



FCC Test Report

APPLICANT : Xiaomi Communications Co., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : Redmi
MODEL NAME : 2201117TY
FCC ID : 2AFZZ117TY
STANDARD : 47 CFR Part 15 Subpart B
CLASSIFICATION : Certification
TEST DATE(S) : Dec. 11, 2021 ~ Dec. 20, 2021

We, Sporton International (Kunshan) Inc., 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

Alex Wang

Approved by: Alex Wang / Manager



Sporton International (Kunshan) Inc.

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



TABLE OF CONTENTS

REVISION HISTORY	3
SUMMARY OF TEST RESULT	4
1. GENERAL DESCRIPTION	5
1.1. Applicant.....	5
1.2. Manufacturer	5
1.3. Product Feature of Equipment Under Test	5
1.4. Product Specification of Equipment Under Test	6
1.5. Modification of EUT	7
1.6. Test Location	7
1.7. Test Software	8
1.8. Applicable Standards	8
2. TEST CONFIGURATION OF EQUIPMENT UNDER TEST	9
2.1. Test Mode	9
2.2. Connection Diagram of Test System	11
2.3. Support Unit used in test configuration and system	11
2.4. EUT Operation Test Setup	12
3. TEST RESULT	13
3.1. Test of AC Conducted Emission Measurement	13
3.2. Test of Radiated Emission Measurement	17
4. LIST OF MEASURING EQUIPMENT	22
5. UNCERTAINTY OF EVALUATION	23
APPENDIX A. SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC102304	Rev. 01	Initial issue of report	Dec. 31, 2021



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit 11.27 dB at 0.1510 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 12.30 dB at 530.52 MHz Quasi-Peak

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



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	Mobile Phone
Brand Name	Redmi
Model Name	2201117TY
FCC ID	2AFZZ117TY
EUT supports Radios application	GSM/WCDMA/LTE WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC/ FM/ GNSS
IMEI Code	Conduction: 864154050025923/864154050025931 for Sample 1 864154050028026/864154050028034 for Sample 2 864154050027887/864154050027895 for Sample 3 864154050027929/864154050027937 for Sample 4 Radiation: 864154050028083 for Sample 1 864154050027804 for Sample 2 864154050027903 for Sample 3 864154050025006 for Sample 4
HW Version	P1.1
SW Version	MIUI13
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	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850MHz ~ 1910MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV : 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 7 : 2500 MHz ~ 2570 MHz LTE Band 38 : 2570 MHz ~ 2620 MHz LTE Band 41 : 2535 MHz ~ 2655 MHz 802.11b/g/n: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac: 5150 MHz ~ 5250 MHz; 5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5825 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz
Rx Frequency	GSM850: 869 MHz ~ 894 MHz GSM1900: 1930 MHz ~ 1990 MHz WCDMA Band II: 1930 MHz ~ 1990 MHz WCDMA Band IV : 2110 MHz ~ 2155 MHz WCDMA Band V: 869 MHz ~ 894 MHz LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 7 : 2620 MHz ~ 2690 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41 : 2535 MHz ~ 2655 MHz 802.11b/g/n: 2400 MHz ~ 2483.5 MHz 802.11a/n/ac: 5150 MHz ~ 5250 MHz; 5250 MHz ~ 5350 MHz; 5470 MHz ~ 5725 MHz 5725 MHz ~ 5825 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz FM : 88 MHz ~ 108 MHz GNSS : 1559 MHz ~ 1610 MHz
Antenna Type	WWAN : PIFA Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna GNSS: PIFA Antenna NFC: Planar antenna

	FM : External Earphone Antenna
Type of Modulation	GSM/GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK (Uplink) HSDPA/DC-HSDPA : QPSK (Uplink) HSUPA : QPSK (Uplink) HSPA+ : 16QAM (16QAM uplink is not supported) DC-HSDPA : 64QAM LTE: QPSK / 16QAM / 64QAM / 256QAM(Downlink only) 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n/ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : $\pi/4$ -DQPSK Bluetooth (3Mbps) : 8-DPSK NFC: ASK GNSS : BPSK FM

1.5. Modification of EUT

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

1.6. Test Location

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

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-KS 03CH06-KS	CN1257	314309

1.7. Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH06-KS	AUDIX	E3	6.2009-8-24al
2.	CO01-KS	AUDIX	E3	6.2009-8-24

