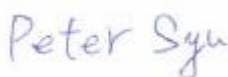


MEASUREMENT REPORT

FCC ID : XBG-BA1GMNRCH8
APPLICANT : AVALUE TECHNOLOGY INCORPORATION
Application Type : Certification
Product : Intercom
Model Name : Monarch 8
Model Number : BUTTERFLYMX.M8.1
Trade Mark : 
FCC Classification : Unlicensed National Information Infrastructure (UNII)
FCC Rule Part(s) : Part 15 Subpart E (Section 15.407)
Test Procedure(s) : ANSI C63.10-2013
Received Date : September 13, 2022
Test Date : November 18~December 5, 2022

Tested By : 
(Peter Syu)
Reviewed By : 
(Paddy Chen)
Approved By : 
(Chenz Ker)



The test results relate only to the tested samples.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10 Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Taiwan) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2209TWI301-U14	1.0	Original Report	2022-12-15	

Note: This case is a copy report, the original report number is 2209TWI301-U5 (FCC ID: XBG-BA1GMNRCH12). Model No.: Monarch 8 and Model No.: Monarch 12 which the RF & PCB layout are the same, only the panel size and antenna position are different. Therefore, the Conducted Power & Radiated have to test and other test data can refer report number 2209TWI301-U5.

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§2.1033 General Information

Applicant	AVALUE TECHNOLOGY INCORPORATION
Applicant Address	7F, 228, Lian-cheng Road, Zhonghe Dist., New Taipei City 235, Taiwan
Manufacturer	ButterflyMX, inc.
Manufacturer Address	44 West 28th Street, 4th Floor New York, NY 10001
Test Site	MRT Technology (Taiwan) Co., Ltd
Test Site Address	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
MRT FCC Registration No.	291082
FCC Rule Part(s)	Part 15 Subpart E (Section 15.407)
Test Device Serial No.	#1-2 ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification	Unlicensed National Information Infrastructure (UNII)

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Fuxing Rd., Taoyuan, Taiwan (R.O.C)

- MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm.
- MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada.
- MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Taiwan, EU and TELEC Rules.

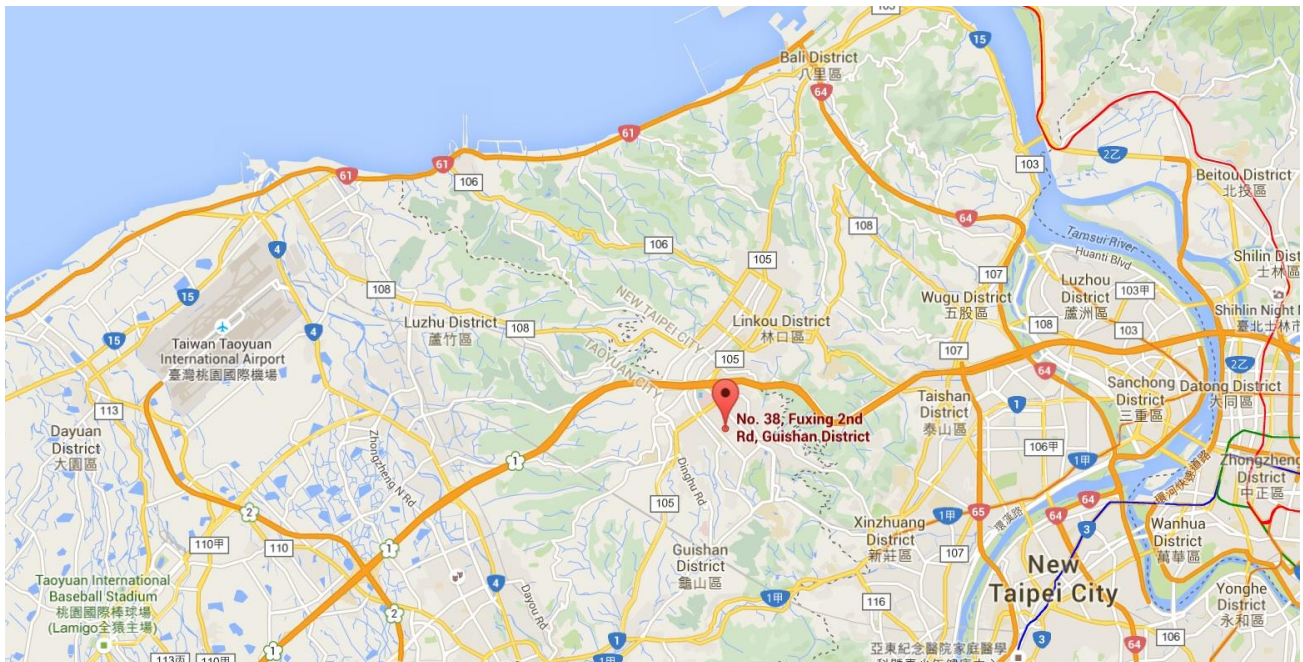
1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taoyuan City. These measurement tests were conducted at the MRT Technology (Taiwan) Co., Ltd. Facility located at No.38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 33377, Taiwan (R.O.C).



2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	Intercom
Trade Mark	 ButterflyMX
Model Name	Monarch 8
Model Number	BUTTERFLYMX.M8.1
Supports Radios Spec.	WPAN: Bluetooth Dual Mode: V5.0 RFID: 125kHz & 13.56MHz WLAN: 2.4G: 802.11b/g/n-20/n-40 5G: 802.11a/n-20/ac-20/n-40/ac-40/ac-80, Band 1,4 WWAN: 4G: Band 2,4,5,7,12,13,25,26,38,41
Wi-Fi Specification	802.11a/n/ac (2TX / 2RX)
Frequency Range	5GHz: For 802.11a/n-HT20/ac-VHT-20: 5180~5240MHz, 5745~5825MHz For 802.11n-HT40/ ac-VHT40: 5190~5230MHz, 5755~5795MHz For 802.11ac-VHT80: 5210MHz, 5775MHz
Modulation Type	802.11a/n-20/ac-20/n-40/ac-40/ac-80: OFDM (BPSK, QPSK, 16QAM, 64QAM,256QAM)
Accessory	
Power Adapter	Brand Name: EDAC Model: EA10731F-240 Input: AC 100-240V~0.2A, 50-60Hz Output: DC 24.0V-2.08A

2.2. Operation Frequencies and Channel List

802.11 n-HT20/ ac-VHT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180 MHz	40	5200 MHz	44	5220 MHz
48	5240 MHz	149	5745 MHz	153	5765 MHz
157	5785 MHz	161	5805 MHz	165	5825 MHz

802.11 n-HT40/ ac-VHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz	151	5755 MHz
159	5795 MHz	--	--	--	--

802.11ac-VHT80

Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210 MHz	155	5775 MHz	--	--

Duty Cycle

Note: Please refer to the original report as 2209TWI301-U5.

2.3. Test Mode

Test Mode	Mode 1: Transmit by 802.11a with Monarch 8
	Mode 2: Transmit by 802.11n-HT20 with Monarch 8
	Mode 3: Transmit by 802.11ac-VHT20 with Monarch 8
	Mode 4: Transmit by 802.11n-HT40 with Monarch 8
	Mode 5: Transmit by 802.11ac-VHT40 with Monarch 8
	Mode 6: Transmit by 802.11ac-VHT80 with Monarch 8
	Mode 7: Receiver by 802.11n-HT20 with Monarch 8

Note:

1. Since 802.11n and 802.11ac have the same modulation/data rate/bandwidth, and after confirmation of conducted power, we select 802.11ac-VHT20 and VHT40 are covered by 802.11n-HT20 and HT40 in this report.

2.4. Test Software

The test utility software used during testing was “putty”, the version is ver0.78.

2.5. Device Capabilities

This device contains the following capabilities:

2.4GHz WLAN (DTS) and 5GHz WLAN (NII).

Note: 5GHz (NII) operation is possible in 20MHz, 40MHz and 80MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = average per the guidance of Section B)2)b) of KDB 789033 D02v02r01. The RBW and VBW were both greater than $50/T$, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100.

2.6. Test Configuration

This device was tested per the guidance of KDB 789033 D02v02r01. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.7. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.8. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2013), and the guidance provided in KDB 789033 were used in the measurement of the device.

Deviation from measurement procedure.....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 9'x4'x3' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

Line conducted emissions test results are shown in Section 7.10.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up for frequencies below 1GHz was placed on top of the 0.8 meter high, 1 x 1.5 meter table; and test set-up for frequencies 1-40GHz was placed on top of the 1.5 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beam-Width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antenna of the **Intercom**, is permanently attached.
- There are no provisions for connection to an external antenna.

Conclusion:

The EUT unit complies with the requirement of §15.203.

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	INPAQ	ACM3-5036-A1-CC-S	Chip	3.3dBi

5. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions – SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2023/3/7
Cable	Rosnol	N1C50-RG400-B 1C50-500CM	MRTTWE00013	1 year	2023/6/19
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2023/3/9

Radiated Emissions – AC1

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2022/12/30
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2023/3/9
Active Loop Antenna	Schwarzbeck	FMZB 1519B	MRTTWA00002	1 year	2023/5/24
Broadband Horn antenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	1 year	2023/3/30
Breitband Hornantenna	Schwarzbeck	BBHA 9170	MRTTWA00004	1 year	2023/3/29
Broadband Amplifier	Schwarzbeck	BBV 9721	MRTTWA00006	1 year	2023/3/30
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2023/3/30
Signal Analyzer	R&S	FSV40	MRTTWA00007	1 year	2023/3/16
Cable	HUBERSUHNER	SF106	MRTTWE00010	1 year	2023/5/23
Cable	Rosnol	K1K50-UP0264- K1K50-4M	MRTTWE00012	1 year	2023/6/19

Conducted Test Equipment – SR5

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2023/10/5
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2023/7/19
USB Wideband Power Sensor	KEYSIGHT	U2021XA	MRTTWA00015	1 year	2023/3/16

Test Software

Software	Version	Function
e3	9.160520a	EMI Test Software
EMI	V3	EMI Test Software

6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Conducted Emission- Power Line
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 0.15MHz~30MHz: $\pm 2.53\text{dB}$
Radiated Spurious Emission
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 9kHz~30MHz: $\pm 3.92\text{dB}$ 30MHz~1GHz: $\pm 4.25\text{dB}$ 1GHz~18GHz: $\pm 4.40\text{dB}$ 18GHz~40GHz: $\pm 4.45\text{dB}$
Frequency Error
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 78.4\text{Hz}$
Conducted Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 0.84\text{dB}$
Conducted Spurious Emission
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 2.65\text{ dB}$
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 3.3\%$
Temp. / Humidity
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 0.82^\circ\text{C} / \pm 3\%$
DC Voltage
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 0.3\%$

7. TEST RESULT

7.1. Summary

Company Name: Intercom
FCC Classification: Unlicensed National Information Infrastructure (UNII)
Data Rate(s) Tested: 6Mbps ~ 54Mbps (a);
6.5/7.2Mbps ~ 130/144.4Mbps (n-HT20);
13.5/15.0Mbps ~ 270/300Mbps (n-HT40);
6.5/7.2Mbps ~ 156/173.4Mbps (ac-VHT20MHz);
13.5/15.0Mbps ~ 360/400Mbps (ac-VHT40MHz);
29.3/32.5Mbps ~ 780/866.6Mbps (ac-VHT80MHz)

FCC Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.407(a)	26dB Bandwidth	N/A	Conducted	Pass	Section 7.2
15.407(e)	6dB Bandwidth	$\geq 500\text{kHz}$		Pass	Section 7.3
15.407(a)(1)(i), (2), (3)	Maximum Conducted Output Power	Refer to Section 7.5		Pass	Section 7.5
15.407(h)(1)	Transmit Power Control	$\leq 24\text{ dBm}$		N/A	Section 7.6
15.407(a)(1)(i), (2), (3), (5)	Power Spectral Density	Refer to Section 7.7		Pass	Section 7.7
15.407(b)(1), (4)	Undesirable Emissions	$\leq -27\text{dBm/MHz EIRP}$ $\leq -17\text{dBm/MHz EIRP}$	Radiated	Pass	Section 7.8 & 7.9
15.205, 15.209 15.407(b)(5), (6), (7)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		Pass	
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	Pass	Section 7.10

Notes:

- Determining compliance is based on the test results met the regulation limits or requirements declared by clients, and the test results don't take into account the value of measurement uncertainty.
- All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.
- The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

7.2. 26dB Bandwidth Measurement

7.2.1. Test Limit

N/A

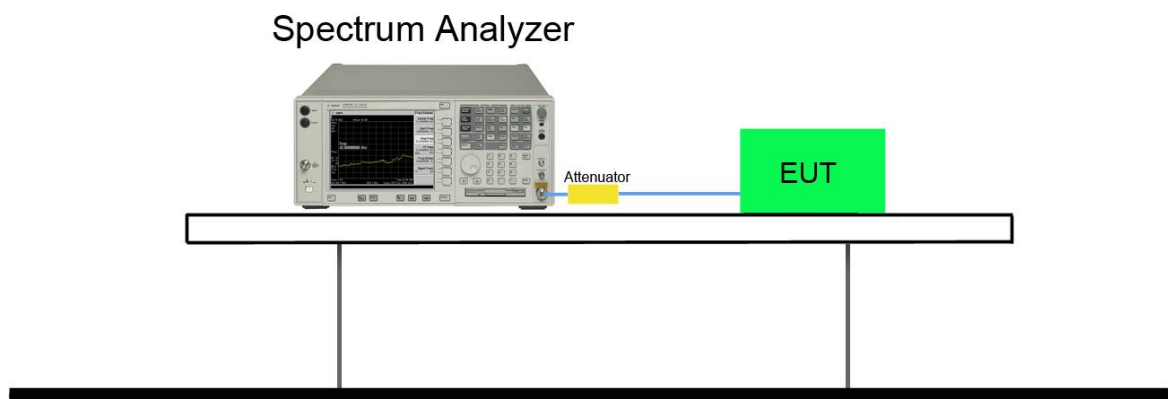
7.2.2. Test Procedure used

KDB 789033 D02v02r01 - Section C.1 / ANSI C63.10 6.9.3

7.2.3. Test Setting

1. The analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 26$. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediated power nulls in the fundamental emission.
2. RBW = approximately 1% of the emission bandwidth.
3. VBW $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold.

7.2.4. Test Setup



7.2.5. Test Result

Note: Please refer to the original report as 2209TWI301-U5.

7.3. 6dB Bandwidth Measurement

7.3.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

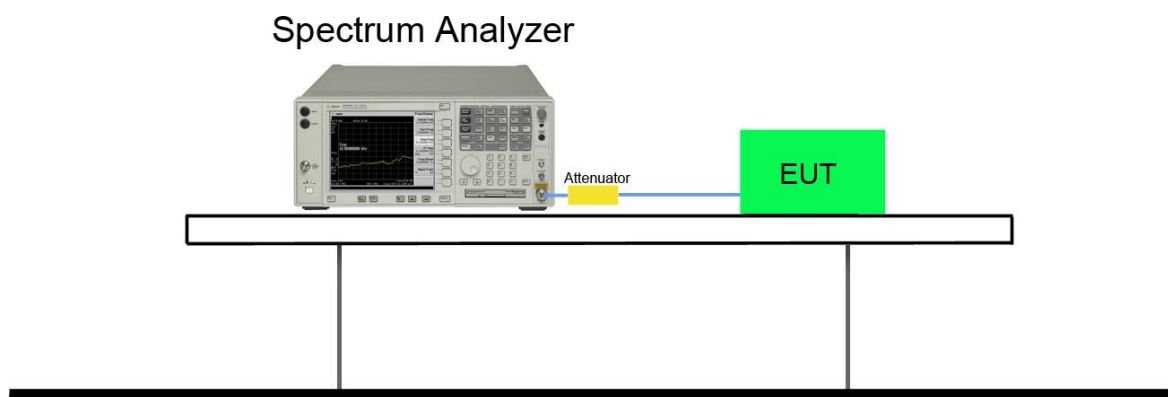
7.3.2. Test Procedure used

KDB 789033 D02v02r01 - Section C.2

7.3.3. Test Setting

1. Set center frequency to the nominal EUT channel center frequency.
2. RBW = 100 kHz.
3. VBW $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.3.4. Test Setup



7.3.5. Test Result

Note: Please refer to the original report as 2209TWI301-U5.

7.4. Output Power Measurement

7.4.1. Test Limit

For FCC Power Measurement Limit

For client operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 250mW.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (23.98dBm) or 11dBm +10 log (26dB BW).

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm).

If transmitting antennas of directional gain greater than 6dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

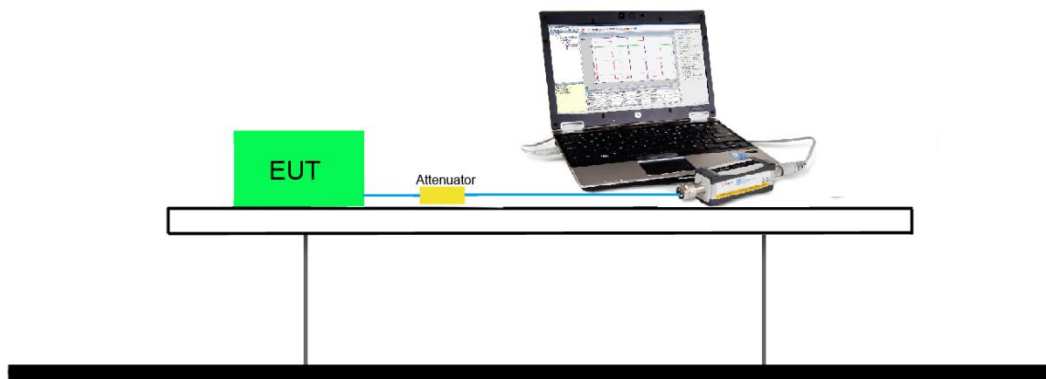
7.4.2. Test Procedure Used

KDB 789033 D02v02r01 - Section E) 3) b) Method PM-G

7.4.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

7.4.4. Test Setup



7.4.5. Test Result

Product	Intercom	Test Engineer	Peter
Test Site	SR2	Test Date	2022/11/18
Test Item	Output Power		

FCC Power: Monarch 8

Model	Rate	Ch.	Freq. (MHz)	Ant 0 Power (dBm)	Ant 1 Power (dBm)	Ant 0+1 Power (dBm)	Power Limit (dBm)
802.11a Band1	6M	36	5180	14.22	14.19	17.22	23.98
	6M	44	5220	16.01	16.02	19.03	23.98
	6M	48	5240	16.10	16.13	19.13	23.98
802.11a Band4	6M	149	5745	13.33	12.45	15.92	30.00
	6M	157	5785	15.75	15.13	18.46	30.00
	6M	165	5825	15.72	15.15	18.45	30.00
n-HT20 Band1	MCS0	36	5180	13.21	13.14	16.19	23.98
	MCS0	44	5220	15.99	16.02	19.02	23.98
	MCS0	48	5240	16.00	16.01	19.02	23.98
n-HT20 Band4	MCS0	149	5745	14.52	13.96	17.26	30.00
	MCS0	157	5785	15.68	15.05	18.39	30.00
	MCS0	165	5825	15.73	15.09	18.43	30.00
ac-VHT20 Band1	MCS0	36	5180	12.99	13.03	16.02	23.98
	MCS0	44	5220	15.83	15.91	18.88	23.98
	MCS0	48	5240	15.90	15.99	18.96	23.98
ac-VHT20 Band4	MCS0	149	5745	14.11	13.88	17.01	30.00
	MCS0	157	5785	15.41	14.78	18.12	30.00
	MCS0	165	5825	15.47	14.78	18.15	30.00
n-HT40 Band1	MCS0	38	5190	10.95	10.89	13.93	23.98
	MCS0	46	5230	14.82	14.81	17.83	23.98
n-HT40 Band4	MCS0	151	5755	13.21	12.42	15.84	30.00
	MCS0	159	5795	15.47	14.80	18.16	30.00
ac-VHT40 Band1	MCS0	38	5190	10.91	10.90	13.92	23.98
	MCS0	46	5230	14.75	14.79	17.78	23.98
ac-VHT40 Band4	MCS0	151	5755	13.18	12.38	15.81	30.00
	MCS0	159	5795	15.50	14.75	18.15	30.00
ac-VHT80 Band1	MCS0	42	5210	9.88	10.03	12.97	23.98

ac-VHT80 Band4	MCS0	155	5775	14.60	13.93	17.29	30.00
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Note: The Total Power (dBm) = $10 \cdot \log \{10^{(\text{Ant 0 Power} / 10)} + 10^{(\text{Ant 1 Power} / 10)}\}$.

7.5. Transmit Power Control

7.5.1. Test Limit

The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

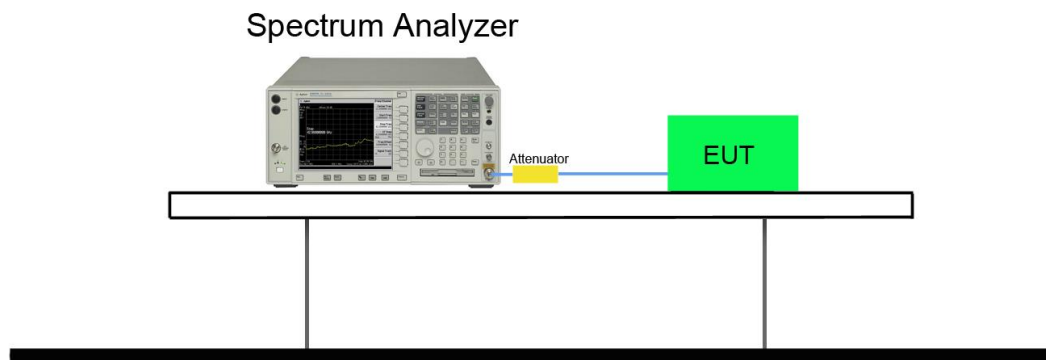
7.5.2. Test Procedure Used

KDB 789033 D02v02r01 - Section E) 3) b) Method PM-G

7.5.3. Test Setting

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

7.5.4. Test Setup



7.5.5. Test Result

Note: TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

7.6. Power Spectral Density Measurement

7.6.1. Test Limit

For FCC Power Spectral Density Limit

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

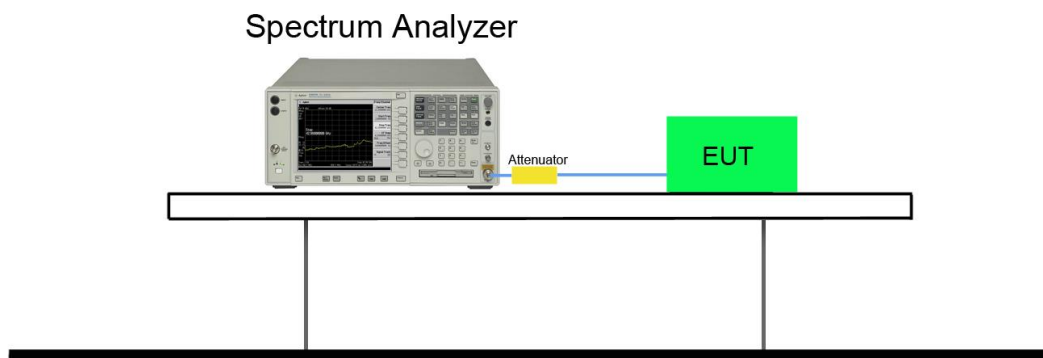
7.6.2. Test Procedure Used

KDB 789033 D02v02r01 - Section F

7.6.3. Test Setting

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire 26dB EBW of the signal.
3. RBW = 1MHz, if measurement bandwidth of Maximum PSD is specified in 500 kHz,
4. RBW = 100 kHz
5. VBW = 3MHz
6. Number of sweep points $\geq 2 \times (\text{span} / \text{RBW})$
7. Detector = power averaging (Average)
8. Sweep time = auto
9. Trigger = free run
10. Use the peak search function on the instrument to find the peak of the spectrum and record its value.
11. Add $10 \cdot \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add $10 \cdot \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.
12. When the measurement bandwidth of Maximum PSD is specified in 500 kHz, add a constant factor $10 \cdot \log(500\text{kHz}/100\text{kHz}) = 7$ dB to the measured result

7.6.4. Test Setup



7.6.5. Test Result

Note: Please refer to the original report as 2209TWI301-U5.

7.7. Radiated Spurious Emission Measurement

7.7.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [V/m]	Measured Distance [Meters]
0.009 – 0.490	2400/F (kHz)	300
0.490 – 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

7.7.2. Test Procedure Used

KDB 789033 D02v02r01 – Section G

7.7.3. Test Setting

Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120 kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Average Measurements above 1GHz (Method AD)

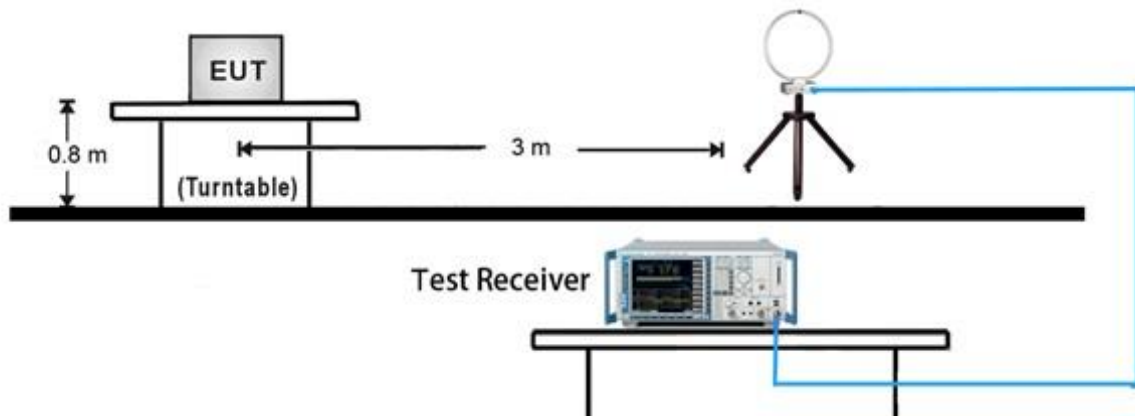
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (Average)
5. Number of measurement points = 1001 (Number of points must be $> 2 \times \text{span}/\text{RBW}$)
6. Sweep time = auto
7. Trace was averaged over at 100 sweeps

Quasi-Peak & Average Measurements below 30MHz

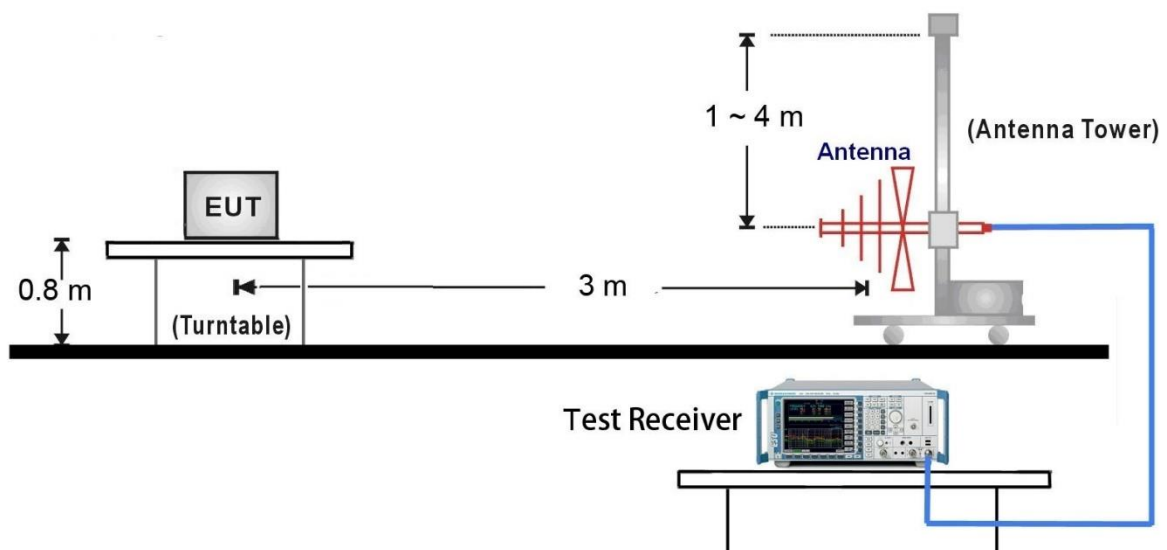
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 200Hz for 9kHz to 150kHz frequency; RBW = 9kHz for 0.15MHz to 30MHz frequency
4. Detector = CISPR quasi-peak or power average (Average)
5. Sweep time = auto couple
6. Trace was allowed to stabilize

7.7.4. Test Setup

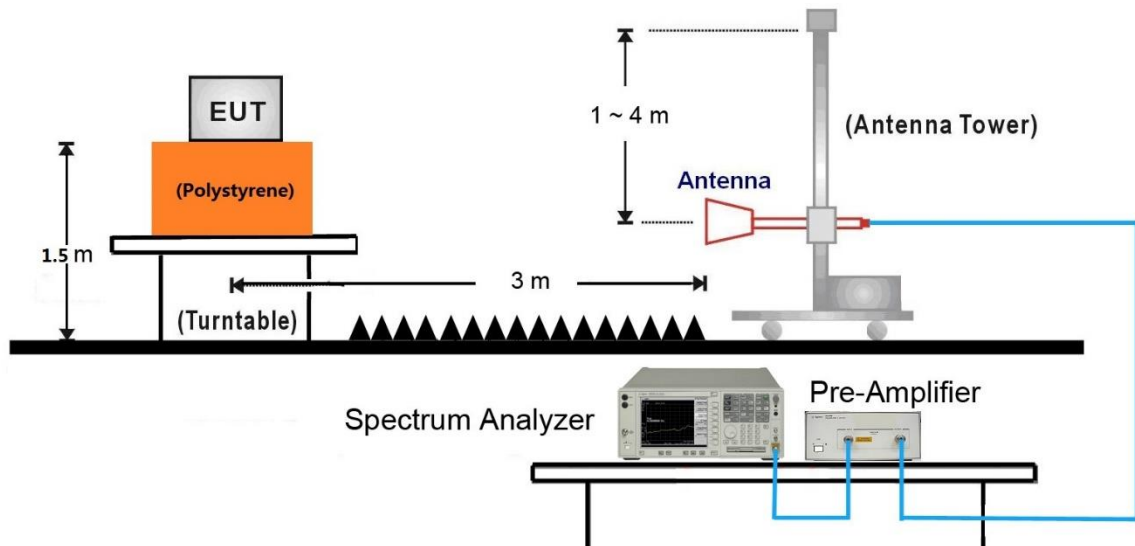
9kHz ~ 30MHz Test Setup:



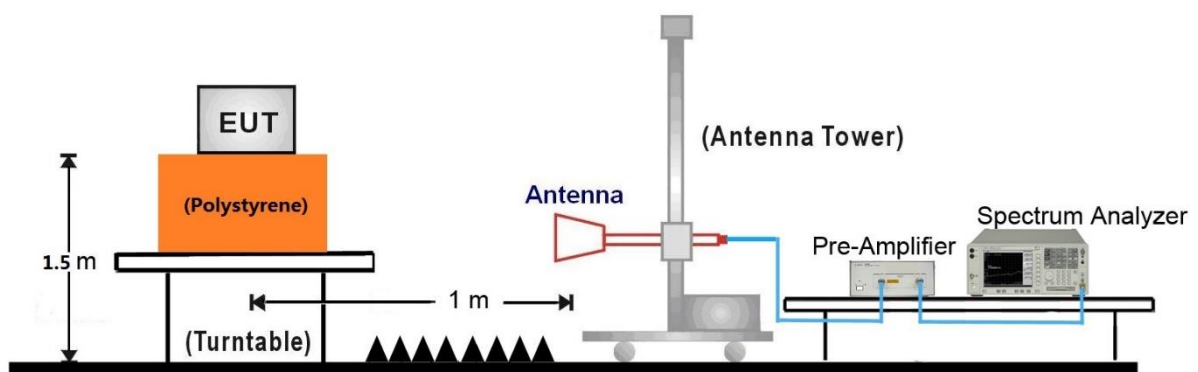
30MHz ~ 1GHz Test Setup:



1GHz ~18GHz Test Setup:

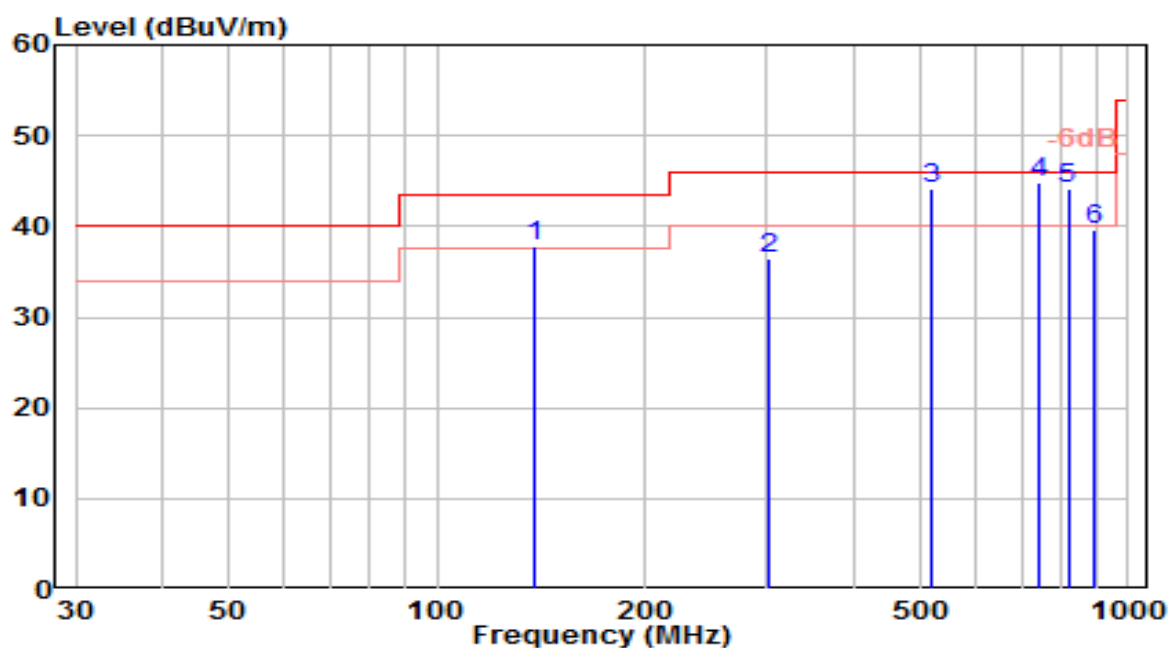


18GHz ~40GHz Test Setup:



7.7.5. Test Result

EUT	Monarch 8	Date of Test	2022-10-22
Factor	VULB 9162	Temp. / Humidity	24°C / 69%
Polarity	Horizontal	Site / Test Engineer	AC1 / Jeff
Test Mode	802.11n-20MHz_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz

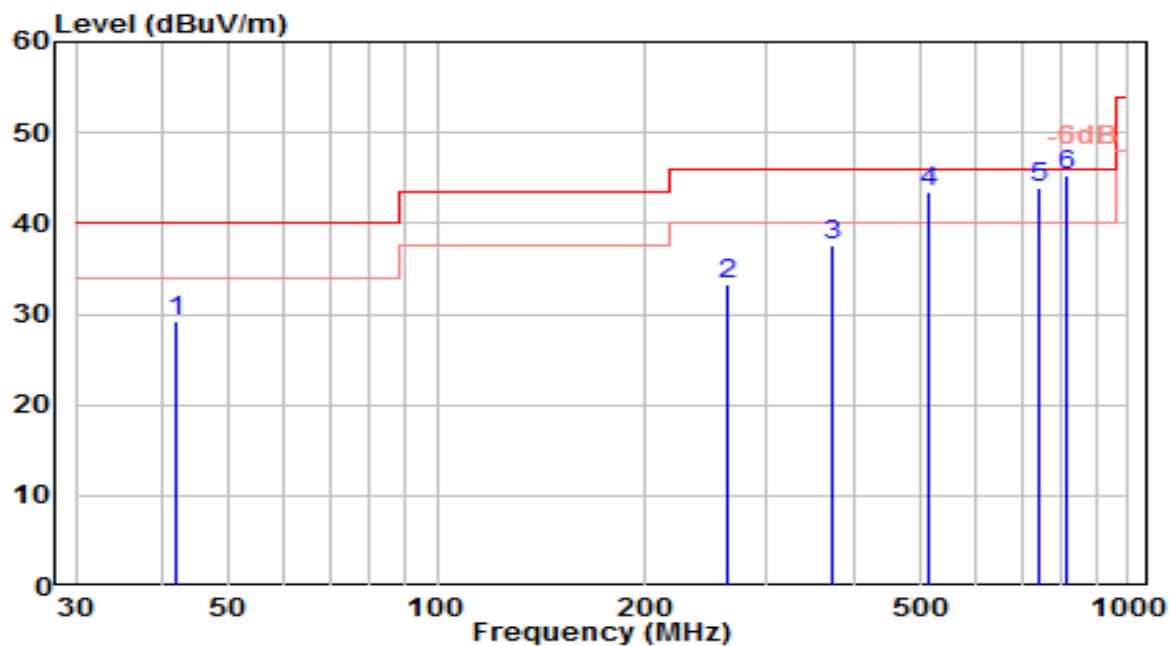


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	138.320	22.14	15.64	37.78	-5.72	43.50	100	265	QP
2	301.270	14.85	21.54	36.39	-9.61	46.00	100	350	QP
3	518.600	17.93	26.28	44.21	-1.79	46.00	135	150	QP
4	* 741.370	14.84	29.89	44.73	-1.27	46.00	100	245	QP
5	818.180	13.54	30.69	44.24	-1.76	46.00	160	50	QP
6	893.080	7.56	32.06	39.62	-6.38	46.00	100	345	QP

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-10-22
Factor	VULB 9162	Temp. / Humidity	24°C /69%
Polarity	Vertical	Site / Test Engineer	AC1 / Jeff
Test Mode	802.11n-20MHz_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz

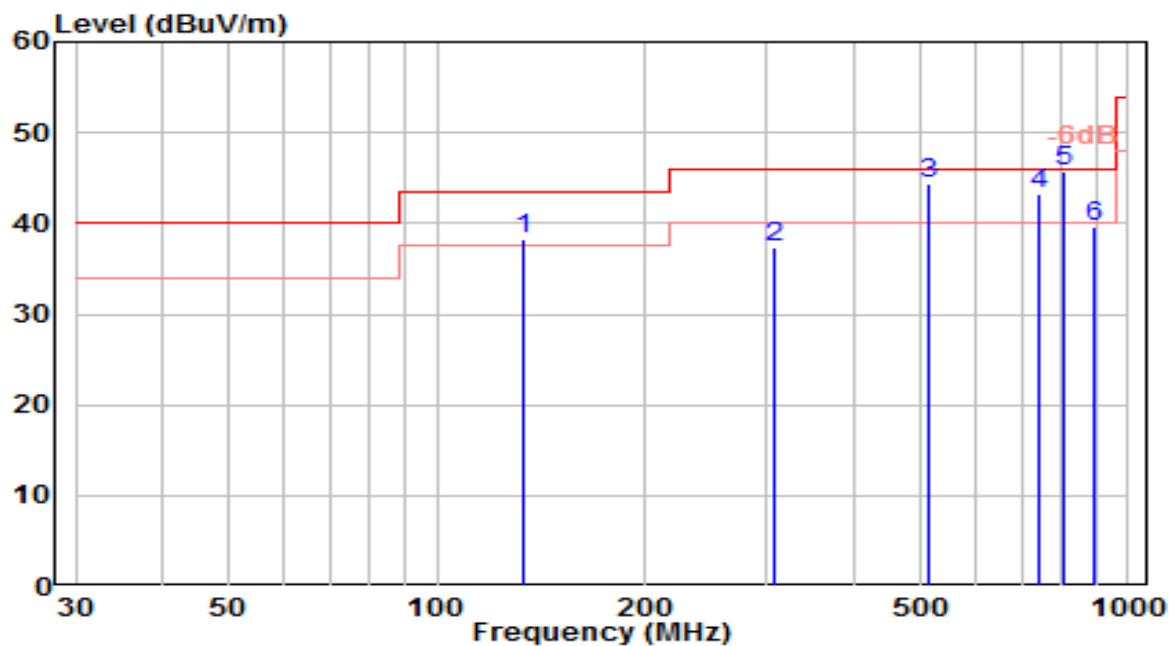


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	41.750	8.48	20.63	29.10	-10.90	40.00	100	155	QP
2	263.920	12.35	20.88	33.23	-12.77	46.00	100	310	QP
3	374.550	13.84	23.68	37.53	-8.47	46.00	100	355	QP
4	516.240	17.19	26.24	43.43	-2.57	46.00	115	30	QP
5	743.460	14.00	29.92	43.92	-2.08	46.00	100	305	QP
6	* 813.850	14.65	30.60	45.25	-0.75	46.00	155	135	QP

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-10-22
Factor	VULB 9162	Temp. / Humidity	24°C /69%
Polarity	Horizontal	Site / Test Engineer	AC1 / Jeff
Test Mode	802.11n-20MHz_RX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz

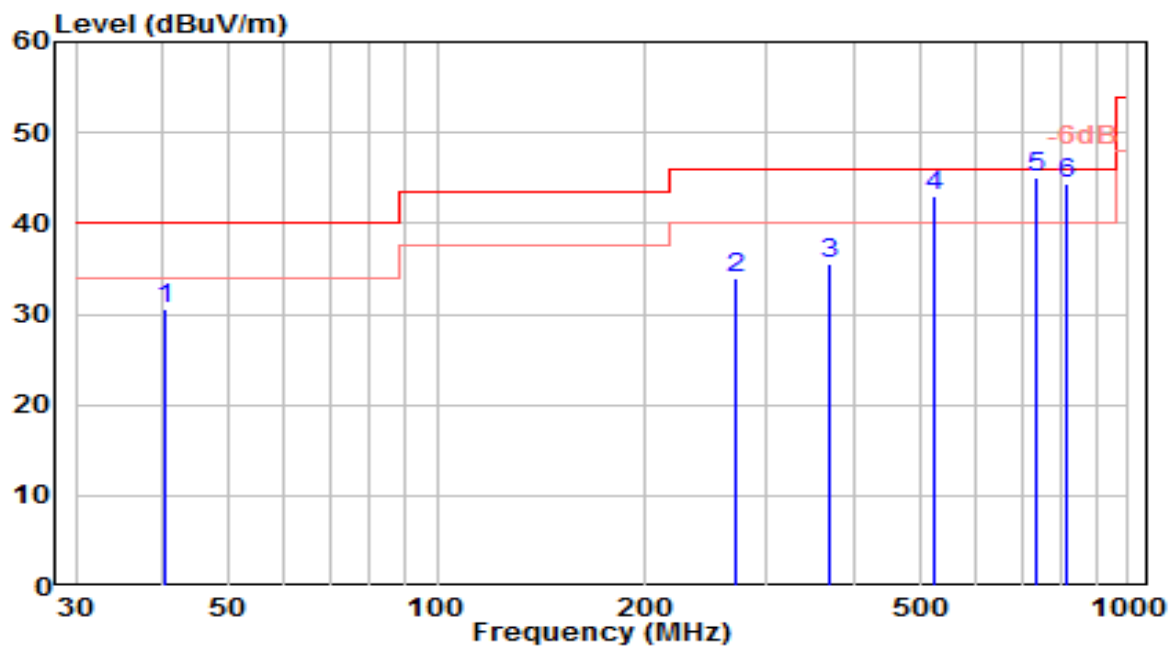


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	132.790	22.28	16.00	38.28	-5.22	43.50	100	360	QP
2	307.470	15.62	21.74	37.37	-8.63	46.00	100	20	QP
3	515.300	18.13	26.23	44.36	-1.64	46.00	135	40	QP
4	745.720	13.25	29.95	43.20	-2.80	46.00	100	270	QP
5	* 806.730	15.23	30.45	45.68	-0.32	46.00	160	120	QP
6	890.370	7.51	32.02	39.52	-6.48	46.00	100	130	QP

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-10-22
Factor	VULB 9162	Temp. / Humidity	24°C /69%
Polarity	Vertical	Site / Test Engineer	AC1 / Jeff
Test Mode	802.11n-20MHz_RX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz

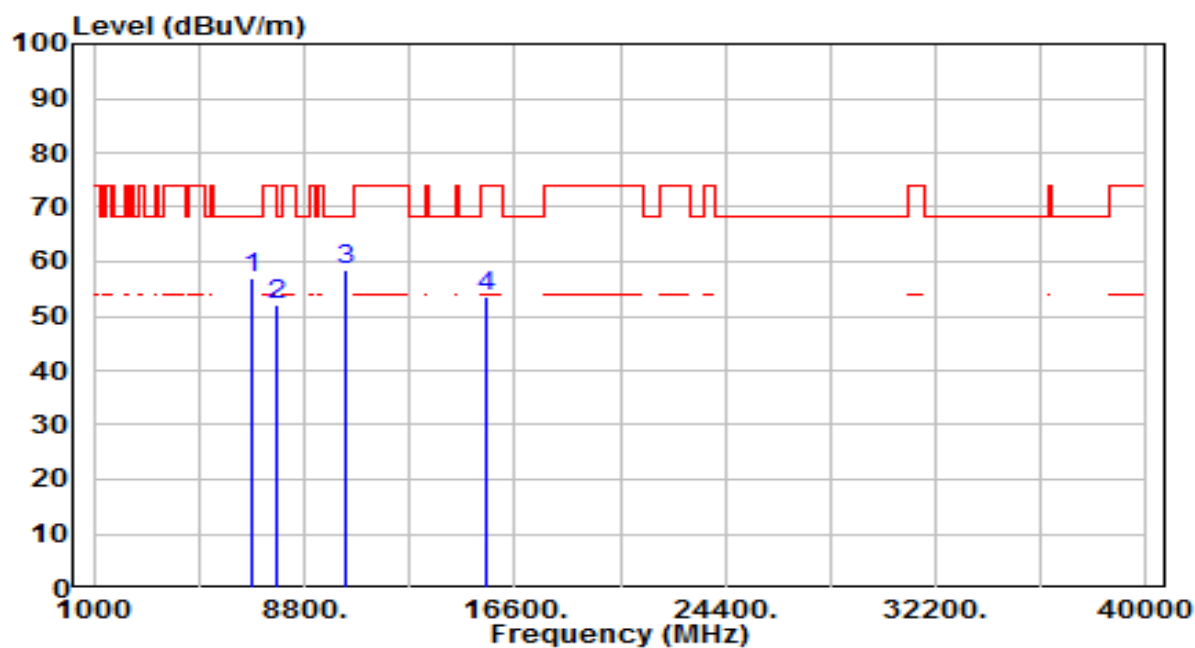


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	40.240	10.31	20.31	30.62	-9.38	40.00	100	275	QP
2	270.010	13.07	20.90	33.97	-12.03	46.00	100	210	QP
3	368.670	12.09	23.55	35.64	-10.36	46.00	100	355	QP
4	524.840	16.60	26.36	42.97	-3.03	46.00	115	30	QP
5	* 737.100	15.24	29.83	45.07	-0.93	46.00	100	305	QP
6	816.460	13.78	30.66	44.43	-1.57	46.00	155	135	QP

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

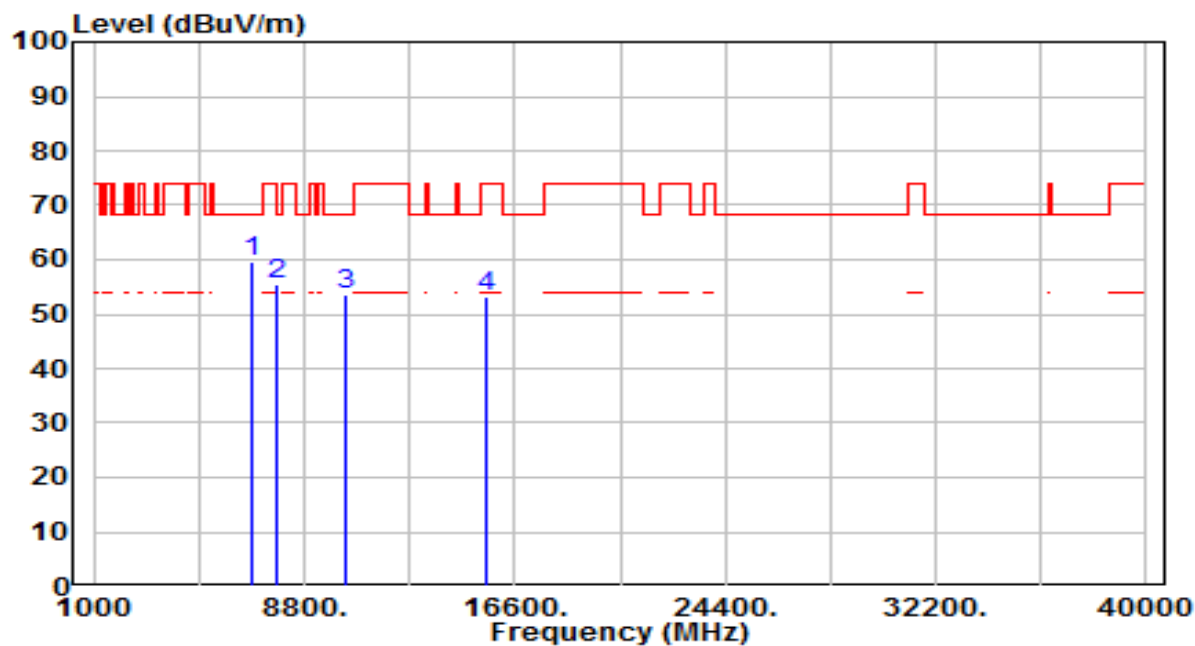


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6906.438	46.52	10.39	56.90	-11.30	68.20	150	360	Peak
2	7773.438	39.09	13.16	52.25	-15.95	68.20	150	360	Peak
3	* 10360.000	40.69	17.92	58.61	-9.59	68.20	150	360	Peak
4	15540.000	32.30	21.24	53.54	-20.46	74.00	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

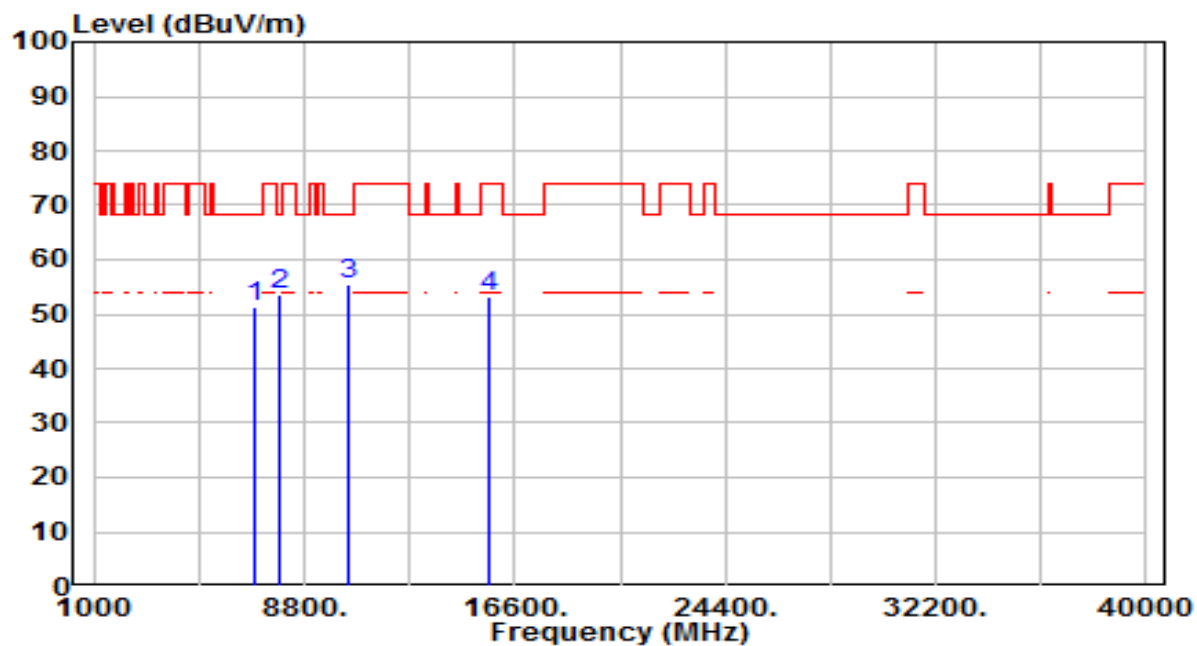


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	6906.438	49.26	10.39	59.65	-8.55	68.20	150	360	Peak
2		7766.531	42.28	13.15	55.43	-12.77	68.20	150	360	Peak
3		10360.000	35.67	17.92	53.59	-14.61	68.20	150	360	Peak
4		15540.000	31.86	21.24	53.10	-20.90	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz

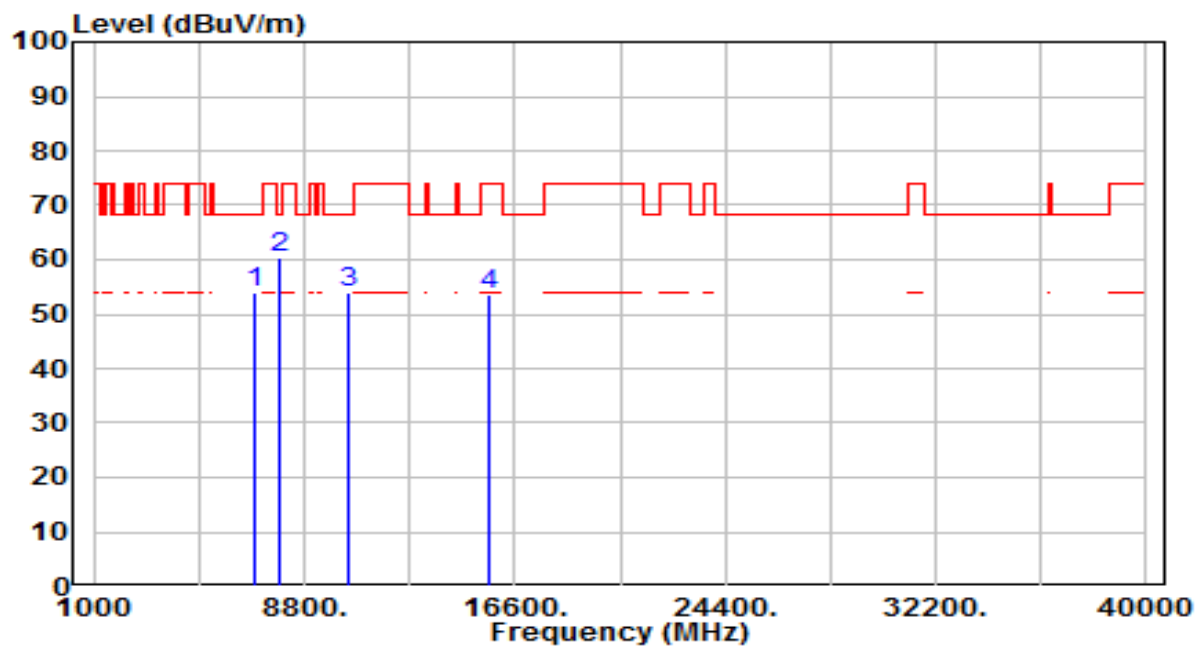


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6960.094	40.84	10.64	51.48	-16.72	68.20	150	360	Peak
2	7836.656	40.27	13.22	53.49	-14.71	68.20	150	360	Peak
3	* 10440.000	37.09	18.25	55.34	-12.86	68.20	150	360	Peak
4	15660.000	32.17	20.91	53.09	-20.91	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz

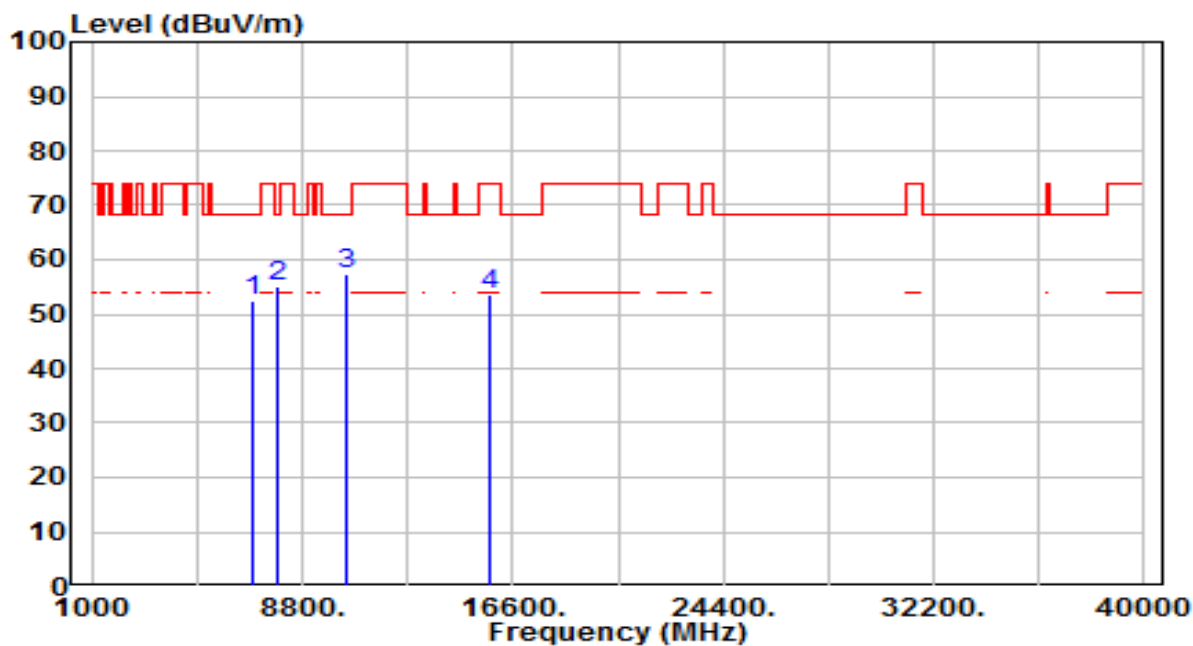


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6959.563	43.41	10.64	54.05	-14.15	68.20	150	360	Peak
2	* 7836.656	46.98	13.22	60.20	-8.00	68.20	150	360	Peak
3	10440.000	35.61	18.25	53.86	-14.34	68.20	150	360	Peak
4	15660.000	32.62	20.91	53.53	-20.47	74.00	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 48_ANT 0+1	Test Voltage	AC 120V/ 60Hz

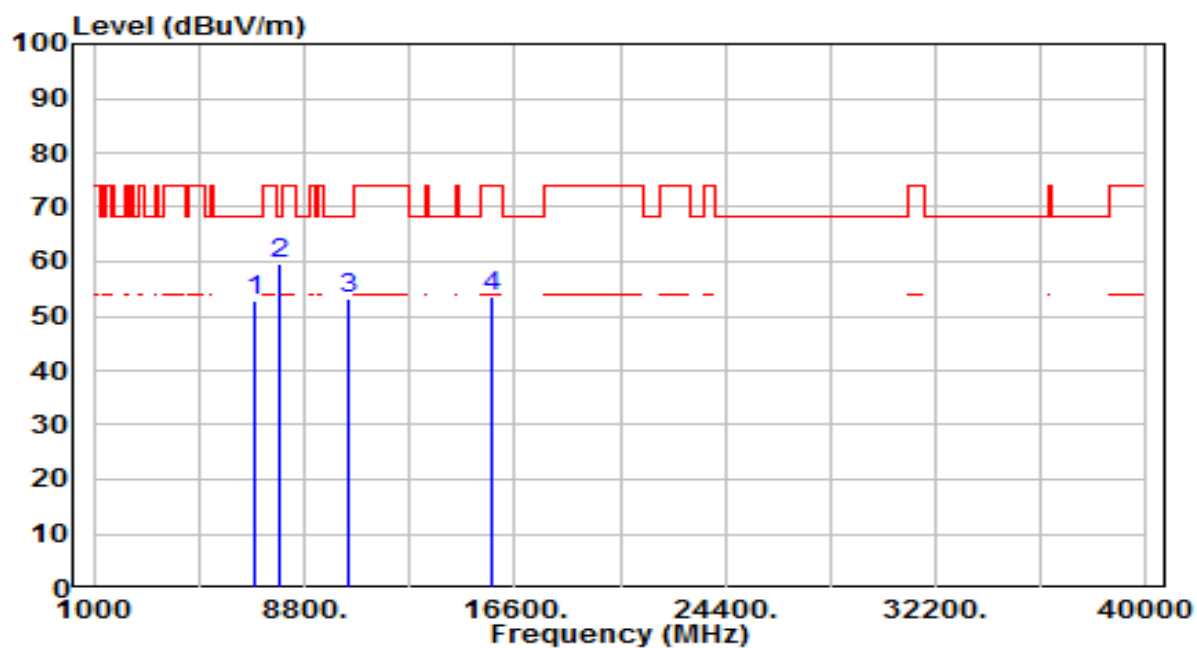


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6986.656	41.80	10.77	52.56	-15.64	68.20	150	360	Peak
2	7856.844	41.68	13.24	54.92	-13.28	68.20	150	360	Peak
3	* 10480.000	39.07	18.42	57.49	-10.71	68.20	150	360	Peak
4	15720.000	32.88	20.75	53.63	-20.37	74.00	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 48_ANT 0+1	Test Voltage	AC 120V/ 60Hz

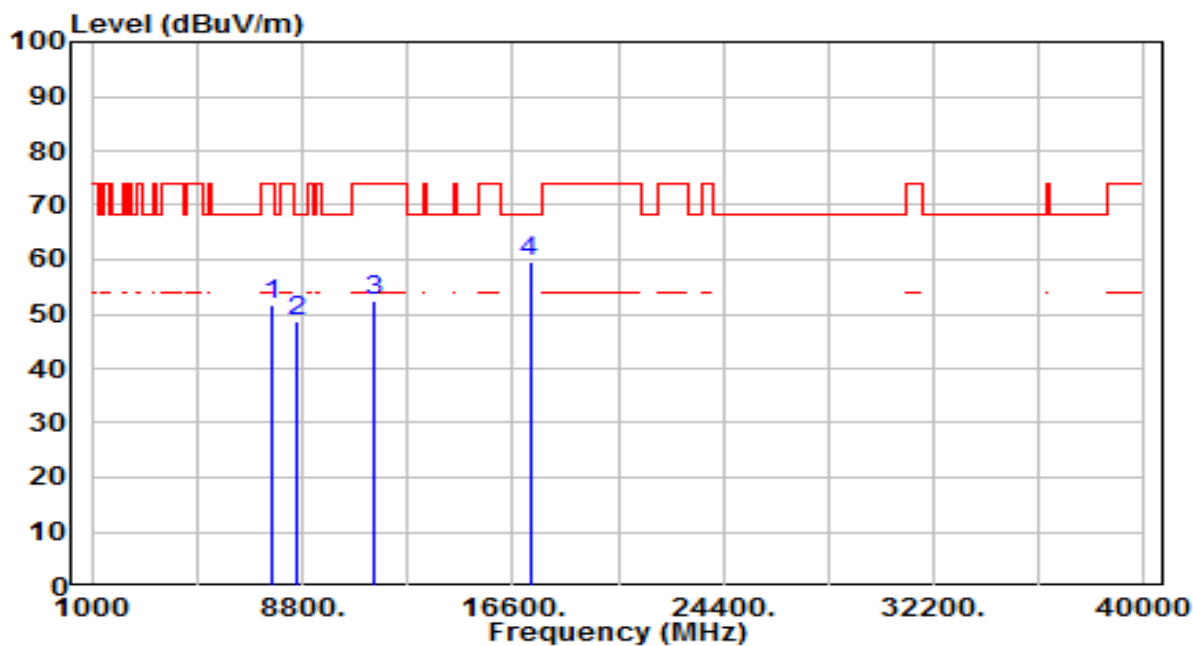


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6987.188	42.08	10.77	52.85	-15.35	68.20	150	360	Peak
2	* 7866.406	46.42	13.25	59.67	-8.53	68.20	150	360	Peak
3	10480.000	34.96	18.42	53.37	-14.83	68.20	150	360	Peak
4	15720.000	32.74	20.75	53.49	-20.51	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 149_ANT 0+1	Test Voltage	AC 120V/ 60Hz

