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

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

TEST REPORT

Applicant: **Grandstream Networks, Inc.**

Address: 126 Brookline Ave., 3rd Floor Boston, MA 02215, USA

FCC ID: **YZZGRP2601W**

Product Name: **Essential Wi-Fi Phone**

Standard(s): **47 CFR Part 15, Subpart C(15.247)**
ANSI C63.10-2013
KDB 558074 D01 15.247 Meas Guidance v05r02

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

Report Number: **CR231064045-00**

Date Of Issue: **2023/11/27**

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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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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR231064045-00	Original Report	2023/11/27

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	Essential Wi-Fi Phone
Trade Name:	GRANDSTREAM
EUT Model:	GRP2601W
Operation Frequency:	2412-2462 MHz(802.11b/g/n ht20/ax HE20) 2422-2452 MHz(802.11n ht40/ax HE40)
Maximum Peak Output Power (Conducted):	29.51dBm
Modulation Type:	802.11b:DSSS-DBPSK, DQPSK, CCK 802.11g/n/ax: OFDM-BPSK, QPSK, 16QAM, 64QAM
Rated Input Voltage:	DC 5V from adapter
Serial Number:	RF: 2CYP-1 RE&CE: 2CYP-2
EUT Received Date:	2023/11/1
EUT Received Status:	Good

Operation Frequency Detail:
For 802.11b/g/n ht20/ax HE20:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	/	/

Per section 15.31(m)/RSS-Gen, the below frequencies were performed the test as below:

Test Channel	Frequency (MHz)
Lowest	2412
Middle	2442
Highest	2462

For 802.11n ht40/ax HE40:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	7	2442
4	2427	8	2447
5	2432	9	2452
6	2437	/	/

Per section 15.31(m), the below frequencies were performed the test as below:

Test Channel	Frequency (MHz)
Lowest	2422
/	2437
Middle	2442
/	2447
Highest	2452

Antenna Information Detail▲:

Antenna Type	input impedance (Ohm)	Frequency Range (MHz)	Antenna Gain
Dipole	50	2400-2500	3.89

The Method of §15.203 Compliance:

☐Antenna was permanently attached to the unit.

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

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

Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
Adapter	DACHUAN	DCT06W050060US-D0	Input: AC 100-240V~ 50/60Hz, 200mA Output: DC 5.0V, 0.6A
Adapter	SUNLIGHT	F06US0500060A	Input: AC 100-240V~ 50/60Hz, 0.2A Output: DC 5.0V, 0.6A
Adapter	GANGQI	GQ06-050060-ZU	Input: AC 100-240V~ 50/60Hz, 0.3A Output: DC 5.0V, 0.6A

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

For 802.11b/g/n/ax:

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

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

Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting
802.11b	Lowest	2412	1Mbps	19
	Middle	2442	1Mbps	20
	Highest	2462	1Mbps	20
802.11g	Lowest	2412	6Mbps	18
	Middle	2442	6Mbps	20
	Highest	2462	6Mbps	18
802.11n ht20	Lowest	2412	MCS0	17
	Middle	2442	MCS0	20
	Highest	2462	MCS0	17
802.11n ht40	Lowest	2422	MCS0	14
	/	2437	MCS0	20
	Middle	2442	MCS0	20
	/	2447	MCS0	18
	Highest	2452	MCS0	15
802.11ax HE20	Lowest	2412	MCS0	17
	Middle	2442	MCS0	19
	Highest	2462	MCS0	17
802.11ax HE40	Lowest	2422	MCS0	14
	/	2437	MCS0	20
	Middle	2442	MCS0	19
	/	2447	MCS0	18
	Highest	2452	MCS0	15

The above are the worst-case data rates, which are determined for each mode based upon investigations by measuring the average power and PSD across all data rates, bandwidths, and modulations.

1.2.2 Support Equipment List and Details

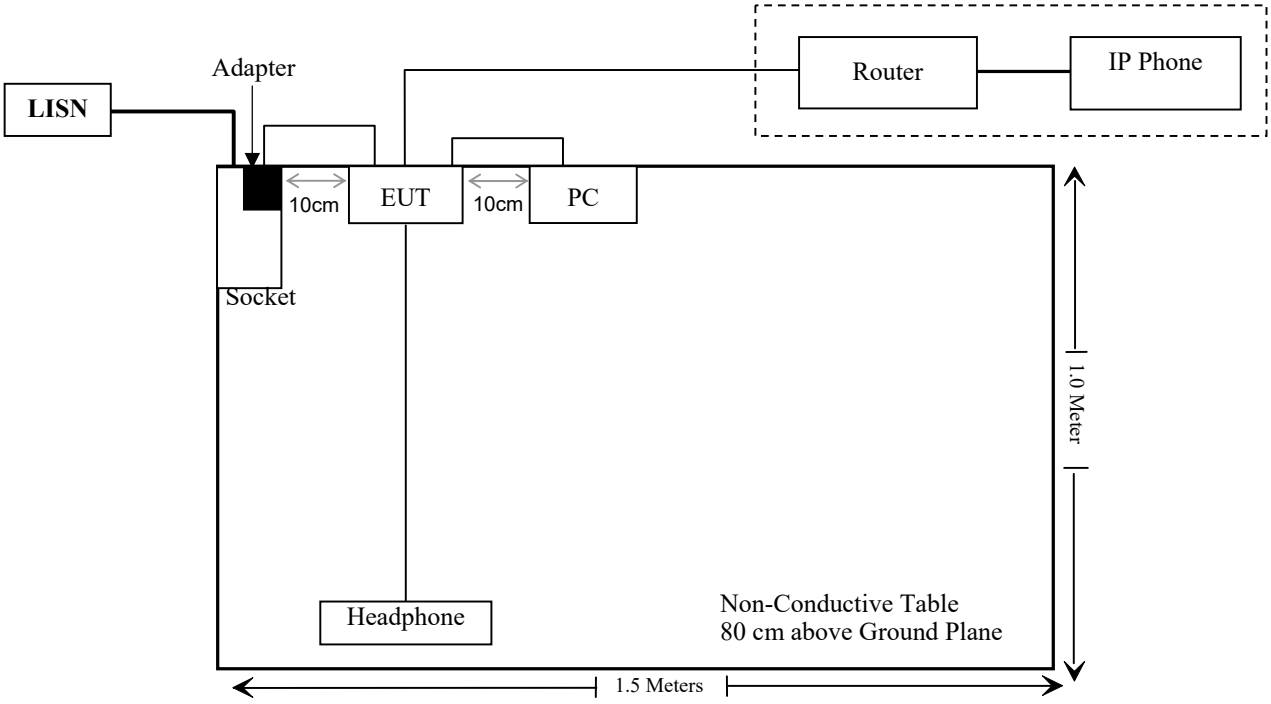
Manufacturer	Description	Model	Serial Number
TOTO LINK	Router	X5000R	X5000RK9T0560
Yealink	IP Phone	SIP-T23G	212319022102620
DELL	PC	E6410	GYXJ3 A00 JSD2
Unknown	Headphone	Unknown	Unknown

1.2.3 Support Cable List and Details

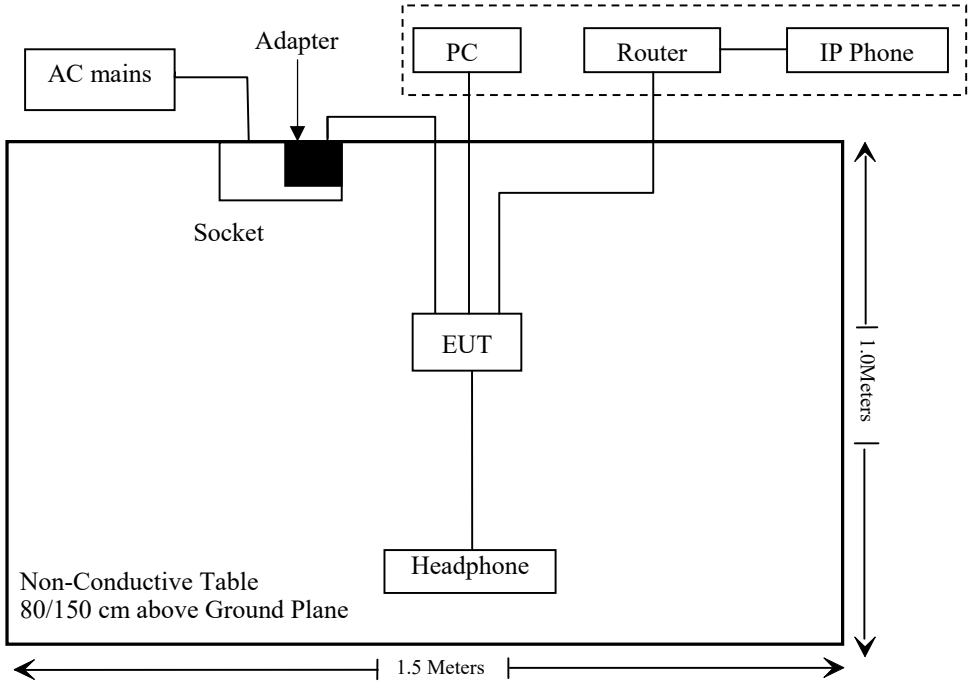
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
AC cable	NO	NO	1.2	LISN/AC mains	Socket
DC cable	NO	NO	1.6	Adapter	EUT
RJ45 cable	NO	Yes	8.0	EUT	Router
RJ45 Cable	NO	YES	1.0	IP Phone	Router
RJ45 cable	NO	Yes	5.0	EUT	PC
RJ11 cable	NO	Yes	1.5	EUT	Headphone

1.2.4 Block Diagram of Test Setup

AC Line Conducted Emissions:



Spurious emissions:



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

Standard(s) Section	Test Items	Result
§15.207(a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant
§15.247 (a)(2)	Minimum 6 dB Bandwidth	Compliant
§15.247(b)(3)	Maximum Conducted Output Power	Compliant
§15.247(d)	100 kHz Bandwidth Of Frequency Band Edge	Compliant
§15.247(e)	Power Spectral Density	Compliant
§15.203	Antenna Requirement	Compliant
§15.247 (i) & §1.1310	RF Exposure Evaluation	Compliant

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:

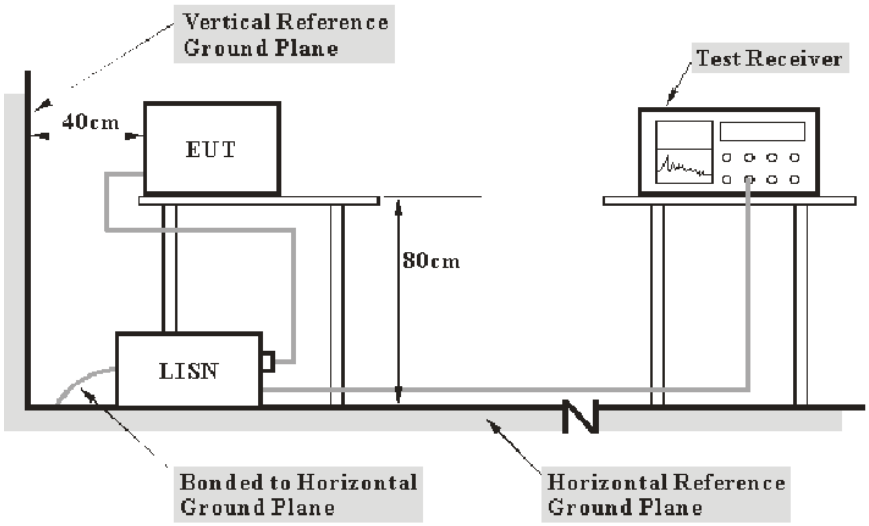
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(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 adapter or EUT 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

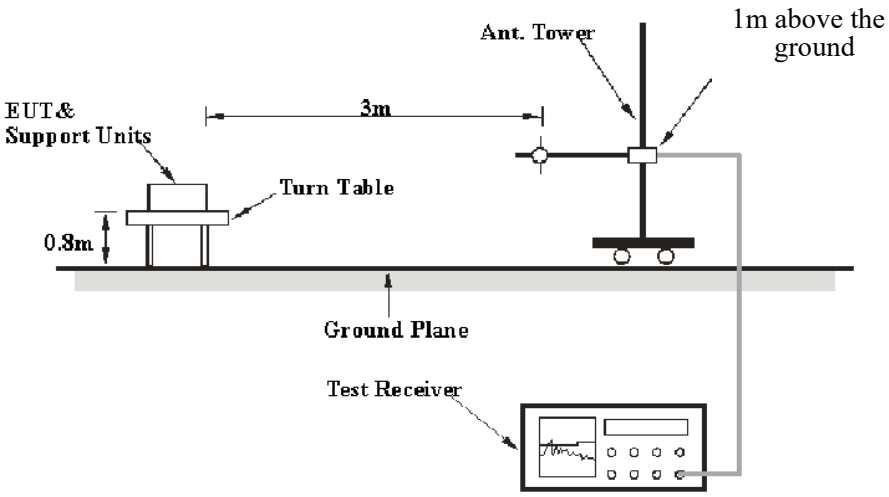
3.2.1 Applicable Standard

FCC §15.247 (d);

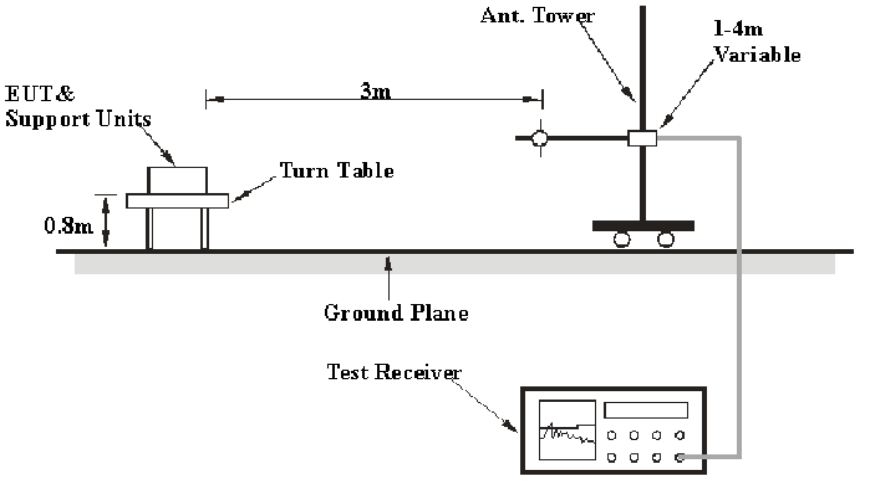
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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. 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)).

3.2.2 EUT Setup

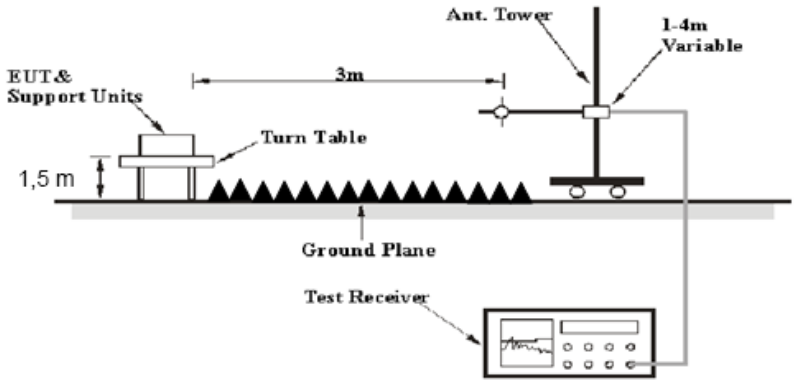
9 kHz-30MHz:



30MHz-1GHz:



Above 1GHz:



The radiated emissions were performed in the 3 meters distance, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 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 9 kHz to 25 GHz.

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

9 kHz -1000 MHz:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
9 kHz – 150 kHz	/	/	200 Hz	QP
	300 Hz	1 kHz	/	PK
150 kHz – 30 MHz	/	/	9 kHz	QP
	10 kHz	30 kHz	/	PK
30 MHz – 1000 MHz	/	/	120 kHz	QP
	100 kHz	300 kHz	/	PK

1GHz- 25GHz:

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
Ave.	>98%	1MHz	10 Hz
	<98%	1MHz	≥1/T

Note: T is minimum transmission duration

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 9 kHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

3.2.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor
Factor = Antenna Factor + Cable Loss- Amplifier Gain

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

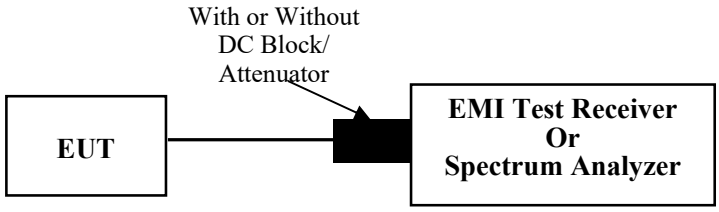
3.3 Minimum 6 dB Emission Bandwidth

3.3.1 Applicable Standard

FCC §15.247 (a)(2)

Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

3.3.2 EUT Setup



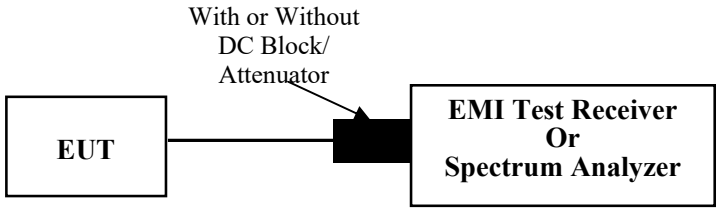
3.3.3 Test Procedure

According to ANSI C63.10-2013 Section 11.8

a) Set RBW = 100 kHz.
b) Set the video bandwidth (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.

3.4 99% Occupied Bandwidth

3.4.1 EUT Setup



3.4.2 Test Procedure

According to ANSI C63.10-2013 Section 6.9.3

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.
The following procedure shall be used for measuring 99% power bandwidth:
a) The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW, unless otherwise specified by the applicable requirement.
c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.
d) Step a) through step c) might require iteration to adjust within the specified range.
e) Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
f) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.
g) If the instrument does not have a 99% power bandwidth function, then the trace data points are recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% power bandwidth is the difference between these two frequencies.
h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

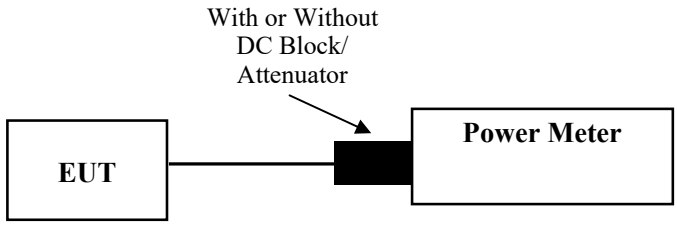
3.5 Maximum Conducted Output Power

3.5.1 Applicable Standard

FCC §15.247 (b)(3)

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.

3.5.2 EUT Setup



3.5.3 Test Procedure

According to ANSI C63.10-2013 Section 11.9.1.3

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

According to ANSI C63.10-2013 Section 11.9.2.3.2

Method AVGPM-G is a measurement using a gated RF average power meter.

Alternatively, measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

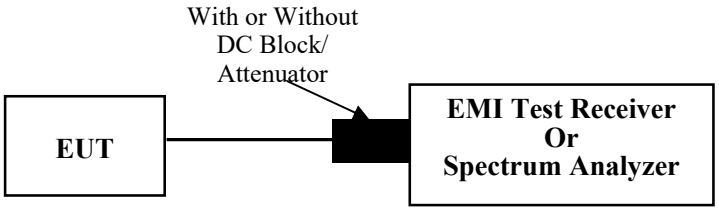
3.6 Maximum Power Spectral Density

3.6.1 Applicable Standard

FCC §15.247 (e)

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.

3.6.2 EUT Setup



3.6.3 Test Procedure

According to ANSI C63.10-2013 Section 11.10.2

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ [3 × RBW].
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

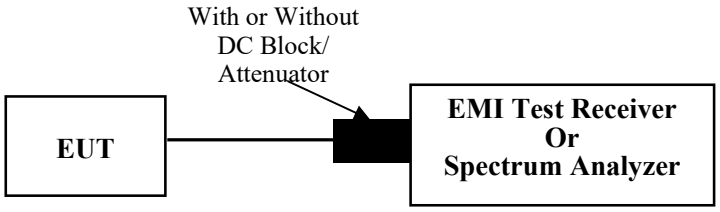
3.7 100 kHz Bandwidth of Frequency Band Edge

3.7.1 Applicable Standard

FCC §15.247 (d);

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. 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)).

3.7.2 EUT Setup



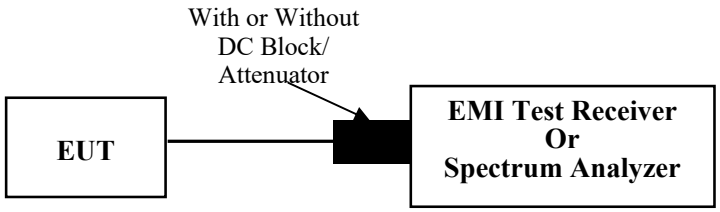
3.7.3 Test Procedure

According to ANSI C63.10-2013 Section 11.11

a) Set the center frequency and span to encompass frequency range to be measured.
b) Set the RBW = 100 kHz.
c) Set the VBW ≥ [3 × RBW].
d) Detector = peak.
e) Sweep time = auto couple.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use the peak marker function to determine the maximum amplitude level.
Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

3.8 Duty Cycle

3.8.1 EUT Setup



3.8.2 Test Procedure

According to ANSI C63.10-2013 Section 11.6

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the ON and OFF times of the transmitted signal:
1) Set the center frequency of the instrument to the center frequency of the transmission.
2) Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.
3) Set VBW ≥ RBW. Set detector = peak or average.
4) The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring the duty cycle shall not be used if T ≤ 16.7 μs.)

3.9 Antenna Requirement

3.9.1 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 use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.9.2 Judgment

Compliant. Please refer to the Antenna Information detail in Section 1.