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

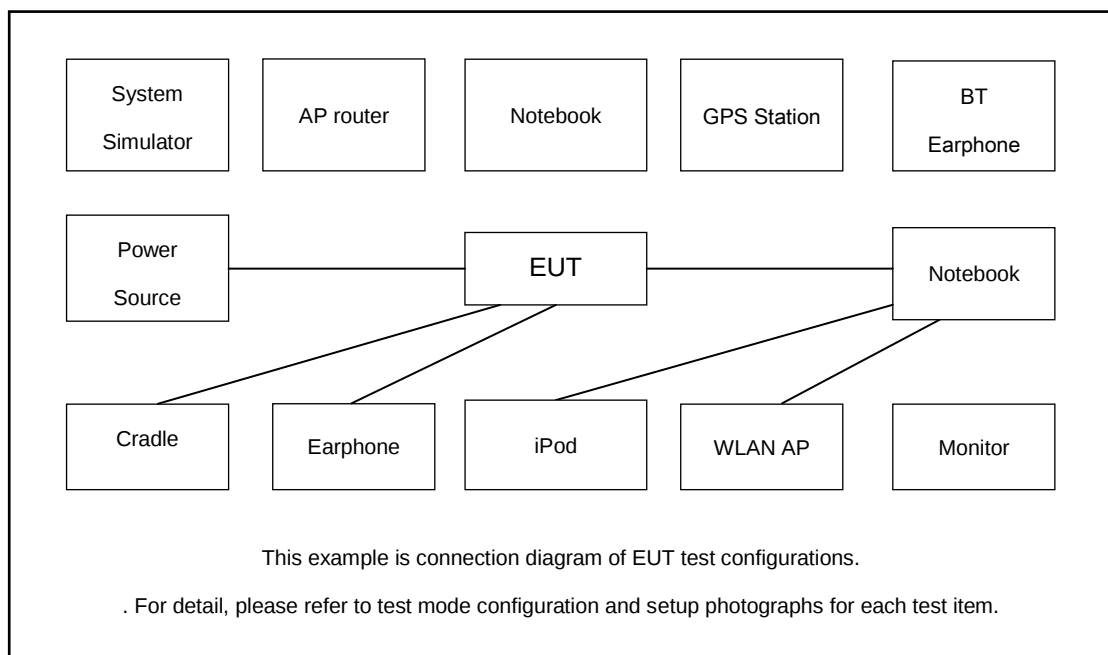
The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (30MHz to the 5th harmonic of the highest frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
AC Conducted Emission	Mode 1: GSM 850 Rx(Middle CH) + Bluetooth Idle + WLAN (2.4G) Idle + Camera(Rear) + Earphone + Battery + USB Cable1 (Charging from Adapter) + SIM 1 + ANT Top for Sample 1
	Mode 2: WCDMA V Rx(High CH) + Bluetooth Idle + WLAN (5G) Idle + Camera(Front) + Earphone + Battery + USB Cable2 (Charging from Adapter) + SIM 2 + ANT Bottom for Sample 1
	Mode 3: LTE Band 5 Rx(Low CH) + Bluetooth Idle + WLAN (5G) Idle + MPEG4(Run Color Bar) + Earphone + Battery + USB Cable2(Charging from Adapter) + SIM 1 + ANT Bottom for Sample 1
	Mode 4: LTE Band 5 Rx(Low CH) + Bluetooth Idle + WLAN (2.4G) Idle + FM(98)MHz Rx + Earphone + Battery + USB Cable2(Charging from Adapter) + SIM 2 + ANT Bottom for Sample 1
	Mode 5: LTE Band 5 Rx(Low CH) + Bluetooth Idle + WLAN (5G) Idle + NFC On + Earphone + Battery + USB Cable1 (Data Idle with Notebook) + SIM 1 + ANT Bottom for Sample 1
	Mode 6: LTE Band 5 Rx(Low CH) + Bluetooth Idle + WLAN (2.4G) Idle + GNSS Rx + Earphone + Battery + USB Cable2(Data Link with Notebook) + SIM 2 + ANT Bottom for Sample 1
	Mode 7: LTE Band 5 Rx(Low CH) + Bluetooth Idle + WLAN (2.4G) Idle + GNSS Rx + Earphone + Battery + USB Cable1(Data Link with Notebook) + SIM 1 + ANT Bottom for Sample 2
	Mode 8: LTE Band 5 Rx(Low CH) + Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Earphone + Battery + USB Cable1(Data Link with Notebook) + SIM 2 + ANT Bottom for Sample 3
	Mode 9: LTE Band 5 Rx(Low CH) + Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Earphone + Battery + USB Cable1(Data Link with Notebook) + SIM 1 + ANT Bottom for Sample 4

