



MEASUREMENT REPORT

FCC PART 15.247 WLAN 802.11b/g/n

Report No.: S20221129093607

Issue Date: 04-20-2023

Applicant: SBOT Technologies LLC
Address: 230 W 39th St, 8th FL, New York United States 10018
FCC ID: 2A3Q4-CA03AN
Product: Caper Cart M3 Android board
Model No.: PCBA-CAP-CA03AN-RK39
FCC Classification: Digital Transmission System (DTS)
FCC Rule Part(s): Part 15 Subpart C (15.247)
Test Procedure(s): ANSI C63.10-2013, KDB 558074 D01v05r02
Result: Pass
Receipt date: Feb 08, 2023
Test Date: Feb 19, 2023

Compiled By

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Approved By

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The test results relate only to the samples tested.

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 KDB 558074 D01. 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 Fanguang Inspection & Testing Co., Ltd. Wuxi Branch

The test report must not be used by the client to claim product certifications, approval, or endorsement by NVLAP, NIST or any agency of U.S. Government.

Revision History

Report No.	Version	Description	Issue Date
S20221129093607	Rev. 01	/	04-20-2023

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§2.1033 General Information

Applicant:	SBOT Technologies LLC
Applicant Address:	230 W 39th St, 8th FL, New York United States 10018
Manufacturer:	SBOT Technologies LLC
Manufacturer Address:	230 W 39th St, 8th FL, New York United States 10018
Factory:	SBOT Technologies LLC
Factory Address:	230 W 39th St, 8th FL, New York United States 10018
Test Site:	Fanguang Inspection & Testing Co., Ltd.
LAB ID:	CN5037
Test Site Address:	G9 Building, China Sensor Network International Innovation Park No.200, Linghu Avenue Wuxi, Jiangsu 214000 China
FCC Rule Part(s):	Part 15 Subpart C (15.247)
FCC ID:	2A3Q4-CA03AN
Test Device Serial No.:	S/N.: CAM3ANDV02.01.01.000089YX23300104 ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	Digital Transmission System (DTS)

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 Innovation, Science and Economic Development Canada.

1.2. Fangguang Test Location

These measurement tests were performed at the Fangguang Inspection and testing Co.,LTD located at 200 Linghu Avenue, Xinwu District, Wuxi City. The detailed description of the measurement facility was found to be in compliance with the requirements of ANSI C63.4-2014.

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name:	Caper Cart M3 Android board
Model Name:	PCBA-CAP-CA03AN-RK39
Trade Mark:	/
Input Voltage Range:	DC 24V
Wi-Fi Specification:	802.11b/g/n-HT20

2.2. Product Specification Subjective to this Report

Frequency Range:	802.11b/g/n-HT20: 2412 ~ 2462MHz
Channel Number:	802.11b/g/n-HT20: 11
Type of Modulation:	802.11b: DSSS 802.11g/n: OFDM
Data Rate:	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: MCS0~MCS7
Antenna Type:	FPC Antenna
Antenna Gain:	Ant1:6.22dBi Ant2:3.61dBi

2.3. Operation Frequency / Channel List

802.11b/g/n-HT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz
04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz
10	2457 MHz	11	2462 MHz	--	--

2.4. Description of Available Antennas

Antenna	Frequency Band (GHz)	Product Number	Tx Paths
FPC Antenna	2.4&5	WIFI0-V0.1-1025 YFT WIFI1-V0.1-0707 YFT	2

Antenna	Frequency Band (MHz)	Tx Paths	Per Chain Max Antenna Gain (dBi)		Beam Forming Directional Gain (dBi)	CDD Directional Gain (dBi)
			Ant 0	Ant 1		
Ant 0: WIFI0-V0.1-1025 YFT	2412 ~2462	2	6.22	3.61	Nonsupport	8.02
Ant 1: WIFI1-V0.1-0707 YFT	5150 ~ 5250 5725 ~ 5850	2	4.48	6.15	Nonsupport	8.37

Note:

Unequal Antenna gains, with equal transmit powers. For Antenna gains given by $G_1, G_2, \dots, G_N$ dBi transmit signals are correlated, then

- Directional gain = $10 \cdot \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}]$ dBi [Note the “20”s in the denominator of each exponent and the square of the sum of terms; the object is to combine the signal levels coherently.]
- Directional Gain(2.4G) = $10 \cdot \log[(10^{6.22/20} + 10^{3.61/20})^2 / 2] = 8.02$ dBi
- Directional Gain(5G) = $10 \cdot \log[(10^{4.48/20} + 10^{6.15/20})^2 / 2] = 8.37$ dBi

2.5. Device Capabilities

This device contains the following capabilities:

2.4GHz WLAN (DTS)

Note: 2.4GHz WLAN (DTS) operation is possible in 20MHz channel bandwidths. The maximum achievable duty cycle was determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz. 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. The duty cycles:

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor
11B	Ant1	2412	8.42	8.51	0.9894	98.94	0.05
	Ant2	2412	8.41	8.50	0.9894	98.94	0.05

