



FCC RADIO TEST REPORT

FCC ID : 2BKML-FOXRADAR
Equipment : FoxRadar
Brand Name : FoxInsights
Model Name : FoxRadar-V1
Applicant : FoxInsights GmbH
Ridlerstr. 57 80339 Munich Germany
Manufacturer : FoxInsights GmbH
Ridlerstr. 57 80339 Munich Germany
Standard : FCC 47 CFR Part 15.255

The product was received on Oct. 04, 2024 and testing was performed from Nov. 14, 2024 to Nov. 14, 2024. We, Sporton International Inc. Wensan Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures ANSI C63.10-2020 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 approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

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 Feature of Equipment Under Test.....	5
1.2 Modification of EUT	5
1.3 Testing Location	5
1.4 Applied Standards	5
2 Test Configuration of Equipment Under Test	6
2.1 Test Mode.....	6
2.2 Connection Diagram of Test System	6
2.3 Support Unit used in test configuration and system	6
2.4 Far Field Condition for Frequency above 18GHz.....	7
3 Radiated Test Items	8
3.1 Measuring Instruments.....	8
3.2 Test Setup	8
3.3 Test Result of Radiated Test.....	9
3.4 Transmit Spurious Emission.....	10
4 List of Measuring Equipment.....	22
5 Measurement Uncertainty	24
Appendix A. Setup Photographs	



History of this test report

Report No.	Version	Description	Issue Date
FR492601B	01	Initial issue of report	Nov. 19, 2024
FR492601B	02	Revise Feature of Equipment Under Test This report is an updated version, replacing the report issued on Nov. 19, 2024	Nov. 20, 2024



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Limit	Result (PASS/FAIL)
3.4	§15.255(d)	Transmitter Spurious Emissions	Below 40GHz refer to 15.209 Above 40GHz: 90 pW/cm ² @ 3 m	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: Yun Huang

Report Producer: Lucy Wu

1 General Description

1.1 Feature of Equipment Under Test

Product Feature
General Specs GSM/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, and 60GHz.
Antenna Type WWAN: Surface Mount Device WLAN: PCB Antenna Bluetooth: PCB Antenna 60GHz: 2 embedded Dipole Antennas

Remark:

1. The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.
2. All measurements were performed radiated and therefore additional antenna gain documentation is not required.

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. 03CH11-HY, 03CH18-HY

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

FCC designation No.: TW3786

1.4 Applied Standards

- ♦ FCC 47 CFR Part 2, 15.255
- ♦ KDB 364244 D01
- ♦ ANSI C63.10-2020

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

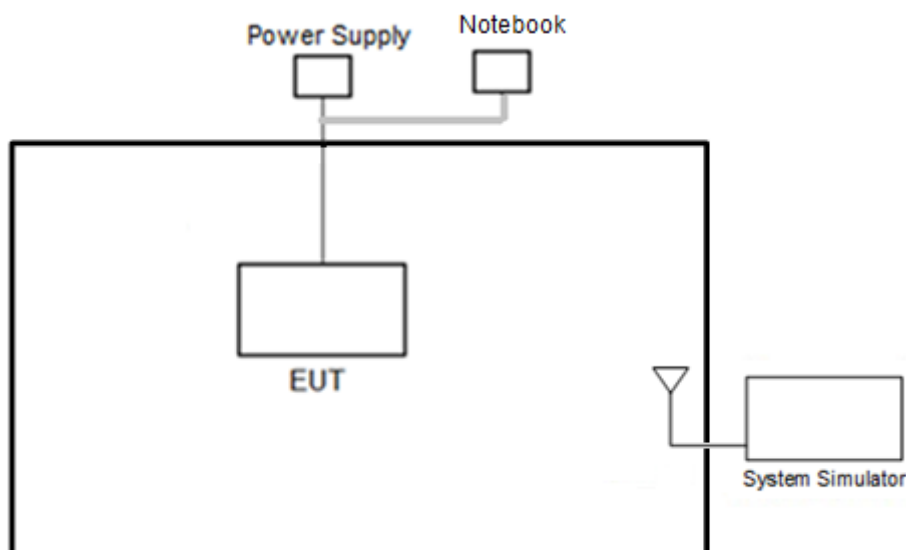
2.1 Test Mode

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.

Test Configuration	Frequency (MHz)
60 GHz + 802.11n HT40 CH09 + GPRS1900 CH521	60GHz + 2452MHz + 1850.2MHz

2.2 Connection Diagram of Test System

<60GHz Tx Mode>



2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Power Supply	GW Instek	GPE-2323	N/A	N/A	Unshielded, 1.8 m
2.	Notebook	Dell	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m



2.4 Far Field Condition for Frequency above 18GHz

Horn Antenna	Frequency (GHz)	Antenna Dimension A (mm)	Wavelength (λ) (m)	Far field R (m) $\geq 2A^2 / \lambda$	Measurement Distance (D) (m)
BBHA 9170	18	60	0.0167	0.43	1
	40	60	0.0075	0.96	
QWH-UPRR00	40	48	0.0075	0.61	0.87
	57	48	0.0053	0.87	
QWH-VPRR00	57	38	0.0053	0.54	0.62
	65	38	0.0046	0.62	
QWH-EPRR00	60	31	0.0050	0.38	0.6
	90	31	0.0033	0.6	
QWH-FPRR00	90	21	0.0033	0.26	0.43
	140	21	0.0021	0.42	
QWH-GPRR00	140	14	0.0021	0.18	0.27
	200	14	0.0015	0.26	

Note: The measurement distance may be far than the measurement distance above.

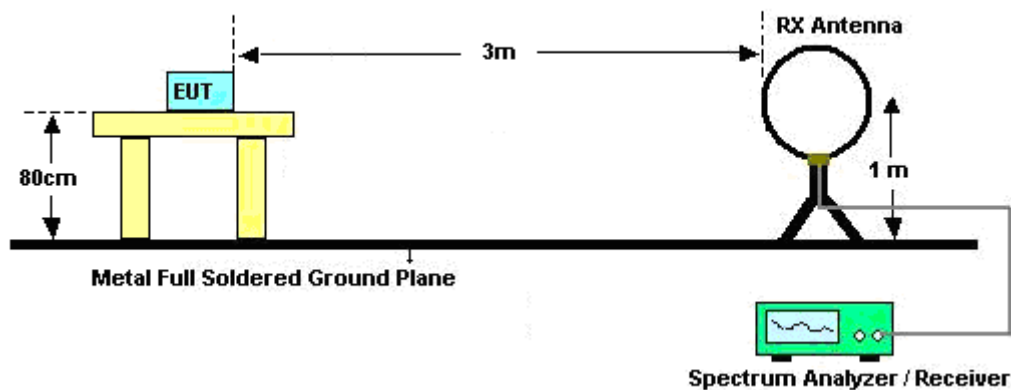
3 Radiated Test Items

3.1 Measuring Instruments

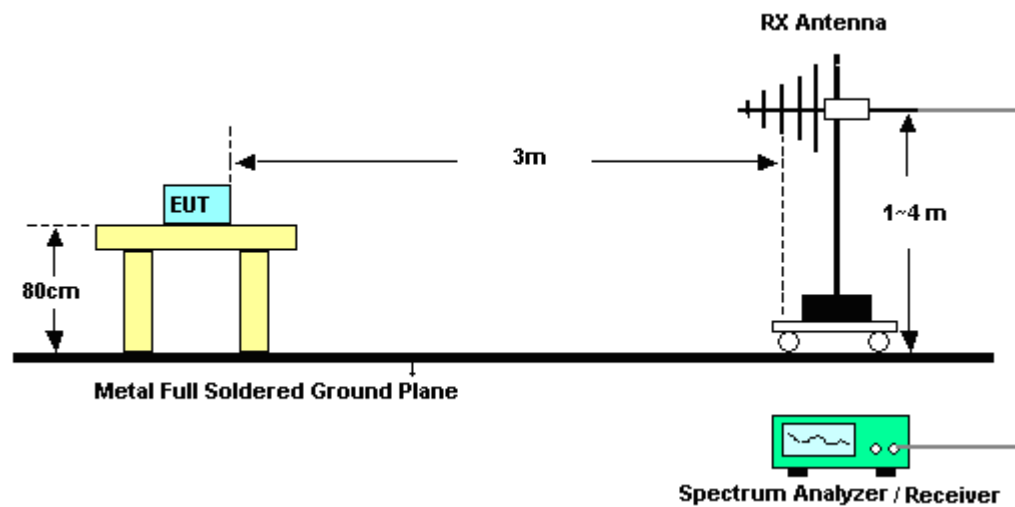
See list of measuring instruments of this test report.

