

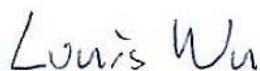


FCC RADIO TEST REPORT

FCC ID : 2AEUPBHASC0111
Equipment : Security Camera
Brand Name : ring
Model Name : 5CCEA2
Applicant : Ring LLC
12515 Cerise Ave, Hawthorne, CA
90250, USA
Standard : FCC Part 15 Subpart C §15.249

The product was received on Mar. 21, 2025 and testing was performed from Apr. 07, 2025 to Apr. 24, 2025. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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



Approved by: Louis Wu

Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Product Feature of Equipment Under Test.....	5
1.2 Modification of EUT	5
1.3 Testing Location	5
1.4 Applicable Standards.....	6
2 Test Configuration of Equipment Under Test	7
2.1 Carrier Frequency and Test Mode.....	7
2.2 Connection Diagram of Test System.....	8
2.3 EUT Operation Test Setup	8
3 Test Result	9
3.1 99% Bandwidth Measurement.....	9
3.2 Field Strength of Fundamental/Harmonics and Radiated Spurious Emission Measurement	11
3.3 AC Conducted Emission Measurement.....	16
3.4 Antenna Requirements.....	18
4 List of Measuring Equipment.....	19
5 Measurement Uncertainty	21
Appendix A. AC Conducted Emission Test Result	
Appendix B. Radiated Spurious Emission	
Appendix C. Radiated Spurious Emission Plots	
Appendix D. Setup Photographs	



History of this test report

Report No.	Version	Description	Issue Date
FR4O1404-01F	01	Initial issue of report	Jun. 18, 2025
FR4O1404-01F	02	Revised Summary, Appendix B and C. This report is an updated version, replacing the report issued on Jun. 18, 2025	Jun. 26, 2025
FR4O1404-01F	03	Revised Summary, Appendix B. This report is an updated version, replacing the report issued on Jun. 26, 2025	Jun. 30, 2025

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	§15.215(c)	Emission Bandwidth	Pass	-
3.2	15.249(a) 15.249(d)	Field Strength of Fundamental and Radiated Spurious Emission	Pass	-
3.3	15.207	AC Conducted Emission	Pass	-
3.4	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/manufacture 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 section "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: Keven Cheng

Report Producer: Michelle Chen

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature		
General Specs Bluetooth-LE, LoRa, Wi-Fi 2.4GHz 802.11b/g/n/ac/ax, and Wi-Fi 5GHz 802.11a/n/ac/ax and 24GHz Radar.		
Antenna Type 24GHz Radar: Patch antenna		
Antenna information		
24.05 GHz ~ 24.25 GHz	Peak Gain (dBi)	2.00

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.2 Modification of EUT

No modifications are made to the EUT during all test items.

1.3 Testing Location

Test Site	Sporton International Inc. Wensan Laboratory		
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855		
Test Site No.	Sporton Site No.		
	CO07-HY	03CH11-HY	03CH18-HY
Test Engineer	Louis Chung	Fu Chen	Eric Jeng
Temperature (°C)	22.5~24.7	19.2~20.7	21.4~22.6
Relative Humidity (%)	48.2~53.7	51.2~65.7	56.1~65.4

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW3786



1.4 Applicable Standards

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

- ♦ FCC Part 15 Subpart C §15.249
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ ANSI C63.10-2013

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report..
- b. AC power line Conducted Emission was tested under maximum output power.

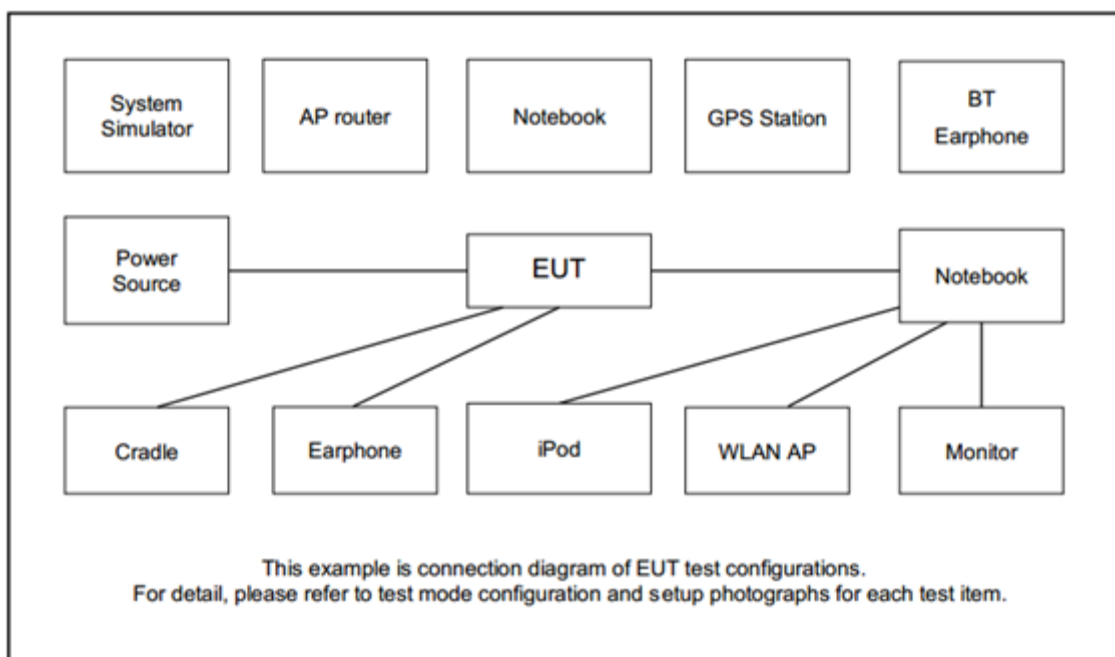
2.1 Carrier Frequency and Test Mode

Frequency Band	Frequency (MHz)	Modulation
24.05-24.25 GHz	24060	CW
24.05-24.25 GHz	24150	CW
24.05-24.25 GHz	24240	CW

Note: The 99%OBW is tested by using FMCW, and the rest of test cases use CW mode in accordance with FCC Part 15.31(c).

Test Cases	
AC Conducted Emission	Mode 1 : 24GHz Radar Tx + Adapter

2.2 Connection Diagram of Test System



2.3 EUT Operation Test Setup

The RF test items, utility “Tera term” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

3 Test Result

3.1 99% Bandwidth Measurement

3.1.1 Limit of 99% Bandwidth

For reference only.

3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

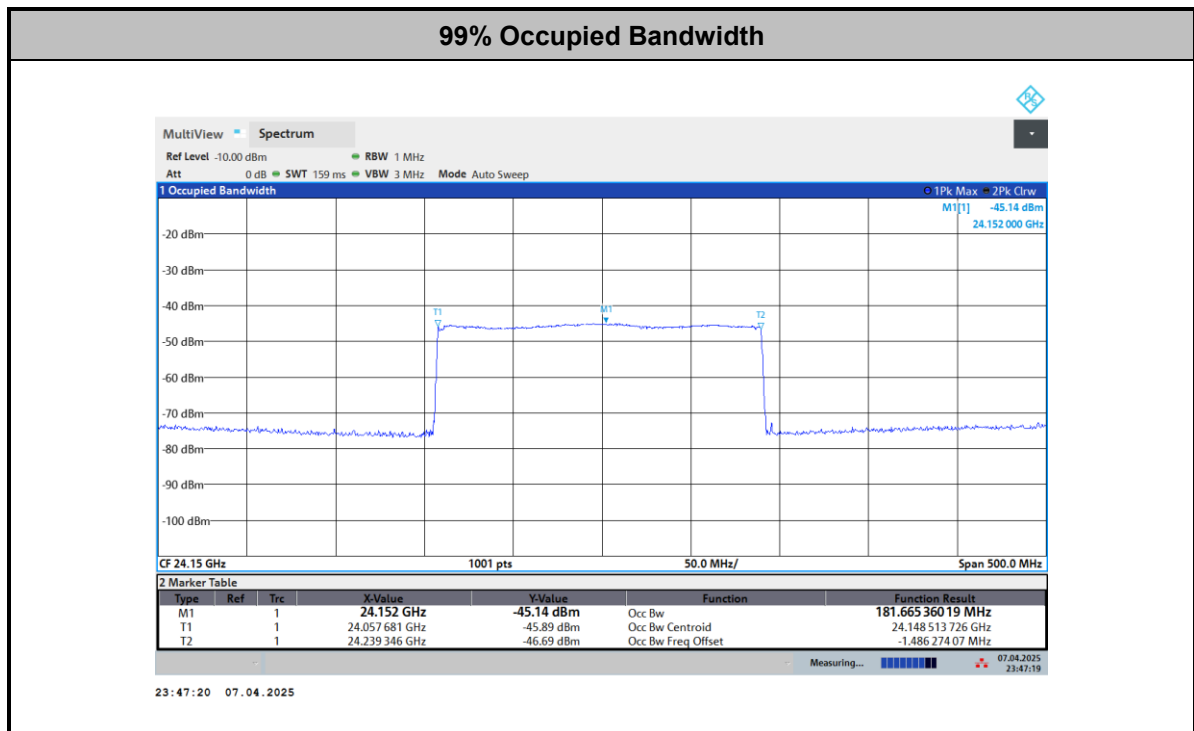
3.1.3 Test Procedures

1. The testing follows the ANSI C63.10 Section 6.9.3.
2. Enable the EUT transmit continuously under FMCW mode.
3. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) $\geq 3 * RBW$.
4. Measure and record the results in the test report.

3.1.4 Test Result of Emission Bandwidth

99% Occupied Bandwidth (GHz)	Limit (GHz)
0.181	Report Only

3.1.5 Test Plots



3.2 Field Strength of Fundamental/Harmonics and Radiated Spurious Emission Measurement

3.2.1 Limit

The field strength measured at 3 meters shall not exceed the limits in the following table:

Rules and specifications	FCC CFR 47 Part 15 section 15.249	
Description	Field strength of fundamental	
24.0~24.25 (GHz)	Fundamental emissions (millivolts/meter) at 3m	Fundamental emissions (dBμV/m) at 3m
Average limits	250	107.95
Peak limits	-	127.95
Description	Field strength of harmonics	
24.0~24.25 (GHz)	Fundamental emissions (microvolts/meter) at 3m	Harmonic emissions (dBμV/m) at 3m
Average limits	2500	67.95
Peak limits	-	87.95
Note: Above 18GHz, the distance correction factor is used, 18GHz to 90GHz : $20\log(1\text{m}/3\text{m}) = -9.54\text{dB}$; 90GHz – 100GHz: $20\log(0.5\text{m}/3\text{m}) = -15.56\text{dB}$.		

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 §15.209, whichever is the lesser attenuation

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	$2400/F(\text{kHz})$	300
0.490 – 1.705	$24000/F(\text{kHz})$	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2 Measuring Instruments

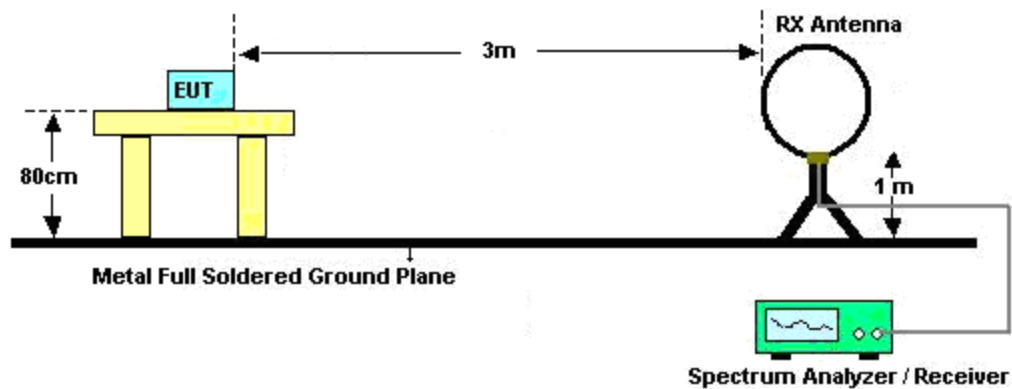
See list of measuring equipment of this test report.

3.2.3 Test Procedures

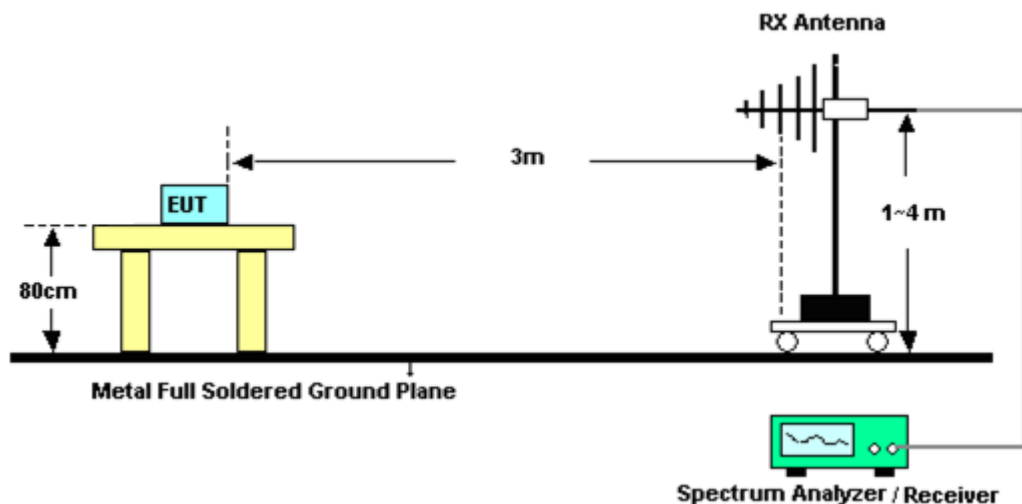
For emissions 9KHz to 40GHz, ANSI C63.10 Section 6.3 Radiated emissions testing follows, and for emissions 40GHz to 100GHz, ANSI C63.10 Section 9.8 and 9.9 radiated measurements follows. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and with 1.5 meter height for frequency above 1GHz, and was arranged test distance as shown in Section 3.4 Test Setup, respectively. For emissions, test results are attenuated more than 20 dB below the permissible value need not be reported in accordance with FCC Part 15.31(O).

