



中认信通

CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)



TEST REPORT

Applicant: VTech Telecommunications Ltd

Address: 23/F Tai Ping Ind Center Block 1 57 Ting Kok Rd Tai Po NT, Hong Kong

FCC ID: EW780-S112-00

Product Name: SIP Phone

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

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

Report Number: CR230738438-00D

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Test Facility

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

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

Declarations

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CONTENTS

DOCUMENT REVISION HISTORY	5
1. GENERAL INFORMATION	6
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	6
1.2 DESCRIPTION OF TEST CONFIGURATION.....	9
1.2.1 EUT Operation Condition:.....	9
1.2.2 Support Equipment List and Details	10
1.2.3 Support Cable List and Details	10
1.2.4 Block Diagram of Test Setup.....	11
1.3 MEASUREMENT UNCERTAINTY	12
2. SUMMARY OF TEST RESULTS	13
3. REQUIREMENTS AND TEST PROCEDURES	14
3.1 AC LINE CONDUCTED EMISSIONS.....	14
3.1.1 Applicable Standard.....	14
3.1.2 EUT Setup.....	15
3.1.3 EMI Test Receiver Setup	15
3.1.4 Test Procedure	16
3.1.5 Corrected Amplitude & Margin Calculation.....	16
3.2 RADIATION SPURIOUS EMISSIONS.....	17
3.2.1 Applicable Standard.....	17
3.2.2 EUT Setup.....	18
3.2.3 EMI Test Receiver & Spectrum Analyzer Setup	19
3.2.4 Test Procedure	20
3.2.5 Corrected Amplitude & Margin Calculation.....	20
3.3 EMISSION BANDWIDTH.....	21
3.3.1 Applicable Standard.....	21
3.3.2 EUT Setup.....	21
3.3.3 Test Procedure	21
3.4 MAXIMUM CONDUCTED OUTPUT POWER.....	23
3.4.1 Applicable Standard.....	23
3.4.2 EUT Setup.....	23
3.4.3 Test Procedure	23
3.5 MAXIMUM POWER SPECTRAL DENSITY	24
3.5.1 Applicable Standard.....	24
3.5.2 EUT Setup.....	24
3.5.3 Test Procedure	25
3.7 DUTY CYCLE	26
3.7.1 EUT Setup.....	26
3.7.2 Test Procedure	26
3.8 ANTENNA REQUIREMENT.....	27
3.8.1 Applicable Standard.....	27
3.8.2 Judgment.....	27

4. Test DATA AND RESULTS	28
4.1 AC LINE CONDUCTED EMISSIONS	28
4.2 RADIATION SPURIOUS EMISSIONS	31
4.3 EMISSION BANDWIDTH:	149
4.4 MAXIMUM CONDUCTED OUTPUT POWER:	178
4.5 MAXIMUM POWER SPECTRAL DENSITY:	181
4.6 DUTY CYCLE:	210
5. EUT PHOTOGRAPHS	213
6. TEST SETUP PHOTOGRAPHS	214

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	CR230738438-00D	Original Report	2024/3/1

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

1.1.1 General:

EUT Name:	SIP Phone
EUT Model:	D892M
Multiple Model(s)	D892
Trade Name:	SNOM
Operation Frequency:	Band 1: 5180-5240 MHz (802.11a/n ht20/ac vht20) 5190-5230 MHz(802.11n ht40/ac vht40) 5210 MHz(802.11ac vht80) Band 2: 5260-5320 MHz (802.11a/n ht20/ac vht20) 52700-5310 MHz(802.11n ht40/ac vht40) 5290 MHz(802.11ac vht80) Band 3: 5500-5700 MHz (802.11a/n ht20/ac vht20) 5510-5670 MHz(802.11n ht40/ac vht40) 5530-5610 MHz(802.11ac vht80) Band 4: 5745-5825 MHz (802.11a/n ht20/ac vht20) 5755-5795 MHz(802.11n ht40/ac vht40) 5775 MHz(802.11ac vht80)
Maximum Average Output Power (Conducted):	15.91 dBm in 5150-5250 MHz Band 15.46 dBm in 5250-5350 MHz Band 17.00 dBm in 5470-5725 MHz Band 17.11 dBm in 5725-5850 MHz Band
Modulation Type:	802.11a/n/ac: OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM
Rated Input Voltage:	DC 5V from adapter or DC 48V From POE
Serial Number:	RF: 27SO-1 RE&CE: 27SO-2
EUT Received Date:	2023/7/5
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.	

1.1.2 Operation Frequency Detail:

For 802.11a/n ht20/ac vht20:

5150-5250MHz Band		5250-5350 MHz Band		5470-5725 MHz Band		5725-5850MHz Band	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	52	5260	100	5500	149	5745
40	5200	56	5280	104	5520	153	5765
44	5220	60	5300	108	5540	157	5785
48	5240	64	5320	112	5560	161	5805
/	/	/	/	116	5580	165	5825
/	/	/	/	120	5600	/	/
/	/	/	/	124	5620	/	/
/	/	/	/	128	5640	/	/
/	/	/	/	132	5660	/	/

/	/	/	/	136	5680	/	/
/	/	/	/	140	5700	/	/
Per section 15.31(m), the below frequencies were performed the test as below:							
36	5180	52	5260	100	5500	149	5745
40	5200	56	5280	116	5580	157	5785
48	5240	64	5320	140	5700	165	5825

For 802.11n ht40/ac vht40:

5150-5250MHz Band		5250-5350 MHz Band		5470-5725 MHz Band		5725-5850MHz Band	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	54	5270	102	5510	151	5755
46	5230	62	5310	110	5550	159	5795
/	/	/	/	118	5590	/	/
/	/	/	/	126	5630	/	/
/	/	/	/	134	5670	/	/
Per section 15.31(m), the below frequencies were performed the test as below:							
38	5190	54	5270	102	5510	151	5755
46	5230	62	5310	110	5550	159	5795
/	/	/	/	134	5670	/	/

For 802.11ac vht80:

5150-5250MHz Band		5250-5350 MHz Band		5470-5725 MHz Band		5725-5850MHz Band	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	58	5290	106	5530	155	5775
/	/	/	/	122	5610	/	/
Per section 15.31(m), the above in bold frequencies were performed the test.							

1.1.3 Antenna Information Detail▲:

Antenna Chain	Antenna Type	input impedance (Ohm)	Frequency Range	Antenna Gain
Chain 0	PCB	50	5150-5850 MHz	2 dBi
Chain 1	PCB	50	5150-5850 MHz	2 dBi

The Method of §15.203 Compliance:

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

1.1.4 Accessory Information:

Accessory Description	Manufacturer	Model	Parameters
Adapter 2	Mass Power Electronic Limited	NBS12E050200UV	Input: AC 100-240V, 50/60Hz, 0.3A Output: DC 5.0V, 2.0A, 10.0W
Adapter 1	ShenZhen Rongweixin Technology Co.,Ltd.	R122-0502000ID	Input: AC 100-240V, 50/60Hz, 0.6A Output: DC 5.0V, 2.0A, 10.0W

1.2 Description of Test Configuration

1.2.1 EUT Operation Condition:

EUT Operation Mode:			The system was configured for testing in Engineering Mode, which was provided by the manufacturer. Per BT report test, conducted emissions test with Powered by POE was the worst. Radiated emissions test with Powered by Adapter 1 was the worst.		
Equipment Modifications:			No		
EUT Exercise Software:			SecureCRT		
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	Data rate	Power Level Setting	
				Chain 0	Chain 1
802.11a	Lowest	5180	6Mbps	80	80
	Middle	5200	6Mbps	80	80
	Highest	5240	6Mbps	80	80
802.11ac vht20	Lowest	5180	MCS8	80	80
	Middle	5200	MCS8	80	80
	Highest	5240	MCS8	80	80
802.11ac vht40	Lowest	5190	MCS8	70	70
	Highest	5230	MCS8	70	70
802.11ac vht80	Middle	5210	MCS8	60	60
5250-5350 MHz Band:					
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting	
				Chain 0	Chain 1
802.11a	Lowest	5260	6Mbps	80	80
	Middle	5280	6Mbps	80	80
	Highest	5320	6Mbps	80	80
802.11ac vht20	Lowest	5260	MCS8	80	80
	Middle	5280	MCS8	80	80
	Highest	5320	MCS8	80	80
802.11ac vht40	Lowest	5270	MCS8	70	70
	Highest	5310	MCS8	70	70
802.11ac vht80	Middle	5290	MCS8	60	60
5470-5725 MHz Band:					
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting	
				Chain 0	Chain 1
802.11a	Lowest	5500	6Mbps	80	80
	Middle	5580	6Mbps	80	80
	Highest	5700	6Mbps	80	80
802.11ac vht20	Lowest	5500	MCS8	80	80
	Middle	5580	MCS8	80	80
	Highest	5700	MCS8	80	80
802.11ac vht40	Lowest	5510	MCS8	70	70
	Middle	5550	MCS8	70	70
	Highest	5670	MCS8	70	70

802.11ac vht80	Lowest	5530	MCS8	60	60
	Highest	5610	MCS8	60	60
5725-5850 MHz Band:					
Test Modes	Test Channels	Test Frequency	Data rate	Power Level Setting	
				Chain 0	Chain 1
802.11a	Lowest	5745	6Mbps	80	80
	Middle	5785	6Mbps	80	80
	Highest	5825	6Mbps	80	80
802.11ac vht20	Lowest	5745	MCS8	80	80
	Middle	5785	MCS8	80	80
	Highest	5825	MCS8	80	80
802.11ac vht40	Lowest	5755	MCS8	70	70
	Highest	5795	MCS8	70	70
802.11ac vht80	Middle	5775	MCS8	60	60

Note:

1. The system support 802.11a/n ht20/n ht40/ac vht20/vht40/vht80, the 802.11n ht20/ht40 were reduced since the identical parameters with 802.11acv ht20 and vht40.
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. The device supports SISO in all mode and MIMO in 802.11n/ac modes, per pretest, the MIMO mode for 802.11ac mode was the worst mode.

1.2.2 Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
N/A	Resistance*2	N/A	N/A
N/A	Headset	N/A	N/A
DELL	Laptop	E6410	GYXJ3 A00 JSD2

1.2.3 Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
AC cable	No	No	1.2	LISN/ AC mains	Socket
DC cable	No	No	1.5	Adapter	EUT
USB cable	No	No	0.5	EUT	Resistance
RJ45 cable	No	Yes	10.0	EUT	Laptop

EUT1: Base

EUT2: Cordless handset

POE:



1.3 Measurement Uncertainty

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

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Power Spectral Density, conducted	±0.61 dB
Unwanted Emissions, radiated	9kHz-30 MHz: 4.12dB,30M~200MHz: 4.15 dB,200M~1GHz: 5.61 dB,1G~6GHz: 5.14 dB, 6G~18GHz: 5.93 dB,18G~26.5G:5.47 dB,26.5G~40G:5.63 dB
Unwanted Emissions, conducted	±1.26 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	2.8 dB (150 kHz to 30 MHz)

2. SUMMARY OF TEST RESULTS

Standard(s) Section	Test Items	Result
§15.207(a)	AC line conducted emissions	Compliant
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

3. REQUIREMENTS AND TEST PROCEDURES

3.1 AC Line Conducted Emissions

3.1.1 Applicable Standard

FCC§15.207(a).

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/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.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	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:

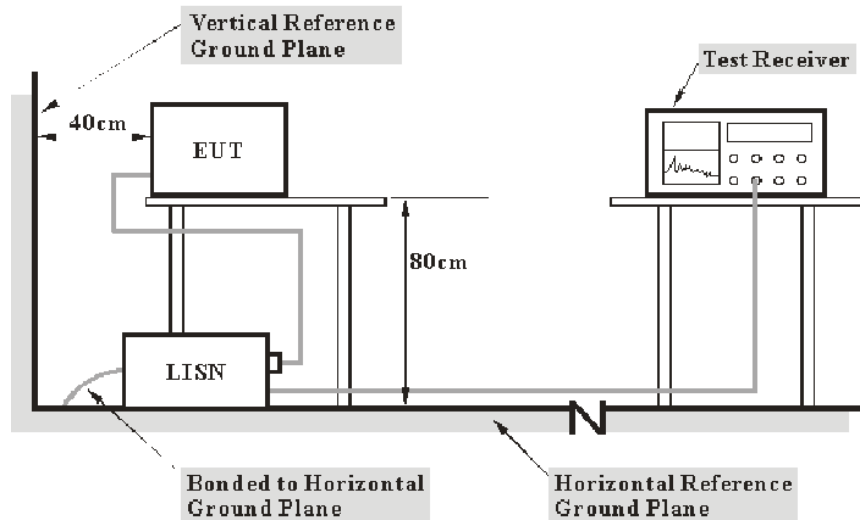
(1) For carrier current system containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μ V within the frequency band 535-1705 kHz, as measured using a 50 μ H/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, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.1.2 EUT Setup



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

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

The spacing between the peripherals was 10 cm.

3.1.3 EMI Test Receiver Setup

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

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

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

3.1.4 Test Procedure

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

3.1.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor

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

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

Margin = Limit – Result

3.2 Radiation Spurious Emissions

3.2.1 Applicable Standard

FCC §15.407 (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.

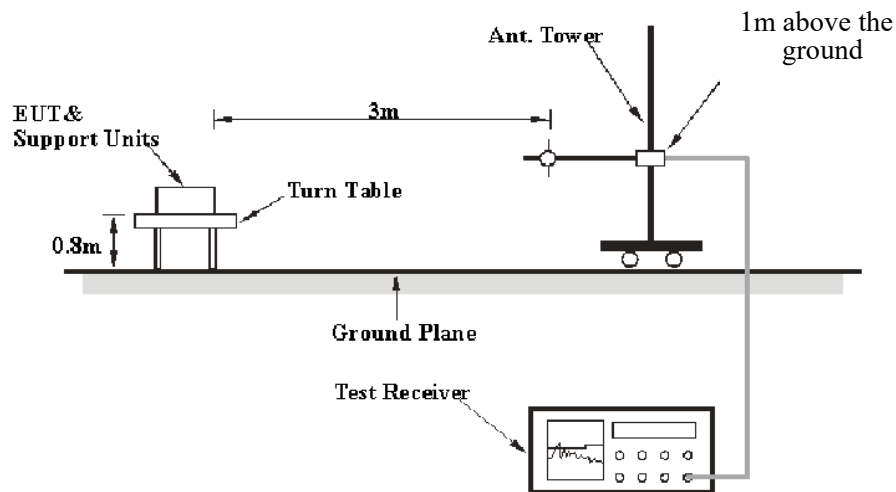
(10) The provisions of § 15.205 apply to intentional radiators operating under this section.

(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.

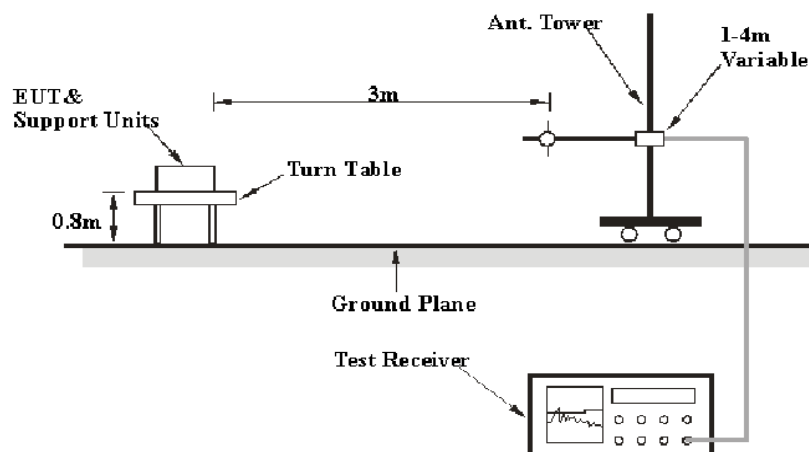
(c) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

3.2.2 EUT Setup

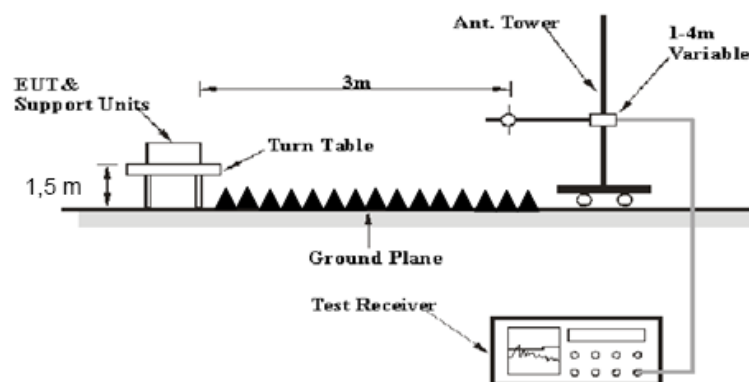
9kHz - 30MHz:

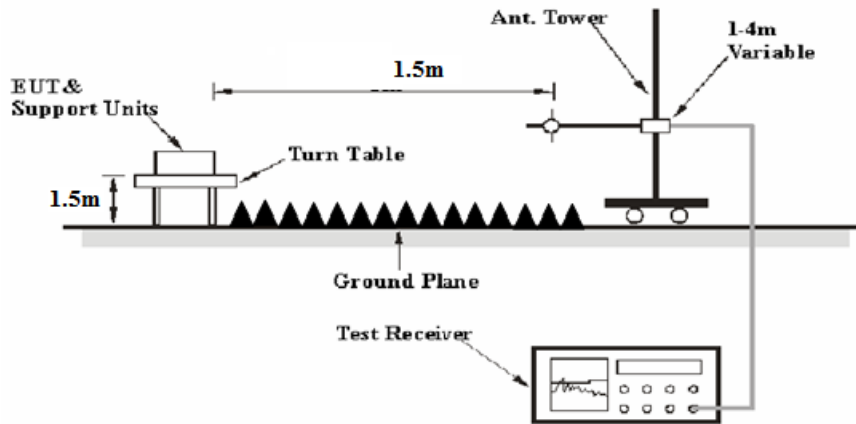


30MHz - 1GHz:



1GHz - 26.5GHz:



26.5GHz - 40 GHz:

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

3.2.3 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:

9 kHz-30MHz:

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

1GHz- 40GHz:

Measurement	Duty cycle	RBW	Video B/W
PK	Any	1MHz	3 MHz
AV	>98%	1MHz	10 Hz
	<98%	1MHz	$\geq 1/T$

Note: T is minimum transmission duration

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

3.2.4 Test Procedure

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

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.

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

According to C63.10, the above 1G test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.5m

Distance extrapolation Factor = $20 \log (\text{specific distance } [3m] / \text{test distance } [1.5m])$ dB = 6.02 dB

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

3.2.5 Corrected Amplitude & Margin Calculation

The basic equation is as follows:

Result = Reading + Factor

For 9kHz-26.5GHz:

Factor = Antenna Factor + Cable Loss- Amplifier Gain

For 26.5GHz-40GHz

Factor = Antenna Factor + Cable Loss- Amplifier Gain -Distance extrapolation Factor

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

Margin = Limit – Result

3.3 Emission Bandwidth

3.3.1 Applicable Standard

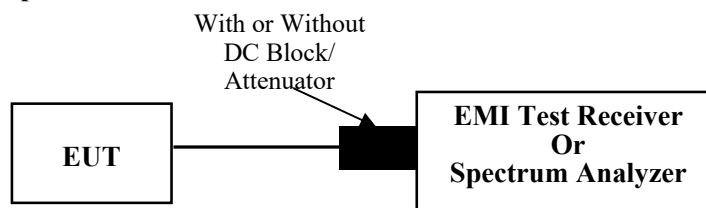
FCC §15.407 (a),(h)

(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.

3.3.2 EUT Setup



3.3.3 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).

3.4 Maximum Conducted Output Power

3.4.1 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.

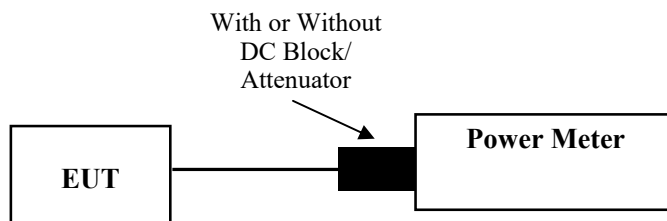
FCC §15.407(a) (2)

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 $11 \text{ dBm} + 10 \log B$, 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.

3.4.2 EUT Setup



3.4.3 Test Procedure

According to ANSI C63.10-2013 Section 12.3.3.2

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.

3.5 Maximum Power Spectral Density

3.5.1 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.

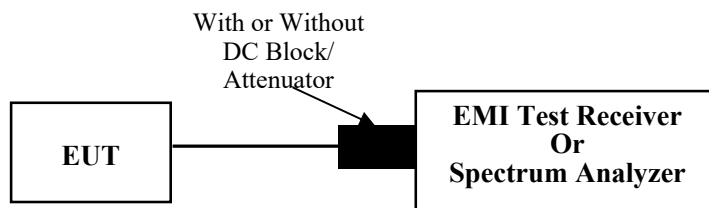
FCC §15.407(a) (2)

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 $11 \text{ dBm} + 10 \log B$, 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.

3.5.2 EUT Setup



3.5.3 Test Procedure

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

Duty cycle $\geq 98\%$

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 $\pm 2\%$

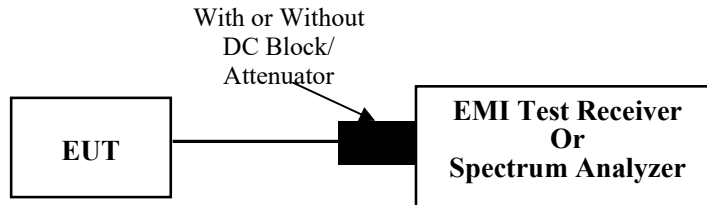
KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 should be applied.

Duty cycle $< 98\%$, duty cycle variations exceed $\pm 2\%$

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

3.7 Duty Cycle

3.7.1 EUT Setup



3.7.2 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 $RBW \geq OBW$ if possible; otherwise, set RBW to the largest available value.
- 3) Set $VBW \geq RBW$. 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 $T \leq 16.7 \mu s$.)

3.8 Antenna Requirement

3.8.1 Applicable Standard

FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.8.2 Judgment

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

4. Test DATA AND RESULTS

4.1 AC Line Conducted Emissions

Serial Number:	27SO-2	Test Date:	2023/09/29
Test Site:	CE	Test Mode:	Transmitting(maximum output power mode 802.11ac vht20 5785MHz)
Tester:	David Huang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.3	Relative Humidity: (%)	65	ATM Pressure: (kPa)	100.1
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	LISN	ENV216	101134	2023/03/31	2024/03/30
R&S	EMI Test Receiver	ESR3	102726	2023/03/31	2024/03/30
MICRO-COAX	Coaxial Cable	UTIFLEX	C-0200-01	2023/08/06	2024/08/05
Audix	Test Software	E3	190306 (V9)	N/A	N/A

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

Test Data:

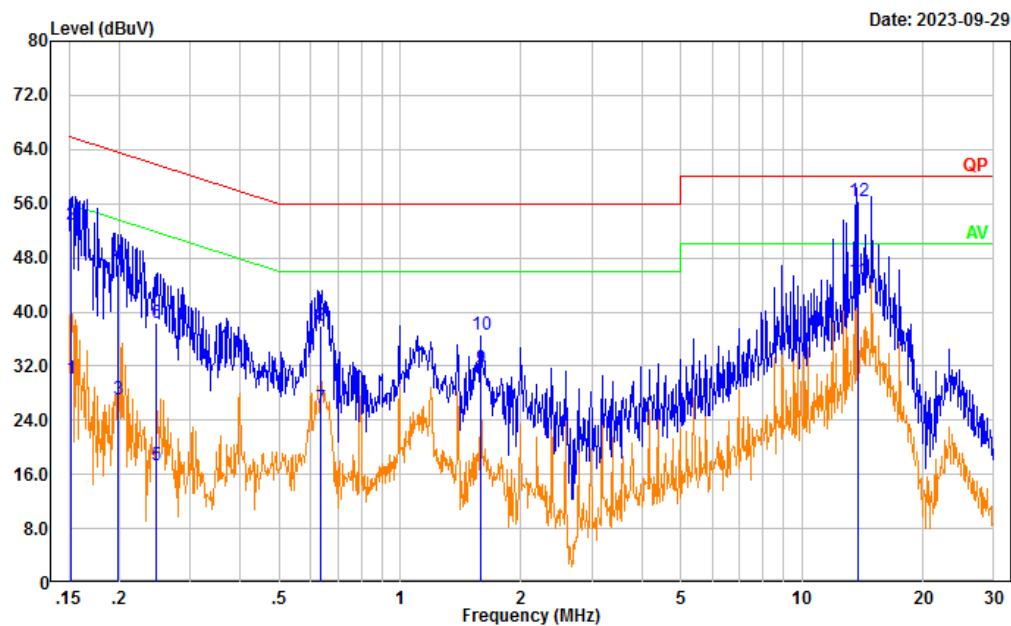
For POE:

Project No.: CR230738438-RF

Tester: David Huang

Port: Line

Note:



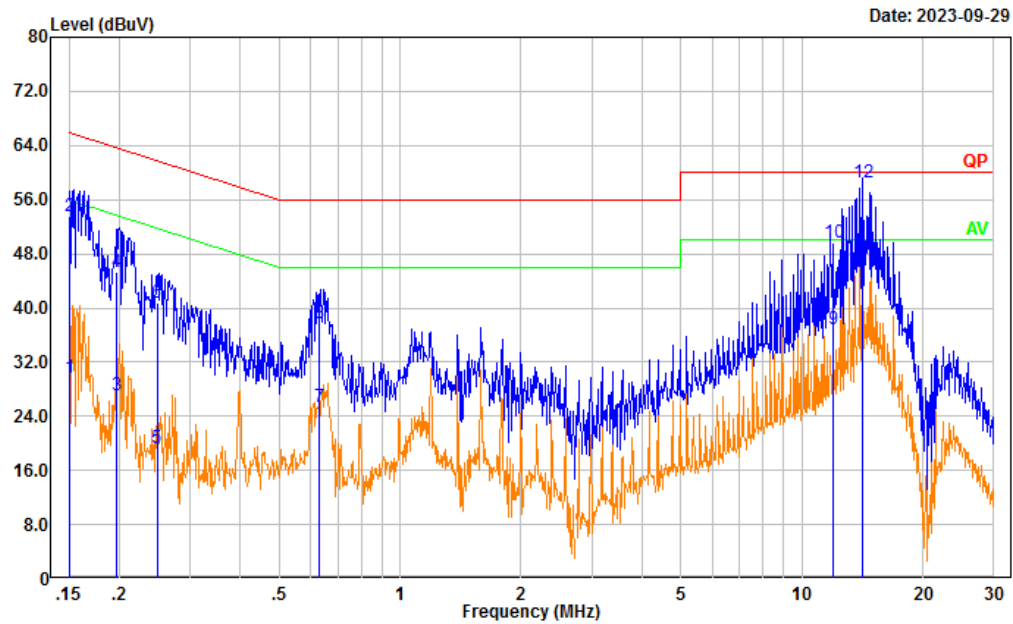
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector
1	0.152	20.45	9.61	30.06	55.92	25.86	Average
2	0.152	43.33	9.61	52.94	65.92	12.98	QP
3	0.199	17.46	9.61	27.07	53.64	26.57	Average
4	0.199	37.40	9.61	47.01	63.64	16.63	QP
5	0.247	7.74	9.61	17.35	51.87	34.52	Average
6	0.247	28.72	9.61	38.33	61.87	23.54	QP
7	0.633	16.19	9.62	25.81	46.00	20.19	Average
8	0.633	28.32	9.62	37.94	56.00	18.06	QP
9	1.592	22.07	9.63	31.70	46.00	14.30	Average
10	1.592	26.93	9.63	36.56	56.00	19.44	QP
11	13.765	35.08	9.68	44.76	50.00	5.24	Average
12	13.765	46.79	9.68	56.47	60.00	3.53	QP

Project No.: CR230738438-RF

Tester: David Huang

Port: neutral

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector
1	0.150	20.02	9.61	29.63	55.99	26.36	Average
2	0.150	43.85	9.61	53.46	65.99	12.53	QP
3	0.198	17.48	9.61	27.09	53.71	26.62	Average
4	0.198	35.80	9.61	45.41	63.71	18.30	QP
5	0.248	9.62	9.61	19.23	51.81	32.58	Average
6	0.248	31.13	9.61	40.74	61.81	21.07	QP
7	0.630	15.83	9.62	25.45	46.00	20.55	Average
8	0.630	28.13	9.62	37.75	56.00	18.25	QP
9	11.979	27.23	9.67	36.90	50.00	13.10	Average
10	11.979	39.88	9.67	49.55	60.00	10.45	QP
11	14.171	36.76	9.68	46.44	50.00	3.56	Average
12	14.171	48.90	9.68	58.58	60.00	1.42	QP

4.2 Radiation Spurious Emissions

Serial Number:	27SO-2	Test Date:	Below 1GHz: 2023/10/27 Above 1GHz: 2023 /9/3~2023/9/14
Test Site:	966-2,966-1	Test Mode:	Transmitting
Tester:	Vic Du, Mack Huang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.7~26.3	Relative Humidity: (%)	52~67	ATM Pressure: (kPa)	99.3~100.8
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Below 1GHz					
Sunol Sciences	Antenna	JB6	A082520-6	2023/9/18	2026/9/17
R&S	EMI Test Receiver	ESR3	102724	2023/3/31	2024/3/30
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2023/7/16	2024/7/15
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2023/7/16	2024/7/15
Sonoma	Amplifier	310N	186165	2023/7/16	2024/7/15
EMCO	Passive Loop Antenna	6512	9706-1209	2023/2/15	2026/2/14
Audix	Test Software	E3	201021 (V9)	N/A	N/A
Above 1GHz					
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020/10/13	2023/10/12
R&S	Spectrum Analyzer	FSV40	101591	2023/3/31	2024/3/30
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2023/8/6	2024/8/5
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2023/8/6	2024/8/5
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2022/11/9	2023/11/8
Audix	Test Software	E3	201021 (V9)	N/A	N/A
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021/2/5	2024/2/4
Quinstar	Preamplifier	QLW-18405536-JO	15964001005	2022/9/16	2023/9/15
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2023/8/6	2024/8/5
E-Microwave	Band Rejection Filter	5150-5850MHz	OE01902423	2023/8/6	2024/8/5
Mini Circuits	High Pass Filter	VHF-6010+	31119	2023/8/6	2024/8/5
PASTERNAK	Horn Antenna	PE9850/2F-20	072001	2021/2/5	2024/2/4
Audix	Test Software	E3	201021 (V9)	N/A	N/A

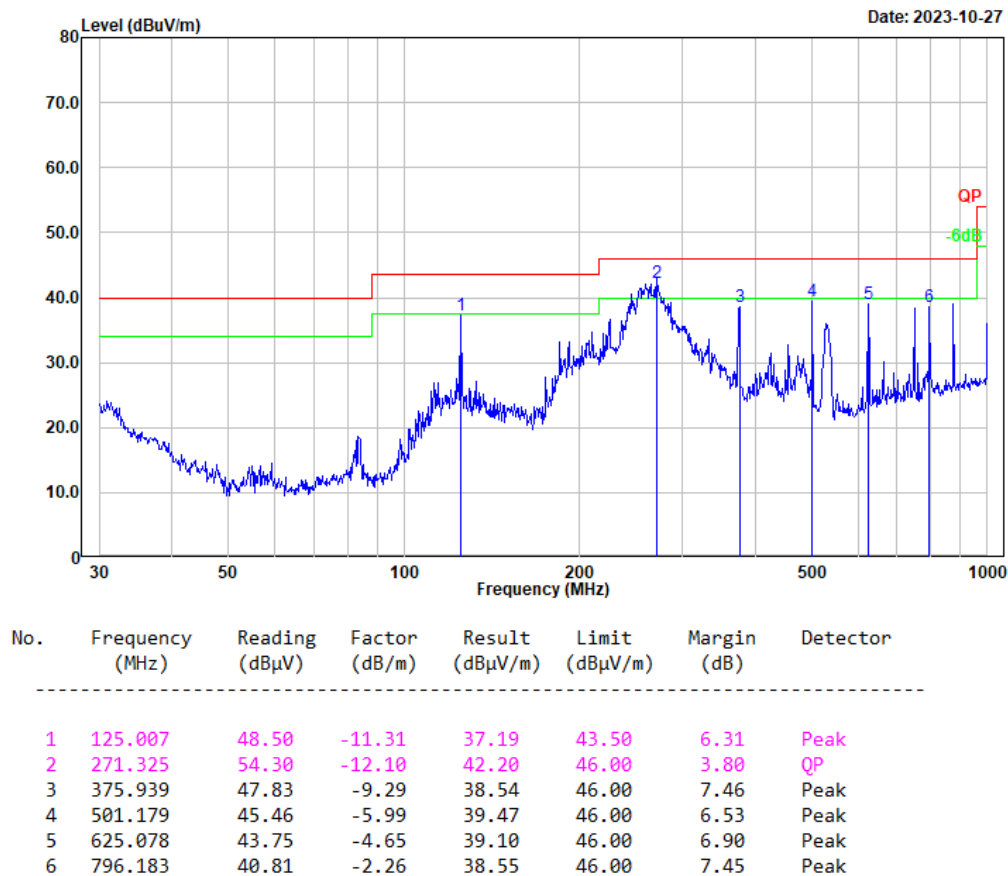
* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

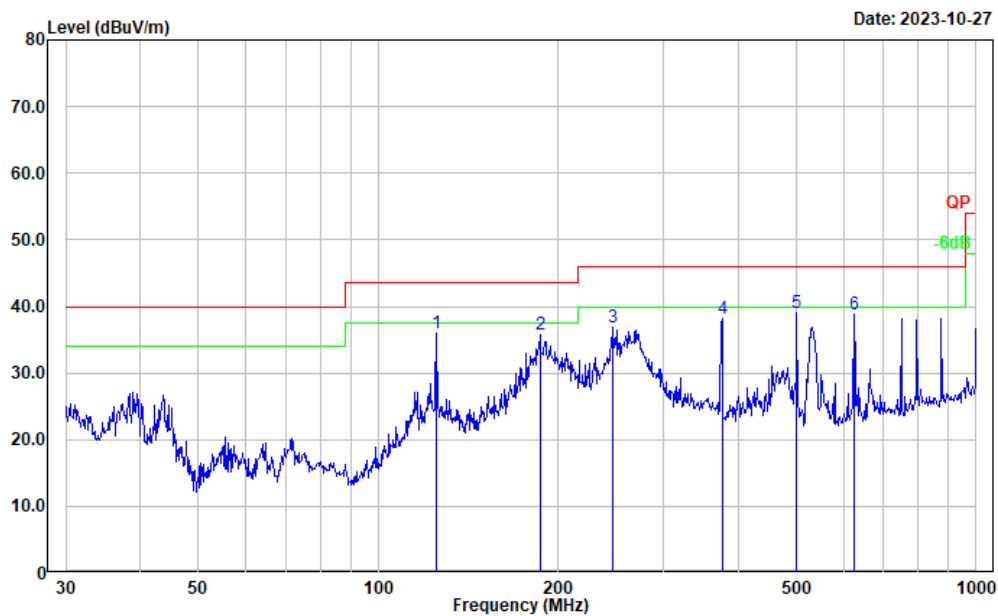
For 9kHz-30MHz, Test mode: maximum output power mode, 802.11ac vht20, The amplitude of spurious emissions attenuated more than 20 dB below the limit was not be recorded.

1) 30MHz-1GHz(Maximum output power mode, 802.11ac vht20):
5150-5250 MHz: Low Channel

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:



Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:

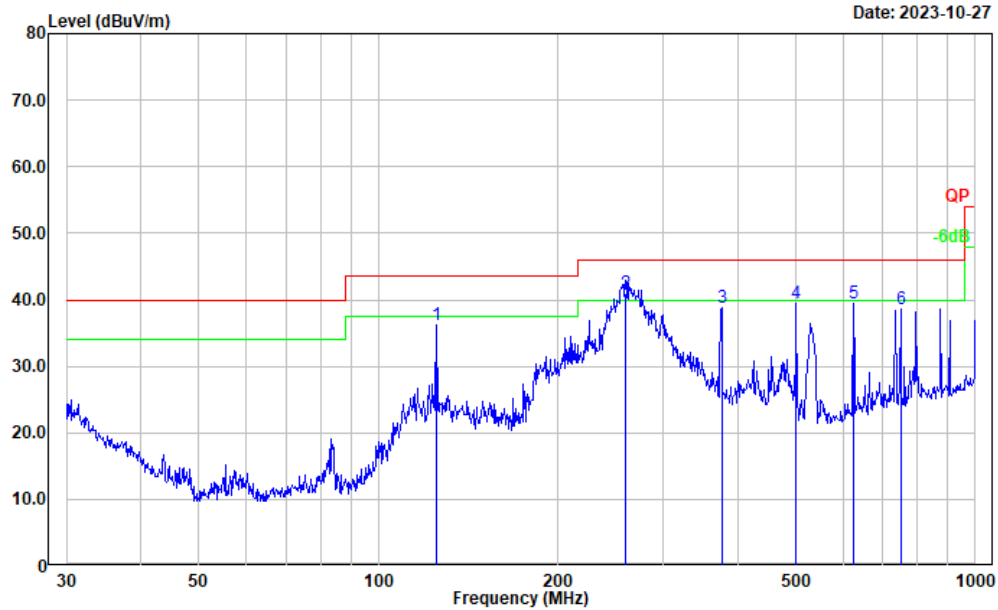


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.41	-11.31	36.10	43.50	7.40	Peak
2	186.441	49.40	-13.53	35.87	43.50	7.63	Peak
3	246.815	49.94	-13.12	36.82	46.00	9.18	Peak
4	375.939	47.34	-9.29	38.05	46.00	7.95	Peak
5	501.179	45.00	-5.99	39.01	46.00	6.99	Peak
6	625.078	43.35	-4.65	38.70	46.00	7.30	Peak

Middle Channel

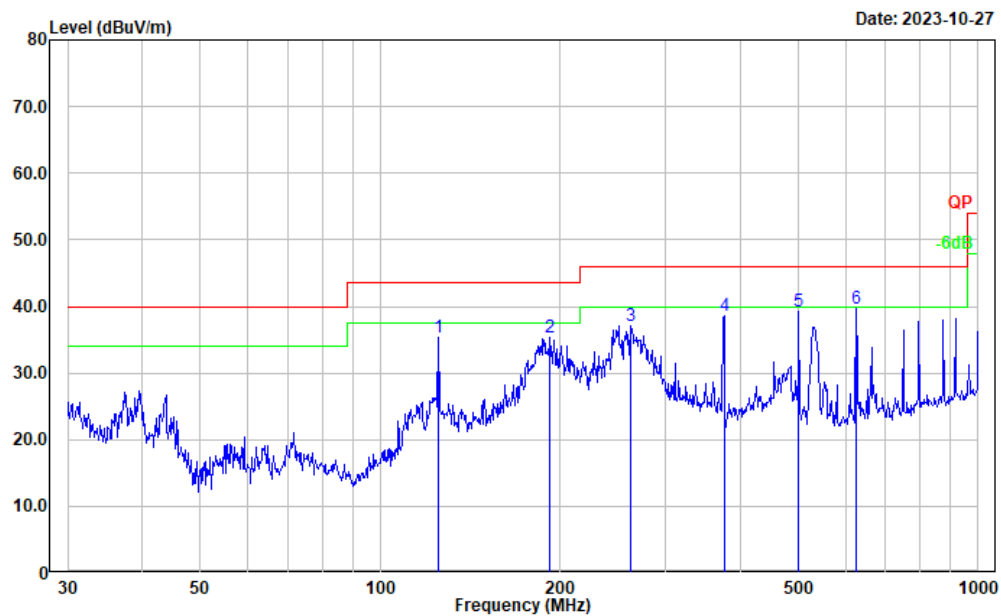
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:

Date: 2023-10-27



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.42	-11.31	36.11	43.50	7.39	Peak
2	259.234	53.49	-12.56	40.93	46.00	5.07	QP
3	375.939	48.04	-9.29	38.75	46.00	7.25	Peak
4	501.179	45.44	-5.99	39.45	46.00	6.55	Peak
5	625.078	44.05	-4.65	39.40	46.00	6.60	Peak
6	750.108	41.77	-3.10	38.67	46.00	7.33	Peak

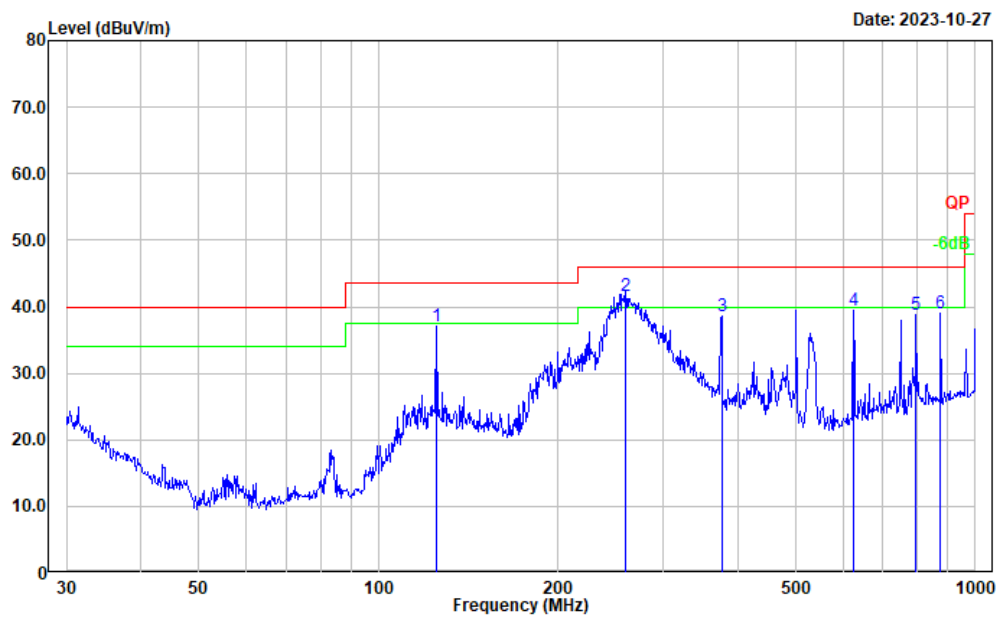
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	46.61	-11.31	35.30	43.50	8.20	Peak
2	192.419	48.39	-13.13	35.26	43.50	8.24	Peak
3	262.896	49.55	-12.42	37.13	46.00	8.87	Peak
4	375.939	47.96	-9.29	38.67	46.00	7.33	Peak
5	501.179	45.30	-5.99	39.31	46.00	6.69	Peak
6	625.078	44.31	-4.65	39.66	46.00	6.34	Peak

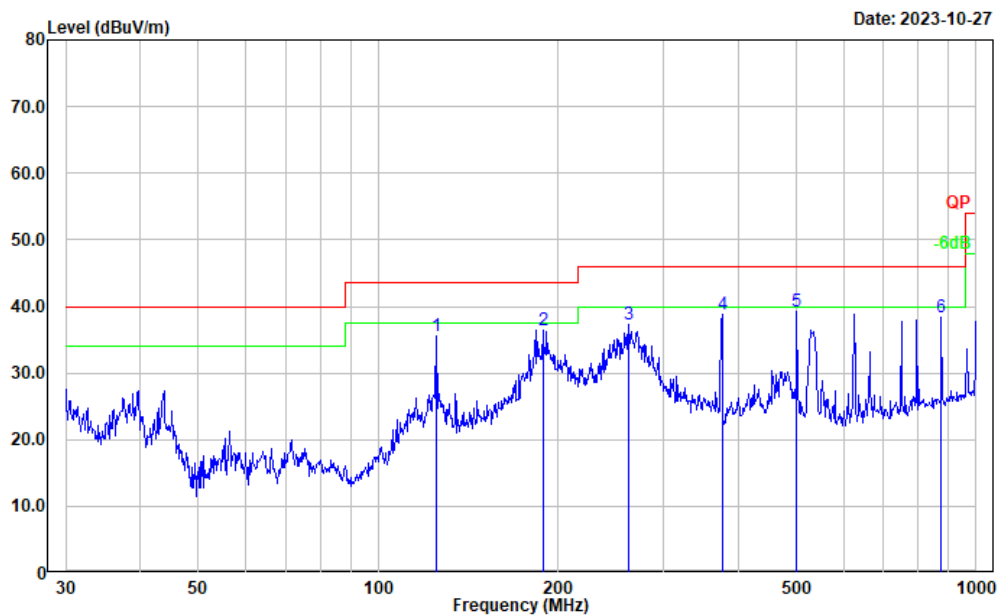
High Channel

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	48.29	-11.31	36.98	43.50	6.52	Peak
2	259.234	54.09	-12.56	41.53	46.00	4.47	QP
3	375.939	47.78	-9.29	38.49	46.00	7.51	Peak
4	625.078	44.10	-4.65	39.45	46.00	6.55	Peak
5	796.183	41.17	-2.26	38.91	46.00	7.09	Peak
6	875.247	40.15	-1.18	38.97	46.00	7.03	Peak

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:

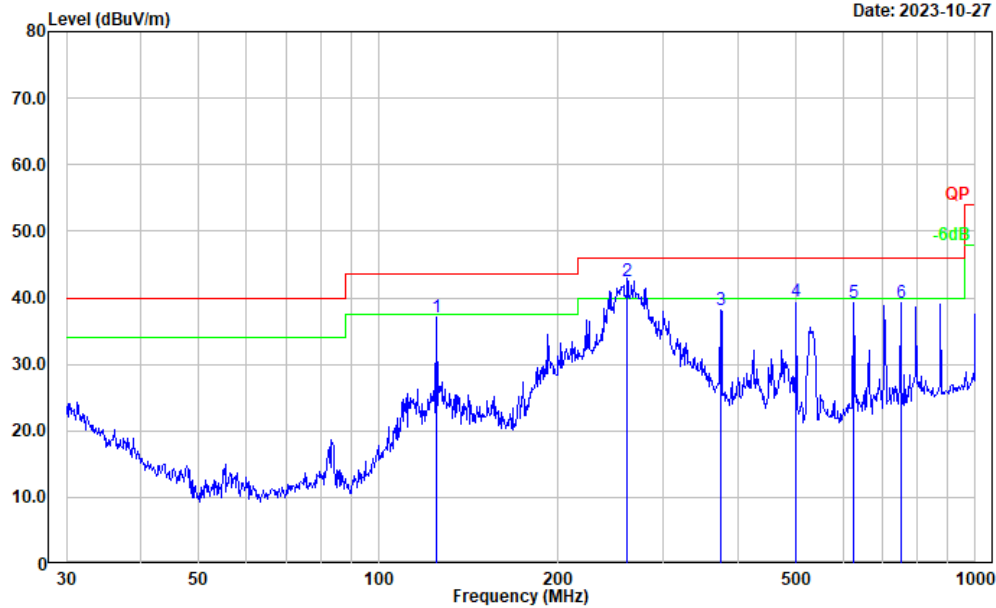


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	46.83	-11.31	35.52	43.50	7.98	Peak
2	188.413	50.02	-13.49	36.53	43.50	6.97	Peak
3	262.896	49.68	-12.42	37.26	46.00	8.74	Peak
4	375.939	48.11	-9.29	38.82	46.00	7.18	Peak
5	501.179	45.23	-5.99	39.24	46.00	6.76	Peak
6	875.247	39.51	-1.18	38.33	46.00	7.67	Peak

5250-5350 MHz Low Channel

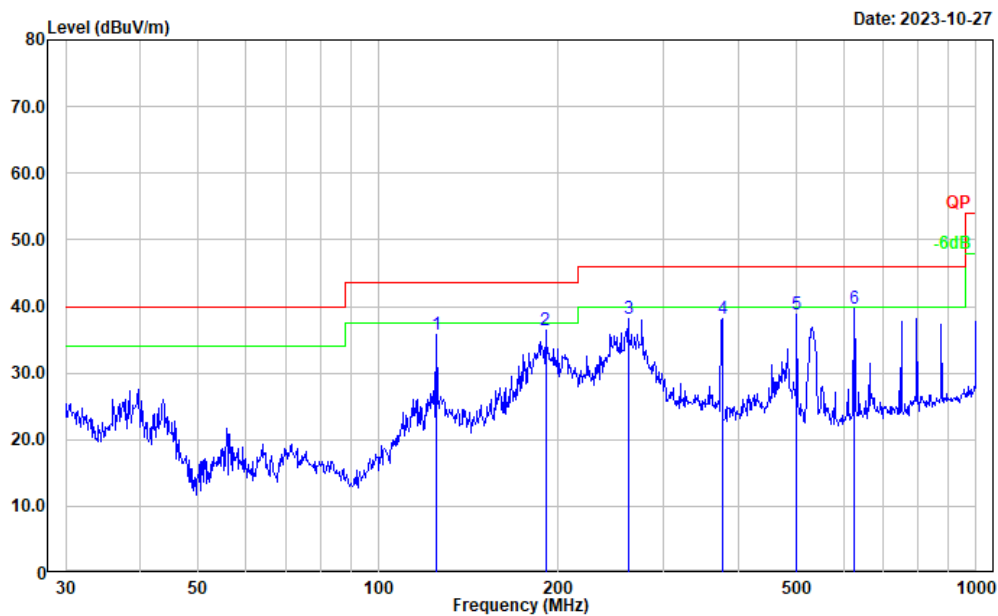
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:

Date: 2023-10-27



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	48.45	-11.31	37.14	43.50	6.36	Peak
2	261.058	55.06	-12.47	42.59	46.00	3.41	QP
3	374.623	47.56	-9.34	38.22	46.00	7.78	Peak
4	501.179	45.34	-5.99	39.35	46.00	6.65	Peak
5	625.078	43.82	-4.65	39.17	46.00	6.83	Peak
6	750.108	42.27	-3.10	39.17	46.00	6.83	Peak

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:

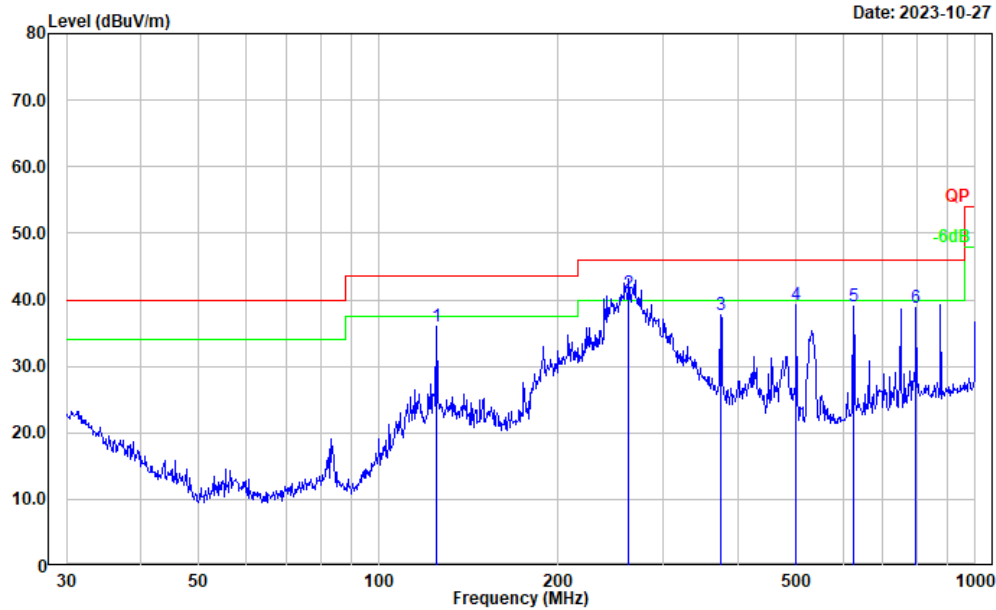


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.09	-11.31	35.78	43.50	7.72	Peak
2	190.405	49.75	-13.41	36.34	43.50	7.16	Peak
3	261.975	50.65	-12.44	38.21	46.00	7.79	Peak
4	375.939	47.44	-9.29	38.15	46.00	7.85	Peak
5	501.179	44.89	-5.99	38.90	46.00	7.10	Peak
6	625.078	44.28	-4.65	39.63	46.00	6.37	Peak

Middle Channel

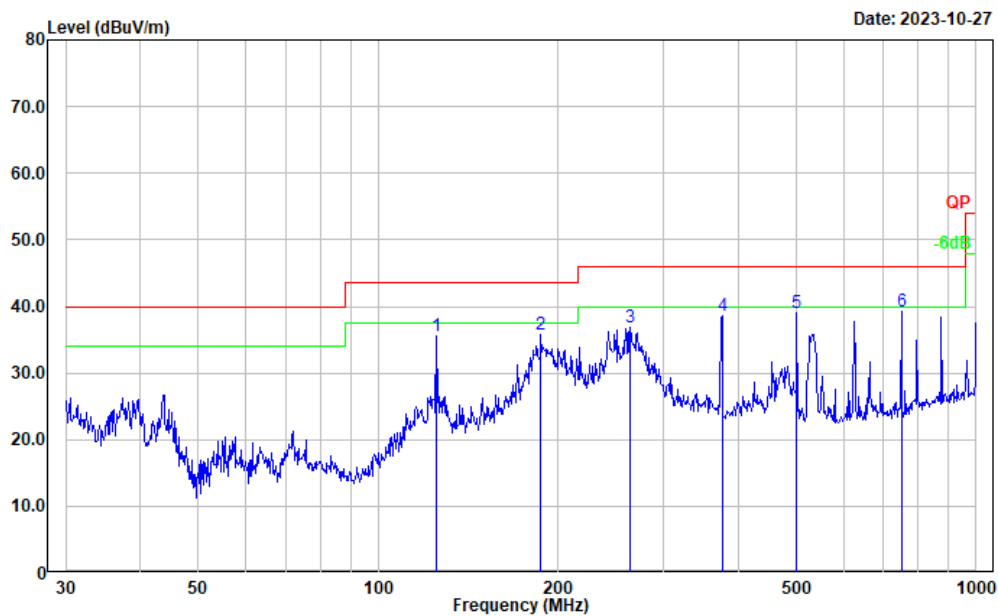
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:

Date: 2023-10-27



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.35	-11.31	36.04	43.50	7.46	Peak
2	262.896	53.49	-12.42	41.07	46.00	4.93	QP
3	374.623	46.98	-9.34	37.64	46.00	8.36	Peak
4	501.179	45.31	-5.99	39.32	46.00	6.68	Peak
5	625.078	43.68	-4.65	39.03	46.00	6.97	Peak
6	796.183	41.06	-2.26	38.80	46.00	7.20	Peak

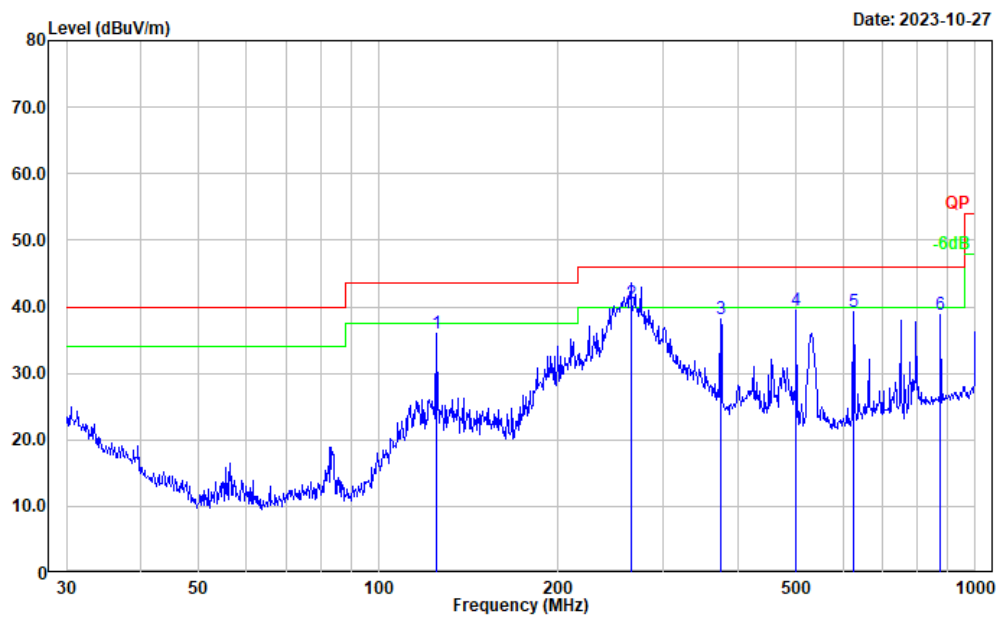
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	46.92	-11.31	35.61	43.50	7.89	Peak
2	187.096	49.36	-13.54	35.82	43.50	7.68	Peak
3	263.819	49.14	-12.38	36.76	46.00	9.24	Peak
4	375.939	47.95	-9.29	38.66	46.00	7.34	Peak
5	501.179	44.97	-5.99	38.98	46.00	7.02	Peak
6	750.108	42.34	-3.10	39.24	46.00	6.76	Peak

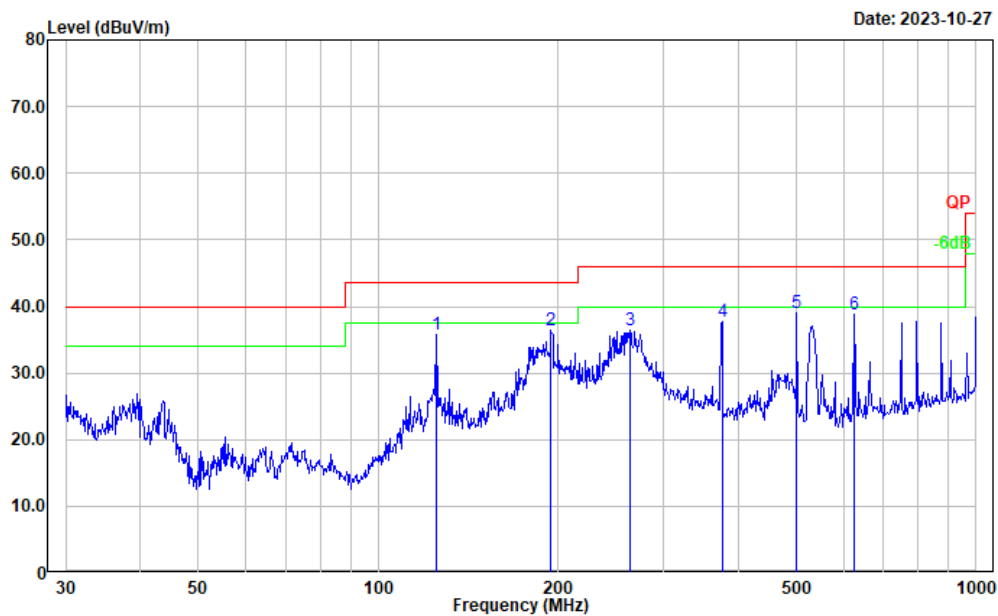
High Channel

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.40	-11.31	36.09	43.50	7.41	Peak
2	264.746	52.99	-12.36	40.63	46.00	5.37	QP
3	374.623	47.47	-9.34	38.13	46.00	7.87	Peak
4	501.179	45.48	-5.99	39.49	46.00	6.51	Peak
5	625.078	43.90	-4.65	39.25	46.00	6.75	Peak
6	875.247	39.93	-1.18	38.75	46.00	7.25	Peak