3.2 Test Setup

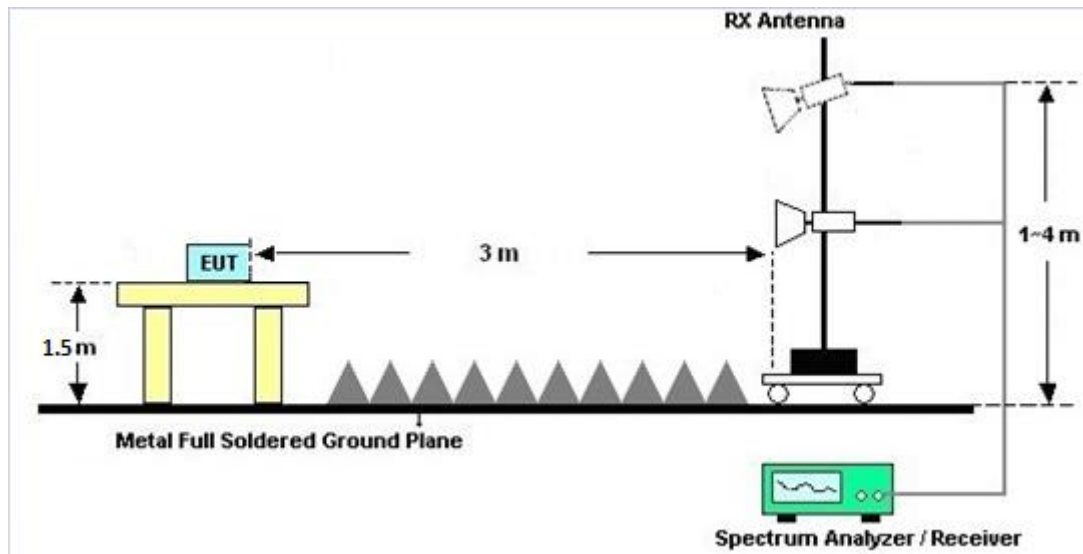
For radiated emissions from 9kHz to 30MHz



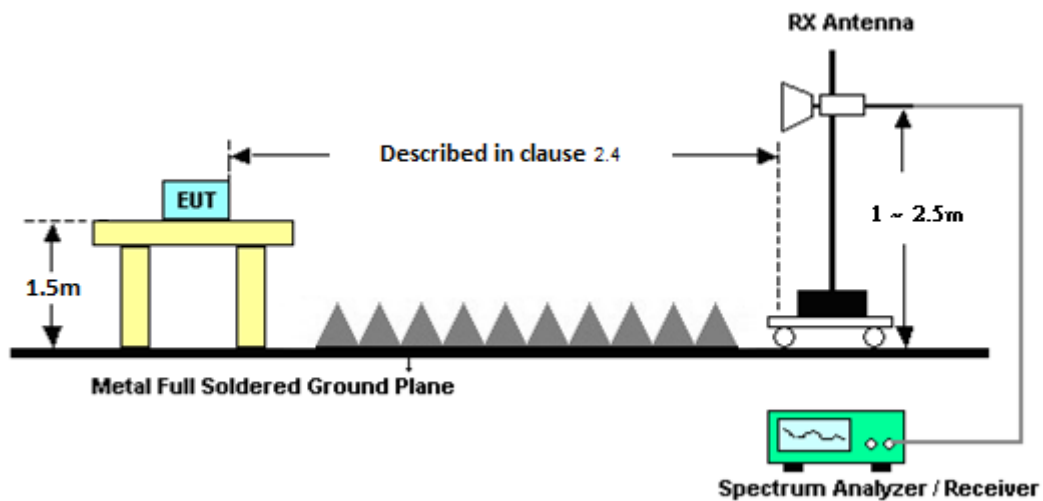
For radiated emissions from 30MHz to 1GHz



For radiated emissions 1GHz to 18GHz



For radiated emissions above 18GHz



3.3 Test Result of Radiated Test

Please refer to Clause 3.4.

3.4 Transmit Spurious Emission

3.4.1 Limit of Radiated Spurious Emission

Frequency Range	Limit
Below 40GHz	Follow 15.209
Above 40GHz	90 pW/cm ² @ 3m (equivalent EIRP 102μW, -10dBm)
Note 1: For the applicable limit, see FCC 15.255 (d) Note 2: Spurious emissions shall not exceed the level of fundamental emission. Note 3: Per Part 15.215(c), the provisions in Part 15.35(b) and (c) that require emissions to be averaged over a 100 millisecond period and that limits the peak power to 20 dB above the average limit do not apply to devices operating under paragraphs Part 15.255(c)(2) and (3) of this section.	

3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

The testing follows ANSI C63.10-2020 Section 9.10 and 9.11 and ANSI C63.10-2020 clause 4.1.5.2.8 and Annex L.

For above 40GHz emission:

$$\text{EIRP} = \text{Prx} - \text{Grx} + \text{Free space loss} = \text{Prx} - \text{Grx} + 20 \cdot \log(4 \pi d / \lambda) + \text{Path Loss}$$

Which

Prx = Read Level

Grx = Rx Antenna Gain

A distance factor is offset and formula is $20 \cdot \log(D1/D2)$

Which

D1 = Specification distance = 3m

D2 = Measurement distance

$$\text{Power Density (W/m}^2\text{)} = 10^{[(\text{EIRP}-30)/10]} / 4 \pi d$$

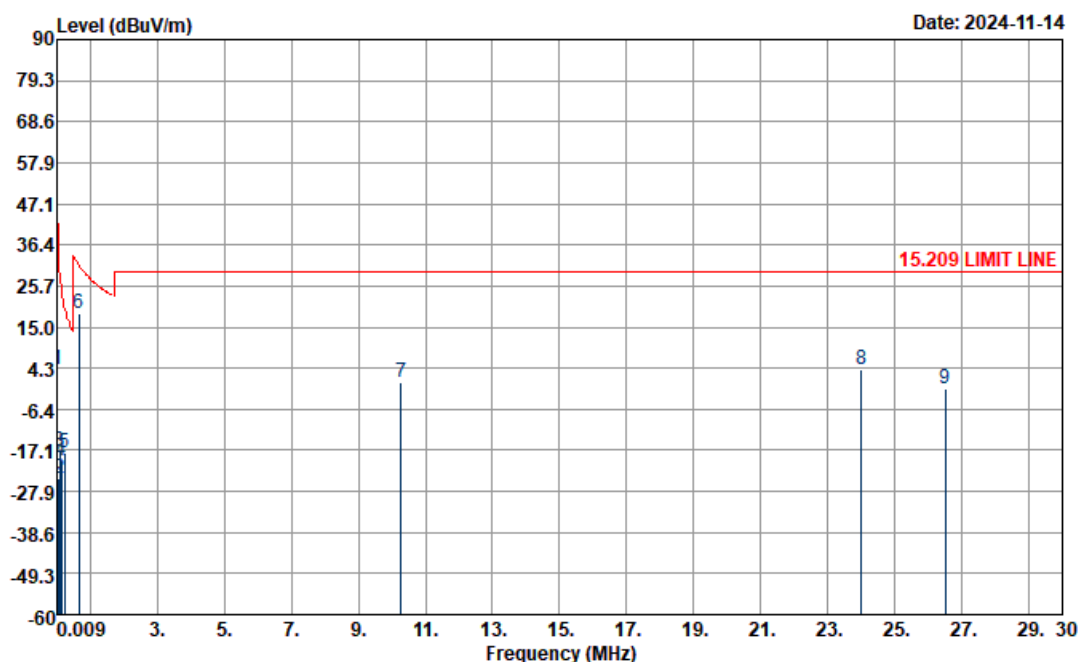
$$\text{Power Density (pW/cm}^2\text{)} = \text{Power Density (W/m}^2\text{)} * 10^{(-8)}$$