3.2.4 Test Setup

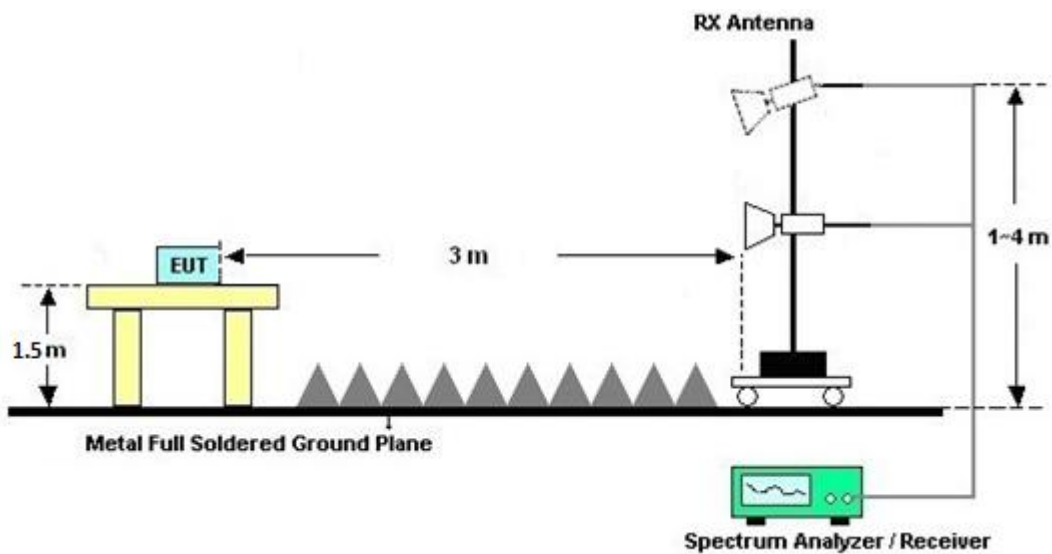
<For radiated emissions below 30MHz>



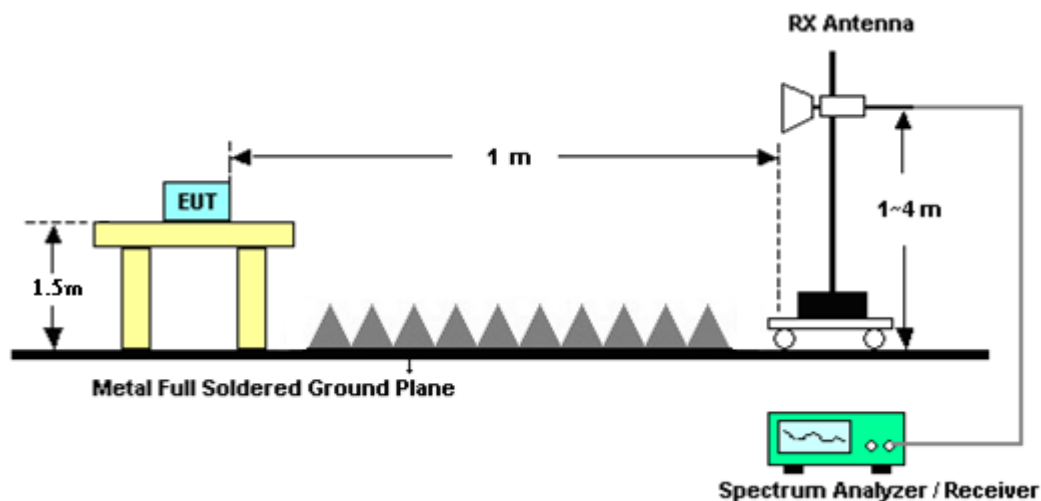
<For radiated emissions from 30MHz ~ 1GHz>



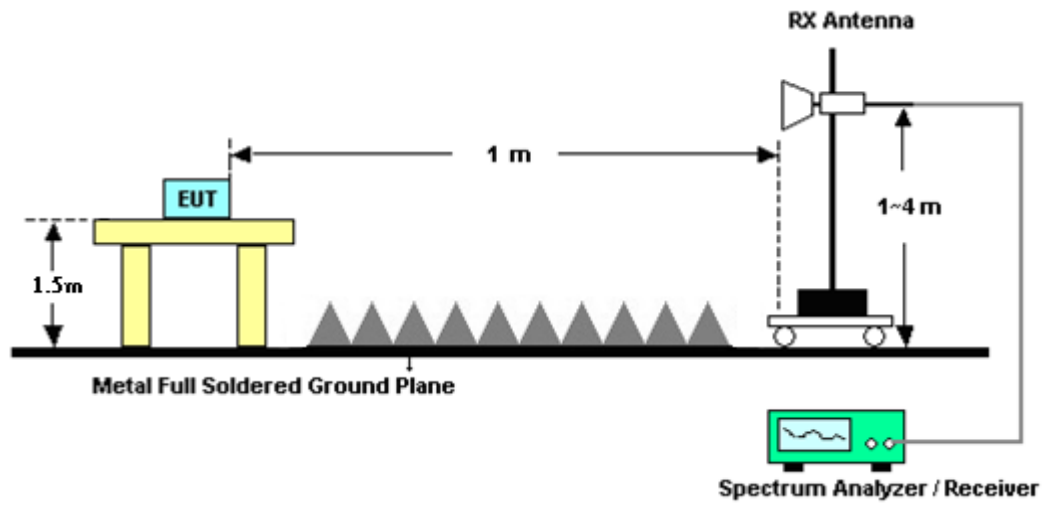
<For radiated emissions from 1 ~ 18GHz>



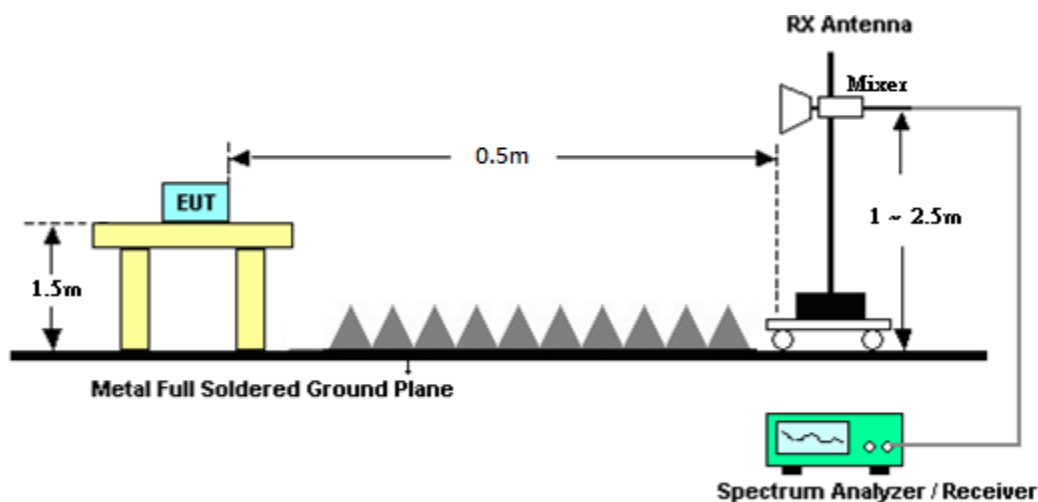
<For radiated emissions from 18 ~ 40GHz>



<For radiated emissions above 40 ~ 90GHz>



<For radiated emissions above 90 ~ 100GHz>



3.2.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result comes out very similar.

3.2.6 Test Result of Field Strength of Fundamental and Radiated Spurious Emission

Please refer to Appendix B and C.

3.3 AC Conducted Emission Measurement

3.3.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

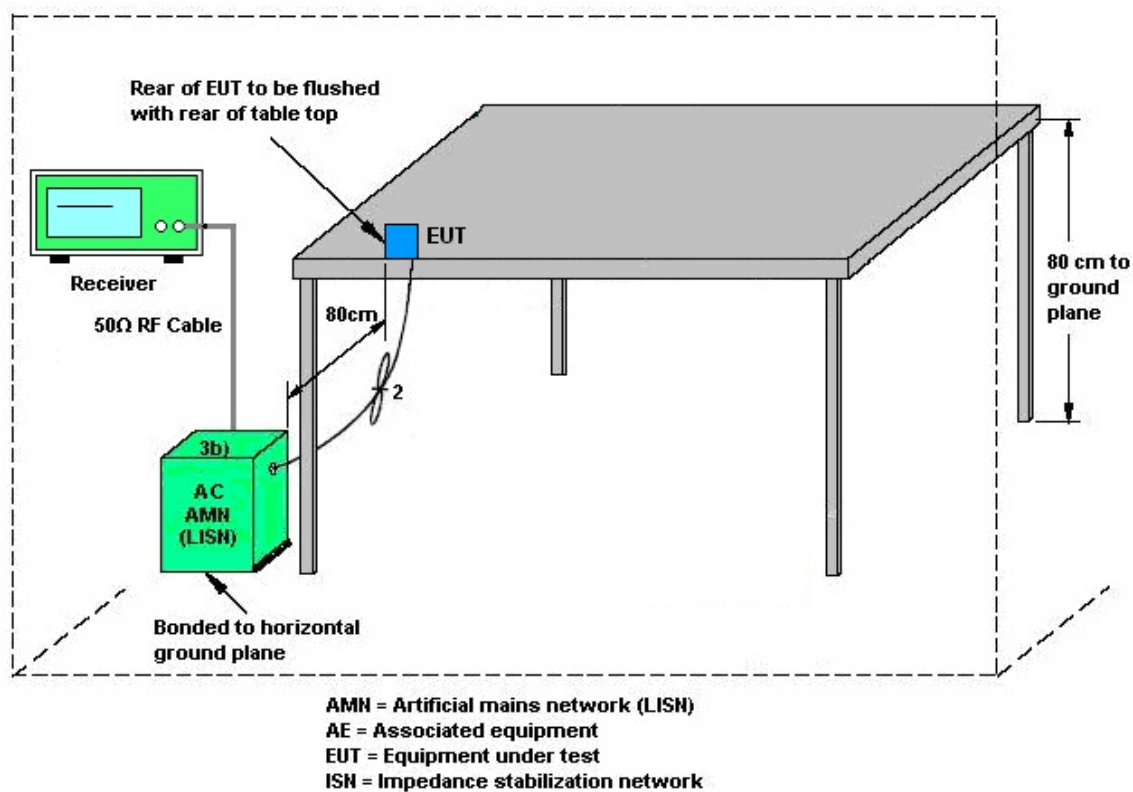
3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

1. Connect EUT to the power mains through a line impedance stabilization network (LISN).
2. All the support units are connecting to the other LISN.
3. The LISN provides 50 ohm coupling impedance for the measuring instrument.
4. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
5. Both sides of AC line were checked for maximum conducted interference.
6. The frequency range from 150 kHz to 30 MHz was searched.
7. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

3.3.4 Test Setup



3.3.5 Test Result of AC Conducted Emission

Please refer to Appendix A.



3.4 Antenna Requirements

3.4.1 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.

3.4.2 Antenna Connector Construction

Embedded in Antenna.



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSW43	101456	2Hz to 43.5GHz	Feb. 20, 2025	Apr. 08, 2025	Feb. 19, 2026	Radiation (03CH18-HY)
Harmonic Mixer*	Rohde & Schwarz	RPG FS-Z60	101033	40GHz to 60GHz	Jun. 27, 2024	Apr. 08, 2025	Jun. 26, 2025	Radiation (03CH18-HY)
Harmonic Mixer*	Rohde & Schwarz	FSZ-90	101867	60GHz to 90GHz	Jun. 27, 2024	Apr. 08, 2025	Jun. 26, 2025	Radiation (03CH18-HY)
Harmonic Mixer*	Rohde & Schwarz	RPG FS-Z140	101130	90GHz to 140GHz	Jun. 27, 2024	Apr. 08, 2025	Jun. 26, 2025	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-UPRR00	1410300003	40-60 GHz	Jun. 27, 2024	Apr. 08, 2025	Jun. 26, 2025	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-EPRR00	1372000000	60-90 GHz	Jun. 27, 2024	Apr. 08, 2025	Jun. 26, 2025	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-FPRR00	1011500008	90-140 GHz	Jun. 27, 2024	Apr. 08, 2025	Jun. 26, 2025	Radiation (03CH18-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	801607/2	N/A	Dec. 25, 2024	Apr. 08, 2025	Dec. 24, 2025	Radiation (03CH18-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519231/2	N/A	Dec. 25, 2024	Apr. 08, 2025	Dec. 24, 2025	Radiation (03CH18-HY)
AC Power Source	AC POWER	AFC-500W	F104070011	50Hz~60Hz	N/A	Apr. 08, 2025	N/A	Radiation (03CH18-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Nov. 27, 2024	Apr. 07, 2025~ Apr. 08, 2025	Nov. 26, 2025	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Aug. 29, 2024	Apr. 07, 2025~ Apr. 08, 2025	Aug. 28, 2025	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-01620	1GHz~18GHz	Aug. 28, 2024	Apr. 07, 2025~ Apr. 08, 2025	Aug. 27, 2025	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 07, 2024	Apr. 07, 2025~ Apr. 08, 2025	Dec. 06, 2025	Radiation (03CH11-HY)
Preamplifier	E-INSTRUMENT TECH LTD.	ERA-100M-18G-56-01-A70	EC1900249	1GHz~18GHz	Jan. 21, 2025	Apr. 07, 2025~ Apr. 08, 2025	Jan. 20, 2026	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 14, 2024	Apr. 07, 2025~ Apr. 08, 2025	Oct. 13, 2025	Radiation (03CH11-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY55420170	20MHz~8.4GHz	Jul. 19, 2024	Apr. 07, 2025~ Apr. 08, 2025	Jul. 18, 2025	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Apr. 07, 2025~ Apr. 08, 2025	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Apr. 07, 2025~ Apr. 08, 2025	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Apr. 07, 2025~ Apr. 08, 2025	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Apr. 07, 2025~ Apr. 08, 2025	N/A	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303B	TP200880	N/A	Aug. 29, 2024	Apr. 07, 2025~ Apr. 08, 2025	Aug. 28, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804013/2	30M~40G	Mar. 05, 2025	Apr. 07, 2025~ Apr. 08, 2025	Mar. 04, 2026	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz~40GHz	Mar. 05, 2025	Apr. 07, 2025~ Apr. 08, 2025	Mar. 04, 2026	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 05, 2025	Apr. 07, 2025~ Apr. 08, 2025	Mar. 04, 2026	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	30M~40G	Mar. 05, 2025	Apr. 07, 2025~ Apr. 08, 2025	Mar. 04, 2026	Radiation (03CH11-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN11	1.53GHz Low Pass Filter	Sep. 10, 2024	Apr. 07, 2025~ Apr. 08, 2025	Sep. 09, 2025	Radiation (03CH11-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ACPOWER	AFC-11003G	F317040033	N/A	N/A	Apr. 24, 2025	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Apr. 24, 2025	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBECK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 23, 2024	Apr. 24, 2025	Oct. 22, 2025	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 03, 2025	Apr. 24, 2025	Mar. 02, 2026	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Mar. 24, 2025	Apr. 24, 2025	Mar. 23, 2026	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 23, 2024	Apr. 24, 2025	Sep. 22, 2025	Conduction (CO07-HY)

