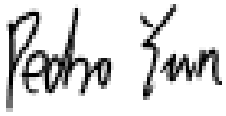
NVLAP TESTING
NVLAP LAB CODE 600341-0

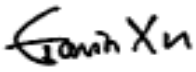
BACL Bay Area Compliance Labs Corp.

TEST REPORT

Applicant:	**Shenzhen Juxingcheng Technology Co., Ltd.**
Address:	**903, No.16, 7th Lane, Daguangkan Village, Bantian Street, Longgang, Shenzhen, China**
Product Name:	**Android Car Stereo**
FCC ID:	**2BOYC-A3080**
Standard(s):	**47 CFR Part 15, Subpart E (15.407) ANSI C63.10-2013 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01**
Report Number:	**2402A111443E-RF-00A**
Report Date:	**2025/4/23**

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





Reviewed By: **Pedro Yun** | **Approved By:** **Gavin Xu**

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2402A111443E-RF-00A	Original Report	2025/4/23

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	Android Car Stereo
EUT Model:	A3080
Multiple Models:	A3059, A3079, A3133, A3134, A3145, A3175, A3740, A3739
Operation Frequency:	5180-5240 MHz (802.11a/n ht20/ac vht20) 5190-5230 MHz (802.11n ht40/ac vht40)
Maximum Average Conducted Output Power:	6.72dBm
Modulation Type:	802.11a/n/ac: OFDM-BPSK, QPSK, 16QAM, 64QAM,256QAM
Rated Input Voltage:	DC 9-16V (Typical: DC 12V)
Serial Number:	2WA3-1(for RF Conducted Test) 2WA3-2(for Radiated Spurious Emissions Test)
EUT Received Date:	2024/12/20
EUT Received Status:	Good
Note: The multiple models are electrically identical with the test model. Please refer to the declaration letter for more detail, which was provided by manufacturer.	

1.2 Accessory Information

Accessory Description	Manufacturer	Model	Parameters
GPS Antenna	Unknown	Unknown	Unshielded without Ferrite Core,1.7m
4 PIN USB External Extension Cable	Unknown	Unknown	Unshielded without Ferrite Core,0.7m
6PIN USB External Extension Cable	Unknown	Unknown	Unshielded without Ferrite Core,0.7m
Power Cable	Unknown	Unknown	Unshielded without Ferrite Core,0.15m
RCA Cable	Unknown	Unknown	Unshielded without Ferrite Core,0.15m
Reversing Wiring Harness	Unknown	Unknown	Unshielded without Ferrite Core,0.15m

1.3 Antenna Information Detail▲

Antenna Type	Input Impedance (Ohm)	Frequency Range	Antenna Gain
Wire Antenna	50	5.18-5.24GHz	1.21dBi
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)	AC Line Conducted Emissions	Not Applicable
FCC§15.205& §15.209 &§15.407(b)	Radiated Spurious Emissions	Compliant
FCC§15.407(a) (e)	Emission Bandwidth	Compliant
FCC§15.407(a)	Maximum Conducted Output Power	Compliant
FCC§15.407 (a)	Power Spectral Density	Compliant
§15.203	Antenna Requirement	Compliant
Note 1: Not Applicable, the EUT is a vehicle-mounted device, not applicable for this test item. Note 2: For Radiated Spurious Emissions 9kHz~1GHz and 18~40GHz, the maximum output power channel was tested.		

3. DESCRIPTION OF TEST CONFIGURATION

3.1 Operation Frequency Detail

For 5 150-5250MHz Band:

802.11a/n ht20/ac vht20		802.11n ht40/ac vht40	
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
36	**5180**	38	**5190**
40	**5200**	46	**5230**
44	5220		
48	**5240**		

Note: The above frequencies in bold were performed the test.

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:	Engineering Mode			
The software was provided by manufacturer. The maximum power was configured as below, that was provided by the manufacturer▲:				
5150-5250 MHz Band:				
Test Modes	**Test Channels**	**Test Frequency (MHz)**	**Data Rate**	**Power Level Setting**
802.11a	Lowest	5180	6Mbps	20
	Middle	5200	6Mbps	20
	Highest	5240	6Mbps	20
802.11n ht20	Lowest	5180	MCS0	20
	Middle	5200	MCS0	20
	Highest	5240	MCS0	20
802.11n ht40	Lowest	5190	MCS0	20
	Highest	5230	MCS0	20

Note:
1. The system support 802.11a/n ht20/n ht40/ac vht20/vht40, the vht20/vht40 were reduced since the identical parameters with 802.11n ht20 and ht40.
2. 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.

3.3 Support Equipment List and Details

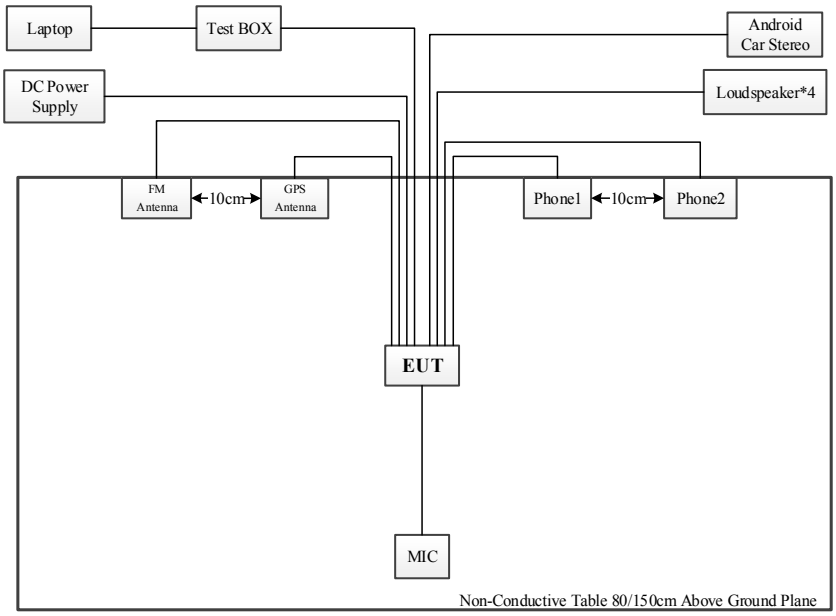
Manufacturer	Description	Model	Serial Number
DK	DC power supply	DK-60V50A	T-08-EE140
Unknown	Test BOX	Unknown	Unknown
Lenovo	Laptop	G510	EMZBPC21103006
Unknown	FM Antenna	Unknown	Unknown
Unknown	GPS Antenna	Unknown	Unknown
TEJIATE	Antenna	SMA	BL220212
Unknown	Loudspeaker	Unknown	Unknown
Shenzhen Cheyang	Android Car Stereo	A3080	Unknown
Unknown	MIC	Unknown	Unknown
Huawei	Phone1	EVR-AL00	A000009E3F501E
GlocalMe	Phone2	P3S18	3089d47dfb40

3.4 Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
MIC Cable	No	No	1.2	EUT	MIC
USB-C Cable	No	No	1	EUT	Phone1
USB-C Cable	No	No	1	EUT	Phone2
Power Cable*2	No	No	2	EUT	DC power supply
USB Cable	No	No	1	Laptop	Test BOX
Detachable Cable*6	No	No	2	EUT	Test BOX
Audio Cable	No	No	2	EUT	Android Car Stereo
Power Cable*8	No	No	2	EUT	Loudspeaker
FM Antenna Cable	No	No	3	EUT	FM Antenna
GPS Antenna Cable	No	No	1.7	EUT	GPS Antenna

3.5 Block Diagram of Test Setup

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:

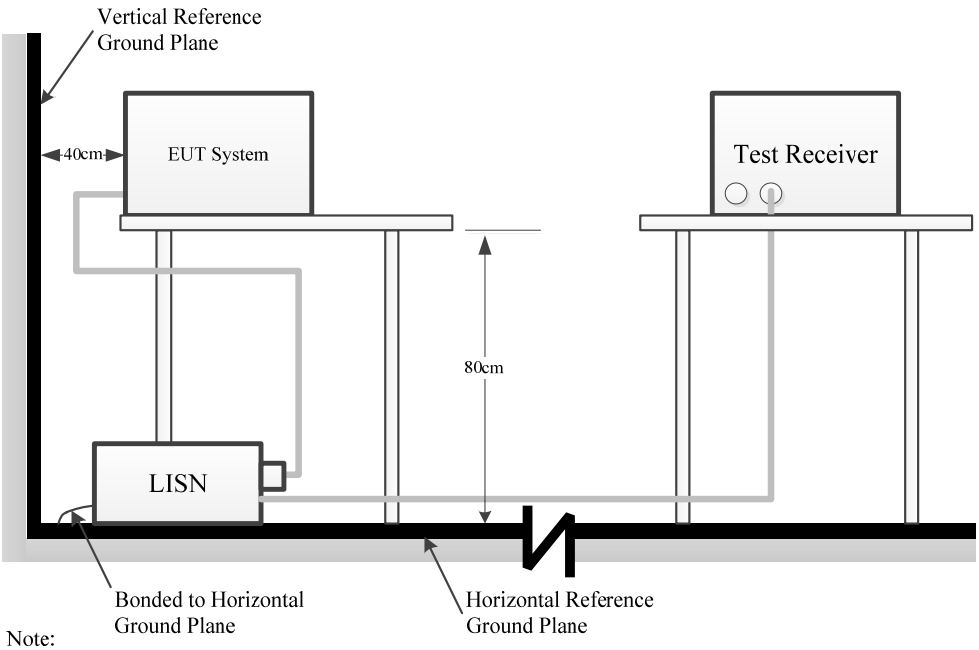
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(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.

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 C63.10-2013 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.

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

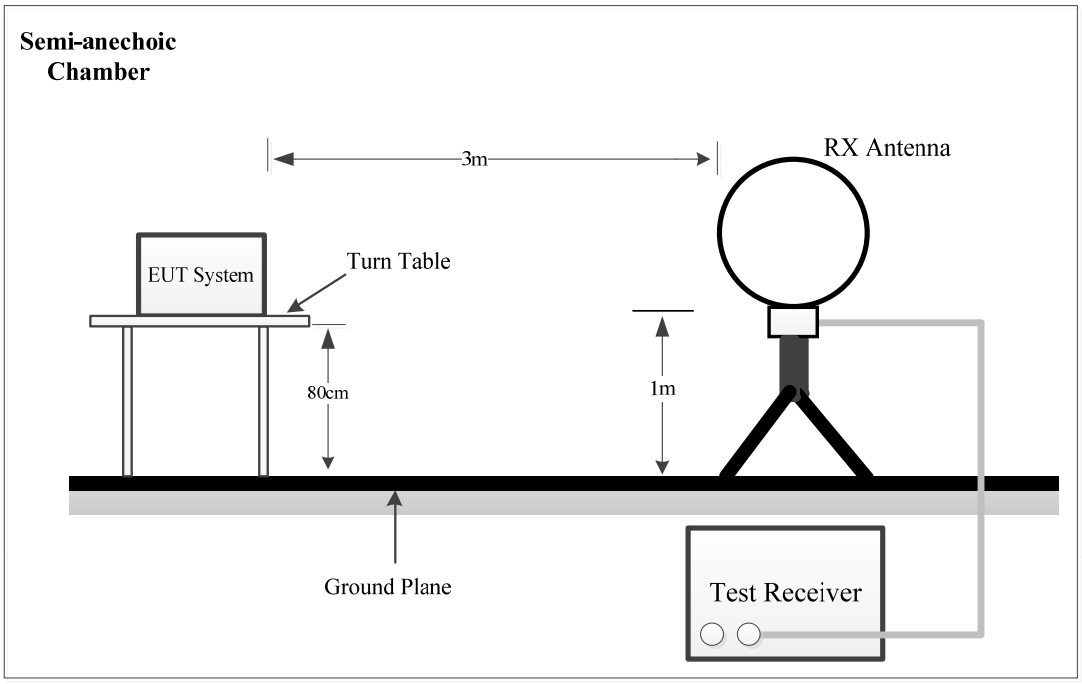
4.2.1 Applicable Standard

FCC §15.407 (b);

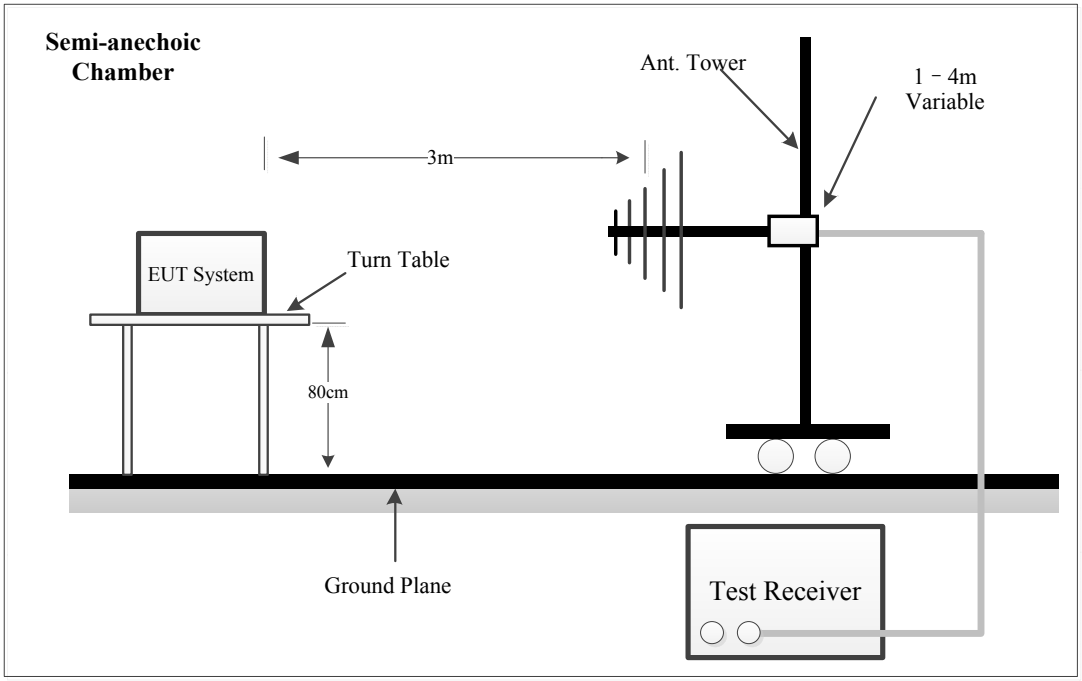
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 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.