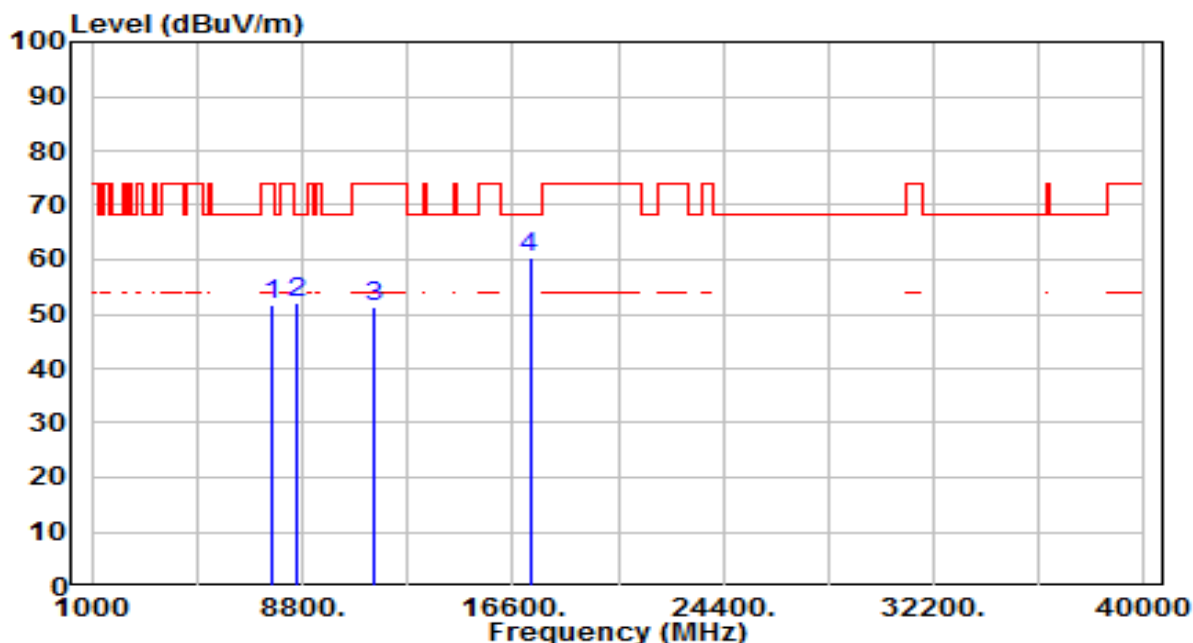


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	7660.281	38.80	13.05	51.85	-22.15	74.00	150	360	Peak
2	8620.781	34.91	13.91	48.82	-19.38	68.20	150	360	Peak
3	11490.000	32.32	20.03	52.35	-21.65	74.00	150	360	Peak
4	* 17235.000	33.66	25.99	59.65	-8.55	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 149_ANT 0+1	Test Voltage	AC 120V/ 60Hz

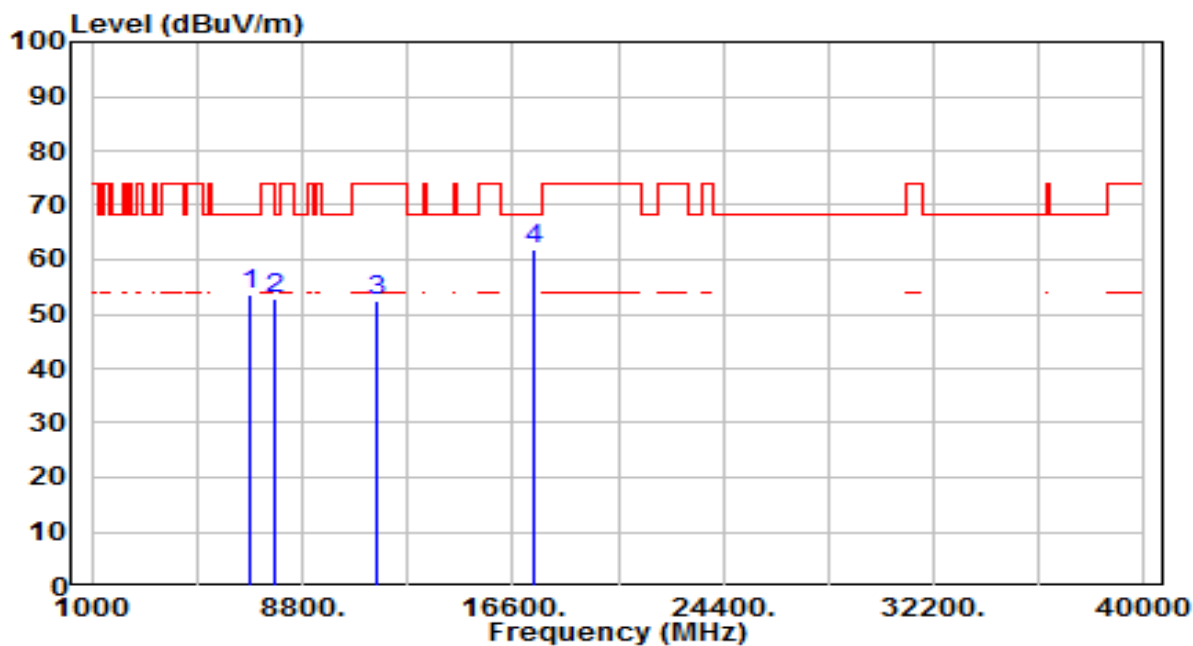


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	7660.281	38.70	13.05	51.75	-22.25	74.00	150	360	Peak
2	8617.063	38.18	13.90	52.08	-16.12	68.20	150	360	Peak
3	11490.000	31.24	20.03	51.27	-22.73	74.00	150	360	Peak
4	* 17235.000	34.46	25.99	60.45	-7.75	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 157_ANT 0+1	Test Voltage	AC 120V/ 60Hz

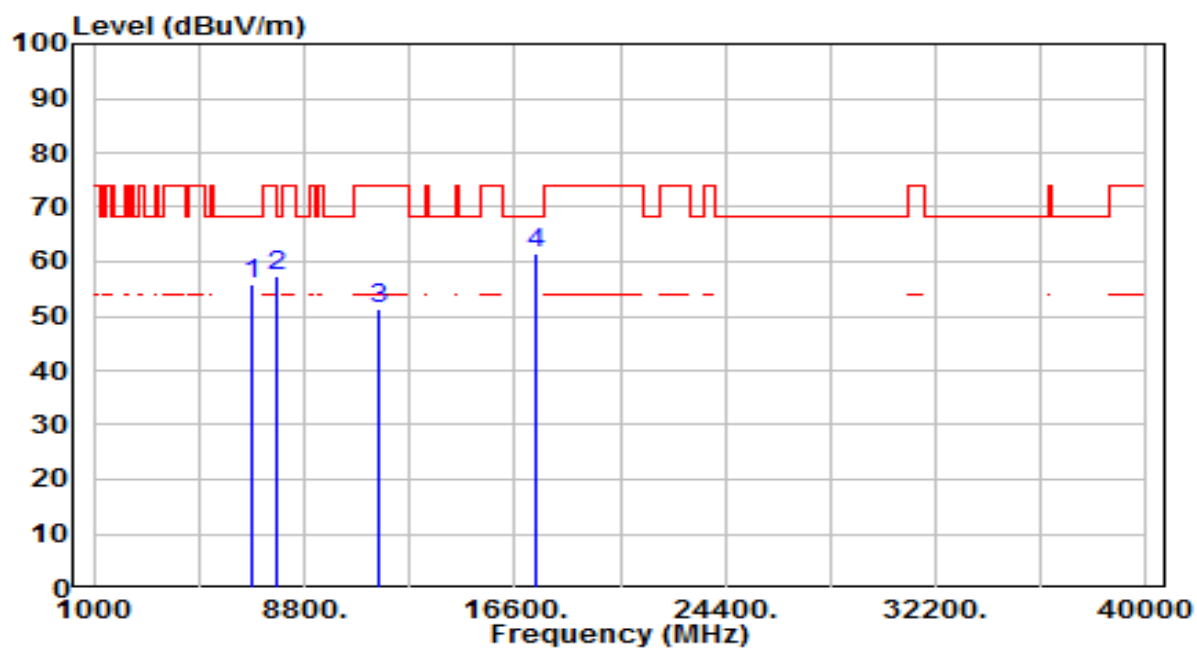


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6906.969	43.27	10.39	53.66	-14.54	68.20	150	360	Peak
2	7777.156	39.54	13.16	52.70	-15.50	68.20	150	360	Peak
3	11570.000	32.41	19.90	52.31	-21.69	74.00	150	360	Peak
4	* 17355.000	35.02	26.91	61.93	-6.27	68.20	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 157_ANT 0+1	Test Voltage	AC 120V/ 60Hz

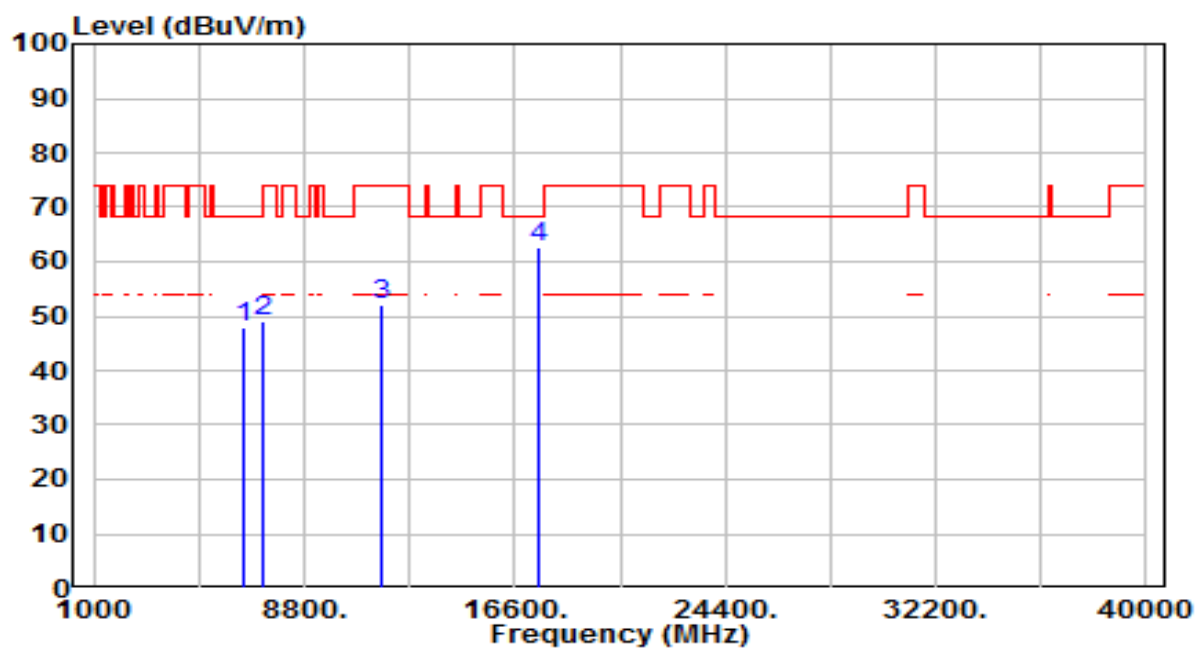


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6906.438	45.57	10.39	55.96	-12.24	68.20	150	360	Peak
2	7771.844	44.28	13.16	57.44	-10.76	68.20	150	360	Peak
3	11570.000	31.59	19.90	51.49	-22.51	74.00	150	360	Peak
4	* 17355.000	34.64	26.91	61.54	-6.66	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 165_ANT 0+1	Test Voltage	AC 120V/ 60Hz

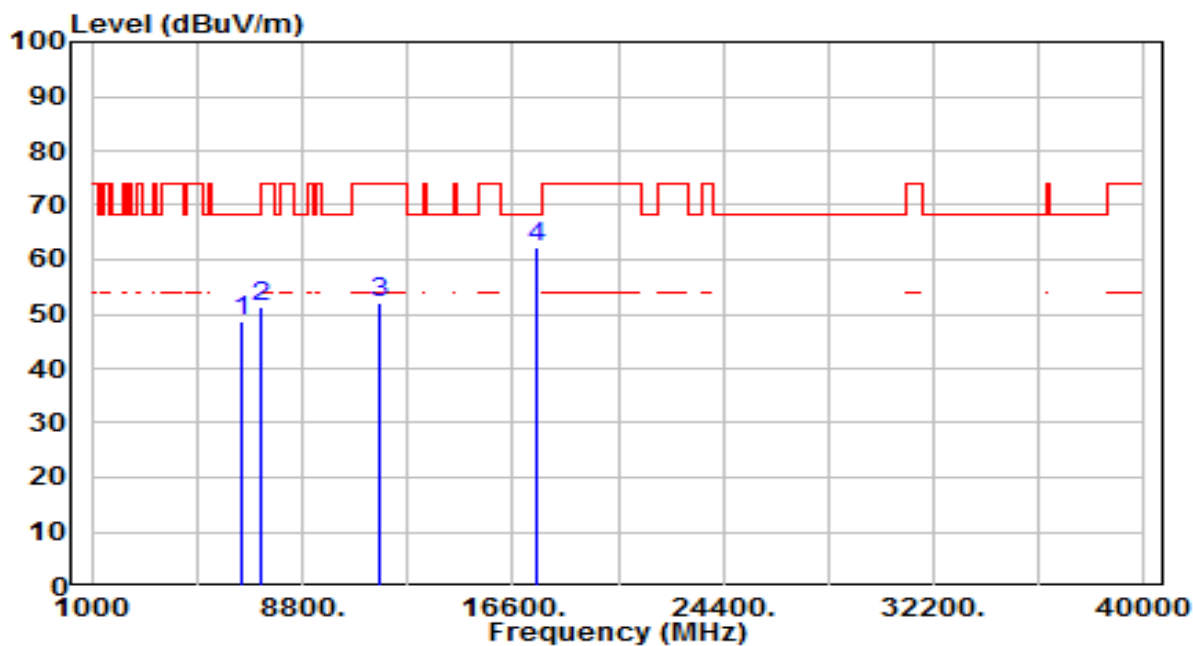


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6551.563	39.16	8.71	47.87	-20.33	68.20	150	360	Peak
2	7276.719	37.03	11.97	49.00	-25.00	74.00	150	360	Peak
3	11650.000	32.51	19.73	52.24	-21.76	74.00	150	360	Peak
4	* 17475.000	34.80	27.82	62.62	-5.58	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 165_ANT 0+1	Test Voltage	AC 120V/ 60Hz

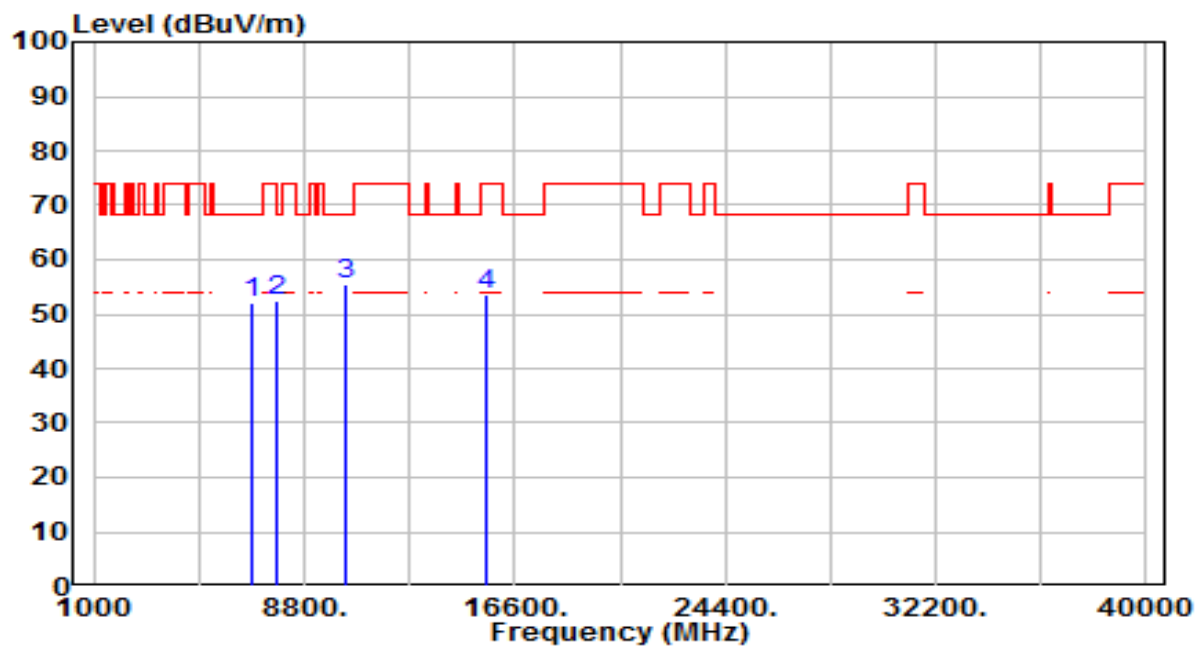


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6547.844	40.14	8.69	48.83	-19.37	68.20	150	360	Peak
2	7276.719	39.42	11.97	51.39	-22.61	74.00	150	360	Peak
3	11650.000	32.35	19.73	52.07	-21.93	74.00	150	360	Peak
4	* 17475.000	34.52	27.82	62.34	-5.86	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

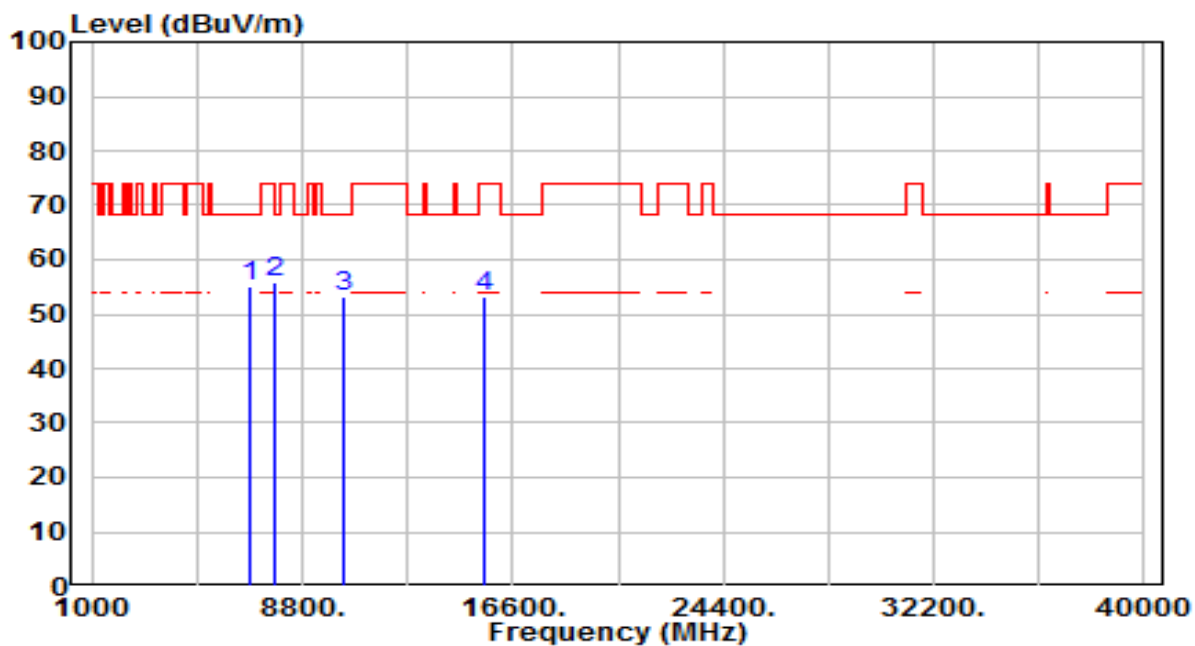


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6906.969	41.74	10.39	52.13	-16.07	68.20	150	360	Peak
2	7775.563	39.36	13.16	52.53	-15.67	68.20	150	360	Peak
3	* 10360.000	37.48	17.92	55.40	-12.80	68.20	150	360	Peak
4	15540.000	32.51	21.24	53.75	-20.25	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

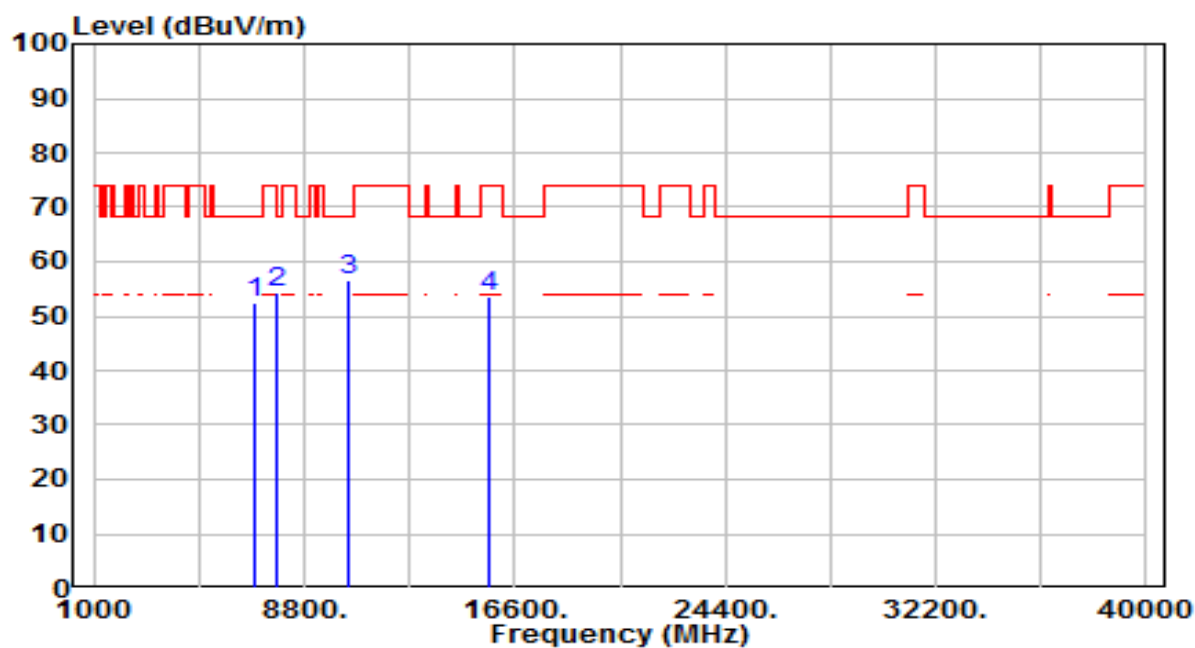


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6906.438	44.77	10.39	55.16	-13.04	68.20	150	360	Peak
2	* 7765.469	42.51	13.15	55.66	-12.54	68.20	150	360	Peak
3	10360.000	35.44	17.92	53.36	-14.84	68.20	150	360	Peak
4	15540.000	32.09	21.24	53.33	-20.67	74.00	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz

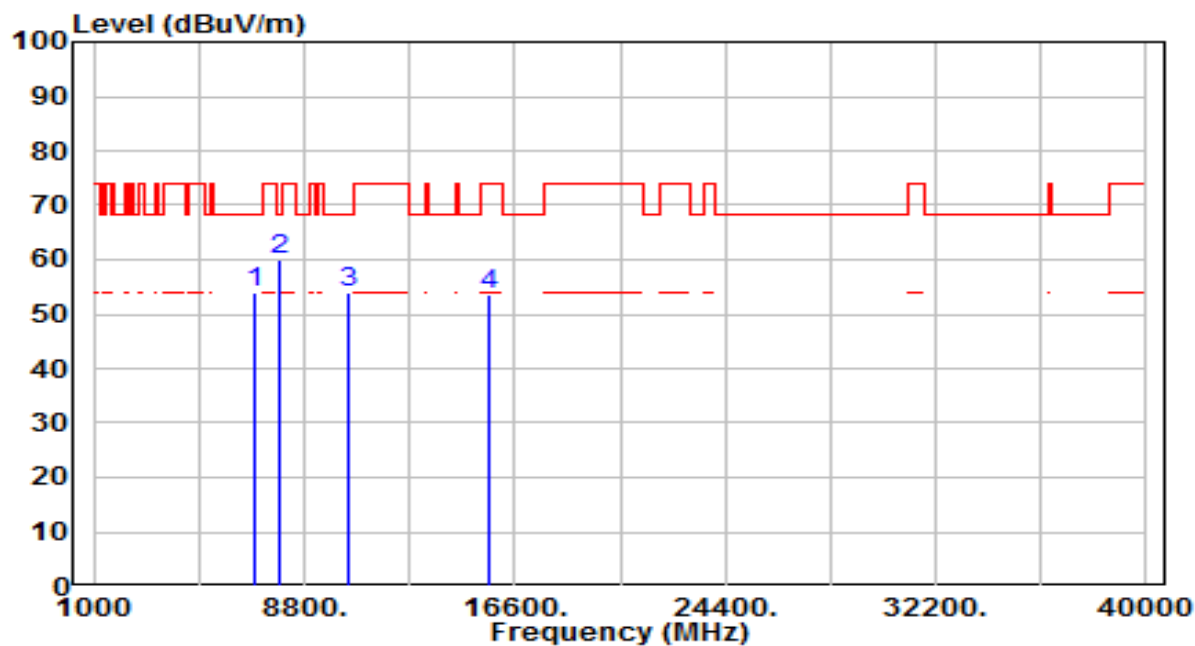


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6960.094	41.67	10.64	52.31	-15.89	68.20	150	360	Peak
2	7830.813	41.03	13.22	54.24	-13.96	68.20	150	360	Peak
3	* 10440.000	38.50	18.25	56.75	-11.45	68.20	150	360	Peak
4	15660.000	32.82	20.91	53.73	-20.27	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz

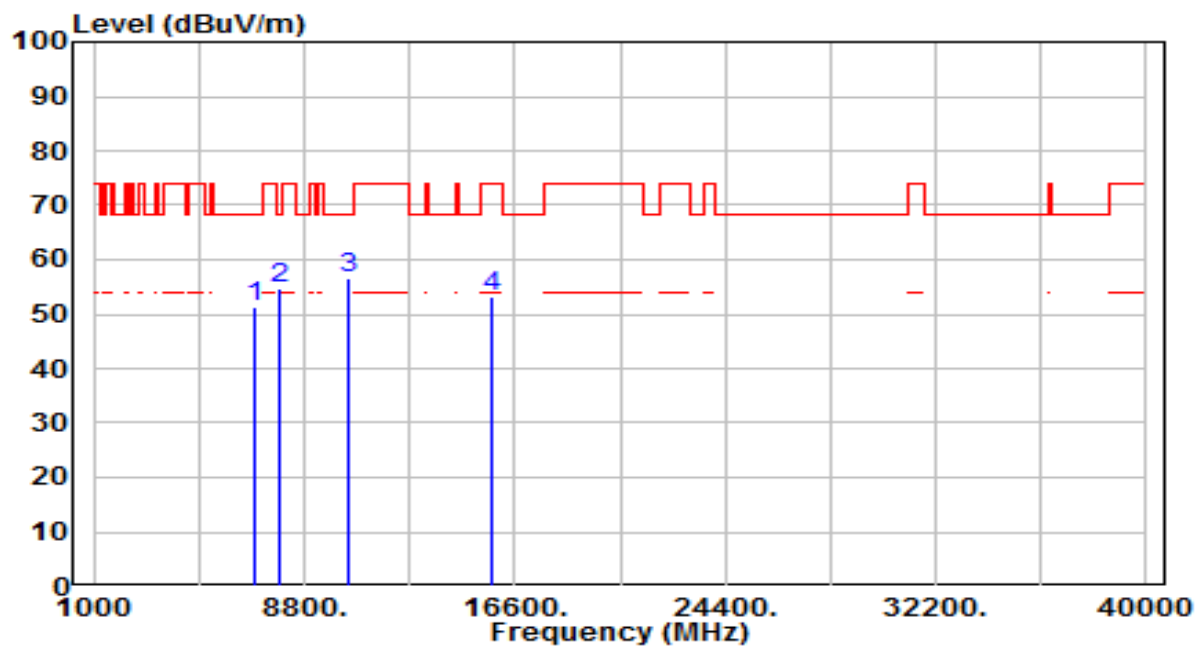


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6960.094	43.44	10.64	54.09	-14.11	68.20	150	360	Peak
2	* 7838.250	46.68	13.22	59.91	-8.29	68.20	150	360	Peak
3	10440.000	35.77	18.25	54.02	-14.18	68.20	150	360	Peak
4	15660.000	32.75	20.91	53.66	-20.34	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 48_ANT 0+1	Test Voltage	AC 120V/ 60Hz

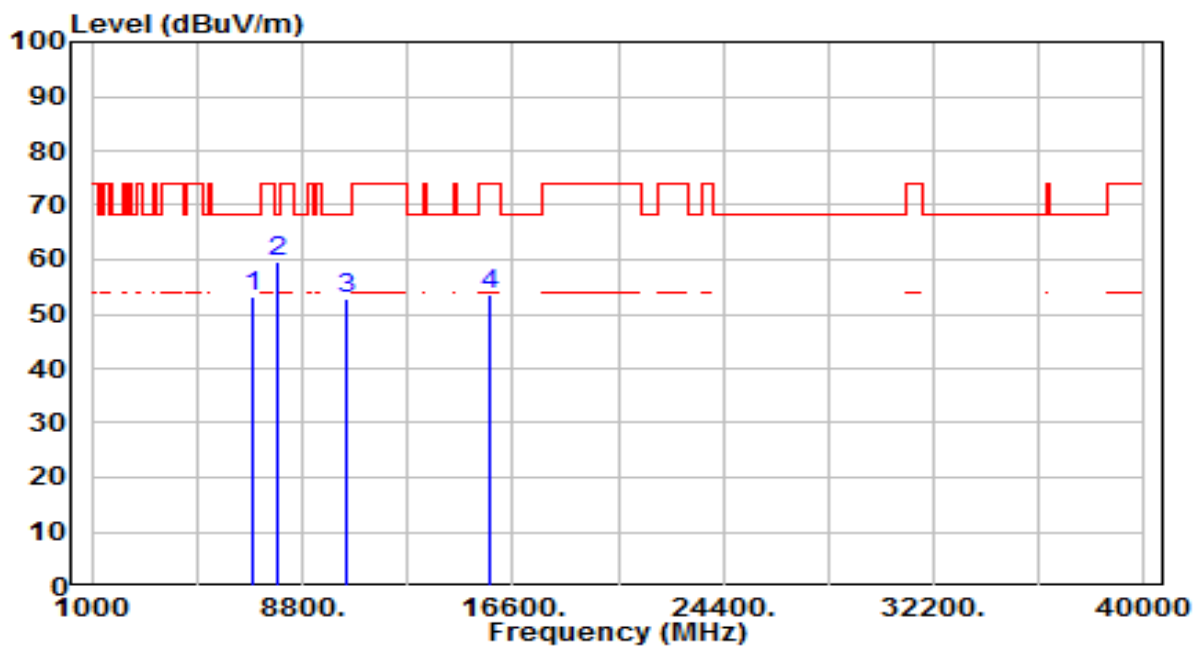


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6986.656	40.58	10.77	51.34	-16.86	68.20	150	360	Peak
2	7859.500	41.31	13.24	54.56	-13.64	68.20	150	360	Peak
3	* 10480.000	38.14	18.42	56.56	-11.64	68.20	150	360	Peak
4	15720.000	32.49	20.75	53.24	-20.76	74.00	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 48_ANT 0+1	Test Voltage	AC 120V/ 60Hz