4. Test DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	2CYP-2	Test Date:	2023/11/24
Test Site:	CE	Test Mode:	Transmitting (maximum output power mode 802.11ax HE40 Middle channel)
Tester:	David Huang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	26.5	Relative Humidity: (%)	49	ATM Pressure: (kPa)	101.1

Test Equipment List and Details:

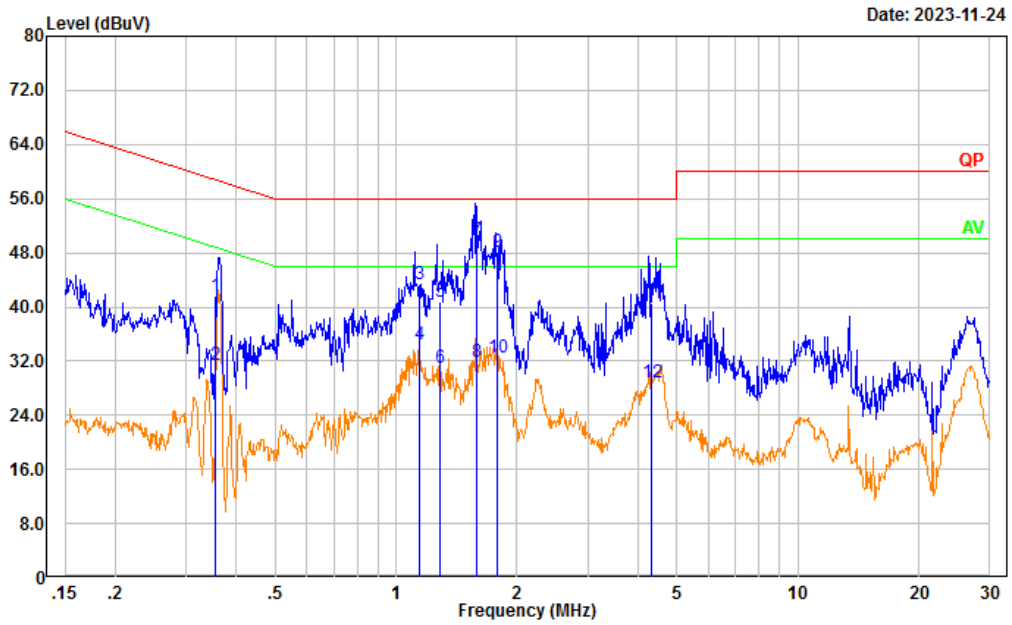
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101132	2023/3/31	2024/3/30
R&S	EMI Test Receiver	ESR3	102726	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2023/8/6	2024/8/5
Audix	Test Software	E3	190306 (V9)	N/A	N/A

** 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).*

Test Data:

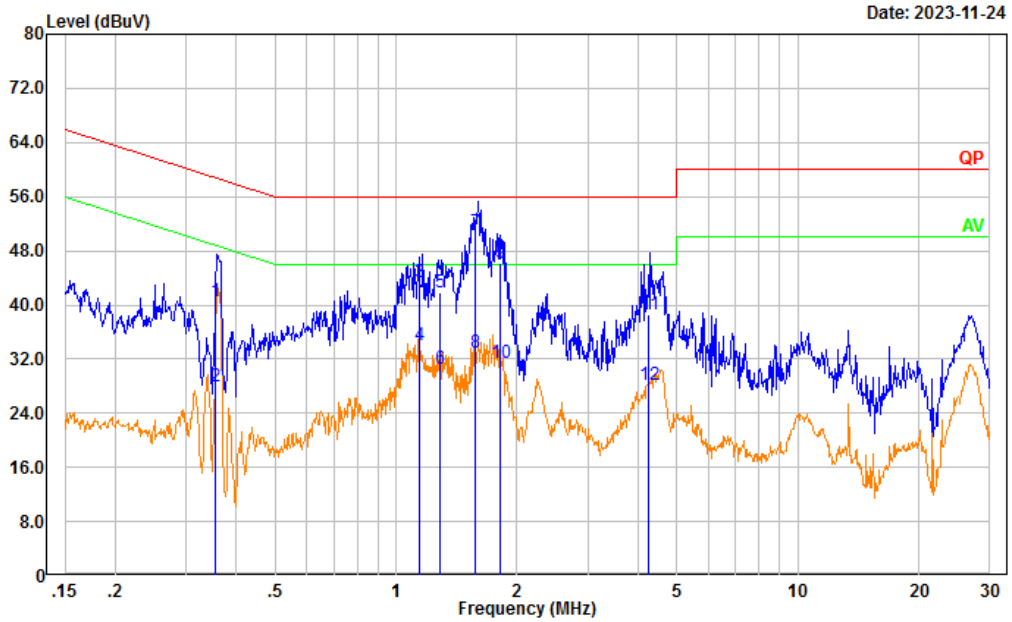
For Adapter DCT06W050060US-D0

Project No.: CR231064045-RF
Tester: David Huang
Port: Line
Note: Transmitting(DCT06W050060US-D0)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.355	32.03	9.61	41.64	58.85	17.21	QP
2	0.355	21.93	9.61	31.54	48.85	17.31	Average
3	1.140	33.65	9.62	43.27	56.00	12.73	QP
4	1.140	24.83	9.62	34.45	46.00	11.55	Average
5	1.284	31.19	9.62	40.81	56.00	15.19	QP
6	1.284	21.49	9.62	31.11	46.00	14.89	Average
7	1.584	40.16	9.63	49.79	56.00	6.21	QP
8	1.584	22.26	9.63	31.89	46.00	14.11	Average
9	1.788	38.58	9.63	48.21	56.00	7.79	QP
10	1.788	22.94	9.63	32.57	46.00	13.43	Average
11	4.332	30.85	9.65	40.50	56.00	15.50	QP
12	4.332	19.10	9.65	28.75	46.00	17.25	Average

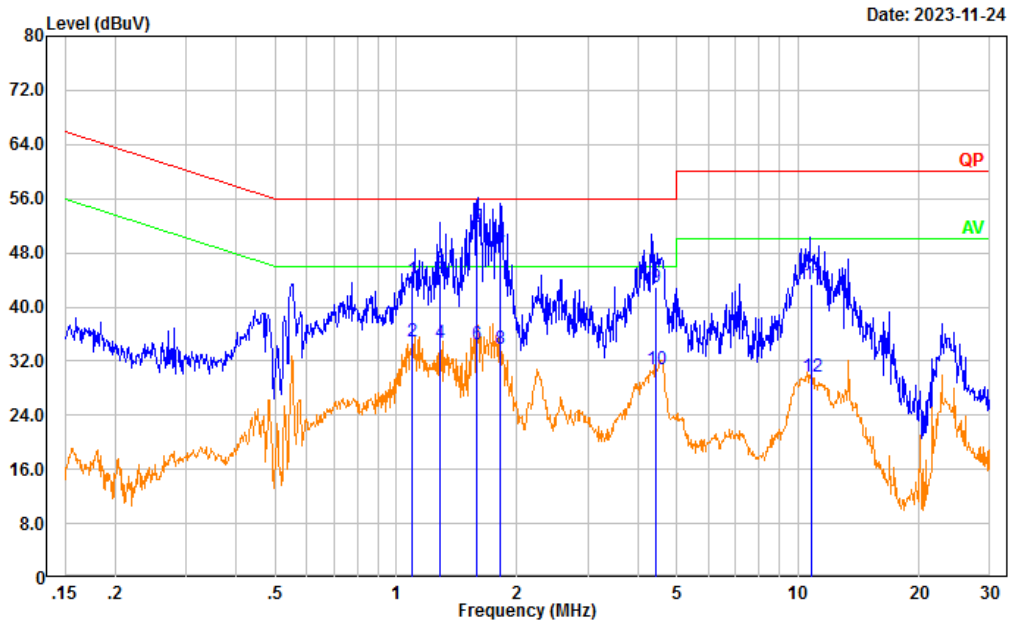
Project No.: CR231064045-RF
Tester: David Huang
Port: neutral
Note: Transmitting(DCT06W050060US-D0)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.354	31.04	9.61	40.65	58.86	18.21	QP
2	0.354	18.41	9.61	28.02	48.86	20.84	Average
3	1.140	33.83	9.62	43.45	56.00	12.55	QP
4	1.140	24.37	9.62	33.99	46.00	12.01	Average
5	1.284	32.20	9.62	41.82	56.00	14.18	QP
6	1.284	20.90	9.62	30.52	46.00	15.48	Average
7	1.578	41.18	9.63	50.81	56.00	5.19	QP
8	1.578	23.41	9.63	33.04	46.00	12.96	Average
9	1.812	36.58	9.63	46.21	56.00	9.79	QP
10	1.812	21.73	9.63	31.36	46.00	14.64	Average
11	4.260	28.91	9.65	38.56	56.00	17.44	QP
12	4.260	18.51	9.65	28.16	46.00	17.84	Average

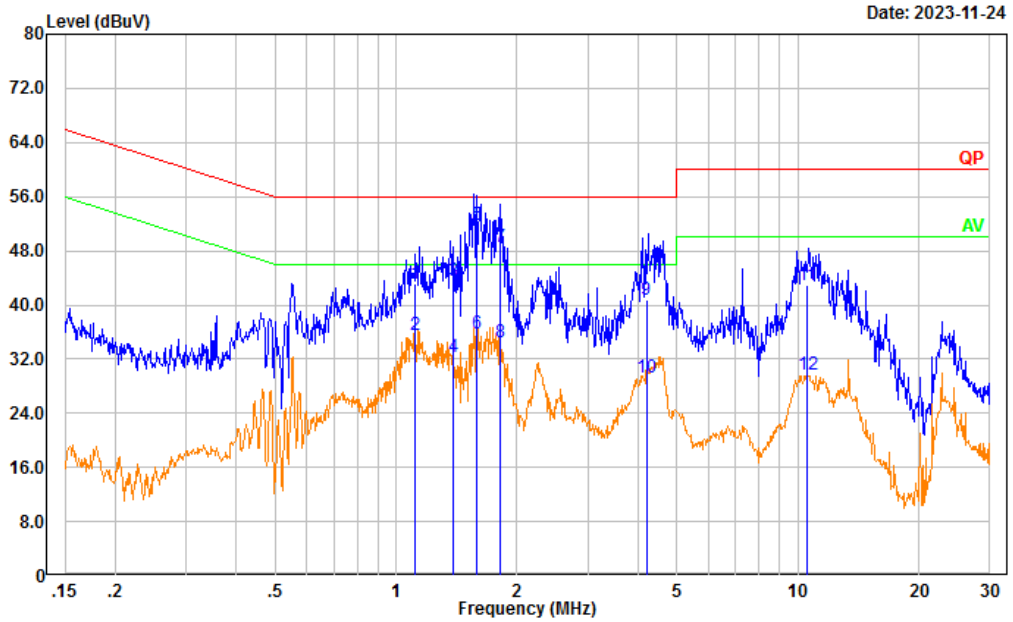
For Adapter F06US0500060A

Project No.: CR231064045-RF
Tester: David Huang
Port: Line
Note: Transmitting(F06US0500060A)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	1.092	34.34	9.62	43.96	56.00	12.04	QP
2	1.092	25.33	9.62	34.95	46.00	11.05	Average
3	1.287	35.33	9.62	44.95	56.00	11.05	QP
4	1.287	25.15	9.62	34.77	46.00	11.23	Average
5	1.586	42.27	9.63	51.90	56.00	4.10	QP
6	1.586	24.92	9.63	34.55	46.00	11.45	Average
7	1.815	38.33	9.63	47.96	56.00	8.04	QP
8	1.815	24.27	9.63	33.90	46.00	12.10	Average
9	4.441	33.38	9.65	43.03	56.00	12.97	QP
10	4.441	21.13	9.65	30.78	46.00	15.22	Average
11	10.836	33.58	9.67	43.25	60.00	16.75	QP
12	10.836	20.12	9.67	29.79	50.00	20.21	Average

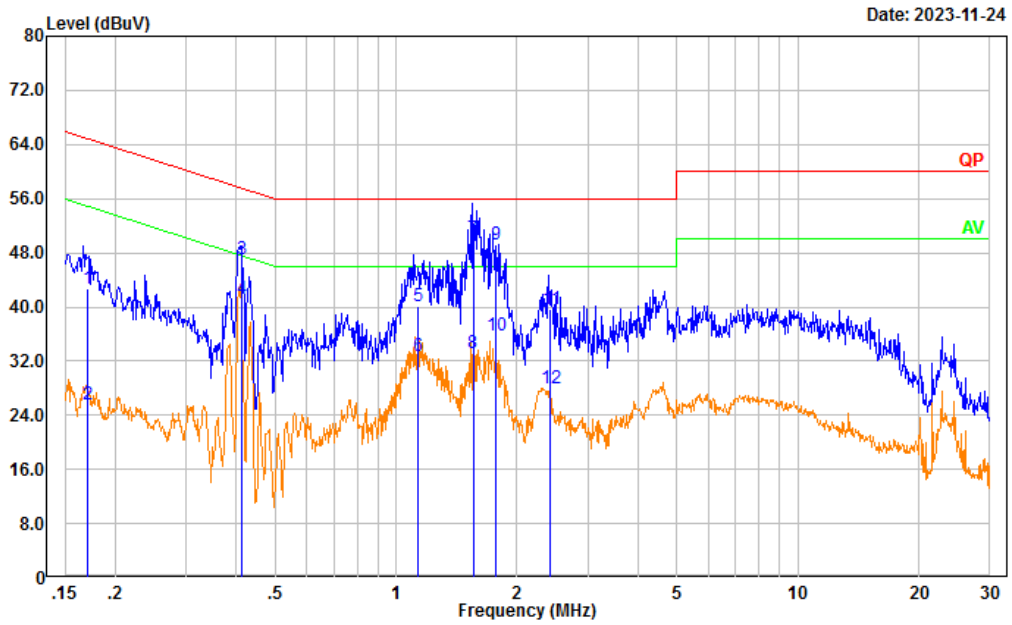
Project No.: CR231064045-RF
Tester: David Huang
Port: neutral
Note: Transmitting(F06US0500060A)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	1.118	33.44	9.62	43.06	56.00	12.94	QP
2	1.118	26.03	9.62	35.65	46.00	10.35	Average
3	1.383	33.94	9.62	43.56	56.00	12.44	QP
4	1.383	22.59	9.62	32.21	46.00	13.79	Average
5	1.588	42.20	9.63	51.83	56.00	4.17	QP
6	1.588	26.17	9.63	35.80	46.00	10.20	Average
7	1.816	38.96	9.63	48.59	56.00	7.41	QP
8	1.816	24.92	9.63	34.55	46.00	11.45	Average
9	4.194	31.10	9.65	40.75	56.00	15.25	QP
10	4.194	19.70	9.65	29.35	46.00	16.65	Average
11	10.501	33.28	9.67	42.95	60.00	17.05	QP
12	10.501	19.93	9.67	29.60	50.00	20.40	Average

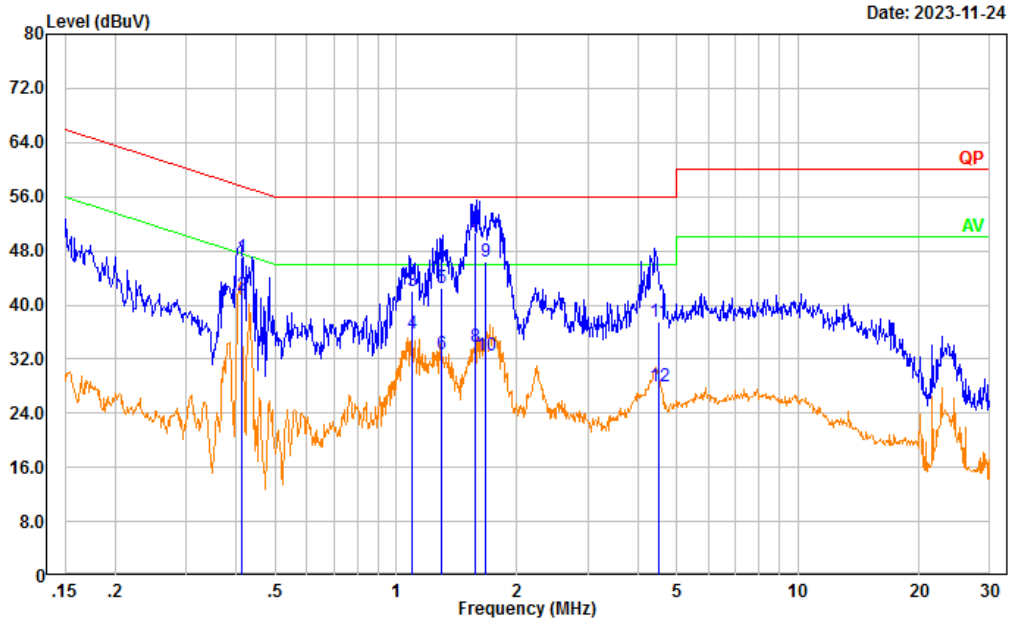
For Adapter GQ06-050060-ZU

Project No.: CR231064045-RF
Tester: David Huang
Port: Line
Note: Transmitting(GQ06-050060-ZU)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.171	33.14	9.61	42.75	64.93	22.18	QP
2	0.171	15.98	9.61	25.59	54.93	29.34	Average
3	0.412	37.44	9.61	47.05	57.61	10.56	QP
4	0.412	31.64	9.61	41.25	47.61	6.36	Average
5	1.134	30.53	9.62	40.15	56.00	15.85	QP
6	1.134	23.16	9.62	32.78	46.00	13.22	Average
7	1.554	40.56	9.63	50.19	56.00	5.81	QP
8	1.554	23.53	9.63	33.16	46.00	12.84	Average
9	1.770	39.58	9.63	49.21	56.00	6.79	QP
10	1.770	26.25	9.63	35.88	46.00	10.12	Average
11	2.424	30.07	9.64	39.71	56.00	16.29	QP
12	2.424	18.38	9.64	28.02	46.00	17.98	Average

Project No.: CR231064045-RF
Tester: David Huang
Port: neutral
Note: Transmitting(GQ06-050060-ZU)



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.412	37.54	9.61	47.15	57.62	10.47	QP
2	0.412	31.81	9.61	41.42	47.62	6.20	Average
3	1.094	32.35	9.62	41.97	56.00	14.03	QP
4	1.094	26.13	9.62	35.75	46.00	10.25	Average
5	1.300	32.92	9.62	42.54	56.00	13.46	QP
6	1.300	23.18	9.62	32.80	46.00	13.20	Average
7	1.577	41.07	9.63	50.70	56.00	5.30	QP
8	1.577	24.19	9.63	33.82	46.00	12.18	Average
9	1.674	36.83	9.63	46.46	56.00	9.54	QP
10	1.674	22.90	9.63	32.53	46.00	13.47	Average
11	4.506	27.95	9.66	37.61	56.00	18.39	QP
12	4.506	18.39	9.66	28.05	46.00	17.95	Average

4.2 Radiation Spurious Emissions

Serial Number:	2CYP-2	Test Date:	2023/11/18~ 2023/11/21
Test Site:	966-1, 966-2	Test Mode:	Transmitting
Tester:	Carl Xue, Mack Huang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	25~25.2	Relative Humidity: (%)	52~53	ATM Pressure: (kPa)	101.3~101.8

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-6	2023/9/18	2026/9/17
TESEQ	HF Loop Antenna	HLA6120	33561	2021/2/3	2024/2/2
R&S	EMI Test Receiver	ESR3	102724	2023/3/31	2024/3/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/7/16	2024/7/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/7/16	2024/7/15
Sonoma	Amplifier	310N	186165	2023/7/16	2024/7/15
Audix	Test Software	E3	201021 (V9)	N/A	N/A
AH	Double Ridge Guide Horn Antenna	SAS-571	1394	2023/2/22	2026/2/21
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/8/6	2024/8/5
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/8/6	2024/8/5
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2023/11/8	2024/11/7
Audix	Test Software	E3	201021 (V9)	N/A	N/A
PASTERNACK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2023/9/15	2024/9/14
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/6	2024/8/5
E-Microwave	Band Rejection Filter	2400-2483.5MHz	OE01902424	2023/8/6	2024/8/5
Mini Circuits	High Pass Filter	VHF-6010+	31119	2023/8/6	2024/8/5

** 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).*

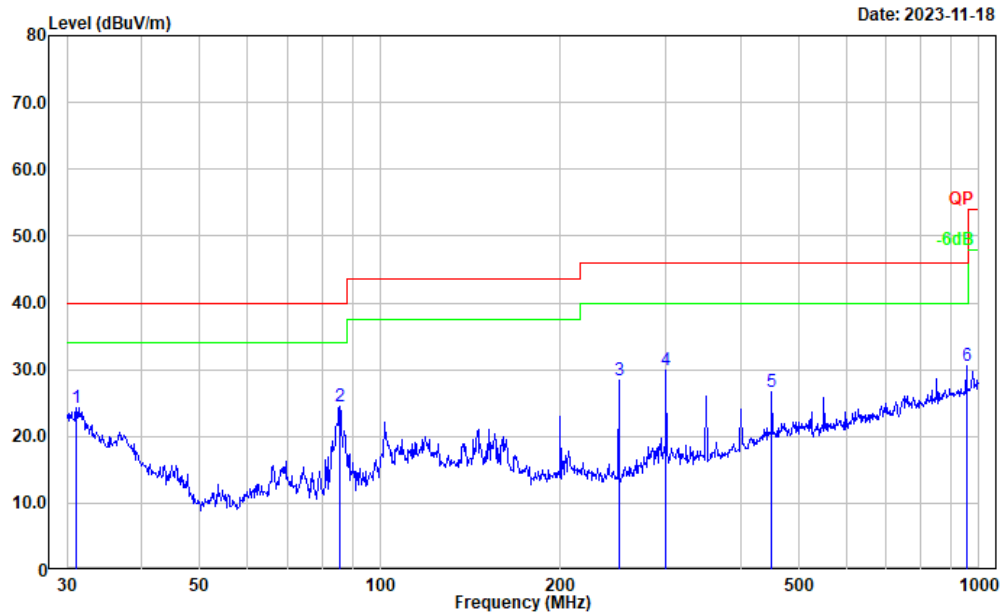
Test Data:

Please refer to the below table and plots.

The data of 9kHz-30 MHz test is below the 20 dB limit or noise floor which is not recorded

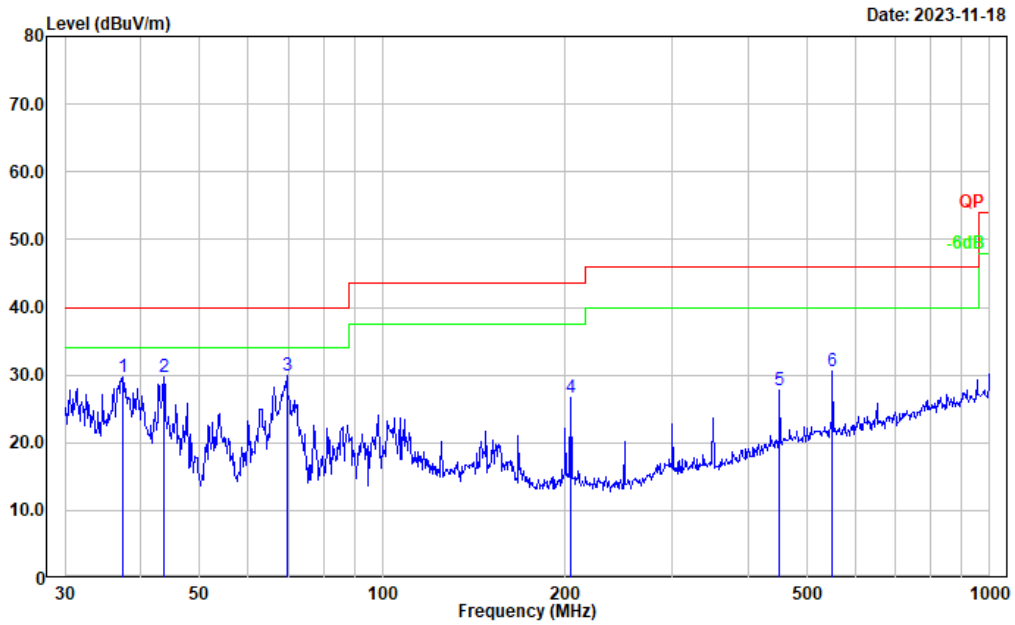
1) 30MHz-1GHz (Maximum output power mode, 802.11ax HE40)
For Adapter DCT06W050060US-D0:
Low channel

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	31.071	28.86	-4.61	24.25	40.00	15.75	Peak
2	85.598	41.60	-17.15	24.45	40.00	15.55	Peak
3	250.301	41.58	-13.18	28.40	46.00	17.60	Peak
4	300.367	40.55	-10.63	29.92	46.00	16.08	Peak
5	451.135	33.63	-6.91	26.72	46.00	19.28	Peak
6	952.094	30.78	-0.22	30.56	46.00	15.44	Peak

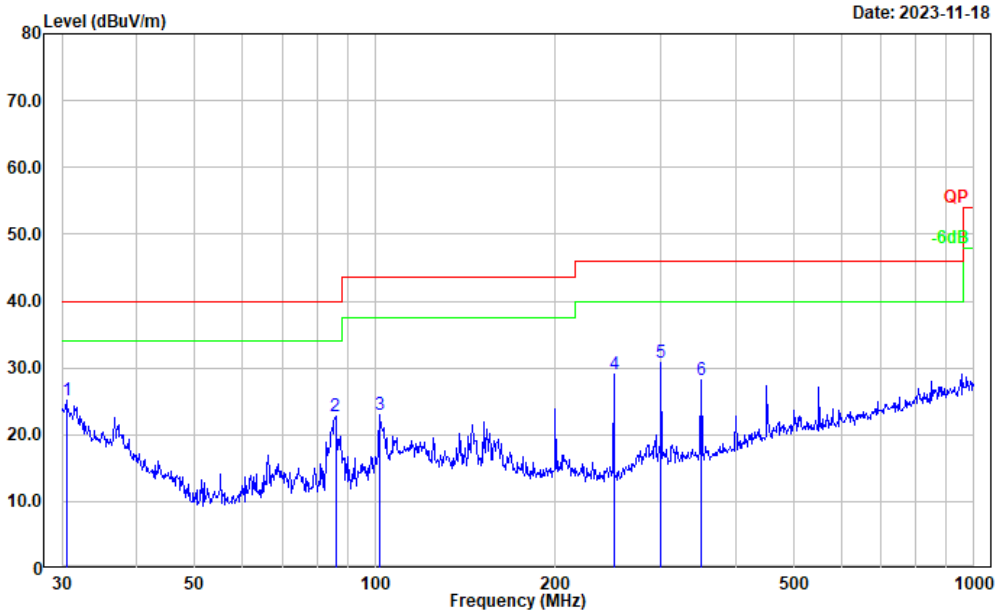
Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	37.416	39.21	-9.44	29.77	40.00	10.23	Peak
2	43.659	43.24	-13.49	29.75	40.00	10.25	Peak
3	69.600	46.50	-16.61	29.89	40.00	10.11	Peak
4	204.238	38.89	-12.33	26.56	43.50	16.94	Peak
5	451.135	34.63	-6.91	27.72	46.00	18.28	Peak
6	550.948	36.28	-5.74	30.54	46.00	15.46	Peak

