NVLAP TESTING
NVLAP LAB CODE 600341-0

BACL Bay Area Compliance Labs Corp.

TEST REPORT

Applicant:	**Shenzhen Zero Zero Infinity Technology Co., Ltd.**
Address:	**4F Qianhai Yidu Tower Building, Shenzhen, China**
Product Name:	**BLASTOFF CONTROLLER**
FCC ID:	**2AIDW-ZZ-F-2-002**
IC:	**21647-ZZF2002**
HVIN:	**ZZ-F-2-001**
Standard(s):	**47 CFR Part 15, Subpart E(15.407) RSS-247 Issue 3, August 2023 RSS-Gen, Issue 5, February 2021 Amendment 2 ANSI C63.10-2020 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01**
Report Number:	**2502V15758E-RF-00B**
Report Date:	**2025/7/28**

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).

Alice Tan

Reviewed By: **Alice Tan**
Title: RF Engineer

Pedro Yun

Approved By: **Pedro Yun**
Title: RF Supervisor

Bay Area Compliance Laboratories Corp. (Dongguan)
No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China
Tel: +86-769-86858888
Fax: +86-769-86858891
www.baclcorp.com.cn

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2502V15758E-RF-00B	Original Report	2025/7/28

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	BLASTOFF CONTROLLER
EUT Model:	ZZ-F-2-001
Operation Frequency:	5745 MHz-5825MHz
Maximum Average Conducted Output Power:	21.02 dBm
Modulation Type:	OFDM
Rated Input Voltage:	DC 3.6V from Battery or DC 5V from Type-C Port
Serial Number:	37DS-4 (for RF Conducted Test) 37DS-2 (for Radiated Spurious Emissions Test & AC Line Conducted Emissions Test)
EUT Received Date:	2025/7/1
EUT Received Status:	Good

1.2 Accessory Information

Accessory Description	Manufacturer	Model	Parameters
/	/	/	/

1.3 Antenna Information Detail▲

Antenna	Antenna Type	input impedance (Ohm)	Frequency Range	Antenna Gain
ANT1(Right)	PCB	50	5725-5850	3.73dBi

The design of compliance with §15.203:

☒ Unit uses a permanently attached antenna.

☐ Unit uses a unique coupling to the intentional radiator.

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

1.4 Equipment Modifications

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

2. SUMMARY OF TEST RESULTS

Standard(s) Section	Test Items	Result
§15.207(a) RSS-Gen Clause 8.8	AC line conducted emissions	Compliant
FCC§15.205& §15.209 &§15.407(b) RSS-247 Clause 6.2	Undesirable Emission& Restricted Bands	Compliant
FCC§15.407(a) (e) RSS-247 Clause 6.2 RSS-Gen Clause 6.7	Emission Bandwidth	Compliant
FCC§15.407(a) RSS-247 Clause 6.2	Maximum Conducted Output Power	Compliant
FCC§15.407 (a) RSS-247 Clause 6.2	Power Spectral Density	Compliant
§15.203 RSS-Gen Clause 6.8	Antenna Requirement	Compliant
RSS-247 Clause 6.4	Additional requirements	Compliant
Note 1: For AC line conducted emissions, the maximum output power mode and channel was tested. Note 2: For Radiated Spurious Emissions 9kHz~ 1GHz and 18-40GHz, the maximum output power mode and channel was tested.		

3. DESCRIPTION OF TEST CONFIGURATION

3.1 Operation Frequency Detail

5725-5850MHz Band	
Channel	**Frequency (MHz)**
149	5745
153	5765
157	5785
161	5805
165	5825

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

Test Channel	Test Frequency (MHz)
	5725-5850 MHz
Lowest	5745
Middle	5785
Highest	5825

3.2 EUT Operation Condition

The system was configured for testing in Engineering Mode, which was provided by the manufacturer. The EUT configuration is below:

EUT Exercise Software:	MobaXterm_Portable_v23.6			
The software was provided by manufacturer. The maximum power was configured as below, that was provided by the manufacturer▲:				
5725-5850 MHz Band:				
Test Modes	**Test Channels**	**Test Frequency (MHz)**	**Data rate**	**Power Level Setting**
OFDM 10MHz	Lowest	5745	3Mbps	**105**
	Middle	5785	3Mbps	**105**
	Highest	5825	3Mbps	**105**
Note: The device support 1T2R, only ANT1 support transmit.				

3.3 Support Equipment List and Details

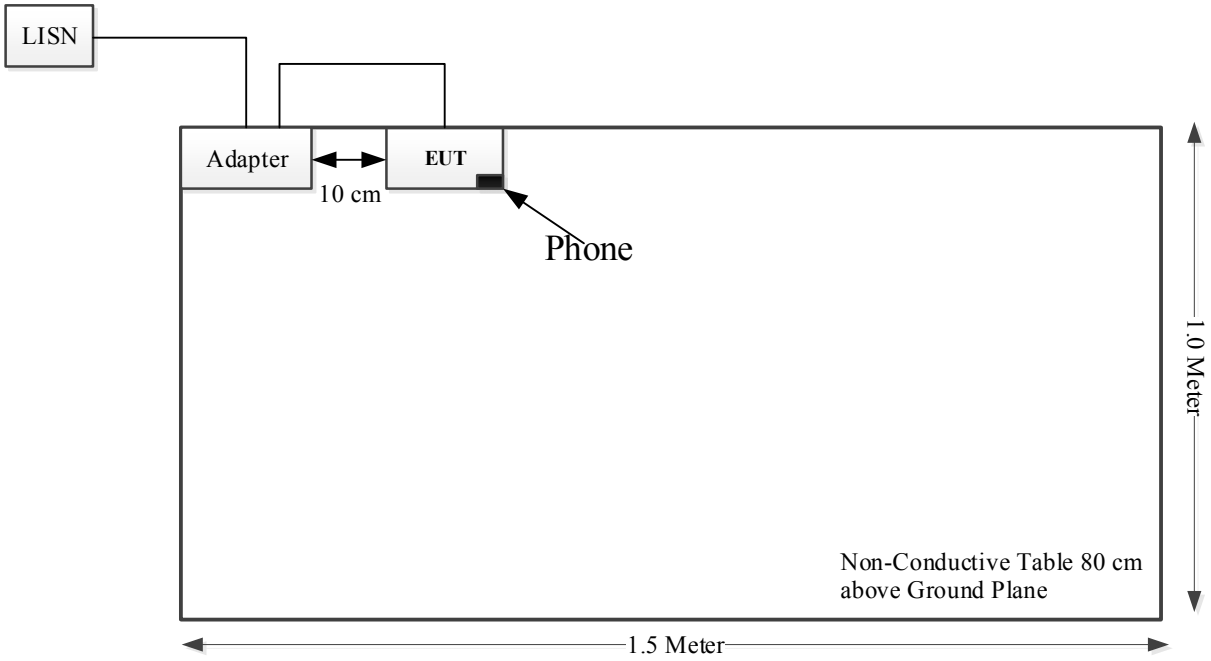
Manufacturer	Description	Model	Serial Number
Epik	Phone	K500	SZ180322001SA
Huntkey	Adapter	HKA01105021-XE	0D1805002143

3.4 Support Cable List and Details

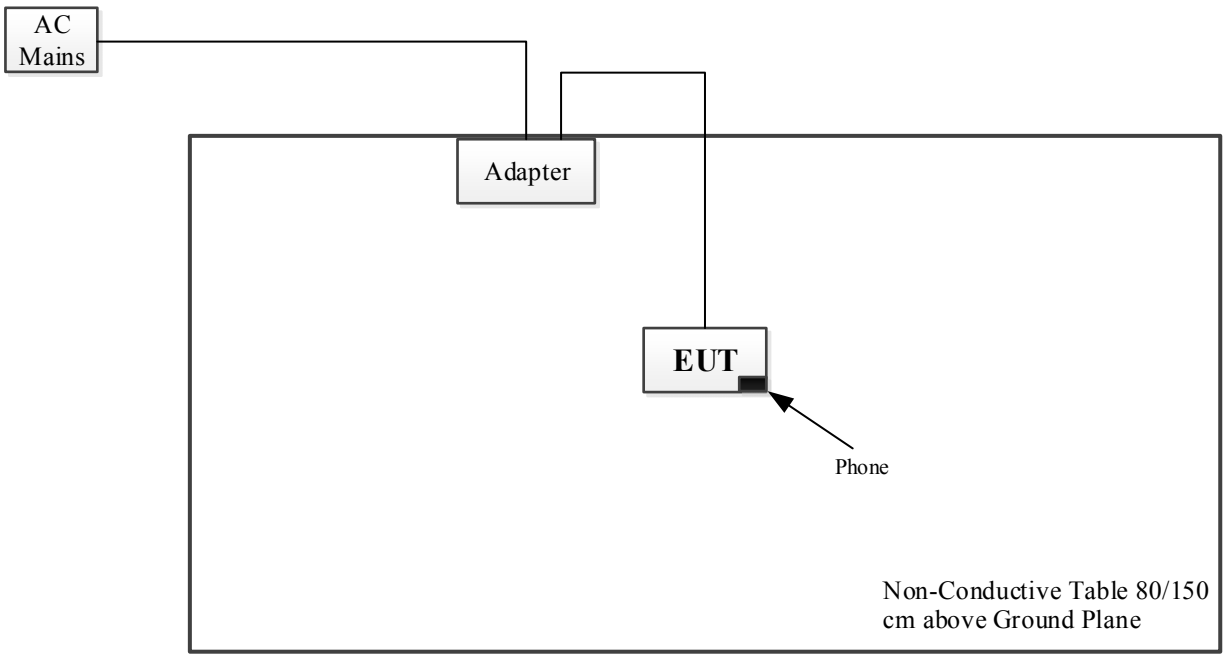
Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB Cable	NO	NO	0.5	Adapter	EUT
USB Cable	NO	NO	0.2	EUT	Phone

3.5 Block Diagram of Test Setup

AC line conducted emissions:



Spurious Emissions:



3.6 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia 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. : 829273, the FCC Designation No. : CN5044.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

3.7 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	9kHz~30MHz: 3.3dB, 30MHz~200MHz: 4.55 dB, 200MHz~1GHz: 5.92 dB, 1GHz~6GHz: 4.98 dB, 6GHz~18GHz: 5.89 dB, 18GHz~26.5GHz:5.47 dB, 26.5GHz~40GHz:5.63 dB
Unwanted Emissions, conducted	±2.47 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.11 dB (150 kHz to 30 MHz)

4. REQUIREMENTS AND TEST PROCEDURES

4.1 AC Line Conducted Emissions

4.1.1 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.

RSS-Gen Clause 8.8

Unless stated otherwise in the applicable RSS, for radio apparatus that are designed to be connected to the public utility AC power network, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the range 150 kHz to 30 MHz shall not exceed the limits in table 4, as measured using a 50 µH / 50 Ω line impedance stabilization network. This requirement applies for the radio frequency voltage measured between each power line and the ground terminal of each AC power-line mains cable of the EUT.
For an EUT that connects to the AC power lines indirectly, through another device, the requirement for compliance with the limits in table 4 shall apply at the terminals of the AC power-line mains cable of a representative support device, while it provides power to the EUT. The lower limit applies at the boundary between the frequency ranges. The device used to power the EUT shall be representative of typical applications.

