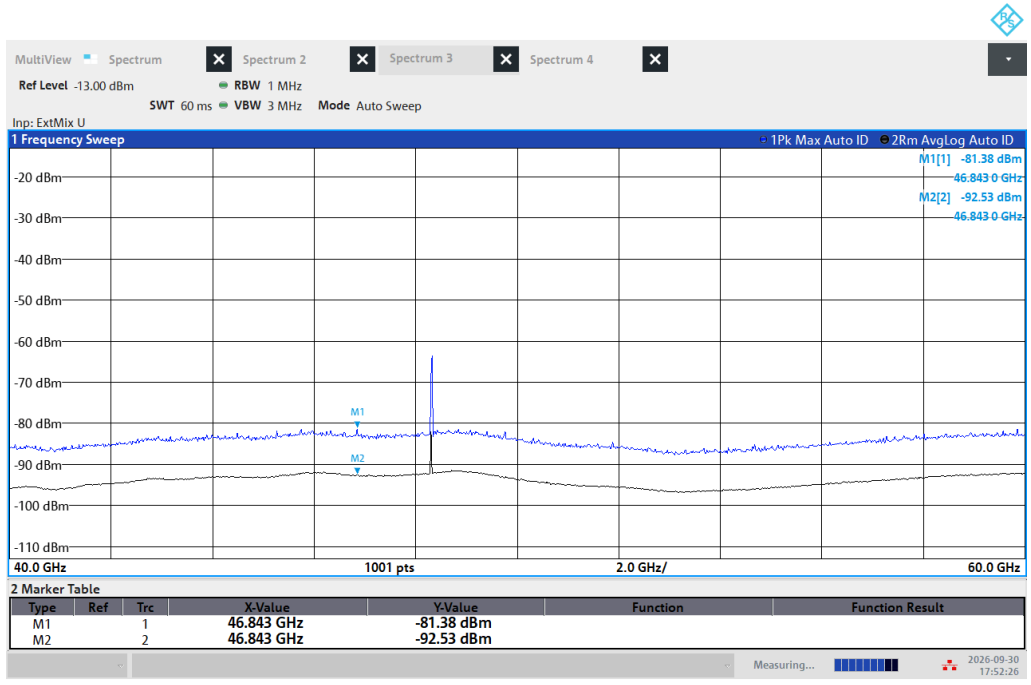
Test Range: 40~60GHz

Test Frequency (MHz): 24075



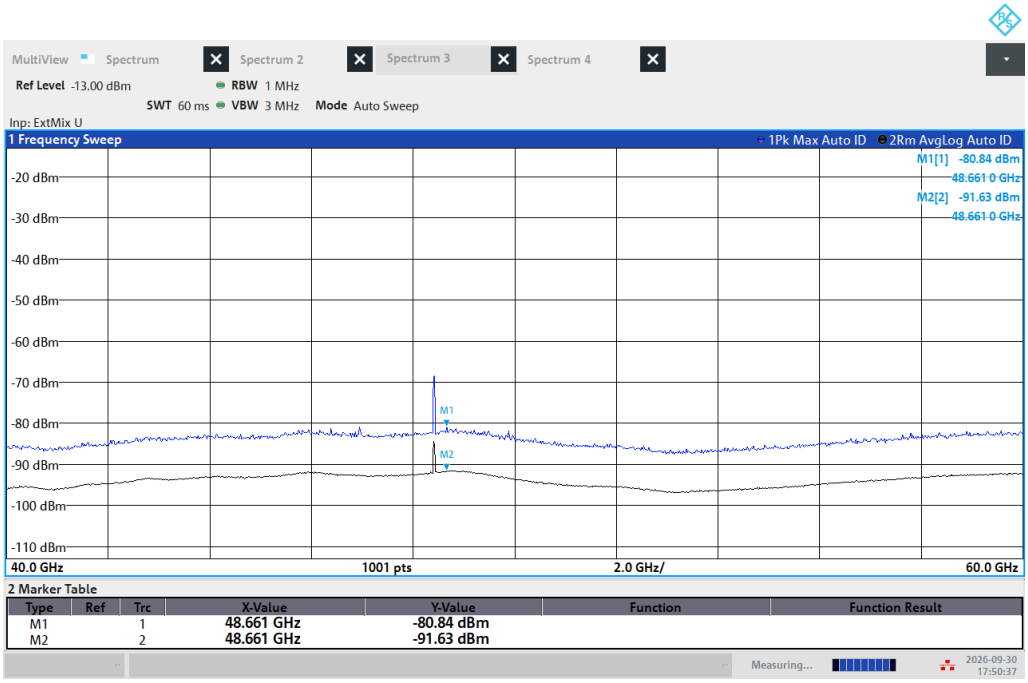
05:46:02 PM 09/30/2026

Test Frequency (MHz): 24150



05:52:27 PM 09/30/2026

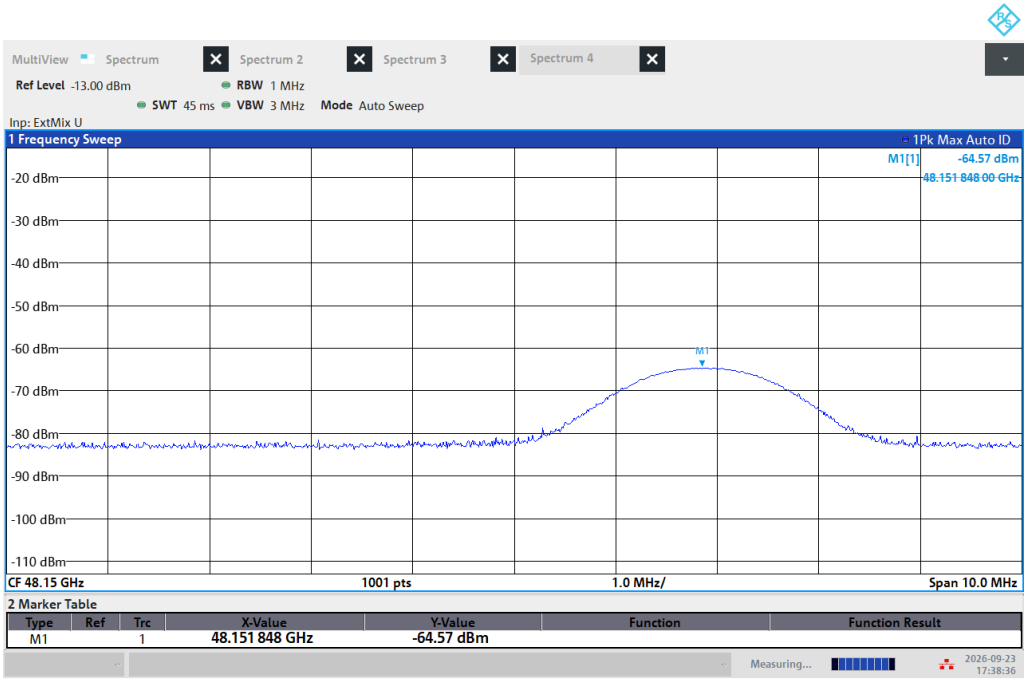
Test Frequency (MHz): 24240



