FCC Part 15.407
RSS-247 ISSUE 3, August 2023
RSS-GEN Issue 5, February 2021 Amendment 2
TEST REPORT

For

Radicom Research, Inc.

671 E.Brokaw Road,San Jose,CA 95112,United States

FCC ID: K7T-WIFIHU52
IC: 2377A-WIFIHU52

Report Type:	**Product Type:**
Original Report	WiFiHU52 Module

Report Producer : Coco Lin

Report Number : RXZ240408022RF02

Report Date : 2024-10-15

Reviewed By: Andy Shih

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Revision History

Revision	No.	Report Number	Issue Date	Description	Author/ Revised by
0.0	RXZ240408022	RXZ240408022RF02	2024-10-15	Original Report	Coco Lin

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1 General Information

1.1 Product Description for Equipment under Test (EUT)

Applicant	Radicom Research, Inc.
	671 E.Brokaw Road,San Jose,CA 95112,United States
Brand(Trade) Name	Radicom
Product (Equipment) / PMN	WiFiHU52 Module
Main Model Name	WiFiHU52
HVIN	WiFiHU52, WiFiHU52M-a, WiFiHU52-NE1-a, WiFiHU52S-a, WiFiHU52M-c, WiFiHU52-NE1-c, WiFiHU52S-c
Series Model Name	FCC: WiFiHU52M-a, WiFiHU52M-c, WiFiHU52-HM-a, WiFiHU52-HM-c, WiFiHU52-NE1-a, WiFiHU52-NE1-c, WiFiHU52S-a, WiFiHU52S-c, WiFiHU52-NE2-a, WiFiHU52-NE2-c, WiFiHU52D-a, WiFiHU52D-c, WiFiHU52E, WiFiHU52E-T IC: WiFiHU52M-a, WiFiHU52-NE1-a, WiFiHU52S-a, WiFiHU52M-c, WiFiHU52-NE1-c, WiFiHU52S-c
Model Discrepancy	The major electrical and mechanical constructions of series models are identical to the basic model, the difference lies in the use of different antenna types. Chip Antenna : WiFiHU52, WiFiHU52M-a, WiFiHU52-HM-a, WiFiHU52-NE1-a, WiFiHU52S-a, WiFiHU52-NE2-a, WiFiHU52D-a, WiFiHU52E, WiFiHU52E-T IPEX Connector : WiFiHU52M-c, WiFiHU52-HM-c, WiFiHU52-NE1-c, WiFiHU52S-c, WiFiHU52-NE2-c, WiFiHU52D-c
Frequency Range	5150 MHz ~ 5250 MHz , 5725 MHz ~ 5850 MHz
Maximum Conducted Average Output Power	5150-5250 MHz: 16.36 dBm 5725-5850 MHz: 17.37 dBm
Modulation Technique	IEEE 802.11a Mode: OFDM IEEE 802.11n HT20/ ac VHT20 Mode: OFDM IEEE 802.11n HT40/ ac VHT40 Mode: OFDM IEEE 802.11ac VHT80 Mode: OFDM
Power Operation (Voltage Range)	5Vdc from USB
Received Date	2024/04/08
Date of Test	2024/04/09 ~ 2024/05/15

*All measurement and test data in this report was gathered from production sample serial number:

RXZ240408022-1 , RXZ240408022-2 (Assigned by BACL, New Taipei Laboratory).

1.2 Objective

This report is prepared on behalf of *Radicom Research, Inc.* in accordance with Part 2, Subpart J, Part 15, Subparts A, and E of the Federal Communication Commission's rules and RSS-247 Issue 3, August 2023 and RSS-GEN Issue 5, February 2021 Amendment 2 of the Innovation, Science and Economic Development Canada.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices. And RSS-247 Issue 3, August 2023 and RSS-GEN Issue 5, February 2021 Amendment 2 of the Innovation, Science and Economic Development Canada.
KDB 789033 D02 General UNII Test Procedures New Rules v02r01

1.4 Statement

Decision Rule: No, (The test results do not include MU judgment)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
The determination of the test results does not require consideration of the uncertainty of the measurement, unless the assessment is required by customer agreement, regulation or standard document specification.
Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) is not responsible for the authenticity of the information provided by the applicant that affects the test results.

1.5 Measurement Uncertainty

Parameter		Uncertainty
AC Mains		+/- 3.02 dB
RF output power, conducted		+/- 0.57 dB
Power Spectral Density, conducted		+/- 0.60 dB
Occupied Bandwidth		+/- 0.09 %
Unwanted Emissions, conducted		+/- 1.09 dB
Emissions, radiated	9 kHz~30 MHz	+/- 3.20 dB
	30 MHz~1 GHz	+/- 3.30 dB
	1 GHz~18 GHz	+/- 5.14 dB
	18 GHz~40 GHz	+/- 4.75 dB
Temperature		+/- 0.76 °C
Humidity		+/- 0.41 %

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

1.6 Environmental Conditions

Test Site	Test Date	Temperature (℃)	Relative Humidity (%)	ATM Pressure (hPa)	Test Engineer
AC Line Conducted Emissions	2024/5/15	22.9	65	1010	Jing
Radiation Spurious Emissions	2024/4/30~2024/5/9	23.2~24.2	57~68	1010	Aaron
Duty Cycle	2024/4/9	23.1	55	1010	Jing
26dB attenuated below the channel power	2024/5/6	25.8	59	1010	Jing
Emission Bandwidth And Occupied Bandwidth	2024/4/30	25.9	53	1010	Jing
Maximum Output Power	2024/4/30	25.9	53	1010	Jing
Power Spectral Density	2024/4/30	25.9	53	1010	Jing

1.7 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) to collect test data is located on

☒70, Lane 169, Sec. 2, Datong Road, Xizhi Dist., New Taipei City 221, Taiwan, R.O.C.

Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3732) and the FCC designation No.TW3732 under the Mutual Recognition Agreement (MRA) in FCC Test.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: TW3732.

2 System Test Configuration

2.1 Description of Test Configuration

The system support 802.11a/n ht20/n ht40/ac vht20/ac vht40/ac vht80.

Since the 802.11n ht20/n ht40 parameters are the same as 802.11ac vht20 and ac vht40, 802.11n ht20/n ht40 is reduced.

The device supports softAP mode and client mode.

For 5150 ~ 5250MHz

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
42	5210

802.11a/n20/ac20 mode Channel 36, 40, 48 were tested.

802.11n40/ac40 mode Channel 38, 46 were tested.

802.11ac80 mode Channel 42 was tested.

For 5725 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785	/	/

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency (MHz)
155	5775

802.11a/n20/ac20 mode Channel 149, 157, 165 were tested.

802.11n40/ac40 mode Channel 151, 159 were tested.

802.11ac80 mode Channel 155 was tested.

2.2 EUT Exercise Software

The test software was used “MPTool v3.08”

The system was configured for testing in an engineering mode, which is provided by Applicant.

UNII Band	Mode	Channel	Frequency (MHz)	Power setting
UNII-1	802.11a	36	5180	57
		40	5200	57
		48	5240	57
UNII-3		149	5745	57
		157	5785	57
		165	5825	57
UNII-1	802.11n HT20 / ac VHT20	36	5180	58
		40	5200	58
		48	5240	58
UNII-3		149	5745	58
		157	5785	58
		165	5825	58
UNII-1	802.11n HT40 / ac VHT40	38	5190	48
		46	5230	48
UNII-3		151	5755	48
		159	5795	48
UNII-1	802.11ac VHT80	42	5210	44
UNII-3		155	5775	44

The worst case data rates are as follows:

802.11a: 6Mbps

802.11ac VHT20: MCS0

802.11ac VHT40: MCS0

802.11ac VHT80: MCS0

2.3 Equipment Modifications

No modification was made to the EUT.

2.4 Test Mode

Mode 1: WiFiHU52M-c + Dipole antenna.

Mode 2: WiFiHU52 + Chip antenna.

2.5 Support Equipment List and Details

Description	Manufacturer	Model Number
NB	DELL	E6410
Fixture	RADICOM RESEARCH INC	A9 REV. A1

2.6 External Cable List and Details

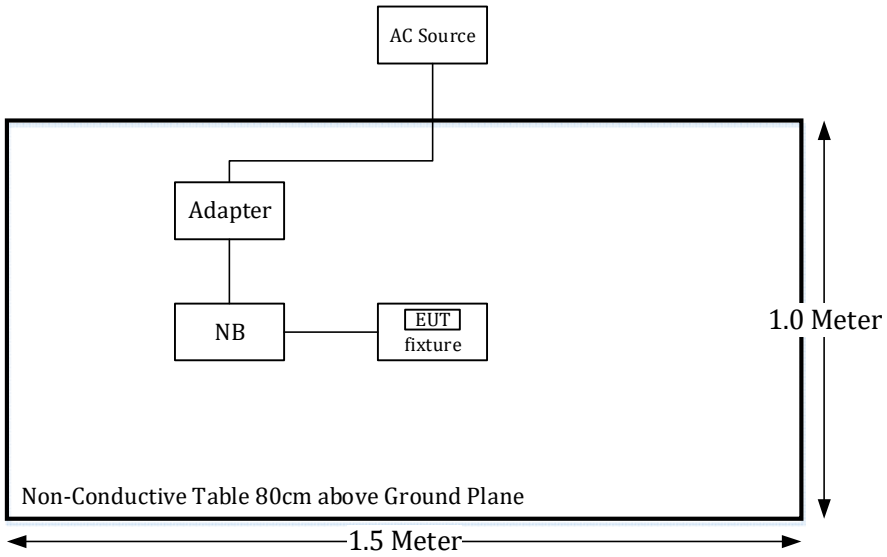
Description	Manufacturer	Cable length
USB Cable	BACL	1.2m

2.7 Block Diagram of Test Setup

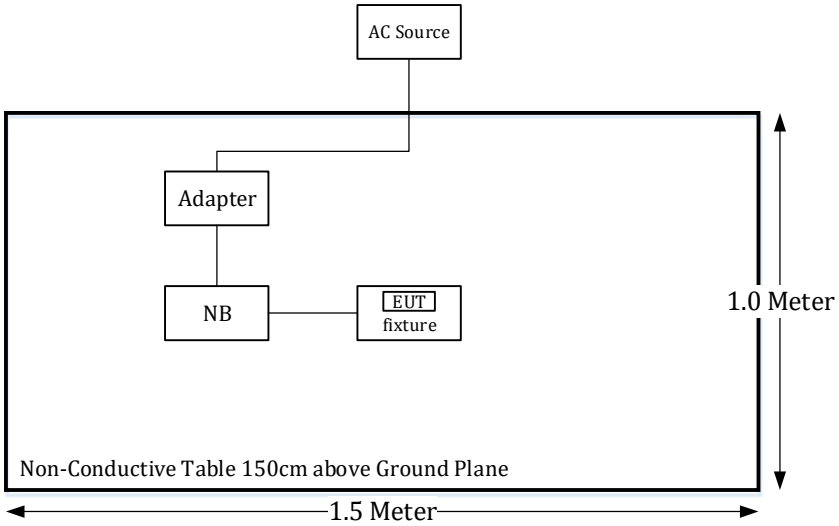
See test photographs attached in setup photos for the actual connections between EUT and support equipment.

Radiation:

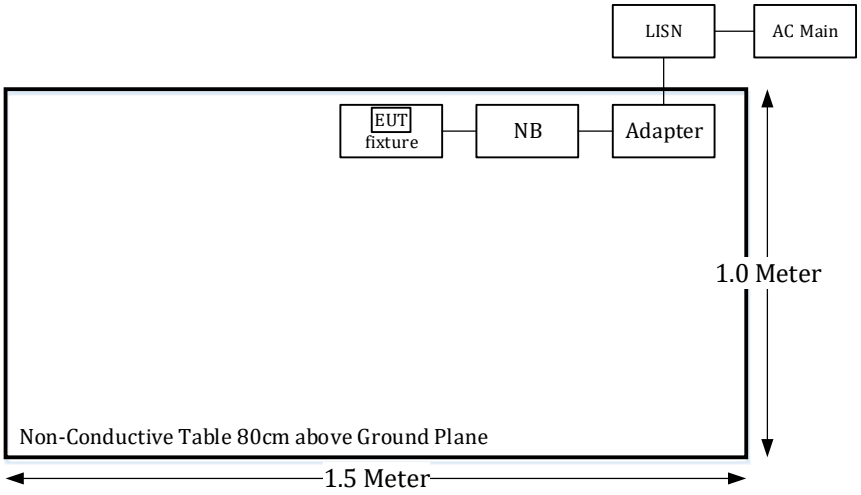
Below 1GHz



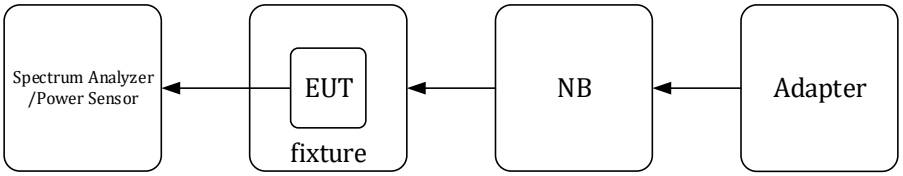
Above 1GHz:



Conduction:



Conducted:



2.8 Duty Cycle

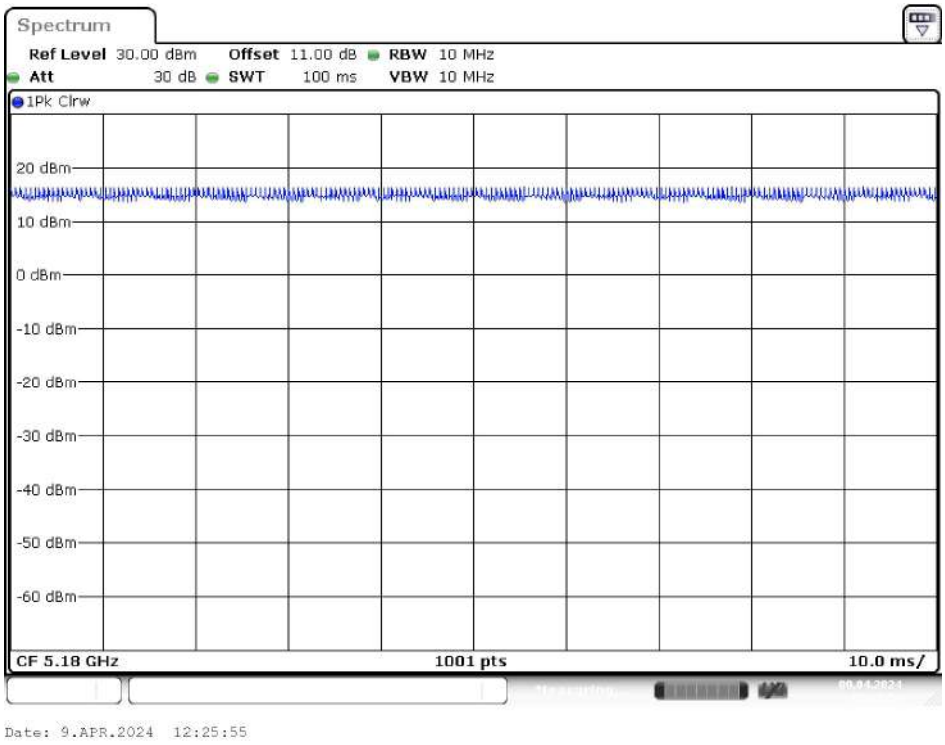
The duty cycle as below:

Radio Mode	Ton (ms)	Ton + Toff (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T (kHz)	VBW Setting (kHz)
802.11a	100	100	100	0.00	/	0.01
802.11ac 20	100	100	100	0.00	/	0.01
802.11ac 40	100	100	100	0.00	/	0.01
802.11ac 80	100	100	100	0.00	/	0.01

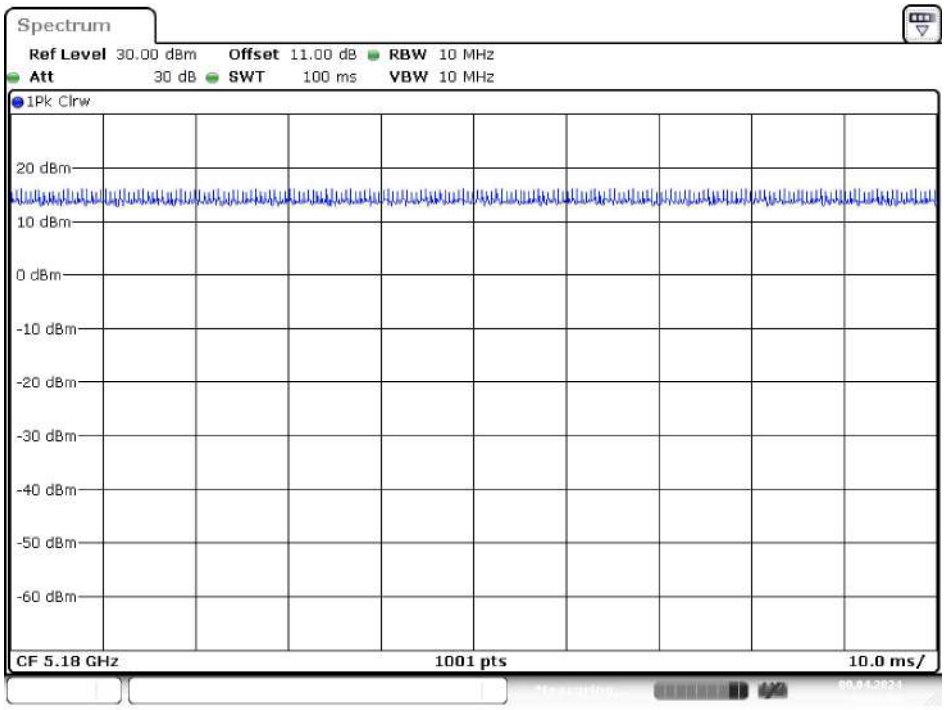
Note: Duty Cycle Correction Factor = 10*log(1/duty cycle)

Please refer to the following plots.

802.11a Mode



802.11ac VHT20 Mode



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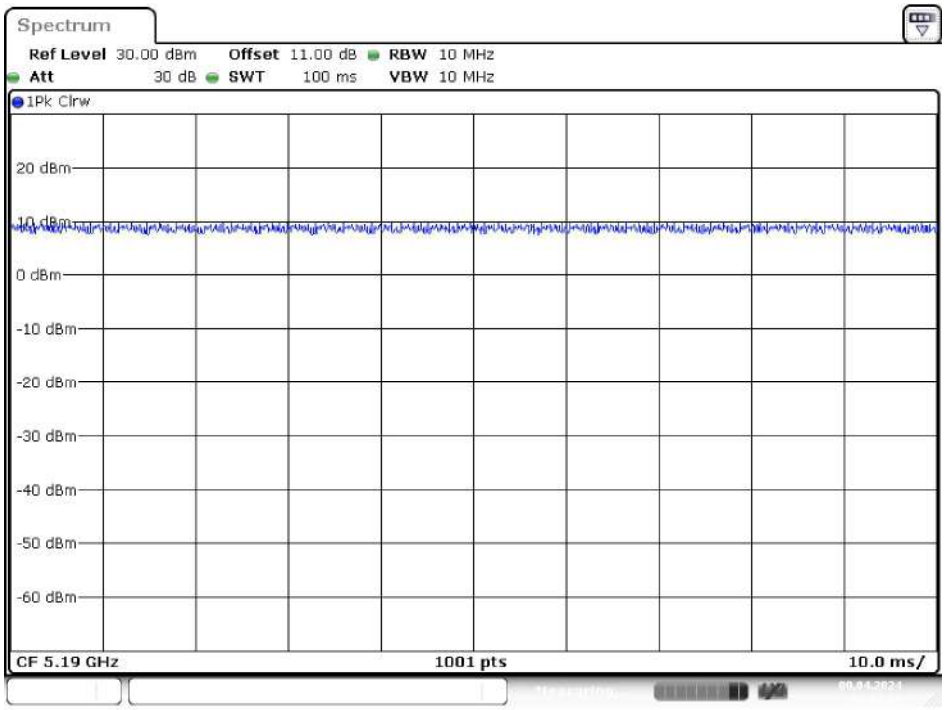
802.11ac VHT40 Mode



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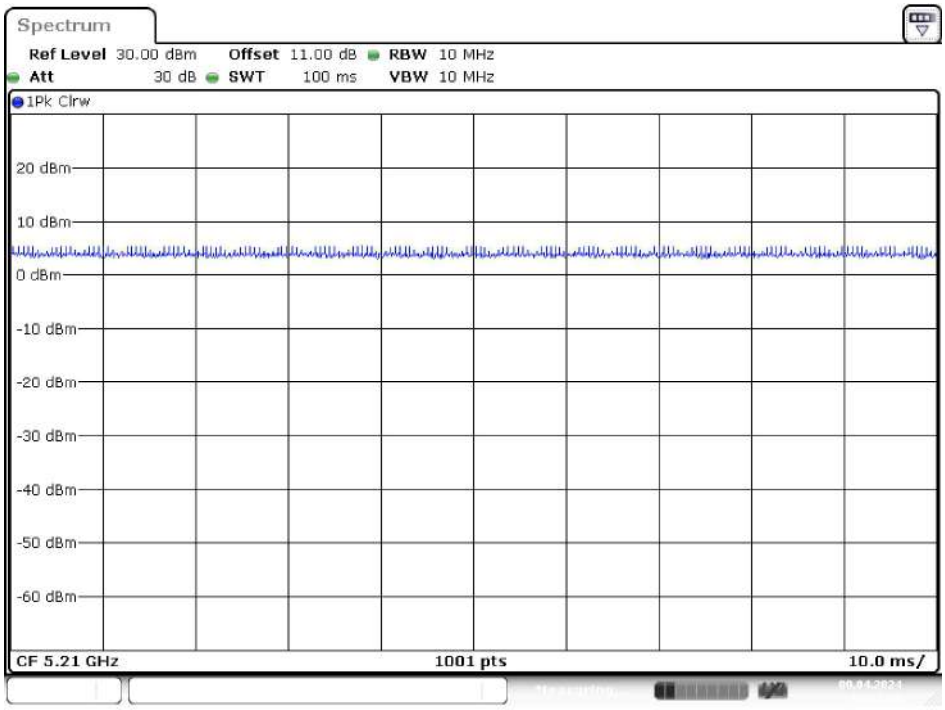
802.11ac VHT80 Mode