4.2.2 EUT Setup

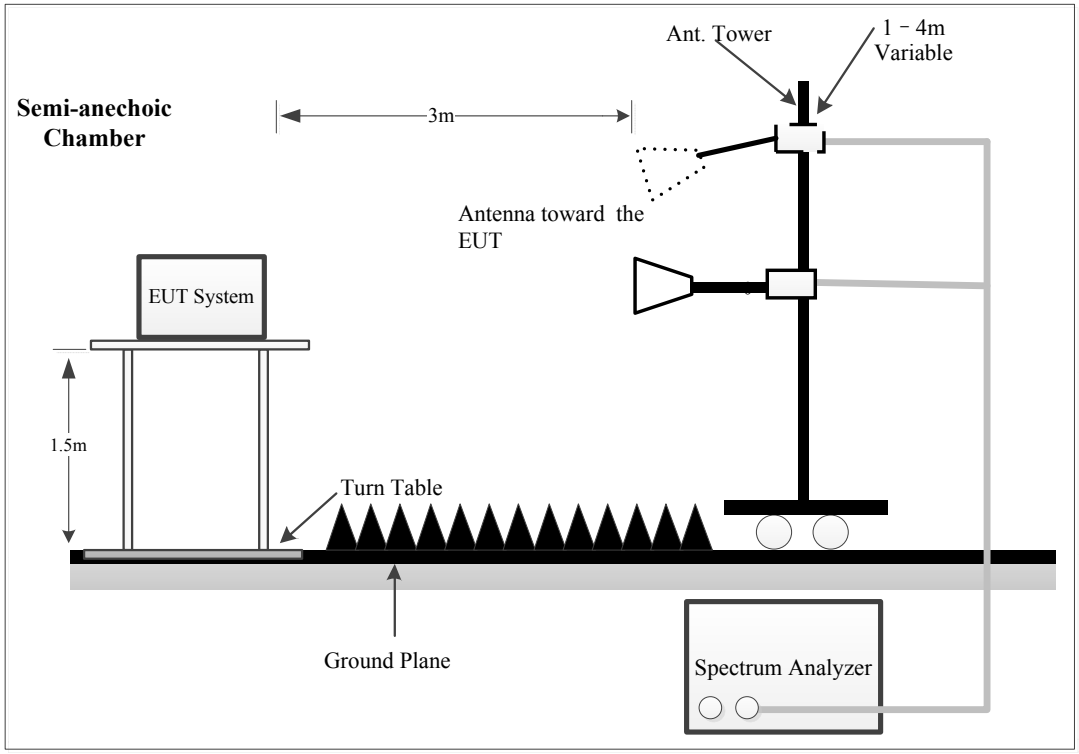
9kHz~30MHz:



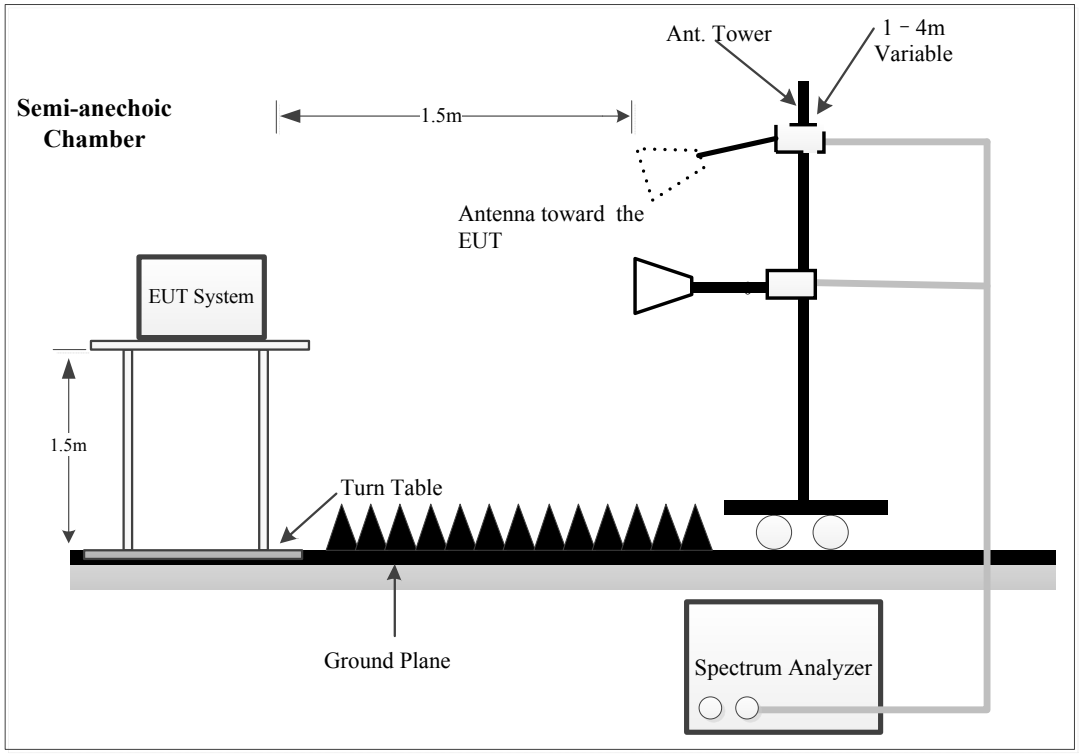
30MHz~1GHz:



1-26.5GHz:



26.5-40GHz:



The radiated emission tests were performed in the semi-anechoic chamber, using the setup accordance with the ANSI C63.10-2013. The specification used was FCC 15.209, FCC 15.407 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:

Measurement	Detector	Duty cycle	RBW	Video B/W
PK	Peak	Any	1MHz	3 MHz
Ave.	Peak	>98%	1MHz	5kHz
		<98%	1MHz	1/T, not less than 5kHz

Final measurement for emission identified during the pre-scan:

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

Note: T is minimum transmission duration

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

If the maximized peak measured value is under the average limit, then it is unnecessary to perform an QP measurement.

4.2.4 Test Procedure

During the radiated emission test, the adapter was connected to the first AC floor outlet.

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.

All emissions under the average limit and under the noise floor have not recorded in the report.

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

For the spurious emission below 30MHz, the limit was converted from dBμA/m to dBμV/m by adding 51.5 dB.

4.2.6 Test Result

Please refer to section 5.2.

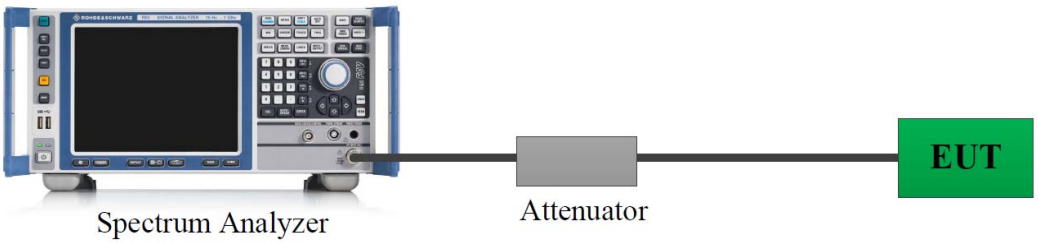
4.3 Emission Bandwidth

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.

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 C63.10-2013 Section 12.4.1

a) Set RBW = approximately 1% 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 approximately 1%.

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 C63.10-2013 Section 12.4.2&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).

4.3.4 Test Result

Please refer to section 5.3 and section 5.4.

4.4 Maximum Conducted Output Power

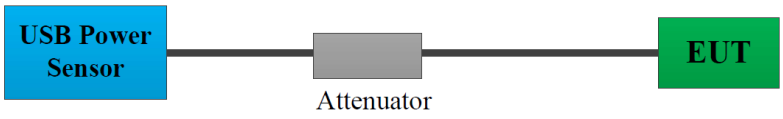
4.4.1 Applicable Standard

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.

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 C63.10-2013 Section 12.3.3.1
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

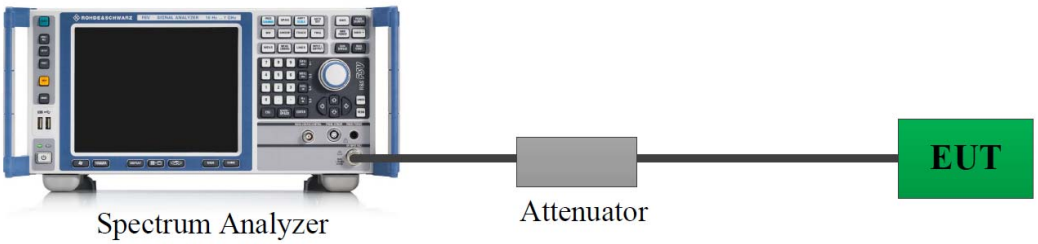
4.5.1 Applicable Standard

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.

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%

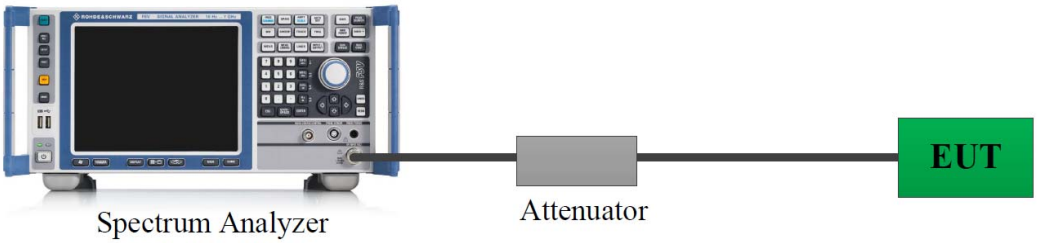
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-3 should be applied.

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 C63.10-2013 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.

4.7.2 Judgment

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

5. Test DATA AND RESULTS

5.1 AC Line Conducted Emissions

Not Applicable, the device was powered by battery when operating.

