中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

TEST REPORT

Applicant: **Ningbo Pdlux Electronic Technology CO.,LTD.**

Address: 17F, Commerce building of Ningbo, No 588, south Tiantong road,yinzhou district Ningbo, China

FCC ID: **2AIWW-PD-V10-G5**

Product Name: **Microwave Sensor**

Model Number: **PD-V10-G5**

Standard(s): **47 CFR Part 15, Subpart C(15.245)**
ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **CR21100069-00**

Date Of Issue: **2021-12-30**

Reviewed By: **Sun Zhong**

Sun Zhong

Title: Manager

Test Laboratory: **China Certification ICT Co., Ltd (Dongguan)**
No. 113, Pingkang Road, Dalang Town, Dongguan,
Guangdong, China
Tel: +86-769-82016888

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0123.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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CONTENTS

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	Microwave Sensor
EUT Model:	PD-V10-G5
Operation Frequency:	10.505-10.545 GHz
Maximum Field strength of fundamental:	97.90 dBμV/m@3m
Modulation Type:	CW
Rated Input Voltage:	DC 5V
Serial Number:	CR21100069-RF-S1
EUT Received Date:	2021.10.14
EUT Received Status:	Good

Operation Frequency Detail:

Channel	Frequency (MHz)
0	10505
1	10525
2	10545

Per section 15.31(m), the lowest frequency, middle frequency, and highest frequency were performed the test as below:

Test Channel	Frequency (MHz)
Lowest	10505
Middle	10525
Highest	10545

Antenna Information Detail▲:

Antenna Manufacturer	Antenna Type	input impedance (Ohm)	Antenna Gain /Frequency Range	§15.203 Requirement
Ningbo Pdlux Electronic Technology CO.,LTD.	PCB	50	5 dBi/ 10.5~10.55GHz	**Compliance**

The Method of §15.203 Compliance:

☒Antenna must be permanently attached to the unit.

☐Antenna must use a unique type of connector to attach to the EUT.

☐Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Accessory Information:

No.

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in Engineering Mode, which was provided by the manufacturer.
Equipment Modifications:	No
EUT Exercise Software:	No

The maximum power was configured as below, that was provided by the manufacturer▲:

Test Channel	Power Level Setting
Lowest	Default
Middle	Default
Highest	Default

1.2.2 Support Equipment List and Details

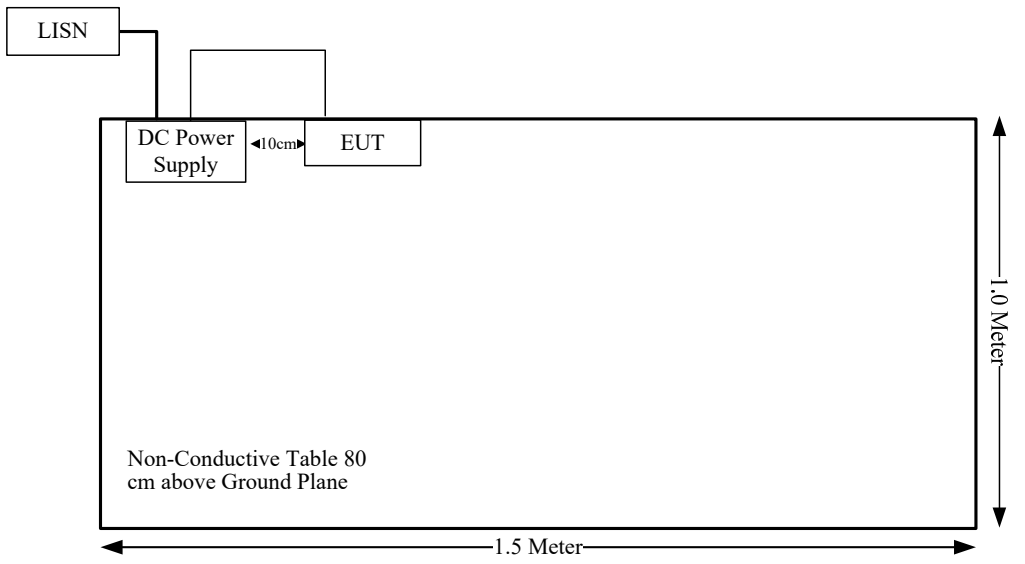
Manufacturer	Description	Model	Serial Number
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386

1.2.3 Support Cable List and Details

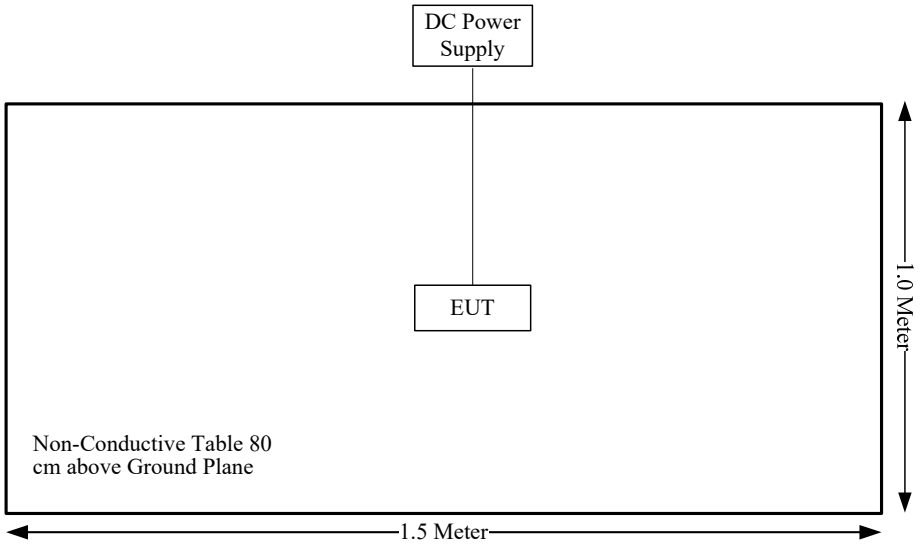
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
Power Cable	No	No	1.2	EUT	DC Power Supply

1.2.4 Block Diagram of Test Setup

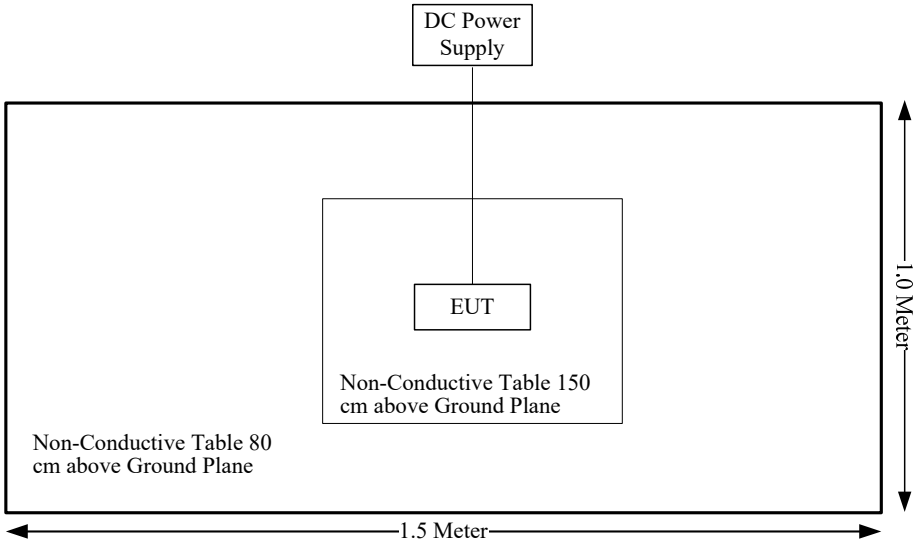
AC line conducted emissions:



Radiation spurious emissions below 1G:



Radiation spurious emissions aelow 1G:



1.3 Measurement Uncertainty

Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	30M~200MHz: 4.15 dB,200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Unwanted Emissions, conducted	±1.26 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.207(a)	AC line conducted emissions	Compliance
FCC §15.205, §15.209, §15.245	Radiation Spurious Emissions	Compliance
FCC §15.215 (c)	20 dB Bandwidth	Compliance
FCC §15.203	Antenna requirement	Compliance

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 Applicable Standard

FCC§15.207(a).