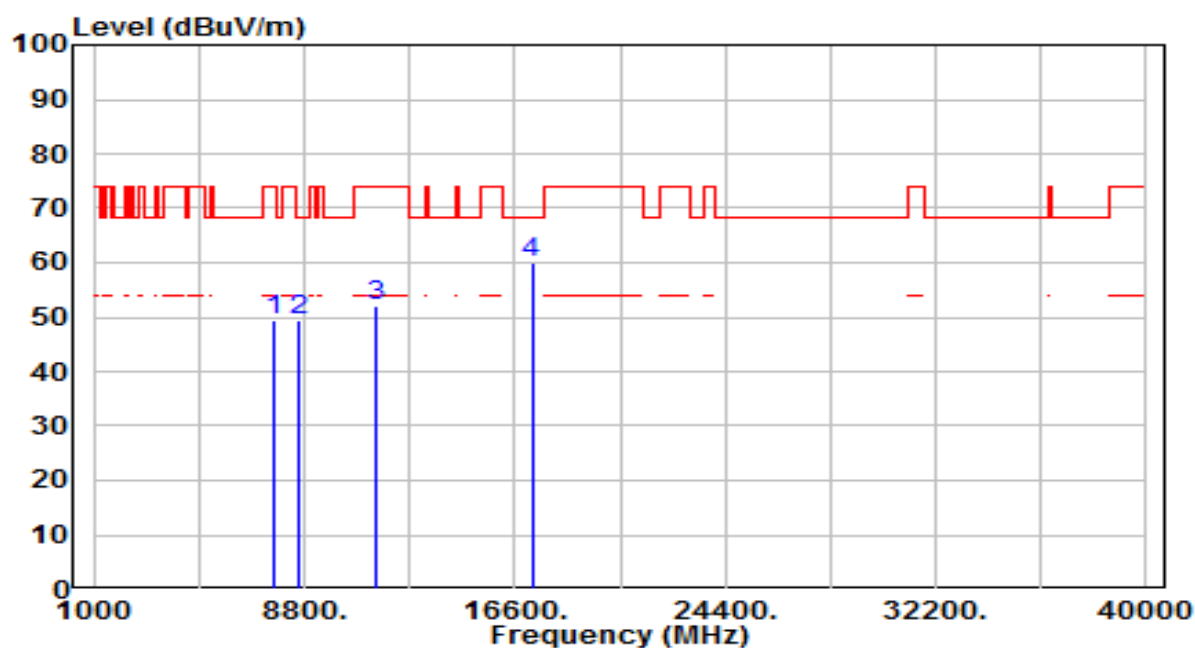


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6987.188	42.53	10.77	53.30	-14.90	68.20	150	360	Peak
2	* 7863.219	46.41	13.25	59.66	-8.54	68.20	150	360	Peak
3	10480.000	34.37	18.42	52.79	-15.41	68.20	150	360	Peak
4	15720.000	32.72	20.75	53.47	-20.53	74.00	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 149_ANT 0+1	Test Voltage	AC 120V/ 60Hz

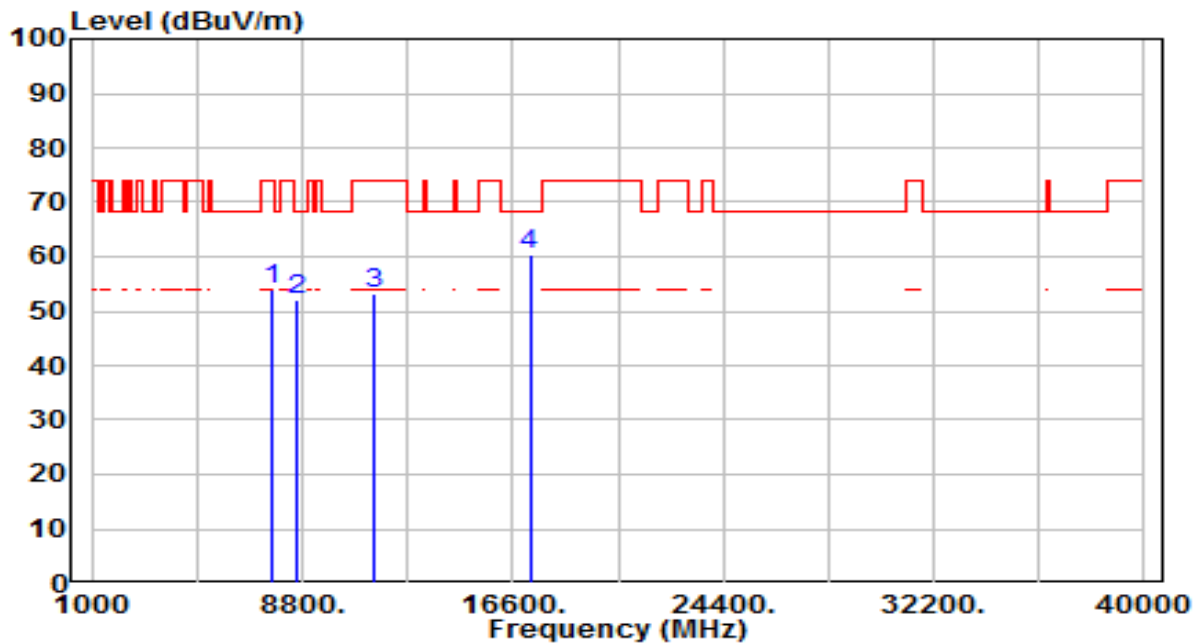


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	7659.219	36.43	13.05	49.48	-24.52	74.00	150	360	Peak
2	8620.781	35.69	13.91	49.60	-18.60	68.20	150	360	Peak
3	11490.000	32.09	20.03	52.12	-21.88	74.00	150	360	Peak
4	* 17235.000	33.83	25.99	59.82	-8.38	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 149_ANT 0+1	Test Voltage	AC 120V/ 60Hz

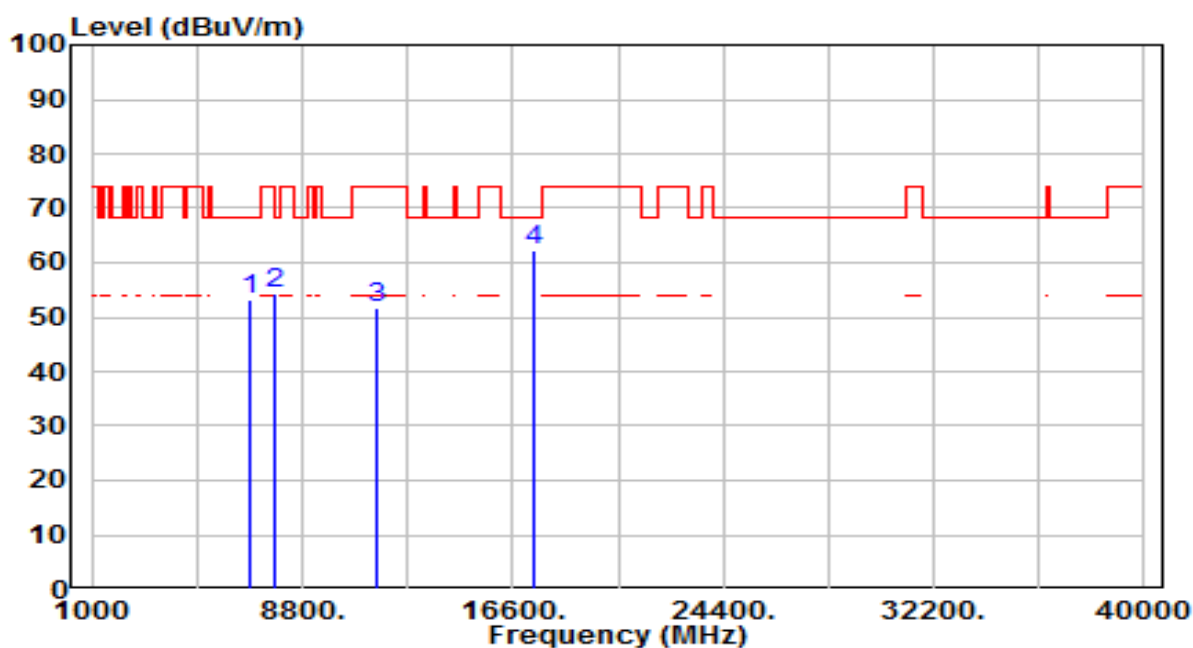


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	7660.281	40.82	13.05	53.87	-20.13	74.00	150	360	Peak
2	8620.250	38.23	13.91	52.15	-16.05	68.20	150	360	Peak
3	11490.000	33.11	20.03	53.14	-20.86	74.00	150	360	Peak
4	* 17235.000	34.51	25.99	60.50	-7.70	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 157_ANT 0+1	Test Voltage	AC 120V/ 60Hz

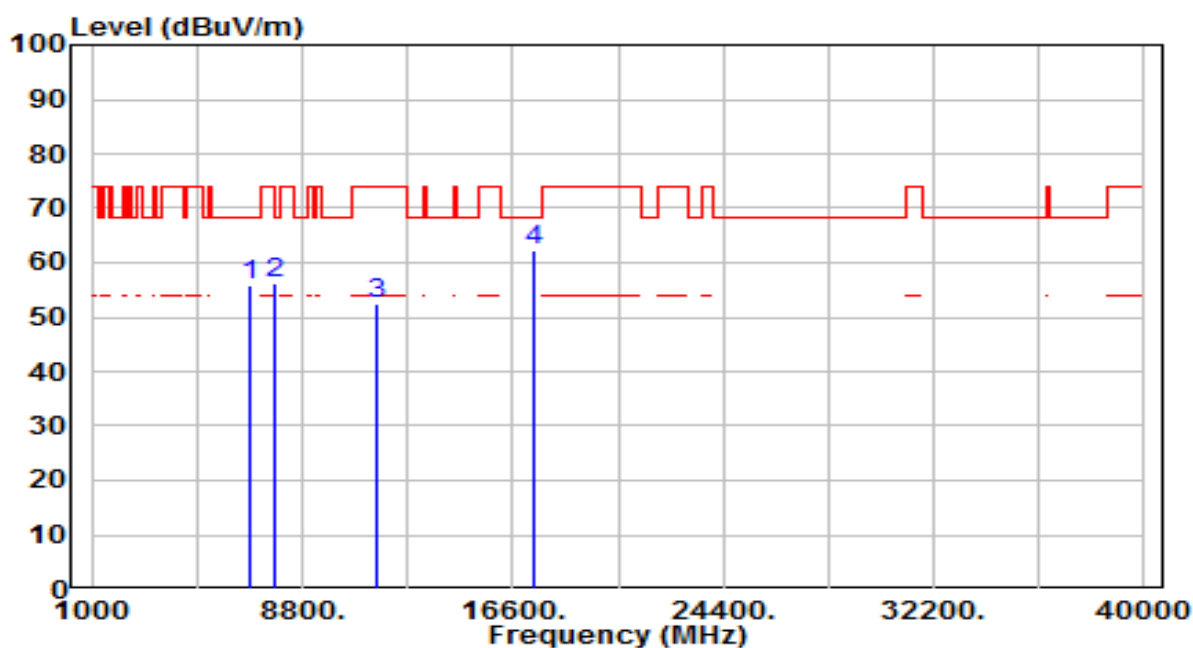


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6906.438	42.68	10.39	53.07	-15.13	68.20	150	360	Peak
2	7764.406	41.13	13.15	54.29	-13.91	68.20	150	360	Peak
3	11570.000	31.88	19.90	51.78	-22.22	74.00	150	360	Peak
4	* 17355.000	35.26	26.91	62.16	-6.04	68.20	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 157_ANT 0+1	Test Voltage	AC 120V/ 60Hz

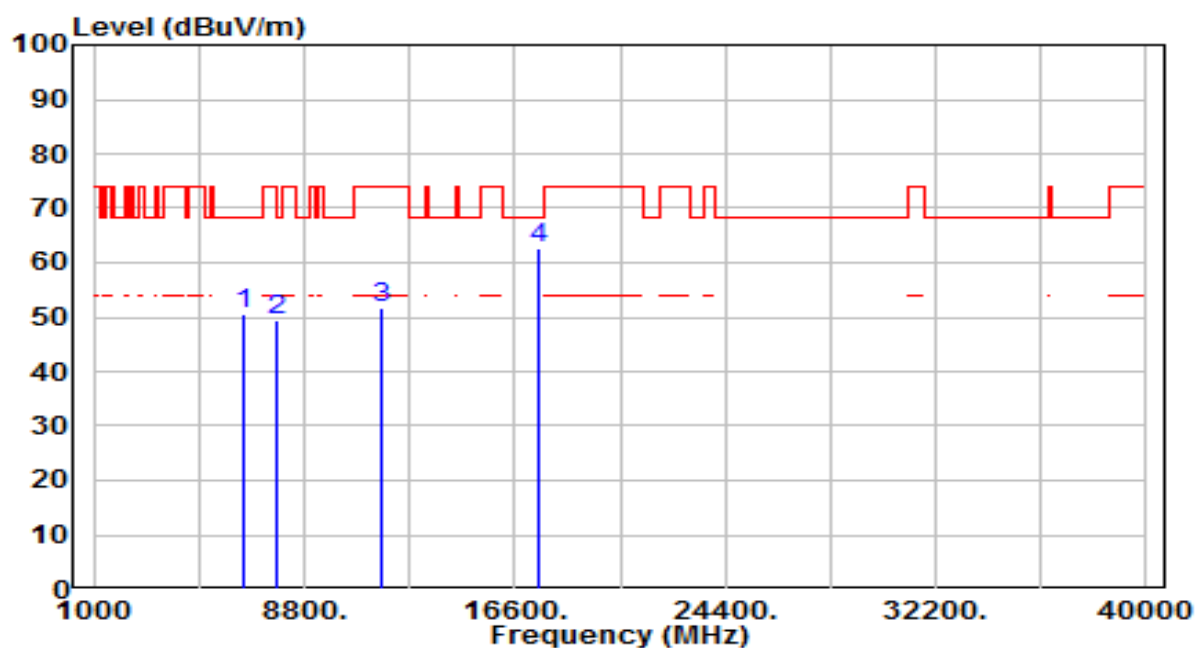


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6907.500	45.56	10.39	55.96	-12.24	68.20	150	360	Peak
2	7771.844	43.08	13.16	56.24	-11.96	68.20	150	360	Peak
3	11570.000	32.46	19.90	52.36	-21.64	74.00	150	360	Peak
4	* 17355.000	35.23	26.91	62.14	-6.06	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 165_ANT 0+1	Test Voltage	AC 120V/ 60Hz

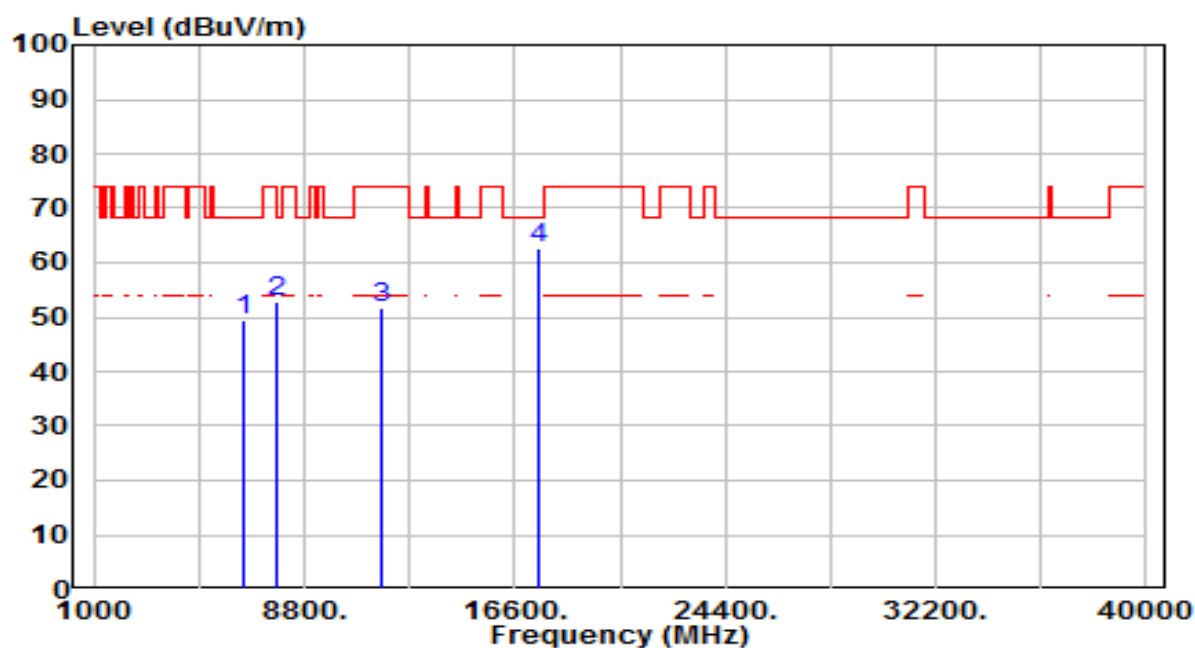


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6545.188	41.86	8.68	50.54	-17.66	68.20	150	360	Peak
2	7766.531	36.23	13.15	49.38	-18.82	68.20	150	360	Peak
3	11650.000	31.91	19.73	51.64	-22.36	74.00	150	360	Peak
4	* 17475.000	34.82	27.82	62.64	-5.56	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 165_ANT 0+1	Test Voltage	AC 120V/ 60Hz

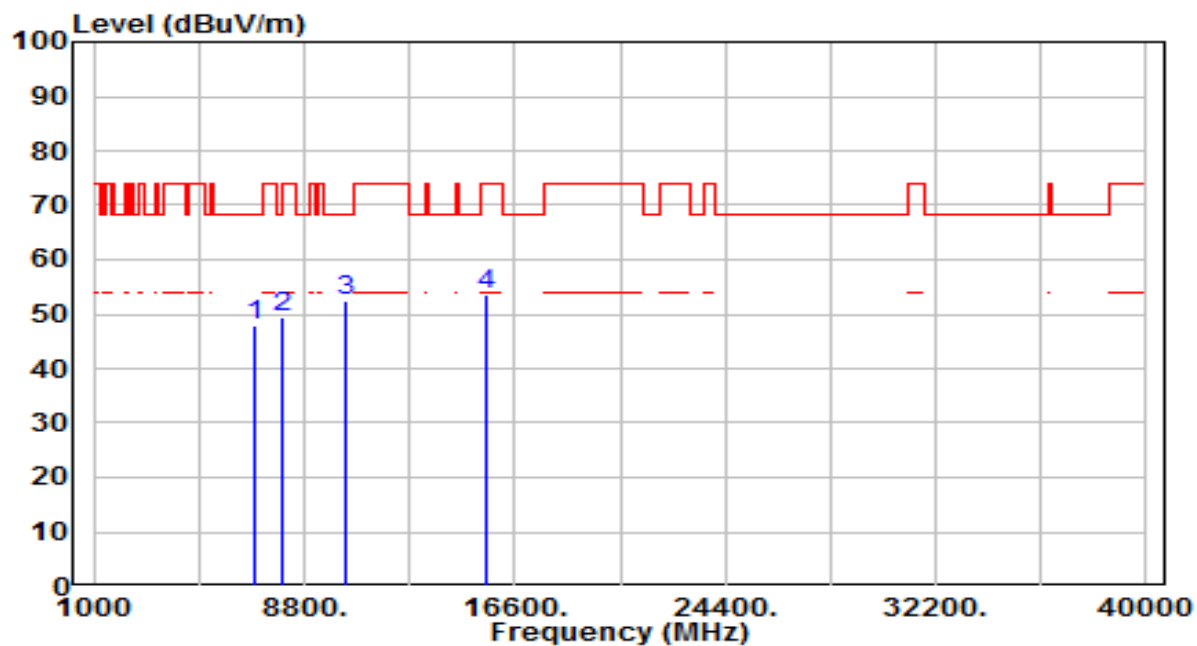


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6551.031	40.66	8.71	49.37	-18.83	68.20	150	360	Peak
2	7767.063	39.56	13.15	52.72	-15.48	68.20	150	360	Peak
3	11650.000	32.02	19.73	51.74	-22.26	74.00	150	360	Peak
4	* 17475.000	34.97	27.82	62.79	-5.41	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band1_CH 38_ANT 0+1	Test Voltage	AC 120V/ 60Hz

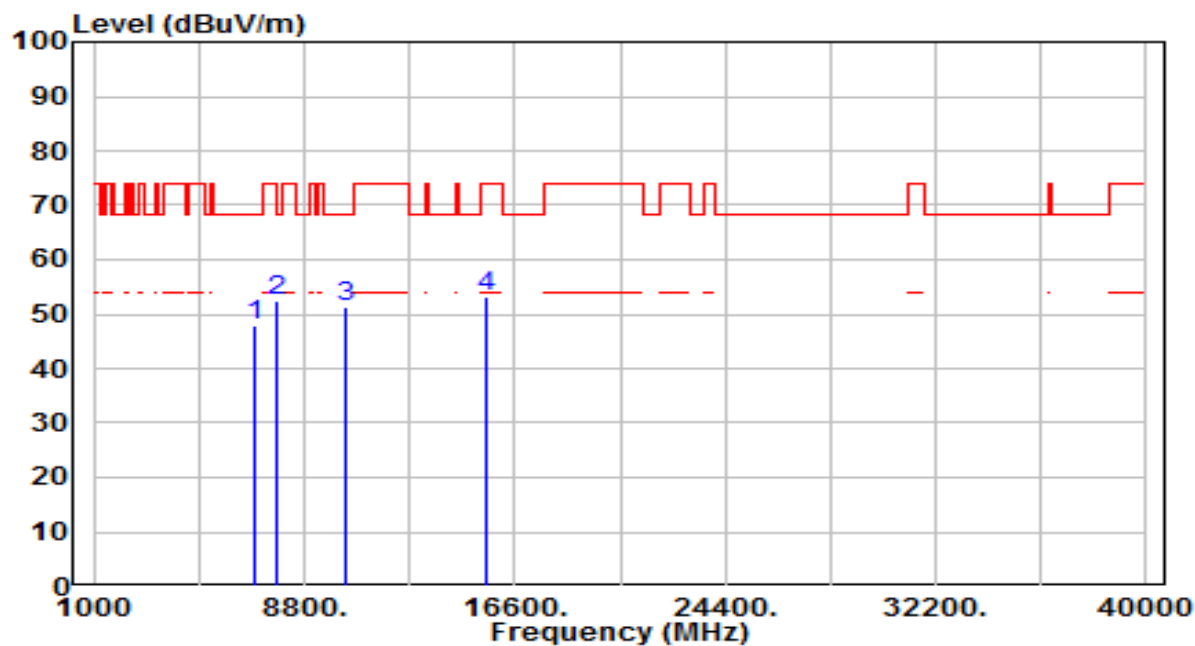


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6920.250	37.38	10.45	47.84	-20.36	68.20	150	360	Peak
2	8000.281	36.12	13.38	49.50	-18.70	68.20	150	360	Peak
3	* 10380.000	34.42	18.00	52.42	-15.78	68.20	150	360	Peak
4	15570.000	32.30	21.16	53.46	-20.54	74.00	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band1_CH 38_ANT 0+1	Test Voltage	AC 120V/ 60Hz

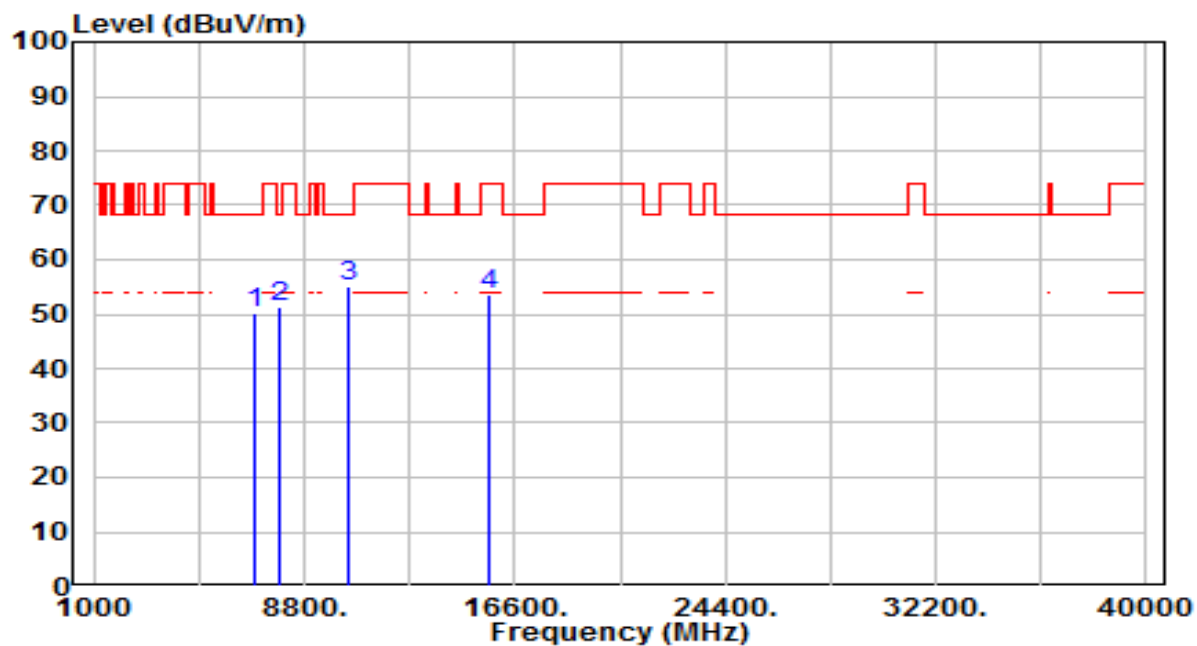


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6919.719	37.49	10.45	47.94	-20.26	68.20	150	360	Peak
2	* 7788.313	39.22	13.17	52.39	-15.81	68.20	150	360	Peak
3	10380.000	33.41	18.00	51.41	-16.79	68.20	150	360	Peak
4	15570.000	32.13	21.16	53.29	-20.71	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band1_CH 46_ANT 0+1	Test Voltage	AC 120V/ 60Hz

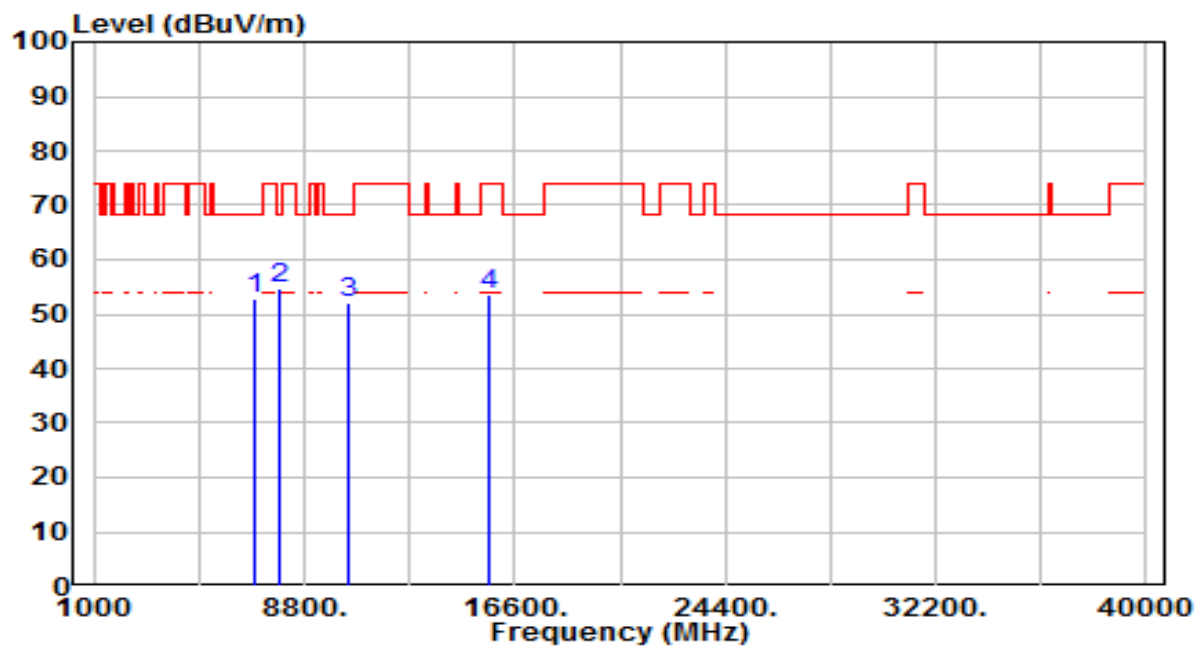


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6973.375	39.58	10.70	50.28	-17.92	68.20	150	360	Peak
2	7854.719	37.96	13.24	51.20	-17.00	68.20	150	360	Peak
3	* 10460.000	36.86	18.33	55.20	-13.00	68.20	150	360	Peak
4	15690.000	32.86	20.83	53.69	-20.31	74.00	150	360	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band1_CH 46_ANT 0+1	Test Voltage	AC 120V/ 60Hz

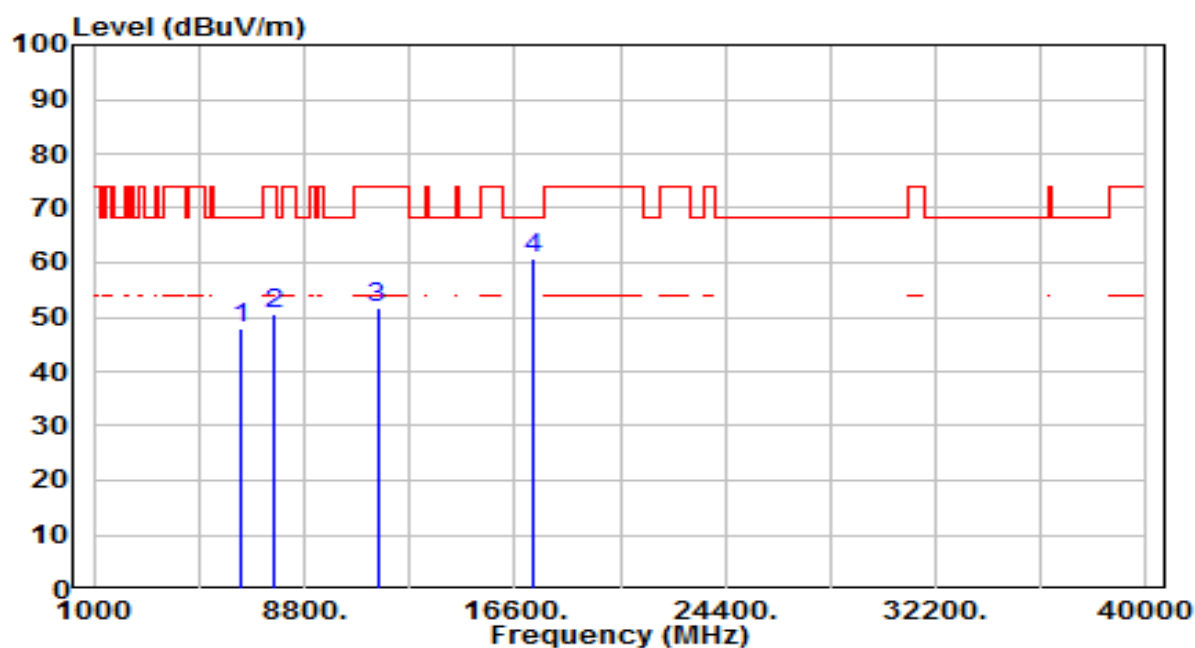


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6972.844	41.98	10.70	52.68	-15.52	68.20	150	360	Peak
2	* 7858.969	41.37	13.24	54.61	-13.59	68.20	150	360	Peak
3	10460.000	33.69	18.33	52.02	-16.18	68.20	150	360	Peak
4	15690.000	32.70	20.83	53.53	-20.47	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band4_CH 151_ANT 0+1	Test Voltage	AC 120V/ 60Hz

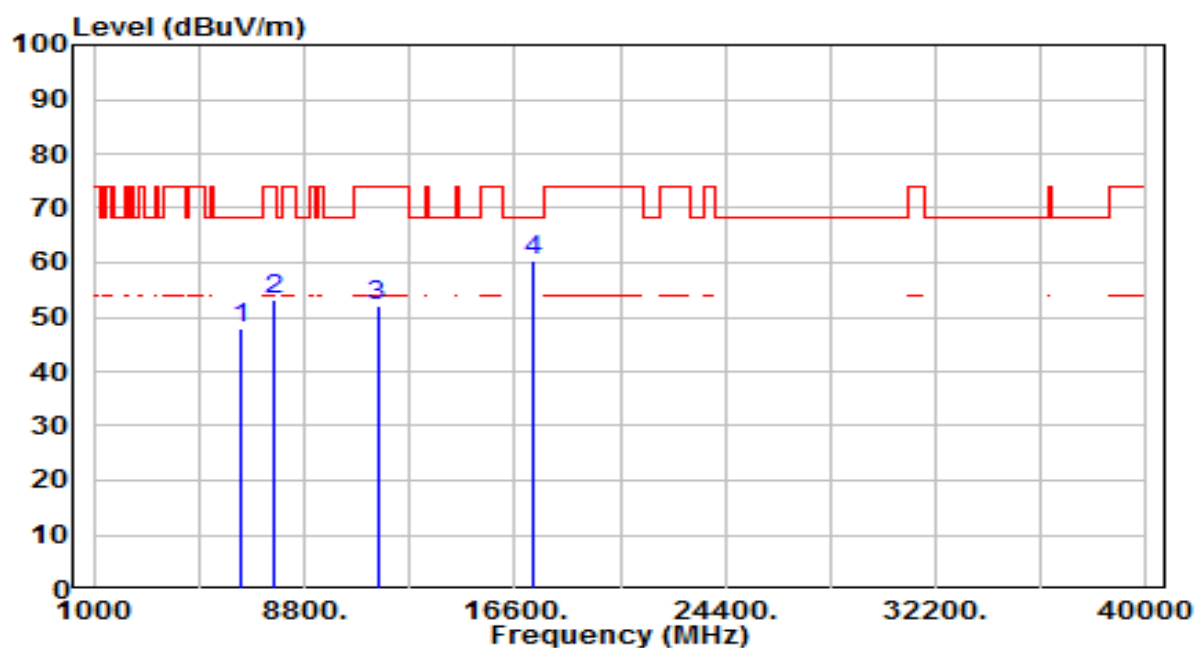


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6460.719	39.49	8.30	47.80	-20.40	68.20	150	360	Peak
2	7673.031	37.61	13.06	50.67	-23.33	74.00	150	360	Peak
3	11510.000	31.82	20.03	51.85	-22.15	74.00	150	360	Peak
4	* 17265.000	34.49	26.22	60.71	-7.49	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band4_CH 151_ANT 0+1	Test Voltage	AC 120V/ 60Hz