5.2 Radiation Spurious Emissions

1) 9kHz - 1GHz

Serial Number:	2WA3-2	Test Date:	2025/3/28
Test Site:	Chamber10m	Test Mode:	Transmitting
Tester:	Leesin Xiang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	24.8	Relative Humidity: (%)	46	ATM Pressure: (kPa)	100.3

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EMCO	Passive Loop Antenna	6512	9706-1206	2023/10/25	2026/10/24
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	2024/7/1	2025/6/30
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-04	2024/7/1	2025/6/30
Unknown	Coaxial Cable	C-NJNJ-50	C-0530-01	2024/7/1	2025/6/30
Sonoma	Amplifier	310N	185914	2024/8/26	2025/8/25
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).*

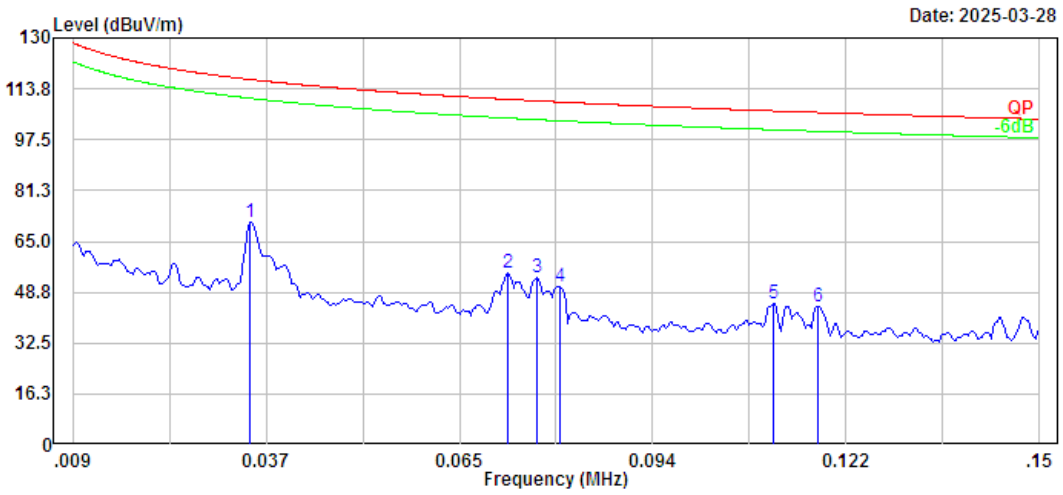
Test Data:
Please refer to the below table and plots.

Note: The maximum output power mode and channel: 802.11a lowest channel (5180MHz) was tested.

9kHz~30MHz

Three antenna orientations (parallel, perpendicular, and ground-parallel) were measured, the worst orientations were below:

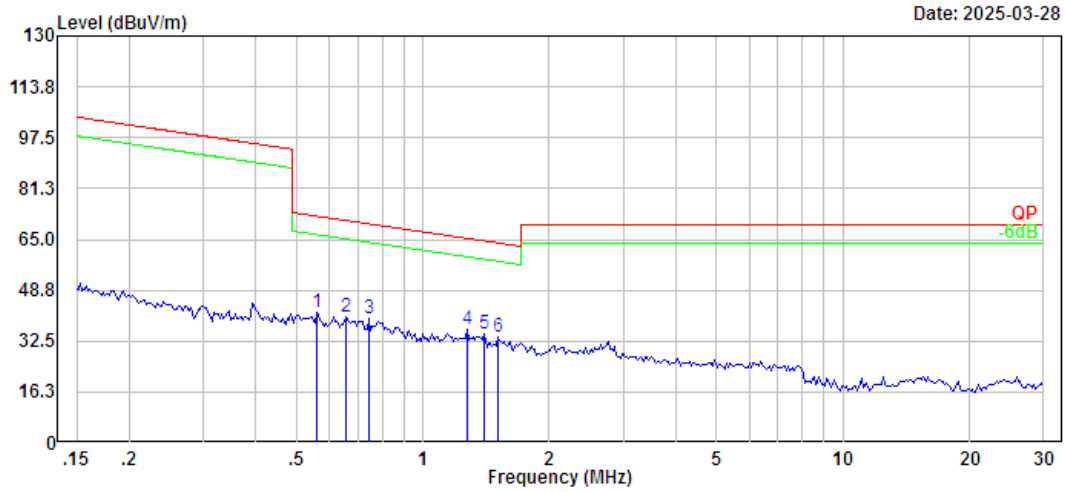
```
Project No.: 2402A111443E-RF                Serial No.: 2WA3-2
Polarization: Parallel                          Tester: Leesin Xiang
   Test Mode: Transmitting
           : RBW:300Hz VBW:1kHz
```



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	0.035	24.22	46.67	70.89	116.74	45.85	Peak
2	0.072	14.72	40.17	54.89	110.40	55.51	Peak
3	0.077	13.86	39.47	53.33	109.91	56.58	Peak
4	0.080	11.59	38.91	50.50	109.54	59.04	Peak
5	0.111	10.38	34.79	45.17	106.69	61.52	Peak
6	0.118	9.92	34.43	44.35	106.20	61.85	Peak

Project No.: 2402A111443E-RF
Polarization: Parallel
Test Mode: Transmitting
: RBW:10kHz VBW:30kHz

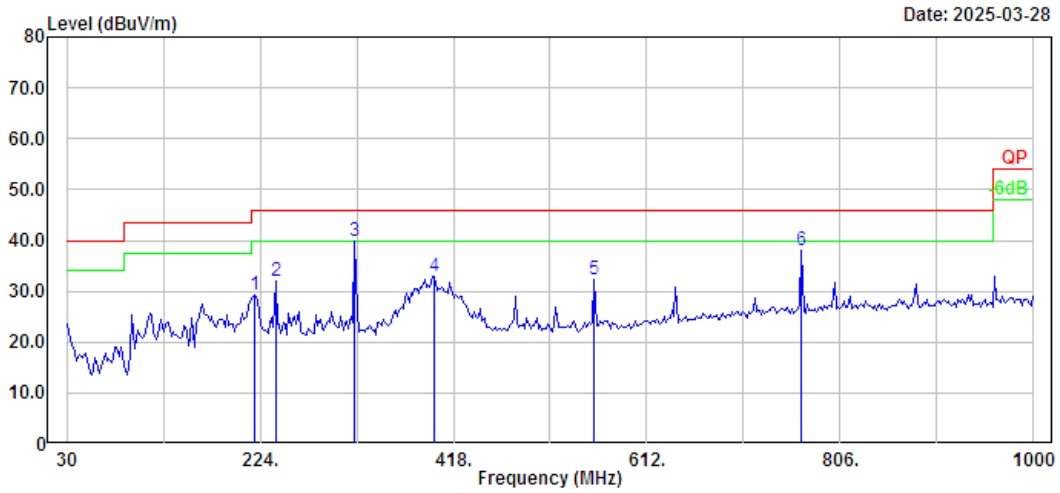
Serial No.: 2WA3-2
Tester: Leesin Xiang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	0.558	18.59	22.91	41.50	72.65	31.15	Peak
2	0.654	18.45	21.92	40.37	71.24	30.87	Peak
3	0.743	18.51	21.08	39.59	70.11	30.52	Peak
4	1.276	20.99	15.34	36.33	65.31	28.98	Peak
5	1.403	19.89	14.77	34.66	64.47	29.81	Peak
6	1.511	19.76	14.29	34.05	63.81	29.76	Peak

30MHz-1GHz

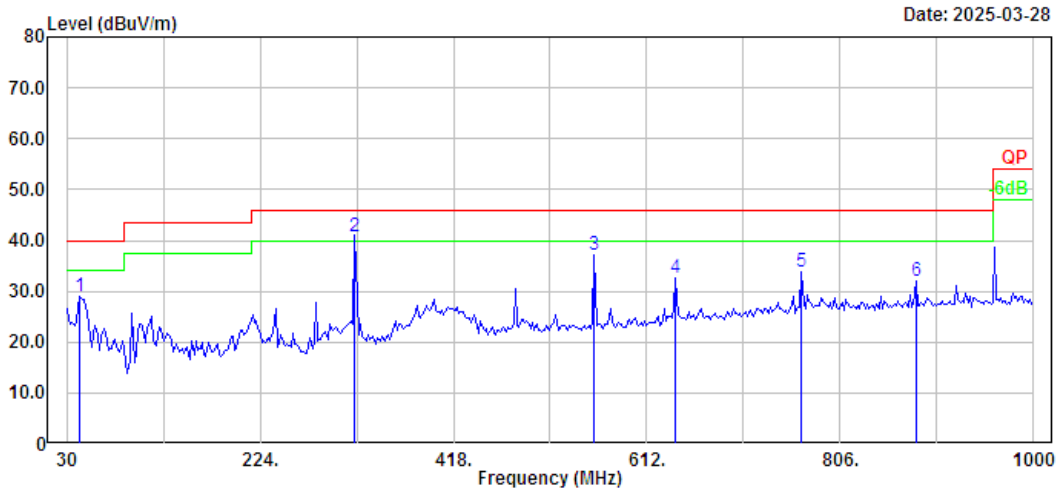
Project No.: 2402A111443E-RF Serial No.: 2WA3-2
Polarization: Horizontal Tester: Leesin Xiang
Test Mode: Transmitting
: RBW:100kHz VBW:300kHz



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	218.18	41.67	-12.51	29.16	46.00	16.84	Peak
2	239.52	43.83	-11.77	32.06	46.00	13.94	Peak
3	319.06	48.87	-9.10	39.77	46.00	6.23	Peak
4	398.60	40.05	-7.01	33.04	46.00	12.96	Peak
5	559.62	35.59	-3.33	32.26	46.00	13.74	Peak
6	767.20	38.22	-0.05	38.17	46.00	7.83	Peak

Project No.: 2402A111443E-RF
Polarization: Vertical
Test Mode: Transmitting
: RBW:100kHz VBW:300kHz

Serial No.: 2WA3-2
Tester: Leesin Xiang



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Measurement
1	43.58	41.76	-12.88	28.88	40.00	11.12	Peak
2	319.06	49.81	-9.10	40.71	46.00	5.29	QP
3	559.62	40.46	-3.33	37.13	46.00	8.87	Peak
4	641.10	34.73	-2.06	32.67	46.00	13.33	Peak
5	767.20	33.85	-0.05	33.80	46.00	12.20	Peak
6	881.66	30.80	1.22	32.02	46.00	13.98	Peak

2) 1-40GHz:

Serial Number:	2WA3-2	Test Date:	2025/1/25
Test Site:	Chamber B	Test Mode:	Transmitting
Tester:	Colin Yang	Test Result:	Pass

Environmental Conditions:					
Temperature: (℃)	21.8	Relative Humidity: (%)	55	ATM Pressure: (kPa)	101

Test Equipment List and Details:

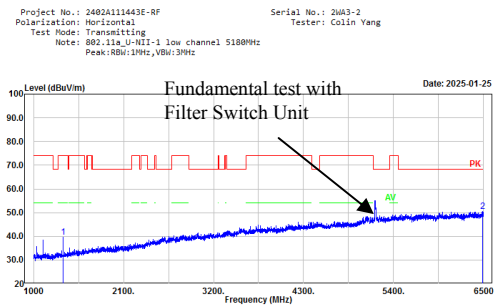
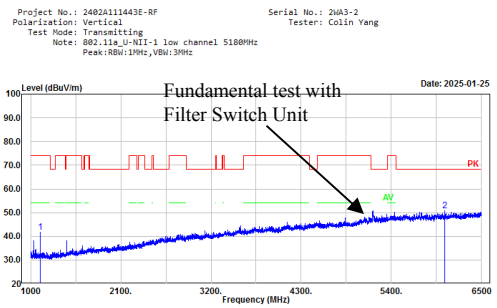
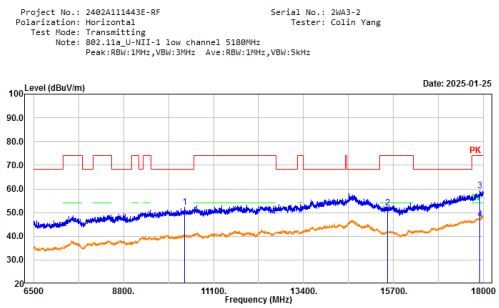
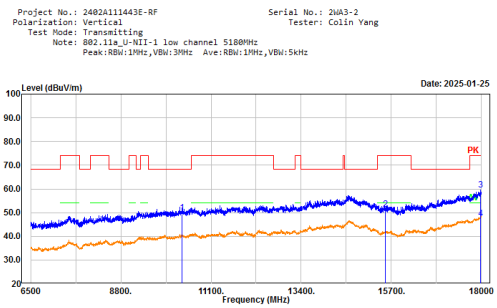
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
ETS-Lindgren	Horn Antenna	3115	000 527 35	2023/9/7	2026/9/6
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-02 1304	2023/2/22	2026/2/21
Ducommun Technologies	Horn Antenna	ARH-2823-02	1007726-01 1302	2023/2/22	2026/2/21
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	2024/4/15	2025/4/14
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.