(a) 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). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

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

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

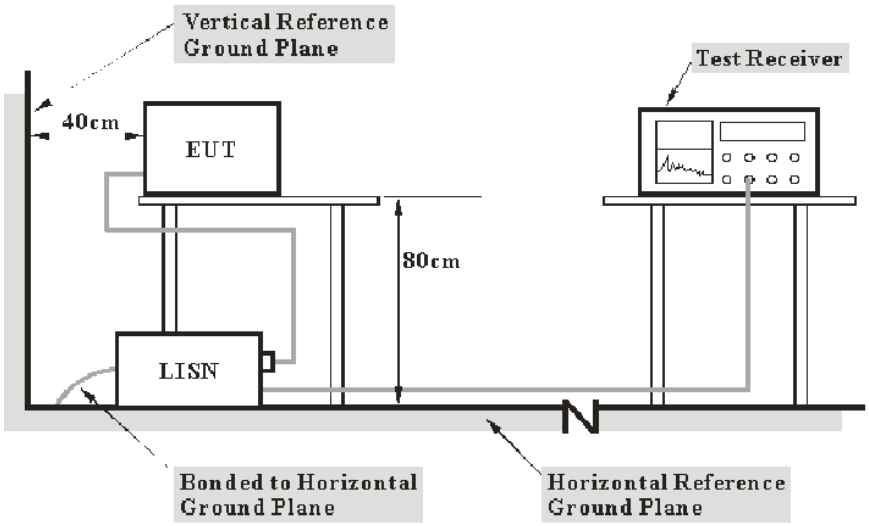
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μV within the frequency band 535-1705 kHz, as measured using a 50 μH/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §15.205, §15.209, §15.221, §15.223, or §15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtainig their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.1.2 EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The DC power supply was connected to the main LISN with a 120 V/60 Hz AC power source.

3.1.3 EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

3.1.4 Test Procedure

The frequency and amplitude of the six highest ac power-line conducted emissions relative to the limit, measured over all the current-carrying conductors of the EUT power cords, and the operating frequency or frequency to which the EUT is tuned (if appropriate), should be reported, unless such emissions are more than 20 dB below the limit. AC power-line conducted emissions measurements are to be separately carried out only on each of the phase ("hot") line(s) and (if used) on the neutral line(s), but not on the ground [protective earth] line(s). If less than six emission frequencies are within 20 dB of the limit, then the noise level of the measuring instrument at representative frequencies should be reported. The specific conductor of the power-line cord for each of the reported emissions should be identified. Measure the six highest emissions with respect to the limit on each current-carrying conductor of each power cord associated with the EUT (but not the power cords of associated or peripheral equipment that are part of the test configuration). Then, report the six highest emissions with respect to the limit from among all the measurements identifying the frequency and specific current-carrying conductor identified with the emission. The six highest emissions should be reported for each of the current-carrying conductors, or the six highest emissions may be reported over all the current-carrying conductors.

3.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor = attenuation caused by cable loss + voltage division factor of AMN

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

3.2 Radiation Spurious Emissions

3.2.1 Applicable Standard

FCC§15.245 (b);

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency (MHz)	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (millivolts/meter)
902-928	500	1.6
2435-2465	500	1.6
5785-5815	500	1.6
10500-10550	2500	25.0
24075-24175	2500	25.0

(1) Regardless of the limits shown in the above table, harmonic emissions in the restricted bands below 17.7 GHz, as specified in §15.205, shall not exceed the field strength limits shown in §15.209. Harmonic emissions in the restricted bands at and above 17.7 GHz shall not exceed the following field strength limits:

(i) For the second and third harmonics of field disturbance sensors operating in the 24075-24175 MHz band and for other field disturbance sensors designed for use only within a building or to open building doors, 25.0 mV/m.

(ii) For all other field disturbance sensors, 7.5 mV/m.

(iii) Field disturbance sensors designed to be used in motor vehicles or aircraft must include features to prevent continuous operation unless their emissions in the restricted bands, other than the second and third harmonics from devices operating in the 24075-24175 MHz band, fully comply with the limits given in §15.209. Continuous operation of field disturbance sensors designed to be used in farm equipment, vehicles such as fork lifts that are intended primarily for use indoors or for very specialized operations, or railroad locomotives, railroad cars and other equipment which travels on fixed tracks is permitted. A field disturbance sensor will be considered not to be operating in a continuous mode if its operation is limited to specific activities of limited duration (e.g., putting a vehicle into reverse gear, activating a turn signal, etc.).

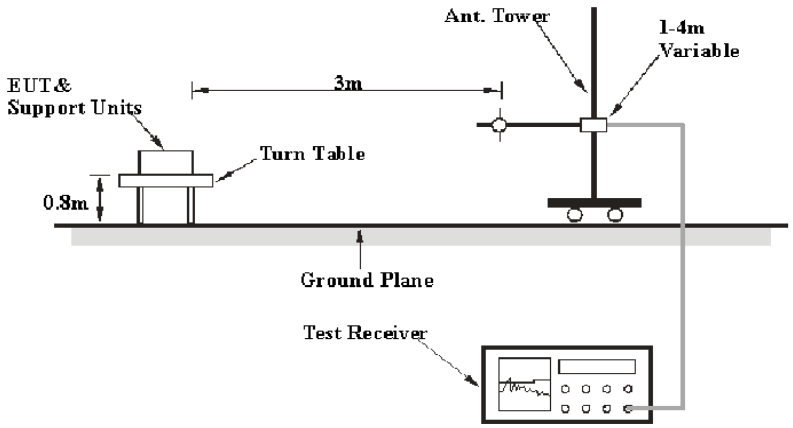
(2) Field strength limits are specified at a distance of 3 meters.

(3) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

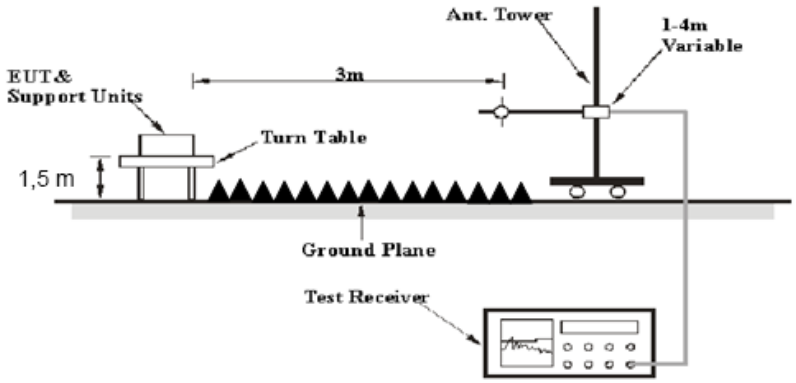
(4) The emission limits shown above are based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.