Radiated Emissions	Mode 1: GSM 850 Rx(Middle CH) + Bluetooth Link + WLAN (2.4G) Idle + Camera(Rear) + Earphone + Battery + USB Cable1 (Charging from Adapter) + SIM 1 + ANT Top for Sample 1 Mode 2: WCDMA V Rx(High CH) + Bluetooth Link + WLAN (5G) Idle + Camera(Front) + Earphone + Battery + USB Cable2(Charging from Adapter) + SIM 2 + ANT Bottom for Sample 1 Mode 3: LTE Band 5 Rx(Low CH) + Bluetooth Link + WLAN (5G) Idle + MPEG4(Run Color Bar) + Earphone + Battery + USB Cable1(Charging from Adapter) + SIM 1 + ANT Top for Sample 1 Mode 4: GSM 850 Rx(Middle CH) + Bluetooth Link + WLAN (2.4G) Idle + FM(98)MHz Rx + Earphone + Battery + USB Cable1(Charging from Adapter) + SIM 2 + ANT Top for Sample 1 Mode 5: GSM 850 Rx(Middle CH) + Bluetooth Link + WLAN (5G) Idle + NFC On + Earphone + Battery + USB Cable1(Data Idle with Notebook) + SIM 1 + ANT Top for Sample 1 Mode 6: GSM 850 Rx(Middle CH) + Bluetooth Link + WLAN (2.4G) Idle + GNSS Rx + Earphone + Battery + USB Cable2(Data Link with Notebook) + SIM 2 + ANT Top for Sample 1 Mode 7: GSM 850 Rx(Middle CH) + Bluetooth Link + WLAN (2.4G) Idle + GNSS Rx + Earphone + Battery + USB Cable1(Data Idle with Notebook) + SIM 1 + ANT Top for Sample 2 Mode 8: GSM 850 Rx(Middle CH) + Bluetooth Link + WLAN (5G) Idle + GNSS Rx + Earphone + Battery + USB Cable1(Data Idle with Notebook) + SIM 2 + ANT Top for Sample 3 Mode 9: GSM 850 Rx(Middle CH) + Bluetooth Idle + WLAN (5G) Idle + GNSS Rx + Earphone + Battery + USB Cable1(Data Idle with Notebook) + SIM 1 + ANT Top for Sample 4
Remark: 1. The worst case of AC is mode 5; only the test data of this mode is reported. 2. The worst case of RE is mode 5; only the test data of this mode is reported. 3. Data Link with Notebook means data application transferred mode between EUT and Notebook 4. Pre-scanned Low/Middle/High channel, the worst channel was recorded in this report.	

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.	LTE Base Station	Anritus	MT8820C	N/A	N/A	Unshielded,1.8m
2.	LTE Base Station	Anritus	MT8821C	N/A	N/A	Unshielded,1.8m
3.	Base Station	Anritus	MT8000A	N/A	N/A	Unshielded,1.8m
4.	Signal Generator	R&S	SMBV100A	N/A	N/A	Unshielded,1.8m
5.	SD Card	Kingston	8GB	N/A	N/A	N/A
6.	WLAN AP	TP-Link	TL-WDR5600	N/A	N/A	Unshielded,1.8m
7.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
8.	Vector Signal Generator	R&S	SMBV100A	258305	N/A	N/A
9.	Bluetooth Earphone	Xiaomi	LYEJ02LM	N/A	N/A	N/A
10.	Notebook	Lenovo	S730-13IWL	N/A	N/A	shielded cable DC O/P 1.8m, Unshielded AC I/P cable 1.8m
11.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	shielded cable DC O/P 1.8m, Unshielded AC I/P cable 1.8m
12.	Hard disk	KINGSHARE	KSP6120G	Fcc DoC	Shielded, 1.2m	N/A
13.	Hard Disk	Lenovo	F310	DoC	Shielded, 1.2m	N/A

2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA or LTE idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, 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. Data application is transferred between notebook and EUT via USB cable.
2. Turn on camera to capture images.
3. Turn on MPEG4 function.
4. Turn on FM function to make the EUT receive continuous signals from FM station.
5. Turn on NFC function

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits 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.