3.4.4 Test Result

<Below 30MHz>

Temperature	20.0 ~ 21.7℃	Relative Humidity	52.5 ~ 65.5%
Test Engineer	Troye Hsieh	Test Distance	3m
Test Range	9KHz to 30MHz	Test Polarization	Horizontal
Remark	1. Level (dBμV/m) = Read Level (dBμV) + Antenna Factor (dB) + Cable Loss (dB) + Distance extrapolation factor (dB). 2. Distance extrapolation factor (dB) = 40 log (specific distance / test distance)		



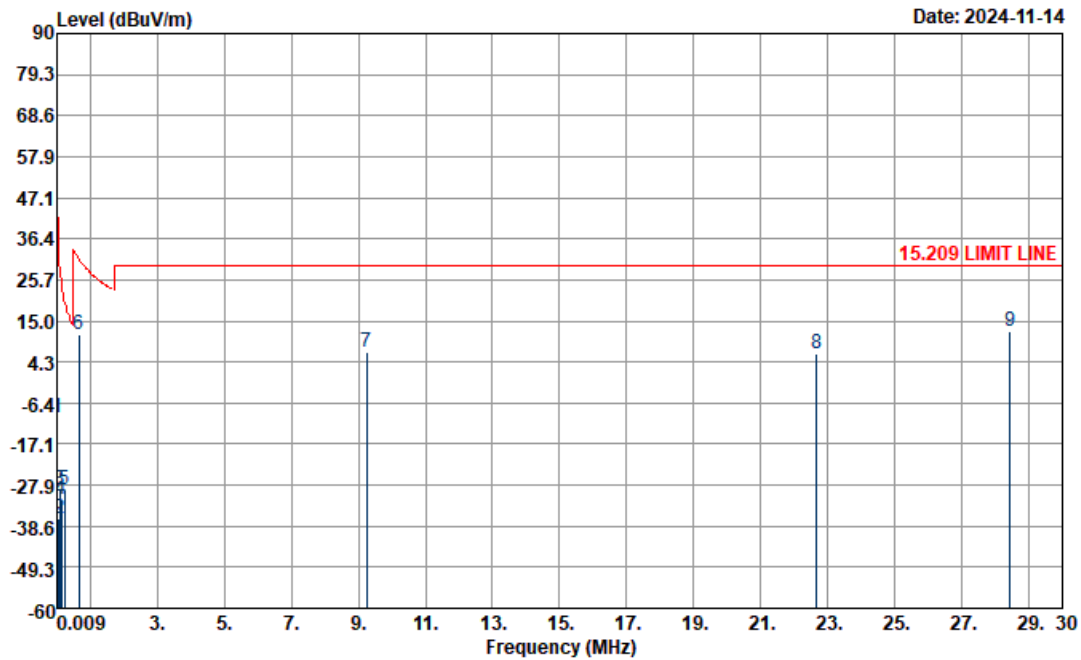
Site : 03CH11-HY

Condition : 15.209 LIMIT LINE 3m LOOP_100488_240829 HORIZONTAL

Mark	Frequency (MHz)	Level (dBμV/m)	Distance extrapolation Factor (dB)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1	0.01920	3.73	-80	-38.21	41.94	64.21	19.46	0.06	-	-	Average
2	0.06405	-24.37	-80	-55.84	31.47	37.60	17.96	0.07	-	-	Average
3	0.09636	-17.45	-80	-45.38	27.93	44.49	17.99	0.07	-	-	QP
4	0.14464	-20.02	-80	-44.42	24.40	41.68	18.23	0.07	-	-	Average
5	0.24078	-17.84	-80	-37.81	19.97	43.69	18.40	0.07	-	-	Average
6	0.66273	18.62	-40	-12.56	31.18	40.06	18.50	0.06	-	-	QP
7	10.27200	0.77	-40	-28.73	29.50	20.11	20.55	0.11	-	-	QP
8	24.01000	3.84	-40	-25.66	29.50	21.73	22.01	0.10	-	-	QP
9	26.51000	-0.93	-40	-30.43	29.50	16.33	22.60	0.14	-	-	QP



Temperature	20.0 ~ 21.7℃	Relative Humidity	52.5 ~ 65.5%
Test Engineer	Troye Hsieh	Test Distance	3m
Test Range	9KHz to 30MHz	Test Polarization	Vertical
Remark	1. Level (dBμV/m) = Read Level (dBμV) + Antenna Factor (dB) + Cable Loss (dB) + Distance extrapolation factor (dB). 2. Distance extrapolation factor (dB) = 40 log (specific distance / test distance)		



Site : 03CH11-HY

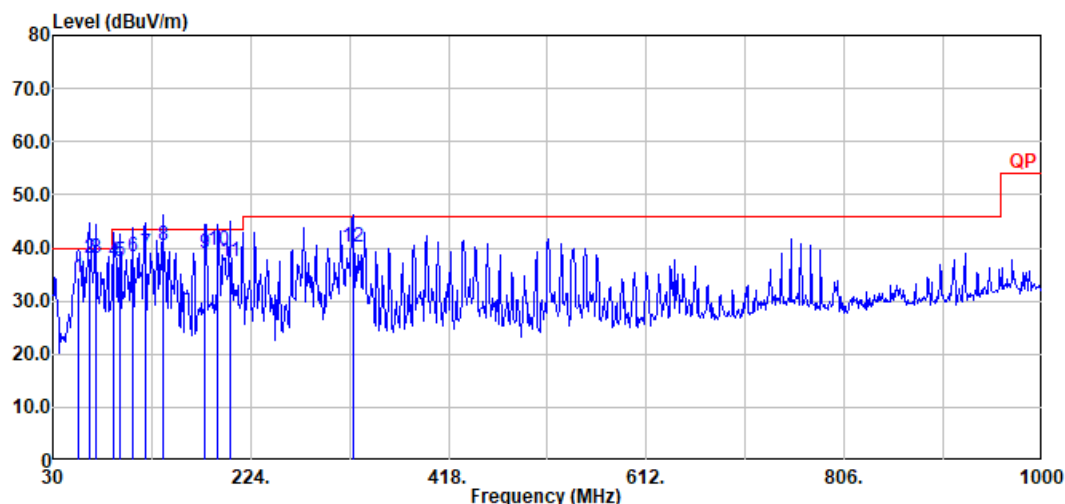
Condition : 15.209 LIMIT LINE 3m LOOP_100488_240829 VERTICAL

Mark	Frequency (MHz)	Level (dBμV/m)	Distance extrapolation Factor (dB)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1	0.01925	-10.21	-80	-52.13	41.92	50.27	19.46	0.06	-	-	Average
2	0.06279	-36.62	-80	-68.27	31.65	25.46	17.85	0.07	-	-	Average
3	0.09638	-29.21	-80	-57.13	27.92	32.73	17.99	0.07	-	-	QP
4	0.14464	-31.74	-80	-56.14	24.40	29.96	18.23	0.07	-	-	Average
5	0.24078	-29.12	-80	-49.09	19.97	32.41	18.40	0.07	-	-	Average
6	0.66273	11.29	-40	-19.89	31.18	32.73	18.50	0.06	-	-	QP
7	9.25600	6.71	-40	-22.79	29.50	26.47	20.13	0.11	-	-	QP
8	22.66000	6.44	-40	-23.06	29.50	24.64	21.70	0.10	-	-	QP
9	28.44500	12.25	-40	-17.25	29.50	29.33	22.74	0.18	-	-	QP



