RF Test Report

For

Applicant Name:	**Shanghai Dengyuan Information Technology Co., LTD.**
Address:	Room 201, 2nd Floor, Building 4,No.399, Dongye Road, Dongjing Town, Songjiang District,Shanghai
EUT Name:	Portable Printer
Brand Name:	KAYSION
Model Number:	SK30
Series Model Number:	N/A
FCC ID:	2BNON-SK30

Issued By

Company name:	**BTF Testing Lab (Shenzhen) Co., Ltd.**
Address:	101/201/301, Building 1, Block 2, Tantou Industrial Park,Tantou Community, Songgang Subdistrict, Bao'an District, Shenzhen, China
Report number:	BTF250423R00501
Test standards:	FCC CFR Title 47 Part 15 Subpart C (§15.247)
Test conclusion:	Pass
Date of sample receipt:	2025-04-23
Test date:	2025-04-24 to 2025-05-16
Date of issue:	2025-06-06
Test by:	Sean.He Sean.He / Tester
Prepared by:	Chris Liu Chris Liu / Project engineer
Approved by:	Ryan.CJ / EMC manager

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Revision History		
Version	Issue Date	Revisions Content
R_V0	2025-06-06	Original
Note: Once the revision has been made, then previous versions reports are invalid.		

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1 Introduction

1.1 Laboratory Location

Test location:	BTF Testing Lab (Shenzhen) Co., Ltd.
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Phone number:	+86-0755-23146130
Fax number:	+86-0755-23146130

1.2 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1409**

  BTF Testing Lab (Shenzhen) Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The test firm Registration No. is 518915.

- **CNAS - Registration No.: CNAS L17568**

  BTF Testing Lab (Shenzhen) Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L17568.

- **A2LA - Registration No.: 6660.01**

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1.3 Announcement

(1) The test report reference to the report template version v0.
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2 Product Information

2.1 Application Information

Company Name:	Shanghai Dengyuan Information Technology Co., LTD.
Address:	Room 201, 2nd Floor, Building 4,No.399, Dongye Road, Dongjing Town, Songjiang District,Shanghai

2.2 Manufacturer Information

Company Name:	Shanghai Dengyuan Information Technology Co., LTD.
Address:	Room 201, 2nd Floor, Building 4,No.399, Dongye Road, Dongjing Town, Songjiang District,Shanghai

2.3 Factory Information

Company Name:	Shanghai Dengyuan Information Technology Co., LTD.
Address:	Room 201, 2nd Floor, Building 4,No.399, Dongye Road, Dongjing Town, Songjiang District,Shanghai

2.4 General Description of Equipment under Test (EUT)

EUT name	Portable Printer
Under test model name	SK30
Series model name	N/A
Description of model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Rating:	Battery: DC 7.4V/2600mAh 19.24Wh & DC 7.4V/2000mAh 14.8Wh from Li-ion Battery Adapter: Model No.:HJ-0502000W2-EU Input:100-240V~50/60Hz 0.3A Output: 5.0V⎓2.0A 10.0W

2.5 Technical Information

Operation frequency:	2402MHz ~ 2480MHz
Channel numbers:	40
Channel separation:	2MHz
Modulation technology:	GFSK
Data rate:	1 Mbps (LE 1M PHY)
Max. Conducted Power:	7.35 dBm
Antenna type:	PCB Antenna
Antenna gain:	-1.45 dBi (declare by Applicant)
Antenna transmit mode:	SISO (1TX, 1RX)

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2.6 Channel List:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
…	…	…	…	…	…	…	…
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz
Remark: Channel 0, 19 & 39 have been tested.							

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3 Summary of Test Results

3.1 Test Standards

Identity	Document Title
FCC CFR Title 47 Part 15 Subpart C (§15.247)	Intentional Radiators - Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10-2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01 15.247 Meas Guidance v05r02	Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under Section 15.247 of The FCC Rules

3.2 Uncertainty of Test

Measurement	Value
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Supply voltages	±3 %
Time	±5 %
Conducted Emission for LISN (9kHz ~ 150kHz)	±2.97 dB
Conducted Emission for LISN (150kHz ~ 30MHz)	±2.45 dB
Radiated Emission (30MHz ~ 1000MHz)	±4.80 dB
Radiated Emission (1GHz ~ 18GHz)	±4.82 dB
The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3.3 Summary of Test Result

Item	Standard	Requirement	Result
Antenna requirement	47 CFR Part 15.247	Part 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15.247	47 CFR 15.207(a)	Pass
Duty Cycle	47 CFR Part 15.247	47 CFR 15.247(b)	Pass
Occupied Bandwidth	47 CFR Part 15.247	47 CFR 15.247(a)(2)	Pass
Maximum Conducted Output Power	47 CFR Part 15.247	47 CFR 15.247(b)(3)	Pass
Power Spectral Density	47 CFR Part 15.247	47 CFR 15.247(e)	Pass
Emissions in non-restricted frequency bands	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Band edge emissions (Radiated)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Emissions in restricted frequency bands (below 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass
Emissions in restricted frequency bands (above 1GHz)	47 CFR Part 15.247	47 CFR 15.247(d)	Pass

