FCC Part 15.407

TEST REPORT

For

Cisco Systems, Inc.

125 West Tasman Drive, San Jose, CA 95134, USA

FCC ID: LDKCNWLE2638

Report Type: Original Report	**Product Type:** Cisco Catalyst 9130AX Series Wi-Fi 6 Access Points

Report Producer : Coco Lin

Report Number : RXZ220804003RF03

Report Date : 2022-08-29

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Revision History

Revision	No.	Report Number	Issue Date	Description	Author/ Revised by
0.0	RXZ220804003	RXZ220804003RF03	2022-08-29	Original Report	Coco Lin

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1 General Information

1.1 Product Description for Equipment under Test (EUT)

Manufacturer	Cisco Systems, Inc.
	125 West Tasman Drive, San Jose, CA 95134, USA
Brand(Trade) Name	CISCO
Product (Equipment)	Cisco Catalyst 9130AX Series Wi-Fi 6 Access Points
Main Model Name	C9130AXE-B
Frequency Range	5150 ~ 5250 MHz, 5250 ~ 5350 MHz, 5470 ~ 5725 MHz, 5725 ~ 5850 MHz
Modulation Technique	OFDM , OFDMA
Power Operation (Voltage Range)	55Vdc from PoE port
Received Date	2022/8/4
Date of Test	2022/8/8 ~ 2022/8/9

*All measurement and test data in this report was gathered from production sample serial number: RXZ220804003-01 (Assigned by BACL, New Taipei Laboratory).

1.2 Objective

This report is prepared on behalf of Cisco Systems, Inc. in accordance with Part 2, Subpart J, Part 15, Subparts A, C and E of the Federal Communication Commission's rules.

Wi-Fi and Chillwave leverage original test data (FCC ID: LDK948342197) in accordance with FCC KDB 484596 D01. Wi-Fi and Chillwave will be verified by spot checking output power and radiated spurious emissions.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

1.4 Statement

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

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

1.5 Measurement Uncertainty

Parameter		Uncertainty
RF output power, conducted		±0.93 (dB)
Emissions, radiated	30 MHz~1GHz	±5.22(dB)
	1 GHz~18 GHz	±6.12(dB)
	18 GHz~40 GHz	±4.99(dB)
Temperature		+/- 1.27 °C
Humidity		+/- 3 %

1.6 Environmental Conditions

Test Site	Test Date	Temperature (℃)	Relative Humidity (%)	ATM Pressure (hPa)	Test Engineer
Radiation Spurious Emissions	2022/8/8~2022/8/9	22.8~24	50~69	1010	Andy Cheng
Maximum Output Power	2022/8/8	24.8	44	1010	Boris

1.7 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (New Taipei Laboratory) to collect test data is located on
☒70, Lane 169, Sec. 2, Datong Road, Xizhi Dist., New Taipei City 22183, Taiwan, R.O.C.

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

2 System Test Configuration

2.1 Equipment Modifications

No modification was made to the EUT.

2.2 Test Mode

Mode 2: WIFI 2.4GHz XOR + WIFI 5GHz Regular(4TX) + WIFI 2.4GHz Aux + BLE

Mode 3: WIFI 2.4GHz XOR + WIFI 5GHz Regular(4TX) + WIFI 5GHz Aux + BLE

Mode 4: WIFI 5GHz XOR + WIFI 5GHz Regular(4TX) + WIFI 2.4GHz Aux + BLE

Mode 5: WIFI 5GHz XOR + WIFI 5GHz Regular(4TX) + WIFI 5GHz Aux + BLE

Mode 6: WIFI 5GHz Regular(8TX) + WIFI 2.4GHz Aux + BLE

Mode 7: WIFI 5GHz Regular(8TX) + WIFI 5GHz Aux + BLE

Radiated spurious emissions for Transmitting simultaneously test: Mode 2~7.

2.3 Support Equipment List and Details

Description	Manufacturer	Model Number	S/N
POE Adapter	CISCO	SB-PWR-INJ2	C18426663000003170
NB	DELL	E6410	8N7PXN1

2.4 External Cable List and Details

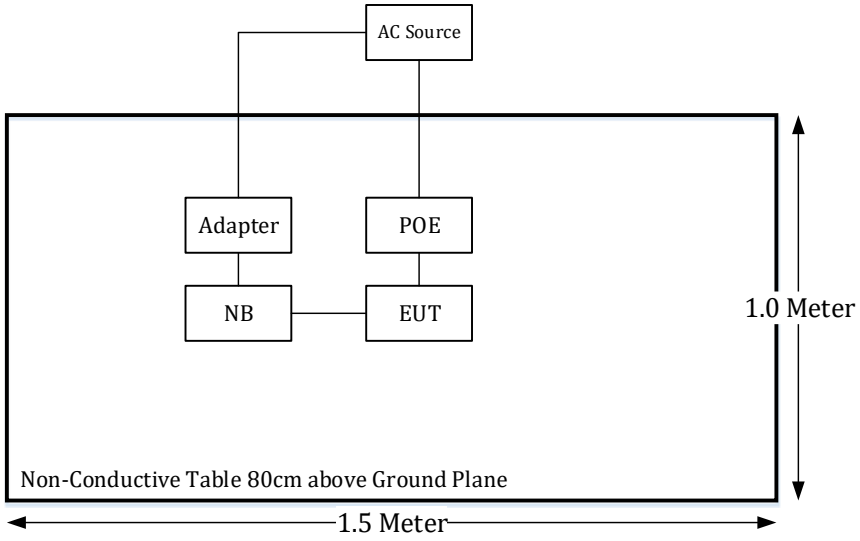
Cable Description	Length (m)	From	To
RJ-45 Cable	1	EUT	POE Adapter
RJ-45 to USB Serial Cable	2	EUT	NB

2.5 Block Diagram of Test Setup

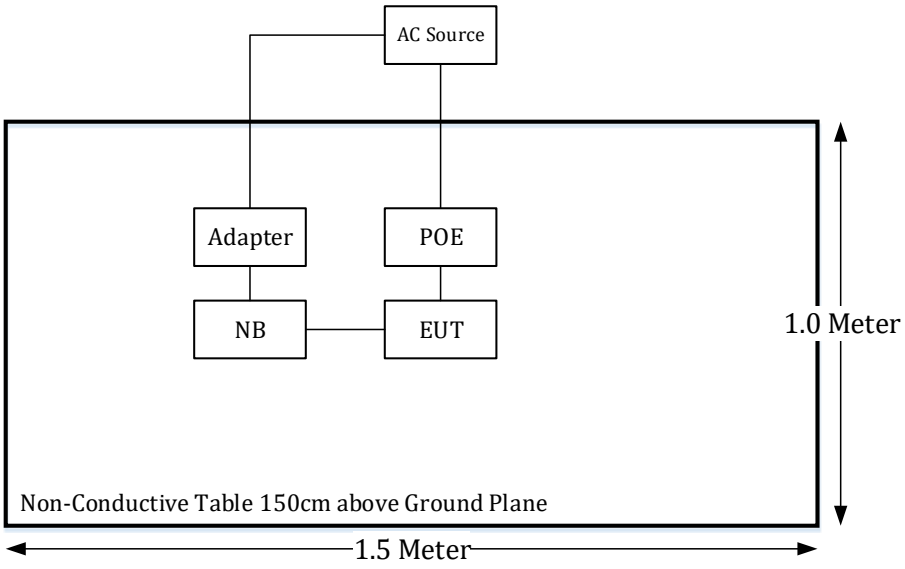
See test photographs attached in setup photos for the actual connections between EUT and support equipment.