<30MHz to 1GHz>

Temperature	20.0 ~ 21.7°C	Relative Humidity	52.5 ~ 65.5%
Test Engineer	Troye Hsieh	Test Distance	3m
Test Range	30MHz to 1GHz	Test Polarization	Horizontal
Remark	1. Level (dB μ V/m) = Read Level (dB μ V) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB) 2. Path Loss(dB) = Cable loss(dB) + Filter loss(dB)		

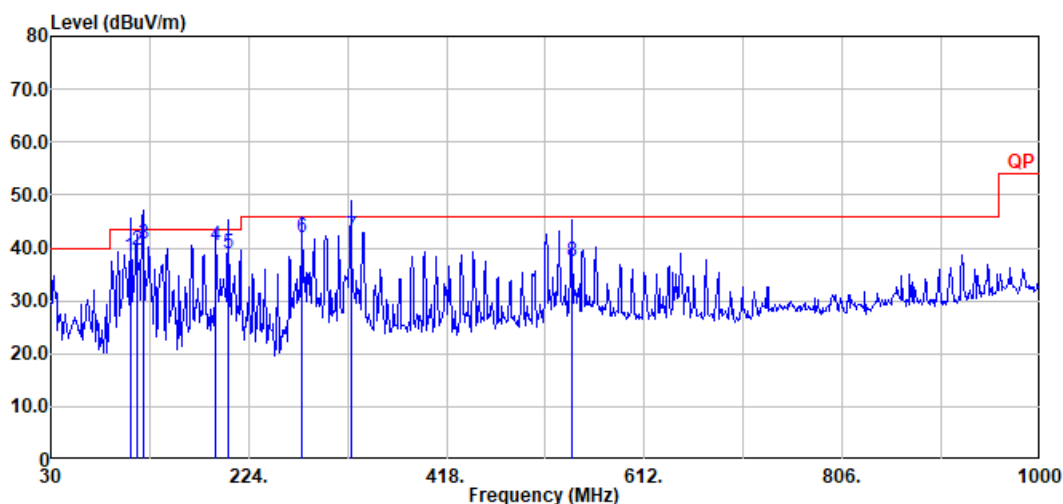


Site : 03CH11-HY
Condition: QP 3m Bilog_35414_241005 HORIZONTAL

Mark	Frequency (MHz)	Level (dB μ V/m)	Margin (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1	55.22	34.36	-5.64	40.0	53.52	12.28	0.72	32.16	207	360	QP
2	65.89	37.91	-2.09	40.0	57.20	12.02	0.81	32.12	200	299	QP
3	71.71	37.98	-2.02	40.0	56.82	12.46	0.89	32.19	217	360	QP
4	90.14	37.58	-5.92	43.5	54.15	14.84	1.01	32.42	200	162	QP
5	95.96	37.46	-6.04	43.5	53.20	15.56	1.11	32.41	324	0	QP
6	108.57	38.22	-5.28	43.5	52.41	16.86	1.17	32.22	300	81	QP
7	120.21	38.80	-4.70	43.5	52.12	17.50	1.22	32.04	300	15	QP
8	137.67	40.52	-2.98	43.5	54.22	17.24	1.36	32.30	200	185	QP
9	179.38	38.84	-4.66	43.5	54.14	14.96	1.72	31.98	100	25	QP
10	191.99	39.56	-3.94	43.5	55.32	14.68	1.76	32.20	100	62	QP
11	203.63	37.57	-5.93	43.5	53.24	14.87	1.81	32.35	150	51	QP
12	323.91	40.03	-5.97	46.0	50.02	19.40	2.31	31.70	100	241	QP



Temperature	20.0 ~ 21.7°C	Relative Humidity	52.5 ~ 65.5%
Test Engineer	Troye Hsieh	Test Distance	3m
Test Range	30MHz to 1GHz	Test Polarization	Vertical
Remark	1. Level (dB μ V/m) = Read Level (dB μ V) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB) 2. Path Loss(dB) = Cable loss(dB) + Filter loss(dB)		



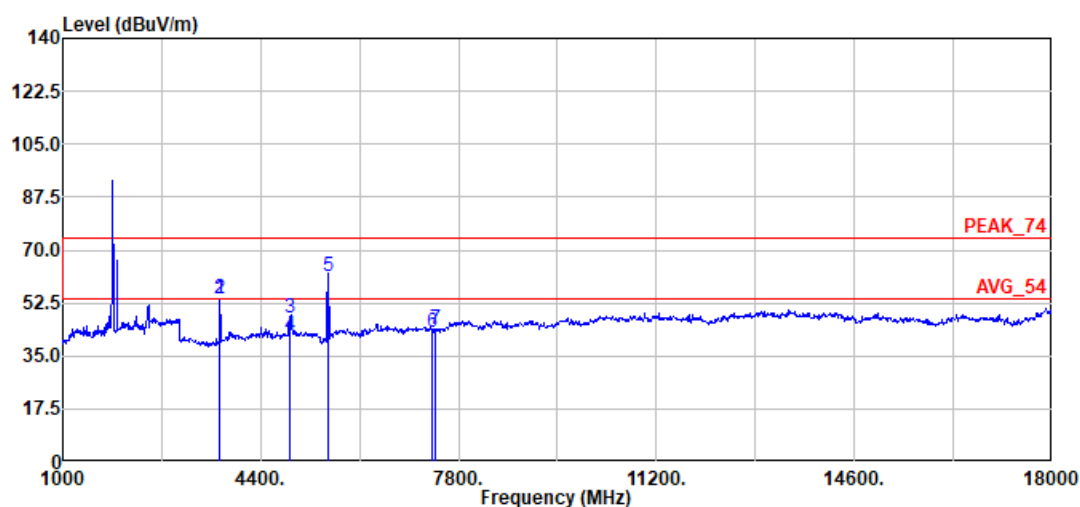
Site : 03CH11-HY
Condition: QP 3m Bilog_35414_241005 VERTICAL

Mark	Frequency (MHz)	Level (dB μ V/m)	Margin (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1	107.60	38.20	-5.30	43.5	52.44	16.83	1.16	32.23	100	1	QP
2	114.39	39.55	-3.95	43.5	53.26	17.23	1.19	32.13	161	0	QP
3	120.21	40.90	-2.60	43.5	54.22	17.50	1.22	32.04	100	329	QP
4	191.99	40.55	-2.95	43.5	56.31	14.68	1.76	32.20	100	2	QP
5	203.63	38.86	-4.64	43.5	54.53	14.87	1.81	32.35	100	353	QP
6	276.38	41.86	-4.14	46.0	53.12	18.57	2.14	31.97	102	0	QP
7	323.91	42.24	-3.76	46.0	52.23	19.40	2.31	31.70	173	63	QP
8	540.22	37.48	-8.52	46.0	42.58	24.38	3.11	32.59	150	13	QP



<1GHz to 18GHz>

Temperature	20.0 ~ 21.7℃	Relative Humidity	52.5 ~ 65.5%
Test Engineer	Troye Hsieh	Test Distance	3m
Test Range	1GHz to 18GHz	Test Polarization	Horizontal
Remark	- Level (dBμV/m) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB) - Path Loss(dB) = Cable loss(dB) + Filter loss(dB) - The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. #5 can be ignored since it falls within the non-restricted band and meet the requirements of 15.247(d). - The limit signal before #1 is fundamental signal which can be ignored.		