1-18GHz:
5150-5250MHz:

802.11a, Low Channel, 5180MHz, Horizontal	802.11a, Low Channel, 5180MHz, Vertical
	
	

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1359.70	53.86	-14.24	39.62	74.00	34.38	Peak
2	6491.20	50.47	-0.11	50.36	68.20	17.84	Peak

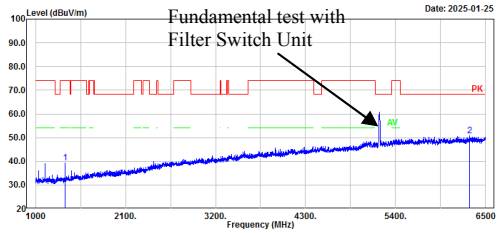
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	56.65	-14.92	41.73	74.00	32.27	Peak
2	6054.50	51.11	-0.39	50.72	68.20	17.48	Peak

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10360.00	49.38	2.79	52.17	68.20	16.03	Peak
2	15540.00	48.49	3.56	52.05	74.00	21.95	Peak
3	17901.10	48.31	10.79	59.10	74.00	14.90	Peak
4	17901.10	36.28	10.79	47.07	54.00	6.93	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10360.00	47.01	2.79	49.80	68.20	18.40	Peak
2	15540.00	47.76	3.56	51.32	74.00	22.68	Peak
3	17970.10	48.15	11.29	59.44	74.00	14.56	Peak
4	17970.10	36.20	11.29	47.49	54.00	6.51	Average

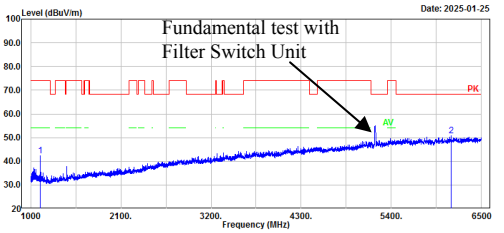
802.11a, Middle Channel, 5200MHz, Horizontal	802.11a, Middle Channel, 5200MHz, Vertical

Project No.: 2402A111443E-RF Serial No.: 2WA3-2
Polarization: Horizontal Tester: Colin Yang
Test Mode: Transmitting
Note: 802.11a_U-NII-1 middle channel 5200MHz
Peak:RBW:1MHz,VBW:3MHz



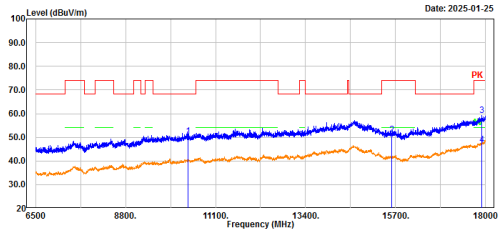
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1359.70	53.70	-14.24	39.46	74.00	34.54	Peak
2	6304.20	51.14	-0.39	50.75	68.20	17.45	Peak

Project No.: 2402A111443E-RF Serial No.: 2WA3-2
Polarization: Vertical Tester: Colin Yang
Test Mode: Transmitting
Note: 802.11a_U-NII-1 middle channel 5200MHz
Peak:RBW:1MHz,VBW:3MHz



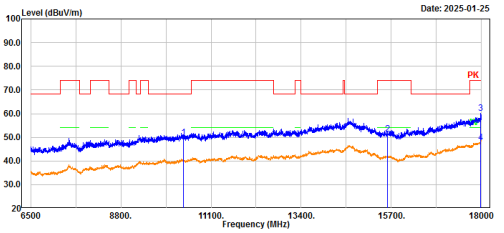
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	57.25	-14.92	42.33	74.00	31.67	Peak
2	6131.50	51.33	-0.58	50.75	68.20	17.45	Peak

Project No.: 2402A111443E-RF Serial No.: 2WA3-2
Polarization: Horizontal Tester: Colin Yang
Test Mode: Transmitting
Note: 802.11a_U-NII-1 middle channel 5200MHz
Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz



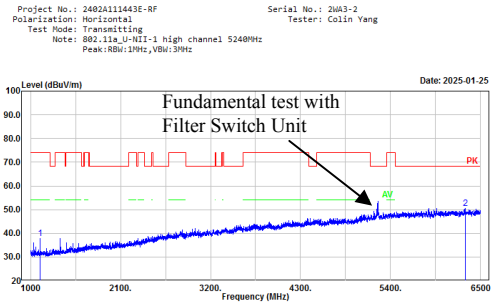
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10400.00	47.65	2.82	50.47	68.20	17.73	Peak
2	15600.00	47.45	3.56	51.01	74.00	22.99	Peak
3	17894.20	48.39	10.72	59.11	74.00	14.89	Peak
4	17894.20	36.12	10.72	46.84	54.00	7.16	Average

Project No.: 2402A111443E-RF Serial No.: 2WA3-2
Polarization: Vertical Tester: Colin Yang
Test Mode: Transmitting
Note: 802.11a_U-NII-1 middle channel 5200MHz
Peak:RBW:1MHz,VBW:3MHz Ave:RBW:1MHz,VBW:5kHz

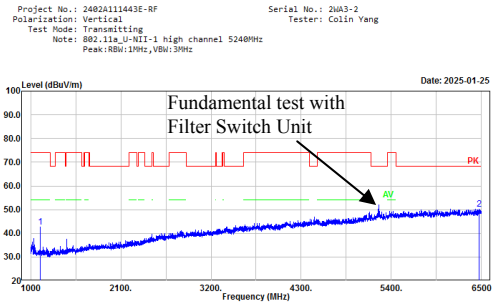


No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10400.00	47.18	2.82	50.00	68.20	18.20	Peak
2	15600.00	47.80	3.56	51.36	74.00	22.64	Peak
3	17979.30	48.76	11.37	60.13	74.00	13.87	Peak
4	17979.30	36.29	11.37	47.66	54.00	6.34	Average

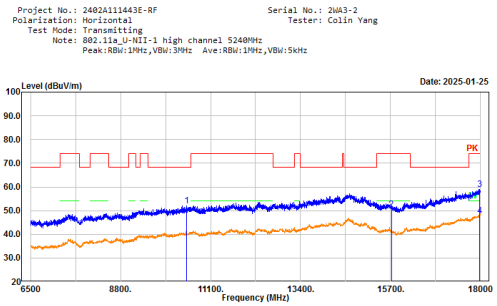
802.11a, High Channel, 5240MHz, Horizontal	802.11a, High Channel, 5240MHz, Vertical



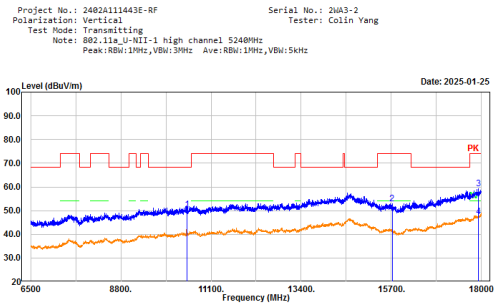
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	52.77	-14.92	37.85	74.00	36.15	Peak
2	6310.80	51.01	-0.39	50.62	68.20	17.58	Peak



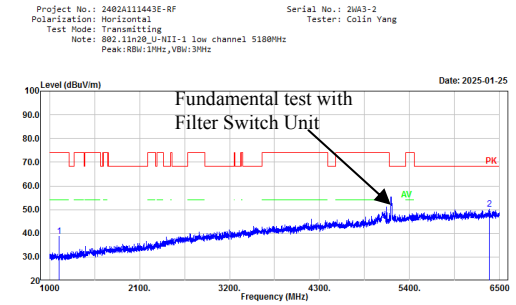
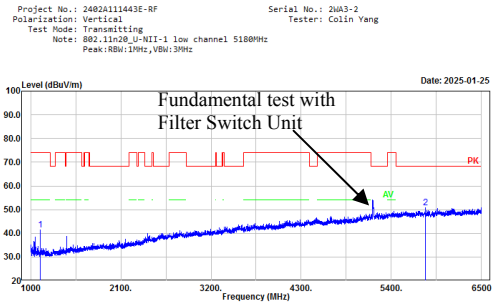
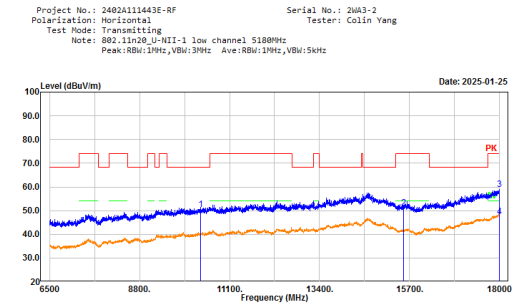
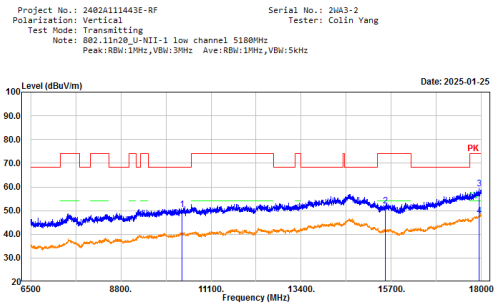
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	57.65	-14.92	42.73	74.00	31.27	Peak
2	6471.40	50.45	-0.17	50.28	68.20	17.92	Peak



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10480.00	49.09	2.93	52.02	68.20	16.18	Peak
2	15720.00	47.20	3.43	50.63	74.00	23.37	Peak
3	17977.00	47.63	11.35	58.98	74.00	15.02	Peak
4	17977.00	36.41	11.35	47.76	54.00	6.24	Average



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10480.00	47.57	2.93	50.50	68.20	17.70	Peak
2	15720.00	49.45	3.43	52.88	74.00	21.12	Peak
3	17926.40	48.18	10.98	59.16	74.00	14.84	Peak
4	17926.40	36.39	10.98	47.37	54.00	6.63	Average

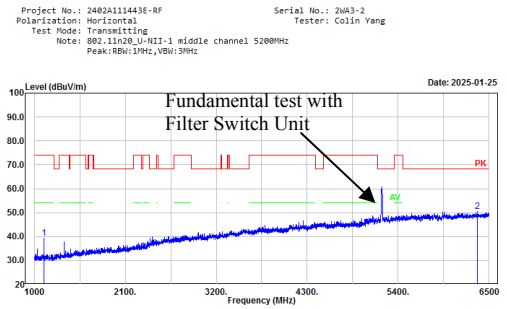
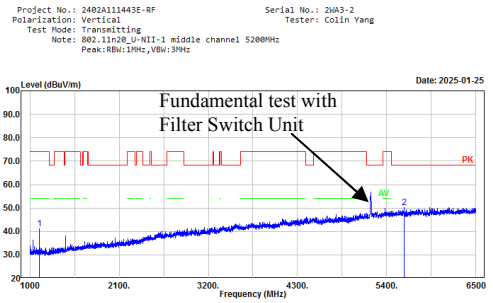
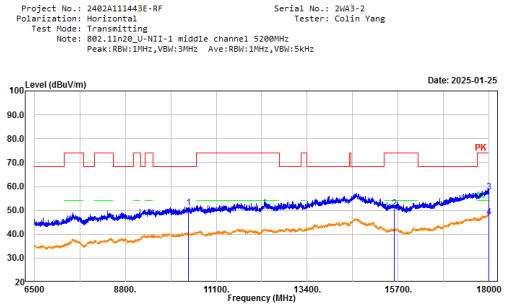
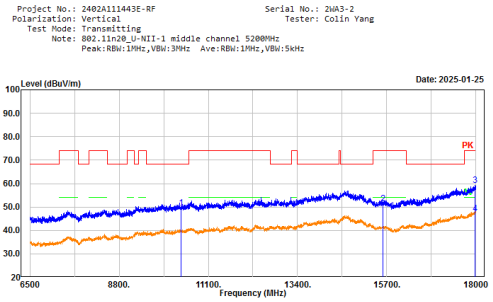
802.11n20, Low Channel, 5180MHz, Horizontal	802.11n20, Low Channel, 5180MHz, Vertical
	
	

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1118.80	53.61	-14.91	38.70	74.00	35.30	Peak
2	6375.70	50.42	-0.25	50.17	68.20	18.03	Peak

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	56.40	-14.92	41.48	74.00	32.52	Peak
2	5814.70	51.47	-0.66	50.81	68.20	17.39	Peak

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10360.00	47.72	2.79	50.51	68.20	17.69	Peak
2	15540.00	47.56	3.56	51.12	74.00	22.88	Peak
3	17997.70	47.51	11.51	59.02	74.00	14.98	Peak
4	17997.70	36.09	11.51	47.60	54.00	6.40	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10360.00	47.55	2.79	50.34	68.20	17.86	Peak
2	15540.00	48.32	3.56	51.88	74.00	22.12	Peak
3	17944.80	48.11	11.12	59.23	74.00	14.77	Peak
4	17944.80	36.53	11.12	47.65	54.00	6.35	Average

802.11n20, Middle Channel, 5200MHz, Horizontal	802.11n20, Middle Channel, 5200MHz, Vertical
	
	