3.2.2 EUT Setup

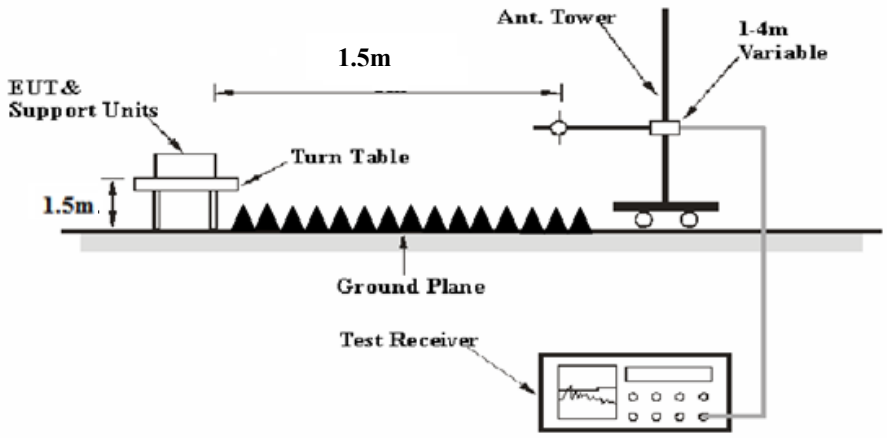
Below 1GHz:



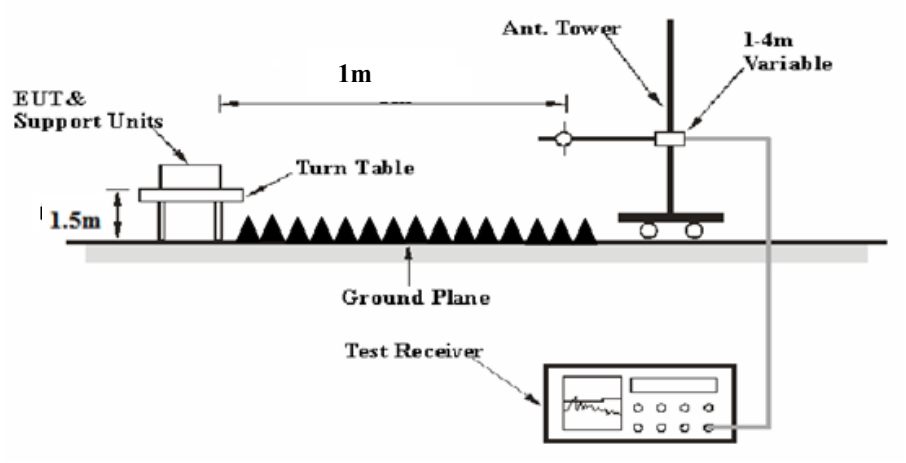
1-26.5 GHz:



26.5-40 GHz:



40-60 GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209,15.205 and FCC 15.245 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

3.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 60GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	AV

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

3.2.4 Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

According to C63.10, the 26.5- 60GHz test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m, 1m

For 26.5-40GHz
Distance extrapolation factor =20 log (specific distance [3m]/test distance [1.5m]) dB=6.02dB

For 40-60GHz
Distance extrapolation factor =20 log (specific distance [3m]/test distance [1m]) dB=9.54dB

For above 40GHz, external harmonic mixers are utilized. The antenna is scanned around the entire perimeter surface of the EUT, in both horizontal and vertical polarizations. The Mixers and it`s RF cables is compose a system for calibration, the conversion factor was added into the test Spectrum Analyzer in testing.

3.2.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Factor = Antenna Factor + Cable Loss- Amplifier Gain

For 30MHz-26.5GHz:
Result = Reading + Factor

For 26.5GHz-60GHz
Result = Reading + Factor-Distance extrapolation Factor

The “Margin” column of the following data tables indicates the degree of compliance within the applicable limit. The equation for margin calculation is as follows:

Margin = Limit – Result

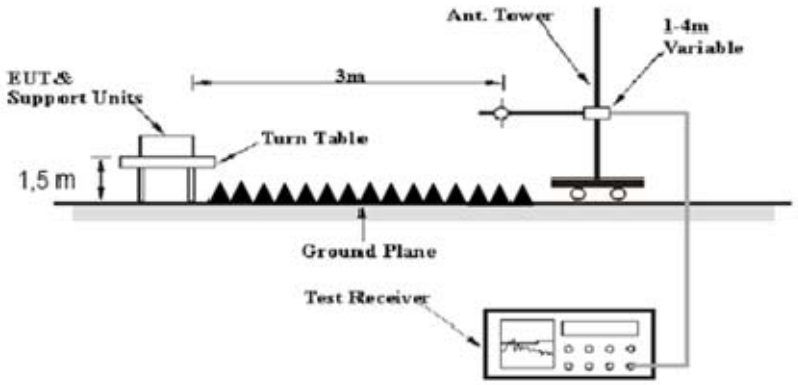
3.3 20 dB Bandwidth

3.3.1 Applicable Standard

FCC §15.215(c)

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

3.3.2 EUT Setup



3.3.3 Test Procedure

Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

3.4 Antenna Requirement

3.4.1 Applicable Standard

FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.
c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

3.4.2 Judgment

Please refer to the Antenna Information detail in Section 1.

4. TEST DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	CR21100069-RF-S1	Test Date:	2021-12-21
Test Site:	CE	Test Mode:	Transmitting(low channel was the worst)
Tester:	Nick Tang	Test Result:	Pass

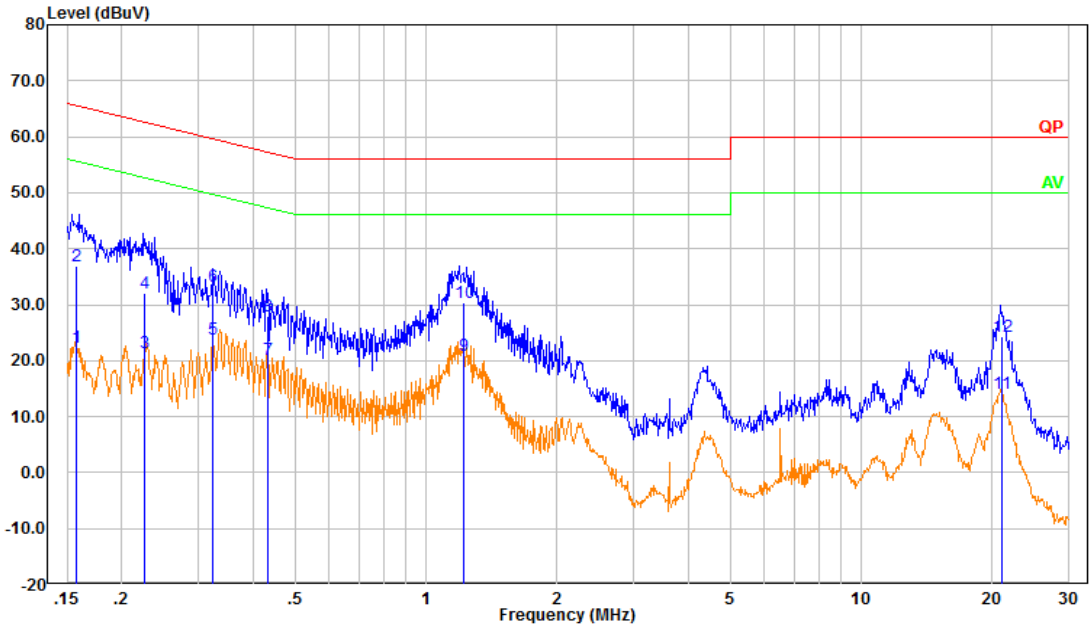
Environmental Conditions:					
Temperature: (℃)	19.4	Relative Humidity: (%)	71	ATM Pressure: (kPa)	100.9