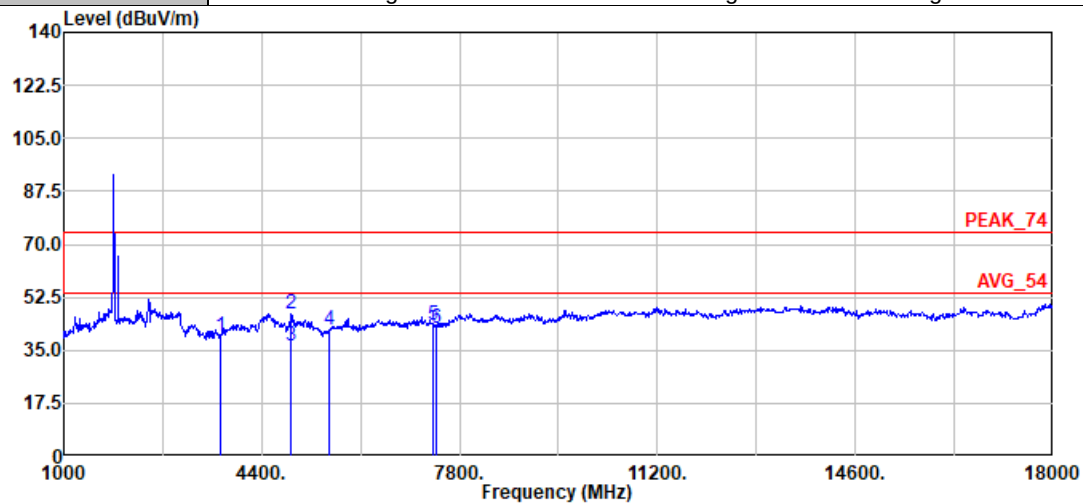
Site : 03CH11-HY

Condition: PEAK_74 3m 9120D_01620_240828 HORIZONTAL

Mark	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1	3704	53.98	-20.02	74	72.36	29.72	10.90	59.00	150	250	Peak
2	3704	53.68	-0.32	54	72.06	29.72	10.90	59.00	150	250	Average
3	4904	47.74	-26.26	74	61.47	32.82	12.05	58.60	150	142	Peak
4	4904	41.67	-12.33	54	55.40	32.82	12.05	58.60	150	142	Average
6	7356	42.73	-31.27	74	50.13	36.66	14.90	58.96	-	-	Peak
7	7408	43.84	-30.16	74	51.45	36.37	14.94	58.92	-	-	Peak



Temperature	20.0 ~ 21.7℃	Relative Humidity	52.5 ~ 65.5%
Test Engineer	Troye Hsieh	Test Distance	3m
Test Range	1GHz to 18GHz	Test Polarization	Vertical
Remark	- Level (dBμV/m) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB) - Path Loss(dB) = Cable loss(dB) + Filter loss(dB) - The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only. - The limit signal before #1 is fundamental signal which can be ignored.		



Site : 03CH11-HY

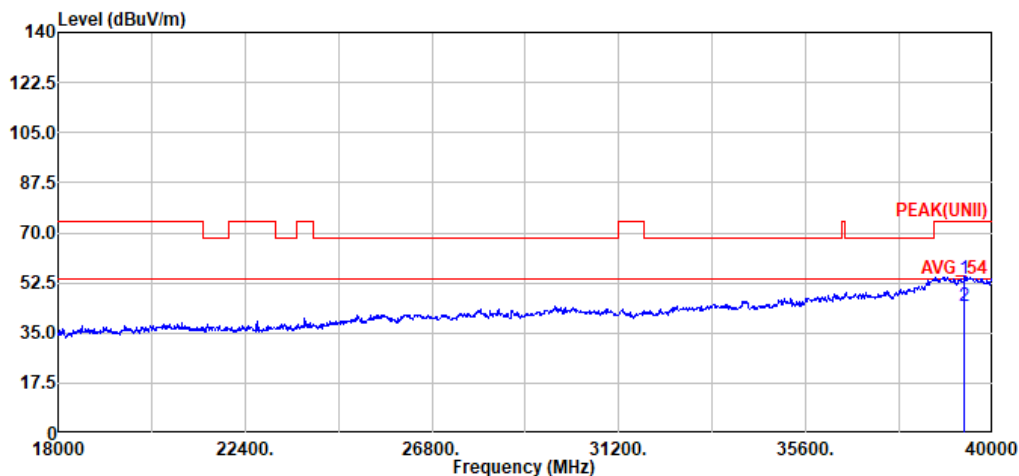
Condition: PEAK_74 3m 9120D_01620_240828 VERTICAL

Mark	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1	3704	39.88	-34.12	74	58.26	29.72	10.90	59.00	-	-	Peak
2	4904	47.03	-26.97	74	60.76	32.82	12.05	58.60	400	360	Average
3	4904	36.39	-17.61	54	50.12	32.82	12.05	58.60	400	360	Average
4	5556	41.60	-32.40	74	54.99	32.80	12.82	59.01	-	-	Peak
5	7356	43.31	-30.69	74	50.71	36.66	14.90	58.96	-	-	Peak
6	7408	42.45	-31.55	74	50.06	36.37	14.94	58.92	-	-	Peak

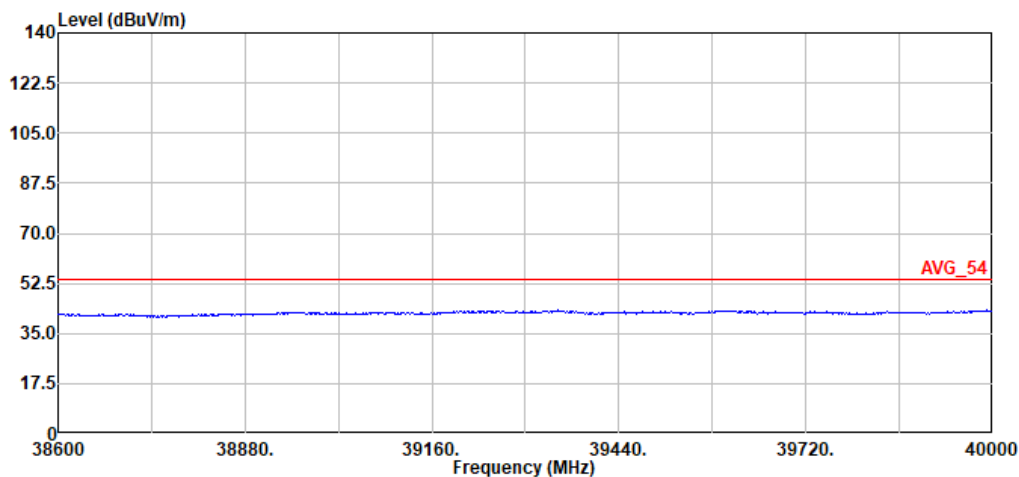


<18GHz to 40GHz>

Temperature	20.0 ~ 21.7℃	Relative Humidity	52.5 ~ 65.5%
Test Engineer	Troye Hsieh	Test Distance	1m
Test Range	18GHz to 40GHz	Test Polarization	Horizontal
Remark	- Level (dBμV/m) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB) - Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB). - The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.		