Table 4 – AC power-line conducted emissions limits

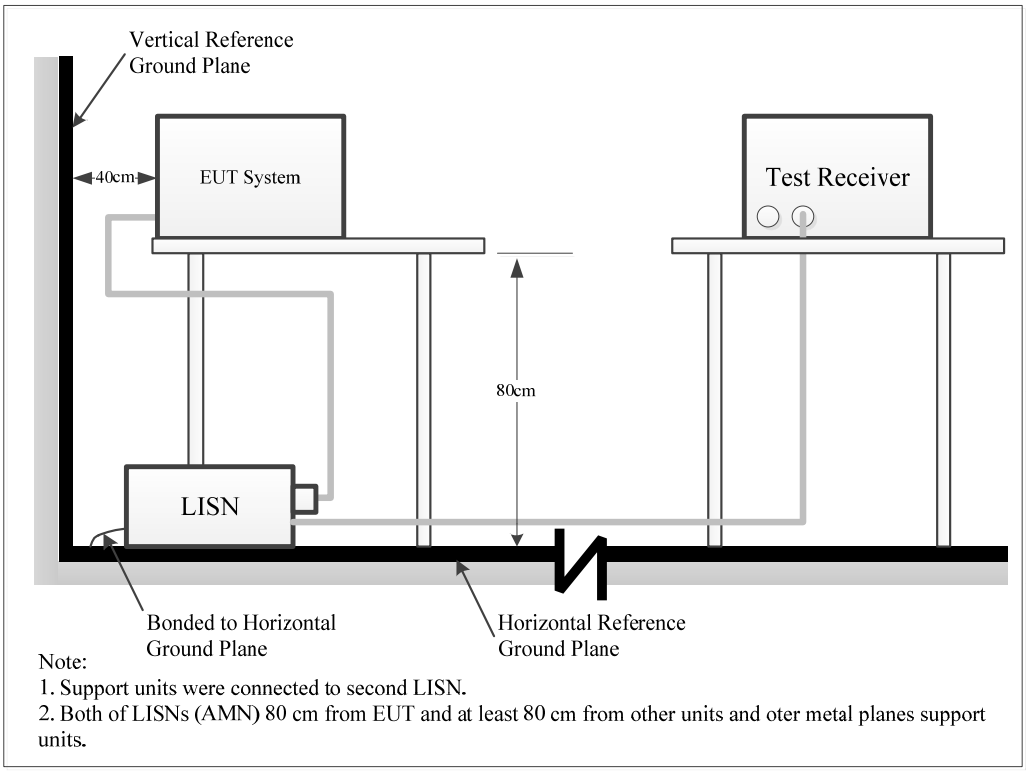
Frequency (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56[1]	56 to 46[1]
0.5 – 5	56	46
5 – 30	60	50

Note 1: The level decreases linearly with the logarithm of the frequency.

For an EUT with a permanent or detachable antenna operating between 150 kHz and 30 MHz, the AC power-line conducted emissions must be measured using the following configurations:
(a) Perform the AC power-line conducted emissions test with the antenna connected to determine compliance with the limits of table 4 outside the transmitter's fundamental emission band.

(b) Retest with a dummy load instead of the antenna to determine compliance with the limits of table 4 within the transmitter's fundamental emission band. For a detachable antenna, remove the antenna and connect a suitable dummy load to the antenna connector. For a permanent antenna, remove the antenna and terminate the RF output with a dummy load or network that simulates the antenna in the fundamental frequency band.

4.1.2 EUT Setup



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

The setup of EUT is according with per ANSI C63.10-2020 measurement procedure. The specification used was with the FCC Part 15.207, RSS-Gen 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.

4.1.3 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

4.1.4 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.

4.1.5 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

4.1.6 Test Result

Please refer to section 5.1.

4.2 Radiation Spurious Emissions

4.2.1 Applicable Standard

FCC §15.407 (b);

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
(4) For transmitters operating solely in the 5.725-5.850 GHz band:
(i) All emissions shall be limited to a level of –27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
(8) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
(9) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.
(10) The provisions of § 15.205 apply to intentional radiators operating under this section.
(11) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.
(c) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

Frequency band 5725-5850 MHz

RSS-247 Clause 6.2.4.3

Devices operating in the band 5725-5850 MHz with antenna gain greater than 10 dBi can have unwanted emissions that comply with either the limits in this section or in section 5.5 until six (6) months after the publication date of this standard for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2018.
Devices operating in the band 5725-5850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.
Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:
a) 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;

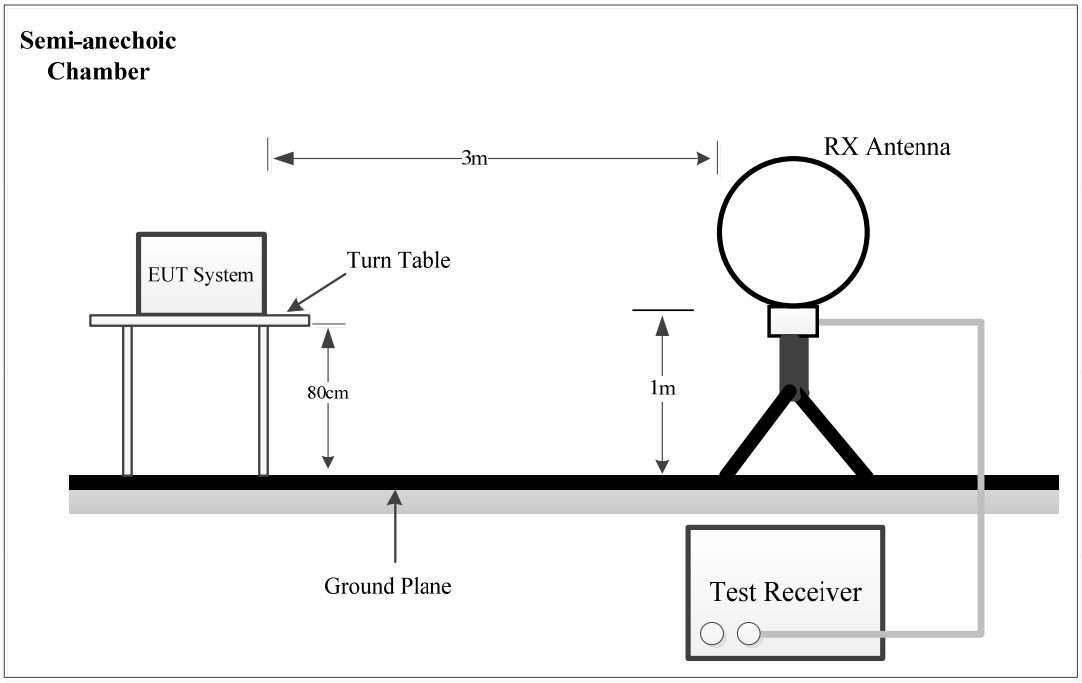
b) 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

c) 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

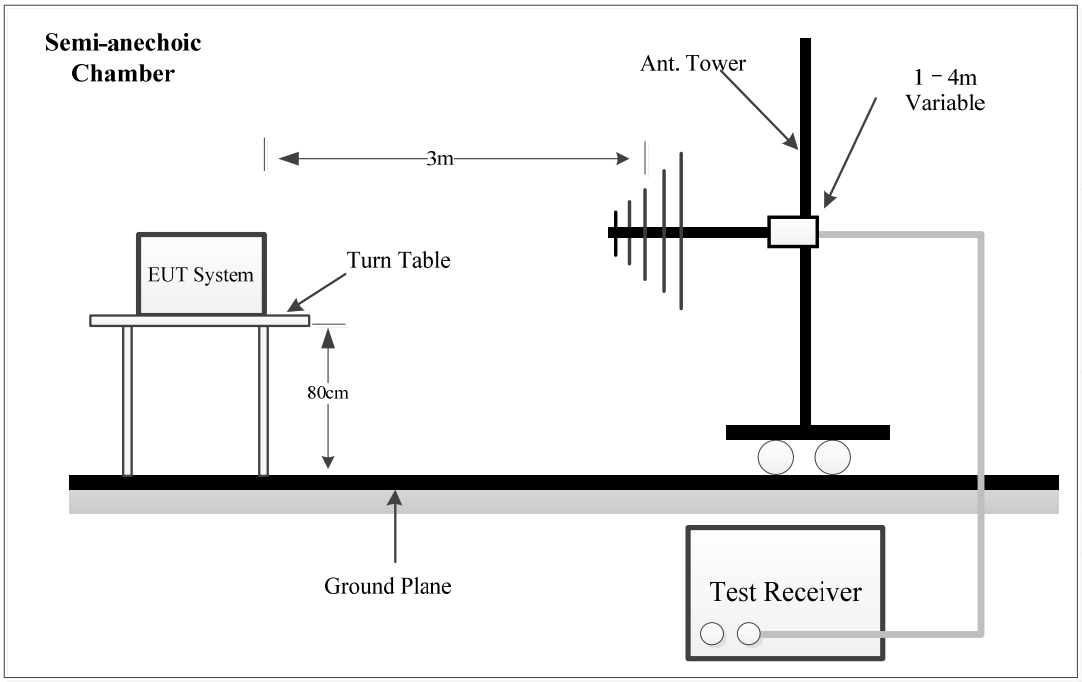
d) -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

4.2.2 EUT Setup

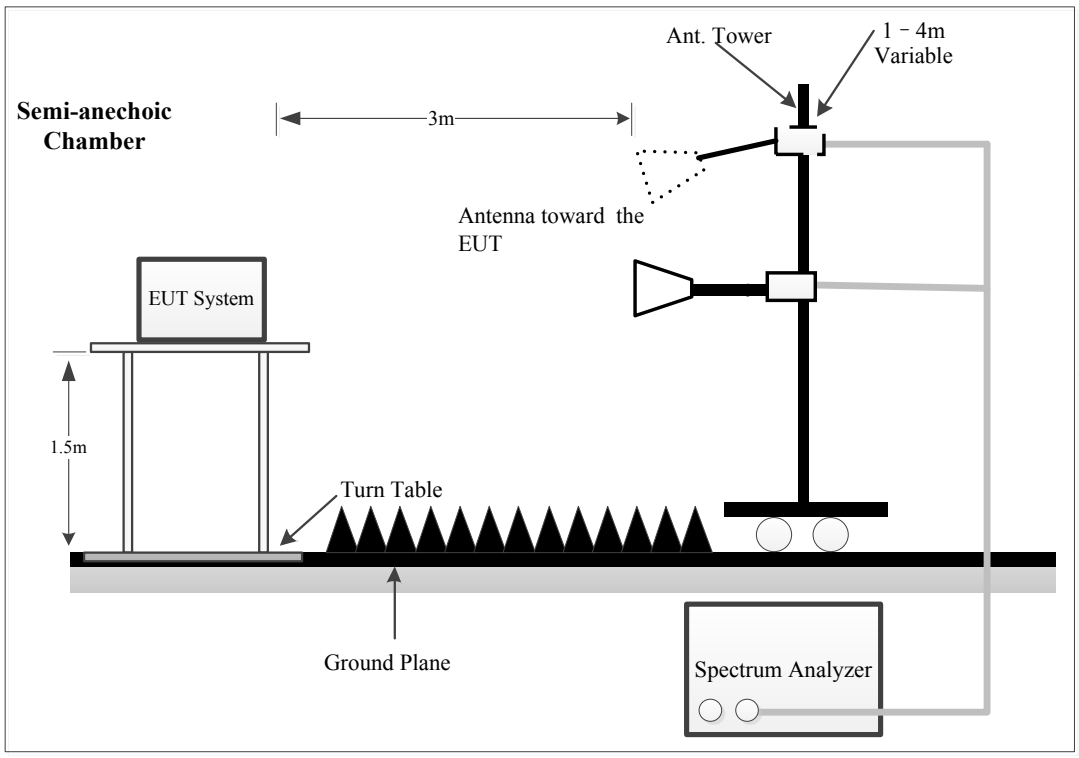
9kHz~30MHz:



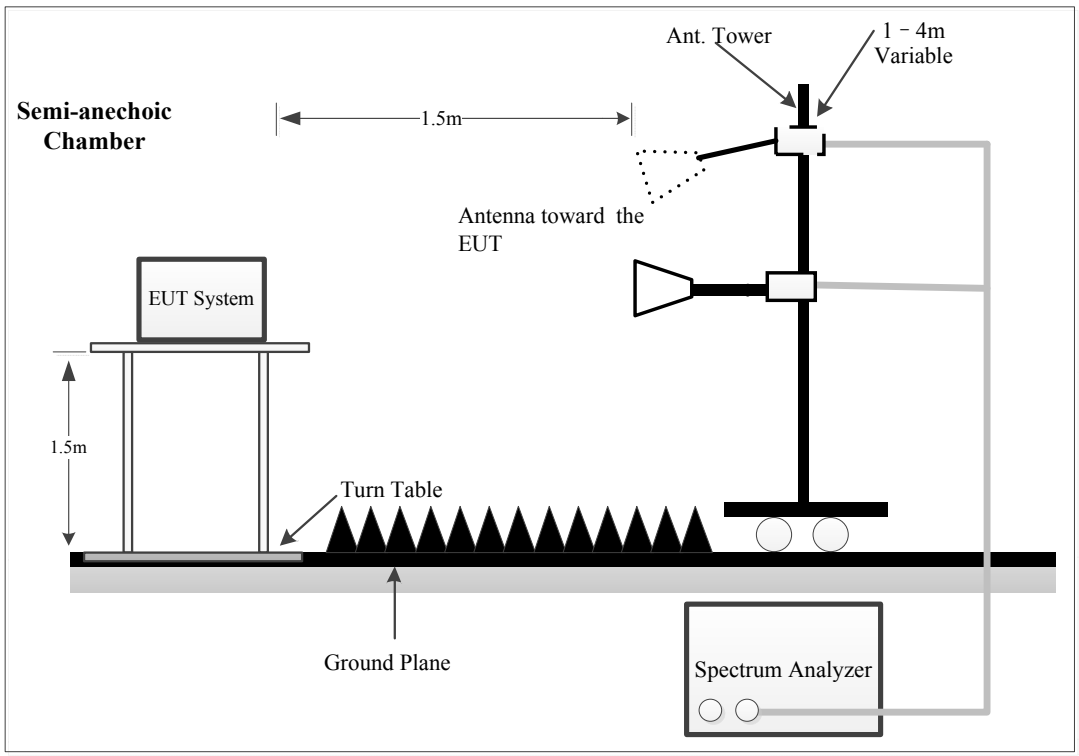
30MHz~1GHz:



1-26.5GHz:



26.5-40GHz:



The radiated emission tests were performed in the semi-anechoic chamber, using the setup accordance with the ANSI C63.10-2020. The specification used was FCC 15.209, FCC 15.407,RSS-247,RSS-Gen 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.

For 9kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

4.2.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 40 GHz.

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

9kHz-1000MHz:

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

1GHz- 40GHz:
Pre-scan:

Frequency Range	Measurement	RBW	Video B/W	Detector
Above 1 GHz	Peak	1MHz	3 MHz	PK
	AV	1MHz	5kHz	PK

Final measurement for emission identified during the pre-scan:

Frequency Range	Measurement	RBW	Video B/W	Detector
Above 1 GHz	Peak	1MHz	3 MHz	PK
	AV	1MHz	≥1/T	PK

Note: T is minimum transmission duration

4.2.4 Test Procedure

Data was recorded in Quasi-peak detection mode for frequency range of 9 kHz -1 GHz, except 9-90 kHz, 110-490 kHz, employing an average detector, peak and Average detection modes for frequencies above 1 GHz.

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

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, emission shall be computed as: E [dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

For Radiated 26.5-40GHz test, which was performed at 1.5 m distance, according to C63.10, the test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.5m
Distance extrapolation Factor =20 log (specific distance [3m]/test distance [1.5m]) dB= 6.0 dB

4.2.5 Corrected Result & Margin Calculation

The basic equation except 26.5-40GHz test is as follows:
Factor = Antenna Factor + Cable Loss- Amplifier Gain

For Radiated 26.5-40GHz test:
Factor = Antenna Factor + Cable Loss- Distance extrapolation Factor

Result = Reading + 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

4.2.6 Test Result

Please refer to section 5.2.

4.3 Emission Bandwidth

4.3.1 Applicable Standard

FCC §15.407 (a),(h)
(h)(2) Radar Detection Function of Dynamic Frequency Selection (DFS). U-NII devices operating with any part of its 26 dB emission bandwidth in the 5.25-5.35 GHz and 5.47-5.725 GHz bands shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems.

FCC §15.407 (e)
Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

RSS-247 Clause 6.2.1.2

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. Any unwanted emissions that fall into the band 5250-5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth (i.e. 99% bandwidth), above 5250 MHz. The 26 dB bandwidth may fall into the 5250-5350 MHz band; however, if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing dynamic frequency selection (DFS) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band.

RSS-247 Clause 6.2.2.1

Devices, other than devices installed in vehicles, shall comply with the following:

a) The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10}B$, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

b) The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10}B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W

RSS-247 Clause 6.2.3.1

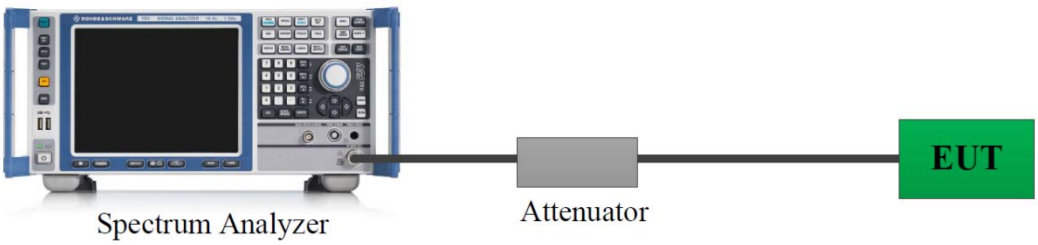
The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10}B$, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10}B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247 Clause 6.2.4.1

For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

4.3.2 EUT Setup



A short RF cable with low cable loss connected to the EUT antenna port, which was provided by manufacturer. The insert loss of this RF cable/attenuator was offset into the setting of test equipment.

4.3.3 Test Procedure

26dB Emission Bandwidth:

According to ANSI C63.10-2020 Section 12.5.2

a) Set RBW = shall be in the range of 1% to 5% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is in the range of 1% to 5%.

6 dB emission bandwidth:

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

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.
Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described in this section. For devices that use channel aggregation refer to III.A and III.C for determining emission bandwidth.

99% Occupied Bandwidth:

According to ANSI C63.10-2020 Section 12.5.3&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 4.1.6.2.
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).

4.3.4 Test Result

Please refer to section 5.3 and section 5.4.

4.4 Maximum Conducted Output Power

4.4.1 Applicable Standard

FCC §15.407(a) (1)(iv)
For client devices in the 5.15 − 5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

FCC §15.407(a) (2)
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

FCC §15.407(a) (3)(i)
For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

RSS-247 Clause 6.2.1.1

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less stringent. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

RSS-247 Clause 6.2.2.1

Devices, other than devices installed in vehicles, shall comply with the following:

a) The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

b) The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247 Clause 6.2.3.1

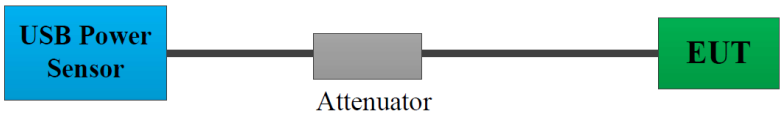
The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247 Clause 6.2.4.2

The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint3 systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

4.4.2 EUT Setup



A short RF cable with low cable loss connected to the EUT antenna port, which was provided by manufacturer. The insert loss of this RF cable/attenuator was offset into the setting of test equipment.

4.4.3 Test Procedure

According to ANSI C63.10-2020 Section 12.4.3.2

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

4.4.4 Test Result

Please refer to section 5.5.

4.5 Maximum Power Spectral Density

4.5.1 Applicable Standard

FCC §15.407(a) (1)(iv)
For client devices in the 5.15 − 5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

FCC §15.407(a) (2)
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

FCC §15.407(a) (3)(i)
For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

RSS-247 Clause 6.2.1.1

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or 1.76 + 10 $\log_{10}$B, dBm, whichever is less stringent. Devices shall implement transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For other devices, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 $\log_{10}$B, dBm, whichever power is less. B is the 99% emission bandwidth in megahertz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

RSS-247 Clause 6.2.2.1

Devices, other than devices installed in vehicles, shall comply with the following:

a) The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;

b) The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247 Clause 6.2.3.1

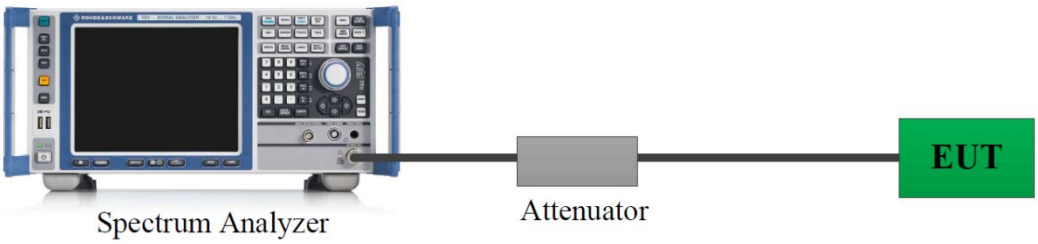
The maximum conducted output power shall not exceed 250 mW or 11 + 10 $\log_{10}$B, dBm, whichever is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 $\log_{10}$B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247 Clause 6.2.4.2

The maximum conducted output power shall not exceed 1 W. The output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed point-to-point operations exclude the use of point-to-multipoint3 systems, omnidirectional applications and multiple collocated transmitters transmitting the same information.