<Class B Limit>

Frequency of emission (MHz)	Conducted limit (dBuV)	
	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.

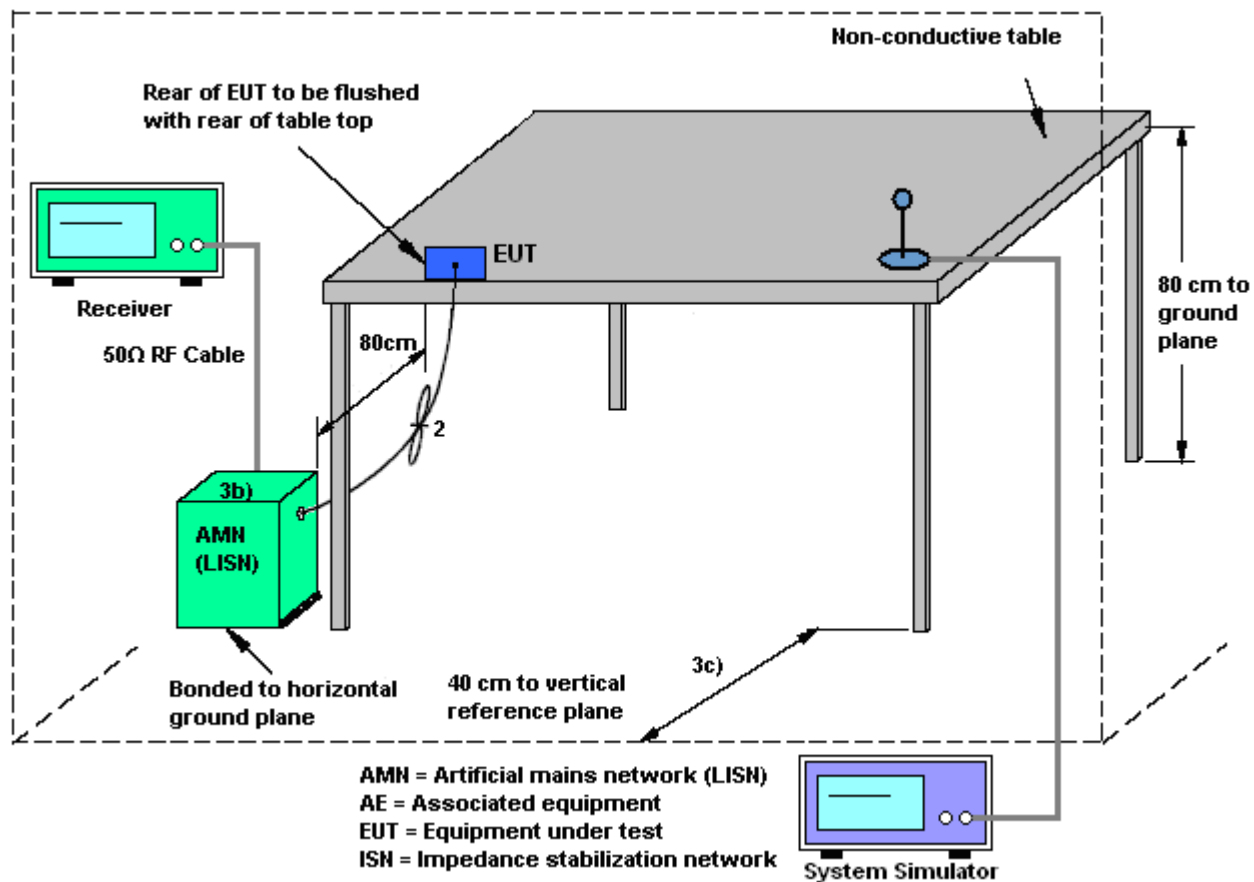
3.1.2 Measuring Instruments

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

3.1.3 Test Procedure

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

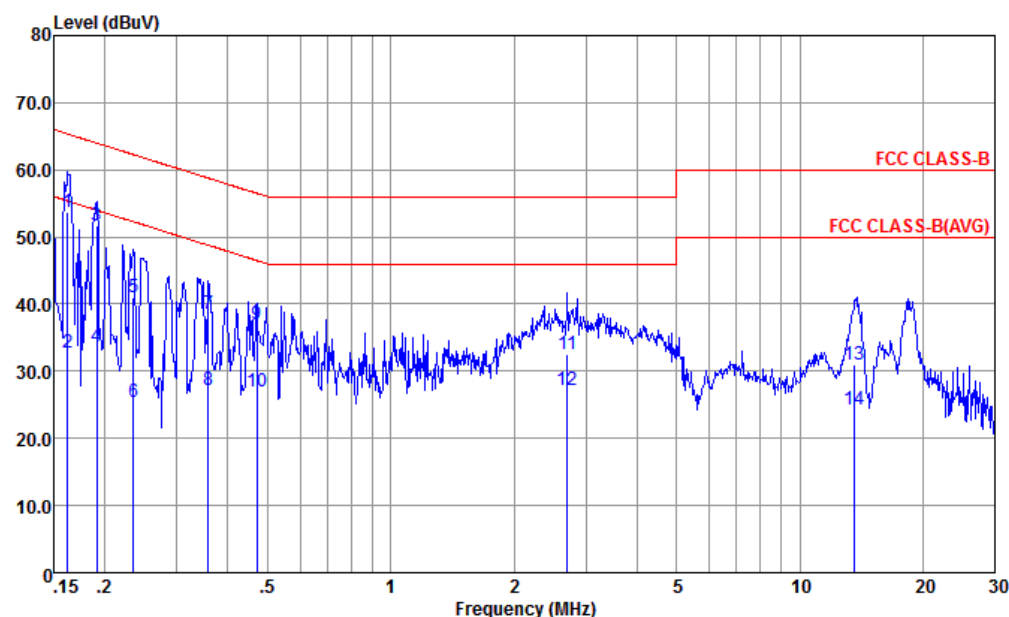
3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

Test Engineer :	Amos Zhao	Temperature :	25.3~26.2°C
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

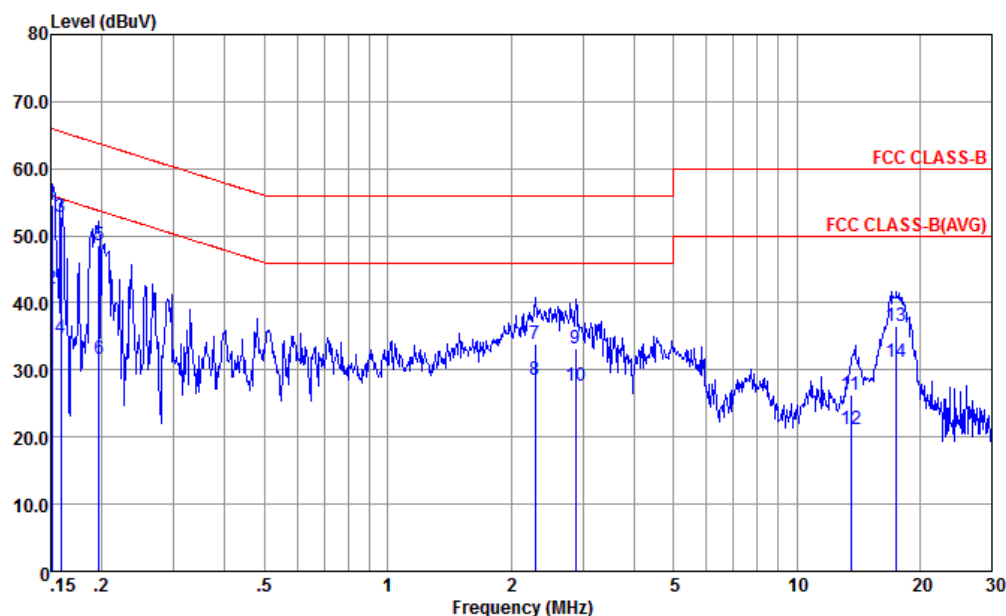


Site : CO01-KS
Condition : FCC CLASS-B LISN-060105-L LINE

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1 *	0.162	53.77	-11.57	65.34	43.29	0.03	10.45	QP
2	0.162	32.77	-22.57	55.34	22.29	0.03	10.45	Average
3	0.191	51.62	-12.36	63.98	41.20	0.04	10.38	QP
4	0.191	33.72	-20.26	53.98	23.30	0.04	10.38	Average
5	0.235	40.99	-21.27	62.26	30.60	0.05	10.34	QP
6	0.235	25.49	-26.77	52.26	15.10	0.05	10.34	Average
7	0.358	38.46	-20.32	58.78	28.10	0.08	10.28	QP
8	0.358	27.26	-21.52	48.78	16.90	0.08	10.28	Average
9	0.471	36.94	-19.55	56.49	26.60	0.10	10.24	QP
10	0.471	26.94	-19.55	46.49	16.60	0.10	10.24	Average
11	2.707	32.59	-23.41	56.00	22.20	0.15	10.24	QP
12	2.707	27.19	-18.81	46.00	16.80	0.15	10.24	Average
13	13.560	30.96	-29.04	60.00	20.30	0.28	10.38	QP
14	13.560	24.26	-25.74	50.00	13.60	0.28	10.38	Average