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4 Test Configuration

4.1 Test Equipment List

Radiated test method					
Test Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EMI Receiver	Rohde &Schwarz	ESCI7	101032	2024/10/25	2025/10/24
Signal Analyzer	Rohde & Schwarz	FSQ40	100010	2024/10/25	2025/10/24
Log periodic antenna	Schwarzbeck	VULB 9168	01328	2024/10/28	2025/10/27
Preamplifier (30MHz ~ 1GHz)	Schwarzbeck	BBV9744	00246	2024/09/24	2025/09/23
Horn Antenna (1GHz ~18GHz)	Schwarzbeck	BBHA9120D	2597	2024/10/30	2025/10/29
Horn Antenna (15GHz ~ 40GHz)	SCHWARZBECK	BBHA9170	1157	2024/10/24	2025/10/23
Preamplifier (1GHz ~ 40GHz)	TST Pass	LNA10180G45	246	2024/09/24	2025/09/23
Test Software	Frad	EZ_EMC	Version: FA-03A2 RE+		

Conducted Emission Test					
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
EMI Receiver	Rohde & Schwarz	ESCI3	101422	2024/10/25	2025/10/24
V-LISN	Schwarzbeck	NSLK 8127	01073	2024/10/25	2025/10/24
Coaxial Switcher	Schwarzbeck	CX210	CX210	2024/10/25	2025/10/24
Pulse Limiter	Schwarzbeck	VTSD 9561-F	00953	2024/10/25	2025/10/24
Test Software	Frad	EZ_EMC	Version: EMC-CON 3A1.1+		

Conducted test method					
Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	Keysight	N9020A	MY50410020	2024/10/25	2025/10/24
ESG Vector Signal Generator	Agilent	E4438C	MY45094854	2024/10/25	2025/10/24
MXG Vector Signal Generator	Agilent	N5182A	MY46240163	2024/10/25	2025/10/24
Wideband Radio Communication Tester	Rohde&Schwarz	CMW500	161997	2024/10/25	2025/10/24
Temperature Humidity Chamber	ZZCKONG	ZZ-K02A	20210928007	2024/10/25	2025/10/24
DC Power Supply	Tongmen	etm-6050c	20211026123	2024/10/25	2025/10/24
RF Control Unit	Techy	TR1029-1	/	2024/10/25	2025/10/24
RF Sensor Unit	Techy	TR1029-2	/	2024/10/25	2025/10/24
Test Software	TST Pass	/	Version: 2.0		

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4.2 Test Auxiliary Equipment

No.	Description	Manufacturer	Model	Serial Number	Certification
1	N/A	N/A	N/A	N/A	N/A

4.3 Test Modes

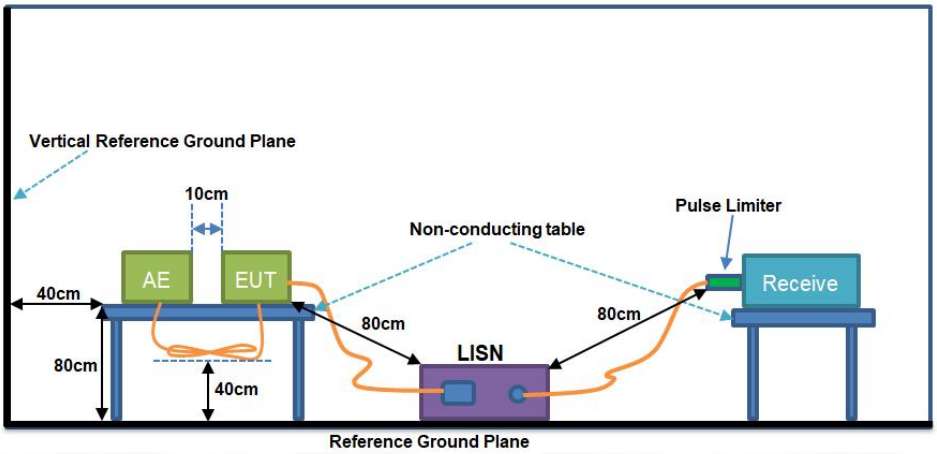
No.	Test Modes	Description
TM1	TX mode	Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

4.4 Test software

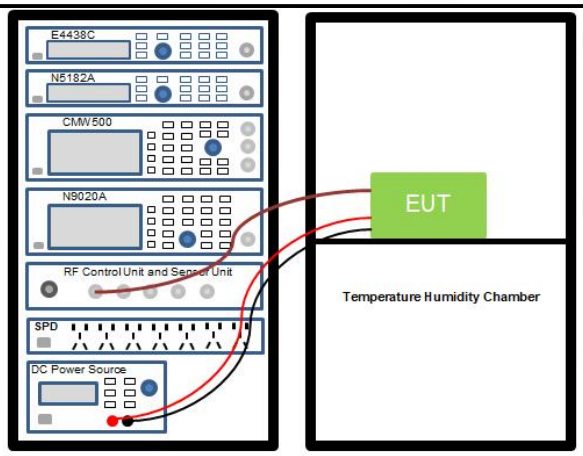
Test software:	FCC-TEST-TOOL-2.4.3	Version:	2.4.3
Power Class:	4		