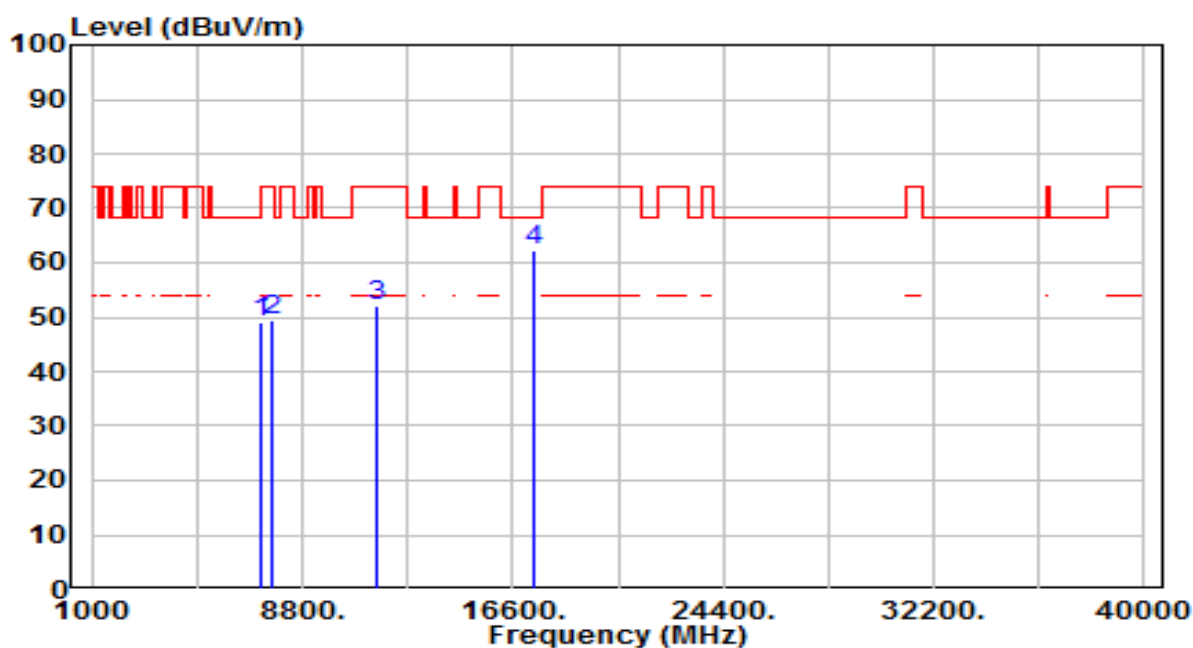


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6466.031	39.50	8.33	47.83	-20.37	68.20	150	360	Peak
2	7673.031	40.31	13.06	53.37	-20.63	74.00	150	360	Peak
3	11510.000	32.02	20.03	52.05	-21.95	74.00	150	360	Peak
4	* 17265.000	34.00	26.22	60.22	-7.98	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band4_CH 159_ANT 0+1	Test Voltage	AC 120V/ 60Hz

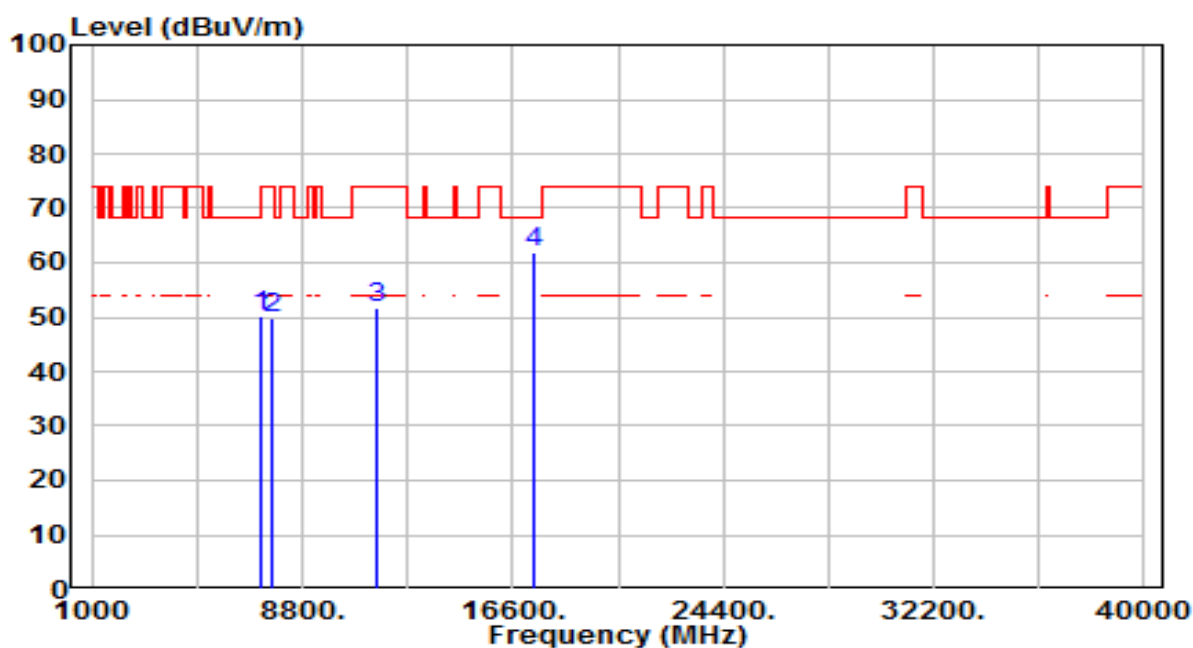


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	7253.344	37.31	11.88	49.18	-24.82	74.00	150	360	Peak
2	7726.156	36.38	13.11	49.49	-24.51	74.00	150	360	Peak
3	11590.000	32.35	19.86	52.20	-21.80	74.00	150	360	Peak
4	* 17385.000	35.30	27.13	62.44	-5.76	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band4_CH 159_ANT 0+1	Test Voltage	AC 120V/ 60Hz

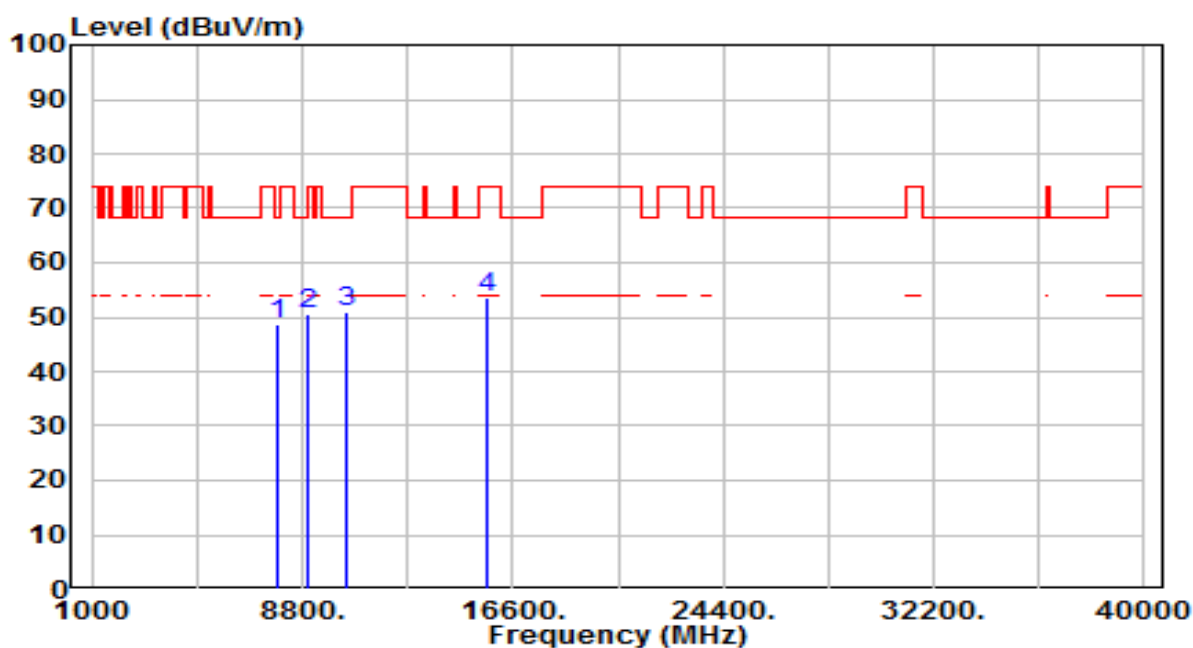


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	7232.094	38.59	11.79	50.38	-17.82	68.20	150	360	Peak
2	7726.688	36.86	13.11	49.97	-24.03	74.00	150	360	Peak
3	11590.000	31.75	19.86	51.60	-22.40	74.00	150	360	Peak
4	* 17385.000	34.94	27.13	62.07	-6.13	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band1_CH 42_ANT 0+1	Test Voltage	AC 120V/ 60Hz

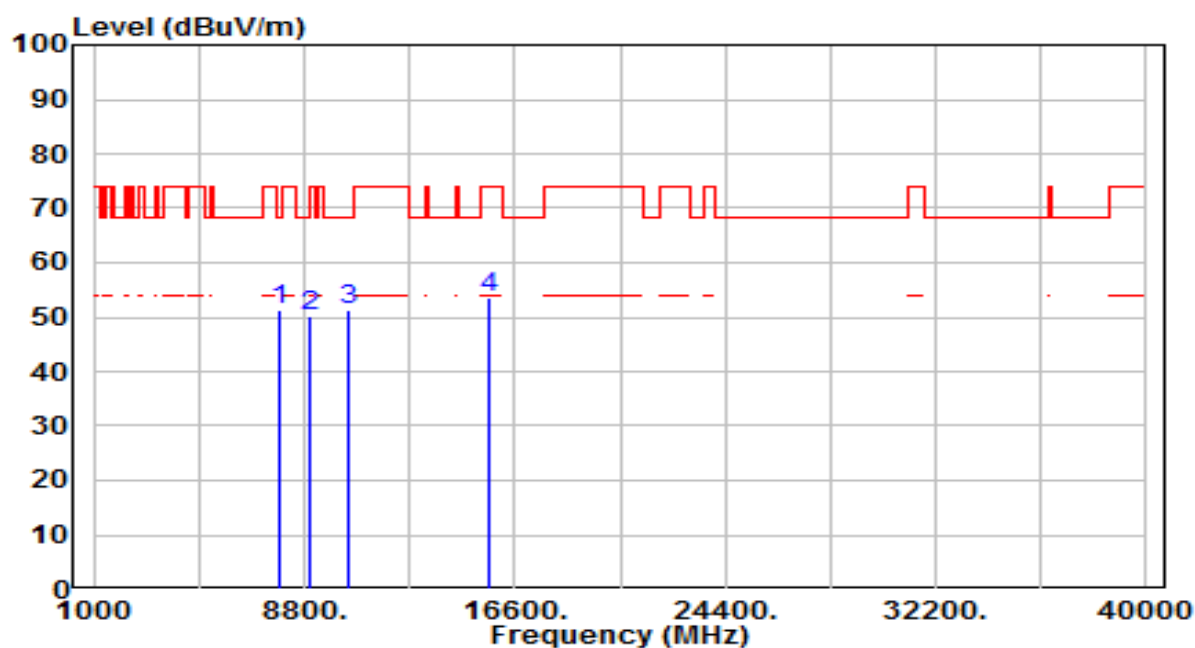


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	7836.125	35.46	13.22	48.69	-19.51	68.20	150	360	Peak
2	9037.281	35.55	14.87	50.42	-23.58	74.00	150	360	Peak
3	* 10420.000	32.91	18.17	51.08	-17.12	68.20	150	360	Peak
4	15630.000	32.47	21.00	53.47	-20.53	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band1_CH 42_ANT 0+1	Test Voltage	AC 120V/ 60Hz

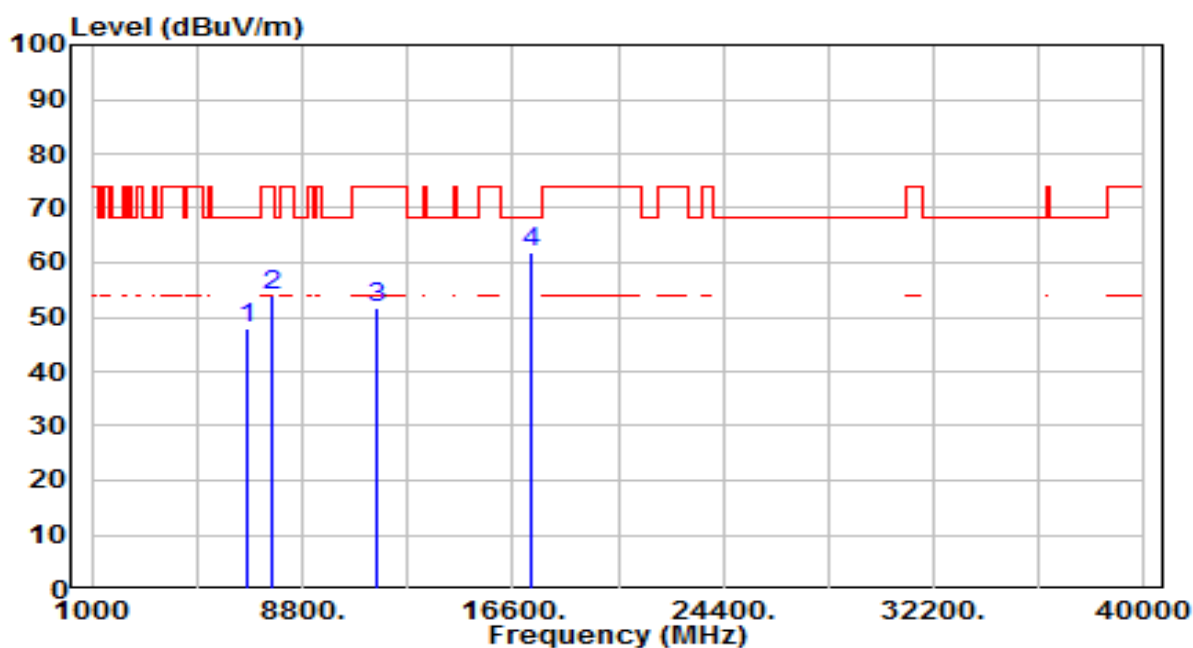


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	7848.344	38.25	13.23	51.48	-16.72	68.20	150	360	Peak
2		9052.156	35.23	14.89	50.12	-23.88	74.00	150	360	Peak
3		10420.000	33.21	18.17	51.38	-16.82	68.20	150	360	Peak
4		15630.000	32.54	21.00	53.54	-20.46	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band4_CH 155_ANT 0+1	Test Voltage	AC 120V/ 60Hz

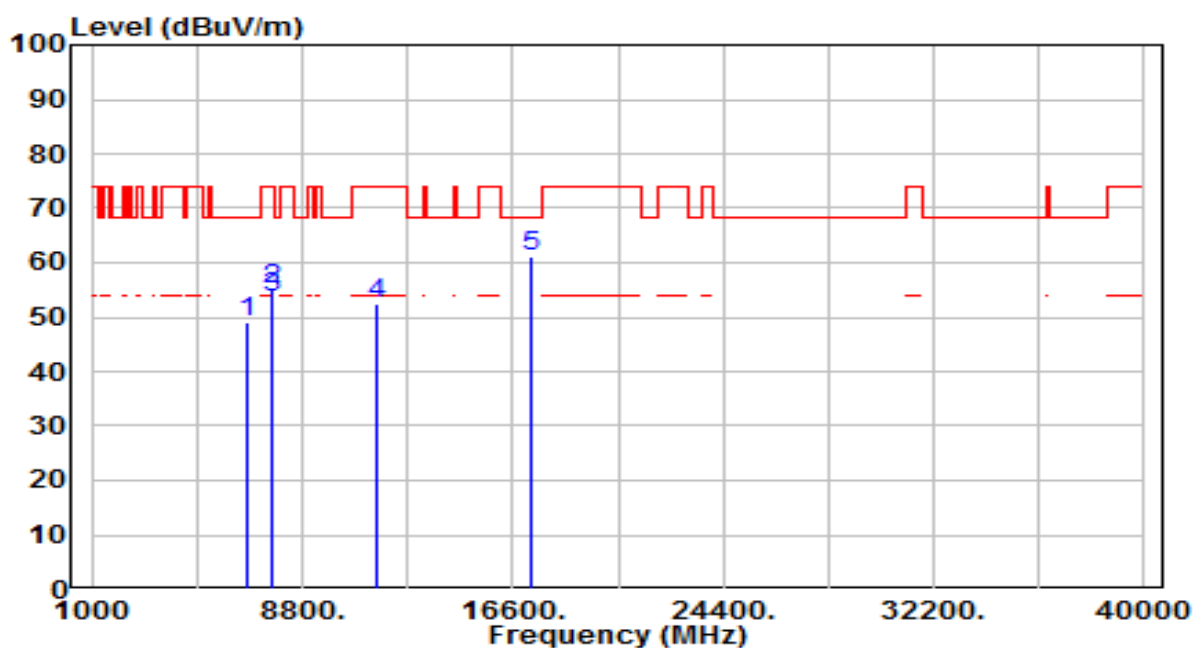


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	6748.656	38.22	9.64	47.86	-20.34	68.20	150	360	Peak
2	7700.125	40.70	13.09	53.79	-20.21	74.00	150	360	Peak
3	11550.000	31.92	19.94	51.86	-22.14	74.00	150	360	Peak
4	* 17325.000	35.16	26.68	61.84	-6.36	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band4_CH 155_ANT 0+1	Test Voltage	AC 120V/ 60Hz

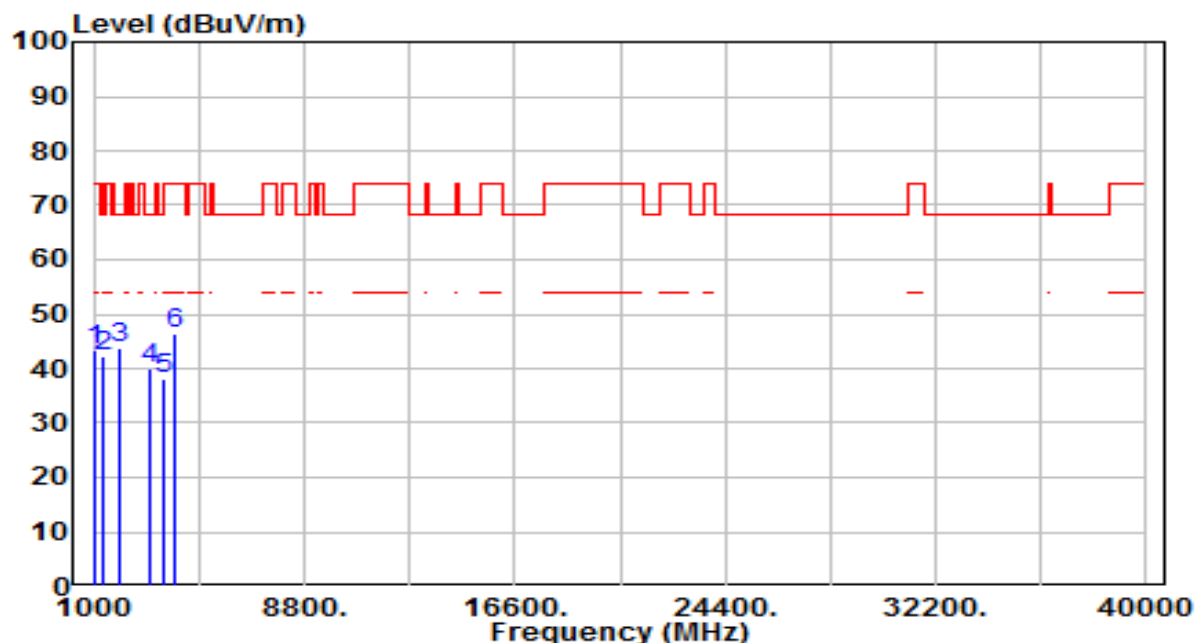


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1		6733.781	39.65	9.57	49.22	-18.98	68.20	150	360	Peak
2	*	7700.125	42.19	13.09	55.28	-18.72	74.00	130	165	Peak
3	*	7700.125	40.33	13.09	53.42	-0.58	54.00	130	165	Average
4		11550.000	32.34	19.94	52.29	-21.71	74.00	150	360	Peak
5		17325.000	34.36	26.68	61.04	-7.16	68.20	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_RX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz

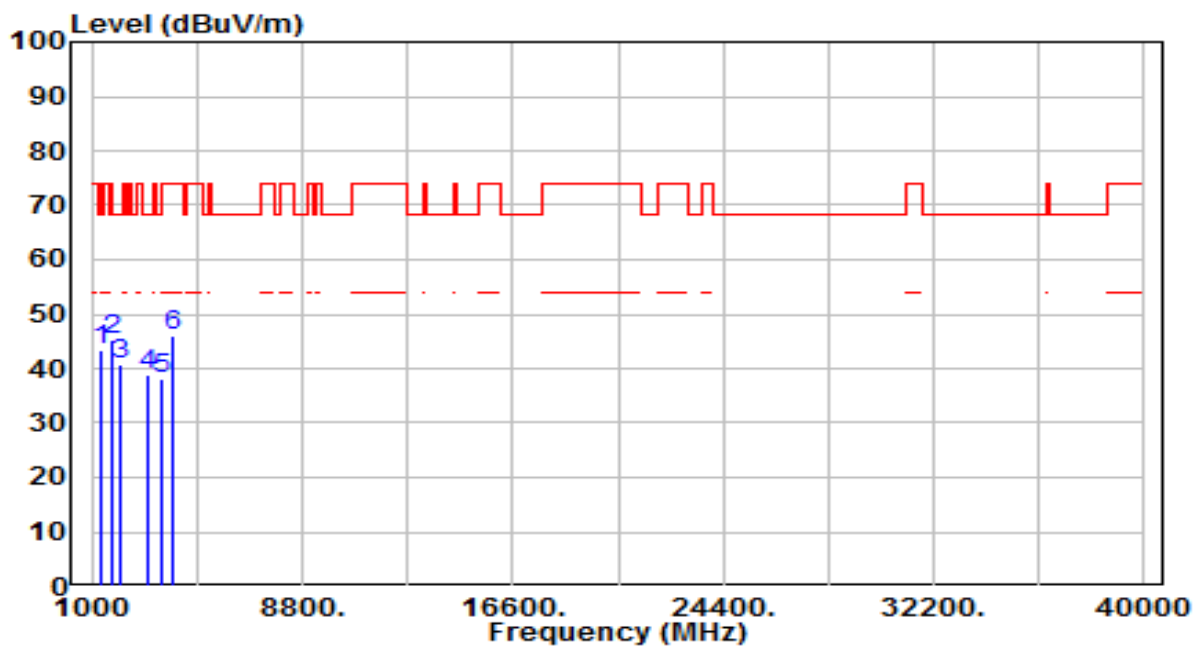


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1000.000	49.58	-6.27	43.31	-30.69	74.00	150	360	Peak
2	1336.281	47.05	-4.88	42.17	-31.83	74.00	150	360	Peak
3	* 2000.344	46.98	-3.27	43.71	-24.49	68.20	150	360	Peak
4	3118.094	41.60	-1.55	40.06	-28.14	68.20	150	360	Peak
5	3557.438	38.29	-0.12	38.17	-30.03	68.20	150	360	Peak
6	3999.969	45.20	1.04	46.24	-27.76	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBBHA 9120D & BBHA 9170	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_RX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/ 60Hz



No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1336.281	48.37	-4.88	43.49	-30.51	74.00	150	360	Peak
2	* 1773.500	48.92	-3.69	45.23	-22.97	68.20	150	360	Peak
3	2079.500	43.64	-3.02	40.62	-27.58	68.20	150	360	Peak
4	3118.625	40.28	-1.54	38.74	-29.46	68.20	150	360	Peak
5	3624.375	38.04	0.06	38.09	-35.91	74.00	150	360	Peak
6	4000.500	44.92	1.04	45.96	-28.04	74.00	150	360	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

7.8. Radiated Restricted Band Edge Measurement

7.8.1. Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.25 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

For 15.407(b) requirement:

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.

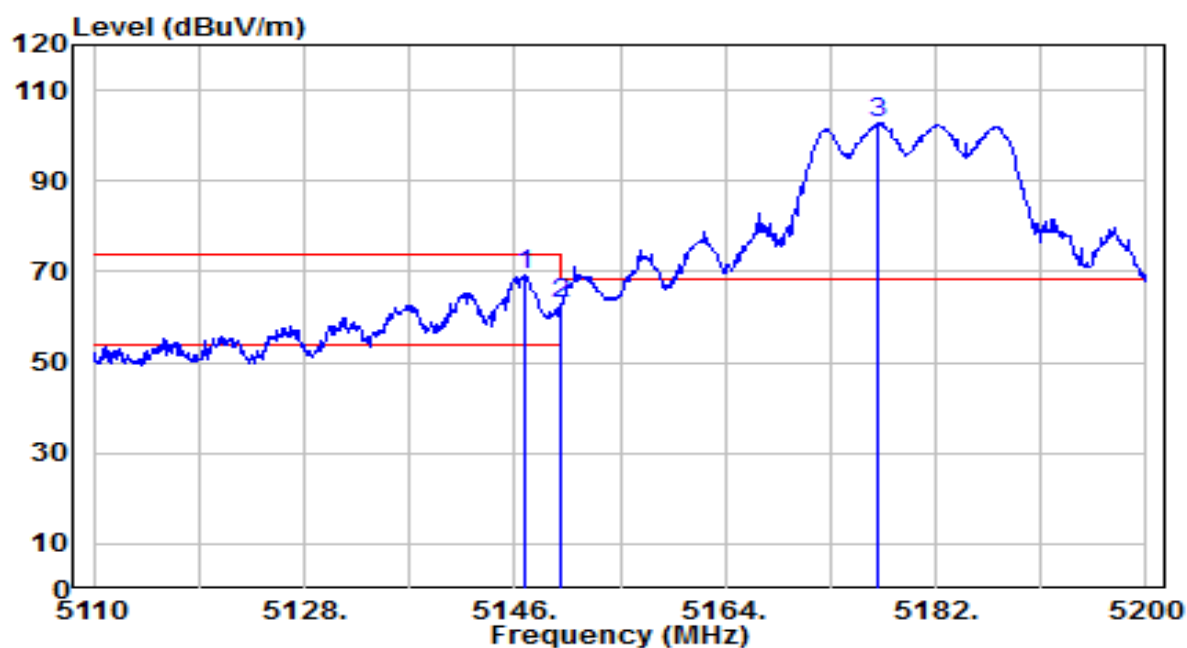
For FCC transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly 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.