Site : 03CH11-HY
Condition: PEAK(UNII) 1m SHF_1224_240624 HORIZONTAL

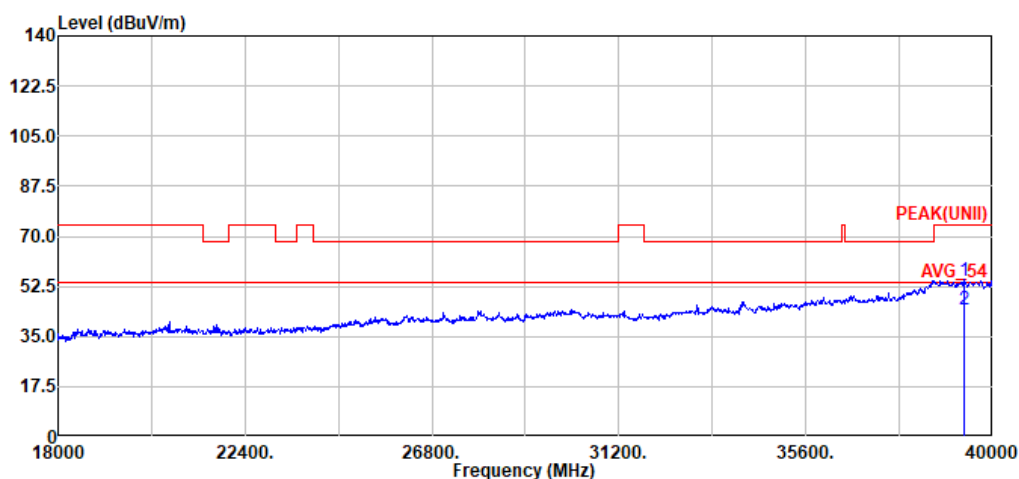


Site : 03CH11-HY
Condition: AVG_54 1m SHF_1224_240624 HORIZONTAL

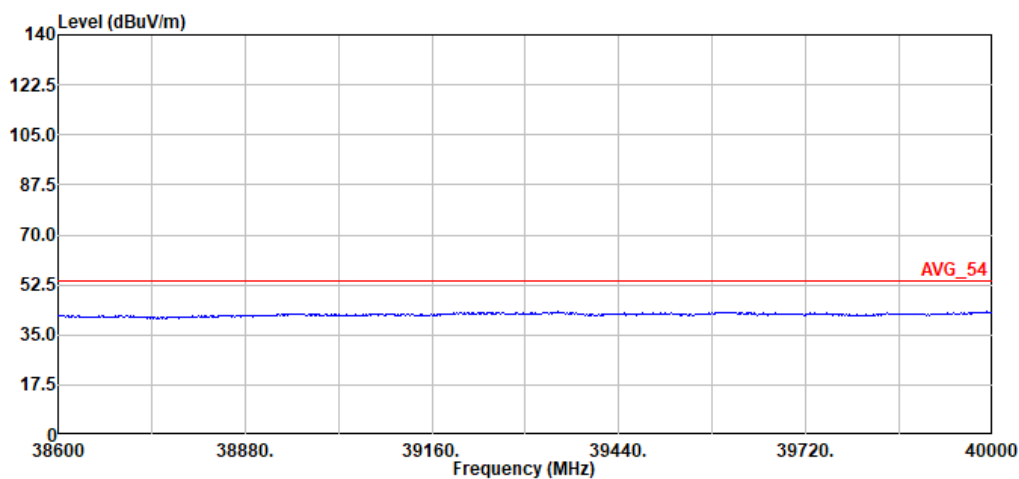
Mark	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1	39331.77	53.75	-20.25	74	38.11	45.3	26.64	56.3	-	-	Peak
2	39331.77	44.55	-9.45	54	28.91	45.3	26.64	56.3	-	-	Average



Temperature	20.0 ~ 21.7℃	Relative Humidity	52.5 ~ 65.5%
Test Engineer	Troye Hsieh	Test Distance	1m
Test Range	18GHz to 40GHz	Test Polarization	Vertical
Remark	- Level (dBμV/m) = Read Level (dBμV) + Antenna Factor (dB) + Path Loss(dB) - Preamp Factor (dB) - Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Distance extrapolation factor (dB). - The emission position marked as "-" means no suspected emission found with sufficient margin against limit line or noise floor only.		



Site : 03CH11-HY
Condition: PEAK(UNII) 1m SHF_1224_240624 VERTICAL



Site : 03CH11-HY
Condition: AVG_54 1m SHF_1224_240624 VERTICAL

Mark	Frequency (MHz)	Level (dBμV/m)	Margin (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1	39322.74	54.53	-19.47	74	39.09	45.1	26.65	56.31	-	-	Peak
2	39322.74	44.55	-9.45	54	29.11	45.1	26.65	56.31	-	-	Average



<40GHz to 200GHz>

Temperature	21.6~23.3°C	Relative Humidity	54.8~62.5%
Test Engineer	Eric Jeng	Test Range	40GHz to 200GHz

Test Frequency (GHz)	Rx Antenna Gain (dBi)	Measurement Distance (m)	Read Worse Frequency (GHz)	Read Level (dBm)
40 - 57	22.64	0.87	49.086	-94.52
EIRP (dBm)	Specification Distance (m)	Power Density (pW/cm ²)	Limit (pW/cm ²)	Test Result
-50.38	3	0.008101	90	PASS

Note: Path Loss = 0.43 dB; the calculate of λ using 57GHz as f.

Test Frequency (GHz)	Rx Antenna Gain (dBi)	Measurement Distance (m)	Read Worse Frequency (GHz)	Read Level (dBm)
71 - 90	22.4	0.6	89.9455	-87.71
EIRP (dBm)	Specification Distance (m)	Power Density (pW/cm ²)	Limit (pW/cm ²)	Test Result
-42.59	3	0.048702	90	PASS