Radiation:

Below 1GHz:



Above 1GHz:



3 Summary of Test Results

FCC Rules	Description of Test	Results
§15.407(f), §1.1310, §2.1091	Maximum Permissible Exposure (MPE)	Compliance
§15.205 & §15.209 & §15.407(b)	Unwanted Emission	Compliance
§15.407(a)(1)(3)	Conducted Transmitter Output Power	Compliance

*Note: The output power for each radio and each frequency band already verified
The test report presented the worst modes and channels

4 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Radiation 3M Room (966-A)					
Bilog Antenna with 6 dB Attenuator	SUNOL SCIENCES & MINI-CIRCUITS	JB6/UNAT-6+	A050115/15542_01	2022/02/14	2023/02/13
Horn Antenna	EMCO	3115	9809-55583	2021/8/26	2022/8/25
Horn Antenna	ETS-Lindgren	3116	62638	2021/8/11	2022/8/10
Preamplifier	Sonoma	310N	130602	2022/6/8	2023/6/7
Preamplifier	A.H. system Inc.	PAM-0118P	466	2021/11/4	2022/11/3
Microware Preamplifier	EM Electronics Corporation	EM18G40G	60656	2021/12/27	2022/12/26
Spectrum Analyzer	Rohde & Schwarz	FSV40	101435	2021/12/27	2022/12/26
EMI Test Receiver	Rohde & Schwarz	ESR7	101419	2021/11/9	2022/11/8
Micro flex Cable	UTIFLEX	UFB197C-1-2362-70U-70U	225757-001	2022/1/24	2023/1/23
Coaxial Cable	COMMATE	PEWC	8Dr	2021/12/24	2022/12/23
Coaxial Cable	UTIFLEX	UFB311A-Q-1440-300300	220490-006	2022/1/24	2023/1/23
Coaxial Cable	JUNFLON	J12J102248-00-B-5	AUG-07-15-044	2021/12/24	2022/12/23
Cable	EMC	EMC105-SM-SM-10000	201003	2022/1/24	2023/1/23
Coaxial Cable	ROSNOL	K1K50-UP0264-K1K50-450CM	160309-1	2022/1/24	2023/1/23
Coaxial Cable	ROSNOL	K1K50-UP0264-K1K50-50CM	15120-1	2022/1/18	2023/1/17
Software	Audix	e3	18621a bacl	N.C.R	N.C.R
Conducted Room					
Cable	UTIFLEX	UFA210A	9435	2021/10/5	2022/10/4
Power Sensor	KEYSIGHT	U2021XA	MY54080018	2022/01/24	2023/01/23
Attenuator	MINI-CIRCUITS	BW-S10W5+	1419	2022/2/11	2023/2/10

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

5 FCC §15.407(f), §1.1310, §2.1091 –Maximum Permissible Exposure (MPE)

5.1 Applicable Standard

According to subpart 1.1310, 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/		f/1500	30
1500-100,000	/		1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density

Calculated Formulary:

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm2);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

5.2 RF Exposure Evaluation Result

Mode	Frequency Range (MHz)	Antenna Gain		Target Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
BLE	2402-2480	6	3.98	1	1.26	30	0.0004	1
WIFI 2.4GHz XOR	2412-2462	12	15.85	20.5	112.20	30	0.16	1
WIFI 5GHz XOR	5150-5850	12.02	15.92	22.5	177.83	30	0.25	1
WIFI 5GHz Regular	5150-5850	12.02	15.92	21.5	141.25	30	0.20	1
WIFI 5GHz Regular 8TX	5150-5850	13.78	23.88	25.5	354.81	30	0.75	1
WIFI 2.4GHz AUX	2412-2462	6	3.98	20	100.00	30	0.04	1
WIFI 5GHz AUX	5150-5850	6	3.98	20	100.00	30	0.04	1

Transmit simultaneously:

Worst case is Mode 6:

0.0004/1+0.75/1+0.04/1 = 0.7904 < 1

Result: The EUT meets exemption requirement- RF exposure evaluation greater than **30cm** distance.

6 FCC §15.209, §15.205 , §15.407(b) – Spurious Emissions

6.1 Applicable Standard

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

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

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

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

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

As per FCC Part 15.407 (b)

- For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.725-5.85 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

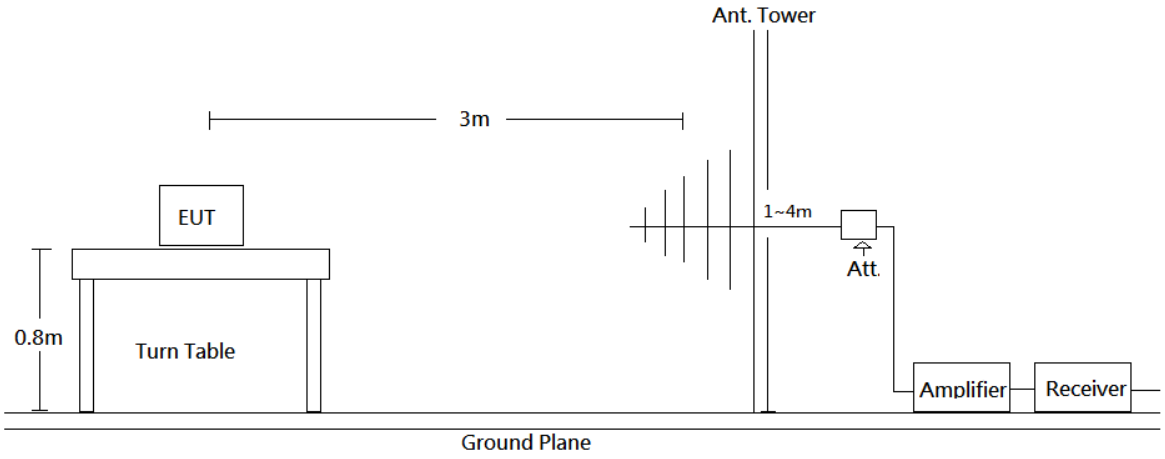
of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge..

