



FCC Test Report

APPLICANT : Xiaomi Communications Co., Ltd.
EQUIPMENT : Tablet Computer
BRAND NAME : Xiaomi
MODEL NAME : 24091RPADG
FCC ID : 2AFZZ1RPADG
STANDARD : 47 CFR Part 15 Subpart B
CLASSIFICATION : Certification
TEST DATE(S) : Oct. 26, 2024

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 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 of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (Kunshan)

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC480902-02	Rev. 01	Initial issue of report	Dec. 02, 2024



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 4.30 dB at 958.29 MHz for Quasi-Peak

Remark: This is a variant report for 24091RPADG, the difference is to add a 2.4 GHz filter. According to the difference, only the related cases from original report (Sporton Report Number FC480902) were verified for difference.

Conformity Assessment Condition:

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. Please refer to each test results 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.



1. General Description

1.1. Applicant

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.2. Manufacturer

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	Tablet Computer
Brand Name	Xiaomi
Model Name	24091RPADG
FCC ID	2AFZZ1RPADG
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 2.4GHz 802.11be EHT20/EHT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz 802.11ax HE20/HE40/HE80/HE160 WLAN 5GHz 802.11be EHT20/EHT40/EHT80/EHT160 WLAN 6GHz 802.11a/ax HE20/HE40/HE80/HE160 WLAN 6GHz 802.11be EHT20/EHT40/EHT80/EHT160/EHT320 Bluetooth BR/EDR/LE WPT / NFC (Rx Only)
SN Code	Radiation: 9P439K000030
HW Version	135100O81
SW Version	Xiaomi HyperOS 2.0
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4. Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	802.11b/g/n/ax/be: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac/ax/be: 5150 MHz ~ 5250 MHz; 5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5850 MHz 802.11a/ax/be: 5925 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz WPT: 135 KHz ~ 148 KHz
Rx Frequency	802.11b/g/n/ax/be: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac/ax/be: 5150 MHz ~ 5250 MHz; 5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5850 MHz 802.11a/ax/be: 5925 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz
Antenna Type	Bluetooth/WLAN_ANT0: PIFA Antenna WLAN_ANT1: Resonant Cavity Antenna Bluetooth/WLAN_ANT2: Resonant Cavity Antenna WPT: Coil Antenna NFC: FPC Antenna
Type of Modulation	802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) 802.11ax: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM) 802.11be: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM / 4096QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : $\pi/4$ -DQPSK Bluetooth (3Mbps) : 8-DPSK NFC: ASK WPT: ASK

Note: the device only support NFC_Type A Card as Tag function (RX only).

1.5. Modification of EUT

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

1.6. Test Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH02-KS	CN1257	314309

1.7. Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH02-KS	AUDIX	E3	6.2009-8-24al