4.5 Test Setup Block

1) Conducted emission measurement:

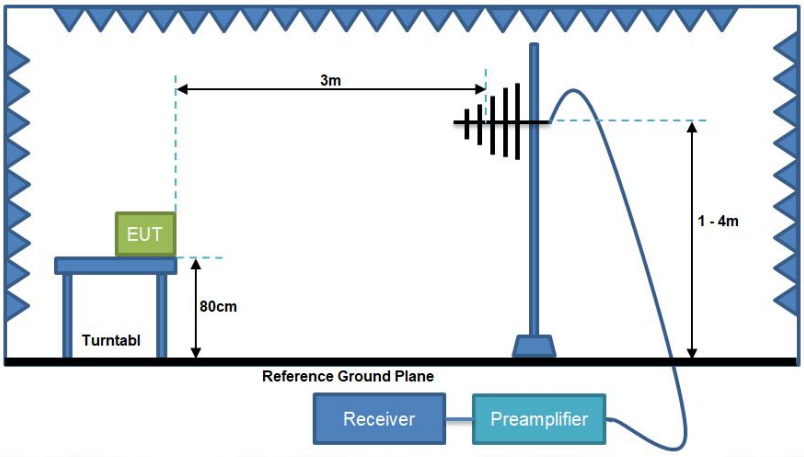


2) Conducted test method:

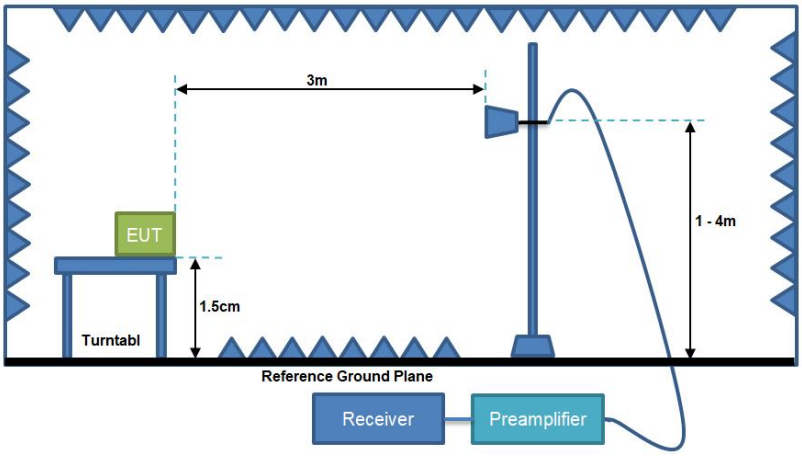

E4438C
N5182A
CMW500
N9020A
RF Control Unit and Sensor Unit
SPD
DC Power Source
EUT
Temperature Humidity Chamber

3) Radiated test method:

Below 1GHz



Above 1GHz

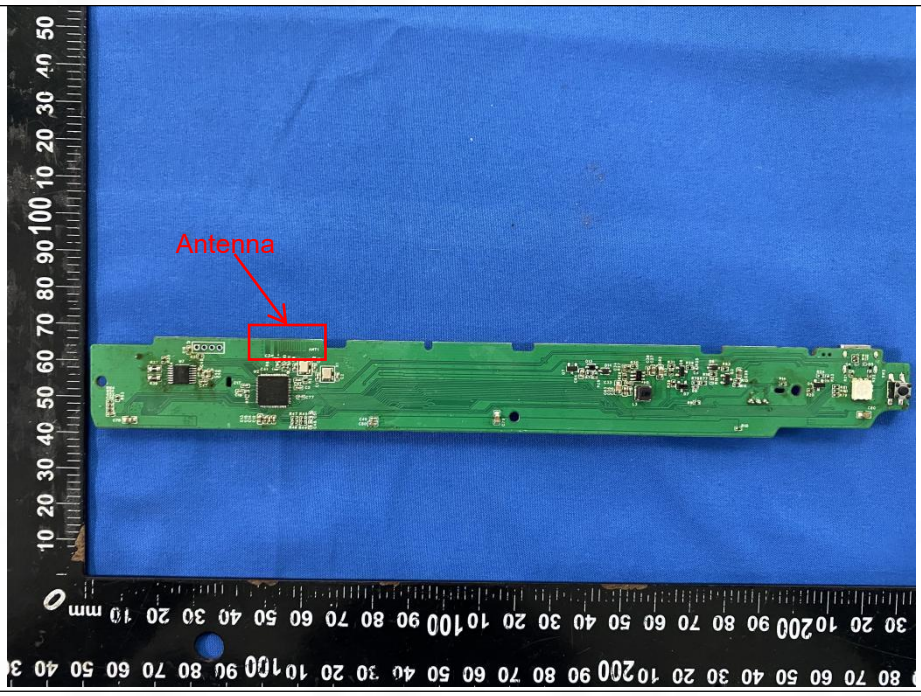


5 Evaluation Results (Evaluation)

5.1 Antenna requirement

Test Requirement:	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 EUT uses a PCB antenna, Meet the requirements of the standard