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:

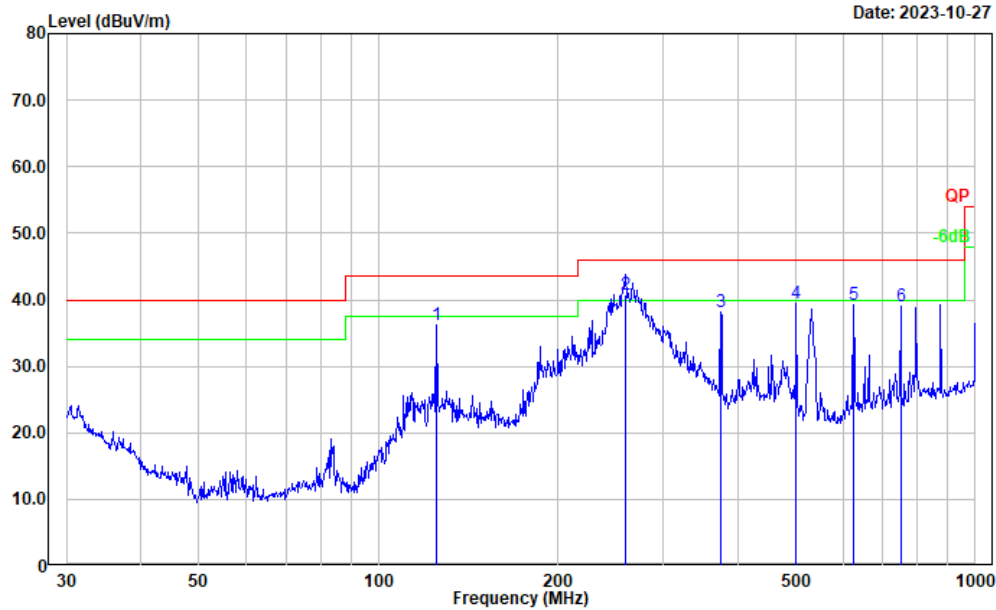


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.05	-11.31	35.74	43.50	7.76	Peak
2	194.453	49.27	-12.87	36.40	43.50	7.10	Peak
3	263.819	48.74	-12.38	36.36	46.00	9.64	Peak
4	375.939	47.10	-9.29	37.81	46.00	8.19	Peak
5	501.179	45.01	-5.99	39.02	46.00	6.98	Peak
6	625.078	43.42	-4.65	38.77	46.00	7.23	Peak

5470-5725 MHz Low Channel

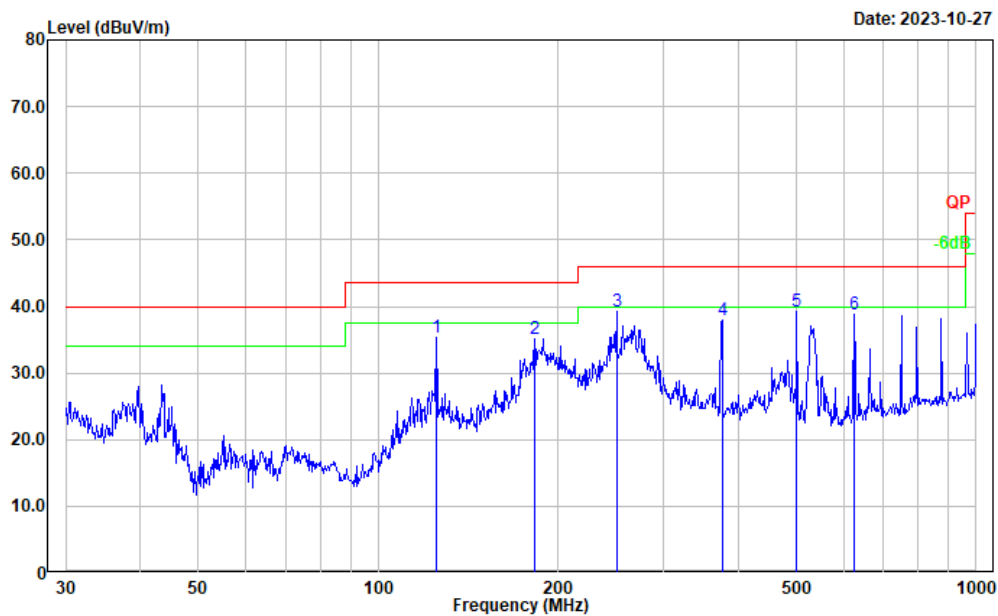
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:

Date: 2023-10-27



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.57	-11.31	36.26	43.50	7.24	Peak
2	259.234	53.34	-12.56	40.78	46.00	5.22	QP
3	374.623	47.44	-9.34	38.10	46.00	7.90	Peak
4	501.179	45.36	-5.99	39.37	46.00	6.63	Peak
5	625.078	43.90	-4.65	39.25	46.00	6.75	Peak
6	750.108	42.18	-3.10	39.08	46.00	6.92	Peak

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:

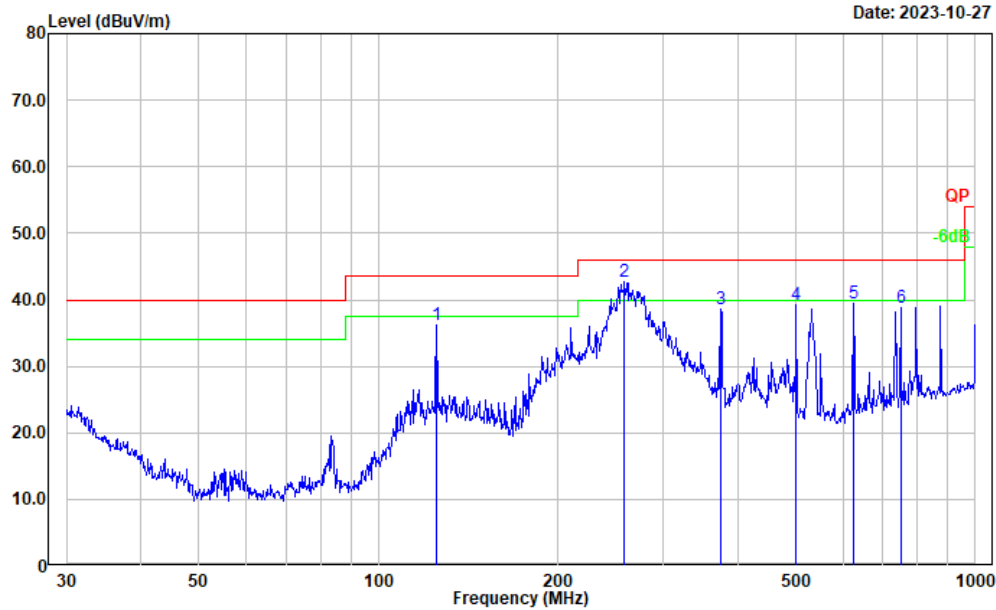


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	46.72	-11.31	35.41	43.50	8.09	Peak
2	182.559	48.72	-13.53	35.19	43.50	8.31	Peak
3	250.301	52.37	-13.18	39.19	46.00	6.81	Peak
4	375.939	47.28	-9.29	37.99	46.00	8.01	Peak
5	501.179	45.14	-5.99	39.15	46.00	6.85	Peak
6	625.078	43.36	-4.65	38.71	46.00	7.29	Peak

Middle Channel

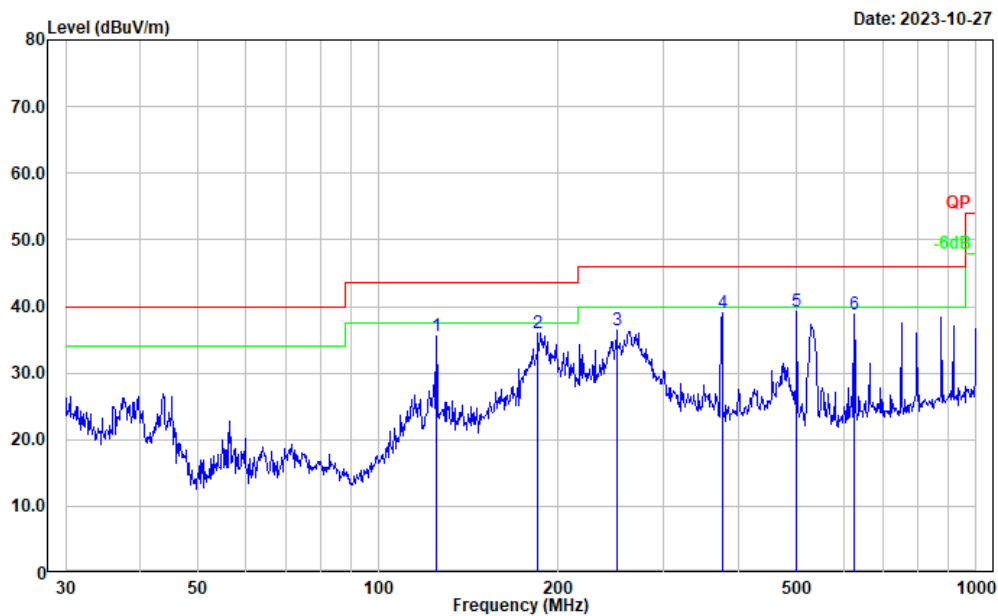
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:

Date: 2023-10-27



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.43	-11.31	36.12	43.50	7.38	Peak
2	258.326	55.30	-12.64	42.66	46.00	3.34	QP
3	374.623	47.91	-9.34	38.57	46.00	7.43	Peak
4	501.179	45.20	-5.99	39.21	46.00	6.79	Peak
5	625.078	44.15	-4.65	39.50	46.00	6.50	Peak
6	750.108	41.93	-3.10	38.83	46.00	7.17	Peak

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:

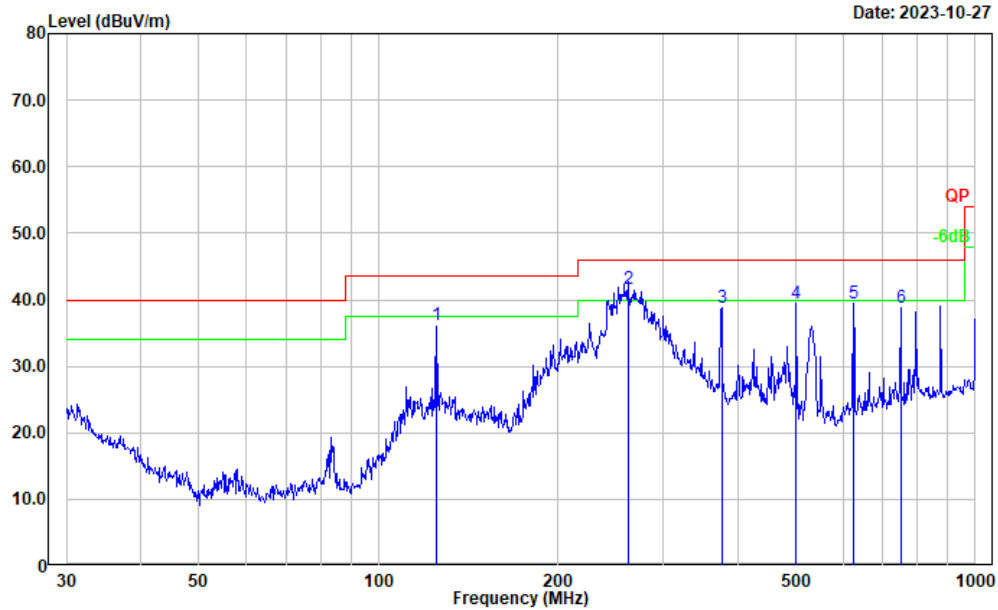


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	46.83	-11.31	35.52	43.50	7.98	Peak
2	185.138	49.57	-13.51	36.06	43.50	7.44	Peak
3	250.301	49.54	-13.18	36.36	46.00	9.64	Peak
4	375.939	48.26	-9.29	38.97	46.00	7.03	Peak
5	501.179	45.13	-5.99	39.14	46.00	6.86	Peak
6	625.078	43.48	-4.65	38.83	46.00	7.17	Peak

High Channel

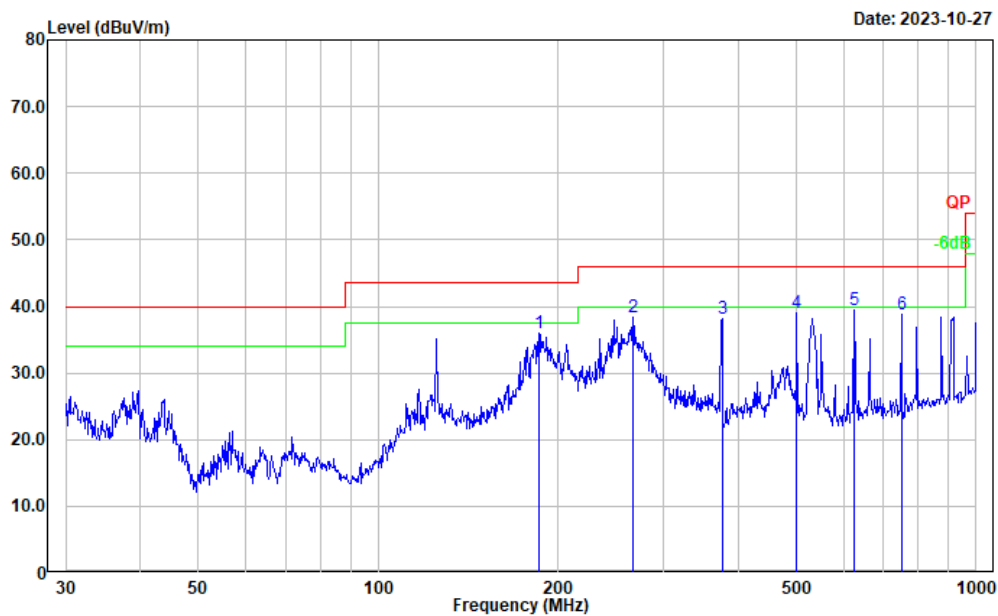
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:

Date: 2023-10-27



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.41	-11.31	36.10	43.50	7.40	Peak
2	261.975	54.08	-12.44	41.64	46.00	4.36	QP
3	375.939	48.06	-9.29	38.77	46.00	7.23	Peak
4	501.179	45.39	-5.99	39.40	46.00	6.60	Peak
5	625.078	44.03	-4.65	39.38	46.00	6.62	Peak
6	750.108	41.93	-3.10	38.83	46.00	7.17	Peak

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:

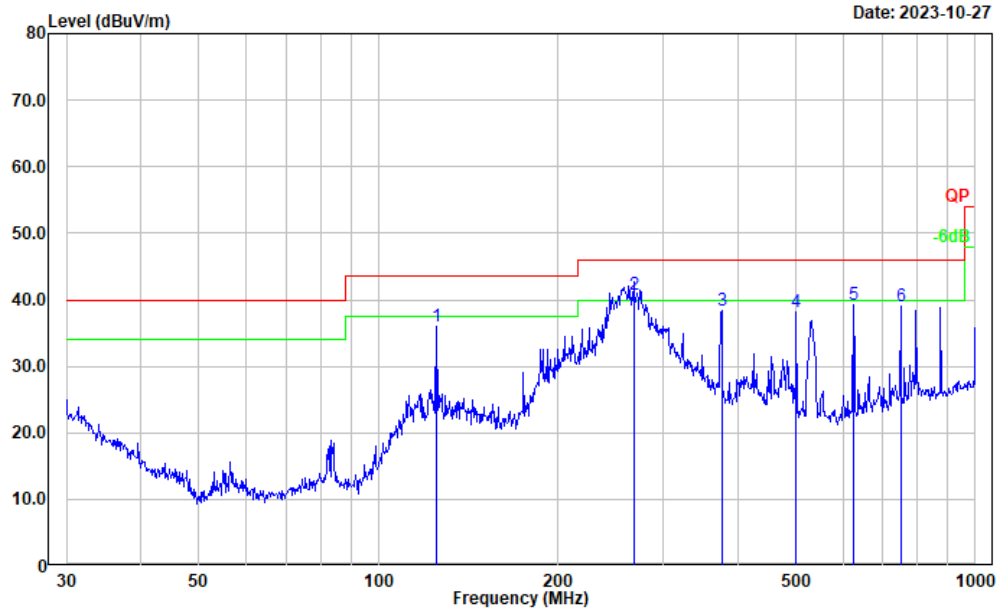


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	185.788	49.51	-13.52	35.99	43.50	7.51	Peak
2	266.609	50.55	-12.28	38.27	46.00	7.73	Peak
3	375.939	47.49	-9.29	38.20	46.00	7.80	Peak
4	501.179	44.99	-5.99	39.00	46.00	7.00	Peak
5	625.078	44.20	-4.65	39.55	46.00	6.45	Peak
6	750.108	41.93	-3.10	38.83	46.00	7.17	Peak

5725~5850MHz Low Channel

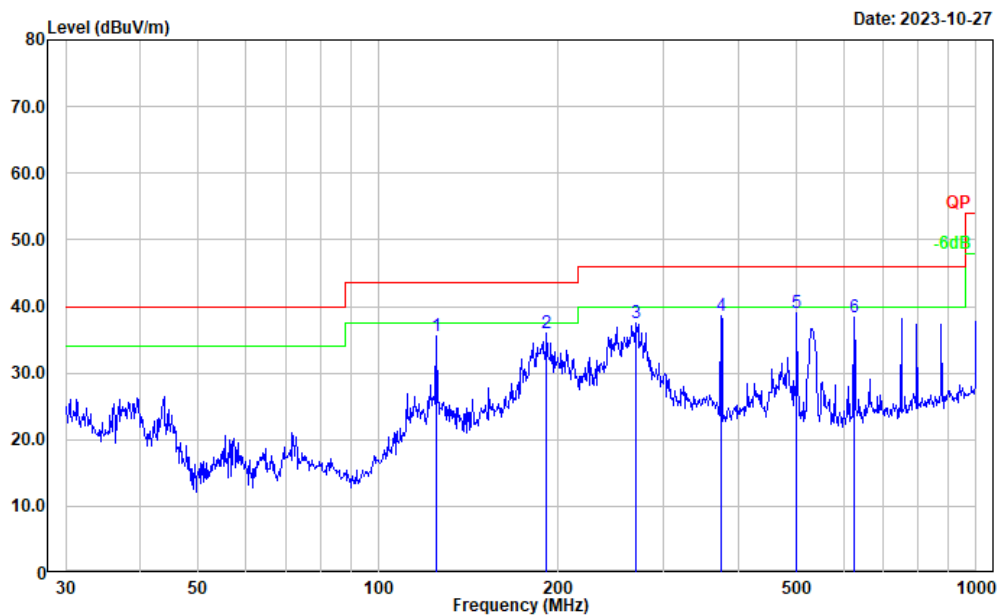
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:

Date: 2023-10-27



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.37	-11.31	36.06	43.50	7.44	Peak
2	267.546	53.01	-12.25	40.76	46.00	5.24	QP
3	375.939	47.64	-9.29	38.35	46.00	7.65	Peak
4	501.179	44.22	-5.99	38.23	46.00	7.77	Peak
5	625.078	43.91	-4.65	39.26	46.00	6.74	Peak
6	750.108	42.15	-3.10	39.05	46.00	6.95	Peak

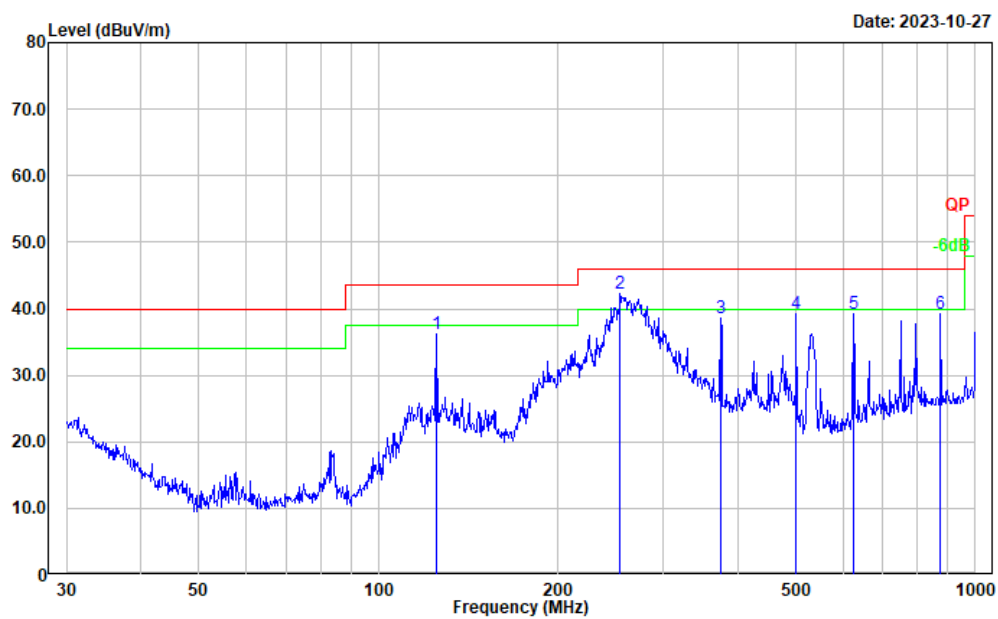
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	46.93	-11.31	35.62	43.50	7.88	Peak
2	191.074	49.36	-13.30	36.06	43.50	7.44	Peak
3	269.428	49.65	-12.19	37.46	46.00	8.54	Peak
4	374.623	47.90	-9.34	38.56	46.00	7.44	Peak
5	501.179	44.97	-5.99	38.98	46.00	7.02	Peak
6	625.078	43.01	-4.65	38.36	46.00	7.64	Peak

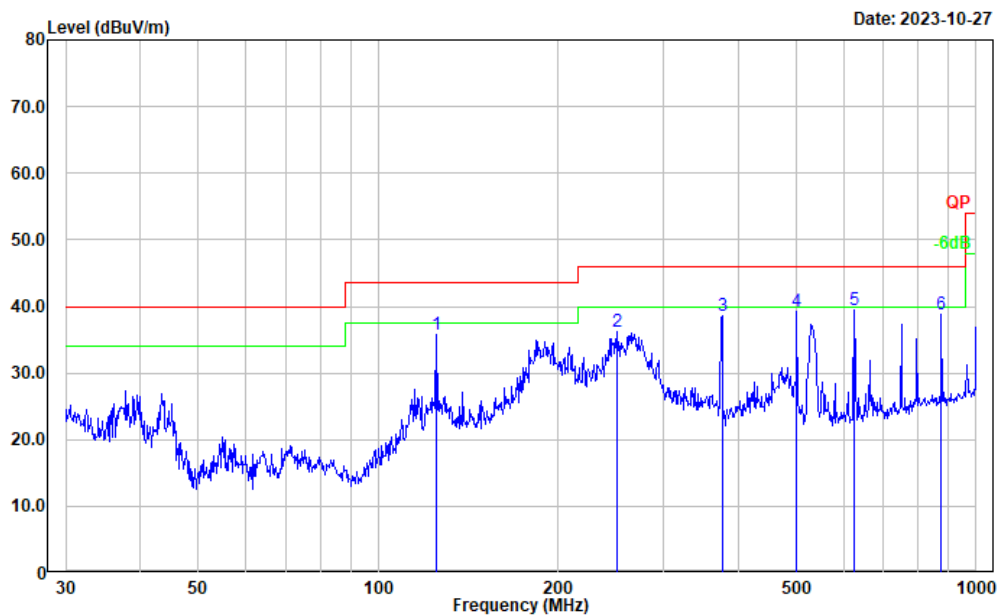
Middle Channel

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.46	-11.31	36.15	43.50	7.35	Peak
2	253.837	55.26	-12.97	42.29	46.00	3.71	QP
3	374.623	47.94	-9.34	38.60	46.00	7.40	Peak
4	501.179	45.25	-5.99	39.26	46.00	6.74	Peak
5	625.078	43.96	-4.65	39.31	46.00	6.69	Peak
6	875.247	40.35	-1.18	39.17	46.00	6.83	Peak

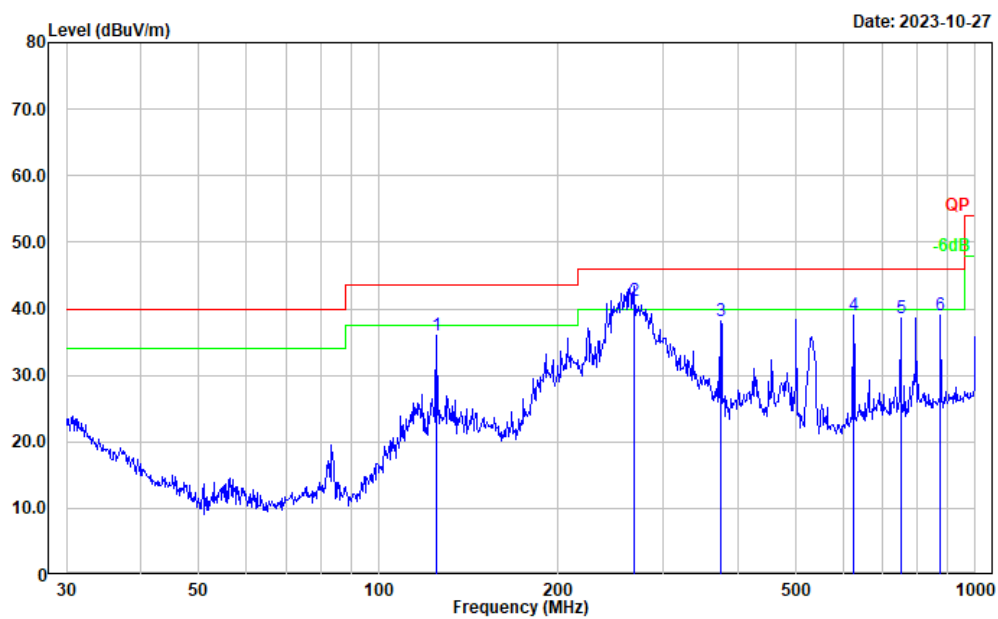
Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.04	-11.31	35.73	43.50	7.77	Peak
2	250.301	49.43	-13.18	36.25	46.00	9.75	Peak
3	375.939	47.83	-9.29	38.54	46.00	7.46	Peak
4	501.179	45.13	-5.99	39.14	46.00	6.86	Peak
5	625.078	44.16	-4.65	39.51	46.00	6.49	Peak
6	875.247	40.00	-1.18	38.82	46.00	7.18	Peak

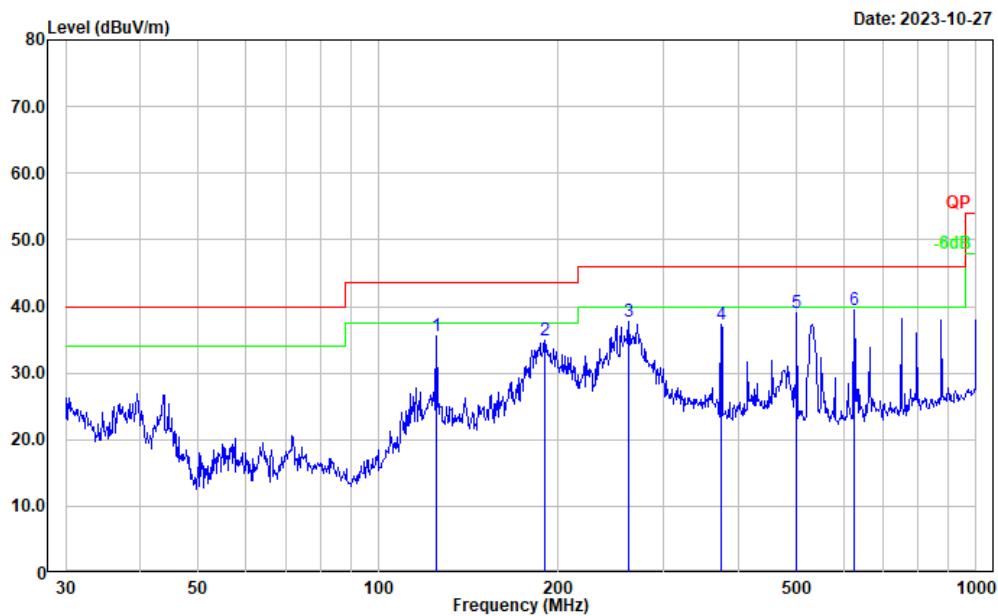
High Channel

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	47.31	-11.31	36.00	43.50	7.50	Peak
2	267.546	53.54	-12.25	41.29	46.00	4.71	QP
3	374.623	47.55	-9.34	38.21	46.00	7.79	Peak
4	625.078	43.72	-4.65	39.07	46.00	6.93	Peak
5	750.108	41.72	-3.10	38.62	46.00	7.38	Peak
6	875.247	40.15	-1.18	38.97	46.00	7.03	Peak

Project No.: CR230738438-RF
Tester: Vic Du
Polarization: vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	125.007	46.87	-11.31	35.56	43.50	7.94	Peak
2	189.739	48.37	-13.47	34.90	43.50	8.60	Peak
3	262.896	50.17	-12.42	37.75	46.00	8.25	Peak
4	374.623	46.60	-9.34	37.26	46.00	8.74	Peak
5	501.179	45.00	-5.99	39.01	46.00	6.99	Peak
6	625.078	44.18	-4.65	39.53	46.00	6.47	Peak

2) 1GHz-40GHz:**5150-5250MHz:****802.11a Mode Chain 0:**

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5180	MHz		
10360.000	40.92	PK	H	19.18	60.10	68.20	8.10
10360.000	39.60	PK	V	19.18	58.78	68.20	9.42
Middle Channel:				5200	MHz		
10400.000	41.18	PK	H	19.16	60.34	68.20	7.86
10400.000	40.72	PK	V	19.16	59.88	68.20	8.32
High Channel:				5240	MHz		
10480.000	41.86	PK	H	18.86	60.72	68.20	7.48
10480.000	40.93	PK	V	18.86	59.79	68.20	8.41

802.11a Mode Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5180	MHz		
10360.000	38.24	PK	H	19.18	57.42	68.20	10.78
10360.000	37.28	PK	V	19.18	56.46	68.20	11.74
Middle Channel:				5200	MHz		
10400.000	38.54	PK	H	19.16	57.70	68.20	10.50
10400.000	38.41	PK	V	19.16	57.57	68.20	10.63
High Channel:				5240	MHz		
10480.000	39.49	PK	H	18.86	58.35	68.20	9.85
10480.000	38.29	PK	V	18.86	57.15	68.20	11.05

802.11ac20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5180 MHz							
10360.000	40.99	PK	H	19.18	60.17	68.20	8.03
10360.000	40.70	PK	V	19.18	59.88	68.20	8.32
Middle Channel: 5200 MHz							
10400.000	41.32	PK	H	19.16	60.48	68.20	7.72
10400.000	40.31	PK	V	19.16	59.47	68.20	8.73
High Channel: 5240 MHz							
10480.000	42.00	PK	H	18.86	60.86	68.20	7.34
10480.000	41.23	PK	V	18.86	60.09	68.20	8.11

802.11ac40 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5190	MHz		
10380.000	40.87	PK	H	19.17	60.04	68.20	8.16
10380.000	40.16	PK	V	19.17	59.33	68.20	8.87
High Channel:				5230	MHz		
10460.000	41.72	PK	H	18.94	60.66	68.20	7.54
10460.000	40.57	PK	V	18.94	59.51	68.20	8.69

802.11ac80 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel:				5210	MHz		
10420.000	41.09	PK	H	19.09	60.18	68.20	8.02
10420.000	40.51	PK	V	19.09	59.60	68.20	8.60

5250-5350MHz:**802.11a Mode Chain 0:**

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5260	MHz		
10520.000	41.46	PK	H	18.93	60.39	68.20	7.81
10520.000	40.64	PK	V	18.93	59.57	68.20	8.63
Middle Channel:				5280	MHz		
10560.000	42.03	PK	H	19.20	61.23	68.20	6.97
10560.000	41.49	PK	V	19.20	60.69	68.20	7.51
High Channel:				5320	MHz		
10640.000	42.04	PK	H	19.50	61.54	74.00	12.46
10640.000	28.96	AV	H	19.50	48.46	54.00	5.54
10640.000	41.89	PK	V	19.50	61.39	74.00	12.61
10640.000	28.34	AV	V	19.50	47.84	54.00	6.16

802.11a Mode Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5260	MHz		
10520.000	39.19	PK	H	18.93	58.12	68.20	10.08
10520.000	38.35	PK	V	18.93	57.28	68.20	10.92
Middle Channel:				5280	MHz		
10560.000	39.75	PK	H	19.20	58.95	68.20	9.25
10560.000	39.01	PK	V	19.20	58.21	68.20	9.99
High Channel:				5320	MHz		
10640.000	39.76	PK	H	19.50	59.26	74.00	14.74
10640.000	26.18	AV	H	19.50	45.68	54.00	8.32
10640.000	39.50	PK	V	19.50	59.00	74.00	15.00
10640.000	26.13	AV	V	19.50	45.63	54.00	8.37

802.11ac20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5260 MHz							
10520.000	41.61	PK	H	18.93	60.54	68.20	7.66
10520.000	40.21	PK	V	18.93	59.14	68.20	9.06
Middle Channel: 5280 MHz							
10560.000	42.16	PK	H	19.20	61.36	68.20	6.84
10560.000	41.29	PK	V	19.20	60.49	68.20	7.71
High Channel: 5320 MHz							
10640.000	42.23	PK	H	19.50	61.73	74.00	12.27
10640.000	29.11	AV	H	19.50	48.61	54.00	5.39
10640.000	41.66	PK	V	19.50	61.16	74.00	12.84
10640.000	28.72	AV	V	19.50	48.22	54.00	5.78

802.11ac40 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5270 MHz							
10540.000	41.58	PK	H	19.07	60.65	68.20	7.55
10540.000	40.17	PK	V	19.07	59.24	68.20	8.96
High Channel: 5310 MHz							
10620.000	42.03	PK	H	19.49	61.52	74.00	12.48
10620.000	29.16	AV	H	19.49	48.65	54.00	5.35
10620.000	41.66	PK	V	19.49	61.15	74.00	12.85
10620.000	28.31	AV	V	19.49	47.80	54.00	6.20

802.11ac80 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel:				5290	MHz		
10580.000	41.69	PK	H	19.34	61.03	68.20	7.17
10580.000	40.16	PK	V	19.34	59.50	68.20	8.70

5470-5725MHz**802.11a Mode Chain 0:**

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5500	MHz		
11000.000	40.87	PK	H	19.83	60.70	74.00	13.30
11000.000	27.58	AV	H	19.83	47.41	54.00	6.59
11000.000	39.50	PK	V	19.83	59.33	74.00	14.67
11000.000	26.34	AV	V	19.83	46.17	54.00	7.83
Middle Channel:				5580	MHz		
11160.000	40.86	PK	H	19.97	60.83	74.00	13.17
11160.000	27.71	AV	H	19.97	47.68	54.00	6.32
11160.000	39.69	PK	V	19.97	59.66	74.00	14.34
11160.000	26.14	AV	V	19.97	46.11	54.00	7.89
High Channel:				5700	MHz		
11400.000	40.28	PK	H	20.93	61.21	74.00	12.79
11400.000	27.16	AV	H	20.93	48.09	54.00	5.91
11400.000	39.33	PK	V	20.93	60.26	74.00	13.74
11400.000	26.40	AV	V	20.93	47.33	54.00	6.67

802.11a Mode Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5500 MHz							
11000.000	38.50	PK	H	19.83	58.33	74.00	15.67
11000.000	25.13	AV	H	19.83	44.96	54.00	9.04
11000.000	36.97	PK	V	19.83	56.80	74.00	17.20
11000.000	23.88	AV	V	19.83	43.71	54.00	10.29
Middle Channel: 5580 MHz							
11160.000	38.26	PK	H	19.97	58.23	74.00	15.77
11160.000	25.48	AV	H	19.97	45.45	54.00	8.55
11160.000	37.01	PK	V	19.97	56.98	74.00	17.02
11160.000	23.56	AV	V	19.97	43.53	54.00	10.47
High Channel: 5700 MHz							
11400.000	37.90	PK	H	20.93	58.83	74.00	15.17
11400.000	25.14	AV	H	20.93	46.07	54.00	7.93
11400.000	37.18	PK	V	20.93	58.11	74.00	15.89
11400.000	24.28	AV	V	20.93	45.21	54.00	8.79

802.11ac20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5500 MHz							
11000.000	41.01	PK	H	19.83	60.84	74.00	13.16
11000.000	27.76	AV	H	19.83	47.59	54.00	6.41
11000.000	40.19	PK	V	19.83	60.02	74.00	13.98
11000.000	25.93	AV	V	19.83	45.76	54.00	8.24
Middle Channel: 5580 MHz							
11160.000	40.98	PK	H	19.97	60.95	74.00	13.05
11160.000	27.87	AV	H	19.97	47.84	54.00	6.16
11160.000	40.05	PK	V	19.97	60.02	74.00	13.98
11160.000	26.16	AV	V	19.97	46.13	54.00	7.87
High Channel: 5700 MHz							
11400.000	40.45	PK	H	20.93	61.38	74.00	12.62
11400.000	27.29	AV	H	20.93	48.22	54.00	5.78
11400.000	39.64	PK	V	20.93	60.57	74.00	13.43
11400.000	25.87	AV	V	20.93	46.80	54.00	7.20

802.11ac40 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5510 MHz							
11020.000	40.76	PK	H	19.85	60.61	74.00	13.39
11020.000	27.67	AV	H	19.85	47.52	54.00	6.48
11020.000	39.72	PK	V	19.85	59.57	74.00	14.43
11020.000	26.52	AV	V	19.85	46.37	54.00	7.63
Middle Channel: 5550 MHz							
11100.000	40.53	PK	H	19.95	60.48	74.00	13.52
11100.000	27.61	AV	H	19.95	47.56	54.00	6.44
11100.000	39.34	PK	V	19.95	59.29	74.00	14.71
11100.000	26.53	AV	V	19.95	46.48	54.00	7.52
High Channel: 5670 MHz							
11340.000	40.19	PK	H	20.77	60.96	74.00	13.04
11340.000	27.46	AV	H	20.77	48.23	54.00	5.77
11340.000	39.69	PK	V	20.77	60.46	74.00	13.54
11340.000	25.82	AV	V	20.77	46.59	54.00	7.41

802.11ac80 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5530 MHz							
11060.000	40.19	PK	H	19.90	60.09	74.00	13.91
11060.000	27.76	AV	H	19.90	47.66	54.00	6.34
11060.000	39.64	PK	V	19.90	59.54	74.00	14.46
11060.000	26.09	AV	V	19.90	45.99	54.00	8.01
High Channel: 5610 MHz							
11220.000	41.09	PK	H	20.12	61.21	74.00	12.79
11220.000	28.58	AV	H	20.12	48.70	54.00	5.30
11220.000	39.34	PK	V	20.12	59.46	74.00	14.54
11220.000	26.39	AV	V	20.12	46.51	54.00	7.49

5725-5850MHz**802.11a Mode Chain 0:**

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5745	MHz		
11490.000	39.79	PK	H	20.67	60.46	74.00	13.54
11490.000	26.86	AV	H	20.67	47.53	54.00	6.47
11490.000	37.55	PK	V	20.67	58.22	74.00	15.78
11490.000	25.07	AV	V	20.67	45.74	54.00	8.26
Middle Channel:				5785	MHz		
11570.000	40.21	PK	H	20.82	61.03	74.00	12.97
11570.000	27.14	AV	H	20.82	47.96	54.00	6.04
11570.000	39.23	PK	V	20.82	60.05	74.00	13.95
11570.000	25.10	AV	V	20.82	45.92	54.00	8.08
High Channel:				5825	MHz		
11650.000	39.95	PK	H	21.06	61.01	74.00	12.99
11650.000	26.79	AV	H	21.06	47.85	54.00	6.15
11650.000	37.62	PK	V	21.06	58.68	74.00	15.32
11650.000	24.22	AV	V	21.06	45.28	54.00	8.72

802.11a Mode Chain 1:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5745 MHz							
11490.000	37.46	PK	H	20.67	58.13	74.00	15.87
11490.000	24.57	AV	H	20.67	45.24	54.00	8.76
11490.000	35.16	PK	V	20.67	55.83	74.00	18.17
11490.000	22.84	AV	V	20.67	43.51	54.00	10.49
Middle Channel: 5785 MHz							
11570.000	39.93	PK	H	20.82	60.75	74.00	13.25
11570.000	24.56	AV	H	20.82	45.38	54.00	8.62
11570.000	37.21	PK	V	20.82	58.03	74.00	15.97
11570.000	22.50	AV	V	20.82	43.32	54.00	10.68
High Channel: 5825 MHz							
11650.000	37.17	PK	H	21.06	58.23	74.00	15.77
11650.000	24.67	AV	H	21.06	45.73	54.00	8.27
11650.000	35.52	PK	V	21.06	56.58	74.00	17.42
11650.000	22.05	AV	V	21.06	43.11	54.00	10.89

802.11ac20 Mode:

Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel:				5745	MHz		
11490.000	39.86	PK	H	20.67	60.53	74.00	13.47
11490.000	26.99	AV	H	20.67	47.66	54.00	6.34
11490.000	37.59	PK	V	20.67	58.26	74.00	15.74
11490.000	25.24	AV	V	20.67	45.91	54.00	8.09
Middle Channel:				5785	MHz		
11570.000	40.33	PK	H	20.82	61.15	74.00	12.85
11570.000	27.21	AV	H	20.82	48.03	54.00	5.97
11570.000	38.57	PK	V	20.82	59.39	74.00	14.61
11570.000	25.40	AV	V	20.82	46.22	54.00	7.78
High Channel:				5825	MHz		
11650.000	40.06	PK	H	21.06	61.12	74.00	12.88
11650.000	26.92	AV	H	21.06	47.98	54.00	6.02
11650.000	39.09	PK	V	21.06	60.15	74.00	13.85
11650.000	24.21	AV	V	21.06	45.27	54.00	8.73

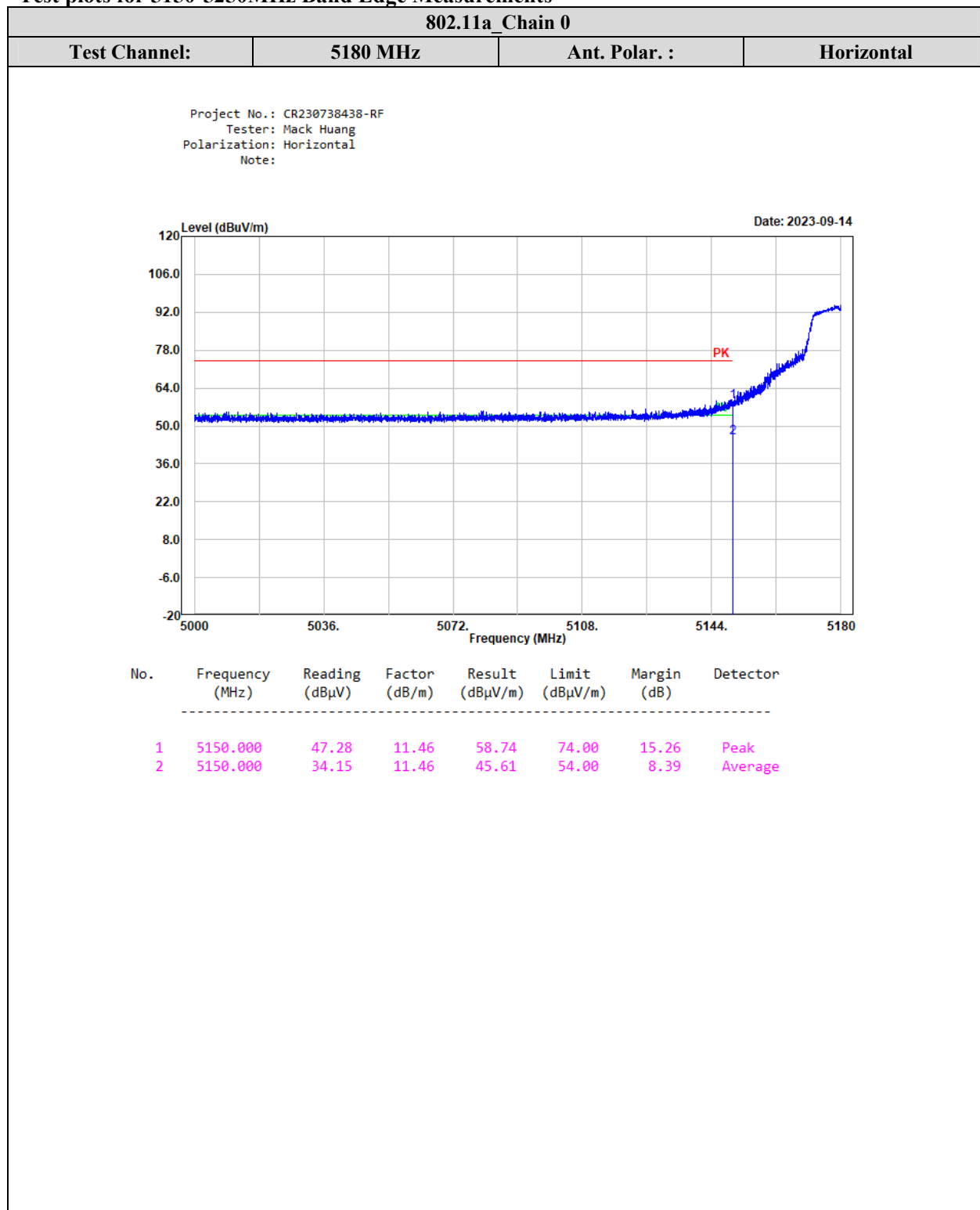
802.11ac40 Mode:

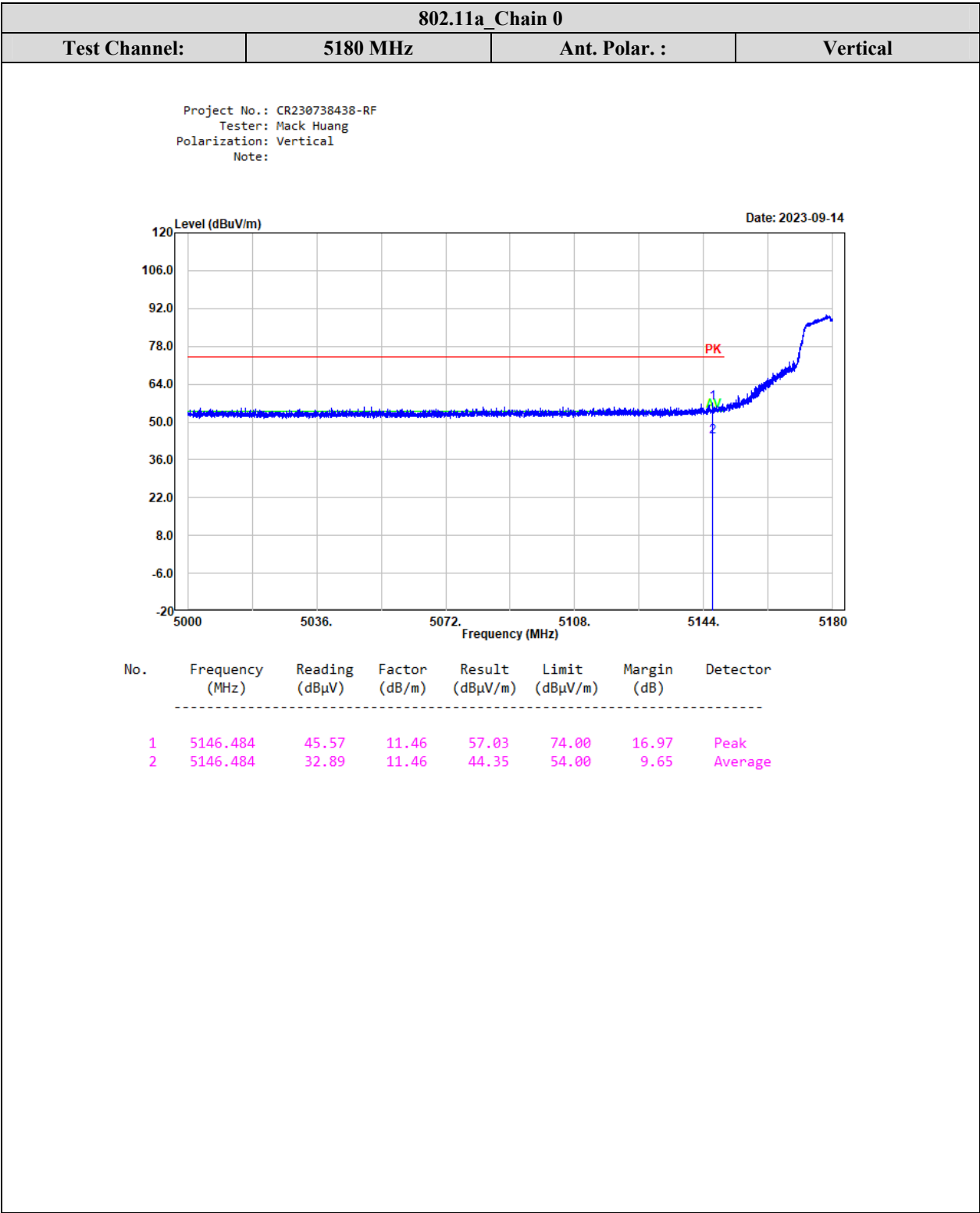
Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Low Channel: 5755 MHz							
11510.000	40.05	PK	H	20.67	60.72	74.00	13.28
11510.000	27.49	AV	H	20.67	48.16	54.00	5.84
11510.000	38.61	PK	V	20.67	59.28	74.00	14.72
11510.000	26.13	AV	V	20.67	46.80	54.00	7.20
High Channel: 5795 MHz							
11590.000	40.59	PK	H	20.87	61.46	74.00	12.54
11590.000	27.96	AV	H	20.87	48.83	54.00	5.17
11590.000	39.14	PK	V	20.87	60.01	74.00	13.99
11590.000	26.22	AV	V	20.87	47.09	54.00	6.91

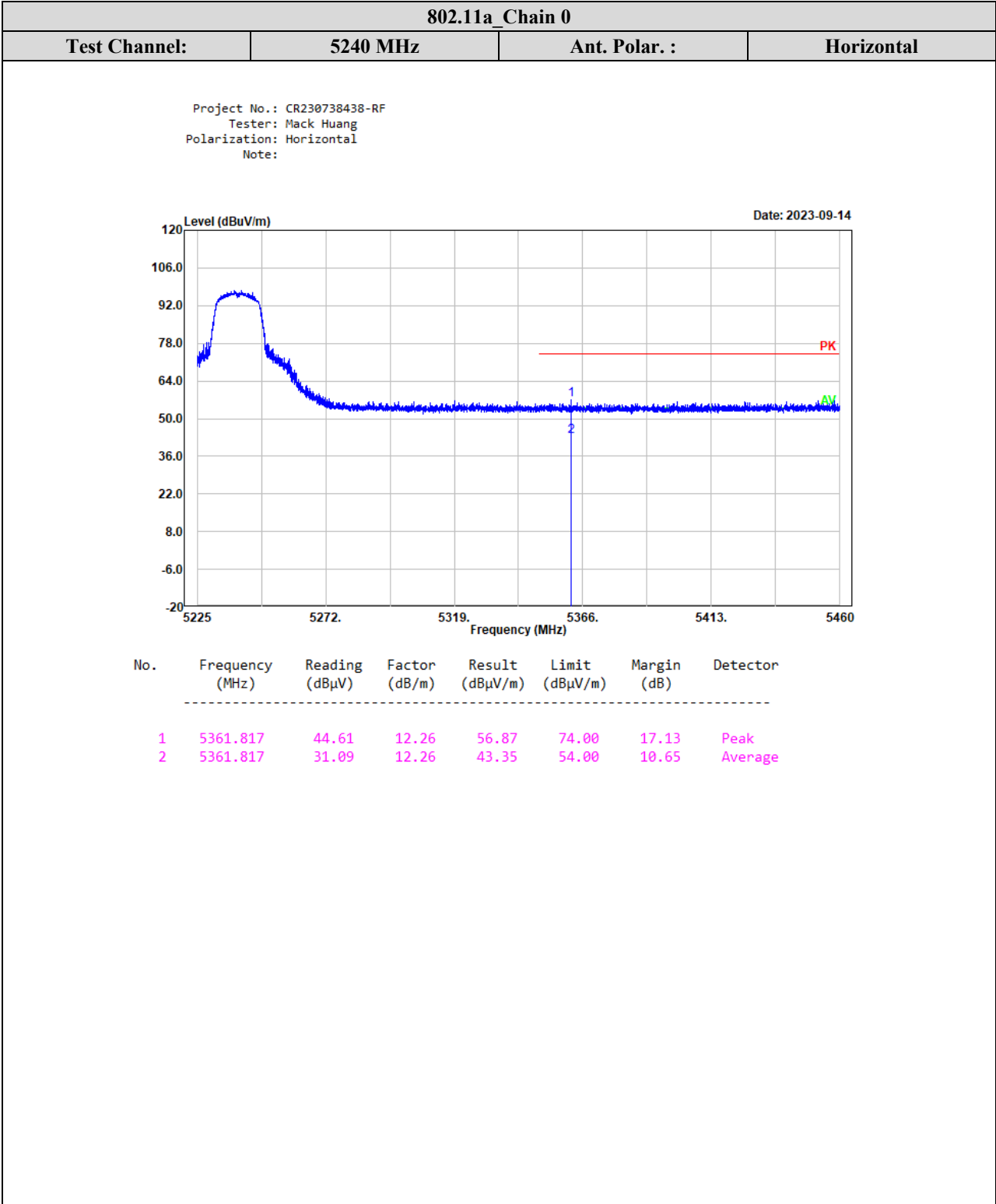
802.11ac80 Mode:

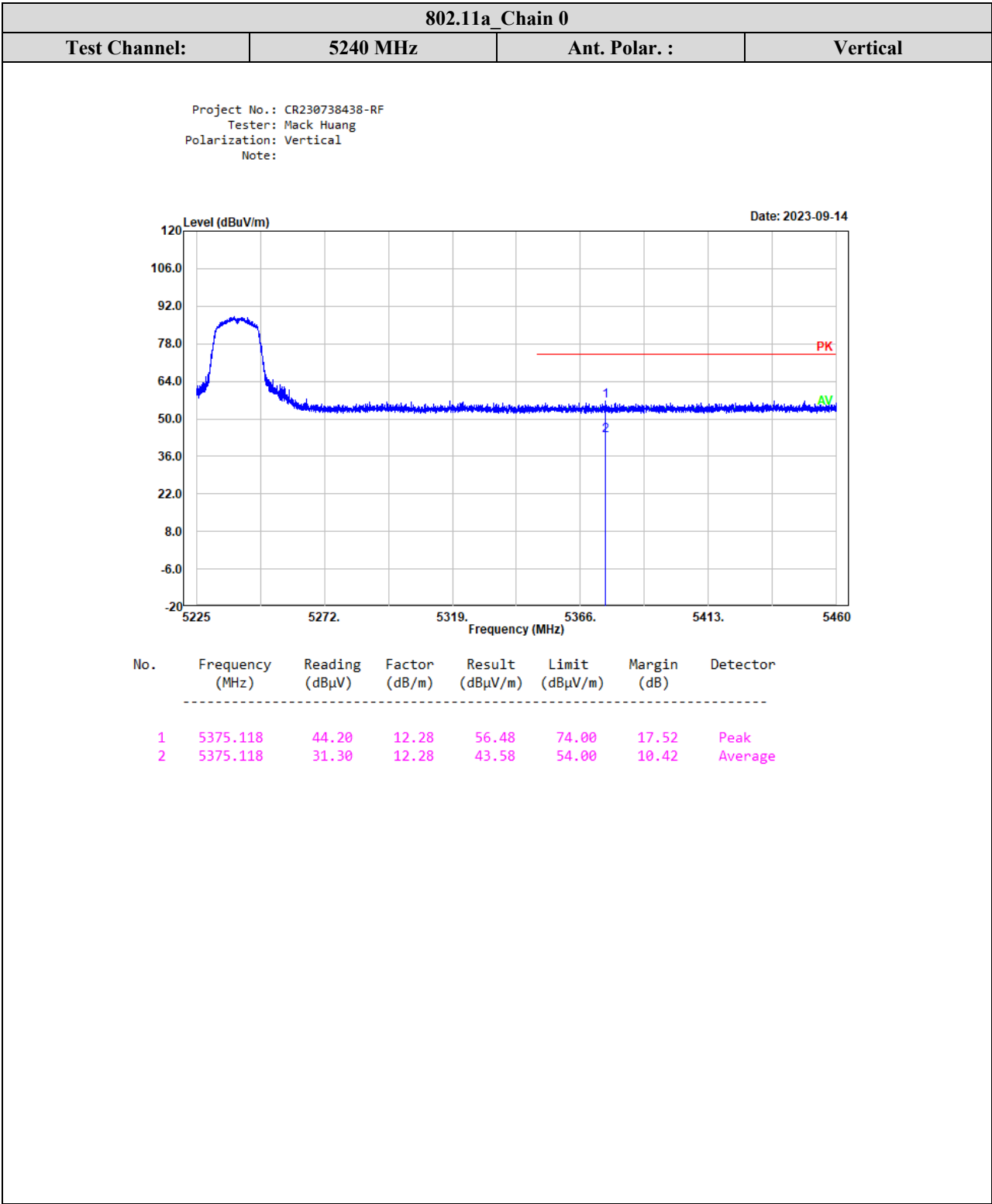
Frequency (MHz)	Receiver		Polar (H/V)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector					
Middle Channel:				5775	MHz		
11550.000	40.52	PK	H	20.78	61.30	74.00	12.70
11550.000	29.20	AV	H	20.78	49.98	54.00	4.02
11550.000	39.16	PK	V	20.78	59.94	74.00	14.06
11550.000	26.84	AV	V	20.78	47.62	54.00	6.38

Test plots for 5150-5250MHz Band Edge Measurements









802.11a Chain 1

Test Channel:

5180 MHz

Ant. Polar. :