	Ant1	2437	8.41	8.51	0.9882	98.82	0.05
	Ant2	2437	8.41	8.51	0.9882	98.82	0.05
	Ant1	2462	8.42	8.52	0.9883	98.83	0.05
	Ant2	2462	8.41	8.51	0.9882	98.82	0.05
11G	Ant1	2412	1.40	1.50	0.9333	93.33	0.30
	Ant2	2412	1.39	1.49	0.9329	93.29	0.30
	Ant1	2437	1.40	1.50	0.9333	93.33	0.30
	Ant2	2437	1.39	2.03	0.6847	68.47	1.64
	Ant1	2462	1.40	1.50	0.9333	93.33	0.30
	Ant2	2462	1.39	1.49	0.9329	93.29	0.30
11N20SISO	Ant1	2412	0.67	0.77	0.8701	87.01	0.60
	Ant2	2412	0.67	0.77	0.8701	87.01	0.60
	Ant1	2437	0.67	0.77	0.8701	87.01	0.60
	Ant2	2437	0.67	0.77	0.8701	87.01	0.60
	Ant1	2462	0.67	0.77	0.8701	87.01	0.60
	Ant2	2462	0.67	0.77	0.8701	87.01	0.60
11N20CDD	Ant1	2412	0.67	0.77	0.8701	87.01	0.60
	Ant2	2412	1.30	1.40	0.9286	92.86	0.32
	Ant1	2437	1.31	1.41	0.9291	92.91	0.32
	Ant2	2437	1.31	1.41	0.9291	92.91	0.32
	Ant1	2462	1.31	1.41	0.9291	92.91	0.32
	Ant2	2462	1.31	1.41	0.9291	92.91	0.32

Test Graphs see Appendix E.

2.6. Description of Test Software

The test utility software used during testing was “wl tool”, Power Parameter Value:

Test Mode	ANT1	ANT2	CDD
B	15	18	13
G	15	17	12
N	15	17	12

2.7. Test Mode

Test Mode	Mode 1: Transmit by 802.11b Ant 1
	Mode 2: Transmit by 802.11g Ant 1
	Mode 3: Transmit by 802.11n-HT20 Ant 1

	Mode 4: Transmit by 802.11b Ant 2
	Mode 5: Transmit by 802.11g Ant 2
	Mode 6: Transmit by 802.11n-HT20 Ant 2
	Mode 7: Transmit by 802.11n-CDD

2.8. Test Configuration

The EUT was tested per the guidance of KDB 558074 D01 v05r02. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.9. EMI Suppression Device(s)/Modifications

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

2.10. 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 558074 D01 v05r02 were used in the measurement of the EUT.

Deviation from measurement procedure.....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' 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.

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. The 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 1-25GHz 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.”

- Use a unique coupling to the intentional radiator.

5. TEST EQUIPMENT CALIBRATION DATE

Radiated Emission

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Loop Antenna	Schwarzbeck	FMZB 1519B	FWXGJC-2018-015	3 year	2024/08/13
Bi-Log Antenna	R&S	HL562E	FWXGJC-2016-267-06	3 year	2023/03/30
Broadband Horn Antenna	R&S	HF907	FWXGJC-2016-267-07	1 year	2023/03/12
Broadband Horn Antenna	Schwarzbeck	BBHA9170	FWXGJC-2018-016	3 year	2024/06/04
EMI Receiver	R&S	ESR26	FWXGJC-2016-267-01	1 year	2023/11/08
Pre-Amplifier	R&S	SCU-18D	FWXGJC-2016-267-05	1 year	2023/11/17
Pre-Amplifier	R&S	EMC184055 SE	FWXGJC-2018-018	3 year	2025/04/13
Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016-386	1 year	2023/11/21
Anechoic Chamber	Aimuke	EMCCT-3	FWXGJC-2016-270	1 year	2023/04/07

Conducted Test Equipment

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EXA Signal Analyzer	Keysight	N9010B	FWXGJC-2018-010	1 year	2023/04/13
RF Control Unit	Toncend	JS0806-2	FWXGJC-2018-013	1 year	2023/06/30
Thermohygrometer	Yuhuaze	HTC-1	FWXDA-2016-385	1 year	2023/11/21

Test Software	Manufacturer	Version	Asset No.	Function
EMI Test Software	tonscend	/	/	/

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 $k = 2$.

AC Conducted Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 2.05dB
Radiated Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 30MHz-1GHz: 3.06dB 1GHz-12.75GHz: 4.13dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 30MHz-1GHz: 1.00 dB 1GHz-26.5GHz: 1.30 dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.60dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.80dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.20MHz

7. TEST RESULT

7.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.203	Antenna Requirement	/	/	Pass	Section 4
15.247(a)(2)	6dB Bandwidth	$\geq 500\text{kHz}$	Conducted	Pass	Section 7.2
15.247(b)(3)	Output Power	$\leq 30\text{dBm}$		Pass	Section 7.3
15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$		Pass	Section 7.4
15.247(d)	Band Edge	$\geq 20\text{dBc}$		Pass	Section 7.5
15.247(d)	Out-of-Band Emissions	$\geq 20\text{dBc}$		Pass	Section 7.6
15.205 15.209	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated	Pass	Section 7.7
15.207	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	AC Line Conducted	N/A	Section 7.8

Notes:

- 1) All modes of operation and data rates were investigated. For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst case emissions.
- 2) 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.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.
- 4) N/A is the DC power supply does not need to test the item.

7.2. 6dB Bandwidth Measurement

7.2.1. Test Limit

The minimum permissible 6dB bandwidth is 500 kHz.

7.2.2. Test Procedure used

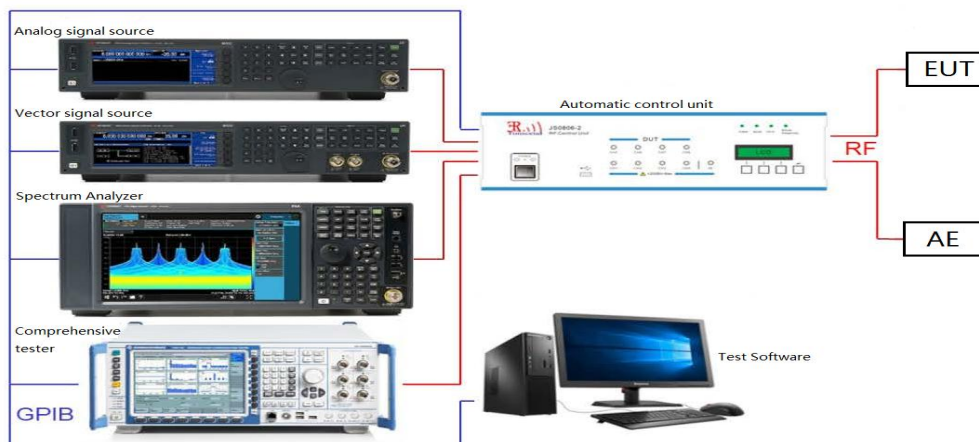
ANSI C63.10-2013 Section 11.8.2 Option 1

KDB 558074 D01 v05r02 – Section 8.2

7.2.3. Test Setting

1. Set RBW = 100 kHz
2. VBW $\geq 3 \times$ RBW
3. Detector = peak
4. Trace mode = max hold
5. Sweep = auto couple
6. Allow the trace was allowed to stabilize
7. 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.