4.5.2 EUT Setup



A short RF cable with low cable loss connected to the EUT antenna port, which was provided by manufacturer. The insert loss of this RF cable/attenuator was offset into the setting of test equipment.

4.5.3 Test Procedure

According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01

Duty cycle ≥98%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-1 should be applied.

Duty cycle <98%, duty cycle variations are less than ±2%

KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 should be applied.

Duty cycle <98%, duty cycle variations exceed ±2%

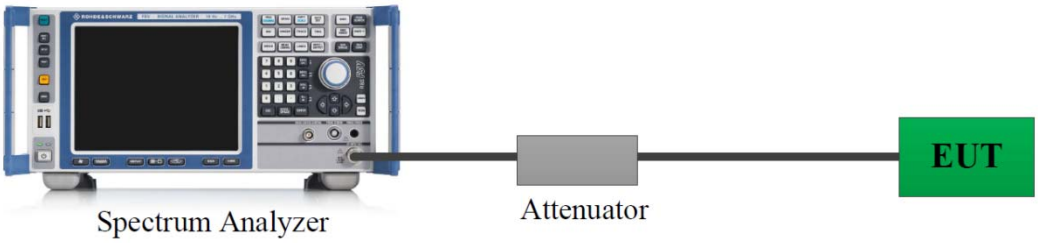
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-3 should be applied.

4.5.4 Test Result

Please refer to section 5.6.

4.6 Duty Cycle

4.6.1 EUT Setup



A short RF cable with low cable loss connected to the EUT antenna port, which was provided by manufacturer. The insert loss of this RF cable/attenuator was offset into the setting of test equipment.

4.6.2 Test Procedure

According to ANSI C63.10-2020 Section 12.2

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.)

4.6.3 Judgment

Report Only. Please refer to section 5.7.

4.7 Antenna Requirement

4.7.1 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.

RSS-Gen Clause 6.8

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).
When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.
The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.
For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:
This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

4.7.2 Judgment

Compliant. Please refer to the Antenna Information detail in Section 1.3.

4.9 Additional requirement

4.9.1 Applicable Standard

According to RSS-247 Clause 6.4 Additional requirement

The following requirements shall apply:

a) The device shall automatically discontinue transmission in cases of absence of information to transmit, or operational failure. A description on how this is done shall accompany the application for equipment certification. Note that this is not intended to prohibit transmission of control or signalling information or the use of repetitive codes where required by the technology.

b) All LE-LAN devices must contain security features to protect against modification of software by unauthorized parties.

Manufacturers must implement security features in any digitally modulated devices capable of operating in any of the frequency ranges within the 5 GHz band, so that third parties are not able to reprogram the device to operate outside the parameters for which the device was certified. The software must prevent the user from operating the transmitter with operating frequencies, output power, modulation types or other radio frequency parameters outside those that were approved for the device. Manufacturers may use various means, including the use of a private network that allows only authenticated users to download software, electronic signatures in software or coding in hardware that is decoded by software to verify that new software can be legally loaded into a device to meet these requirements and must describe the methods in their application for equipment certification.

Manufacturers must take steps to ensure that DFS functionality cannot be disabled by the operator of the LE-LAN device.

c) The user manual for LE-LAN devices shall contain instructions related to the restrictions mentioned in the above sections, namely that:

i. the device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;[4]

ii. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;

iii. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate; and

iv. where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.

4.9.2 Judgment

RSS-247 Clause 6.4 a):

The device shall automatically discontinue transmission in cases of absence of information to transmit, or operational failure. Please refer to the declaration

RSS-247 Clause 6.4 b):

The devices must contain security features to protect against modification of software by unauthorized parties. Please refer to the declaration

RSS-247 Clause 6.4 c):

i). The device not use on 5150-5250MHz and 5250-5350MHz.

ii). The device not operates on 5250-5350MHz/5470-5725MHz.

iii). The antenna permanently attached to the unit, and all the EIPR compliance with RSS-247 requirement. Please refer to the conducted output power test result.

iv). Not applicable.

5. Test DATA AND RESULTS

5.1 AC Line Conducted Emissions

Serial Number:	37DS-2	Test Date:	2025/07/26
Test Site:	CE	Test Mode:	Transmitting
Tester:	Yukin Qiu	Test Result:	Pass

Environmental Conditions:

Temperature: (℃)	26.6	Relative Humidity: (%)	60	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

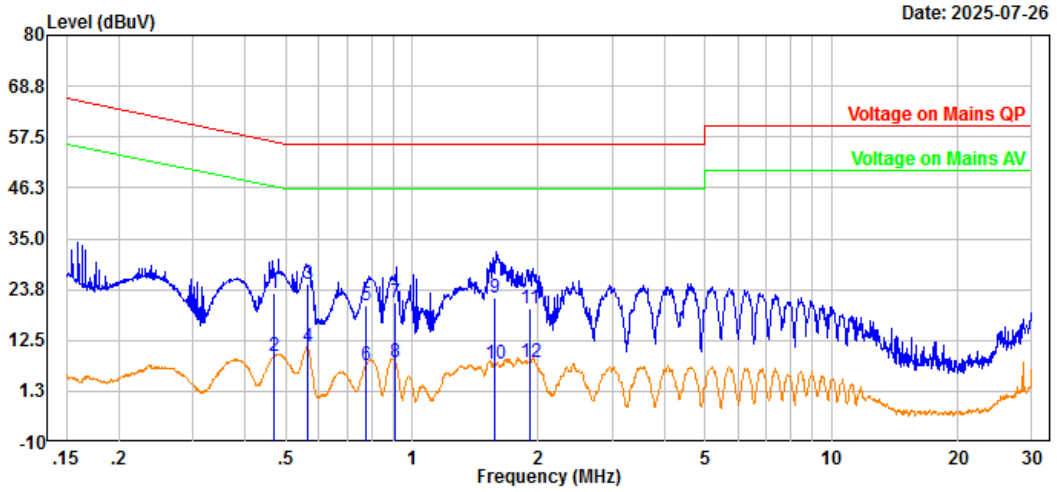
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101614	2024/9/5	2025/9/4
Unknown	Coaxial Cable	RG 142	C-0200-05	2025/5/6	2026/5/5
R&S	EMI Test Receiver	ESCI	100224	2024/8/26	2025/8/25
Audix	Test Software	E3	191218 V9	N/A	N/A

** Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

OFDM 10MHz Low channel was tested:

Project No.: 2502V15758E-RF
Port: Line
Test Mode: Transmitting
IF B/W 9kHz PK/AV

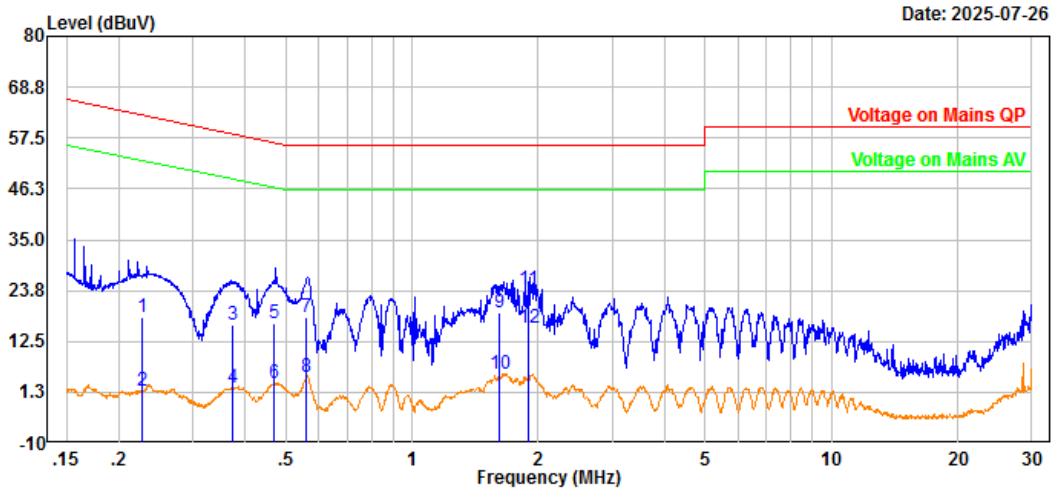
Serial No.: 37DS-2
Tester: Yukin Qiu
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Measurement
1	0.470	12.17	10.63	22.80	56.52	33.72	QP
2	0.470	-1.54	10.63	9.09	46.52	37.43	Average
3	0.563	14.52	10.55	25.07	56.00	30.93	QP
4	0.563	0.59	10.55	11.14	46.00	34.86	Average
5	0.776	9.77	10.51	20.28	56.00	35.72	QP
6	0.776	-3.47	10.51	7.04	46.00	38.96	Average
7	0.914	10.16	10.69	20.85	56.00	35.15	QP
8	0.914	-3.09	10.69	7.60	46.00	38.40	Average
9	1.578	10.87	11.10	21.97	56.00	34.03	QP
10	1.578	-3.82	11.10	7.28	46.00	38.72	Average
11	1.910	8.11	11.27	19.38	56.00	36.62	QP
12	1.910	-3.51	11.27	7.76	46.00	38.24	Average

Project No.: 2502V15758E-RF
Port: neutral
Test Mode: Transmitting
IF B/W 9kHz PK/AV

Serial No.: 37DS-2
Tester: Yukin Qiu
Note:



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Measurement
1	0.227	6.94	10.86	17.80	62.56	44.76	QP
2	0.227	-9.48	10.86	1.38	52.56	51.18	Average
3	0.374	5.35	10.68	16.03	58.42	42.39	QP
4	0.374	-8.46	10.68	2.22	48.42	46.20	Average
5	0.470	6.01	10.55	16.56	56.52	39.96	QP
6	0.470	-7.42	10.55	3.13	46.52	43.39	Average
7	0.560	7.43	10.48	17.91	56.00	38.09	QP
8	0.560	-5.97	10.48	4.51	46.00	41.49	Average
9	1.619	7.77	11.10	18.87	56.00	37.13	QP
10	1.619	-5.81	11.10	5.29	46.00	40.71	Average
11	1.889	12.94	11.18	24.12	56.00	31.88	QP
12	1.889	4.16	11.18	15.34	46.00	30.66	Average

5.2 Radiation Spurious Emissions

1) 9kHz - 1GHz

Serial Number:	37DS-2	Test Date:	2025/7/26
Test Site:	Chamber10m	Test Mode:	Transmitting
Tester:	Bill Yang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	25.2	Relative Humidity: (%)	45	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
BACL	Active Loop Antenna	1313-1A	4060411	2025/6/26	2028/6/25
Sunol Sciences	Hybrid Antenna	JB3	A060611-1	2023/9/6	2026/9/5
Narda	Coaxial Attenuator	779-6dB	04269	2023/9/6	2026/9/5
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2025/7/1	2026/6/30
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-04	2025/7/1	2026/6/30
Unknown	Coaxial Cable	C-NJNJ-50	C-0530-01	2025/7/1	2026/6/30
Sonoma	Amplifier	310N	185914	2024/8/26	2025/8/25
R&S	EMI Test Receiver	ESR3	102453	2024/8/26	2025/8/25
Audix	Test Software	E3	191218 V9	N/A	N/A