1.8. Applicable Standards

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

- ♦ 47 CFR Part 15 Subpart B
- ♦ ANSI C63.4-2014

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

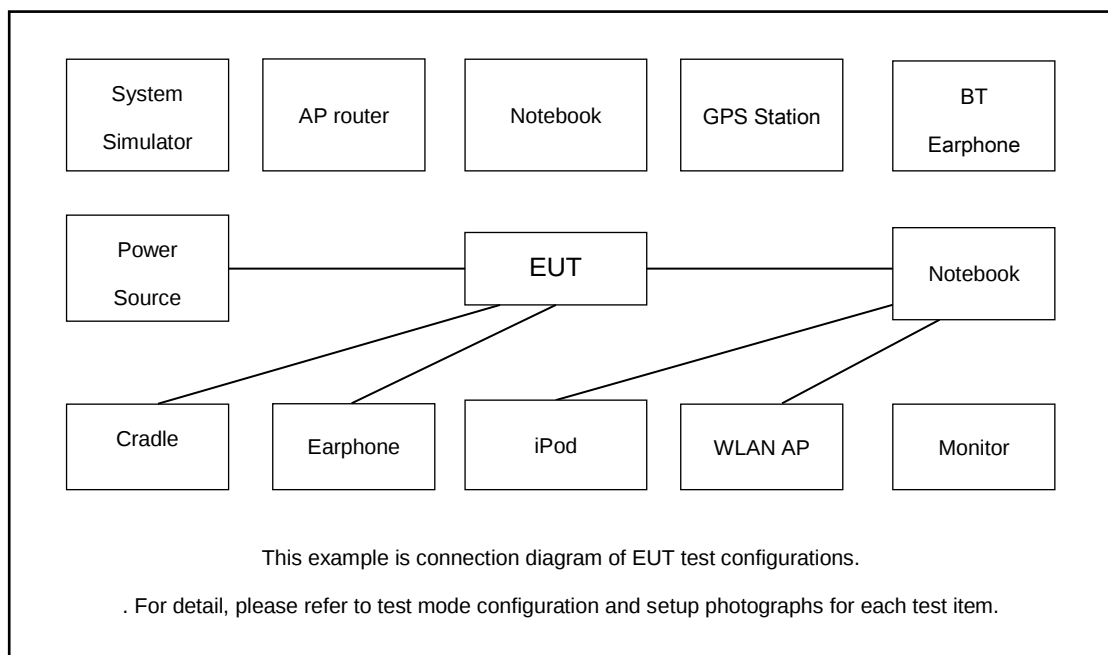
2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: radiation emission (30MHz to the 5th harmonic of the highest frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
Radiated Emissions	Mode 1: Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Battery 1 + USB Cable 1 (Charging from Adapter 1)
	Mode 2: Bluetooth Idle + WLAN (2.4G) Idle + DP Out With Monitor + Battery 1 + MPEG4(Run Color Bar)
Remark: 1. The worst case of RE is mode 2; only the test data of this mode is reported. 2. "DP Output" means transfer the color bar from EUT to Display monitor via Type-C port.	

2.2.Connection Diagram of Test System



The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application

2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	HDMI Cable	STYLE	E301195	N/A	N/A	N/A
2.	Monitor	DELL	P2715QT	N/A	N/A	N/A
3.	WLAN AP	ASUSTek	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,2.7m with Core
4.	Monitor Adapter	NA	N/A	N/A	N/A	N/A
5.	NOTE BOOK	Lenovo	E540	FCC DoC	N/A	Unshielded, 1.2 m
6.	Notebook	DELL	Inspiron 15-7570	Fcc DoC	N/A	Unshielded, 1.2 m
7.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
8.	Earphone	Apple	MC690ZP/A	N/A	Shielded, 1.0m	N/A
9.	Mobile phone	YIJIA	A5010	N/A	N/A	N/A
10.	iPod	Apple	MC525 ZP/A	Fcc DoC	Shielded, 1.0m	N/A
11.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A



2.4. EUT Operation Test Setup

The EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

1. Turn on camera to capture images.
2. Turn on MPEG4 function.

3. Test Result

3.1. Test of Radiated Emission Measurement

3.1.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

<Class B Limit>

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.1.2. Measuring Instruments

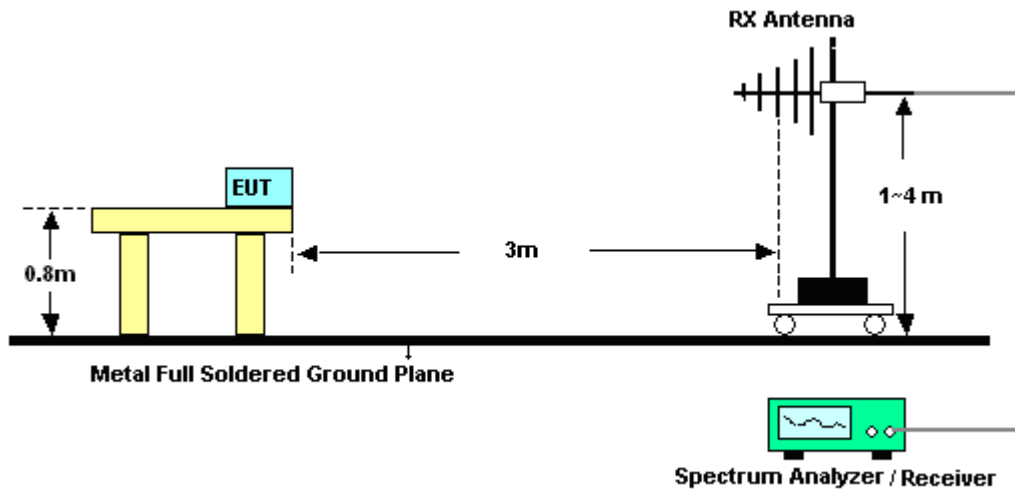
The measuring equipment is listed in the section 4 of this test report.