7.2.4. Test Setup



7.2.5. Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	99% BW(MHz)	Verdict
11B	Ant1	2412	7.080	2408.440	2415.520	0.5	11.330	PASS
	Ant2	2412	7.520	2408.000	2415.520	0.5	11.244	PASS
	Ant1	2437	7.560	2433.440	2441.000	0.5	11.286	PASS
	Ant2	2437	8.000	2433.000	2441.000	0.5	11.131	PASS
	Ant1	2462	7.080	2458.440	2465.520	0.5	11.329	PASS
	Ant2	2462	7.520	2458.000	2465.520	0.5	11.191	PASS
11G	Ant1	2412	16.360	2403.800	2420.160	0.5	17.204	PASS
	Ant2	2412	16.360	2403.800	2420.160	0.5	17.321	PASS
	Ant1	2437	16.080	2429.080	2445.160	0.5	17.122	PASS
	Ant2	2437	16.320	2428.840	2445.160	0.5	17.079	PASS
	Ant1	2462	16.320	2453.840	2470.160	0.5	17.177	PASS
	Ant2	2462	16.360	2453.800	2470.160	0.5	17.187	PASS
11N20SISO	Ant1	2412	17.640	2403.160	2420.800	0.5	18.138	PASS
	Ant2	2412	17.640	2403.160	2420.800	0.5	18.145	PASS
	Ant1	2437	17.320	2428.520	2445.840	0.5	18.069	PASS
	Ant2	2437	17.600	2428.200	2445.800	0.5	18.054	PASS
	Ant1	2462	17.680	2453.160	2470.840	0.5	18.082	PASS
	Ant2	2462	17.600	2453.160	2470.760	0.5	18.176	PASS
11N20CDD	Ant1	2412	17.640	2403.160	2420.800	0.5	18.116	PASS
	Ant2	2412	17.560	2403.200	2420.760	0.5	18.144	PASS
	Ant1	2437	16.680	2429.120	2445.800	0.5	18.173	PASS
	Ant2	2437	17.320	2428.480	2445.800	0.5	18.190	PASS
	Ant1	2462	17.560	2453.200	2470.760	0.5	18.269	PASS
	Ant2	2462	17.560	2453.200	2470.760	0.5	18.221	PASS

Test Graphs see Appendix A.

7.3. Output Power Measurement

7.3.1. Test Limit

The maximum conducted output power is 1 Watt. And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.3.2. Test Procedure Used

ANSI C63.10-2013 – Section 11.9.2.2.4

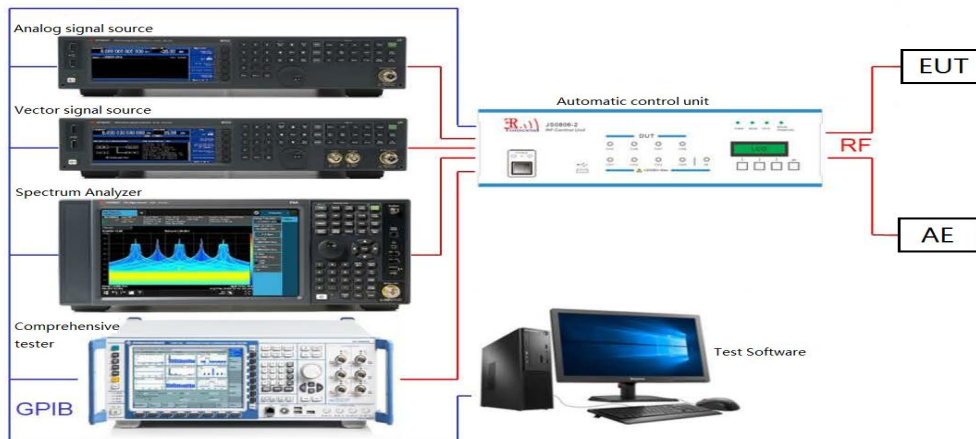
KDB 558074 D01 v05r02 – Section 8.3.2.2

7.3.3. Test Setting

1. Set span to at least 1.5 times the OBW..
2. Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
3. Set VBW $\geq [3 \times \text{RBW}]$.
4. Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
5. Sweep time = auto.
6. Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run.”
8. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.
9. Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum. 10. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power 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 $[10 \log (1/0.25)] = 6$ dB if the duty cycle is 25%.

7.3.4. Test Setup



7.3.5. Test Result of Output Power

Power output test was verified over all data rates of each mode shown as below, and then choose the maximum power output (yellow marker) for final test of each channel.