FCC-Radiated emission limits; general requirements.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [V/m]	Measured Distance [Meters]
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

7.8.2. Test Result

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

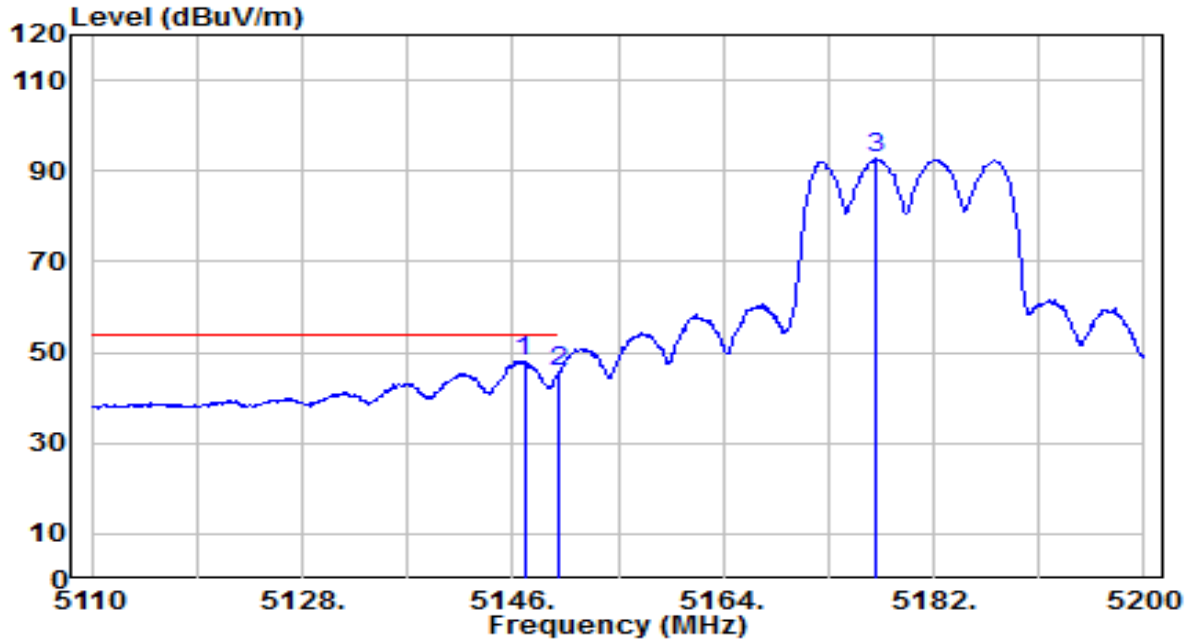


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5146.810	64.90	4.19	69.08	-4.92	74.00	135	205	Peak
2		5150.000	58.60	4.19	62.79	-11.21	74.00	135	205	Peak
3		5177.140	98.52	4.23	102.76	N/A	N/A	135	205	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

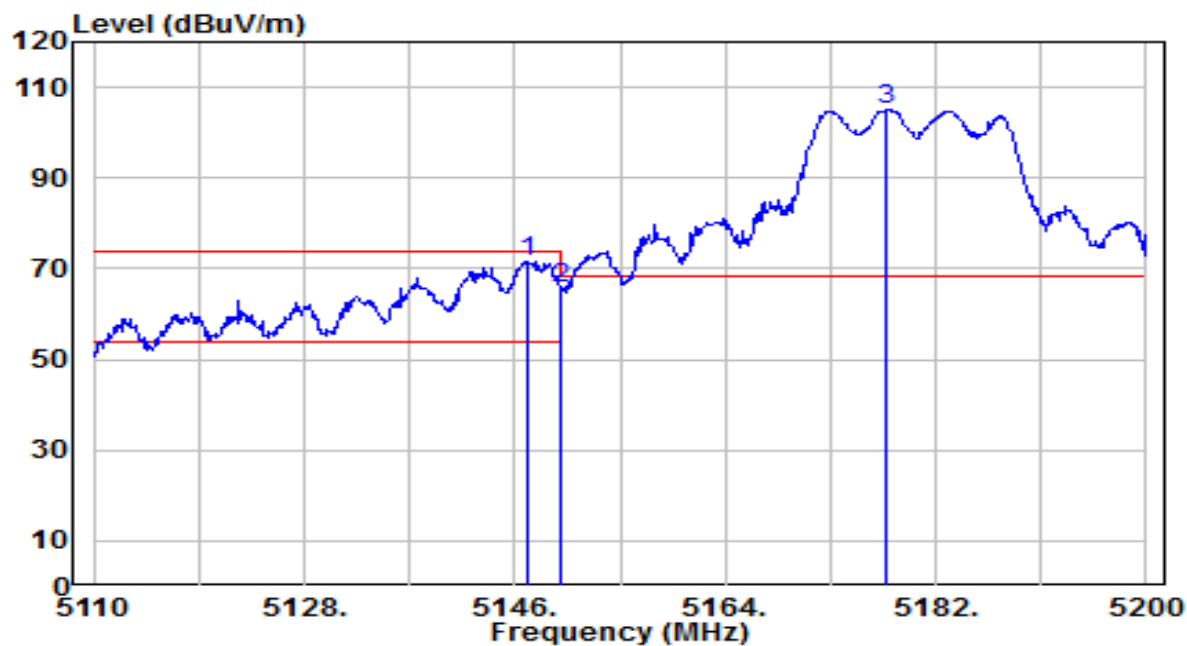


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5146.990	43.86	4.19	48.05	-5.95	54.00	135	205	Average
2		5150.000	41.51	4.19	45.70	-8.30	54.00	135	205	Average
3		5177.140	88.40	4.23	92.63	N/A	N/A	135	205	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

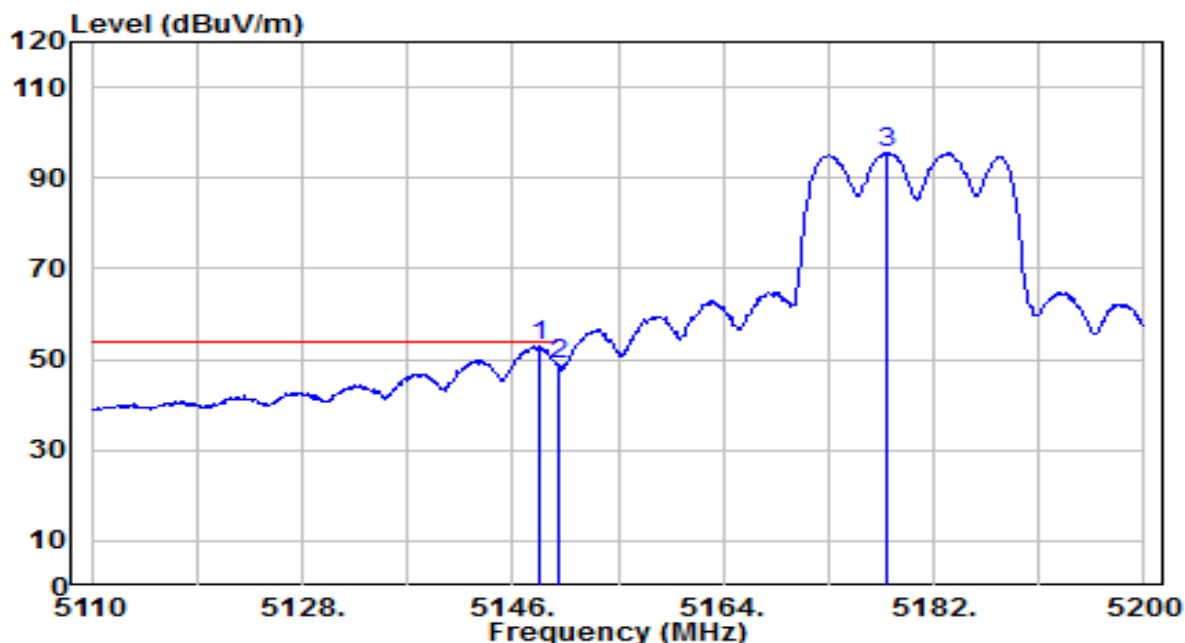


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5147.080	67.36	4.19	71.55	-2.45	74.00	110	170	Peak
2		5150.000	61.59	4.19	65.78	-8.22	74.00	110	170	Peak
3		5177.860	100.84	4.23	105.07	N/A	N/A	110	170	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

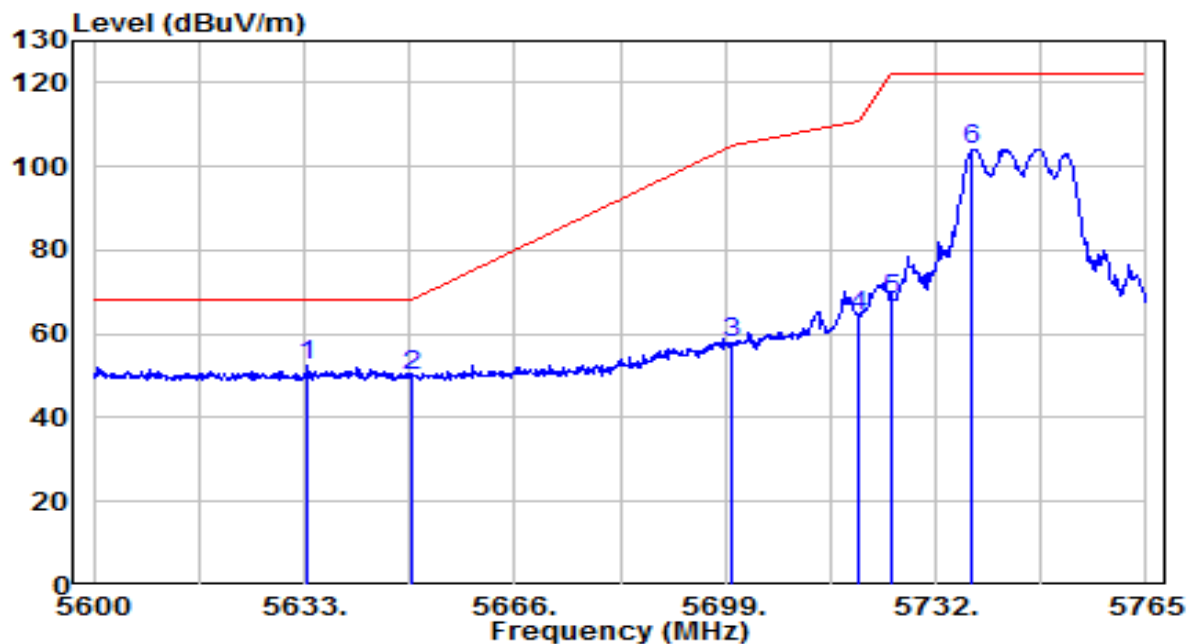


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5148.340	48.72	4.19	52.91	-1.09	54.00	110	170	Average
2		5150.000	44.63	4.19	48.82	-5.18	54.00	110	170	Average
3		5178.040	91.19	4.23	95.42	N/A	N/A	110	170	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 149_ANT 0+1	Test Voltage	AC 120V/ 60Hz

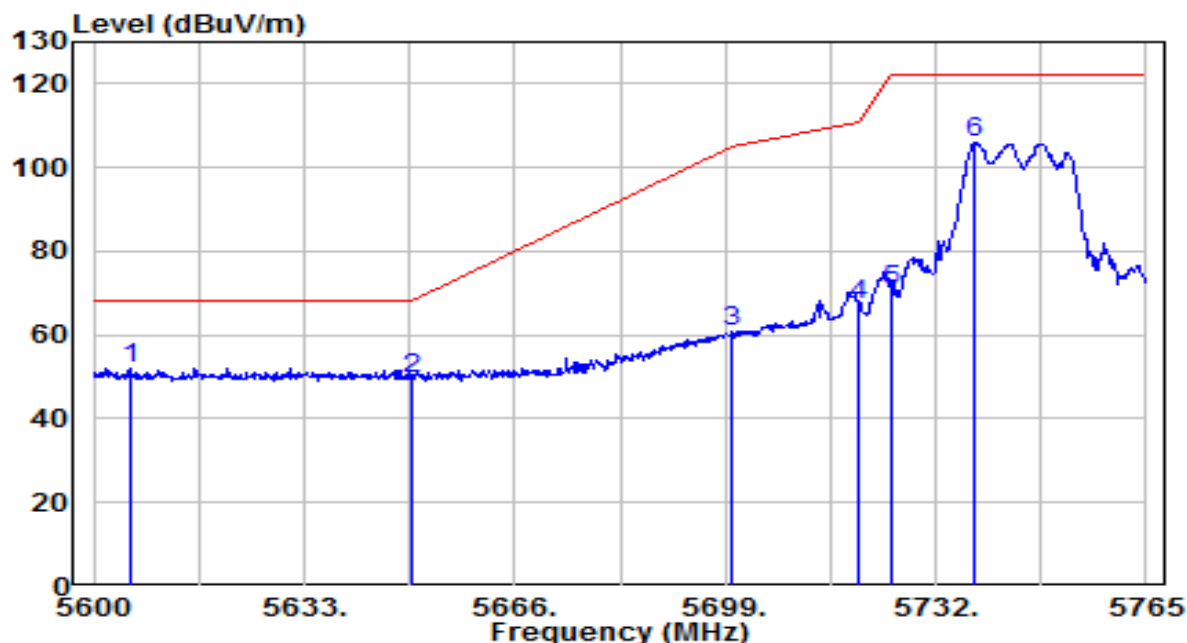


No		Frequency (MHz)	Reading (dBUV)	C.F (dB/m)	Measurement (dBUV/m)	Margin (dB)	Limit (dBUV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5633.495	47.14	5.17	52.31	-15.89	68.20	240	190	Peak
2		5650.000	44.58	5.22	49.80	-18.40	68.20	240	190	Peak
3		5700.000	52.34	5.39	57.74	-47.46	105.20	240	190	Peak
4		5720.000	58.92	5.46	64.38	-46.42	110.80	240	190	Peak
5		5725.000	62.76	5.48	68.24	-53.96	122.20	240	190	Peak
6		5737.775	98.68	5.52	104.20	N/A	N/A	240	190	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 149_ANT 0+1	Test Voltage	AC 120V/ 60Hz

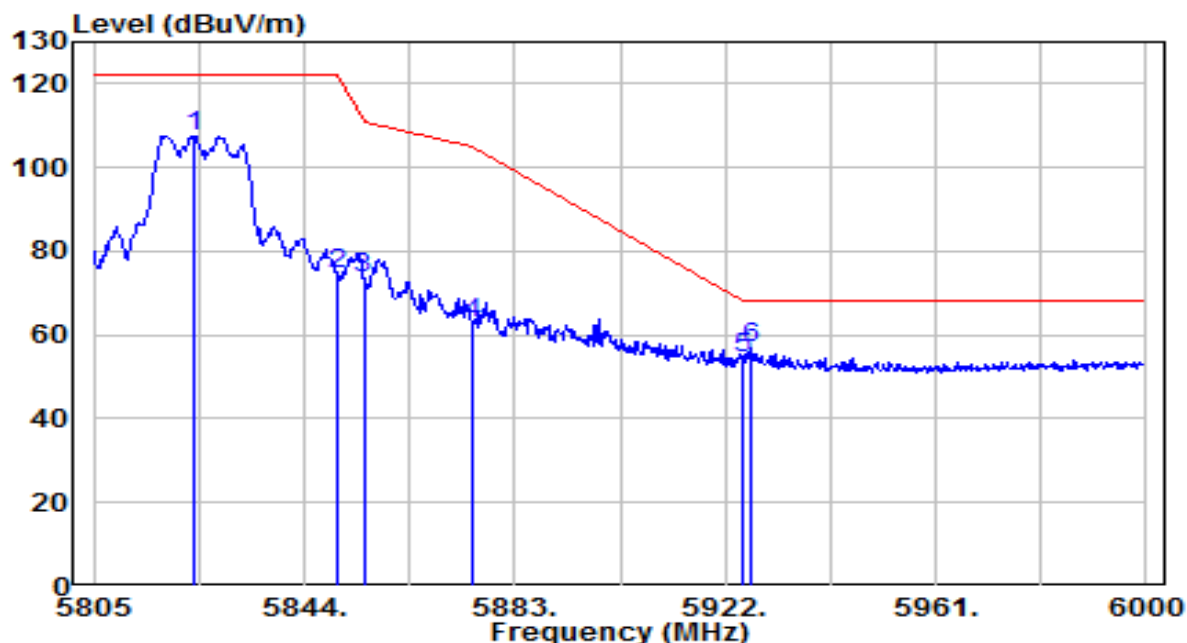


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5605.610	47.12	5.07	52.19	-16.01	68.20	200	195	Peak
2		5650.000	44.40	5.22	49.62	-18.58	68.20	200	195	Peak
3		5700.000	55.37	5.39	60.76	-44.44	105.20	200	195	Peak
4		5720.000	61.79	5.46	67.25	-43.55	110.80	200	195	Peak
5		5725.000	65.11	5.48	70.59	-51.61	122.20	200	195	Peak
6		5737.940	100.30	5.52	105.82	N/A	N/A	200	195	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 165_ANT 0+1	Test Voltage	AC 120V/ 60Hz

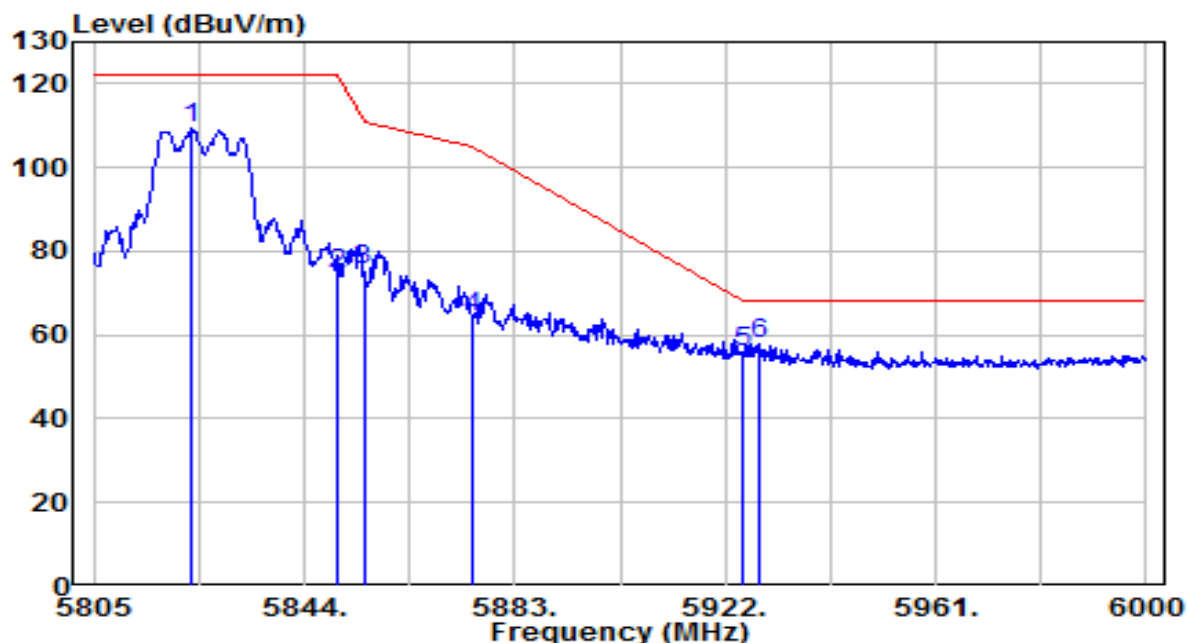


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	5823.525	101.82	5.82	107.64	N/A	N/A	220	165	Peak
2	5850.000	68.62	5.91	74.53	-47.67	122.20	220	165	Peak
3	5855.000	67.67	5.92	73.60	-37.20	110.80	220	165	Peak
4	5875.000	56.82	5.99	62.81	-42.39	105.20	220	165	Peak
5	5925.000	48.27	6.16	54.43	-13.77	68.20	220	165	Peak
6	* 5926.680	50.52	6.17	56.69	-11.51	68.20	220	165	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11a_TX_Band4_CH 165_ANT 0+1	Test Voltage	AC 120V/ 60Hz

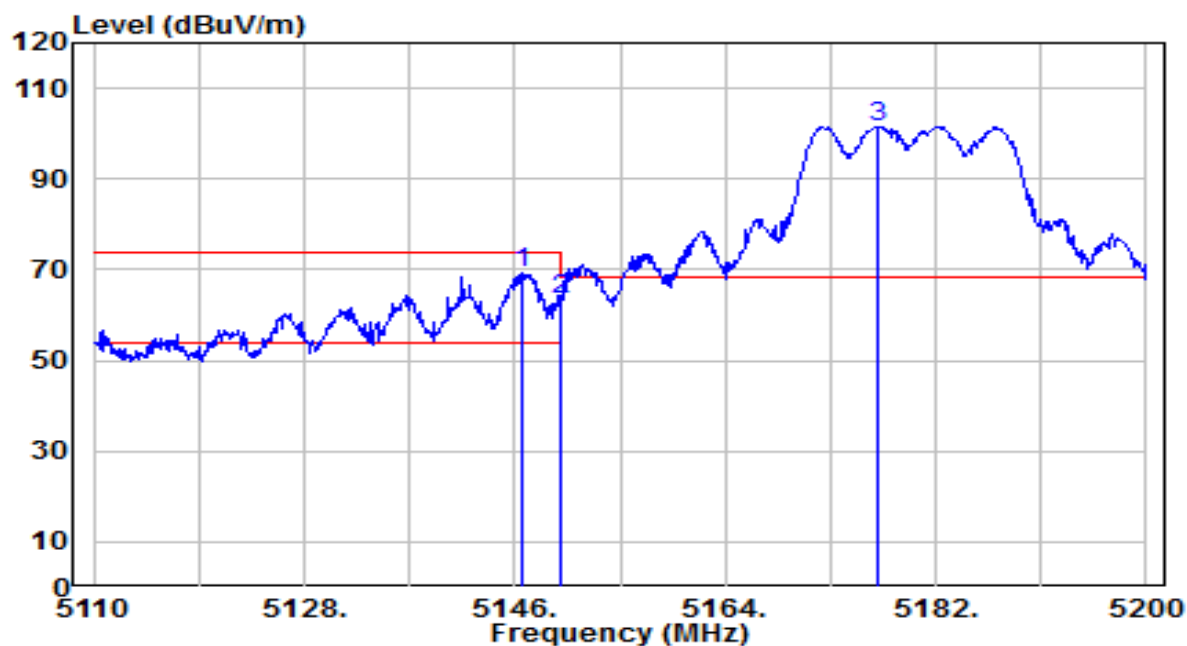


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	5823.135	103.44	5.82	109.26	N/A	N/A	195	195	Peak
2	5850.000	68.81	5.91	74.72	-47.48	122.20	195	195	Peak
3	5855.000	69.41	5.92	75.34	-35.46	110.80	195	195	Peak
4	5875.000	58.04	5.99	64.03	-41.17	105.20	195	195	Peak
5	5925.000	49.72	6.16	55.88	-12.32	68.20	195	195	Peak
6	* 5928.435	51.94	6.18	58.12	-10.08	68.20	195	195	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

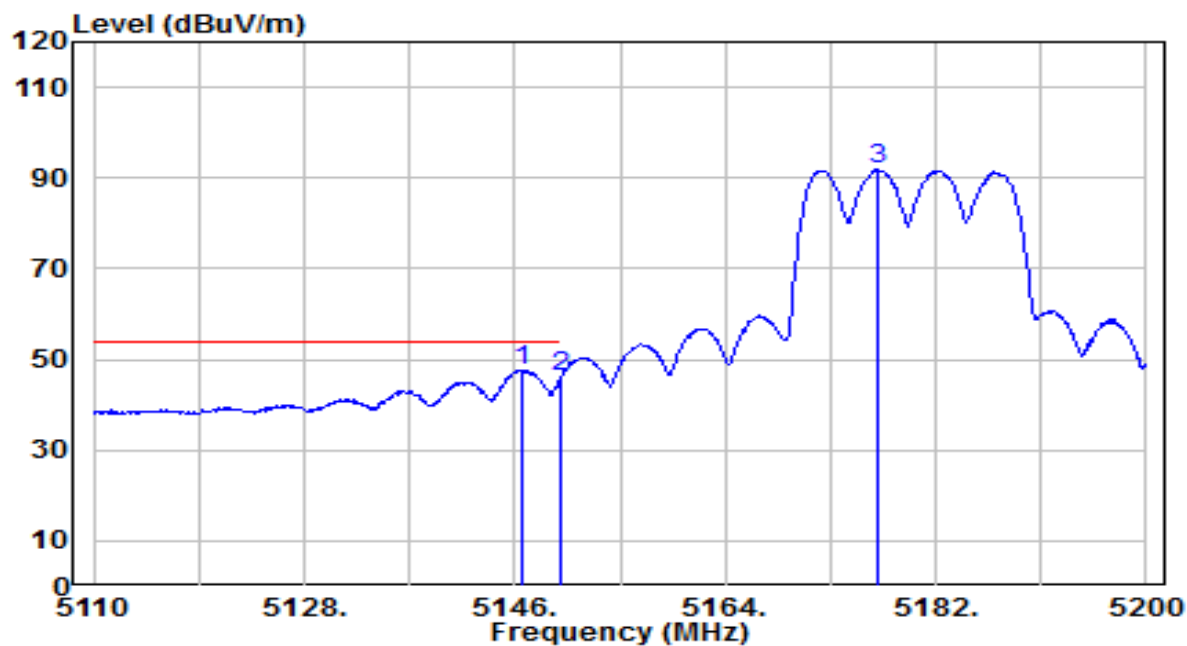


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 5146.720	64.88	4.19	69.07	-4.93	74.00	135	205	Peak
2	5150.000	59.36	4.19	63.55	-10.45	74.00	135	205	Peak
3	5177.050	97.34	4.23	101.57	N/A	N/A	135	205	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

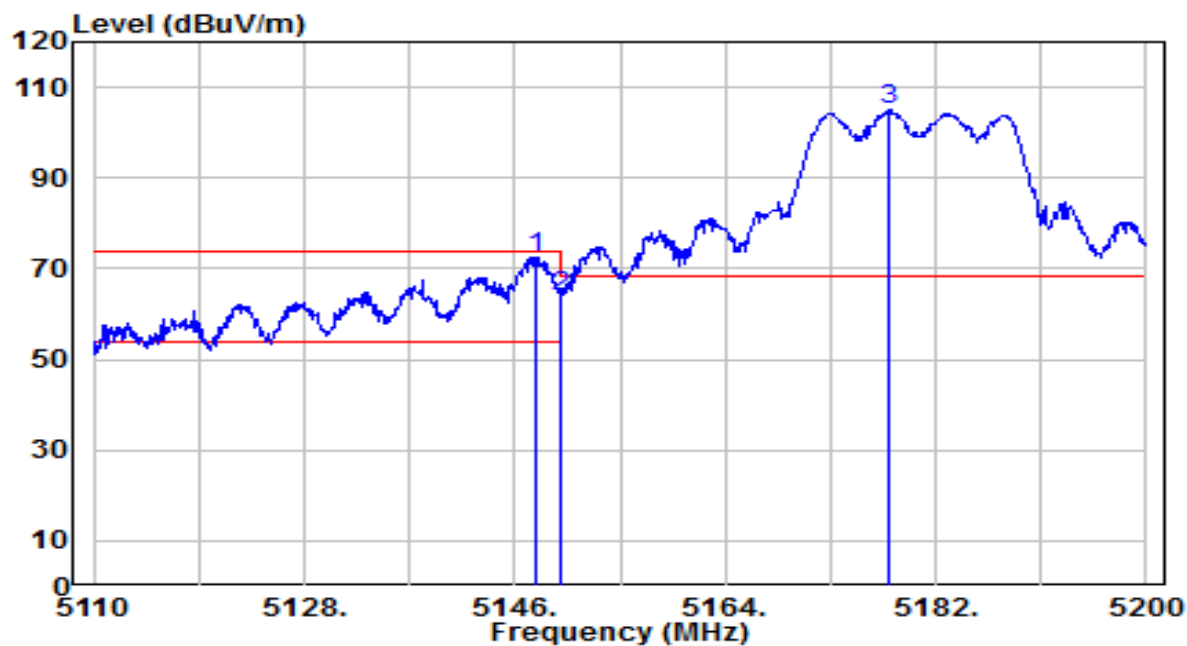


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5146.540	43.48	4.19	47.67	-6.33	54.00	135	205	Average
2		5150.000	41.97	4.19	46.17	-7.83	54.00	135	205	Average
3		5176.960	87.70	4.23	91.93	N/A	N/A	135	205	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

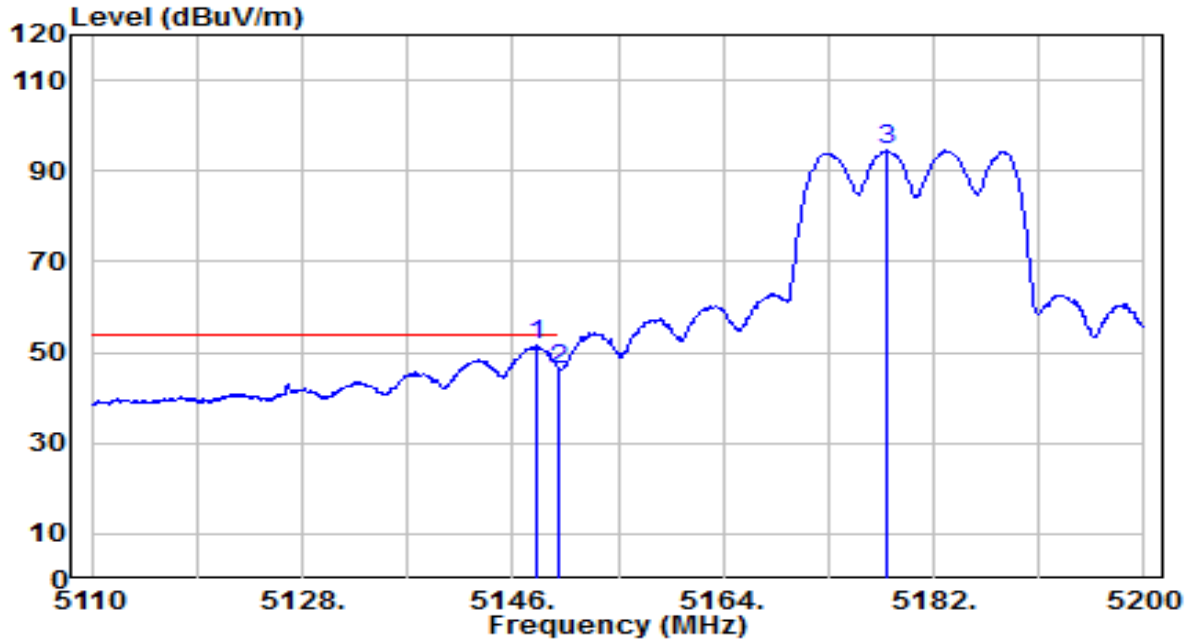


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5147.710	68.38	4.19	72.57	-1.43	74.00	110	170	Peak
2		5150.000	59.86	4.19	64.05	-9.95	74.00	110	170	Peak
3		5177.950	101.05	4.23	105.28	N/A	N/A	110	170	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band1_CH 36_ANT 0+1	Test Voltage	AC 120V/ 60Hz

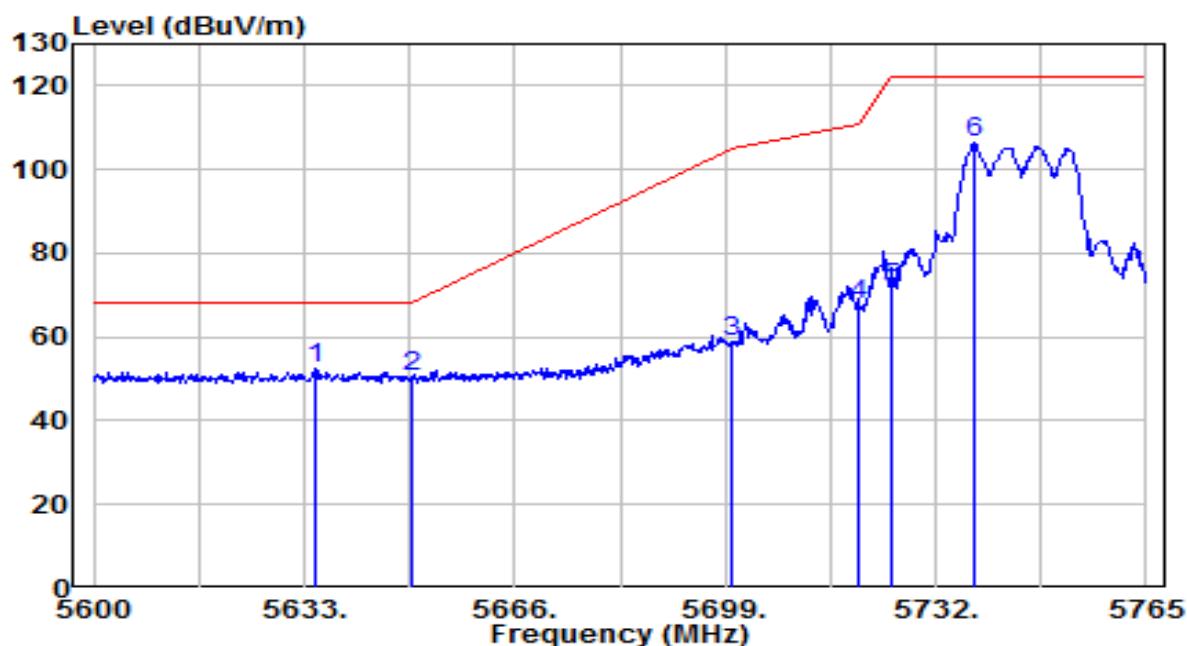


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5147.980	47.45	4.19	51.63	-2.37	54.00	110	170	Average
2		5150.000	42.04	4.19	46.23	-7.77	54.00	110	170	Average
3		5177.950	90.30	4.23	94.53	N/A	N/A	110	170	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 149_ANT 0+1	Test Voltage	AC 120V/ 60Hz

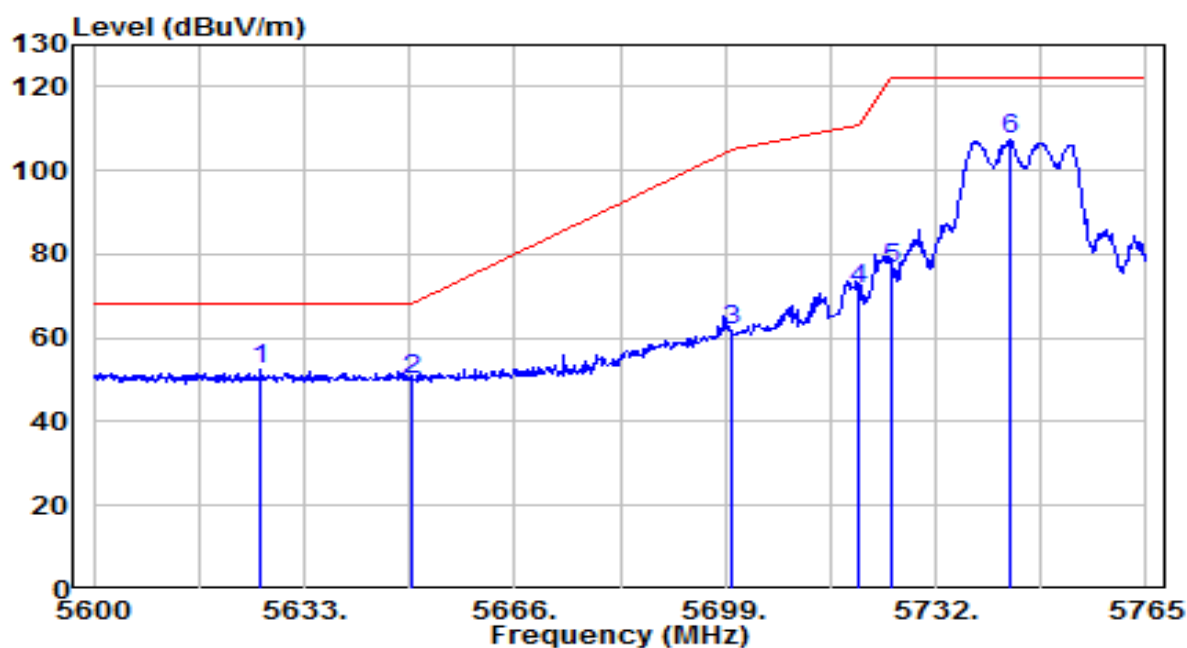


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5634.650	47.38	5.17	52.55	-15.65	68.20	240	190	Peak
2		5650.000	45.38	5.22	50.60	-17.60	68.20	240	190	Peak
3		5700.000	53.27	5.39	58.66	-46.54	105.20	240	190	Peak
4		5720.000	62.44	5.46	67.90	-42.90	110.80	240	190	Peak
5		5725.000	66.18	5.48	71.66	-50.54	122.20	240	190	Peak
6		5738.105	100.76	5.52	106.29	N/A	N/A	240	190	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 149_ANT 0+1	Test Voltage	AC 120V/ 60Hz