5 Measurement Uncertainty

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.7 dB
---	--------

<For 03CH11-HY>

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.4 dB
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Uncertainty of Radiated Emission Measurement (1GHz ~ 6GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1 dB
---	--------

Uncertainty of Radiated Emission Measurement (6GHz ~ 18GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.3 dB
---	--------

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.3 dB
---	--------

<For 03CH18-HY>

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.4 dB
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Uncertainty of Radiated Emission Measurement (40 GHz ~ 140 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.59 dB
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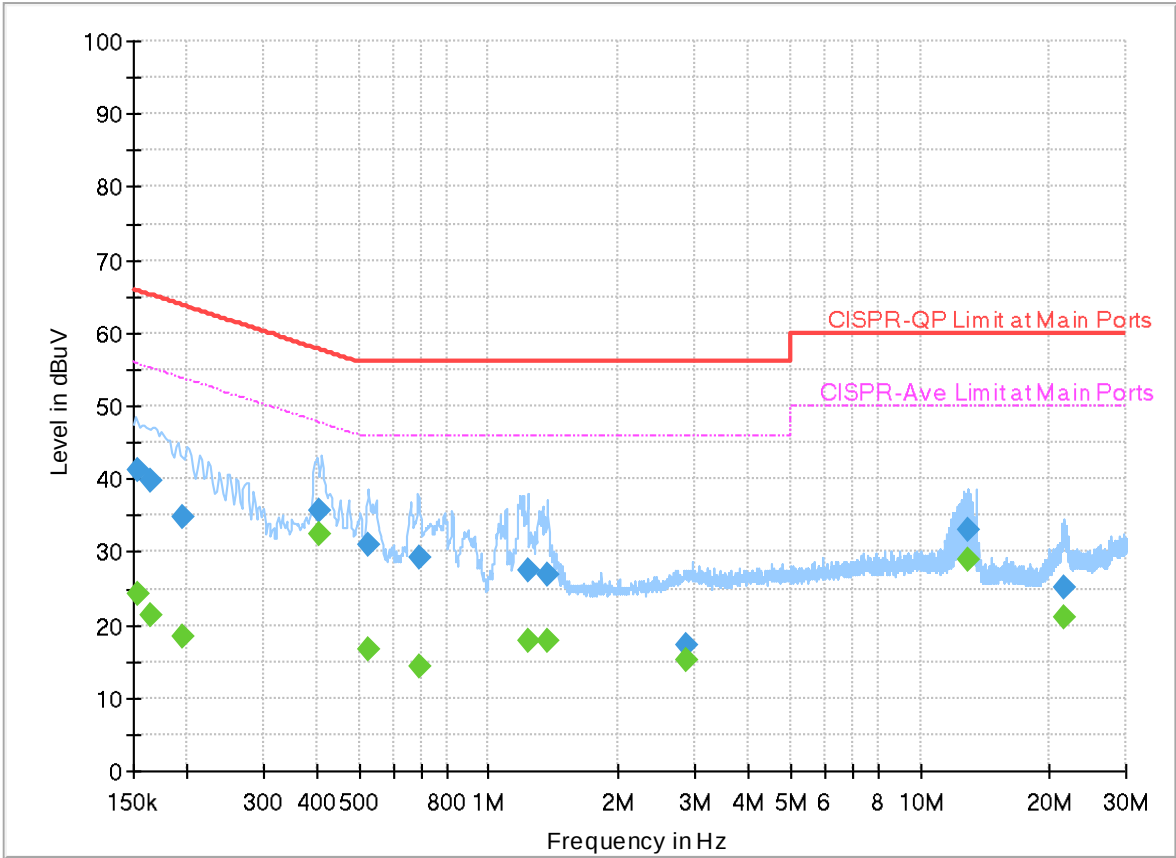
Appendix A. AC Conducted Emission Test Results

EUT Information

Report NO :
Test Mode :
Test Voltage :
Phase :

4O1404-01
Mode 1
120Vac/60Hz
Line

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	PE	Corr. (dB)
0.152903	---	24.19	55.84	31.65	L1	FLO	20.0
0.152903	41.19	---	65.84	24.65	L1	FLO	20.0
0.163500	---	21.21	55.28	34.07	L1	FLO	20.0
0.163500	39.81	---	65.28	25.47	L1	FLO	20.0
0.195000	---	18.42	53.82	35.40	L1	FLO	20.0
0.195000	34.73	---	63.82	29.09	L1	FLO	20.0
0.406500	---	32.41	47.72	15.31	L1	FLO	19.9
0.406500	35.66	---	57.72	22.06	L1	FLO	19.9
0.527190	---	16.72	46.00	29.28	L1	FLO	19.9
0.527190	31.10	---	56.00	24.90	L1	FLO	19.9
0.690000	---	14.29	46.00	31.71	L1	FLO	20.0
0.690000	29.33	---	56.00	26.67	L1	FLO	20.0
1.227750	---	17.91	46.00	28.09	L1	FLO	20.0
1.227750	27.63	---	56.00	28.37	L1	FLO	20.0
1.365000	---	17.78	46.00	28.22	L1	FLO	20.0
1.365000	26.89	---	56.00	29.11	L1	FLO	20.0
2.882040	---	15.35	46.00	30.65	L1	FLO	20.0
2.882040	17.11	---	56.00	38.89	L1	FLO	20.0
12.851250	---	28.93	50.00	21.07	L1	FLO	20.1

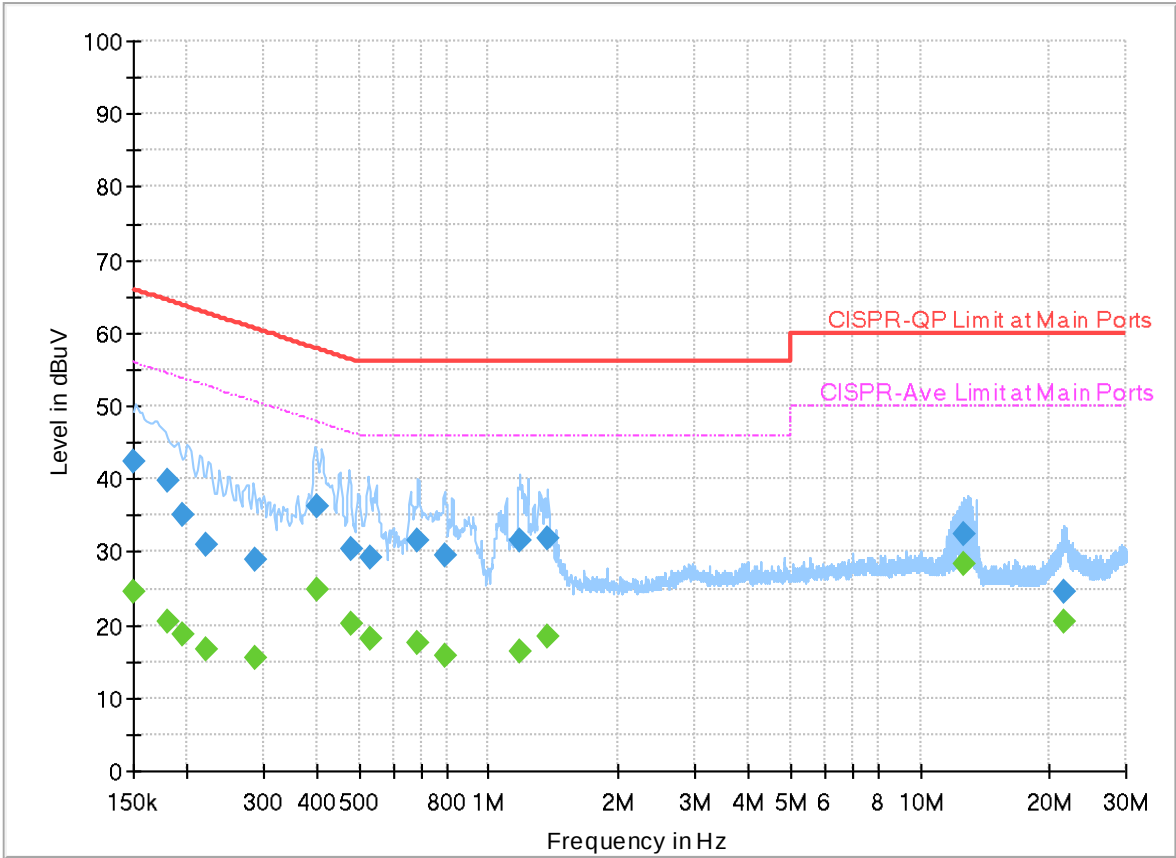
12.851250	33.16	---	60.00	26.84	L1	FLO	20.1
21.522750	---	21.16	50.00	28.84	L1	FLO	20.2
21.522750	25.28	---	60.00	34.72	L1	FLO	20.2

EUT Information

Report NO :
Test Mode :
Test Voltage :
Phase :

4O1404-01
Mode 1
120Vac/60Hz
Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	PE	Corr. (dB)
0.150405	---	24.64	55.98	31.34	N	FLO	20.0
0.150405	42.28	---	65.98	23.70	N	FLO	20.0
0.179250	---	20.49	54.52	34.03	N	FLO	20.0
0.179250	39.79	---	64.52	24.73	N	FLO	20.0
0.195000	---	18.77	53.82	35.05	N	FLO	20.0
0.195000	35.23	---	63.82	28.59	N	FLO	20.0
0.219840	---	16.78	52.83	36.05	N	FLO	19.9
0.219840	30.87	---	62.83	31.96	N	FLO	19.9
0.287790	---	15.45	50.59	35.14	N	FLO	19.9
0.287790	28.82	---	60.59	31.77	N	FLO	19.9
0.399750	---	24.78	47.86	23.08	N	FLO	19.9
0.399750	36.25	---	57.86	21.61	N	FLO	19.9
0.478500	---	20.13	46.37	26.24	N	FLO	19.9
0.478500	30.47	---	56.37	25.90	N	FLO	19.9
0.532500	---	18.12	46.00	27.88	N	FLO	19.9
0.532500	29.13	---	56.00	26.87	N	FLO	19.9
0.681990	---	17.57	46.00	28.43	N	FLO	19.9
0.681990	31.50	---	56.00	24.50	N	FLO	19.9
0.787650	---	15.93	46.00	30.07	N	FLO	20.0

0.787650	29.41	---	56.00	26.59	N	FLO	20.0
1.176000	---	16.44	46.00	29.56	N	FLO	20.0
1.176000	31.72	---	56.00	24.28	N	FLO	20.0
1.367250	---	18.50	46.00	27.50	N	FLO	20.0
1.367250	31.76	---	56.00	24.24	N	FLO	20.0
12.649470	---	28.29	50.00	21.71	N	FLO	20.1
12.649470	32.51	---	60.00	27.49	N	FLO	20.1
21.622740	---	20.58	50.00	29.42	N	FLO	20.2
21.622740	24.60	---	60.00	35.40	N	FLO	20.2



Appendix B. Radiated Spurious Emission

Test Engineer :	Fu Chen and Eric Jeng	Temperature :	19.2~22.6°C
		Relative Humidity :	51.2~65.7%

24GHz 24000~24250MHz

(Field strength of fundamental @ 3m)

24GHz	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
24.06GHz		23784	37.72	-36.28	74	56.18	38.94	6.07	53.93	181	204	P	H
		23804	24.46	-29.54	54	42.9	38.94	6.08	53.92	181	204	A	H
	*	24058	95.01	-32.94	127.95	113.29	38.92	6.11	53.77	181	204	P	H
	*	24058	94.58	-13.37	107.95	112.86	38.92	6.11	53.77	181	204	A	H
		24742	38.29	-35.71	74	55.62	39.29	6.27	53.35	181	204	P	H
		24462	24.93	-29.07	54	42.7	39.08	6.21	53.52	181	204	A	H
		23568	40.01	-33.99	74	58.57	38.99	6.05	54.06	192	217	P	V
		23874	26.92	-27.08	54	45.33	38.93	6.08	53.88	192	217	A	V
	*	24058	90.14	-37.81	127.95	108.42	38.92	6.11	53.77	192	217	P	V
	*	24058	89.51	-18.44	107.95	107.79	38.92	6.11	53.77	192	217	A	V
		25022	40.63	-33.37	74	57.55	39.49	6.33	53.2	192	217	P	V
		24768	27.33	-26.67	54	44.62	39.31	6.28	53.34	192	217	A	V
24.15GHz		23934	37.18	-36.82	74	55.56	38.91	6.09	53.84	179	205	P	H
		23804	24.38	-29.62	54	42.82	38.94	6.08	53.92	179	205	A	H
	*	24148	94.92	-33.03	127.95	113.07	38.96	6.14	53.71	179	205	P	H
	*	24148	94.64	-13.31	107.95	112.79	38.96	6.14	53.71	179	205	A	H
		24986	38	-36	74	54.93	39.49	6.33	53.21	179	205	P	H
		24452	24.88	-29.12	54	42.66	39.08	6.21	53.53	179	205	A	H
		23584	40.02	-33.98	74	58.58	38.98	6.05	54.05	179	208	P	V
		23660	26.84	-27.16	54	45.35	38.97	6.06	54	179	208	A	V
	*	24148	91.19	-36.76	127.95	109.34	38.96	6.14	53.71	179	208	P	V
	*	24148	90.96	-16.99	107.95	109.11	38.96	6.14	53.71	179	208	A	V
		24980	40.43	-33.57	74	57.37	39.48	6.33	53.21	179	208	P	V
		24766	27.19	-26.81	54	44.48	39.31	6.28	53.34	179	208	A	V