05:50:38 PM 09/30/2026

Test Range: 40~60GHz / 2nd Harmonic

Test Frequency (MHz): 24075



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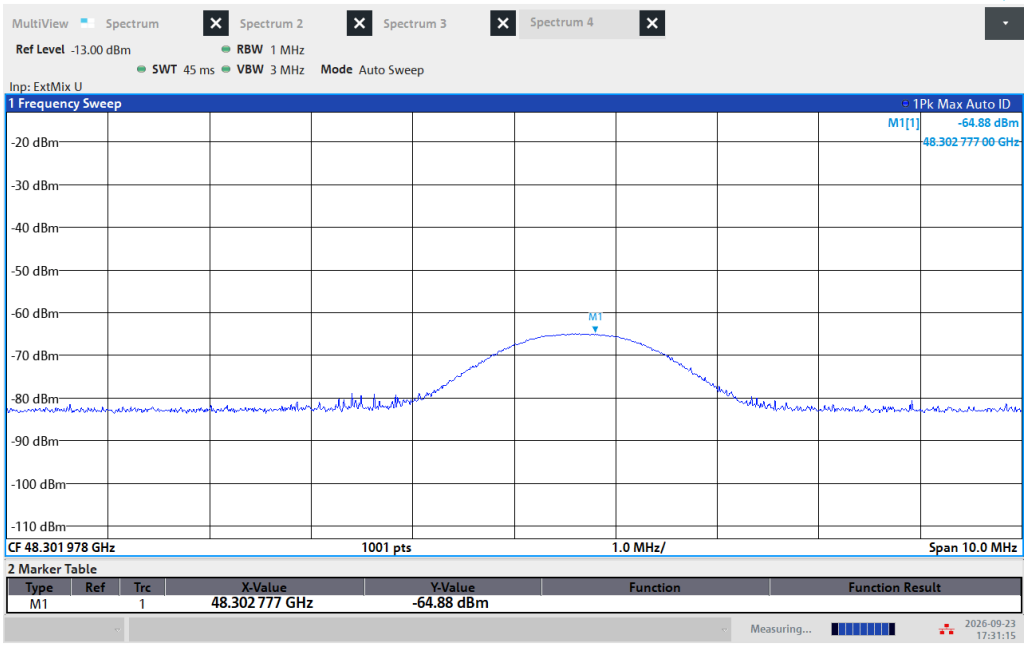
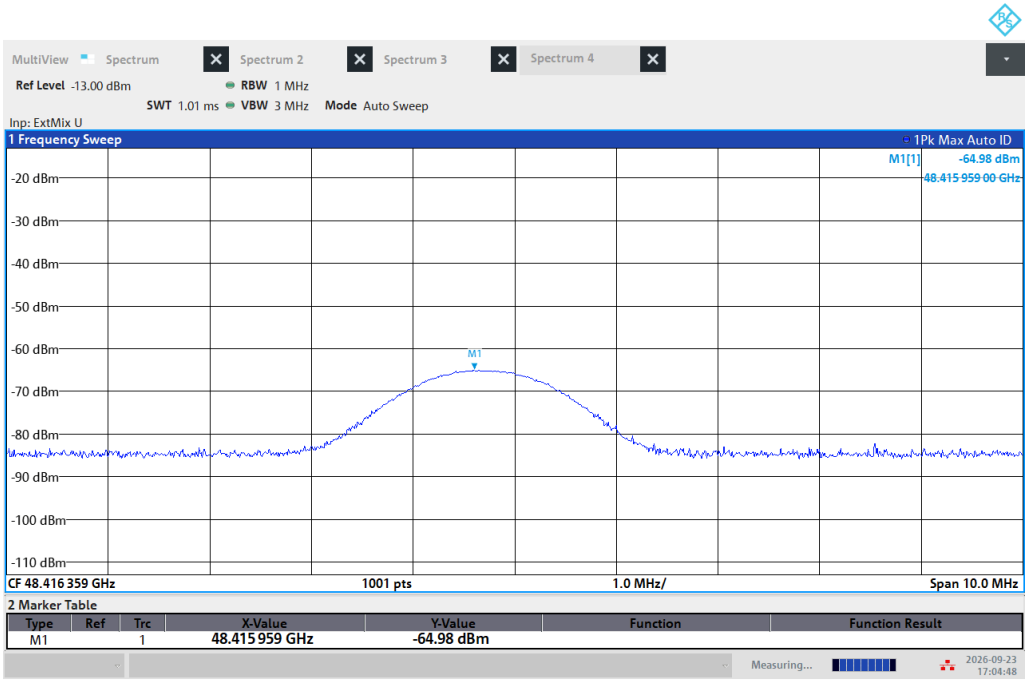
Test Frequency (MHz): 24150