5.1.1 Conclusion:



6 Radio Spectrum Matter Test Results (RF)

6.1 Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator 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, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).
Test Method:	Refer to ANSI C63.10-2020 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices
Test Limit:	

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

6.1.1 E.U.T. Operation:

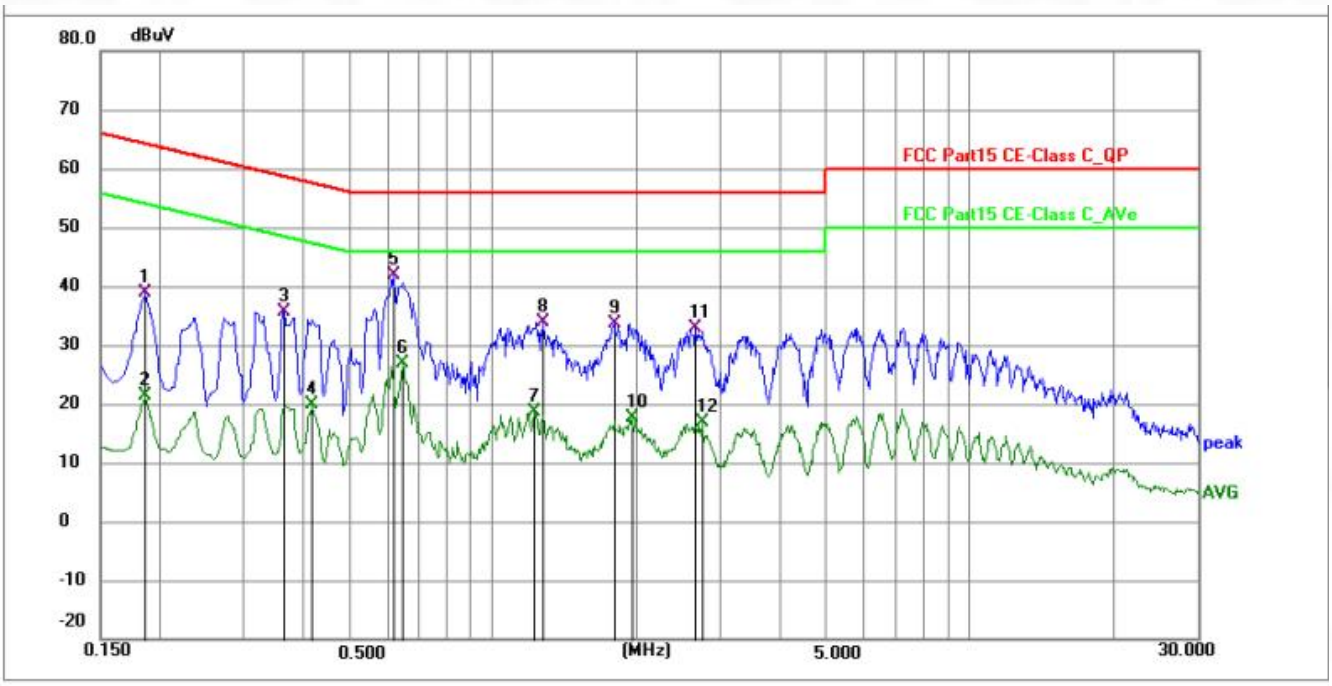
Operating Environment:	
Temperature:	25 °C
Humidity:	49.5 %
Atmospheric Pressure:	1010 hpa
Test Voltage	AC 120V 60Hz

6.1.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.1.3 Test Data:

TM1 / Line: Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1860	28.15	10.63	38.78	64.21	-25.43	QP	P	
2	0.1860	10.65	10.63	21.28	54.21	-32.93	AVG	P	
3	0.3614	24.91	10.67	35.58	58.70	-23.12	QP	P	
4	0.4154	9.13	10.67	19.80	47.54	-27.74	AVG	P	
5 *	0.6180	31.14	10.62	41.76	56.00	-14.24	QP	P	
6	0.6450	16.21	10.61	26.82	46.00	-19.18	AVG	P	
7	1.2210	7.69	10.82	18.51	46.00	-27.49	AVG	P	
8	1.2703	23.12	10.81	33.93	56.00	-22.07	QP	P	
9	1.7924	22.98	10.71	33.69	56.00	-22.31	QP	P	
10	1.9500	7.06	10.69	17.75	46.00	-28.25	AVG	P	
11	2.6610	22.19	10.70	32.89	56.00	-23.11	QP	P	
12	2.7374	6.13	10.71	16.84	46.00	-29.16	AVG	P	