3.1.3. Test Procedures

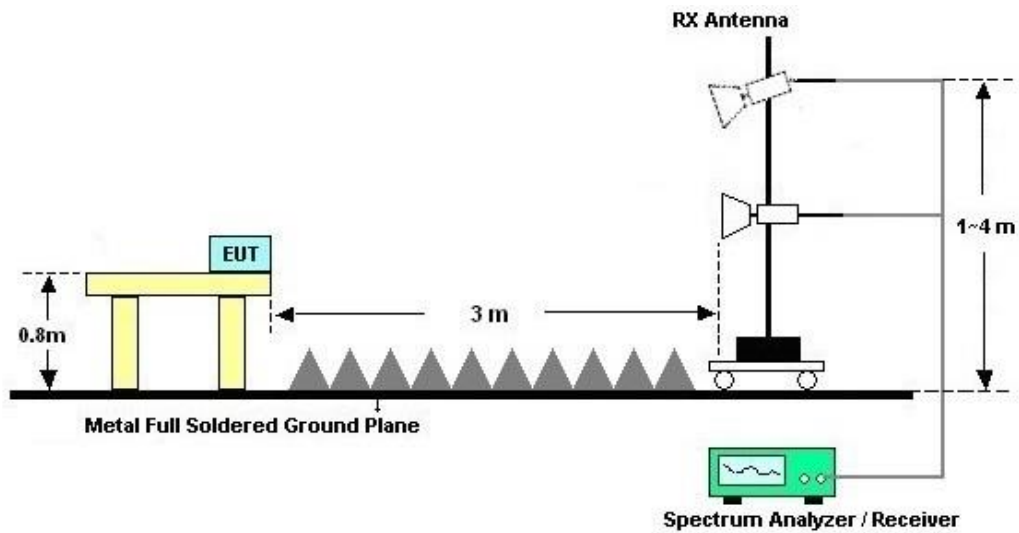
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dB μ V/m) = 20 log Emission level (μ V/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
10. Exploratory radiated emissions testing of handheld and/or body-worn devices shall include rotation of the EUT through three orthogonal axes (X/Y/Z Plane) to determine the orientation (attitude) that maximizes the emissions.