05:31:15 PM 09/23/2026

Test Frequency (MHz): 24240



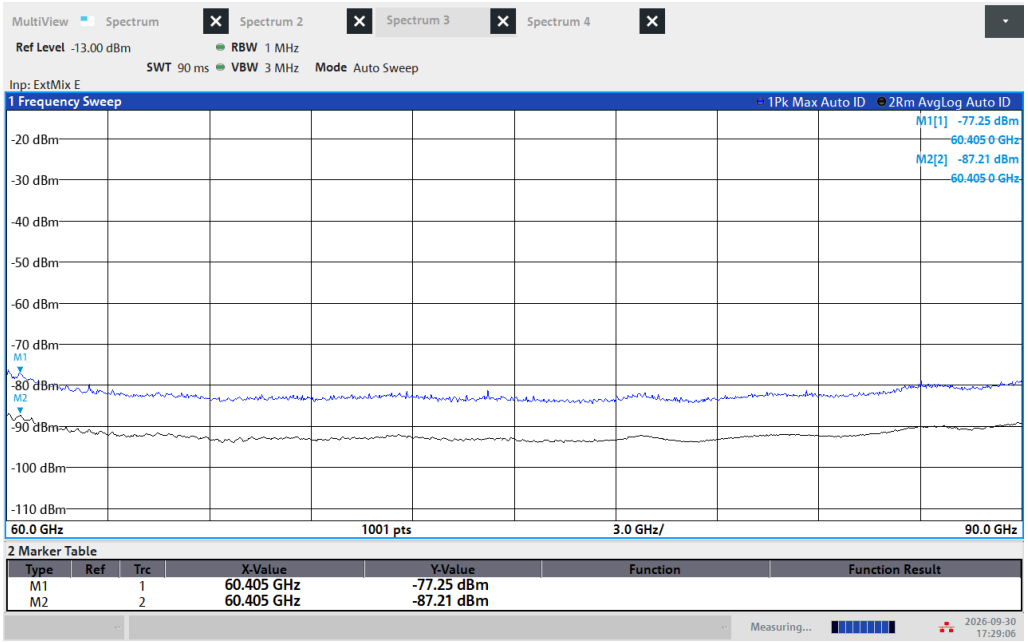
05:04:48 PM 09/23/2026

Test Range: 60~90GHz

Test Frequency (MHz): 24075

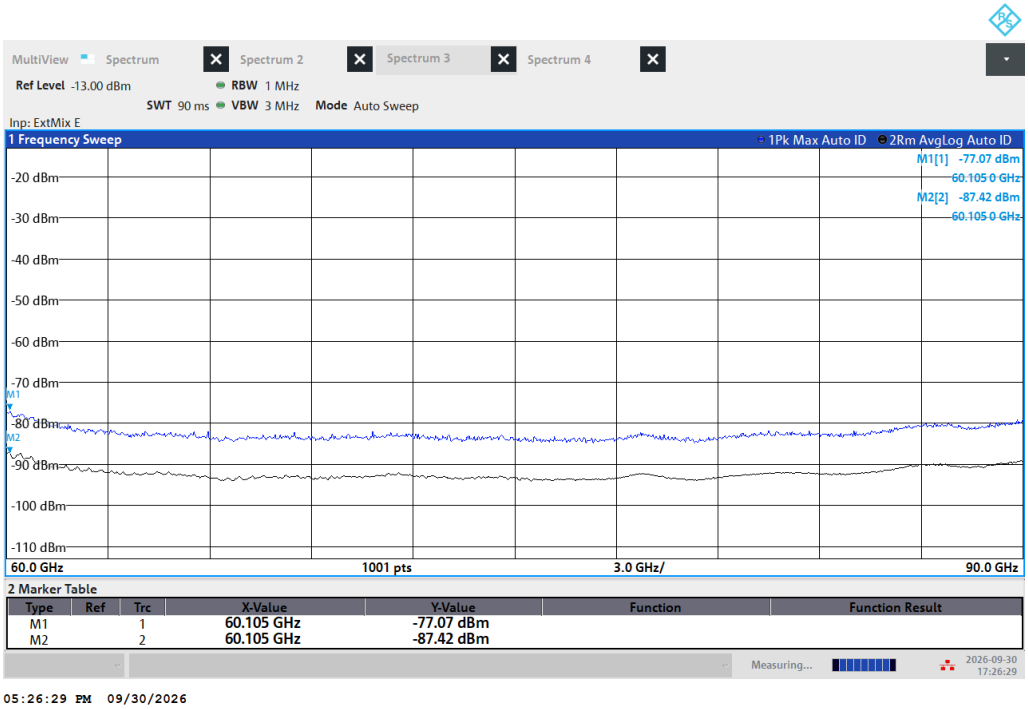
05:33:00 PM 09/30/2026

Test Frequency (MHz): 24150



05:29:07 PM 09/30/2026

Test Frequency (MHz): 24240



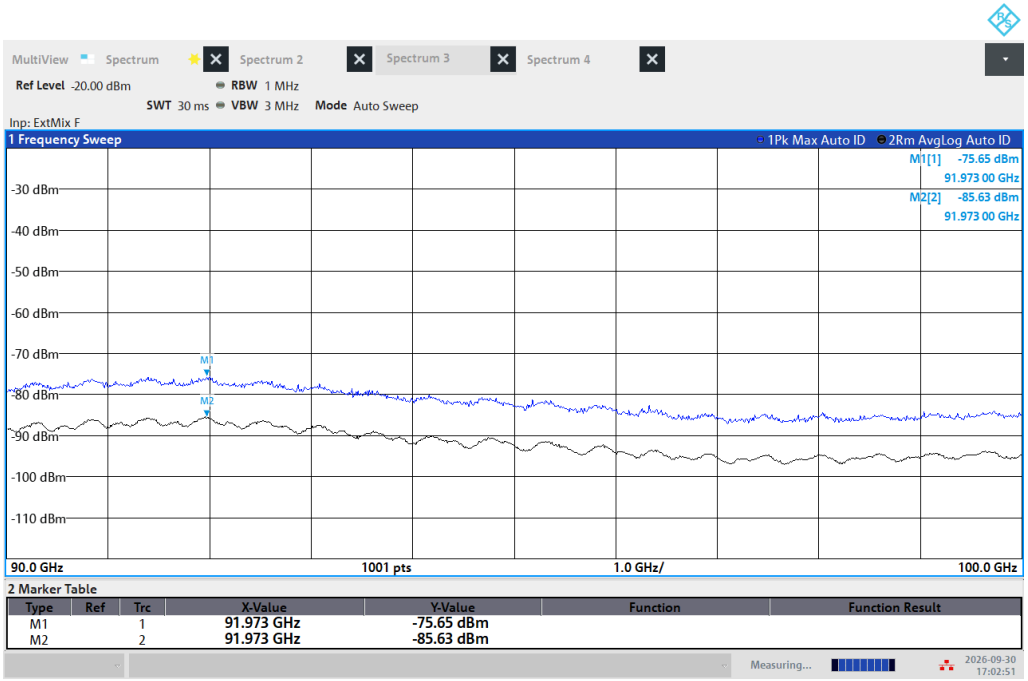
05:26:29 PM 09/30/2026

Test Range: 90~100GHz

Test Frequency (MHz): 24075

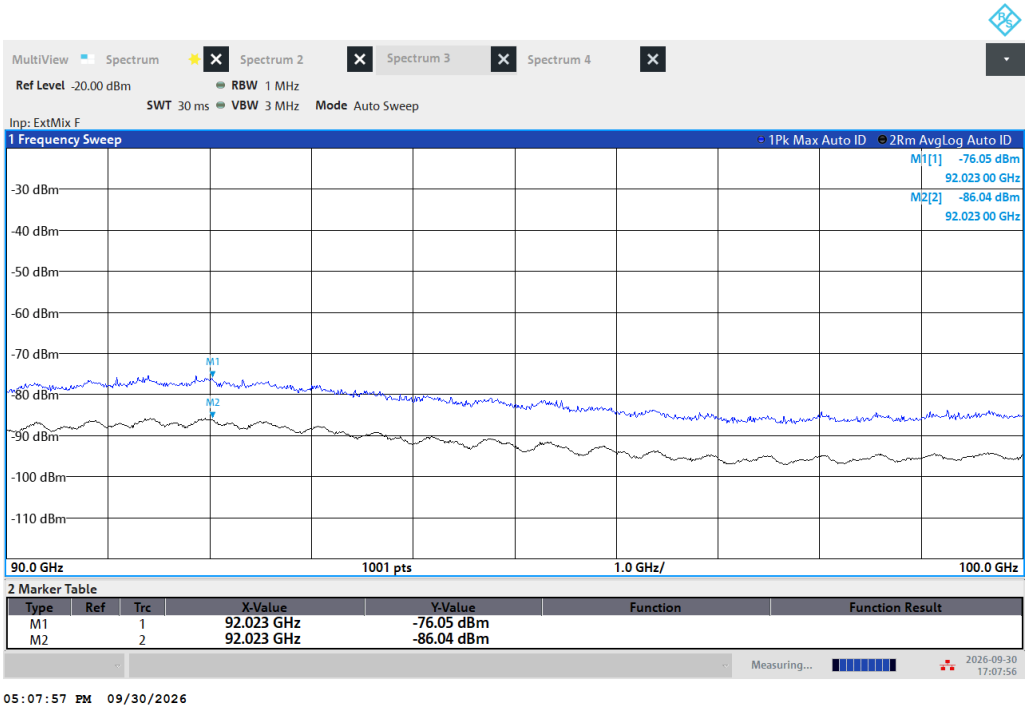
05:00:08 PM 09/30/2026

Test Frequency (MHz): 24150



05:02:52 PM 09/30/2026

Test Frequency (MHz): 24240



2.5 Band Edge Emissions Measurement

2.5.1 Limit

Band edge emissions radiated outside of the specified frequency bands shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