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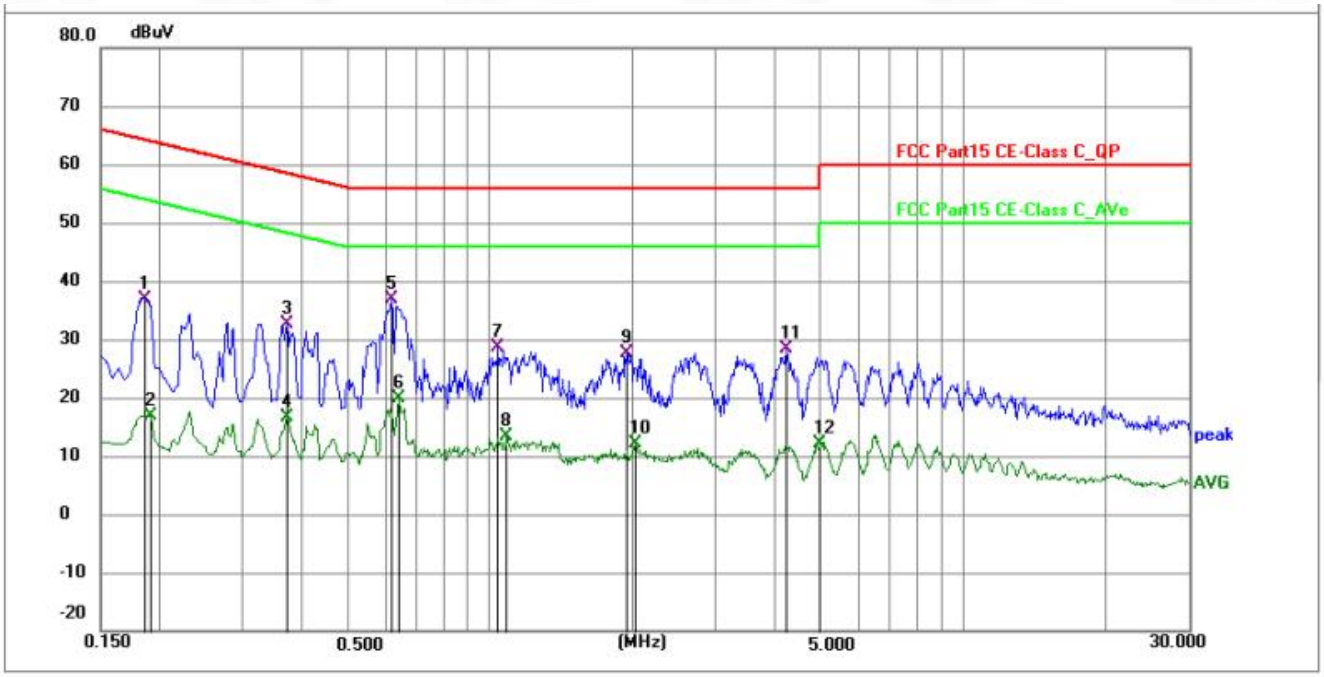
TM1 / Line: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1860	26.42	10.56	36.98	64.21	-27.23	QP	P	
2	0.1905	6.44	10.56	17.00	54.01	-37.01	AVG	P	
3	0.3704	21.94	10.68	32.62	58.49	-25.87	QP	P	
4	0.3704	5.89	10.68	16.57	48.49	-31.92	AVG	P	
5 *	0.6180	25.95	10.84	36.79	56.00	-19.21	QP	P	
6	0.6405	9.08	10.85	19.93	46.00	-26.07	AVG	P	
7	1.0410	17.86	10.86	28.72	56.00	-27.28	QP	P	
8	1.0859	2.56	10.87	13.43	46.00	-32.57	AVG	P	
9	1.9455	16.72	10.97	27.69	56.00	-28.31	QP	P	
10	2.0264	1.12	10.98	12.10	46.00	-33.90	AVG	P	
11	4.2360	17.52	10.93	28.45	56.00	-27.55	QP	P	
12	4.9875	1.16	11.09	12.25	46.00	-33.75	AVG	P	

Note:Margin=Level-Limit=Reading+factor-Limit

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6.2 Occupied Bandwidth

Test Requirement:	Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Test Method:	DTS bandwidth
Test Limit:	Section (a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Procedure:	a) Set RBW = 100 kHz. b) Set the VBW >= [3 × RBW]. c) Detector = peak. d) Trace mode = max hold. e) Sweep = auto couple. f) Allow the trace to stabilize. g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.2.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.7 °C
Humidity:	53.4 %
Atmospheric Pressure:	1010 hpa
Test Voltage	AC 120V 60Hz

6.2.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.2.3 Test Data:

Please Refer to Appendix-BLE for Details.

6.3 Maximum Conducted Output Power

Test Requirement:	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Test Method:	Maximum peak conducted output power
Test Limit:	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Procedure:	ANSI C63.10-2020, section 11.9.1 Maximum peak conducted output power

6.3.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.7 °C
Humidity:	53.4 %
Atmospheric Pressure:	1010 hpa

6.3.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.3.3 Test Data:

Please Refer to Appendix-BLE for Details.