3.1.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

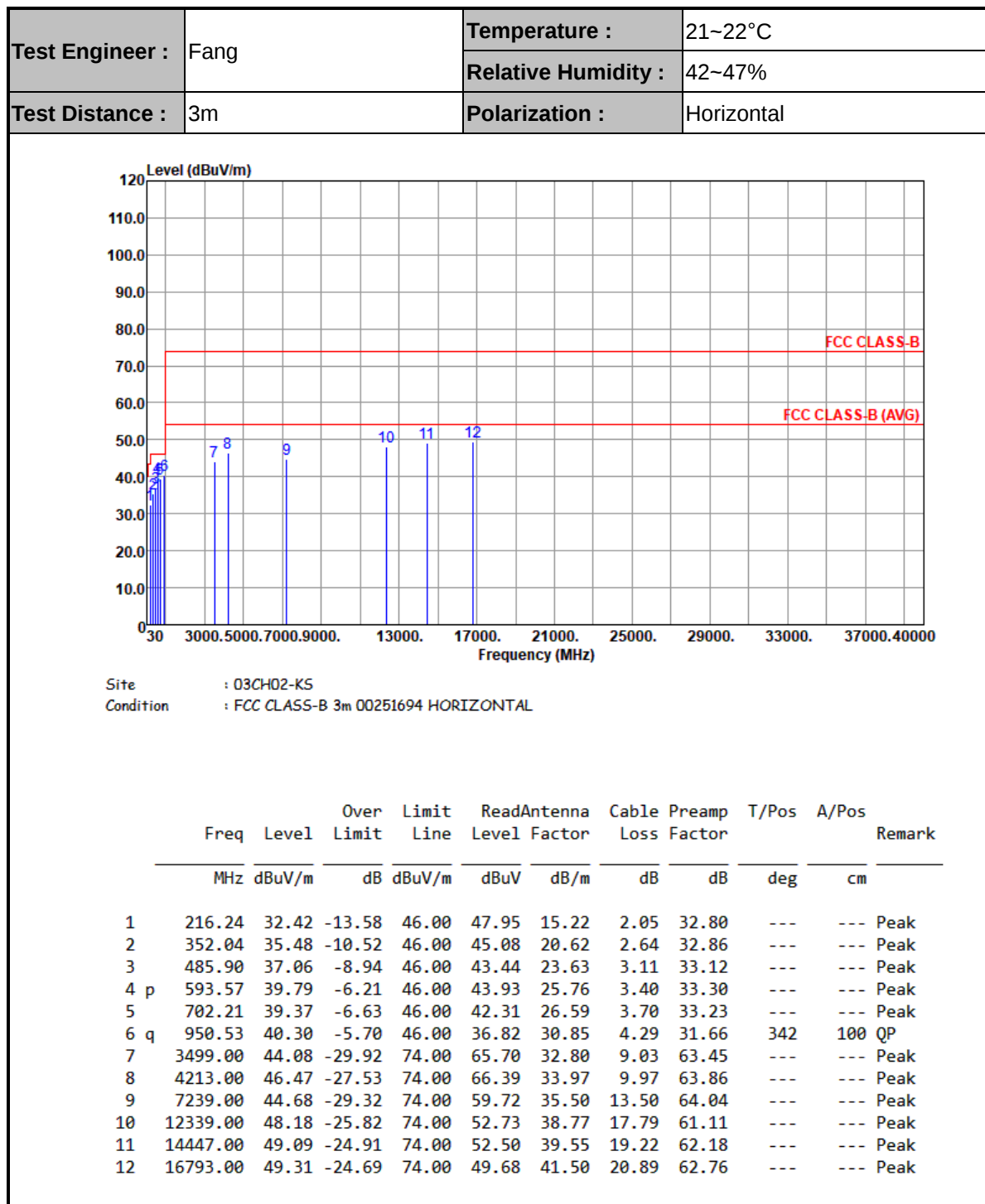


For radiated emissions above 1GHz



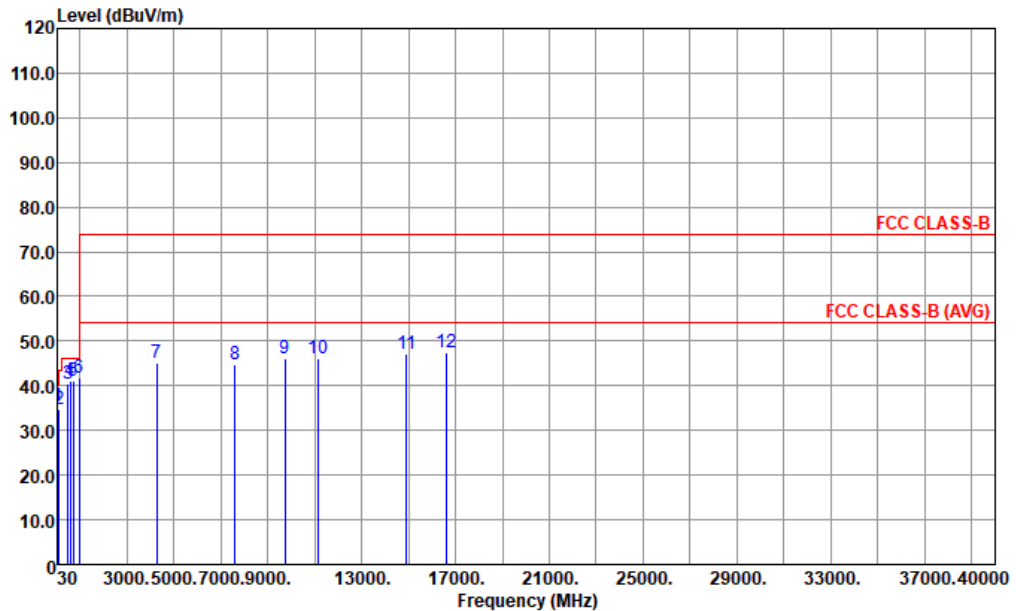


3.1.5. Test Result of Radiated Emission





Test Engineer :	Fang	Temperature :	21~22°C
		Relative Humidity :	42~47%
Test Distance :	3m	Polarization :	Vertical



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	deg	cm	
1 p	37.76	35.36	-4.64	40.00	46.46	21.16	0.56	32.82	---	---	Peak
2	107.60	34.78	-8.72	43.50	49.12	16.89	1.43	32.66	---	---	Peak
3	485.90	40.58	-5.42	46.00	46.96	23.63	3.11	33.12	---	---	Peak
4	593.57	41.02	-4.98	46.00	45.16	25.76	3.40	33.30	---	---	Peak
5	702.21	41.19	-4.81	46.00	44.13	26.59	3.70	33.23	---	---	Peak
6 q	958.29	41.70	-4.30	46.00	38.00	30.97	4.31	31.58	66	100	QP
7	4281.00	45.20	-28.80	74.00	64.91	34.10	10.07	63.88	---	---	Peak
8	7596.00	44.69	-29.31	74.00	59.21	35.60	13.76	63.88	---	---	Peak
9	9721.00	46.26	-27.74	74.00	56.09	36.83	15.82	62.48	---	---	Peak
10	11166.00	46.11	-27.89	74.00	53.13	37.90	16.77	61.69	---	---	Peak
11	14906.00	47.05	-26.95	74.00	50.30	39.80	19.42	62.47	---	---	Peak
12	16623.00	47.60	-26.40	74.00	48.26	41.33	20.77	62.76	---	---	Peak

Note:

- Level(dBuV/m) = Read Level(dBuV) + Antenna Factor(dB/m) + Cable Loss(dB) - Preamp Factor(dB)
- Over Limit(dB) = Level(dBuV/m) – Limit Line(dBuV/m)