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

2.5.2 Measuring Instruments and Setting

Refer a test equipment and calibration data table in this test report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW	1MHz / 3MHz for Peak, The average is used peak level + correction factor

2.5.3 Test Procedures

The test procedure is the same as section 2.4.3.

2.5.4 Test Setup Layout

This test setup layout is the same as that shown in section 2.4.4

2.5.5 Test Deviation

There is no deviation with the original standard.

2.5.6 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.5.7 Measurement Results Calculation

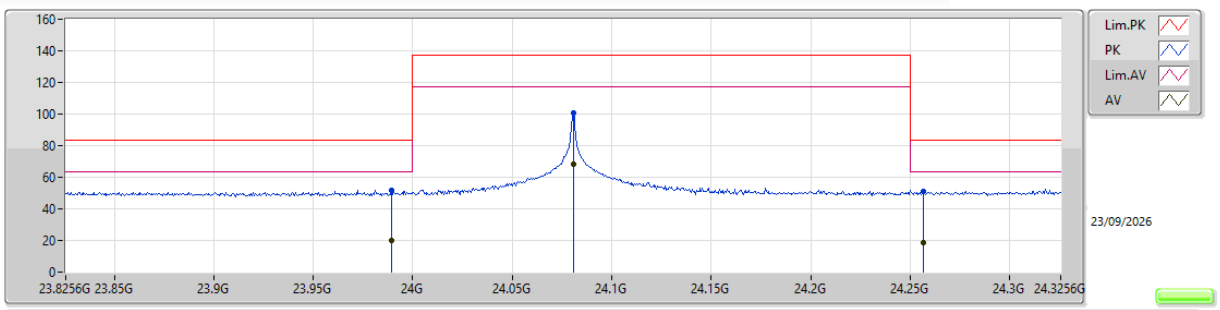
The measured Level is calculated using:

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

2.5.8 Test Result of Band Edge and Fundamental Emissions

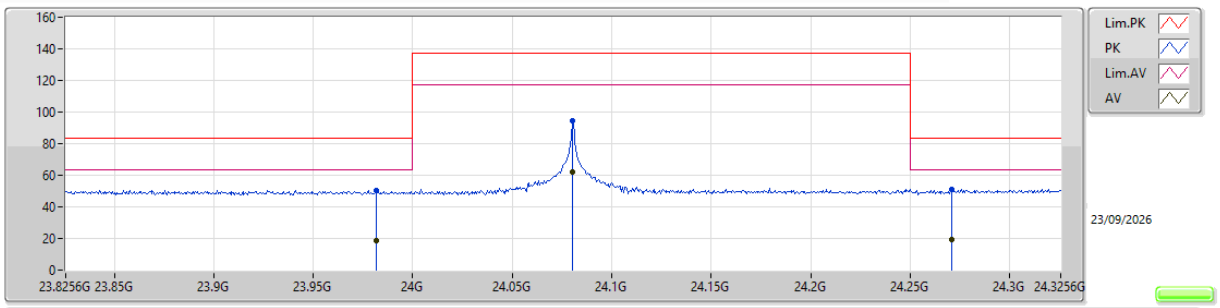
Test Frequency (MHz): 24075

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.9891G	51.84	83.54	-31.70	11.35	1	Horizontal	322.9	1.71	-	40.49	38.82	19.55	47.02
AV	23.9891G	19.91	63.54	-43.63	11.35	1	Horizontal	322.9	1.71	-	8.56	38.82	19.55	47.02
PK	24.0806G	100.51	137.54	-37.03	11.52	1	Horizontal	322.9	1.71	-	88.99	38.86	19.63	46.97
AV	24.0806G	68.58	117.54	-48.96	11.52	1	Horizontal	322.9	1.71	-	57.06	38.86	19.63	46.97
PK	24.2566G	50.87	83.54	-32.67	11.97	1	Horizontal	322.9	1.71	-	38.90	39.01	19.81	46.85
AV	24.2566G	18.94	63.54	-44.60	11.97	1	Horizontal	322.9	1.71	-	6.97	39.01	19.81	46.85