24GHz	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
24.24GHz		23652	38.25	-35.75	74	56.77	38.97	6.06	54.01	180	234	P	H
		23804	24.41	-29.59	54	42.85	38.94	6.08	53.92	180	234	A	H
	*	24238	95.39	-32.56	127.95	113.43	39	6.16	53.66	180	234	P	H
	*	24238	95.12	-12.83	107.95	113.16	39	6.16	53.66	180	234	A	H
		24250	63.28	-10.72	74	81.31	39	6.16	53.65	180	234	P	H
		24250	51.49	-2.51	54	69.52	39	6.16	53.65	180	234	A	H
		23694	40.99	-33.01	74	59.49	38.96	6.06	53.98	179	212	P	V
		23728	26.96	-27.04	54	45.44	38.95	6.07	53.96	179	212	A	V
	*	24238	91.75	-36.2	127.95	109.79	39	6.16	53.66	179	212	P	V
	*	24238	91.49	-16.46	107.95	109.53	39	6.16	53.66	179	212	A	V
		24250	57.86	-16.14	74	75.89	39	6.16	53.65	179	212	P	V
		24250	47.7	-6.3	54	65.73	39	6.16	53.65	179	212	A	V
Remark	1. No other spurious found. 2. All results are Pass against Peak and Average limit line. 3. The general radiated emission limits in §15.209 is lesser attenuation as limit. 4. The maximized peak level complies with the average limit, unnecessary to perform an average measurement												



24GHz 24000~24250MHz
(Radiated Spurious Emission @ 3m)

24GHz	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
24.06GHz		22598	39.44	-34.56	74	58.79	38.86	5.89	54.56	181	204	P	H
		22598	34.36	-19.64	54	53.71	38.86	5.89	54.56	181	204	A	H
		39406	43.87	-30.13	74	56.51	44.32	8.84	56.26	181	204	P	H
		40000	31.52	-22.48	54	43.83	44.2	8.43	55.4	181	204	A	H
		23126	40.43	-33.57	74	59.33	39.07	5.89	54.32	192	217	P	V
		22598	30.82	-23.18	54	50.17	38.86	5.89	54.56	192	217	A	V
		39406	46.8	-27.2	74	59.44	44.32	8.84	56.26	192	217	P	V
		39450	35.7	-18.3	54	48.19	44.36	8.92	56.23	192	217	A	V
24.15GHz		22686	40.02	-33.98	74	59.3	38.91	5.88	54.53	179	205	P	H
		22686	36.74	-17.26	54	56.02	38.91	5.88	54.53	179	205	A	H
		39978	44.4	-29.6	74	56.71	44.21	8.46	55.44	179	205	P	H
		39978	31.48	-22.52	54	43.79	44.21	8.46	55.44	179	205	A	H
		22268	40.5	-33.5	74	60.12	38.71	5.86	54.65	179	208	P	V
		22686	33.28	-20.72	54	52.56	38.91	5.88	54.53	179	208	A	V
		39406	47.82	-26.18	74	60.46	44.32	8.84	56.26	179	208	P	V
		39450	34.61	-19.39	54	47.1	44.36	8.92	56.23	179	208	A	V
24.24GHz		22774	38.44	-35.56	74	57.64	38.96	5.87	54.49	180	234	P	H
		22774	31.12	-22.88	54	50.32	38.96	5.87	54.49	180	234	A	H
		39648	43.62	-30.38	74	55.93	44.34	8.85	55.96	180	234	P	H
		40000	31.66	-22.34	54	43.97	44.2	8.43	55.4	180	234	A	H
		21124	40.24	-33.76	74	59.78	38.98	5.82	54.8	179	212	P	V
		22774	29.16	-24.84	54	48.36	38.96	5.87	54.49	179	212	A	V
		39384	47.69	-26.31	74	60.4	44.31	8.79	56.27	179	212	P	V
		39450	34.61	-19.39	54	47.1	44.36	8.92	56.23	179	212	A	V
Remark	1. No other spurious found. 2. All results are Pass against Peak and Average limit line. 3. The general radiated emission limits in §15.209 is lesser attenuation as limit. 4. The maximized peak level complies with the average limit, unnecessary to perform an average measurement												



24GHz 24000~24250MHz

(Radiated Spurious Emission & Harmonic @ 3m)

24GHz	Note	Frequency (GHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Offset Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
24.06GHz		48.12	60.16	-27.79	87.95	-35.08	42.6	45.98	181	204	P	H
		48.12	53.05	-14.90	67.95	-42.19	42.6	45.98	181	204	A	H
		50.751	58.6	-15.4	74	-36.64	42.6	45.98	181	204	P	H
		50.751	50.92	-3.08	54	-44.32	42.6	45.98	181	204	A	H
		60.1025	61.18	-12.82	87.95	-34.06	46.2	49.58	181	204	P	H
		60.0035	50.25	-3.75	67.95	-44.99	46.2	49.58	181	204	A	H
		72.18	53.06	-34.89	74	-42.18	46.2	49.58	181	204	P	H
		72.18	43.29	-24.66	54	-51.95	46.2	49.58	181	204	A	H
		91.7163	56.37	-17.63	74	-32.85	47.6	44.96	181	204	P	H
		91.6823	44.55	-9.45	54	-44.67	47.6	44.96	181	204	A	H
		96.24	46.96	-42.99	87.95	-44.26	47.6	44.96	181	204	P	H
		96.24	35.01	-32.94	67.95	-54.21	47.6	44.96	181	204	A	H
		48.12	55.29	-32.66	87.95	-39.95	42.6	45.98	192	217	P	V
		48.12	46.31	-21.64	67.95	-48.93	42.6	45.98	192	217	A	V
		48.3911	58.78	-15.22	74	-36.46	42.6	45.98	192	217	P	V
		50.751	46.88	-7.12	54	-48.36	42.6	45.98	192	217	A	V
		60.3095	61.06	-12.94	74	-34.18	46.2	49.58	192	217	P	V
		60.0025	50.23	-3.77	54	-45.01	46.2	49.58	192	217	A	V
		72.18	52.01	-35.94	87.95	-43.23	46.2	49.58	192	217	P	V
		72.18	43.28	-24.67	67.95	-51.96	46.2	49.58	192	217	A	V
		91.7453	56.57	-17.43	74	-32.65	47.6	44.96	192	217	P	V
		91.7143	44.53	-9.47	54	-44.69	47.6	44.96	192	217	A	V
		96.24	44.66	-43.29	87.95	-44.56	47.6	44.96	192	217	P	V
		96.24	34.99	-32.96	67.95	-54.23	47.6	44.96	192	217	A	V



Remark	1. Except above, no other spurious found.
	2. All results are Pass against Peak and Average limit line.
	3. Test plots shown in the Annex B use closer distance and above final results are extrapolated to the distance specified by the limit, 3m, by offset with distance correction factor.
	4. $EIRP(dBm) = E(dbuV/m) + 20\log(D) - 104.78$. Distance extrapolation factor = $20 \log (\text{test distance [X m]}/\text{specific distance [3 m]})$ (dB) Distance extrapolation factor = $20\log (1m/3m) = -9.54$ (dB) Distance extrapolation factor = $20\log (0.5m/3m) = -15.56$ (dB) Offset = Antenna Factor (dB/m) + Cable Loss (dB)
	5. Level = Read Level + Distance correction factor + 104.78



24GHz	Note	Frequency (GHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Offset Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
24.15GHz		48.3	59.15	-28.80	87.95	-36.09	42.6	45.98	179	205	P	H
		48.3	52.06	-15.89	67.95	-43.18	42.6	45.98	179	205	A	H
		49.065	58.64	-15.36	74	-36.60	42.6	45.98	179	205	P	H
		50.931	49.56	-4.44	54	-45.68	42.6	45.98	179	205	A	H
		60.0095	62.62	-11.38	74	-36.62	46.2	49.58	179	205	P	H
		60.0095	50.39	-3.61	54	-44.85	46.2	49.58	179	205	A	H
		72.45	52.12	-35.83	87.95	-43.12	46.2	49.58	179	205	P	H
		72.45	43.35	-24.60	67.95	-51.89	46.2	49.58	179	205	A	H
		90.3145	56.93	-18.07	74	-33.29	47.6	44.96	179	205	P	H
		91.6893	44.69	-9.31	54	-44.53	47.6	44.96	179	205	A	H
		96.6	45.53	-42.42	87.95	-43.69	47.6	44.96	179	205	P	H
		96.6	34.29	-33.66	67.95	-54.93	47.6	44.96	179	205	A	H
		48.3	56.11	-31.84	87.95	-39.13	42.6	45.98	179	208	P	V
		48.3	47.02	-20.93	67.95	-48.22	42.6	45.98	179	208	A	V
		48.4901	58.47	-15.53	74	-36.77	42.6	45.98	179	208	P	V
		48.7171	47.05	-6.95	54	-48.19	42.6	45.98	179	208	A	V
		60.1285	61.48	-12.52	74	-33.76	46.2	49.58	179	208	P	V
		60.0385	50.27	-3.73	54	-44.97	46.2	49.58	179	208	A	V
		72.45	51.75	-32.60	87.95	-43.49	46.2	49.58	179	208	P	V
		72.45	43.24	-24.71	67.95	-52.00	46.2	49.58	179	208	A	V
		90.8104	56.72	-17.28	74	-32.50	47.6	44.96	179	208	P	V
		91.7093	44.53	-9.47	54	-44.69	47.6	44.96	179	208	A	V
		96.6	44.68	-43.27	87.95	-44.54	47.6	44.96	179	208	P	V
		96.6	34.42	-33.53	67.95	-54.80	47.6	44.96	179	208	A	V



Remark	1.	Except above, no other spurious found.
	2.	All results are Pass against Peak and Average limit line.
	3.	Test plots shown in the Annex B use closer distance and above final results are extrapolated to the distance specified by the limit, 3m, by offset with distance correction factor.
	4.	EIRP(dbm)=E(dbuV/m)+20log(D)-104.78. Distance extrapolation factor = $20 \log (\text{test distance [X m]}/\text{specific distance [3 m]})$ (dB) Distance extrapolation factor = $20 \log (1\text{m}/3\text{m}) = -9.54$ (dB) Distance extrapolation factor = $20 \log (0.5\text{m}/3\text{m}) = -15.56$ (dB) Offset = Antenna Factor (dB/m) + Cable Loss (dB)
	5.	Level = Read Level+Distance correction factor+104.78



24GHz	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Offset Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
24.24GHz		48.48	59.4	-28.55	87.95	-35.84	42.6	45.98	180	234	P	H
		48.48	52.75	-15.20	67.95	-42.49	42.6	45.98	180	234	A	H
		51.1119	57.62	-16.38	74	-37.62	42.6	45.98	180	234	P	H
		51.1109	50.35	-3.65	54	-44.89	42.6	45.98	180	234	A	H
		60.0585	61.84	-12.16	74	-33.40	46.2	49.58	180	234	P	H
		60.0095	50.31	-3.69	54	-44.93	46.2	49.58	180	234	A	H
		72.72	53.49	-34.46	87.95	-41.75	46.2	49.58	180	234	P	H
		72.72	42.99	-24.96	67.95	-52.25	46.2	49.58	180	234	A	H
		90.3545	56.09	-17.91	74	-33.13	47.6	44.96	180	234	P	H
		90.7984	44.54	-9.46	54	-44.68	47.6	44.96	180	234	A	H
		96.96	42.91	-45.04	87.95	-46.31	47.6	44.96	180	234	P	H
		96.96	33.48	-34.47	67.95	-55.74	47.6	44.96	180	234	A	H
		48.48	56.27	-31.68	87.95	-38.97	42.6	45.98	179	212	P	V
		48.48	47.2	-20.75	67.95	-48.04	42.6	45.98	179	212	A	V
		49.159	56.69	-15.31	74	-36.55	42.6	45.98	179	212	P	V
		49.046	46.68	-7.32	54	-48.56	42.6	45.98	179	212	A	V
		60.0415	61.06	-12.94	74	-34.18	46.2	49.58	179	212	P	V
		60.0115	50.25	-3.75	54	-44.99	46.2	49.58	179	212	A	V
		72.72	51.89	-36.06	87.95	-43.35	46.2	49.58	179	212	P	V
		72.72	43.20	-24.75	67.95	-52.04	46.2	49.58	179	212	A	V
		90.0365	56.14	-17.86	74	-33.08	47.6	44.96	179	212	P	V
		91.6893	44.54	-9.46	54	-44.68	47.6	44.96	179	212	A	V
		96.96	43.98	-43.97	87.95	-45.24	47.6	44.96	179	212	P	V
		96.96	33.47	-34.48	67.95	-55.75	47.6	44.96	179	212	A	V



Remark	1.	Except above, no other spurious found.
	2.	All results are Pass against Peak and Average limit line.
	3.	Test plots shown in the Annex B use closer distance and above final results are extrapolated to the distance specified by the limit, 3m, by offset with distance correction factor.
	4.	$EIRP(dbm) = E(dbuV/m) + 20\log(D) - 104.78$. Distance extrapolation factor = $20 \log (\text{test distance [X m]}/\text{specific distance [3 m]})$ (dB) Distance extrapolation factor = $20\log (1m/3m) = -9.54$ (dB) Distance extrapolation factor = $20\log (0.5m/3m) = -15.56$ (dB) Offset = Antenna Factor (dB/m) + Cable Loss (dB)
	5.	Level = Read Level + Distance correction factor - 104.78



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical

A calculation example for radiated spurious emission is shown as below:

Frequency	Level	Margin	Limit Line	Read Level	Antenna Factor	Path Loss	Ant Pos	Table Pos	Peak Avg.	Pol.
(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(cm)	(deg)	(P/A)	(H/V)
24058	91.19	-36.76	127.95	109.1	38.7	-47.07	144	322	P	H
24058	90.71	-17.29	108	108.62	38.7	-47.07	144	322	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB) - Preamp Factor (dB)
2. Level(dBμV/m) = Read Level(dBμV) + Antenna Factor(dB/m) + Path Loss(dB)
3. Margin(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 24058MHz:

1. Level(dBμV/m)
 = Read Level(dBμV) + Antenna Factor(dB/m) + Path Loss(dB) - Distance factor
 = 109.1(dBμV) + 38.7(dB/m) - 47.07 (dB) - 9.54
 = 91.19(dBμV/m)
2. Margin(dB)
 = Level(dBμV/m) – Limit Line(dBμV/m)
 = 91.19(dBμV/m) – 127.95(dBμV/m)
 = -36.76(dB)

For Average Limit @ 24058MHz:

1. Level(dBμV/m)
 = Read Level(dBμV) + Antenna Factor(dB/m) + Path Loss(dB) - Distance factor
 = 108.62(dBμV) + 38.7(dB/m) - 53.75 (dB) - 9.54
 = 90.71 (dBμV/m)
2. Margin(dB)
 = Level(dBμV/m) – Limit Line(dBμV/m)
 = 90.71(dBμV/m) – 108(dBμV/m)
 = -17.29(dB)

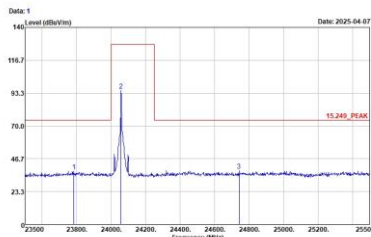
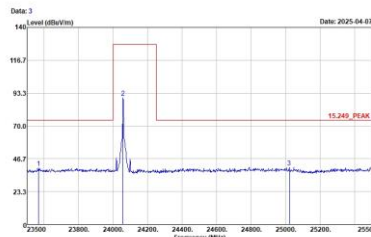
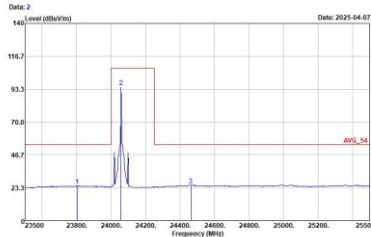
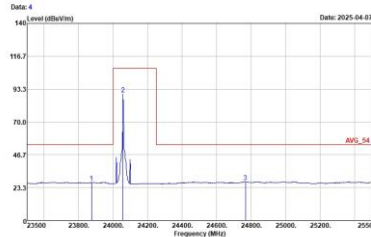
Both peak and average measured complies with the limit line, so test result is “PASS”.