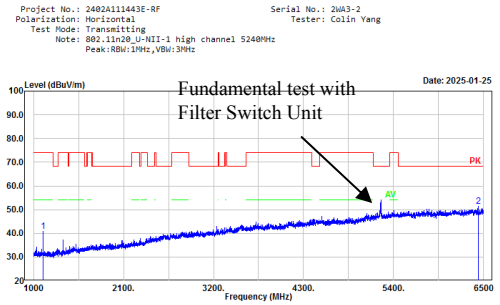
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	54.19	-14.92	39.27	74.00	34.73	Peak
2	6355.90	50.82	-0.20	50.62	68.20	17.58	Peak

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	56.13	-14.92	41.21	74.00	32.79	Peak
2	5614.50	51.29	-0.96	50.33	68.20	17.87	Peak

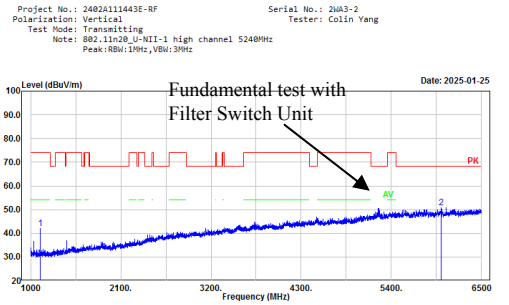
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10400.00	48.18	2.82	51.00	68.20	17.20	Peak
2	15600.00	47.31	3.56	50.87	74.00	23.13	Peak
3	17999.00	46.20	11.51	57.71	74.00	16.29	Peak
4	17999.00	35.69	11.51	47.20	54.00	6.80	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10400.00	46.77	2.82	49.59	68.20	18.61	Peak
2	15600.00	47.80	3.56	51.36	74.00	22.64	Peak
3	17979.30	47.87	11.37	59.24	74.00	14.76	Peak
4	17979.30	35.92	11.37	47.29	54.00	6.71	Average

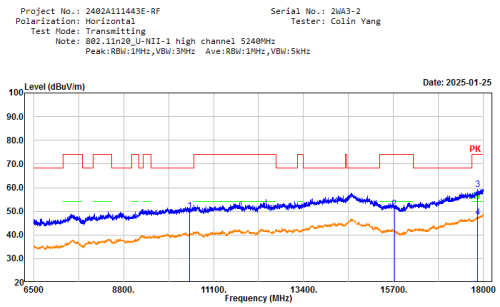
802.11n20, High Channel, 5240MHz, Horizontal	802.11n20, High Channel, 5240MHz, Vertical



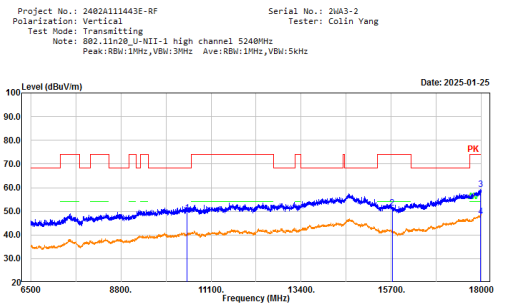
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	55.73	-14.92	40.81	74.00	33.19	Peak
2	6437.30	51.49	-0.15	51.34	68.20	16.86	Peak



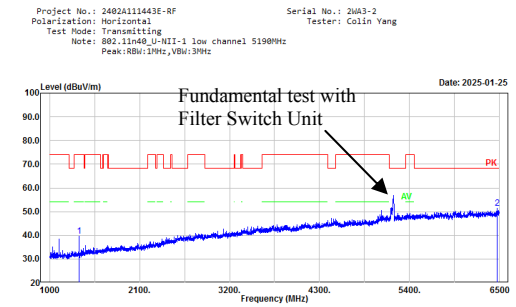
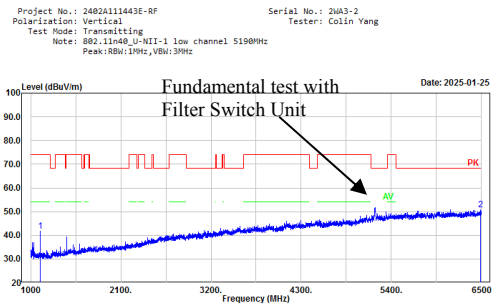
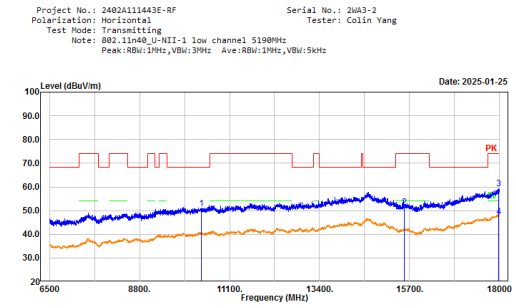
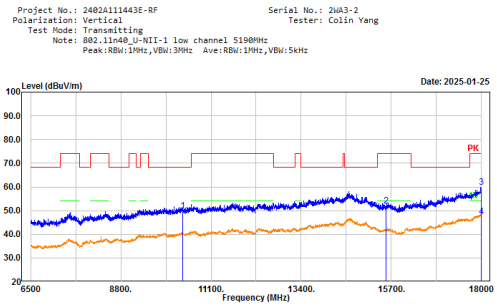
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	57.03	-14.92	42.11	74.00	31.89	Peak
2	6009.40	51.24	-0.33	50.91	68.20	17.29	Peak



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10480.00	47.25	2.93	50.18	68.20	18.02	Peak
2	15720.00	47.81	3.43	51.24	74.00	22.76	Peak
3	17850.50	49.00	10.31	59.31	74.00	14.69	Peak
4	17850.50	37.02	10.31	47.33	54.00	6.67	Average



No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10480.00	46.38	2.93	49.31	68.20	18.89	Peak
2	15720.00	47.97	3.43	51.40	74.00	22.60	Peak
3	17981.60	47.85	11.39	59.24	74.00	14.76	Peak
4	17981.60	36.27	11.39	47.66	54.00	6.34	Average

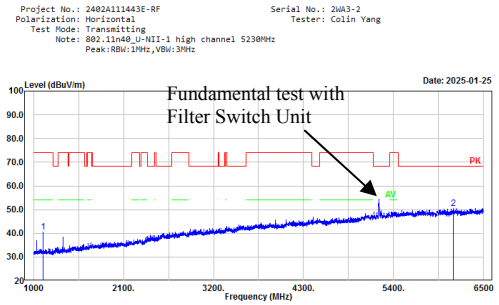
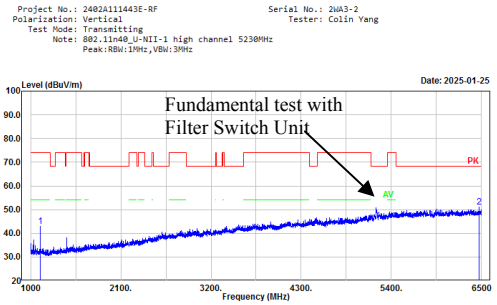
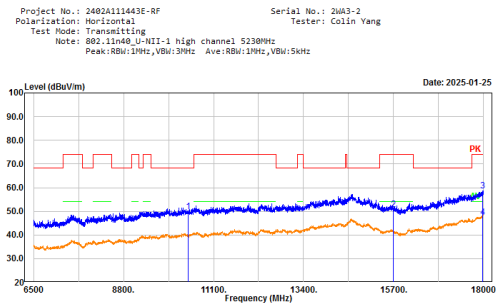
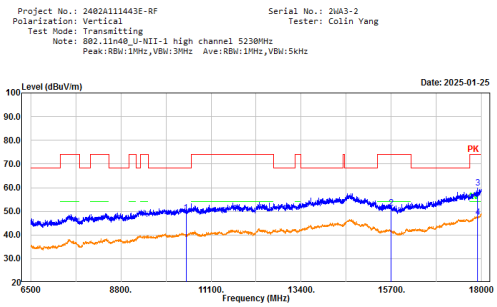
802.11n40, Low Channel, 5190MHz, Horizontal	802.11n40, Low Channel, 5190MHz,Vertical
	
	

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1359.70	53.72	-14.24	39.48	74.00	34.52	Peak
2	6471.40	51.59	-0.17	51.42	68.20	16.78	Peak

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1119.90	56.71	-14.92	41.79	74.00	32.21	Peak
2	6487.90	50.81	-0.12	50.69	68.20	17.51	Peak

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10380.00	48.16	2.78	50.94	68.20	17.26	Peak
2	15570.00	47.65	3.62	51.27	74.00	22.73	Peak
3	17972.40	47.99	11.31	59.30	74.00	14.70	Peak
4	17972.40	36.25	11.31	47.56	54.00	6.44	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	10380.00	46.98	2.78	49.76	68.20	18.44	Peak
2	15570.00	48.29	3.62	51.91	74.00	22.09	Peak
3	17999.00	48.36	11.51	59.87	74.00	14.13	Peak
4	17999.00	35.97	11.51	47.48	54.00	6.52	Average

802.11n40, High Channel, 5230MHz, Horizontal	802.11n40, High Channel, 5230MHz, Vertical
	
	

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	1119.90	55.35	-14.92	40.43	74.00	33.57	Peak
2	6130.40	51.07	-0.59	50.48	68.20	17.72	Peak

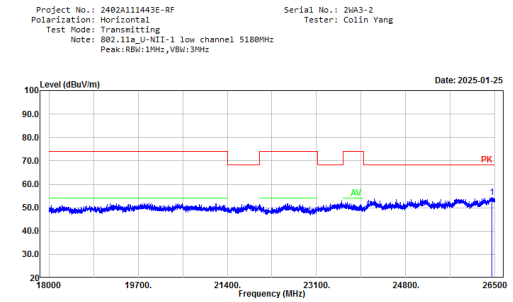
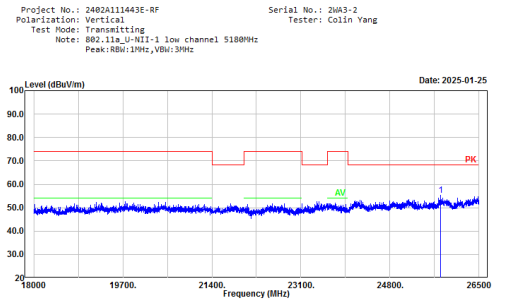
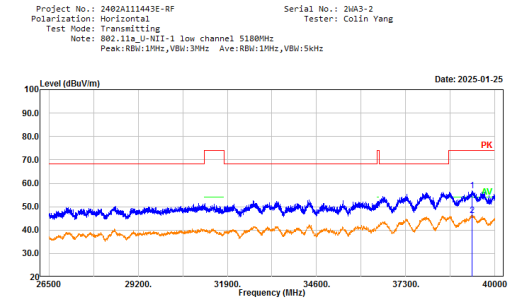
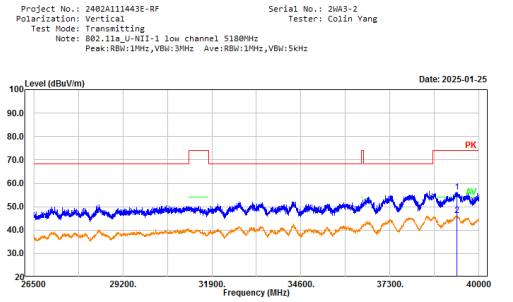
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	1118.80	57.74	-14.91	42.83	74.00	31.17	Peak
2	6468.10	51.28	-0.19	51.09	68.20	17.11	Peak

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	10460.00	47.02	2.92	49.94	68.20	18.26	Peak
2	15690.00	47.34	3.45	50.79	74.00	23.21	Peak
3	17979.30	47.39	11.37	58.76	74.00	15.24	Peak
4	17979.30	35.99	11.37	47.36	54.00	6.64	Average

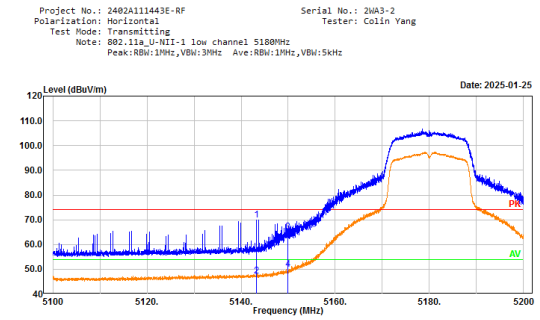
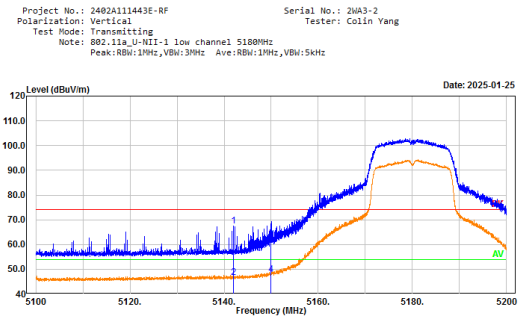
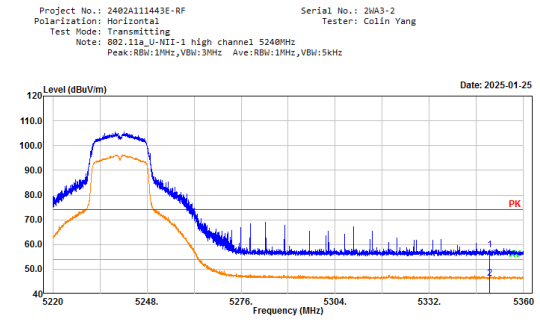
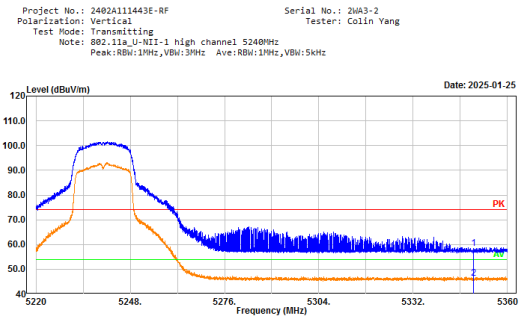
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	10460.60	46.25	2.92	49.17	68.20	19.03	Peak
2	15690.00	47.86	3.45	51.31	74.00	22.69	Peak
3	17896.50	49.21	10.75	59.96	74.00	14.04	Peak
4	17896.50	36.61	10.75	47.36	54.00	6.64	Average

18-40GHz:

Note: The maximum output power mode and channel: 802.11a lowest channel (5180MHz) was tested.