6.4 Power Spectral Density

Test Requirement:	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.
Test Method:	Maximum power spectral density level in the fundamental emission
Test Limit:	For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

6.4.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.7 °C
Humidity:	53.4 %
Atmospheric Pressure:	1010 hpa

6.4.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.4.3 Test Data:

Please Refer to Appendix-BLE for Details.

6.5 Emissions in non-restricted frequency bands

Test Requirement:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Test Method:	Emissions in nonrestricted frequency bands
Test Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Procedure:	ANSI C63.10-2020 Section 11.11.1, Section 11.11.2, Section 11.11.3

6.5.1 E.U.T. Operation:

Operating Environment:	
Temperature:	23.7 °C
Humidity:	53.4 %
Atmospheric Pressure:	1010 hpa
Test Voltage	DC 7.4V

6.5.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.5.3 Test Data:

Please Refer to Appendix-BLE for Details.

6.6 Band edge emissions (Radiated)

<table>
<tr><td>Test Requirement:</td><td>In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`</td></tr>
<tr><td>Test Method:</td><td>Radiated emissions tests</td></tr>
<tr><td>Test Limit:</td><td>
<table>
<tr><td>Frequency (MHz)</td><td>Field strength (microvolts/meter)</td><td>Measurement distance (meters)</td></tr>
<tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr>
<tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr>
<tr><td>1.705-30.0</td><td>30</td><td>30</td></tr>
<tr><td>30-88</td><td>100 **</td><td>3</td></tr>
<tr><td>88-216</td><td>150 **</td><td>3</td></tr>
<tr><td>216-960</td><td>200 **</td><td>3</td></tr>
<tr><td>Above 960</td><td>500</td><td>3</td></tr>
</table>
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.
</td></tr>
<tr><td>Procedure:</td><td>ANSI C63.10-2020 section 6.10.5.2</td></tr>
</table>

6.6.1 E.U.T. Operation:

Operating Environment:	
Temperature:	22.6 °C
Humidity:	54.8 %
Atmospheric Pressure:	1010 hpa
Test Voltage	DC 7.4V

6.6.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.6.3 Test Data:

Test Mode: 1M
Test Channel: Lowest channel, Test Polarization: Vertical

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
2310.00	52.25	3.85	56.10	74.00	-17.90	peak	Pass
2310.00	41.72	3.85	45.57	54.00	-8.43	AV	Pass
2390.00	51.58	3.91	55.49	74.00	-18.51	peak	Pass
2390.00	41.43	3.91	45.35	54.00	-8.65	AV	Pass

Test Channel: Lowest channel, Test Polarization: Horizontal

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
2310.00	51.16	3.85	55.01	74.00	-18.99	peak	Pass
2310.00	41.65	3.85	45.50	54.00	-8.50	AV	Pass
2390.00	52.63	3.91	56.55	74.00	-17.45	peak	Pass
2390.00	41.73	3.91	45.64	54.00	-8.36	AV	Pass

Test Channel: Highest channel, Test Polarization: Vertical

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
2483.50	50.69	3.99	54.67	74.00	-19.33	peak	Pass
2483.50	40.01	3.99	44.00	54.00	-10.00	AV	Pass
2500.00	51.94	4.00	55.94	74.00	-18.06	peak	Pass
2500.00	40.94	4.00	44.94	54.00	-9.06	AV	Pass

Test Channel: Highest channel, Test Polarization: Horizontal

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
2483.50	51.27	3.99	55.26	74.00	-18.74	peak	Pass
2483.50	41.04	3.99	45.03	54.00	-8.97	AV	Pass
2500.00	52.99	4.00	56.99	74.00	-17.01	peak	Pass
2500.00	43.06	4.00	47.06	54.00	-6.94	AV	Pass

Note:Margin=Level-Limit=Reading+factor-Limit

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6.7 Emissions in restricted frequency bands (below 1GHz)

Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`
Test Method:	Radiated emissions tests
Test Limit:	