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2021-04-25	2022-04-24
R&S	EMI Test Receiver	ESR3	102726	2021-07-22	2022-07-21
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2021-08-08	2022-08-07
Audix	Test Software	E3	190306 (V9)	N/A	N/A

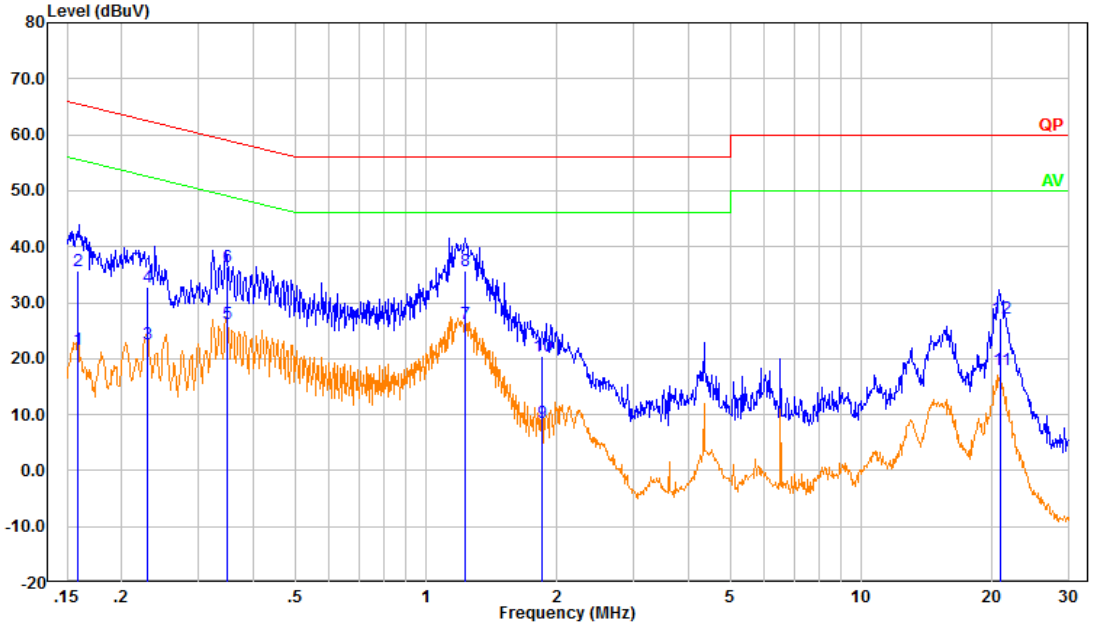
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Line:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.157	12.77	9.61	22.38	55.61	33.23	Average
2	0.157	27.29	9.61	36.90	65.61	28.71	QP
3	0.226	11.87	9.61	21.48	52.58	31.10	Average
4	0.226	22.52	9.61	32.13	62.58	30.45	QP
5	0.323	14.11	9.61	23.72	49.62	25.90	Average
6	0.323	23.76	9.61	33.37	59.62	26.25	QP
7	0.434	10.50	9.61	20.11	47.17	27.06	Average
8	0.434	18.39	9.61	28.00	57.17	29.17	QP
9	1.217	11.24	9.62	20.86	46.00	25.14	Average
10	1.217	20.63	9.62	30.25	56.00	25.75	QP
11	21.024	4.23	9.80	14.03	50.00	35.97	Average
12	21.024	14.49	9.80	24.29	60.00	35.71	QP

Neutral:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.159	12.02	9.61	21.63	55.53	33.90	Average
2	0.159	26.10	9.61	35.71	65.53	29.82	QP
3	0.229	13.00	9.61	22.61	52.49	29.88	Average
4	0.229	23.07	9.61	32.68	62.49	29.81	QP
5	0.349	16.65	9.61	26.26	49.00	22.74	Average
6	0.349	26.70	9.61	36.31	59.00	22.69	QP
7	1.228	16.54	9.62	26.16	46.00	19.84	Average
8	1.228	26.16	9.62	35.78	56.00	20.22	QP
9	1.842	-0.94	9.63	8.69	46.00	37.31	Average
10	1.842	10.80	9.63	20.43	56.00	35.57	QP
11	20.910	8.24	9.71	17.95	50.00	32.05	Average
12	20.910	17.60	9.71	27.31	60.00	32.69	QP

4.2 Radiation Spurious Emissions

Serial Number:	CR21100069-RF-S1	Test Date:	2021-11-24~2021-11-30
Test Site:	966-1, 966-2	Test Mode:	Transmitting
Tester:	Allen Wu, Tommy Luo	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	18.6~23.5	Relative Humidity: (%)	44~55	ATM Pressure: (kPa)	101.4~101.7

Test Equipment List and Details:

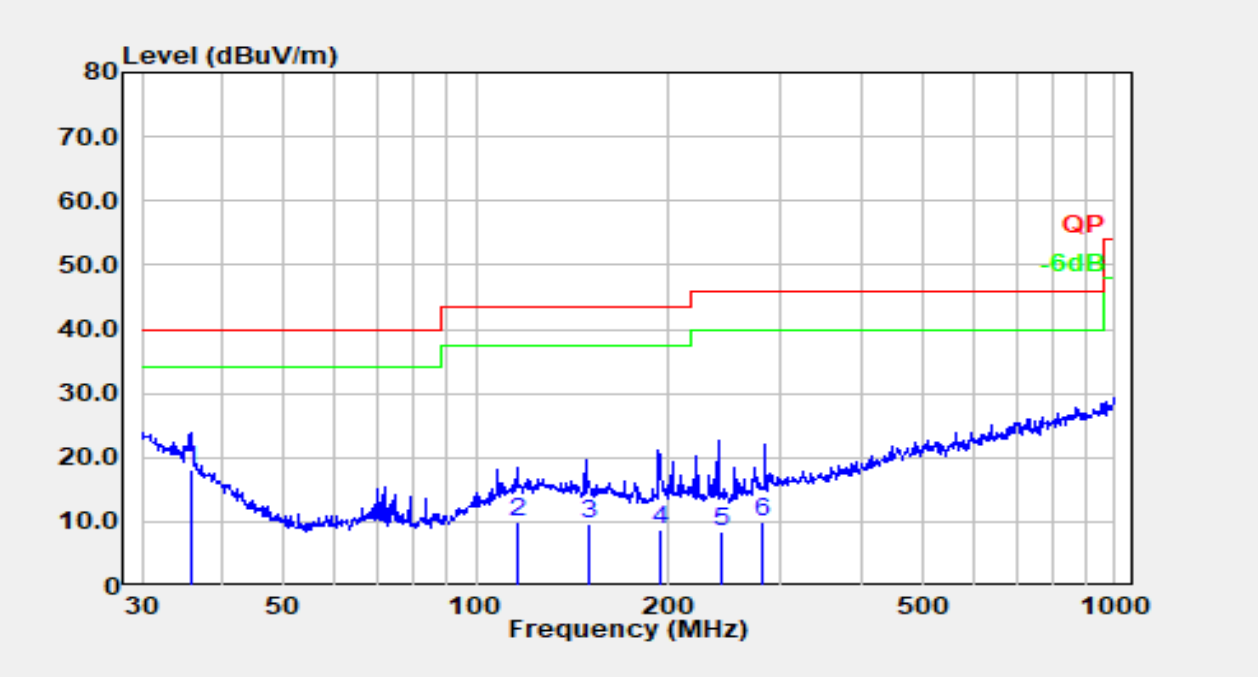
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020-10-19	2023-10-18
R&S	EMI Test Receiver	ESR3	102724	2021-07-22	2022-07-21
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2021-07-18	2022-07-17
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2021-07-18	2022-07-17
Sonoma	Amplifier	310N	186165	2021-07-18	2022-07-17
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020-10-13	2023-10-12
R&S	Spectrum Analyzer	FSV40	101591	2021-07-22	2022-07-21
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2021-08-08	2022-08-07
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2021-08-08	2022-08-07
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2021-11-10	2022-11-09
Audix	Test Software	E3	201021 (V9)	N/A	N/A
PASTERNACK	Horn Antenna	PE9852/2F-20	112002	2021-02-05	2024-02-04
AH	Preamplifier	PAM-1840VH	190	2021-11-19	2022-11-18
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2021-08-08	2022-08-07
PASTERNACK	Horn Antenna	PE9850/2F-20	072001	2021-02-05	2024-02-04
OML	Harmonic Mixer	WR19/M19HWD	U60314-1	2020-10-16	2023-10-15
OML	Horn Antenna	M19RH	11648-03	2020-10-16	2023-10-15
Agilent	Spectrum Analyzer	E4440A	MY44303354	2021-07-22	2022-07-21

** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

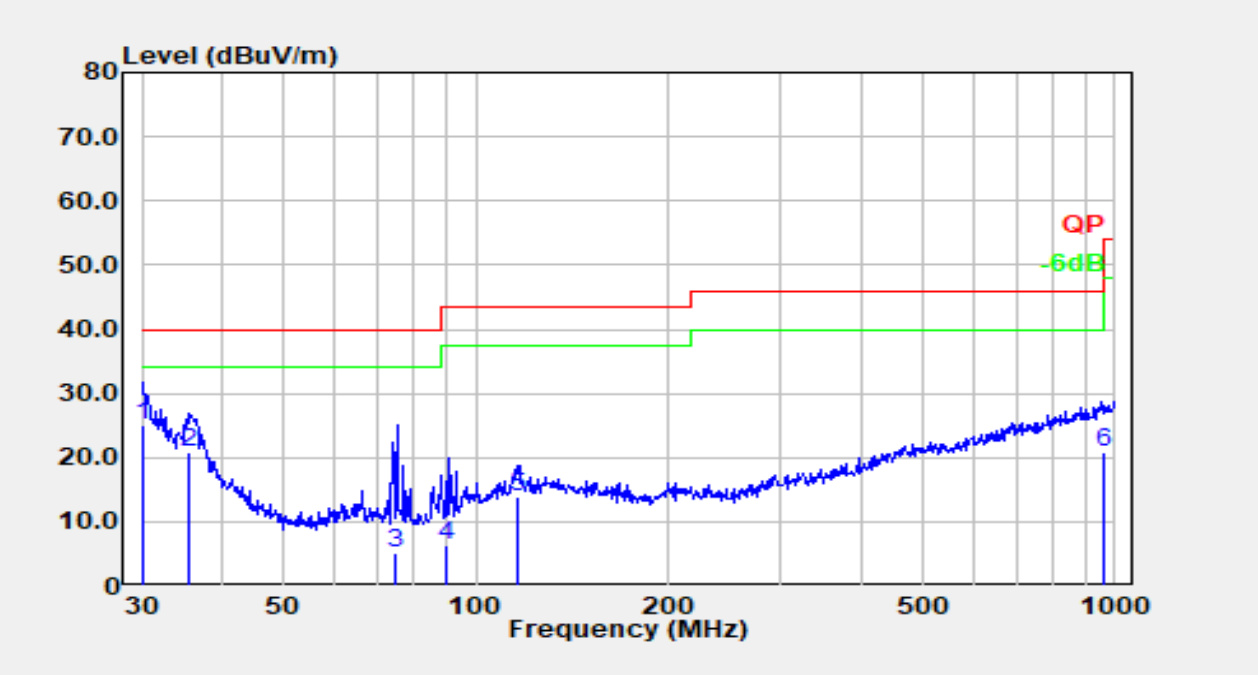
1) 30MHz-1GHz(Low channel was the worst)

Horizontal:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	35.708	26.33	-8.20	18.13	40.00	21.87	QP
2	115.980	22.15	-12.11	10.04	43.50	33.46	QP
3	150.013	21.97	-12.26	9.71	43.50	33.79	QP
4	193.770	21.79	-13.13	8.67	43.50	34.83	QP
5	241.384	21.67	-13.16	8.51	46.00	37.49	QP
6	279.729	21.77	-11.86	9.91	46.00	36.09	QP

Vertical:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.020	28.89	-3.81	25.09	40.00	14.91	QP
2	35.436	28.71	-8.00	20.71	40.00	19.29	QP
3	74.485	22.43	-17.16	5.27	40.00	34.73	QP
4	89.625	23.41	-17.21	6.21	43.50	37.29	QP
5	116.484	25.78	-12.04	13.74	43.50	29.76	QP
6	958.315	21.10	-0.19	20.91	46.00	25.09	QP

2) 1-40GHz:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 10505 MHz							
10505.00	75.70	PK	H	18.82	94.52	147.96	53.44
10505.00	74.63	AV	H	18.82	93.45	127.96	34.51
10505.00	79.08	PK	V	18.82	97.90	147.96	50.06
10505.00	77.78	AV	V	18.82	96.60	127.96	31.36
10500.00	35.91	PK	V	18.79	54.70	74.00	19.30
10500.00	21.35	AV	V	18.79	40.14	54.00	13.86
21010.00	38.45	PK	V	8.26	46.71	107.96	61.25
21010.00	26.35	AV	V	8.26	34.61	87.96	53.35
31515.00	41.04	PK	V	16.18	51.20	107.96	56.76
31515.00	28.19	AV	V	16.18	38.35	87.96	49.61
5252.50	41.77	PK	H	11.93	53.70	74.00	20.30
5252.50	38.32	AV	H	11.93	50.25	54.00	3.75
5252.50	42.38	PK	V	11.93	54.31	74.00	19.69
5252.50	38.59	AV	V	11.93	50.52	54.00	3.48
Middle Channel: 10525 MHz							
10525.00	75.43	PK	H	18.96	94.39	147.96	53.57
10525.00	74.09	AV	H	18.96	93.05	127.96	34.91
10525.00	78.13	PK	V	18.96	97.09	147.96	50.87
10525.00	77.32	AV	V	18.96	96.28	127.96	31.68
21050.00	37.25	PK	V	8.36	45.61	107.96	62.35
21050.00	24.22	AV	V	8.36	32.58	87.96	55.38
31575.00	41.23	PK	V	15.93	51.14	107.96	56.82
31575.00	28.31	AV	V	15.93	38.22	87.96	49.74
5262.50	41.32	PK	H	11.97	53.29	74.00	20.71
5262.50	38.01	AV	H	11.97	49.98	54.00	4.02
5262.50	42.17	PK	V	11.97	54.14	74.00	19.86
5262.50	38.37	AV	V	11.97	50.34	54.00	3.66
High Channel: 10545 MHz							
10545.00	75.08	PK	H	19.10	94.18	147.96	53.78
10545.00	73.94	AV	H	19.10	93.04	127.96	34.92
10545.00	78.09	PK	V	19.10	97.19	147.96	50.77
10545.00	76.94	AV	V	19.10	96.04	127.96	31.92
10550.00	36.08	PK	V	19.14	55.22	74.00	18.78
10550.00	21.67	AV	V	19.14	40.81	54.00	13.19
21090.00	36.57	PK	V	8.46	45.03	107.96	62.93
21090.00	23.26	AV	V	8.46	31.72	87.96	56.24
31635.00	40.52	PK	V	15.67	50.17	107.96	57.79
31635.00	28.41	AV	V	15.67	38.06	87.96	49.90
5272.50	41.28	PK	H	12.01	53.29	74.00	20.71
5272.50	38.01	AV	H	12.01	50.02	54.00	3.98
5272.50	42.07	PK	V	12.01	54.08	74.00	19.92
5272.50	38.21	AV	V	12.01	50.22	54.00	3.78