802.11a mode 5180MHz, Horizontal	802.11a mode 5180MHz, Vertical
 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 26438.80 41.79 12.50 54.29 68.20 13.91 Peak	 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 25767.30 44.31 11.15 55.46 68.20 12.74 Peak
 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 39298.00 44.54 12.19 56.73 74.00 17.27 Peak 2 39298.00 34.10 12.19 46.29 54.00 7.71 Average	 No. Frequency (MHz) Reading (dBµV) Factor (dB/m) Result (dBµV/m) Limit (dBµV/m) Margin (dB) Detector 1 39330.40 43.73 12.51 56.24 74.00 17.76 Peak 2 39330.40 33.61 12.51 46.12 54.00 7.88 Average

Bandedge:
5150-5250MHz:

802.11a, 5180MHz, Bandedge, Horizontal	802.11a, 5180MHz, Bandedge, Vertical
	
	

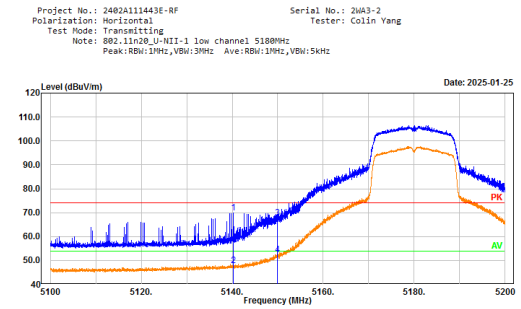
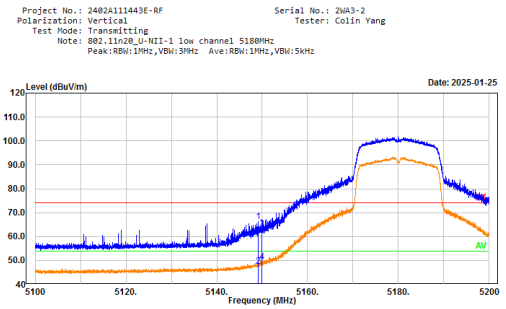
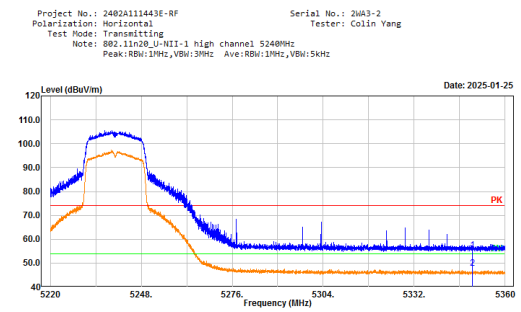
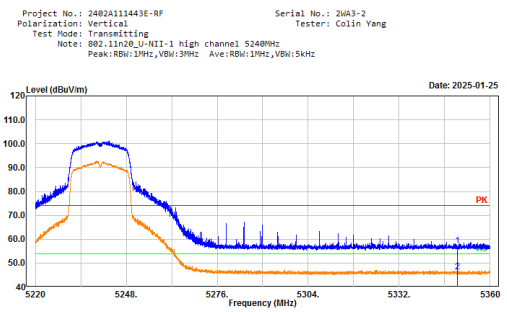
No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5143.30	63.37	6.50	69.87	74.00	4.13	Peak
2	5143.30	40.78	6.50	47.28	54.00	6.72	Average
3	5150.00	58.39	6.53	64.92	74.00	9.08	Peak
4	5150.00	43.48	6.53	50.01	54.00	3.99	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5142.02	61.07	6.50	67.57	74.00	6.43	Peak
2	5142.02	40.15	6.50	46.65	54.00	7.35	Average
3	5150.00	55.39	6.53	61.92	74.00	12.08	Peak
4	5150.00	41.43	6.53	47.96	54.00	6.04	Average

802.11a, 5240MHz, Bandedge, Horizontal	802.11a, 5240MHz, Bandedge, Vertical

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.00	50.67	7.10	57.77	74.00	16.23	Peak
2	5350.00	39.36	7.10	46.46	54.00	7.54	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.00	51.46	7.10	58.56	74.00	15.44	Peak
2	5350.00	39.30	7.10	46.40	54.00	7.60	Average

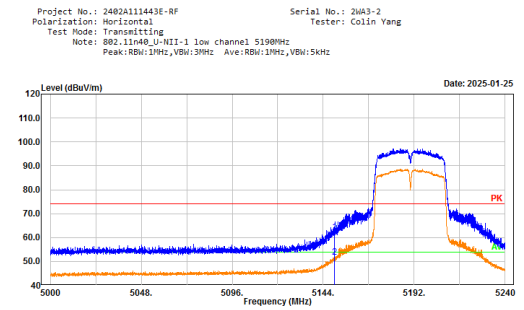
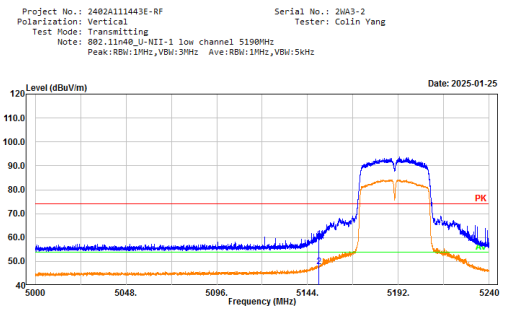
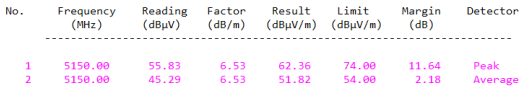
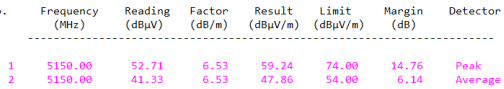
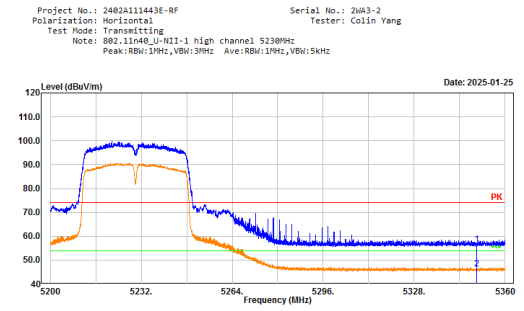
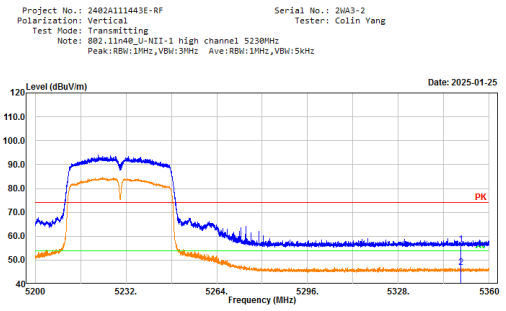
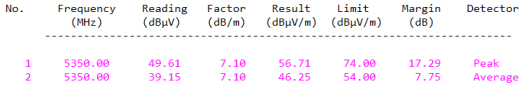
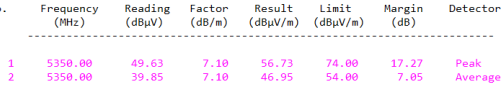
802.11n20, 5180MHz, Bandedge, Horizontal	802.11n20, 5180MHz, Bandedge, Vertical
	
802.11n20, 5240MHz, Bandedge, Horizontal	802.11n20, 5240MHz, Bandedge, Vertical
	

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5140.30	63.46	6.48	69.94	74.00	4.06	Peak
2	5140.30	41.41	6.48	47.89	54.00	6.11	Average
3	5150.00	61.29	6.53	67.82	74.00	6.18	Peak
4	5150.00	45.96	6.53	52.49	54.00	1.51	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5149.20	59.59	6.52	66.11	74.00	7.89	Peak
2	5149.20	41.07	6.52	47.59	54.00	6.41	Average
3	5150.00	56.59	6.53	63.12	74.00	10.88	Peak
4	5150.00	42.93	6.53	49.46	54.00	4.54	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.00	48.21	7.10	55.31	74.00	18.69	Peak
2	5350.00	40.65	7.10	47.75	54.00	6.25	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.00	50.11	7.10	57.21	74.00	16.79	Peak
2	5350.00	39.26	7.10	46.36	54.00	7.64	Average

802.11n40, 5190MHz, Bandedge, Horizontal	802.11n40, 5190MHz, Bandedge, Vertical
	
	
802.11n40, 5230MHz, Bandedge, Horizontal	802.11n40, 5230MHz, Bandedge, Vertical
	
	

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5150.00	55.83	6.53	62.36	74.00	11.64	Peak
2	5150.00	45.29	6.53	51.82	54.00	2.18	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5150.00	52.71	6.53	59.24	74.00	14.76	Peak
2	5150.00	41.33	6.53	47.86	54.00	6.14	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.00	49.61	7.10	56.71	74.00	17.29	Peak
2	5350.00	39.15	7.10	46.25	54.00	7.75	Average

No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	5350.00	49.63	7.10	56.73	74.00	17.27	Peak
2	5350.00	39.85	7.10	46.95	54.00	7.05	Average

5.3 Emission Bandwidth

Test Information:

Serial No.:	2WA3-1	**Test Date:**	2025/1/6
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Levi Shi	**Test Result:**	Pass

Environmental Conditions:

Temperature: (°C)	23.8	Relative Humidity: (%)	44	ATM Pressure: (kPa)	101.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200445	2024/4/1	2025/3/31
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM510	2024/6/7	2025/6/6

** 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).*

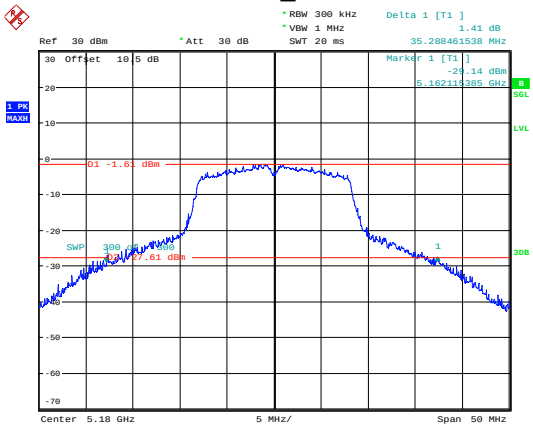
Test Data:

26dB Emission Bandwidth
5150-5250MHz

Mode	Antenna	Test Frequency (MHz)	Result (MHz)
802.11a	Chain 0	5180	35.29
		5200	33.16
		5240	33.53
802.11n20	Chain 0	5180	35.40
		5200	36.31
		5240	37.92
802.11n40	Chain 0	5190	81.12
		5230	82.66