3 Summary of Test Results

Standard(s) Section	Description of Test	Results
FCC §15.407(f), §1.1307(b)(3)	RF Exposure	Compliance
RSS-102 §2.5.2	Exemption From Routine Evaluation Limits – RF Exposure Evaluation	Compliance
§15.203 RSS-GEN §6.8	Antenna Requirement	Compliance
§15.407(b)(9) & §15.207(a) RSS- GEN §8.8	AC Line Conducted Emissions	Compliance
§15.205 & §15.209 & §15.407(b) RSS-247 §6.2 RSS-GEN §8.9 RSS-GEN §8.10	Unwanted Emission	Compliance
RSS-247 §6.2.1.2	26dB Attenuated Below The Channel Power	Compliance
§15.407(a)(e) RSS-247 §6.2 RSS- GEN §6.7	Emission Bandwidth	Compliance
§15.407(a) RSS-247 §6.2	Conducted Transmitter Output Power	Compliance
§15.407(a) RSS-247 §6.2	Power Spectral Density	Compliance
RSS-247 §6.4	Additional requirements	Compliance

4 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
AC Line Conduction Room (CON-A)					
LISN	Rohde & Schwarz	ENV216	101612	2024/2/16	2025/2/14
EMI Test Receiver	Rohde & Schwarz	ESW8	100947	2023/5/22	2024/5/21
Pulse Limiter	Rohde & Schwarz	ESH3Z2	TXZEM104	2023/5/18	2024/5/16
RF Cable	EMEC	EM-CB5D	1	2023/6/6	2024/6/4
Software	AUDIX	E3	V9.150826k	N.C.R	N.C.R
Radiation 3M Room (966-A)					
Active Loop Antenna	ETS-Lindgren	6502	35796	2024/3/27	2025/3/26
Bilog Antenna with 6 dB Attenuator	SUNOL SCIENCES & MINI-CIRCUITS	JB6/UNAT-6+	A050115/15542_01	2024/1/19	2025/1/17
Double Ridged Guide Horn Antenna	A.H. system	SAS-571	1020	2023/5/18	2024/5/16
Horn Antenna	ETS-Lindgren	3116	62638	2023/8/25	2024/8/23
Preamplifier	Sonoma	310N	130602	2023/6/16	2024/6/14
Preamplifier	Channel	ERA-100M-18G-01D1748	EC2300051	2024/3/29	2025/3/28
Microware Preamplifier	EM Electronics Corporation	EM18G40G	60656	2024/1/8	2025/1/6
Spectrum Analyzer	Rohde & Schwarz	FSV40	101939	2024/3/27	2025/3/26
EMI Test Receiver	Rohde & Schwarz(R&S)	ESR3	102099	2023/6/16	2024/6/14
Microflex Cable	UTIFLEX	UFB197C-1-2362-70U-70U	225757-001	2024/1/23	2025/1/21
Coaxial Cable	UTIFLEX	UFB311A-Q-1440-300300	220490-006	2024/1/23	2025/1/21
Coaxial Cable	COMMATE	PEWC	8Dr	2023/12/23	2024/12/21
Cable	EMC	EMC105-SM-SM-10000	201003	2024/1/23	2025/1/21
Coaxial Cable	JUNFLON	J12J102248-00-B-5	AUG-07-15-044	2023/12/23	2024/12/21
Coaxial Cable	ROSNOL	K1K50-UP0264-K1K50-450CM	160309-1	2024/1/23	2025/1/21
Microflex Cable	ROSNOL	K1K50-UP0264-K1K50-80CM	160309-2	2024/1/23	2025/1/21
Band-stop filter	SinoSciTe	BSF5150-5850 MN-0899-002	001	2023/10/20	2024/10/19
High-pass filter	XINGBOKEJI	XBLBQ-GTA29	200121-3-26	2023/10/20	2024/10/19
Software	AUDIX	E3	18621a	N.C.R	N.C.R
Conducted Room					
Spectrum Analyzer	Rohde & Schwarz(R&S)	FSV40	101204	2023/5/30	2024/5/28
Cable	UTIFLEX	UFA210A	9435	2023/10/2	2024/9/30
Power Sensor	Agilent	U2021XA	MY54080018	2024/1/30	2025/1/28
Attenuator	MCL	BW-S10W5+	1419	2024/2/23	2025/2/21

***Statement of Traceability:** BACL Corp. attests that all of the calibrations on the equipment items listed above were traceable to the SI System of Units via the R.O.C. Center for Measurement Standards of the Electronics Testing Center, Taiwan (ETC) or to another internationally recognized National Metrology Institute (NMI), and were compliant with the current Taiwan Accreditation Foundation (TAF) requirements.

5 FCC §15.407(f), §1.1307(b)(3) – RF Exposure

5.1 Applicable Standard

According to subpart 15.407(f) and subpart §1.1307(b)(3), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

For single RF sources (*i.e.,* any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold *Pth* (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). *Pth* is given by:

$$P_{th}\ (\text{mW}) = \begin{cases} ERP_{20\ cm}(d/20\ \text{cm})^x & d \le 20\ \text{cm} \\ ERP_{20\ cm} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\ cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\ cm}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

(C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	1,920 R^2.
1.34-30	3,450 R^2/f^2.
30-300	3.83 R^2.
300-1,500	0.0128 R^2f.
1,500-100,000	19.2R^2.

5.2 RF Exposure Evaluation Result

Project info

Band	Freq (MHz)	Tune-up Power (dBm)	Ant Gain (dBi)	Distances (mm)	Tune-up Power (mW)	ERP (dBm)	ERP (mW)
WiFi 5GHz Band 1	5180	16.5	3.42	200	44.67	17.77	59.84
WiFi 5GHz Band 4	5745	17.5	3.42	200	56.23	18.77	75.34

§ 1.1307(b)(3)(i)(A) method is not applicable.

§ 1.1307(b)(3)(i)(C)

Band	Freq (MHz)	λ/2π (mm)	Distances applies	ERP Limit (mW)	Result Option C
WiFi 5GHz Band 1	5180	9.22	apply	768.00	exempt
WiFi 5GHz Band 4	5745	8.31	apply	768.00	exempt

The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates
ERP (watts) is no more than the calculated value prescribed for that frequency
R must be at least $\lambda/2\pi$
λ is the free-space operating wavelength in meters

Note: The Tune-up output power was declared by the Applicant.
Wi-Fi 2.4G and Wi-Fi 5G can't transmit simultaneously.

Result: The device compliant the MPE-Based Exemption at 20cm distances.

6 RSS-102 §2.5.2 – EXEMPTION FROM ROUTINE EVALUATION LIMITS – RF EXPOSURE EVALUATION

6.1 Applicable Standard

According to RSS-102 2.5.2

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

- below 20 MHz[Footnote6] and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 1 W (adjusted for tune-up tolerance);
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance);
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;
- at or above 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than 5 W (adjusted for tune-up tolerance).

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

6.2 RF Exposure Evaluation Result

Mode	Frequency Range (MHz)	Antenna Gain (dBi)	Tune-up Power (dBm)	EIRP Tune-up Power		Exemption Limit (W)
				(dBm)	(W)	
5G WIFI Band 1	5150-5250	3.42	18.5	21.92	0.16	4.52
5G WIFI Band 4	5725-5825	3.42	19	22.42	0.17	4.85

Note: The Tune-up output power was declared by the Applicant.
Wi-Fi 2.4G and Wi-Fi 5G can't transmit simultaneously.

Result: The device meets the exemption requirement

7 FCC §15.203 & RSS-GEN §6.8 – Antenna Requirements

7.1 Applicable Standard

For intentional device, according to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used.

According to RSS-Gen §6.8, The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. fo transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer. The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested. For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:

This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

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

7.2 Antenna Information

Manufacturer	Type	Model	Antenna Gain (dBi)	Input impedance
onewave	Chip Antenna	WAN3216FU58H05	5150~5250 MHz: 3.42 5725~5850 MHz: 3.42	50Ω
Brito	Dipole Antenna	WLAN ANTENNA	5150~5250 MHz: 3.29 5725~5850 MHz: 3.05	50Ω

The antenna uses non-standard connectors and meets the requirements of this section. Please refer to EUT photos.

With Chip Antenna models EUT，provides two channels of signal transmission, one for WiFi 2.4GHz and one for WiFi 5GHz.

Result: Compliance

8 FCC §15.407(b)(9), §15.207(a) & RSS-GEN §8 – AC Line Conducted Emissions

8.1 Applicable Standard

As per FCC §15.407(b) (9)

Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207

RSS-Gen Clause 8.8

Unless stated otherwise in the applicable RSS, for radio apparatus that are designed to be connected to the public utility AC power network, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the range 150 kHz to 30 MHz shall not exceed the limits in table 4, as measured using a 50 μH / 50 Ω line impedance stabilization network. This requirement applies for the radio frequency voltage measured between each power line and the ground terminal of each AC power-line mains cable of the EUT.

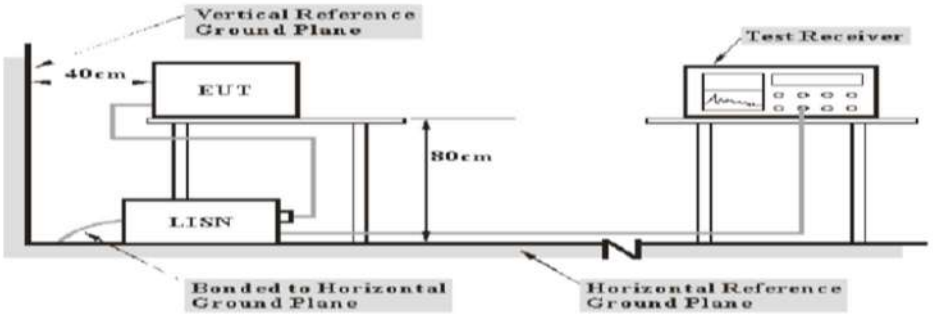
For an EUT that connects to the AC power lines indirectly, through another device, the requirement for compliance with the limits in table 4 shall apply at the terminals of the AC power-line mains cable of a representative support device, while it provides power to the EUT. The lower limit applies at the boundary between the frequency ranges. The device used to power the EUT shall be representative of typical applications.

The lower limit applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56 Note 1	56 to 46 Note 1
0.5-5	56	46
5-30	60	50

Note 1: Decreases with the logarithm of the frequency.

8.2 EUT Setup



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

8.3 EMI Test Receiver Setup

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

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

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

8.4 Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

8.5 Corrected Factor & Over Limit Calculation

The factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Factor = LISN VDF + Cable Loss + Transient Limiter Attenuation

The “Over Limit” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of -7 dB means the emission is 7 dB below the limit. The equation for Over Limit calculation is as follows:

Over Limit = Result – Limit Line

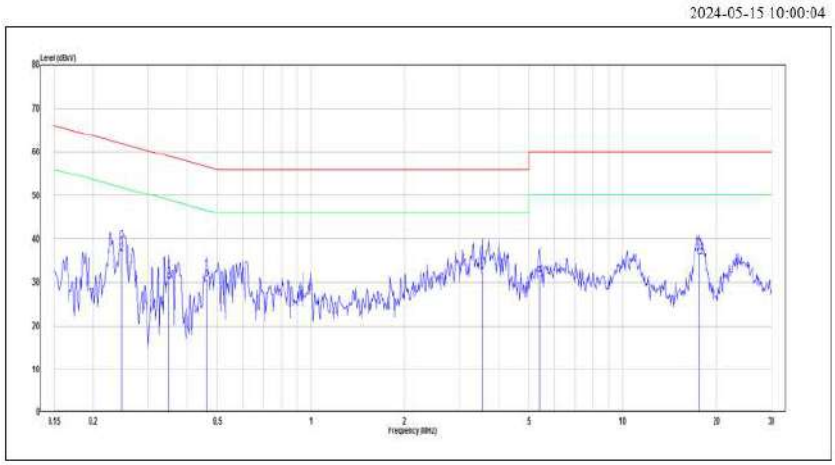
8.6 Test Results

Test Mode: Transmitting

Main: AC120 V, 60 Hz

Mode 1: Worst case is 802.11ac 80 Mode, 5210MHz

Line



No.	Frequency (MHz)	Reading dBuV	Correct Factor(dB)	Result dBuV	Limit dBuV	Over limit (dB)	Remark	Phase
1	0.246	18.95	19.46	38.41	61.91	-23.50	QP	Line
2	0.246	17.26	19.46	36.72	51.91	-15.19	Average	Line
3	0.350	11.79	19.51	31.30	58.96	-27.66	QP	Line
4	0.350	10.39	19.51	29.90	48.96	-19.06	Average	Line
5	0.464	11.16	19.56	30.72	56.63	-25.91	QP	Line
6	0.464	11.16	19.56	30.72	46.63	-15.91	Average	Line
7	3.547	11.11	20.07	31.18	56.00	-24.82	QP	Line
8	3.547	12.39	20.07	32.46	46.00	-13.54	Average	Line
9	5.419	11.36	20.11	31.47	60.00	-28.53	QP	Line
10	5.419	11.59	20.11	31.70	50.00	-18.30	Average	Line
11	17.661	16.53	20.33	36.86	60.00	-23.14	QP	Line
12	17.661	15.41	20.33	35.74	50.00	-14.26	Average	Line

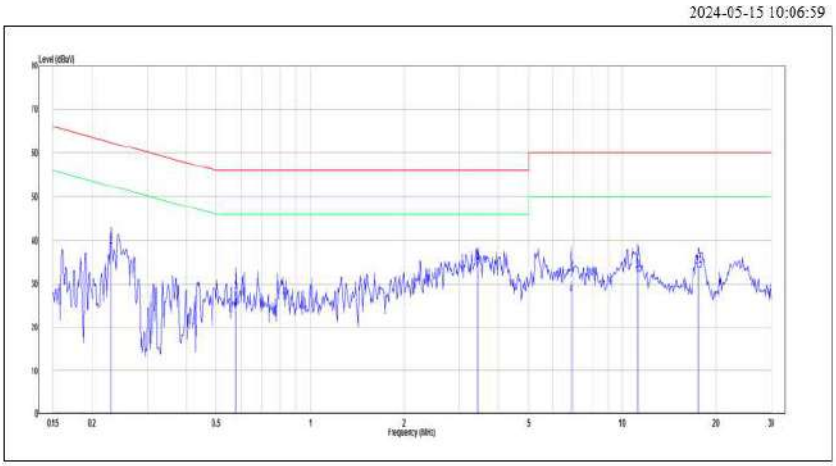
Note:

Result = Reading + Factor

Over Limit = Result – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

Neutral



No.	Frequency (MHz)	Reading dBuV	Correct Factor(dB)	Result dBuV	Limit dBuV	Over limit (dB)	Remark	Phase
1	0.229	19.92	19.46	39.38	62.48	-23.10	QP	Neutral
2	0.229	19.15	19.46	38.61	52.48	-13.87	Average	Neutral
3	0.579	8.66	19.62	28.28	56.00	-27.72	QP	Neutral
4	0.579	4.69	19.62	24.31	46.00	-21.69	Average	Neutral
5	3.454	15.11	20.07	35.18	56.00	-20.82	QP	Neutral
6	3.454	13.94	20.07	34.01	46.00	-11.99	Average	Neutral
7	6.841	10.77	20.11	30.88	60.00	-29.12	QP	Neutral
8	6.841	7.35	20.11	27.46	50.00	-22.54	Average	Neutral
9	11.257	13.09	20.14	33.23	60.00	-26.77	QP	Neutral
10	11.257	11.90	20.14	32.04	50.00	-17.96	Average	Neutral
11	17.568	13.85	20.39	34.24	60.00	-25.76	QP	Neutral
12	17.568	12.64	20.39	33.03	50.00	-16.97	Average	Neutral

Note:

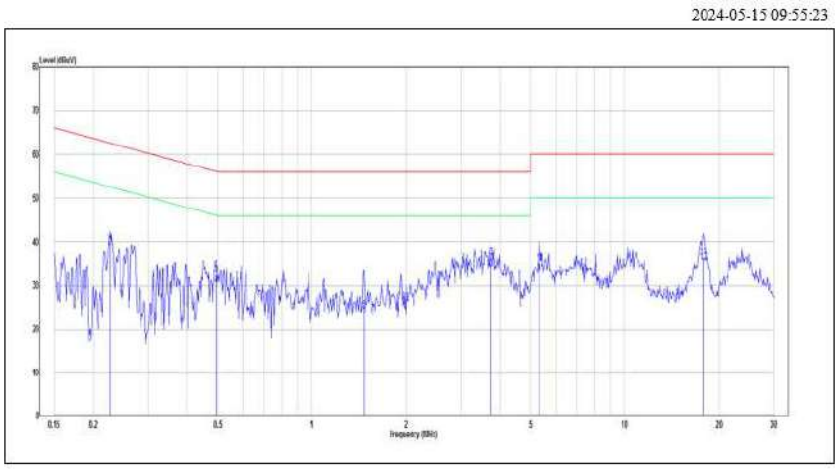
Result = Reading + Factor

Over Limit = Result – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

Mode 2: Worst case is 802.11ac 80 Mode, 5210MHz

Line



No.	Frequency	Reading	Correct	Result	Limit	Over limit	Remark	Phase
	(MHz)	dBuV	Factor(dB)	dBuV	dBuV	(dB)		
1	0.227	19.79	19.45	39.24	62.57	-23.33	QP	Line
2	0.227	19.33	19.45	38.78	52.57	-13.79	Average	Line
3	0.494	12.85	19.57	32.42	56.10	-23.68	QP	Line
4	0.494	10.31	19.57	29.88	46.10	-16.22	Average	Line
5	1.464	4.24	19.91	24.15	56.00	-31.85	QP	Line
6	1.464	3.09	19.91	23.00	46.00	-23.00	Average	Line
7	3.720	14.85	20.07	34.92	56.00	-21.08	QP	Line
8	3.720	13.65	20.07	33.72	46.00	-12.28	Average	Line
9	5.333	12.53	20.11	32.64	60.00	-27.36	QP	Line
10	5.333	14.94	20.11	35.05	50.00	-14.95	Average	Line
11	17.755	16.21	20.33	36.54	60.00	-23.46	QP	Line
12	17.755	14.82	20.33	35.15	50.00	-14.85	Average	Line

Note:

Result = Reading + Factor

Over Limit = Result – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

Neutral

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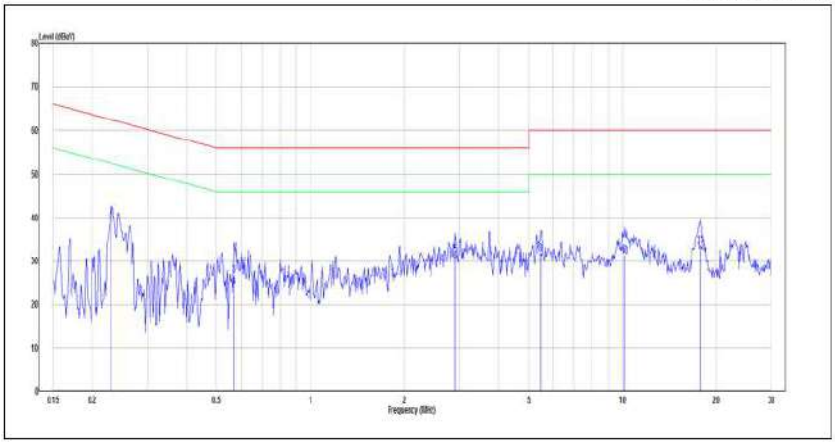


No.	Frequency (MHz)	Reading dBuV	Correct Factor(dB)	Result dBuV	Limit dBuV	Over limit (dB)	Remark	Phase
1	0.229	19.90	19.46	39.36	62.48	-23.12	QP	Neutral
2	0.229	19.59	19.46	39.05	52.48	-13.43	Average	Neutral
3	0.570	7.20	19.62	26.82	56.00	-29.18	QP	Neutral
4	0.570	4.46	19.62	24.08	46.00	-21.92	Average	Neutral
5	2.915	11.30	20.05	31.35	56.00	-24.65	QP	Neutral
6	2.915	9.86	20.05	29.91	46.00	-16.09	Average	Neutral
7	5.476	9.22	20.11	29.33	60.00	-30.67	QP	Neutral
8	5.476	11.48	20.11	31.59	50.00	-18.41	Average	Neutral
9	10.125	11.41	20.10	31.51	60.00	-28.49	QP	Neutral
10	10.125	10.97	20.10	31.07	50.00	-18.93	Average	Neutral
11	17.755	13.32	20.39	33.71	60.00	-26.29	QP	Neutral
12	17.755	11.79	20.39	32.18	50.00	-17.82	Average	Neutral

Note:

Result = Reading + Factor

Over Limit = Result – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

9 FCC §15.209, §15.205, §15.407(b) & RSS-247 §6.2, RSS-GEN §8.9, RSS-GEN §8.10 – Spurious Emissions

9.1 Applicable Standard

As Per FCC §15.205(a) except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	608 – 614	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	960 – 1240	5.35 – 5. 46
2.1735 – 2.1905	16.80425 – 16.80475	1300 – 1427	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1435 – 1626.5	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1645.5 – 1646.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1660 – 1710	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1718.8 – 1722.2	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	2200 – 2300	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2310 – 2390	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2483.5 – 2500	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2690 – 2900	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	3260 – 3267	22.01 – 23.12
8.41425 – 8.41475	162.0125 –167.17	3.332 – 3.339	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3 3458 – 3 358	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3.600 – 4.400	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4		Above 38.6
13.36 – 13.41	399.9 – 410		

As per FCC §15.209(a): Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (micro volts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

Note 1: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

As per RSS-GEN §8.9: Except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table 5 and table 6. Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

Table 5 – General field strength limits at frequencies above 30 MHz	
Frequency (MHz)	**Field Strength (μV/m at 3 m)**
30 - 88	100
88 - 216	150
216 - 960	200
Above 960	500

Table 6 – General field strength limits at frequencies below 30 MHz		
Frequency (MHz)	**Field Strength (H-Field) (μA/m)**	**Measurement distance (m)**
9 - 490 kHz[Note 1]	6.37/F (F in kHz)	300
490 - 1705 kHz	63.7/F (F in kHz)	30
1.705 - 30 MHz	0.08	30

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

Note 2: The limit was added 51.5dB to convert the limit from dBuA/m to dBuV/m.

According to ANSI C63.10-2013, section 5.3.3

Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field, and the emissions to be measured can be detected by the measurement equipment (see 4.3.4). Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. Measurements from 18 GHz to 40 GHz are typically made at distances significantly less than 3 m from the EUT. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade of distance (inverse of linear distance for field-strength measurements or inverse of linear distance-squared for power-density measurements).

As per FCC Part 15.407 (b)

- 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.
- 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.
- 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.
- For transmitters operating in the 5.725-5.85 GHz band: 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.