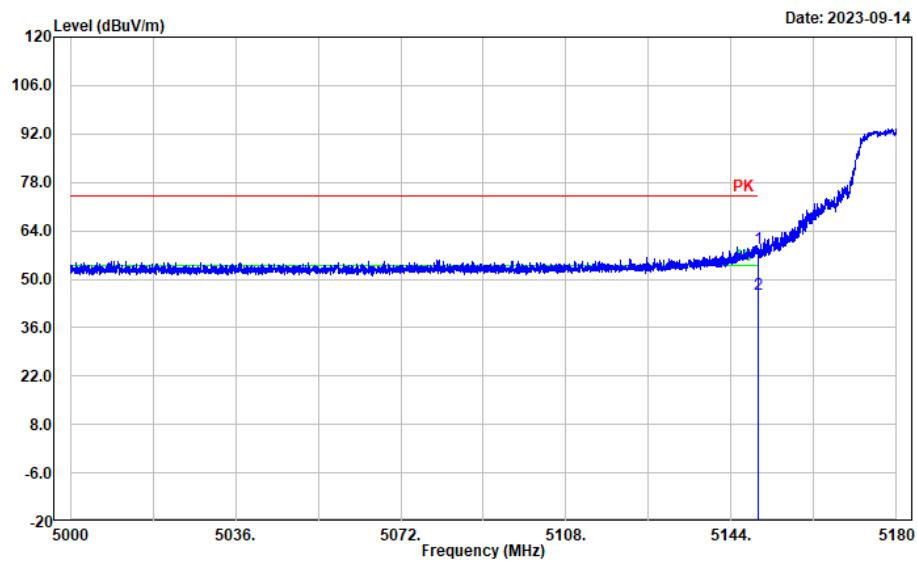
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5150.000	47.28	11.46	58.74	74.00	15.26	Peak
2	5150.000	34.15	11.46	45.61	54.00	8.39	Average

802.11a Chain 1

Test Channel:

5180 MHz

Ant. Polar. :

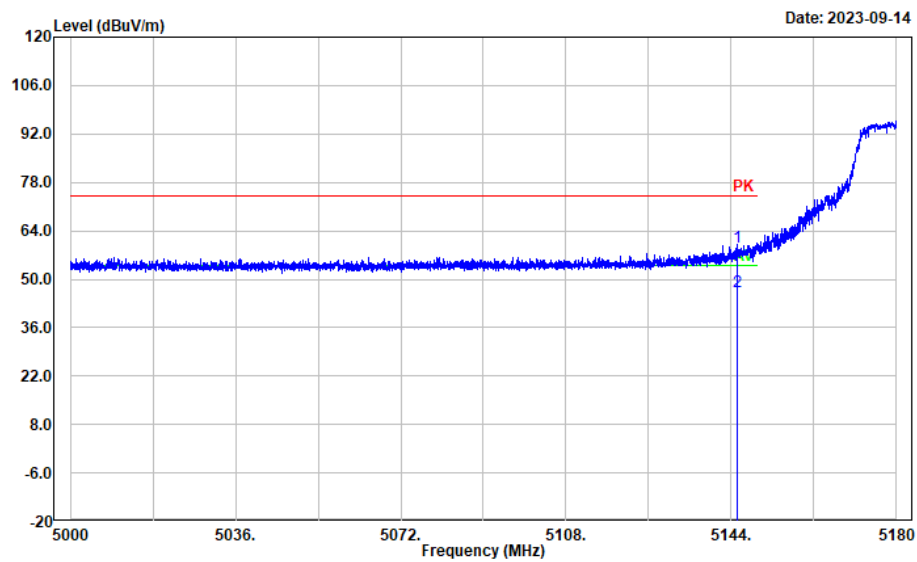
Vertical

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Vertical

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5145.404	47.73	11.45	59.18	74.00	14.82	Peak
2	5145.404	34.83	11.45	46.28	54.00	7.72	Average

802.11a Chain 1

Test Channel:

5240 MHz

Ant. Polar. :

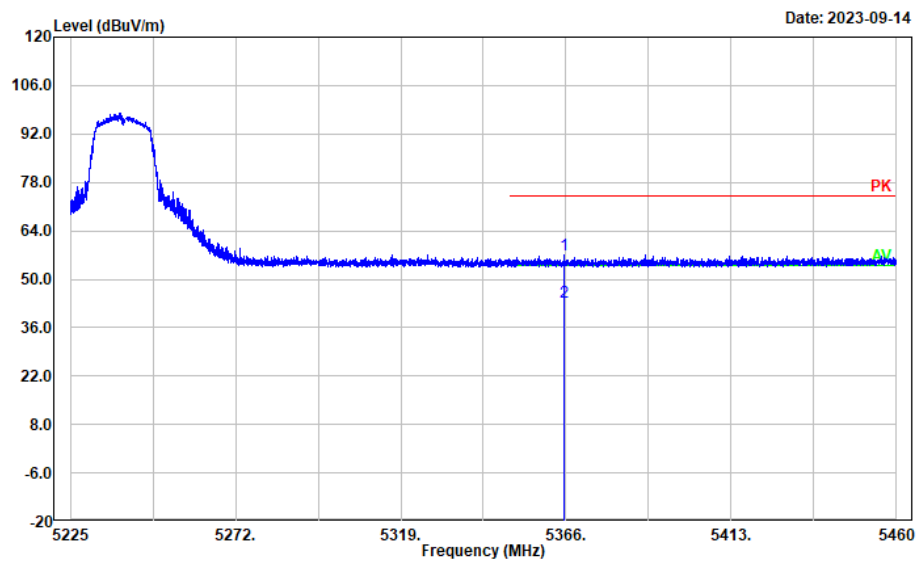
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5365.436	44.67	12.28	56.95	74.00	17.05	Peak
2	5365.436	31.07	12.28	43.35	54.00	10.65	Average

802.11a Chain 1

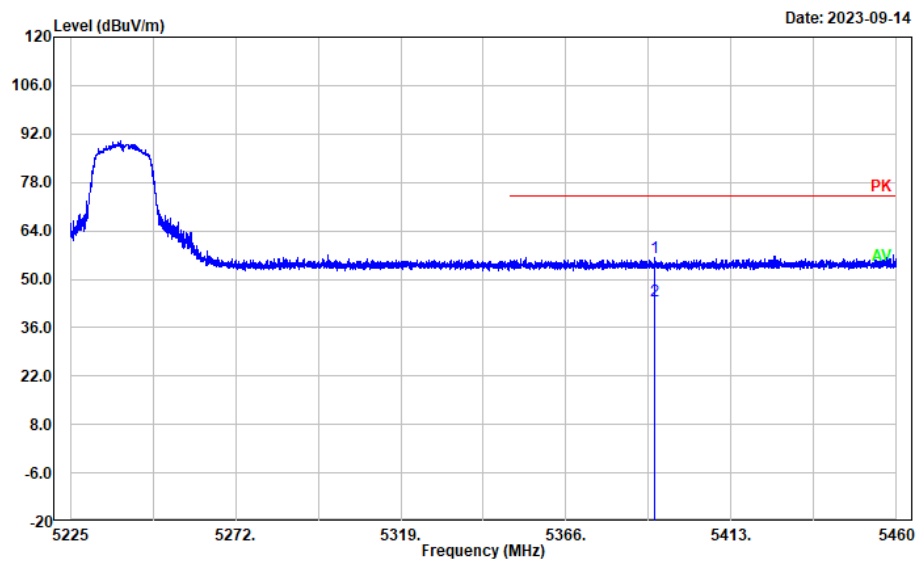
Test Channel:

5240 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5391.192	43.97	12.28	56.25	74.00	17.75	Peak
2	5391.192	31.37	12.28	43.65	54.00	10.35	Average

802.11ac20

Test Channel:

5180 MHz

Ant. Polar. :

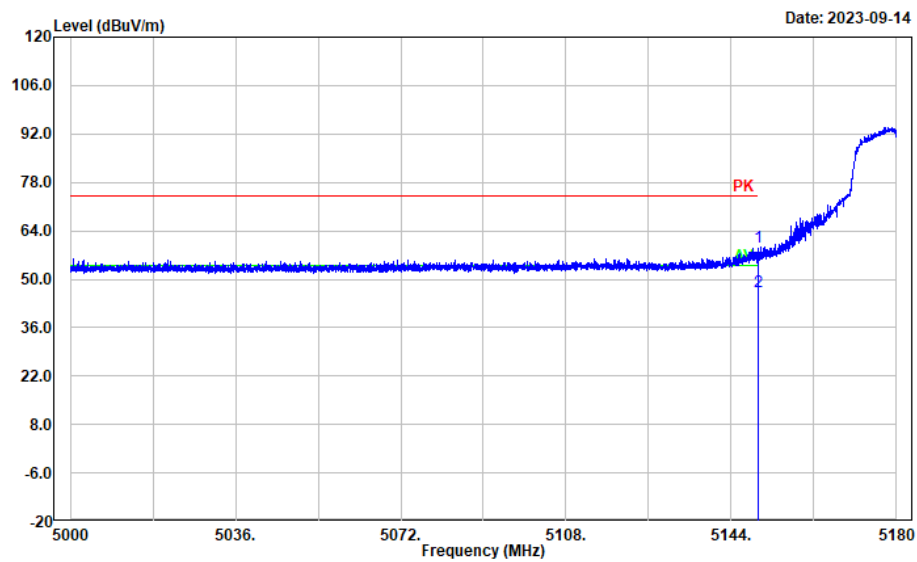
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5150.000	48.00	11.46	59.46	74.00	14.54	Peak
2	5150.000	35.05	11.46	46.51	54.00	7.49	Average

802.11ac20

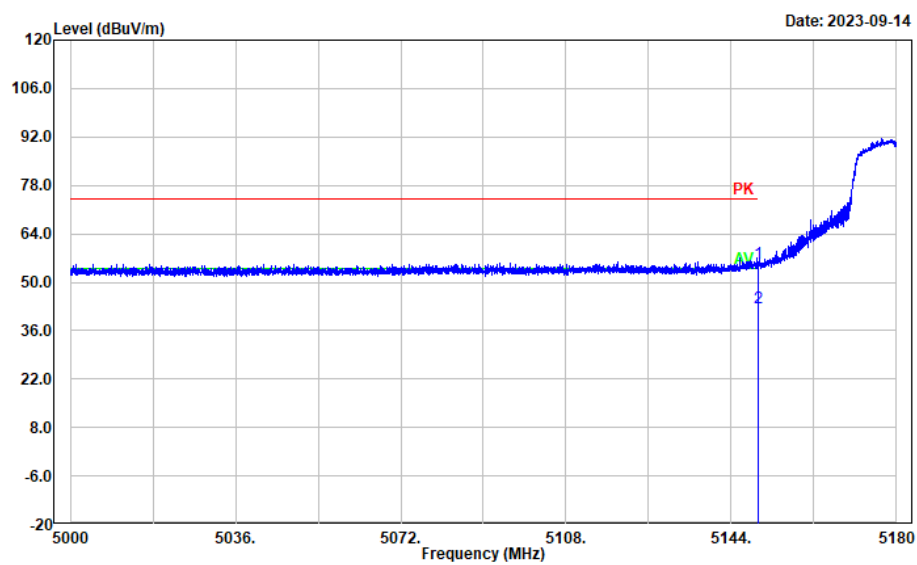
Test Channel:

5180 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5150.000	43.91	11.46	55.37	74.00	18.63	Peak
2	5150.000	31.21	11.46	42.67	54.00	11.33	Average

802.11ac20_

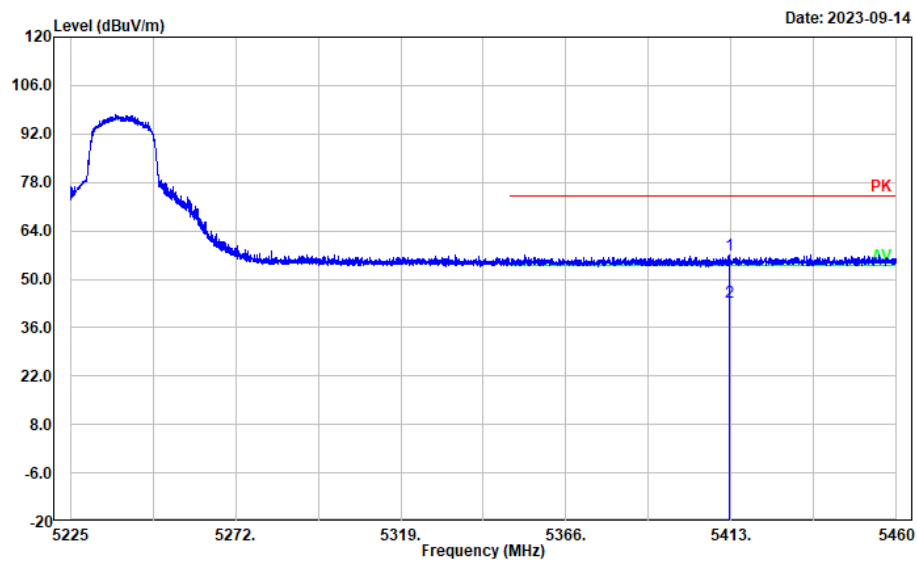
Test Channel:

5240 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5412.530	44.60	12.34	56.94	74.00	17.06	Peak
2	5412.530	31.01	12.34	43.35	54.00	10.65	Average

802.11ac20

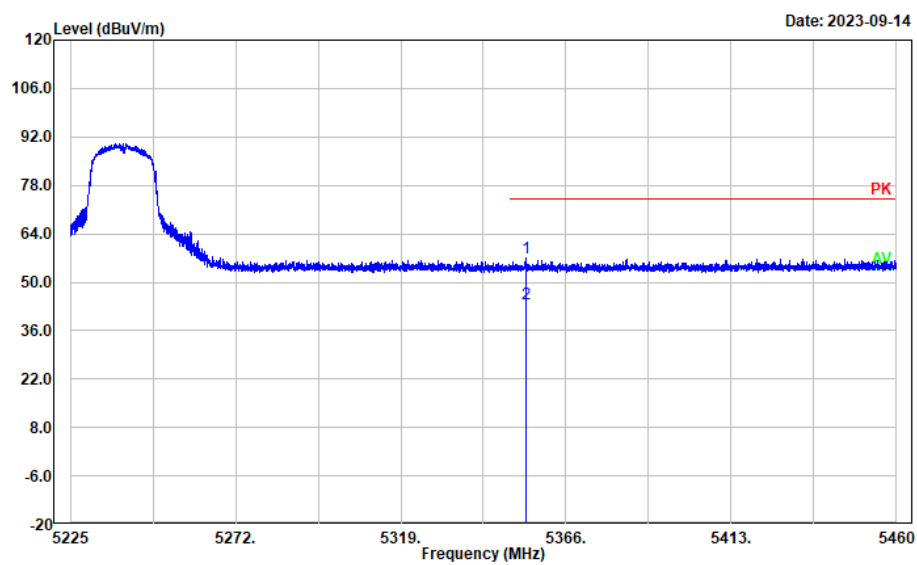
Test Channel:

5240 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5354.579	44.72	12.26	56.98	74.00	17.02	Peak
2	5354.579	31.62	12.26	43.88	54.00	10.12	Average

802.11ac40

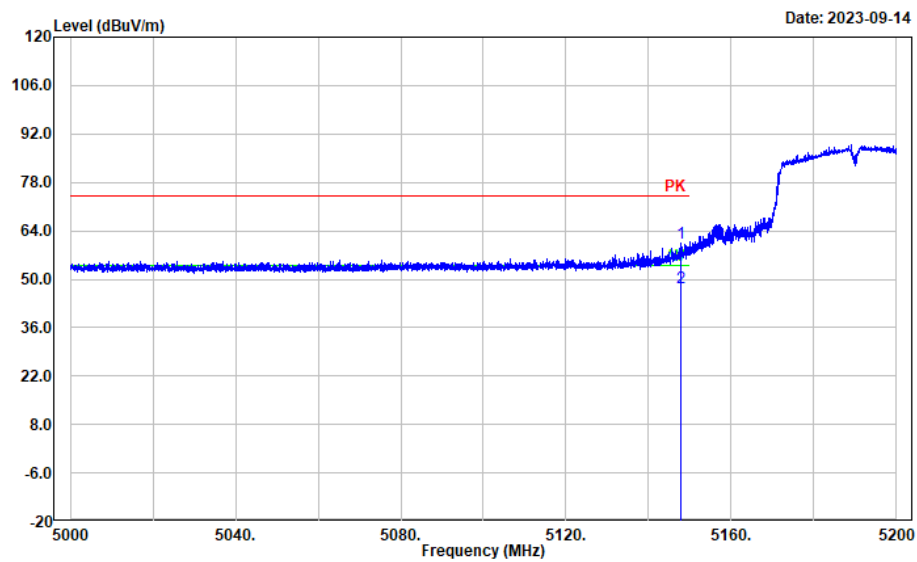
Test Channel:

5190 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5147.840	48.90	11.47	60.37	74.00	13.63	Peak
2	5147.840	36.09	11.47	47.56	54.00	6.44	Average

802.11ac40

Test Channel:

5190 MHz

Ant. Polar. :

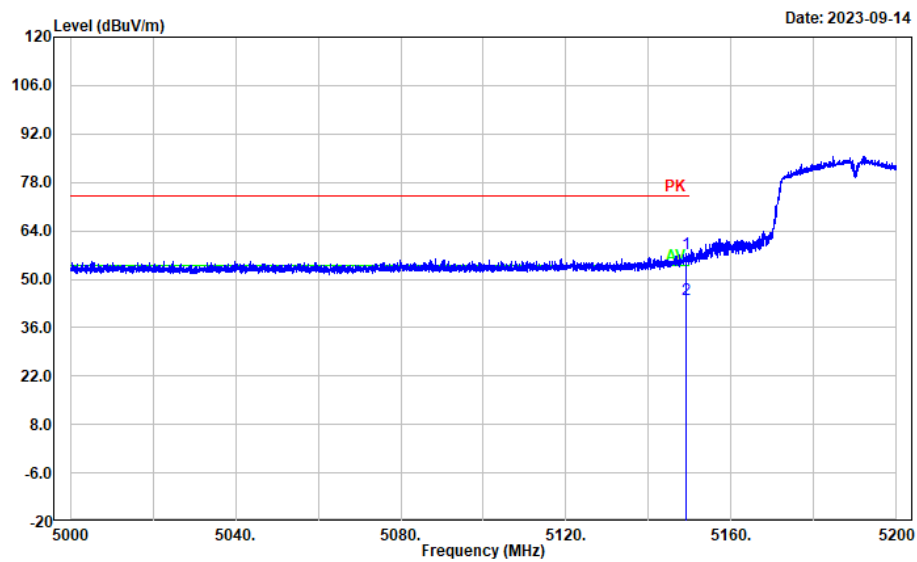
Vertical

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Vertical

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5149.040	46.01	11.46	57.47	74.00	16.53	Peak
2	5149.040	32.69	11.46	44.15	54.00	9.85	Average

802.11ac40

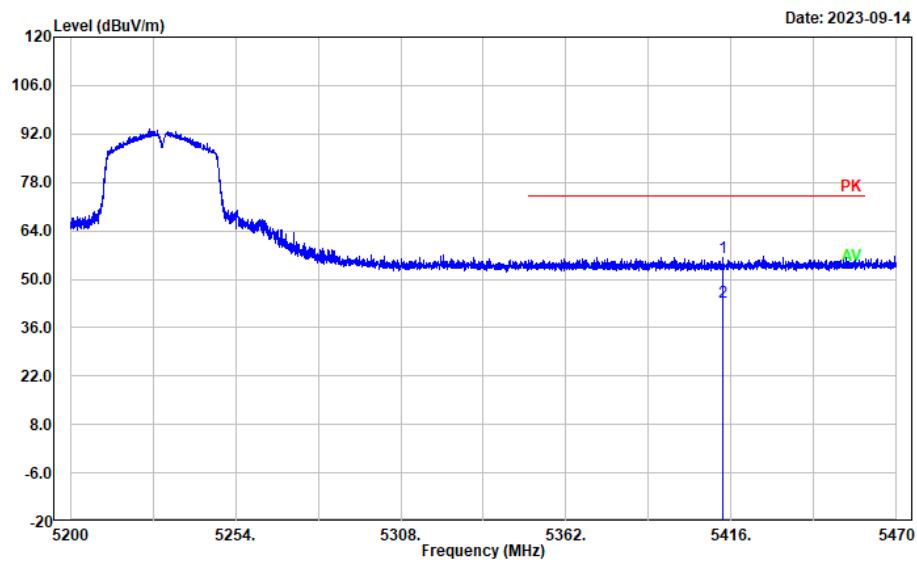
Test Channel:

5230 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5413.246	44.04	12.34	56.38	74.00	17.62	Peak
2	5413.246	31.04	12.34	43.38	54.00	10.62	Average

802.11ac40

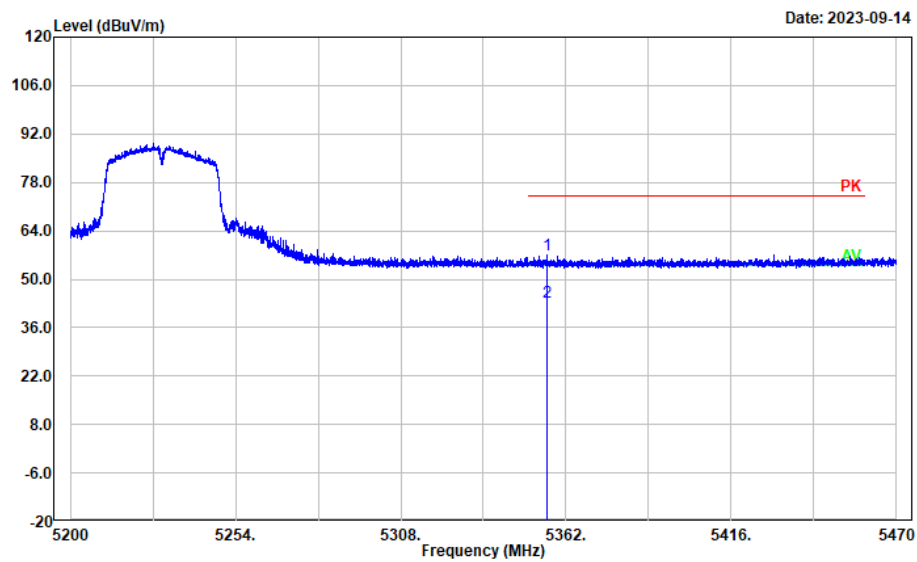
Test Channel:

5230 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5355.628	44.65	12.26	56.91	74.00	17.09	Peak
2	5355.628	31.12	12.26	43.38	54.00	10.62	Average

802.11ac80

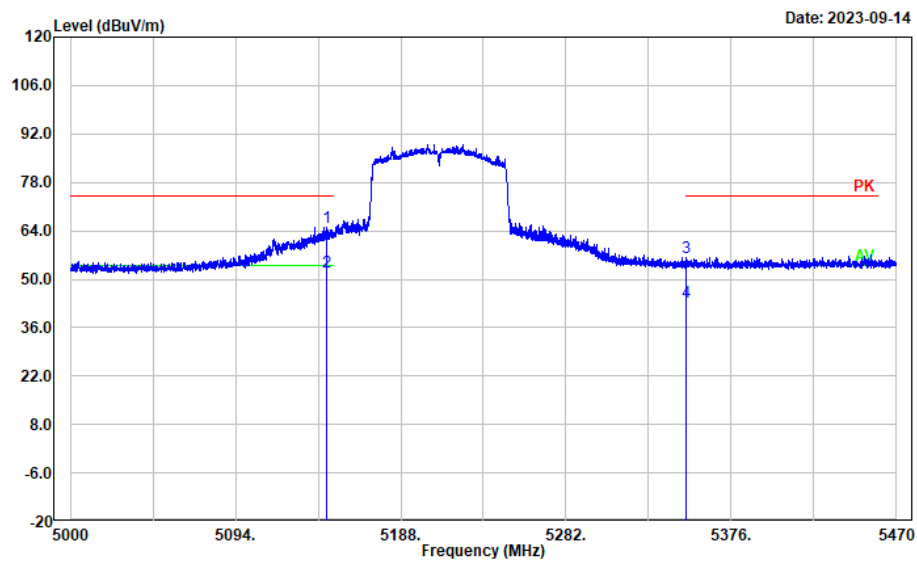
Test Channel:

5210 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5146.170	53.70	11.46	65.16	74.00	8.84	Peak
2	5146.170	40.56	11.46	52.02	54.00	1.98	Average
3	5350.056	44.00	12.26	56.26	74.00	17.74	Peak
4	5350.056	30.92	12.26	43.18	54.00	10.82	Average

802.11ac80

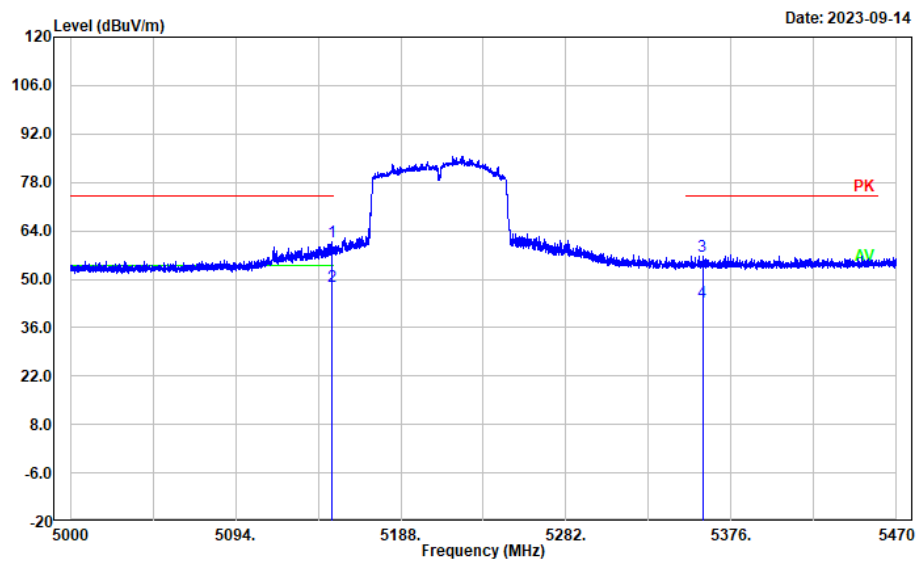
Test Channel:

5210 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5149.178	49.54	11.46	61.00	74.00	13.00	Peak
2	5149.178	36.43	11.46	47.89	54.00	6.11	Average
3	5359.644	44.43	12.26	56.69	74.00	17.31	Peak
4	5359.644	31.09	12.26	43.35	54.00	10.65	Average

Test plots for 5250-5350MHz Band Edge Measurements

802.11a_Chain 0

Test Channel:

5260 MHz

Ant. Polar. :

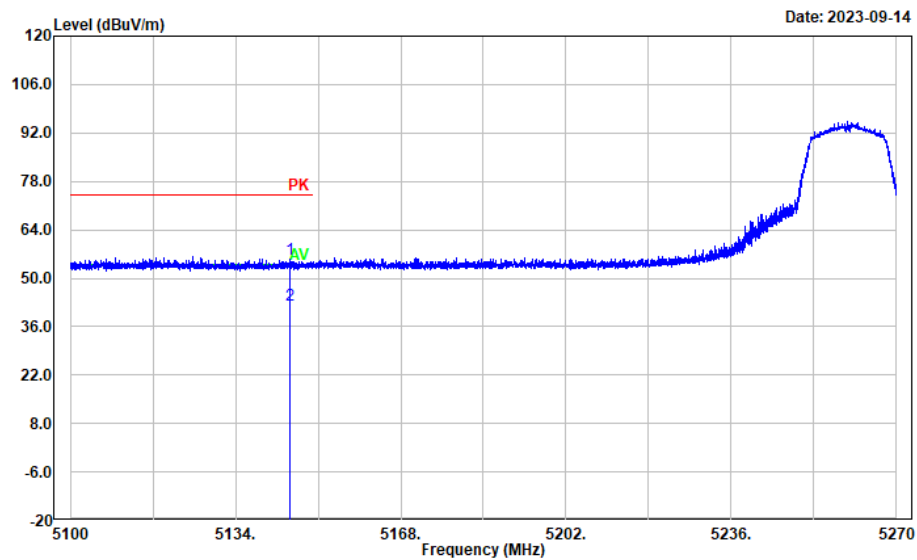
Horizontal

Project No.: CR230738438-RF

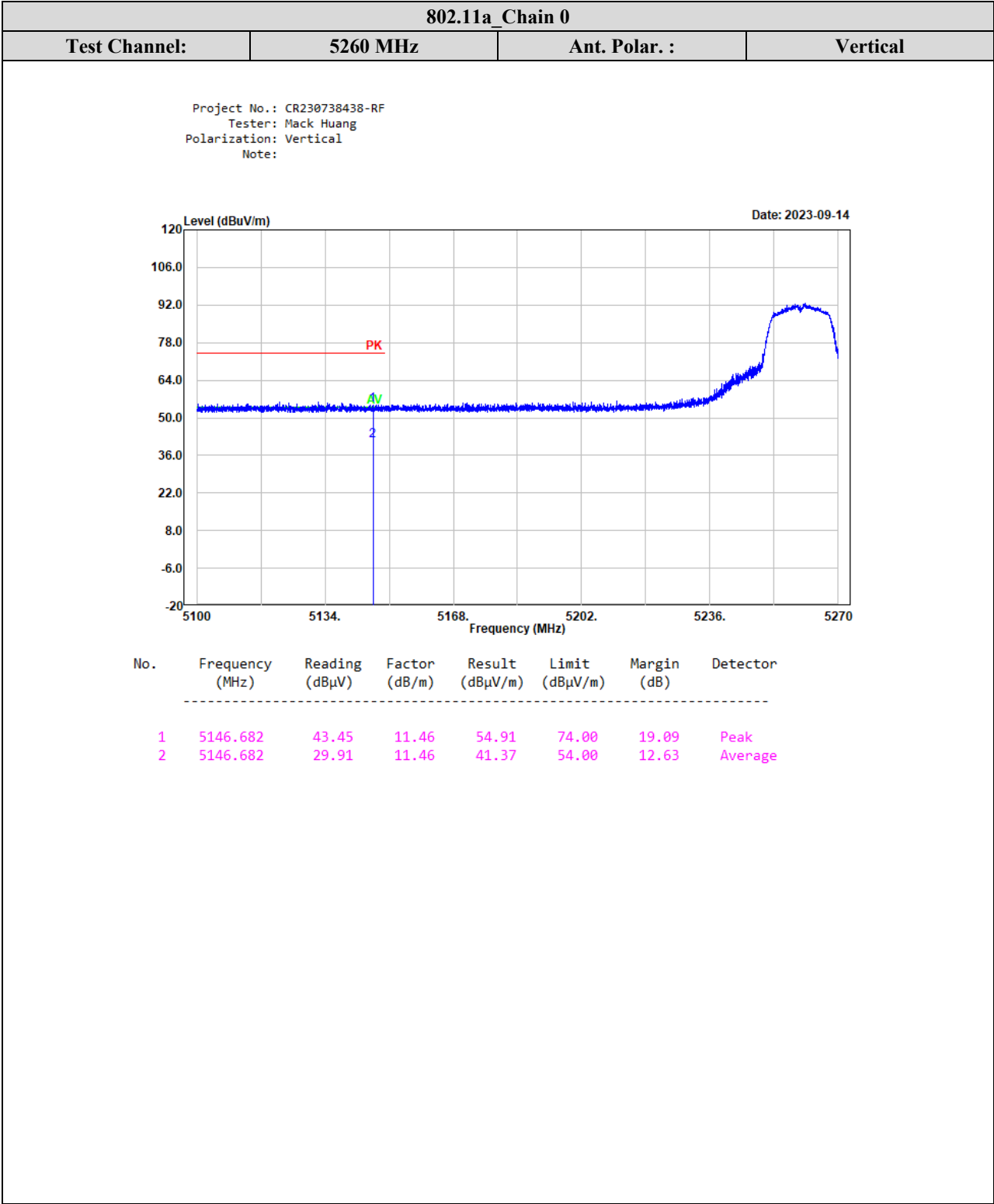
Tester: Mack Huang

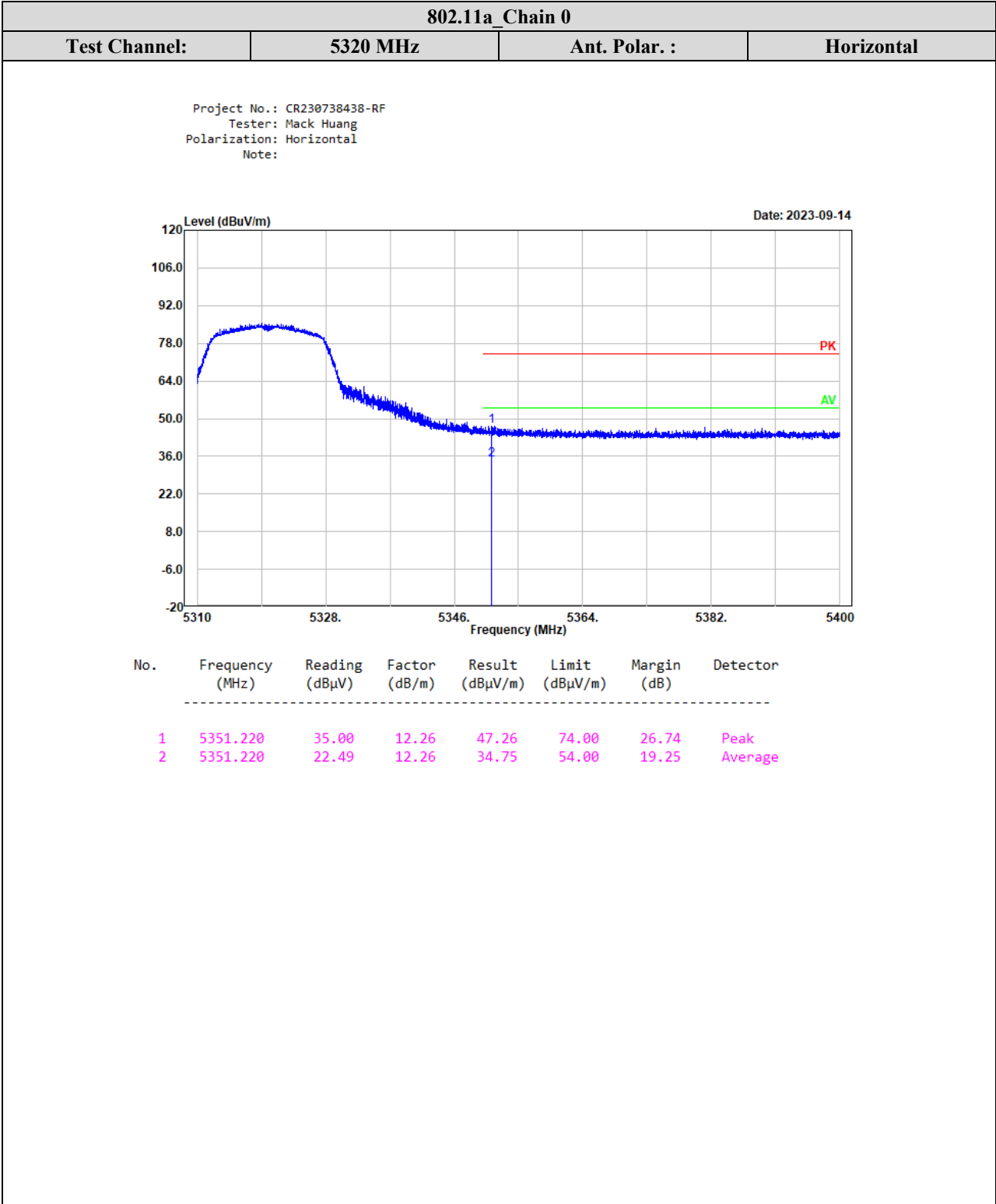
Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5145.220	44.07	11.45	55.52	74.00	18.48	Peak
2	5145.220	30.90	11.45	42.35	54.00	11.65	Average





802.11a Chain 0

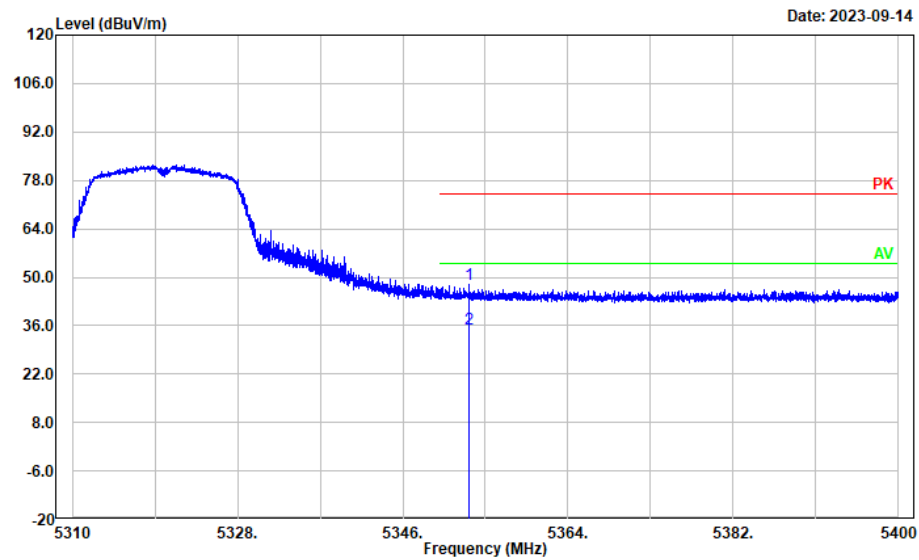
Test Channel:

5320 MHz

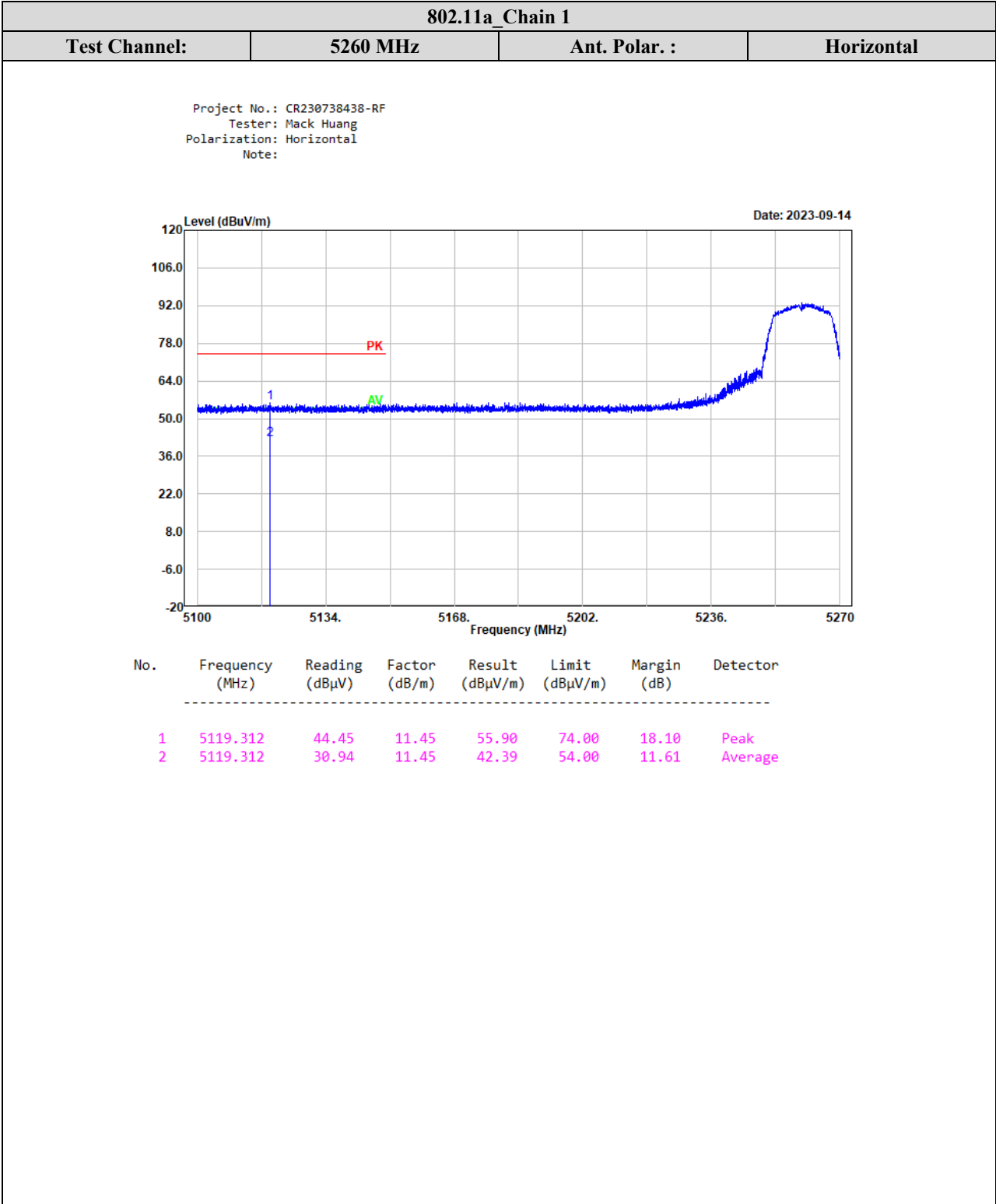
Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5353.236	35.47	12.26	47.73	74.00	26.27	Peak
2	5353.236	22.60	12.26	34.86	54.00	19.14	Average



802.11a Chain 1

Test Channel:

5260 MHz

Ant. Polar. :

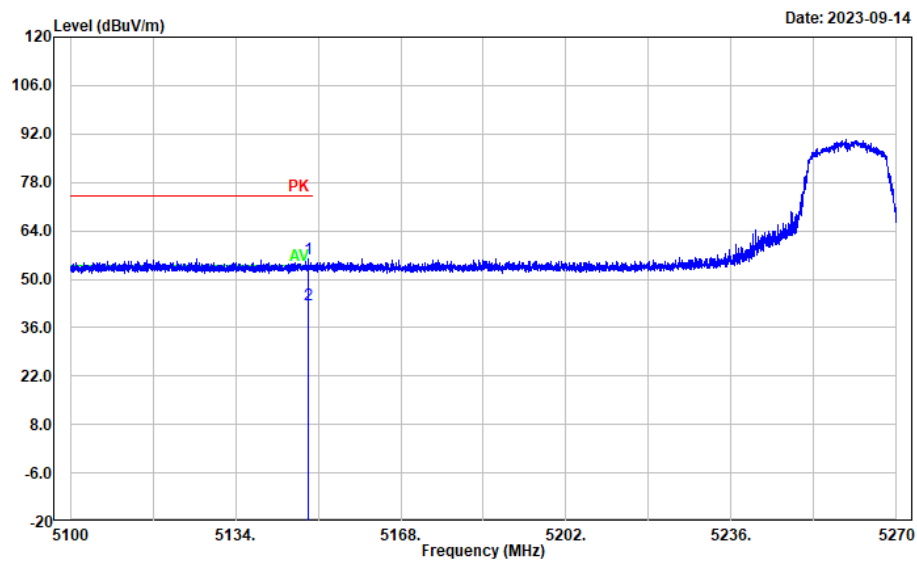
Vertical

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Vertical

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5149.028	44.42	11.46	55.88	74.00	18.12	Peak
2	5149.028	31.19	11.46	42.65	54.00	11.35	Average

802.11a Chain 1

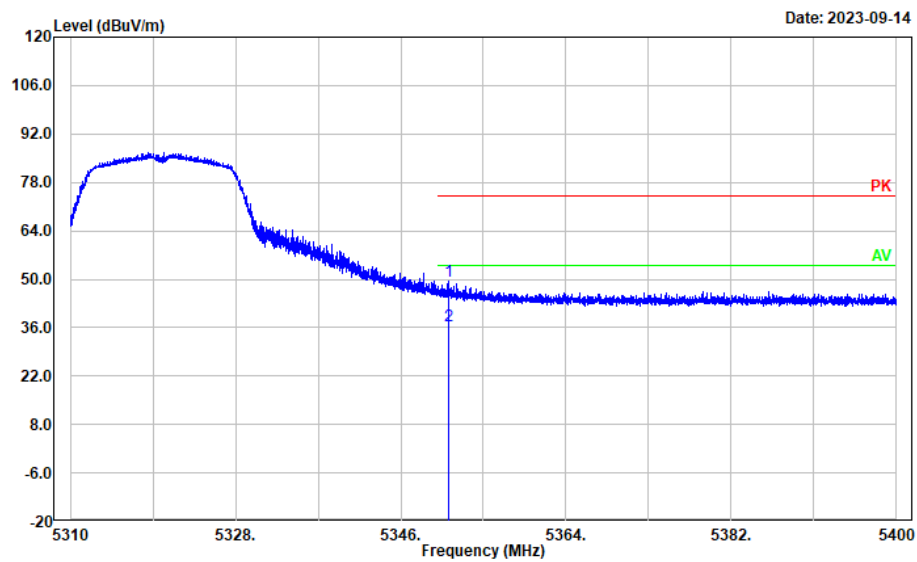
Test Channel:

5320 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5351.256	37.07	12.26	49.33	74.00	24.67	Peak
2	5351.256	24.28	12.26	36.54	54.00	17.46	Average

802.11a Chain 1

Test Channel:

5320 MHz

Ant. Polar. :

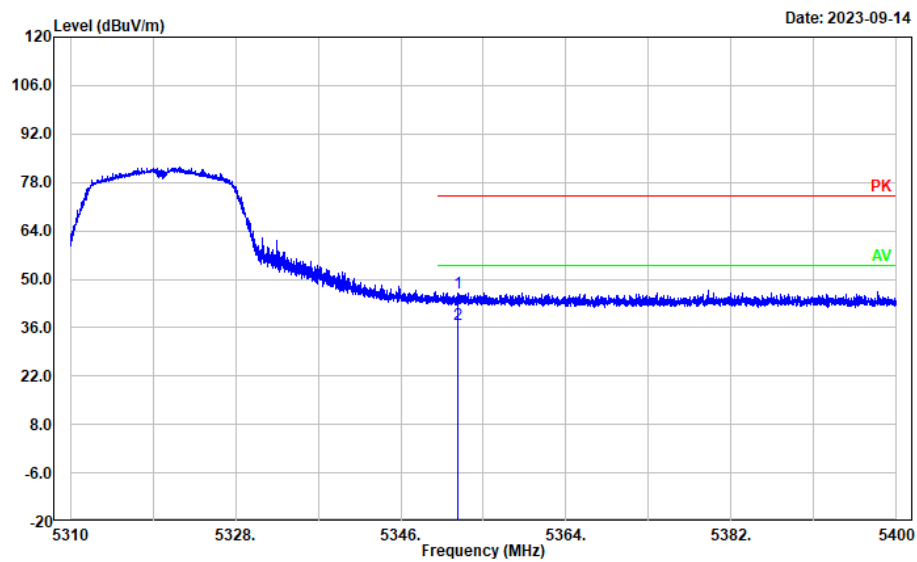
Vertical

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Vertical

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5352.246	33.81	12.26	46.07	74.00	27.93	Peak
2	5352.246	24.61	12.26	36.87	54.00	17.13	Average

802.11ac20_

Test Channel:

5260 MHz

Ant. Polar. :

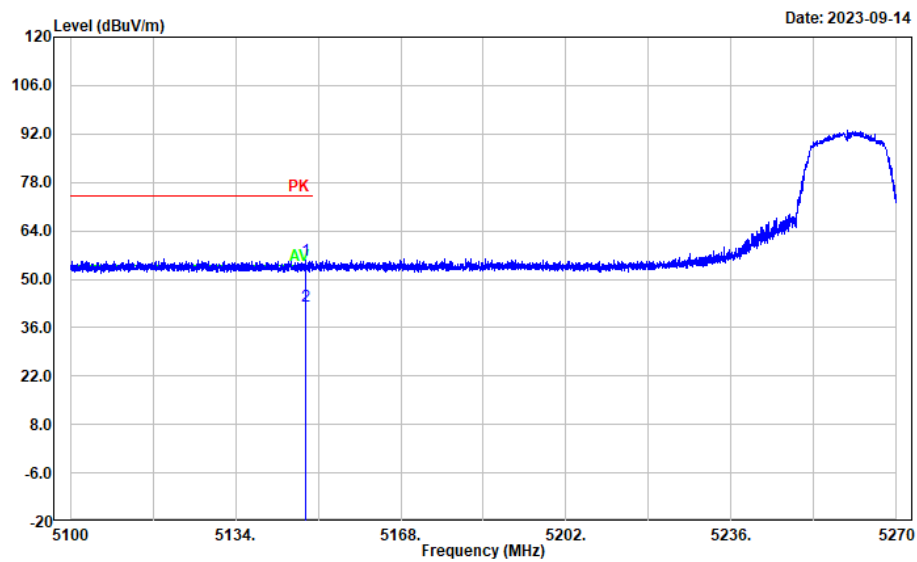
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5148.314	44.19	11.46	55.65	74.00	18.35	Peak
2	5148.314	30.69	11.46	42.15	54.00	11.85	Average

802.11ac20

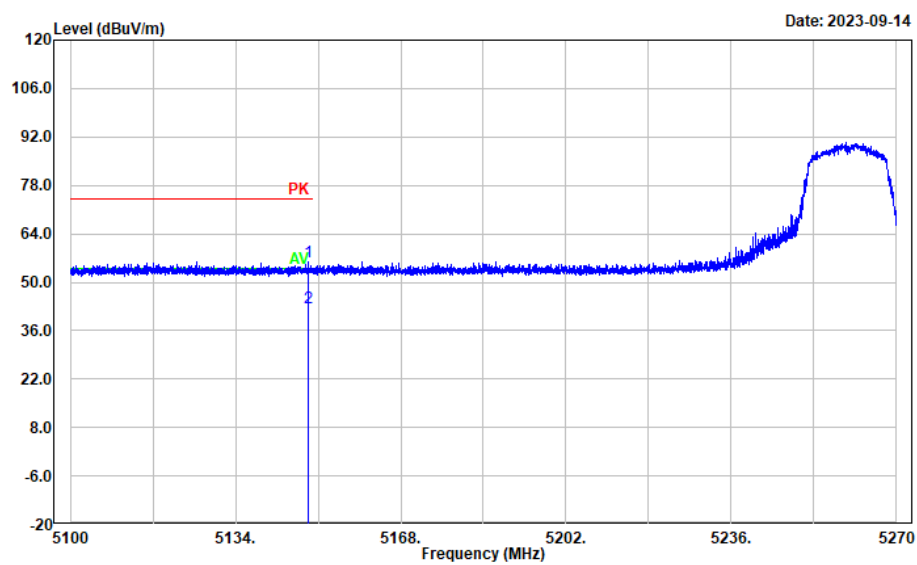
Test Channel:

5260 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5149.028	44.42	11.46	55.88	74.00	18.12	Peak
2	5149.028	31.19	11.46	42.65	54.00	11.35	Average

802.11ac20_

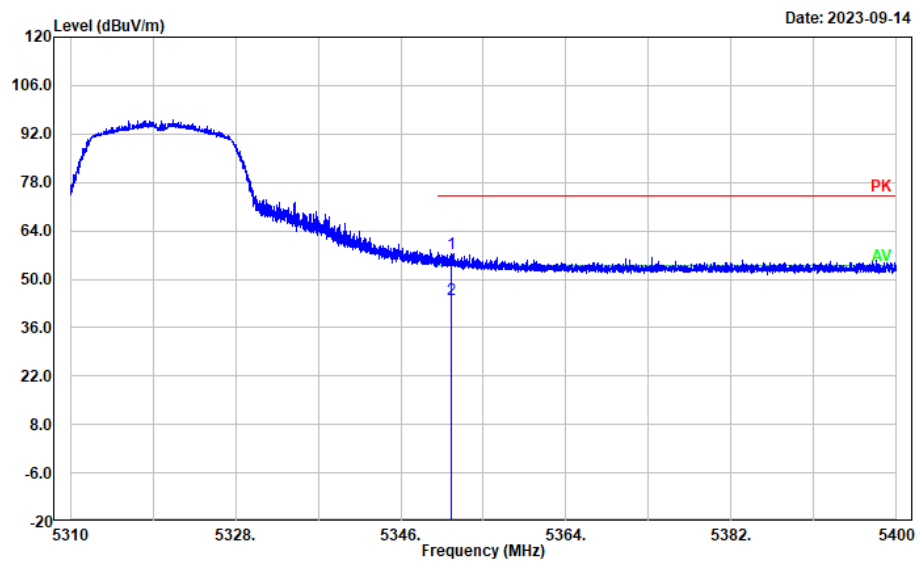
Test Channel:

5320 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5351.508	45.15	12.26	57.41	74.00	16.59	Peak
2	5351.508	31.91	12.26	44.17	54.00	9.83	Average

802.11ac20

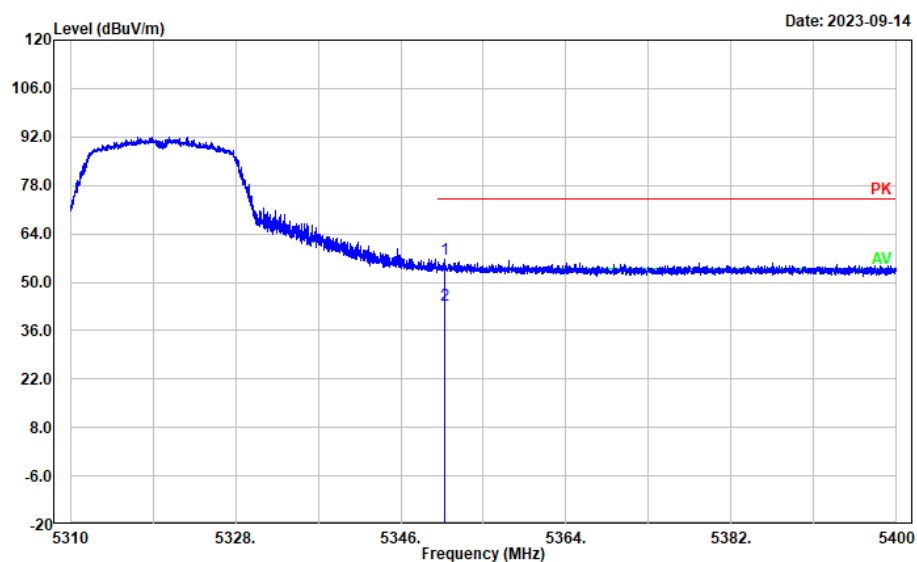
Test Channel:

5320 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5350.734	44.47	12.26	56.73	74.00	17.27	Peak
2	5350.734	30.99	12.26	43.25	54.00	10.75	Average

802.11ac40

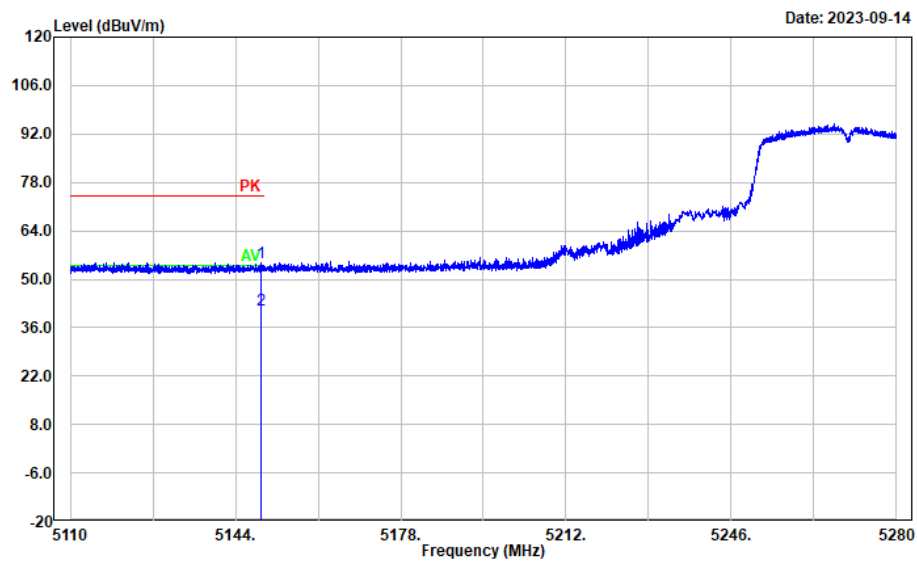
Test Channel:

5270 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5149.202	43.17	11.46	54.63	74.00	19.37	Peak
2	5149.202	29.79	11.46	41.25	54.00	12.75	Average

802.11ac40

Test Channel:

5270 MHz

Ant. Polar. :