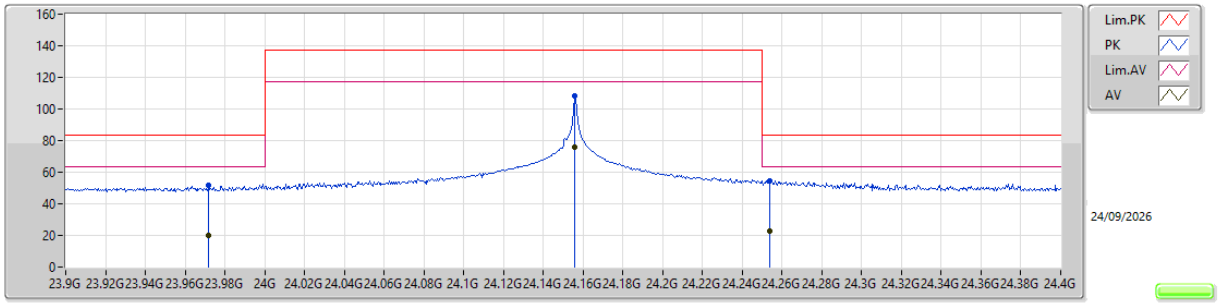
Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.9816G	50.22	83.54	-33.32	11.36	1	Vertical	306.9	1.71	-	38.86	38.84	19.55	47.03
AV	23.9816G	18.29	63.54	-45.25	11.36	1	Vertical	306.9	1.71	-	6.93	38.84	19.55	47.03
PK	24.0801G	94.20	137.54	-43.34	11.52	1	Vertical	306.9	1.71	-	82.68	38.86	19.63	46.97
AV	24.0801G	62.27	117.54	-55.27	11.52	1	Vertical	306.9	1.71	-	50.75	38.86	19.63	46.97
PK	24.2711G	51.25	83.54	-32.29	12.02	1	Vertical	306.9	1.71	-	39.23	39.04	19.82	46.84
AV	24.2711G	19.32	63.54	-44.22	12.02	1	Vertical	306.9	1.71	-	7.30	39.04	19.82	46.84

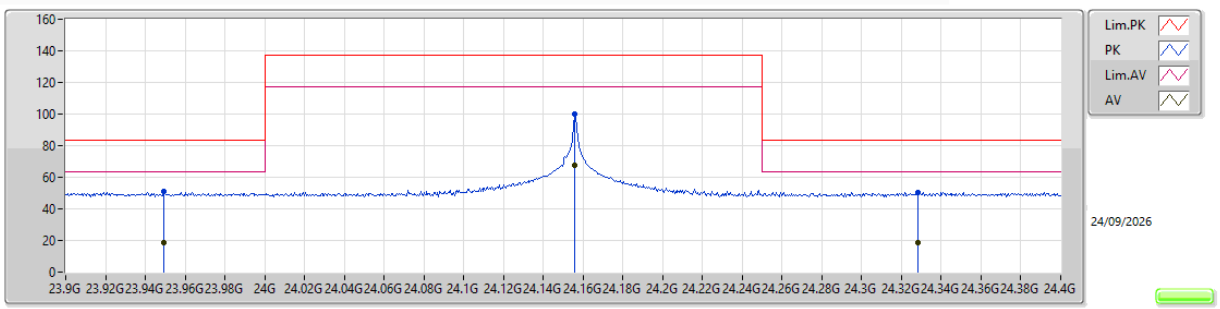
Test Frequency (MHz): 24150

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.972G	51.62	83.54	-31.92	9.26	1	Horizontal	324.3	1.72	-	42.36	38.96	18.20	47.90
AV	23.972G	19.69	63.54	-43.85	9.26	1	Horizontal	324.3	1.72	-	10.43	38.96	18.20	47.90
PK	24.156G	108.00	137.54	-29.54	9.40	1	Horizontal	324.3	1.72	-	98.60	39.00	18.24	47.84
AV	24.156G	76.07	117.54	-41.47	9.40	1	Horizontal	324.3	1.72	-	66.67	39.00	18.24	47.84
PK	24.254G	54.64	83.54	-28.90	9.37	1	Horizontal	324.3	1.72	-	45.27	38.91	18.26	47.80
AV	24.254G	22.71	63.54	-40.83	9.37	1	Horizontal	324.3	1.72	-	13.34	38.91	18.26	47.80