˙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.

˙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.

˙Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

RSS-247 Clause 6.2

5.15-5.25 GHz

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

5.725-5.850 GHz

Devices operating in the band 5725-5850 MHz with antenna gain of 10 dBi or less can have unwanted emissions that comply with either the limits in this section or in section 5.5 until April 1, 2018 for certification. Certified devices that do not comply with emission limits in this section shall not be manufactured, imported, distributed, leased, offered for sale or sold after April 1, 2020.

Devices operating in the band 5725-5850 MHz shall have e.i.r.p. of unwanted emissions comply with the following:

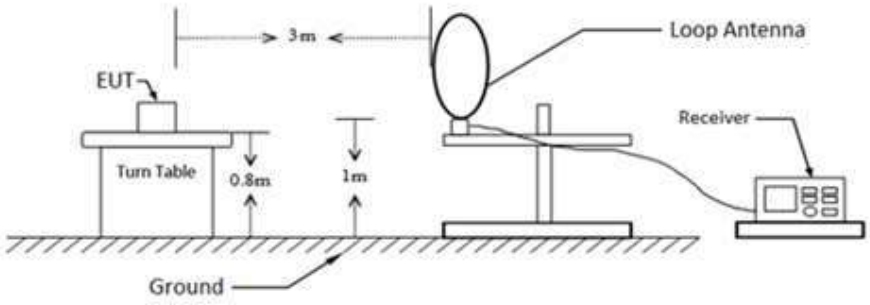
27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 Bm/MHz at 5 MHz above or below the band edges;

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

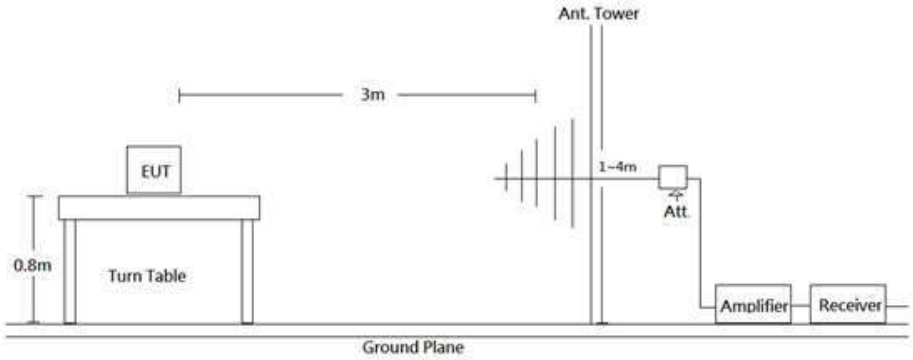
10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

9.2 EUT Setup

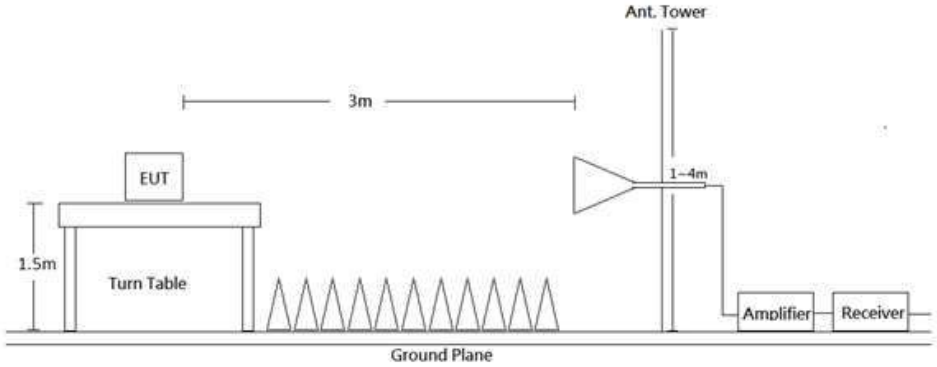
9kHz-30MHz:



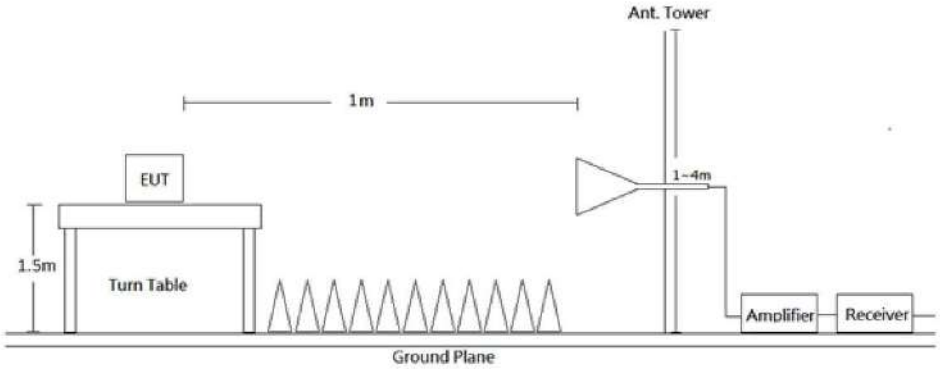
30MHz-1GHz:



1-18 GHz:



18-40 GHz:



Radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC Part 15.209, FCC 15.407, RSS-247, RSS-GEN Limits.

9.3 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 was set with the following configurations measurement method 6.3 in ANSI C63.10.

Frequency Range	RBW	VBW	Duty cycle	Measurement method
9 kHz - 150 kHz	200 Hz/300 Hz	1 kHz	/	QP/AV
150 kHz - 30 MHz	9 kHz/10 kHz	30 kHz	/	QP/AV
30-1000 MHz	120 kHz	300 kHz	/	QP
Above 1 GHz	1 MHz	3 MHz	/	PK
	1 MHz	10 Hz	>98%	Ave
	1 MHz	1/T	<98%	Ave

Note: T is minimum transmission duration

9.4 Test Procedure

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

All data was recorded in Quasi-peak and average detector mode from 9 kHz to 30 MHz, Quasi-peak detector mode from 30 MHz to 1 GHz and PK and average detector modes for frequencies above 1 GHz.

According to C63.10, emission shall be computed as: E [dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

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

9.5 Corrected Factor & Margin Calculation

The Correct Factor is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Level – Limit

9.6 Test Results

Test Mode: Transmitting

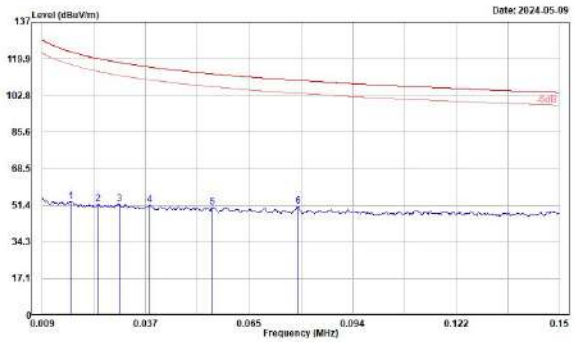
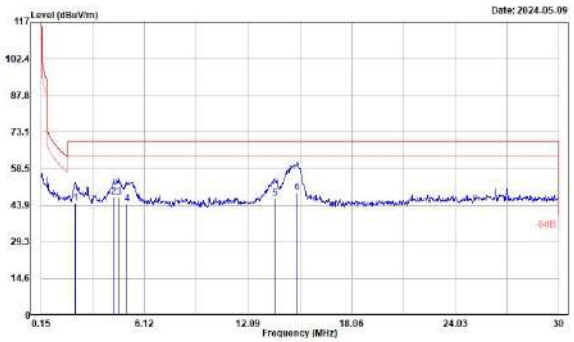
(Pre-scan with three orthogonal axis, and worse case as Y axis.)

Mode 1:

9kHz-30MHz:

(Worst case is 802.11ac 80 mode 5210 MHz)

(Pre-scan using three directional polarities, worst case as parallel)

9kHz-150kHz	150kHz-30MHz
	

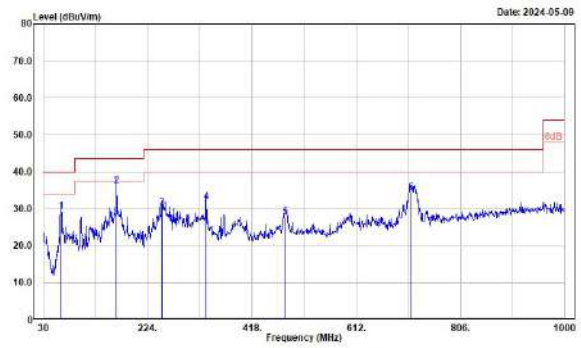
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
0.017	37.69	15.50	53.19	123.05	-69.86	100	58	Average
0.024	37.50	14.40	51.90	119.92	-68.02	100	325	Average
0.030	38.15	13.71	51.86	118.06	-66.20	100	330	Average
0.038	38.77	12.89	51.66	115.93	-64.27	100	152	Average
0.055	38.51	12.06	50.57	112.74	-62.17	100	247	Average
0.079	39.44	11.34	50.78	109.67	-58.89	100	222	Average

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2.120	33.93	10.70	44.63	69.54	-24.91	100	89	QP
4.329	36.55	10.62	47.17	69.54	-22.37	100	185	QP
4.628	36.26	10.65	46.91	69.54	-22.63	100	117	QP
5.105	33.46	10.82	44.28	69.54	-25.26	100	324	QP
13.642	35.04	11.48	46.52	69.54	-23.02	100	295	QP
14.926	37.44	11.51	48.95	69.54	-20.59	100	105	QP

30MHz-1GHz:

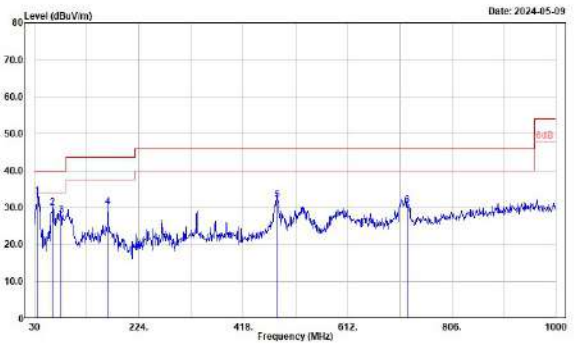
(Worst case is 802.11ac 80 Mode, 5210 MHz)

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
62.980	45.26	-15.95	29.31	40.00	-10.69	100	123	QP
165.800	47.33	-11.05	36.28	43.50	-7.22	100	137	QP
251.160	41.76	-11.39	30.37	46.00	-15.63	100	96	QP
332.640	40.40	-8.53	31.87	46.00	-14.13	100	317	QP
480.080	32.99	-5.17	27.82	46.00	-18.18	100	96	QP
713.850	36.13	-1.65	34.48	46.00	-11.52	100	148	QP

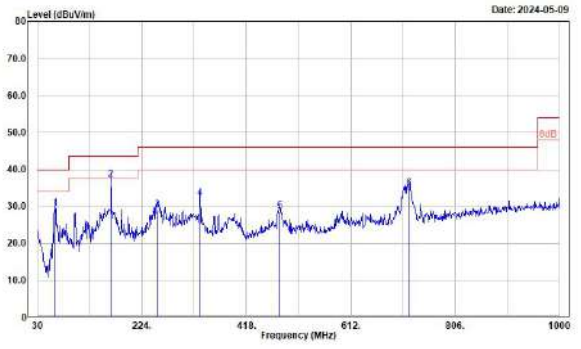
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
34.850	39.53	-6.42	33.11	40.00	-6.89	100	136	QP
62.980	45.95	-15.95	30.00	40.00	-10.00	100	259	QP
79.470	43.91	-15.97	27.94	40.00	-12.06	100	20	QP
165.800	41.27	-11.05	30.22	43.50	-13.28	100	212	QP
481.050	37.20	-5.15	32.05	46.00	-13.95	100	297	QP
723.550	32.00	-1.50	30.50	46.00	-15.50	100	151	QP

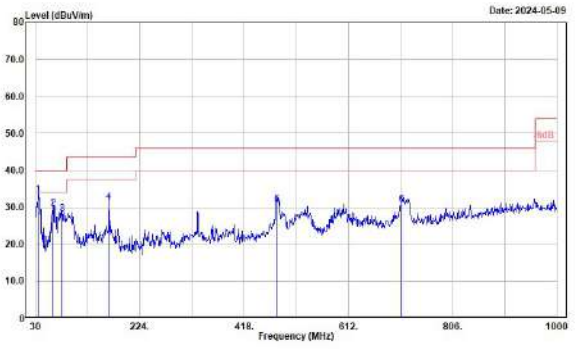
(Worst case is 802.11a Mode, 5785 MHz)

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
62.980	45.45	-15.95	29.50	40.00	-10.50	100	122	QP
165.800	48.30	-11.05	37.25	43.50	-6.25	100	129	QP
252.130	40.53	-11.38	29.15	46.00	-16.85	100	110	QP
331.670	40.90	-8.55	32.35	46.00	-13.65	100	347	QP
480.080	33.82	-5.17	28.65	46.00	-17.35	100	76	QP
720.640	36.54	-1.59	34.95	46.00	-11.05	100	141	QP

Vertical



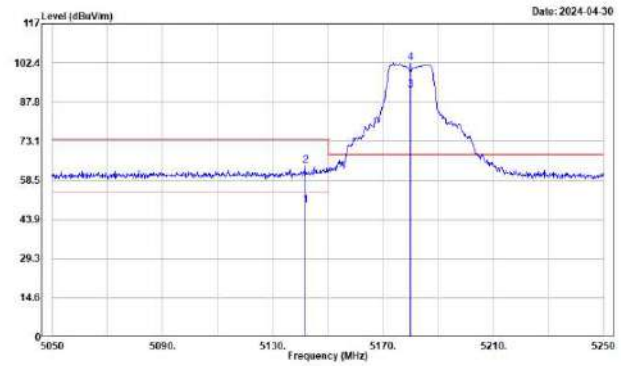
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
34.850	39.76	-6.42	33.34	40.00	-6.66	100	173	QP
62.980	45.76	-15.95	29.81	40.00	-10.19	100	257	QP
79.470	44.21	-15.97	28.24	40.00	-11.76	100	89	QP
165.800	42.39	-11.05	31.34	43.50	-12.16	100	204	QP
479.110	36.07	-5.19	30.88	46.00	-15.12	100	293	QP
710.940	32.61	-1.74	30.87	46.00	-15.13	100	154	QP

Band-Edge

5150-5250 MHz

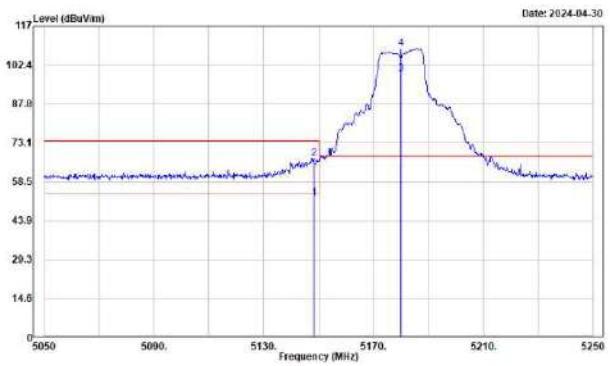
802.11a Mode, 5180 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5141.800	52.79	-3.62	49.17	54.00	-4.83	107	36	Average
5141.800	67.54	-3.62	63.92	74.00	-10.08	107	36	Peak
5180.000	96.17	-3.86	92.31			107	36	Average
5180.000	106.18	-3.86	102.32			107	36	Peak

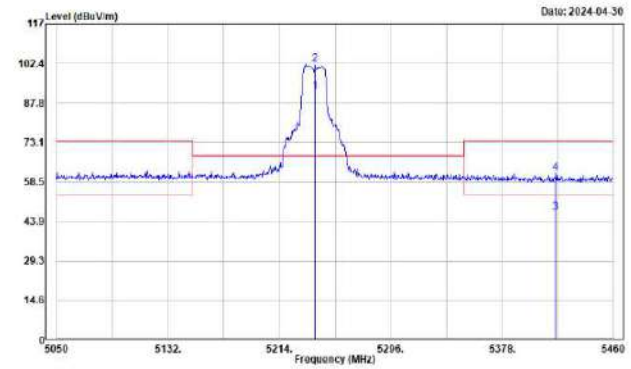
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5148.200	55.85	-3.63	52.22	54.00	-1.78	269	341	Average
5148.200	70.83	-3.63	67.20	74.00	-6.80	269	341	Peak
5180.000	102.81	-3.86	98.95			269	341	Average
5180.000	112.25	-3.86	108.39			269	341	Peak

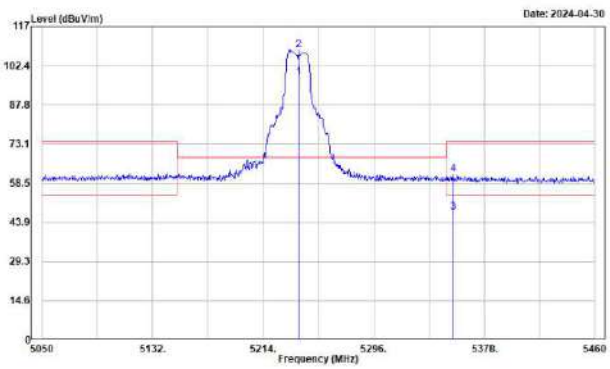
802.11a Mode, 5240 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	95.82	-3.99	91.83			102	39	Average
5240.000	105.96	-3.99	101.97			102	39	Peak
5417.360	51.74	-4.58	47.16	54.00	-6.84	102	39	Average
5417.360	66.41	-4.58	61.83	74.00	-12.17	102	39	Peak

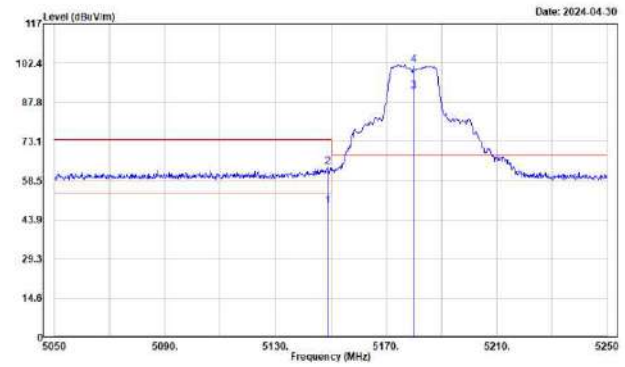
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	101.83	-3.99	97.84			264	342	Average
5240.000	112.07	-3.99	108.08			264	342	Peak
5354.630	51.74	-4.29	47.45	54.00	-6.55	264	342	Average
5354.630	66.04	-4.29	61.75	74.00	-12.25	264	342	Peak

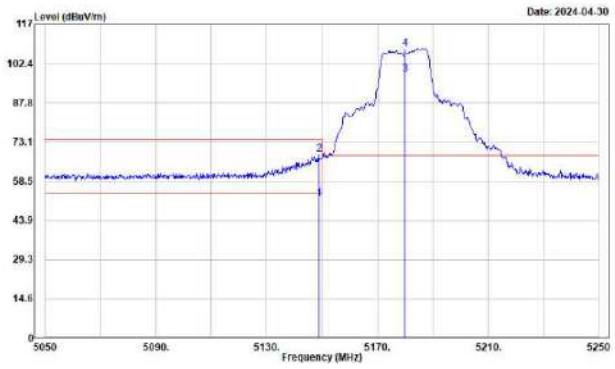
802.11ac VHT20 Mode, 5180 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5148.800	52.64	-3.63	49.01	54.00	-4.99	104	38	Average
5148.800	67.25	-3.63	63.62	74.00	-10.38	104	38	Peak
5180.000	95.68	-3.86	91.82			104	38	Average
5180.000	105.78	-3.86	101.92			104	38	Peak

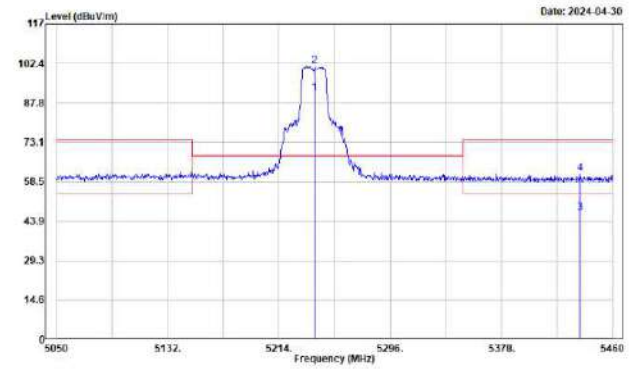
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5148.800	55.56	-3.63	51.93	54.00	-2.07	269	340	Average
5148.800	71.97	-3.63	68.34	74.00	-5.66	269	340	Peak
5180.000	102.05	-3.86	98.19			269	340	Average
5180.000	111.77	-3.86	107.91			269	340	Peak

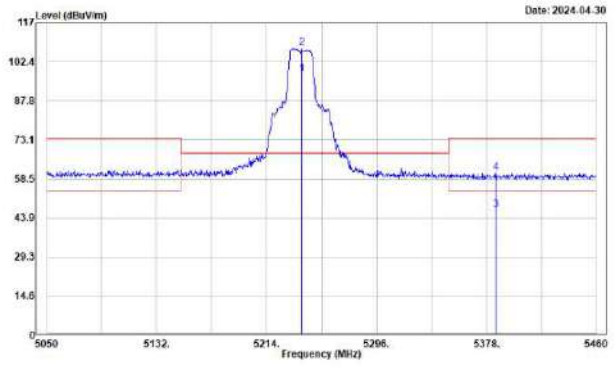
802.11ac VHT20 Mode, 5240 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	95.37	-3.99	91.38			105	37	Average
5240.000	105.36	-3.99	101.37			105	37	Peak
5436.220	51.58	-4.62	46.96	54.00	-7.04	105	37	Average
5436.220	66.24	-4.62	61.62	74.00	-12.38	105	37	Peak

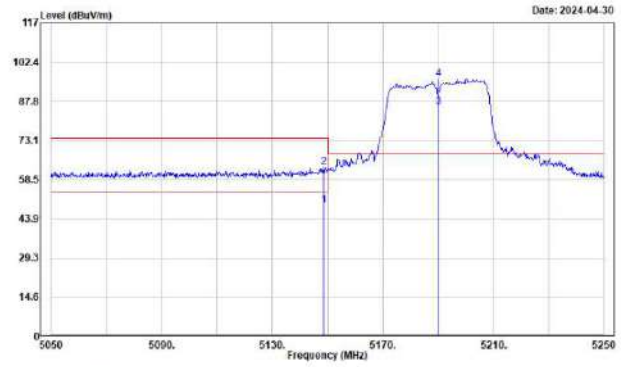
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	101.61	-3.99	97.62			263	343	Average
5240.000	111.61	-3.99	107.62			263	343	Peak
5384.970	51.52	-4.46	47.06	54.00	-6.94	263	343	Average
5384.970	65.36	-4.46	60.90	74.00	-13.10	263	343	Peak