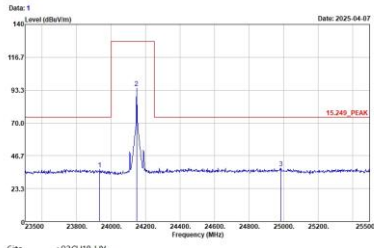
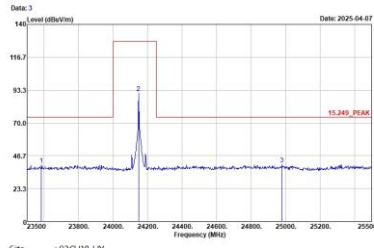
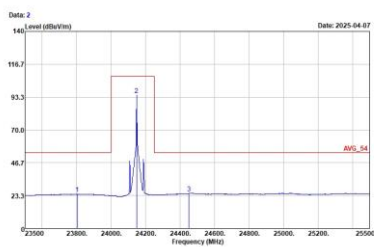
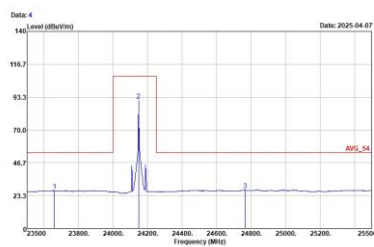


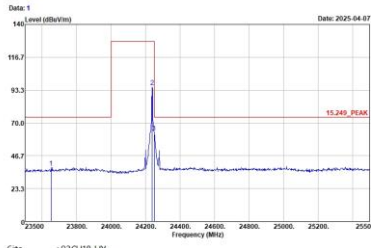
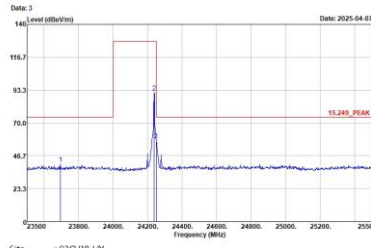
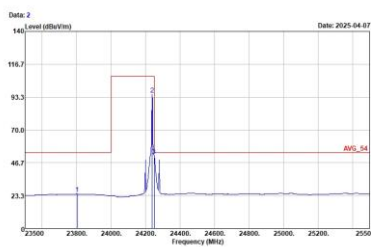
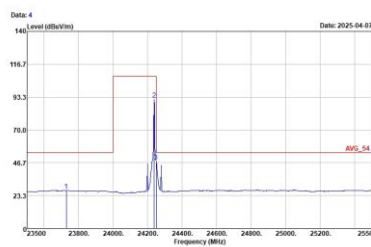
Appendix C. Radiated Spurious Emission Plots

Test Engineer :	Fu Chen and Eric Jeng	Temperature :	19.2~22.6°C
		Relative Humidity :	51.2~65.7%

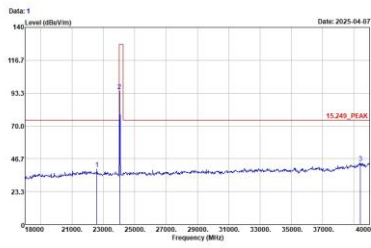
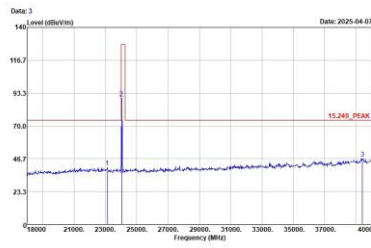
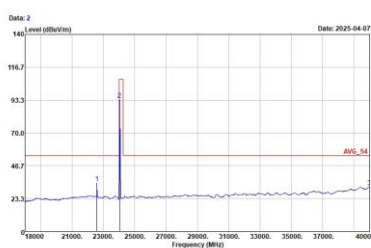
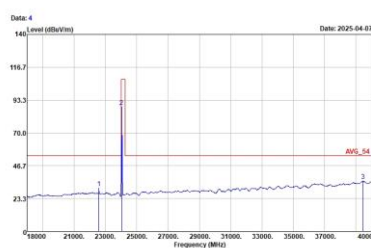
24GHz 24000~24250MHz
Field strength of fundamental@ 3m

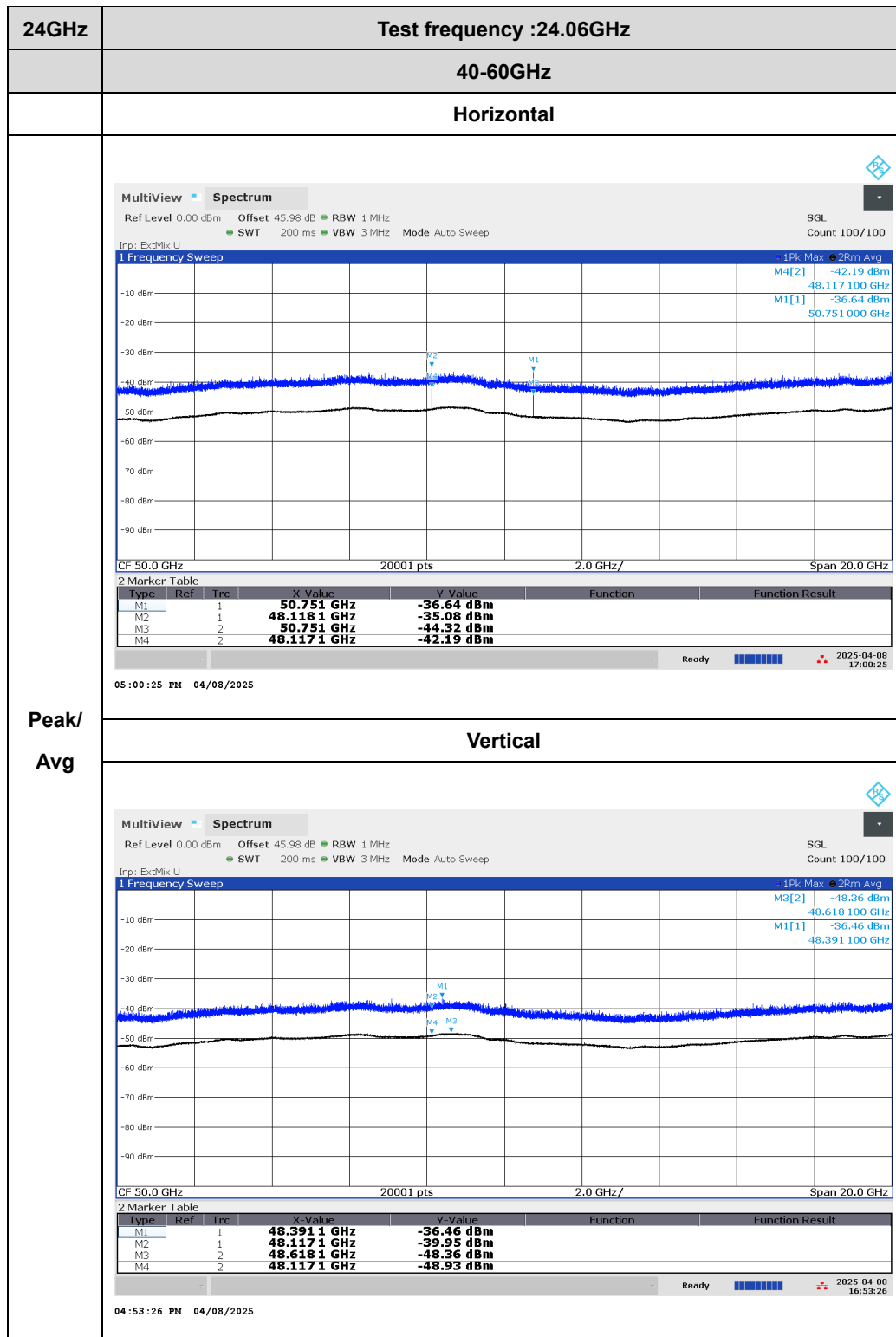
24GHz	Field strength of fundamental	
	Test frequency:24.06GHz	
	Horizontal	Vertical
Peak	 Site : 03CH18-HY Condition : 15.249_PEAK In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 1	 Site : 03CH18-HY Condition : 15.249_PEAK In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 1
Avg.	 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 1	 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 1

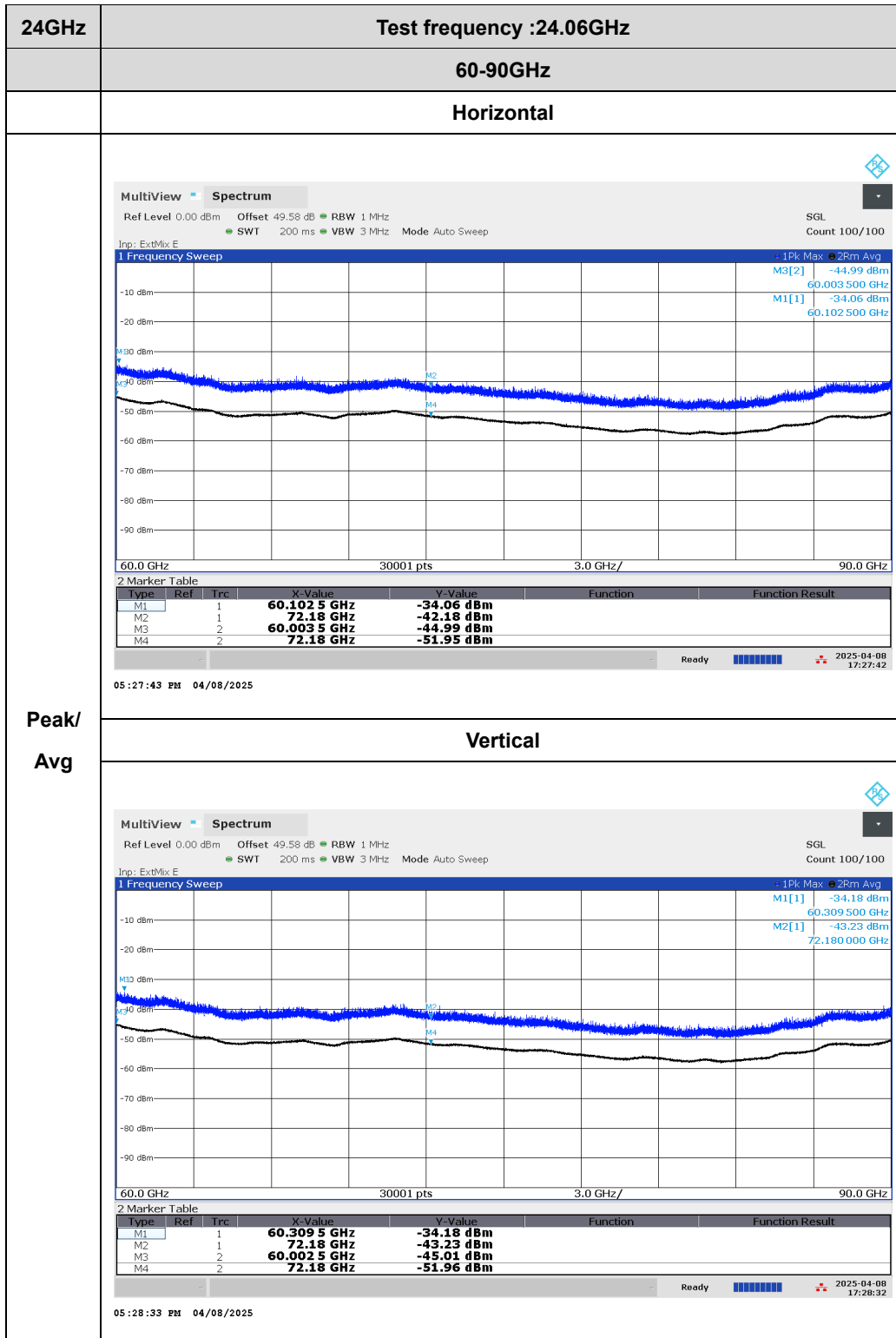
24GHz	Field strength of fundamental	
	Test frequency :24.15GHz	
	Horizontal	Vertical
Peak	Site : 03CH18-HY Condition : 15.249 PEAK In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 2 	Site : 03CH18-HY Condition : 15.249 PEAK In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 2 
Avg.	Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 2 	Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 2 