N _{TX}	Data Rate (Mbps)	
	802.11b	802.11g
1	1	6
1	2	9
1	5.5	12
1	11	18
1	--	24
1	--	36
1	--	48
1	--	54

N _{TX}	MCS Index for 802.11n	Data Rate (Mbps)			
		20MHz Bandwidth		40MHz Bandwidth	
		800ns GI	400ns GI	800ns GI	400ns GI
1	0	6.5	7.2	13.5	15.0
1	1	13.0	14.4	27.0	30.0
1	2	19.5	21.7	40.5	45.0
1	3	26.0	28.9	54.0	60.0
1	4	39.0	43.3	81.0	90.0
1	5	52.0	57.8	108.0	120.0
1	6	58.5	65.0	121.5	135.0
1	7	65.0	72.2	135.0	150.0

Note: Power output test was verified over all data rates of each mode shown as above, and then choose the maximum power output (yellow marker) for final test of each channel.

Test Result of Maximum conducted output power

TestMode	Antenna	Channel	Power [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	12.21	≤27.98	PASS
	Ant2	2412	15.78	≤27.98	PASS
	Ant1	2437	13.37	≤27.98	PASS
	Ant2	2437	16.11	≤27.98	PASS
	Ant1	2462	12.39	≤27.98	PASS
	Ant2	2462	15.24	≤27.98	PASS
11G	Ant1	2412	13.15	≤27.98	PASS
	Ant2	2412	15.40	≤27.98	PASS
	Ant1	2437	13.77	≤27.98	PASS
	Ant2	2437	16.25	≤27.98	PASS
	Ant1	2462	13.06	≤27.98	PASS
	Ant2	2462	15.02	≤27.98	PASS
11N20SISO	Ant1	2412	13.15	≤27.98	PASS
	Ant2	2412	15.43	≤27.98	PASS
	Ant1	2437	13.29	≤27.98	PASS
	Ant2	2437	15.79	≤27.98	PASS
	Ant1	2462	13.44	≤27.98	PASS
	Ant2	2462	14.89	≤27.98	PASS
11N20CDD	Ant1	2412	10.40	≤27.98	PASS
	Ant2	2412	10.74	≤27.98	PASS
	total	2412	13.58	≤27.98	PASS
	Ant1	2437	11.18	≤27.98	PASS
	Ant2	2437	11.15	≤27.98	PASS
	total	2437	14.18	≤27.98	PASS
	Ant1	2462	10.83	≤27.98	PASS
	Ant2	2462	10.86	≤27.98	PASS
	total	2462	13.86	≤27.98	PASS

Limit=30-(8.02-6)=27.98dBm

The Duty Cycle Factor is compensated in the Offset of graph.

Test Graphs see Appendix B.

7.4. Power Spectral Density Measurement

7.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band. And for antenna gain greater than 6dBi the limit shall reduce by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.4.2. Test Procedure Used

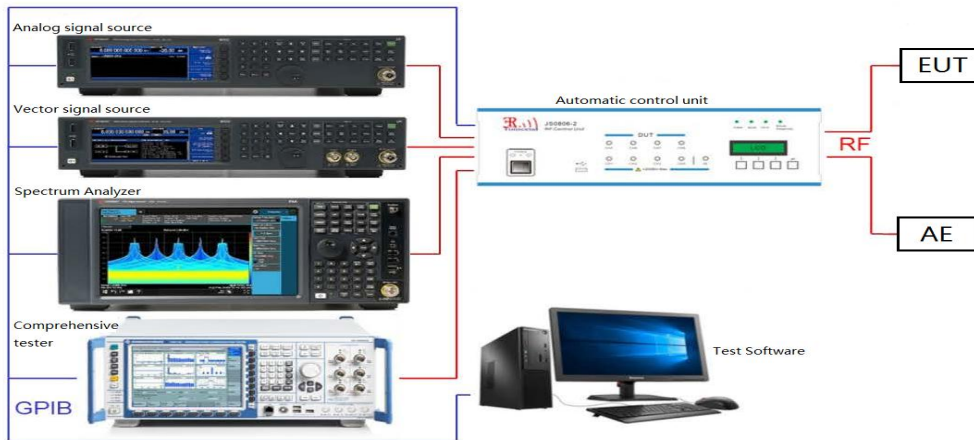
KDB 558074 D01 v05r02 - Section 8.4

ANSI C63.10 – Section 11.10.5

7.4.3. Test Setting

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the OBW.
3. Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq [3 \times \text{RBW}]$.
5. Detector = power averaging (rms) or sample detector (when rms not available).
6. Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span} / \text{RBW}]$.
7. Sweep time = auto couple.
8. Do not use sweep triggering; allow sweep to “free run.”
9. Employ trace averaging (rms) mode over a minimum of 100 traces.
10. Use the peak marker function to determine the maximum amplitude level.
11. Add $[10 \log (1 / D)]$, where D is the duty cycle measured in step a), to the measured PSD to
12. If measured value exceeds requirement specified by regulatory agency, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced)..

7.4.4. Test Setup



7.4.5. Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-11.77	≤5.98	PASS
	Ant2	2412	-9.53	≤5.98	PASS
	Ant1	2437	-11.32	≤5.98	PASS
	Ant2	2437	-8.95	≤5.98	PASS
	Ant1	2462	-11.82	≤5.98	PASS
	Ant2	2462	-10.25	≤5.98	PASS
11G	Ant1	2412	-13.34	≤5.98	PASS
	Ant2	2412	-9.9	≤5.98	PASS
	Ant1	2437	-12.57	≤5.98	PASS
	Ant2	2437	-9.31	≤5.98	PASS
	Ant1	2462	-12.6	≤5.98	PASS
	Ant2	2462	-11.75	≤5.98	PASS
11N20SISO	Ant1	2412	-14.55	≤5.98	PASS
	Ant2	2412	-12.73	≤5.98	PASS
	Ant1	2437	-13.23	≤5.98	PASS
	Ant2	2437	-11.33	≤5.98	PASS
	Ant1	2462	-14.49	≤5.98	PASS
	Ant2	2462	-12.62	≤5.98	PASS
11N20CDD	Ant1	2412	-17.21	≤5.98	PASS
	Ant2	2412	-17.35	≤5.98	PASS
	total	2412	-14.27	≤5.98	PASS
	Ant1	2437	-16.24	≤5.98	PASS
	Ant2	2437	-16.46	≤5.98	PASS
	total	2437	-13.34	≤5.98	PASS
	Ant1	2462	-16.89	≤5.98	PASS
	Ant2	2462	-16.87	≤5.98	PASS
	total	2462	-13.87	≤5.98	PASS

Limit=8-(8.02-6)=5.98dBm

The Duty Cycle Factor is compensated in the Offset of graph.