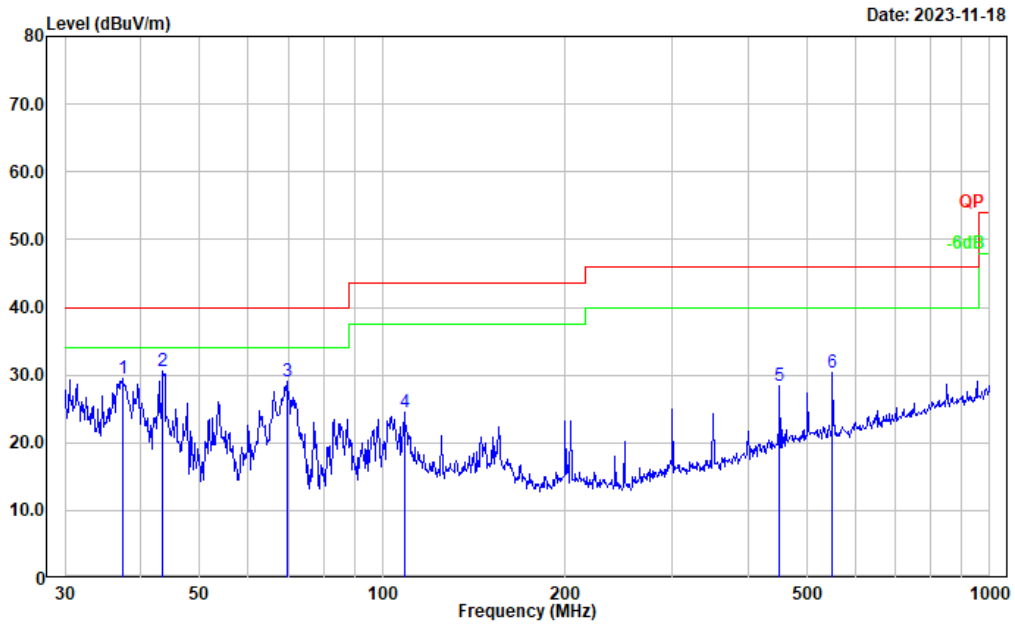
Middle channel

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.531	29.38	-4.20	25.18	40.00	14.82	Peak
2	85.898	39.94	-17.15	22.79	40.00	17.21	Peak
3	101.644	36.98	-14.02	22.96	43.50	20.54	Peak
4	250.301	42.13	-13.18	28.95	46.00	17.05	Peak
5	300.367	41.31	-10.63	30.68	46.00	15.32	Peak
6	350.477	38.12	-10.03	28.09	46.00	17.91	Peak

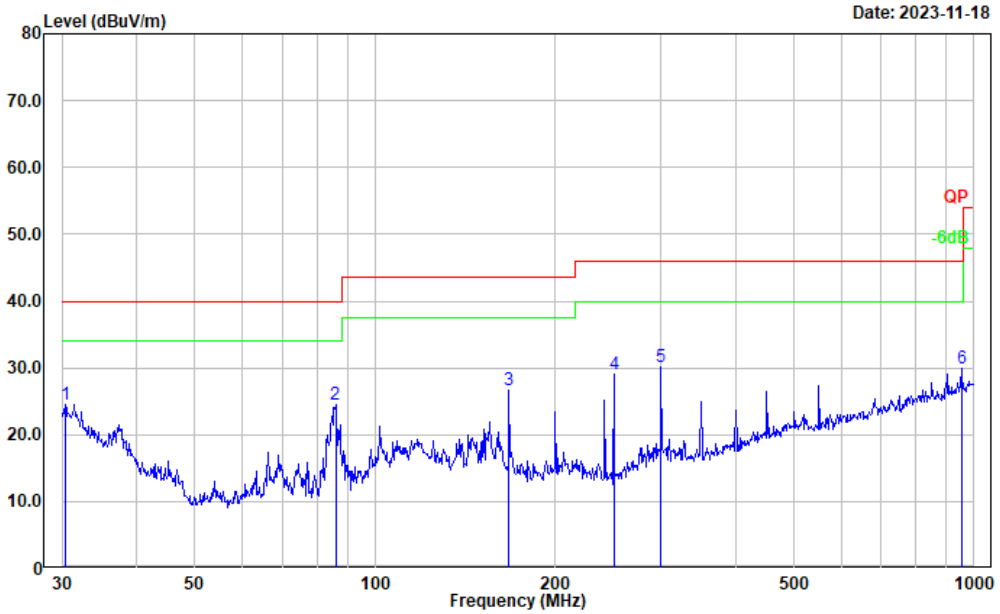
Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	37.285	38.83	-9.35	29.48	40.00	10.52	Peak
2	43.506	43.98	-13.40	30.58	40.00	9.42	Peak
3	69.600	45.72	-16.61	29.11	40.00	10.89	Peak
4	108.647	37.05	-12.54	24.51	43.50	18.99	Peak
5	451.135	35.21	-6.91	28.30	46.00	17.70	Peak
6	550.948	36.10	-5.74	30.36	46.00	15.64	Peak

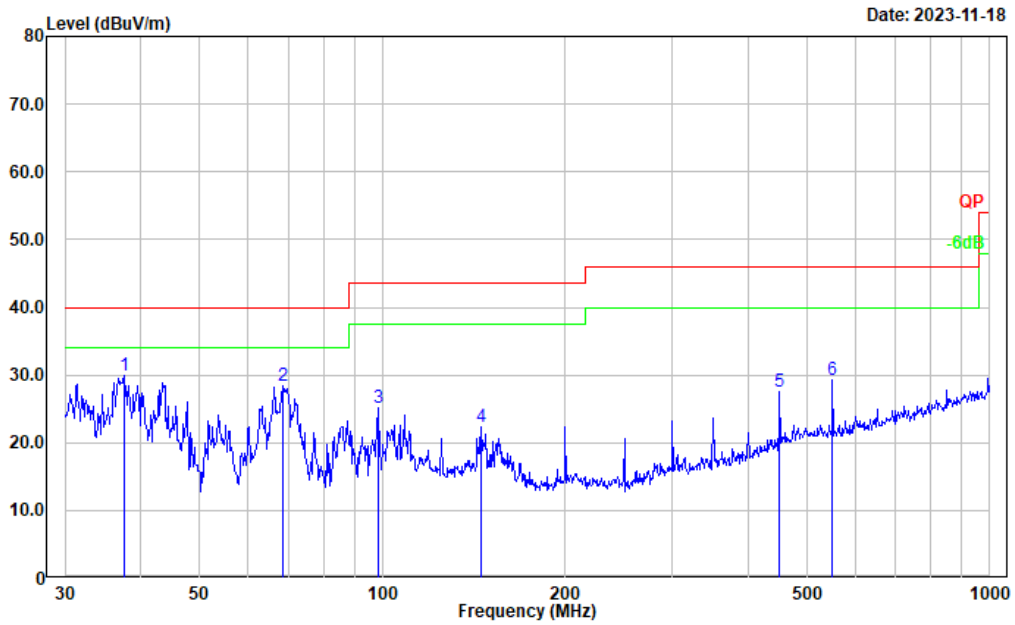
High channel

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.424	28.69	-4.13	24.56	40.00	15.44	Peak
2	85.898	41.67	-17.15	24.52	40.00	15.48	Peak
3	167.237	39.29	-12.59	26.70	43.50	16.80	Peak
4	250.301	42.13	-13.18	28.95	46.00	17.05	Peak
5	300.367	40.71	-10.63	30.08	46.00	15.92	Peak
6	952.094	30.14	-0.22	29.92	46.00	16.08	Peak

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: vertical
Note:

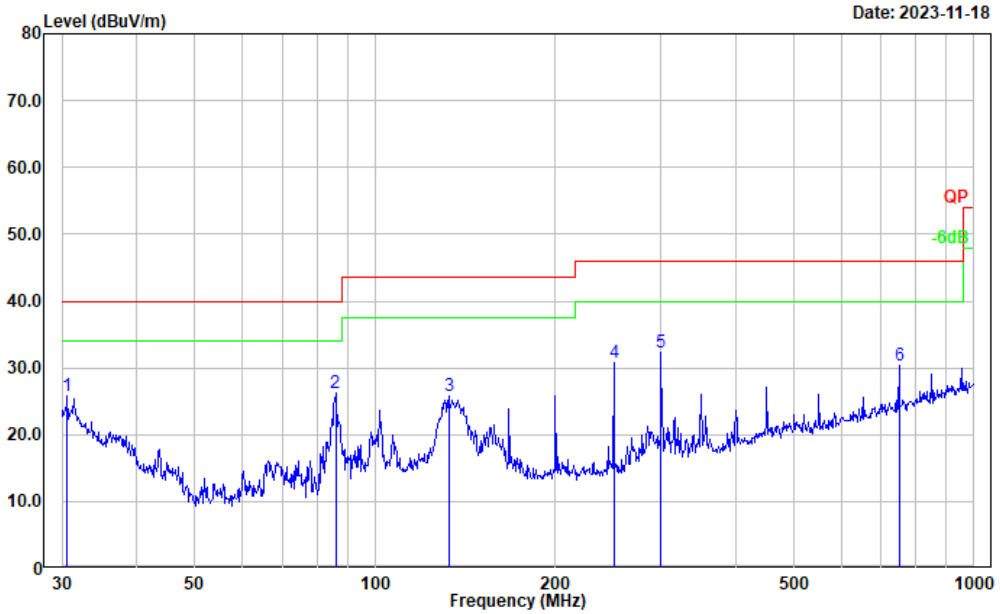


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	37.548	39.46	-9.52	29.94	40.00	10.06	Peak
2	68.391	45.08	-16.72	28.36	40.00	11.64	Peak
3	98.487	39.86	-14.66	25.20	43.50	18.30	Peak
4	145.351	34.15	-11.85	22.30	43.50	21.20	Peak
5	451.135	34.44	-6.91	27.53	46.00	18.47	Peak
6	550.948	34.94	-5.74	29.20	46.00	16.80	Peak

For Adapter F06US0500060A:

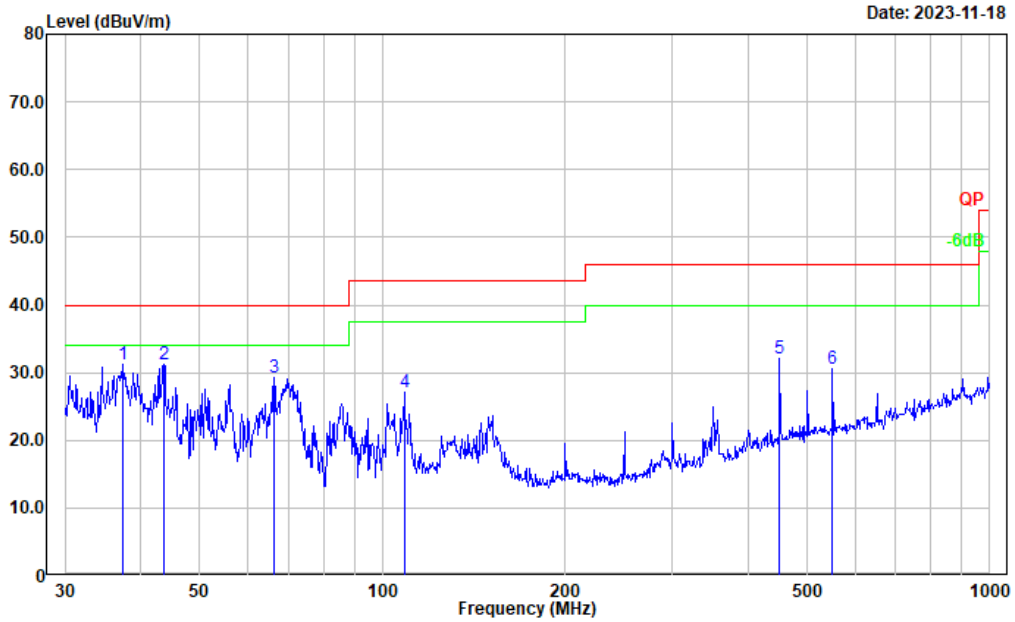
Low channel

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.638	30.07	-4.28	25.79	40.00	14.21	Peak
2	85.898	43.31	-17.15	26.16	40.00	13.84	Peak
3	132.685	37.29	-11.45	25.84	43.50	17.66	Peak
4	250.301	43.86	-13.18	30.68	46.00	15.32	Peak
5	300.367	42.92	-10.63	32.29	46.00	13.71	Peak
6	750.108	33.48	-3.10	30.38	46.00	15.62	Peak

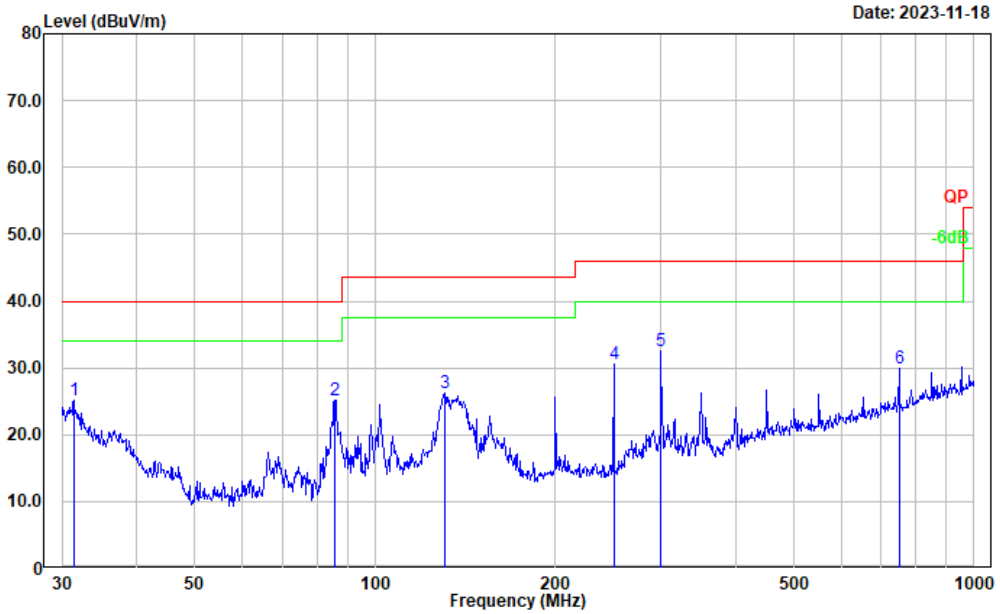
Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	37.285	40.67	-9.35	31.32	40.00	8.68	Peak
2	43.659	44.71	-13.49	31.22	40.00	8.78	Peak
3	66.266	46.04	-16.86	29.18	40.00	10.82	Peak
4	108.647	39.64	-12.54	27.10	43.50	16.40	Peak
5	451.135	38.96	-6.91	32.05	46.00	13.95	Peak
6	550.948	36.36	-5.74	30.62	46.00	15.38	Peak

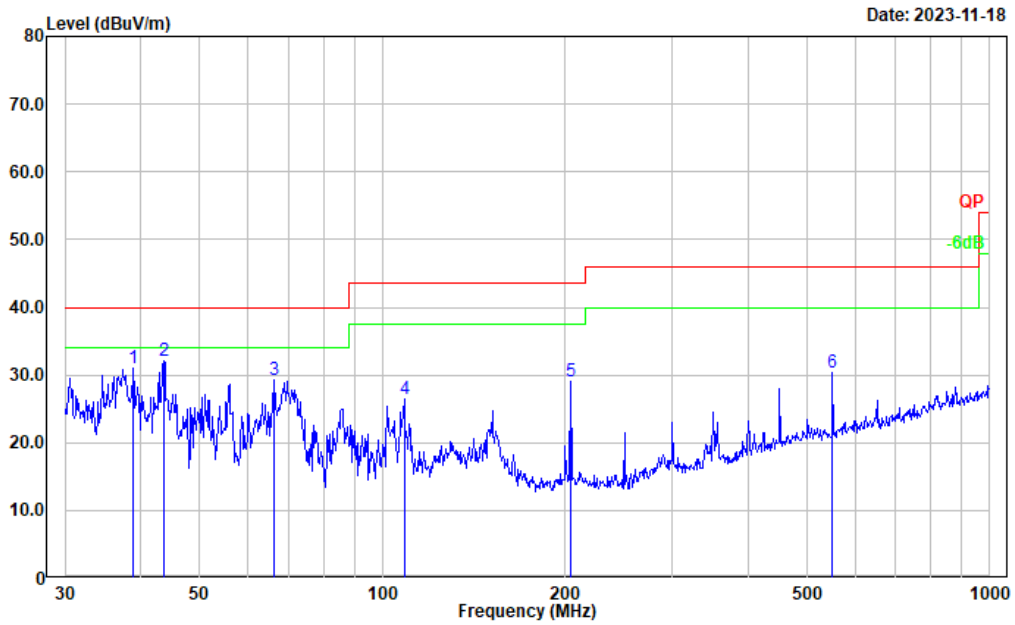
Middle channel

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	31.399	29.92	-4.86	25.06	40.00	14.94	Peak
2	85.598	42.39	-17.15	25.24	40.00	14.76	Peak
3	130.837	37.46	-11.32	26.14	43.50	17.36	Peak
4	250.301	43.76	-13.18	30.58	46.00	15.42	Peak
5	300.367	43.11	-10.63	32.48	46.00	13.52	Peak
6	750.108	33.01	-3.10	29.91	46.00	16.09	Peak

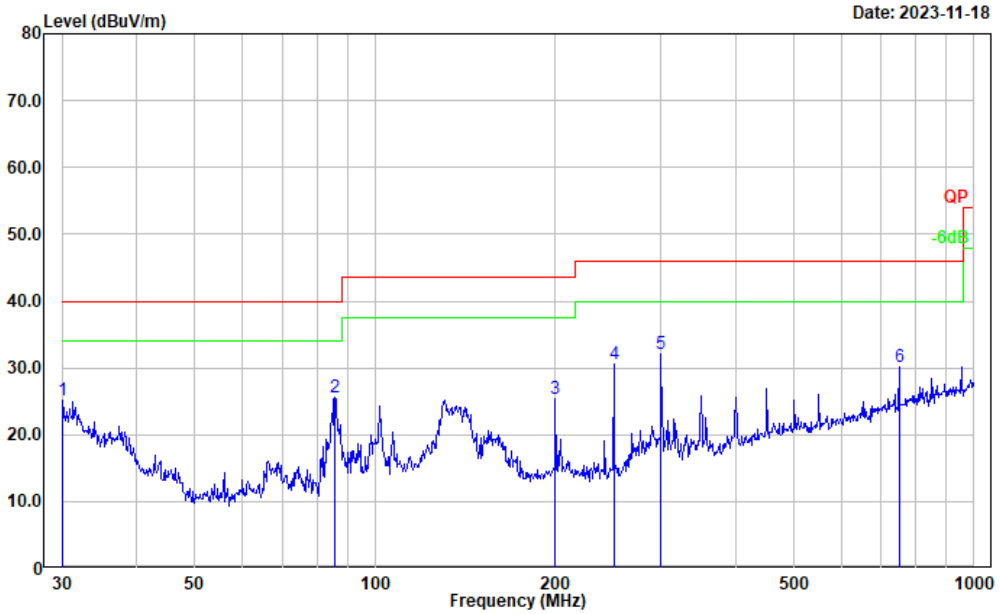
Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	38.888	41.45	-10.54	30.91	40.00	9.09	Peak
2	43.659	45.63	-13.49	32.14	40.00	7.86	Peak
3	66.266	46.02	-16.86	29.16	40.00	10.84	Peak
4	108.647	39.07	-12.54	26.53	43.50	16.97	Peak
5	204.238	41.42	-12.33	29.09	43.50	14.41	Peak
6	550.948	36.20	-5.74	30.46	46.00	15.54	Peak

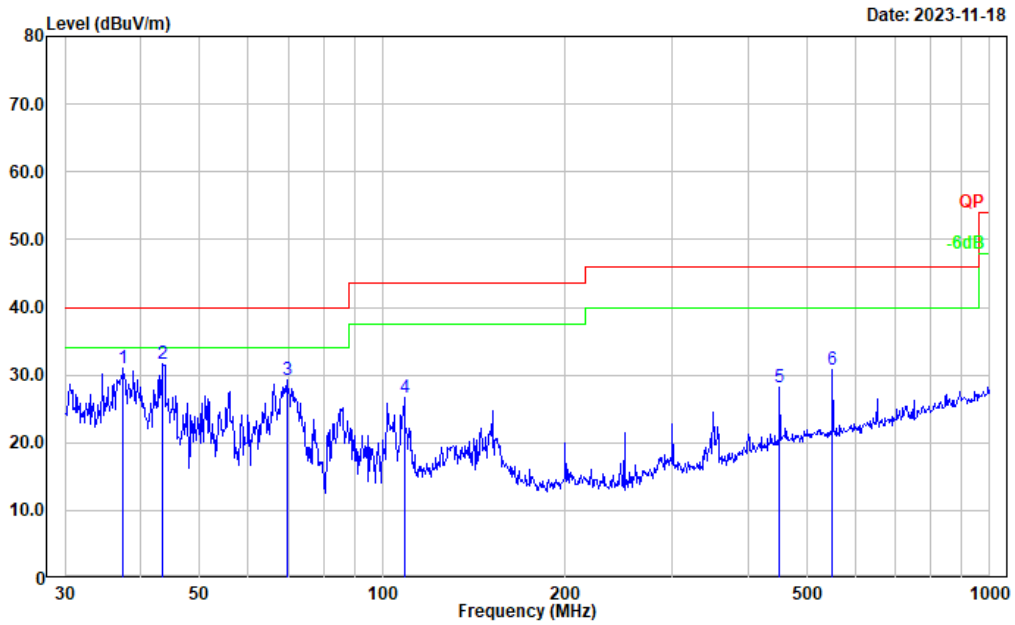
High channel

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.105	29.10	-3.88	25.22	40.00	14.78	Peak
2	85.598	42.63	-17.15	25.48	40.00	14.52	Peak
3	199.986	37.68	-12.21	25.47	43.50	18.03	Peak
4	250.301	43.84	-13.18	30.66	46.00	15.34	Peak
5	300.367	42.74	-10.63	32.11	46.00	13.89	Peak
6	750.108	33.22	-3.10	30.12	46.00	15.88	Peak

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: vertical
Note:

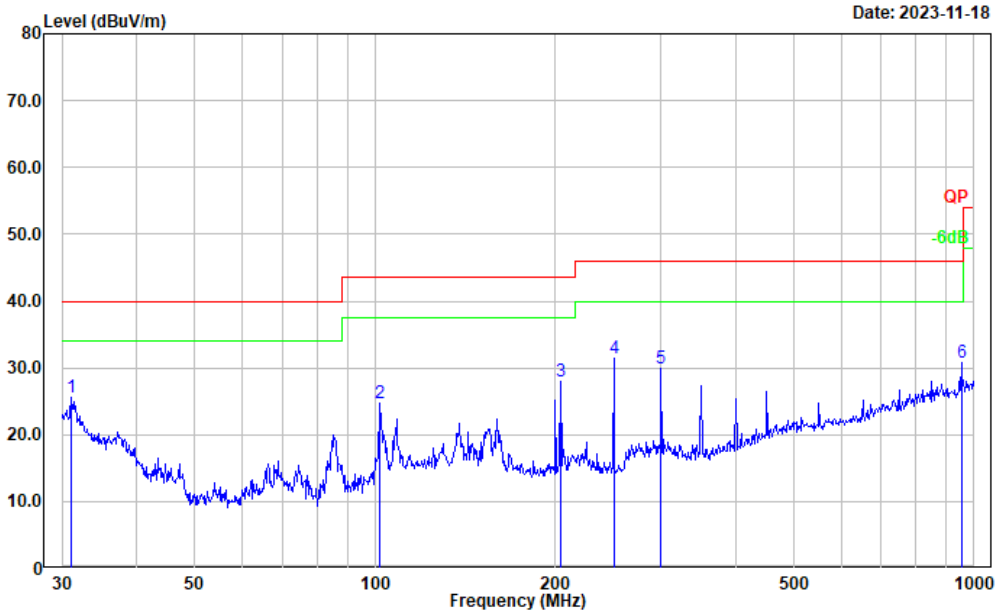


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	37.416	40.36	-9.44	30.92	40.00	9.08	Peak
2	43.353	45.03	-13.32	31.71	40.00	8.29	Peak
3	69.600	45.89	-16.61	29.28	40.00	10.72	Peak
4	108.647	39.11	-12.54	26.57	43.50	16.93	Peak
5	451.135	35.16	-6.91	28.25	46.00	17.75	Peak
6	550.948	36.58	-5.74	30.84	46.00	15.16	Peak