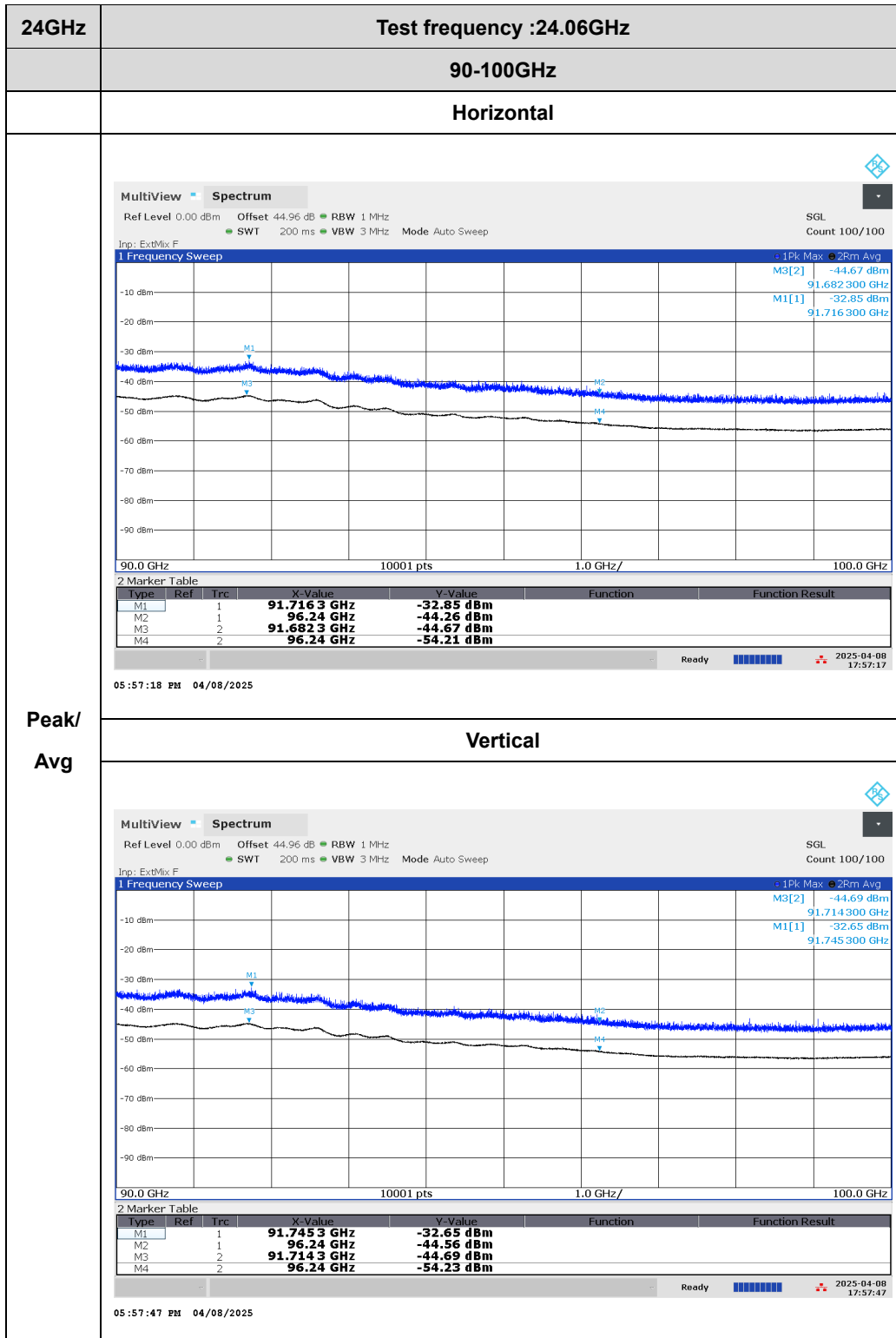
24GHz	Field strength of fundamental	
	Test frequency :24.24GHz	
	Horizontal	Vertical
Peak	 Site : 03CH18-HY Condition : 15.249 PEAK In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 3	 Site : 03CH18-HY Condition : 15.249 PEAK In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 3
Avg.	 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 3	 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 3

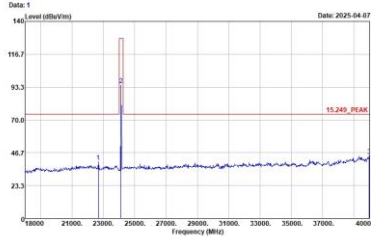
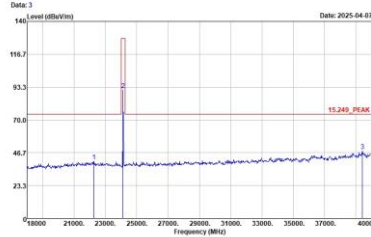
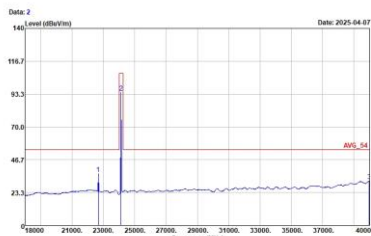
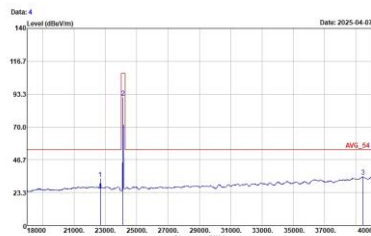
24GHz 24000~24250MHz (Radiated Spurious Emission& Harmonic @ 3m)

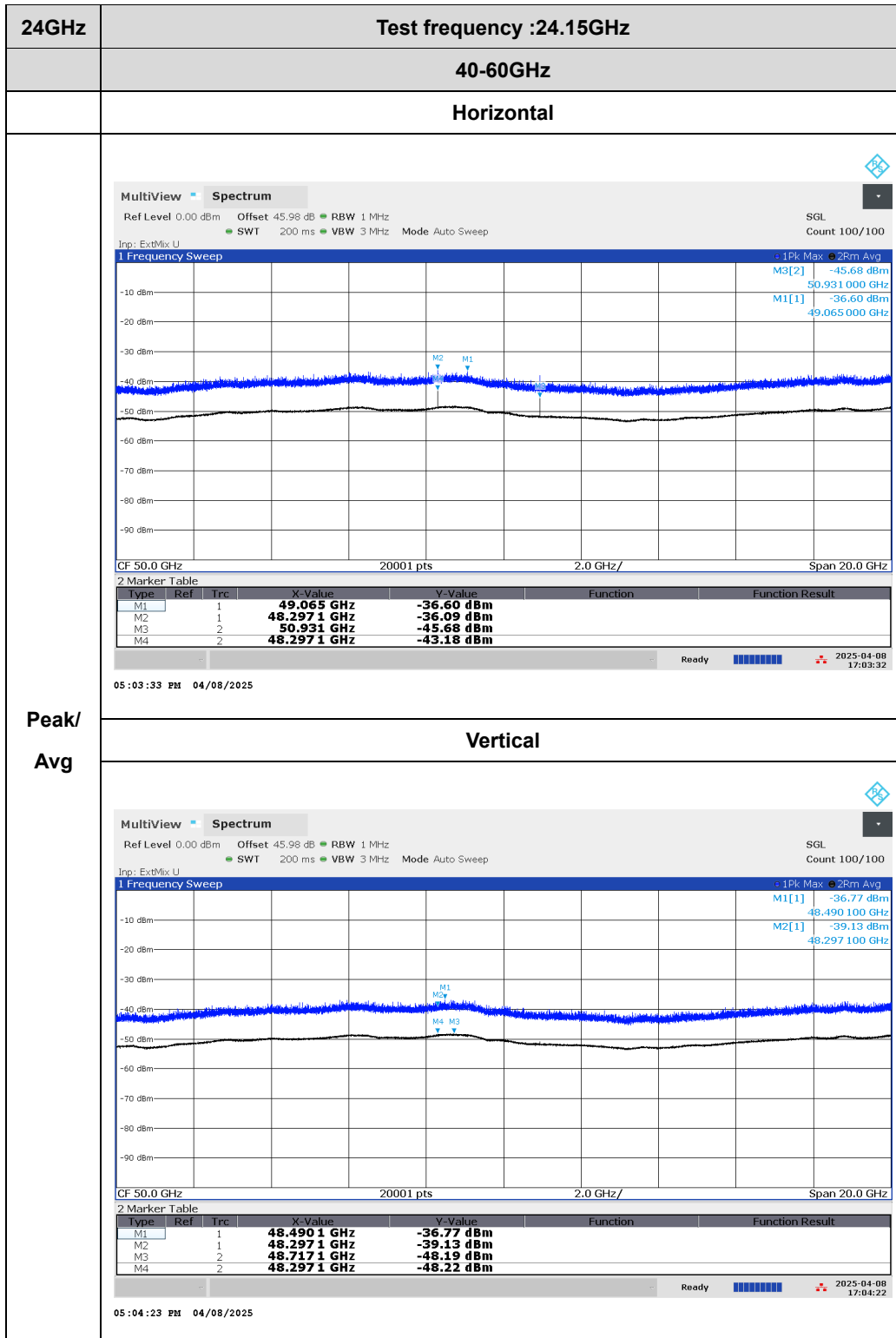
24GHz	Test frequency :24.06GHz	
	18-40GHz	
	Horizontal	Vertical
Peak	 Site : 03CH18-HY Condition : 15.249_Peak In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 1	 Site : 03CH18-HY Condition : 15.249_Peak In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 1
Avg	 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 1	 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 1

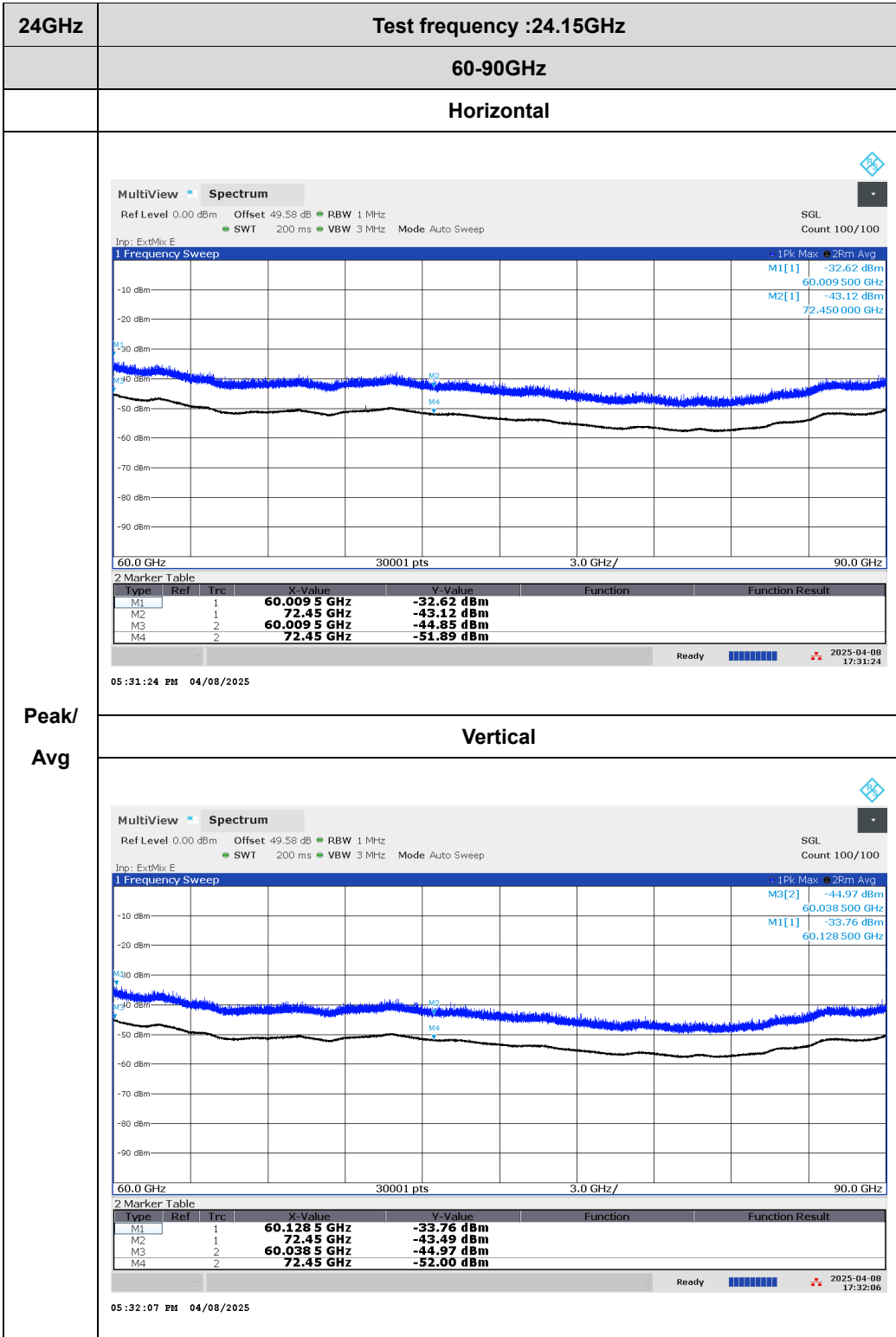


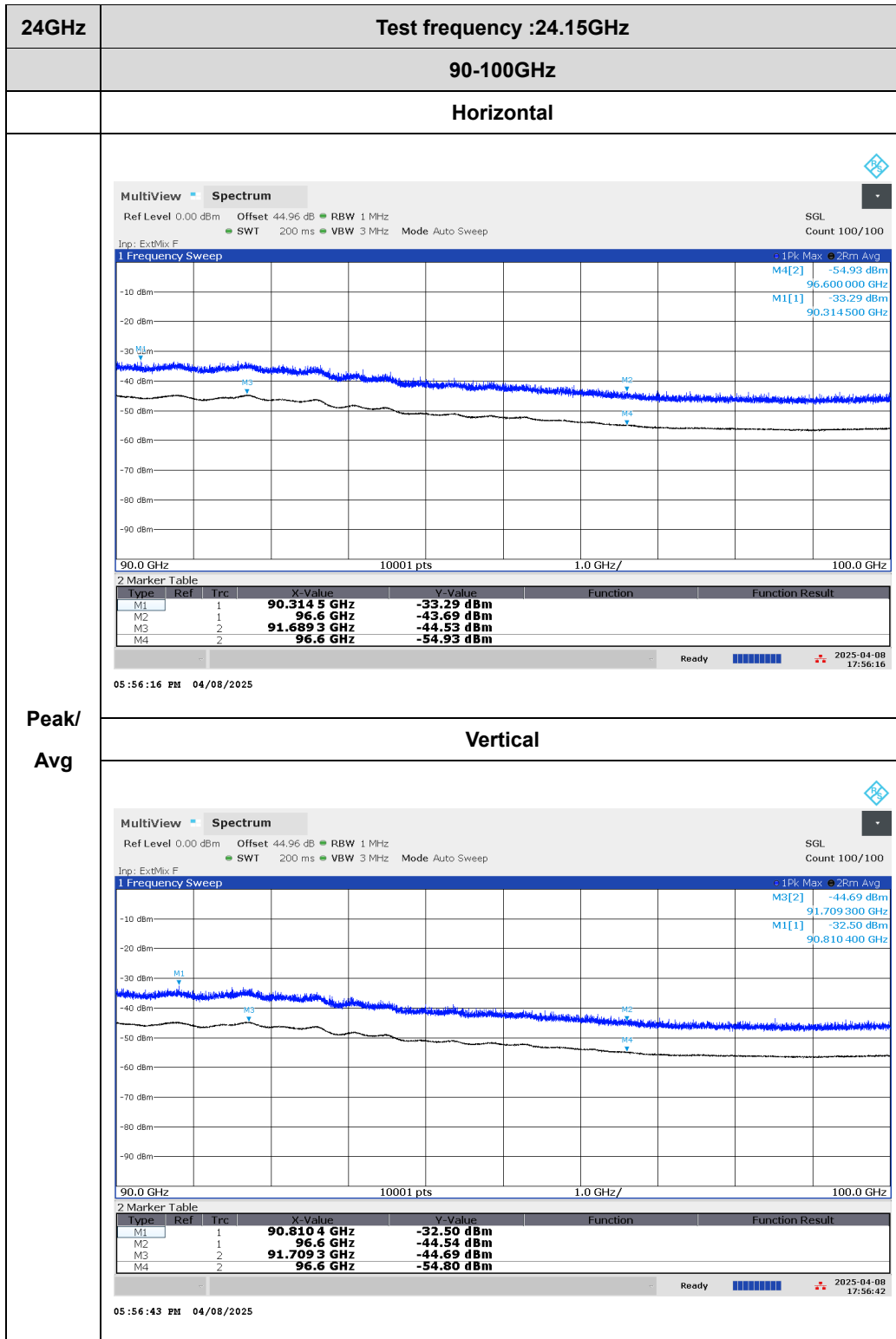




24GHz	Test frequency :24.15GHz	
	18-40GHz	
	Horizontal	Vertical
Peak	 Site : 03CH18-HY Condition : 15.249 PEAK In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 2	 Site : 03CH18-HY Condition : 15.249 PEAK In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 2
Avg	 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 HORIZONTAL Project : 401404-01 Mode : 2	 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 VERTICAL Project : 401404-01 Mode : 2