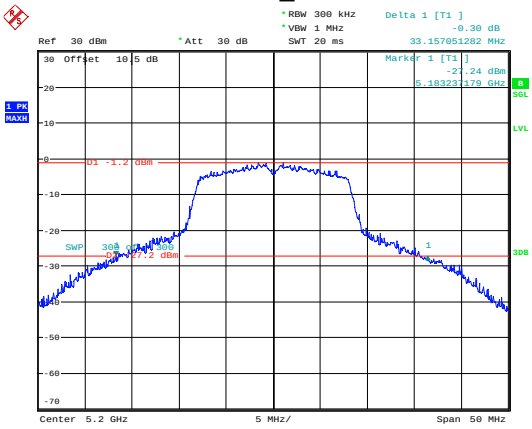
5150-5250MHz

802.11a_5180MHz



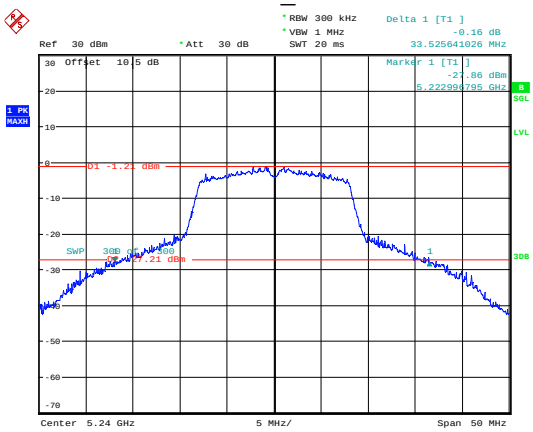
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 16:55:39

802.11a_5200MHz



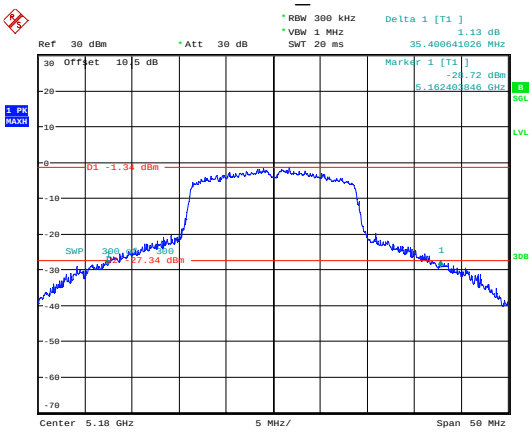
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 17:03:16

802.11a_5240MHz



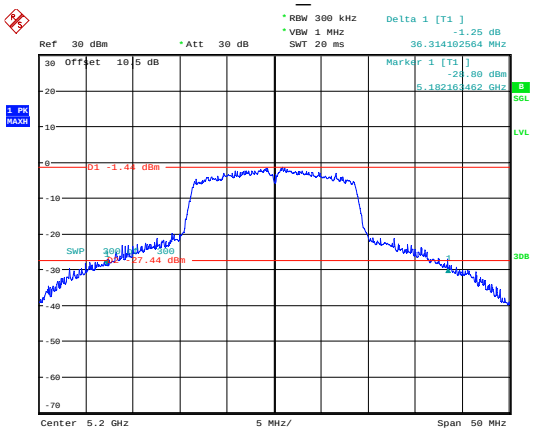
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 16:59:35

802.11n20_5180MHz



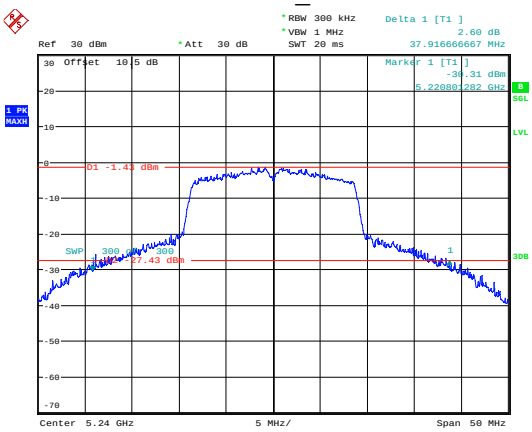
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:27:52

802.11n20_5200MHz



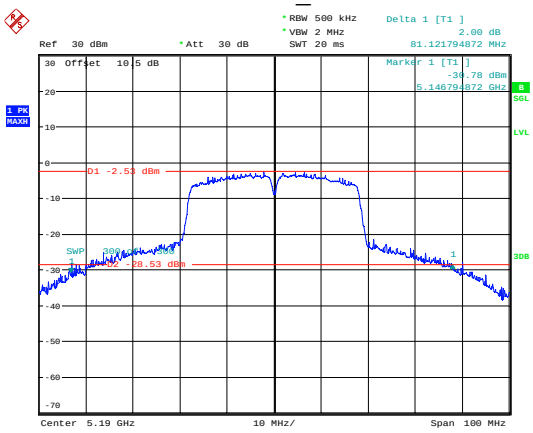
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 17:06:01

802.11n20_5240MHz



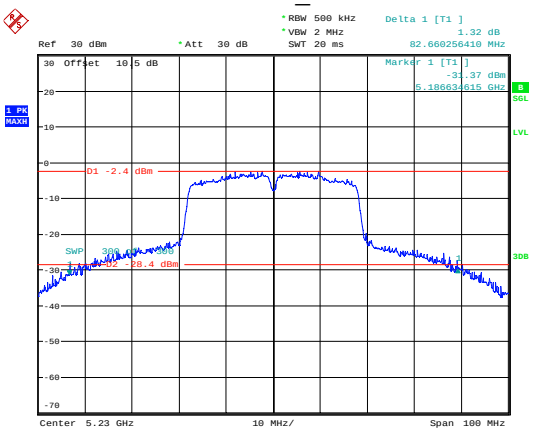
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:32:38

802.11n40_5190MHz



ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:41:53

802.11n40_5230MHz



ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:44:03

5.4 99% Occupied Bandwidth

Test Information:

Serial No.:	2WA3-1	**Test Date:**	2025/1/6
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Levi Shi	**Test Result:**	/

Environmental Conditions:

Temperature: (°C)	23.8	Relative Humidity: (%)	44	ATM Pressure: (kPa)	101.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200445	2024/4/1	2025/3/31
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM510	2024/6/7	2025/6/6

** 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:

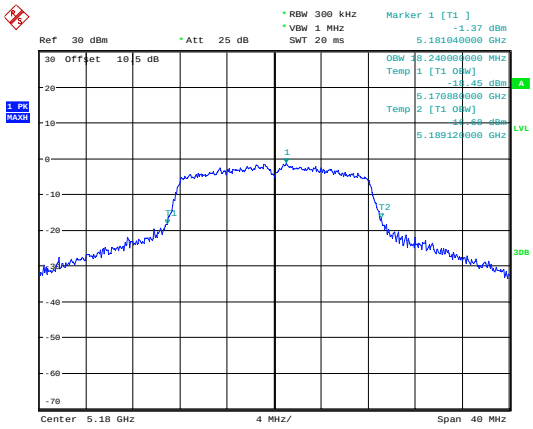
5150-5250MHz

Mode	Test Frequency (MHz)	99% OBW (MHz)
802.11a	5180	18.24
	5200	18.32
	5240	18.16
802.11n20	5180	18.88
	5200	18.96
	5240	18.88
802.11n40	5190	38.08
	5230	37.92

Note:
The 99% Occupied Bandwidth have not fall into the band 5250-5350MHz, please refer to the test plots of 99% Occupied Bandwidth.

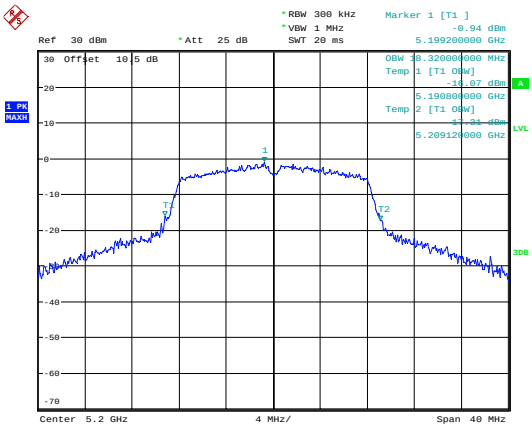
5150-5250MHz

802.11a_5180MHz



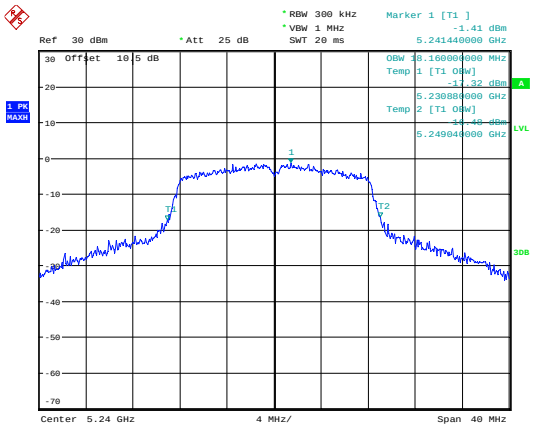
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:50:16

802.11a_5200MHz



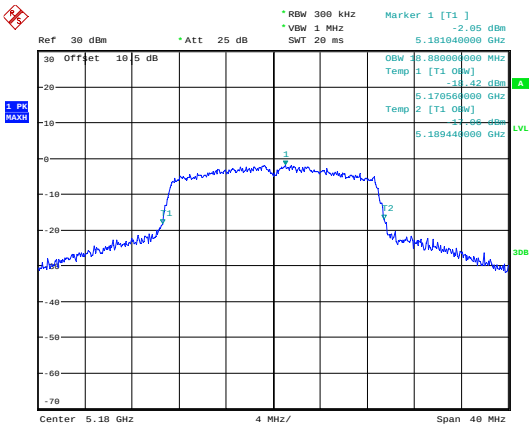
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:50:58

802.11a_5240MHz



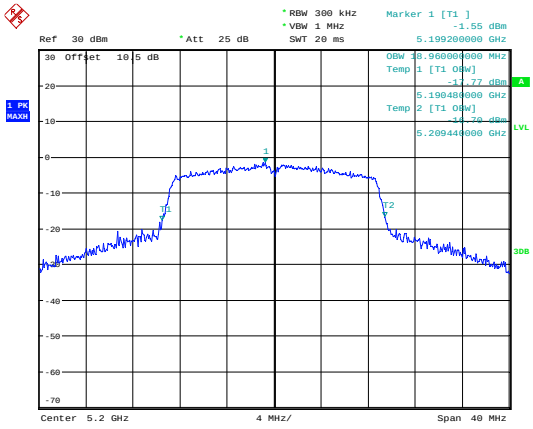
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:51:33

802.11n20_5180MHz



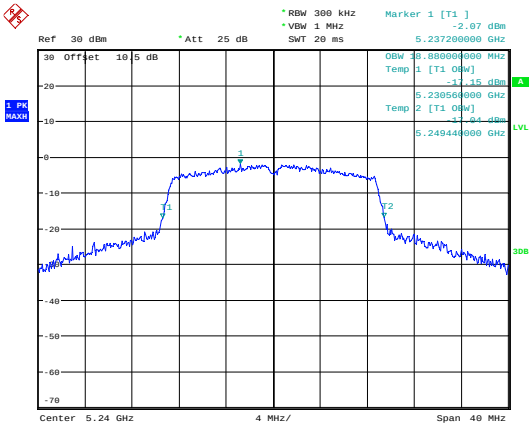
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:47:49

802.11n20_5200MHz



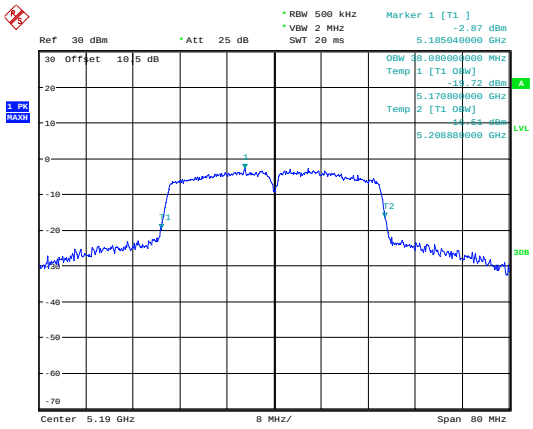
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:48:30

802.11n20_5240MHz



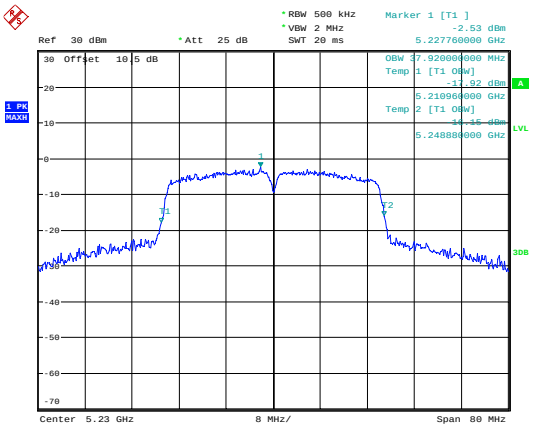
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:49:15

802.11n40_5190MHz



ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:46:47

802.11n40_5230MHz



ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:46:01

5.5 Maximum Conducted Output Power

Test Information:

Serial No.:	2WA3-1	**Test Date:**	2025/1/6
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Levi Shi	**Test Result:**	Pass

Environmental Conditions:

Temperature: (°C)	23.8	Relative Humidity: (%)	44	ATM Pressure: (kPa)	101.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM510	2024/6/7	2025/6/6
Anritsu	Microwave Peak Power Sensor	MA24418A	12618	2024/9/4	2025/9/3

** 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:

5150-5250MHz

Mode	Antenna	Test Frequency (MHz)	Average Output Power (dBm)	Limit (dBm)	Verdict
802.11a	Chain 0	5180	**6.72**	24	Pass
		5200	6.48	24	Pass
		5240	6.43	24	Pass
802.11n20	Chain 0	5180	6.44	24	Pass
		5200	6.47	24	Pass
		5240	6.51	24	Pass
802.11n40	Chain 0	5190	6.44	24	Pass
		5230	6.49	24	Pass
Note: The device is a client device.					