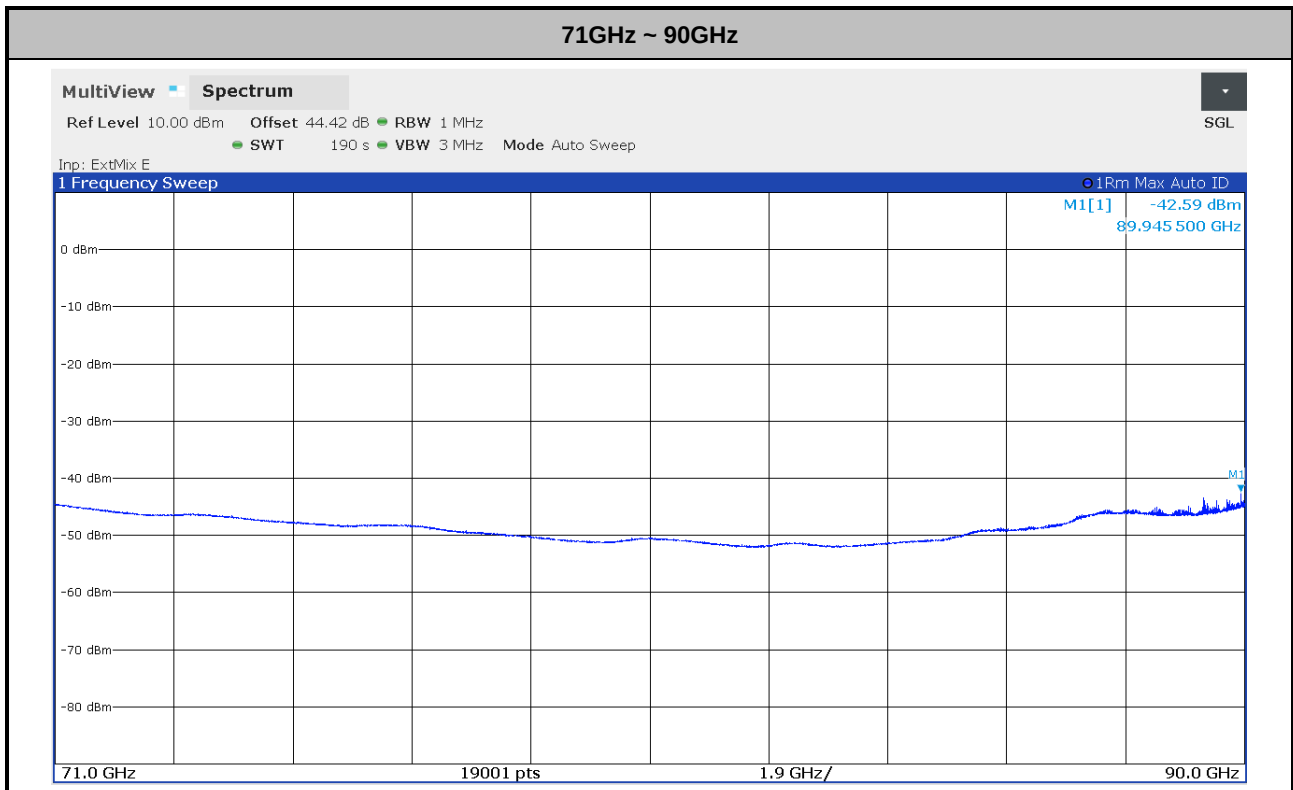
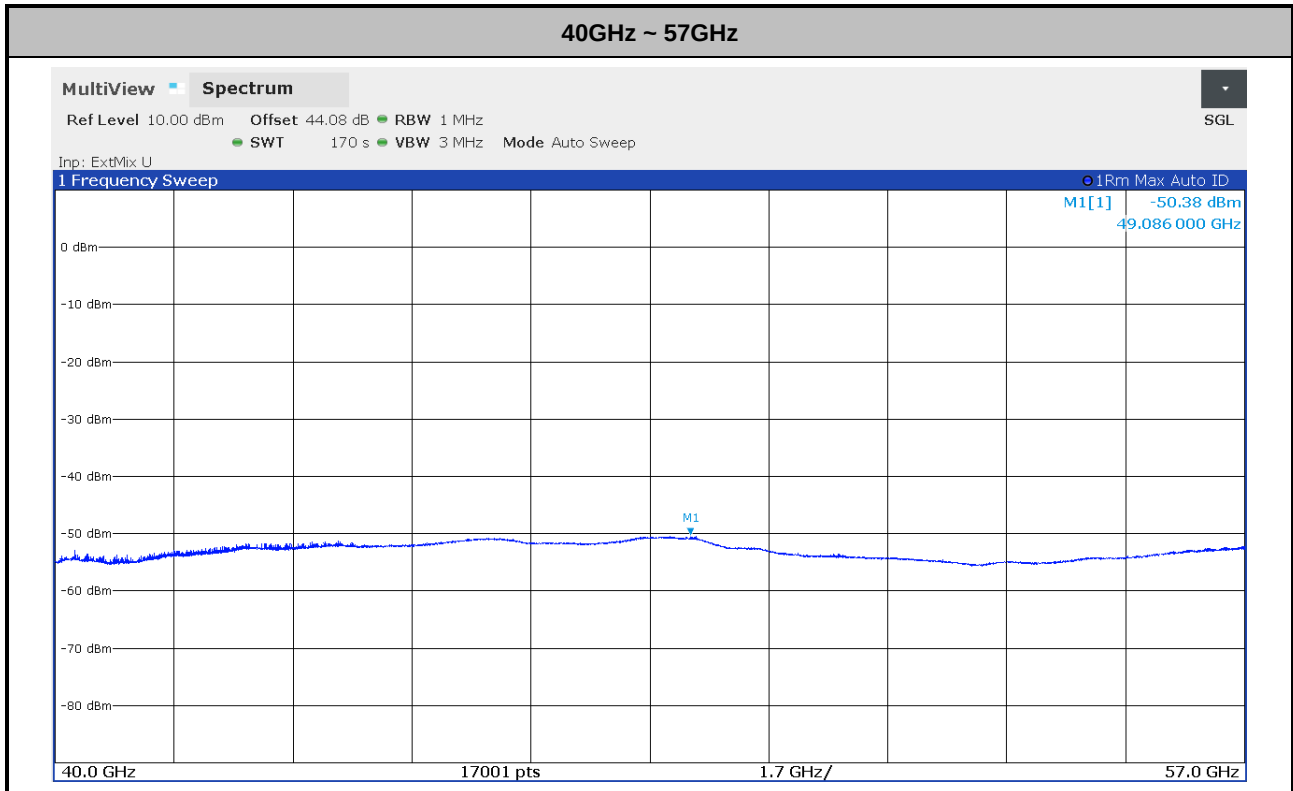
Note: Path Loss = 0.43 dB; the calculate of λ using 90GHz as f.

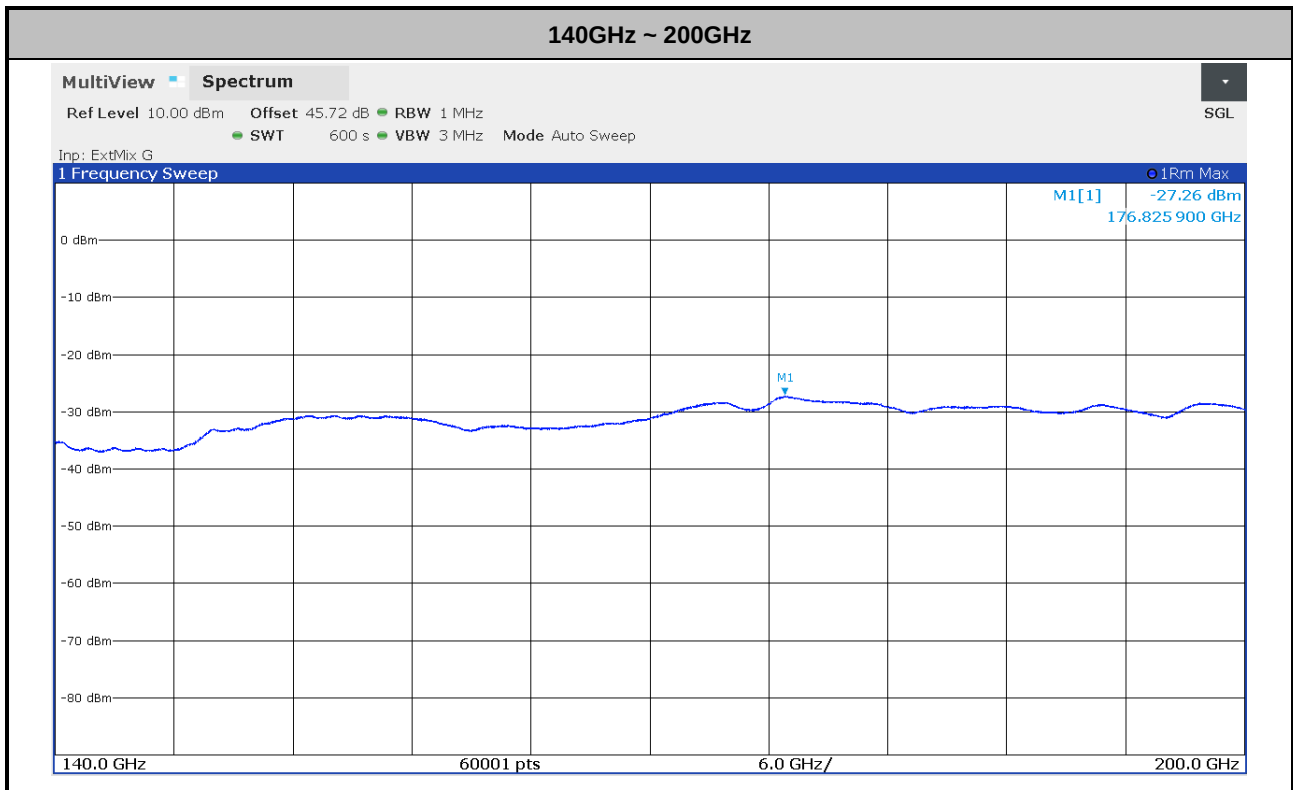
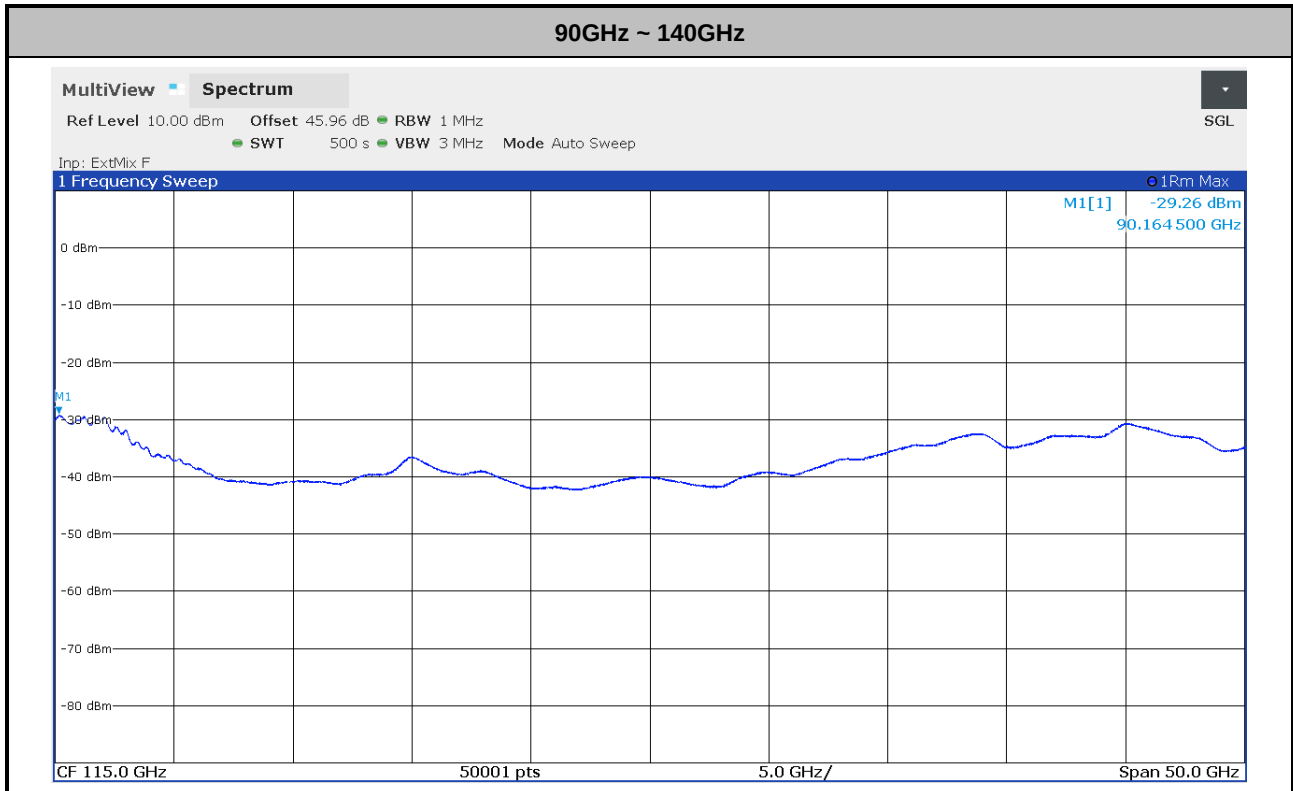
Test Frequency (GHz)	Rx Antenna Gain (dBi)	Measurement Distance (m)	Read Worse Frequency (GHz)	Read Level (dBm)
90 - 140	22.4	0.43	90.1645	-75.32
EIRP (dBm)	Specification Distance (m)	Power Density (pW/cm ²)	Limit (pW/cm ²)	Test Result
-29.26	3	1.048450	90	PASS