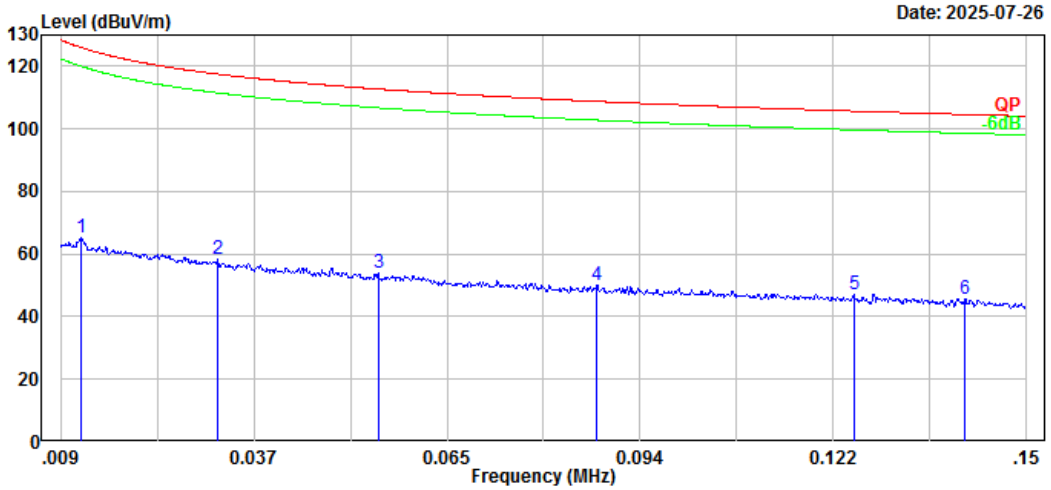
** Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Please refer to the below table and plots.
After pre-scan in the X, Y and Z axes of orientation, the worst case is refer to table and plots.

9kHz~30MHz (OFDM 10MHz Low channel was tested)
Three antenna orientations (parallel, perpendicular, and ground-parallel) was measured, the worst orientations was below:

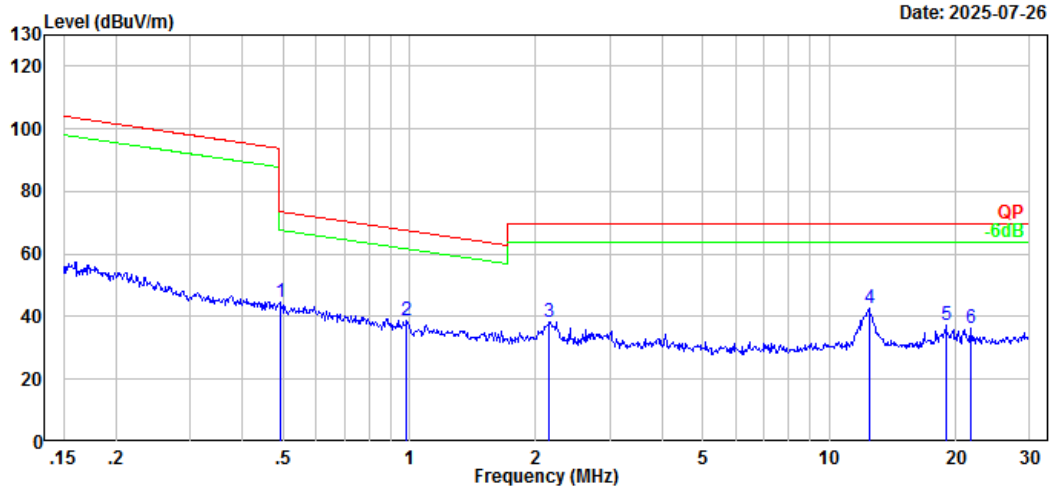
```
Project No.: 2502V15758E-RF                Serial No.: 37DS-2
Polarization: Parallel                         Tester: Bill Yang
   Test Mode: Transmitting
        Note:
               RBW:300Hz VBW:1kHz
```



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	0.012	60.32	4.91	65.23	125.95	60.72	Peak
2	0.032	56.55	1.77	58.32	117.54	59.22	Peak
3	0.055	54.85	-1.09	53.76	112.74	58.98	Peak
4	0.087	54.48	-4.37	50.11	108.79	58.68	Peak
5	0.125	53.54	-6.48	47.06	105.68	58.62	Peak
6	0.141	53.18	-7.44	45.74	104.62	58.88	Peak

Project No.: 2502V15758E-RF
Polarization: Parallel
Test Mode: Transmitting
Note:
RBW:10kHz VBW:30kHz

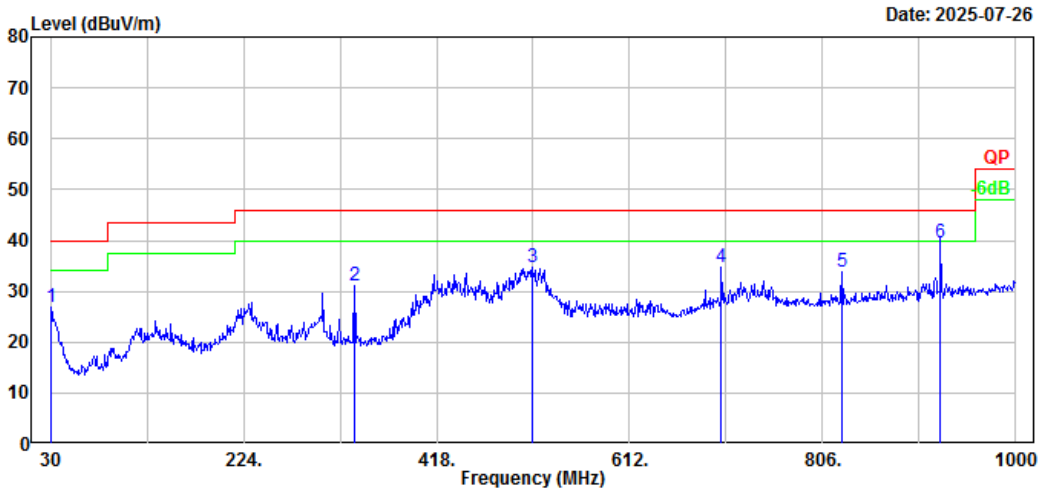
Serial No.: 37DS-2
Tester: Bill Yang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	0.491	64.95	-20.42	44.53	73.77	29.24	Peak
2	0.984	64.47	-25.86	38.61	67.62	29.01	Peak
3	2.155	66.98	-28.64	38.34	69.54	31.20	Peak
4	12.449	72.93	-30.18	42.75	69.54	26.79	Peak
5	18.920	67.61	-30.40	37.21	69.54	32.33	Peak
6	21.715	66.71	-30.54	36.17	69.54	33.37	Peak

30MHz-1GHz (OFDM 10MHz Low channel was tested)

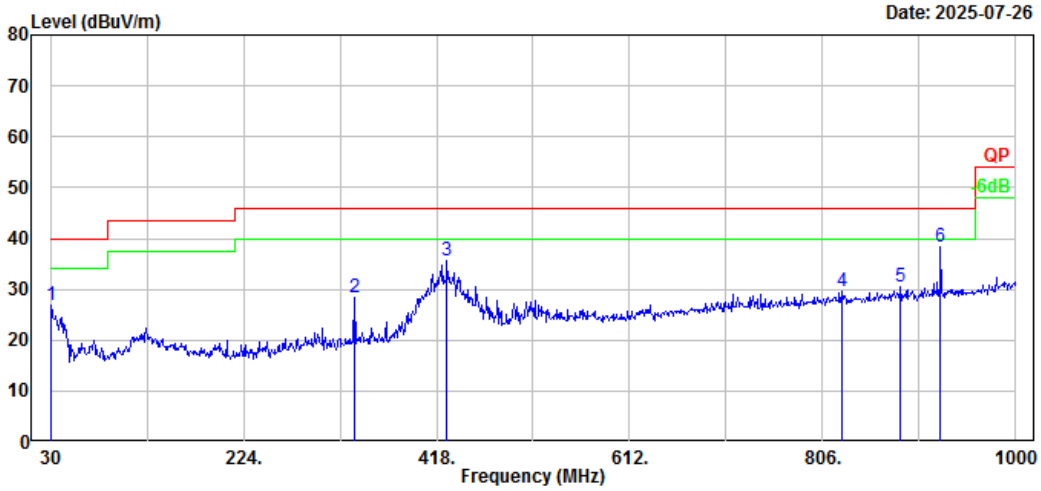
```
Project No.: 2502V15758E-RF                Serial No.: 37DS-2
Polarization: Horizontal                       Tester: Bill Yang
   Test Mode: Transmitting
        Note:
               RBW:100kHz VBW:300kHz
```



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	30.97	29.26	-2.45	26.81	40.00	13.19	Peak
2	335.55	39.21	-8.21	31.00	46.00	15.00	Peak
3	515.00	39.10	-4.25	34.85	46.00	11.15	Peak
4	704.15	35.97	-1.28	34.69	46.00	11.31	Peak
5	825.40	32.81	0.88	33.69	46.00	12.31	Peak
6	924.34	37.20	2.49	39.69	46.00	6.31	QP

Project No.: 2502V15758E-RF
Polarization: Vertical
Test Mode: Transmitting
Note:
RBW:100kHz VBW:300kHz

Serial No.: 37DS-2
Tester: Bill Yang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	30.00	28.79	-1.86	26.93	40.00	13.07	Peak
2	335.55	36.54	-8.21	28.33	46.00	17.67	Peak
3	428.67	41.68	-5.95	35.73	46.00	10.27	Peak
4	825.40	28.68	0.88	29.56	46.00	16.44	Peak
5	884.57	28.52	1.89	30.41	46.00	15.59	Peak
6	924.34	35.79	2.49	38.28	46.00	7.72	Peak

2) 1-40GHz:

Serial Number:	37DS-2	Test Date:	2025/7/26&2025/7/27
Test Site:	Chamber B	Test Mode:	Transmitting
Tester:	Bill Yang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	26.5&27.4	Relative Humidity: (%)	43&40	ATM Pressure: (kPa)	100.2&100.1

Test Equipment List and Details:

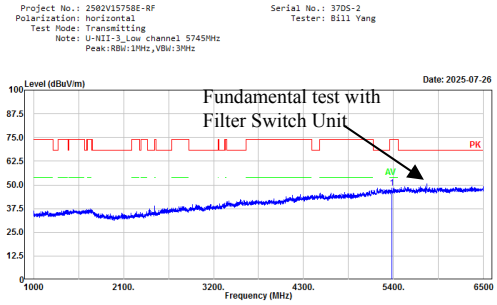
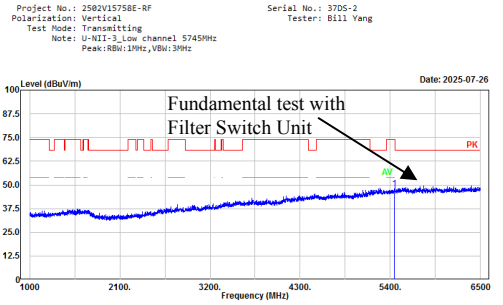
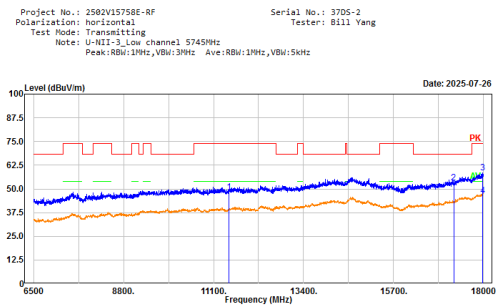
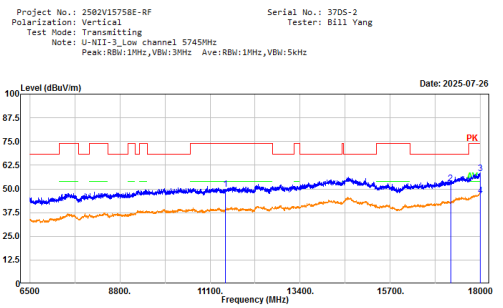
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
ETS-Lindgren	Horn Antenna	3115	000 527 35	2023/9/7	2026/9/6
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2023/2/22	2026/2/21
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-01 1302	2023/2/22	2026/2/21
Xinhang Macrowave	Coaxial Cable	XH750A-N/J-SMA/J-10M	20231117004 #0001	2024/11/17	2025/11/16
Xinhang Macrowave	Coaxial Cable	XH360A-2.92/J-2.92/J-6M-A	20231208001 #0001	2024/12/9	2025/12/8
AH	Preamplifier	PAM-0118P	469	2025/4/11	2026/4/10
AH	Preamplifier	PAM-1840VH	191	2024/9/5	2025/9/4
R&S	Spectrum Analyzer	FSV40	101944	2024/9/6	2025/9/5
Audix	Test Software	E3	191218 V9	N/A	N/A
Decentest	Multiplex Switch Test Control Set& Filter Switch Unit	DT7220SCU & DT7220FCU	DC79902 & DC79905	2024/8/27	2025/8/26

** Statement of Traceability: Bay Area Compliance Laboratories Corp. (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.
After pre-scan in the X, Y and Z axes of orientation, the worst case is refer to table and plots.

1-18GHz:

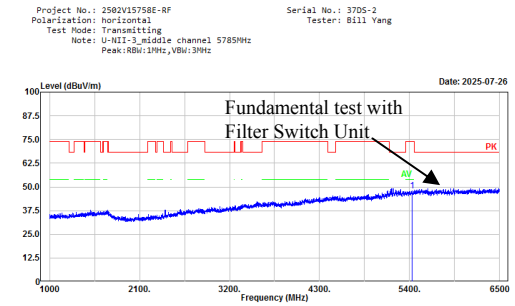
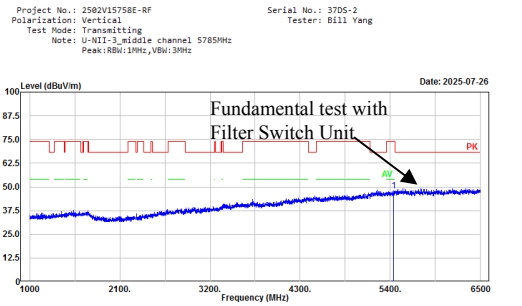
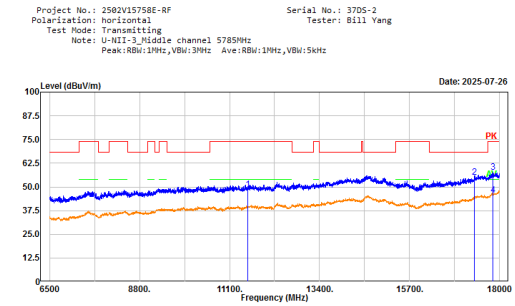
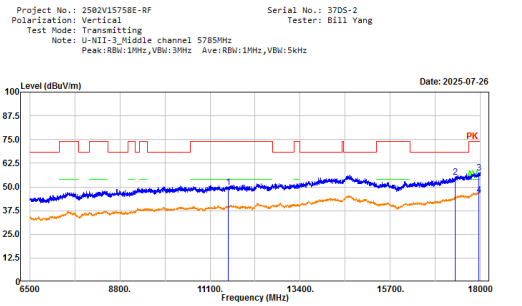
OFDM 10MHz, Low Channel, 5745 MHz, Horizontal	OFDM 10MHz, Low Channel, 5745 MHz, Vertical
	
	

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	5374.70	49.13	-0.64	48.49	74.00	25.51	Peak

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	5449.50	48.33	-0.39	47.94	74.00	26.06	Peak

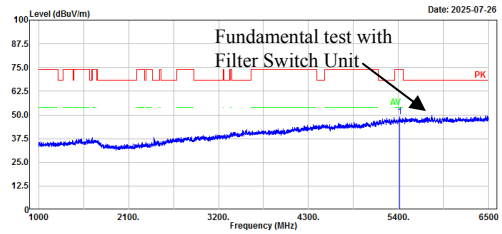
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	11490.00	45.08	3.33	48.41	74.00	25.59	Peak
2	17235.00	46.10	6.93	53.03	68.20	15.17	Peak
3	17981.60	47.33	11.17	58.50	74.00	15.50	Peak
4	17981.60	35.21	11.17	46.38	54.00	7.62	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	11490.00	46.32	3.33	49.65	74.00	24.35	Peak
2	17235.00	45.74	6.93	52.67	68.20	15.53	Peak
3	17993.10	47.04	11.25	58.29	74.00	15.71	Peak
4	17993.10	35.12	11.25	46.37	54.00	7.63	Average

OFDM 10MHz, Middle Channel, 5785MHz, Horizontal	OFDM 10MHz, Middle Channel, 5785MHz, Vertical
 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Measurement 1 5434.10 48.30 -0.48 47.82 74.00 26.18 Peak	 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Measurement 1 5440.70 48.22 -0.44 47.78 74.00 26.22 Peak
 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Measurement 1 11570.00 45.22 3.31 48.53 74.00 25.47 Peak 2 17355.00 47.86 7.10 54.96 68.20 13.24 Peak 3 17822.90 47.91 9.90 57.81 74.00 16.19 Peak 4 17822.90 35.68 9.90 45.58 54.00 8.42 Average	 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Measurement 1 11570.00 46.50 3.31 49.81 74.00 24.19 Peak 2 17355.00 47.98 7.10 55.08 68.20 13.12 Peak 3 17954.00 46.34 10.97 57.31 74.00 16.69 Peak 4 17954.00 34.62 10.97 45.59 54.00 8.41 Average

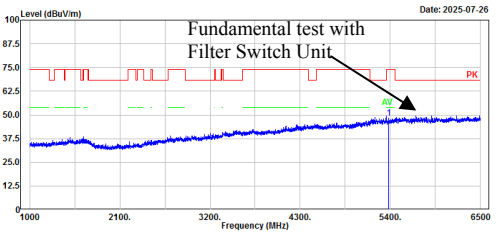
OFDM 10MHz, High Channel, 5825MHz, Horizontal	OFDM 10MHz, High Channel, 5825MHz, Vertical

Project No.: 2502V15758E-RF Serial No.: 37DS-2
Polarization: horizontal Tester: Bill Yang
Test Mode: Transmitting
Note: U-NII-3_high channel 5825MHz
Peak:RBW:1MHz,VBW:3MHz



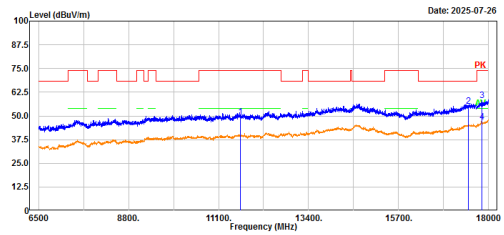
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	5409.90	49.51	-0.63	48.88	74.00	25.12	Peak

Project No.: 2502V15758E-RF Serial No.: 37DS-2
Polarization: Vertical Tester: Bill Yang
Test Mode: Transmitting
Note: U-NII-3_high channel 5825MHz
Peak:RBW:1MHz,VBW:3MHz



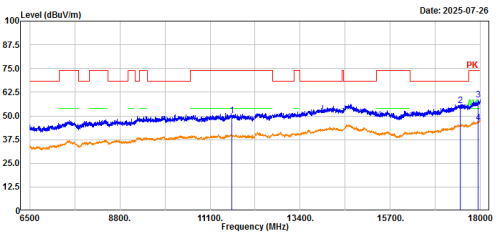
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	5382.40	48.96	-0.63	48.33	74.00	25.67	Peak

Project No.: 2502V15758E-RF Serial No.: 37DS-2
Polarization: horizontal Tester: Bill Yang
Test Mode: Transmitting
Note: U-NII-3_High channel 5825MHz
Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz



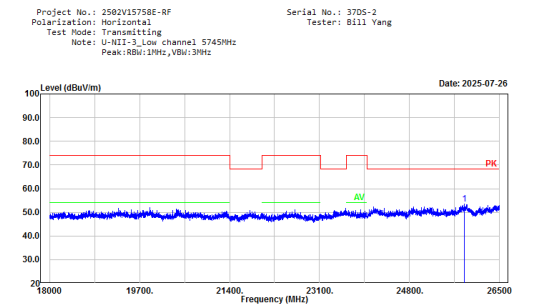
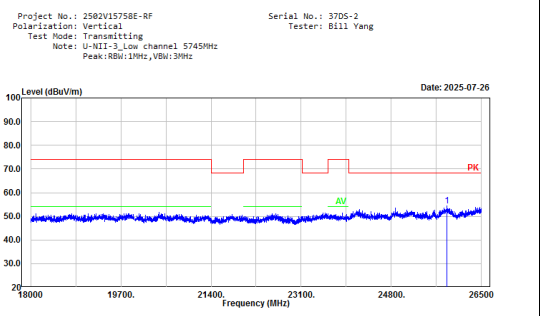
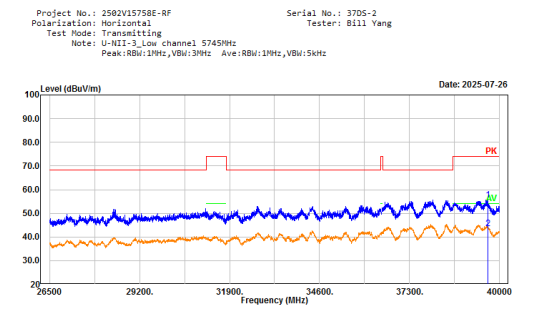
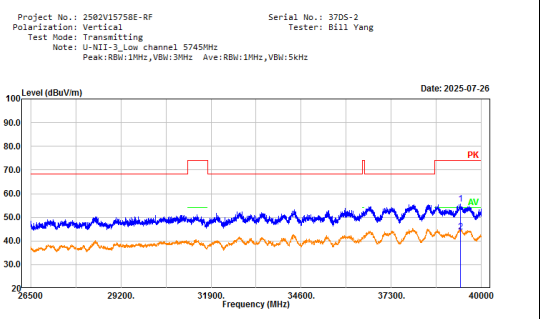
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	11650.00	46.00	3.38	49.38	74.00	24.62	Peak
2	17475.00	47.29	7.80	55.09	68.20	13.11	Peak
3	17825.20	48.34	9.92	58.26	74.00	15.74	Peak
4	17825.20	36.69	9.92	46.61	54.00	7.39	Average