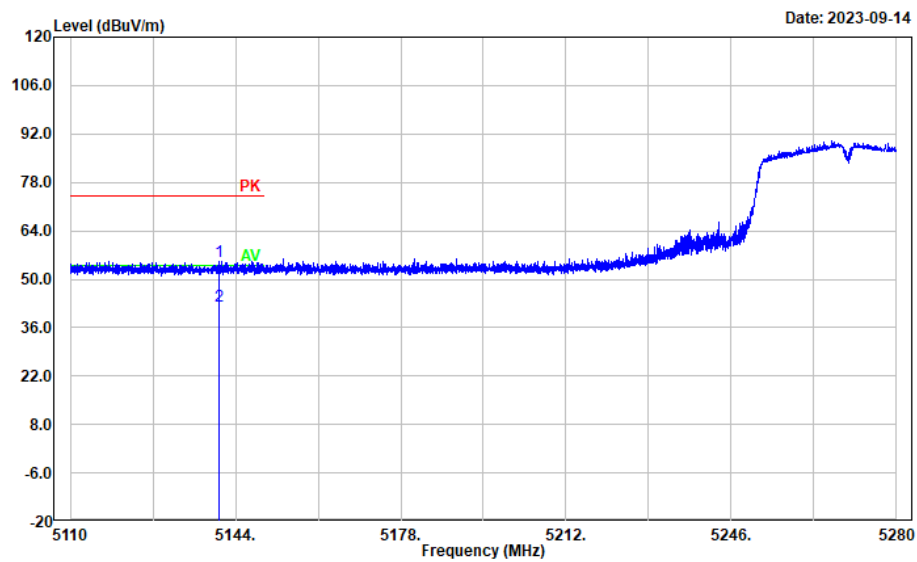
Vertical

Project No.: CR230738438-RF

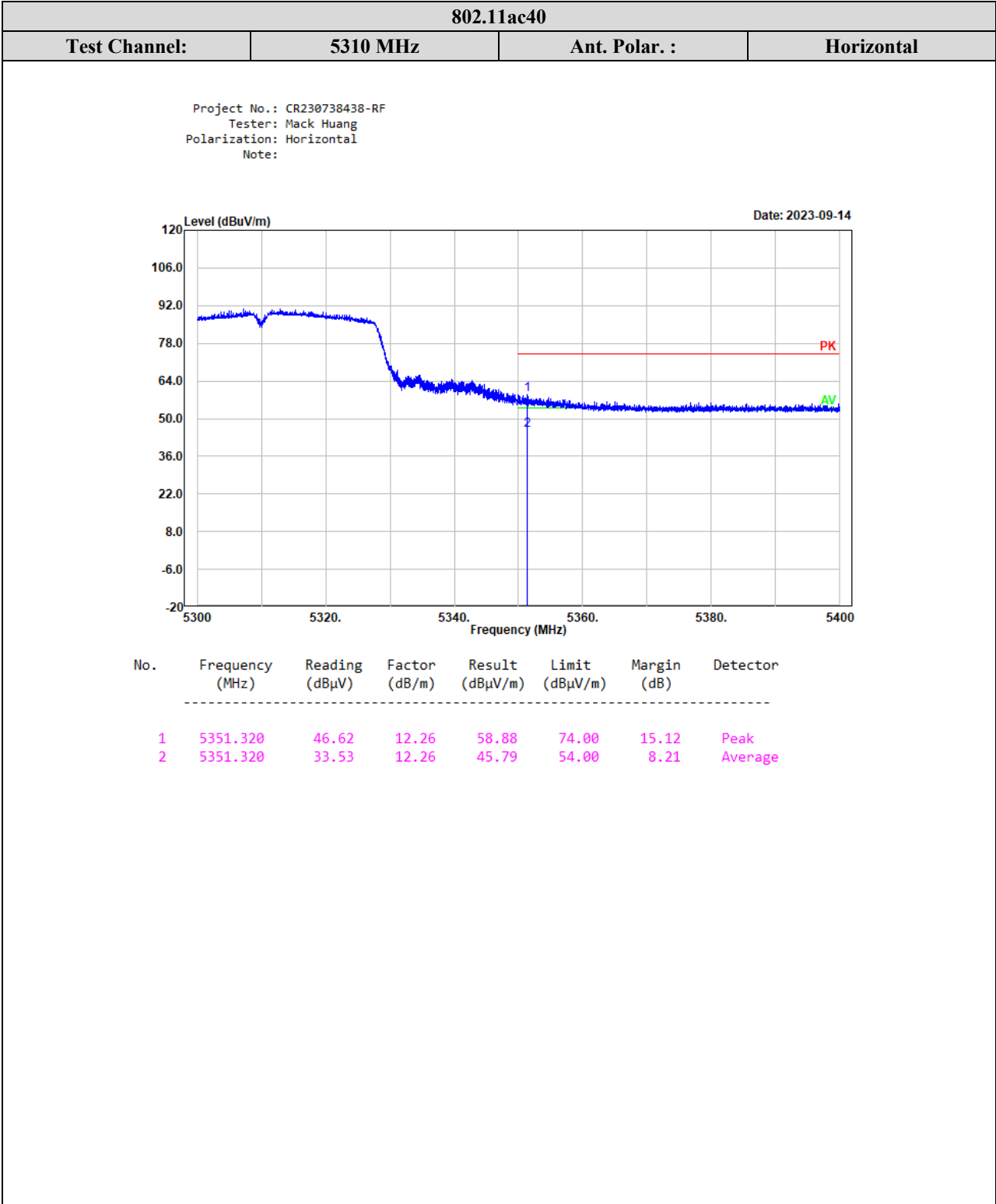
Tester: Mack Huang

Polarization: Vertical

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5140.634	43.72	11.46	55.18	74.00	18.82	Peak
2	5140.634	30.69	11.46	42.15	54.00	11.85	Average



802.11ac40

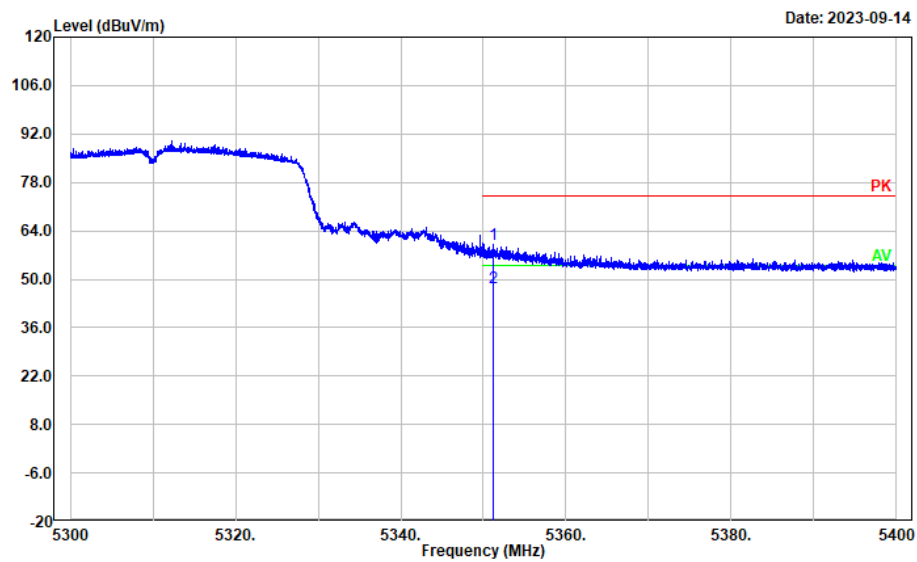
Test Channel:

5310 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5351.240	47.75	12.26	60.01	74.00	13.99	Peak
2	5351.240	35.39	12.26	47.65	54.00	6.35	Average

802.11ac80

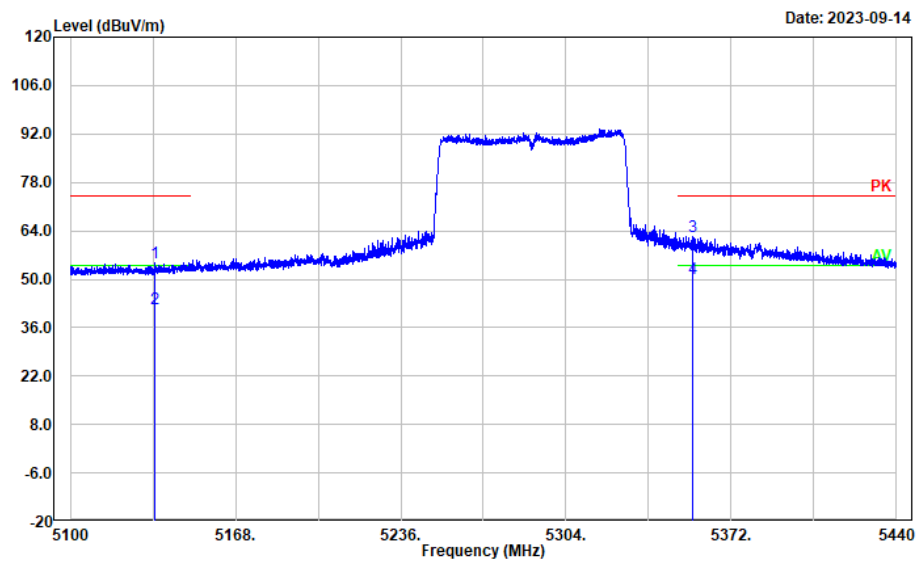
Test Channel:

5290 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5134.952	43.27	11.45	54.72	74.00	19.28	Peak
2	5134.952	29.90	11.45	41.35	54.00	12.65	Average
3	5356.088	50.20	12.26	62.46	74.00	11.54	Peak
4	5356.088	37.75	12.26	50.01	54.00	3.99	Average

802.11ac80

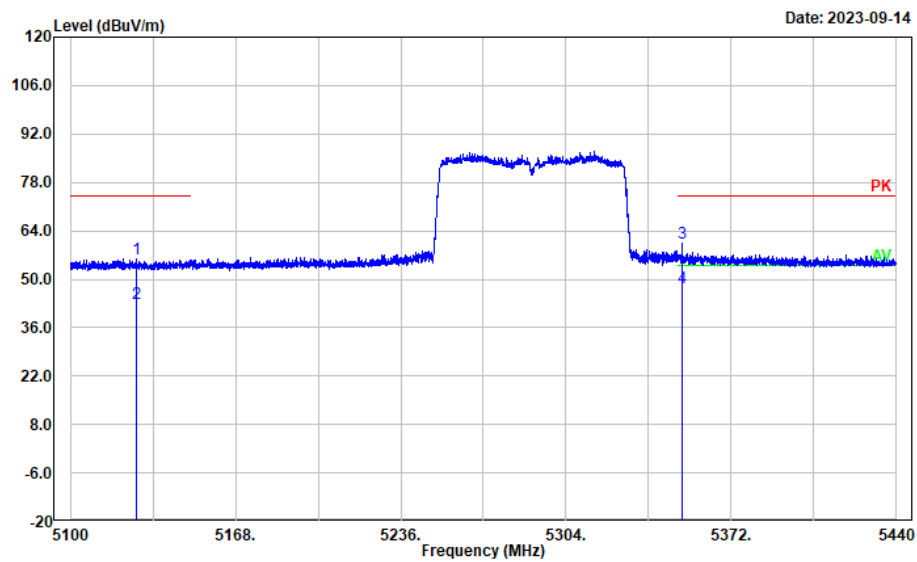
Test Channel:

5290 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5127.200	44.58	11.45	56.03	74.00	17.97	Peak
2	5127.200	31.70	11.45	43.15	54.00	10.85	Average
3	5351.872	48.34	12.26	60.60	74.00	13.40	Peak
4	5351.872	35.30	12.26	47.56	54.00	6.44	Average

Test plots for 5470-5725MHz Band Edge Measurements

802.11a_Chain 0

Test Channel:

5500 MHz

Ant. Polar. :

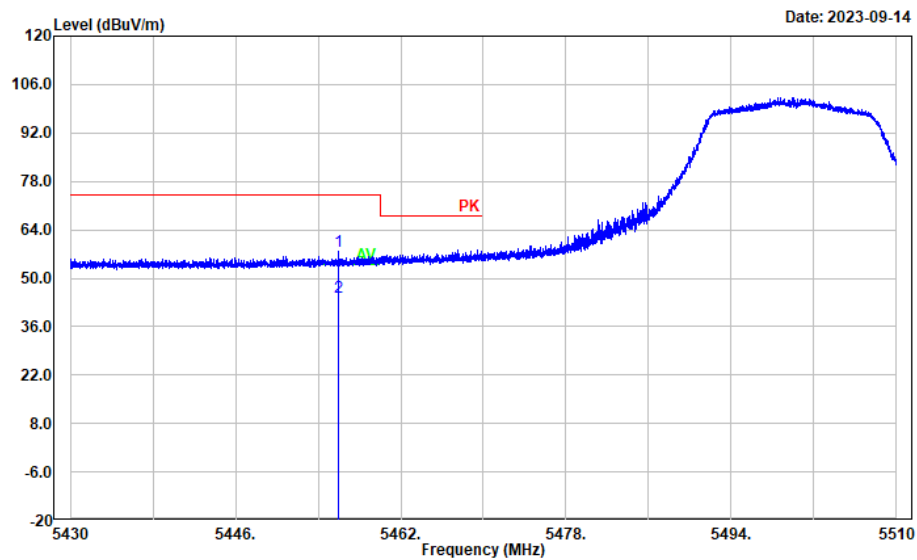
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5455.968	45.33	12.45	57.78	74.00	16.22	Peak
2	5455.968	31.90	12.45	44.35	54.00	9.65	Average

802.11a Chain 0

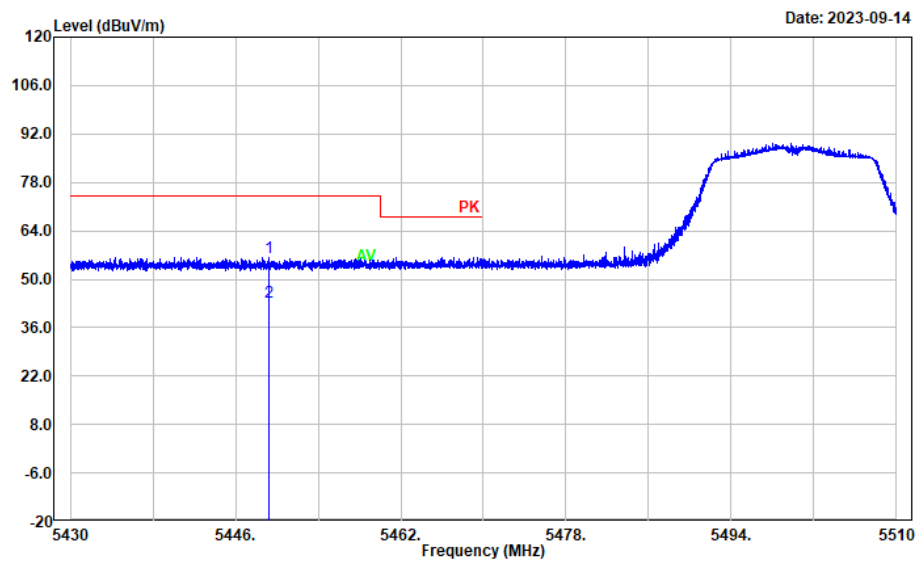
Test Channel:

5500 MHz

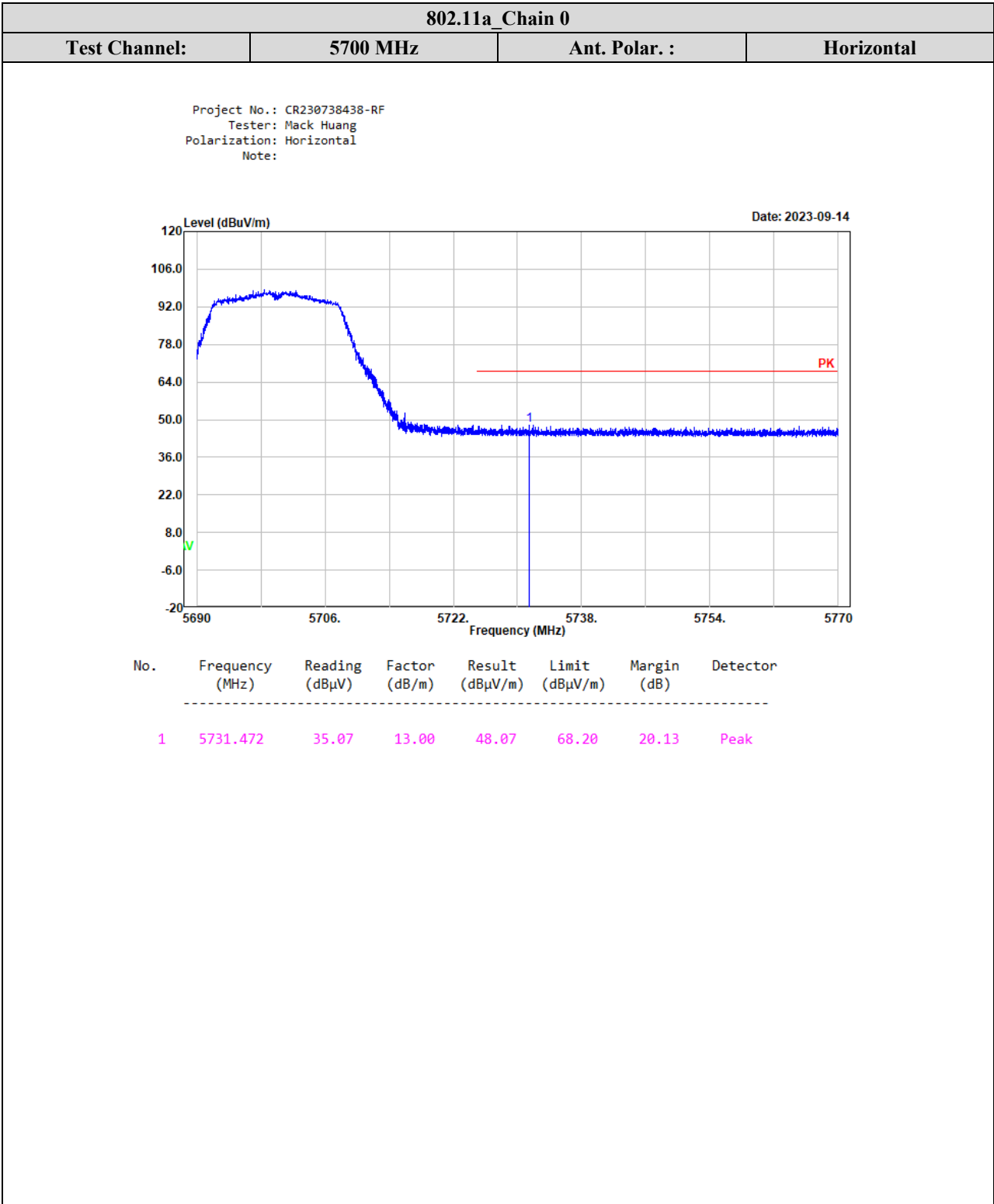
Ant. Polar. :

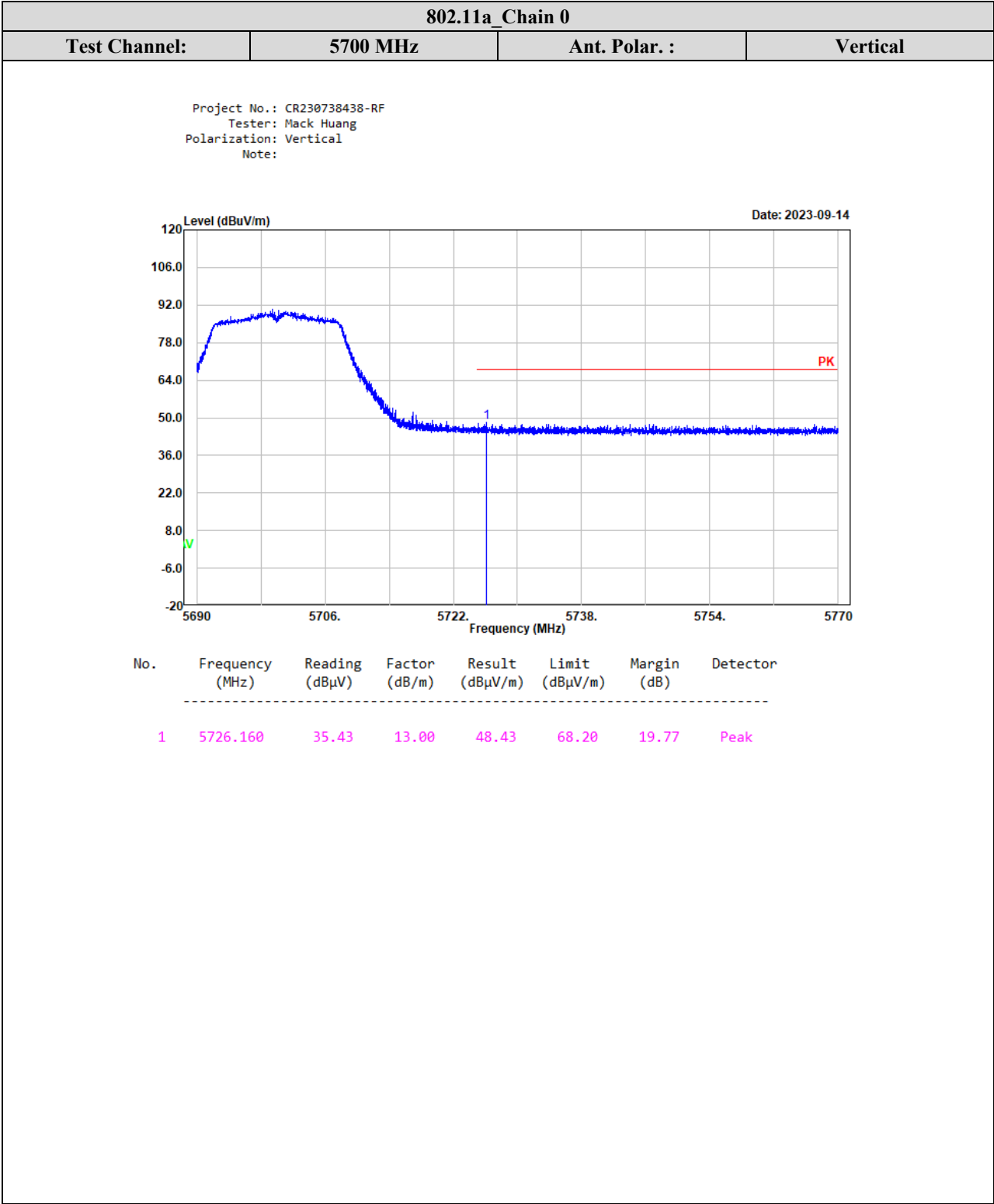
Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5449.280	43.82	12.45	56.27	74.00	17.73	Peak
2	5449.280	30.90	12.45	43.35	54.00	10.65	Average





802.11a Chain 1

Test Channel:

5500 MHz

Ant. Polar. :

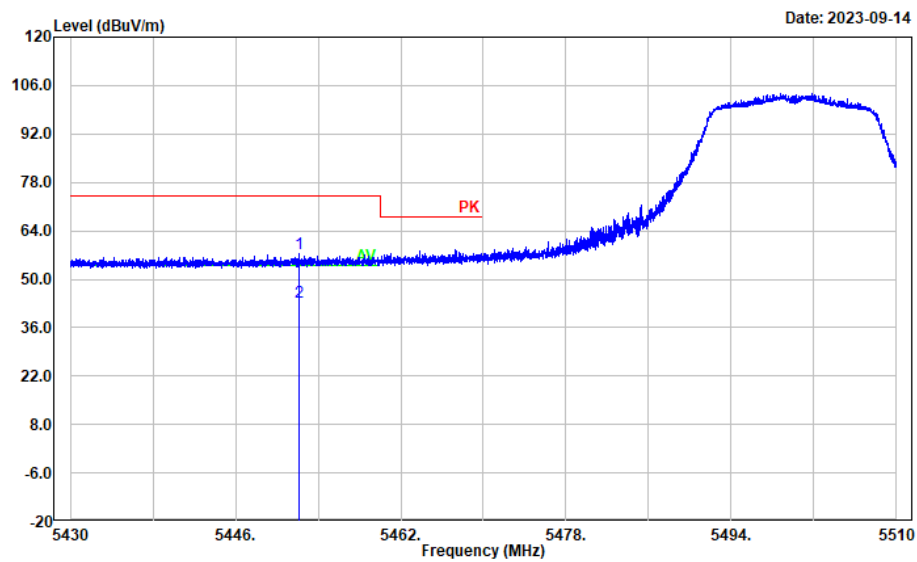
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5452.176	44.77	12.44	57.21	74.00	16.79	Peak
2	5452.176	30.91	12.44	43.35	54.00	10.65	Average

802.11a Chain 1

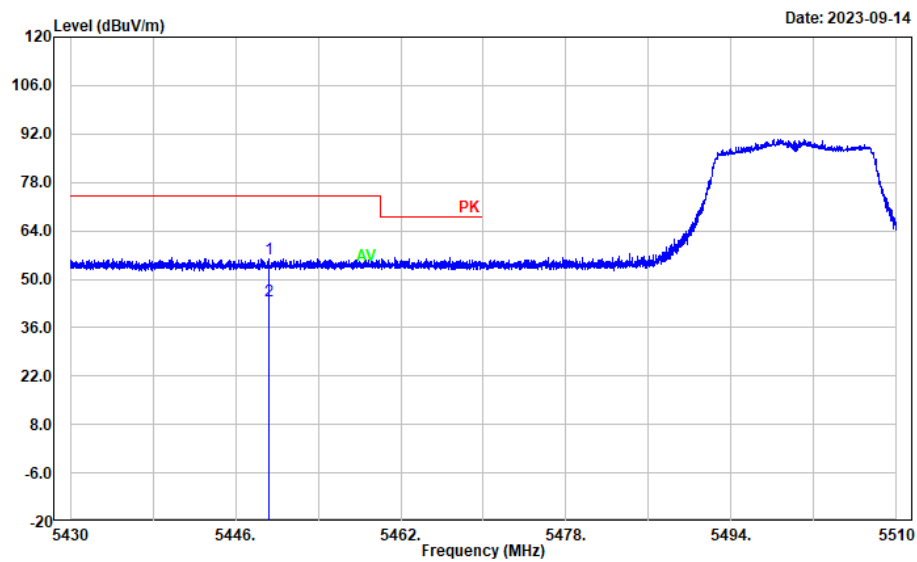
Test Channel:

5500 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5449.184	43.57	12.45	56.02	74.00	17.98	Peak
2	5449.184	31.20	12.45	43.65	54.00	10.35	Average

802.11a Chain 1

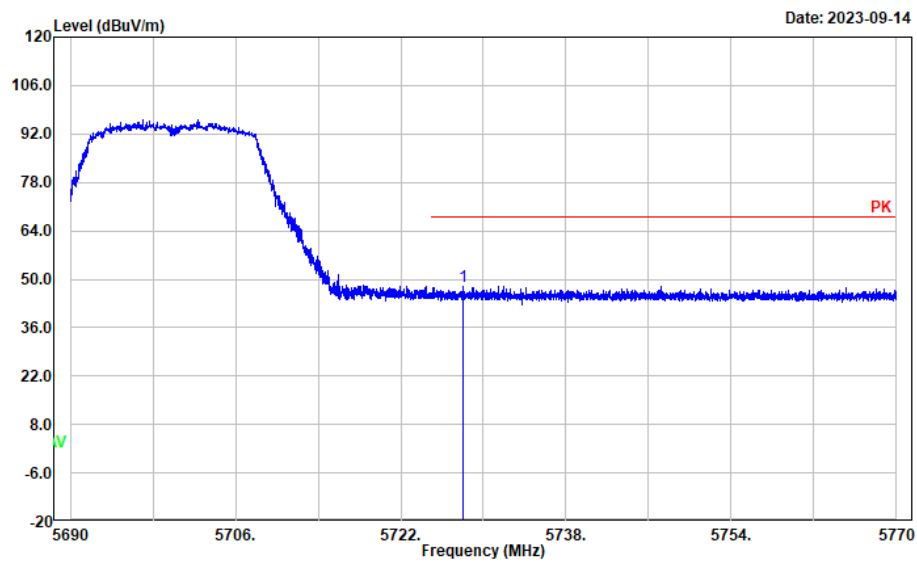
Test Channel:

5700 MHz

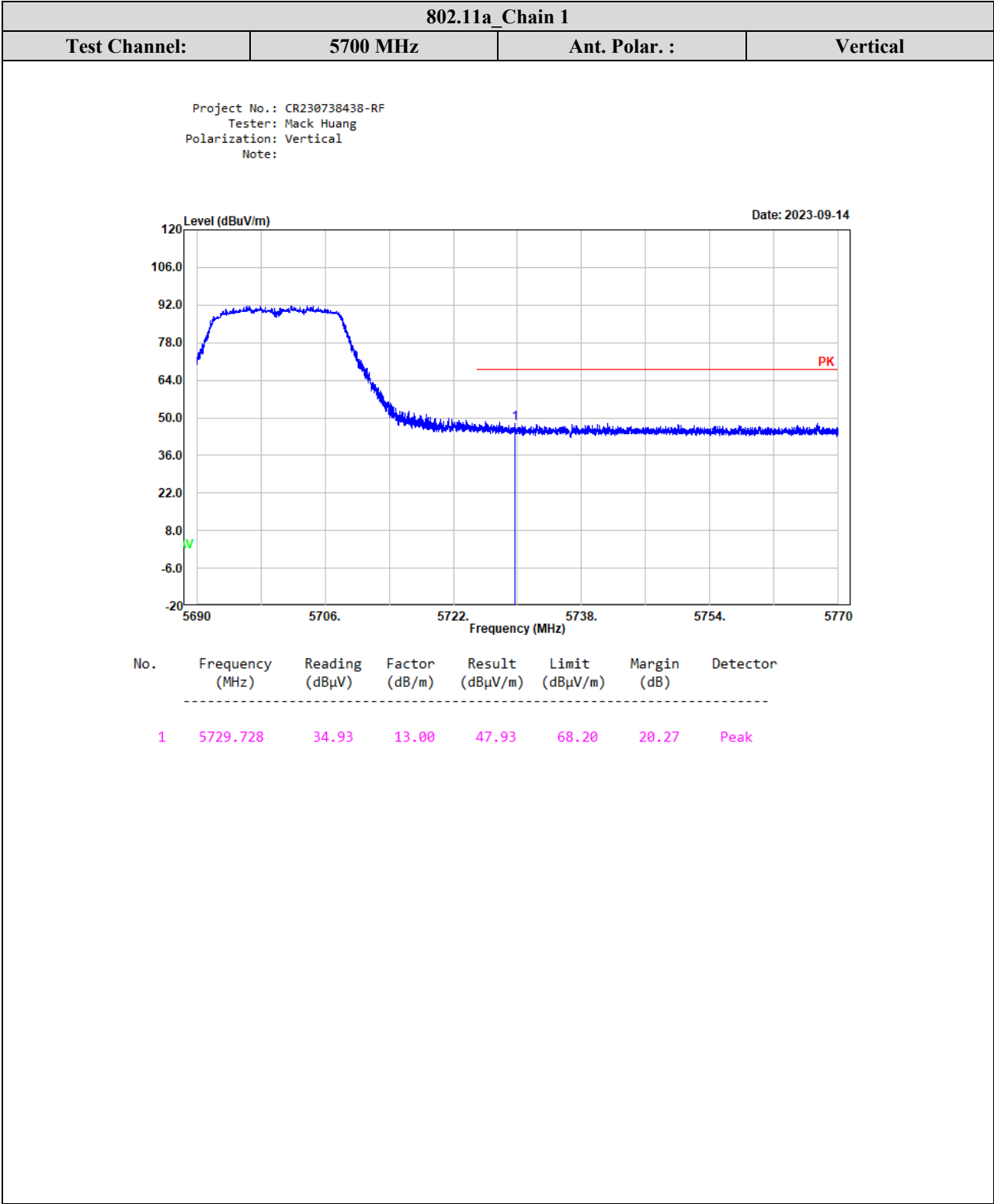
Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5728.016	34.94	13.01	47.95	68.20	20.25	Peak



802.11ac20

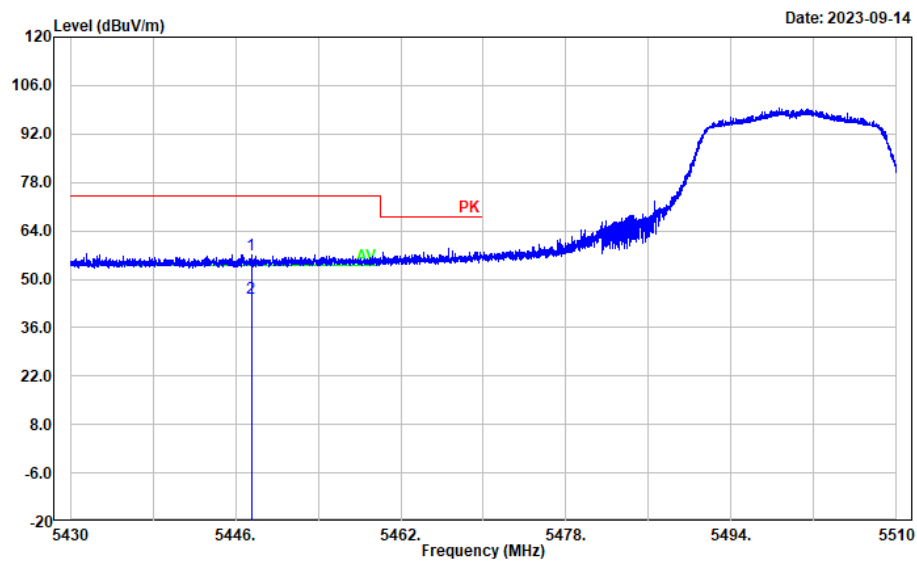
Test Channel:

5500 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5447.520	44.69	12.45	57.14	74.00	16.86	Peak
2	5447.520	31.90	12.45	44.35	54.00	9.65	Average

802.11ac20

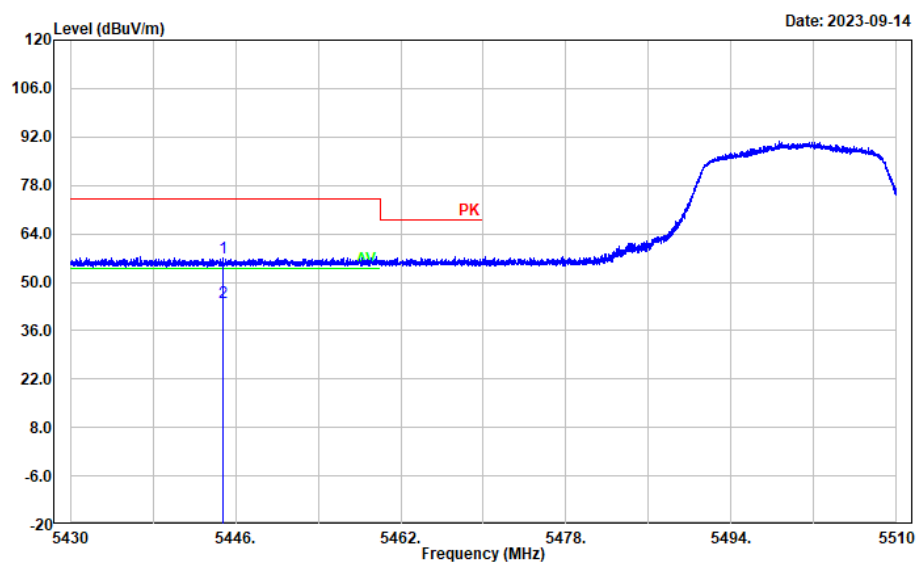
Test Channel:

5500 MHz

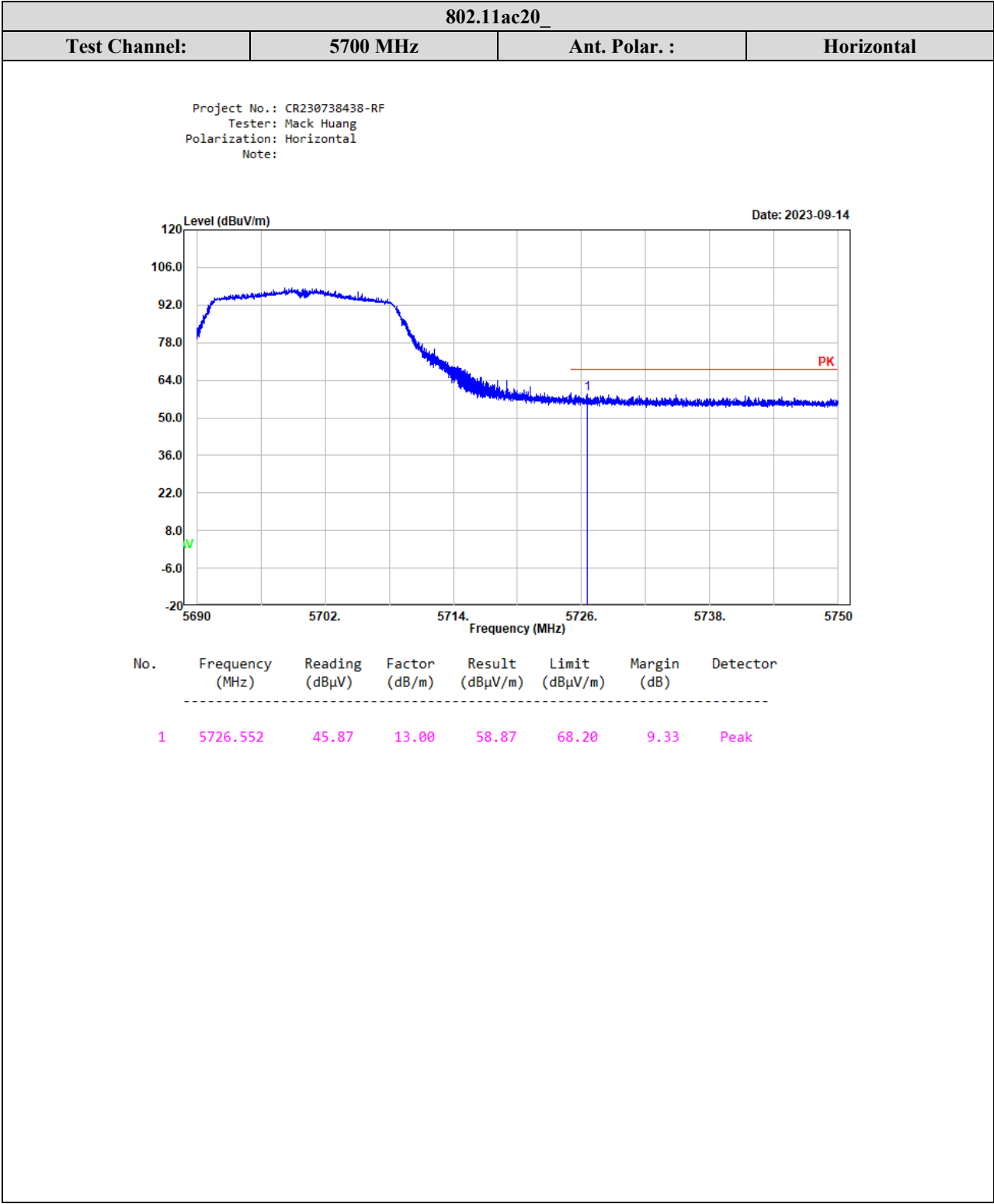
Ant. Polar. :

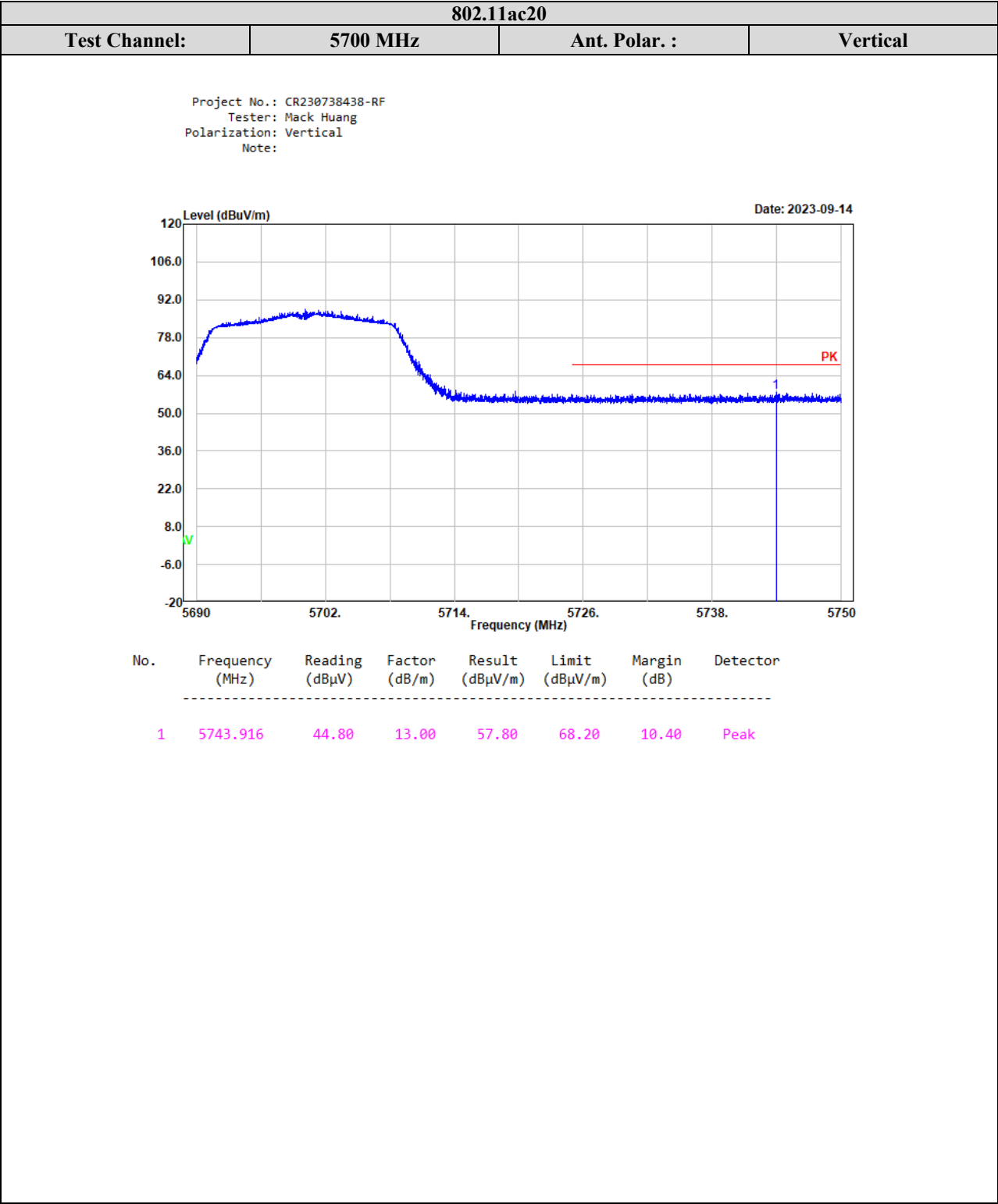
Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5444.816	44.76	12.43	57.19	74.00	16.81	Peak
2	5444.816	31.85	12.43	44.28	54.00	9.72	Average





802.11ac40

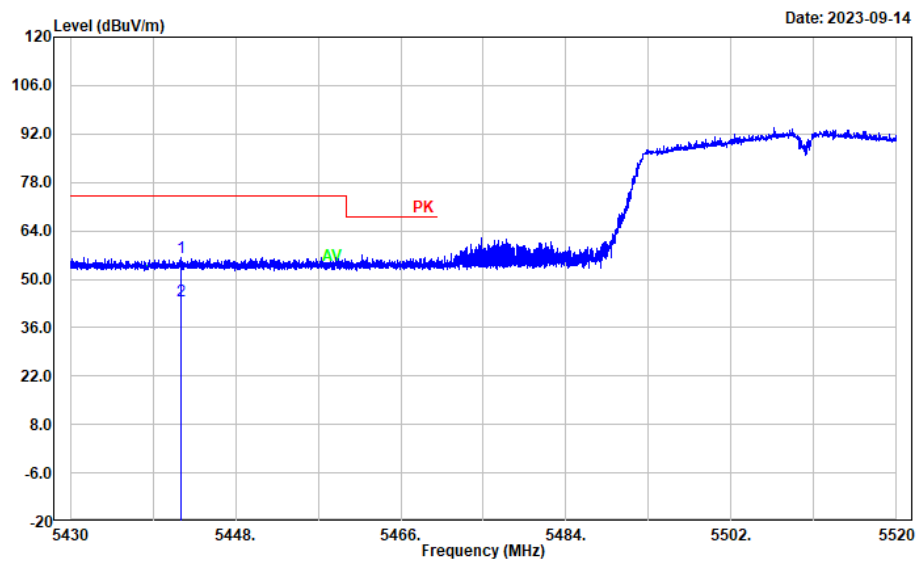
Test Channel:

5510 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5442.060	43.75	12.42	56.17	74.00	17.83	Peak
2	5442.060	31.14	12.42	43.56	54.00	10.44	Average

802.11ac40

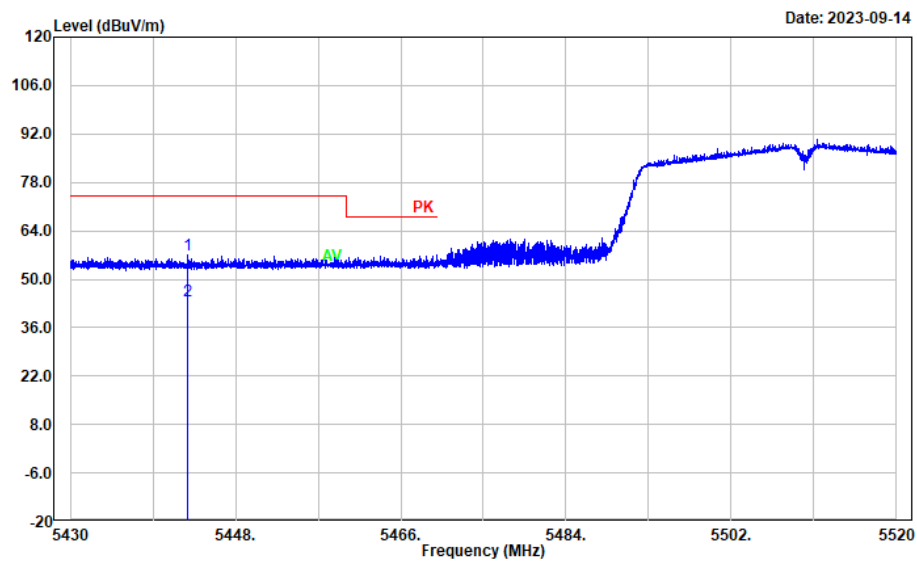
Test Channel:

5510 MHz

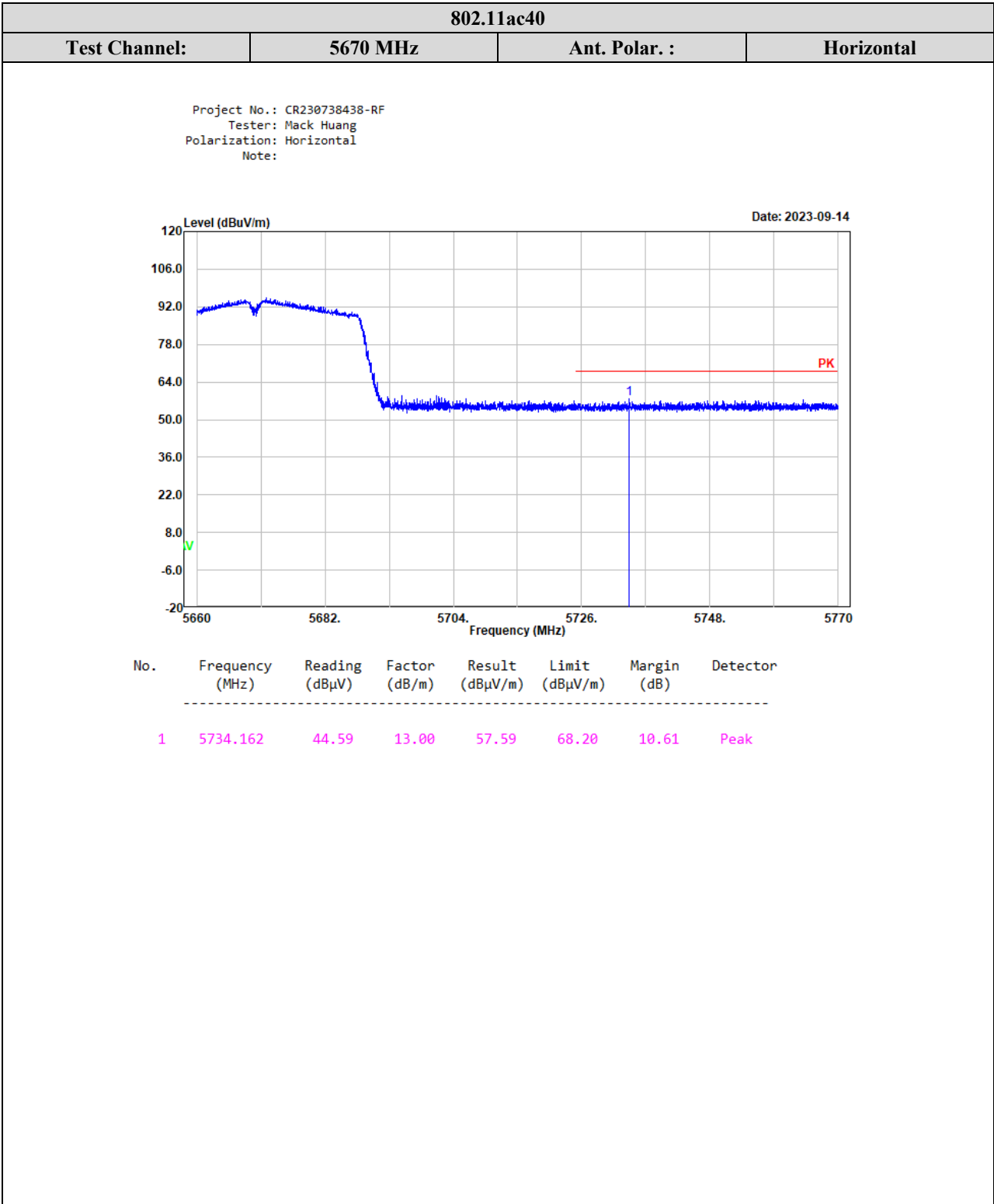
Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5442.834	44.56	12.43	56.99	74.00	17.01	Peak
2	5442.834	31.21	12.43	43.64	54.00	10.36	Average



802.11ac40

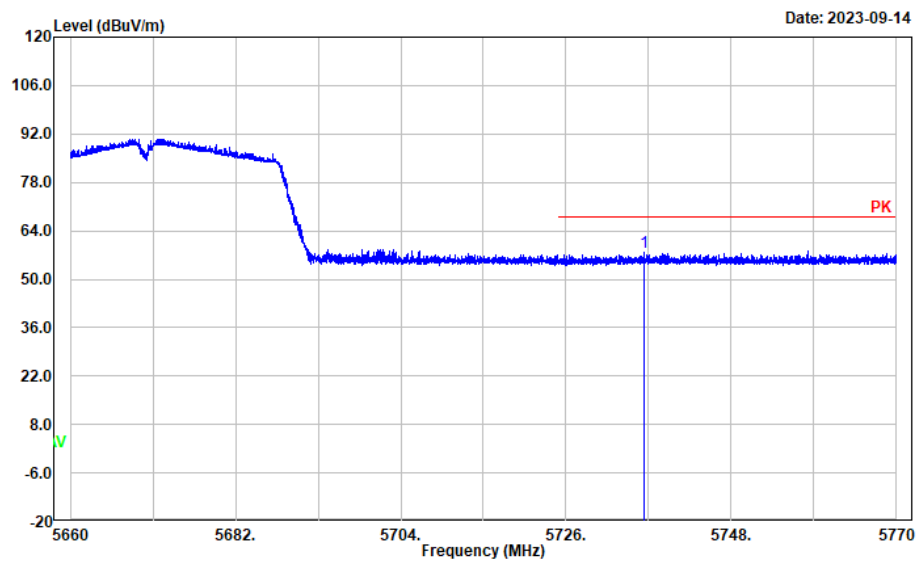
Test Channel:

5670 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5736.340	44.60	12.99	57.59	68.20	10.61	Peak

802.11ac80

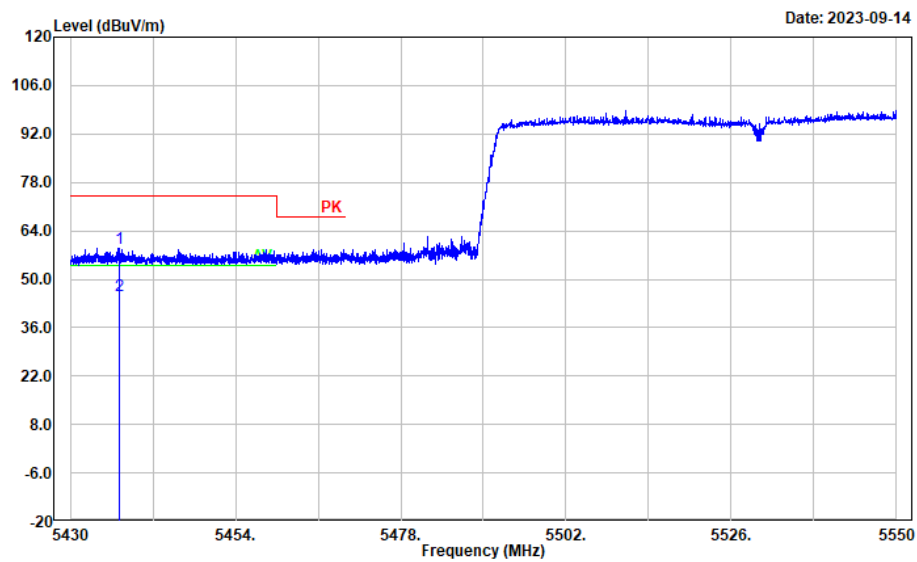
Test Channel:

5530 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5437.128	46.53	12.41	58.94	74.00	15.06	Peak
2	5437.128	32.94	12.41	45.35	54.00	8.65	Average

802.11ac80

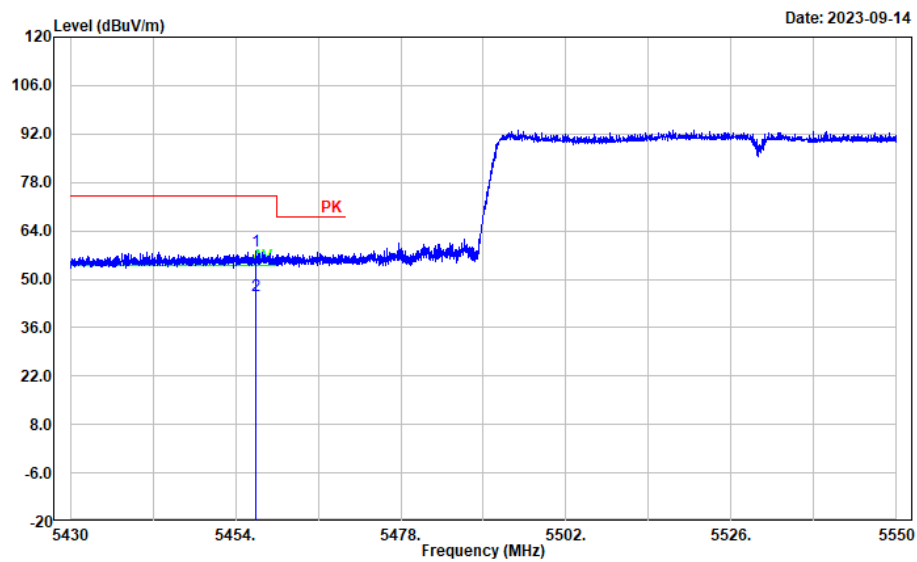
Test Channel:

5530 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5457.024	45.57	12.45	58.02	74.00	15.98	Peak
2	5457.024	32.90	12.45	45.35	54.00	8.65	Average

802.11ac80

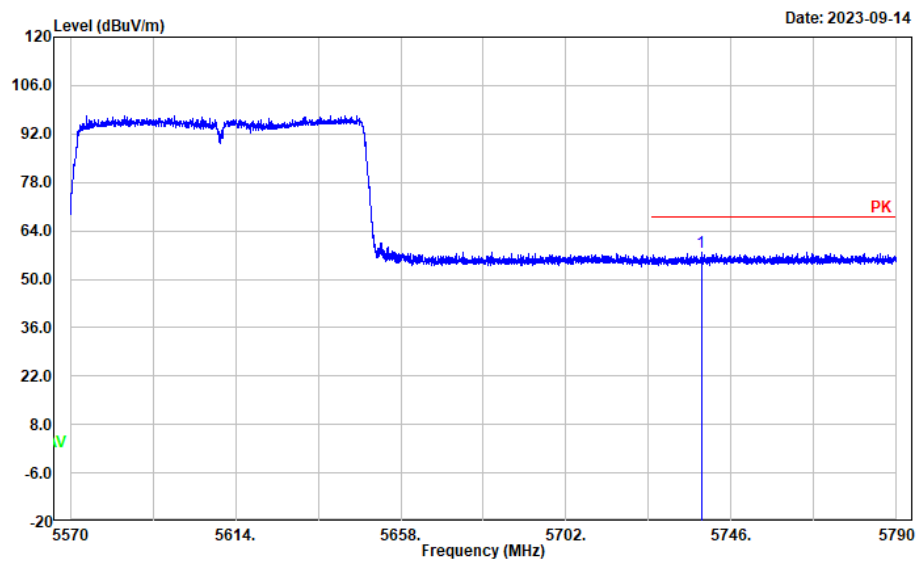
Test Channel:

5610 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5737.992	44.88	13.00	57.88	68.20	10.32	Peak

802.11ac80

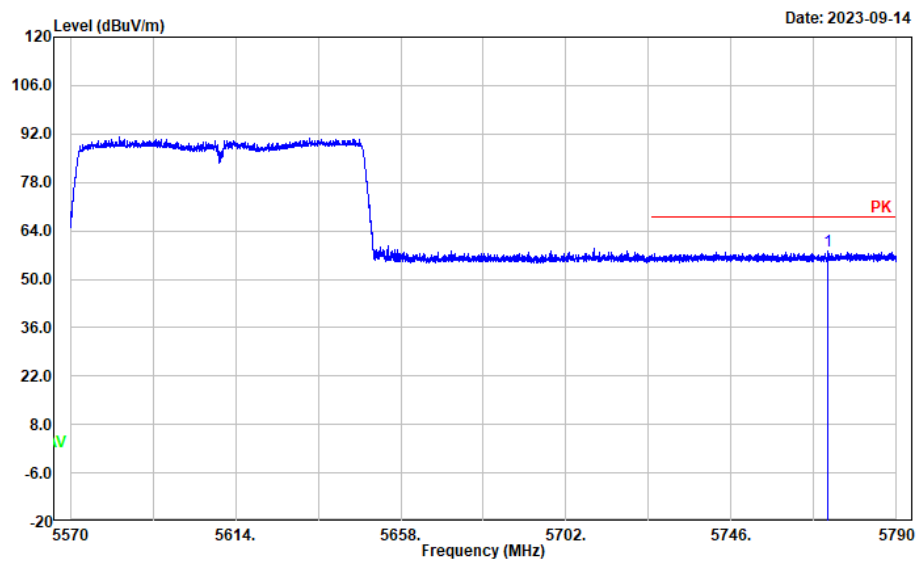
Test Channel:

5610 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5771.740	44.99	13.00	57.99	68.20	10.21	Peak

Test plots for 5725-5850 MHz Band Edge Measurements

802.11a_Chain 0

Test Channel:

5745 MHz

Ant. Polar. :

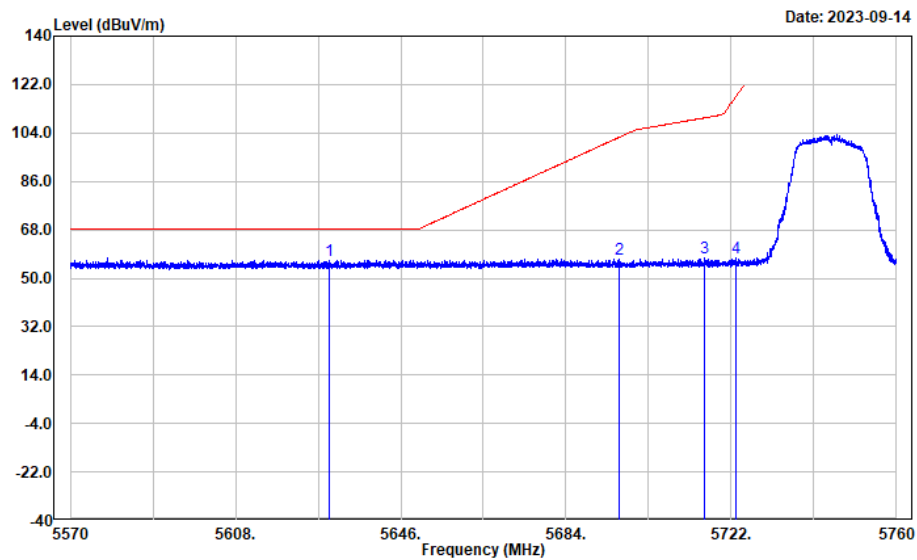
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5629.660	44.01	12.76	56.77	68.20	11.43	Peak
2	5696.274	44.18	13.00	57.18	102.45	45.27	Peak
3	5715.882	44.79	13.00	57.79	109.65	51.86	Peak
4	5722.988	44.35	13.00	57.35	117.61	60.26	Peak