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

Procedure:	ANSI C63.10-2020 section 6.6.4

6.7.1 E.U.T. Operation:

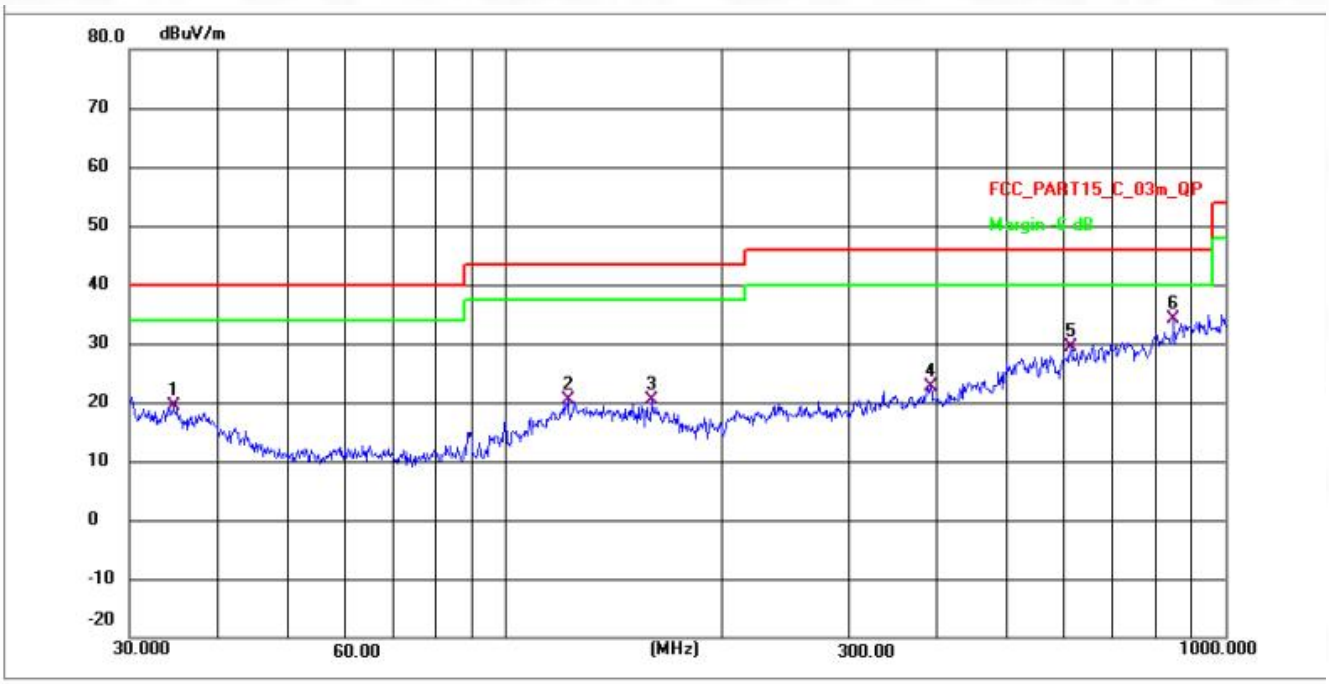
Operating Environment:	
Temperature:	22.6 °C
Humidity:	54.8 %
Atmospheric Pressure:	1010 hpa
Test Voltage	DC 7.4V

6.7.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.7.3 Test Data:

TM1 / Polarization: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	34.5778	28.94	-9.68	19.26	40.00	-20.74	QP	P
2	121.9755	42.58	-22.27	20.31	43.50	-23.19	QP	P
3	160.0648	42.22	-21.92	20.30	43.50	-23.20	QP	P
4	389.3548	42.44	-19.91	22.53	46.00	-23.47	QP	P
5	612.0641	47.54	-18.25	29.29	46.00	-16.71	QP	P
6 *	849.5445	51.11	-17.05	34.06	46.00	-11.94	QP	P

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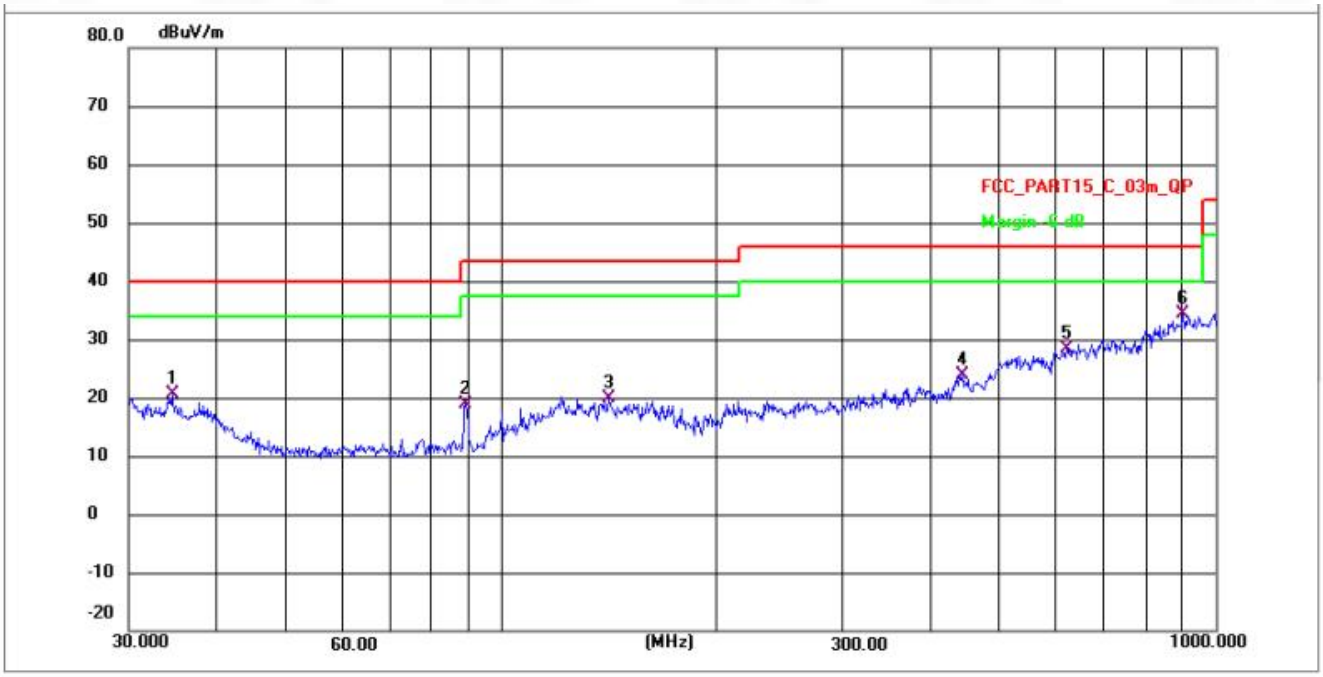
TM1 / Polarization: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	34.5173	30.29	-9.68	20.61	40.00	-19.39	QP	P
2	89.2764	41.57	-22.64	18.93	43.50	-24.57	QP	P
3	141.8262	42.08	-22.09	19.99	43.50	-23.51	QP	P
4	442.5177	43.28	-19.48	23.80	46.00	-22.20	QP	P
5	620.7096	46.54	-18.19	28.35	46.00	-17.65	QP	P
6 *	903.3094	50.48	-16.20	34.28	46.00	-11.72	QP	P