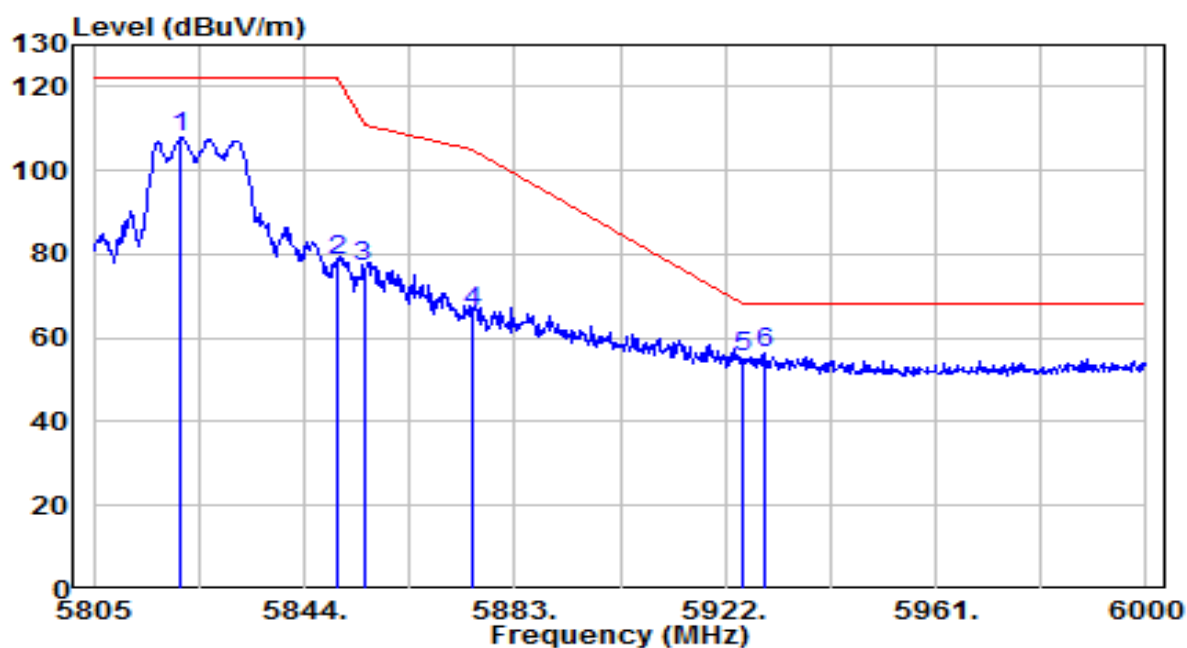


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5626.235	47.13	5.14	52.27	-15.93	68.20	200	195	Peak
2		5650.000	44.79	5.22	50.01	-18.19	68.20	200	195	Peak
3		5700.000	56.44	5.39	61.83	-43.37	105.20	200	195	Peak
4		5720.000	65.99	5.46	71.45	-39.35	110.80	200	195	Peak
5		5725.000	70.95	5.48	76.43	-45.77	122.20	200	195	Peak
6		5743.550	101.94	5.54	107.48	N/A	N/A	200	195	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 165_ANT 0+1	Test Voltage	AC 120V/ 60Hz

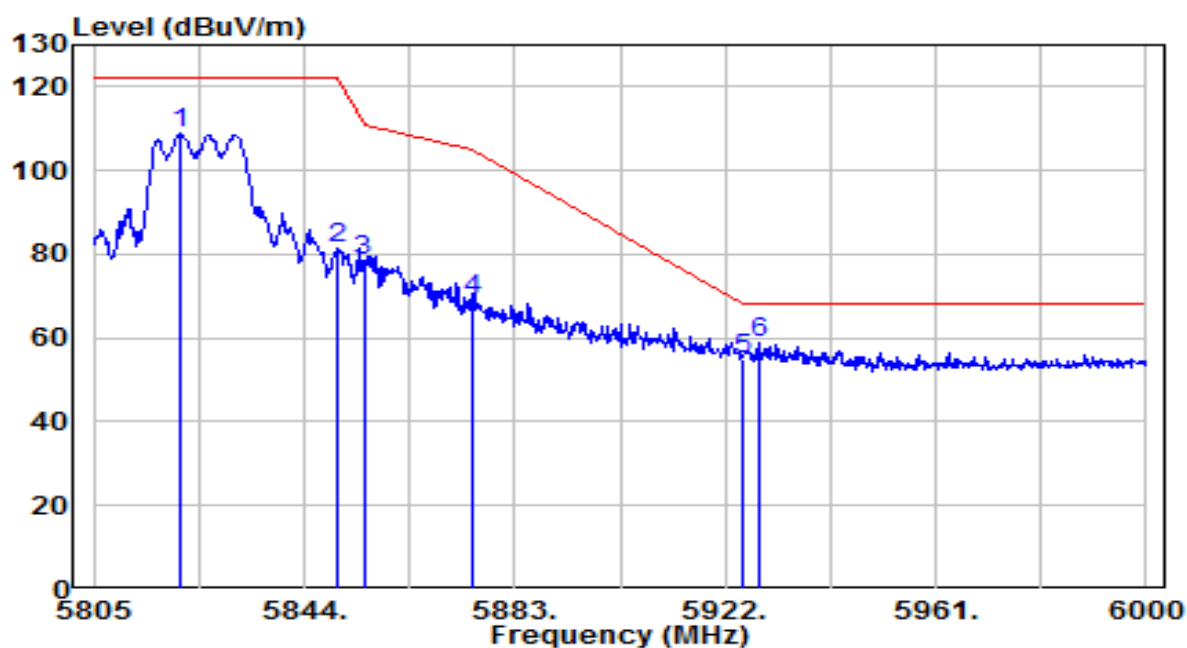


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	5821.185	101.97	5.81	107.78	N/A	N/A	220	165	Peak
2	5850.000	72.82	5.91	78.72	-43.48	122.20	220	165	Peak
3	5855.000	71.17	5.92	77.09	-33.71	110.80	220	165	Peak
4	5875.000	60.38	5.99	66.37	-38.83	105.20	220	165	Peak
5	5925.000	49.07	6.16	55.23	-12.97	68.20	220	165	Peak
6	* 5929.410	50.47	6.18	56.65	-11.55	68.20	220	165	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-20MHz_TX_Band4_CH 165_ANT 0+1	Test Voltage	AC 120V/ 60Hz

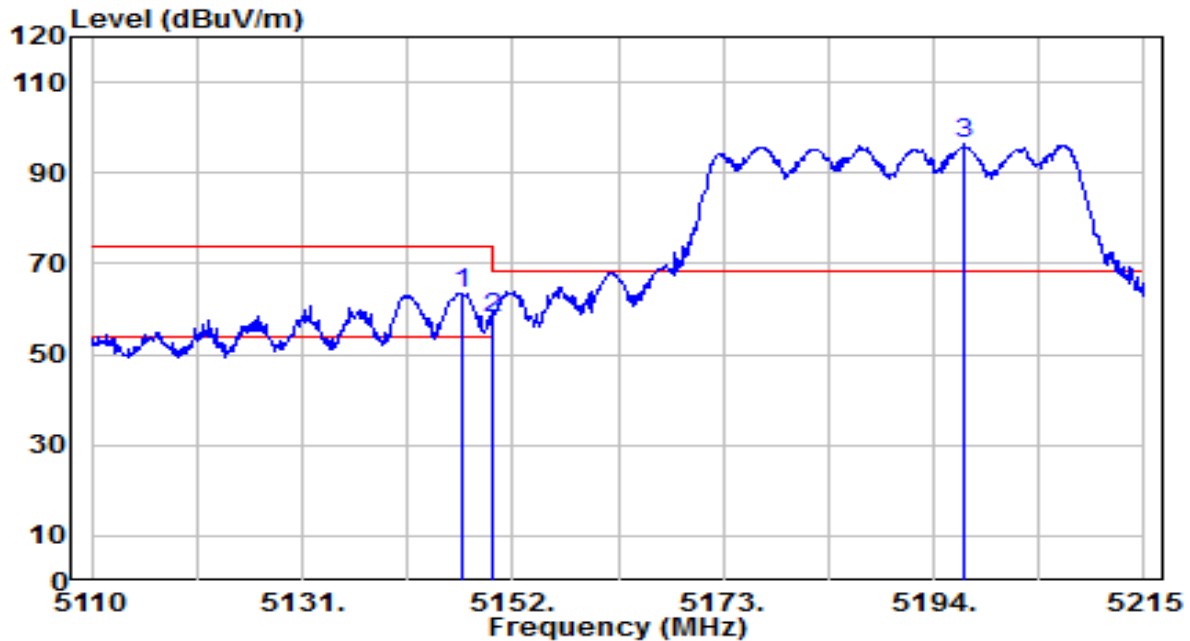


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	5820.990	102.97	5.81	108.77	N/A	N/A	195	195	Peak
2	5850.000	75.64	5.91	81.55	-40.65	122.20	195	195	Peak
3	5855.000	72.48	5.92	78.41	-32.39	110.80	195	195	Peak
4	5875.000	62.97	5.99	68.96	-36.24	105.20	195	195	Peak
5	5925.000	48.72	6.16	54.88	-13.32	68.20	195	195	Peak
6	* 5928.435	52.54	6.18	58.72	-9.48	68.20	195	195	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band1_CH 38_ANT 0+1	Test Voltage	AC 120V/ 60Hz

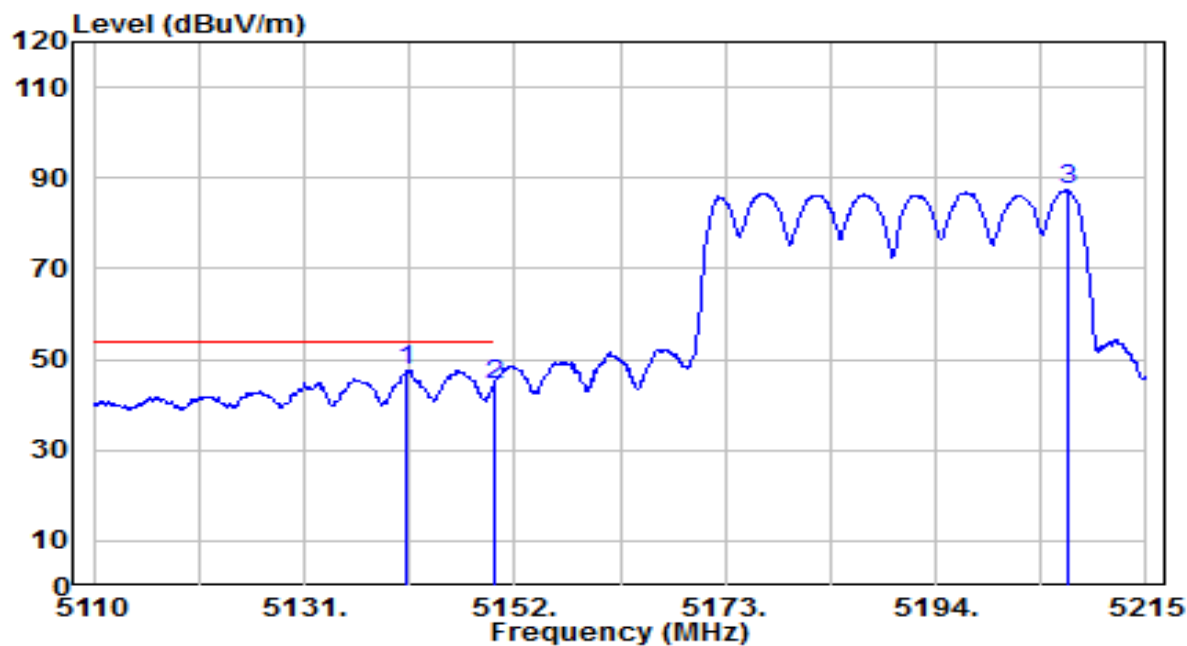


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5147.065	59.28	4.19	63.47	-10.53	74.00	135	205	Peak
2		5150.000	53.82	4.19	58.02	-15.98	74.00	135	205	Peak
3		5197.150	92.32	4.26	96.58	N/A	N/A	135	205	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band1_CH 38_ANT 0+1	Test Voltage	AC 120V/ 60Hz

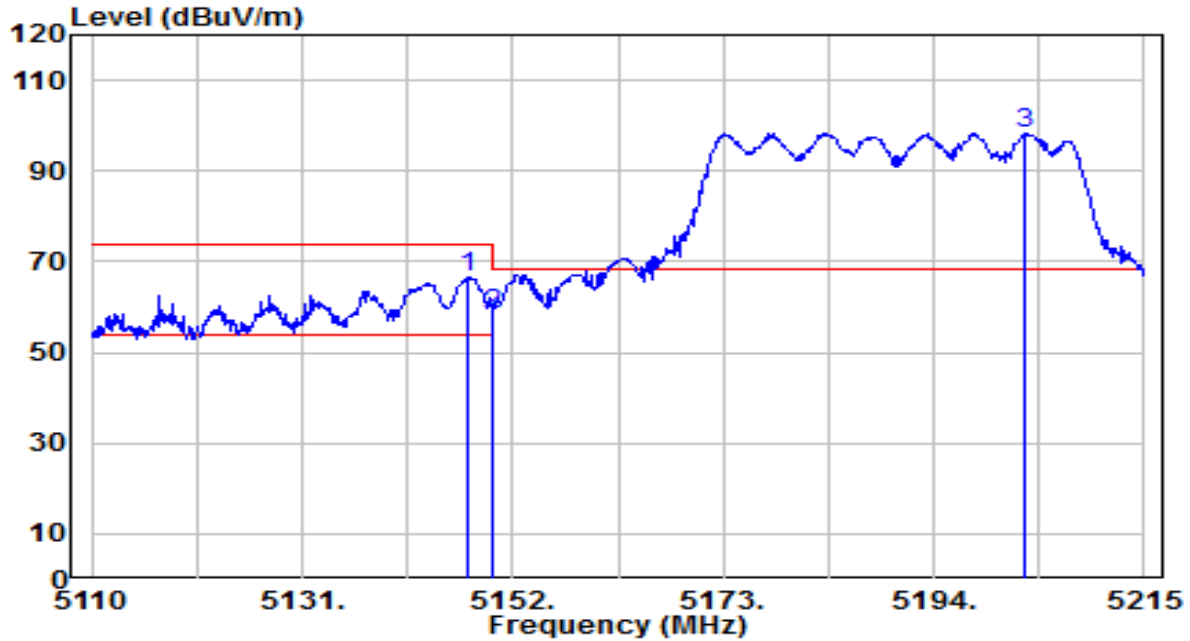


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 5141.290	43.30	4.18	47.48	-6.52	54.00	135	205	Average
2	5150.000	40.17	4.19	44.36	-9.64	54.00	135	205	Average
3	5207.125	83.03	4.28	87.31	N/A	N/A	135	205	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band1_CH 38_ANT 0+1	Test Voltage	AC 120V/ 60Hz

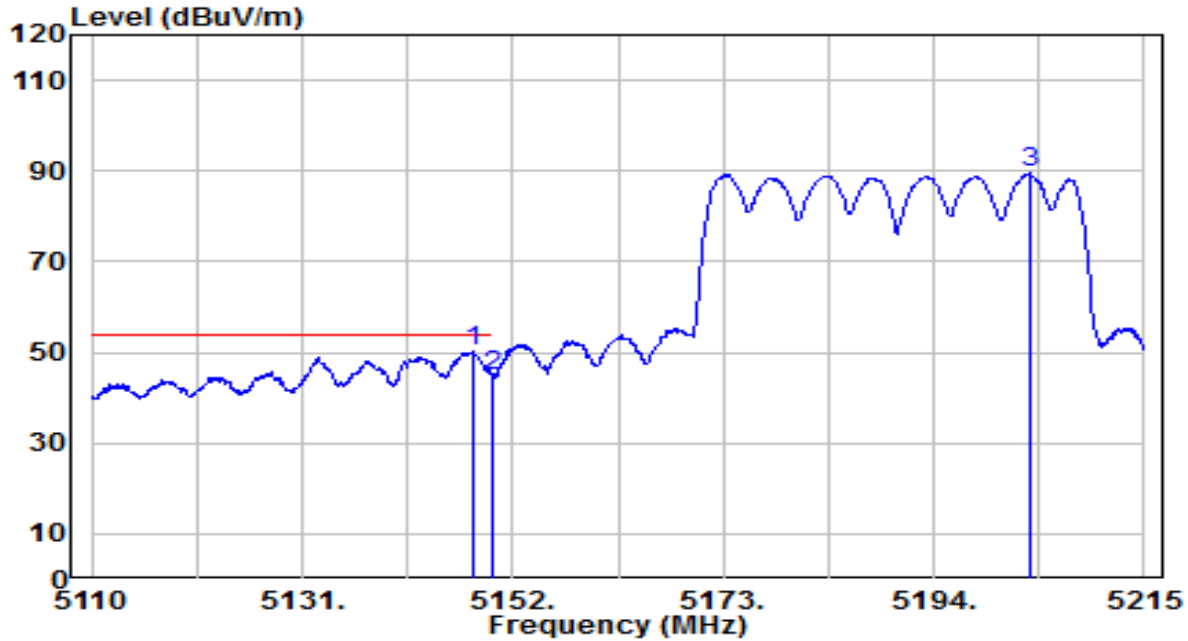


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5147.590	62.56	4.19	66.74	-7.26	74.00	110	170	Peak
2		5150.000	54.27	4.19	58.46	-15.54	74.00	110	170	Peak
3		5203.135	94.08	4.27	98.35	N/A	N/A	110	170	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band1_CH 38_ANT 0+1	Test Voltage	AC 120V/ 60Hz

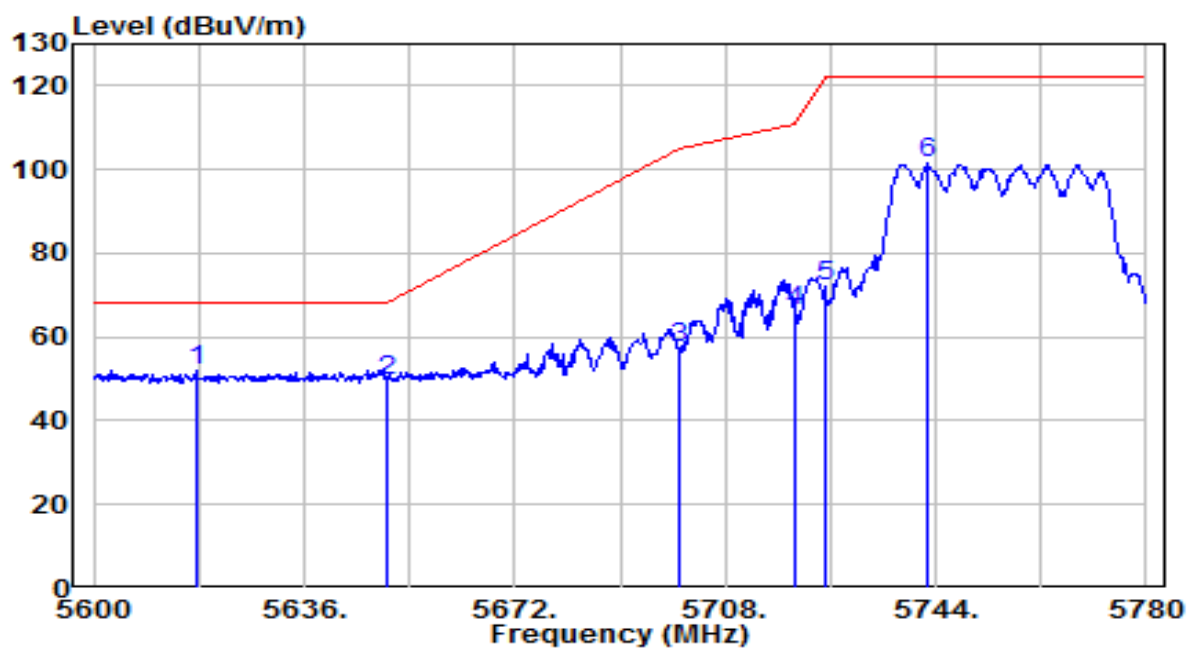


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5148.010	46.07	4.19	50.26	-3.74	54.00	110	170	Average
2		5150.000	40.71	4.19	44.90	-9.10	54.00	110	170	Average
3		5203.555	85.22	4.27	89.49	N/A	N/A	110	170	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band4_CH 151_ANT 0+1	Test Voltage	AC 120V/ 60Hz

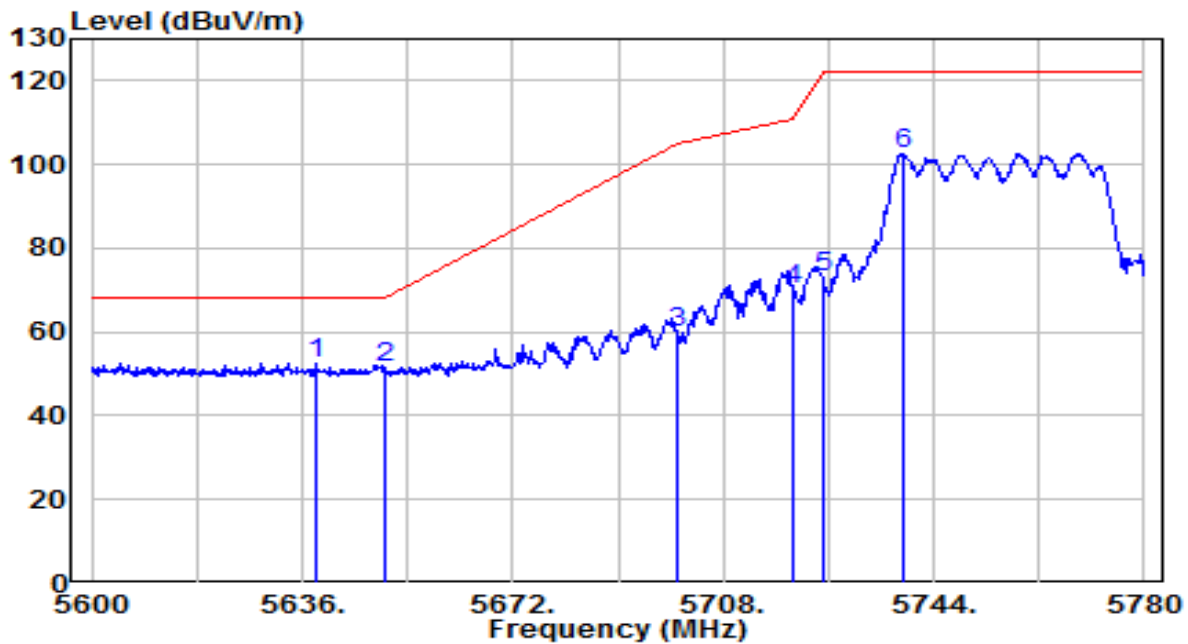


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5617.460	46.78	5.11	51.89	-16.31	68.20	240	190	Peak
2		5650.000	44.46	5.22	49.68	-18.52	68.20	240	190	Peak
3		5700.000	52.00	5.39	57.39	-47.81	105.20	240	190	Peak
4		5720.000	60.55	5.46	66.01	-44.79	110.80	240	190	Peak
5		5725.000	66.72	5.48	72.20	-50.00	122.20	240	190	Peak
6		5742.560	95.90	5.54	101.44	N/A	N/A	240	190	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band4_CH 151_ANT 0+1	Test Voltage	AC 120V/ 60Hz

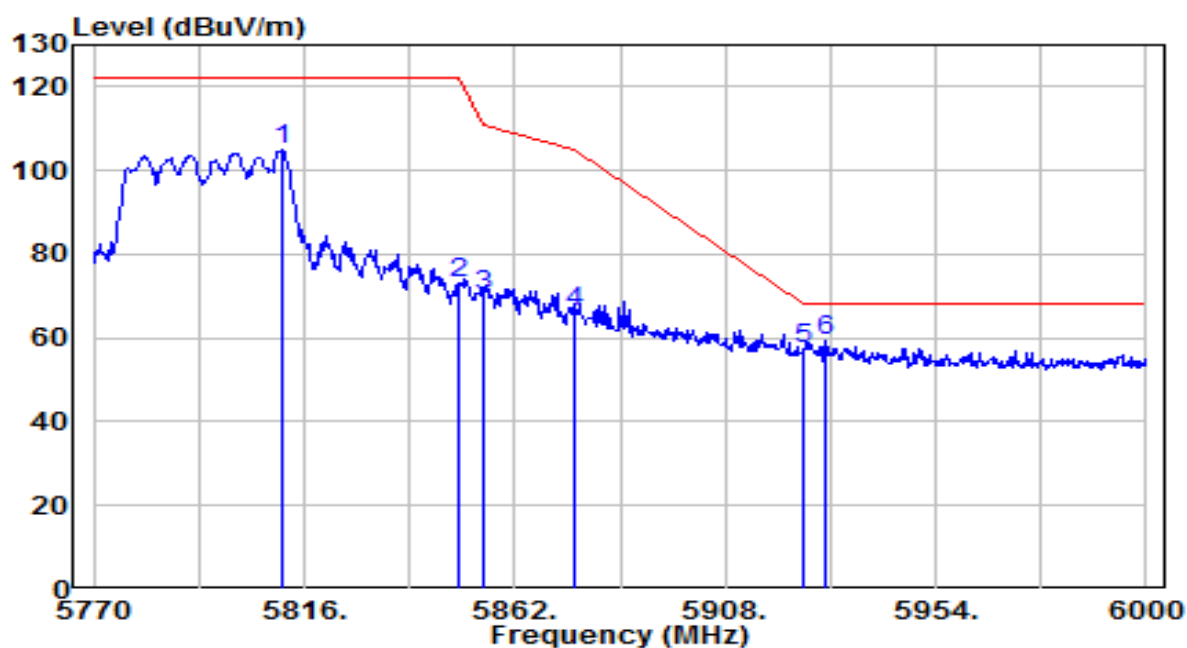


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5638.340	47.41	5.18	52.59	-15.61	68.20	200	195	Peak
2		5650.000	46.12	5.22	51.34	-16.86	68.20	200	195	Peak
3		5700.000	54.28	5.39	59.68	-45.52	105.20	200	195	Peak
4		5720.000	64.62	5.46	70.08	-40.72	110.80	200	195	Peak
5		5725.000	67.65	5.48	73.13	-49.07	122.20	200	195	Peak
6		5738.780	97.05	5.53	102.58	N/A	N/A	200	195	Peak

Note:

- "*", means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
- Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band4_CH 159_ANT 0+1	Test Voltage	AC 120V/ 60Hz

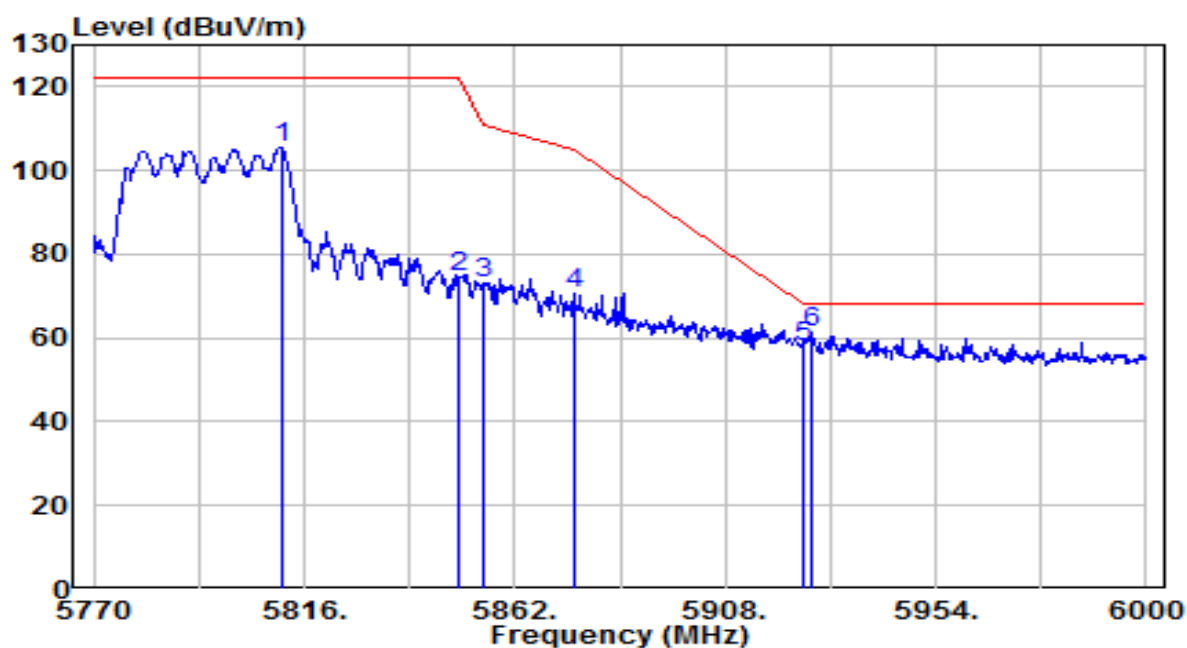


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	5810.940	99.38	5.77	105.15	N/A	N/A	220	165	Peak
2	5850.000	67.26	5.91	73.16	-49.04	122.20	220	165	Peak
3	5855.000	64.20	5.92	70.13	-40.67	110.80	220	165	Peak
4	5875.000	60.15	5.99	66.14	-39.06	105.20	220	165	Peak
5	5925.000	51.48	6.16	57.64	-10.56	68.20	220	165	Peak
6	* 5929.620	52.97	6.18	59.15	-9.05	68.20	220	165	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11n-40MHz_TX_Band4_CH 159_ANT 0+1	Test Voltage	AC 120V/ 60Hz

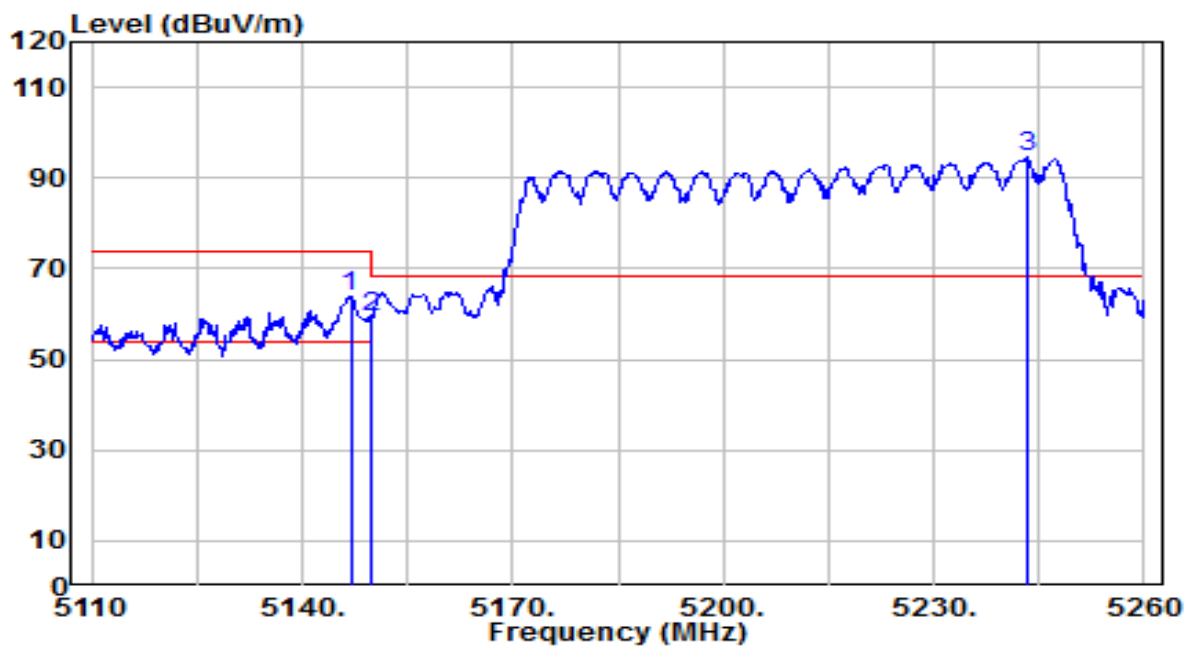


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	5810.940	99.79	5.77	105.56	N/A	N/A	195	195	Peak
2	5850.000	68.50	5.91	74.41	-47.79	122.20	195	195	Peak
3	5855.000	67.24	5.92	73.17	-37.63	110.80	195	195	Peak
4	5875.000	64.68	5.99	70.67	-34.53	105.20	195	195	Peak
5	5925.000	51.79	6.16	57.95	-10.25	68.20	195	195	Peak
6	* 5926.630	55.32	6.17	61.49	-6.71	68.20	195	195	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band1_CH 42_ANT 0+1	Test Voltage	AC 120V/ 60Hz