802.11a Chain 0

Test Channel:

5745 MHz

Ant. Polar. :

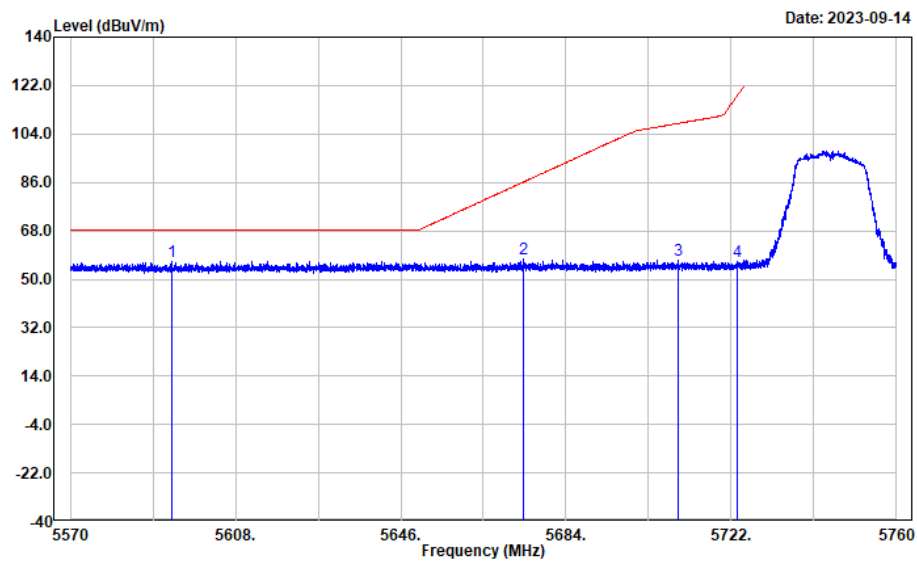
Vertical

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Vertical

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5593.218	44.06	12.63	56.69	68.20	11.51	Peak
2	5674.158	44.77	12.93	57.70	86.12	28.42	Peak
3	5709.878	43.97	13.00	56.97	107.97	51.00	Peak
4	5723.330	43.46	13.00	56.46	118.39	61.93	Peak

802.11a Chain 0

Test Channel:

5825 MHz

Ant. Polar. :

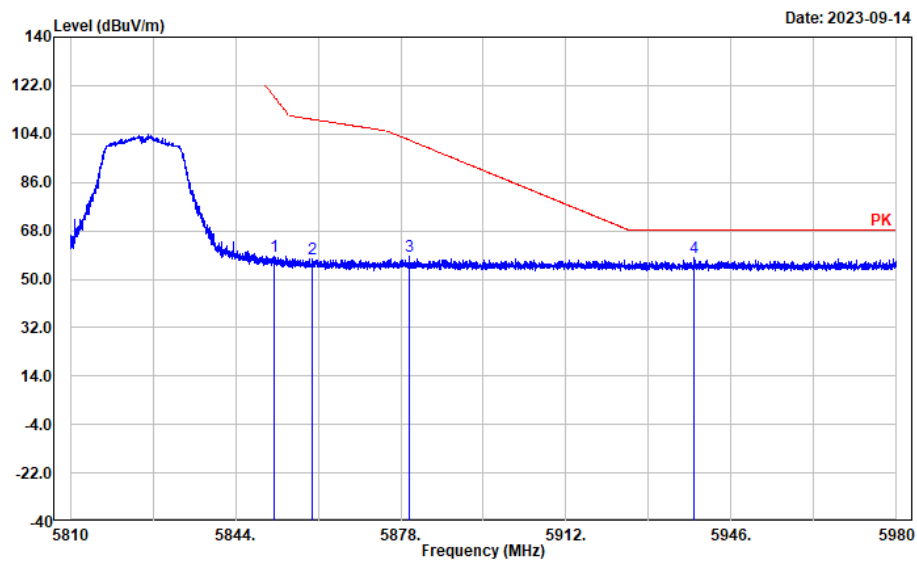
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5852.058	45.47	13.06	58.53	117.51	58.98	Peak
2	5859.708	44.35	13.08	57.43	109.48	52.05	Peak
3	5879.836	45.18	13.16	58.34	101.61	43.27	Peak
4	5938.350	44.60	13.21	57.81	68.20	10.39	Peak

802.11a Chain 0

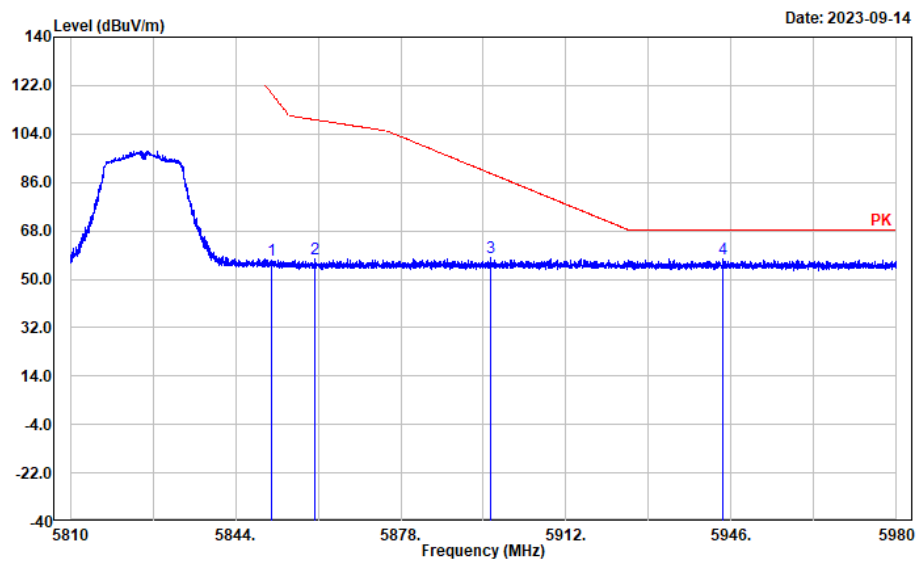
Test Channel:

5825 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5851.310	44.17	13.06	57.23	119.21	61.98	Peak
2	5860.286	44.58	13.08	57.66	109.32	51.66	Peak
3	5896.394	44.79	13.23	58.02	89.33	31.31	Peak
4	5944.300	44.23	13.20	57.43	68.20	10.77	Peak

802.11a Chain 1

Test Channel:

5745 MHz

Ant. Polar. :

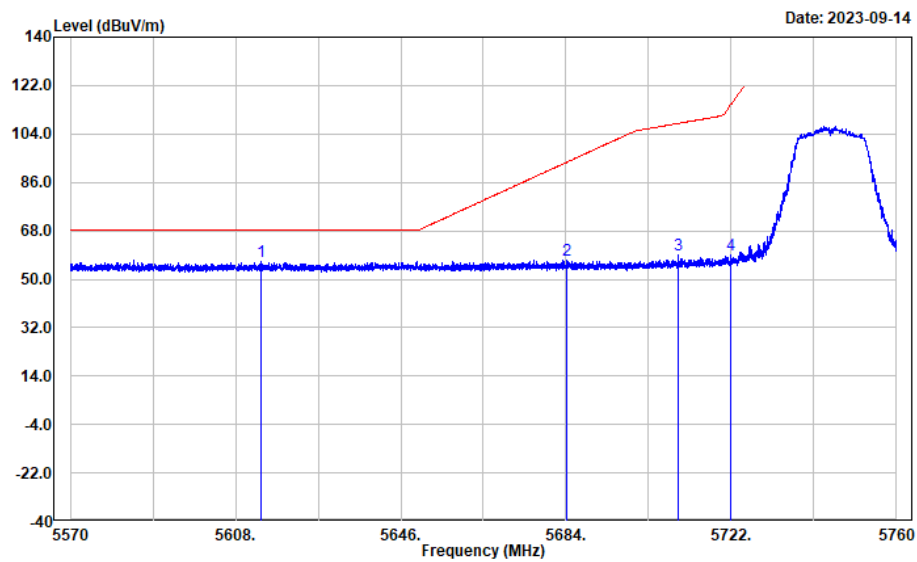
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5613.928	43.91	12.69	56.60	68.20	11.60	Peak
2	5684.304	44.24	12.95	57.19	93.62	36.43	Peak
3	5709.802	46.18	13.00	59.18	107.95	48.77	Peak
4	5721.962	46.07	13.00	59.07	115.27	56.20	Peak

802.11a Chain 1

Test Channel:

5745 MHz

Ant. Polar. :

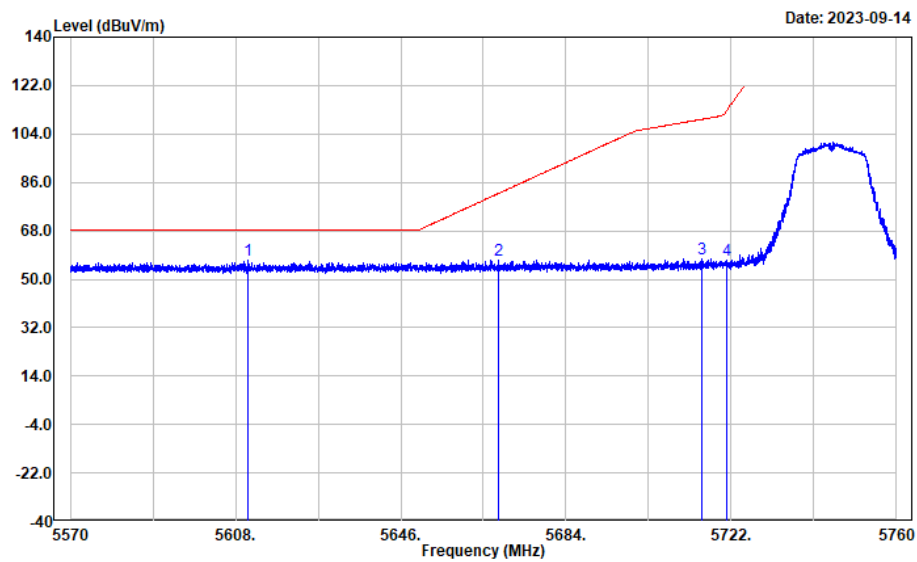
Vertical

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Vertical

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5610.926	44.17	12.66	56.83	68.20	11.37	Peak
2	5668.344	44.31	12.91	57.22	81.81	24.59	Peak
3	5715.350	44.64	13.01	57.65	109.50	51.85	Peak
4	5721.088	44.27	13.01	57.28	113.28	56.00	Peak

802.11a Chain 1

Test Channel:

5825 MHz

Ant. Polar. :

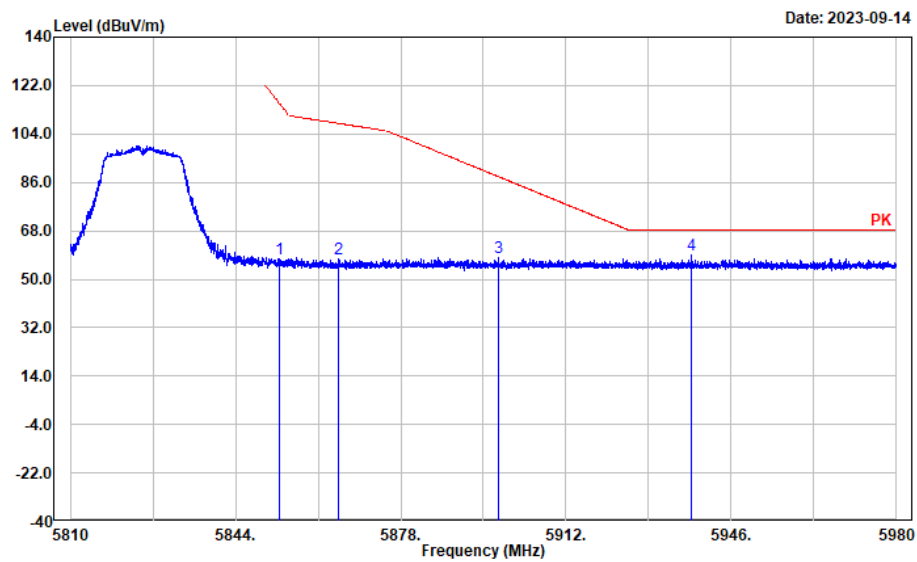
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5853.044	44.40	13.06	57.46	115.26	57.80	Peak
2	5865.182	44.52	13.11	57.63	107.95	50.32	Peak
3	5898.196	44.83	13.23	58.06	88.00	29.94	Peak
4	5937.874	45.60	13.21	58.81	68.20	9.39	Peak

802.11a Chain 1

Test Channel:

5825 MHz

Ant. Polar. :

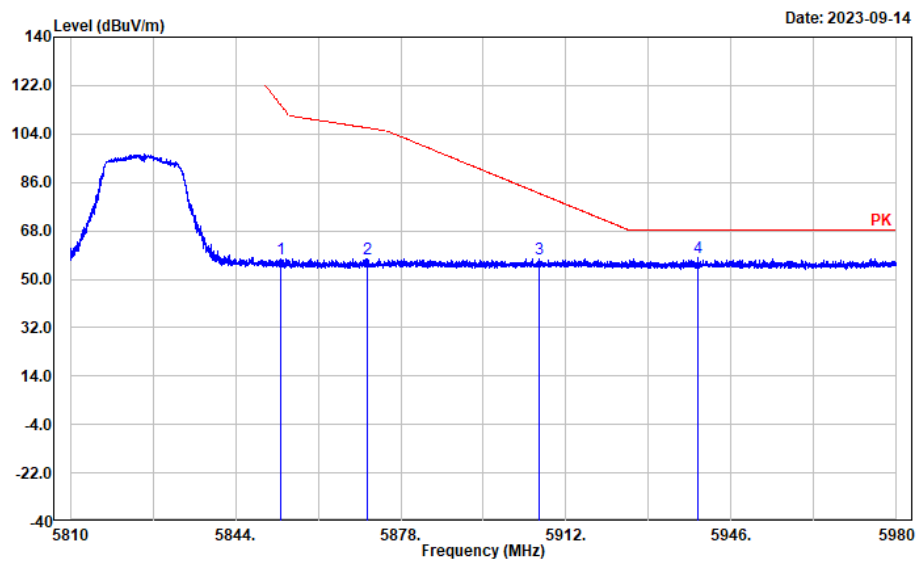
Vertical

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Vertical

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5853.282	44.71	13.06	57.77	114.72	56.95	Peak
2	5871.064	44.49	13.13	57.62	106.30	48.68	Peak
3	5906.492	44.43	13.23	57.66	81.86	24.20	Peak
4	5939.234	44.65	13.21	57.86	68.20	10.34	Peak

802.11ac20_

Test Channel:

5745 MHz

Ant. Polar. :

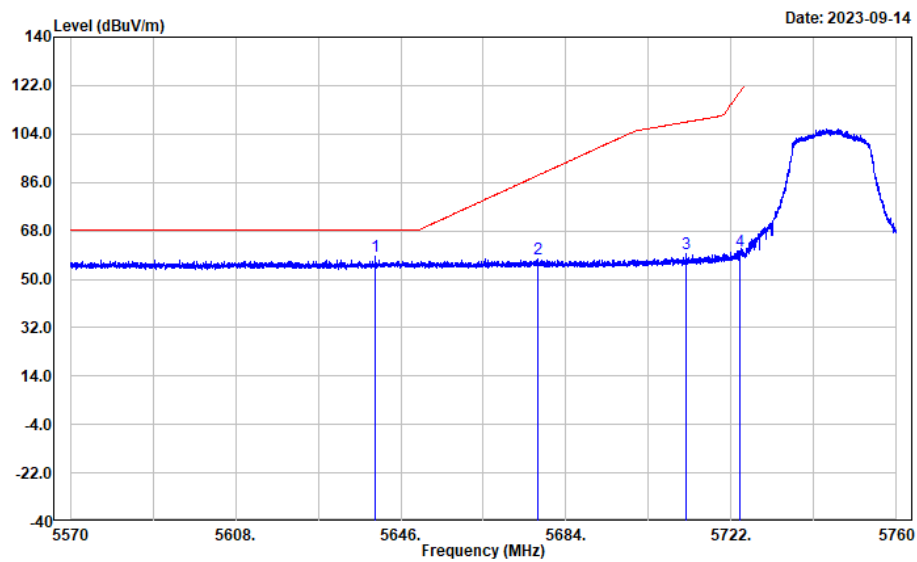
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5640.224	45.49	12.81	58.30	68.20	9.90	Peak
2	5677.578	44.63	12.93	57.56	88.65	31.09	Peak
3	5711.550	46.40	13.00	59.40	108.44	49.04	Peak
4	5723.938	47.58	13.00	60.58	119.78	59.20	Peak

802.11ac20

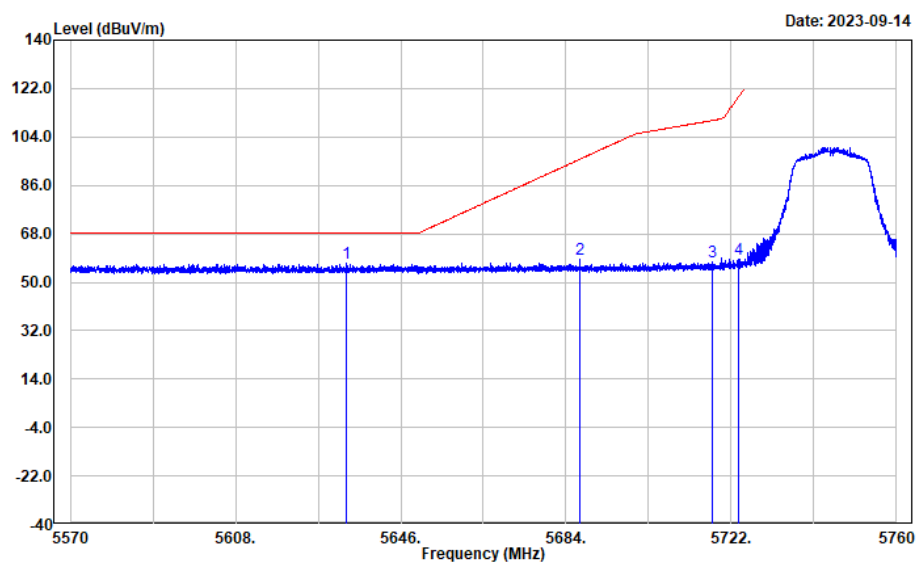
Test Channel:

5745 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5633.574	44.19	12.77	56.96	68.20	11.24	Peak
2	5687.268	45.44	12.96	58.40	95.81	37.41	Peak
3	5717.782	44.44	13.01	57.45	110.18	52.73	Peak
4	5723.748	45.78	13.00	58.78	119.35	60.57	Peak

802.11ac20_

Test Channel:

5825 MHz

Ant. Polar. :

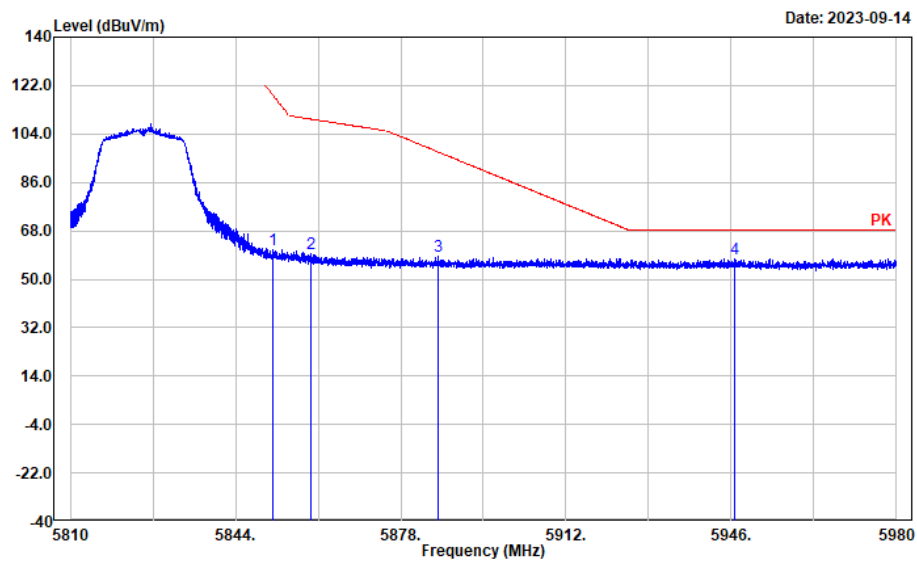
Horizontal

Project No.: CR230738438-RF

Tester: Mack Huang

Polarization: Horizontal

Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5851.616	47.81	13.06	60.87	118.51	57.64	Peak
2	5859.436	46.43	13.08	59.51	109.56	50.05	Peak
3	5885.650	45.55	13.18	58.73	97.29	38.56	Peak
4	5946.714	44.59	13.20	57.79	68.20	10.41	Peak

802.11ac20

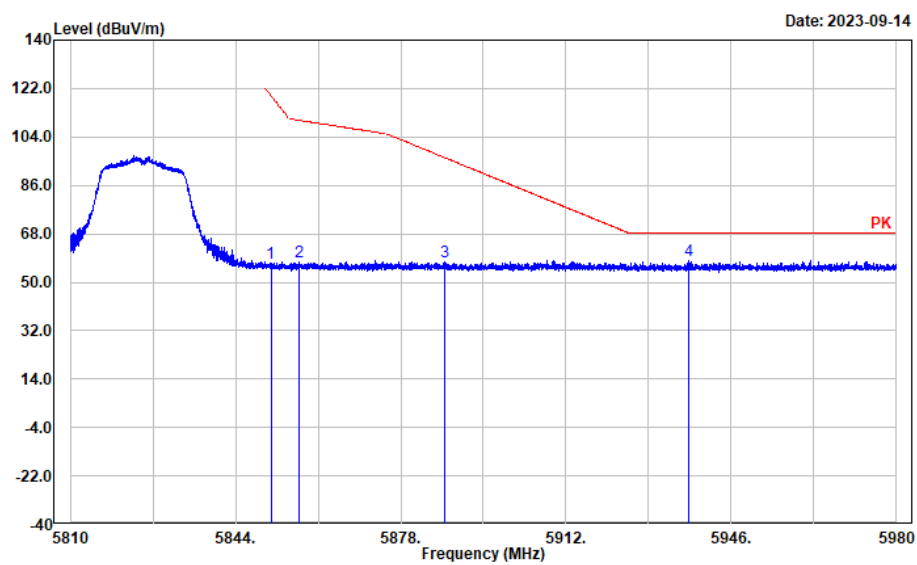
Test Channel:

5825 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5851.276	44.25	13.06	57.31	119.29	61.98	Peak
2	5857.090	44.59	13.08	57.67	110.21	52.54	Peak
3	5887.146	44.38	13.19	57.57	96.18	38.61	Peak
4	5937.364	44.63	13.20	57.83	68.20	10.37	Peak

802.11ac40

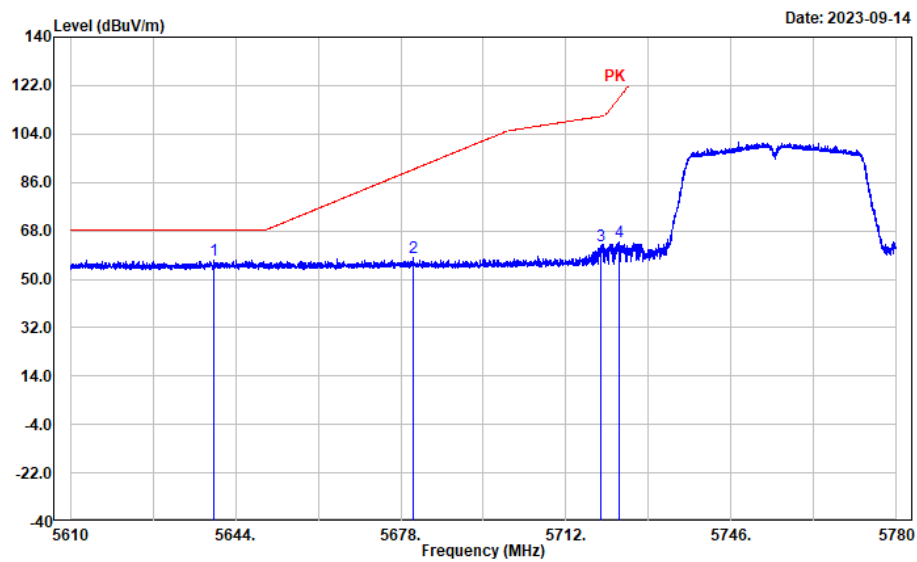
Test Channel:

5755 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5639.478	44.18	12.80	56.98	68.20	11.22	Peak
2	5680.618	44.98	12.94	57.92	90.90	32.98	Peak
3	5719.038	49.32	13.01	62.33	110.53	48.20	Peak
4	5722.948	50.66	13.00	63.66	117.52	53.86	Peak

802.11ac40

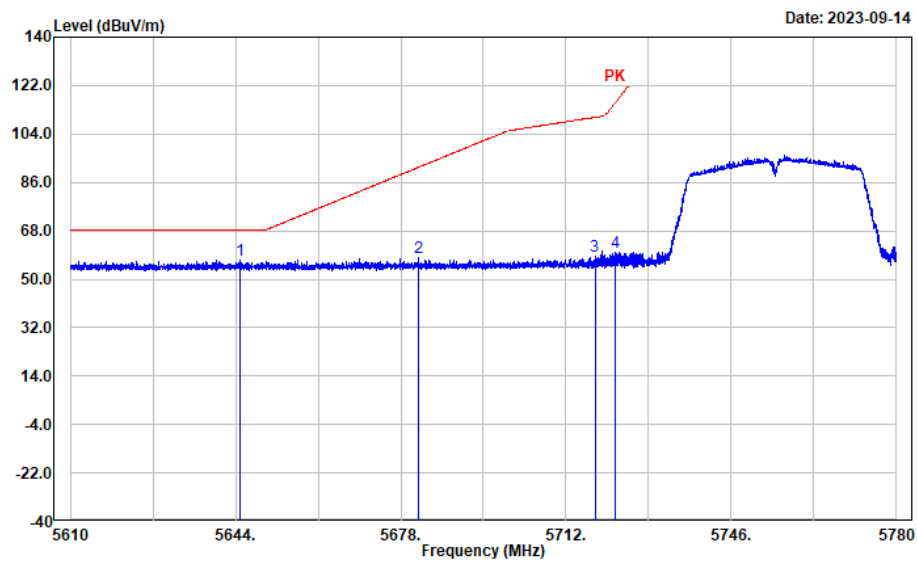
Test Channel:

5755 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5644.816	44.24	12.82	57.06	68.20	11.14	Peak
2	5681.536	44.92	12.95	57.87	91.57	33.70	Peak
3	5717.950	45.30	13.01	58.31	110.23	51.92	Peak
4	5722.030	46.98	13.00	59.98	115.43	55.45	Peak

802.11ac40

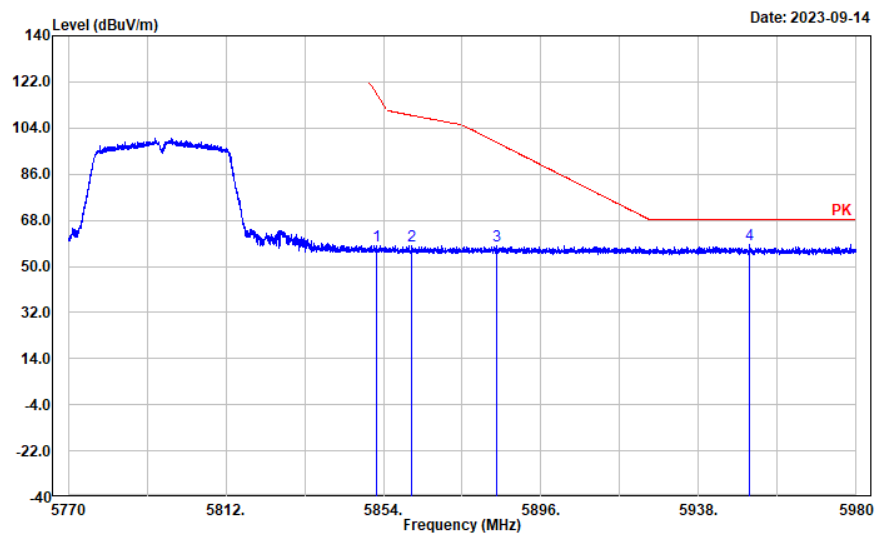
Test Channel:

5795 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	5852.320	44.99	13.06	58.05	116.91	58.86	Peak
2	5861.434	44.96	13.09	58.05	109.00	50.95	Peak
3	5884.240	44.78	13.18	57.96	98.34	40.38	Peak
4	5951.440	45.41	13.20	58.61	68.20	9.59	Peak

802.11ac40

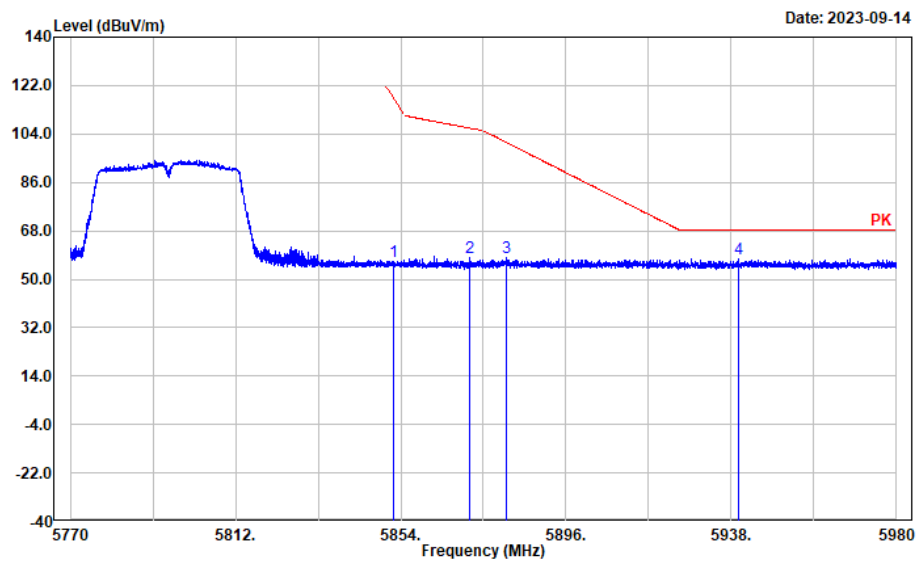
Test Channel:

5795 MHz

Ant. Polar. :

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5852.110	43.69	13.06	56.75	117.39	60.64	Peak
2	5871.640	44.68	13.14	57.82	106.14	48.32	Peak
3	5880.922	44.91	13.16	58.07	100.80	42.73	Peak
4	5939.722	44.15	13.21	57.36	68.20	10.84	Peak

802.11ac80

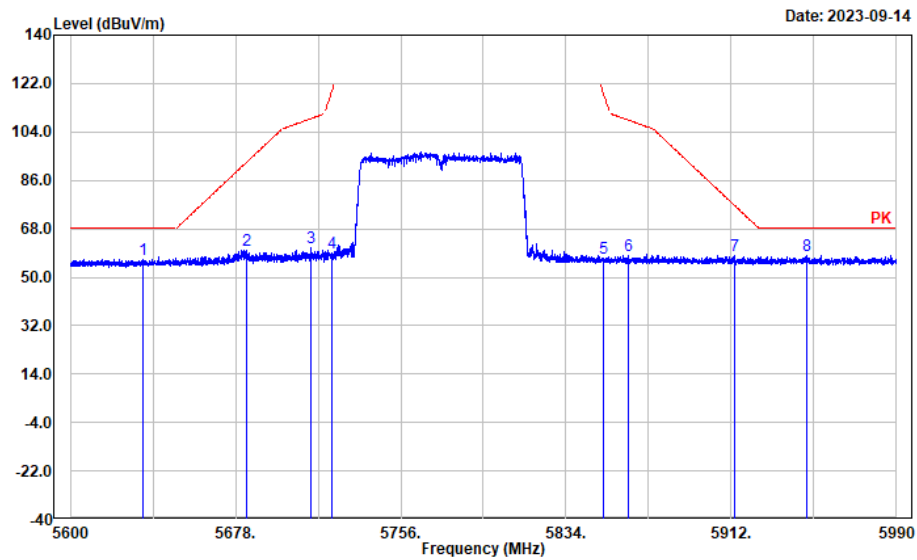
Test Channel:

5775 MHz

Ant. Polar. :

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5634.242	43.83	12.77	56.60	68.20	11.60	Peak
2	5683.460	47.23	12.95	60.18	93.00	32.82	Peak
3	5713.880	48.17	13.01	61.18	109.09	47.91	Peak
4	5723.240	45.99	13.00	58.99	118.19	59.20	Peak
5	5851.706	44.13	13.06	57.19	118.31	61.12	Peak
6	5863.484	44.96	13.10	58.06	108.42	50.36	Peak
7	5913.638	44.69	13.24	57.93	76.58	18.65	Peak
8	5947.880	44.93	13.19	58.12	68.20	10.08	Peak

802.11ac80

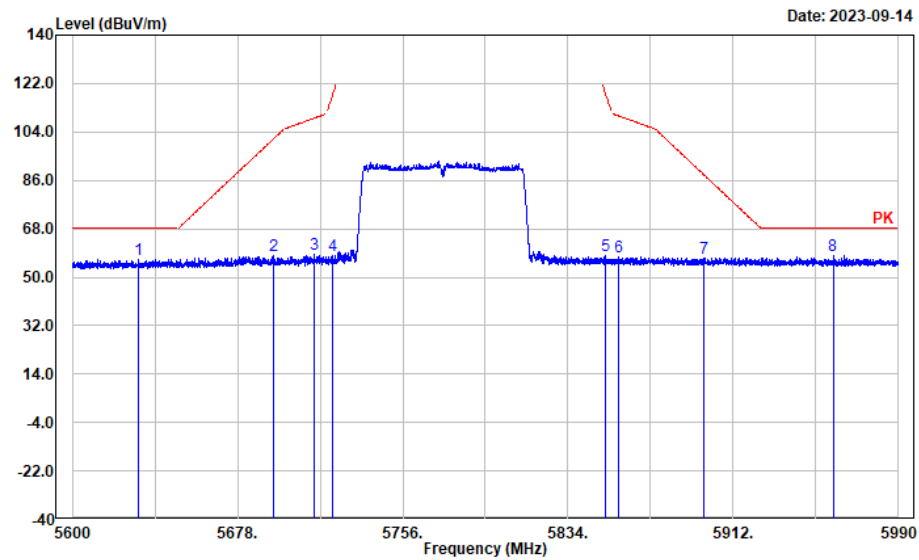
Test Channel:

5775 MHz

Ant. Polar. :

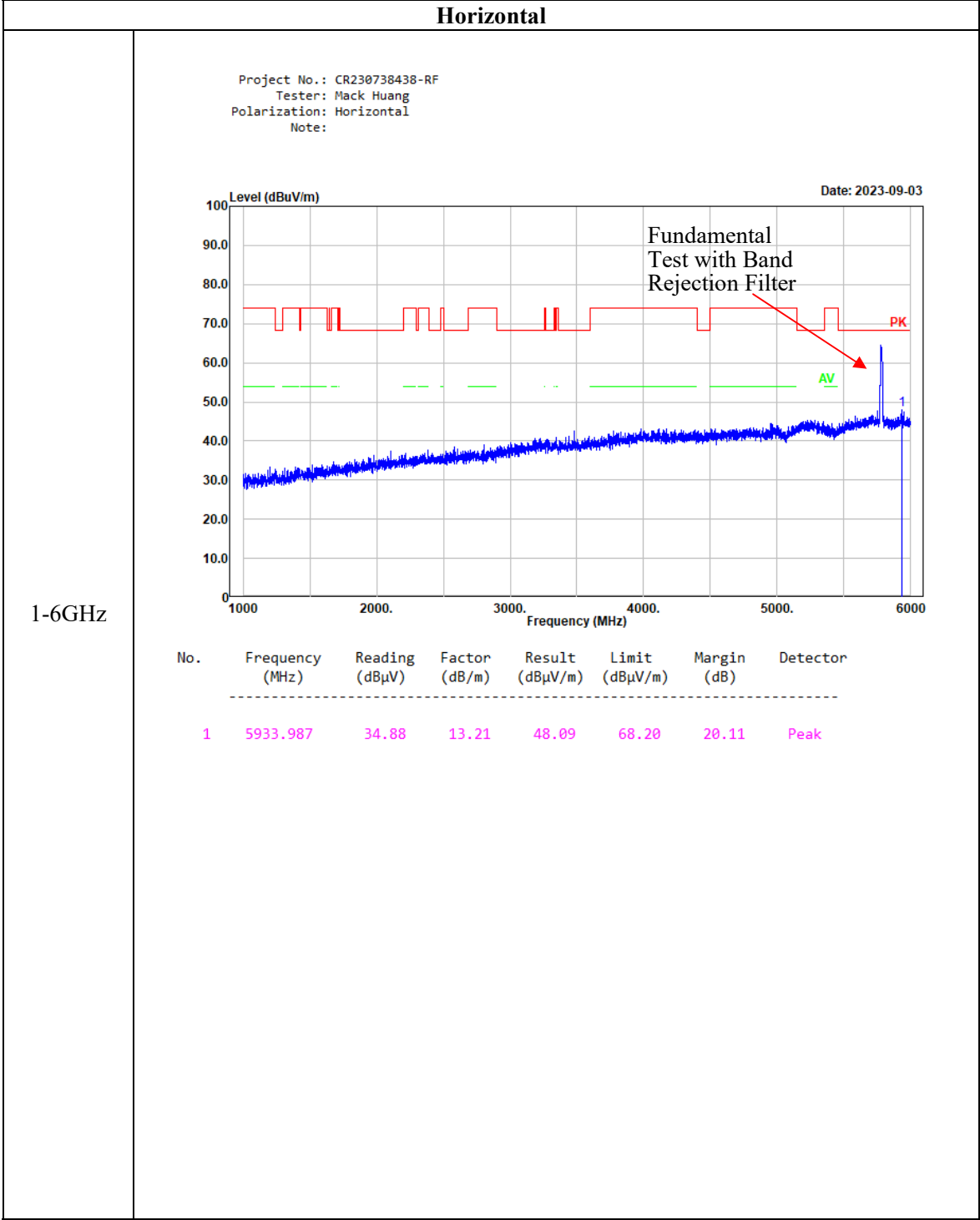
Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:



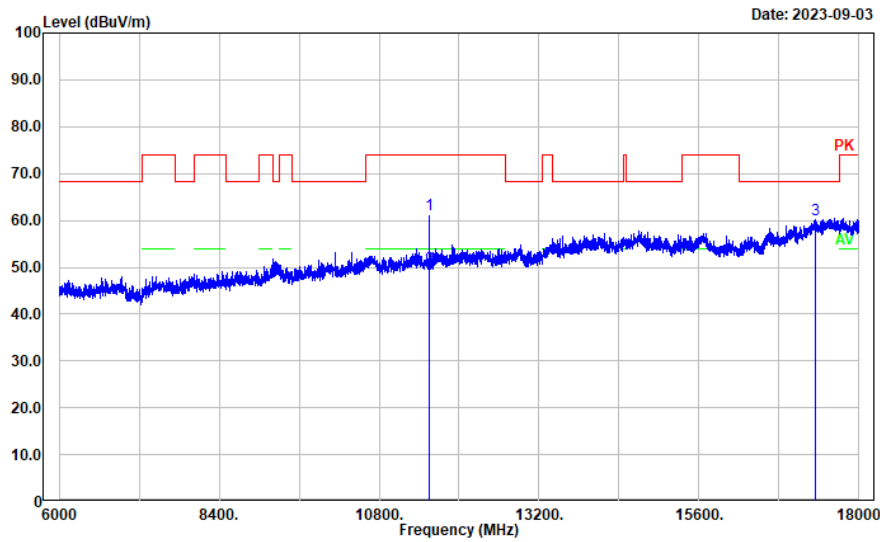
No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5631.356	43.98	12.76	56.74	68.20	11.46	Peak
2	5695.238	44.85	13.00	57.85	101.69	43.84	Peak
3	5714.270	45.43	13.01	58.44	109.20	50.76	Peak
4	5723.006	45.25	13.00	58.25	117.65	59.40	Peak
5	5851.472	44.84	13.06	57.90	118.84	60.94	Peak
6	5858.024	44.29	13.08	57.37	109.95	52.58	Peak
7	5897.960	44.07	13.23	57.30	88.17	30.87	Peak
8	5959.112	44.68	13.22	57.90	68.20	10.30	Peak

Listed with the worst harmonic margin test plot (802.11ac80 Mode Middle Channel)



Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:

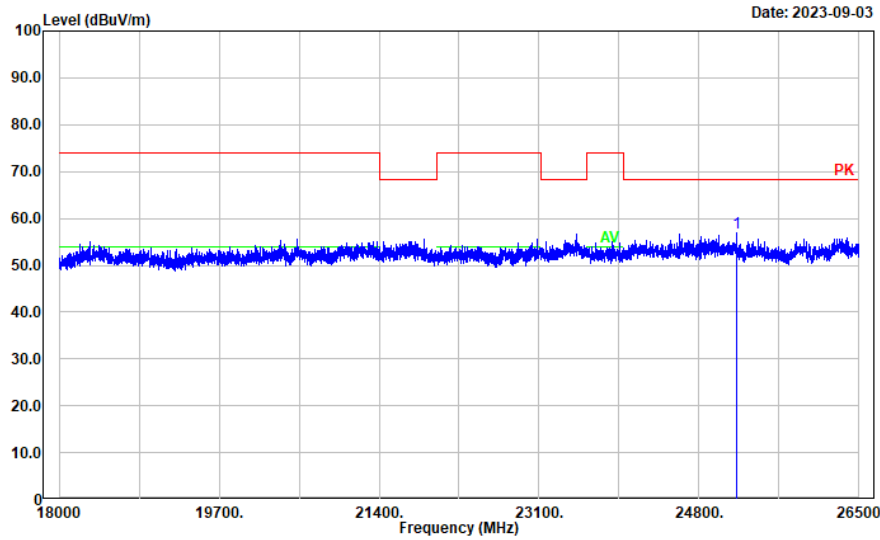


6-18GHz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	11550.000	40.52	20.78	61.30	74.00	12.70	Peak
2	11550.000	29.20	20.78	49.98	54.00	4.02	Average
3	17351.870	32.33	27.70	60.03	68.20	8.17	Peak

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:

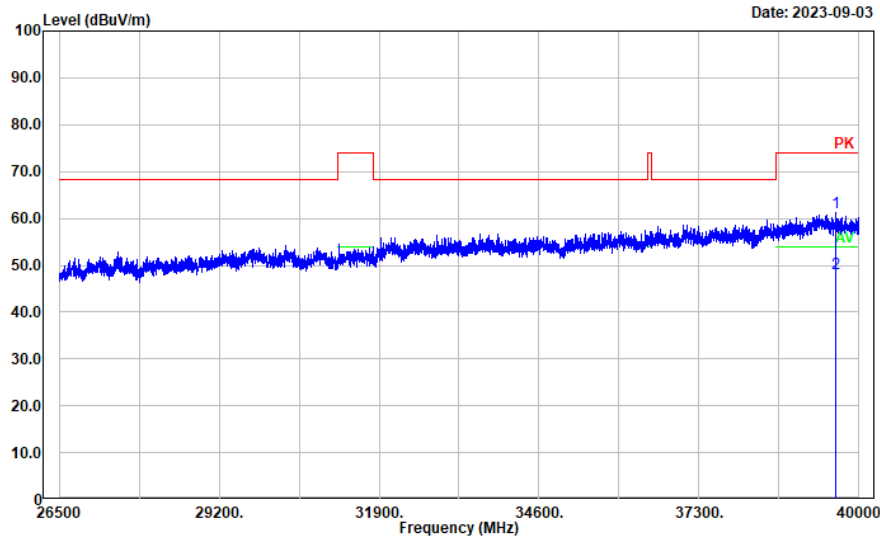


18-26.5GHz

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	25197.540	58.04	6.83	56.87	68.20	11.33	Peak

Horizontal

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Horizontal
Note:



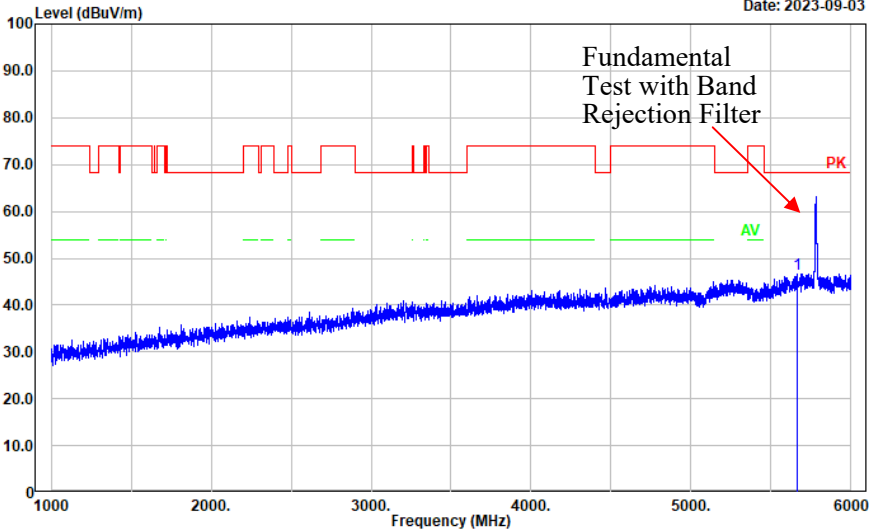
26.5-40GHz

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	39600.320	51.58	9.77	61.35	74.00	12.65	Peak
2	39600.320	38.41	9.77	48.18	54.00	5.82	Average

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:

Date: 2023-09-03



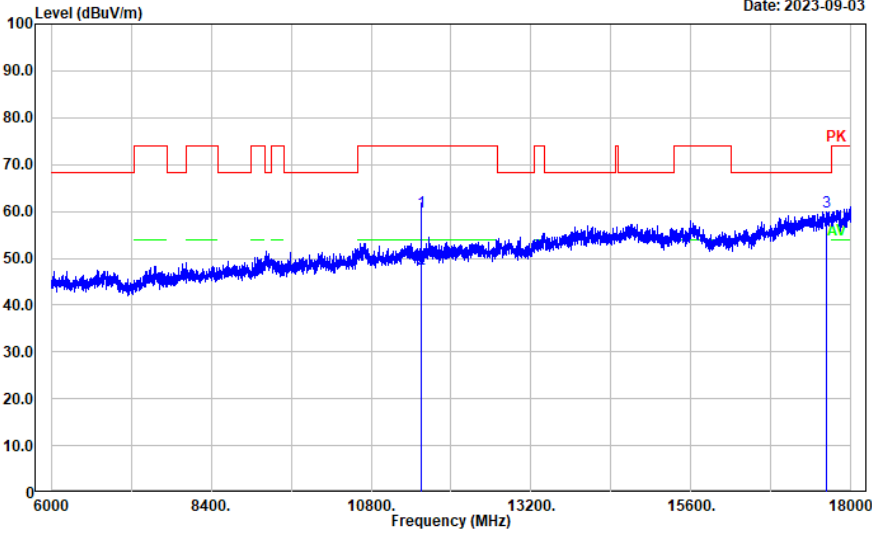
1-6GHz

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	5664.933	33.83	12.90	46.73	68.20	21.47	Peak

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: Vertical
Note:

Date: 2023-09-03



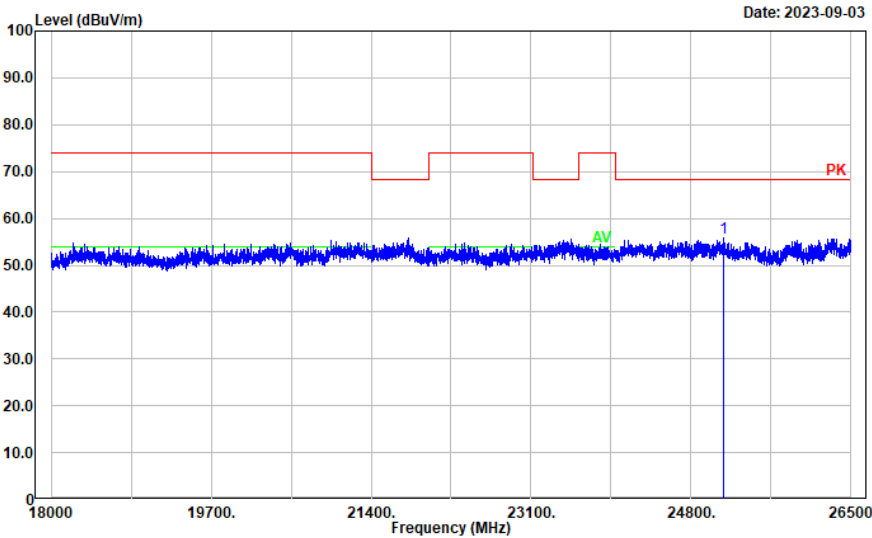
6-18GHz

No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	11550.000	39.16	20.78	59.94	74.00	14.06	Peak
2	11550.000	26.84	20.78	47.62	54.00	6.38	Average
3	17630.330	30.09	29.78	59.87	68.20	8.33	Peak

Vertical

18-26.5GHz

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: vertical
Note:

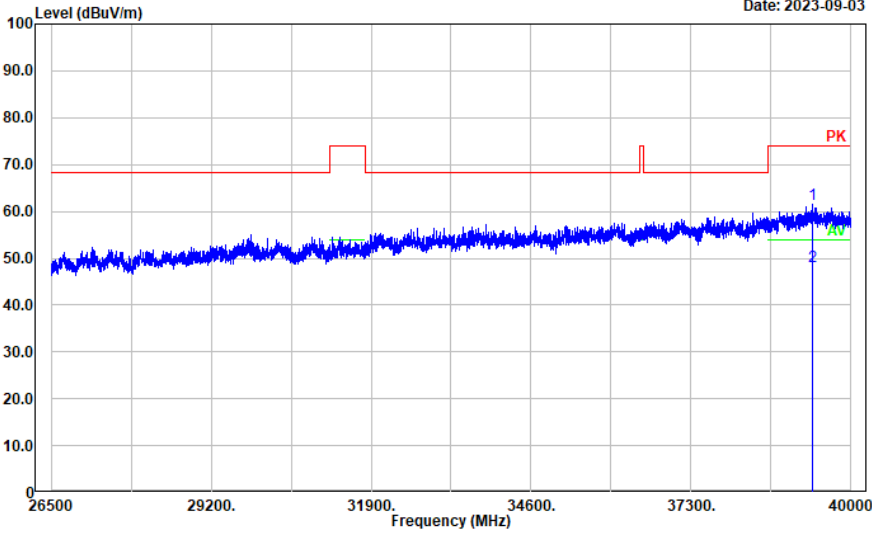


No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
1	25146.530	48.94	6.84	55.78	68.20	12.42	Peak

Vertical

Project No.: CR230738438-RF
Tester: Mack Huang
Polarization: vertical
Note:

Date: 2023-09-03



26.5-40GHz

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39349.170	51.41	10.20	61.61	74.00	12.39	Peak
2	39349.170	38.11	10.20	48.31	54.00	5.69	Average

4.3 Emission Bandwidth:

Serial Number:	27SO-1	Test Date:	2023/8/15
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.6	Relative Humidity: (%)	63	ATM Pressure: (kPa)	101
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023/4/18	2024/4/17
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A

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

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180	18.84	16.38
	5200	18.84	16.38
	5240	19.04	16.38
802.11ac vht20	5180	19.84	17.58
	5200	19.72	17.54
	5240	19.72	17.50
802.11ac vht40	5190	42.24	36.28
	5230	42.00	36.36
802.11ac vht80	5210	82.08	74.81
Note: Test only was performed at Chain 0. The 99% Occupied Bandwidth have not fall into the band 5250-5350MHz, please refer to the test plots of 99% Occupied Bandwidth.			

5250-5350 MHz:

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5260	19.00	16.42
	5280	18.84	16.38
	5320	18.92	16.38
802.11ac vht20	5260	19.84	17.54
	5280	19.72	17.50
	5320	19.72	17.50
802.11ac vht40	5270	41.84	36.20
	5310	42.08	36.28
802.11ac vht80	5290	82.08	74.65
Note: Test only was performed at Chain 0.			

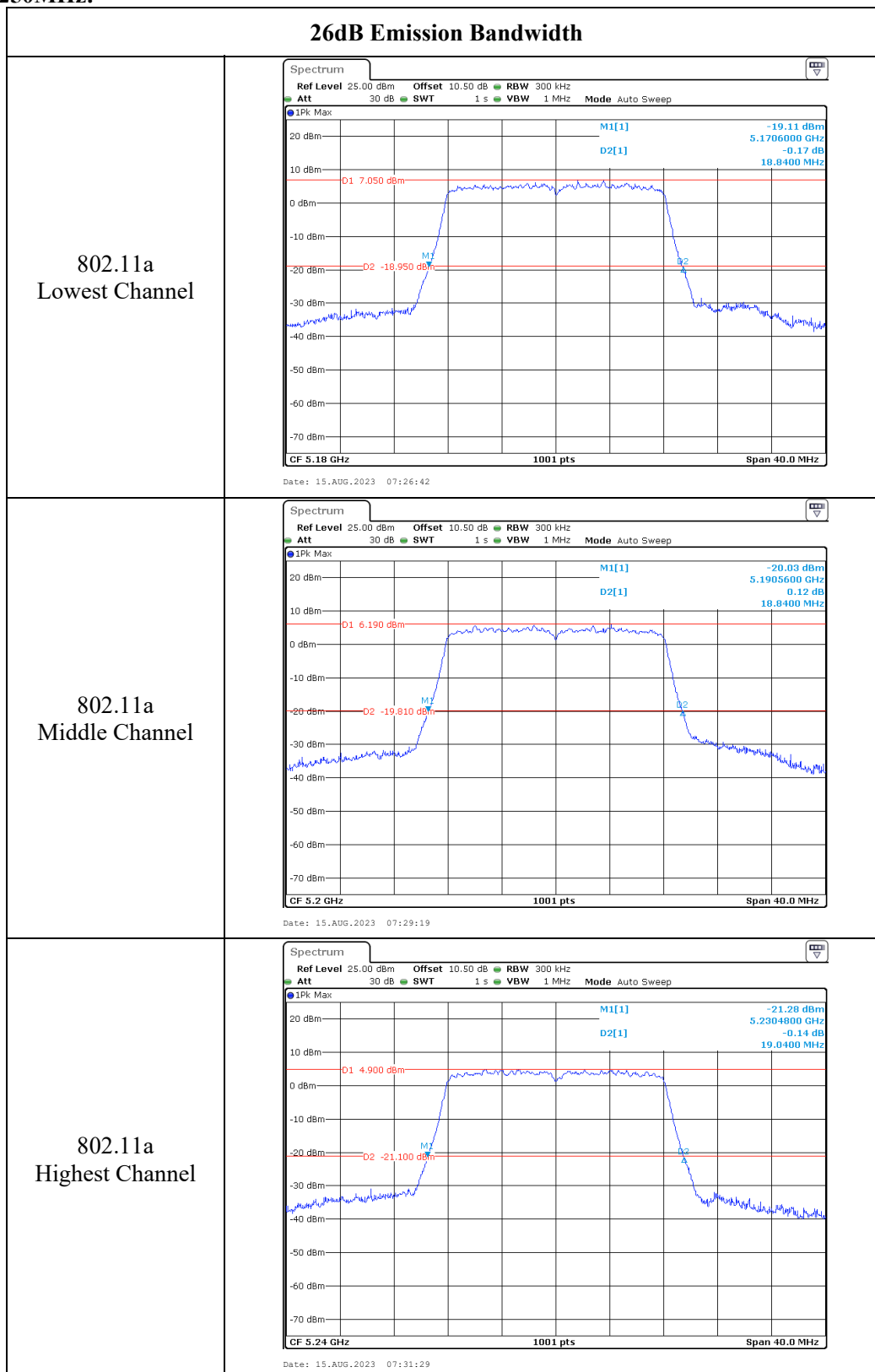
5470-5725 MHz:

Test Modes	Test Frequency (MHz)	26 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5500	18.92	16.38
	5580	18.92	16.38
	5700	19.04	16.38
802.11ac vht20	5500	19.84	17.54
	5580	19.84	17.54
	5700	19.76	17.54
802.11ac vht40	5510	42.72	36.20
	5550	41.36	36.20
	5670	41.68	36.28
802.11ac vht80	5530	82.72	74.81
	5610	82.56	74.81
Note: Test only was performed at Chain 0.			