Note: Path Loss = 0.43 dB; the calculate of λ using 140GHz as f.

Test Frequency (GHz)	Rx Antenna Gain (dBi)	Measurement Distance (m)	Read Worse Frequency (GHz)	Read Level (dBm)
140 - 200	22.8	0.27	176.8259	-71.98
EIRP (dBm)	Specification Distance (m)	Power Density (pW/cm ²)	Limit (pW/cm ²)	Test Result
-27.26	3	1.661681	90	PASS

Note: Path Loss = 0.43 dB; the calculate of λ using 200GHz as f.







4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	41912 & 05	30MHz~1GHz	Feb. 04, 2024	Nov. 14, 2024	Feb. 03, 2025	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Aug. 29, 2024	Nov. 14, 2024	Aug. 28, 2025	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-01620	1GHz~18GHz	Aug. 28, 2024	Nov. 14, 2024	Aug. 27, 2025	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1224	18GHz~40GHz	Jun. 24, 2024	Nov. 14, 2024	Jun. 23, 2025	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 08, 2023	Nov. 14, 2024	Dec. 07, 2024	Radiation (03CH11-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800055007	1GHz~18GHz	Jun. 13, 2024	Nov. 14, 2024	Jun. 12, 2025	Radiation (03CH11-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	May 27, 2024	Nov. 14, 2024	May 26, 2025	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 14, 2024	Nov. 14, 2024	Oct. 13, 2025	Radiation (03CH11-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY55420170	20MHz~8.4GHz	Jul. 19, 2024	Nov. 14, 2024	Jul. 18, 2025	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Nov. 14, 2024	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Nov. 14, 2024	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Nov. 14, 2024	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Nov. 14, 2024	N/A	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303B	TP140325	N/A	Dec. 08, 2023	Nov. 14, 2024	Dec. 07, 2024	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804013/2	30M~40G	May 23, 2024	Nov. 14, 2024	May 22, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz~40GHz	Mar. 06, 2024	Nov. 14, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 06, 2024	Nov. 14, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	30M~40G	Mar. 06, 2024	Nov. 14, 2024	Mar. 05, 2025	Radiation (03CH11-HY)



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. 19, 2024	Nov. 14, 2024	Feb. 18, 2025	Radiation (03CH18-HY)
Harmonic Mixer*	Rohde & Schwarz	RPG FS-Z60	101033	40GHz to 60GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
Harmonic Mixer	Rohde & Schwarz	RPG FS-Z75	102042	50 GHz to 75 GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
Harmonic Mixer*	Rohde & Schwarz	FSZ-90	101867	60GHz to 90GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
Harmonic Mixer*	Rohde & Schwarz	RPG FS-Z140	101130	90GHz to 140GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
Harmonic Mixer	Rohde & Schwarz	RPG FS-Z220	101042	140GHz to 220GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-UPRR00	1410300003	40-60 GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-VPRR00	1371800008	50-75 GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-EPRR00	1372000000	60-90 GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-FPRR00	1011500008	90-140 GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
Antenna	Quinstar	QWH-GPRR00	QWH-GPR R00-01	140-220 GHz	Jun. 27, 2024	Nov. 14, 2024	Jun. 26, 2025	Radiation (03CH18-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	801607/2	N/A	Nov. 28, 2023	Nov. 14, 2024	Nov. 27, 2024	Radiation (03CH18-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	519231/2	N/A	Nov. 28, 2023	Nov. 14, 2024	Nov. 27, 2024	Radiation (03CH18-HY)
Detector	Quinstars	QEA-FBFBVP	2672009	50 ~ 75 GHz	Jul. 09, 2024	Nov. 14, 2024	Jul. 08, 2025	Radiation (03CH18-HY)
Oscilloscope	Rohde & Schwarz	RTO 1002	400025	600MHz, 10GSa/sec	Sep. 25, 2024	Nov. 14, 2024	Sep. 24, 2025	Radiation (03CH18-HY)
Thermal Chamber	ESPEC	SU-641	92013721	-30°C ~70°C	Oct. 08, 2024	Nov. 14, 2024	Oct. 07, 2025	Radiation (03CH18-HY)
AC Power Source	AC POWER	AFC-500W	F104070011	50Hz~60Hz	N/A	Nov. 14, 2024	N/A	Radiation (03CH18-HY)

Note: (*) Equipment manufacturer's Calibration Certificate.



5 Measurement Uncertainty

Test Item	Uncertainty
Radiated Emission Measurement (9 kHz ~ 30 MHz)	±3.3dB
Radiated Emission Measurement (30 MHz ~ 1000 MHz)	±6.4dB
Radiated Emission Measurement (1 GHz ~ 6 GHz)	±5.1dB
Radiated Emission Measurement (6 GHz ~ 18 GHz)	±5.3dB
Radiated Emission Measurement (18 GHz ~ 40 GHz)	±5.3dB
Radiated Emission Measurement (40 GHz ~ 140 GHz)	±5.59dB
Radiated Emission Measurement (140 GHz ~ 200 GHz)	±6.57dB

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