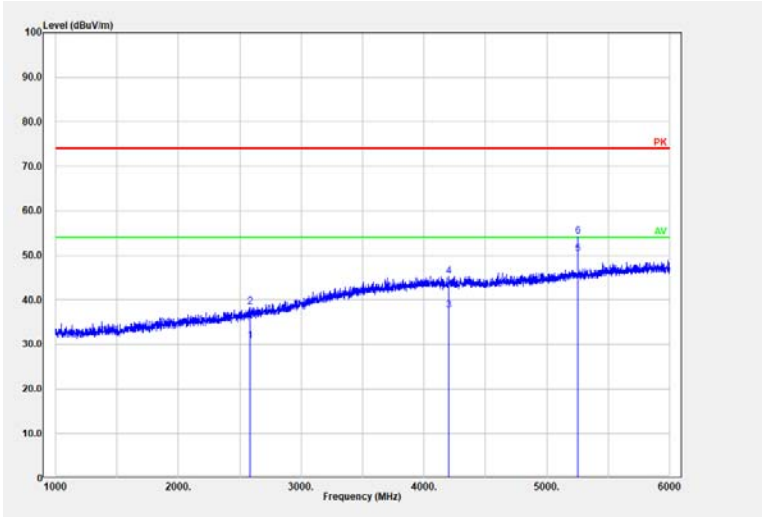
Note:
Result = Reading + Factor- Distance extrapolation Factor
For 26.5-40GHz:
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.02 dB

3) 40-60GHz:

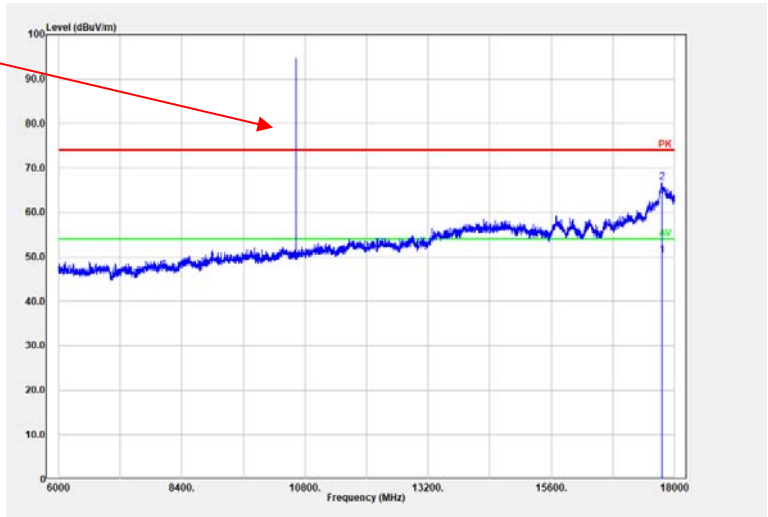
Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 10.505 GHz							
42.00	43.64	PK	H	39.10	73.20	107.96	34.75
42.00	31.62	AV	H	39.10	61.18	87.96	26.77
42.00	43.35	PK	V	39.10	72.91	107.96	35.04
42.00	31.25	AV	V	39.10	60.81	87.96	27.14
52.50	43.94	PK	H	40.74	75.14	107.96	32.82
52.50	33.59	AV	H	40.74	64.79	87.96	23.17
52.50	45.82	PK	V	40.74	77.02	107.96	30.94
52.50	33.55	AV	V	40.74	64.75	87.96	23.21
Middle Channel: 10.525 GHz							
42.10	42.97	PK	H	39.12	72.55	107.96	35.41
42.10	31.37	AV	H	39.12	60.95	87.96	27.01
42.10	43.14	PK	V	39.12	72.72	107.96	35.24
42.10	30.95	AV	V	39.12	60.53	87.96	27.43
52.63	43.59	PK	H	40.76	74.81	107.96	33.15
52.63	32.96	AV	H	40.76	64.18	87.96	23.78
52.63	45.33	PK	V	40.76	76.55	107.96	31.41
High Channel: 10.545 GHz							
42.20	43.11	PK	H	39.13	72.70	107.96	35.26
42.20	31.44	AV	H	39.13	61.03	87.96	26.93
42.20	43.36	PK	V	39.13	72.95	107.96	35.01
42.20	30.83	AV	V	39.13	60.42	87.96	27.54
52.75	43.42	PK	H	40.78	74.66	107.96	33.30
52.75	32.91	AV	H	40.78	64.15	87.96	23.81
52.75	44.89	PK	V	40.78	76.13	107.96	31.83
52.75	33.03	AV	V	40.78	64.27	87.96	23.69

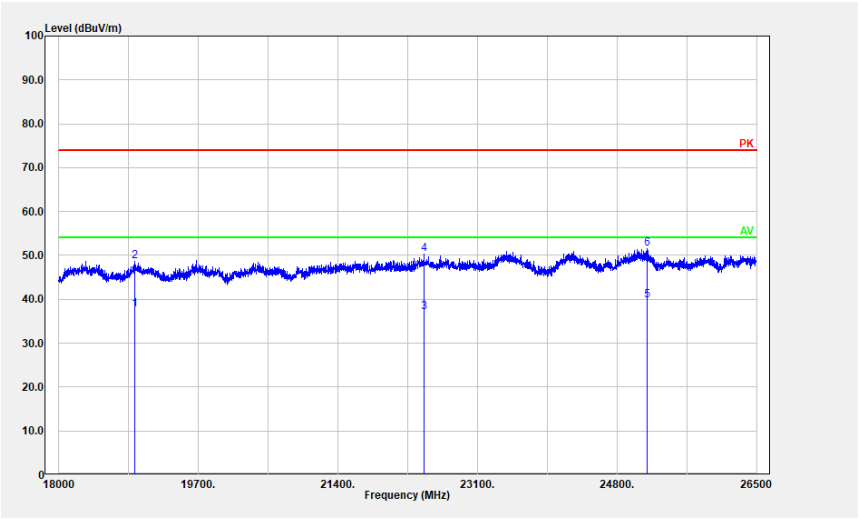
Note:
Result = Reading + Factor- Distance extrapolation Factor
For 40-60GHz:
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1m]) dB= 9.54 dB