Test Graphs see Appendix C.

7.5. Conducted Band Edge and Out-of-Band Emissions

7.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 30dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

7.5.2. Test Procedure Used

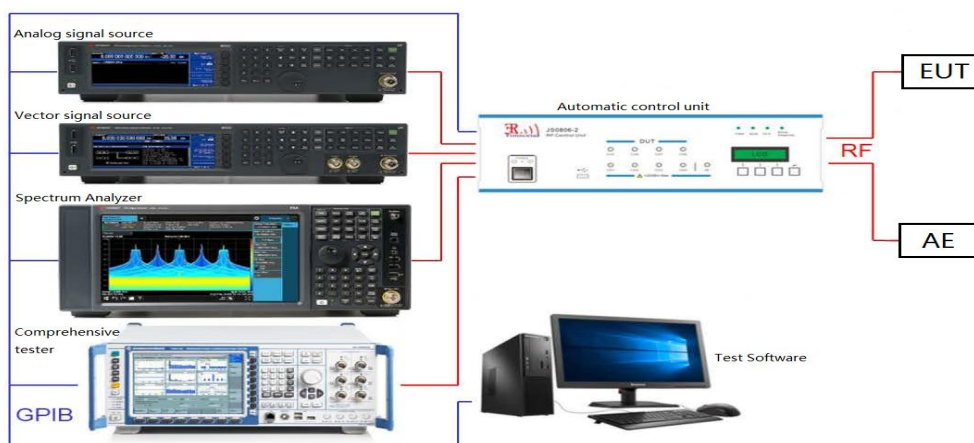
KDB 558074 D01 v05r02 - Section 8.5 & Section 8.6

ANSI C63.10 – Section 11.11&11.12

7.5.3. Test Settintng

- (a) Set the center frequency and span to encompass frequency range to be measured
- (b) RBW = 100kHz
- (c) VBW = 300kHz
- (d) Detector = RMS
- (e) Trace mode = max hold
- (f) Sweep time = auto couple
- (g) The trace was allowed to stabilize

7.5.4. Test Setup



7.5.5. Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	6.26	6.26	---	PASS
			30~1000	6.26	-62.27	≤-23.74	PASS
			1000~26500	6.26	-46.86	≤-23.74	PASS
	Ant2	2412	Reference	8.26	8.26	---	PASS
			30~1000	8.26	-61.97	≤-21.74	PASS
			1000~26500	8.26	-45.69	≤-21.74	PASS
	Ant1	2437	Reference	6.88	6.88	---	PASS
			30~1000	6.88	-61.55	≤-23.12	PASS
			1000~26500	6.88	-45.6	≤-23.12	PASS
	Ant2	2437	Reference	8.89	8.89	---	PASS
			30~1000	8.89	-62.43	≤-21.11	PASS
			1000~26500	8.89	-45.07	≤-21.11	PASS
	Ant1	2462	Reference	6.34	6.34	---	PASS
			30~1000	6.34	-61.37	≤-23.66	PASS
			1000~26500	6.34	-46.13	≤-23.66	PASS
	Ant2	2462	Reference	7.68	7.68	---	PASS
			30~1000	7.68	-62.15	≤-22.32	PASS
			1000~26500	7.68	-45.58	≤-22.32	PASS
11G	Ant1	2412	Reference	1.66	1.66	---	PASS
			30~1000	1.66	-61.15	≤-28.34	PASS
			1000~26500	1.66	-53.23	≤-28.34	PASS
	Ant2	2412	Reference	4.81	4.81	---	PASS
			30~1000	4.81	-61.9	≤-25.19	PASS
			1000~26500	4.81	-52.78	≤-25.19	PASS
	Ant1	2437	Reference	2.58	2.58	---	PASS
			30~1000	2.58	-62.6	≤-27.42	PASS
			1000~26500	2.58	-52.51	≤-27.42	PASS
	Ant2	2437	Reference	4.11	4.11	---	PASS
			30~1000	4.11	-58.6	≤-25.89	PASS
			1000~26500	4.11	-53.28	≤-25.89	PASS
	Ant1	2462	Reference	1.56	1.56	---	PASS
			30~1000	1.56	-61.47	≤-28.44	PASS
			1000~26500	1.56	-53.66	≤-28.44	PASS