Test Engineer :	Amos Zhao	Temperature :	25.3~26.2°C
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1 *	0.151	54.69	-11.27	65.96	44.10	0.11	10.48	QP
2	0.151	42.19	-13.77	55.96	31.60	0.11	10.48	Average
3	0.159	52.76	-12.76	65.52	42.19	0.11	10.46	QP
4	0.159	34.68	-20.84	55.52	24.11	0.11	10.46	Average
5	0.197	48.67	-15.09	63.76	38.20	0.10	10.37	QP
6	0.197	31.67	-22.09	53.76	21.20	0.10	10.37	Average
7	2.297	33.98	-22.02	56.00	23.61	0.14	10.23	QP
8	2.297	28.58	-17.42	46.00	18.21	0.14	10.23	Average
9	2.884	33.29	-22.71	56.00	22.90	0.15	10.24	QP
10	2.884	27.69	-18.31	46.00	17.30	0.15	10.24	Average
11	13.560	26.27	-33.73	60.00	15.60	0.29	10.38	QP
12	13.560	21.17	-28.83	50.00	10.50	0.29	10.38	Average
13	17.568	36.47	-23.53	60.00	25.60	0.42	10.45	QP
14	17.568	31.17	-18.83	50.00	20.30	0.42	10.45	Average

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)

3.2. Test of Radiated Emission Measurement

3.2.1. 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

3.2.2. Measuring Instruments

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

3.2.3. Test Procedures

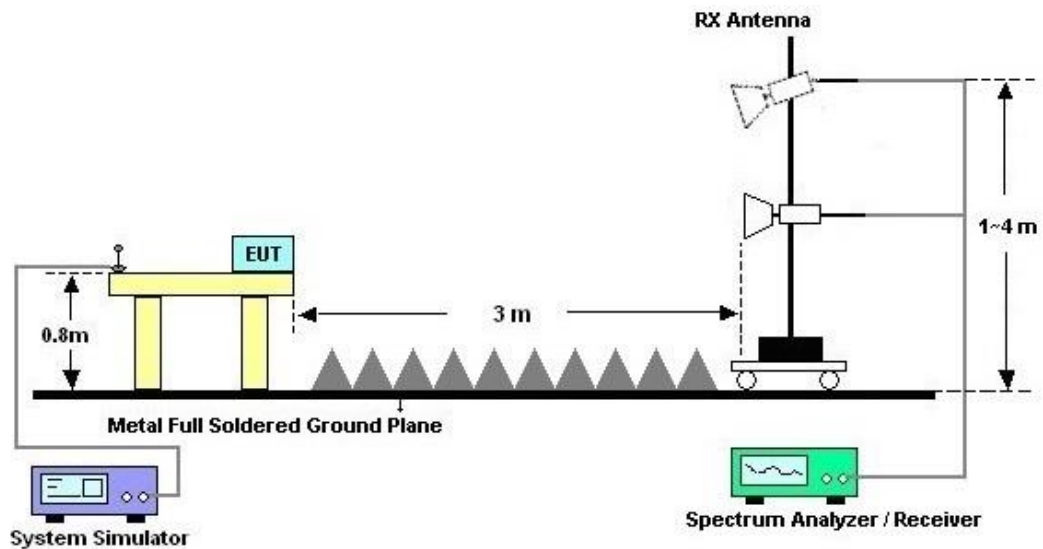
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna 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.