For Adapter GQ06-050060-ZU:

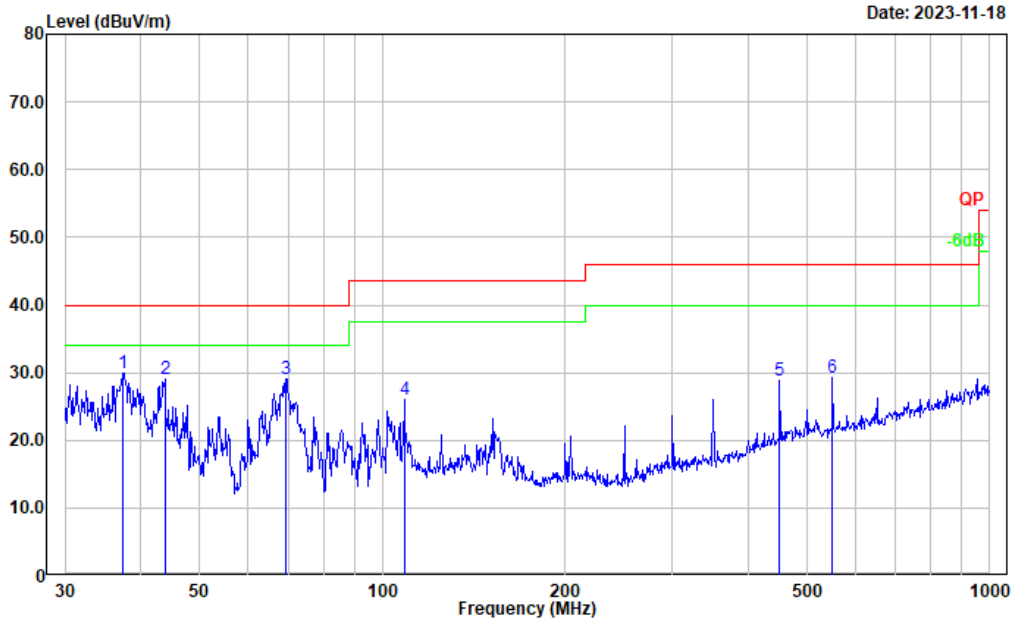
Low channel

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	31.071	30.29	-4.61	25.68	40.00	14.32	Peak
2	102.001	38.65	-13.97	24.68	43.50	18.82	Peak
3	204.238	40.32	-12.33	27.99	43.50	15.51	Peak
4	250.301	44.58	-13.18	31.40	46.00	14.60	Peak
5	300.367	40.53	-10.63	29.90	46.00	16.10	Peak
6	952.094	30.95	-0.22	30.73	46.00	15.27	Peak

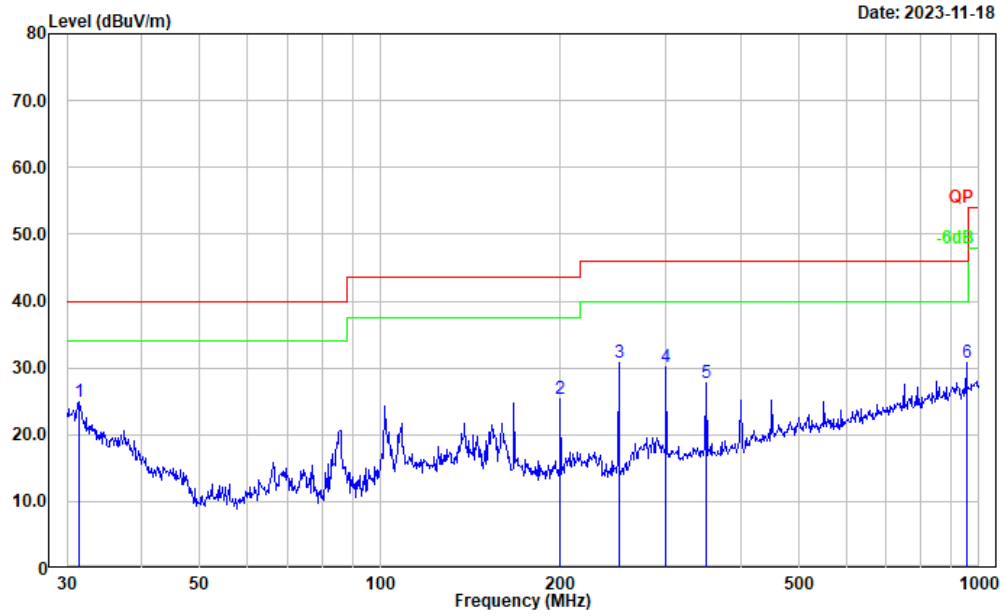
Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	37.285	39.33	-9.35	29.98	40.00	10.02	Peak
2	43.812	42.72	-13.58	29.14	40.00	10.86	Peak
3	69.357	45.68	-16.65	29.03	40.00	10.97	Peak
4	108.647	38.57	-12.54	26.03	43.50	17.47	Peak
5	451.135	35.76	-6.91	28.85	46.00	17.15	Peak
6	550.948	35.01	-5.74	29.27	46.00	16.73	Peak

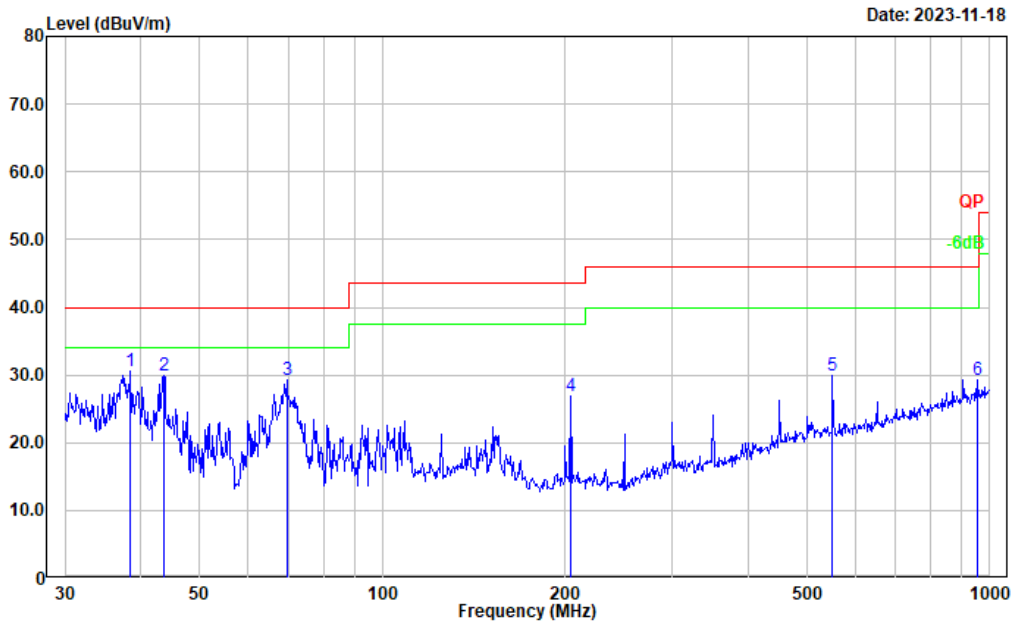
Middle channel

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	31.510	29.85	-4.93	24.92	40.00	15.08	Peak
2	199.986	37.53	-12.21	25.32	43.50	18.18	Peak
3	250.301	43.86	-13.18	30.68	46.00	15.32	Peak
4	300.367	40.67	-10.63	30.04	46.00	15.96	Peak
5	350.477	37.78	-10.03	27.75	46.00	18.25	Peak
6	952.094	30.95	-0.22	30.73	46.00	15.27	Peak

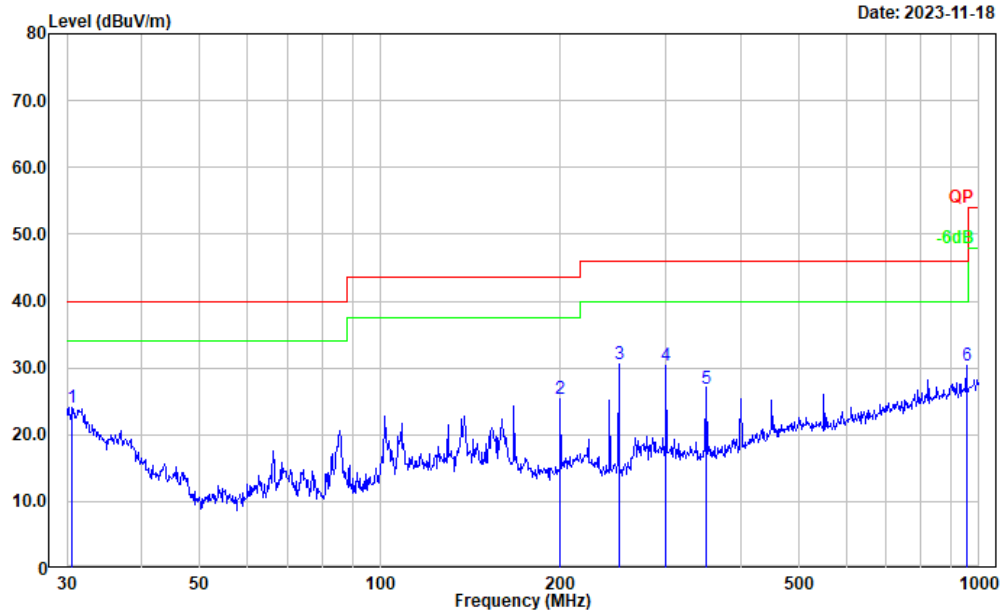
Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	38.481	40.86	-10.22	30.64	40.00	9.36	Peak
2	43.659	43.39	-13.49	29.90	40.00	10.10	Peak
3	69.600	45.88	-16.61	29.27	40.00	10.73	Peak
4	204.238	39.29	-12.33	26.96	43.50	16.54	Peak
5	550.948	35.74	-5.74	30.00	46.00	16.00	Peak
6	952.094	29.56	-0.22	29.34	46.00	16.66	Peak

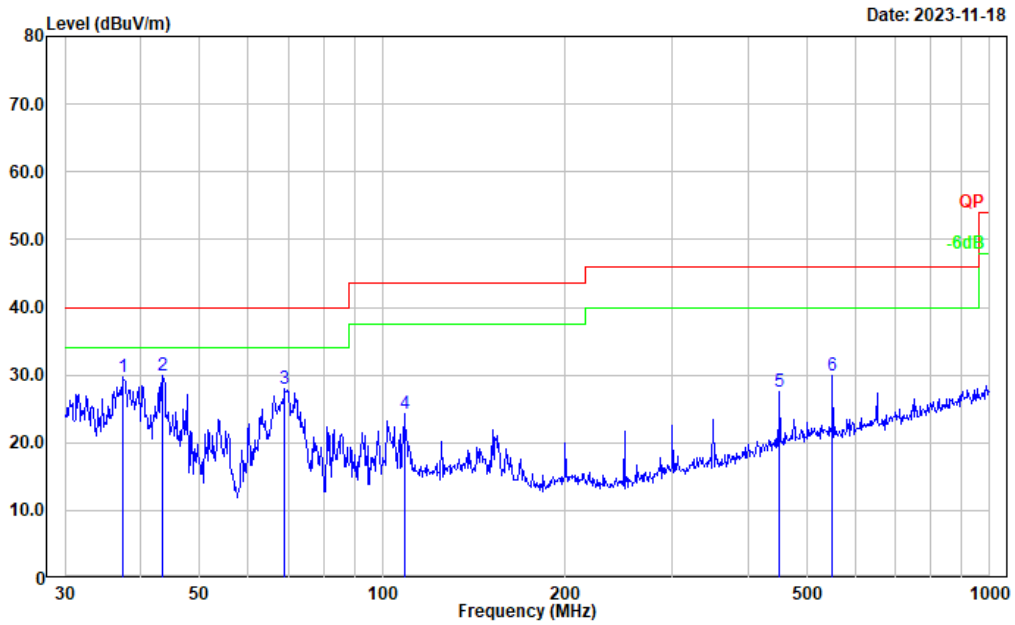
High channel

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.638	28.33	-4.28	24.05	40.00	15.95	Peak
2	199.986	37.52	-12.21	25.31	43.50	18.19	Peak
3	250.301	43.79	-13.18	30.61	46.00	15.39	Peak
4	300.367	40.89	-10.63	30.26	46.00	15.74	Peak
5	350.477	37.02	-10.03	26.99	46.00	19.01	Peak
6	952.094	30.54	-0.22	30.32	46.00	15.68	Peak

Project No.: CR231064045-RF
Tester: Carl Xue
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	37.416	39.03	-9.44	29.59	40.00	10.41	Peak
2	43.353	43.34	-13.32	30.02	40.00	9.98	Peak
3	69.114	44.68	-16.67	28.01	40.00	11.99	Peak
4	108.647	36.82	-12.54	24.28	43.50	19.22	Peak
5	451.135	34.46	-6.91	27.55	46.00	18.45	Peak
6	550.948	35.63	-5.74	29.89	46.00	16.11	Peak

2) 1-25GHz: For adapter F06US0500060A

802.11b Mode

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 2412 MHz							
2386.12	26.88	PK	H	31.68	58.56	74.00	15.44
2386.12	16.65	AV	H	31.68	48.33	54.00	5.67
2386.24	26.52	PK	V	31.68	58.20	74.00	15.80
2386.24	15.65	AV	V	31.68	47.33	54.00	6.67
2390.00	26.75	PK	H	31.71	58.46	74.00	15.54
2390.00	16.14	AV	H	31.71	47.85	54.00	6.15
2390.00	26.56	PK	V	31.71	58.27	74.00	15.73
2390.00	14.64	AV	V	31.71	46.35	54.00	7.65
4824.00	45.02	PK	H	11.26	56.28	74.00	17.72
4824.00	41.30	AV	H	11.26	52.56	54.00	1.44
4824.00	43.70	PK	V	11.26	54.96	74.00	19.04
4824.00	39.69	AV	V	11.26	50.95	54.00	3.05
Middle Channel: 2442 MHz							
4884.00	44.81	PK	H	11.49	56.30	74.00	17.70
4884.00	40.73	AV	H	11.49	52.22	54.00	1.78
4884.00	43.42	PK	V	11.49	54.91	74.00	19.09
4884.00	40.04	AV	V	11.49	51.53	54.00	2.47
High Channel: 2462 MHz							
2483.50	26.54	PK	H	32.19	58.73	74.00	15.27
2483.50	17.51	AV	H	32.19	49.70	54.00	4.30
2483.50	26.76	PK	V	32.19	58.95	74.00	15.05
2483.50	17.16	AV	V	32.19	49.35	54.00	4.65
2488.93	27.14	PK	H	32.21	59.35	74.00	14.65
2488.93	16.45	AV	H	32.21	48.66	54.00	5.34
2488.93	27.23	PK	V	32.21	59.44	74.00	14.56
2488.93	16.76	AV	V	32.21	48.97	54.00	5.03
4924.00	44.97	PK	H	11.67	56.64	74.00	17.36
4924.00	41.25	AV	H	11.67	52.92	54.00	1.08
4924.00	44.19	PK	V	11.67	55.86	74.00	18.14
4924.00	40.25	AV	V	11.67	51.92	54.00	2.08

802.11g Mode

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 2412 MHz							
2389.13	41.13	PK	H	31.70	72.83	74.00	1.17
2389.13	18.04	AV	H	31.70	49.74	54.00	4.26
2389.84	38.49	PK	V	31.71	70.20	74.00	3.80
2389.84	16.61	AV	V	31.71	48.32	54.00	5.68
2390.00	38.97	PK	H	31.71	70.68	74.00	3.32
2390.00	16.84	AV	H	31.71	48.55	54.00	5.45
2390.00	37.76	PK	V	31.71	69.47	74.00	4.53
2390.00	15.67	AV	V	31.71	47.38	54.00	6.62
4824.00	42.06	PK	H	11.26	53.32	74.00	20.68
4824.00	28.38	AV	H	11.26	39.64	54.00	14.36
4824.00	40.79	PK	V	11.26	52.05	74.00	21.95
4824.00	26.51	AV	V	11.26	37.77	54.00	16.23
Middle Channel: 2442 MHz							
4884.00	42.64	PK	H	11.49	54.13	74.00	19.87
4884.00	28.89	AV	H	11.49	40.38	54.00	13.62
4884.00	42.05	PK	V	11.49	53.54	74.00	20.46
4884.00	27.38	AV	V	11.49	38.87	54.00	15.13
High Channel: 2462 MHz							
2483.50	38.79	PK	H	32.19	70.98	74.00	3.02
2483.50	16.40	AV	H	32.19	48.59	54.00	5.41
2483.50	37.81	PK	V	32.19	70.00	74.00	4.00
2483.50	16.02	AV	V	32.19	48.21	54.00	5.79
2483.53	40.05	PK	H	32.19	72.24	74.00	1.76
2483.53	17.34	AV	H	32.19	49.53	54.00	4.47
2483.71	38.76	PK	V	32.20	70.96	74.00	3.04
2483.71	16.75	AV	V	32.20	48.95	54.00	5.05
4924.00	40.69	PK	H	11.67	52.36	74.00	21.64
4924.00	27.97	AV	H	11.67	39.64	54.00	14.36
4924.00	40.28	PK	V	11.67	51.95	74.00	22.05
4924.00	26.64	AV	V	11.67	38.31	54.00	15.69

802.11n ht20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 2412 MHz							
2389.94	39.08	PK	H	31.71	70.79	74.00	3.21
2389.94	14.93	AV	H	31.71	46.64	54.00	7.36
2389.02	37.91	PK	V	31.70	69.61	74.00	4.39
2389.02	14.53	AV	V	31.70	46.23	54.00	7.77
2390.00	37.87	PK	H	31.71	69.58	74.00	4.42
2390.00	14.82	AV	H	31.71	46.53	54.00	7.47
2390.00	36.63	PK	V	31.71	68.34	74.00	5.66
2390.00	14.58	AV	V	31.71	46.29	54.00	7.71
4824.00	40.75	PK	H	11.26	52.01	74.00	21.99
4824.00	26.70	AV	H	11.26	37.96	54.00	16.04
4824.00	40.57	PK	V	11.26	51.83	74.00	22.17
4824.00	25.69	AV	V	11.26	36.95	54.00	17.05
Middle Channel: 2442 MHz							
4884.00	41.13	PK	H	11.49	52.62	74.00	21.38
4884.00	27.91	AV	H	11.49	39.40	54.00	14.60
4884.00	40.55	PK	V	11.49	52.04	74.00	21.96
4884.00	26.32	AV	V	11.49	37.81	54.00	16.19
High Channel: 2462 MHz							
2483.50	37.12	PK	H	32.19	69.31	74.00	4.69
2483.50	14.55	AV	H	32.19	46.74	54.00	7.26
2483.50	35.72	PK	V	32.19	67.91	74.00	6.09
2483.50	14.98	AV	V	32.19	47.17	54.00	6.83
2483.58	38.06	PK	H	32.19	70.25	74.00	3.75
2483.58	14.54	AV	H	32.19	46.73	54.00	7.27
2483.84	36.86	PK	V	32.20	69.06	74.00	4.94
2483.84	14.77	AV	V	32.20	46.97	54.00	7.03
4924.00	40.39	PK	H	11.67	52.06	74.00	21.94
4924.00	25.94	AV	H	11.67	37.61	54.00	16.39
4924.00	40.18	PK	V	11.67	51.85	74.00	22.15
4924.00	24.71	AV	V	11.67	36.38	54.00	17.62

802.11n ht40 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				2422	MHz		
2389.83	40.98	PK	H	31.71	72.69	74.00	1.31
2389.83	15.81	AV	H	31.71	47.52	54.00	6.48
2389.84	38.52	PK	V	31.71	70.23	74.00	3.77
2389.84	15.49	AV	V	31.71	47.20	54.00	6.80
2390.00	39.12	PK	H	31.71	70.83	74.00	3.17
2390.00	15.00	AV	H	31.71	46.71	54.00	7.29
2390.00	37.85	PK	V	31.71	69.56	74.00	4.44
2390.00	14.60	AV	V	31.71	46.31	54.00	7.69
4844.00	37.64	PK	H	11.31	48.95	74.00	25.05
4844.00	24.06	AV	H	11.31	35.37	54.00	18.63
4844.00	37.42	PK	V	11.31	48.73	74.00	25.27
4844.00	23.27	AV	V	11.31	34.58	54.00	19.42
Channel:				2437	MHz		
2389.83	37.38	PK	H	31.71	69.09	74.00	4.91
2389.83	17.51	AV	H	31.71	49.22	54.00	4.78
2389.83	37.03	PK	V	31.71	68.74	74.00	5.26
2389.83	17.28	AV	V	31.71	48.99	54.00	5.01
Middle Channel:				2442	MHz		
4884.00	38.83	PK	H	11.49	50.32	74.00	23.68
4884.00	25.76	AV	H	11.49	37.25	54.00	16.75
4884.00	38.49	PK	V	11.49	49.98	74.00	24.02
4884.00	24.48	AV	V	11.49	35.97	54.00	18.03
Channel:				2447	MHz		
2484.46	40.37	PK	H	32.19	72.56	74.00	1.44
2484.46	19.95	AV	H	32.19	52.14	54.00	1.86
2484.46	39.70	PK	V	32.19	71.89	74.00	2.11
2484.46	19.78	AV	V	32.19	51.97	54.00	2.03
High Channel:				2452	MHz		
2483.50	37.93	PK	H	32.19	70.12	74.00	3.88
2483.50	15.42	AV	H	32.19	47.61	54.00	6.39
2483.50	38.04	PK	V	32.19	70.23	74.00	3.77
2483.50	15.09	AV	V	32.19	47.28	54.00	6.72
2483.53	40.28	PK	H	32.19	72.47	74.00	1.53
2483.53	15.40	AV	H	32.19	47.59	54.00	6.41
2483.54	38.77	PK	V	32.19	70.96	74.00	3.04
2483.54	14.95	AV	V	32.19	47.14	54.00	6.86
4904.00	36.90	PK	H	11.58	48.48	74.00	25.52
4904.00	23.62	AV	H	11.58	35.20	54.00	18.80
4904.00	36.55	PK	V	11.58	48.13	74.00	25.87
4904.00	22.73	AV	V	11.58	34.31	54.00	19.69