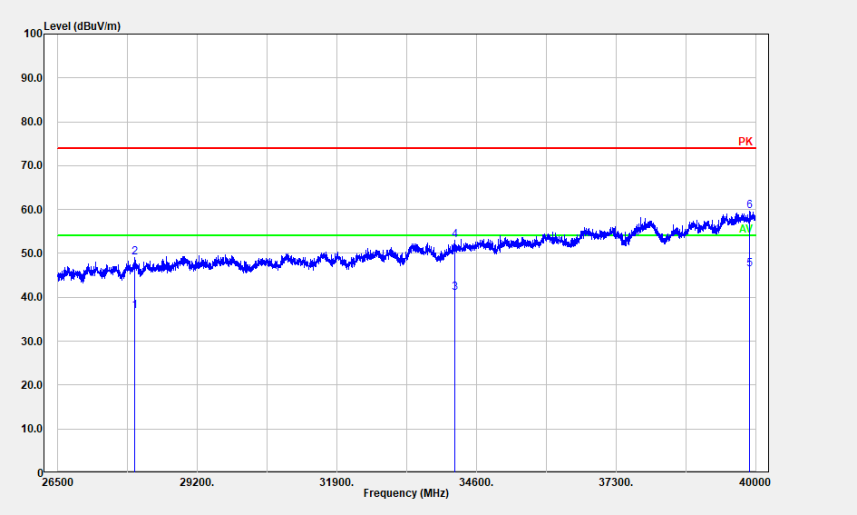
Worst Test plots(Low channel was the worst)
Horizontal:

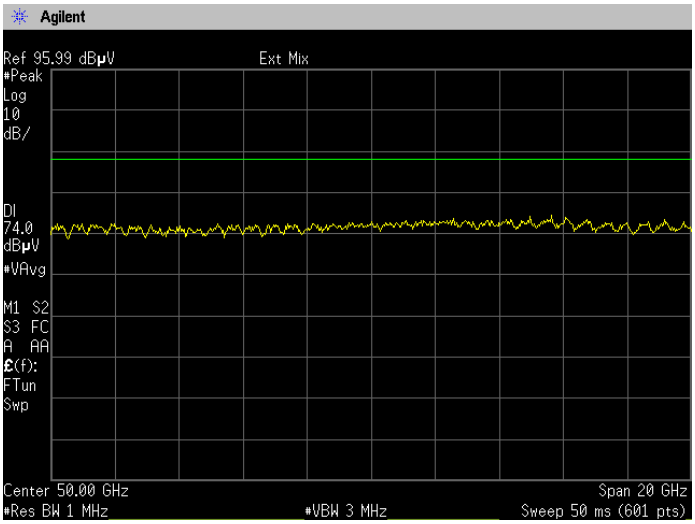


Fundamental

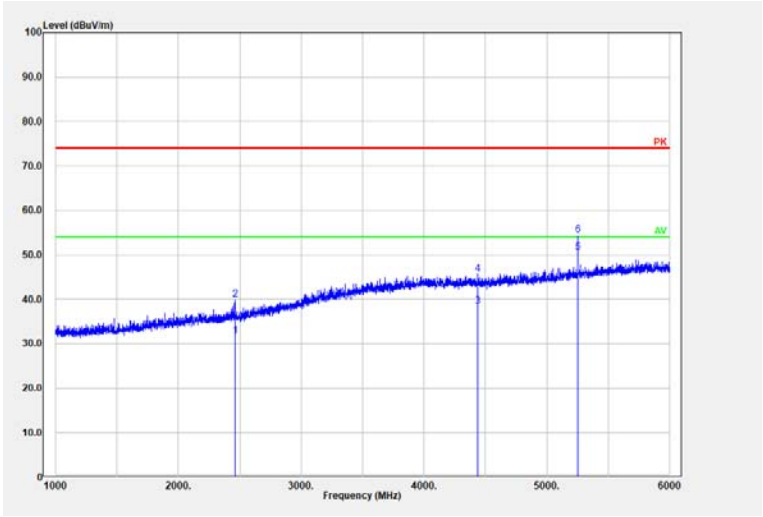




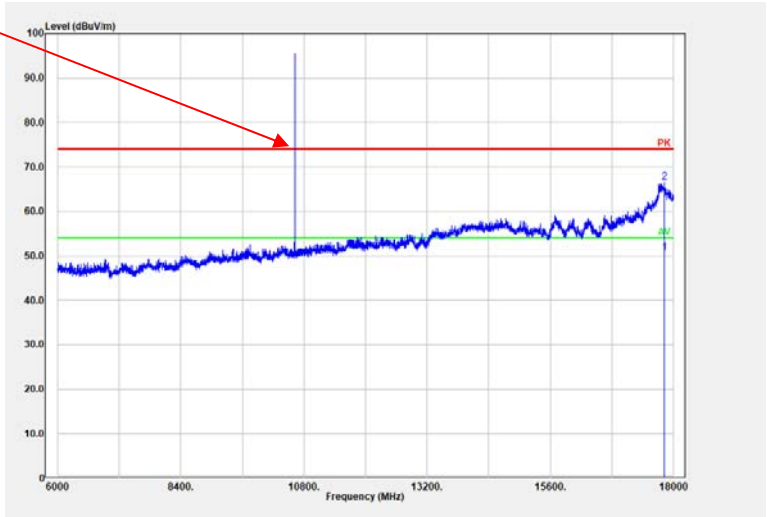

Level (dBuV/m)
100
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0
PK
AV
1
2
3
4
5
6
26500
29200.
31900.
34600.
37300.
40000
Frequency (MHz)

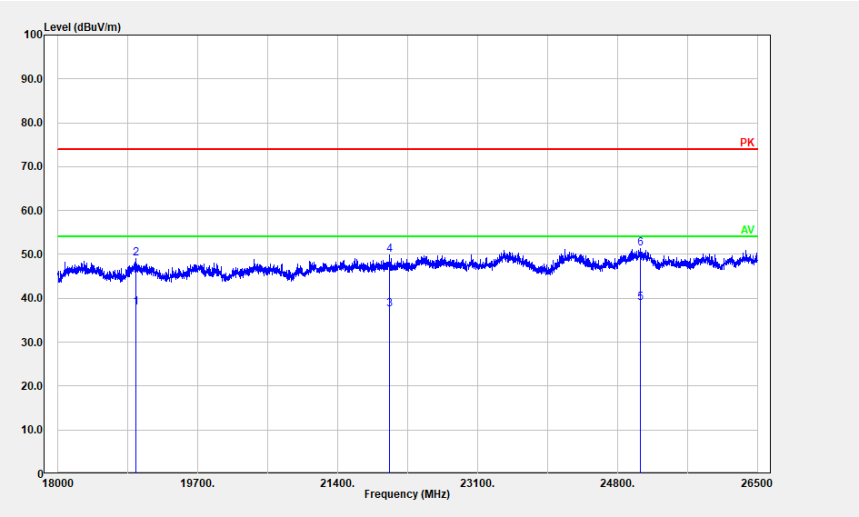

Agilent
Ref 95.99 dBµV
Ext Mix
#Peak
Log
10
dB/
Dl
74.0
dBµV
#VAvg
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Center 50.00 GHz
Span 20 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 50 ms (601 pts)