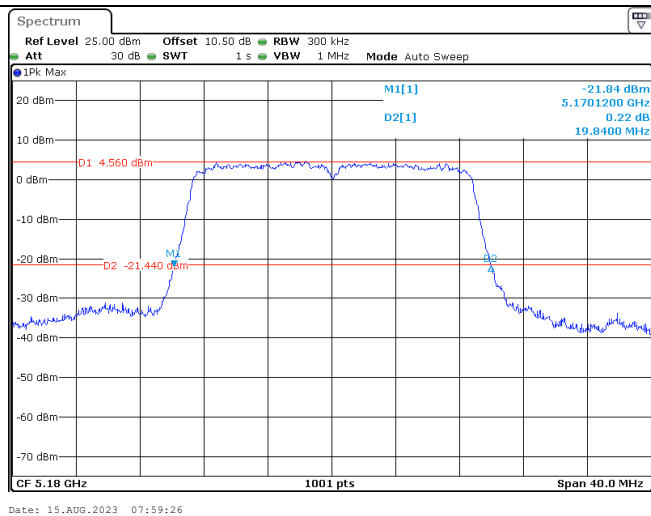
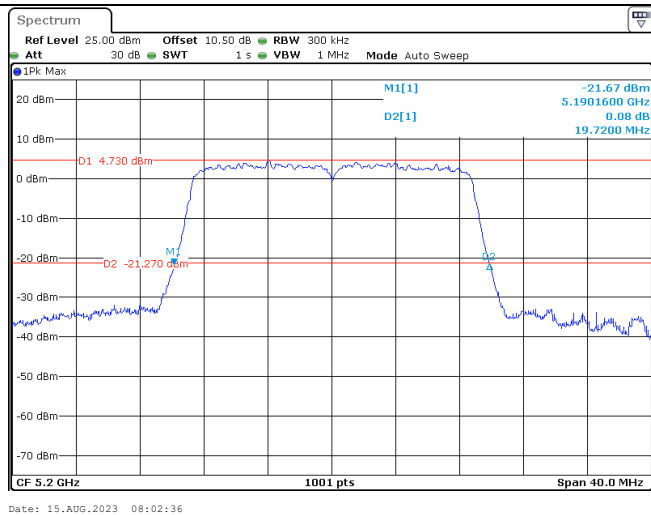
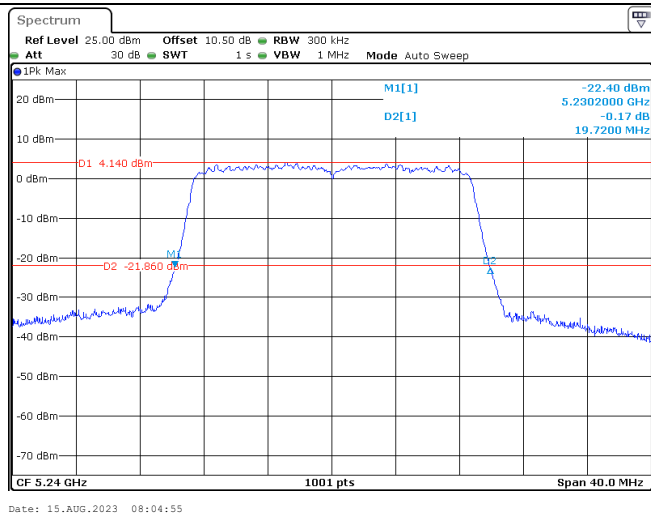
5725-5850 MHz:

Test Modes	Test Frequency (MHz)	6 dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5745	16.40	16.42
	5785	16.40	16.42
	5825	16.40	16.42
802.11ac vht20	5745	17.64	17.54
	5785	17.64	17.54
	5825	17.64	17.54
802.11ac vht40	5755	35.28	36.20
	5795	35.28	36.20
802.11ac vht80	5775	75.36	74.81
Note: 6dB Emission Bandwidth Limit: ≥ 0.5 MHz Test only was performed at Chain 0. The 99% Occupied Bandwidth have not fall into the band 5470-5725MHz, please refer to the test plots of 99% Occupied Bandwidth.			

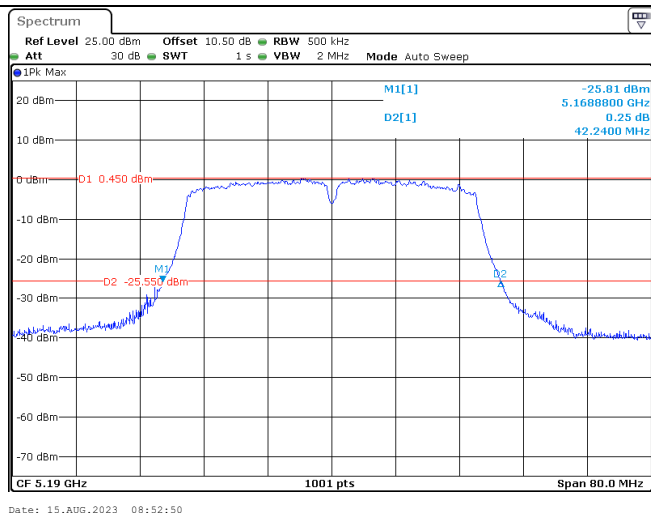
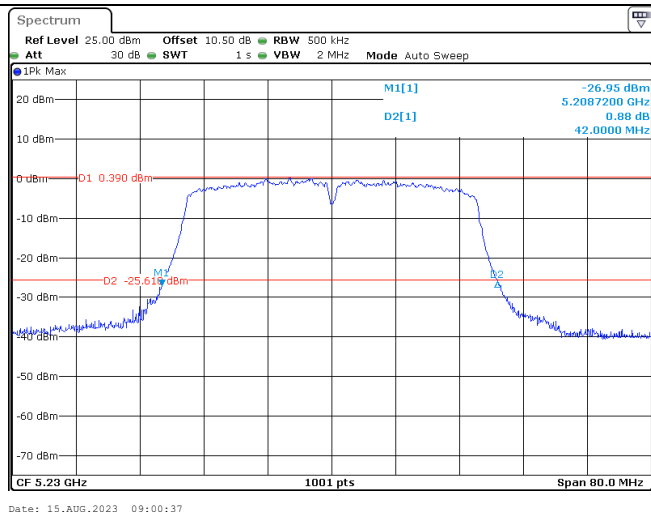
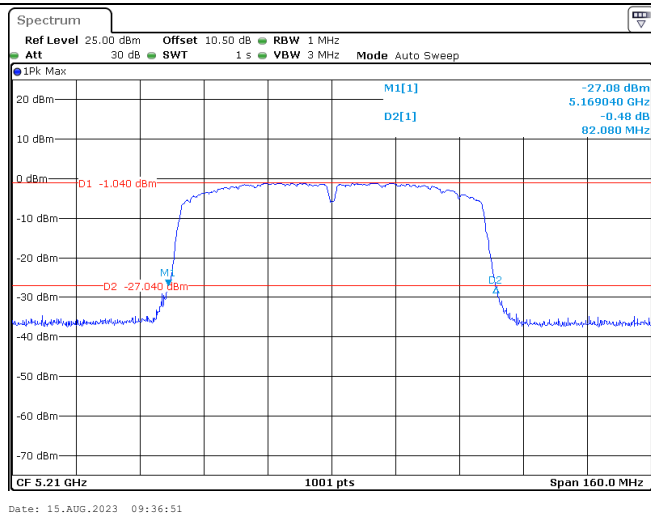
5150-5250MHz:



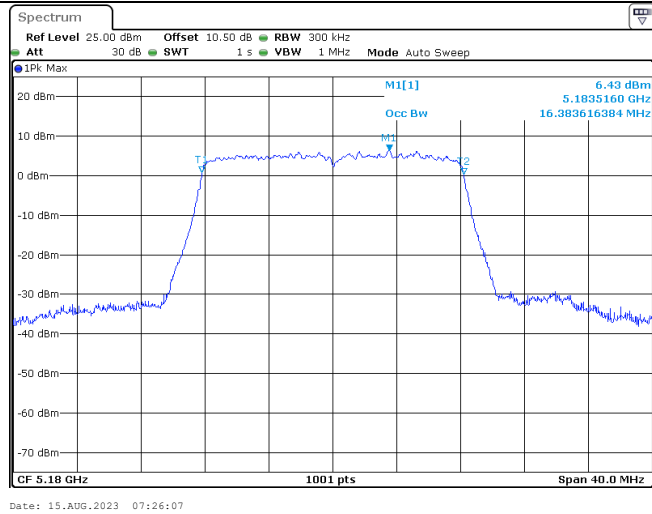
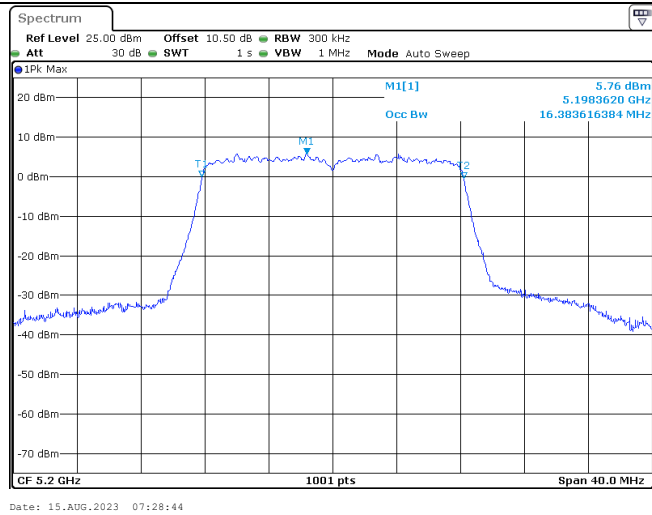
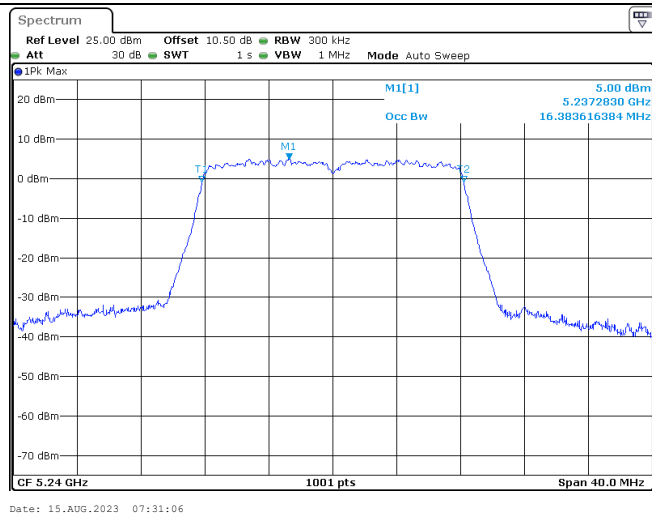
26dB Emission Bandwidth

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

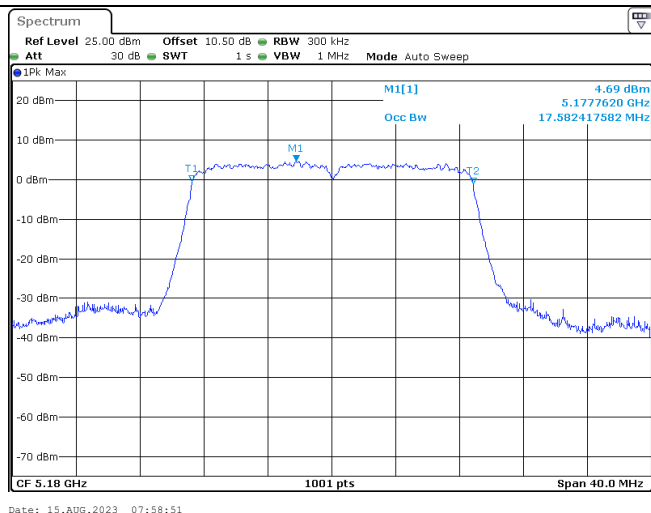
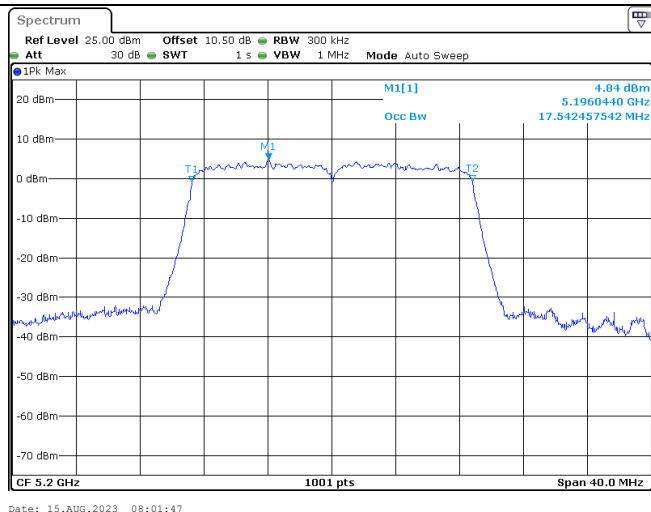
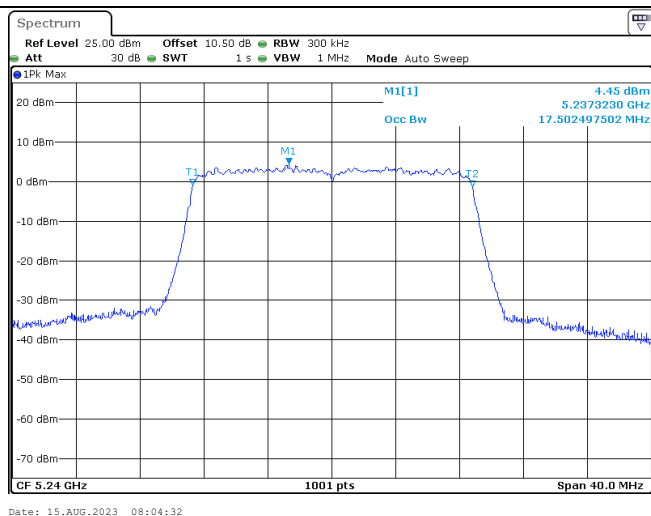
26dB Emission Bandwidth

802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

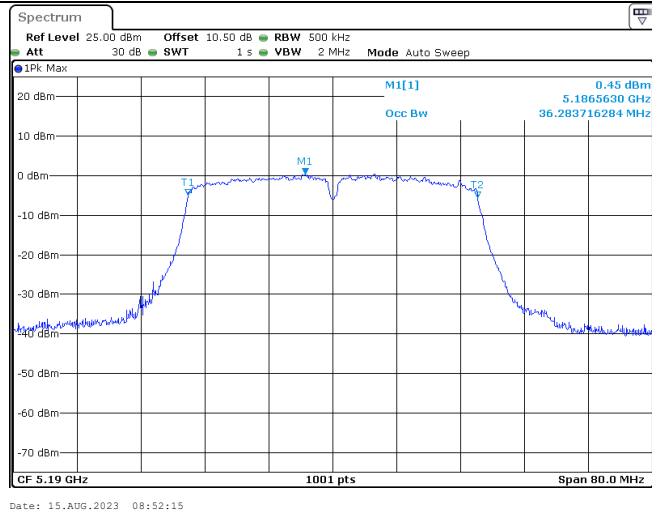
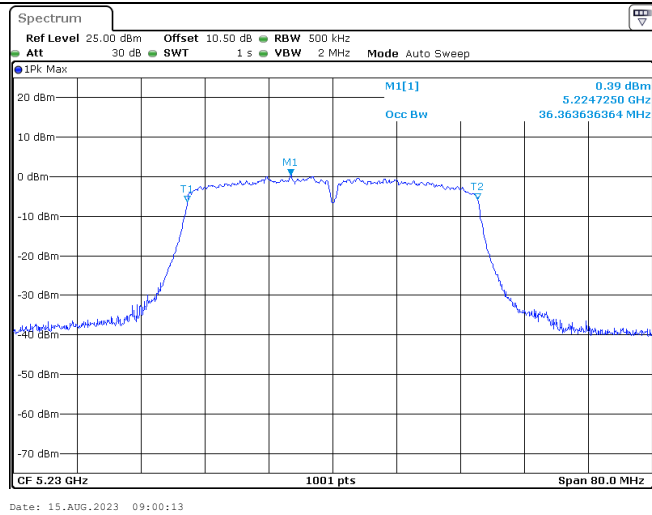
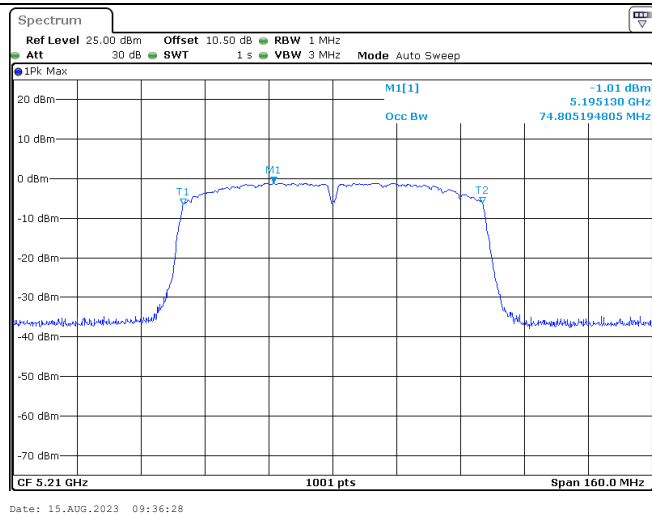
99% Emission Bandwidth

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

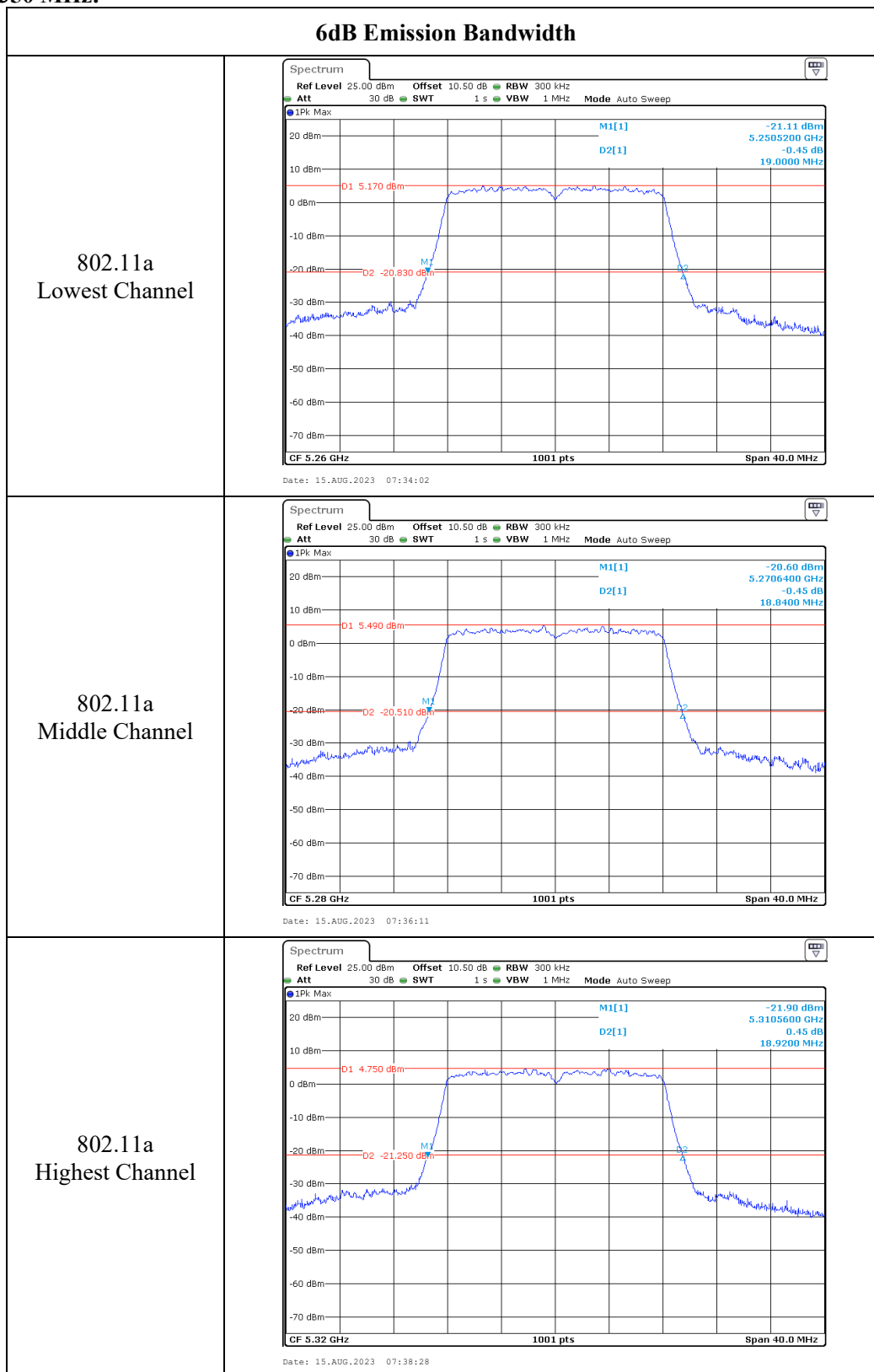
99% Emission Bandwidth

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

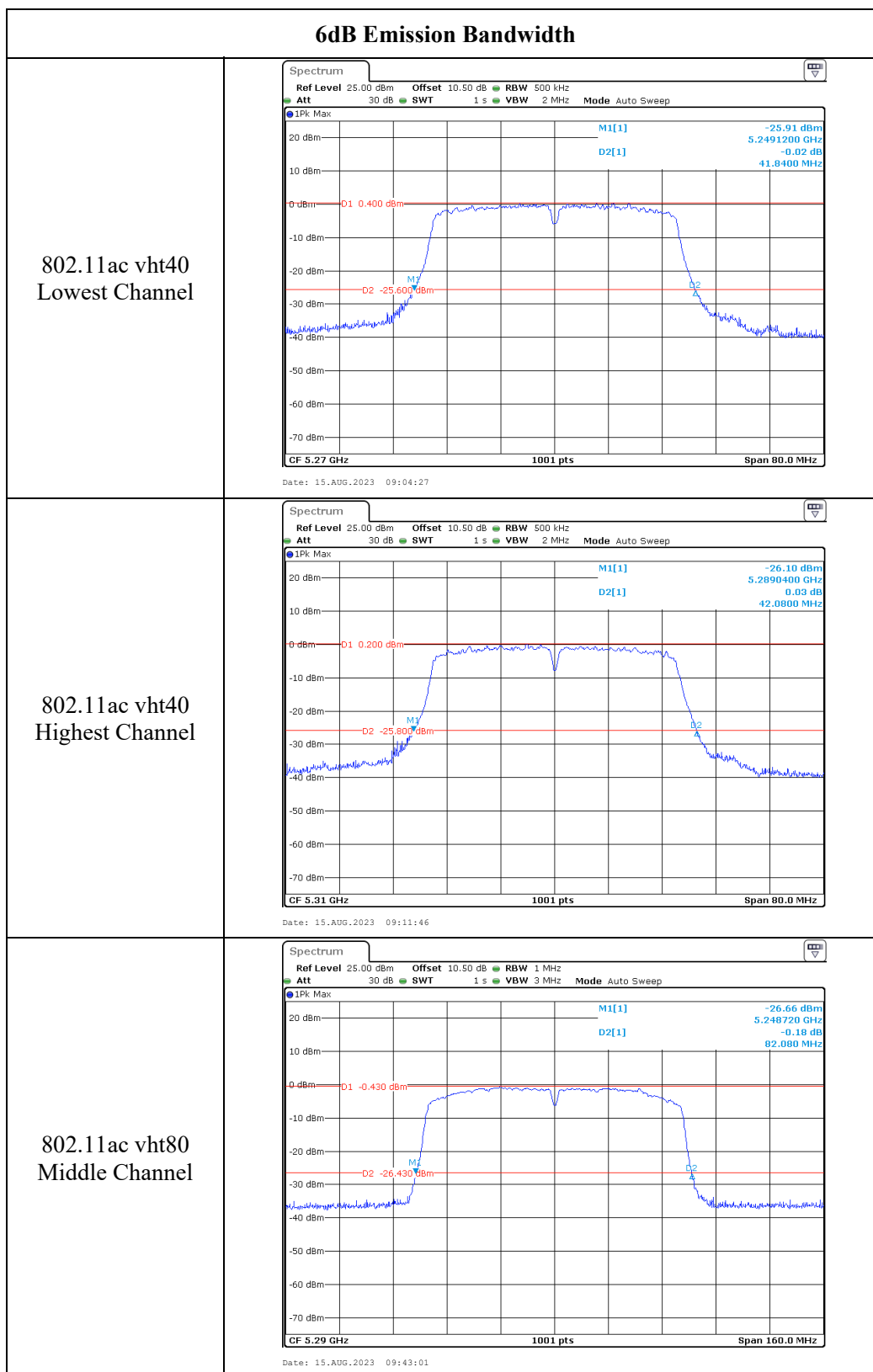
99% Emission Bandwidth

802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

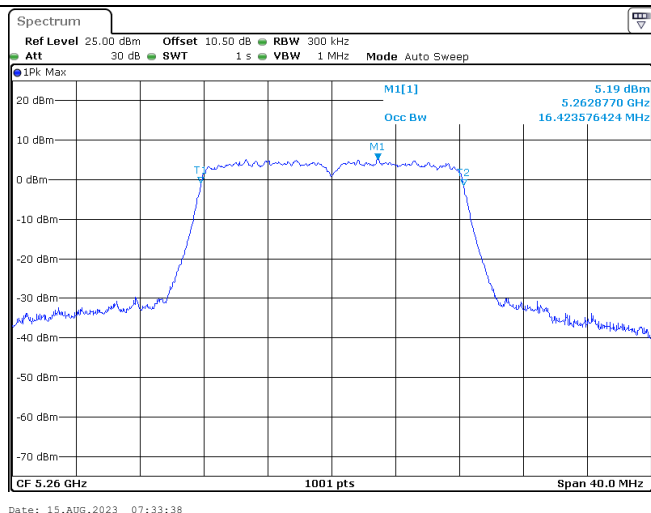
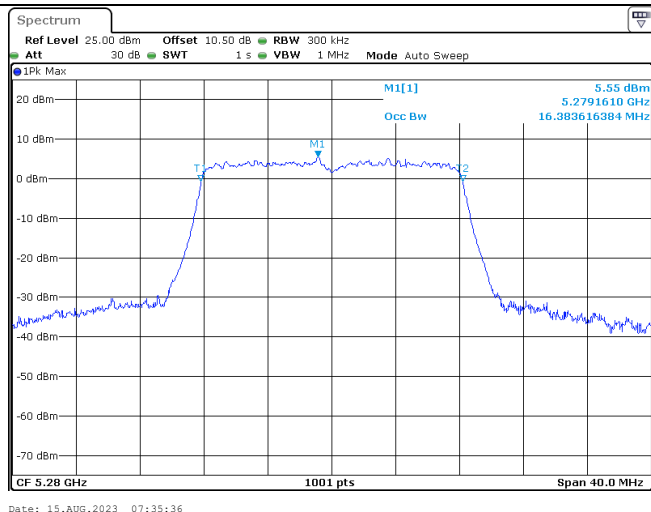
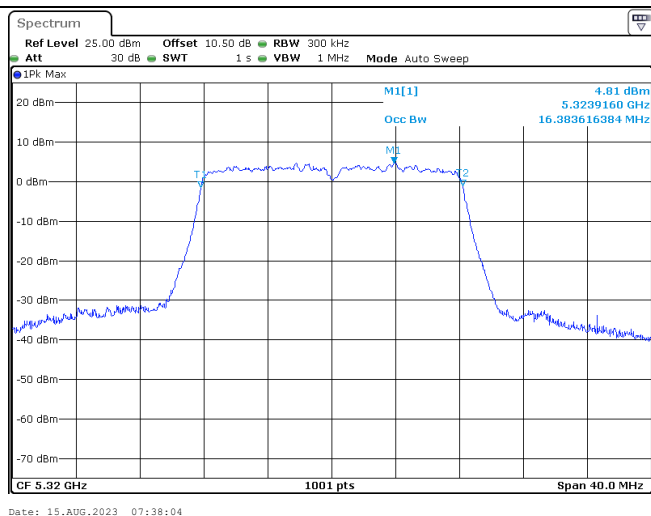
5250-5350 MHz:



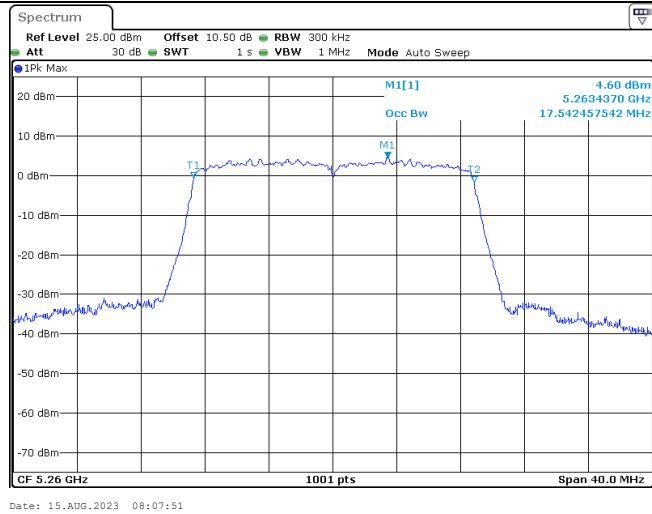
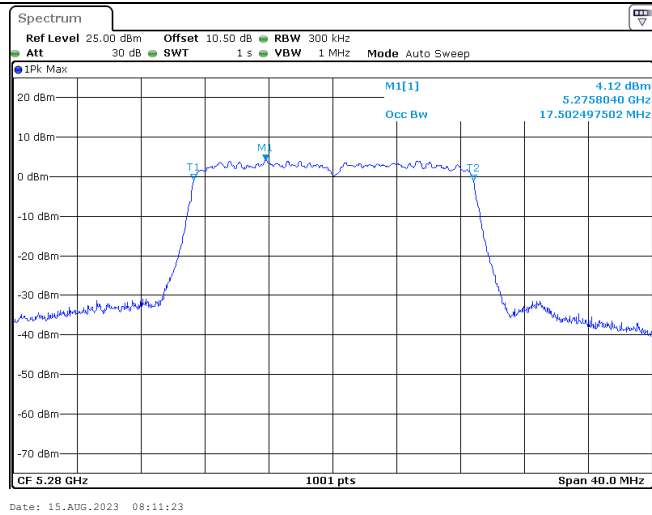
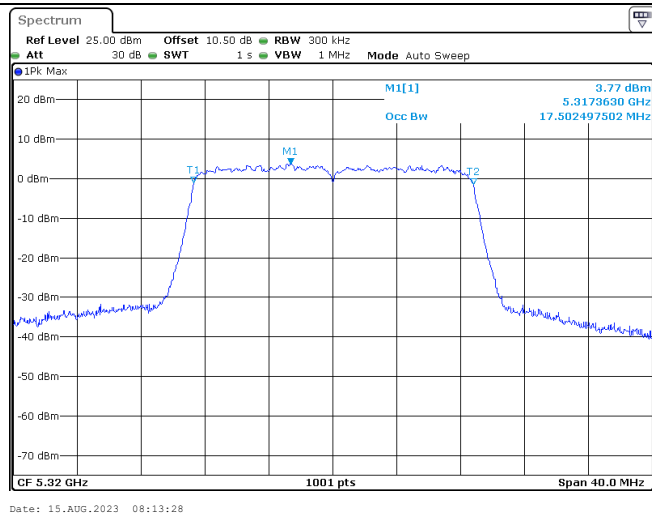




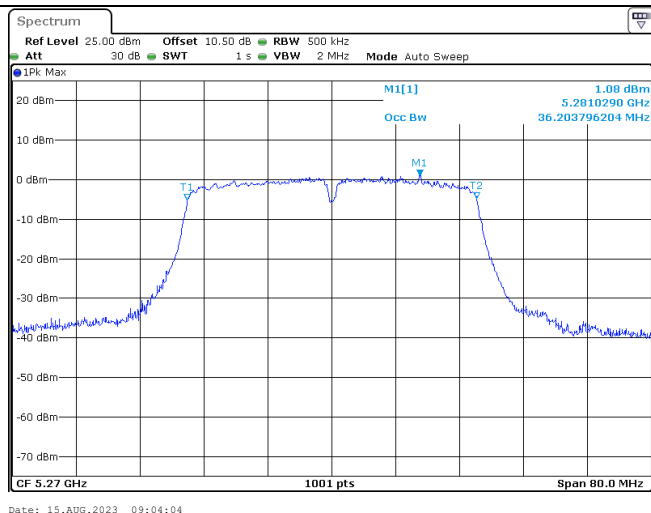
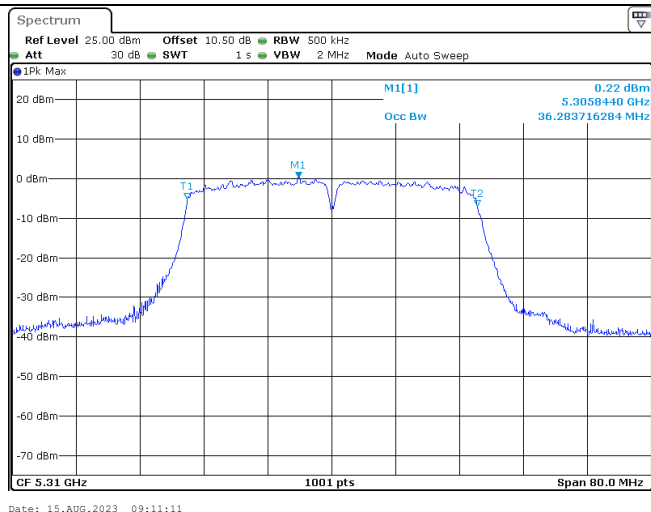
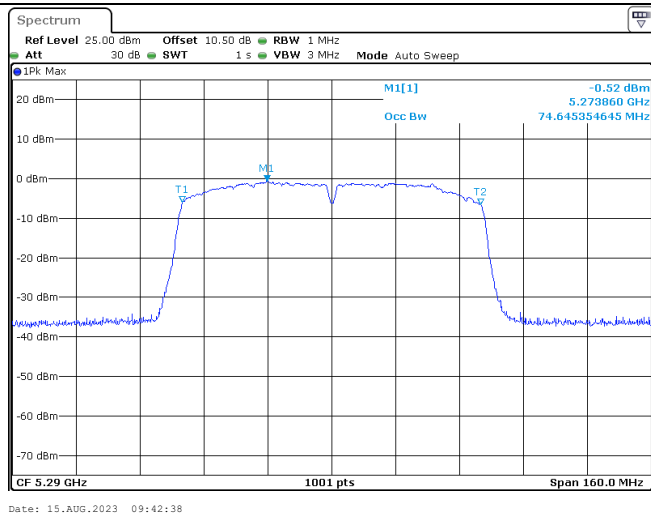
99% Emission Bandwidth

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

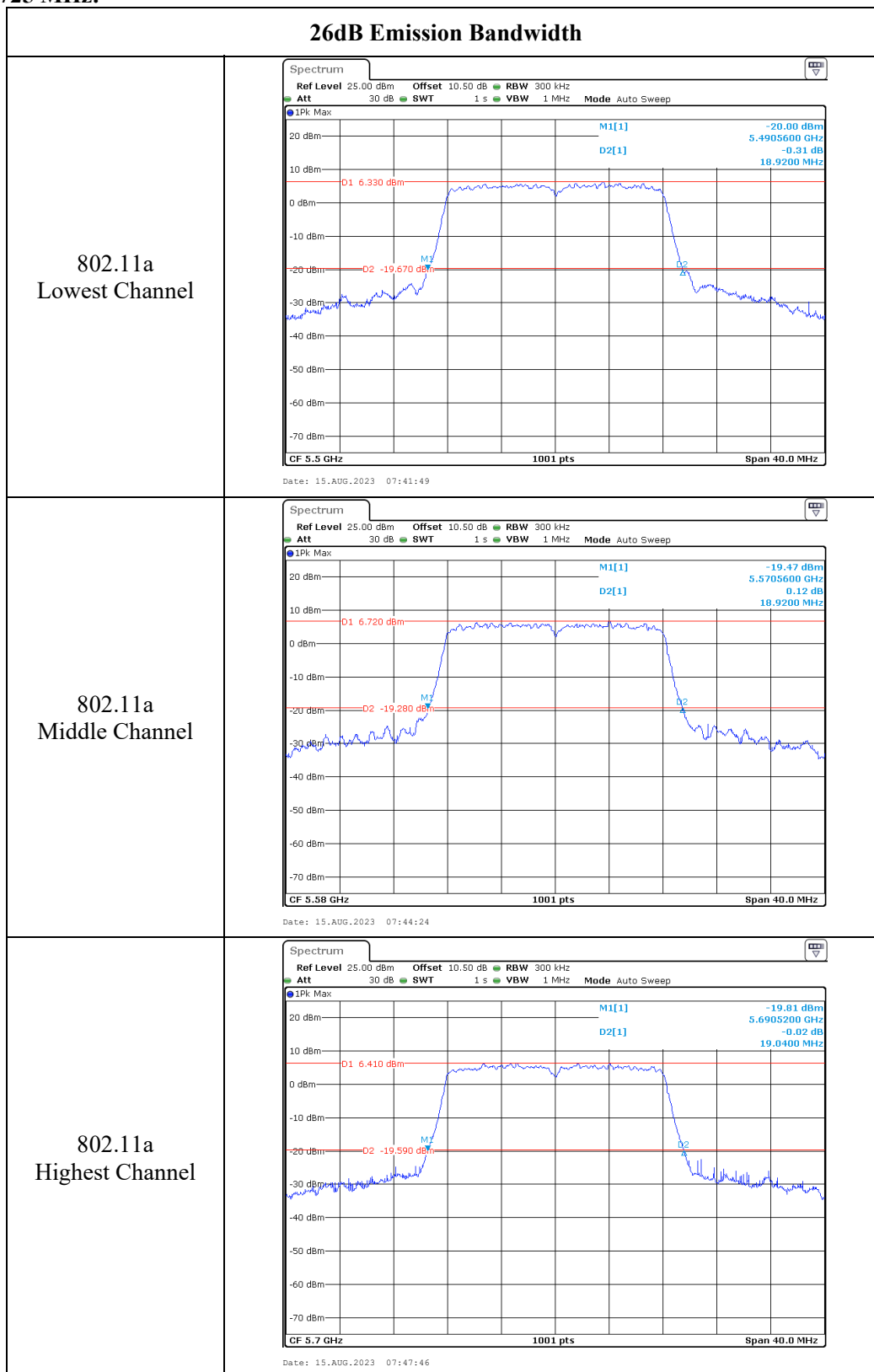
99% Emission Bandwidth

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

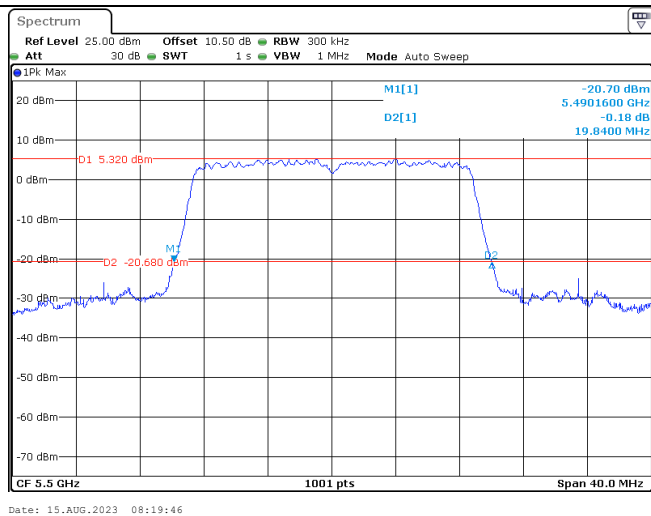
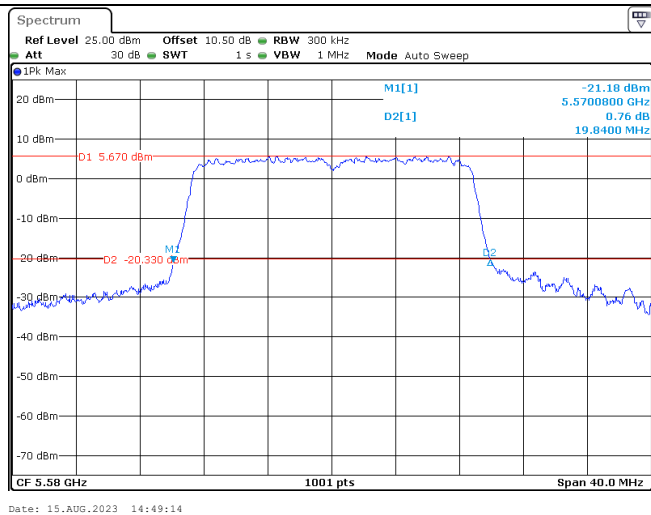
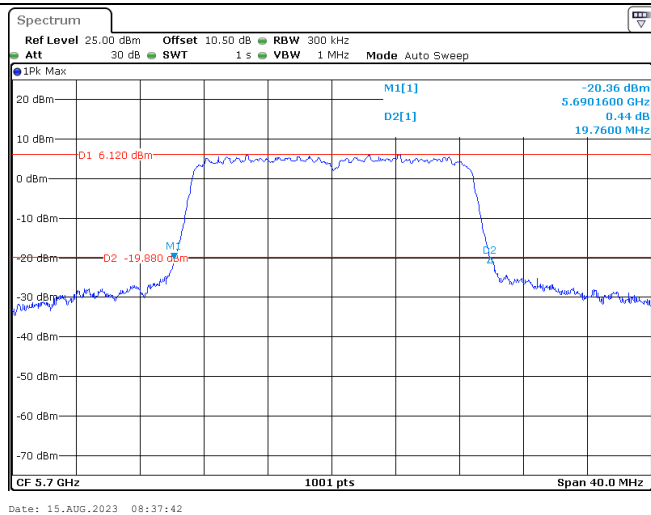
99% Emission Bandwidth

802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

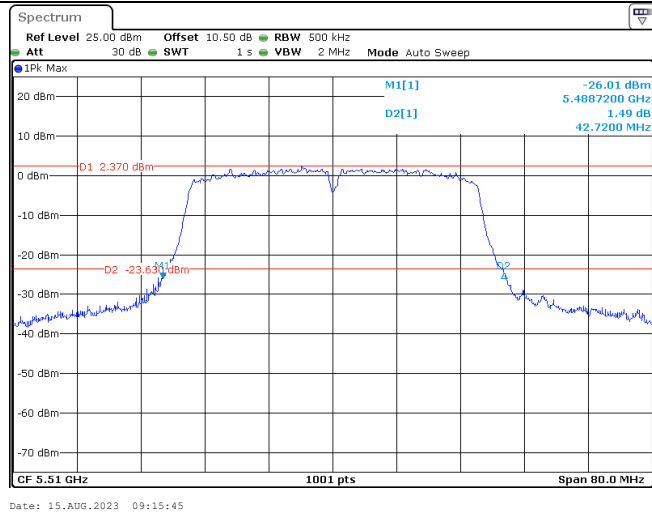
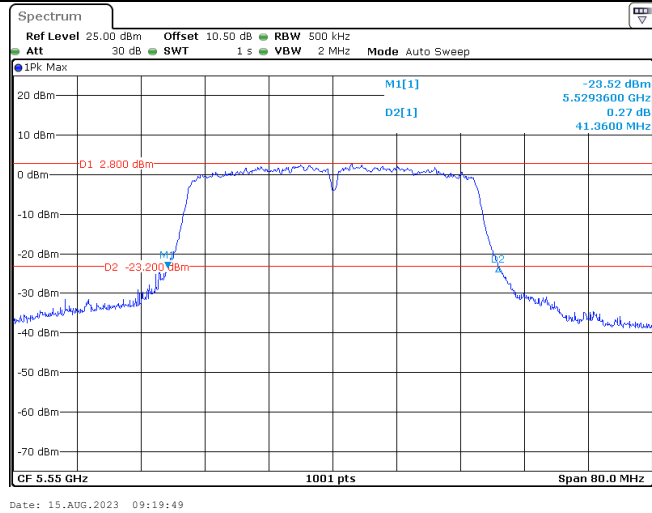
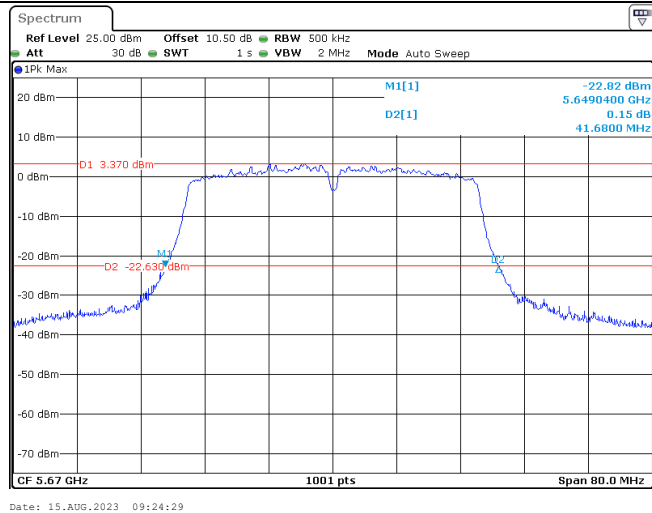
5470-5725 MHz:



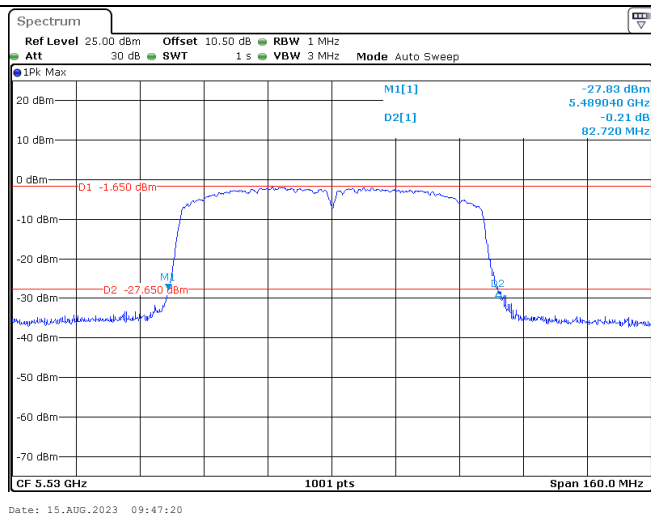
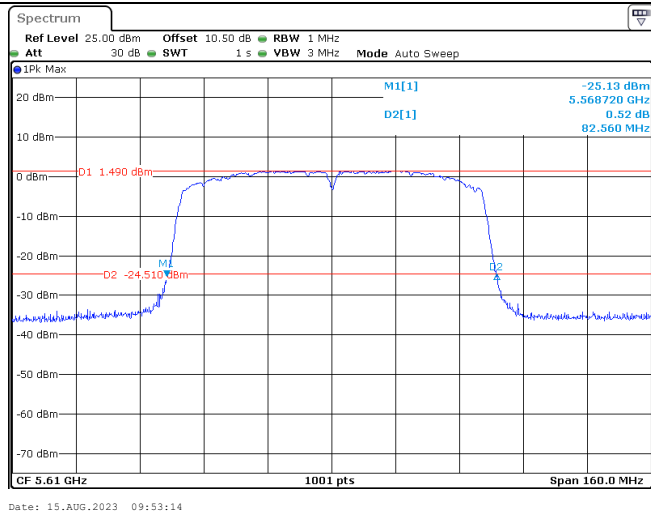
26dB Emission Bandwidth

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

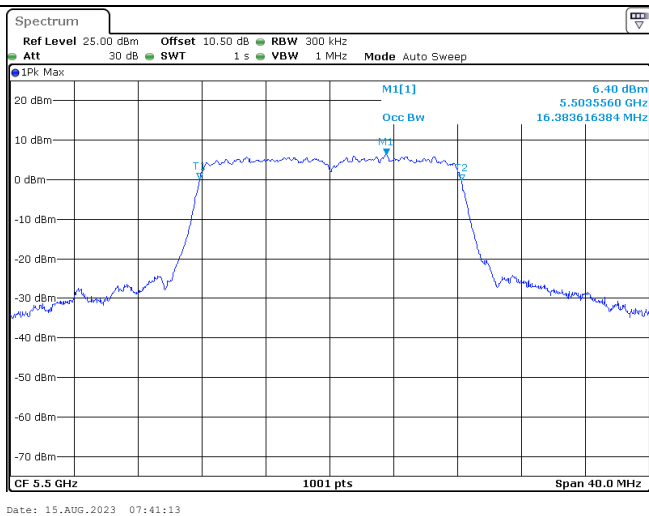
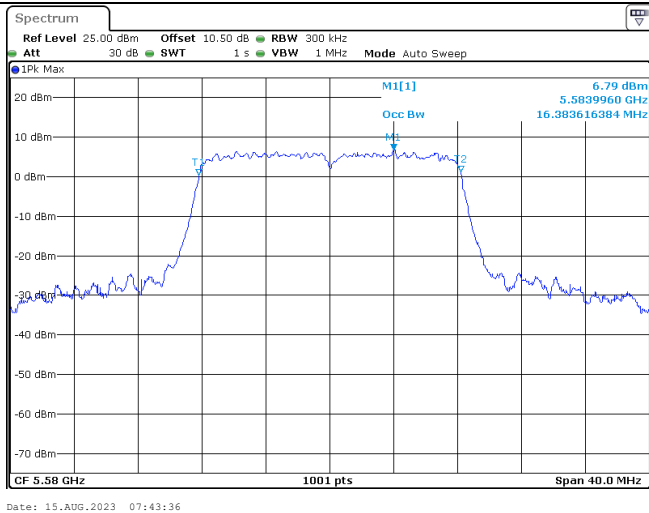
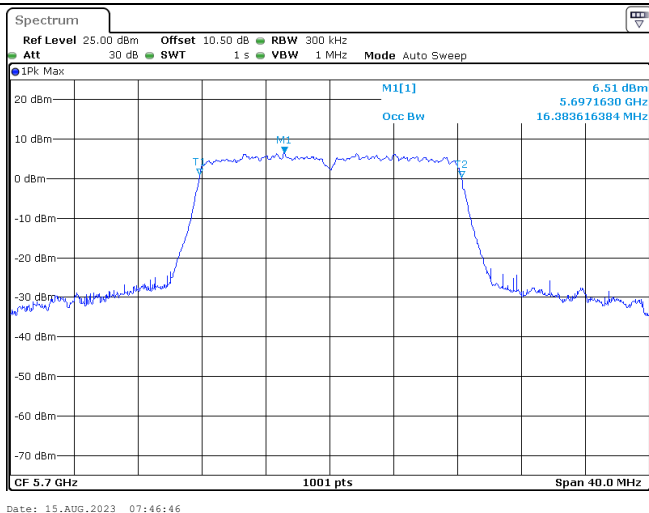
26dB Emission Bandwidth

802.11ac vht40
Lowest Channel802.11ac vht40
Middle Channel802.11ac vht40
Highest Channel

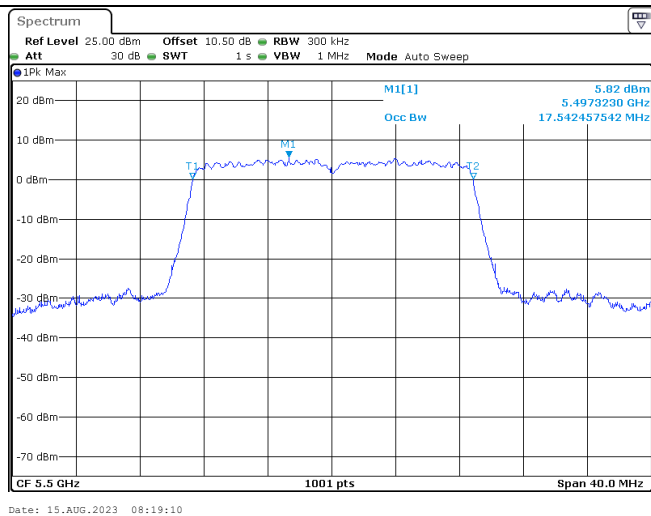
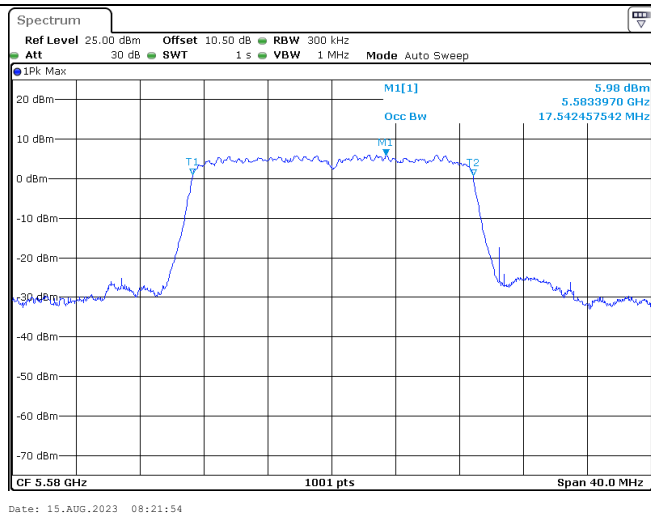
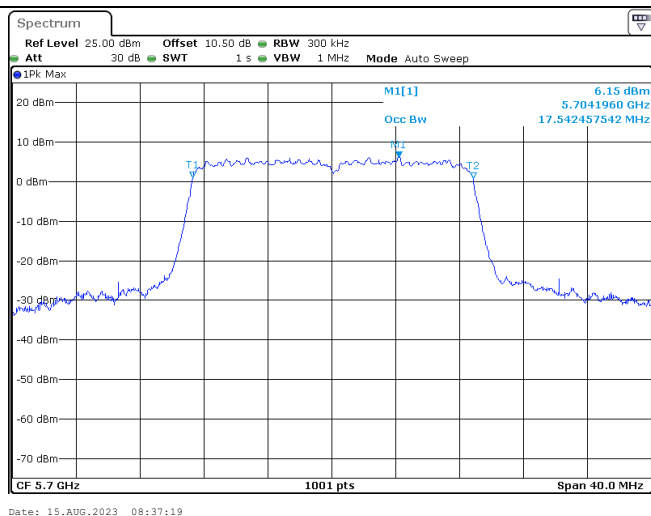
26dB Emission Bandwidth

802.11ac vht80
Lowest Channel802.11ac vht80
Highest Channel

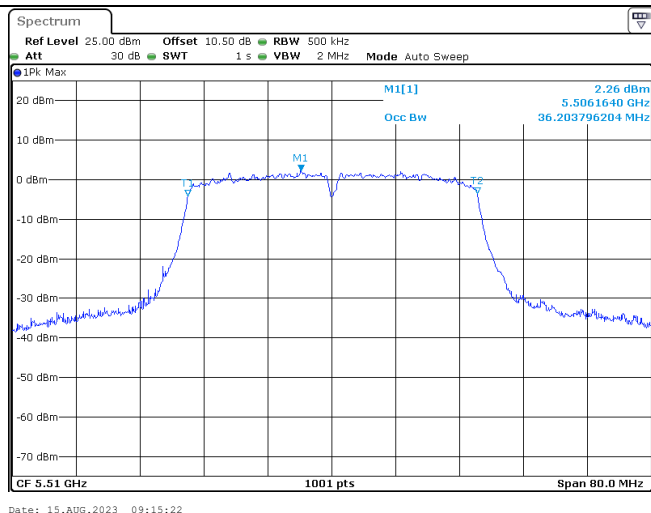
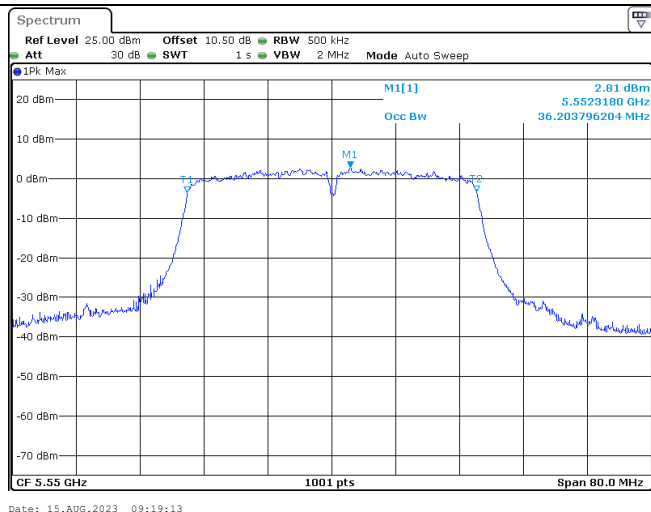
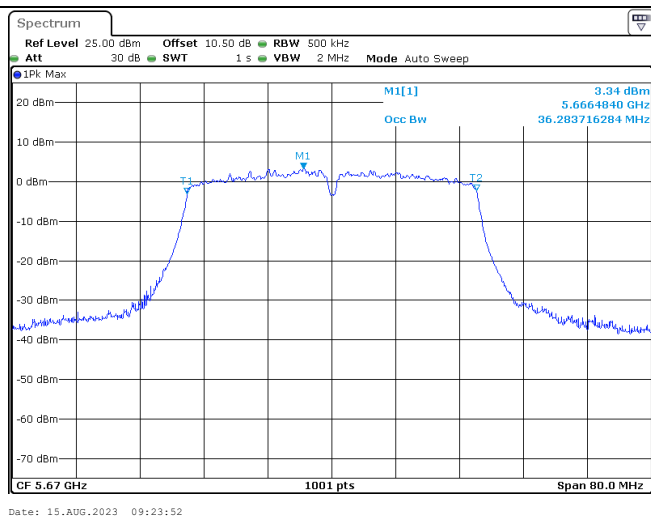
99% Emission Bandwidth

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

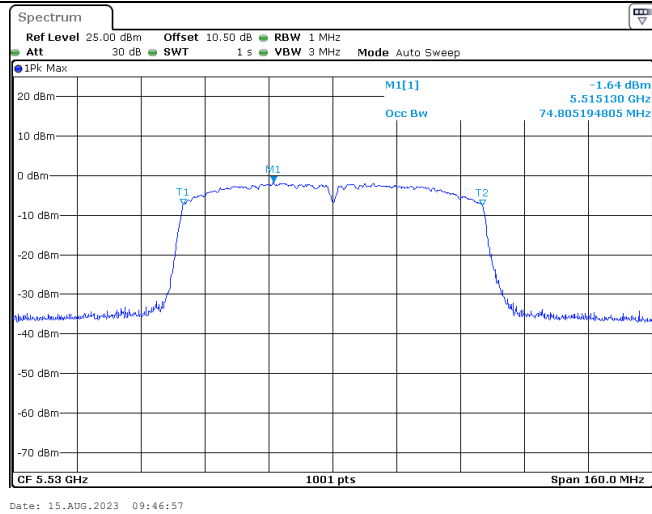
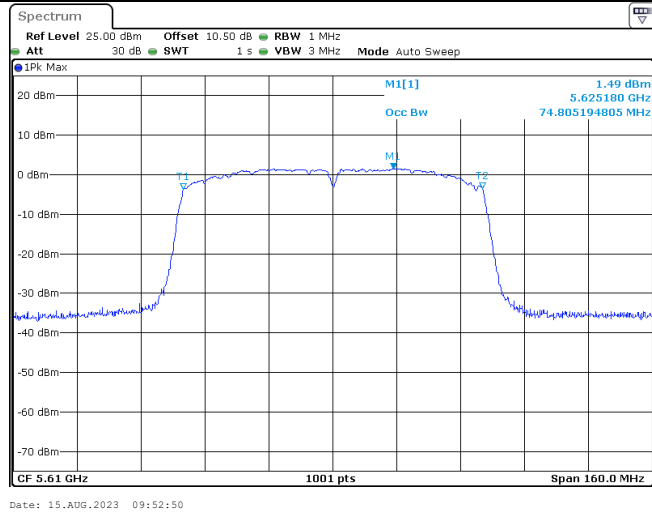
99% Emission Bandwidth