˙The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

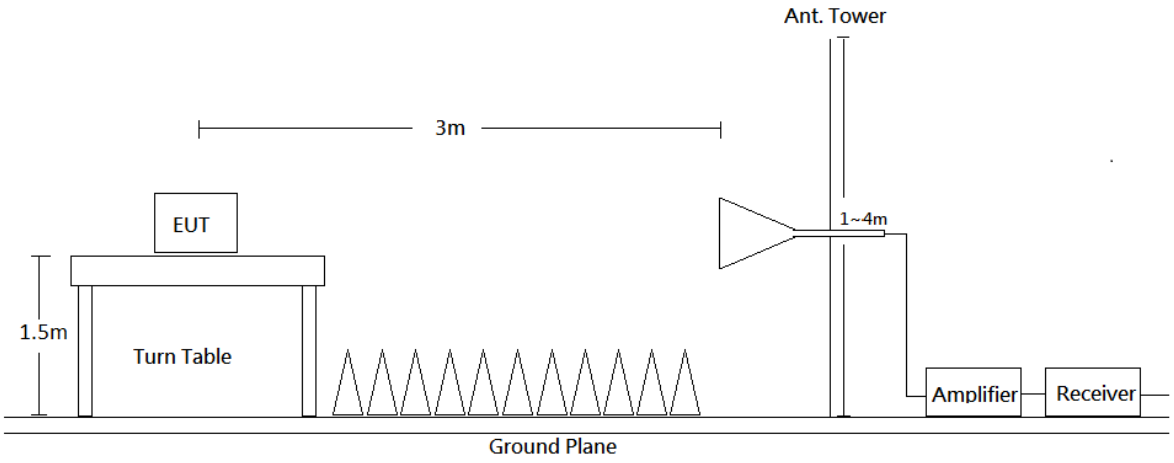
˙Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

6.2 EUT Setup

Below 1 GHz:



Above 1 GHz:



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

6.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz. During the radiated emission test, the EMI test receiver was set with the following configurations measurement method 6.3 in ANSI C63.10.

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

Note: T is minimum transmission duration

6.4 Test Procedure

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

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

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

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

6.5 Corrected Factor & Margin Calculation

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

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

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

Margin = Result – Limit

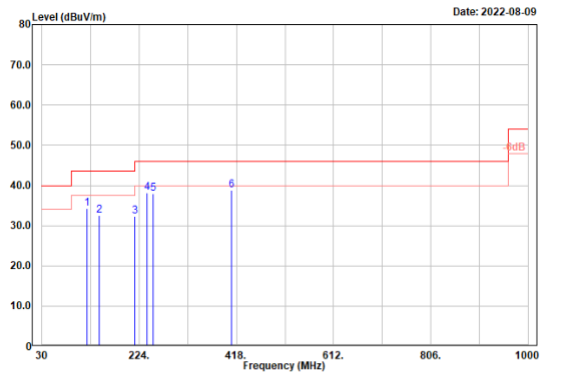
6.6 Test Results

Test Mode: Transmitting

Transmitting simultaneously test:

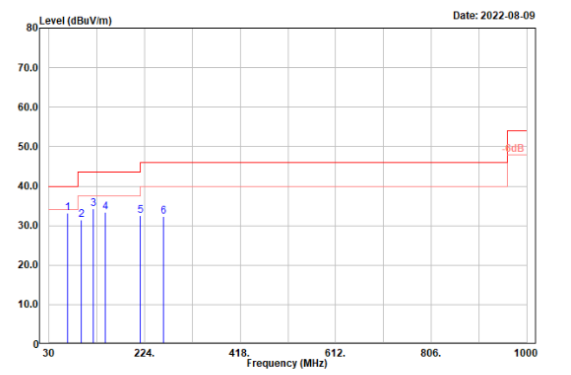
30MHz-1GHz:

Mode 2 / Horizontal



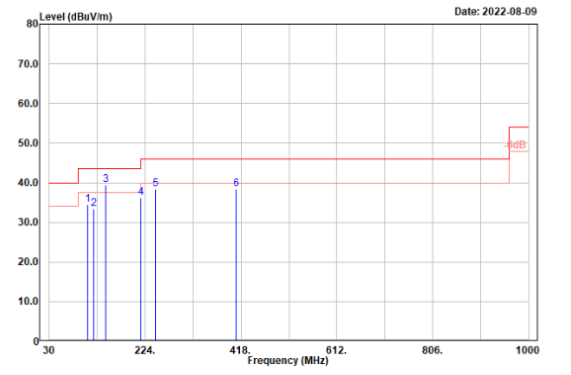
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
119.329	42.36	-8.11	34.25	43.50	-9.25	100	86	QP
143.604	41.45	-8.91	32.54	43.50	-10.96	100	93	QP
215.456	42.88	-10.66	32.22	43.50	-11.28	100	86	QP
239.730	47.62	-9.39	38.23	46.00	-7.77	100	105	QP
251.381	47.38	-9.41	37.97	46.00	-8.03	100	139	QP
407.708	42.84	-4.01	38.83	46.00	-7.17	100	105	QP

Mode 2 / Vertical



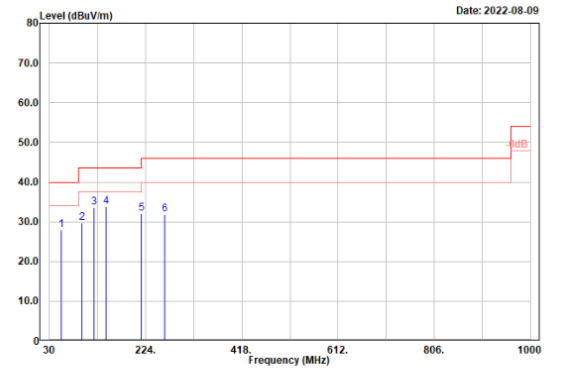
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
67.868	47.32	-14.13	33.19	40.00	-6.81	100	24	QP
95.055	44.61	-13.15	31.46	43.50	-12.04	100	24	QP
119.329	42.27	-8.11	34.16	43.50	-9.34	100	0	QP
143.604	42.39	-8.91	33.48	43.50	-10.02	100	1	QP
215.456	43.18	-10.66	32.52	43.50	-10.98	100	350	QP
263.033	40.67	-8.41	32.26	46.00	-13.74	100	335	QP

Mode 3 / Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
107.678	44.56	-9.99	34.57	43.50	-8.93	100	103	QP
119.329	41.39	-8.11	33.28	43.50	-10.22	100	99	QP
143.604	48.34	-8.91	39.43	43.50	-4.07	100	99	QP
215.456	46.90	-10.66	36.24	43.50	-7.26	100	87	QP
244.585	47.64	-9.26	38.38	46.00	-7.62	100	127	QP
407.708	42.48	-4.01	38.47	46.00	-7.53	100	103	QP