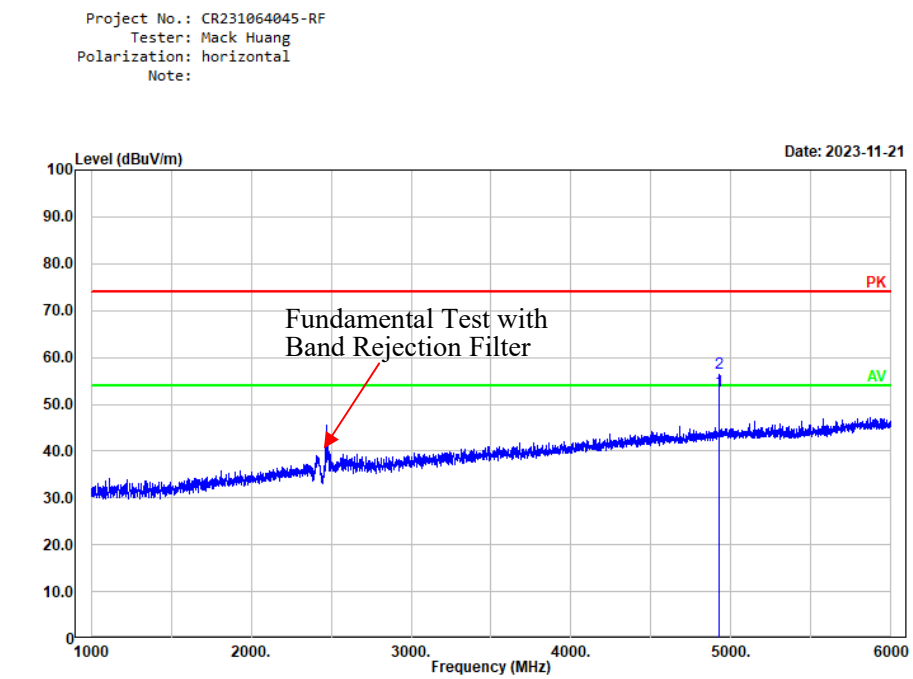
802.11ax HE20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				2412	MHz		
2389.94	39.84	PK	H	31.71	71.55	74.00	2.45
2389.94	16.18	AV	H	31.71	47.89	54.00	6.11
2388.09	38.88	PK	V	31.70	70.58	74.00	3.42
2388.09	15.73	AV	V	31.70	47.43	54.00	6.57
2390.00	39.10	PK	H	31.71	70.81	74.00	3.19
2390.00	15.02	AV	H	31.71	46.73	54.00	7.27
2390.00	37.60	PK	V	31.71	69.31	74.00	4.69
2390.00	15.47	AV	V	31.71	47.18	54.00	6.82
4824.00	40.79	PK	H	11.26	52.05	74.00	21.95
4824.00	26.55	AV	H	11.26	37.81	54.00	16.19
4824.00	40.60	PK	V	11.26	51.86	74.00	22.14
4824.00	25.58	AV	V	11.26	36.84	54.00	17.16
Middle Channel:				2442	MHz		
4884.00	41.19	PK	H	11.49	52.68	74.00	21.32
4884.00	28.04	AV	H	11.49	39.53	54.00	14.47
4884.00	40.55	PK	V	11.49	52.04	74.00	21.96
4884.00	26.44	AV	V	11.49	37.93	54.00	16.07
High Channel:				2462	MHz		
2483.50	38.37	PK	H	32.19	70.56	74.00	3.44
2483.50	15.37	AV	H	32.19	47.56	54.00	6.44
2483.50	36.85	PK	V	32.19	69.04	74.00	4.96
2483.50	15.00	AV	V	32.19	47.19	54.00	6.81
2483.72	39.75	PK	H	32.20	71.95	74.00	2.05
2483.72	15.26	AV	H	32.20	47.46	54.00	6.54
2483.56	37.74	PK	V	32.19	69.93	74.00	4.07
2483.56	14.98	AV	V	32.19	47.17	54.00	6.83
4924.00	38.85	PK	H	11.67	50.52	74.00	23.48
4924.00	26.01	AV	H	11.67	37.68	54.00	16.32
4924.00	38.37	PK	V	11.67	50.04	74.00	23.96
4924.00	24.94	AV	V	11.67	36.61	54.00	17.39

802.11ax HE40 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				2422	MHz		
2389.02	41.20	PK	H	31.70	72.90	74.00	1.10
2389.02	14.93	AV	H	31.70	46.63	54.00	7.37
2389.13	38.49	PK	V	31.70	70.19	74.00	3.81
2389.13	15.44	AV	V	31.70	47.14	54.00	6.86
2390.00	40.06	PK	H	31.71	71.77	74.00	2.23
2390.00	15.20	AV	H	31.71	46.91	54.00	7.09
2390.00	37.76	PK	V	31.71	69.47	74.00	4.53
2390.00	15.39	AV	V	31.71	47.10	54.00	6.90
4844.00	38.20	PK	H	11.31	49.51	74.00	24.49
4844.00	24.01	AV	H	11.31	35.32	54.00	18.68
4844.00	37.53	PK	V	11.31	48.84	74.00	25.16
4844.00	23.27	AV	V	11.31	34.58	54.00	19.42
Channel:				2437	MHz		
2388.21	40.21	PK	H	31.70	71.91	74.00	2.09
2388.21	17.82	AV	H	31.70	49.52	54.00	4.48
2388.21	39.16	PK	V	31.70	70.86	74.00	3.14
2388.21	17.05	AV	V	31.70	48.75	54.00	5.25
Middle Channel:				2442	MHz		
4884.00	39.02	PK	H	11.49	50.51	74.00	23.49
4884.00	25.64	AV	H	11.49	37.13	54.00	16.87
4884.00	38.45	PK	V	11.49	49.94	74.00	24.06
4884.00	24.39	AV	V	11.49	35.88	54.00	18.12
Channel:				2447	MHz		
2487.88	40.12	PK	H	32.21	72.33	74.00	1.67
2487.88	18.25	AV	H	32.21	50.46	54.00	3.54
2487.88	39.71	PK	V	32.21	71.92	74.00	2.08
2487.88	17.01	AV	V	32.21	49.22	54.00	4.78
High Channel:				2452	MHz		
2483.50	39.16	PK	H	32.19	71.35	74.00	2.65
2483.50	13.17	AV	H	32.19	45.36	54.00	8.64
2483.50	37.20	PK	V	32.19	69.39	74.00	4.61
2483.50	12.86	AV	V	32.19	45.05	54.00	8.95
2484.18	39.87	PK	H	32.20	72.07	74.00	1.93
2484.18	14.29	AV	H	32.20	46.49	54.00	7.51
2483.75	38.56	PK	V	32.20	70.76	74.00	3.24
2483.75	13.73	AV	V	32.20	45.93	54.00	8.07
4904.00	36.85	PK	H	11.58	48.43	74.00	25.57
4904.00	23.40	AV	H	11.58	34.98	54.00	19.02
4904.00	36.46	PK	V	11.58	48.04	74.00	25.96
4904.00	22.68	AV	V	11.58	34.26	54.00	19.74

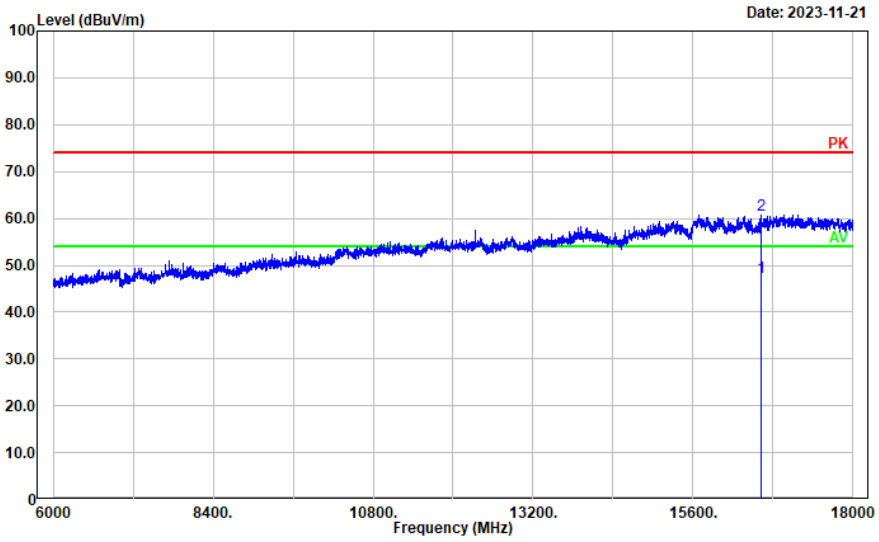
Listed with the worst harmonic margin test plot: 802.11b High channel

Horizontal	
1-6GHz	

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	4924.000	41.25	11.67	52.92	54.00	1.08	Average
2	4924.000	44.97	11.67	56.64	74.00	17.36	Peak

6-18GHz

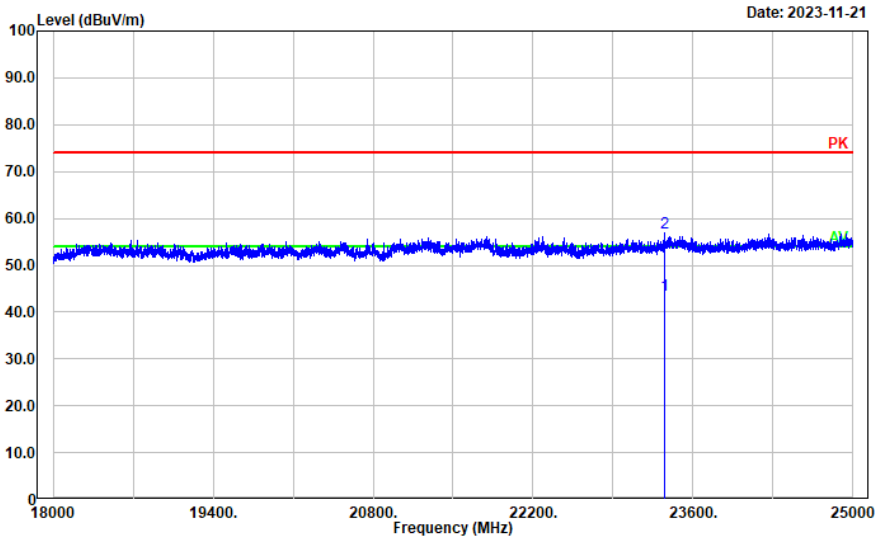
Project No.: CR231064045-RF
Tester: Mack Huang
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	16622.130	20.75	26.73	47.48	54.00	6.52	Average
2	16622.130	34.03	26.73	60.76	74.00	13.24	Peak

18-25GHz

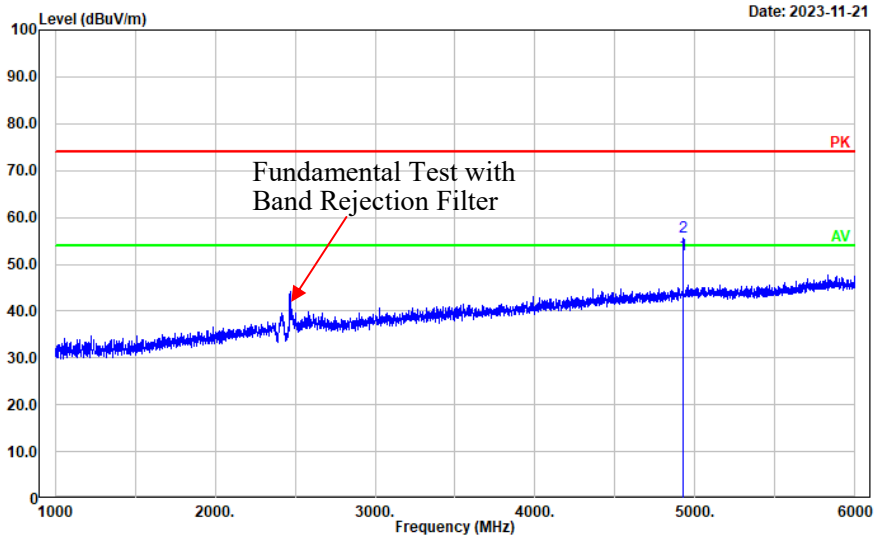
Project No.: CR231064045-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	23346.270	38.18	5.41	43.59	54.00	10.41	Average
2	23346.270	51.44	5.41	56.85	74.00	17.15	Peak

Vertical	
1-6GHz	

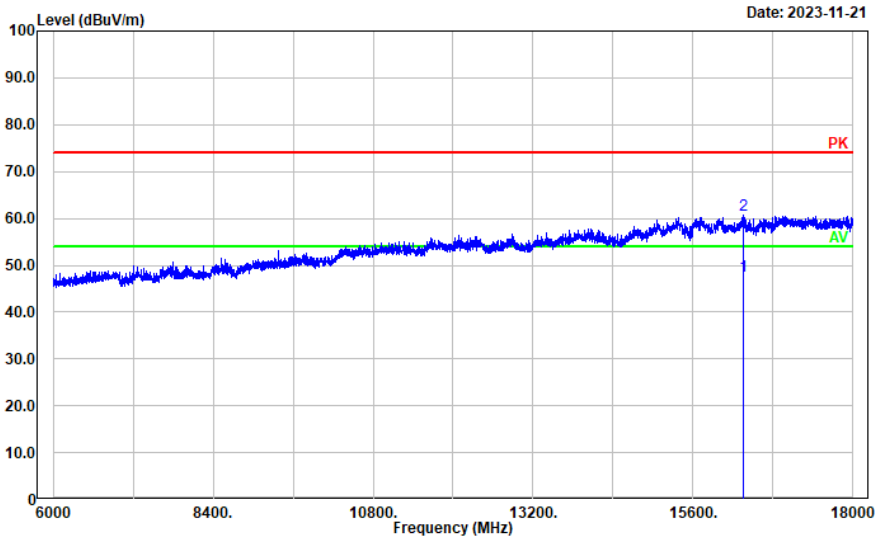
Project No.: CR231064045-RF
Tester: Mack Huang
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	4924.000	40.25	11.67	51.92	54.00	2.08	Average
2	4924.000	44.19	11.67	55.86	74.00	18.14	Peak

6-18GHz

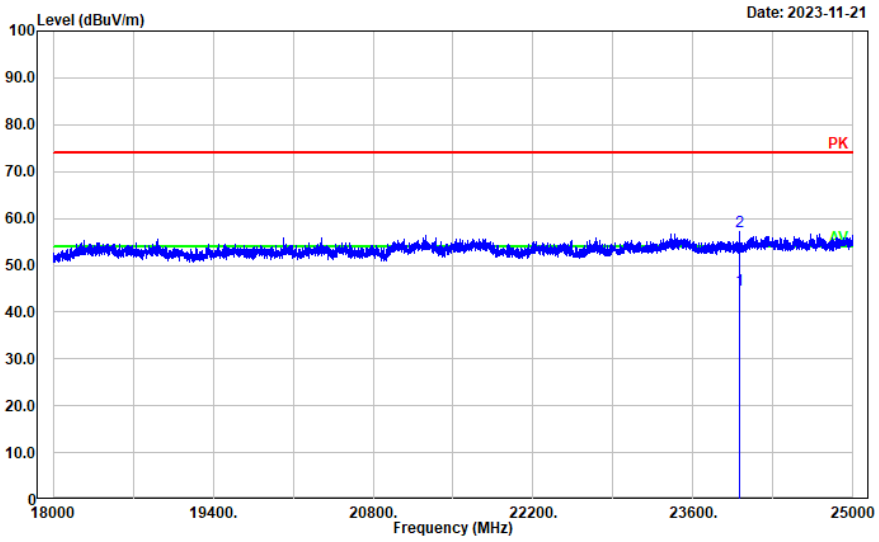
Project No.: CR231064045-RF
Tester: Mack Huang
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	16360.470	21.92	25.71	47.63	54.00	6.37	Average
2	16360.470	34.95	25.71	60.66	74.00	13.34	Peak

18-25GHz

Project No.: CR231064045-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	24008.600	39.94	4.70	44.64	54.00	9.36	Average
2	24008.600	52.53	4.70	57.23	74.00	16.77	Peak

4.3 Minimum 6 dB Emission Bandwidth

Serial Number:	2CYP-1	Test Date:	2023/11/18
Test Site:	RF	Test Mode:	Transmitting
Tester:	Len Huang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	24	Relative Humidity: (%)	54	ATM Pressure: (kPa)	101

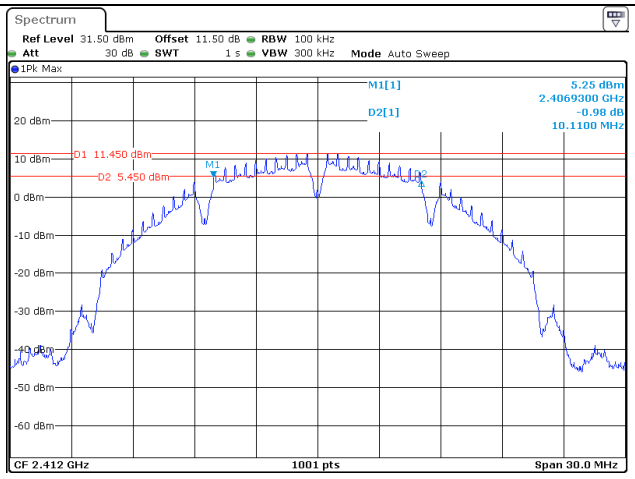
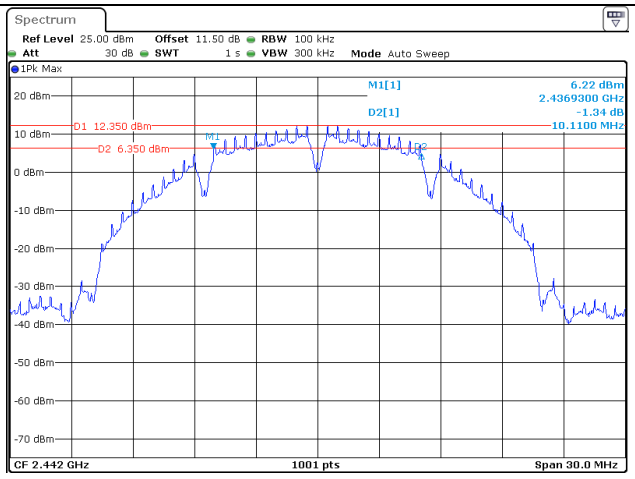
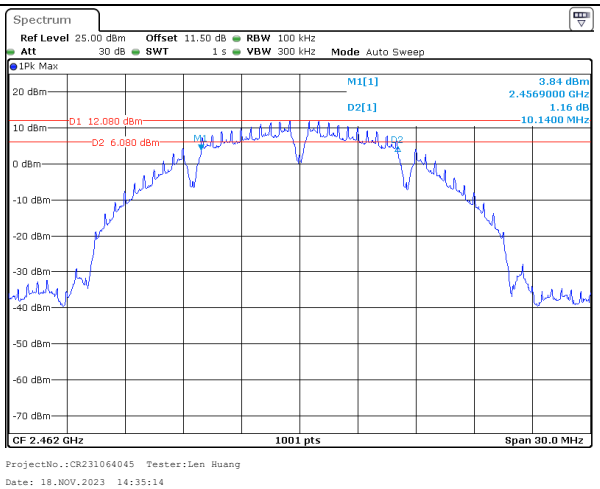
Test Equipment List and Details:

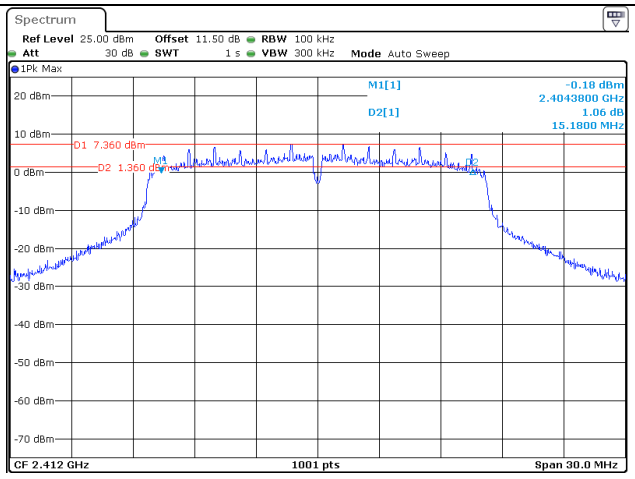
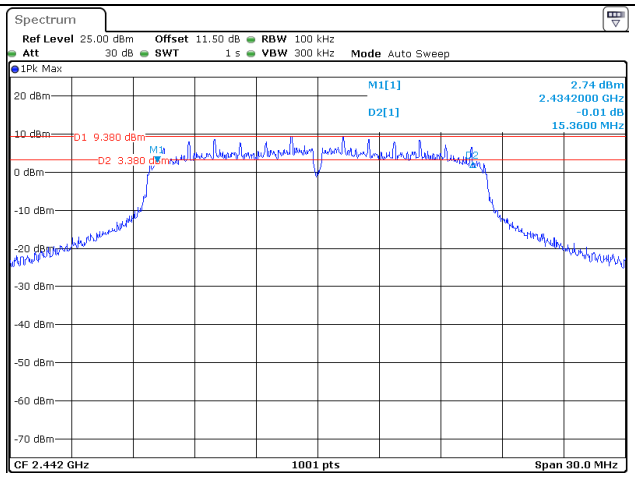
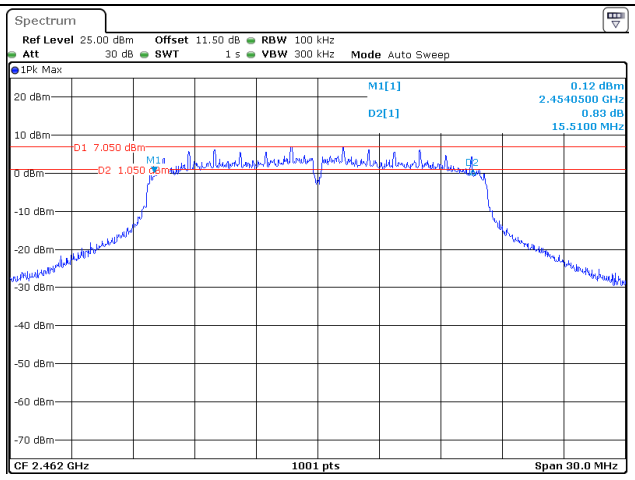
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023/4/18	2024/4/17
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A

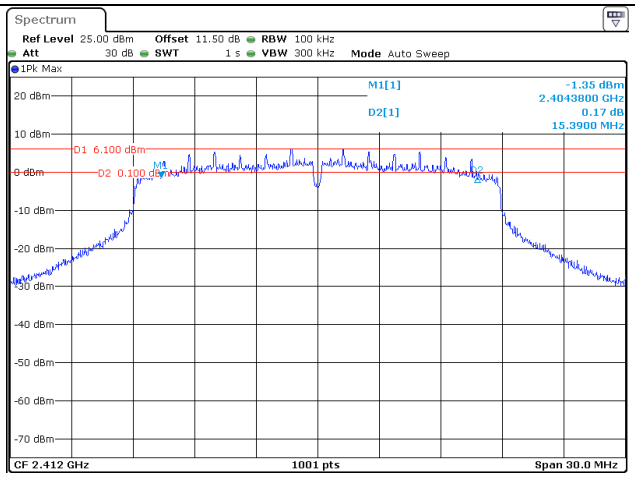
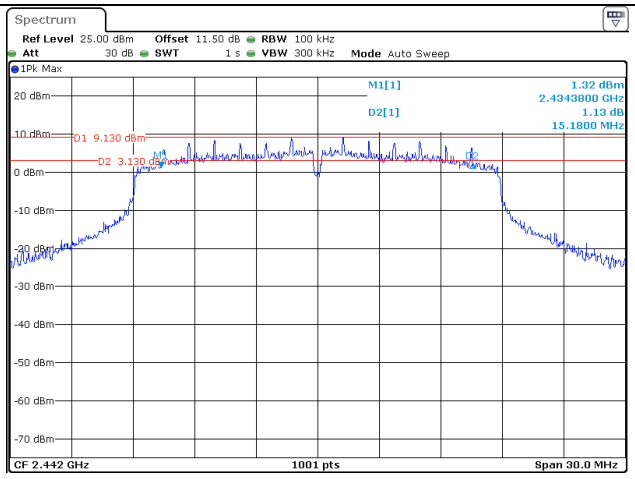
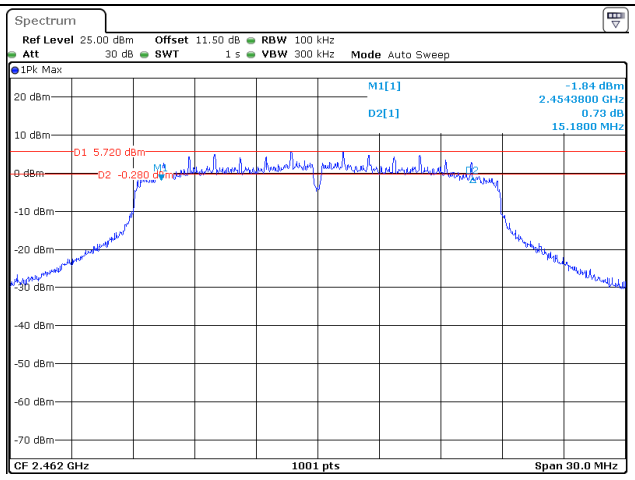
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