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

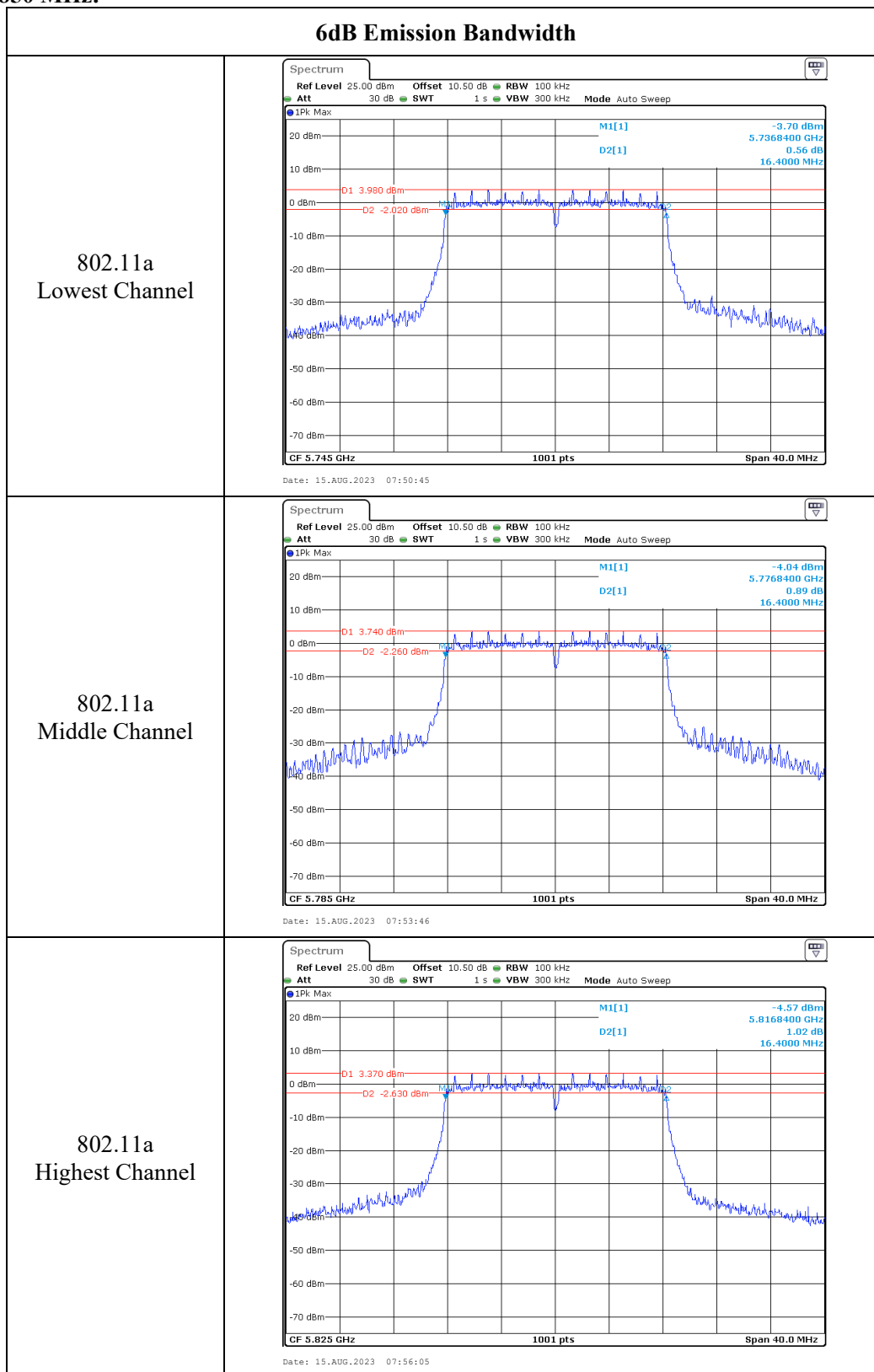
99% Emission Bandwidth

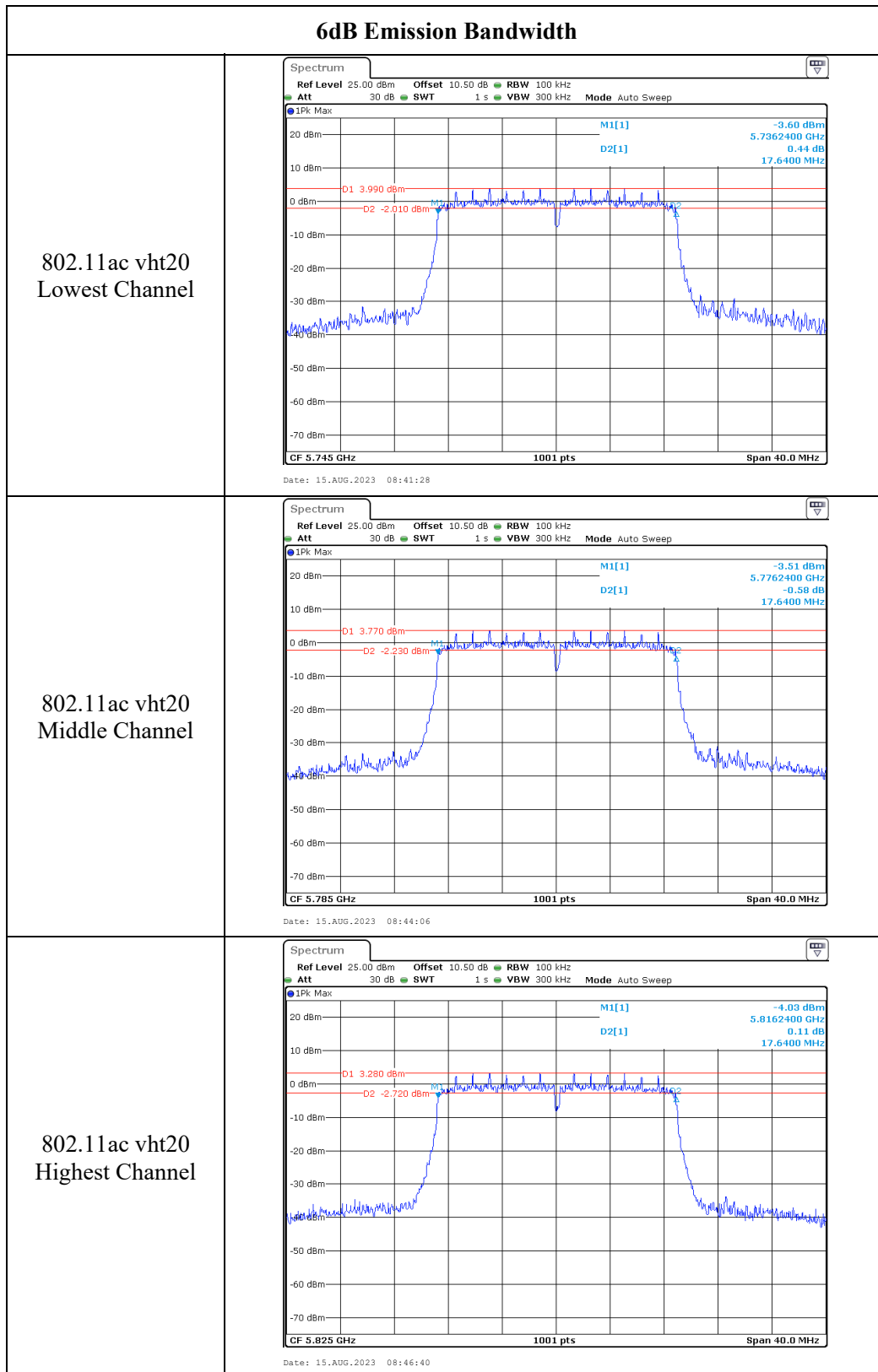
802.11ac vht40
Lowest Channel802.11ac vht40
Middle Channel802.11ac vht40
Highest Channel

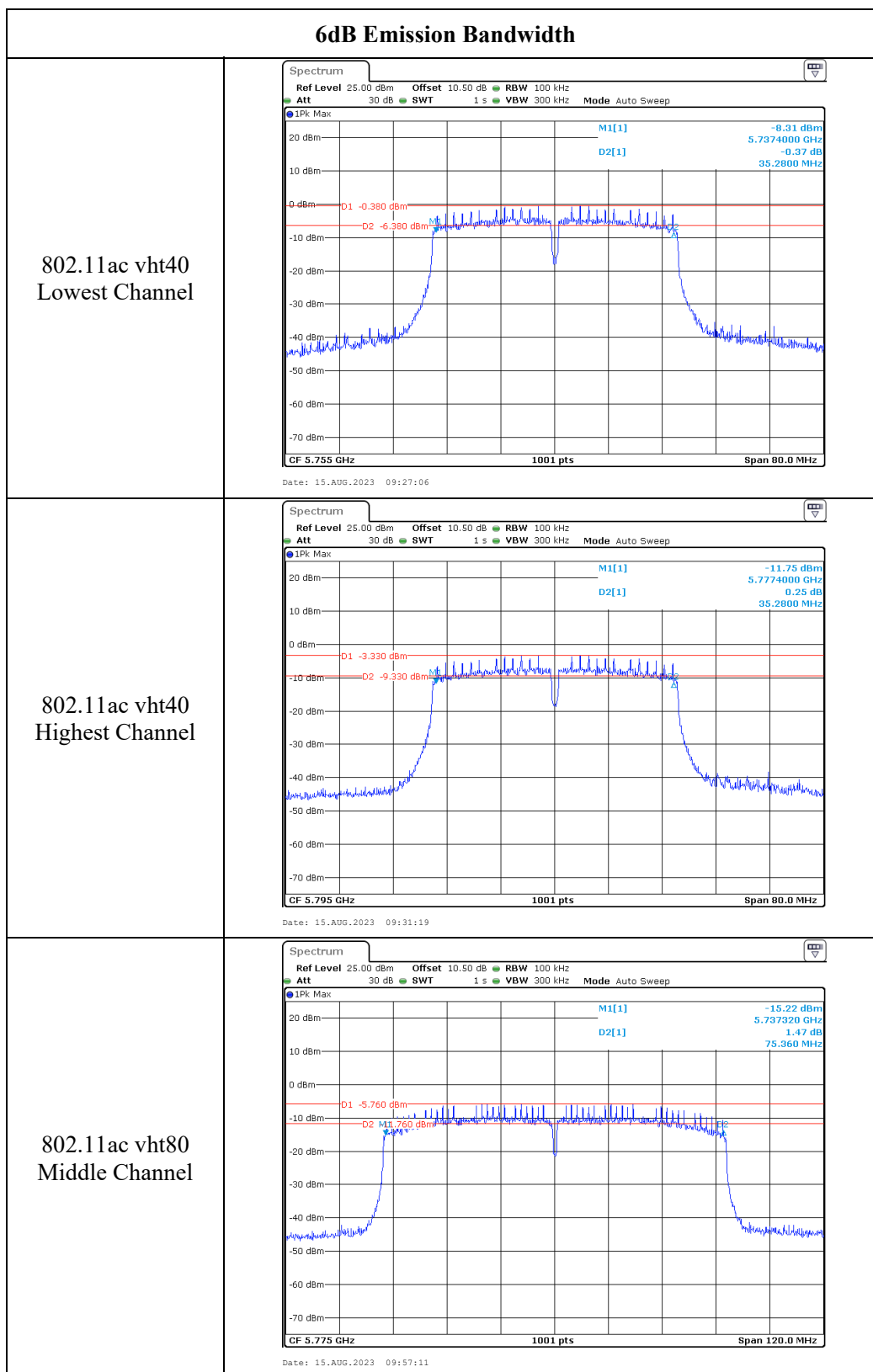
99% Emission Bandwidth

802.11ac vht80
Lowest Channel802.11ac vht80
Highest Channel

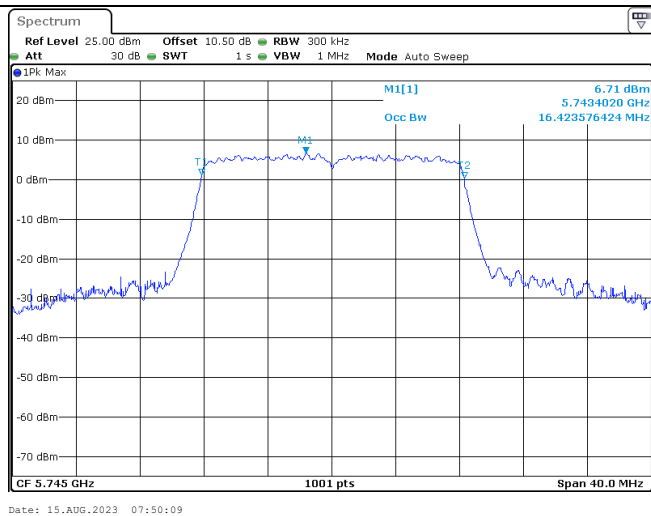
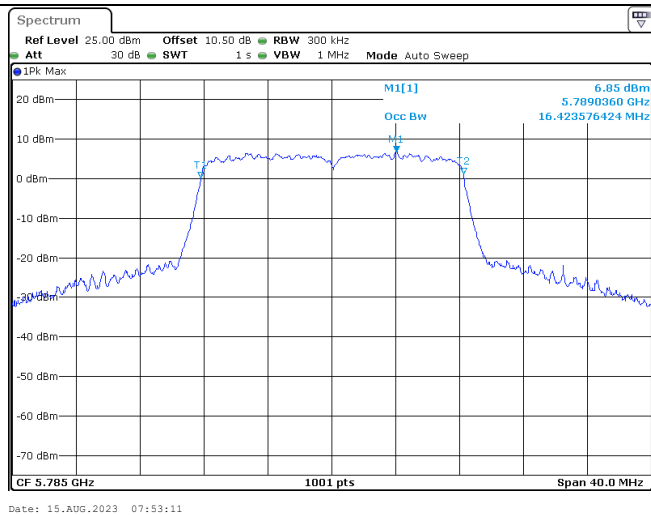
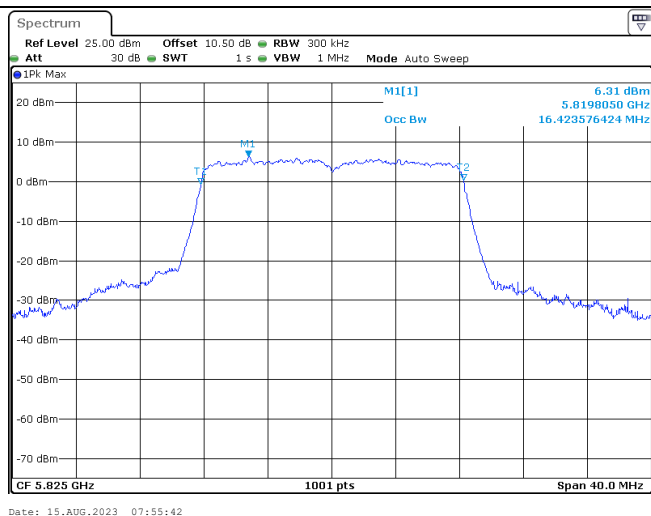
5725-5850 MHz:



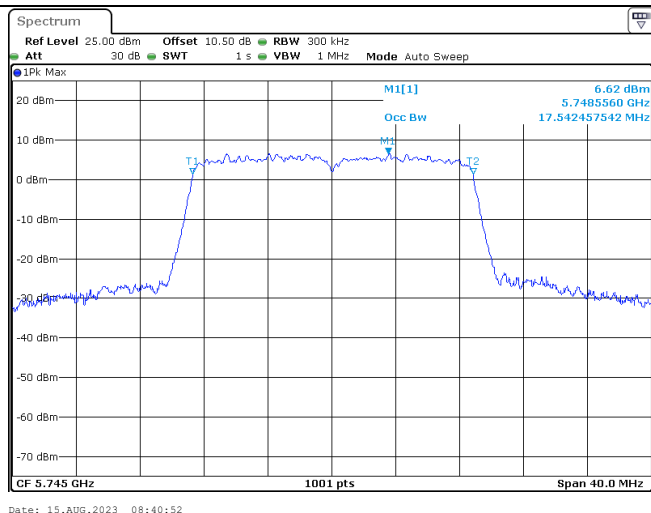
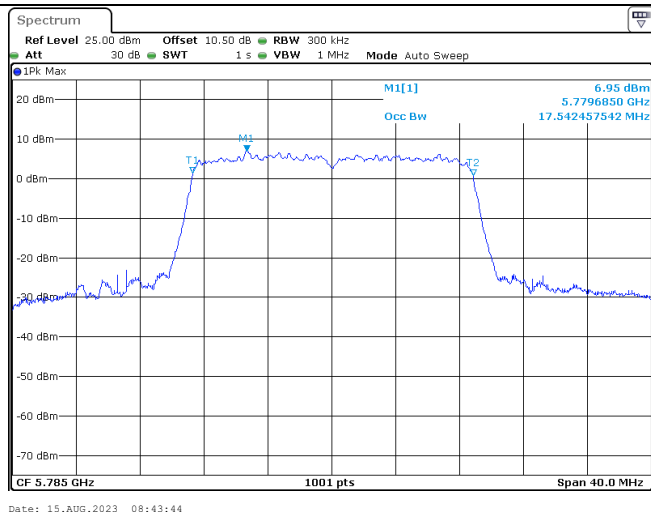
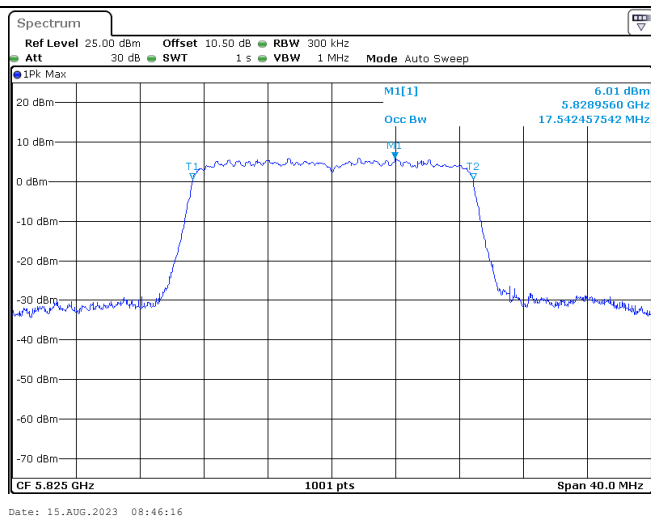




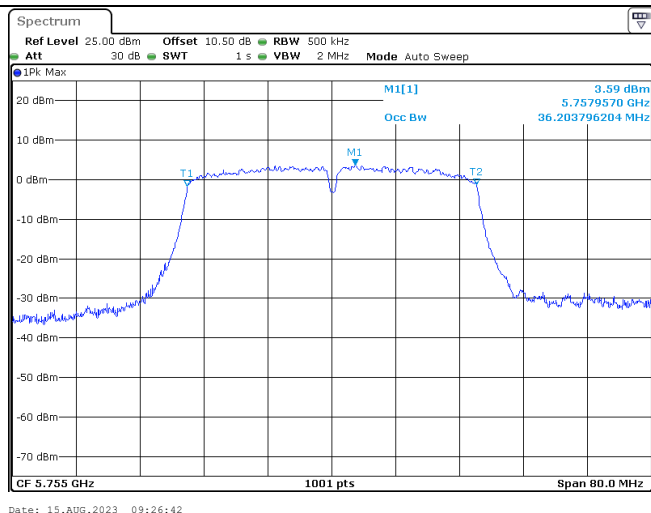
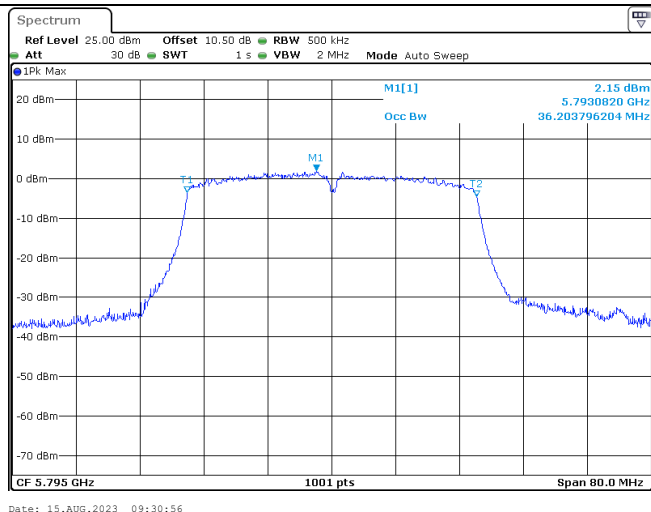
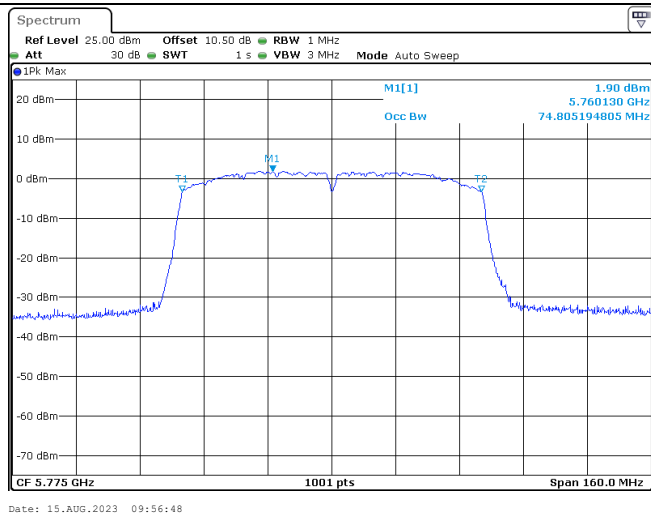
99% Emission Bandwidth

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

99% Emission Bandwidth

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

99% Emission Bandwidth

802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

4.4 Maximum Conducted Output Power:

Serial Number:	27SO-1	Test Date:	2023/8/15
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.6	Relative Humidity: (%)	63	ATM Pressure: (kPa)	101
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Anritsu	Power Meter	ML2495A	1106009	2023/8/4	2024/8/3
Anritsu	Pulse Power Sensor	MA2411A	10780	2023/8/4	2024/8/3
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A

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

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5180	15.41	11.40	/	24
	5200	15.07	11.80	/	24
	5240	14.56	11.55	/	24
802.11ac vht20	5180	13.45	12.27	15.91	24
	5200	13.34	12.19	15.81	24
	5240	13.06	12.13	15.63	24
802.11ac vht40	5190	10.08	9.92	13.01	24
	5230	9.64	9.00	12.34	24
802.11ac vht80	5210	7.97	7.77	10.88	24
Note: The device is a client unit. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$					
Antenna Gain:	2	dBi	Directional gain:	2.00	dBi

5250-5350 MHz:

Test Modes	Test Frequency(MHz)	Max. Conducted Average Output Power(dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5260	13.83	10.83	/	23.79
	5280	13.71	11.58	/	23.75
	5320	13.24	11.37	/	23.77
802.11ac vht20	5260	13.19	11.45	15.42	23.98
	5280	13.16	11.61	15.46	23.95
	5320	12.83	11.08	15.05	23.95
802.11ac vht40	5270	10.20	8.51	12.45	24
	5310	9.79	9.07	12.46	24
802.11ac vht80	5290	7.92	6.08	10.11	24
Note: The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$					
Antenna Gain:	2	dBi	Directional gain:	2.00	dBi

5470-5725 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5500	14.76	13.30	/	23.77
	5580	15.18	13.30	/	23.77
	5700	15.04	11.96	/	23.80
802.11ac vht20	5500	14.23	13.07	16.70	23.98
	5580	14.75	13.06	17.00	23.98
	5700	14.90	12.13	16.74	23.96
802.11ac vht40	5510	11.73	10.93	14.36	24
	5550	10.66	10.63	13.66	24
	5670	11.82	9.85	13.96	24
802.11ac vht80	5530	7.11	8.42	10.82	24
	5610	10.60	8.15	12.56	24
Note: The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$					
Antenna Gain:	2	dBi	Directional gain:	2.00	dBi

5725-5850 MHz:

Test Modes	Test Frequency (MHz)	Max. Conducted Average Output Power (dBm)			
		Chain 0	Chain 1	Total	Limit
802.11a	5745	15.55	12.18	/	30
	5785	15.45	12.24	/	30
	5825	14.99	12.02	/	30
802.11ac vht20	5745	15.29	12.19	17.02	30
	5785	15.40	12.23	17.11	30
	5825	14.83	12.03	16.66	30
802.11ac vht40	5755	12.09	10.15	14.24	30
	5795	11.28	9.71	13.58	30
802.11ac vht80	5775	8.40	7.17	10.84	30
Note: The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices: Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$					
Antenna Gain:	2	dBi	Directional gain:	2.00	dBi

4.5 Maximum power spectral density:

Serial Number:	27SO-1	Test Date:	2023/8/15
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.6	Relative Humidity: (%)	63	ATM Pressure: (kPa)	101
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023-04-18	2024-04-17
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A

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

Test Data:

5150-5250 MHz:

Test Modes	Test Frequency (MHz)	Reading (dBm/MHz)		Maximum Power Spectral Density (dBm/MHz)	
		Chain 0	Chain 1	Result	Limit
802.11a	5180	2.96	-0.11	3.32	11
	5200	2.18	0.64	2.54	11
	5240	1.93	0.10	2.29	11
802.11ac vht20	5180	0.97	0.47	4.23	11
	5200	1.14	0.02	4.12	11
	5240	1.42	-0.05	4.25	11
802.11ac vht40	5190	-4.85	-4.56	-1.10	11
	5230	-4.96	-4.86	-1.30	11
802.11ac vht80	5210	-10.24	-11.10	-5.69	11

Note:

The device is a client unit.

Duty cycle <98%, and duty cycle variations are less than ±2%, KDB 789033 D02 General UNII Test Procedures

New Rules v02r01 Method SA-2 was used.

For Duty cycle<98%, and Duty cycle be considered to be constant(variations are less than ±2%), the duty cycle factor was added into the result.

The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB

Antenna Gain:	2	dBi	Directional gain:	5.00	dBi
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5250-5350 MHz:

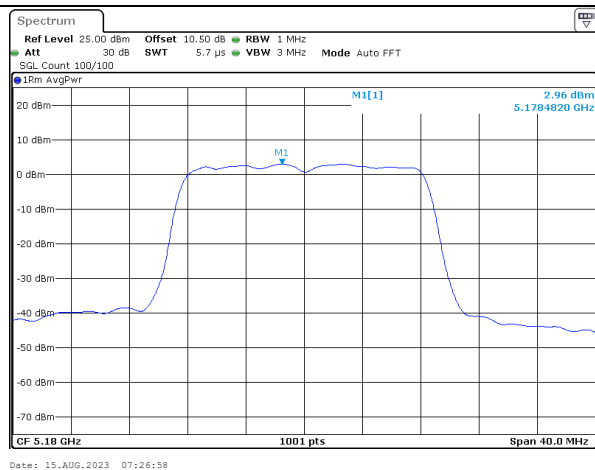
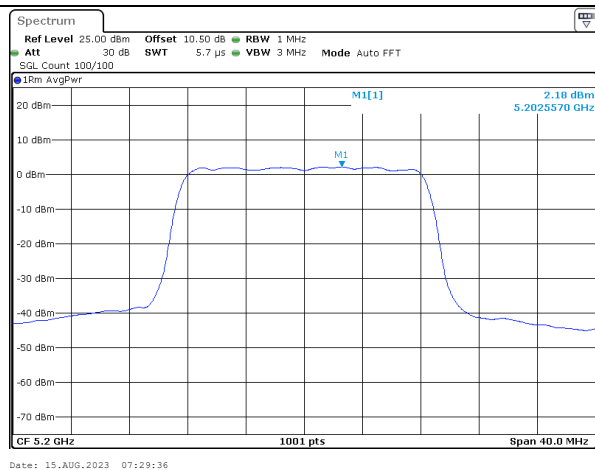
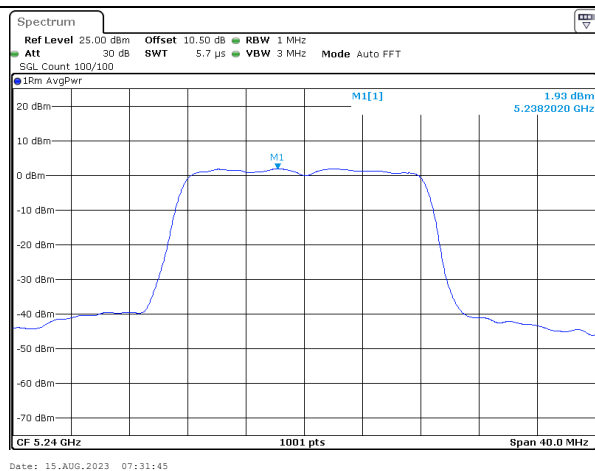
Test Modes	Test Frequency (MHz)	Reading (dBm/MHz)		Maximum Power Spectral Density (dBm/MHz)	
		Chain 0	Chain 1	Result	Limit
802.11a	5260	2.31	-0.52	2.67	11
	5280	2.05	-0.14	2.41	11
	5320	1.44	0.06	1.80	11
802.11ac vht20	5260	1.36	-0.43	4.06	11
	5280	1.26	-0.71	3.89	11
	5320	0.68	-0.75	3.52	11
802.11ac vht40	5270	-4.80	-5.70	-1.62	11
	5310	-5.37	-6.52	-2.30	11
802.11ac vht80	5290	-10.29	-11.68	-5.97	11
Note: Duty cycle <98%, and duty cycle variations are less than $\pm 2\%$, KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 was used. For Duty cycle <98%, and Duty cycle be considered to be constant (variations are less than $\pm 2\%$), the duty cycle factor was added into the result. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices: Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB					
Antenna Gain:	2	dBi	Directional gain:	5.00	dBi

5470-5725 MHz:

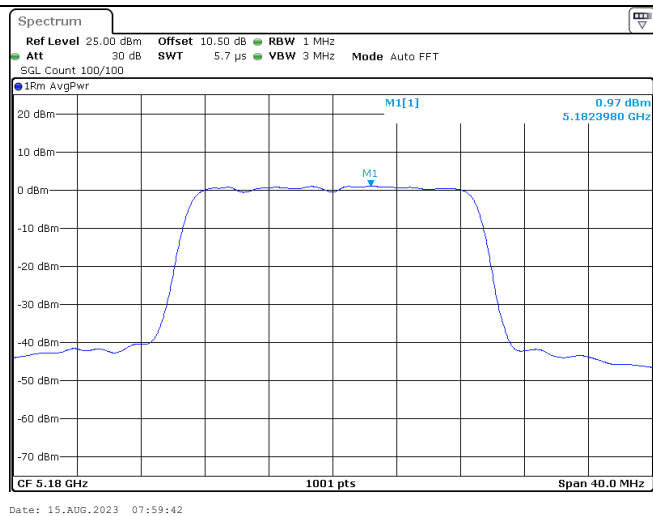
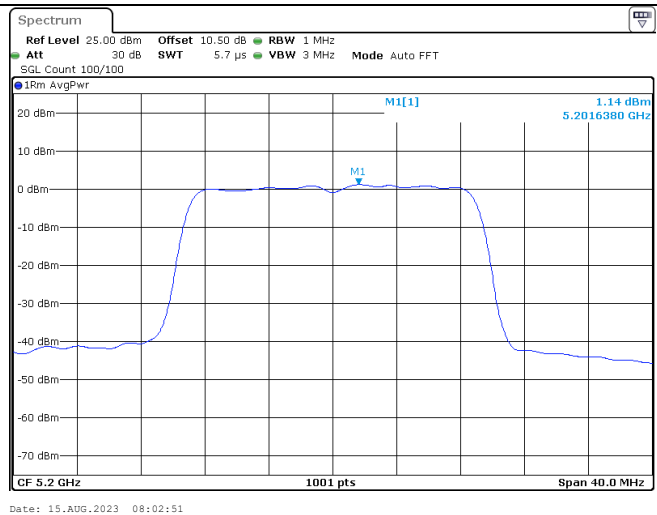
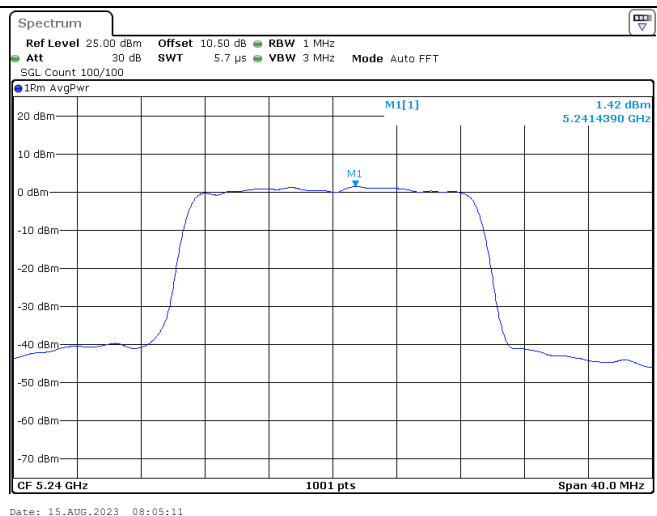
Test Modes	Test Frequency (MHz)	Reading (dBm/MHz)		Maximum Power Spectral Density (dBm/MHz)	
		Chain 0	Chain 1	Result	Limit
802.11a	5500	3.30	2.17	3.66	11
	5580	3.21	1.66	3.57	11
	5700	3.50	-0.01	3.86	11
802.11ac vht20	5500	1.93	1.71	5.32	11
	5580	2.90	0.84	5.49	11
	5700	2.69	-0.03	5.04	11
802.11ac vht40	5510	-3.11	-3.82	0.16	11
	5550	-3.51	-3.86	-0.07	11
	5670	-2.01	-4.73	0.45	11
802.11ac vht80	5530	-11.22	-9.82	-5.51	11
	5610	-7.88	-9.96	-3.84	11
Note: Duty cycle <98%, and duty cycle variations are less than $\pm 2\%$, KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 was used. For Duty cycle <98%, and Duty cycle be considered to be constant (variations are less than $\pm 2\%$), the duty cycle factor was added into the result. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices: Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB					
Antenna Gain:	2	dBi	Directional gain:	5.00	dBi

5725-5850 MHz:

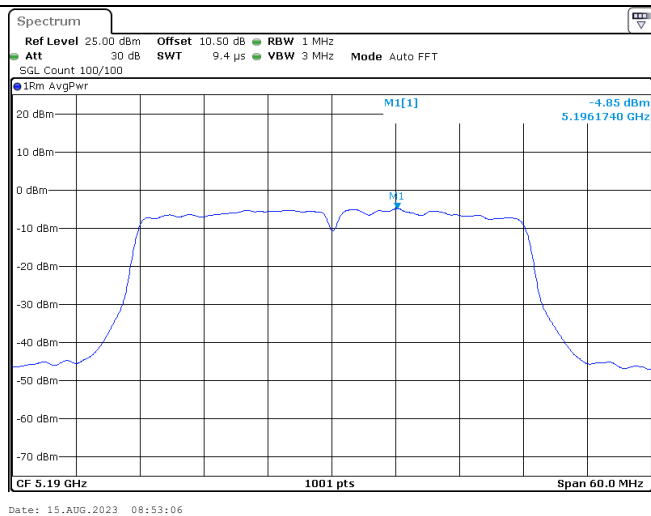
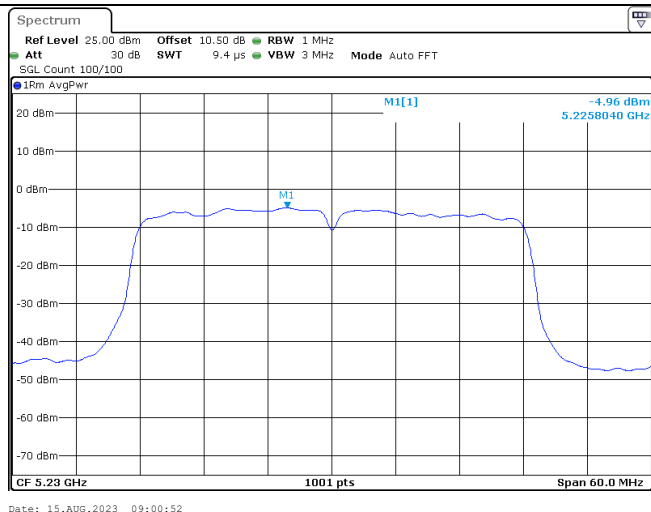
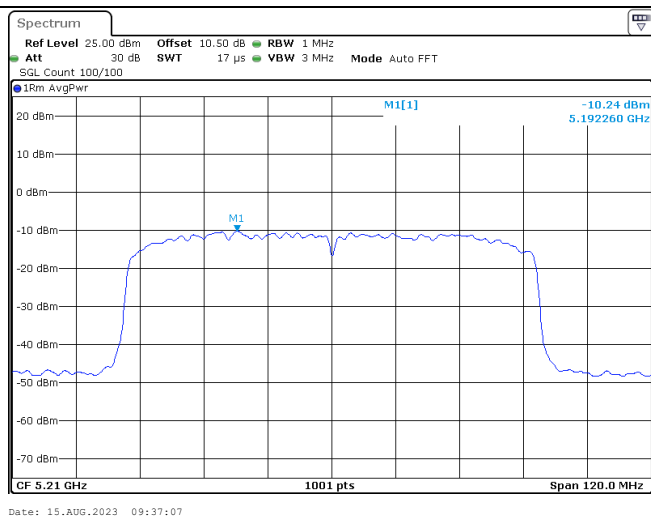
Test Modes	Test Frequency (MHz)	Reading (dBm/500kHz)		Maximum Power Spectral Density (dBm/500kHz)	
		Chain 0	Chain 1	Result	Limit
802.11a	5745	0.70	-2.12	1.06	30
	5785	0.68	-2.34	1.04	30
	5825	0.31	-1.96	0.67	30
802.11ac vht20	5745	0.32	-2.26	2.72	30
	5785	0.03	-3.07	2.25	30
	5825	-0.04	-2.77	2.31	30
802.11ac vht40	5755	-4.37	-7.33	-2.00	30
	5795	-7.50	-7.98	-4.13	30
802.11ac vht80	5775	-12.24	-13.82	-8.00	30
Note: Duty cycle <98%, and duty cycle variations are less than $\pm 2\%$, KDB 789033 D02 General UNII Test Procedures New Rules v02r01 Method SA-2 was used. For Duty cycle <98%, and Duty cycle be considered to be constant (variations are less than $\pm 2\%$), the duty cycle factor was added into the result. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices: Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB					
Antenna Gain:	2	dBi	Directional gain:	5.00	dBi

Chain 0:
5150-5250MHz:**Maximum power spectral density**802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

Maximum power spectral density

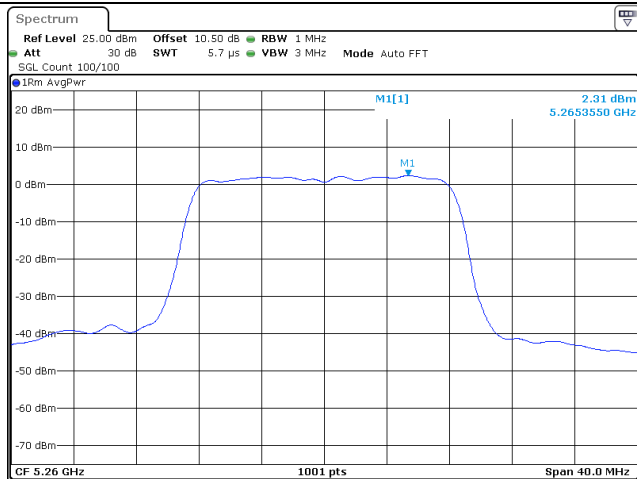
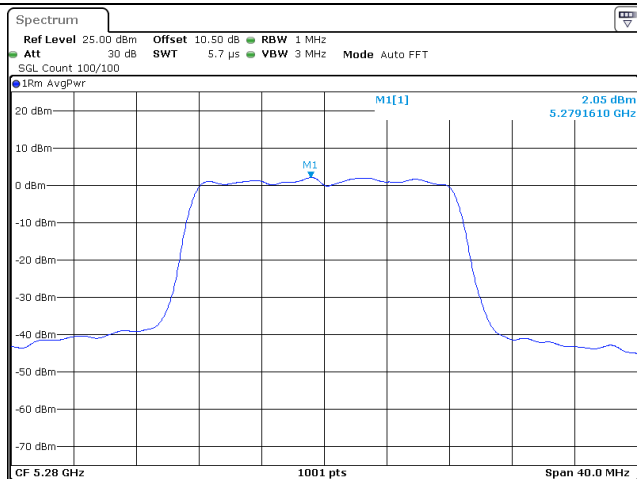
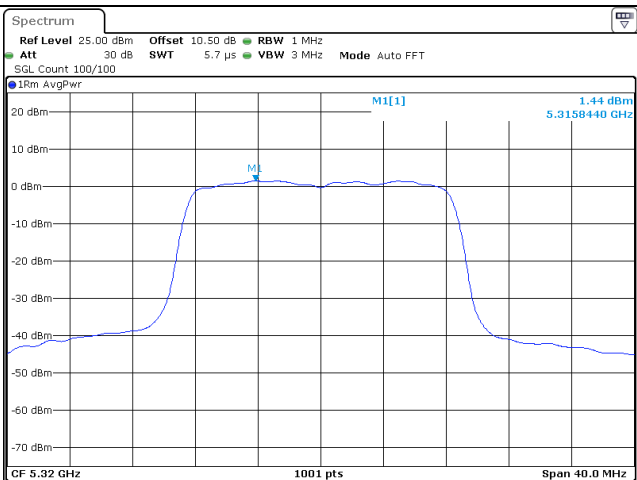
802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

Maximum power spectral density

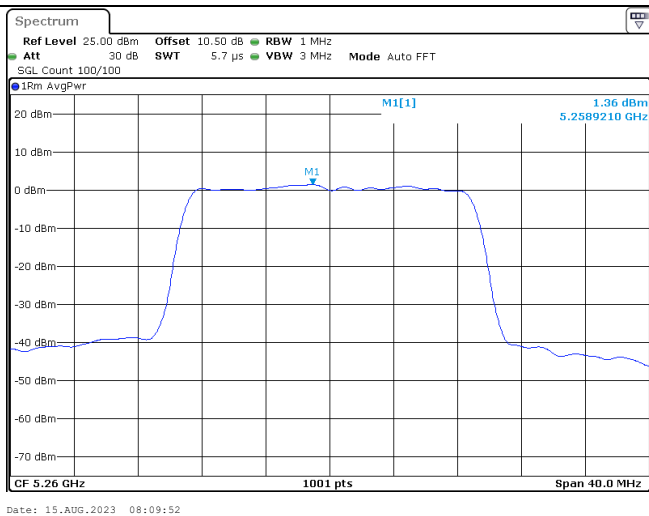
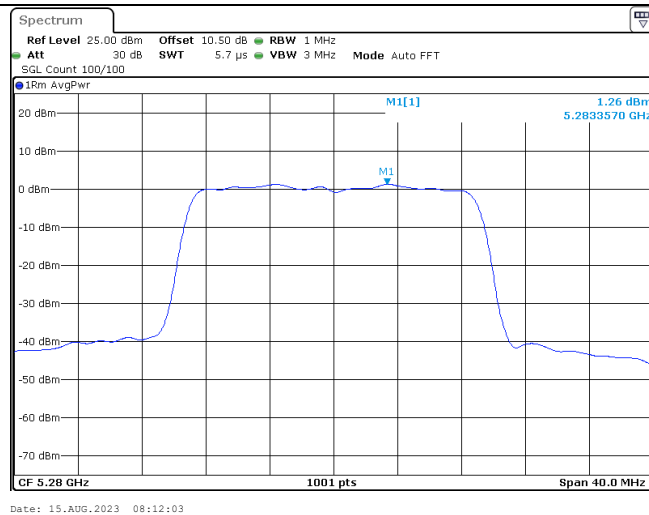
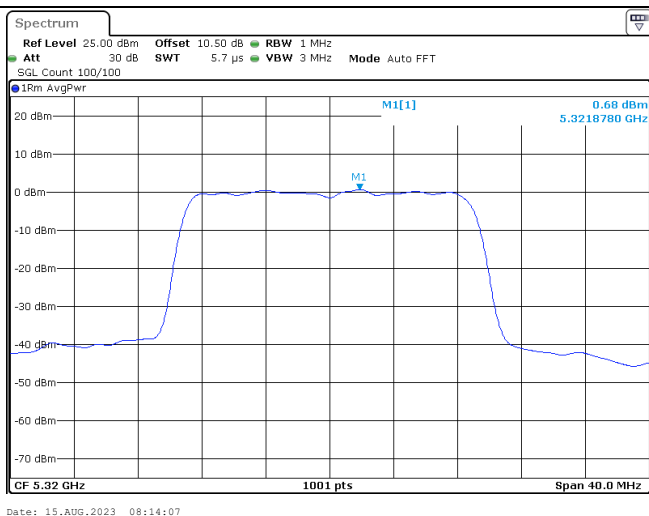
802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

5250-5350 MHz:

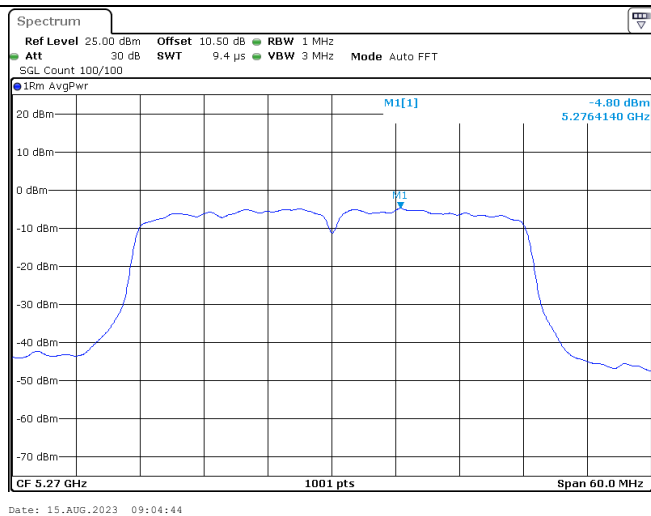
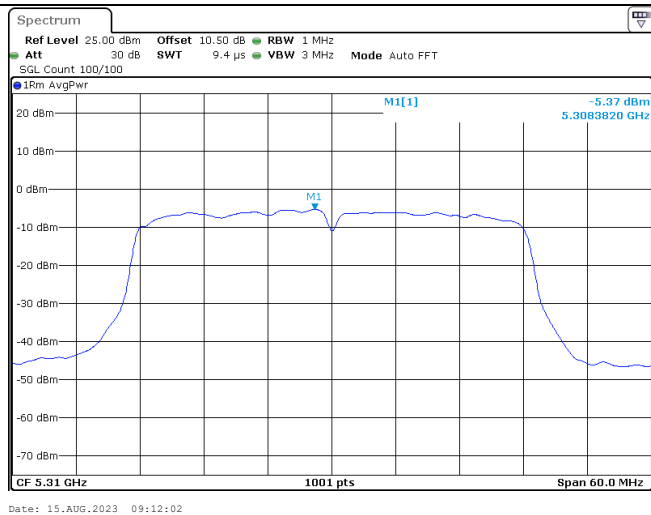
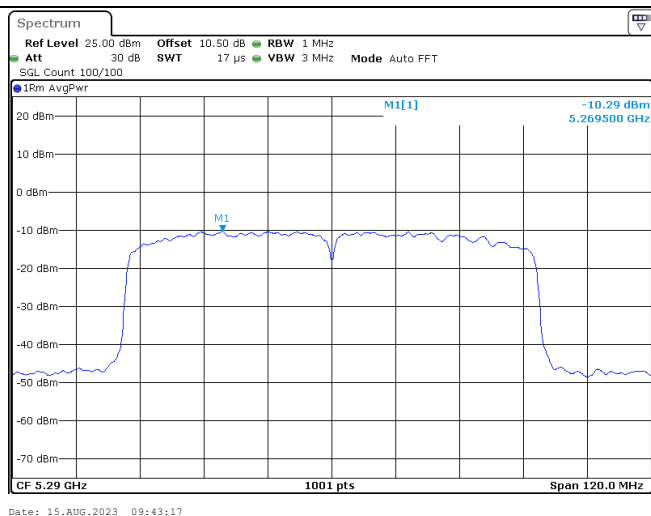
Maximum power spectral density

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

Maximum power spectral density

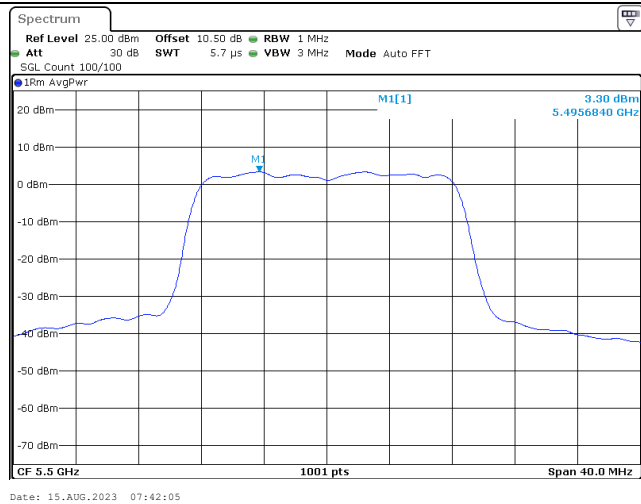
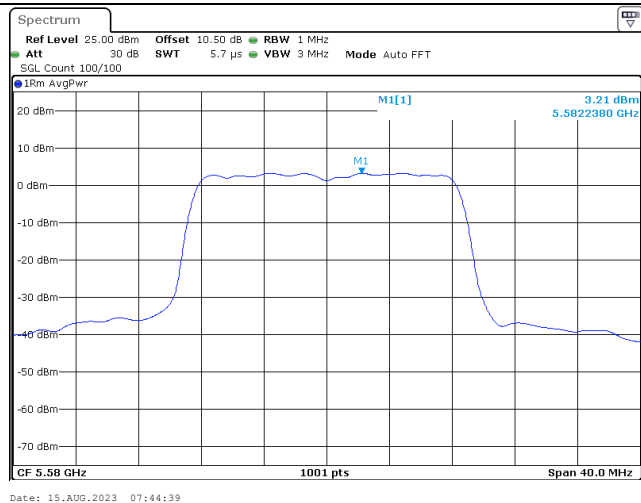
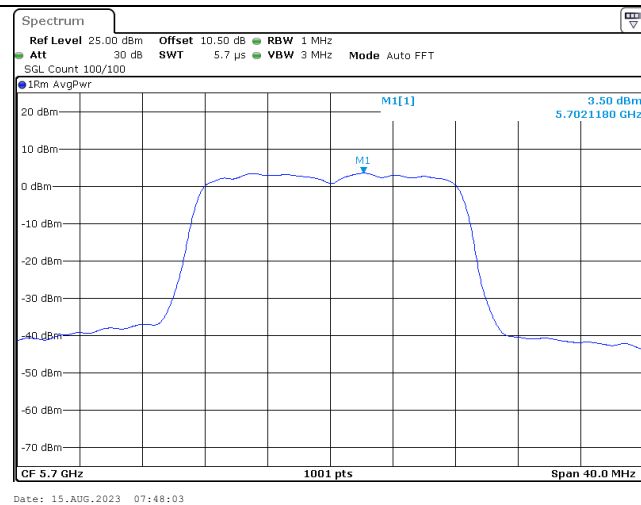
802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

Maximum power spectral density

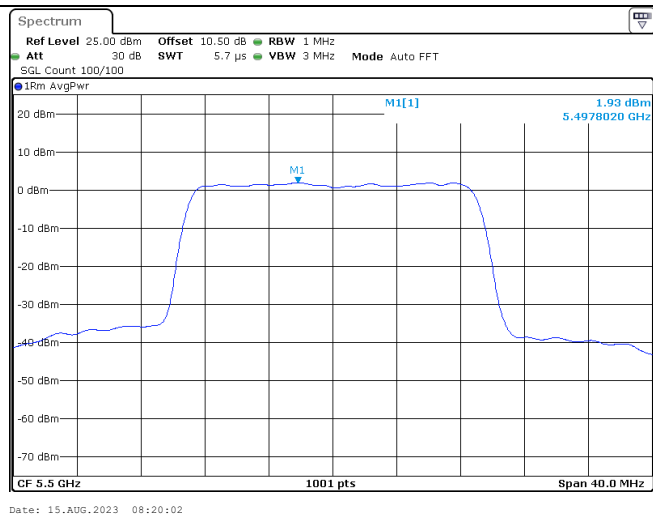
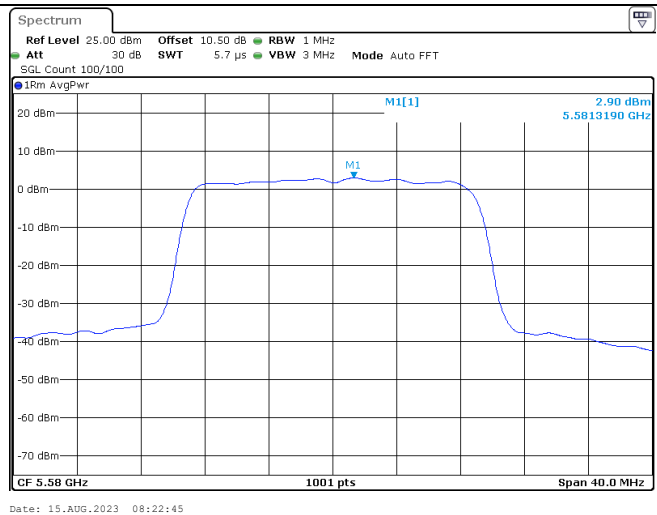
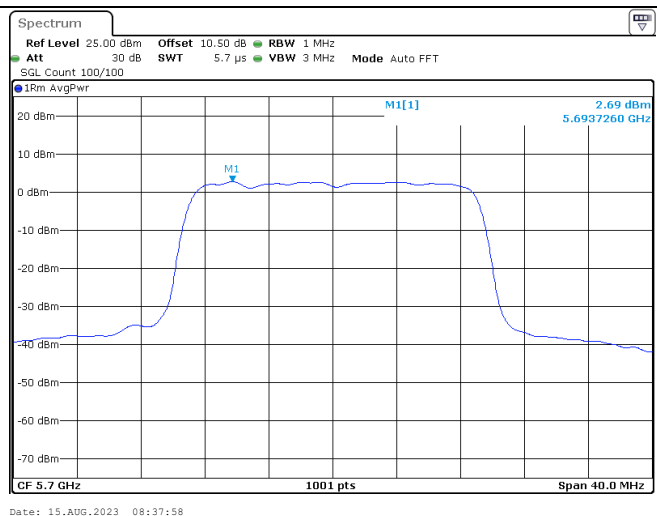
802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

5470-5725 MHz:

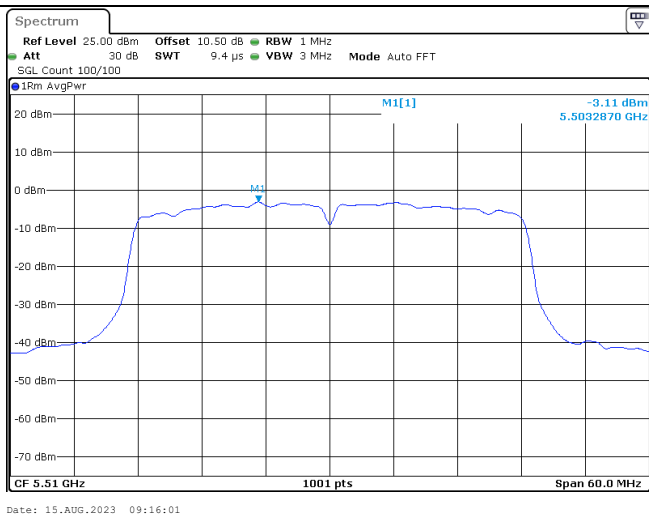
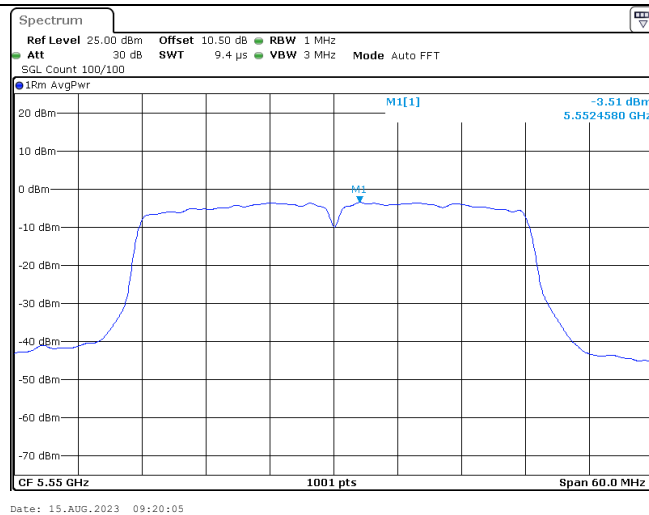
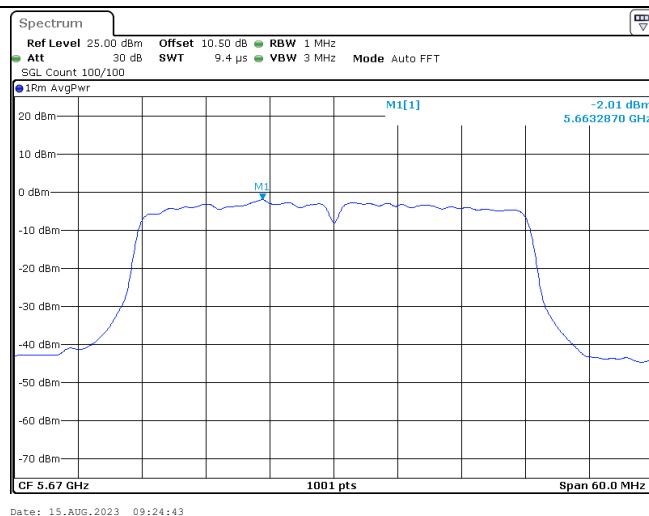
Maximum power spectral density