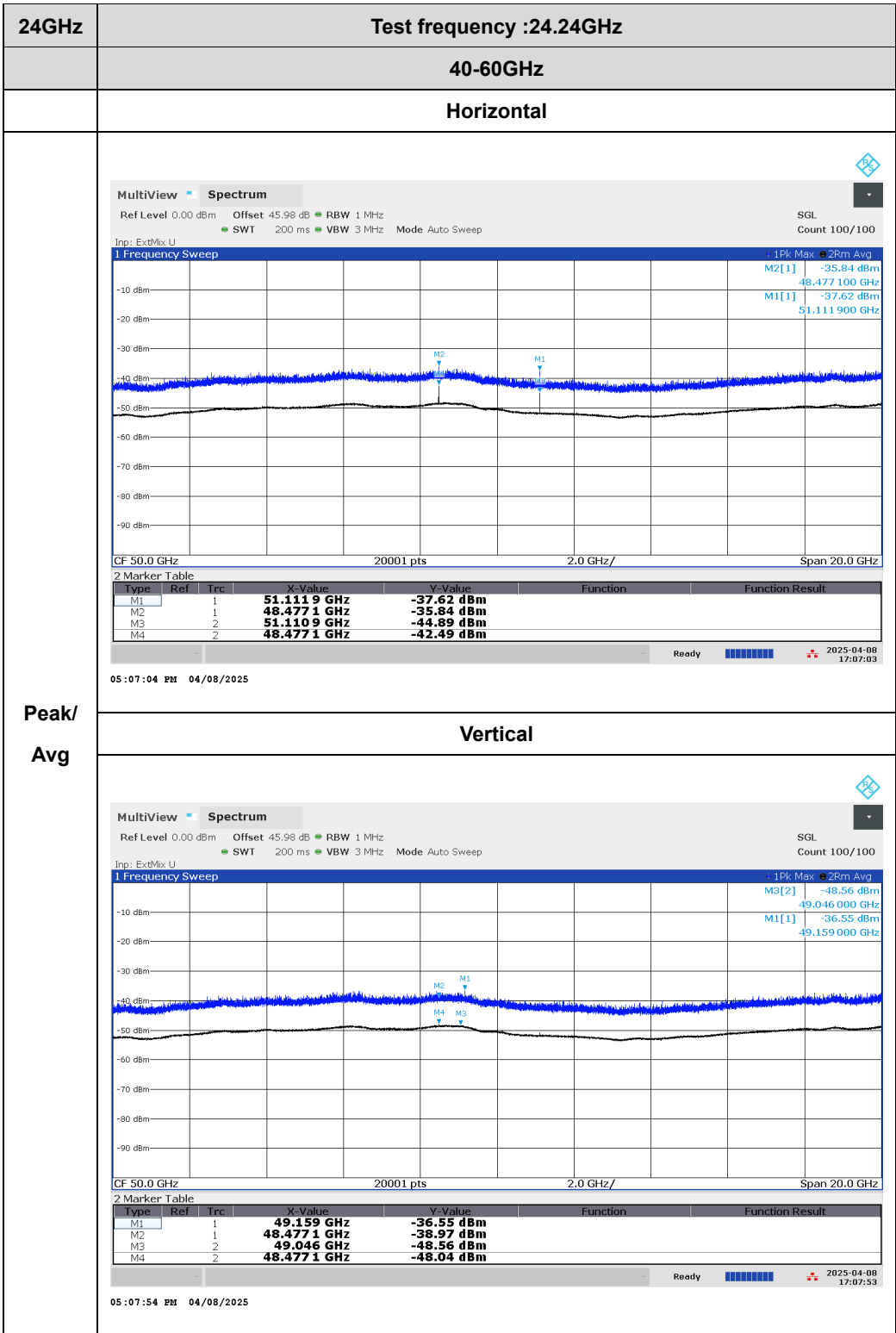


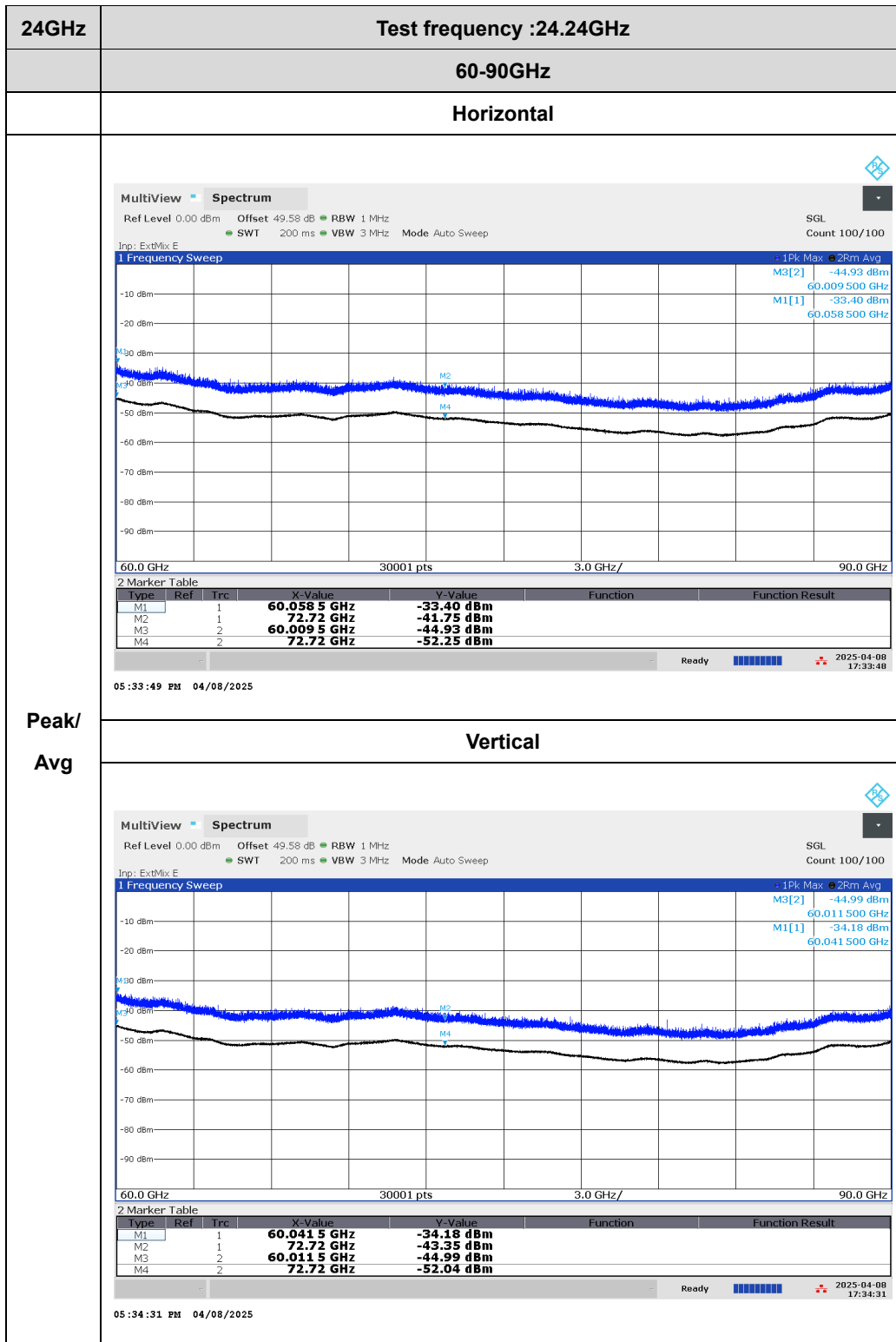


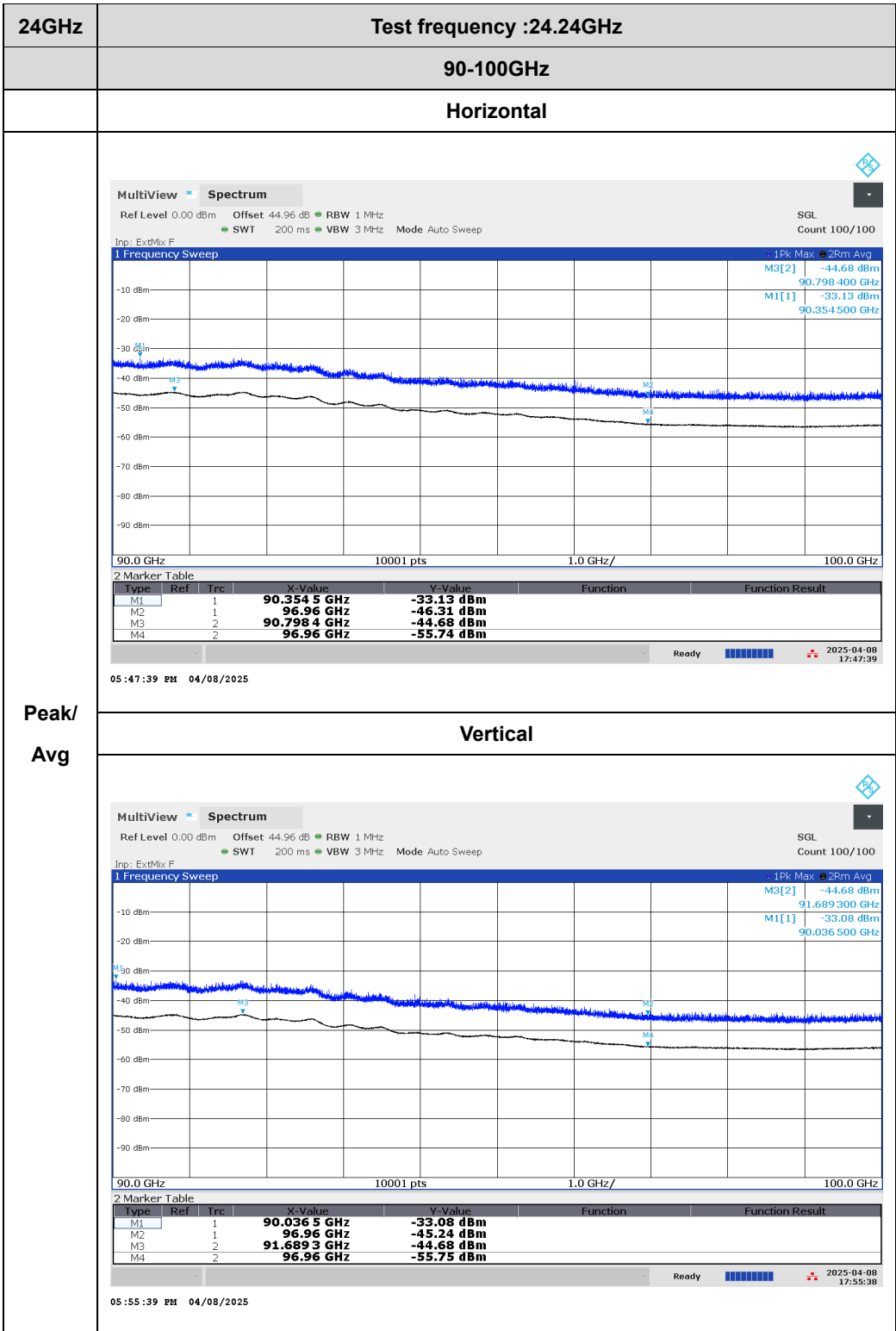




24GHz	Test frequency :24.24GHz	
	18-40GHz	
	Horizontal	Vertical
Pak	Date: 1 Date: 2025-04-07 Site : 03CH18-HY Condition : 15.249 PEAK In 9170584_20241206 HORIZONTAL Project : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Project : 401404-01 Mode : 3	Date: 3 Date: 2025-04-07 Site : 03CH18-HY Condition : 15.249 PEAK In 9170584_20241206 VERTICAL Project : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Project : 401404-01 Mode : 3
Avg	Date: 2 Date: 2025-04-07 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 HORIZONTAL Project : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Project : 401404-01 Mode : 3	Date: 4 Date: 2025-04-07 Site : 03CH18-HY Condition : AVG_54 In 9170584_20241206 VERTICAL Project : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Project : 401404-01 Mode : 3







24GHz

Test frequency :24.06GHz

1-18GHz

Horizontal

Site : BQCH1-WF
 Condition: PEAK_74 3m 91280_91620_240625 HORIZONTAL
 Mode : 1
 Setting :
 Plane : Y with adapter

	Freq	Level	Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APHS	TPHS	Remark
		dBm	dBm/Hz	dB	dBm	dB	dB	dB	dB	dB	dB	
1	2389.00	35.43	74.00	-38.57	67.83	27.18	8.00	66.84	0.00	--	dB	Peak
2	2393.00	37.84	74.00	-36.16	68.41	28.50	8.31	66.10	0.00	--	Peak	Peak
3	2794.00	38.84	74.00	-35.16	64.51	30.83	10.18	66.60	0.00	--	Peak	Peak
4	11317.00	42.17	74.00	-31.83	57.85	36.80	14.80	66.32	0.00	--	Peak	Peak
5	11318.00	45.97	74.00	-28.03	55.58	38.60	15.33	66.54	0.00	--	Peak	Peak
6	14481.00	48.41	74.00	-24.59	53.21	40.32	21.78	65.92	0.00	--	Peak	Peak
7	14483.00	48.19	74.00	-24.81	44.81	40.32	21.78	65.92	0.00	--	Average	Average

Vertical

Site : BQCH1-WF
 Condition: PEAK_74 3m 91280_91620_240625 VERTICAL
 Mode : 1
 Setting :
 Plane : Y with adapter

	Freq	Level	Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APHS	TPHS	Remark
		dBm	dBm/Hz	dB	dBm	dB	dB	dB	dB	dB	dB	
1	2389.00	35.72	74.00	-38.28	67.20	27.28	8.33	66.87	0.00	--	dB	Peak
2	2791.00	37.81	74.00	-36.19	66.54	28.21	8.36	66.50	0.00	--	Peak	Peak
3	3689.00	37.73	74.00	-36.27	66.57	29.70	10.82	66.54	0.00	--	Peak	Peak
4	9191.00	41.93	74.00	-32.07	57.71	36.00	14.31	66.39	0.00	--	Peak	Peak
5	12118.00	45.15	74.00	-28.84	52.48	39.48	15.44	65.92	0.00	--	Peak	Peak
6	14488.00	48.68	74.00	-24.80	53.33	40.39	21.78	65.90	0.00	--	Peak	Peak
7	14488.00	48.15	74.00	-25.84	43.89	40.39	21.78	65.90	0.00	--	Average	Average

Peak/

Avg.