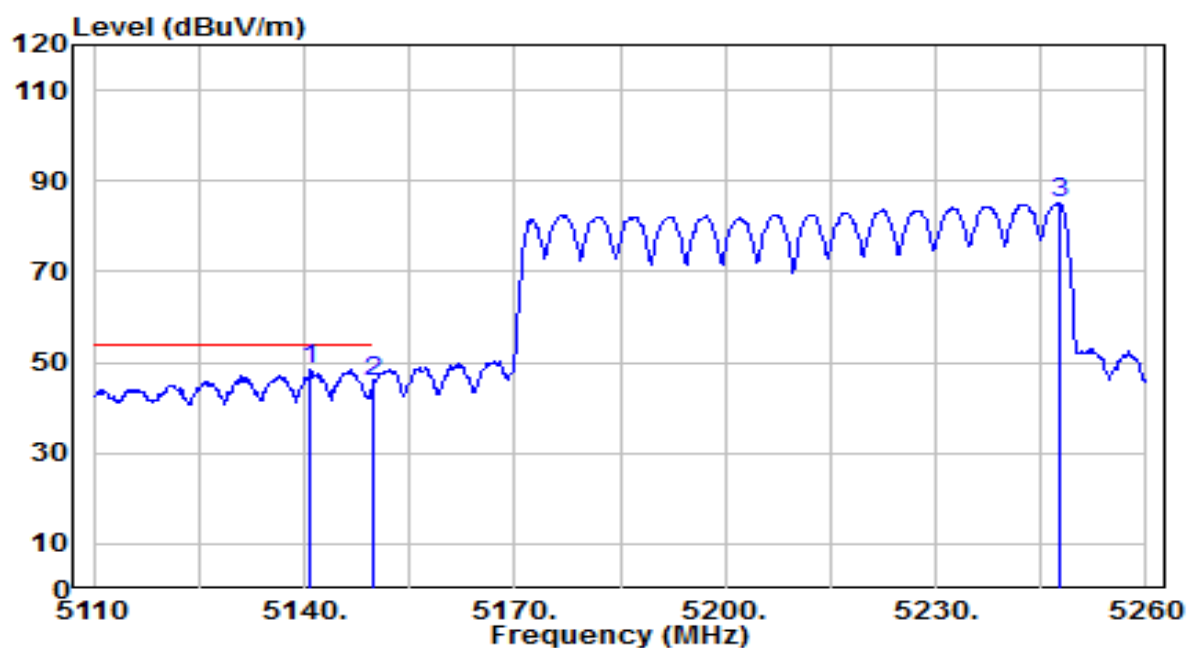


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5146.900	59.68	4.19	63.87	-10.13	74.00	135	205	Peak
2		5150.000	55.14	4.19	59.33	-14.67	74.00	135	205	Peak
3		5243.200	90.17	4.33	94.50	N/A	N/A	135	205	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band1_CH 42_ANT 0+1	Test Voltage	AC 120V/ 60Hz

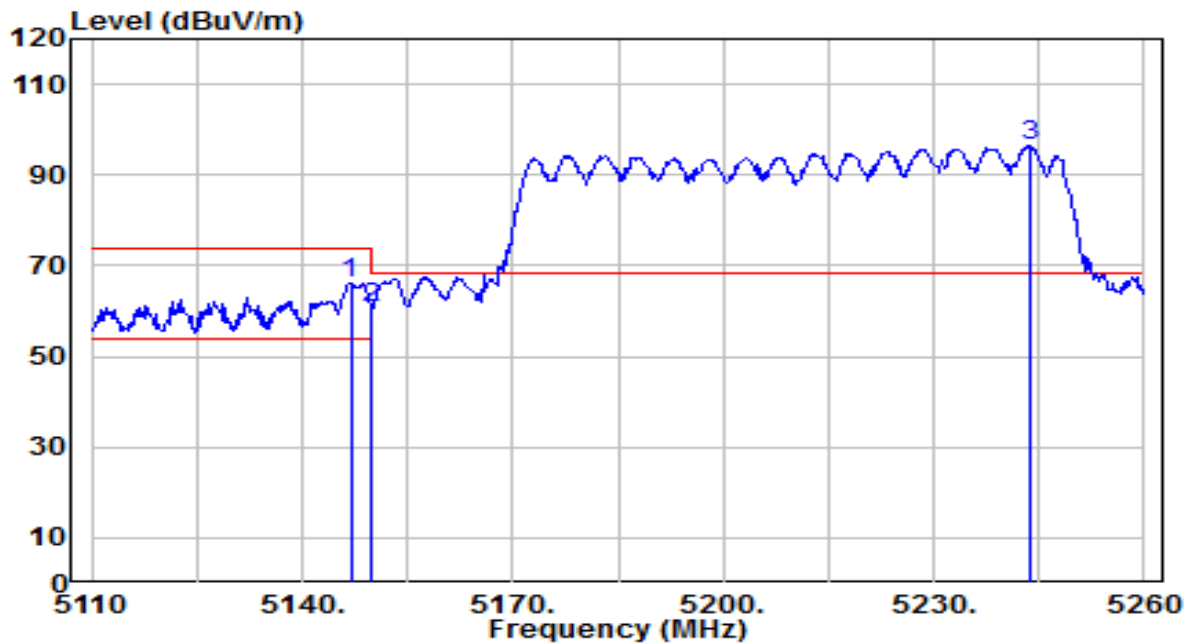


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5140.750	44.19	4.18	48.37	-5.63	54.00	135	205	Average
2		5150.000	41.42	4.19	45.61	-8.39	54.00	135	205	Average
3		5247.700	80.91	4.34	85.25	N/A	N/A	135	205	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band1_CH 42_ANT 0+1	Test Voltage	AC 120V/ 60Hz

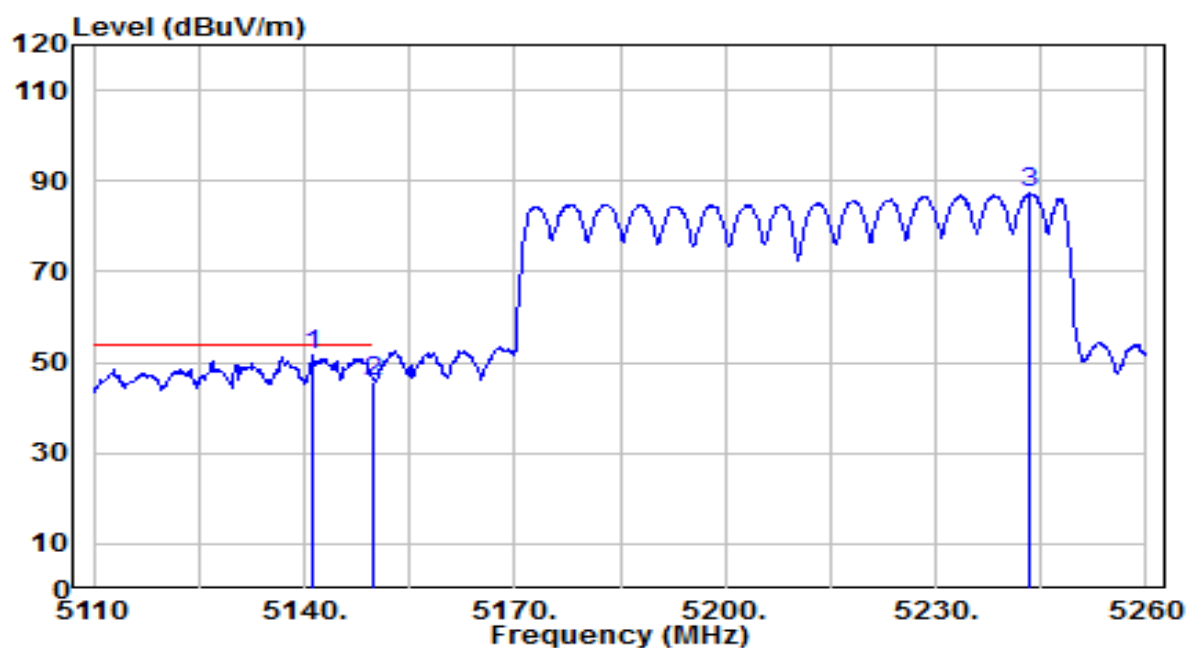


No		Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	5146.900	62.01	4.19	66.20	-7.80	74.00	110	170	Peak
2		5150.000	56.63	4.19	60.82	-13.18	74.00	110	170	Peak
3		5243.650	92.24	4.33	96.57	N/A	N/A	110	170	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band1_CH 42_ANT 0+1	Test Voltage	AC 120V/ 60Hz

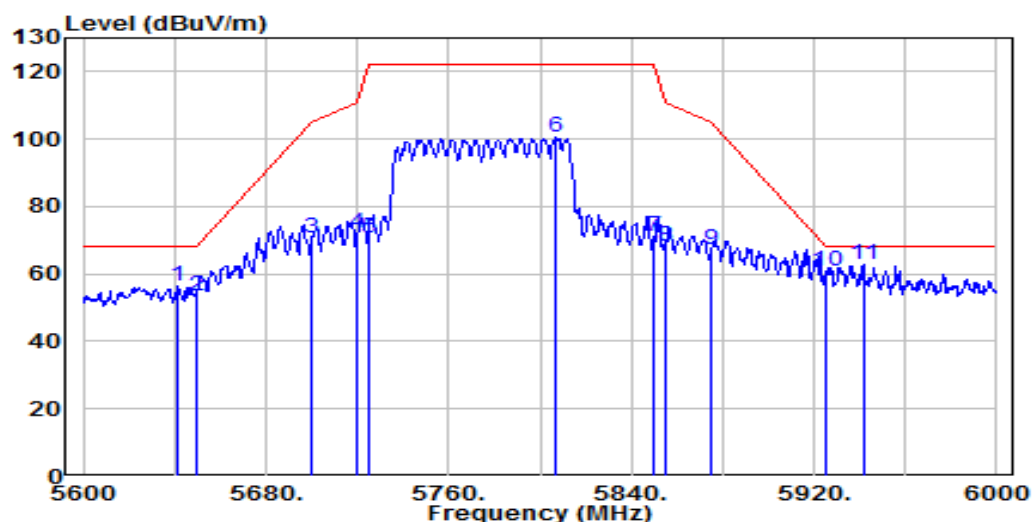


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	* 5141.200	47.53	4.18	51.71	-2.29	54.00	110	170	Average
2	5150.000	41.39	4.19	45.59	-8.41	54.00	110	170	Average
3	5243.500	82.90	4.33	87.23	N/A	N/A	110	170	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band4_CH 155_ANT 0+1	Test Voltage	AC 120V/ 60Hz

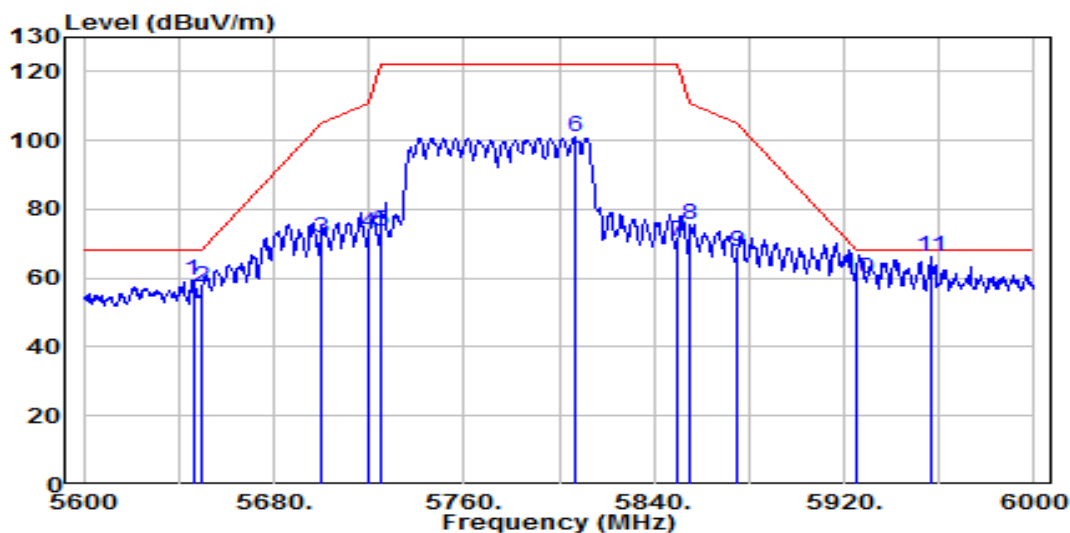


No	Frequency (MHz)	Reading (dBUV)	C.F (dB/m)	Measurement (dBUV/m)	Margin (dB)	Limit (dBUV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	5641.600	51.39	5.19	56.59	-11.61	68.20	240	165	Peak
2	5650.000	48.47	5.22	53.70	-14.50	68.20	240	165	Peak
3	5700.000	65.17	5.39	70.57	-34.63	105.20	240	165	Peak
4	5720.000	66.62	5.46	72.09	-38.71	110.80	240	165	Peak
5	5725.000	65.39	5.48	70.87	-51.33	122.20	240	165	Peak
6	5806.800	94.63	5.76	100.39	N/A	N/A	240	165	Peak
7	5850.000	65.37	5.91	71.27	-50.93	122.20	240	165	Peak
8	5855.000	62.06	5.92	67.98	-42.82	110.80	240	165	Peak
9	5875.000	61.17	5.99	67.16	-38.04	105.20	240	165	Peak
10	5925.000	54.56	6.16	60.72	-7.48	68.20	240	165	Peak
11	* 5941.600	56.56	6.22	62.78	-5.42	68.20	240	165	Peak

Note:

1. " *" , means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	Monarch 8	Date of Test	2022-11-19
Factor	BBHA 9120D	Temp. / Humidity	23°C /64%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	802.11ac-80MHz_TX_Band4_CH 155_ANT 0+1	Test Voltage	AC 120V/ 60Hz



No	Frequency (MHz)	Reading (dBUV)	C.F (dB/m)	Measurement (dBUV/m)	Margin (dB)	Limit (dBUV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	5646.000	54.29	5.21	59.50	-8.70	68.20	150	195	Peak
2	5650.000	52.03	5.22	57.25	-10.95	68.20	150	195	Peak
3	5700.000	66.16	5.39	71.55	-33.65	105.20	150	195	Peak
4	5720.000	67.85	5.46	73.31	-37.49	110.80	150	195	Peak
5	5725.000	68.17	5.48	73.65	-48.55	122.20	150	195	Peak
6	5806.800	95.07	5.76	100.83	N/A	N/A	150	195	Peak
7	5850.000	64.93	5.91	70.84	-51.36	122.20	150	195	Peak
8	5855.000	69.65	5.92	75.58	-35.22	110.80	150	195	Peak
9	5875.000	61.83	5.99	67.83	-37.37	105.20	150	195	Peak
10	5925.000	53.47	6.16	59.64	-8.56	68.20	150	195	Peak
11	* 5956.800	59.72	6.27	66.00	-2.20	68.20	150	195	Peak

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB/m)+ Cable Loss (dB) – Preamplifier(dB) + 10dB Attenuation.
3. Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

7.9. AC Conducted Emissions Measurement

7.9.1. Test Limit

FCC Part 15.207 Limits		
Frequency (MHz)	QP (dB μ V)	AV (dB μ V)
0.15 ~ 0.50	66 ~ 56	56 ~ 46
0.50 ~ 5.0	56	46
5.0 ~ 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

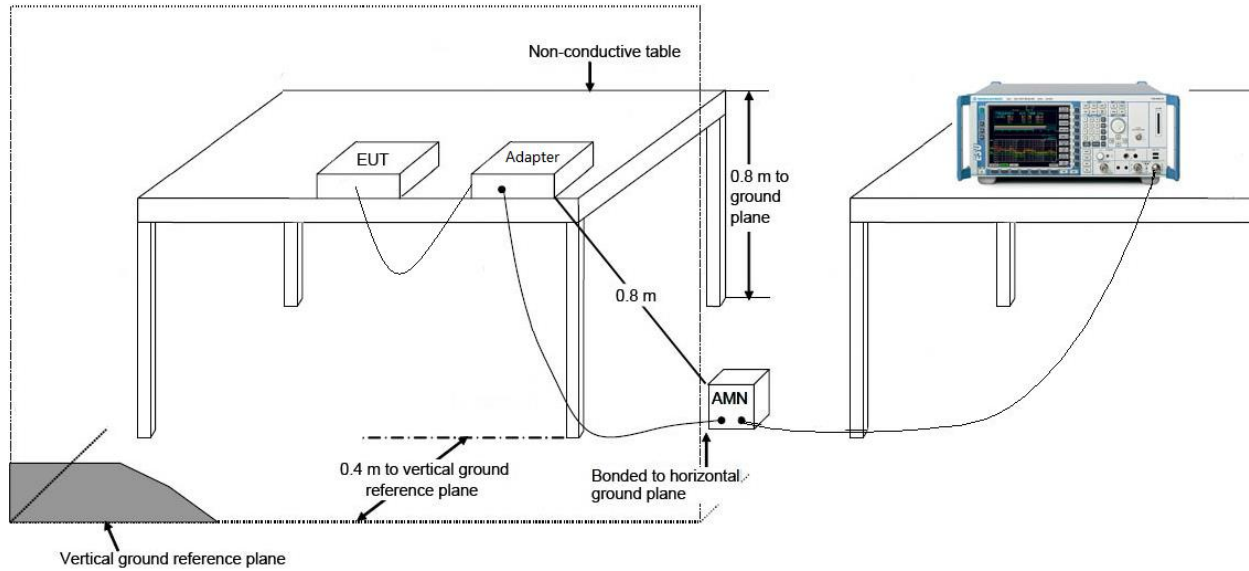
7.9.2. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to KDB 789033 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs) Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

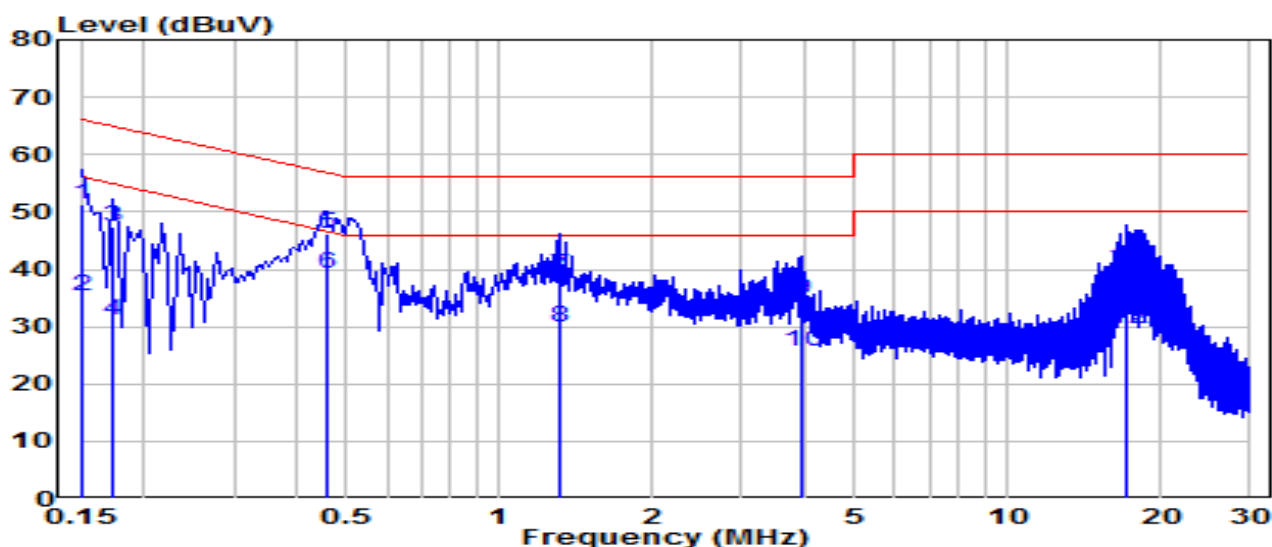
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

7.9.3. Test Setup



7.9.4. Test Result

EUT	Monarch 8	Date of Test	2022-11-03
Factor	CE_ENV216-L1 (Filter ON)	Temp. / Humidity	23.5°C /59%
Polarity	Line1	Site / Test Engineer	SR2 / Dio
Test Mode	802.11n_20_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/60Hz

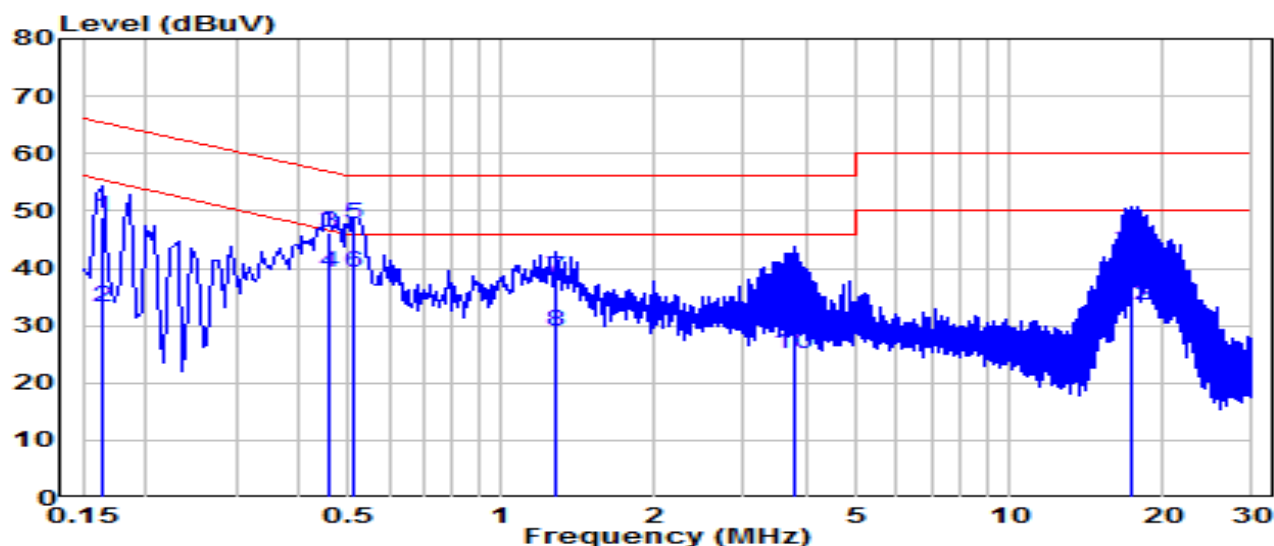


No		Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV)	Margin (dB)	Limit (dBuV)	Remark (QP/PK/AV)
1		0.150	41.77	9.62	51.39	-14.61	66.00	QP
2		0.150	25.67	9.62	35.29	-20.71	56.00	Average
3		0.172	37.78	9.62	47.40	-17.44	64.84	QP
4		0.172	21.47	9.62	31.09	-23.74	54.84	Average
5	*	0.456	36.44	9.64	46.08	-10.68	56.77	QP
6	*	0.456	29.52	9.64	39.16	-7.61	46.77	Average
7		1.306	29.21	9.68	38.89	-17.11	56.00	QP
8		1.306	20.18	9.68	29.86	-16.14	46.00	Average
9		3.939	25.06	9.73	34.79	-21.21	56.00	QP
10		3.939	15.98	9.73	25.71	-20.29	46.00	Average
11		17.154	30.38	9.91	40.29	-19.71	60.00	QP
12		17.154	19.72	9.91	29.63	-20.37	50.00	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = LISN Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV) = Reading(dBuV) + C.F (Correction Factor).

EUT	Monarch 8	Date of Test	2022-11-03
Factor	CE_ENV216-N (Filter ON)	Temp. / Humidity	23.5°C /59%
Polarity	Neutral	Site / Test Engineer	SR2 / Dio
Test Mode	802.11n_20_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 120V/60Hz

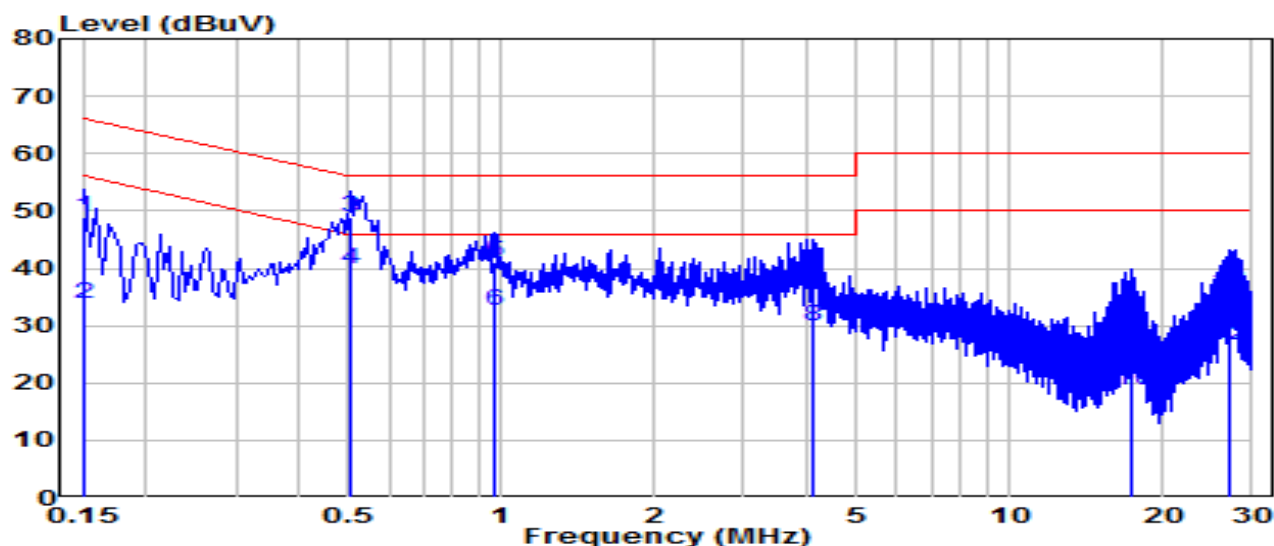


No		Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV)	Margin (dB)	Limit (dBuV)	Remark (QP/PK/AV)
1		0.163	39.27	9.62	48.89	-16.39	65.28	QP
2		0.163	23.72	9.62	33.34	-21.94	55.28	Average
3		0.456	36.53	9.64	46.16	-10.60	56.77	QP
4		0.456	29.51	9.64	39.14	-7.62	46.77	Average
5	*	0.514	37.97	9.64	47.61	-8.39	56.00	QP
6	*	0.514	29.61	9.64	39.25	-6.75	46.00	Average
7		1.284	28.59	9.68	38.27	-17.73	56.00	QP
8		1.284	19.20	9.68	28.88	-17.12	46.00	Average
9		3.750	26.91	9.72	36.64	-19.36	56.00	QP
10		3.750	15.26	9.72	24.98	-21.02	46.00	Average
11		17.311	33.24	9.96	43.20	-16.80	60.00	QP
12		17.311	23.68	9.96	33.64	-16.36	50.00	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = LISN Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV) = Reading(dBuV) + C.F (Correction Factor).

EUT	Monarch 8	Date of Test	2022-11-03
Factor	CE_ENV216-L1 (Filter ON)	Temp. / Humidity	23.5°C /59%
Polarity	Line1	Site / Test Engineer	SR2 / Dio
Test Mode	802.11n_20_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 240V/60Hz

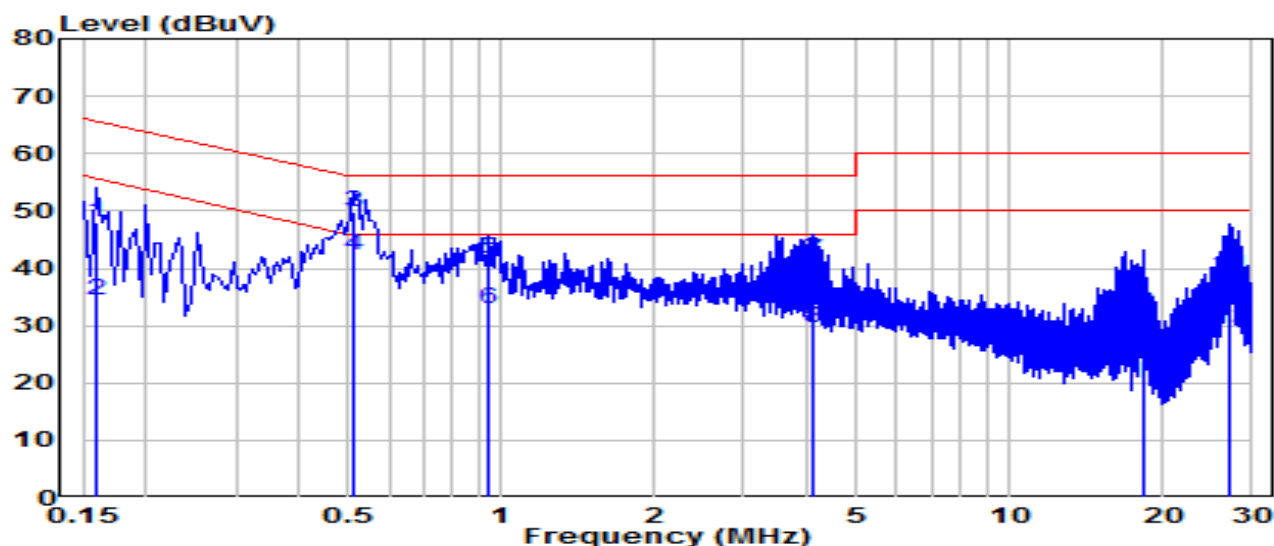


No		Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV)	Margin (dB)	Limit (dBuV)	Remark (QP/PK/AV)
1		0.150	39.36	9.62	48.98	-17.02	66.00	QP
2		0.150	24.28	9.62	33.90	-22.10	56.00	Average
3	*	0.505	39.38	9.64	49.02	-6.98	56.00	QP
4	*	0.505	30.27	9.64	39.91	-6.09	46.00	Average
5		0.973	31.28	9.67	40.95	-15.05	56.00	QP
6		0.973	23.07	9.67	32.74	-13.26	46.00	Average
7		4.078	29.18	9.73	38.91	-17.09	56.00	QP
8		4.078	20.21	9.73	29.94	-16.06	46.00	Average
9		17.302	20.82	9.91	30.73	-29.27	60.00	QP
10		17.302	8.71	9.91	18.62	-31.38	50.00	Average
11		26.900	25.74	9.91	35.65	-24.35	60.00	QP
12		26.900	16.67	9.91	26.59	-23.41	50.00	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = LISN Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV) = Reading(dBuV) + C.F (Correction Factor).

EUT	Monarch 8	Date of Test	2022-11-03
Factor	CE_ENV216-N (Filter ON)	Temp. / Humidity	23.5°C / 59%
Polarity	Neutral	Site / Test Engineer	SR2 / Dio
Test Mode	802.11n_20_TX_Band1_CH 44_ANT 0+1	Test Voltage	AC 240V/60Hz



No		Frequency (MHz)	Reading (dBuV)	C.F (dB)	Measurement (dBuV)	Margin (dB)	Limit (dBuV)	Remark (QP/PK/AV)
1		0.159	38.24	9.62	47.86	-17.65	65.52	QP
2		0.159	24.94	9.62	34.56	-20.95	55.52	Average
3	*	0.514	40.28	9.64	49.93	-6.07	56.00	QP
4	*	0.514	32.61	9.64	42.26	-3.74	46.00	Average
5		0.942	31.96	9.67	41.63	-14.37	56.00	QP
6		0.942	23.21	9.67	32.88	-13.12	46.00	Average
7		4.101	31.49	9.73	41.22	-14.78	56.00	QP
8		4.101	19.87	9.73	29.61	-16.39	46.00	Average
9		18.351	22.45	9.98	32.43	-27.57	60.00	QP
10		18.351	10.02	9.98	20.00	-30.00	50.00	Average
11		27.098	28.65	10.03	38.68	-21.32	60.00	QP
12		27.098	19.51	10.03	29.54	-20.46	50.00	Average

Note:

1. " *", means this data is the worst emission level.
2. C.F (Correction Factor) = LISN Factor (dB)+ Cable Loss (dB).
3. Measurement (dBuV) = Reading(dBuV) + C.F (Correction Factor).

8. CONCLUSION

The data collected relate only the item(s) tested and show that the **Intercom**, is in compliance with Part 15E of the FCC Rules.

_____ The End _____