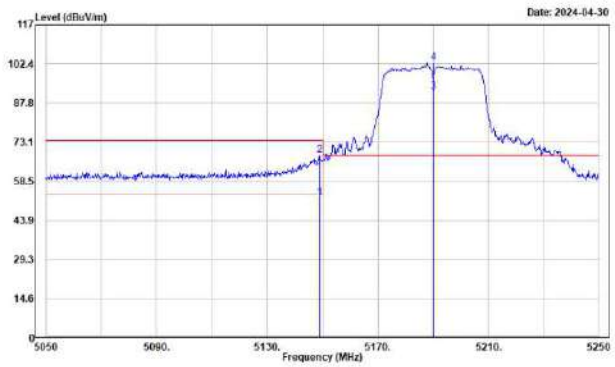
802.11ac VHT40 Mode, 5190 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5148.600	52.58	-3.63	48.95	54.00	-5.05	125	36	Average
5148.600	66.61	-3.63	62.98	74.00	-11.02	125	36	Peak
5190.000	89.68	-3.93	85.75			125	36	Average
5190.000	99.89	-3.93	95.96			125	36	Peak

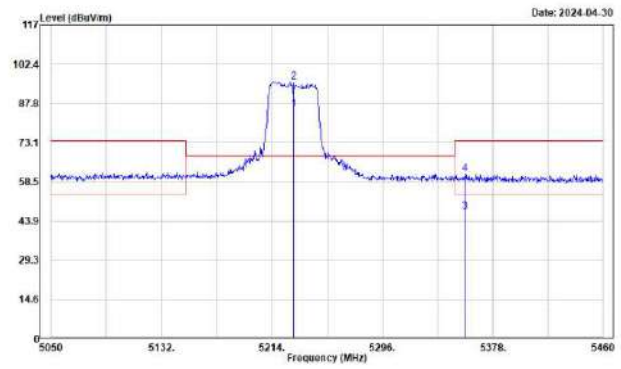
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5148.800	56.05	-3.63	52.42	54.00	-1.58	269	340	Average
5148.800	71.79	-3.63	68.16	74.00	-5.84	269	340	Peak
5190.000	95.75	-3.93	91.82			269	340	Average
5190.000	106.51	-3.93	102.58			269	340	Peak

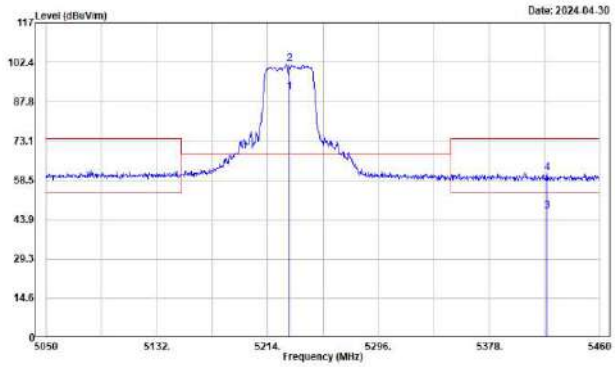
802.11ac VHT40 Mode, 5230 MHz

Horizontal



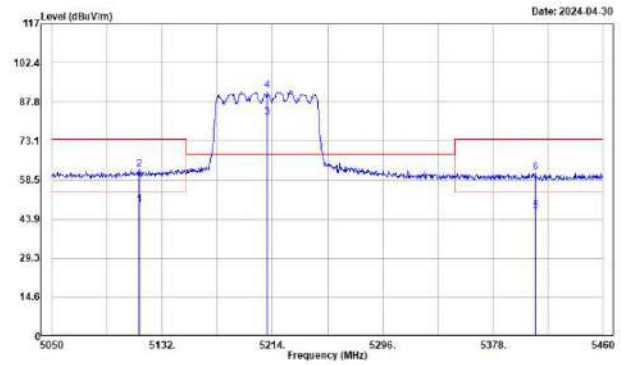
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5230.000	89.69	-4.00	85.69			108	38	Average
5230.000	99.80	-4.00	95.80			108	38	Peak
5357.500	51.57	-4.30	47.27	54.00	-6.73	108	38	Average
5357.500	65.73	-4.30	61.43	74.00	-12.57	108	38	Peak

Vertical

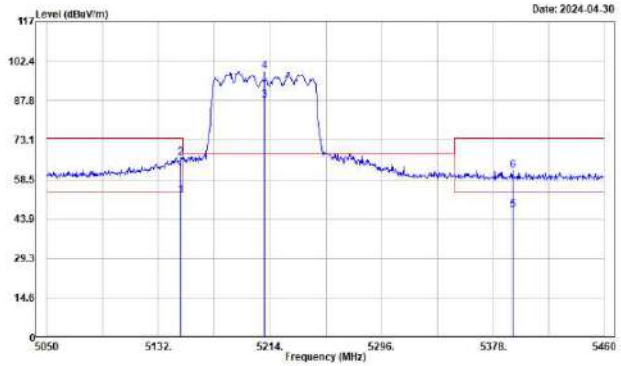


Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5230.000	95.41	-4.00	91.41			263	341	Average
5230.000	105.79	-4.00	101.79			263	341	Peak
5421.050	51.56	-4.59	46.97	54.00	-7.03	263	341	Average
5421.050	65.90	-4.59	61.31	74.00	-12.69	263	341	Peak

802.11ac VHT80 Mode, 5210 MHz	
Horizontal	**Vertical**



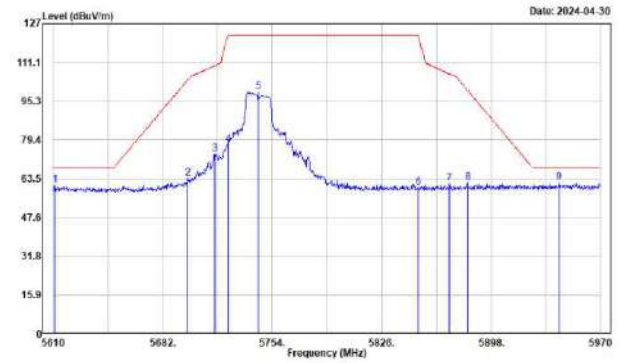
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5114.780	52.61	-3.58	49.03	54.00	-4.97	110	36	Average
5114.780	65.90	-3.58	62.32	74.00	-11.68	110	36	Peak
5210.000	85.68	-4.00	81.68			110	36	Average
5210.000	96.10	-4.00	92.10			110	36	Peak
5409.570	51.61	-4.57	47.04	54.00	-6.96	110	36	Average
5409.570	65.86	-4.57	61.29	74.00	-12.71	110	36	Peak



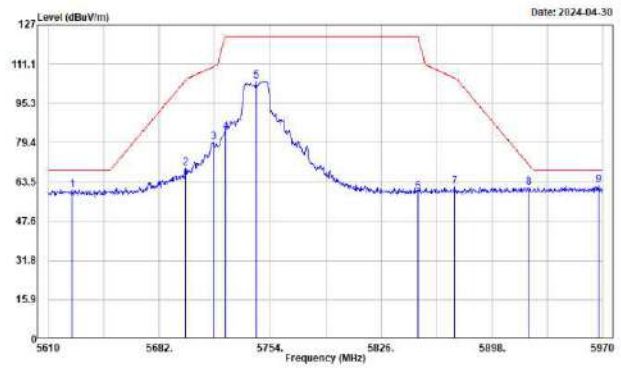
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5148.400	56.16	-3.63	52.53	54.00	-1.47	270	342	Average
5148.400	70.30	-3.63	66.67	74.00	-7.33	270	342	Peak
5210.000	91.82	-4.00	87.82			270	342	Average
5210.000	102.62	-4.00	98.62			270	342	Peak
5392.350	51.61	-4.50	47.11	54.00	-6.89	270	342	Average
5392.350	66.38	-4.50	61.88	74.00	-12.12	270	342	Peak

5725-5850 MHz

802.11a Mode, 5745 MHz	
Horizontal	**Vertical**



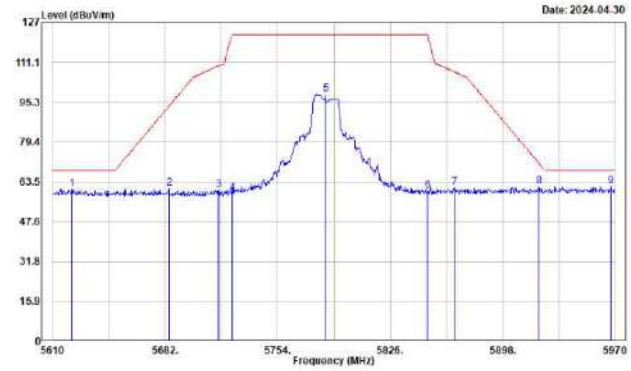
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5611.080	65.75	-4.71	61.04	68.20	-7.16	104	129	Peak
5698.560	68.84	-5.25	63.59	104.14	-40.55	104	129	Peak
5716.200	78.92	-5.20	73.72	109.74	-36.02	104	129	Peak
5725.000	82.59	-5.17	77.42	122.20	-44.78	104	129	Peak
5745.000	104.07	-5.10	98.97			104	129	Peak
5850.000	64.68	-4.82	59.86	122.20	-62.34	104	129	Peak
5870.640	66.32	-4.65	61.67	106.42	-44.75	104	129	Peak
5882.520	66.43	-4.56	61.87	99.62	-37.75	104	129	Peak
5942.640	66.00	-4.12	61.88	68.20	-6.32	104	129	Peak



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5625.480	65.14	-4.77	60.37	68.20	-7.83	140	304	Peak
5699.280	74.55	-5.26	69.29	104.67	-35.38	140	304	Peak
5717.280	84.79	-5.20	79.59	110.04	-30.45	140	304	Peak
5725.000	88.83	-5.17	83.66	122.20	-38.54	140	304	Peak
5745.000	109.33	-5.10	104.23			140	304	Peak
5850.000	64.50	-4.82	59.68	122.20	-62.52	140	304	Peak
5873.880	66.11	-4.63	61.48	105.51	-44.03	140	304	Peak
5921.760	65.70	-4.27	61.43	70.59	-9.16	140	304	Peak
5967.120	66.17	-4.03	62.14	68.20	-6.06	140	304	Peak

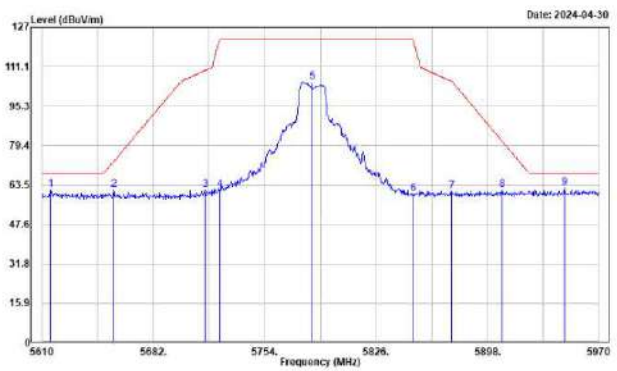
802.11a Mode, 5785 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5622.240	65.40	-4.76	60.64	68.20	-7.56	108	129	Peak
5684.520	65.91	-5.14	60.77	93.78	-33.01	108	129	Peak
5716.200	65.35	-5.20	60.15	109.74	-49.59	108	129	Peak
5725.000	64.17	-5.17	59.00	122.20	-63.20	108	129	Peak
5785.000	103.53	-4.97	98.56			108	129	Peak
5850.000	64.61	-4.82	59.79	122.20	-62.41	108	129	Peak
5867.400	65.96	-4.68	61.28	107.33	-46.05	108	129	Peak
5921.400	65.97	-4.27	61.70	70.85	-9.15	108	129	Peak
5967.480	65.74	-4.03	61.71	68.20	-6.49	108	129	Peak

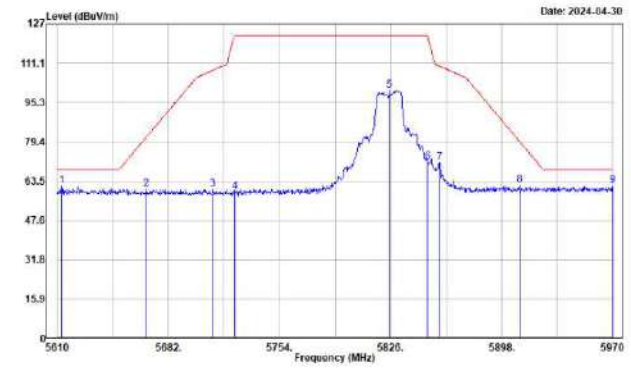
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5615.400	66.21	-4.74	61.47	68.20	-6.73	129	304	Peak
5656.440	66.44	-4.92	61.52	72.98	-11.46	129	304	Peak
5715.480	66.72	-5.20	61.52	109.54	-48.02	129	304	Peak
5725.000	66.71	-5.17	61.54	122.20	-60.66	129	304	Peak
5785.000	110.00	-4.97	105.03			129	304	Peak
5850.000	64.71	-4.82	59.89	122.20	-62.31	129	304	Peak
5874.960	65.54	-4.62	60.92	105.21	-44.29	129	304	Peak
5907.720	65.99	-4.37	61.62	80.95	-19.33	129	304	Peak
5947.680	66.35	-4.08	62.27	68.20	-5.93	129	304	Peak

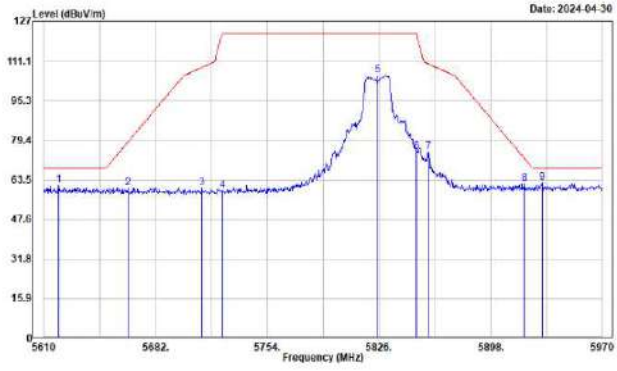
802.11a Mode, 5825 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5612.880	66.33	-4.73	61.60	68.20	-6.60	122	5	Peak
5667.600	65.34	-5.01	60.33	81.26	-20.93	122	5	Peak
5710.800	65.41	-5.22	60.19	108.23	-48.04	122	5	Peak
5725.000	64.24	-5.17	59.07	122.20	-63.13	122	5	Peak
5825.000	104.89	-4.87	100.02			122	5	Peak
5850.000	76.05	-4.82	71.23	122.20	-50.97	122	5	Peak
5857.680	75.72	-4.76	70.96	110.05	-39.09	122	5	Peak
5909.520	66.41	-4.36	62.05	79.62	-17.57	122	5	Peak
5970.000	65.68	-4.02	61.66	68.20	-6.54	122	5	Peak

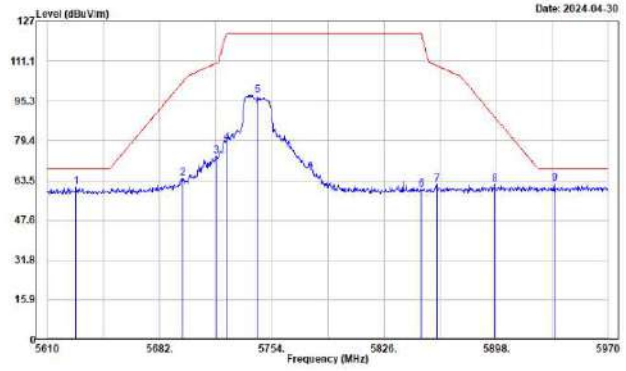
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5619.360	66.16	-4.76	61.40	68.20	-6.80	194	305	Peak
5664.000	65.29	-4.97	60.32	78.59	-18.27	194	305	Peak
5711.880	65.33	-5.22	60.11	108.53	-48.42	194	305	Peak
5725.000	64.42	-5.17	59.25	122.20	-62.95	194	305	Peak
5825.000	110.19	-4.87	105.32			194	305	Peak
5850.000	79.55	-4.82	74.73	122.20	-47.47	194	305	Peak
5857.680	79.34	-4.76	74.58	110.05	-35.47	194	305	Peak
5919.960	66.18	-4.28	61.90	71.92	-10.02	194	305	Peak
5931.120	66.45	-4.21	62.24	68.20	-5.96	194	305	Peak

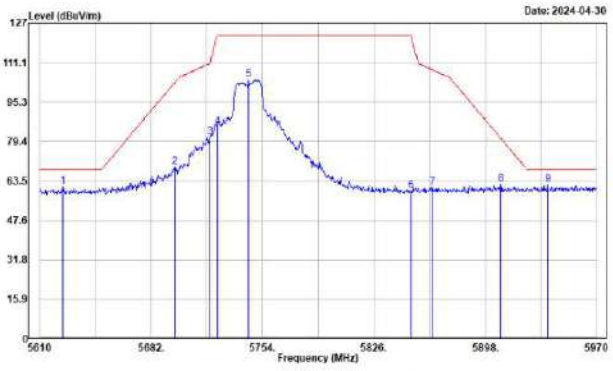
802.11ac VHT20 Mode, 5745 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5628.360	65.65	-4.79	60.86	68.20	-7.34	123	30	Peak
5696.760	69.54	-5.23	64.31	102.81	-38.50	123	30	Peak
5718.360	78.67	-5.19	73.48	110.34	-36.86	123	30	Peak
5725.000	83.54	-5.17	78.37	122.20	-43.83	123	30	Peak
5745.000	102.49	-5.10	97.39			123	30	Peak
5850.000	64.57	-4.82	59.75	122.20	-62.45	123	30	Peak
5859.840	66.58	-4.74	61.84	109.44	-47.60	123	30	Peak
5896.920	66.51	-4.44	62.07	88.94	-26.87	123	30	Peak
5935.800	66.37	-4.18	62.19	68.20	-6.01	123	30	Peak

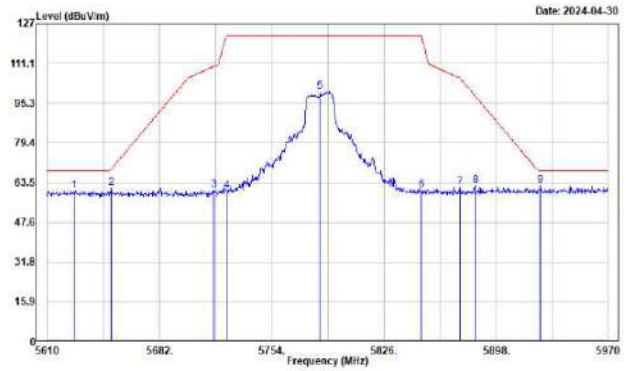
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5625.120	65.90	-4.77	61.13	68.20	-7.07	140	305	Peak
5697.480	74.45	-5.23	69.22	103.34	-34.12	140	305	Peak
5720.160	86.44	-5.19	81.25	111.17	-29.92	140	305	Peak
5725.000	90.41	-5.17	85.24	122.20	-36.96	140	305	Peak
5745.000	109.45	-5.10	104.35			140	305	Peak
5850.000	64.32	-4.82	59.50	122.20	-62.70	140	305	Peak
5863.800	65.57	-4.70	60.87	108.33	-47.46	140	305	Peak
5908.080	66.60	-4.37	62.23	80.69	-18.46	140	305	Peak
5938.320	66.05	-4.16	61.89	68.20	-6.31	140	305	Peak

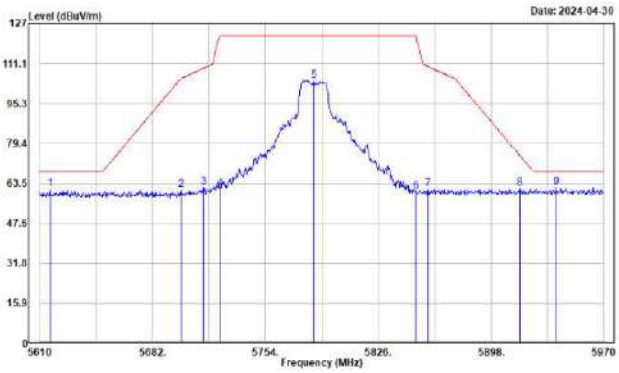
802.11ac VHT20 Mode, 5785 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5626.920	65.08	-4.77	60.31	68.20	-7.89	283	326	Peak
5651.040	66.30	-4.88	61.42	68.97	-7.55	283	326	Peak
5716.560	65.84	-5.20	60.64	109.84	-49.20	283	326	Peak
5725.000	65.26	-5.17	60.09	122.20	-62.11	283	326	Peak
5785.000	104.65	-4.97	99.68			283	326	Peak
5850.000	65.54	-4.82	60.72	122.20	-61.48	283	326	Peak
5874.960	66.15	-4.62	61.53	105.21	-43.68	283	326	Peak
5884.680	66.80	-4.54	62.26	98.01	-35.75	283	326	Peak
5926.440	66.36	-4.23	62.13	68.20	-6.07	283	326	Peak

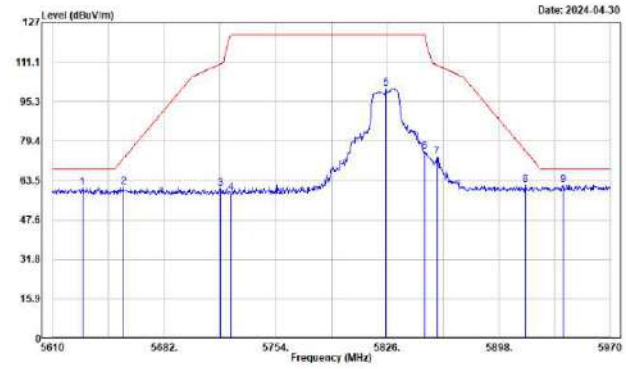
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5616.480	65.86	-4.74	61.12	68.20	-7.08	129	306	Peak
5700.000	66.07	-5.26	60.81	105.20	-44.39	129	306	Peak
5714.400	67.13	-5.20	61.93	109.23	-47.30	129	306	Peak
5725.000	66.40	-5.17	61.23	122.20	-60.97	129	306	Peak
5785.000	109.32	-4.97	104.35			129	306	Peak
5850.000	65.20	-4.82	60.38	122.20	-61.82	129	306	Peak
5857.680	66.15	-4.76	61.39	110.05	-48.66	129	306	Peak
5916.360	65.85	-4.31	61.54	74.57	-13.03	129	306	Peak
5939.760	66.03	-4.14	61.89	68.20	-6.31	129	306	Peak