Project No.: 2502V15758E-RF Serial No.: 37DS-2
Polarization: Vertical Tester: Bill Yang
Test Mode: Transmitting
Note: U-NII-3_High channel 5825MHz
Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	11650.00	46.65	3.38	50.03	74.00	23.97	Peak
2	17475.00	47.55	7.80	55.35	68.20	12.85	Peak
3	17940.20	47.71	10.87	58.58	74.00	15.42	Peak
4	17940.20	35.50	10.87	46.37	54.00	7.63	Average

18-26.5 GHz

OFDM 10MHz, Low Channel, 5745MHz, Horizontal	OFDM 10MHz, Low Channel, 5745MHz, Vertical
	
	

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	25828.50	42.56	11.07	53.63	68.20	14.57	Peak

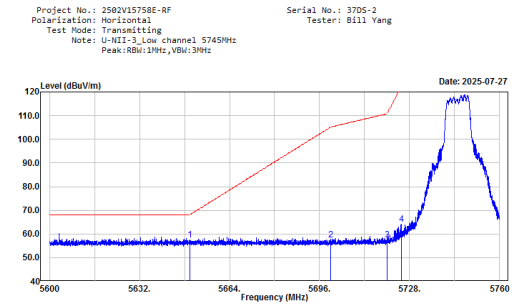
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	25843.80	43.43	11.00	54.43	68.20	13.77	Peak

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	39640.90	43.61	12.03	55.64	74.00	18.36	Peak
2	39640.90	31.65	12.03	43.68	54.00	10.32	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	39365.50	42.67	12.85	55.52	74.00	18.48	Peak
2	39365.50	31.07	12.85	43.92	54.00	10.08	Average

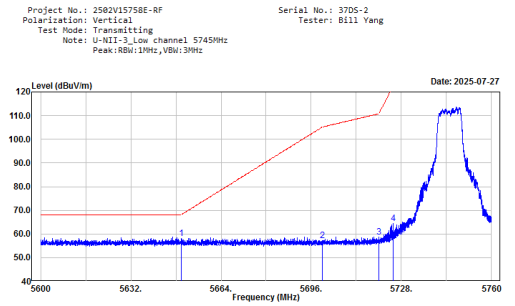
Bandedge

OFDM 10MHz, Low Channel, 5745 MHz, Horizontal



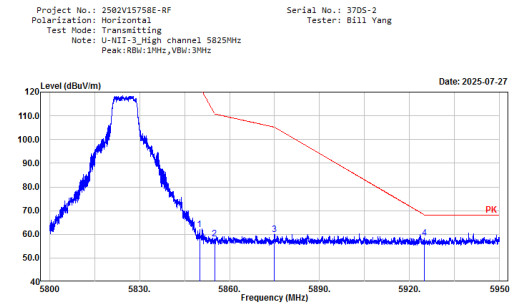
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	5650.00	48.81	8.82	57.63	68.20	10.57	Peak
2	5700.00	48.62	8.85	57.47	105.20	47.73	Peak
3	5720.00	48.58	8.91	57.49	110.80	53.31	Peak
4	5725.00	55.24	8.93	64.17	122.20	58.03	Peak

OFDM 10MHz, Low Channel, 5745MHz, Vertical



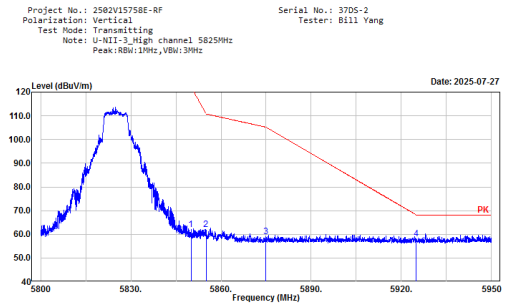
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	5650.00	49.27	8.82	58.09	68.20	10.11	Peak
2	5700.00	48.41	8.85	57.26	105.20	47.94	Peak
3	5720.00	49.74	8.91	58.65	110.80	52.15	Peak
4	5725.00	55.48	8.93	64.41	122.20	57.79	Peak

OFDM 10MHz, High Channel, 5825 MHz, Horizontal



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	5850.00	52.85	9.10	61.95	122.20	60.25	Peak
2	5855.00	48.93	9.12	58.05	110.80	52.75	Peak
3	5875.00	50.78	9.16	59.94	105.20	45.26	Peak
4	5925.00	49.25	9.24	58.49	68.20	9.71	Peak

OFDM 10MHz, High Channel, 5825 MHz, Vertical



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	5850.00	52.89	9.10	61.99	122.20	60.21	Peak
2	5855.00	52.84	9.12	61.96	110.80	48.84	Peak
3	5875.00	49.78	9.16	58.94	105.20	46.26	Peak
4	5925.00	48.80	9.24	58.04	68.20	10.16	Peak

5.3 Emission Bandwidth

Serial Number:	37DS-4	Test Date:	2025/7/26~2025/7/27
Test Site:	RF	Test Mode:	Transmitting
Tester:	Levi Shi	Test Result:	PASS

Environmental Conditions:					
Temperature: (℃)	26.3~27.2	Relative Humidity: (%)	54~60	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	100152	2025/3/31	2026/3/30
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM509	2025/6/6	2026/6/5

** Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

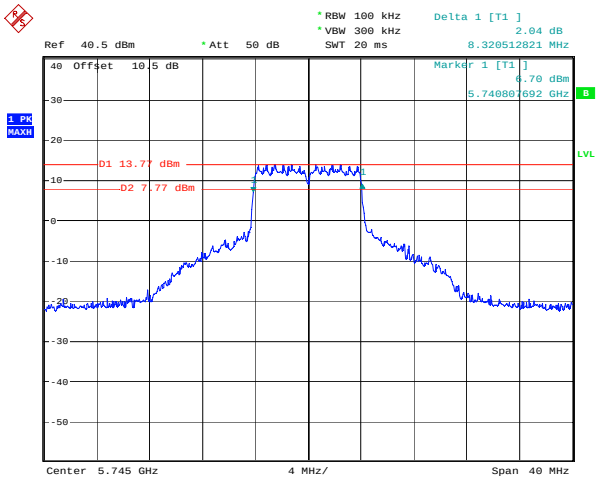
Test Data:

6 dB Bandwidth

Test Modes	Test Frequency (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
OFDM 10MHz	5745	8.321	12.692
	5785	8.321	11.603
	5825	8.282	11.859
Note: 6dB Emission Bandwidth Limit: ⩾0.5 MHz The 99% Occupied Bandwidth have not fall into the band 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.			

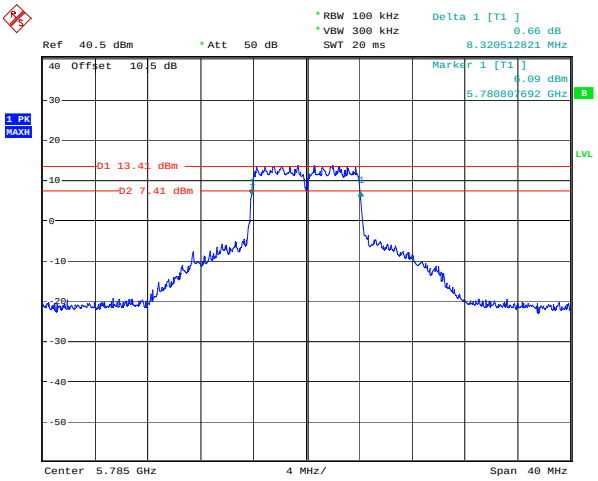
6 dB Bandwidth

OFDM 10MHz_5745MHz



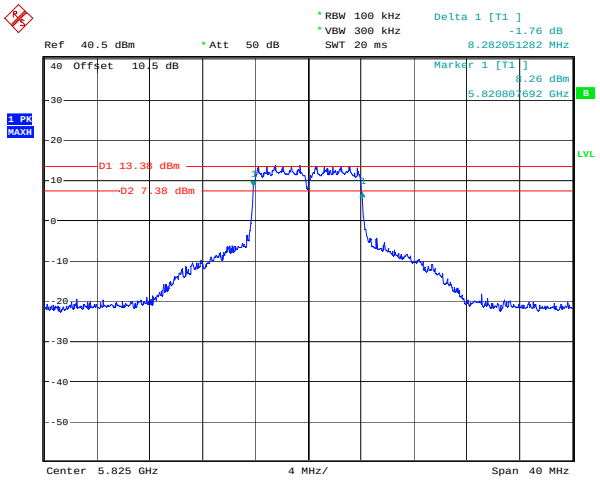
Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 27.JUL.2025 00:05:53

OFDM 10MHz_5785MHz



Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 27.JUL.2025 00:04:15

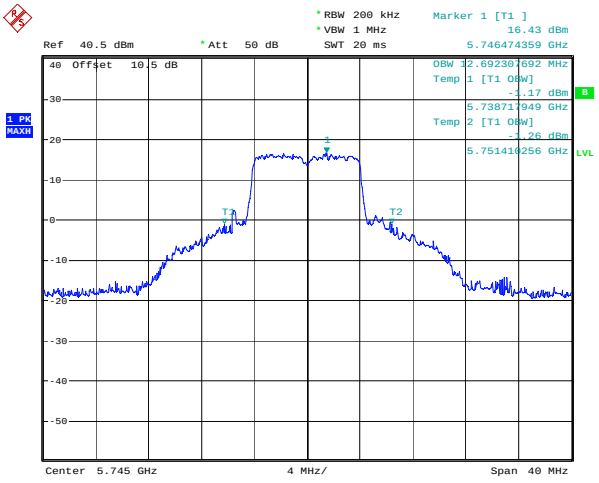
OFDM 10MHz_5825MHz



Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 27.JUL.2025 00:02:26

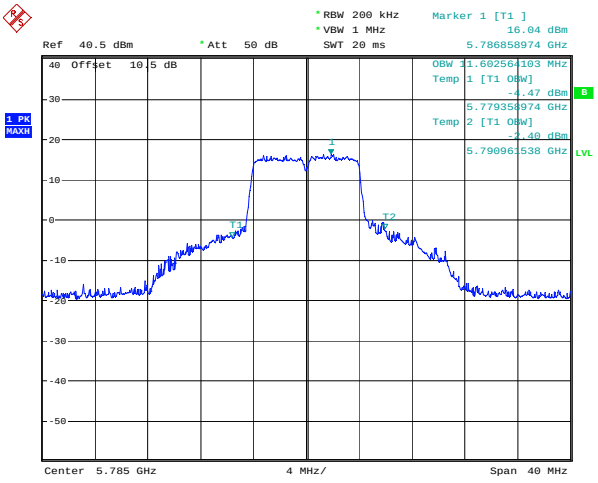
99% Occupied Bandwidth

OFDM 10MHz_5745MHz



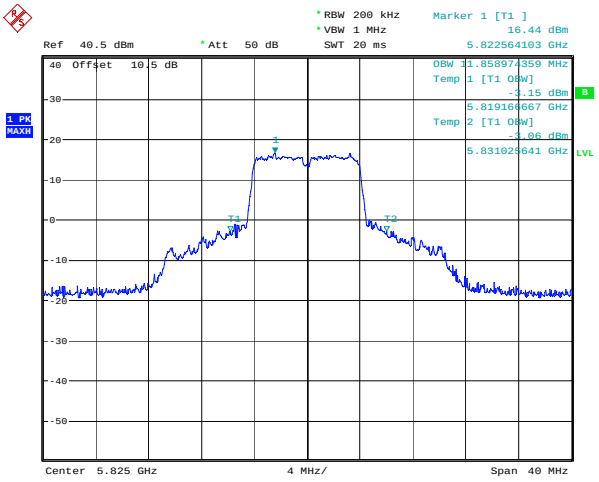
Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 26.JUL.2025 23:45:54