Note:Margin=Level-Limit=Reading+factor-Limit

6.8 Emissions in restricted frequency bands (above 1GHz)

Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`
Test Method:	Radiated emissions tests
Test Limit:	

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100 **	3
88-216	150 **	3
216-960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

Procedure:	ANSI C63.10-2020 section 6.6.4

6.8.1 E.U.T. Operation:

Operating Environment:	
Temperature:	22.6 °C
Humidity:	54.8 %
Atmospheric Pressure:	1010 hpa
Test Voltage	DC 7.4V

6.8.2 Test Setup

See section 4.5 for test setup description. The photo of test setup please refer to Appendix I Test Setup Photos

6.8.3 Test Data:

Test Mode: 1M
Test Channel: Lowest channel, Test Polarization: Vertical

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
4804.000	78.15	-48.89	29.27	74.00	-44.73	peak	P
4804.000	67.66	-48.89	18.77	54.00	-35.23	AV	P
7206.000	76.73	-47.02	29.70	74.00	-44.30	peak	P
7206.000	66.87	-47.02	19.85	54.00	-34.15	AV	P

Test Channel: Lowest channel, Test Polarization: Horizontal

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
4804.000	78.40	-48.89	29.51	74.00	-44.49	peak	P
4804.000	68.66	-48.89	19.77	54.00	-34.23	AV	P
7206.000	76.86	-47.02	29.84	74.00	-44.16	peak	P
7206.000	66.92	-47.02	19.90	54.00	-34.10	AV	P

Test Channel: Middle channel, Test Polarization: Vertical

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
4880.000	78.03	-48.84	29.19	74.00	-44.81	peak	P
4880.000	67.56	-48.84	18.72	54.00	-35.28	AV	P
7320.000	76.90	-46.88	30.02	74.00	-43.98	peak	P
7320.000	66.81	-46.88	19.92	54.00	-34.08	AV	P

Test Channel: Middle channel, Test Polarization: Horizontal

Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
4880.000	78.54	-48.84	29.70	74.00	-44.30	peak	P
9760.000	68.64	-48.84	19.81	54.00	-34.19	AV	P
7320.000	76.69	-46.88	29.81	74.00	-44.19	peak	P
14640.000	66.35	-46.88	19.47	54.00	-34.53	AV	P

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Test Channel: Highest channel, Test Polarization: Vertical							
Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
4960.000	78.95	-48.79	30.16	74.00	-43.84	peak	P
4960.000	68.87	-48.79	20.09	54.00	-33.91	AV	P
7440.000	75.48	-46.74	28.74	74.00	-45.26	peak	P
7440.000	64.68	-46.74	17.94	54.00	-36.06	AV	P
Test Channel: Highest channel, Test Polarization: Horizontal							
Frequency (MHz)	Reading (dBμV)	Factor (dB)	Level (dBμV/m)	Limit (dBμV/m)	Marging (dB)	Detector	Result
4960.000	78.75	-48.79	29.97	74.00	-44.03	peak	P
4960.000	68.84	-48.79	20.06	54.00	-33.94	AV	P
7440.000	75.95	-46.74	29.20	74.00	-44.80	peak	P
7440.000	65.10	-46.74	18.36	54.00	-35.64	AV	P

Note:Margin=Level-Limit=Reading+factor-Limit

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7 Test Setup Photos

Please refer to the Appendix I Test Setup Photos

8 EUT Constructional Details (EUT Photos)

Please refer to the Appendix II External Photos &Appendix III External Photos

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