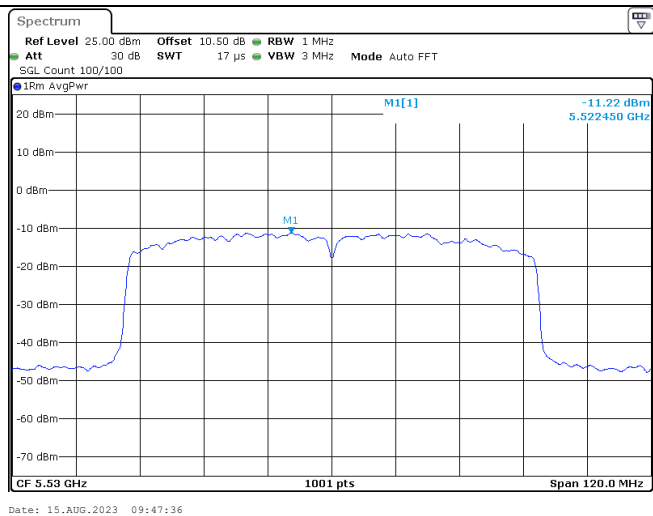
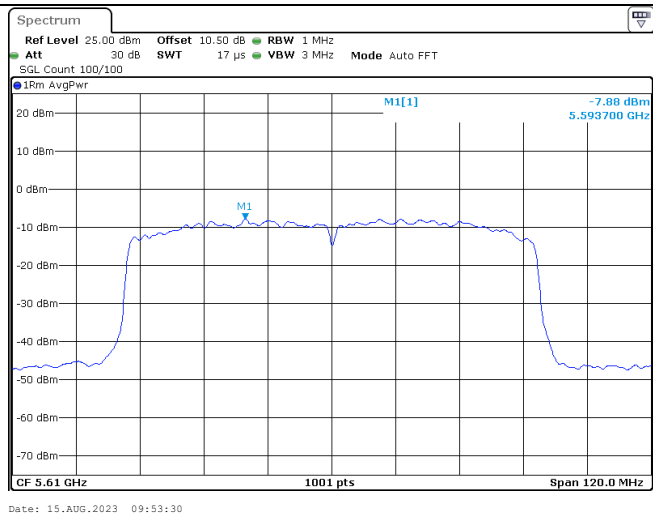
802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

Maximum power spectral density

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

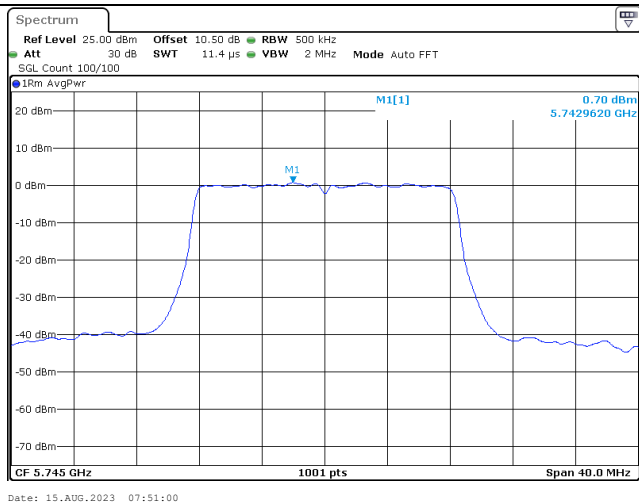
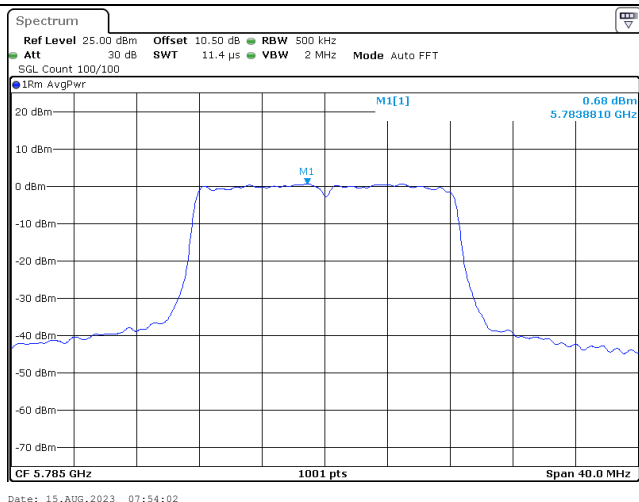
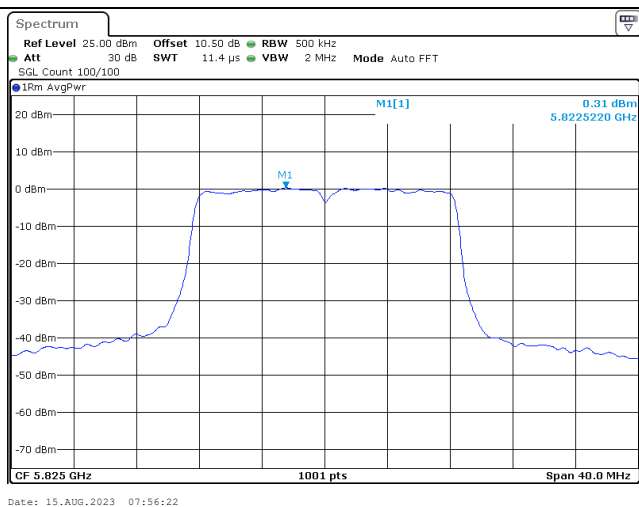
Maximum power spectral density

802.11ac vht40
Lowest Channel802.11ac vht40
Middle Channel802.11ac vht40
Highest Channel

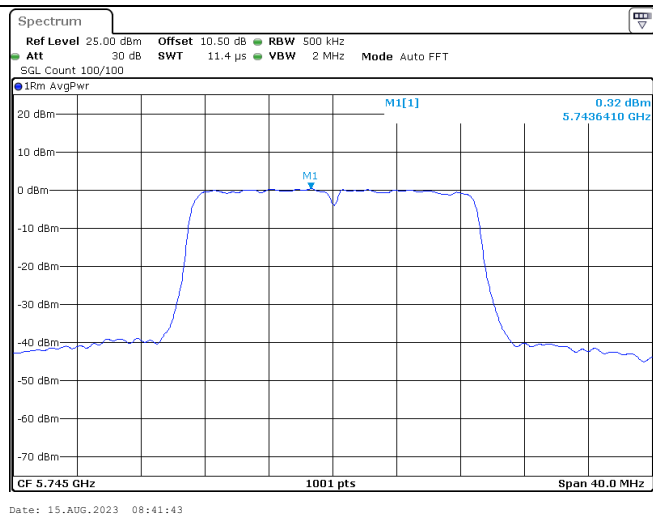
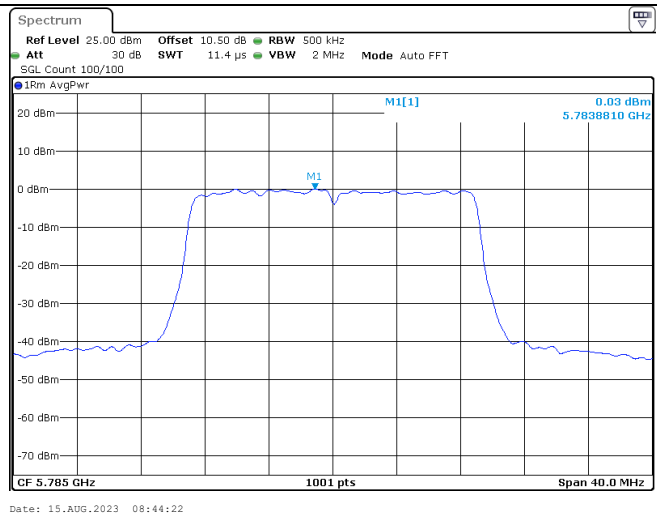
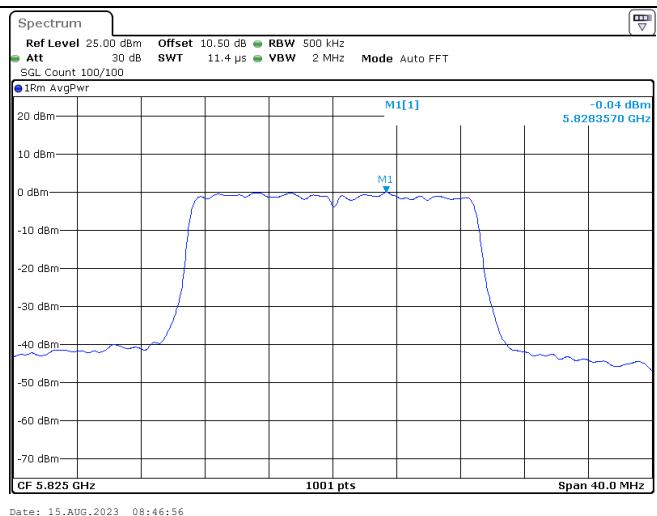
Maximum power spectral density802.11ac vht80
Lowest Channel802.11ac vht80
Highest Channel

5725-5850 MHz:

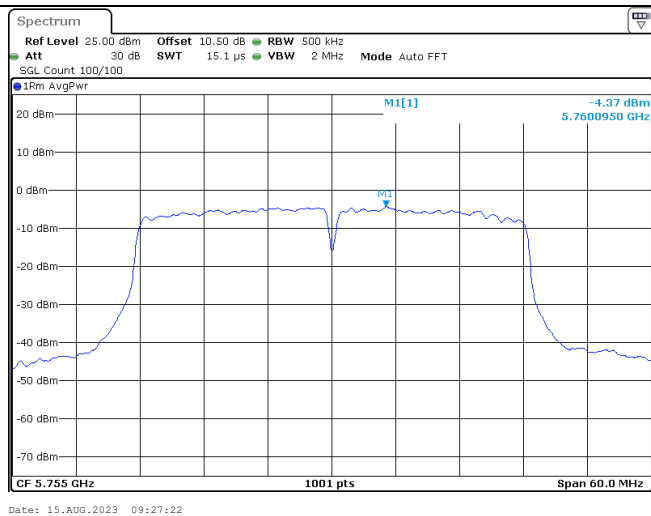
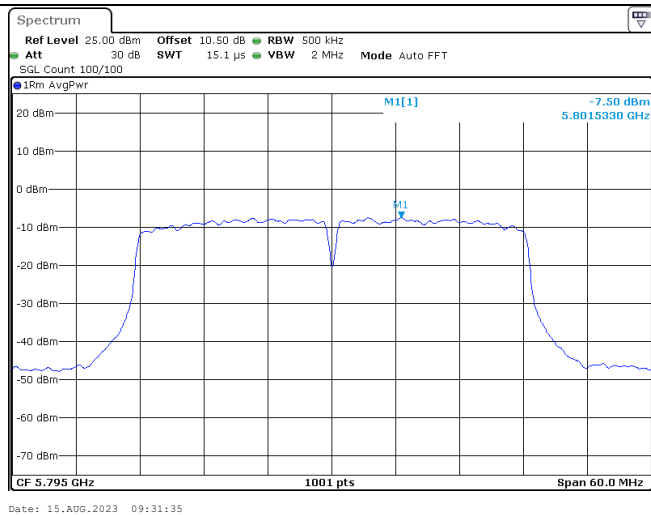
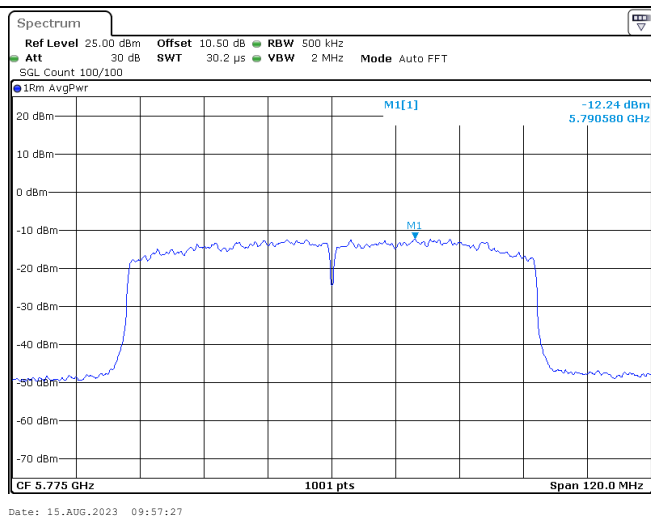
Maximum power spectral density

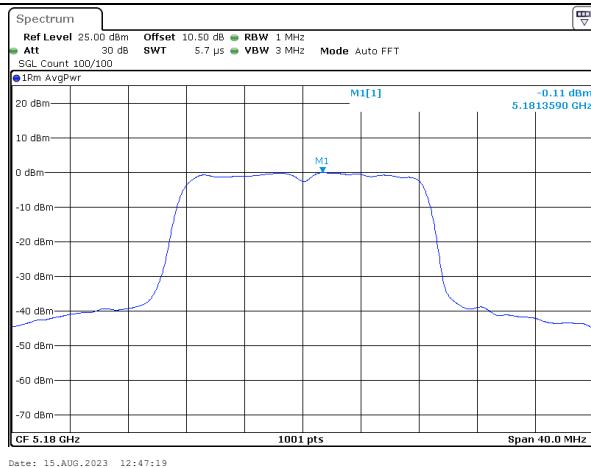
802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

Maximum power spectral density

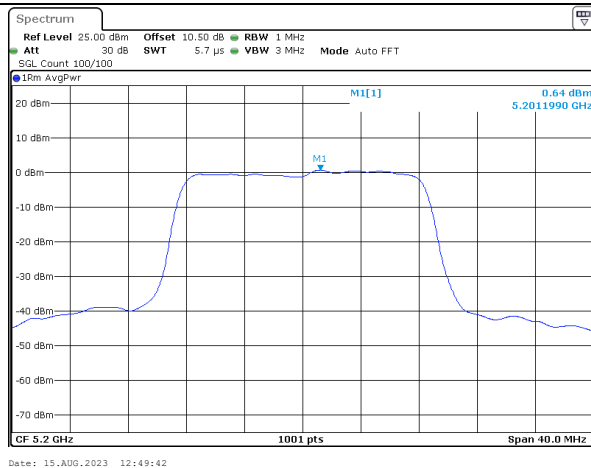
802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

Maximum power spectral density

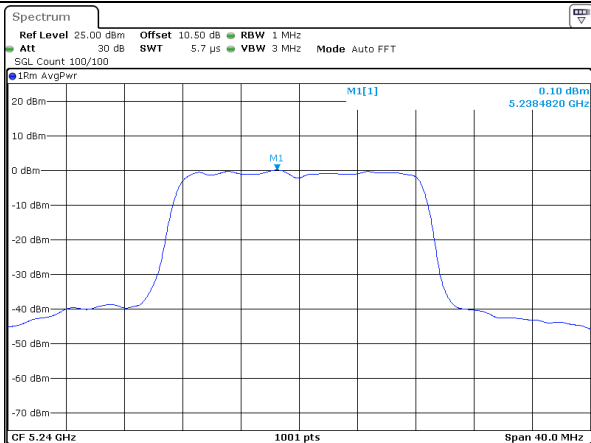
802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

Chain 1:
5150-5250MHz:**Maximum power spectral density**802.11a
Lowest Channel

Date: 15.AUG.2023 12:47:19

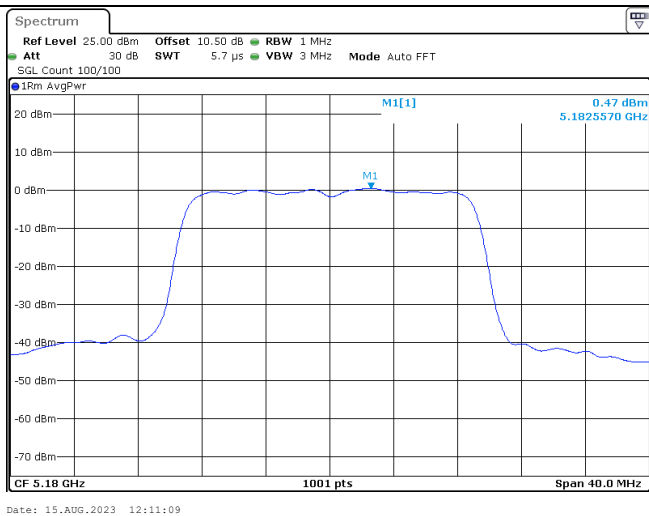
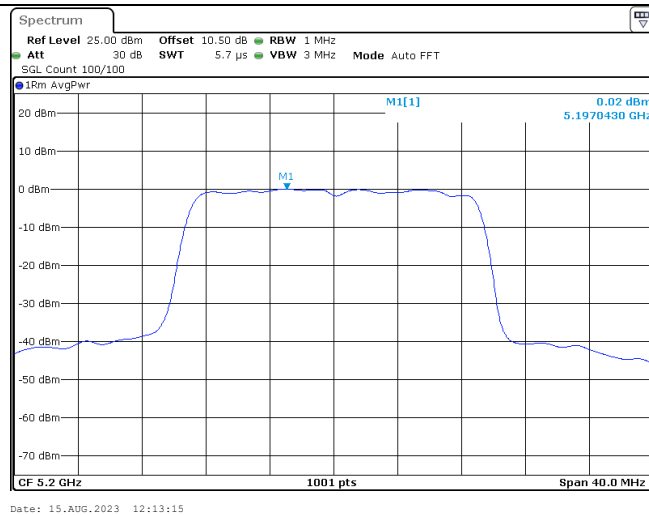
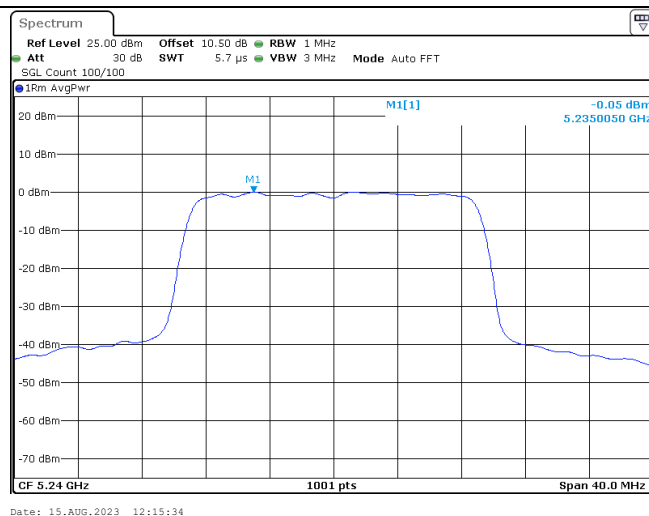
802.11a
Middle Channel

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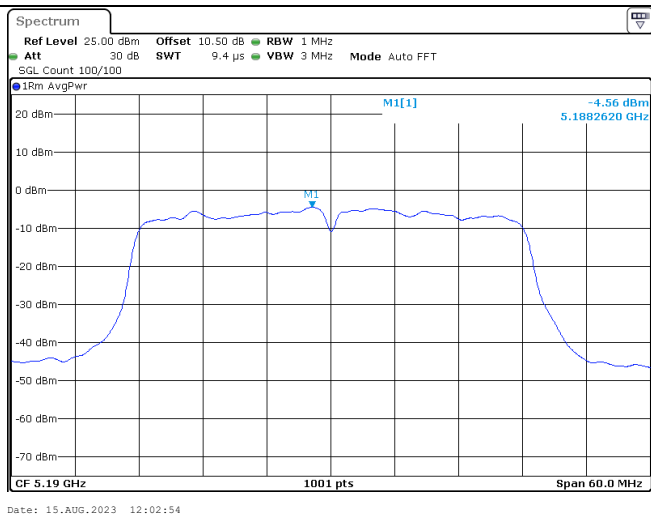
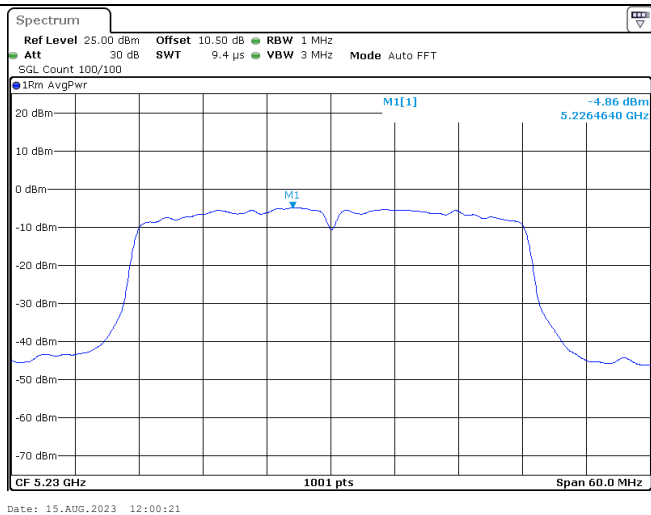
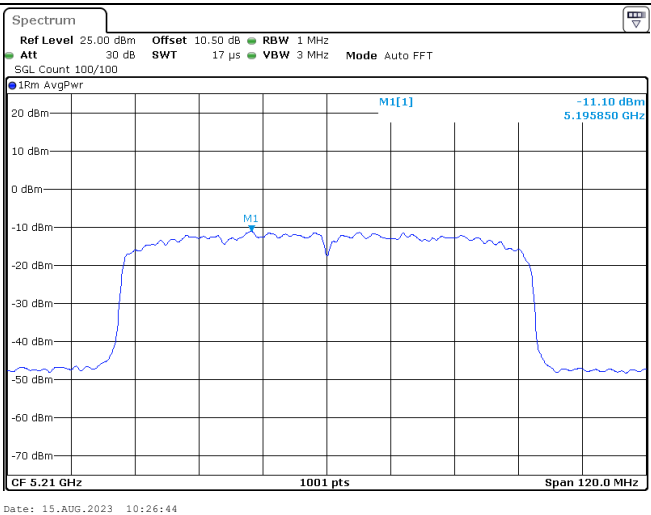
802.11a
Highest Channel

Date: 15.AUG.2023 12:51:53

Maximum power spectral density

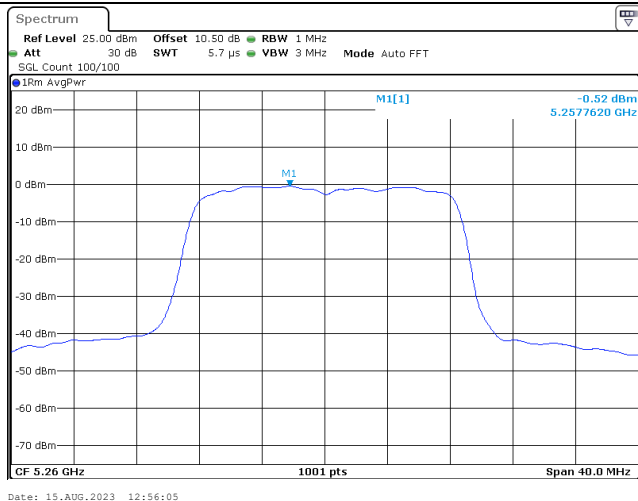
802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

Maximum power spectral density

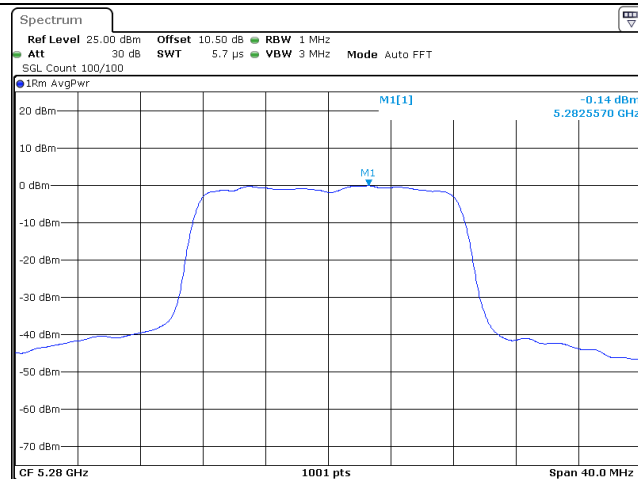
802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

5250-5350 MHz:

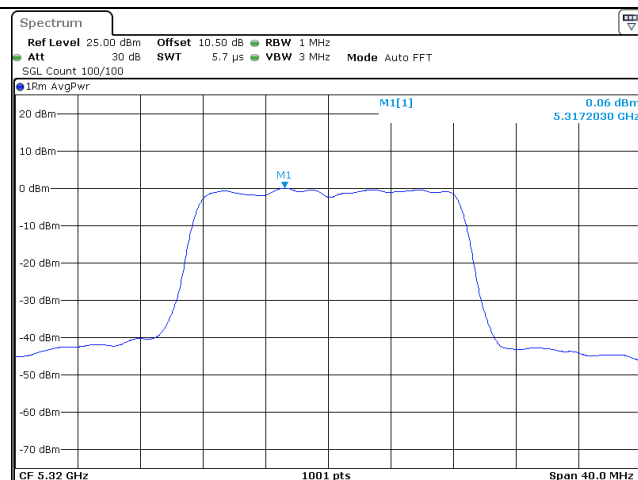
Maximum power spectral density

802.11a
Lowest Channel

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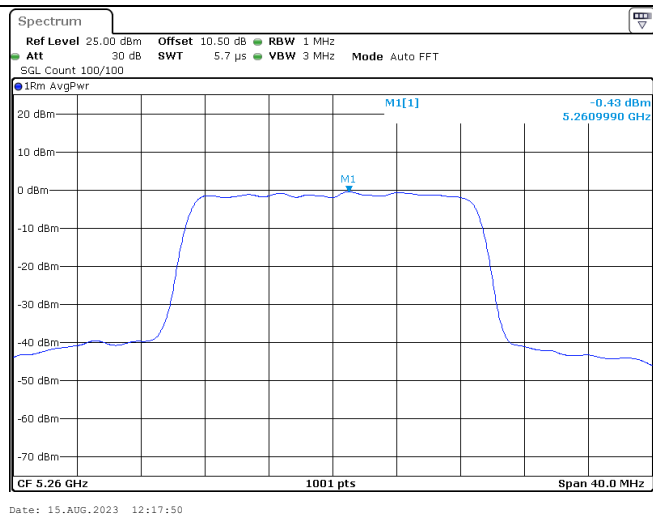
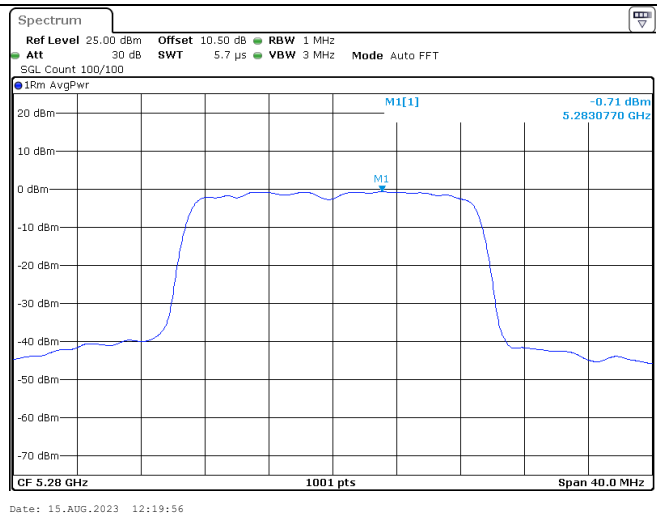
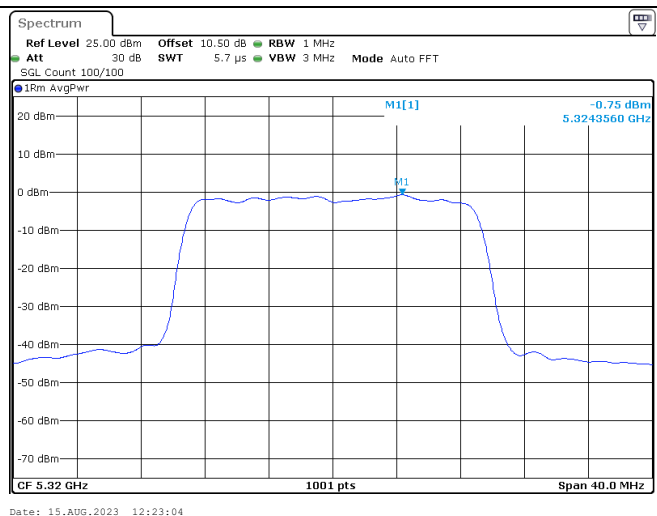
802.11a
Middle Channel

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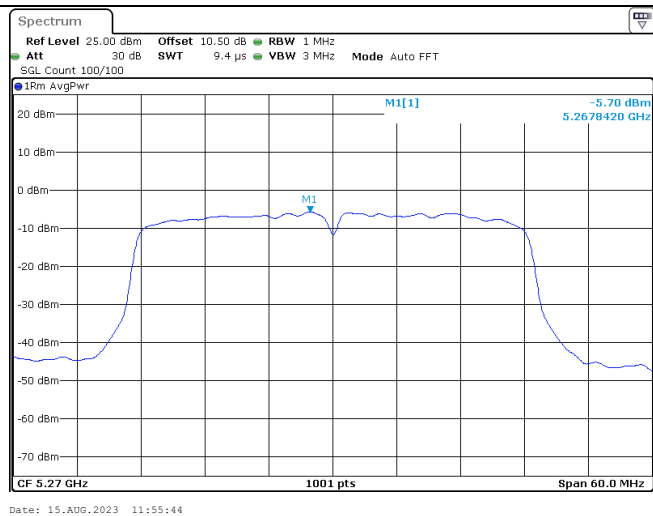
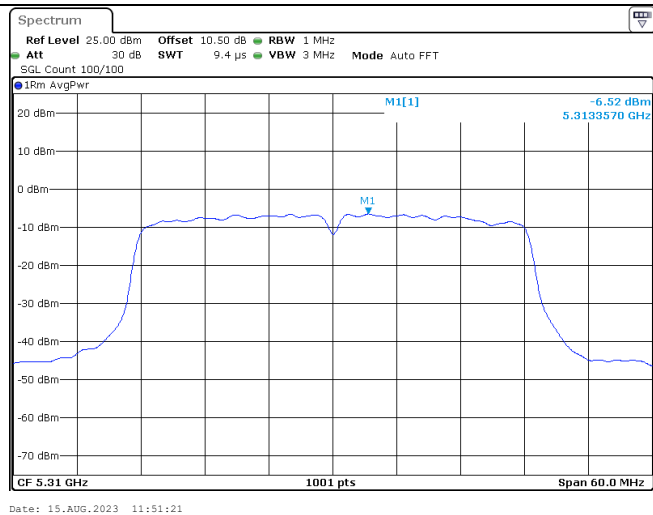
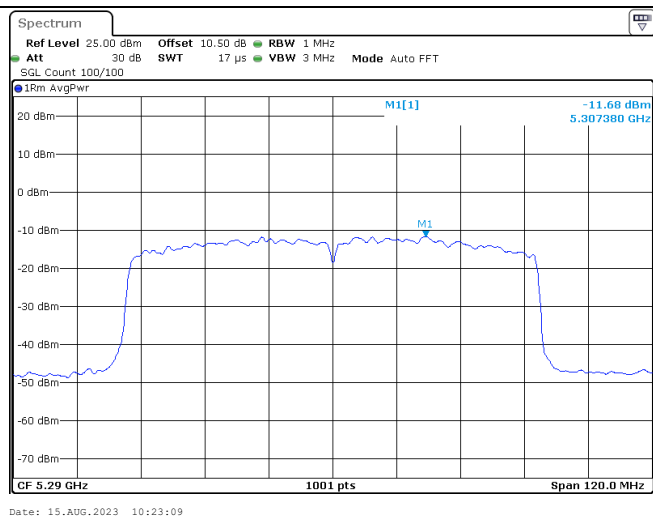
802.11a
Highest Channel

Date: 15.AUG.2023 13:01:20

Maximum power spectral density

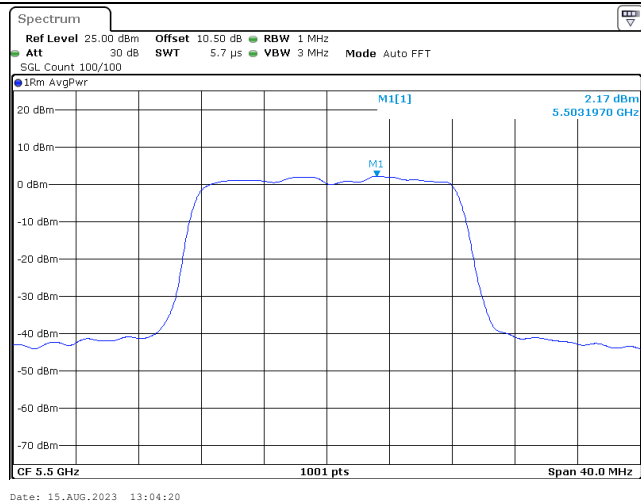
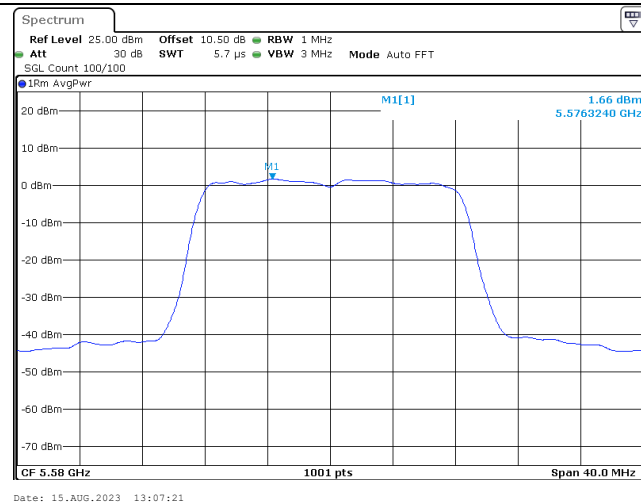
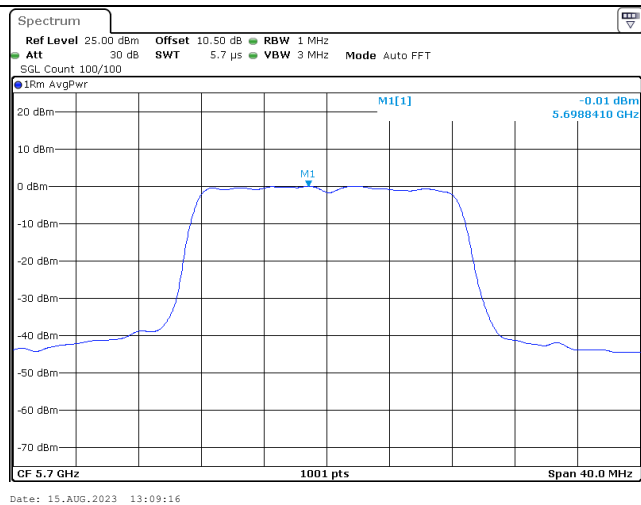
802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

Maximum power spectral density

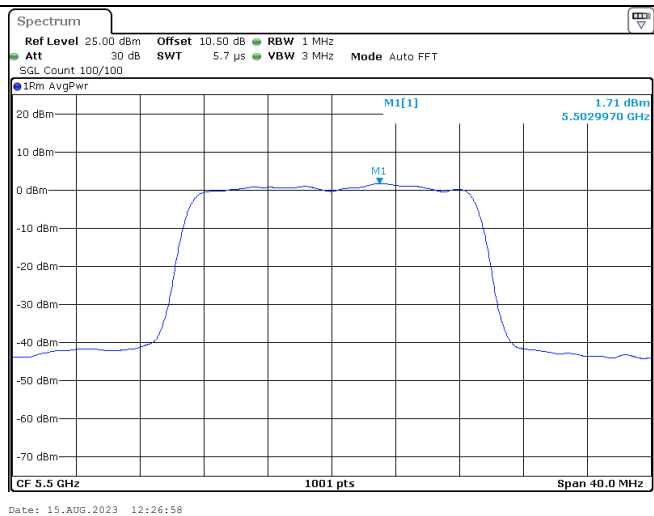
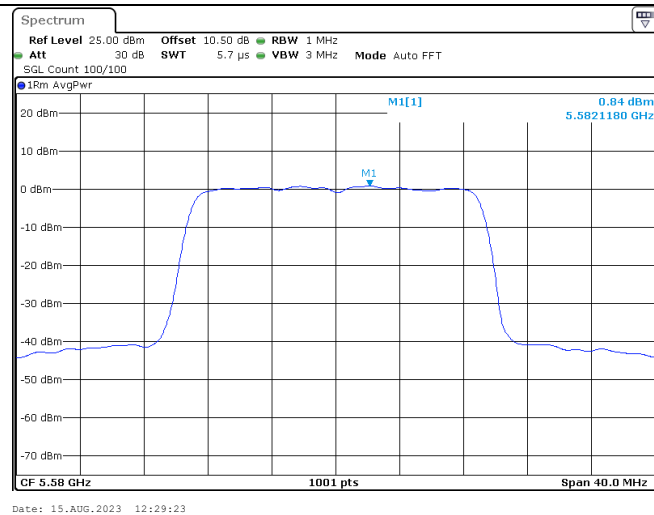
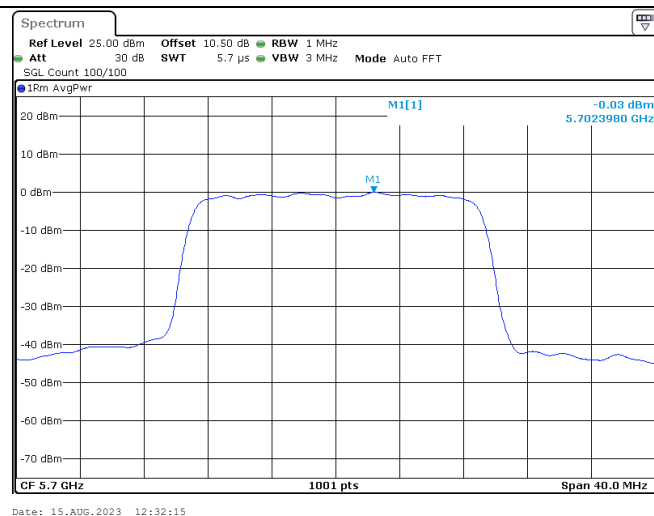
802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

5470-5725 MHz:

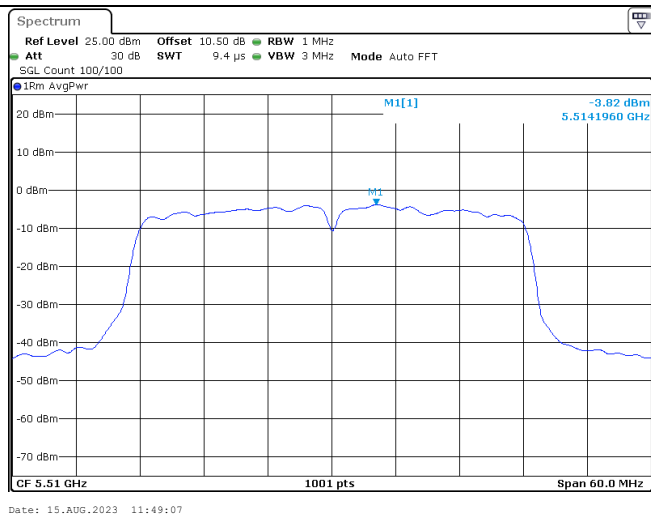
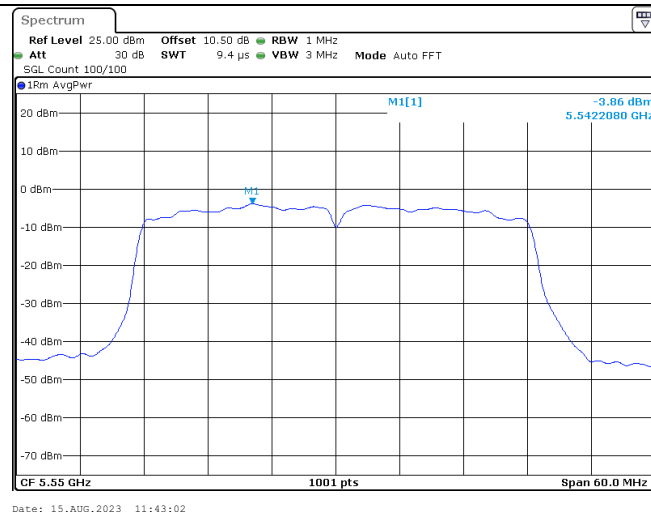
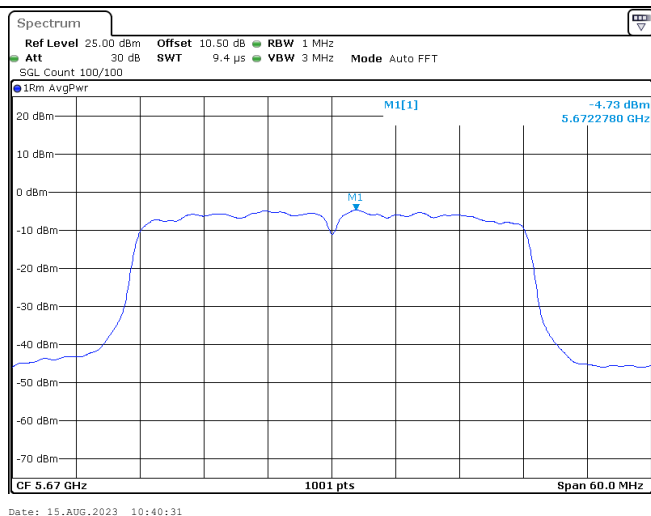
Maximum power spectral density

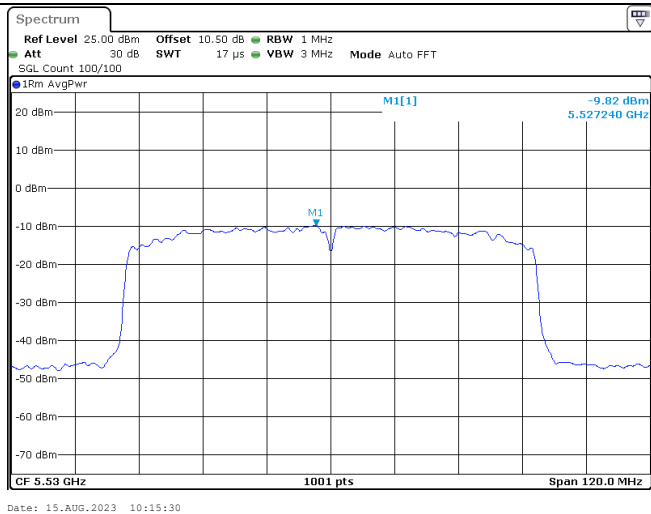
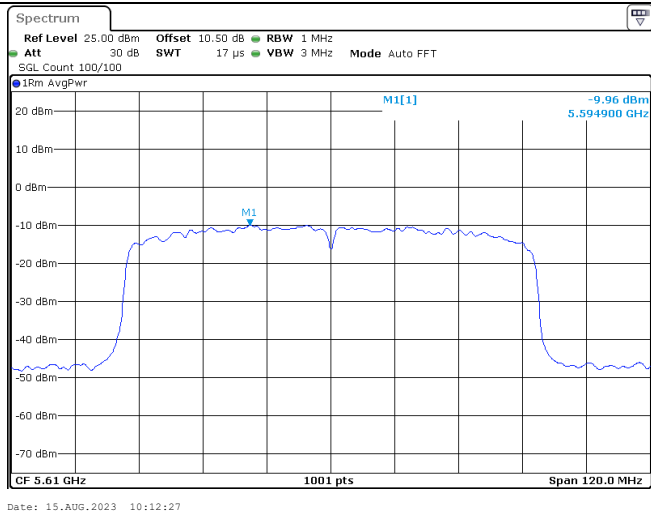
802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

Maximum power spectral density

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

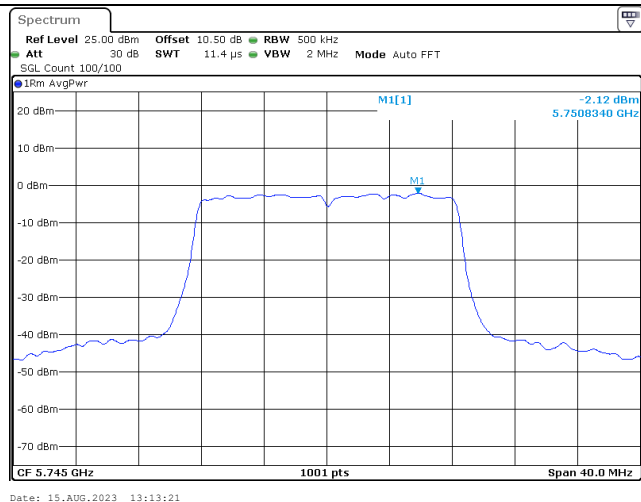
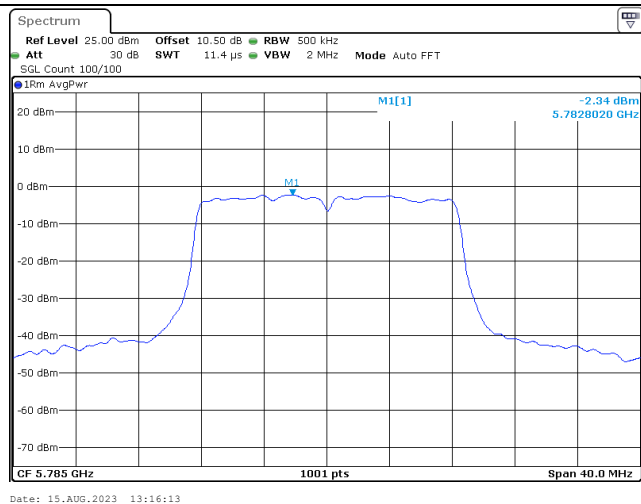
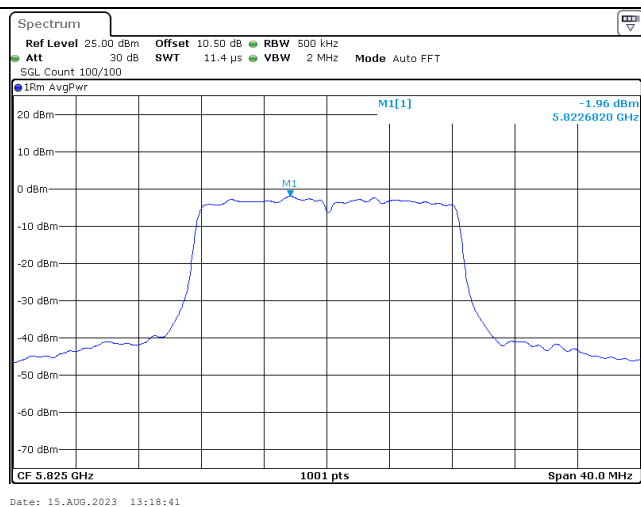
Maximum power spectral density

802.11ac vht40
Lowest Channel802.11ac vht40
Middle Channel802.11ac vht40
Highest Channel

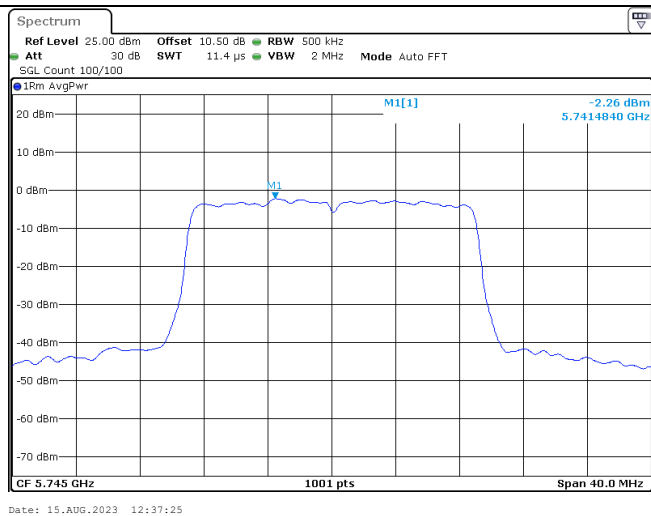
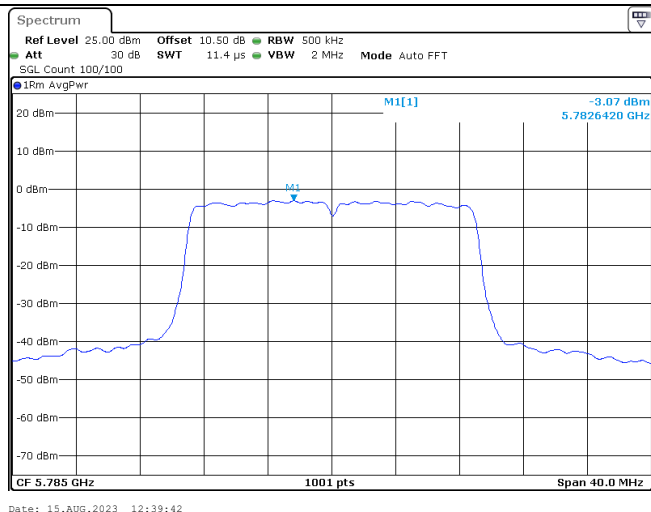
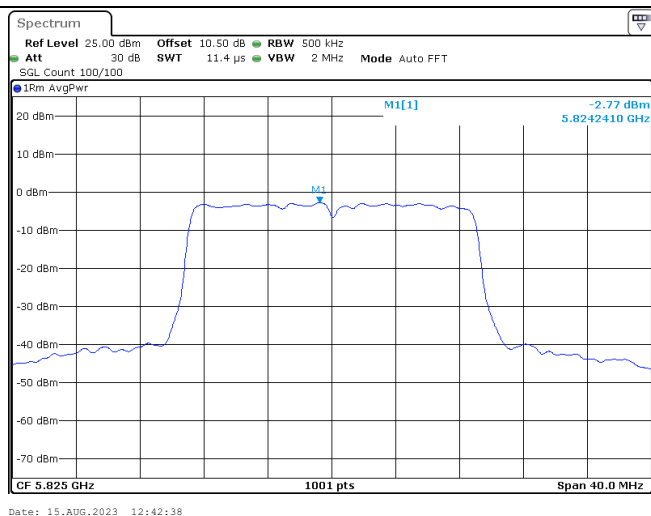
Maximum power spectral density802.11ac vht80
Lowest Channel802.11ac vht80
Highest Channel

5725-5850 MHz:

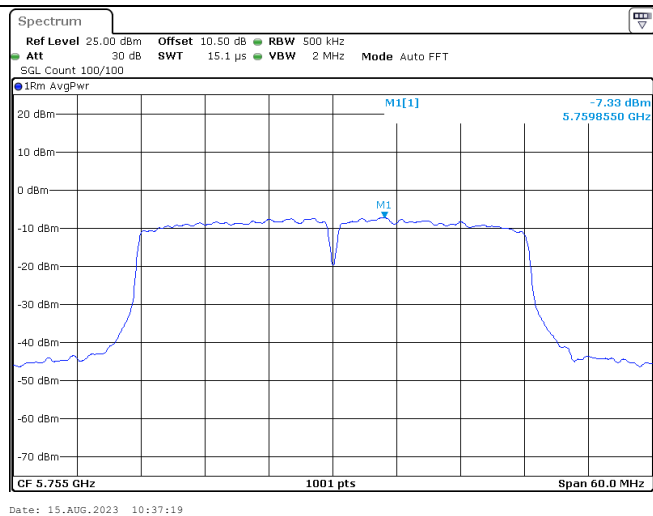
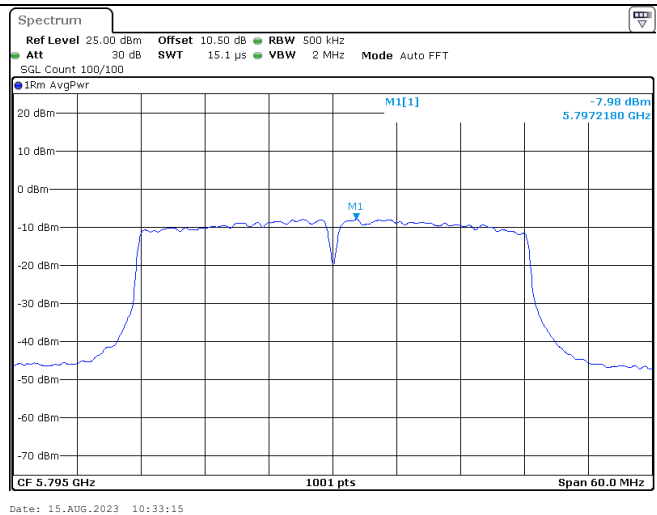
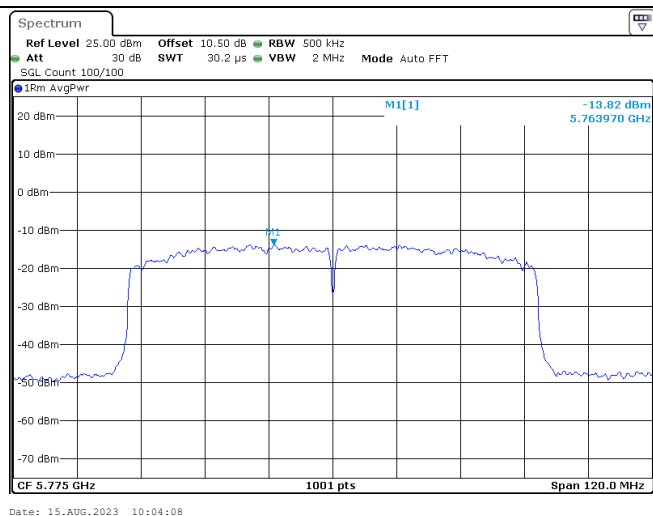
Maximum power spectral density

802.11a
Lowest Channel802.11a
Middle Channel802.11a
Highest Channel

Maximum power spectral density

802.11ac vht20
Lowest Channel802.11ac vht20
Middle Channel802.11ac vht20
Highest Channel

Maximum power spectral density

802.11ac vht40
Lowest Channel802.11ac vht40
Highest Channel802.11ac vht80
Middle Channel

4.6 Duty Cycle:

Serial Number:	27SO-1	Test Date:	2023/8/15
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ken Tang	Test Result:	N/A

Environmental Conditions:

Temperature: (°C)	25.6	Relative Humidity: (%)	63	ATM Pressure: (kPa)	101
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40-N	102259	2023-04-18	2024-04-17
zhuoxiang	Coaxial Cable	SMA-178	211003	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060302	Each time	N/A

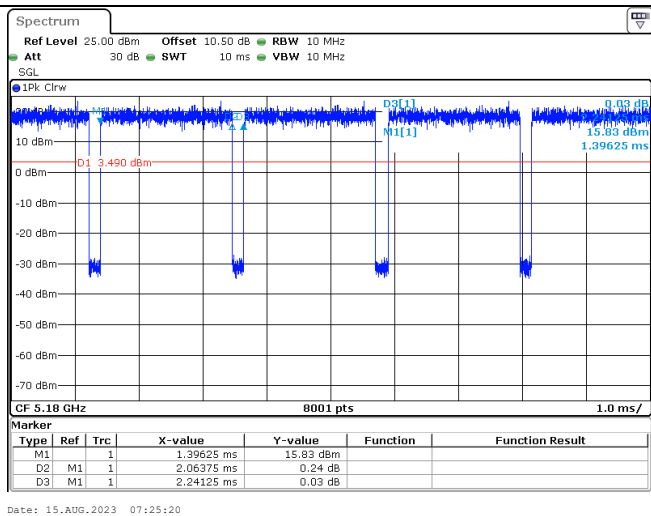
** Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

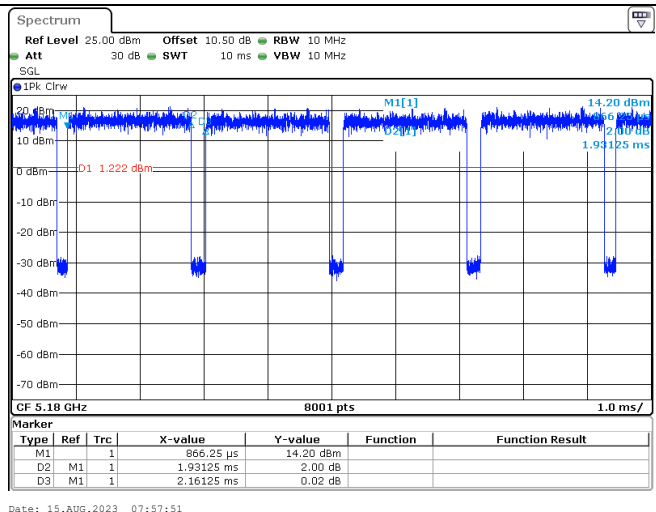
Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	Duty Factor (dB)	VBW Setting (Hz)
802.11a	2.06	2.24	91.96	485	0.36	500
802.11ac vht20	1.93	2.16	89.35	518	0.49	1000
802.11ac vht40	0.95	1.09	87.16	1053	0.60	2000
802.11ac vht80	0.46	0.72	63.89	2174	1.95	3000

Duty Cycle

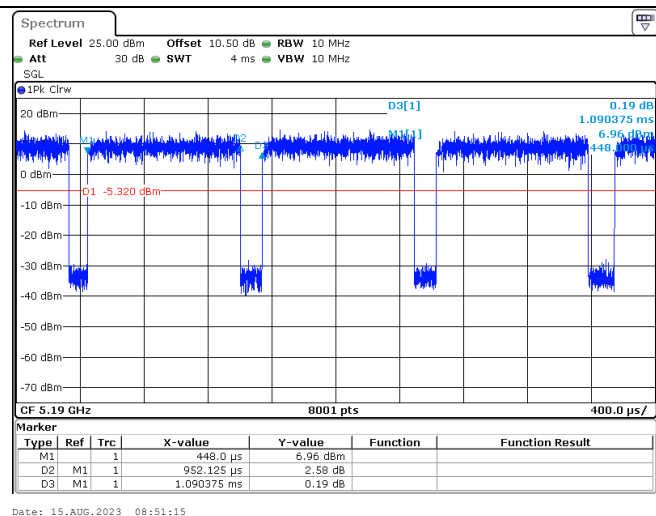
802.11a



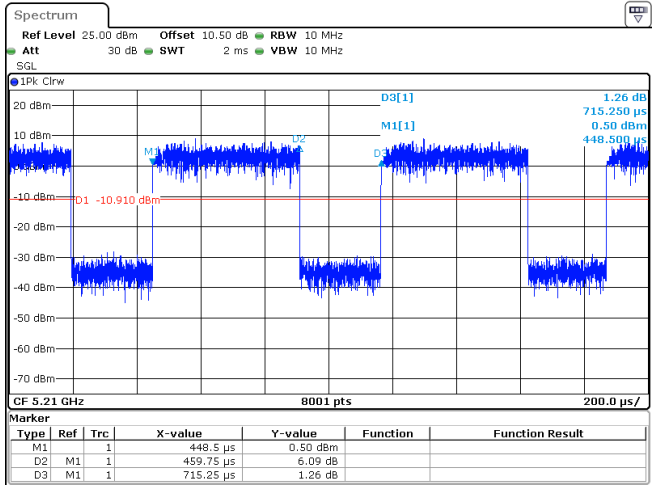
802.11ac vht20



802.11ac vht40



802.11ac vht80



Date: 15.AUG.2023 09:35:40

5. EUT PHOTOGRAPHS

Please refer to the attachment CR230738438-FP-EXP EUT EXTERNAL PHOTOGRAPHS and
CR230738438-FP-INP EUT INTERNAL PHOTOGRAPHS

6. TEST SETUP PHOTOGRAPHS

Please refer to the attachment CR230738438-00D-TSP TEST SETUP PHOTOGRAPHS.

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