OFDM 10MHz_5785MHz



Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 26.JUL.2025 23:47:19

OFDM 10MHz_5825MHz



Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 26.JUL.2025 23:48:47

5.5 Maximum Conducted Output Power

Serial Number:	37DS-4	Test Date:	2025-07-27
Test Site:	RF	Test Mode:	Transmitting
Tester:	Levi Shi	Test Result:	PASS

Environmental Conditions:					
Temperature: (℃)	27.2	Relative Humidity: (%)	60	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Anritsu	Microwave Peak Power Sensor	MA24418A	12618	2025/6/11	2026/6/10
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM509	2025/6/6	2026/6/5

** Statement of Traceability: Bay Area Compliance Laboratories Corp. (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)	Max. Conducted Average Output Power(dBm)	
		Result	Limit
OFDM 10MHz	5745	21.02	30
	5785	20.97	30
	5825	20.77	30

5.6 Power Spectral Density

Serial Number:	37DS-4	Test Date:	2025-07-26
Test Site:	RF	Test Mode:	Transmitting
Tester:	Levi Shi	Test Result:	PASS

Environmental Conditions:					
Temperature: (℃)	26.3	Relative Humidity: (%)	54	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	100152	2025/3/31	2026/3/30
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM509	2025/6/6	2026/6/5

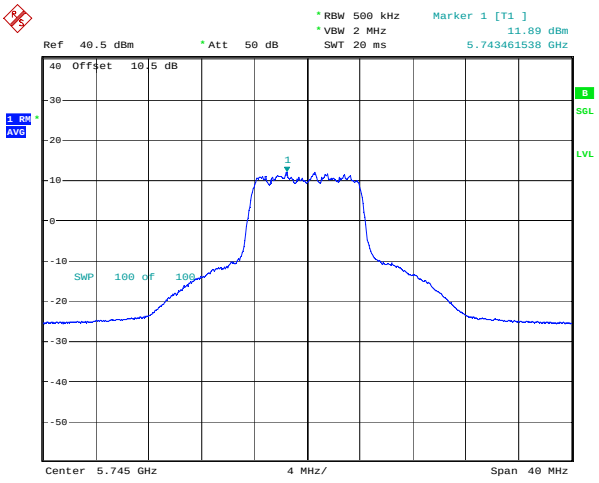
** Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Test Modes	Test Frequency (MHz)	Reading (dBm/500kHz)	Duty Cycle Factor (dB)	Maximum Power Spectral Density (dBm/500kHz)	
				Result	Limit
OFDM 10MHz	5745	11.89	0.14	12.03	30
	5785	11.32	0.14	11.46	30
	5825	11.21	0.14	11.35	30

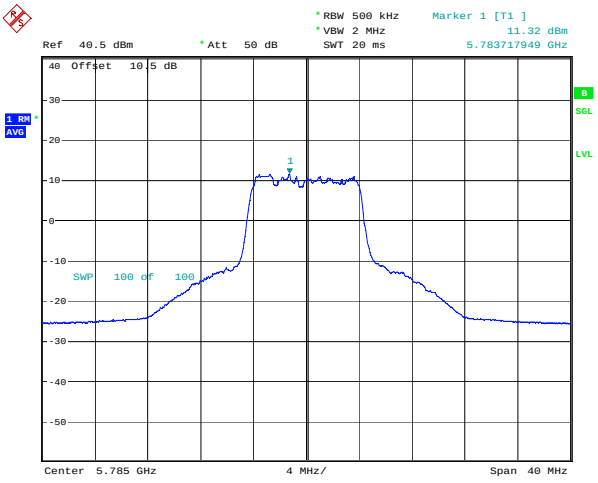
Note:
Duty cycle <98%, and duty cycle variations are less than ±2%, method KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 was used.

OFDM 10MHz_5745MHz



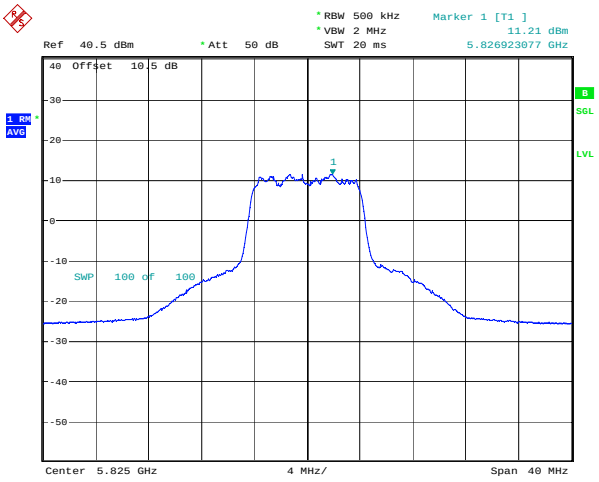
Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 26.JUL.2025 23:19:49

OFDM 10MHz_5785MHz



Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 26.JUL.2025 23:21:32

OFDM 10MHz_5825MHz



Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 26.JUL.2025 23:22:33

5.7 Duty Cycle

Serial Number:	37DS-4	Test Date:	2025-07-26
Test Site:	RF	Test Mode:	Transmitting
Tester:	Levi Shi	Test Result:	N/A

Environmental Conditions:					
Temperature: (℃)	26.3	Relative Humidity: (%)	54	ATM Pressure: (kPa)	100.2

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	100152	2025/3/31	2026/3/30
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM509	2025/6/6	2026/6/5

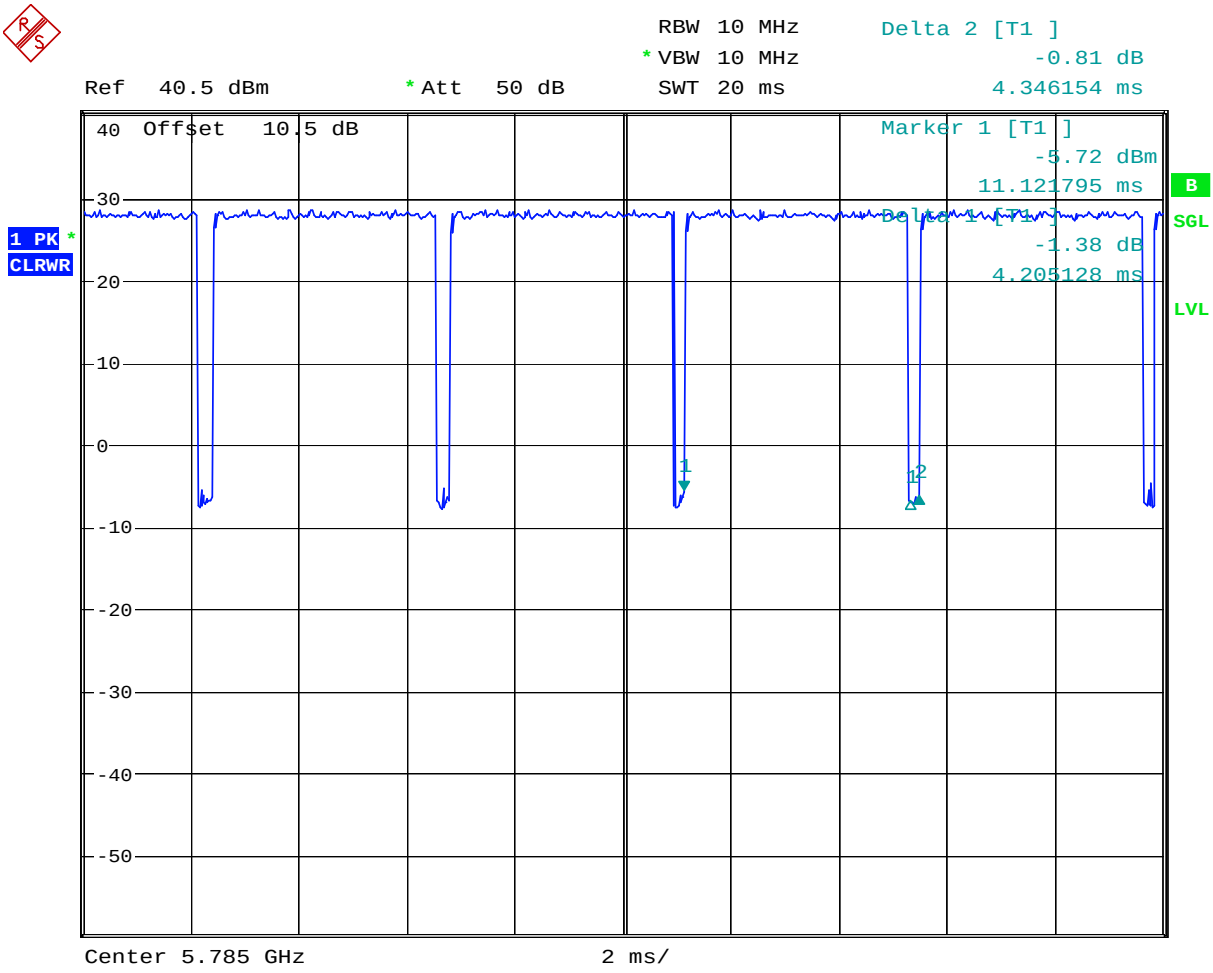
** Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	Duty cycle Factor (dB)	VBW setting (kHz)
OFDM 10MHz	4.205	4.346	96.76	238	0.14	0.3

Duty Cycle = Ton/(Ton+Toff)*100%

OFDM 10MHz_5785MHz



Comment: ProjectNo.:2502V15758E-RF Tester:Levi Shi
Date: 26.JUL.2025 23:10:20

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 2502V15758E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2502V15758E-RF-INP EUT INTERNAL PHOTOGRAPHS.

EXHIBIT B - TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2502V15758E-RF-00B-TSP TEST SETUP PHOTOGRAPHS.

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