4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Oct. 11, 2024	Oct. 26, 2024	Oct. 10, 2025	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Oct. 11, 2024	Oct. 26, 2024	Oct. 10, 2025	Radiation (03CH02-KS)
Bilog Antenna	TESEQ	CBL 6111D	59915	30MHz-1GHz	Aug. 18, 2024	Oct. 26, 2024	Aug.17, 2025	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 22, 2024	Oct. 26, 2024	Oct. 21, 2025	Radiation (03CH02-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 27, 2024	Oct. 26, 2024	Jan. 26, 2025	Radiation (03CH02-KS)
Amplifier	EM	EM18G40GGA	060852	18~40GHz	Jan. 02, 2024	Oct. 26, 2024	Jan. 01, 2025	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	413740	9KHz-1GHz	Jan. 03, 2024	Oct. 26, 2024	Jan. 02, 2025	Radiation (03CH02-KS)
Amplifier	EM	EM01G18G	060806	1GHz~18GHz	Oct. 10, 2024	Oct. 26, 2024	Oct. 09, 2025	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Oct. 26, 2024	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Oct. 26, 2024	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Oct. 26, 2024	NCR	Radiation (03CH02-KS)

NCR: No Calibration Required



5. Measurement Uncertainty

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.04 dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.12 dB
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.30 dB
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