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

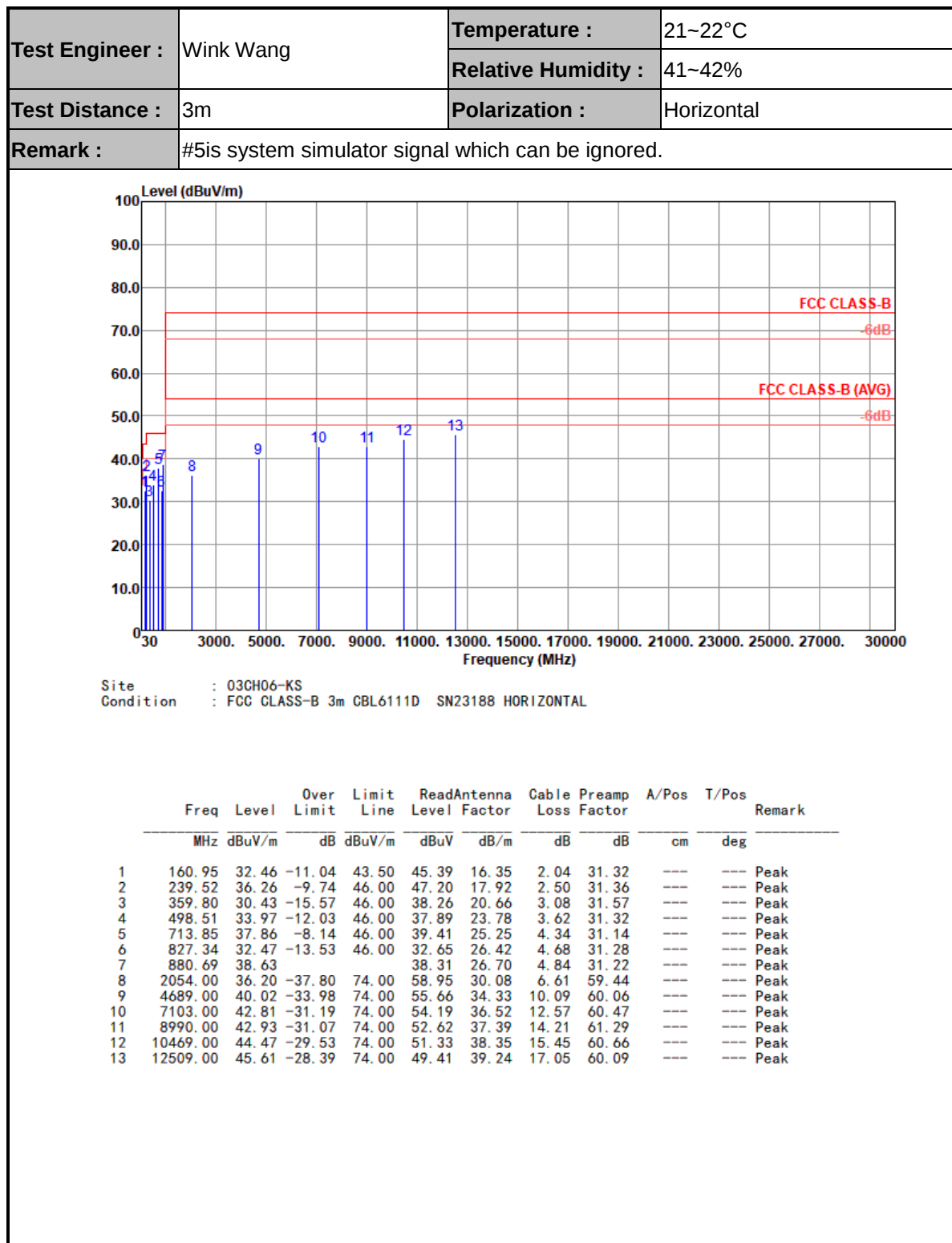


For radiated emissions above 1GHz



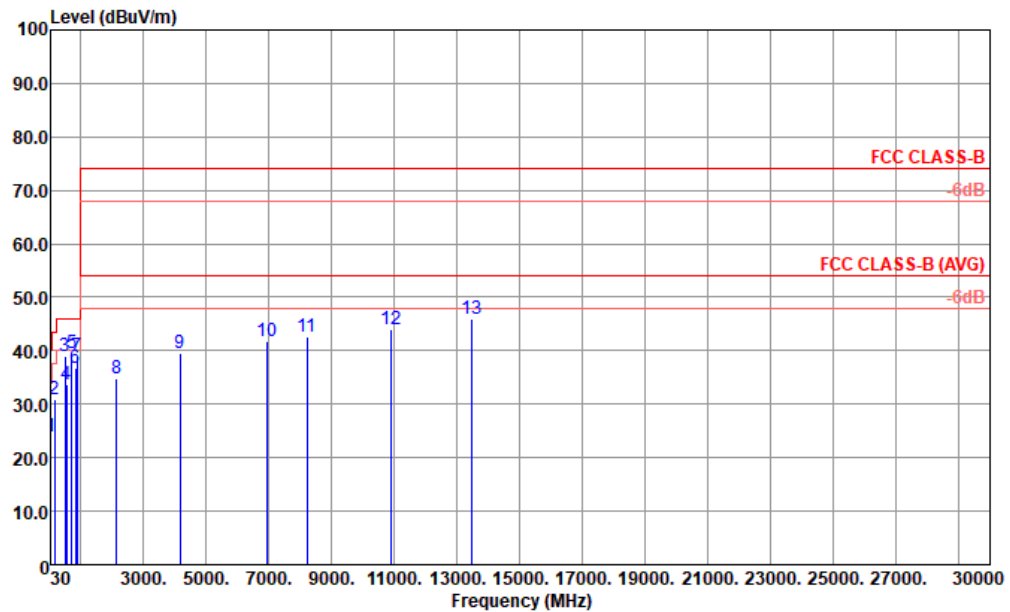


3.2.5. Test Result of Radiated Emission





Test Engineer :	Wink Wang	Temperature :	21~22°C
		Relative Humidity :	41~42%
Test Distance :	3m	Polarization :	Vertical
Remark :	#5 is system simulator signal which can be ignored.		



Site : 03CH06-KS
Condition : FCC CLASS-B 3m CBL6111D SN23188 VERTICAL

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	42.61	23.95	-16.05	40.00	36.50	18.34	0.77	31.66	---	---	Peak
2	167.74	31.00	-12.50	43.50	43.16	17.08	2.09	31.33	---	---	Peak
3	497.54	39.11	-6.89	46.00	42.36	24.45	3.62	31.32	---	---	Peak
4	530.52	33.70	-12.30	46.00	36.13	25.35	3.74	31.52	142	0	QP
5	713.85	39.50	-6.50	46.00	40.38	25.92	4.34	31.14	---	---	Peak
6	827.34	36.85	-9.15	46.00	36.39	27.06	4.68	31.28	---	---	Peak
7	880.69	39.09			38.15	27.32	4.84	31.22	---	---	Peak
8	2139.00	34.83	-39.17	74.00	57.55	30.20	6.74	59.66	---	---	Peak
9	4162.00	39.57	-34.43	74.00	56.17	33.96	9.52	60.08	---	---	Peak
10	6950.00	41.79	-32.21	74.00	53.35	36.39	12.45	60.40	---	---	Peak
11	8225.00	42.65	-31.35	74.00	52.75	37.03	13.66	60.79	---	---	Peak
12	10877.00	44.06	-29.94	74.00	50.40	38.49	15.74	60.57	---	---	Peak
13	13461.00	46.04	-27.96	74.00	48.44	40.07	17.64	60.11	---	---	Peak

Note:

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