Mode 3 / Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
53.303	42.98	-15.06	27.92	40.00	-12.08	100	81	QP
95.055	42.81	-13.15	29.66	43.50	-13.84	100	0	QP
119.329	41.73	-8.11	33.62	43.50	-9.88	100	360	QP
143.604	42.63	-8.91	33.72	43.50	-9.78	100	360	QP
215.456	42.77	-10.66	32.11	43.50	-11.39	100	334	QP
263.033	40.32	-8.41	31.91	46.00	-14.09	100	319	QP

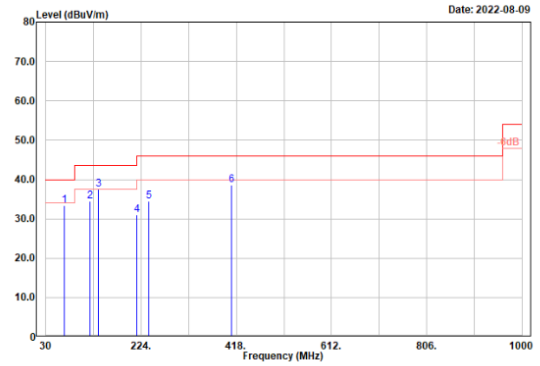
Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

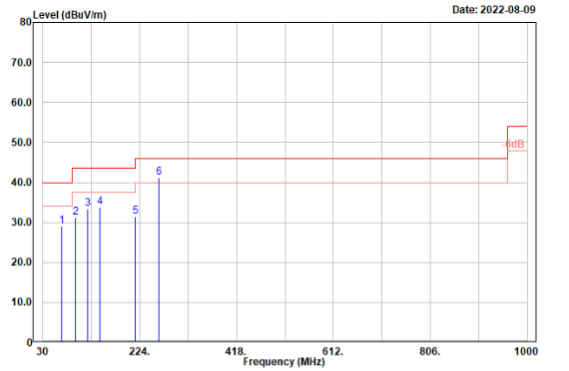
Spurious emissions more than 20 dB below the limit were not reported.

Mode 4 / Horizontal



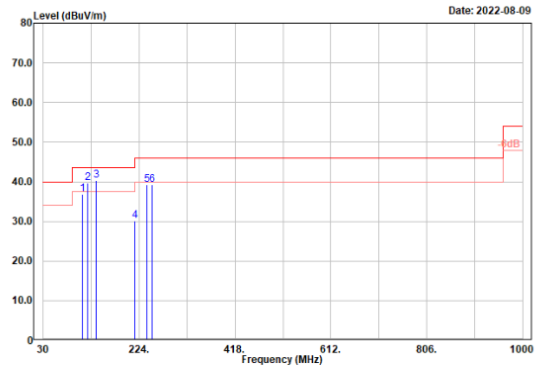
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
67.868	47.47	-14.13	33.34	40.00	-6.66	100	201	QP
119.329	42.61	-8.11	34.50	43.50	-9.00	100	76	QP
137.778	45.89	-8.47	37.42	43.50	-6.08	100	112	QP
215.456	41.77	-10.66	31.11	43.50	-12.39	100	299	QP
239.730	43.78	-9.39	34.39	46.00	-11.61	100	99	QP
407.708	42.52	-4.01	38.51	46.00	-7.49	100	150	QP

Mode 4 / Vertical



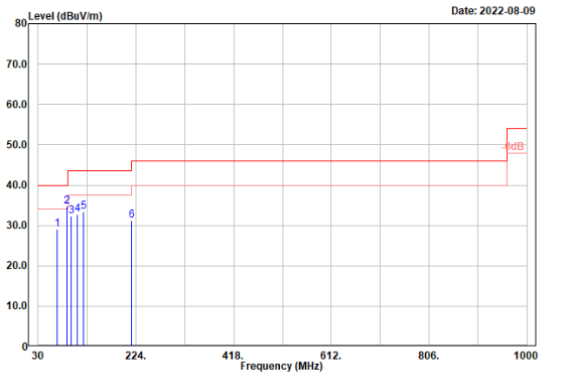
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
67.868	43.28	-14.13	29.15	40.00	-10.85	100	180	QP
95.055	44.28	-13.15	31.13	43.50	-12.37	100	15	QP
119.329	41.39	-8.11	33.28	43.50	-10.22	100	359	QP
143.604	42.66	-8.91	33.75	43.50	-9.75	100	10	QP
215.456	42.17	-10.66	31.51	43.50	-11.99	100	357	QP
263.033	49.53	-8.41	41.12	46.00	-4.88	100	217	QP

Mode 5 / Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
109.620	46.30	-9.55	36.75	43.50	-6.75	100	85	QP
119.329	47.74	-8.11	39.63	43.50	-3.87	100	109	QP
137.778	48.73	-8.47	40.26	43.50	-3.24	100	82	QP
215.456	40.75	-10.66	30.09	43.50	-13.41	100	93	QP
239.730	48.67	-9.39	39.28	46.00	-6.72	100	104	QP
250.410	48.76	-9.42	39.34	46.00	-6.66	100	104	QP

Mode 5 / Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
67.868	43.11	-14.13	28.98	40.00	-11.02	100	261	QP
87.287	49.37	-14.76	34.61	40.00	-5.39	100	114	QP
95.055	45.39	-13.15	32.24	43.50	-11.26	100	28	QP
107.678	42.70	-9.99	32.71	43.50	-10.79	100	352	QP
119.329	41.51	-8.11	33.40	43.50	-10.10	100	352	QP
215.456	41.80	-10.66	31.14	43.50	-12.36	100	352	QP

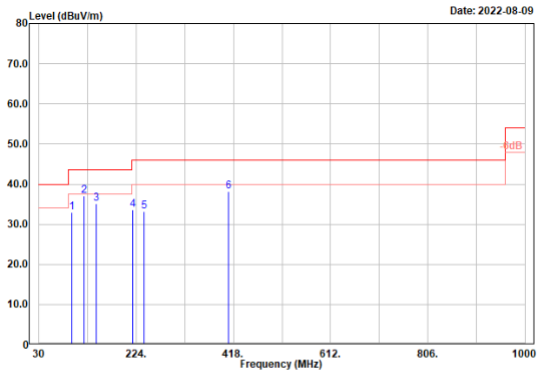
Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

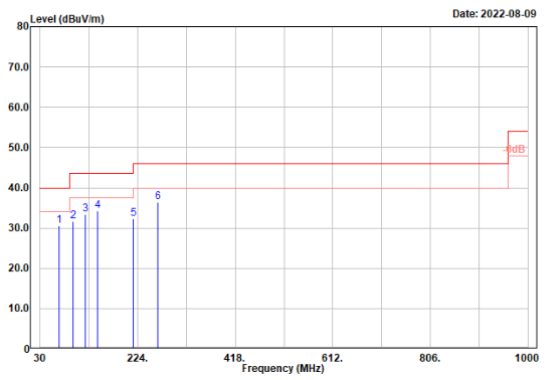
Spurious emissions more than 20 dB below the limit were not reported.