24GHz

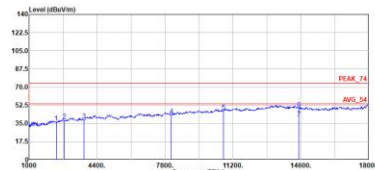
Test frequency :24.15GHz

1-18GHz

Horizontal

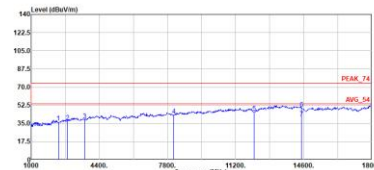
Vertical

Peak/
Avg.



Site : RICHIE-HY
Condition: PEAK_74 3m 91280_81628 HORIZONTAL
Mode : 2
Setting : 2
Plane : Y with adapter

Peak	Freq	Level	Unit	Band	Ant	Cable	Preamp	Att	APos	TPos	Remark
	MHz	dBuV/m		dB	dB	dB	dB	dB	cm	deg	
1	2368.00	35.88	74.00	-38.52	67.16	27.28	8.15	66.83	0.00	--	Peak
2	2752.00	37.36	74.00	-36.64	66.39	28.21	8.76	66.50	0.00	--	Peak
3	3737.00	38.83	74.00	-35.17	64.62	29.92	18.08	66.59	0.00	--	Peak
4	6186.00	42.67	74.00	-31.33	57.50	36.00	14.00	66.51	0.00	--	Peak
5	10724.00	46.41	74.00	-27.59	56.57	39.00	18.02	66.98	0.00	--	Peak
6	14880.00	49.35	74.00	-24.65	53.88	40.39	21.78	65.98	0.00	--	Peak
7	14499.00	49.38	54.00	-13.62	44.11	40.39	21.78	65.99	0.00	--	Average



Site : RICHIE-HY
Condition: PEAK_74 3m 91280_81628 VERTICAL
Mode : 2
Setting : 2
Plane : Y with adapter

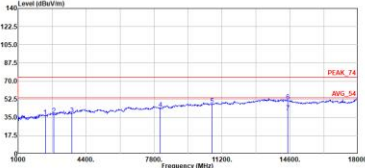
Peak	Freq	Level	Unit	Band	Ant	Cable	Preamp	Att	APos	TPos	Remark
	MHz	dBuV/m		dB	dB	dB	dB	dB	cm	deg	
1	2368.00	35.74	74.00	-38.26	67.22	27.28	8.15	66.83	0.00	--	Peak
2	2823.00	36.68	74.00	-37.32	65.84	28.00	8.86	66.42	0.00	--	Peak
3	3689.00	37.98	74.00	-36.02	64.88	29.78	18.82	66.54	0.00	--	Peak
4	6123.00	42.56	74.00	-31.44	57.28	36.00	14.00	66.52	0.00	--	Peak
5	12135.00	45.42	74.00	-28.58	52.81	39.87	15.47	65.83	0.00	--	Peak
6	14881.00	49.22	74.00	-24.78	53.88	40.32	21.78	65.92	0.00	--	Peak
7	14481.00	49.29	54.00	-13.89	44.82	40.32	21.78	65.92	0.00	--	Average

24GHz

Test frequency :24.24GHz

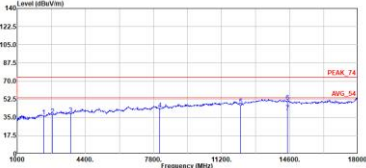
Horizontal

Vertical



Site : 83CH1-WF
 Condition: PSW_74 de 91280_91628_348828 HORIZONTAL
 Mode : 3
 Setting :
 Plane : Y with adapter

	Freq	Level	Line	Margin	Read	Ant	Cable	Preamp	Aux	APHS	TPHS	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB	dB	dB	dB	dB
1	2390.00	36.69	74.00	-37.37	87.51	27.20	8.15	86.83	0.00	--	--	Peak
2	2785.00	37.31	74.00	-36.69	66.41	24.35	8.81	66.46	0.00	--	--	Peak
3	2782.00	38.25	74.00	-35.75	65.84	25.72	10.05	66.56	0.00	--	--	Peak
4	8180.00	43.39	74.00	-30.61	59.10	36.00	14.00	66.31	0.00	--	--	Peak
5	10090.00	46.75	74.00	-27.87	56.52	39.82	13.00	67.91	0.00	--	--	Peak
6	14880.00	58.59	74.00	-15.41	54.32	48.59	21.78	65.98	0.00	--	--	Peak
7	14888.00	60.36	74.00	-13.64	64.09	48.59	21.78	65.98	0.00	--	--	Average



Site : 83CH1-WF
 Condition: PSW_74 de 91280_91628_348828 VERTICAL
 Mode : 3
 Setting :
 Plane : Y with adapter

	Freq	Level	Line	Margin	Read	Ant	Cable	Preamp	Aux	APHS	TPHS	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB	dB	dB	dB	dB
1	2320.00	36.82	74.00	-37.18	87.62	27.14	8.09	86.83	0.00	--	--	Peak
2	2768.00	36.88	74.00	-37.12	66.28	28.30	8.78	66.40	0.00	--	--	Peak
3	3069.00	39.21	74.00	-34.79	65.87	29.70	10.82	66.54	0.00	--	--	Peak
4	8123.00	42.90	74.00	-31.10	57.62	36.00	14.90	66.32	0.00	--	--	Peak
5	12332.00	46.51	74.00	-27.49	53.83	39.10	12.51	65.93	0.00	--	--	Peak
6	14888.00	58.00	74.00	-15.92	53.81	48.59	21.78	65.98	0.00	--	--	Peak
7	14888.00	60.28	74.00	-13.72	64.81	48.59	21.78	65.98	0.00	--	--	Average

Peak/ Avg.



Emission below 1GHz

24GHz

24GHz

24GHz

Test frequency :24.06GHz_LF

Horizontal

Vertical

Site : BOSCH1-MV
Condition: QP 3m E1006_378598861_241127 HORIZONTAL
Mode : 1
Setting :
Plane : Y with adapter

Freq	Level	Limit	Line	Margin	Read	Ant	Cable	Preamp	Aux	APos	TPos	Remark
MHz	dBuV/m	dBuV/m	dB	dBuV/m	dB	dB	dB	dB	dB	dB	deg	
1	30.00	36.36	40.00	-3.64	43.42	24.51	0.00	32.43	0.00	100	23	QP
2	140.50	27.05	43.50	13.65	40.60	17.07	1.75	32.20	0.00	--	--	Peak
3	202.00	18.40	46.00	-27.54	28.15	20.12	2.39	32.20	0.00	--	--	Peak
4	1005.50	24.00	46.00	-21.92	25.77	24.25	3.26	32.20	0.00	--	--	Peak
5	635.20	31.94	46.00	-14.06	33.79	26.76	3.68	32.25	0.00	--	--	Peak
6	955.44	32.04	46.00	-14.16	27.89	32.00	4.53	30.06	0.00	--	--	Peak

Site : BOSCH1-MV
Condition: QP 3m E1006_378598861_241127 VERTICAL
Mode : 1
Setting :
Plane : Y with adapter

Freq	Level	Limit	Line	Margin	Read	Ant	Cable	Preamp	Aux	APos	TPos	Remark
MHz	dBuV/m	dBuV/m	dB	dBuV/m	dB	dB	dB	dB	dB	dB	deg	
1	30.00	33.93	40.00	-6.97	40.99	24.51	0.00	32.43	0.00	--	--	Peak
2	141.15	30.50	43.50	-12.92	43.50	17.72	1.76	32.20	0.00	--	--	Peak
3	242.43	19.04	46.00	-26.16	32.80	17.68	2.30	32.20	0.00	--	--	Peak
4	470.20	24.04	46.00	-21.96	30.25	23.70	3.10	32.20	0.00	--	--	Peak
5	750.53	29.43	46.00	-16.57	29.12	28.38	4.01	32.00	0.00	--	--	Peak
6	955.50	33.00	46.00	-12.14	29.05	31.11	4.54	30.04	0.00	--	--	Peak

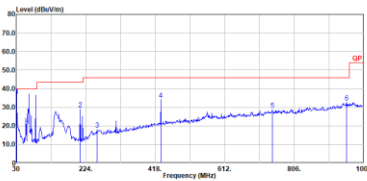


24GHz

24GHz

Test frequency :24.15GHz_LF

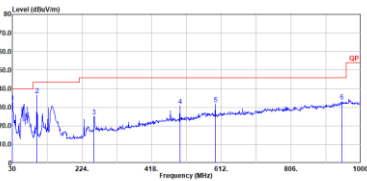
Horizontal



Site : BSCM1-MY
Condition: QP 3m E1006_37859881_241127 HORIZONTAL
Mode : 2
Setting :
Plane : Y with adapter

	Freq	Level	Limit	Read	Ant	Cable	Preamp	Aux	APos	TPos	Remark
	MHz	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	38.97	36.24	40.00	-3.76	43.57	24.21	0.87	32.41	0.00	100	23 QP
2	200.40	29.04	43.50	-14.46	43.79	15.33	2.11	32.19	0.00	--	-- Peak
3	255.84	18.12	46.00	-27.88	28.67	19.29	2.36	32.28	0.00	--	-- Peak
4	433.52	36.14	46.00	-11.86	46.18	23.04	3.87	32.15	0.00	--	-- Peak
5	743.92	28.48	46.00	-17.52	28.38	28.36	3.97	32.11	0.00	--	-- Peak
6	951.50	32.54	46.00	-13.46	27.83	32.04	4.53	30.08	0.00	--	-- Peak

Vertical



Site : BSCM1-MY
Condition: QP 3m E1006_37859881_241127 VERTICAL
Mode : 2
Setting :
Plane : Y with adapter

	Freq	Level	Limit	Read	Ant	Cable	Preamp	Aux	APos	TPos	Remark
	MHz	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	38.98	32.75	40.00	-7.25	39.81	24.51	0.86	32.43	0.00	--	-- Peak
2	161.87	36.51	43.50	-6.99	51.25	16.87	1.50	32.31	0.00	--	-- Peak
3	257.95	25.83	46.00	-20.97	35.11	19.75	2.27	32.28	0.00	--	-- Peak
4	490.57	36.91	46.00	-15.09	35.79	24.69	3.23	32.28	0.00	--	-- Peak
5	599.51	31.82	46.00	-14.18	34.57	25.88	3.56	32.19	0.00	--	-- Peak
6	946.05	33.11	46.00	-12.89	28.75	30.77	4.52	30.93	0.00	--	-- Peak

QP /
Peak



24GHz

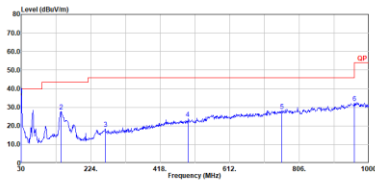
24GHz

Test frequency :24.24GHz_LF

Horizontal

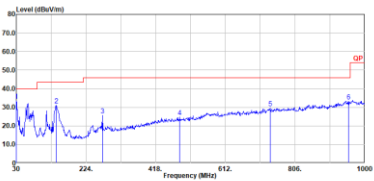
Vertical

QP /
Peak



Site : BSCM1-MY
Condition: QP 3m E1006_378598861_241127 HORIZONTAL
Node : 3
Setting :
Plane : Y with adapter

Peak	Freq	Level	Limit	Read	Ant	Cable	Preamp	Aux	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dB	dB	dB	dB	dB	cm	deg
1	38.00	36.42	40.00	-3.58	43.40	24.51	0.86	32.43	0.00	100	21 QP
2	140.50	27.00	43.50	-15.42	40.72	17.07	1.75	32.20	0.00	--	-- Peak
3	204.74	18.37	46.00	-27.63	28.10	19.99	2.40	32.20	0.00	--	-- Peak
4	404.63	23.75	46.00	-22.25	26.67	24.05	3.23	32.20	0.00	--	-- Peak
5	737.50	20.22	46.00	-17.78	27.90	20.38	4.01	32.07	0.00	--	-- Peak
6	955.20	32.22	46.00	-13.79	27.22	31.25	4.54	30.00	0.00	--	-- Peak



Site : BSCM1-MY
Condition: QP 3m E1006_378598861_241127 VERTICAL
Node : 3
Setting :
Plane : Y with adapter

Peak	Freq	Level	Limit	Read	Ant	Cable	Preamp	Aux	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dB	dB	dB	dB	dB	cm	deg
1	38.00	33.36	40.00	-6.64	40.42	24.51	0.86	32.43	0.00	--	-- Peak
2	141.55	31.20	43.50	-12.30	43.00	17.72	1.76	32.20	0.00	--	-- Peak
3	209.59	25.59	46.00	-20.41	36.22	19.15	2.42	32.20	0.00	--	-- Peak
4	404.03	24.71	46.00	-21.29	29.00	23.04	3.21	32.20	0.00	--	-- Peak
5	730.16	29.57	46.00	-16.43	29.60	20.13	3.95	32.11	0.00	--	-- Peak
6	954.42	33.10	46.00	-12.72	28.49	31.10	4.54	30.00	0.00	--	-- Peak