4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Receiver	R&S	ESC17	100768	9kHz~7GHz;	Apr. 21, 2021	Dec. 11, 2021	Apr. 20, 2022	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 14, 2021	Dec. 11, 2021	Oct. 13, 2022	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 13, 2021	Dec. 11, 2021	Apr. 12, 2022	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP0000008 11	AC 0V~300V, 45Hz~1000Hz	Oct. 14, 2021	Dec. 11, 2021	Oct. 13, 2022	Conduction (CO01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;M ax 30dBm	Oct. 16, 2021	Dec. 19, 2021~ Dec. 20, 2021	Oct. 15, 2022	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz~44GHz	Apr. 12, 2021	Dec. 19, 2021~ Dec. 20, 2021	Apr. 11, 2022	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz~1GHz	May. 27, 2021	Dec. 19, 2021~ Dec. 20, 2021	May. 26, 2022	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 25, 2021	Dec. 19, 2021~ Dec. 20, 2021	Apr. 24, 2022	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 06, 2021	Dec. 19, 2021~ Dec. 20, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 07, 2021	Dec. 19, 2021~ Dec. 20, 2021	Jan. 06, 2022	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Apr. 12, 2021	Dec. 19, 2021~ Dec. 20, 2021	Apr. 11, 2022	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5G Hz	Apr. 13, 2021	Dec. 19, 2021~ Dec. 20, 2021	Apr. 12, 2022	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 19, 2021~ Dec. 20, 2021	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 19, 2021~ Dec. 20, 2021	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 19, 2021~ Dec. 20, 2021	NCR	Radiation (03CH06-KS)

NCR:No Calibration Required

5. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.9dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.0dB
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