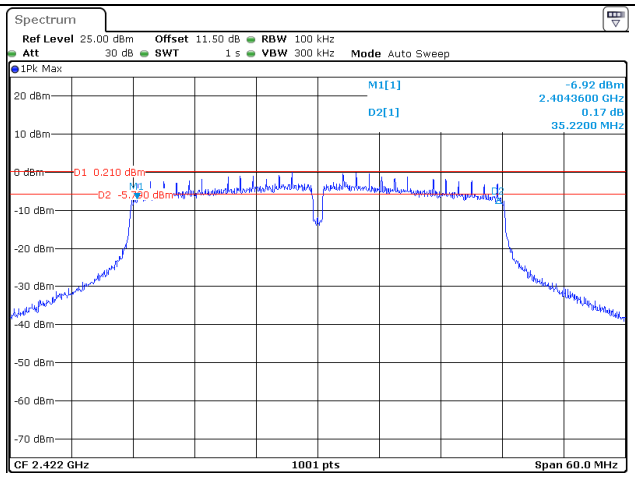
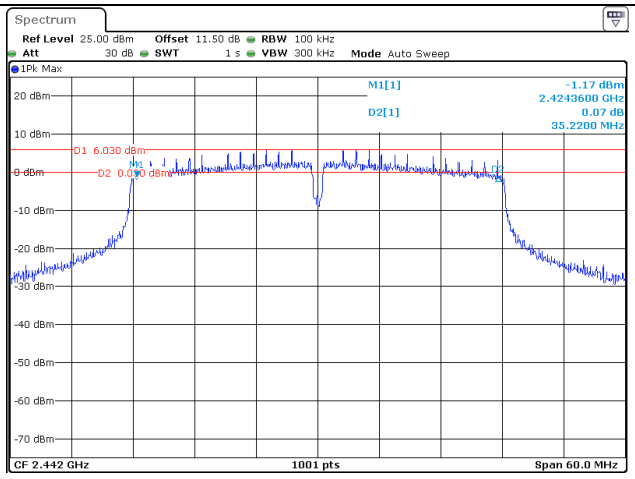
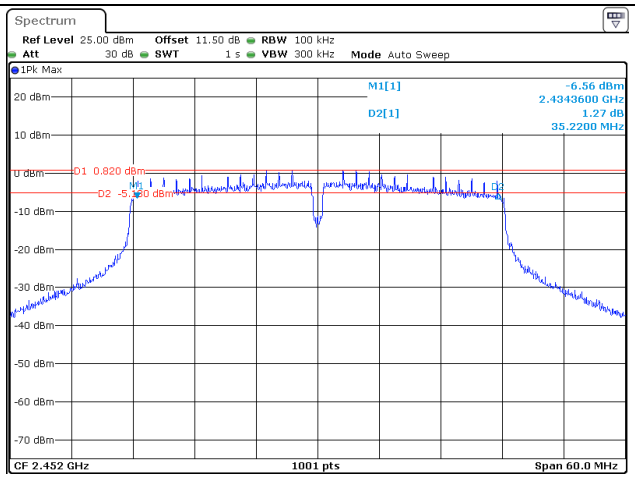
Test Data:

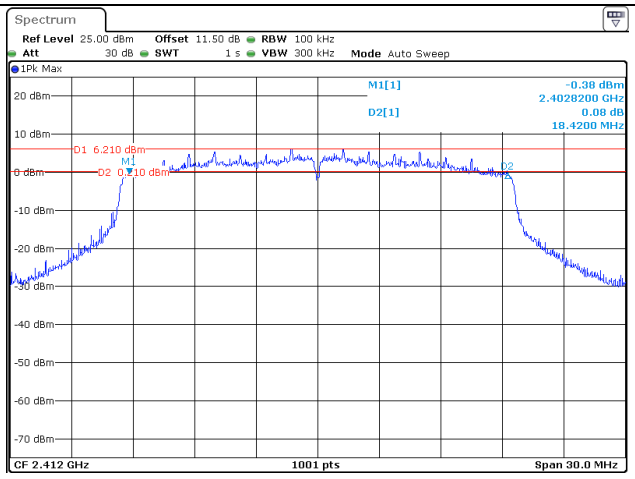
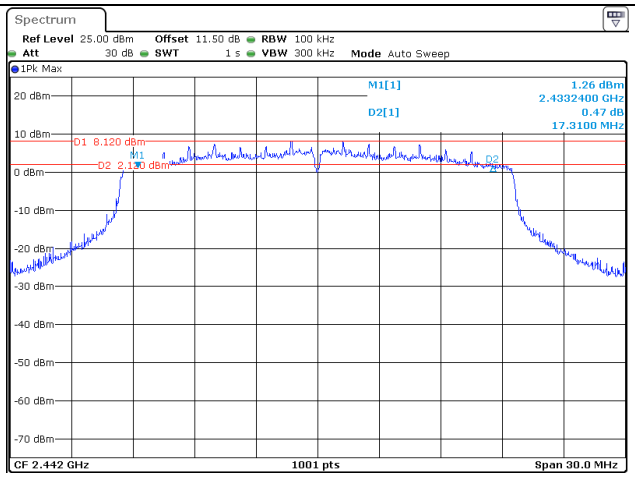
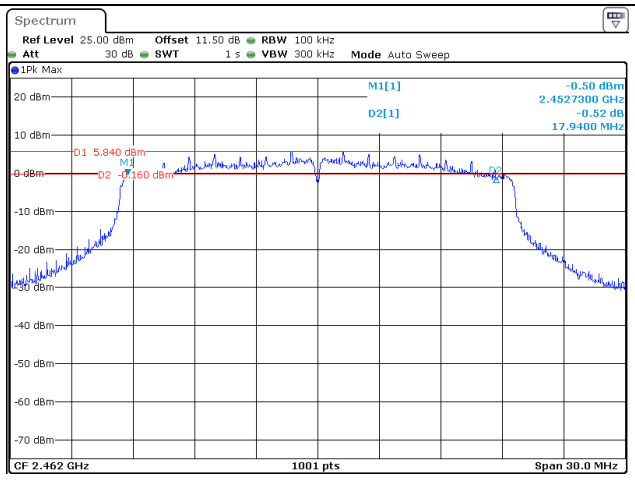
Test Modes	Test Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)
802.11b	2412	10.11	0.5
	2442	10.11	0.5
	2462	10.14	0.5
802.11g	2412	15.18	0.5
	2442	15.36	0.5
	2462	15.51	0.5
802.11n ht20	2412	15.39	0.5
	2442	15.18	0.5
	2462	15.18	0.5
802.11n ht40	2422	35.22	0.5
	2442	35.22	0.5
	2452	35.22	0.5
802.11ax HE20	2412	18.42	0.5
	2442	17.31	0.5
	2462	17.94	0.5
802.11ax HE40	2422	37.38	0.5
	2442	37.08	0.5
	2452	36.90	0.5

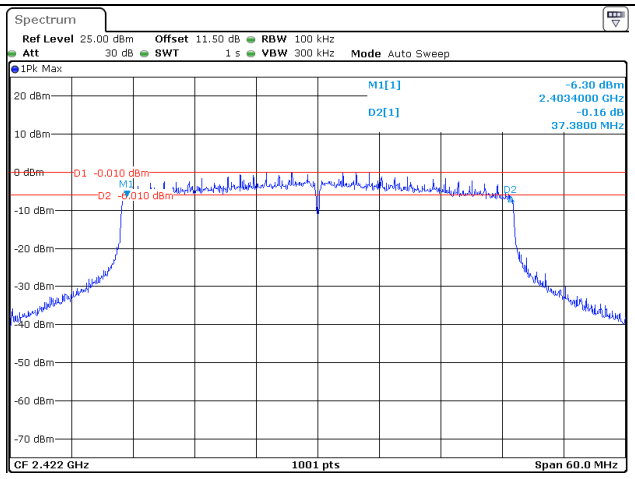
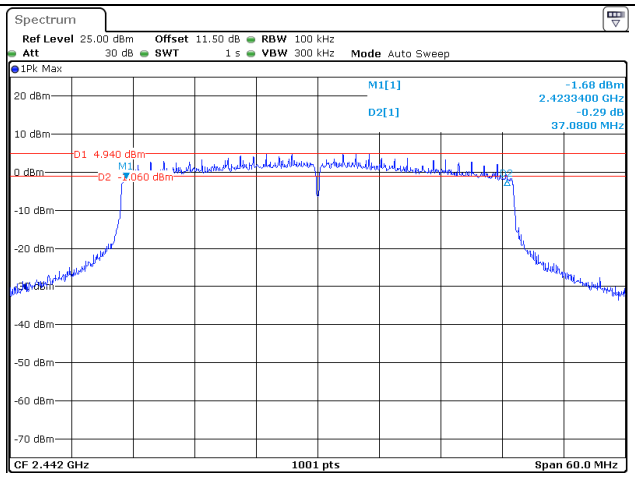
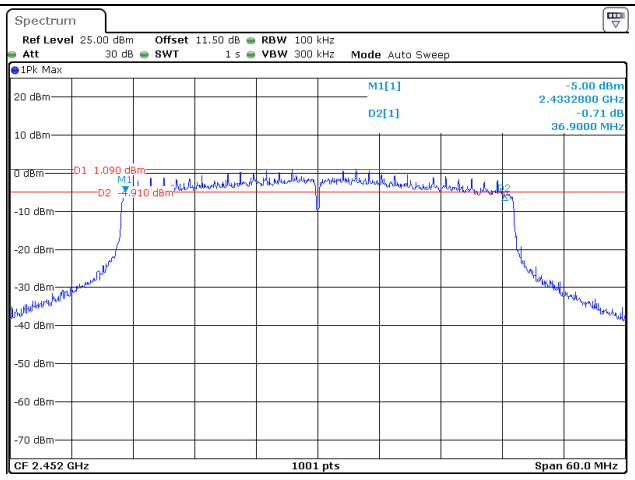
Minimum 6dB Emission Bandwidth	
802.11b Lowest Channel	
802.11b Middle Channel	
802.11b Highest Channel	

Minimum 6dB Emission Bandwidth	
802.11g Lowest Channel	
802.11g Middle Channel	
802.11g Highest Channel	

Minimum 6dB Emission Bandwidth	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

Minimum 6dB Emission Bandwidth	
802.11n ht40 Lowest Channel	
802.11n ht40 Middle Channel	
802.11n ht40 Highest Channel	

Minimum 6dB Emission Bandwidth	
802.11ax HE20 Lowest Channel	
802.11ax HE20 Middle Channel	
802.11ax HE20 Highest Channel	

Minimum 6dB Emission Bandwidth	
802.11ax HE40 Lowest Channel	
802.11ax HE40 Middle Channel	
802.11ax HE40 Highest Channel	

4.4 99% Occupied Bandwidth

Serial Number:	2CYP-1	Test Date:	2023/11/18
Test Site:	RF	Test Mode:	Transmitting
Tester:	Len Huang	Test Result:	N/A

Environmental Conditions:					
Temperature: (℃)	24	Relative Humidity: (%)	54	ATM Pressure: (kPa)	101

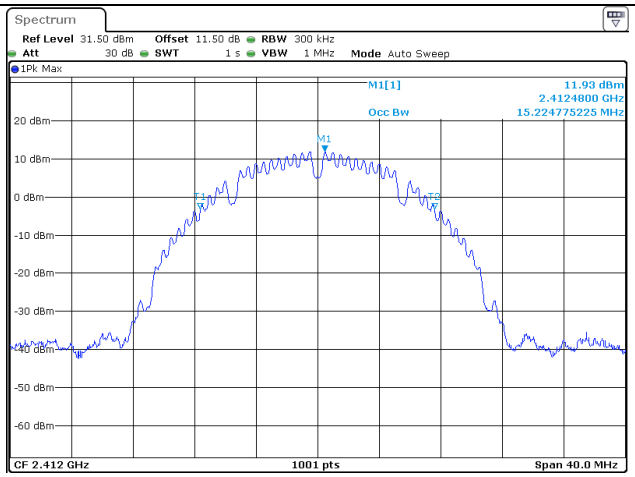
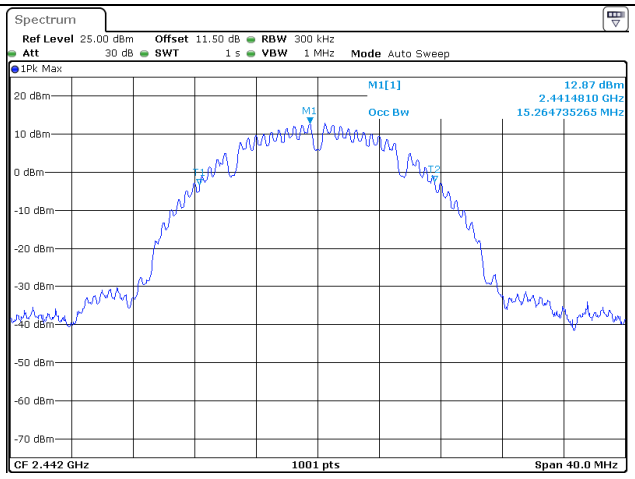
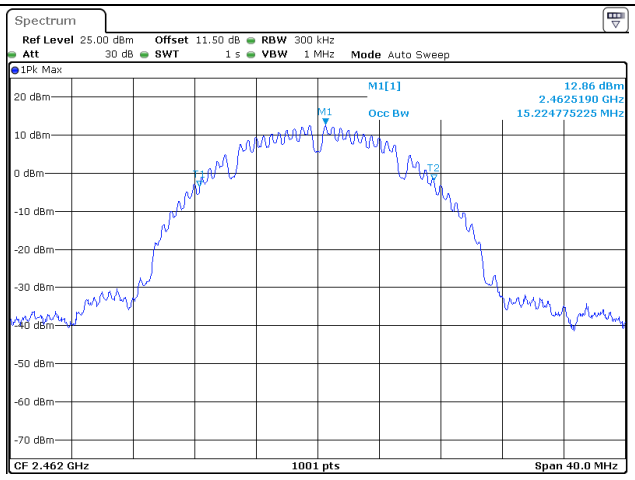
Test Equipment List and Details:

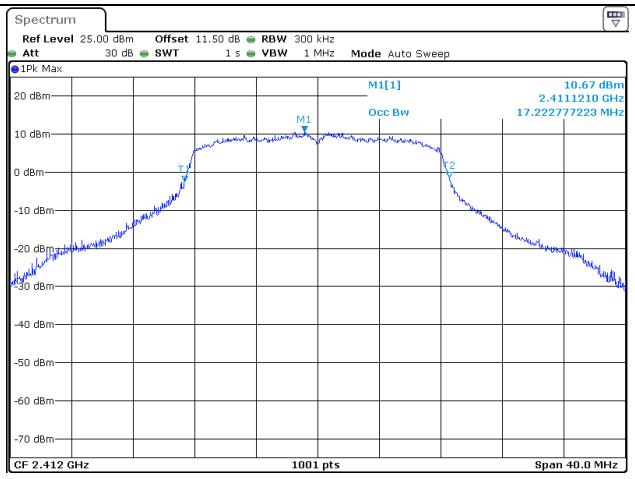
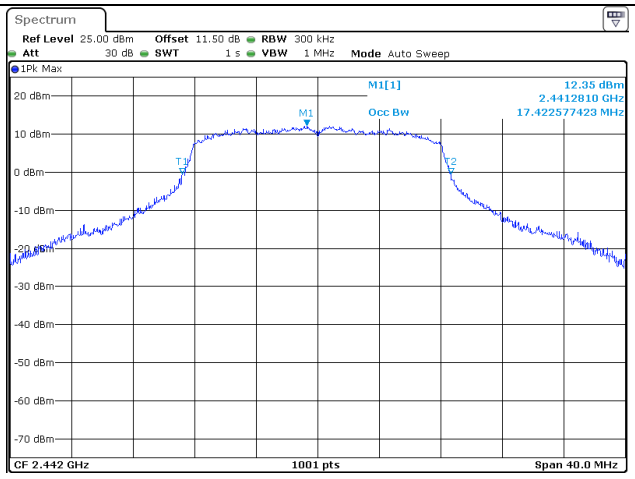
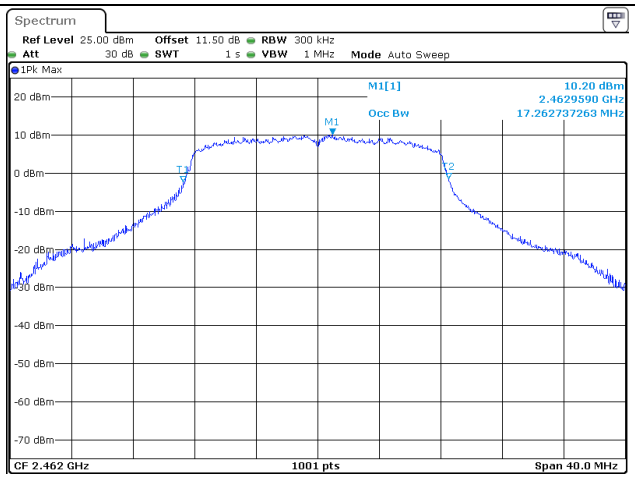
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023/4/18	2024/4/17
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A

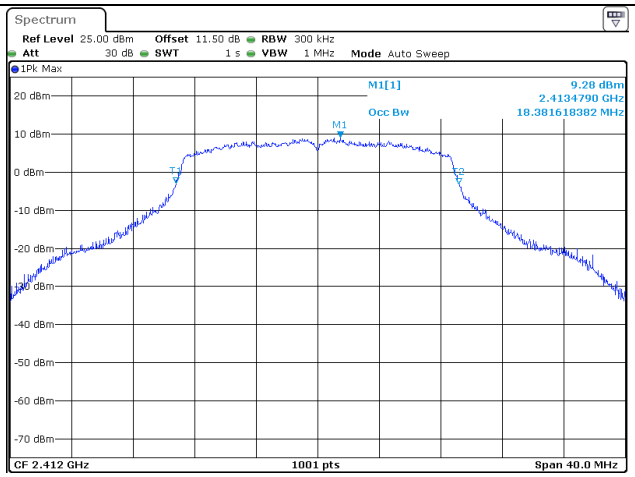
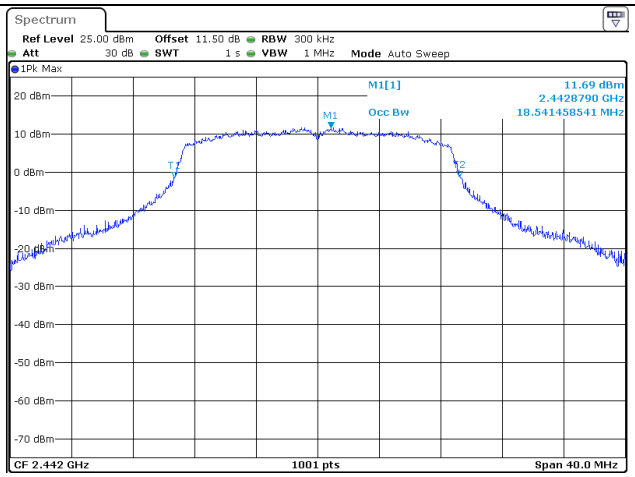
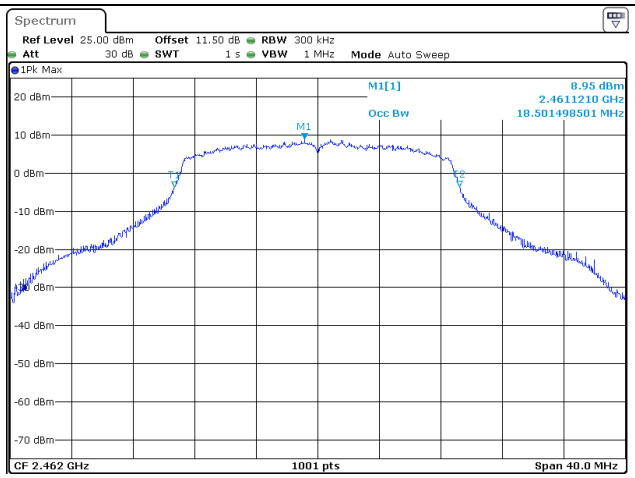
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

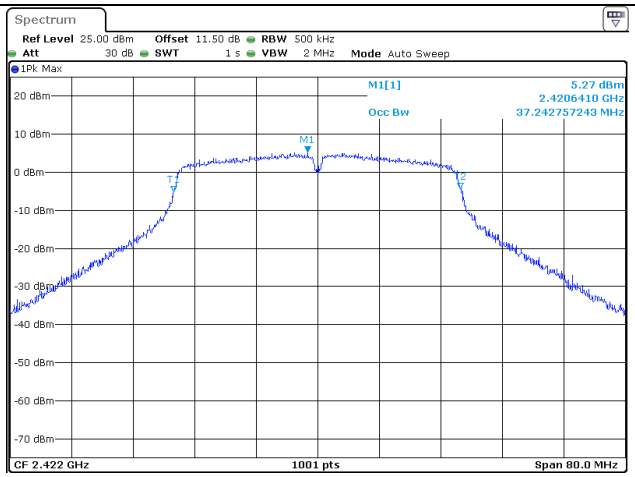
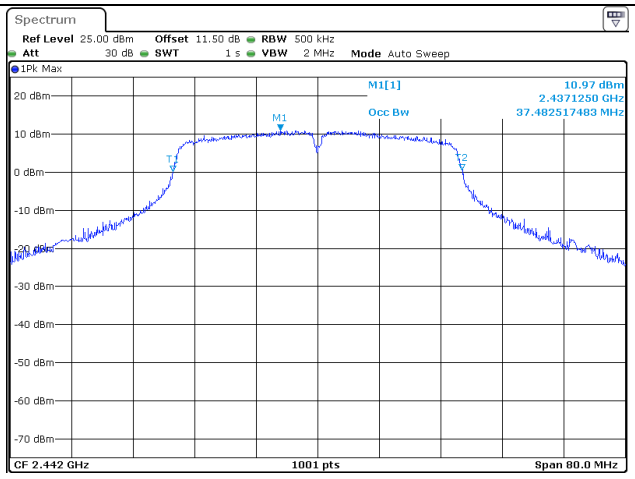
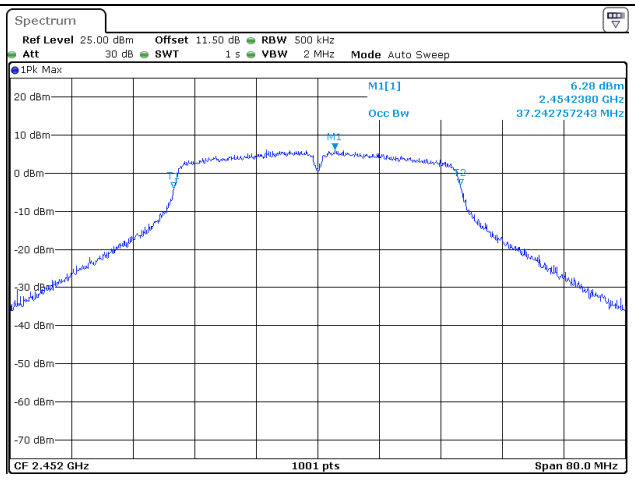
Test Data:

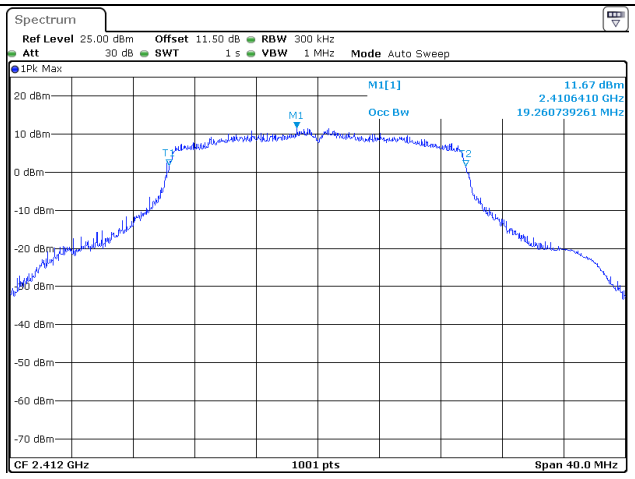
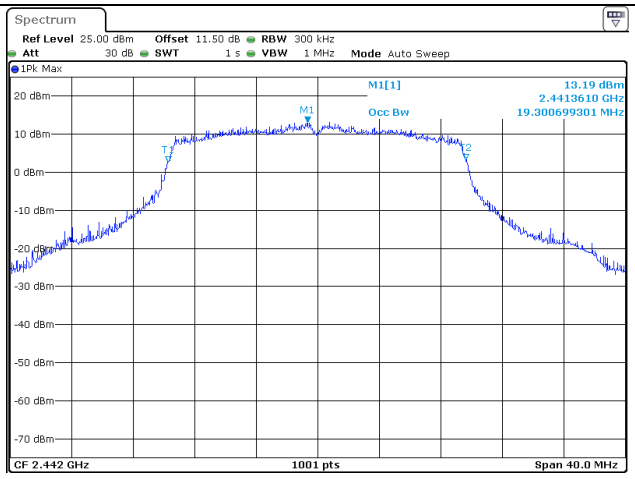
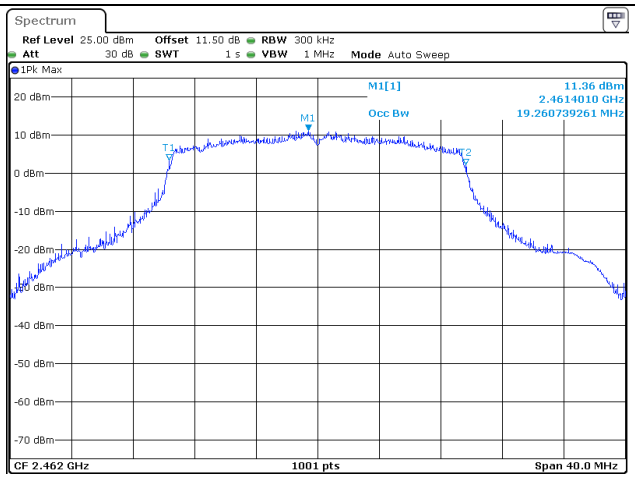
Test Modes	Test Channel	Test Frequency (MHz)	99% Occupied Bandwidth (MHz)
802.11b	Lowest	2412	15.22
	Middle	2442	15.26
	Highest	2462	15.22
802.11g	Lowest	2412	17.22
	Middle	2442	17.42
	Highest	2462	17.26
802.11n ht20	Lowest	2412	18.38
	Middle	2442	18.54
	Highest	2462	18.50
802.11n ht40	Lowest	2422	37.24
	Middle	2442	37.48
	Highest	2452	37.24
802.11ax HE20	Lowest	2412	19.26
	Middle	2442	19.30
	Highest	2462	19.26
802.11ax HE40	Lowest	2422	38.04
	Middle	2442	38.04
	Highest	2452	37.96

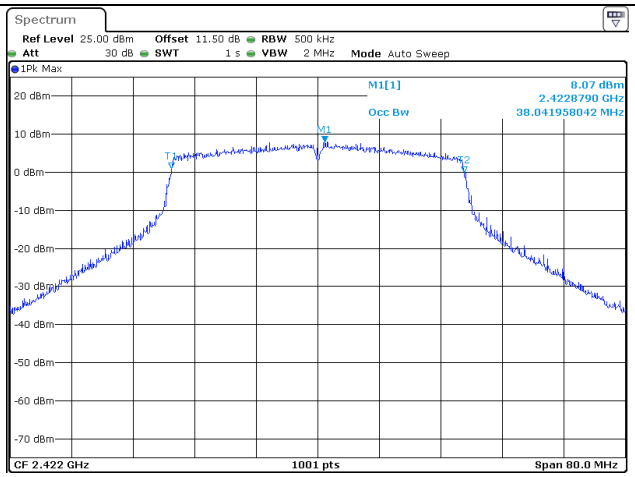
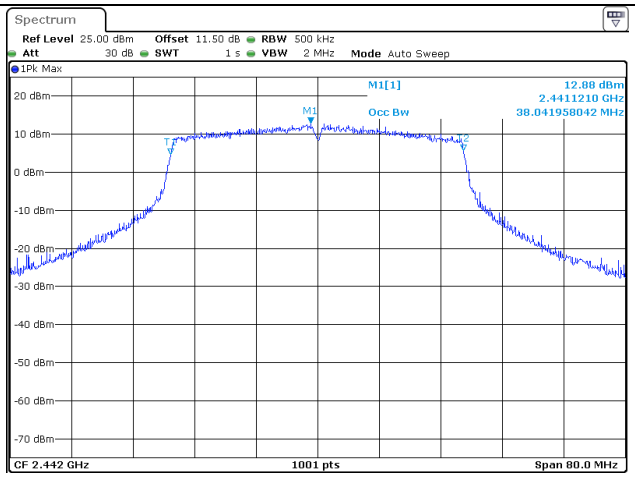
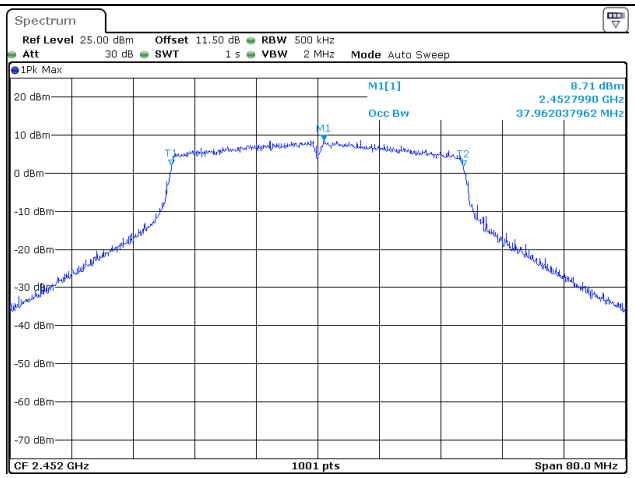
99% Occupied Bandwidth	
802.11b Lowest Channel	
802.11b Middle Channel	
802.11b Highest Channel	

99% Occupied Bandwidth	
802.11g Lowest Channel	
802.11g Middle Channel	
802.11g Highest Channel	

99% Occupied Bandwidth	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

99% Occupied Bandwidth	
802.11n ht40 Lowest Channel	
802.11n ht40 Middle Channel	
802.11n ht40 Highest Channel	

99% Occupied Bandwidth	
802.11ax HE20 Lowest Channel	
802.11ax HE20 Middle Channel	
802.11ax HE20 Highest Channel	

99% Occupied Bandwidth	
802.11ax HE40 Lowest Channel	
802.11ax HE40 Middle Channel	
802.11ax HE40 Highest Channel	

4.5 Maximum Conducted Output Power

Serial Number:	2CYP-1	Test Date:	2023/11/18
Test Site:	RF	Test Mode:	Transmitting
Tester:	Len Huang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	24	Relative Humidity: (%)	54	ATM Pressure: (kPa)	101

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Anritsu	Power Meter	ML2495A	1106009	2023/8/4	2024/8/3
Anritsu	Pulse Power Sensor	MA2411A	10780	2023/8/4	2024/8/3

** 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 Modes	Test Frequency (MHz)	Maximum Conducted Peak Output Power (dBm)	Limit (dBm)
802.11b	2412	22.68	30
	2442	23.45	30
	2462	23.34	30
802.11g	2412	25.80	30
	2442	27.21	30
	2462	25.33	30
802.11n ht20	2412	24.41	30
	2442	27.33	30
	2462	23.95	30
802.11n ht40	2422	21.39	30
	2437	27.24	30
	2442	27.32	30
	2447	25.11	30
	2452	22.26	30
802.11ax HE20	2412	26.61	30
	2442	29.25	30
	2462	26.12	30
802.11ax HE40	2422	23.59	30
	2437	29.33	30
	2442	29.51	30
	2447	27.73	30
	2452	24.46	30

4.6 Maximum Power Spectral Density

Serial Number:	2CYP-1	Test Date:	2023/11/18
Test Site:	RF	Test Mode:	Transmitting
Tester:	Len Huang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	24	Relative Humidity: (%)	54	ATM Pressure: (kPa)	101

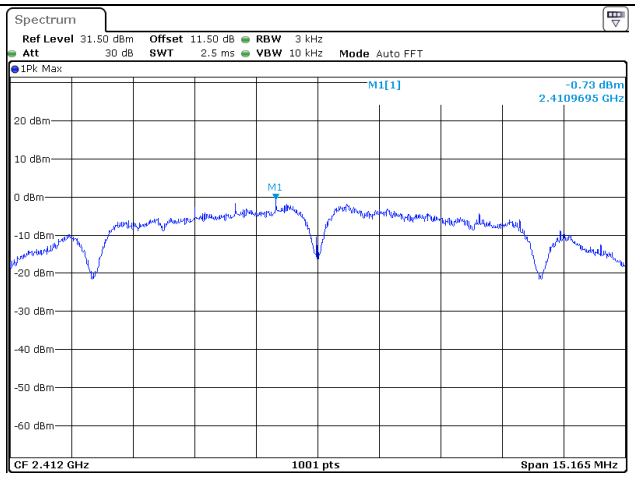
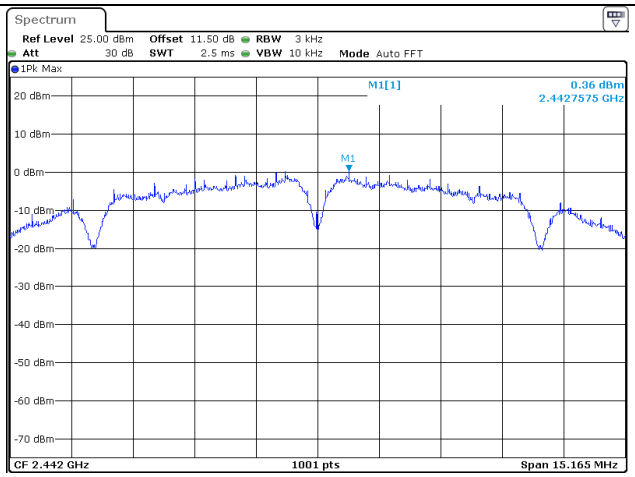
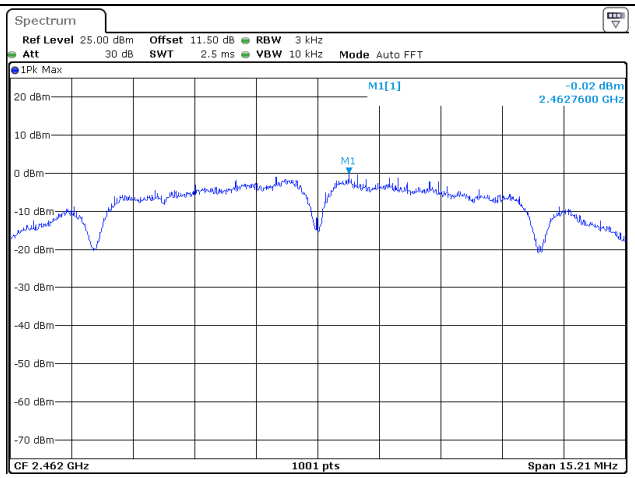
Test Equipment List and Details:

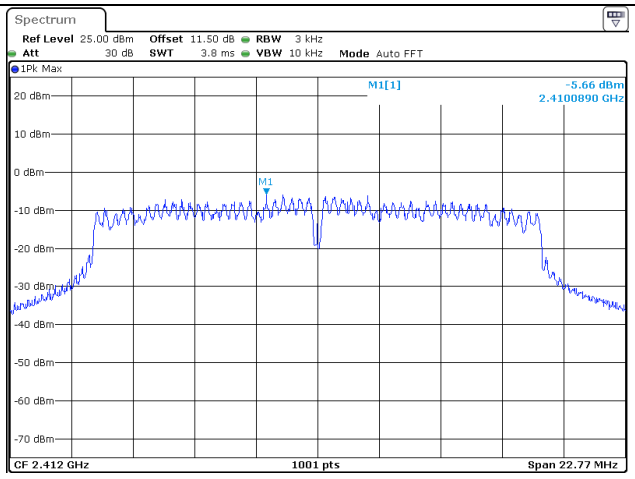
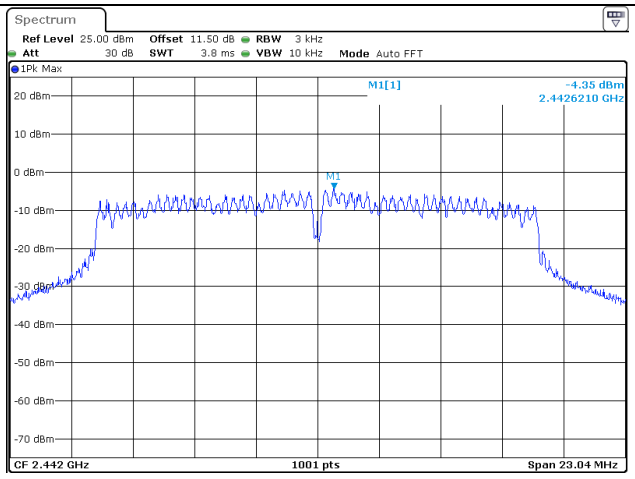
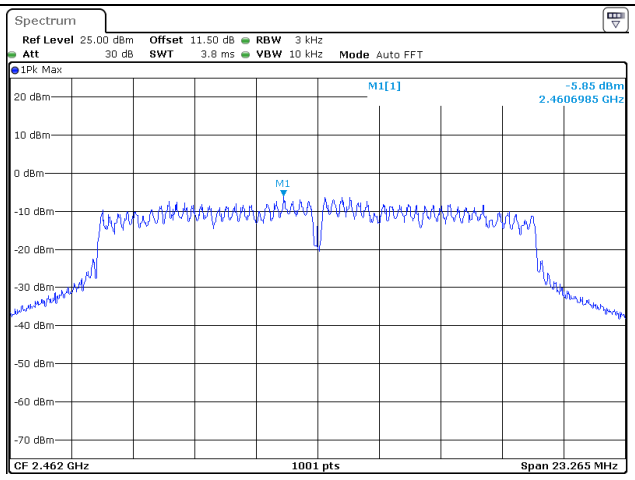
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023-04-18	2024-04-17
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A

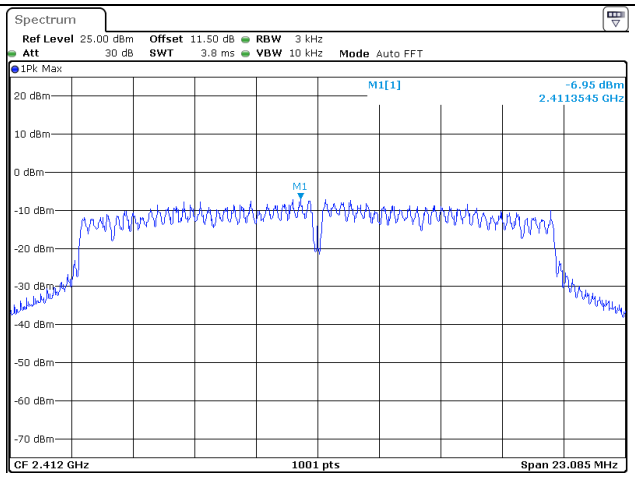
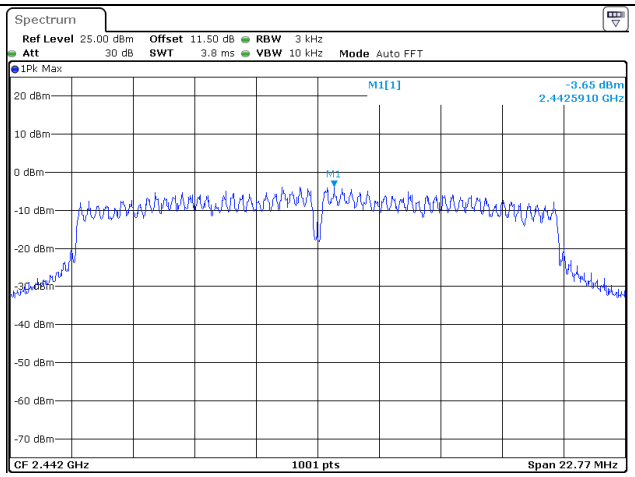
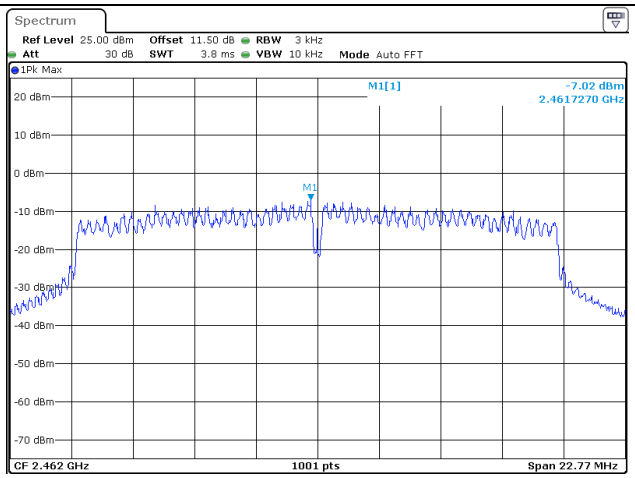
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

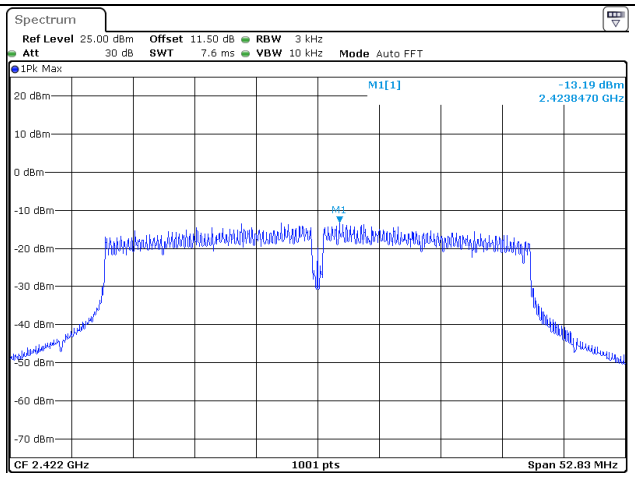
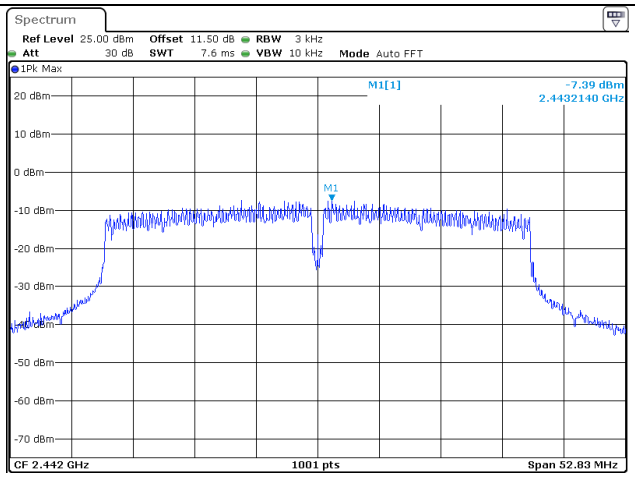
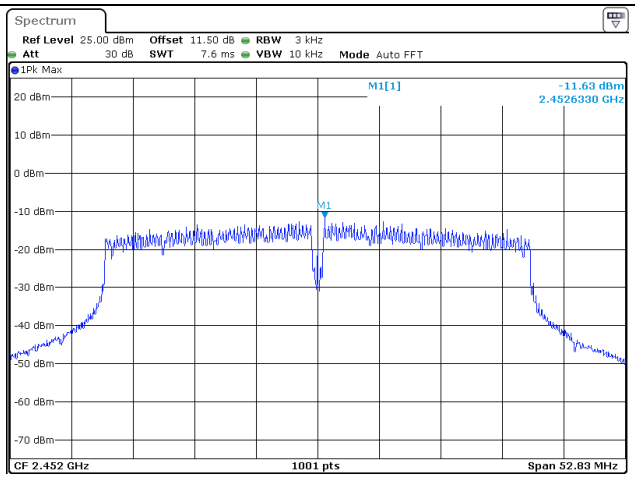
Test Data:

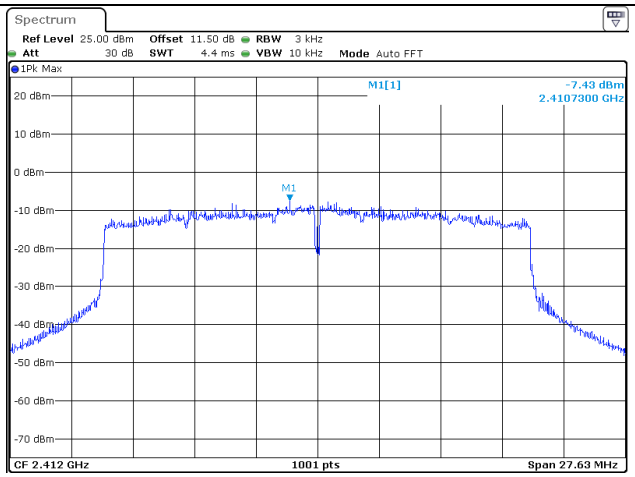
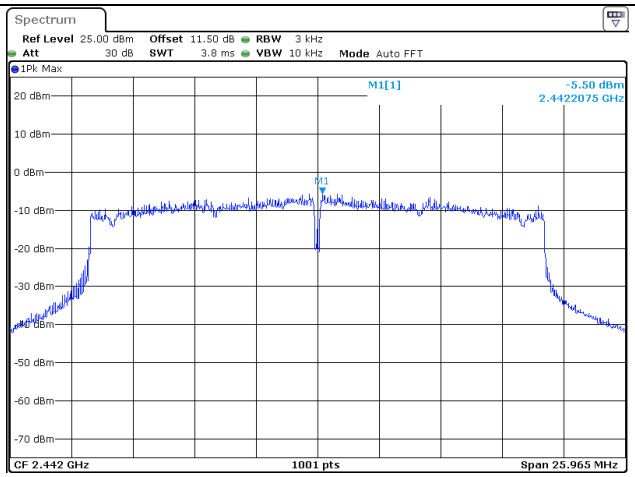
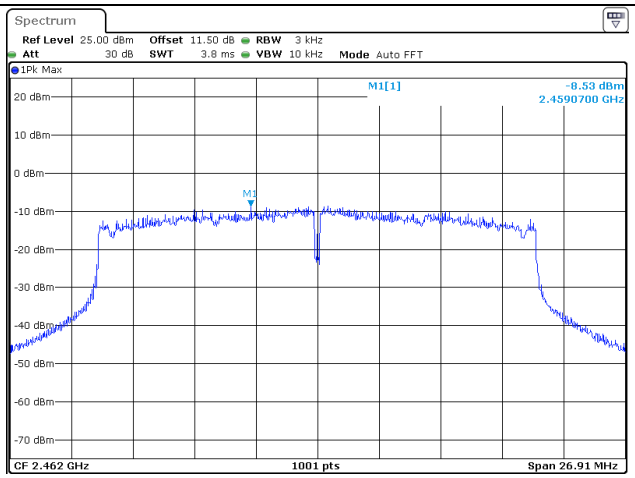
Test Channel	Test Frequency (MHz)	Reading (dBm/3kHz)	Limit (dBm/3kHz)
802.11b	2412	-0.73	8.00
	2442	0.36	8.00
	2462	-0.02	8.00
802.11g	2412	-5.66	8.00
	2442	-4.35	8.00
	2462	-5.85	8.00
802.11n ht20	2412	-6.95	8.00
	2442	-3.65	8.00
	2462	-7.02	8.00
802.11n ht40	2422	-13.19	8.00
	2442	-7.39	8.00
	2452	-11.63	8.00
802.11ax HE20	2412	-7.43	8.00
	2442	-5.50	8.00
	2462	-8.53	8.00
802.11ax HE40	2422	-14.35	8.00
	2442	-8.96	8.00
	2452	-12.70	8.00