	Ant2	2462	Reference	3.14	3.14	---	PASS
			30~1000	3.14	-62.61	≤ -26.86	PASS
			1000~26500	3.14	-53.06	≤ -26.86	PASS
11N20SISO	Ant1	2412	Reference	1.61	1.61	---	PASS
			30~1000	1.61	-62.26	≤ -28.39	PASS
			1000~26500	1.61	-52.25	≤ -28.39	PASS
	Ant2	2412	Reference	3.65	3.65	---	PASS
			30~1000	3.65	-62.5	≤ -26.35	PASS
			1000~26500	3.65	-53.12	≤ -26.35	PASS
	Ant1	2437	Reference	2.45	2.45	---	PASS
			30~1000	2.45	-61.78	≤ -27.55	PASS
			1000~26500	2.45	-52.69	≤ -27.55	PASS
	Ant2	2437	Reference	4.31	4.31	---	PASS
			30~1000	4.31	-62.52	≤ -25.69	PASS
			1000~26500	4.31	-53.28	≤ -25.69	PASS
	Ant1	2462	Reference	1.66	1.66	---	PASS
			30~1000	1.66	-62.62	≤ -28.34	PASS
			1000~26500	1.66	-53.18	≤ -28.34	PASS
	Ant2	2462	Reference	3.09	3.09	---	PASS
			30~1000	3.09	-61.83	≤ -26.91	PASS
			1000~26500	3.09	-52.95	≤ -26.91	PASS
11N20CDD	Ant1	2412	Reference	-1.13	-1.13	---	PASS
			30~1000	-1.13	-61.79	≤ -31.13	PASS
			1000~26500	-1.13	-53.21	≤ -31.13	PASS
	Ant2	2412	Reference	-0.95	-0.95	---	PASS
			30~1000	-0.95	-62.06	≤ -30.95	PASS
			1000~26500	-0.95	-52.57	≤ -30.95	PASS
	Ant1	2437	Reference	-0.15	-0.15	---	PASS
			30~1000	-0.15	-62.44	≤ -30.15	PASS
			1000~26500	-0.15	-53.49	≤ -30.15	PASS
	Ant2	2437	Reference	-0.39	-0.39	---	PASS
			30~1000	-0.39	-61.56	≤ -30.39	PASS
			1000~26500	-0.39	-53.56	≤ -30.39	PASS
	Ant1	2462	Reference	-0.73	-0.73	---	PASS
			30~1000	-0.73	-62.14	≤ -30.73	PASS
			1000~26500	-0.73	-52.94	≤ -30.73	PASS
	Ant2	2462	Reference	-0.70	-0.70	---	PASS

			30~1000	-0.70	-61.95	≤ -30.7	PASS
			1000~26500	-0.70	-53.02	≤ -30.7	PASS

Test Graphs see Appendix D.

7.6. Radiated Spurious Emission Measurement

7.6.1. 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 [uV/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

7.6.2. Test Procedure Used

ANSI C63.10-2013 – Section 6.6.4.3

7.6.3. Test Setting

Peak Field Strength Measurements

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

- Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

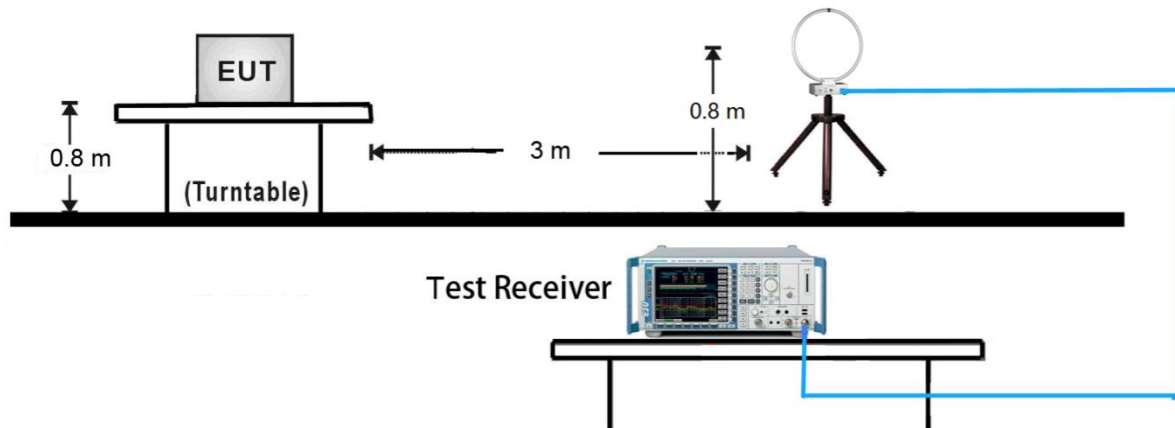
Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Average Field Strength Measurements

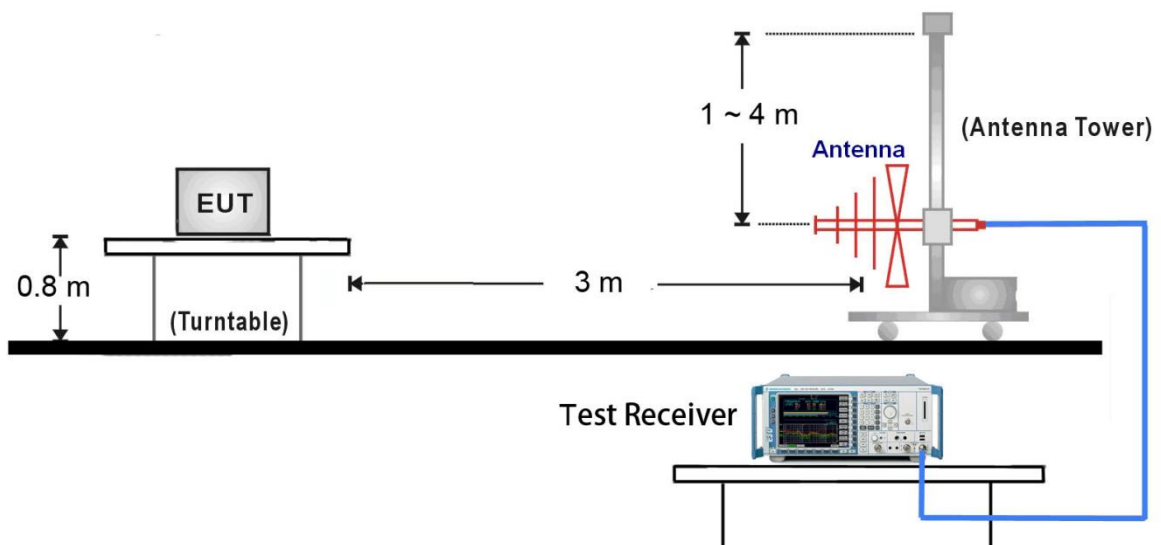
- Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- RBW = 1MHz
- VBW = 3MHz
- Detector = Power Average (RMS)
- Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
- Sweep time = auto
- Trace (RMS) averaging was performed over at least 100 traces.