5.6 Power Spectral Density

Test Information:

Serial No.:	2WA3-1	**Test Date:**	2025/1/6
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Levi Shi	**Test Result:**	Pass

Environmental Conditions:

Temperature: (°C)	23.8	Relative Humidity: (%)	44	ATM Pressure: (kPa)	101.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200445	2024/4/1	2025/3/31
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM510	2024/6/7	2025/6/6

** 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:

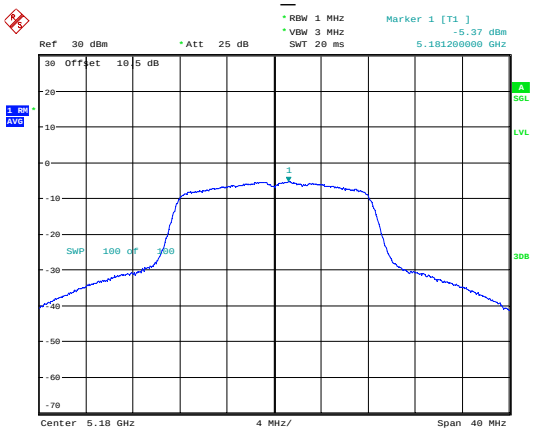
5150-5250MHz

Mode	Antenna	Test Frequency (MHz)	Reading (dBm/MHz)	Duty Cycle Factor(dB)	Result (dBm/MHz)	Limit (dBm/MHz)	Verdict
802.11a	Chain 0	5180	-5.37	0.15	-5.22	11	Pass
		5200	-5.77	0.15	-5.62	11	Pass
		5240	-4.94	0.15	-4.79	11	Pass
802.11n20	Chain 0	5180	-5.56	0.13	-5.43	11	Pass
		5200	-5.55	0.13	-5.42	11	Pass
		5240	-5.98	0.13	-5.85	11	Pass
802.11n40	Chain 0	5190	-8.67	0.19	-8.48	11	Pass
		5230	-8.98	0.19	-8.79	11	Pass

Note:
1. The device is a client device.
2. for the Duty Cycle <98% (duty cycle refers to Section 5.7 Duty Cycle), and duty cycle variations less than ±2%, KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 was performed to the PSD test.

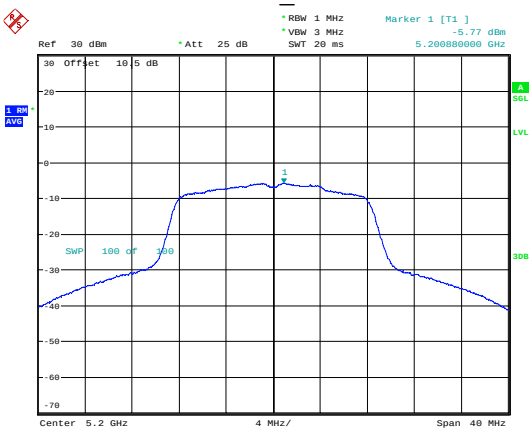
5150-5250MHz

802.11a_5180MHz



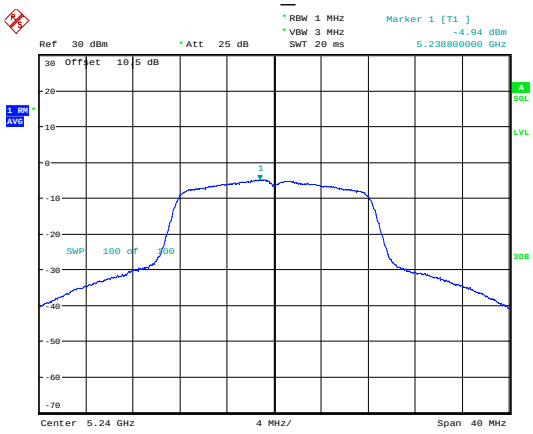
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 16:56:23

802.11a_5200MHz



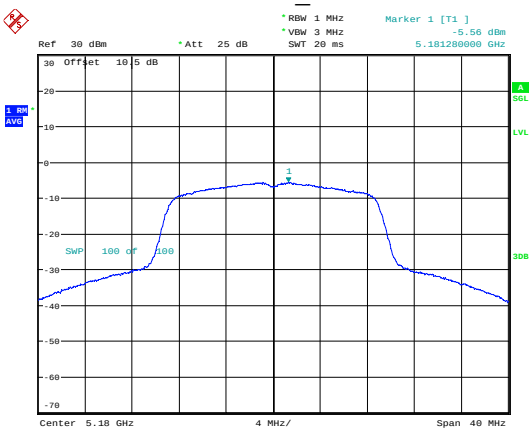
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 16:45:50

802.11a_5240MHz



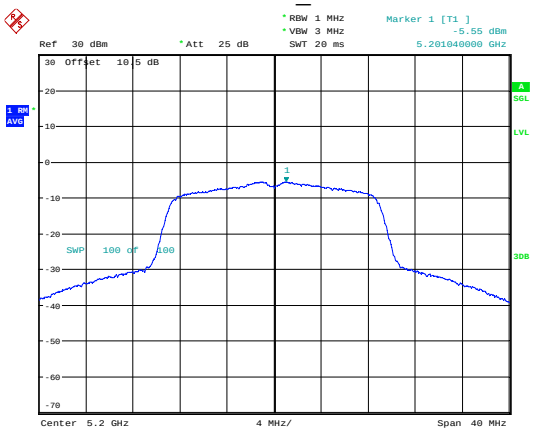
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 16:57:27

802.11n20_5180MHz



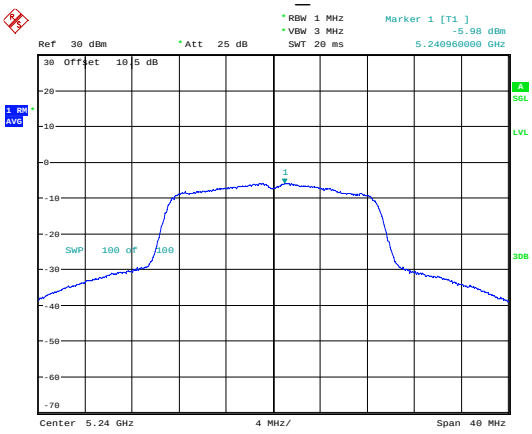
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 17:07:51

802.11n20_5200MHz



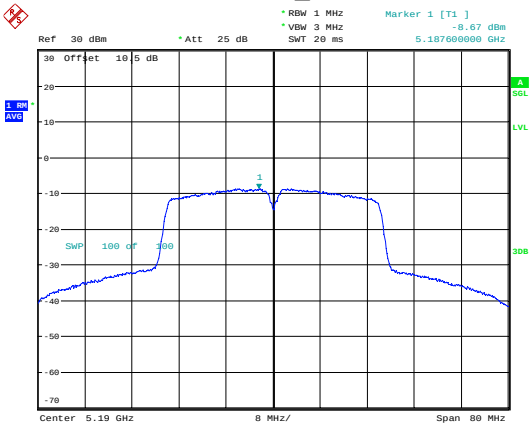
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 17:06:50

802.11n20_5240MHz



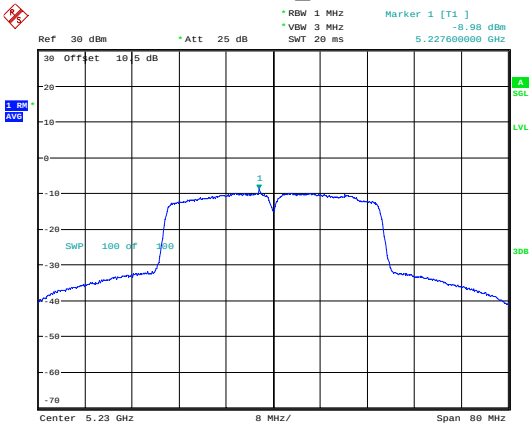
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:58:38

802.11n40_5190MHz



ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:39:54

802.11n40_5230MHz



ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:44:34

5.7 Duty Cycle

Test Information:

Serial No.:	2WA3-1	**Test Date:**	2025/1/6
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Levi Shi	**Test Result:**	N/A

Environmental Conditions:

Temperature: (°C)	23.8	Relative Humidity: (%)	44	ATM Pressure: (kPa)	101.6

Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	200445	2024/4/1	2025/3/31
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM510	2024/6/7	2025/6/6

** 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).*

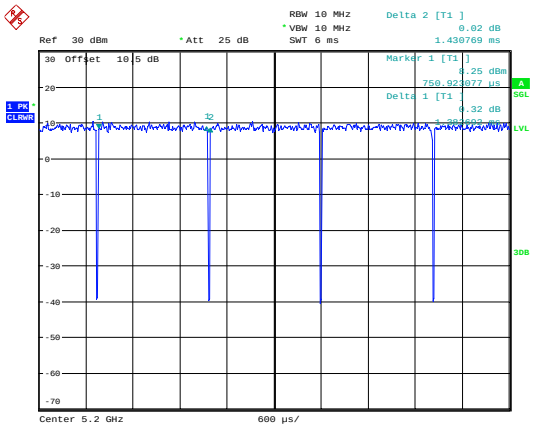
Test Data:

5150-5250MHz

Mode	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11a	5200	1.383	1.431	96.65	0.15	723	1
802.11n ht20	5200	1.303	1.342	97.09	0.13	767	1
802.11n ht40	5190	0.655	0.684	95.76	0.19	1527	3

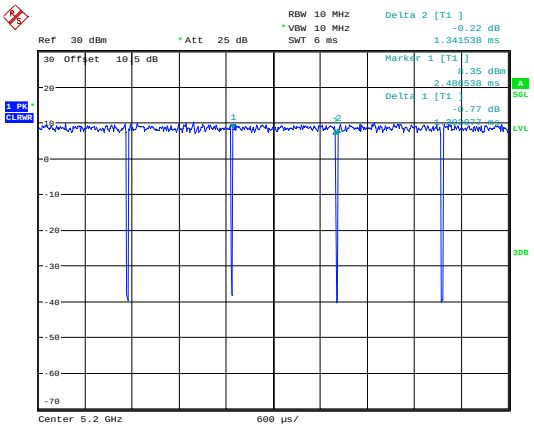
5150-5250MHz

802.11a_5200MHz



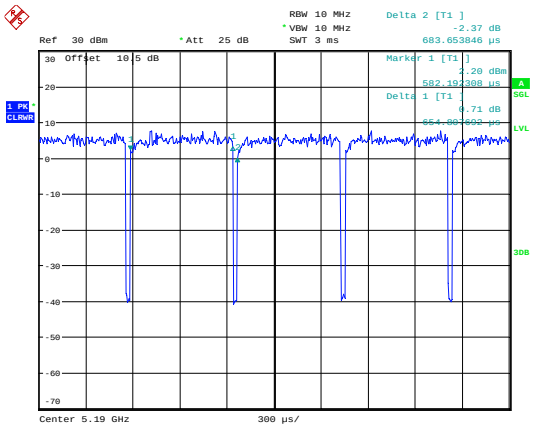
ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 16:42:54

802.11n20_5200MHz



ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:36:33

802.11n40_5190MHz



ProjectNo.:2402A111443E-RF Tester:Levi Shi
Date: 6.JAN.2025 19:38:28

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 2402A111443E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402A111443E-RF-INP EUT INTERNAL PHOTOGRAPHS.

EXHIBIT B - TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2402A111443E-RF-00A-TSP TEST SETUP PHOTOGRAPHS.

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