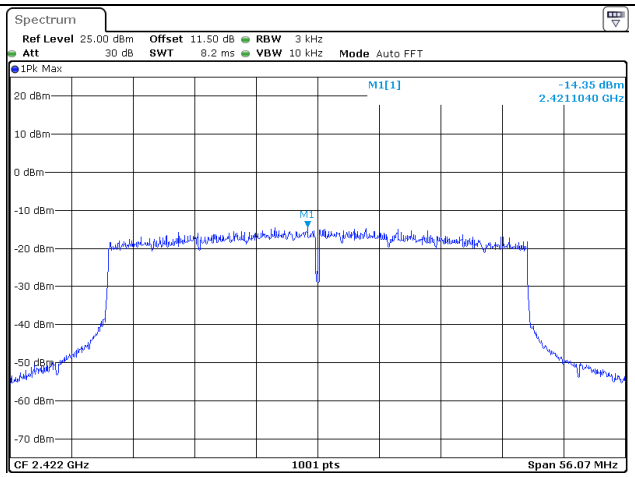
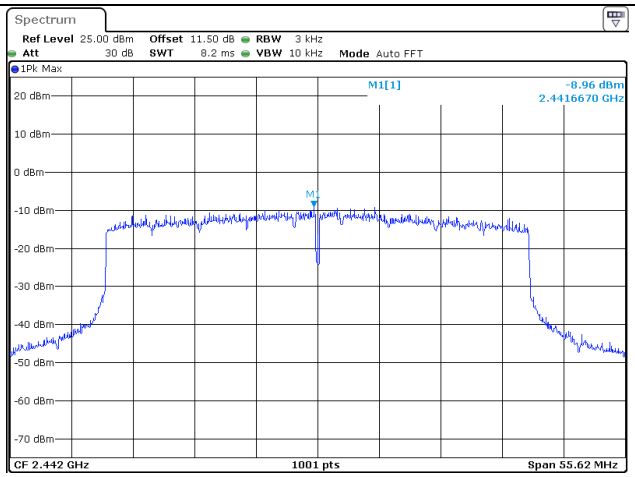
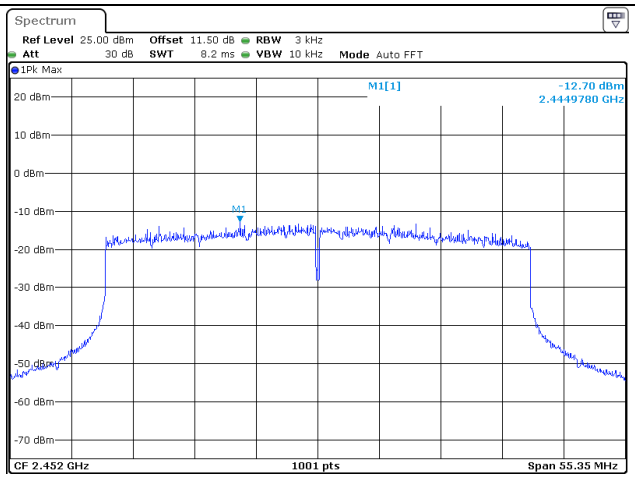
Maximum power spectral density	
802.11b Lowest Channel	
802.11b Middle Channel	
802.11b Highest Channel	

Maximum power spectral density	
802.11g Lowest Channel	
802.11g Middle Channel	
802.11g Highest Channel	

Maximum power spectral density	
802.11n ht20 Lowest Channel	
802.11n ht20 Middle Channel	
802.11n ht20 Highest Channel	

Maximum power spectral density	
802.11n ht40 Lowest Channel	
802.11n ht40 Middle Channel	
802.11n ht40 Highest Channel	

Maximum power spectral density	
802.11ax HE20 Lowest Channel	
802.11ax HE20 Middle Channel	
802.11ax HE20 Highest Channel	

Maximum power spectral density	
802.11ax HE40 Lowest Channel	
802.11ax HE40 Middle Channel	
802.11ax HE40 Highest Channel	

4.7 100 kHz Bandwidth of Frequency Band Edge:

Serial Number:	2CYP-1	Test Date:	2023/11/18
Test Site:	RF	Test Mode:	Transmitting
Tester:	Len Huang	Test Result:	PASS

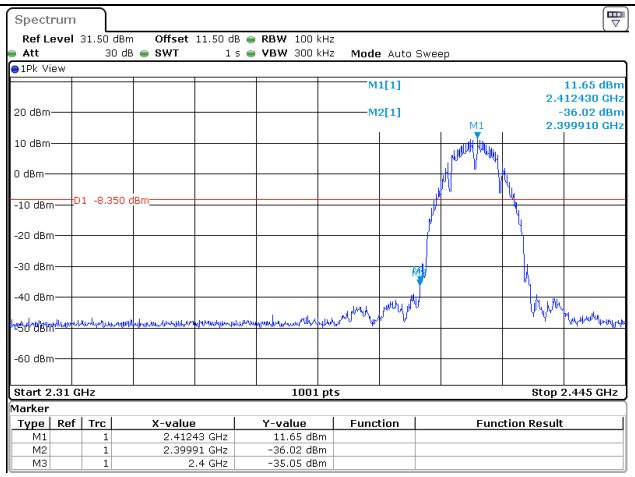
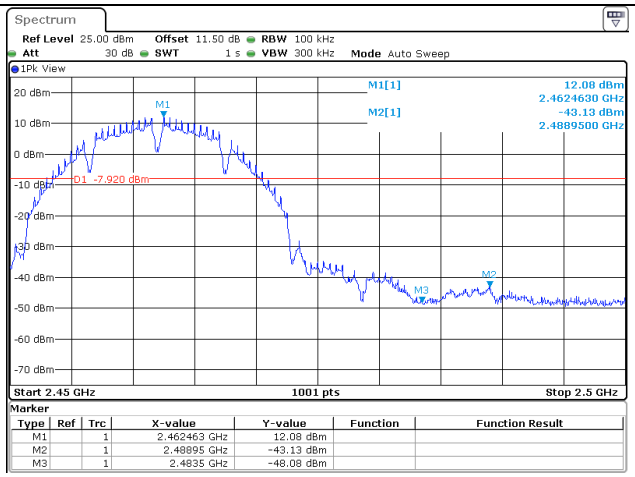
Environmental Conditions:					
Temperature: (℃)	24	Relative Humidity: (%)	54	ATM Pressure: (kPa)	101

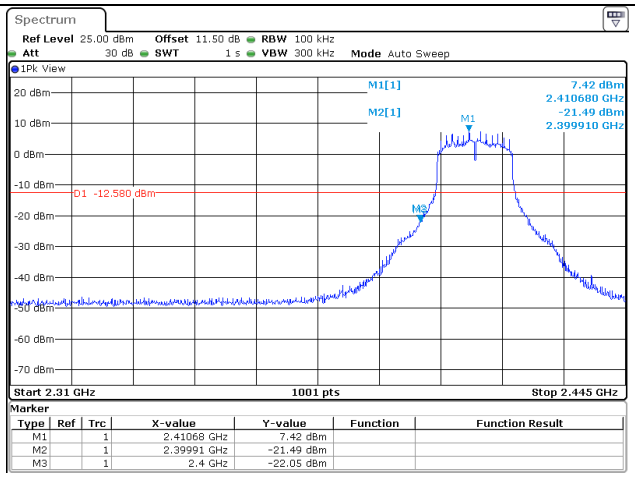
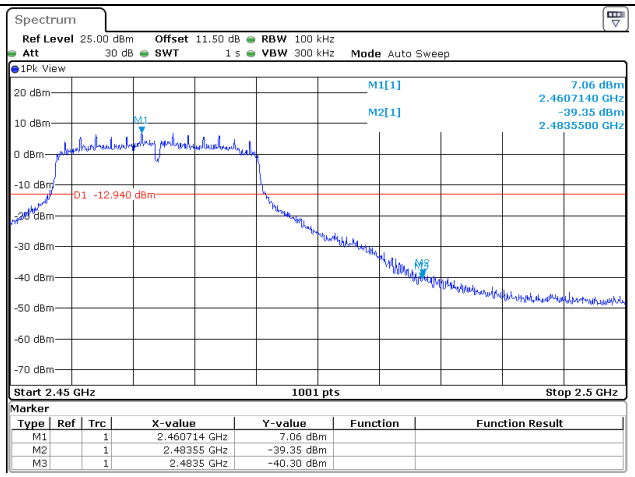
Test Equipment List and Details:

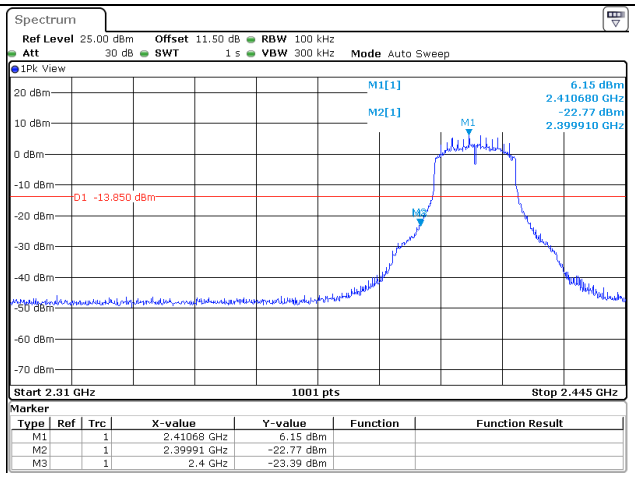
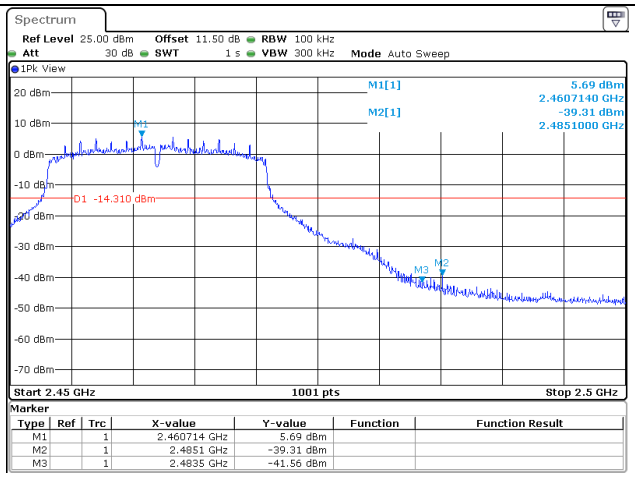
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023-04-18	2024-04-17
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A

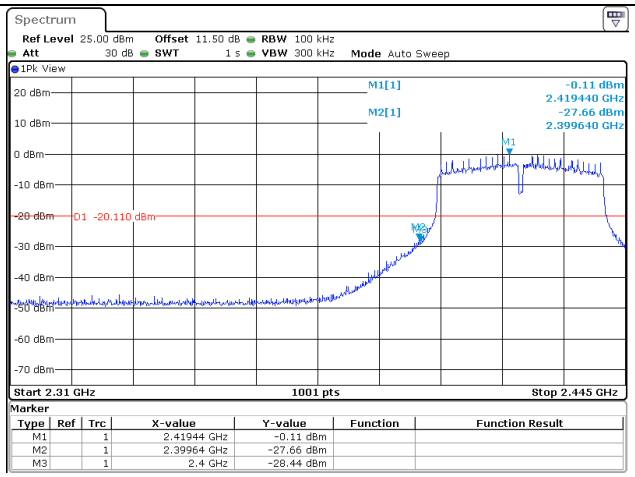
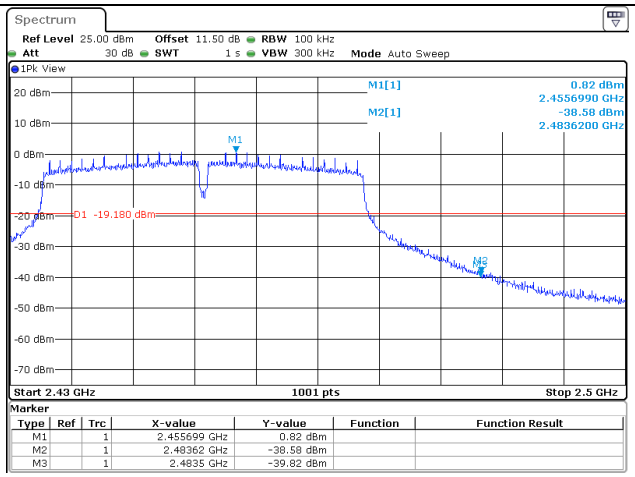
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

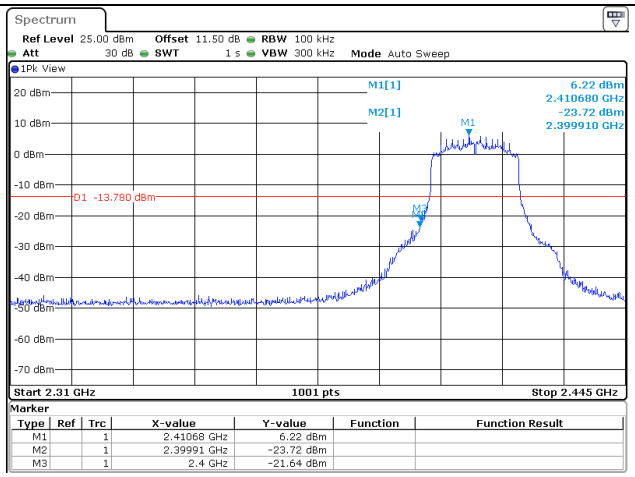
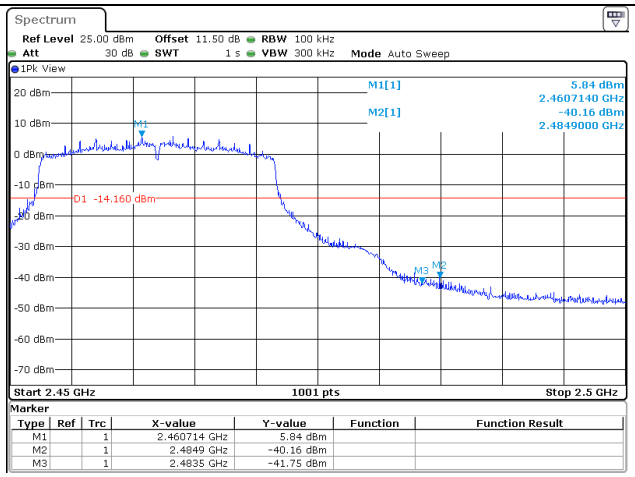
Test Data:

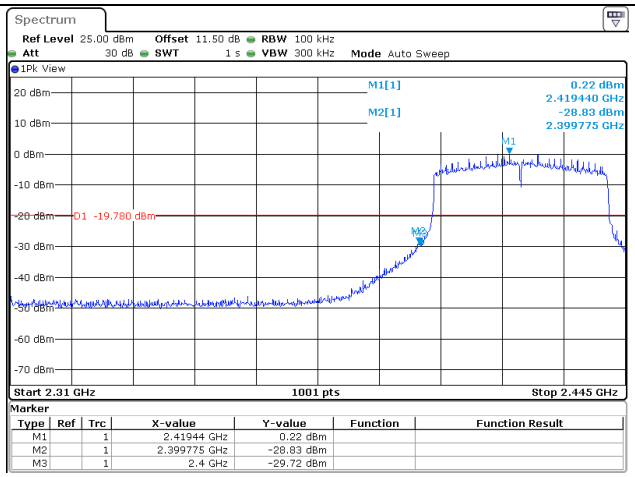
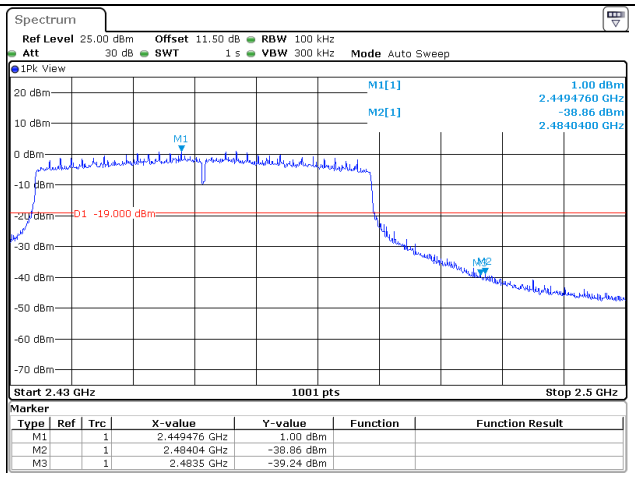
100 kHz Bandwidth of Frequency Band Edge	
802.11b Lowest Band edge	
802.11b Highest Band edge	

100 kHz Bandwidth of Frequency Band Edge	
802.11g Lowest Band edge	
802.11g Highest Band edge	

100 kHz Bandwidth of Frequency Band Edge	
802.11n ht20 Lowest Band edge	
802.11n ht20 Highest Band edge	

100 kHz Bandwidth of Frequency Band Edge	
802.11n ht40 Lowest Band edge	
802.11n ht40 Highest Band edge	

100 kHz Bandwidth of Frequency Band Edge	
802.11ax HE20 Lowest Band edge	
802.11ax HE20 Highest Band edge	

100 kHz Bandwidth of Frequency Band Edge	
802.11ax HE40 Lowest Band edge	
802.11ax HE40 Highest Band edge	

4.8 Duty Cycle:

Serial Number:	2CYP-1	Test Date:	2023/11/18
Test Site:	RF	Test Mode:	Transmitting
Tester:	Len Huang	Test Result:	N/A

Environmental Conditions:					
Temperature: (℃)	24	Relative Humidity: (%)	54	ATM Pressure: (kPa)	101

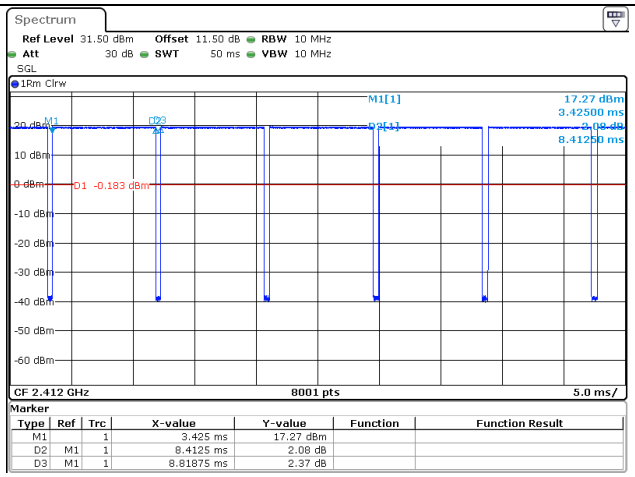
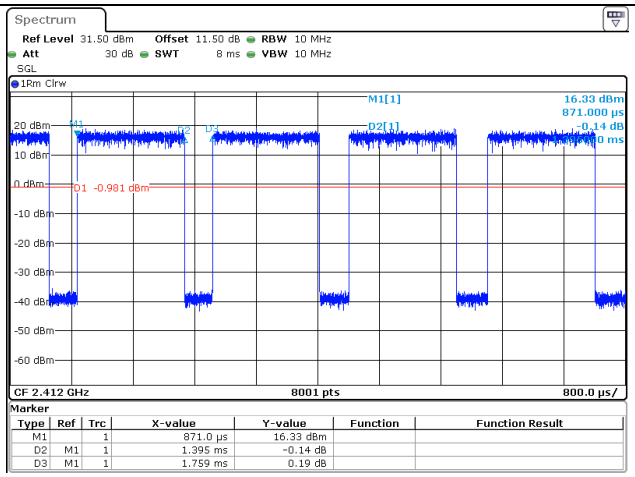
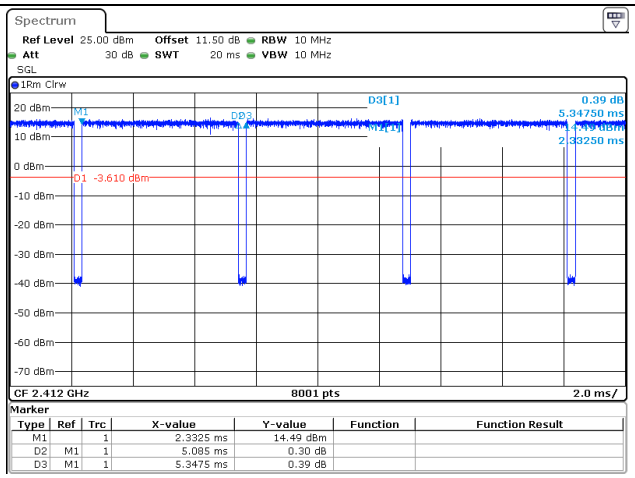
Test Equipment List and Details:

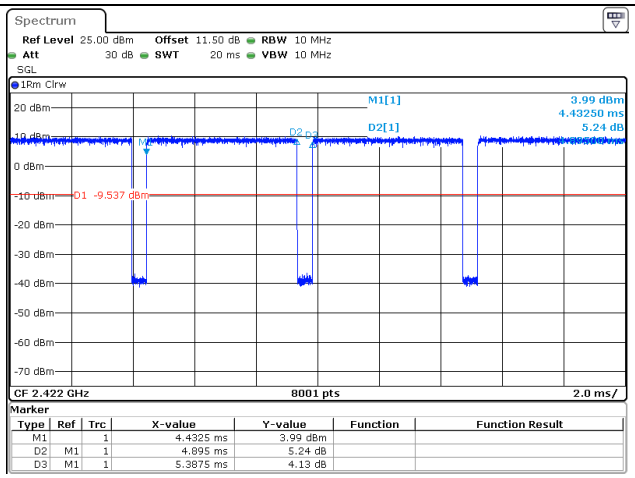
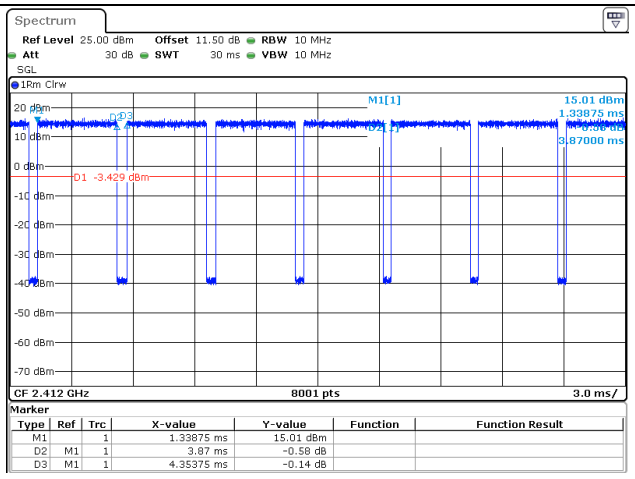
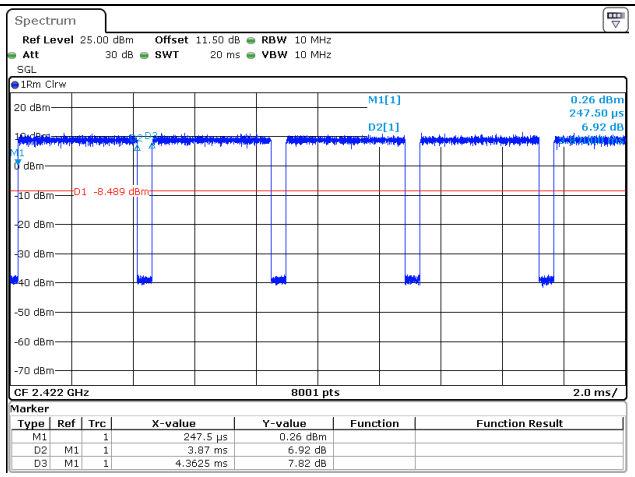
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023-04-18	2024-04-17
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A

** 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).*

Test Data:

Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	VBW setting (Hz)
802.11b	8.413	8.819	95.40	119	200
802.11g	1.395	1.759	79.31	717	1000
802.11n ht20	5.085	5.348	95.08	197	200
802.11n ht40	4.895	5.388	90.85	204	300
802.11ax HE20	3.870	4.354	88.88	258	300
802.11ax HE40	3.870	4.363	88.70	258	300

Duty Cycle	
802.11b	
802.11g	
802.11n ht20	

Duty Cycle	
802.11n ht40	
802.11ax HE20	
802.11ax HE40	

5. RF EXPOSURE EVALUATION

5.1 Applicable Standard

According to subpart 15.247(i)and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f^2)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

5.2 Measurement Result

Mode	**Frequency (MHz)**	**Antenna Gain**		**Conducted output power including Tune-up Tolerance**		**Evaluation Distance**	**Power Density**	**MPE Limit**
		(dBi)	**(numeric)**	**(dBm)**	**(mW)**	**(cm)**	**(mW/cm2)**	**(mW/cm^2)**
WLAN	2412-2462	3.89	2.45	30.0	1000	20	0.487	1

Note: The Maximum Conducted Power including Tune-up Tolerance was declared by manufacturer.

Result: The device meets FCC MPE at **20 cm** distance

6. EUT PHOTOGRAPHS

Please refer to the attachment CR231064045-EXP EUT EXTERNAL PHOTOGRAPHS and CR231064045-INP EUT INTERNAL PHOTOGRAPHS.

7. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR231064045-00-TSP TEST SETUP PHOTOGRAPHS.

===== END OF REPORT ====