7.6.4. Test Setup

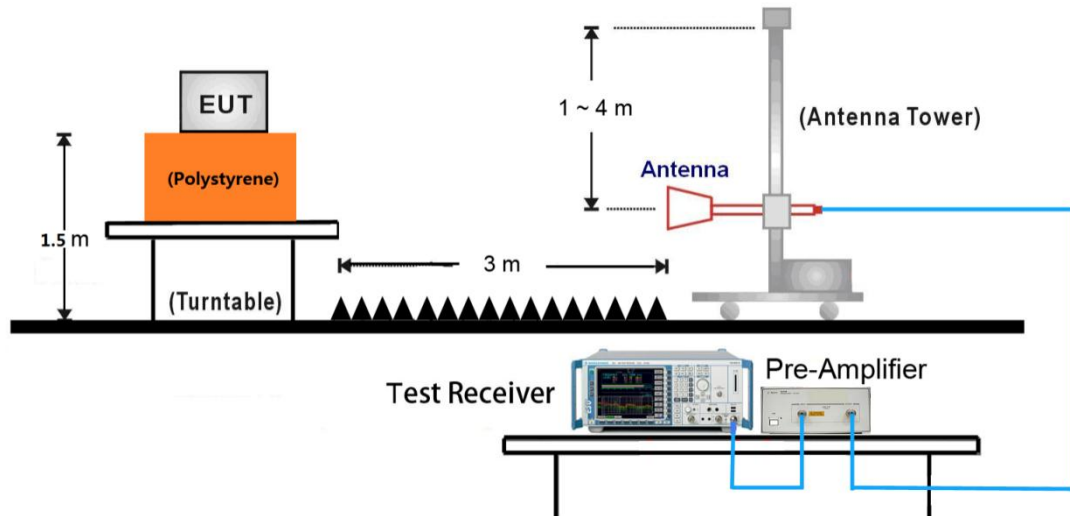
9kHz ~ 30MHz Test Setup:



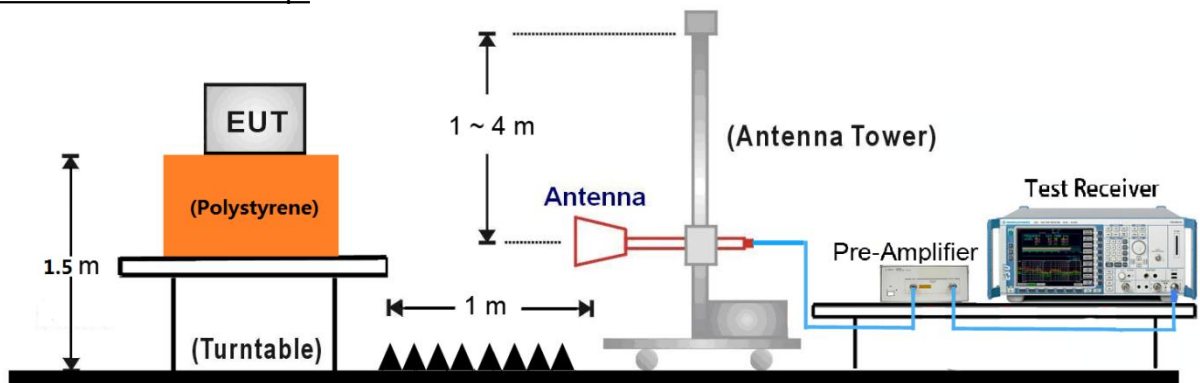
30MHz ~ 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:



18GHz ~ 25GHz Test Setup:



7.6.5. Test Result

Test Mode:	802.11b - Ant 1	Test Date:	2023-02-19
Test Channel:	01	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4820.0000	47.55	7.10	74.00	26.45	Peak	Horizontal
*	6365.0000	48.91	12.20	85.85	36.94	Peak	Horizontal
*	7100.0000	51.78	14.37	85.85	34.07	Peak	Horizontal
	8325.0000	53.42	15.68	74.00	20.58	Peak	Horizontal
	4820.0000	46.82	7.10	74.00	27.18	Peak	Vertical
*	6355.0000	48.22	12.16	85.85	37.63	Peak	Vertical
*	7235.0000	51.98	14.67	85.85	33.87	Peak	Vertical
	9320.0000	54.48	16.95	74.00	19.52	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.85dBμV/m) or 15.209 which is higher.

Test Mode:	802.11b - Ant 1	Test Date:	2023-02-19
Test Channel:	06	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4870.0000	45.89	7.18	74.00	28.11	Peak	Horizontal
*	6630.0000	48.87	12.97	85.35	36.48	Peak	Horizontal
*	7945.0000	52.60	15.59	85.35	32.75	Peak	Horizontal
	9455.0000	54.03	16.63	74.00	19.97	Peak	Horizontal
	4870.0000	44.85	7.18	74.00	29.15	Peak	Vertical
*	6705.0000	47.94	13.09	85.35	37.41	Peak	Vertical
*	8925.0000	52.26	15.83	85.35	33.09	Peak	Vertical
	10985.0000	56.81	19.46	74.00	17.19	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.35dBμV/m) or 15.209 which is higher.