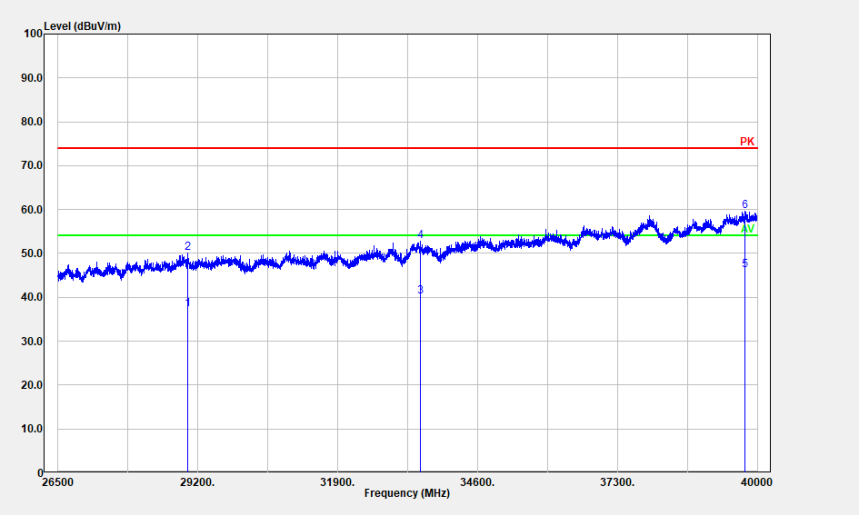
Vertical:

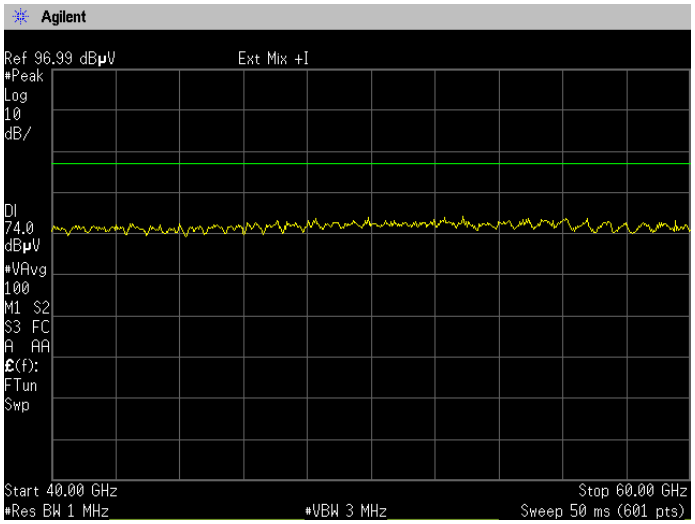


Fundamental






Level (dBuV/m)
100
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0
PK
AV
1
2
3
4
5
6
26500
29200.
31900.
34600.
37300.
40000
Frequency (MHz)


Agilent
Ref 96.99 dBµV
Ext Mix +I
#Peak
Log
10
dB/
Dl
74.0
dBµV
#VAvg
100
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 40.00 GHz
#Res BW 1 MHz
#VBW 3 MHz
Stop 60.00 GHz
Sweep 50 ms (601 pts)

4.3 20 dB Emission Bandwidth:

Serial Number:	CR21100069-RF-S1	Test Date:	2021/12/24
Test Site:	RF	Test Mode:	Transmitting
Tester:	Mark Wang	Test Result:	N/A

Environmental Conditions:

Temperature: (℃)	23.5	Relative Humidity: (%)	56	ATM Pressure: (kPa)	101

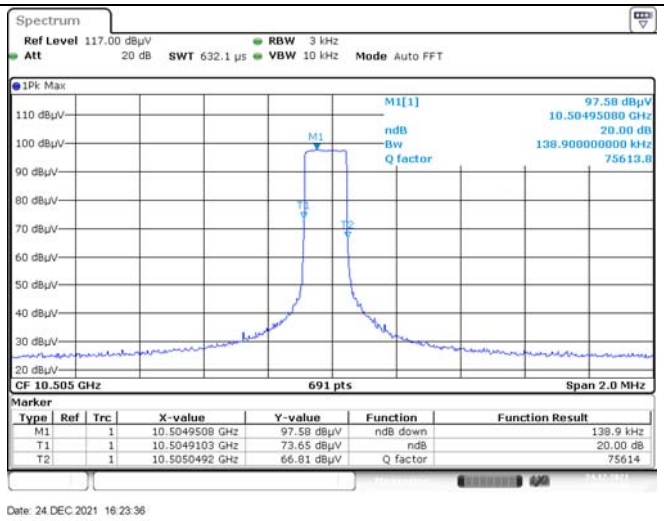
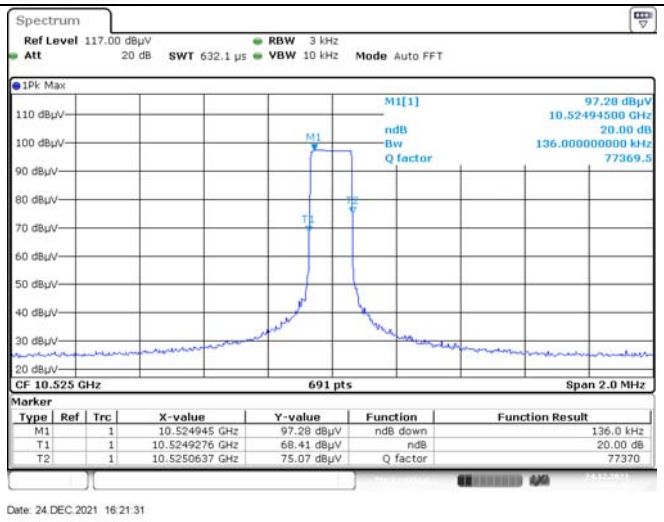
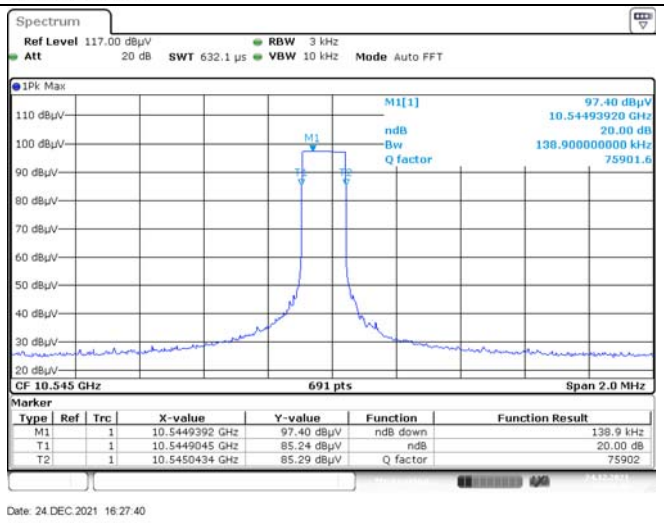
Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101591	2021-07-22	2022-07-21
PASTERNACK	Horn Antenna	PE9852/2F-20	112002	2021-02-05	2024-02-04
AH	Preamplifier	PAM-1840VH	190	2021-11-19	2022-11-18
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2021-08-08	2022-08-07

**** Statement of Traceability:*** *China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Test Channel	Test Frequency (MHz)	20 dB Bandwidth (MHz)
Low	10505	0.139
Middle	10525	0.136
High	10545	0.139

20 dB Emission Bandwidth	
Lowest Channel	
Middle Channel	
Highest Channel	

******* END OF REPORT *******