Mode 6 / Horizontal



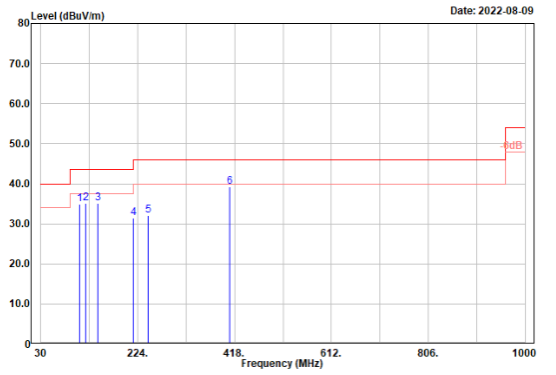
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
95.055	46.04	-13.15	32.89	43.50	-10.61	100	71	QP
119.329	45.11	-8.11	37.00	43.50	-6.50	100	86	QP
143.604	44.00	-8.91	35.09	43.50	-8.41	100	74	QP
217.397	44.19	-10.52	33.67	46.00	-12.33	100	90	QP
239.730	42.49	-9.39	33.10	46.00	-12.90	100	94	QP
407.708	42.09	-4.01	38.08	46.00	-7.92	100	106	QP

Mode 6 / Vertical



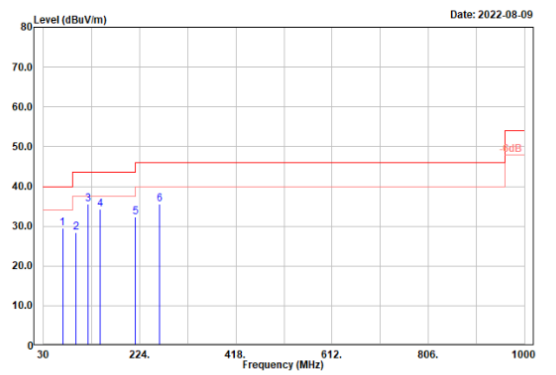
Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
67.868	44.71	-14.13	30.58	40.00	-9.42	100	51	QP
95.055	44.80	-13.15	31.65	43.50	-11.85	100	23	QP
119.329	41.56	-8.11	33.45	43.50	-10.05	100	328	QP
143.604	43.19	-8.91	34.28	43.50	-9.22	100	15	QP
215.456	42.93	-10.66	32.27	43.50	-11.23	100	351	QP
264.004	44.62	-8.26	36.36	46.00	-9.64	100	336	QP

Mode 7 / Horizontal



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
107.678	44.93	-9.99	34.94	43.50	-8.56	100	67	QP
119.329	43.32	-8.11	35.21	43.50	-8.29	100	99	QP
143.604	43.94	-8.91	35.03	43.50	-8.47	100	59	QP
215.456	42.02	-10.66	31.36	43.50	-12.14	100	99	QP
244.585	41.26	-9.26	32.00	46.00	-14.00	100	126	QP
407.708	43.33	-4.01	39.32	46.00	-6.68	100	111	QP

Mode 7 / Vertical



Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
68.839	43.78	-14.26	29.52	40.00	-10.48	100	88	QP
95.055	41.59	-13.15	28.44	43.50	-15.06	100	17	QP
119.329	43.77	-8.11	35.66	43.50	-7.84	100	338	QP
143.604	43.15	-8.91	34.24	43.50	-9.26	100	9	QP
215.456	42.91	-10.66	32.25	43.50	-11.25	100	359	QP
264.004	43.83	-8.26	35.57	46.00	-10.43	100	326	QP

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Above 1GHz

Mode 2 :

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4874.000	30.16	-3.25	26.91	54.00	-27.09	167	217	Average
4874.000	43.19	-3.25	39.94	74.00	-34.06	167	217	Peak
4960.000	32.70	-3.04	29.66	54.00	-24.34	179	117	Average
4960.000	42.66	-3.04	39.62	74.00	-34.38	179	117	Peak
7311.000	30.49	2.46	32.95	54.00	-21.05	201	272	Average
7311.000	40.95	2.46	43.41	74.00	-30.59	201	272	Peak
7440.000	33.35	2.88	36.23	54.00	-17.77	159	323	Average
7440.000	41.34	2.88	44.22	74.00	-29.78	159	323	Peak
10460.000	32.69	7.20	39.89	54.00	-14.11	174	244	Average
10460.000	40.15	7.20	47.35	74.00	-26.65	174	244	Peak
15690.000	32.09	7.34	39.43	54.00	-14.57	185	323	Average
15690.000	42.52	7.34	49.86	74.00	-24.14	185	323	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	40.28	0.25	40.53	54.00	-13.47	150	345	Average
19496.000	50.94	0.25	51.19	74.00	-22.81	150	345	Peak
19840.000	41.53	1.22	42.75	54.00	-11.25	150	70	Average
19840.000	51.95	1.22	53.17	74.00	-20.83	150	70	Peak
20920.000	39.69	1.81	41.50	54.00	-12.50	150	264	Average
20920.000	48.54	1.81	50.35	74.00	-23.65	150	264	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4874.000	34.59	-3.25	31.34	54.00	-22.66	175	27	Average
4874.000	45.31	-3.25	42.06	74.00	-31.94	175	27	Peak
4960.000	33.78	-3.04	30.74	54.00	-23.26	163	165	Average
4960.000	45.61	-3.04	42.57	74.00	-31.43	163	165	Peak
7311.000	32.88	2.46	35.34	54.00	-18.66	169	12	Average
7311.000	42.43	2.46	44.89	74.00	-29.11	169	12	Peak
7440.000	33.70	2.88	36.58	54.00	-17.42	188	335	Average
7440.000	41.89	2.88	44.77	74.00	-29.23	188	335	Peak
10460.000	32.75	7.20	39.95	54.00	-14.05	200	39	Average
10460.000	40.97	7.20	48.17	74.00	-25.83	200	39	Peak
15690.000	32.86	7.34	40.20	54.00	-13.80	179	229	Average
15690.000	42.89	7.34	50.23	74.00	-23.77	179	229	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	41.97	0.25	42.22	54.00	-11.78	150	0	Average
19496.000	51.15	0.25	51.40	74.00	-22.60	150	0	Peak
19840.000	40.22	1.22	41.44	54.00	-12.56	150	301	Average
19840.000	50.76	1.22	51.98	74.00	-22.02	150	301	Peak
20920.000	39.28	1.81	41.09	54.00	-12.91	150	332	Average
20920.000	49.70	1.81	51.51	74.00	-22.49	150	332	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Mode 3:

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4874.000	31.87	-3.25	28.62	54.00	-25.38	203	151	Average
4874.000	43.23	-3.25	39.98	74.00	-34.02	203	151	Peak
4960.000	32.77	-3.04	29.73	54.00	-24.27	199	186	Average
4960.000	42.40	-3.04	39.36	74.00	-34.64	199	186	Peak
7311.000	30.43	2.46	32.89	54.00	-21.11	192	197	Average
7311.000	40.29	2.46	42.75	74.00	-31.25	192	197	Peak
7440.000	30.15	2.88	33.03	54.00	-20.97	183	0	Average
7440.000	41.40	2.88	44.28	74.00	-29.72	183	0	Peak
10460.000	30.54	7.20	37.74	54.00	-16.26	171	182	Average
10460.000	40.51	7.20	47.71	74.00	-26.29	171	182	Peak
10600.000	32.19	7.55	39.74	54.00	-14.26	144	10	Average
10600.000	40.52	7.55	48.07	74.00	-25.93	144	10	Peak
15690.000	33.40	7.34	40.74	54.00	-13.26	180	309	Average
15690.000	42.57	7.34	49.91	74.00	-24.09	180	309	Peak
15900.000	32.09	7.30	39.39	54.00	-14.61	153	359	Average
15900.000	41.88	7.30	49.18	74.00	-24.82	153	359	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	31.59	0.25	31.84	54.00	-22.16	150	170	Average
19496.000	51.11	0.25	51.36	74.00	-22.64	150	170	Peak
19840.000	41.75	1.22	42.97	54.00	-11.03	150	332	Average
19840.000	51.21	1.22	52.43	74.00	-21.57	150	332	Peak
20920.000	39.88	1.81	41.69	54.00	-12.31	150	301	Average
20920.000	49.23	1.81	51.04	74.00	-22.96	150	301	Peak
21200.000	39.75	1.85	41.60	54.00	-12.40	150	2	Average
21200.000	48.93	1.85	50.78	74.00	-23.22	150	2	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4874.000	32.44	-3.25	29.19	54.00	-24.81	193	127	Average
4874.000	43.52	-3.25	40.27	74.00	-33.73	193	127	Peak
4960.000	32.95	-3.04	29.91	54.00	-24.09	188	197	Average
4960.000	42.49	-3.04	39.45	74.00	-34.55	188	197	Peak
7311.000	30.90	2.46	33.36	54.00	-20.64	163	197	Average
7311.000	40.67	2.46	43.13	74.00	-30.87	163	197	Peak
7440.000	30.68	2.88	33.56	54.00	-20.44	180	360	Average
7440.000	41.54	2.88	44.42	74.00	-29.58	180	360	Peak
10460.000	30.63	7.20	37.83	54.00	-16.17	170	47	Average
10460.000	40.67	7.20	47.87	74.00	-26.13	170	47	Peak
10600.000	32.43	7.55	39.98	54.00	-14.02	201	192	Average
10600.000	40.96	7.55	48.51	74.00	-25.49	201	192	Peak
15690.000	33.55	7.34	40.89	54.00	-13.11	174	75	Average
15690.000	43.78	7.34	51.12	74.00	-22.88	174	75	Peak
15900.000	32.15	7.30	39.45	54.00	-14.55	153	251	Average
15900.000	42.44	7.30	49.74	74.00	-24.26	153	251	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	42.52	0.25	42.77	54.00	-11.23	150	126	Average
19496.000	52.34	0.25	52.59	74.00	-21.41	150	126	Peak
19840.000	42.10	1.22	43.32	54.00	-10.68	150	126	Average
19840.000	52.13	1.22	53.35	74.00	-20.65	150	126	Peak
20920.000	40.58	1.81	42.39	54.00	-11.61	150	309	Average
20920.000	49.13	1.81	50.94	74.00	-23.06	150	309	Peak
21200.000	41.35	1.85	43.20	54.00	-10.80	150	352	Average
21200.000	49.41	1.85	51.26	74.00	-22.74	150	352	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Mode 4:

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4960.000	33.83	-3.04	30.79	54.00	-23.21	153	325	Average
4960.000	42.81	-3.04	39.77	74.00	-34.23	153	325	Peak
7440.000	31.22	2.88	34.10	54.00	-19.90	164	69	Average
7440.000	41.04	2.88	43.92	74.00	-30.08	164	69	Peak
10460.000	31.28	7.20	38.48	54.00	-15.52	179	155	Average
10460.000	40.08	7.20	47.28	74.00	-26.72	179	155	Peak
10600.000	30.46	7.55	38.01	54.00	-15.99	205	166	Average
10600.000	40.36	7.55	47.91	74.00	-26.09	205	166	Peak
11550.000	31.38	7.70	39.08	54.00	-14.92	160	22	Average
11550.000	40.32	7.70	48.02	74.00	-25.98	160	22	Peak
15690.000	32.74	7.34	40.08	54.00	-13.92	169	310	Average
15690.000	42.82	7.34	50.16	74.00	-23.84	169	310	Peak
15900.000	31.80	7.30	39.10	54.00	-14.90	172	333	Average
15900.000	42.42	7.30	49.72	74.00	-24.28	172	333	Peak
17325.000	32.06	13.49	45.55	54.00	-8.45	155	69	Average
17325.000	40.58	13.49	54.07	74.00	-19.93	155	69	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	41.52	0.25	41.77	54.00	-12.23	150	23	Average
19496.000	51.08	0.25	51.33	74.00	-22.67	150	23	Peak
19840.000	40.33	1.22	41.55	54.00	-12.45	150	210	Average
19840.000	50.64	1.22	51.86	74.00	-22.14	150	210	Peak
20920.000	39.55	1.81	41.36	54.00	-12.64	150	23	Average
20920.000	49.35	1.81	51.16	74.00	-22.84	150	23	Peak
23100.000	38.07	2.28	40.35	54.00	-13.65	150	116	Average
23100.000	48.20	2.28	50.48	74.00	-23.52	150	116	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4960.000	34.30	-3.04	31.26	54.00	-22.74	167	171	Average
4960.000	43.61	-3.04	40.57	74.00	-33.43	167	171	Peak
7440.000	31.58	2.88	34.46	54.00	-19.54	158	67	Average
7440.000	41.98	2.88	44.86	74.00	-29.14	158	67	Peak
10460.000	31.34	7.20	38.54	54.00	-15.46	178	105	Average
10460.000	40.15	7.20	47.35	74.00	-26.65	178	105	Peak
10600.000	30.75	7.55	38.30	54.00	-15.70	152	17	Average
10600.000	41.58	7.55	49.13	74.00	-24.87	152	17	Peak
11550.000	31.59	7.70	39.29	54.00	-14.71	202	206	Average
11550.000	40.58	7.70	48.28	74.00	-25.72	202	206	Peak
15690.000	33.87	7.34	41.21	54.00	-12.79	161	350	Average
15690.000	43.67	7.34	51.01	74.00	-22.99	161	350	Peak
15900.000	31.92	7.30	39.22	54.00	-14.78	164	32	Average
15900.000	42.51	7.30	49.81	74.00	-24.19	164	32	Peak
17325.000	32.16	13.49	45.65	54.00	-8.35	176	36	Average
17325.000	40.68	13.49	54.17	74.00	-19.83	176	36	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	41.63	0.25	41.88	54.00	-12.12	150	85	Average
19496.000	51.18	0.25	51.43	74.00	-22.57	150	85	Peak
19840.000	40.46	1.22	41.68	54.00	-12.32	150	214	Average
19840.000	50.91	1.22	52.13	74.00	-21.87	150	214	Peak
20920.000	39.71	1.81	41.52	54.00	-12.48	150	350	Average
20920.000	49.84	1.81	51.65	74.00	-22.35	150	350	Peak
23100.000	38.34	2.28	40.62	54.00	-13.38	150	229	Average
23100.000	48.59	2.28	50.87	74.00	-23.13	150	229	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Mode 5:

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4960.000	31.30	-3.04	28.26	54.00	-25.74	192	2	Average
4960.000	43.40	-3.04	40.36	74.00	-33.64	192	2	Peak
7440.000	30.39	2.88	33.27	54.00	-20.73	179	156	Average
7440.000	41.18	2.88	44.06	74.00	-29.94	179	156	Peak
10460.000	30.59	7.20	37.79	54.00	-16.21	186	180	Average
10460.000	40.71	7.20	47.91	74.00	-26.09	186	180	Peak
10600.000	30.86	7.55	38.41	54.00	-15.59	143	176	Average
10600.000	40.98	7.55	48.53	74.00	-25.47	143	176	Peak
11550.000	31.52	7.70	39.22	54.00	-14.78	165	289	Average
11550.000	40.21	7.70	47.91	74.00	-26.09	165	289	Peak
15690.000	32.33	7.34	39.67	54.00	-14.33	157	3	Average
15690.000	42.09	7.34	49.43	74.00	-24.57	157	3	Peak
15900.000	32.23	7.30	39.53	54.00	-14.47	171	214	Average
15900.000	41.10	7.30	48.40	74.00	-25.60	171	214	Peak
17325.000	30.07	13.49	43.56	54.00	-10.44	166	360	Average
17325.000	40.28	13.49	53.77	74.00	-20.23	166	360	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19840.000	38.04	1.22	39.26	54.00	-14.74	150	174	Average
19840.000	48.53	1.22	49.75	74.00	-24.25	150	174	Peak
20920.000	38.55	1.81	40.36	54.00	-13.64	150	1	Average
20920.000	48.11	1.81	49.92	74.00	-24.08	150	1	Peak
21200.000	38.57	1.85	40.42	54.00	-13.58	150	96	Average
21200.000	48.49	1.85	50.34	74.00	-23.66	150	96	Peak
23100.000	42.08	2.28	44.36	54.00	-9.64	150	236	Average
23100.000	49.27	2.28	51.55	74.00	-22.45	150	236	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4960.000	31.34	-3.04	28.30	54.00	-25.70	169	77	Average
4960.000	43.44	-3.04	40.40	74.00	-33.60	169	77	Peak
7440.000	30.46	2.88	33.34	54.00	-20.66	147	353	Average
7440.000	41.22	2.88	44.10	74.00	-29.90	147	353	Peak
10460.000	30.68	7.20	37.88	54.00	-16.12	153	124	Average
10460.000	40.80	7.20	48.00	74.00	-26.00	153	124	Peak
10600.000	30.91	7.55	38.46	54.00	-15.54	164	261	Average
10600.000	41.05	7.55	48.60	74.00	-25.40	164	261	Peak
11550.000	31.77	7.70	39.47	54.00	-14.53	179	170	Average
11550.000	40.36	7.70	48.06	74.00	-25.94	179	170	Peak
15690.000	32.72	7.34	40.06	54.00	-13.94	181	272	Average
15690.000	42.38	7.34	49.72	74.00	-24.28	181	272	Peak
15900.000	32.46	7.30	39.76	54.00	-14.24	184	3	Average
15900.000	42.14	7.30	49.44	74.00	-24.56	184	3	Peak
17325.000	30.23	13.49	43.72	54.00	-10.28	159	162	Average
17325.000	40.49	13.49	53.98	74.00	-20.02	159	162	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19840.000	42.19	1.22	43.41	54.00	-10.59	150	264	Average
19840.000	52.39	1.22	53.61	74.00	-20.39	150	264	Peak
20920.000	38.92	1.81	40.73	54.00	-13.27	150	127	Average
20920.000	48.22	1.81	50.03	74.00	-23.97	150	127	Peak
21200.000	39.25	1.85	41.10	54.00	-12.90	150	95	Average
21200.000	49.77	1.85	51.62	74.00	-22.38	150	95	Peak
23100.000	38.27	2.28	40.55	54.00	-13.45	150	48	Average
23100.000	48.65	2.28	50.93	74.00	-23.07	150	48	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Mode 6:

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4874.000	31.11	-3.25	27.86	54.00	-26.14	188	229	Average
4874.000	42.22	-3.25	38.97	74.00	-35.03	188	229	Peak
4960.000	30.27	-3.04	27.23	54.00	-26.77	203	229	Average
4960.000	42.07	-3.04	39.03	74.00	-34.97	203	229	Peak
7311.000	32.54	2.46	35.00	54.00	-19.00	169	5	Average
7311.000	41.00	2.46	43.46	74.00	-30.54	169	5	Peak
7440.000	30.87	2.88	33.75	54.00	-20.25	173	197	Average
7440.000	39.88	2.88	42.76	74.00	-31.24	173	197	Peak
11490.000	31.15	7.50	38.65	54.00	-15.35	165	112	Average
11490.000	39.62	7.50	47.12	74.00	-26.88	165	112	Peak
17235.000	31.63	12.83	44.46	54.00	-9.54	167	327	Average
17235.000	41.03	12.83	53.86	74.00	-20.14	167	327	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	41.25	0.25	41.50	54.00	-12.50	150	253	Average
19496.000	51.49	0.25	51.74	74.00	-22.26	150	253	Peak
19840.000	40.44	1.22	41.66	54.00	-12.34	150	342	Average
19840.000	50.68	1.22	51.90	74.00	-22.10	150	342	Peak
22980.000	41.10	2.57	43.67	54.00	-10.33	150	360	Average
22980.000	48.56	2.57	51.13	74.00	-22.87	150	360	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4874.000	31.41	-3.25	28.16	54.00	-25.84	160	29	Average
4874.000	42.56	-3.25	39.31	74.00	-34.69	160	29	Peak
4960.000	30.98	-3.04	27.94	54.00	-26.06	173	180	Average
4960.000	42.42	-3.04	39.38	74.00	-34.62	173	180	Peak
7311.000	32.67	2.46	35.13	54.00	-18.87	155	226	Average
7311.000	42.14	2.46	44.60	74.00	-29.40	155	226	Peak
7440.000	30.92	2.88	33.80	54.00	-20.20	200	188	Average
7440.000	41.00	2.88	43.88	74.00	-30.12	200	188	Peak
11490.000	31.56	7.50	39.06	54.00	-14.94	197	219	Average
11490.000	39.97	7.50	47.47	74.00	-26.53	197	219	Peak
17235.000	31.99	12.83	44.82	54.00	-9.18	180	156	Average
17235.000	41.07	12.83	53.90	74.00	-20.10	180	156	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	41.52	0.25	41.77	54.00	-12.23	150	273	Average
19496.000	51.93	0.25	52.18	74.00	-21.82	150	273	Peak
19840.000	40.55	1.22	41.77	54.00	-12.23	150	108	Average
19840.000	50.96	1.22	52.18	74.00	-21.82	150	108	Peak
22980.000	41.27	2.57	43.84	54.00	-10.16	150	192	Average
22980.000	48.64	2.57	51.21	74.00	-22.79	150	192	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Mode 7:

Horizontal

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4874.000	32.12	-3.25	28.87	54.00	-25.13	155	266	Average
4874.000	42.16	-3.25	38.91	74.00	-35.09	155	266	Peak
4960.000	31.21	-3.04	28.17	54.00	-25.83	172	76	Average
4960.000	42.20	-3.04	39.16	74.00	-34.84	172	76	Peak
7311.000	30.01	2.46	32.47	54.00	-21.53	199	320	Average
7311.000	40.05	2.46	42.51	74.00	-31.49	199	320	Peak
7440.000	30.28	2.88	33.16	54.00	-20.84	187	59	Average
7440.000	40.46	2.88	43.34	74.00	-30.66	187	59	Peak
10600.000	30.43	7.55	37.98	54.00	-16.02	142	173	Average
10600.000	40.27	7.55	47.82	74.00	-26.18	142	173	Peak
11490.000	30.08	7.50	37.58	54.00	-16.42	163	339	Average
11490.000	39.91	7.50	47.41	74.00	-26.59	163	339	Peak
15900.000	31.67	7.30	38.97	54.00	-15.03	200	199	Average
15900.000	41.26	7.30	48.56	74.00	-25.44	200	199	Peak
17235.000	30.11	12.83	42.94	54.00	-11.06	202	281	Average
17235.000	40.63	12.83	53.46	74.00	-20.54	202	281	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	40.15	0.25	40.40	54.00	-13.60	150	73	Average
19496.000	50.09	0.25	50.34	74.00	-23.66	150	73	Peak
19840.000	41.33	1.22	42.55	54.00	-11.45	150	0	Average
19840.000	51.28	1.22	52.50	74.00	-21.50	150	0	Peak
21200.000	40.00	1.85	41.85	54.00	-12.15	150	245	Average
21200.000	48.48	1.85	50.33	74.00	-23.67	150	245	Peak
22980.000	39.86	2.57	42.43	54.00	-11.57	150	81	Average
22980.000	49.24	2.57	51.81	74.00	-22.19	150	81	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

Vertical

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
4874.000	33.51	-3.25	30.26	54.00	-23.74	171	346	Average
4874.000	43.33	-3.25	40.08	74.00	-33.92	171	346	Peak
4960.000	32.38	-3.04	29.34	54.00	-24.66	164	88	Average
4960.000	42.44	-3.04	39.40	74.00	-34.60	164	88	Peak
7311.000	30.26	2.46	32.72	54.00	-21.28	142	156	Average
7311.000	40.35	2.46	42.81	74.00	-31.19	142	156	Peak
7440.000	30.71	2.88	33.59	54.00	-20.41	189	305	Average
7440.000	40.39	2.88	43.27	74.00	-30.73	189	305	Peak
10600.000	30.16	7.55	37.71	54.00	-16.29	201	309	Average
10600.000	40.84	7.55	48.39	74.00	-25.61	201	309	Peak
11490.000	30.22	7.50	37.72	54.00	-16.28	193	301	Average
11490.000	40.37	7.50	47.87	74.00	-26.13	193	301	Peak
15900.000	31.54	7.30	38.84	54.00	-15.16	182	103	Average
15900.000	41.79	7.30	49.09	74.00	-24.91	182	103	Peak
17235.000	31.73	12.83	44.56	54.00	-9.44	155	42	Average
17235.000	41.34	12.83	54.17	74.00	-19.83	155	42	Peak

Freq.	Reading	Factor	Level	Limit	Margin	Height	Degree	Remark
MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	(cm)	(°)	
19496.000	40.28	0.25	40.53	54.00	-13.47	150	66	Average
19496.000	50.16	0.25	50.41	74.00	-23.59	150	66	Peak
19840.000	41.57	1.22	42.79	54.00	-11.21	150	197	Average
19840.000	51.35	1.22	52.57	74.00	-21.43	150	197	Peak
21200.000	40.07	1.85	41.92	54.00	-12.08	150	89	Average
21200.000	49.16	1.85	51.01	74.00	-22.99	150	89	Peak
22980.000	40.10	2.57	42.67	54.00	-11.33	150	77	Average
22980.000	49.39	2.57	51.96	74.00	-22.04	150	77	Peak

Level (Result) = Reading + Factor.

Margin = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

Spurious emissions more than 20 dB below the limit were not reported.

7 FCC §15.407(a) – Maximum Output Power

7.1 Applicable Standard

According to FCC §15.407(a):

For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

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

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

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

7.2 Test Procedure

The use Power Meter

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to a Power sensor.

7.3 Test Results

Conducted output power for worst case :

Worst case mode		Output power (dBm)
XOR WIFI-2.4GHz	AX20 Mode, 2437MHz	20.03
XOR WIFI-5GHz	AX80 Mode, 5775MHz	22.19
Regular WIFI-5GHz(4TX)	AX40 Mode, 5230 MHz	21.26
Regular WIFI-5GHz(8TX)	AX20 Mode, 5745MHz	25.24
AUX WIFI-2.4GHz	G Mode, 2437MHz	19.90
AUX WIFI-5GHz	A Mode, 5300MHz	19.96

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