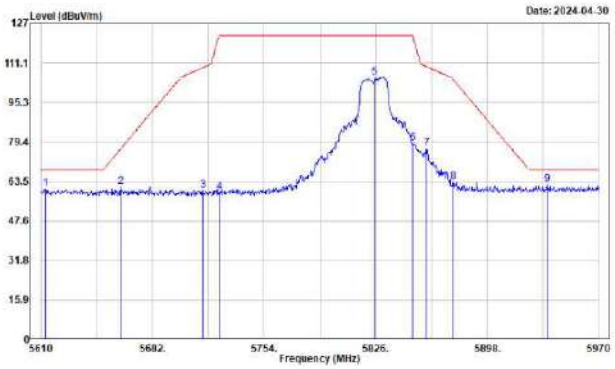
802.11ac VHT20 Mode, 5825 MHz

Horizontal



Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5629.080	65.40	-4.79	60.61	68.20	-7.59	121	4	Peak
5655.720	65.82	-4.90	60.92	72.45	-11.53	121	4	Peak
5718.360	65.30	-5.19	60.11	110.34	-50.23	121	4	Peak
5725.000	63.57	-5.17	58.40	122.20	-63.80	121	4	Peak
5825.000	105.33	-4.87	100.46			121	4	Peak
5850.000	79.87	-4.82	75.05	122.20	-47.15	121	4	Peak
5858.040	77.82	-4.76	73.06	109.95	-36.89	121	4	Peak
5915.280	65.83	-4.32	61.51	75.37	-13.86	121	4	Peak
5939.760	65.79	-4.14	61.65	68.20	-6.55	121	4	Peak

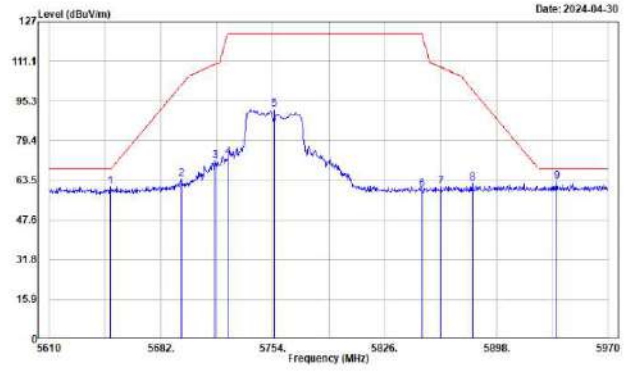
Vertical



Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5612.520	65.18	-4.73	60.45	68.20	-7.75	192	306	Peak
5661.480	66.39	-4.96	61.43	76.72	-15.29	192	306	Peak
5714.400	65.17	-5.20	59.97	109.23	-49.26	192	306	Peak
5725.000	64.28	-5.17	59.11	122.20	-63.09	192	306	Peak
5825.000	110.33	-4.87	105.46			192	306	Peak
5850.000	83.64	-4.82	78.82	122.20	-43.38	192	306	Peak
5858.760	81.46	-4.75	76.71	109.75	-33.04	192	306	Peak
5876.040	67.99	-4.61	63.38	104.43	-41.05	192	306	Peak
5936.880	66.36	-4.17	62.19	68.20	-6.01	192	306	Peak

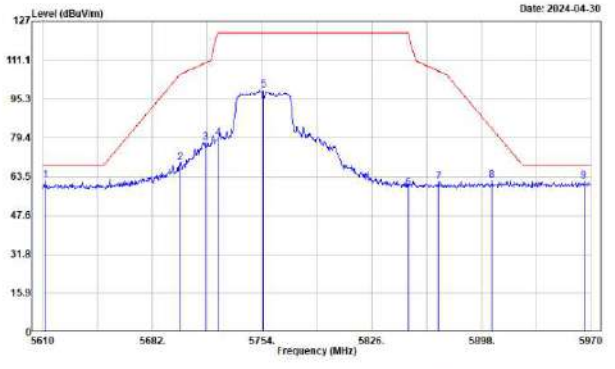
802.11ac VHT40 Mode, 5755 MHz

Horizontal



Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5649.240	65.66	-4.86	60.80	68.20	-7.40	136	26	Peak
5694.960	69.12	-5.21	63.91	101.49	-37.58	136	26	Peak
5716.920	76.50	-5.20	71.30	109.94	-38.64	136	26	Peak
5725.000	77.87	-5.17	72.70	122.20	-49.50	136	26	Peak
5755.000	97.04	-5.07	91.97			136	26	Peak
5850.000	64.70	-4.82	59.88	122.20	-62.32	136	26	Peak
5862.360	65.71	-4.72	60.99	108.74	-47.75	136	26	Peak
5882.520	66.79	-4.56	62.23	99.62	-37.39	136	26	Peak
5936.880	67.01	-4.17	62.84	68.20	-5.36	136	26	Peak

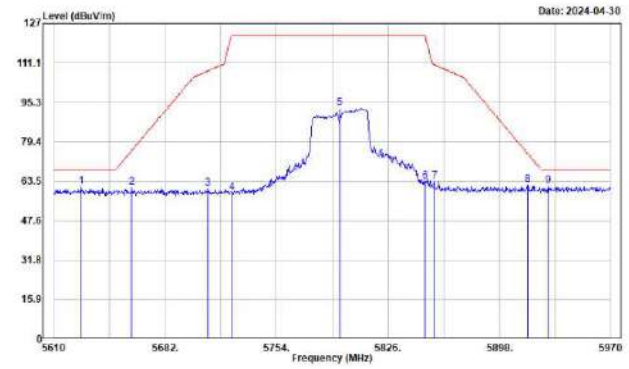
Vertical



Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5611.440	66.63	-4.71	61.92	68.20	-6.28	140	302	Peak
5700.000	74.33	-5.26	69.07	105.20	-36.13	140	302	Peak
5716.560	82.50	-5.20	77.30	109.84	-32.54	140	302	Peak
5725.000	84.48	-5.17	79.31	122.20	-42.89	140	302	Peak
5755.000	103.70	-5.07	98.63			140	302	Peak
5850.000	63.80	-4.82	58.98	122.20	-63.22	140	302	Peak
5869.920	65.95	-4.66	61.29	106.62	-45.33	140	302	Peak
5904.840	66.22	-4.38	61.84	83.08	-21.24	140	302	Peak
5965.320	65.77	-4.03	61.74	68.20	-6.46	140	302	Peak

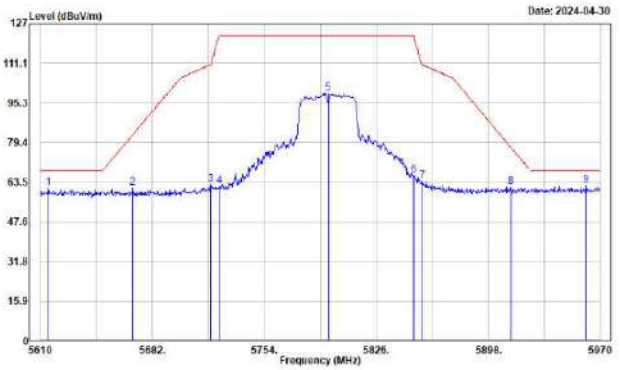
802.11ac VHT40 Mode, 5795 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5627.640	66.08	-4.79	61.29	68.20	-6.91	113	7	Peak
5660.400	65.77	-4.95	60.82	75.92	-15.10	113	7	Peak
5709.720	65.65	-5.22	60.43	107.92	-47.49	113	7	Peak
5725.000	64.10	-5.17	58.93	122.20	-63.27	113	7	Peak
5795.000	97.71	-4.93	92.78			113	7	Peak
5850.000	68.09	-4.82	63.27	122.20	-58.93	113	7	Peak
5855.880	68.14	-4.77	63.37	110.55	-47.18	113	7	Peak
5916.360	66.32	-4.31	62.01	74.57	-12.56	113	7	Peak
5929.680	65.76	-4.22	61.54	68.20	-6.66	113	7	Peak

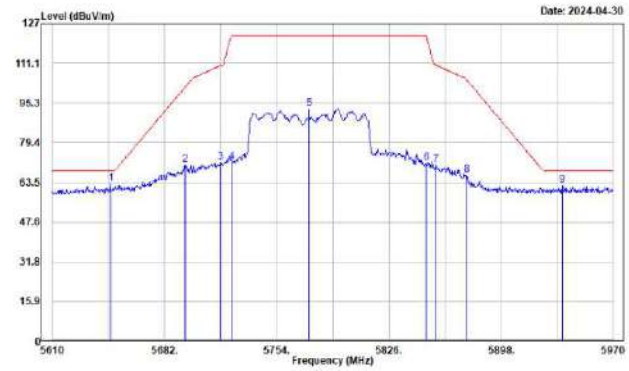
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5615.040	66.09	-4.74	61.35	68.20	-6.85	150	305	Peak
5669.400	66.13	-5.02	61.11	82.59	-21.48	150	305	Peak
5719.440	67.72	-5.19	62.53	110.64	-48.11	150	305	Peak
5725.000	66.98	-5.17	61.81	122.20	-60.39	150	305	Peak
5795.000	104.05	-4.93	99.12			150	305	Peak
5850.000	71.36	-4.82	66.54	122.20	-55.66	150	305	Peak
5855.520	68.64	-4.78	63.86	110.65	-46.79	150	305	Peak
5912.400	66.05	-4.34	61.71	77.49	-15.78	150	305	Peak
5960.640	66.31	-4.05	62.26	68.20	-5.94	150	305	Peak

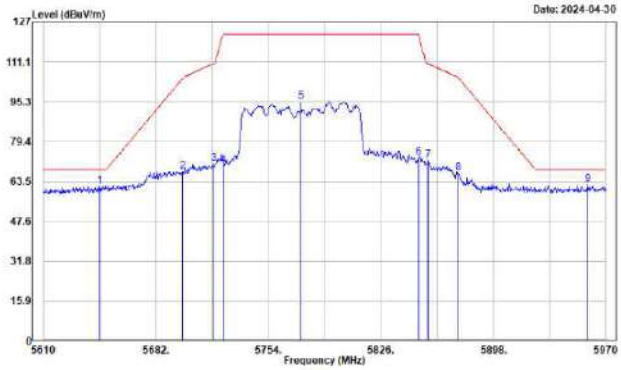
802.11ac VHT80 Mode, 5775 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5647.440	67.67	-4.85	62.82	68.20	-5.38	277	327	Peak
5695.320	75.87	-5.21	70.66	101.75	-31.09	277	327	Peak
5718.000	76.66	-5.19	71.47	110.24	-38.77	277	327	Peak
5725.000	76.87	-5.17	71.70	122.20	-50.50	277	327	Peak
5775.000	97.96	-5.00	92.96			277	327	Peak
5850.000	75.95	-4.82	71.13	122.20	-51.07	277	327	Peak
5856.240	75.18	-4.77	70.41	110.45	-40.04	277	327	Peak
5876.040	71.02	-4.61	66.41	104.43	-38.02	277	327	Peak
5937.240	66.53	-4.17	62.36	68.20	-5.84	277	327	Peak

Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5646.000	66.61	-4.85	61.76	68.20	-6.44	152	305	Peak
5699.280	72.74	-5.26	67.48	104.67	-37.19	152	305	Peak
5719.080	75.81	-5.19	70.62	110.54	-39.92	152	305	Peak
5725.000	75.15	-5.17	69.98	122.20	-52.22	152	305	Peak
5775.000	100.47	-5.00	95.47			152	305	Peak
5850.000	77.87	-4.82	73.05	122.20	-49.15	152	305	Peak
5856.240	76.54	-4.77	71.77	110.45	-38.68	152	305	Peak
5875.320	71.49	-4.62	66.87	104.96	-38.09	152	305	Peak
5958.480	66.19	-4.05	62.14	68.20	-6.06	152	305	Peak

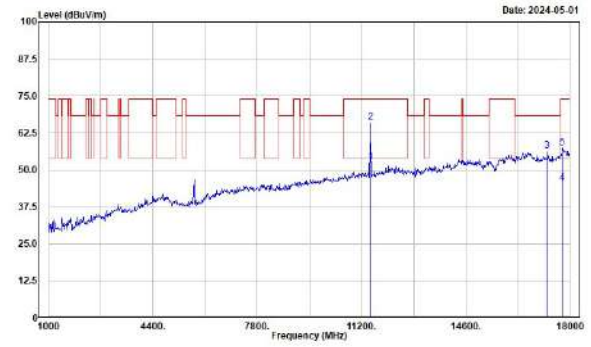
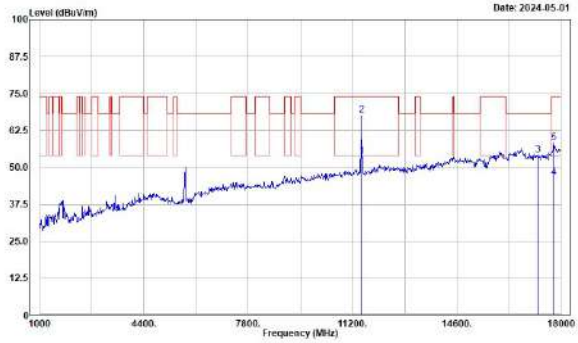
Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

1GHz-18GHz:

(Worst case is 802.11a Mode, 5745 MHz)

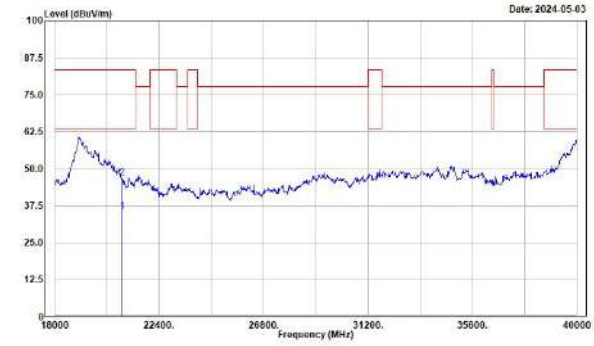
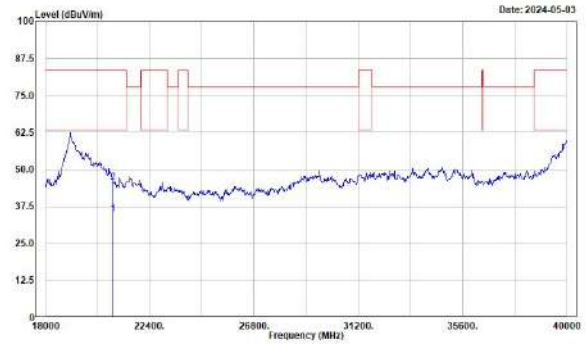
Horizontal	Vertical
	

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	45.47	7.21	52.68	54.00	-1.32	110	174	Average
11490.000	58.99	7.21	66.20	74.00	-7.80	110	174	Peak
17235.000	44.07	12.36	56.43	68.20	-11.77	157	317	Peak
17745.000	32.62	13.04	45.66	54.00	-8.34	150	90	Average
17745.000	44.38	13.04	57.42	74.00	-16.58	150	90	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	46.52	7.21	53.73	54.00	-0.27	107	139	Average
11490.000	60.52	7.21	67.73	74.00	-6.27	107	139	Peak
17235.000	41.77	12.36	54.13	68.20	-14.07	153	132	Peak
17762.000	33.57	13.06	46.63	54.00	-7.37	150	253	Average
17762.000	45.20	13.06	58.26	74.00	-15.74	150	253	Peak

18GHz-40GHz:

(Worst case is 802.11ac 80 Mode, 5210 MHz)

Horizontal	Vertical
	

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
20840.000	29.17	6.31	35.48	63.50	-28.02	151	130	Average
20840.000	40.51	6.31	46.82	83.50	-36.68	151	130	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
20840.000	28.60	6.31	34.91	63.50	-28.59	154	0	Average
20840.000	39.24	6.31	45.55	83.50	-37.95	154	0	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

For 18-40GHz Convert the test distance limit of 3 meters to a limit of 1 meter:

Conversion factor = 20 log (1m/3m) = 9.5 dB , Limit = 54+9.5 = 63.50 dBuV/m @ 1m

Above 1GHz:

5150-5250MHz

802.11a Mode:

5180 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10360.000	55.15	5.16	60.31	68.20	-7.89	105	213	Peak
15540.000	29.89	9.05	38.94	54.00	-15.06	152	224	Average
15540.000	42.05	9.05	51.10	74.00	-22.90	152	224	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10360.000	53.32	5.16	58.48	68.20	-9.72	112	133	Peak
15540.000	29.79	9.05	38.84	54.00	-15.16	155	351	Average
15540.000	41.31	9.05	50.36	74.00	-23.64	155	351	Peak

5200 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10400.000	51.53	5.15	56.68	68.20	-11.52	106	225	Peak
15600.000	30.25	9.27	39.52	54.00	-14.48	151	104	Average
15600.000	41.99	9.27	51.26	74.00	-22.74	151	104	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10400.000	50.02	5.15	55.17	68.20	-13.03	144	132	Peak
15600.000	30.43	9.27	39.70	54.00	-14.30	157	3	Average
15600.000	41.67	9.27	50.94	74.00	-23.06	157	3	Peak

5240 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10480.000	46.77	5.52	52.29	68.20	-15.91	150	334	Peak
15720.000	32.05	9.52	41.57	54.00	-12.43	156	291	Average
15720.000	43.16	9.52	52.68	74.00	-21.32	156	291	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10480.000	45.47	5.52	50.99	68.20	-17.21	150	142	Peak
15720.000	32.35	9.52	41.87	54.00	-12.13	153	360	Average
15720.000	44.73	9.52	54.25	74.00	-19.75	153	360	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT20 Mode:

5180 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10360.000	53.92	5.16	59.08	68.20	-9.12	169	223	Peak
15540.000	29.76	9.05	38.81	54.00	-15.19	152	345	Average
15540.000	41.00	9.05	50.05	74.00	-23.95	152	345	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10360.000	50.46	5.16	55.62	68.20	-12.58	157	121	Peak
15540.000	30.02	9.05	39.07	54.00	-14.93	153	56	Average
15540.000	41.52	9.05	50.57	74.00	-23.43	153	56	Peak

5200 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10400.000	48.86	5.15	54.01	68.20	-14.19	158	222	Peak
15600.000	30.24	9.27	39.51	54.00	-14.49	151	133	Average
15600.000	41.65	9.27	50.92	74.00	-23.08	151	133	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10400.000	48.85	5.15	54.00	68.20	-14.20	157	143	Peak
15600.000	30.38	9.27	39.65	54.00	-14.35	154	357	Average
15600.000	41.70	9.27	50.97	74.00	-23.03	154	357	Peak

5240 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10480.000	45.95	5.52	51.47	68.20	-16.73	155	172	Peak
15720.000	32.02	9.52	41.54	54.00	-12.46	156	164	Average
15720.000	43.86	9.52	53.38	74.00	-20.62	156	164	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10480.000	42.02	5.52	47.54	68.20	-20.66	155	338	Peak
15720.000	32.17	9.52	41.69	54.00	-12.31	154	341	Average
15720.000	44.69	9.52	54.21	74.00	-19.79	154	341	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT40 Mode:

5190 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10380.000	42.30	5.15	47.45	68.20	-20.75	151	13	Peak
15570.000	29.72	9.16	38.88	54.00	-15.12	156	0	Average
15570.000	40.73	9.16	49.89	74.00	-24.11	156	0	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10380.000	41.95	5.15	47.10	68.20	-21.10	155	340	Peak
15570.000	29.69	9.16	38.85	54.00	-15.15	158	76	Average
15570.000	41.27	9.16	50.43	74.00	-23.57	158	76	Peak

5230 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10460.000	41.36	5.43	46.79	68.20	-21.41	157	193	Peak
15690.000	31.73	9.37	41.10	54.00	-12.90	151	265	Average
15690.000	43.35	9.37	52.72	74.00	-21.28	151	265	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10460.000	41.88	5.43	47.31	68.20	-20.89	151	100	Peak
15690.000	31.79	9.37	41.16	54.00	-12.84	152	314	Average
15690.000	42.84	9.37	52.21	74.00	-21.79	152	314	Peak

802.11ac VHT80 Mode:

5210 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10420.000	41.27	5.24	46.51	68.20	-21.69	152	61	Peak
15630.000	30.59	9.31	39.90	54.00	-14.10	156	261	Average
15630.000	43.18	9.31	52.49	74.00	-21.51	156	261	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10420.000	42.43	5.24	47.67	68.20	-20.53	156	73	Peak
15630.000	30.59	9.31	39.90	54.00	-14.10	151	196	Average
15630.000	41.67	9.31	50.98	74.00	-23.02	151	196	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

5725-5850 MHz

802.11a Mode:

5745 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	45.47	7.21	52.68	54.00	-1.32	110	174	Average
11490.000	58.99	7.21	66.20	74.00	-7.80	110	174	Peak
17235.000	44.07	12.36	56.43	68.20	-11.77	157	317	Peak
17745.000	32.62	13.04	45.66	54.00	-8.34	150	90	Average
17745.000	44.38	13.04	57.42	74.00	-16.58	150	90	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	46.52	7.21	53.73	54.00	-0.27	107	139	Average
11490.000	60.52	7.21	67.73	74.00	-6.27	107	139	Peak
17235.000	41.77	12.36	54.13	68.20	-14.07	153	132	Peak
17762.000	33.57	13.06	46.63	54.00	-7.37	150	253	Average
17762.000	45.20	13.06	58.26	74.00	-15.74	150	253	Peak

5785 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	44.62	7.20	51.82	54.00	-2.18	112	172	Average
11570.000	58.30	7.20	65.50	74.00	-8.50	112	172	Peak
17355.000	40.77	12.40	53.17	68.20	-15.03	156	3	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	44.89	7.20	52.09	54.00	-1.91	275	140	Average
11570.000	58.82	7.20	66.02	74.00	-7.98	275	140	Peak
17355.000	40.86	12.40	53.26	68.20	-14.94	152	114	Peak

5825 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	42.84	7.34	50.18	54.00	-3.82	104	175	Average
11650.000	56.50	7.34	63.84	74.00	-10.16	104	175	Peak
17475.000	41.36	12.32	53.68	68.20	-14.52	157	277	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	44.21	7.34	51.55	54.00	-2.45	287	150	Average
11650.000	58.55	7.34	65.89	74.00	-8.11	287	150	Peak
17475.000	40.94	12.32	53.26	68.20	-14.94	156	338	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT20 Mode:

5745 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	44.77	7.21	51.98	54.00	-2.02	102	358	Average
11490.000	60.23	7.21	67.44	74.00	-6.56	102	358	Peak
17235.000	41.28	12.36	53.64	68.20	-14.56	157	315	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	46.01	7.21	53.22	54.00	-0.78	113	183	Average
11490.000	61.32	7.21	68.53	74.00	-5.47	113	183	Peak
17235.000	41.06	12.36	53.42	68.20	-14.78	153	214	Peak

5785 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	43.66	7.20	50.86	54.00	-3.14	113	175	Average
11570.000	59.08	7.20	66.28	74.00	-7.72	113	175	Peak
17355.000	39.95	12.40	52.35	68.20	-15.85	155	120	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	44.61	7.20	51.81	54.00	-2.19	281	140	Average
11570.000	60.10	7.20	67.30	74.00	-6.70	281	140	Peak
17355.000	40.27	12.40	52.67	68.20	-15.53	153	129	Peak

5825 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	42.01	7.34	49.35	54.00	-4.65	104	167	Average
11650.000	57.44	7.34	64.78	74.00	-9.22	104	167	Peak
17475.000	40.67	12.32	52.99	68.20	-15.21	152	3	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	44.60	7.34	51.94	54.00	-2.06	304	146	Average
11650.000	59.93	7.34	67.27	74.00	-6.73	304	146	Peak
17475.000	40.78	12.32	53.10	68.20	-15.10	159	216	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT40 Mode:

5755 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11510.000	36.19	7.22	43.41	54.00	-10.59	135	6	Average
11510.000	50.62	7.22	57.84	74.00	-16.16	135	6	Peak
17265.000	42.25	12.35	54.60	68.20	-13.60	156	340	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11510.000	35.29	7.22	42.51	54.00	-11.49	161	143	Average
11510.000	49.18	7.22	56.40	74.00	-17.60	161	143	Peak
17265.000	41.85	12.35	54.20	68.20	-14.00	152	324	Peak

5795 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11590.000	35.11	7.20	42.31	54.00	-11.69	156	360	Average
11590.000	49.85	7.20	57.05	74.00	-16.95	156	360	Peak
17385.000	40.79	12.43	53.22	68.20	-14.98	158	0	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11590.000	35.95	7.20	43.15	54.00	-10.85	159	141	Average
11590.000	50.30	7.20	57.50	74.00	-16.50	159	141	Peak
17385.000	41.53	12.43	53.96	68.20	-14.24	151	22	Peak

802.11ac VHT80 Mode:

5775 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11550.000	30.34	7.21	37.55	54.00	-16.45	156	0	Average
11550.000	41.23	7.21	48.44	74.00	-25.56	156	0	Peak
17325.000	42.12	12.37	54.49	68.20	-13.71	151	54	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11550.000	30.86	7.21	38.07	54.00	-15.93	157	134	Average
11550.000	41.64	7.21	48.85	74.00	-25.15	157	134	Peak
17325.000	40.51	12.37	52.88	68.20	-15.32	155	120	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

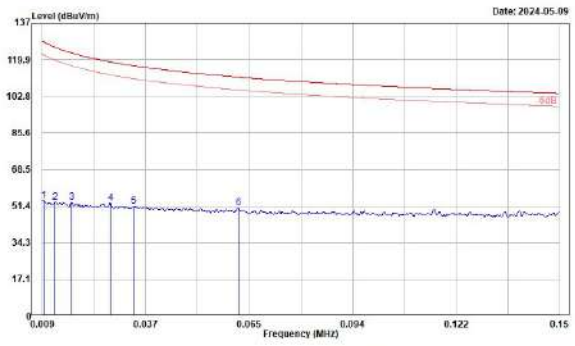
Mode 2:

9kHz-30MHz:

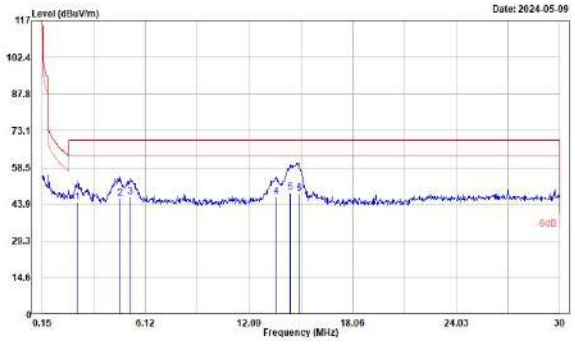
(Worst case is 802.11ac 40 mode 5795 MHz)

(Pre-scan using three directional polarities, worst case as parallel)

9kHz-150kHz	150kHz-30MHz



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
0.009	36.54	17.33	53.87	128.12	-74.25	100	141	Average
0.013	36.65	16.33	52.98	125.65	-72.67	100	206	Average
0.017	37.44	15.47	52.91	122.98	-70.07	100	192	Average
0.028	38.68	14.00	52.68	118.78	-66.10	100	115	Average
0.034	38.09	13.31	51.40	116.99	-65.59	100	337	Average
0.062	38.89	11.58	50.47	111.70	-61.23	100	310	Average

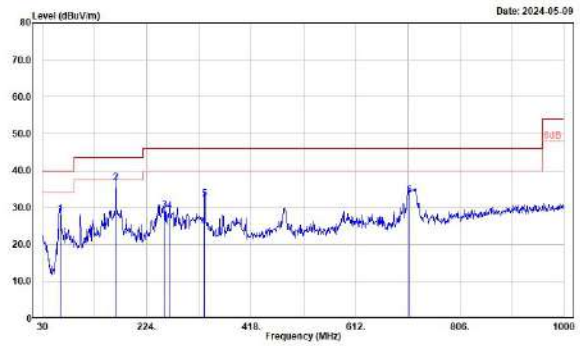


Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
2.150	33.92	10.70	44.62	69.54	-24.92	100	264	QP
4.657	35.57	10.66	46.23	69.54	-23.31	100	205	QP
5.254	35.90	10.98	46.88	69.54	-22.66	100	117	QP
13.612	35.43	11.48	46.91	69.54	-22.63	100	315	QP
14.478	37.02	11.50	48.52	69.54	-21.02	100	220	QP
14.956	36.80	11.52	48.32	69.54	-21.22	100	159	QP

30MHz-1GHz:

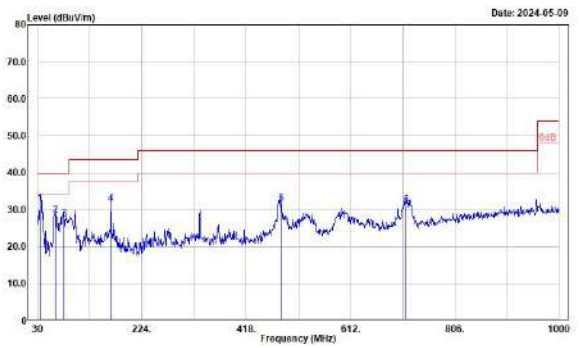
(Worst case is 802.11ac 80 Mode, 5210 MHz)

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
62.980	44.22	-15.95	28.27	40.00	-11.73	100	354	QP
165.800	47.79	-11.05	36.74	43.50	-6.76	100	129	QP
256.980	40.42	-11.17	29.25	46.00	-16.75	100	110	QP
265.710	39.08	-10.00	29.08	46.00	-16.92	100	110	QP
331.670	40.86	-8.55	32.31	46.00	-13.69	100	360	QP
711.910	34.99	-1.71	33.28	46.00	-12.72	100	145	QP

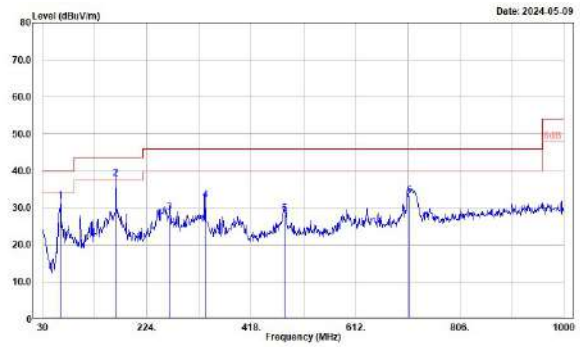
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
34.850	38.14	-6.42	31.72	40.00	-8.28	100	112	QP
62.980	44.50	-15.95	28.55	40.00	-11.45	100	67	QP
79.470	43.47	-15.97	27.50	40.00	-12.50	100	331	QP
165.800	42.77	-11.05	31.72	43.50	-11.78	100	212	QP
482.990	36.86	-5.11	31.75	46.00	-14.25	100	305	QP
715.790	32.87	-1.62	31.25	46.00	-14.75	100	159	QP

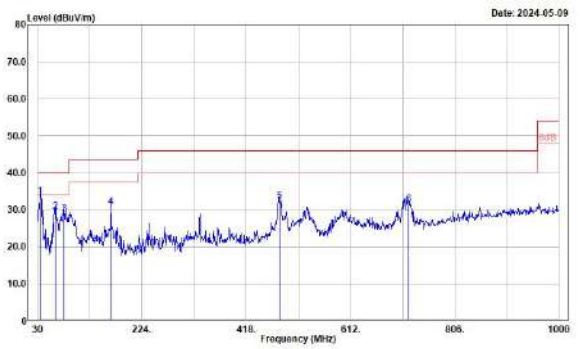
(Worst case is 802.11ac40 Mode, 5795 MHz)

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
62.980	47.77	-15.95	31.82	40.00	-8.18	100	156	QP
165.800	49.06	-11.05	38.01	43.50	-5.49	100	123	QP
265.710	38.85	-10.00	28.85	46.00	-17.15	100	127	QP
332.640	40.56	-8.53	32.03	46.00	-13.97	100	359	QP
480.080	33.64	-5.17	28.47	46.00	-17.53	100	164	QP
711.910	35.14	-1.71	33.43	46.00	-12.57	100	145	QP

Vertical



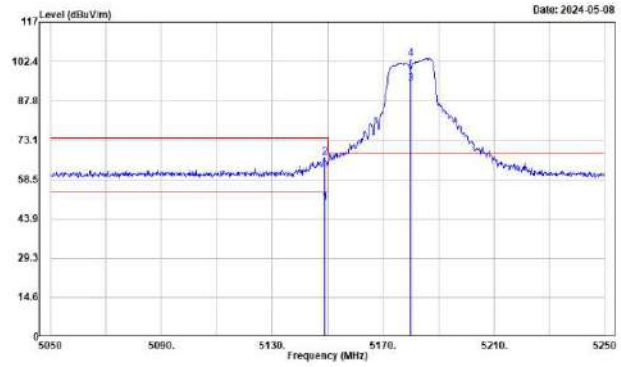
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
34.850	39.92	-6.42	33.50	40.00	-6.50	100	237	QP
62.980	45.48	-15.95	29.53	40.00	-10.47	100	89	QP
79.470	44.89	-15.97	28.92	40.00	-11.08	100	108	QP
165.800	41.94	-11.05	30.89	43.50	-12.61	100	233	QP
480.080	37.37	-5.17	32.20	46.00	-13.80	100	310	QP
719.670	33.01	-1.60	31.41	46.00	-14.59	100	154	QP

Band-Edge

5150-5250 MHz

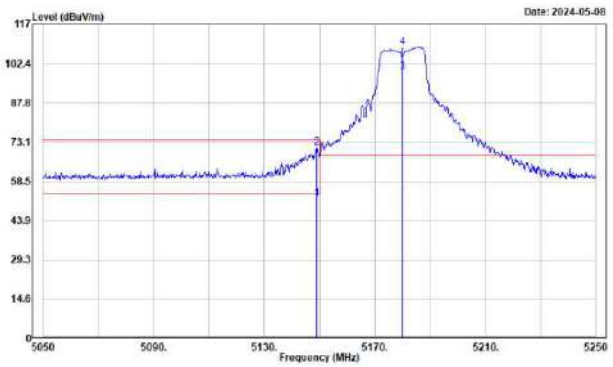
802.11a Mode, 5180 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5148.800	53.44	-3.63	49.81	54.00	-4.19	162	269	Average
5148.800	70.12	-3.63	66.49	74.00	-7.51	162	269	Peak
5180.000	97.93	-3.86	94.07			162	269	Average
5180.000	107.21	-3.86	103.35			162	269	Peak

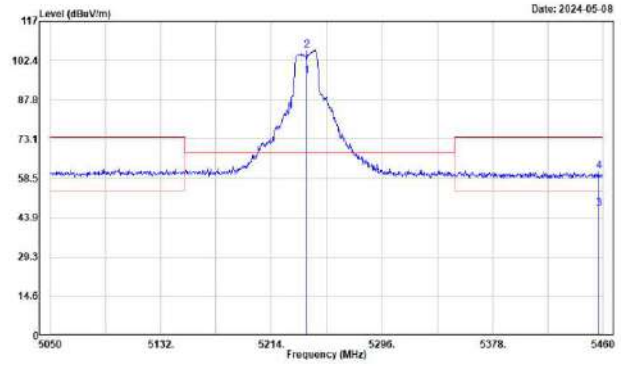
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5149.000	55.61	-3.63	51.98	54.00	-2.02	124	321	Average
5149.000	74.66	-3.63	71.03	74.00	-2.97	124	321	Peak
5180.000	102.97	-3.86	99.11			124	321	Average
5180.000	112.29	-3.86	108.43			124	321	Peak

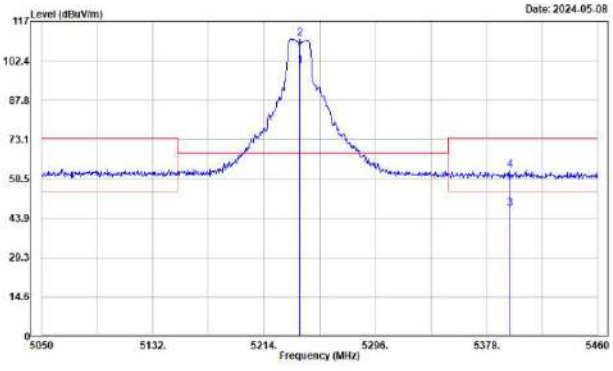
802.11a Mode, 5240 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	100.59	-3.99	96.60			279	90	Average
5240.000	110.07	-3.99	106.08			279	90	Peak
5456.720	51.77	-4.62	47.15	54.00	-6.85	279	90	Average
5456.720	65.93	-4.62	61.31	74.00	-12.69	279	90	Peak

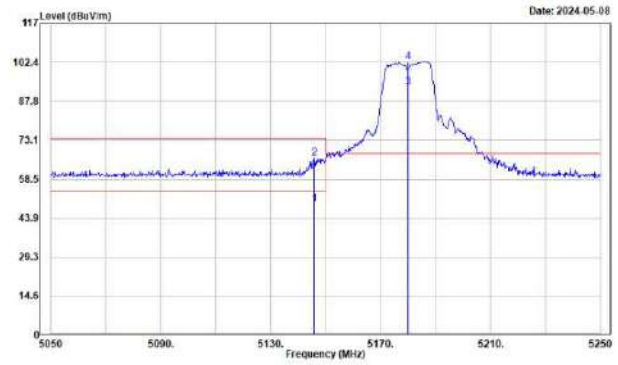
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	104.59	-3.99	100.60			118	322	Average
5240.000	114.54	-3.99	110.55			118	322	Peak
5395.220	51.93	-4.52	47.41	54.00	-6.59	118	322	Average
5395.220	66.50	-4.52	61.98	74.00	-12.02	118	322	Peak

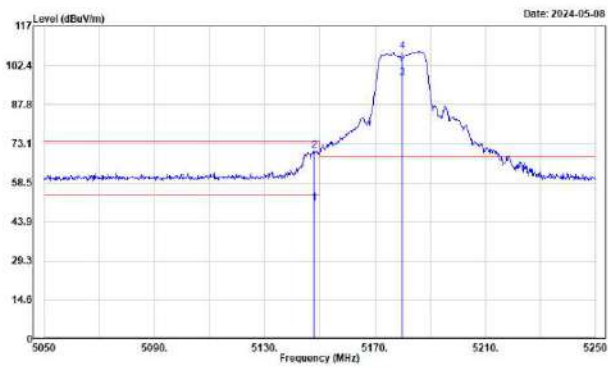
802.11ac VHT20 Mode, 5180 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5146.000	52.67	-3.63	49.04	54.00	-4.96	275	360	Average
5146.000	69.88	-3.63	66.25	74.00	-7.75	275	360	Peak
5180.000	96.69	-3.86	92.83			275	360	Average
5180.000	106.42	-3.86	102.56			275	360	Peak

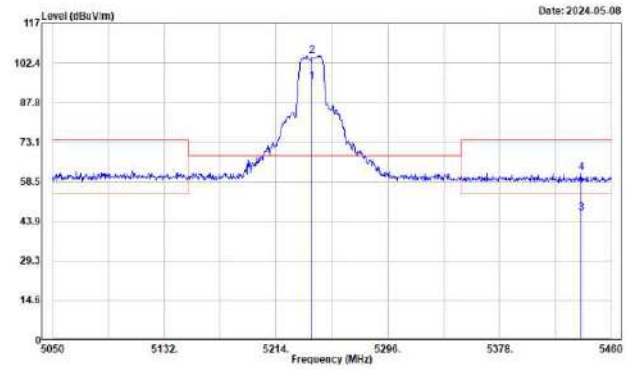
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5148.000	54.26	-3.63	50.63	54.00	-3.37	123	321	Average
5148.000	73.92	-3.63	70.29	74.00	-3.71	123	321	Peak
5180.000	101.55	-3.86	97.69			123	321	Average
5180.000	111.26	-3.86	107.40			123	321	Peak

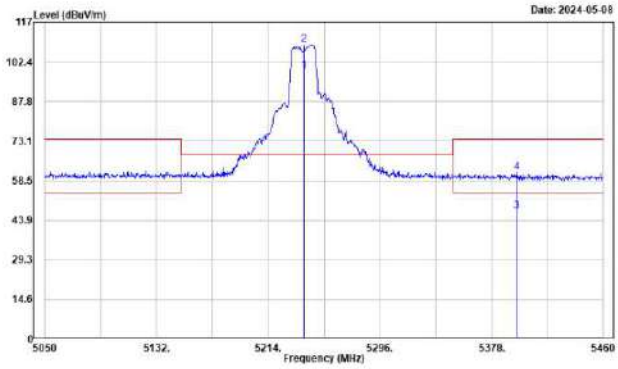
802.11ac VHT20 Mode, 5240 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	99.35	-3.99	95.36			300	92	Average
5240.000	108.96	-3.99	104.97			300	92	Peak
5438.270	51.62	-4.62	47.00	54.00	-7.00	300	92	Average
5438.270	66.37	-4.62	61.75	74.00	-12.25	300	92	Peak

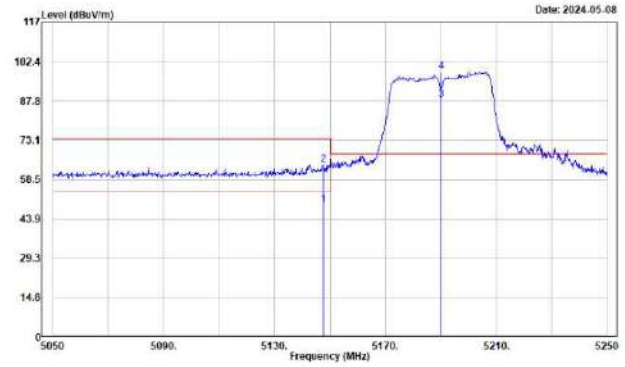
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5240.000	103.01	-3.99	99.02			109	321	Average
5240.000	112.61	-3.99	108.62			109	321	Peak
5396.450	51.83	-4.53	47.30	54.00	-6.70	109	321	Average
5396.450	66.05	-4.53	61.52	74.00	-12.48	109	321	Peak

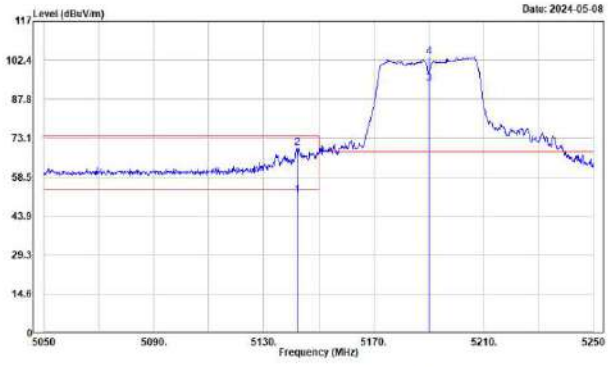
802.11ac VHT40 Mode, 5190 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5147.800	52.92	-3.63	49.29	54.00	-4.71	231	269	Average
5147.800	67.53	-3.63	63.90	74.00	-10.10	231	269	Peak
5190.000	92.23	-3.93	88.30			231	269	Average
5190.000	102.45	-3.93	98.52			231	269	Peak

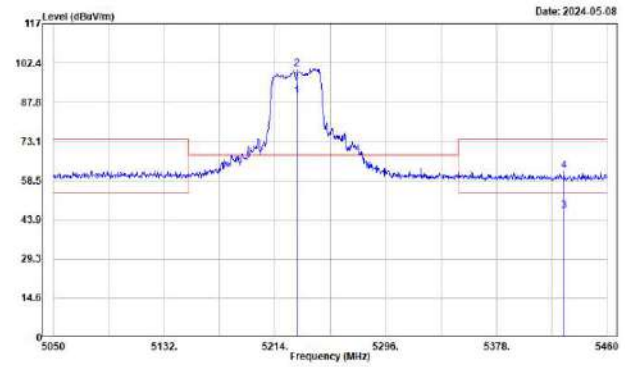
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5142.200	55.33	-3.62	51.71	54.00	-2.29	112	323	Average
5142.200	73.01	-3.62	69.39	74.00	-4.61	112	323	Peak
5190.000	97.36	-3.93	93.43			112	323	Average
5190.000	107.51	-3.93	103.58			112	323	Peak