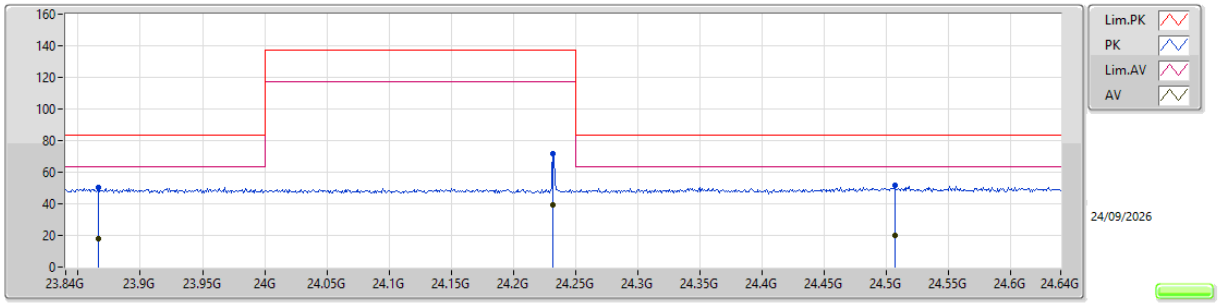
Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.9495G	50.79	83.54	-32.75	9.29	1	Vertical	306.6	1.64	-	41.50	39.00	18.19	47.90
AV	23.9495G	18.86	63.54	-44.68	9.29	1	Vertical	306.6	1.64	-	9.57	39.00	18.19	47.90
PK	24.156G	99.79	137.54	-37.75	9.40	1	Vertical	306.6	1.64	-	90.39	39.00	18.24	47.84
AV	24.156G	67.86	117.54	-49.68	9.40	1	Vertical	306.6	1.64	-	58.46	39.00	18.24	47.84
PK	24.328G	50.55	83.54	-32.99	9.56	1	Vertical	306.6	1.64	-	40.99	39.06	18.27	47.77
AV	24.328G	18.62	63.54	-44.92	9.56	1	Vertical	306.6	1.64	-	9.06	39.06	18.27	47.77

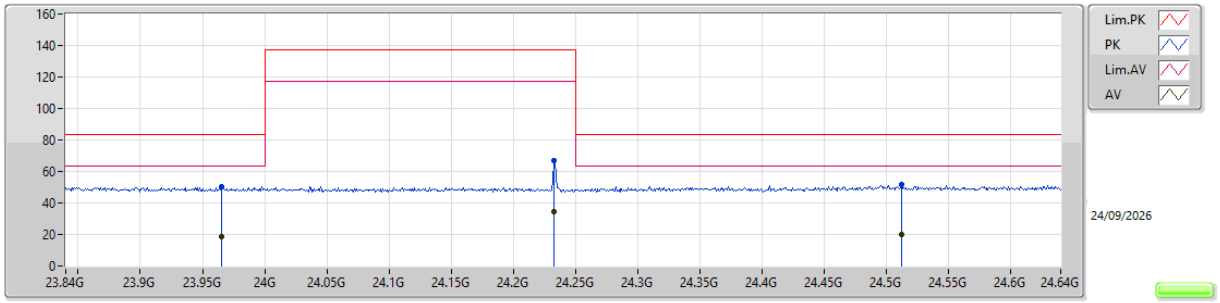
Test Frequency (MHz): 24240

Horizontal



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.8664G	50.18	83.54	-33.36	9.14	1	Horizontal	4.7	1.51	-	41.04	38.90	18.14	47.90
AV	23.8664G	18.25	63.54	-45.29	9.14	1	Horizontal	4.7	1.51	-	9.11	38.90	18.14	47.90
PK	24.232G	71.42	137.54	-66.12	9.38	1	Horizontal	4.7	1.51	-	62.04	38.94	18.25	47.81
AV	24.232G	39.49	117.54	-78.05	9.38	1	Horizontal	4.7	1.51	-	30.11	38.94	18.25	47.81
PK	24.5064G	51.67	83.54	-31.87	9.85	1	Horizontal	4.7	1.51	-	41.82	39.25	18.30	47.70
AV	24.5064G	19.74	63.54	-43.80	9.85	1	Horizontal	4.7	1.51	-	9.89	39.25	18.30	47.70

Vertical



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	23.9656G	50.21	83.54	-33.33	9.27	1	Vertical	116	1.55	-	40.94	38.97	18.20	47.90
AV	23.9656G	18.28	63.54	-45.26	9.27	1	Vertical	116	1.55	-	9.01	38.97	18.20	47.90
PK	24.2328G	66.64	137.54	-70.90	9.37	1	Vertical	116	1.55	-	57.27	38.93	18.25	47.81
AV	24.2328G	34.71	117.54	-82.83	9.37	1	Vertical	116	1.55	-	25.34	38.93	18.25	47.81
PK	24.512G	51.90	83.54	-31.64	9.80	1	Vertical	116	1.55	-	42.10	39.20	18.30	47.70
AV	24.512G	19.97	63.54	-43.57	9.80	1	Vertical	116	1.55	-	10.17	39.20	18.30	47.70

2.6 Antenna Requirements

2.6.1 Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. 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 the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited.

2.6.2 Antenna Connector Construction

The antenna connector complied with the requirements.