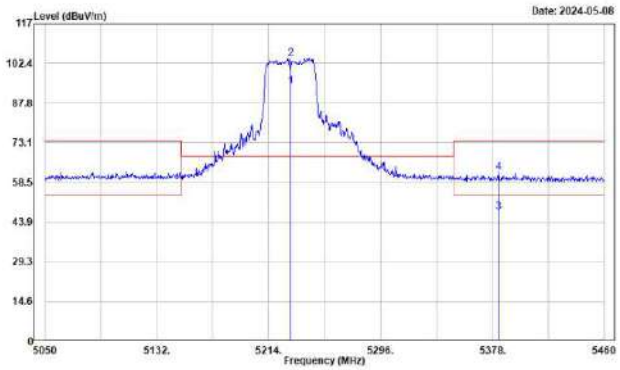
802.11ac VHT40 Mode, 5230 MHz

Horizontal



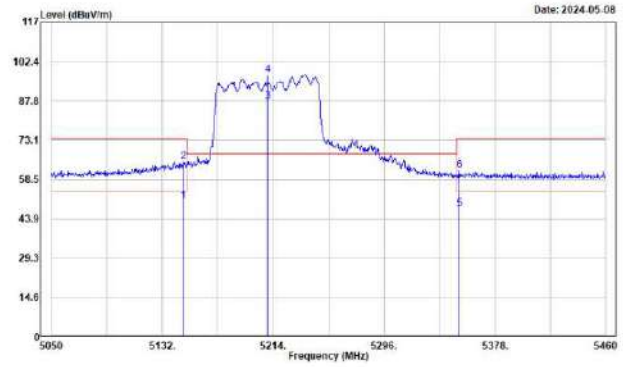
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5230.000	94.12	-4.00	90.12			273	360	Average
5230.000	104.29	-4.00	100.29			273	360	Peak
5428.020	51.78	-4.61	47.17	54.00	-6.83	273	360	Average
5428.020	66.81	-4.61	62.20	74.00	-11.80	273	360	Peak

Vertical

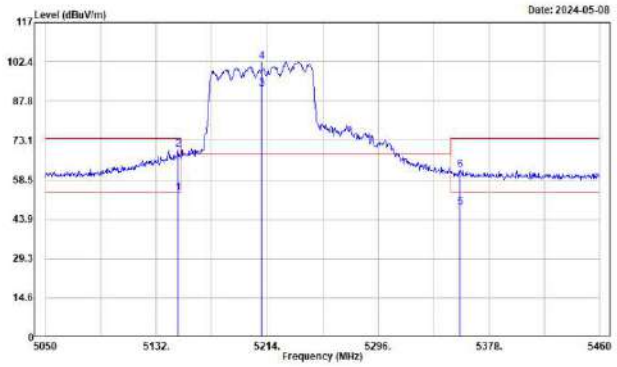


Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5230.000	97.91	-4.00	93.91			123	325	Average
5230.000	108.05	-4.00	104.05			123	325	Peak
5382.510	51.95	-4.45	47.50	54.00	-6.50	123	325	Average
5382.510	66.59	-4.45	62.14	74.00	-11.86	123	325	Peak

802.11ac VHT80 Mode, 5210 MHz	
Horizontal	**Vertical**



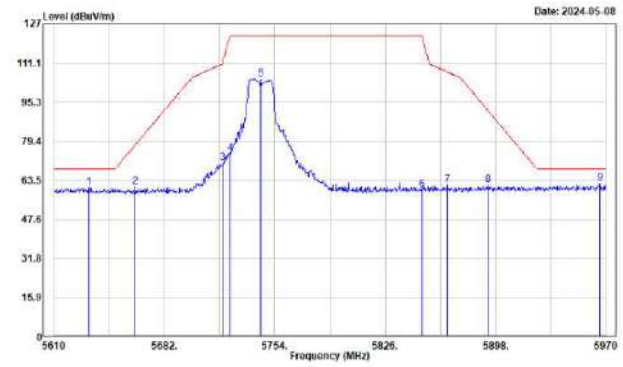
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5147.580	54.08	-3.63	50.45	54.00	-3.55	245	360	Average
5147.580	68.67	-3.63	65.04	74.00	-8.96	245	360	Peak
5210.000	91.49	-4.00	87.49			245	360	Average
5210.000	101.39	-4.00	97.39			245	360	Peak
5351.760	51.93	-4.27	47.66	54.00	-6.34	245	360	Average
5351.760	65.99	-4.27	61.72	74.00	-12.28	245	360	Peak



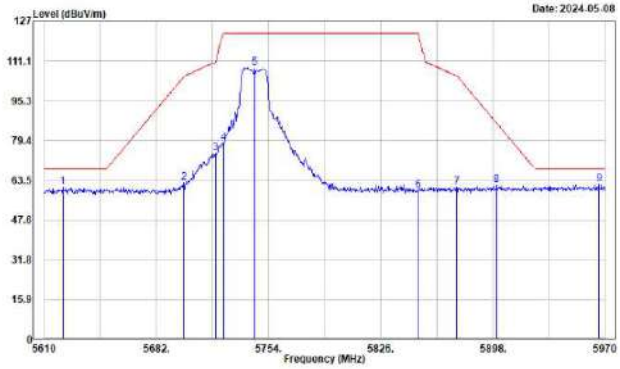
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5147.990	57.10	-3.63	53.47	54.00	-0.53	117	321	Average
5147.990	73.48	-3.63	69.85	74.00	-4.15	117	321	Peak
5210.000	96.42	-4.00	92.42			117	321	Average
5210.000	106.31	-4.00	102.31			117	321	Peak
5356.680	52.51	-4.30	48.21	54.00	-5.79	117	321	Average
5356.680	66.58	-4.30	62.28	74.00	-11.72	117	321	Peak

5725-5850 MHz

802.11a Mode, 5745 MHz	
Horizontal	**Vertical**



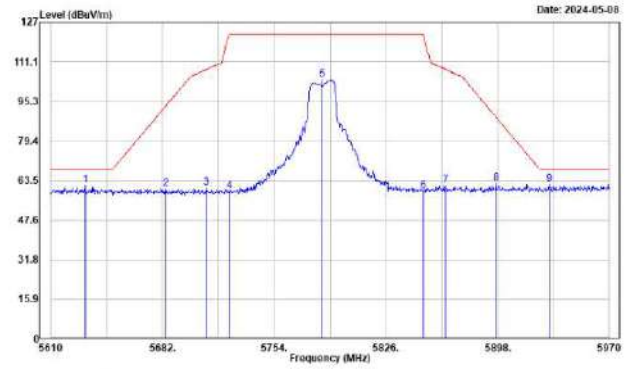
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5632.680	65.36	-4.80	60.56	68.20	-7.64	230	269	Peak
5663.280	65.77	-4.97	60.80	78.06	-17.26	230	269	Peak
5720.160	75.73	-5.19	70.54	111.17	-40.63	230	269	Peak
5725.000	79.56	-5.17	74.39	122.20	-47.81	230	269	Peak
5745.000	109.77	-5.10	104.67			230	269	Peak
5850.000	64.22	-4.82	59.40	122.20	-62.80	230	269	Peak
5866.680	66.41	-4.69	61.72	107.53	-45.81	230	269	Peak
5892.960	66.06	-4.48	61.58	91.87	-30.29	230	269	Peak
5966.400	66.43	-4.03	62.40	68.20	-5.80	230	269	Peak



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5621.880	65.66	-4.76	60.90	68.20	-7.30	114	323	Peak
5699.640	67.98	-5.26	62.72	104.93	-42.21	114	323	Peak
5720.160	79.44	-5.19	74.25	111.17	-36.92	114	323	Peak
5725.000	83.50	-5.17	78.33	122.20	-43.87	114	323	Peak
5745.000	113.46	-5.10	108.36			114	323	Peak
5850.000	64.19	-4.82	59.37	122.20	-62.83	114	323	Peak
5874.960	65.51	-4.62	60.89	105.21	-44.32	114	323	Peak
5900.520	66.11	-4.42	61.69	86.28	-24.59	114	323	Peak
5966.040	66.11	-4.03	62.08	68.20	-6.12	114	323	Peak

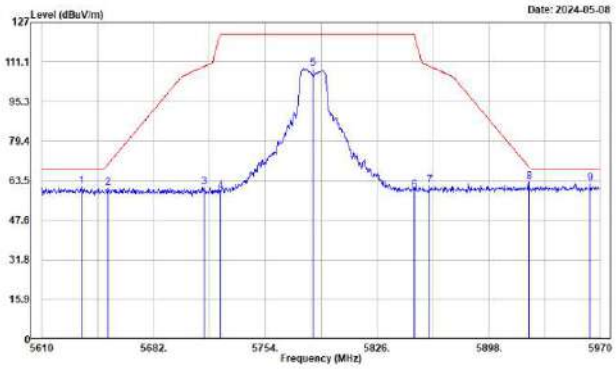
802.11a Mode, 5785 MHz

Horizontal



Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5631.960	66.39	-4.79	61.60	68.20	-6.60	129	289	Peak
5684.160	65.35	-5.13	60.22	93.51	-33.29	129	289	Peak
5710.080	65.82	-5.22	60.60	108.02	-47.42	129	289	Peak
5725.000	64.40	-5.17	59.23	122.20	-62.97	129	289	Peak
5785.000	108.75	-4.97	103.78			129	289	Peak
5850.000	64.16	-4.82	59.34	122.20	-62.86	129	289	Peak
5864.160	66.18	-4.70	61.48	108.23	-46.75	129	289	Peak
5896.920	66.62	-4.44	62.18	88.94	-26.76	129	289	Peak
5931.120	66.15	-4.21	61.94	68.20	-6.26	129	289	Peak

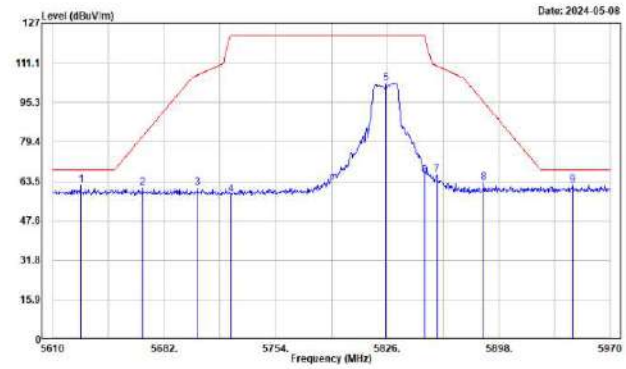
Vertical



Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5635.200	65.94	-4.81	61.13	68.20	-7.07	116	323	Peak
5652.840	65.57	-4.89	60.68	70.31	-9.63	116	323	Peak
5714.400	66.08	-5.20	60.88	109.23	-48.35	116	323	Peak
5725.000	64.38	-5.17	59.21	122.20	-62.99	116	323	Peak
5785.000	113.33	-4.97	108.36			116	323	Peak
5850.000	64.31	-4.82	59.49	122.20	-62.71	116	323	Peak
5860.200	66.40	-4.74	61.66	109.34	-47.68	116	323	Peak
5923.920	67.35	-4.26	63.09	69.00	-5.91	116	323	Peak
5963.520	66.45	-4.03	62.42	68.20	-5.78	116	323	Peak

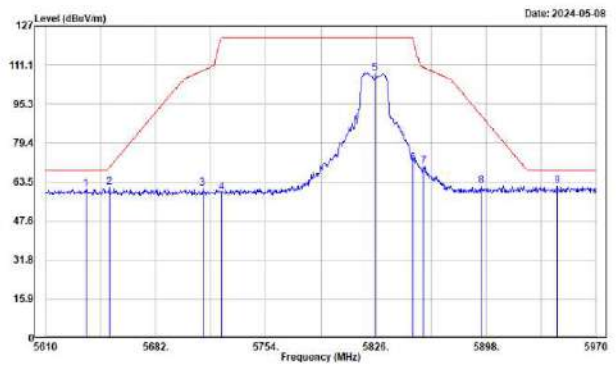
802.11a Mode, 5825 MHz

Horizontal



Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5628.000	66.72	-4.79	61.93	68.20	-6.27	108	288	Peak
5668.320	65.98	-5.01	60.97	81.79	-20.82	108	288	Peak
5703.600	66.32	-5.24	61.08	106.21	-45.13	108	288	Peak
5725.000	63.21	-5.17	58.04	122.20	-64.16	108	288	Peak
5825.000	107.91	-4.87	103.04			108	288	Peak
5850.000	70.67	-4.82	65.85	122.20	-56.35	108	288	Peak
5858.040	70.75	-4.76	65.99	109.95	-43.96	108	288	Peak
5888.280	67.33	-4.51	62.82	95.34	-32.52	108	288	Peak
5945.880	66.08	-4.10	61.98	68.20	-6.22	108	288	Peak

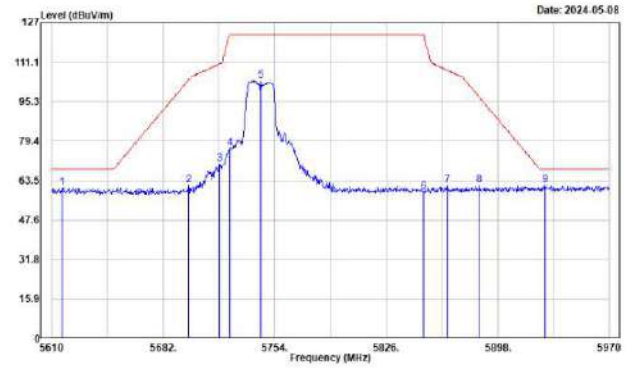
Vertical



Freq. MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Height (cm)	Degree (°)	Remark
5636.280	65.44	-4.82	60.62	68.20	-7.58	101	322	Peak
5651.760	65.97	-4.88	61.09	69.51	-8.42	101	322	Peak
5712.600	66.30	-5.21	61.09	108.73	-47.64	101	322	Peak
5725.000	64.53	-5.17	59.36	122.20	-62.84	101	322	Peak
5825.000	112.70	-4.87	107.83			101	322	Peak
5850.000	76.24	-4.82	71.42	122.20	-50.78	101	322	Peak
5857.320	74.70	-4.76	69.94	110.15	-40.21	101	322	Peak
5894.760	66.43	-4.46	61.97	90.54	-28.57	101	322	Peak
5944.800	66.02	-4.11	61.91	68.20	-6.29	101	322	Peak

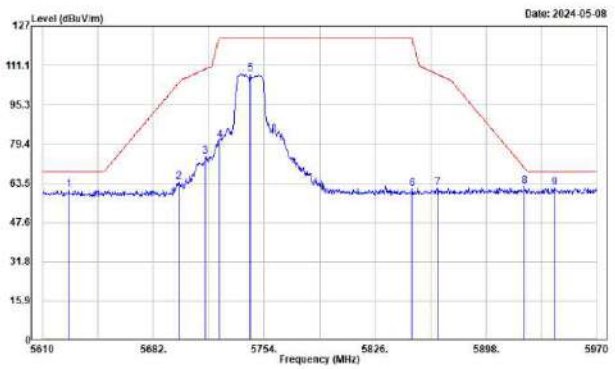
802.11ac VHT20 Mode, 5745 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5616.480	65.43	-4.74	60.69	68.20	-7.51	230	268	Peak
5698.560	66.72	-5.25	61.47	104.14	-42.67	230	268	Peak
5718.360	75.57	-5.19	70.38	110.34	-39.96	230	268	Peak
5725.000	81.56	-5.17	76.39	122.20	-45.81	230	268	Peak
5745.000	108.75	-5.10	103.65			230	268	Peak
5850.000	63.73	-4.82	58.91	122.20	-63.29	230	268	Peak
5865.240	66.22	-4.70	61.52	107.93	-46.41	230	268	Peak
5886.120	66.29	-4.54	61.75	96.94	-35.19	230	268	Peak
5928.600	65.92	-4.23	61.69	68.20	-6.51	230	268	Peak

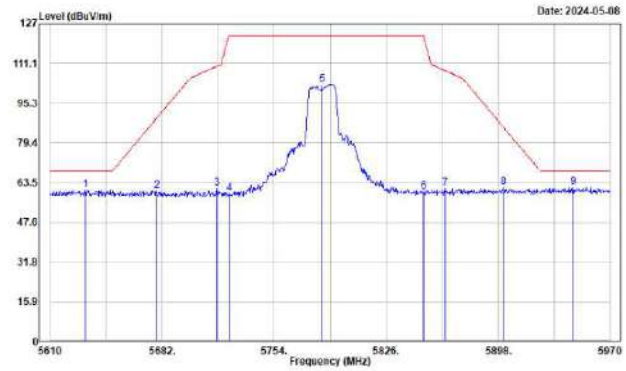
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5627.280	65.54	-4.78	60.76	68.20	-7.44	115	322	Peak
5698.560	69.13	-5.25	63.88	104.14	-40.26	115	322	Peak
5715.840	79.42	-5.20	74.22	109.64	-35.42	115	322	Peak
5725.000	86.07	-5.17	80.90	122.20	-41.30	115	322	Peak
5745.000	112.94	-5.10	107.84			115	322	Peak
5850.000	65.98	-4.82	61.16	122.20	-61.04	115	322	Peak
5866.680	66.46	-4.69	61.77	107.53	-45.76	115	322	Peak
5923.200	66.54	-4.26	62.28	69.53	-7.25	115	322	Peak
5942.280	65.88	-4.13	61.75	68.20	-6.45	115	322	Peak

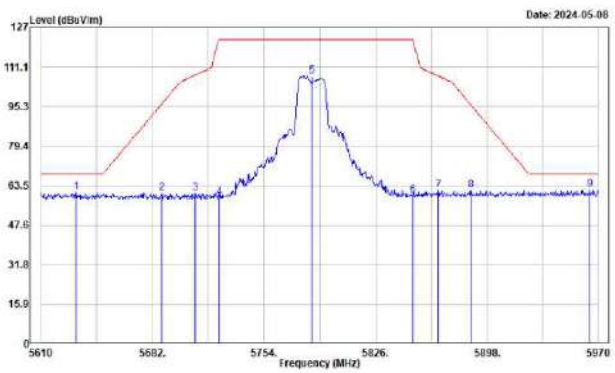
802.11ac VHT20 Mode, 5785 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5632.680	65.52	-4.80	60.72	68.20	-7.48	129	287	Peak
5678.400	65.45	-5.09	60.36	89.26	-28.90	129	287	Peak
5717.280	66.49	-5.20	61.29	110.04	-48.75	129	287	Peak
5725.000	64.30	-5.17	59.13	122.20	-63.07	129	287	Peak
5785.000	107.70	-4.97	102.73			129	287	Peak
5850.000	64.85	-4.82	60.03	122.20	-62.17	129	287	Peak
5863.800	66.01	-4.70	61.31	108.33	-47.02	129	287	Peak
5901.240	65.99	-4.41	61.58	85.74	-24.16	129	287	Peak
5946.240	65.82	-4.10	61.72	68.20	-6.48	129	287	Peak

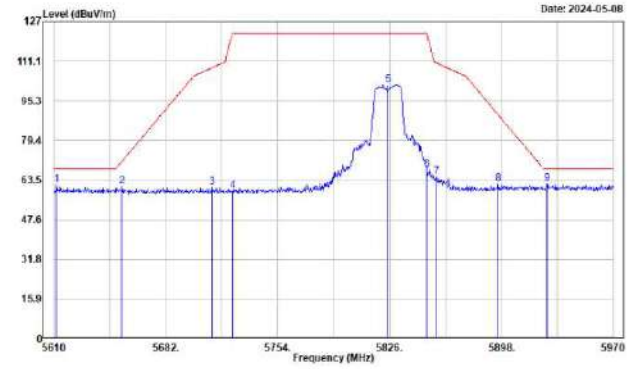
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5632.680	65.88	-4.80	61.08	68.20	-7.12	114	320	Peak
5688.120	65.68	-5.16	60.52	96.44	-35.92	114	320	Peak
5709.720	65.92	-5.22	60.70	107.92	-47.22	114	320	Peak
5725.000	64.17	-5.17	59.00	122.20	-63.20	114	320	Peak
5785.000	112.43	-4.97	107.46			114	320	Peak
5850.000	64.51	-4.82	59.69	122.20	-62.51	114	320	Peak
5866.680	66.14	-4.69	61.45	107.53	-46.08	114	320	Peak
5887.560	66.10	-4.52	61.58	95.88	-34.30	114	320	Peak
5964.600	65.83	-4.03	61.80	68.20	-6.40	114	320	Peak

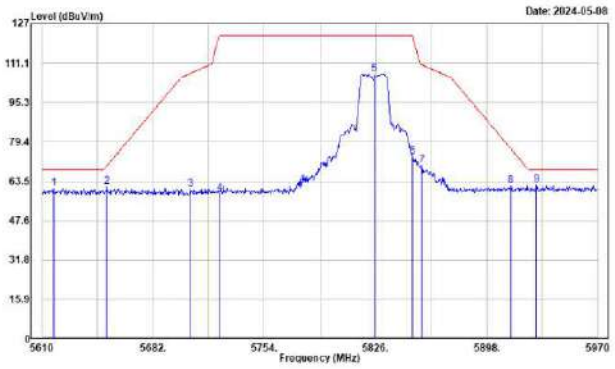
802.11ac VHT20 Mode, 5825 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5611.800	66.25	-4.72	61.53	68.20	-6.67	107	289	Peak
5653.920	65.67	-4.89	60.78	71.11	-10.33	107	289	Peak
5711.880	65.78	-5.22	60.56	108.53	-47.97	107	289	Peak
5725.000	64.40	-5.17	59.23	122.20	-62.97	107	289	Peak
5825.000	106.37	-4.87	101.50			107	289	Peak
5850.000	72.23	-4.82	67.41	122.20	-54.79	107	289	Peak
5855.880	69.42	-4.77	64.65	110.55	-45.90	107	289	Peak
5895.840	66.37	-4.45	61.92	89.74	-27.82	107	289	Peak
5927.520	66.17	-4.23	61.94	68.20	-6.26	107	289	Peak

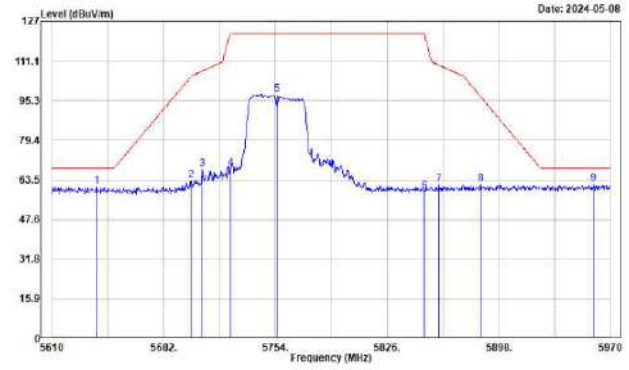
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5617.560	65.41	-4.75	60.66	68.20	-7.54	108	323	Peak
5652.120	66.01	-4.88	61.13	69.78	-8.65	108	323	Peak
5706.480	65.60	-5.24	60.36	107.02	-46.66	108	323	Peak
5725.000	63.80	-5.17	58.63	122.20	-63.57	108	323	Peak
5825.000	111.58	-4.87	106.71			108	323	Peak
5850.000	78.07	-4.82	73.25	122.20	-48.95	108	323	Peak
5856.240	74.54	-4.77	69.77	110.45	-40.68	108	323	Peak
5913.840	65.89	-4.33	61.56	76.43	-14.87	108	323	Peak
5930.400	66.06	-4.22	61.84	68.20	-6.36	108	323	Peak

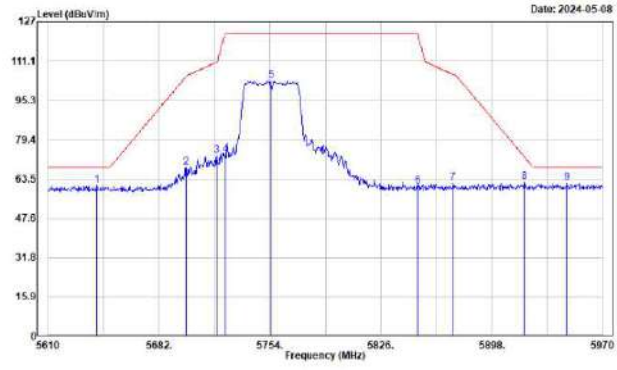
802.11ac VHT40 Mode, 5755 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5638.800	65.91	-4.83	61.08	68.20	-7.12	126	289	Peak
5699.640	68.46	-5.26	63.20	104.93	-41.73	126	289	Peak
5706.840	73.12	-5.24	67.88	107.12	-39.24	126	289	Peak
5725.000	73.40	-5.17	68.23	122.20	-53.97	126	289	Peak
5755.000	102.95	-5.07	97.88			126	289	Peak
5850.000	63.81	-4.82	58.99	122.20	-63.21	126	289	Peak
5859.480	66.28	-4.74	61.54	109.54	-48.00	126	289	Peak
5886.480	66.33	-4.54	61.79	96.68	-34.89	126	289	Peak
5959.200	65.86	-4.05	61.81	68.20	-6.39	126	289	Peak

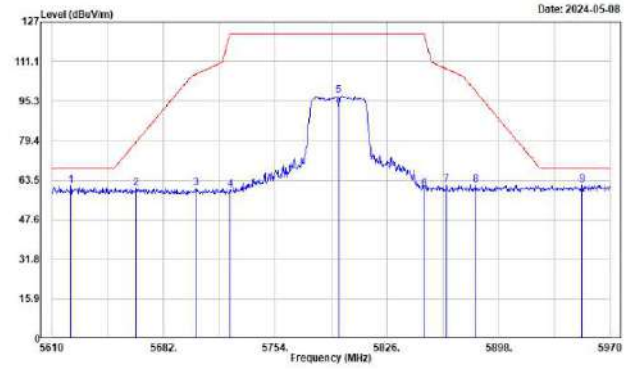
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5641.680	65.84	-4.83	61.01	68.20	-7.19	113	322	Peak
5699.640	73.55	-5.26	68.29	104.93	-36.64	113	322	Peak
5719.440	77.99	-5.19	72.80	110.64	-37.84	113	322	Peak
5725.000	78.60	-5.17	73.43	122.20	-48.77	113	322	Peak
5755.000	108.18	-5.07	103.11			113	322	Peak
5850.000	65.50	-4.82	60.68	122.20	-61.52	113	322	Peak
5872.800	66.50	-4.64	61.86	105.82	-43.96	113	322	Peak
5919.240	66.42	-4.28	62.14	72.45	-10.31	113	322	Peak
5946.960	66.18	-4.09	62.09	68.20	-6.11	113	322	Peak

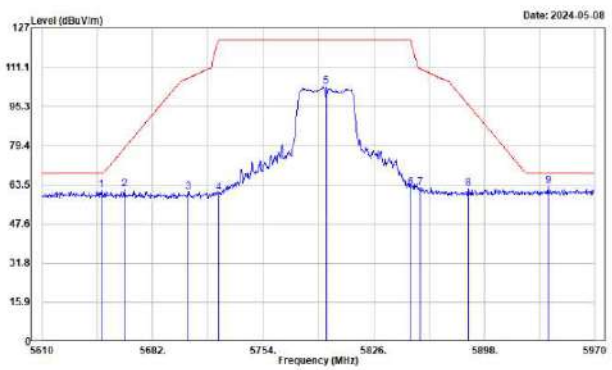
802.11ac VHT40 Mode, 5795 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5622.240	65.86	-4.76	61.10	68.20	-7.10	134	289	Peak
5664.360	65.27	-4.98	60.29	78.86	-18.57	134	289	Peak
5702.880	65.43	-5.24	60.19	106.01	-45.82	134	289	Peak
5725.000	64.73	-5.17	59.56	122.20	-62.64	134	289	Peak
5795.000	102.34	-4.93	97.41			134	289	Peak
5850.000	64.66	-4.82	59.84	122.20	-62.36	134	289	Peak
5864.520	66.33	-4.69	61.64	108.13	-46.49	134	289	Peak
5883.240	66.17	-4.55	61.62	99.08	-37.46	134	289	Peak
5952.000	65.63	-4.08	61.55	68.20	-6.65	134	289	Peak

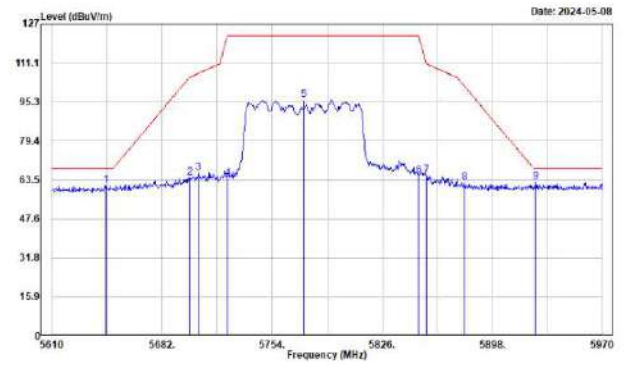
Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5648.880	66.29	-4.86	61.43	68.20	-6.77	121	320	Peak
5663.640	66.47	-4.97	61.50	78.33	-16.83	121	320	Peak
5705.040	65.90	-5.24	60.66	106.61	-45.95	121	320	Peak
5725.000	65.34	-5.17	60.17	122.20	-62.03	121	320	Peak
5795.000	108.23	-4.93	103.30			121	320	Peak
5850.000	67.21	-4.82	62.39	122.20	-59.81	121	320	Peak
5855.880	67.05	-4.77	62.28	110.55	-48.27	121	320	Peak
5887.560	66.42	-4.52	61.90	95.88	-33.98	121	320	Peak
5939.400	66.96	-4.14	62.82	68.20	-5.38	121	320	Peak

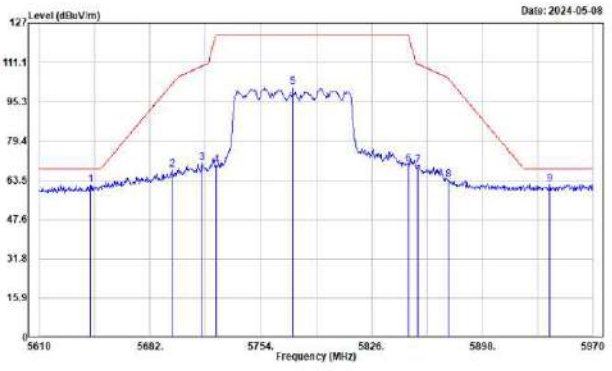
802.11ac VHT80 Mode, 5775 MHz

Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5645.280	66.23	-4.85	61.38	68.20	-6.82	125	287	Peak
5700.000	69.67	-5.26	64.41	105.20	-40.79	125	287	Peak
5705.760	71.76	-5.24	66.52	106.81	-40.29	125	287	Peak
5725.000	69.03	-5.17	63.86	122.20	-58.34	125	287	Peak
5775.000	100.87	-5.00	95.87			125	287	Peak
5850.000	69.84	-4.82	65.02	122.20	-57.18	125	287	Peak
5854.800	70.02	-4.78	65.24	111.26	-46.02	125	287	Peak
5880.000	67.04	-4.58	62.46	101.49	-39.03	125	287	Peak
5926.440	66.82	-4.23	62.59	68.20	-5.61	125	287	Peak

Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
5643.120	66.49	-4.85	61.64	68.20	-6.56	122	323	Peak
5696.040	73.08	-5.22	67.86	102.28	-34.42	122	323	Peak
5715.480	75.66	-5.20	70.46	109.54	-39.08	122	323	Peak
5725.000	74.83	-5.17	69.66	122.20	-52.54	122	323	Peak
5775.000	106.02	-5.00	101.02			122	323	Peak
5850.000	74.54	-4.82	69.72	122.20	-52.48	122	323	Peak
5856.240	74.40	-4.77	69.63	110.45	-40.82	122	323	Peak
5876.040	68.32	-4.61	63.71	104.43	-40.72	122	323	Peak
5941.920	66.02	-4.13	61.89	68.20	-6.31	122	323	Peak

Level = Reading + Factor.

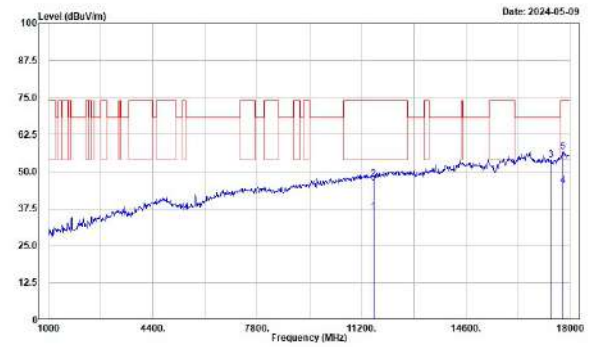
Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

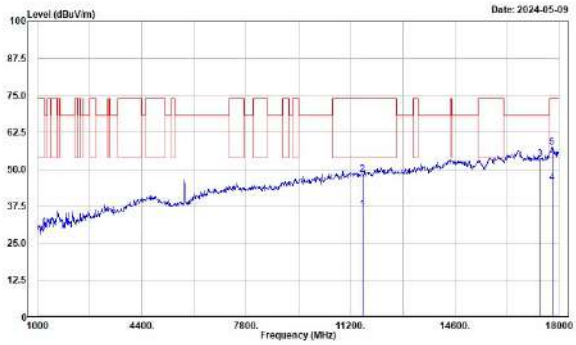
1GHz-18GHz:

(Worst case is 802.11ac 40 Mode, 5795 MHz)

Horizontal	Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11590.000	29.09	7.20	36.29	54.00	-17.71	155	193	Average
11590.000	40.34	7.20	47.54	74.00	-26.46	155	193	Peak
17385.000	41.55	12.43	53.98	68.20	-14.22	152	20	Peak
17762.000	32.29	13.06	45.35	54.00	-8.65	150	360	Average
17762.000	43.67	13.06	56.73	74.00	-17.27	150	360	Peak

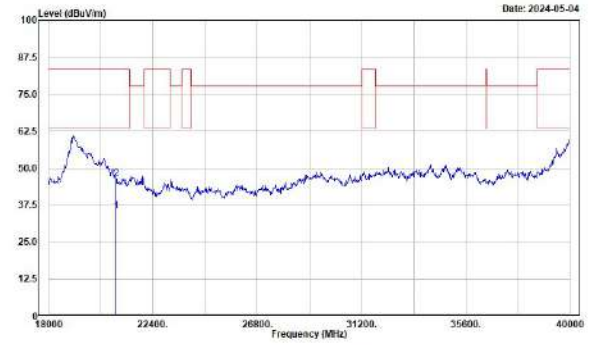


Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11590.000	29.06	7.20	36.26	54.00	-17.74	157	266	Average
11590.000	41.06	7.20	48.26	74.00	-25.74	157	266	Peak
17385.000	40.86	12.43	53.29	68.20	-14.91	152	328	Peak
17779.000	32.41	13.07	45.48	54.00	-8.52	150	113	Average
17779.000	44.51	13.07	57.58	74.00	-16.42	150	113	Peak

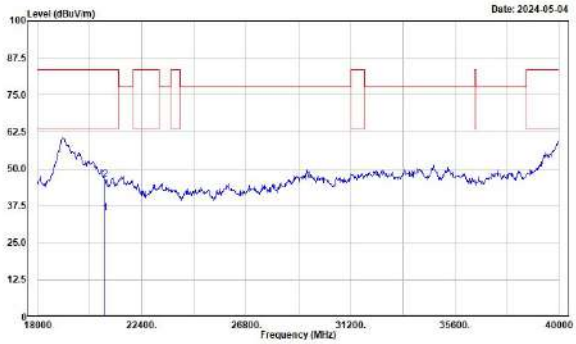
18GHz-40GHz:

(Worst case is 802.11ac 80 Mode, 5210 MHz)

Horizontal	Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
20840.000	29.25	6.31	35.56	63.50	-27.94	150	359	Average
20840.000	39.98	6.31	46.29	83.50	-37.21	150	359	Peak



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
20840.000	28.73	6.31	35.04	63.50	-28.46	157	160	Average
20840.000	39.90	6.31	46.21	83.50	-37.29	157	160	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

For 18-40GHz Convert the test distance limit of 3 meters to a limit of 1 meter:

Conversion factor = 20 log (1m/3m) = 9.5 dB , Limit = 54+9.5 = 63.50 dBuV/m @ 1m

Above 1GHz:

5150-5250MHz

802.11a Mode:

5180 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10360.000	54.52	5.16	59.68	68.20	-8.52	243	270	Peak
15540.000	29.71	9.05	38.76	54.00	-15.24	154	360	Average
15540.000	42.22	9.05	51.27	74.00	-22.73	154	360	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10360.000	52.56	5.16	57.72	68.20	-10.48	108	6	Peak
15540.000	29.66	9.05	38.71	54.00	-15.29	151	29	Average
15540.000	41.67	9.05	50.72	74.00	-23.28	151	29	Peak

5200 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10400.000	53.16	5.15	58.31	68.20	-9.89	256	309	Peak
15600.000	30.14	9.27	39.41	54.00	-14.59	153	156	Average
15600.000	41.72	9.27	50.99	74.00	-23.01	153	156	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10400.000	53.60	5.15	58.75	68.20	-9.45	255	354	Peak
15600.000	30.21	9.27	39.48	54.00	-14.52	155	83	Average
15600.000	41.51	9.27	50.78	74.00	-23.22	155	83	Peak

5240 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10480.000	54.14	5.52	59.66	68.20	-8.54	253	290	Peak
15720.000	31.97	9.52	41.49	54.00	-12.51	157	68	Average
15720.000	44.18	9.52	53.70	74.00	-20.30	157	68	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10480.000	53.69	5.52	59.21	68.20	-8.99	204	358	Peak
15720.000	31.85	9.52	41.37	54.00	-12.63	156	86	Average
15720.000	43.29	9.52	52.81	74.00	-21.19	156	86	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT20 Mode:

5180 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10360.000	47.85	5.16	53.01	68.20	-15.19	158	169	Peak
15540.000	30.67	9.05	39.72	54.00	-14.28	152	184	Average
15540.000	41.50	9.05	50.55	74.00	-23.45	152	184	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10360.000	45.39	5.16	50.55	68.20	-17.65	156	39	Peak
15540.000	30.51	9.05	39.56	54.00	-14.44	155	336	Average
15540.000	41.12	9.05	50.17	74.00	-23.83	155	336	Peak

5200 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10400.000	48.14	5.15	53.29	68.20	-14.91	156	360	Peak
15600.000	30.59	9.27	39.86	54.00	-14.14	154	17	Average
15600.000	41.66	9.27	50.93	74.00	-23.07	154	17	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10400.000	45.56	5.15	50.71	68.20	-17.49	154	114	Peak
15600.000	30.25	9.27	39.52	54.00	-14.48	153	118	Average
15600.000	41.58	9.27	50.85	74.00	-23.15	153	118	Peak

5240 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10480.000	50.52	5.52	56.04	68.20	-12.16	158	196	Peak
15720.000	32.01	9.52	41.53	54.00	-12.47	151	85	Average
15720.000	43.84	9.52	53.36	74.00	-20.64	151	85	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10480.000	49.28	5.52	54.80	68.20	-13.40	159	360	Peak
15720.000	31.88	9.52	41.40	54.00	-12.60	152	294	Average
15720.000	44.08	9.52	53.60	74.00	-20.40	152	294	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT40 Mode:

5190 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10380.000	41.22	5.15	46.37	68.20	-21.83	150	25	Peak
15570.000	29.47	9.16	38.63	54.00	-15.37	154	99	Average
15570.000	40.61	9.16	49.77	74.00	-24.23	154	99	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10380.000	41.64	5.15	46.79	68.20	-21.41	153	6	Peak
15570.000	29.53	9.16	38.69	54.00	-15.31	158	192	Average
15570.000	41.32	9.16	50.48	74.00	-23.52	158	192	Peak

5230 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10460.000	41.11	5.43	46.54	68.20	-21.66	154	121	Peak
15690.000	31.63	9.37	41.00	54.00	-13.00	151	344	Average
15690.000	44.67	9.37	54.04	74.00	-19.96	151	344	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10460.000	42.24	5.43	47.67	68.20	-20.53	151	41	Peak
15690.000	31.66	9.37	41.03	54.00	-12.97	156	360	Average
15690.000	43.07	9.37	52.44	74.00	-21.56	156	360	Peak

802.11ac VHT80 Mode:

5210 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10420.000	41.16	5.24	46.40	68.20	-21.80	152	161	Peak
15630.000	30.69	9.31	40.00	54.00	-14.00	155	295	Average
15630.000	41.74	9.31	51.05	74.00	-22.95	155	295	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
10420.000	41.04	5.24	46.28	68.20	-21.92	154	216	Peak
15630.000	30.48	9.31	39.79	54.00	-14.21	152	312	Average
15630.000	42.15	9.31	51.46	74.00	-22.54	152	312	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

5725-5850MHz

802.11a Mode:

5745 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	31.58	7.21	38.79	54.00	-15.21	156	227	Average
11490.000	44.05	7.21	51.26	74.00	-22.74	156	227	Peak
17235.000	41.65	12.36	54.01	68.20	-14.19	156	115	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	30.92	7.21	38.13	54.00	-15.87	158	0	Average
11490.000	42.70	7.21	49.91	74.00	-24.09	158	0	Peak
17235.000	40.76	12.36	53.12	68.20	-15.08	154	7	Peak

5785 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	31.99	7.20	39.19	54.00	-14.81	151	267	Average
11570.000	42.55	7.20	49.75	74.00	-24.25	151	267	Peak
17355.000	40.77	12.40	53.17	68.20	-15.03	155	159	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	31.09	7.20	38.29	54.00	-15.71	157	2	Average
11570.000	42.43	7.20	49.63	74.00	-24.37	157	2	Peak
17355.000	40.43	12.40	52.83	68.20	-15.37	154	135	Peak

5825 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	32.13	7.34	39.47	54.00	-14.53	154	225	Average
11650.000	41.56	7.34	48.90	74.00	-25.10	154	225	Peak
17475.000	41.19	12.32	53.51	68.20	-14.69	155	162	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	31.28	7.34	38.62	54.00	-15.38	154	347	Average
11650.000	42.23	7.34	49.57	74.00	-24.43	154	347	Peak
17475.000	41.04	12.32	53.36	68.20	-14.84	150	212	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT20 Mode:

5745 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	30.71	7.21	37.92	54.00	-16.08	155	13	Average
11490.000	43.08	7.21	50.29	74.00	-23.71	155	13	Peak
17235.000	40.79	12.36	53.15	68.20	-15.05	152	36	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11490.000	30.58	7.21	37.79	54.00	-16.21	154	346	Average
11490.000	40.85	7.21	48.06	74.00	-25.94	154	346	Peak
17235.000	41.21	12.36	53.57	68.20	-14.63	157	253	Peak

5785 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	31.08	7.20	38.28	54.00	-15.72	156	324	Average
11570.000	42.76	7.20	49.96	74.00	-24.04	156	324	Peak
17355.000	41.00	12.40	53.40	68.20	-14.80	152	247	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11570.000	30.86	7.20	38.06	54.00	-15.94	157	172	Average
11570.000	41.88	7.20	49.08	74.00	-24.92	157	172	Peak
17355.000	40.49	12.40	52.89	68.20	-15.31	152	68	Peak

5825 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	31.19	7.34	38.53	54.00	-15.47	154	0	Average
11650.000	41.23	7.34	48.57	74.00	-25.43	154	0	Peak
17475.000	41.64	12.32	53.96	68.20	-14.24	157	160	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11650.000	30.69	7.34	38.03	54.00	-15.97	150	342	Average
11650.000	41.11	7.34	48.45	74.00	-25.55	150	342	Peak
17475.000	40.98	12.32	53.30	68.20	-14.90	155	297	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

802.11ac VHT40 Mode:

5755 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11510.000	29.21	7.22	36.43	54.00	-17.57	156	5	Average
11510.000	41.09	7.22	48.31	74.00	-25.69	156	5	Peak
17265.000	41.57	12.35	53.92	68.20	-14.28	152	0	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11510.000	29.21	7.22	36.43	54.00	-17.57	156	301	Average
11510.000	41.12	7.22	48.34	74.00	-25.66	156	301	Peak
17265.000	41.58	12.35	53.93	68.20	-14.27	151	301	Peak

5795 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11590.000	29.09	7.20	36.29	54.00	-17.71	155	193	Average
11590.000	40.34	7.20	47.54	74.00	-26.46	155	193	Peak
17385.000	41.55	12.43	53.98	68.20	-14.22	152	20	Peak
17762.000	32.29	13.06	45.35	54.00	-8.65	150	360	Average
17762.000	43.67	13.06	56.73	74.00	-17.27	150	360	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11590.000	29.06	7.20	36.26	54.00	-17.74	157	266	Average
11590.000	41.06	7.20	48.26	74.00	-25.74	157	266	Peak
17385.000	40.86	12.43	53.29	68.20	-14.91	152	328	Peak
17779.000	32.41	13.07	45.48	54.00	-8.52	150	113	Average
17779.000	44.51	13.07	57.58	74.00	-16.42	150	113	Peak

802.11ac VHT80 Mode:

5775 MHz

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11550.000	29.18	7.21	36.39	54.00	-17.61	159	185	Average
11550.000	41.33	7.21	48.54	74.00	-25.46	159	185	Peak
17325.000	40.88	12.37	53.25	68.20	-14.95	154	117	Peak

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
11550.000	29.40	7.21	36.61	54.00	-17.39	153	249	Average
11550.000	40.15	7.21	47.36	74.00	-26.64	153	249	Peak
17325.000	41.17	12.37	53.54	68.20	-14.66	156	76	Peak

Level = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.