3 List of Measuring Equipments

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Mar. 12, 2026	Mar. 11, 2027	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 04, 2026	Feb. 03, 2027	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 10, 2026	Apr. 09, 2027	Conduction (CO01-CB)
Pulse Limiter	R&S	ESH3-Z2	100430	9kHz ~ 30MHz	Oct. 14, 2025	Oct. 13, 2026	Conduction (CO01-CB)
COND Cable	Woken	Cable	CO01	9kHz ~ 30MHz	Oct. 14, 2025	Oct. 13, 2026	Conduction (CO01-CB)
Test Software	SPORTON	SENSE-EMI	V5.11	150kHz-30MHz	N.C.R.	N.C.R.	Conduction (CO01-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH01-CB	30 MHz ~ 1 GHz	Jan. 15, 2026	Jan. 14, 2027	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30MHz	Oct. 20, 2025	Oct. 19, 2026	Radiation (03CH01-CB)
Bilog Antenna with 6 dB attenuator	TESEQ & EMCI	CBL6112D N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Feb. 13, 2026	Feb. 12, 2027	Radiation (03CH01-CB)
Pre-Amplifier	SGH	SGH0301	20230109-2	10M~1GHz	Jun. 20, 2026	Jun. 19, 2027	Radiation (03CH01-CB)
Signal Analyzer	R&S	FSV3044	101437	10kHz ~ 44GHz	Dec. 12, 2025	Dec. 11, 2026	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 29, 2025	Oct. 28, 2026	Radiation (03CH01-CB)
RF Cable-low	Woken	RG402	Low Cable-31+32	30 MHz ~ 1 GHz	Sep. 25, 2025	Sep. 24, 2026	Radiation (03CH01-CB)
RF Cable-low	Woken	RG402	Low Cable-31+32	30 MHz ~ 1 GHz	Sep. 24, 2026	Sep. 23, 2027	Radiation (03CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH01-CB	1GHz ~18GHz 3m	May 02, 2026	May 01, 2027	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1370	1GHz~18GHz	Jul. 29, 2026	Jul. 28, 2027	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Oct. 07, 2025	Oct. 06, 2026	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170586	15GHz ~ 40GHz	Nov. 05, 2025	Nov. 04, 2026	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02121	1GHz ~ 26.5GHz	May 15, 2026	May 14, 2027	Radiation (03CH01-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 21, 2025	Nov. 20, 2026	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16+17	1 GHz ~ 18 GHz	Jan. 26, 2026	Jan. 25, 2027	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Feb. 11, 2026	Feb. 10, 2027	Radiation (03CH01-CB)
*Harmonic Mixer	R&S	FS-Z60	100114	40GHz~60GHz	Nov. 22, 2024	Nov. 21, 2026	Radiation (03CH01-CB)
*Harmonic Mixer	R&S	FS-Z75	100966	50GHz~75GHz	Nov. 22, 2024	Nov. 21, 2026	Radiation (03CH01-CB)
**Harmonic Mixer	R&S	RPG FS-Z90	101811	60GHz~90GHz	Oct. 31, 2023	Oct. 30, 2026	Radiation (03CH01-CB)
*Harmonic Mixer	R&S	FS-Z140	101160	90GHz~140GHz	Jan. 20, 2025	Jan. 19, 2027	Radiation (03CH01-CB)
Standard Horn Antenna	Custom Microwave	M19RH	U91113-A	40 ~ 60 GHz	N.C.R.	N.C.R.	Radiation (03CH01-CB)
Standard Horn Antenna	Custom Microwave	M12RH	E91113-A	60 ~ 90 GHz	N.C.R.	N.C.R.	Radiation (03CH01-CB)
Standard Horn Antenna	Custom Microwave	M08RH	F91113-A	90 ~ 140 GHz	N.C.R.	N.C.R.	Radiation (03CH01-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Test Software	SPORTON	SENSE-EMI	V5.11.10	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 01, 2026	Apr. 30, 2027	Radiation (03CH03-CB)
Horn Antenna	ETS·Lindgren	3115	6821	750MHz~18GHz	Feb. 06, 2026	Feb. 05, 2027	Radiation (03CH03-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Oct. 07, 2025	Oct. 06, 2026	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Jun. 28, 2025	Jun. 27, 2026	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Jun. 27, 2026	Jun. 26, 2027	Radiation (03CH03-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 21, 2025	Nov. 20, 2026	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jul. 17, 2025	Jul. 16, 2026	Radiation (03CH03-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Jun. 04, 2026	Jun. 03, 2027	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-20+29	1GHz ~ 18GHz	Sep. 25, 2025	Sep. 24, 2026	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-29	1GHz ~ 18GHz	Sep. 25, 2025	Sep. 24, 2026	Radiation (03CH03-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Feb. 11, 2026	Feb. 10, 2027	Radiation (03CH03-CB)

Note: Calibration Interval of instruments listed above is one year.
* Calibration Interval of instruments listed above is two year.
* *Calibration Interval of instruments listed above is three year.
N.C.R. means Non-Calibration required.

4 Measurement Uncertainty

Test Date: Before May 28, 2026

Test Items	Uncertainty	Remark
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%

Test Date: After May 27, 2026

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.9 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.5 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (40GHz ~ 60GHz)	5.8 dB	Confidence levels of 95%
Radiated Emission (60GHz ~ 90GHz)	3.0 dB	Confidence levels of 95%
Radiated Emission (90GHz ~ 200GHz)	2.9 dB	Confidence levels of 95%
Conducted Emission	3.8 dB	Confidence levels of 95%