Test Mode:	802.11b - Ant 1	Test Date:	2023-02-19
Test Channel:	11	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4920.0000	46.01	7.31	74.00	27.99	Peak	Horizontal
*	6355.0000	48.14	12.16	85.01	36.87	Peak	Horizontal
*	7920.0000	52.72	15.24	85.01	32.29	Peak	Horizontal
	9140.0000	53.30	16.46	74.00	20.70	Peak	Horizontal
	4920.0000	45.31	7.31	74.00	28.69	Peak	Vertical
*	6225.0000	47.92	11.42	85.01	37.09	Peak	Vertical
*	7845.0000	51.58	15.12	85.01	33.43	Peak	Vertical
	8295.0000	53.57	15.50	74.00	20.43	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.01dBμV/m) or 15.209 which is higher.

Test Mode:	802.11g - Ant 1	Test Date:	2023-02-19
Test Channel:	01	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4900.0000	45.33	7.32	74.00	28.67	Peak	Horizontal
*	6115.0000	48.70	11.15	86.54	37.84	Peak	Horizontal
*	7920.0000	51.98	15.24	86.54	34.56	Peak	Horizontal
	8325.0000	53.46	15.68	74.00	20.54	Peak	Horizontal
	4905.0000	44.18	7.32	74.00	29.82	Peak	Vertical
*	6040.0000	48.54	10.91	86.54	38.00	Peak	Vertical
*	7955.0000	52.49	15.62	86.54	34.05	Peak	Vertical
	9340.0000	53.25	16.89	74.00	20.75	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.54dBμV/m) or 15.209 which is higher.

Test Mode:	802.11g - Ant 1	Test Date:	2023-02-19
Test Channel:	06	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4975.0000	44.59	7.48	74.00	29.41	Peak	Horizontal
*	6780.0000	49.40	13.28	85.65	36.25	Peak	Horizontal
*	7240.0000	51.21	14.66	85.65	34.44	Peak	Horizontal
	8340.0000	51.90	15.79	74.00	22.10	Peak	Horizontal
	4805.0000	44.04	7.11	74.00	29.96	Peak	Vertical
*	6380.0000	48.74	12.26	85.65	36.91	Peak	Vertical
*	7960.0000	51.66	15.58	85.65	33.99	Peak	Vertical
	8370.0000	52.33	15.49	74.00	21.67	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.65dBμV/m) or 15.209 which is higher.

Test Mode:	802.11g - Ant 1	Test Date:	2023-02-19
Test Channel:	11	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4925.0000	46.58	7.31	74.00	27.42	Peak	Horizontal
*	6715.0000	48.84	13.10	84.85	36.01	Peak	Horizontal
*	8035.0000	51.79	15.30	84.85	33.06	Peak	Horizontal
	10970.0000	56.51	19.49	74.00	17.49	Peak	Horizontal
	4775.0000	43.97	7.04	74.00	30.03	Peak	Vertical
*	6675.0000	48.39	13.08	84.85	36.46	Peak	Vertical
*	7915.0000	51.54	15.16	84.85	33.31	Peak	Vertical
	8340.0000	52.78	15.79	74.00	21.22	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (104.85dBμV/m) or 15.209 which is higher.

Test Mode:	802.11n - Ant 1	Test Date:	2023-02-19
Test Channel:	01	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4800.0000	45.63	7.11	74.00	28.37	Peak	Horizontal
*	6720.0000	48.68	13.11	85.99	37.31	Peak	Horizontal
*	8605.0000	52.68	15.41	85.99	33.31	Peak	Horizontal
	10705.0000	56.07	19.14	74.00	17.93	Peak	Horizontal
	4530.0000	44.91	7.05	74.00	29.09	Peak	Vertical
*	6300.0000	48.21	11.89	85.99	37.78	Peak	Vertical
*	7230.0000	51.54	14.69	85.99	34.45	Peak	Vertical
	8325.0000	53.30	15.68	74.00	20.70	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.99dBμV/m) or 15.209 which is higher.

Test Mode:	802.11n - Ant 1	Test Date:	2023-02-19
Test Channel:	06	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4660.0000	45.27	6.89	74.00	28.73	Peak	Horizontal
*	6175.0000	47.50	11.36	85.83	38.33	Peak	Horizontal
*	7110.0000	50.67	14.36	85.83	35.16	Peak	Horizontal
	8315.0000	52.94	15.61	74.00	21.06	Peak	Horizontal
	4850.0000	44.79	7.09	74.00	29.21	Peak	Vertical
*	6150.0000	48.13	11.42	85.83	37.7	Peak	Vertical
*	7230.0000	51.39	14.69	85.83	34.44	Peak	Vertical
	8365.0000	53.32	15.58	74.00	20.68	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.83dBμV/m) or 15.209 which is higher.

Test Mode:	802.11n - Ant 1	Test Date:	2023-02-19
Test Channel:	11	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4785.0000	44.05	7.07	74.00	29.95	Peak	Horizontal
*	6370.0000	47.57	12.22	84.06	36.49	Peak	Horizontal
*	7945.0000	52.31	15.59	84.06	31.75	Peak	Horizontal
	8365.0000	52.44	15.58	74.00	21.56	Peak	Horizontal
	4920.0000	44.06	7.31	74.00	29.94	Peak	Vertical
*	5715.0000	47.34	10.09	84.06	36.72	Peak	Vertical
*	7920.0000	52.85	15.24	84.06	31.21	Peak	Vertical
	9195.0000	53.60	16.24	74.00	20.40	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (104.06dBμV/m) or 15.209 which is higher.

Test Mode:	802.11b - Ant 2	Test Date:	2023-02-19
Test Channel:	01	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4825.0000	49.24	7.10	74.00	24.76	Peak	Horizontal
*	6370.0000	48.92	12.22	86.27	37.35	Peak	Horizontal
*	8655.0000	54.43	15.38	86.27	31.84	Peak	Horizontal
	11515.0000	57.10	19.25	74.00	16.90	Peak	Horizontal
	4825.0000	45.10	7.10	74.00	28.90	Peak	Vertical
*	5970.0000	48.27	10.65	86.27	38.00	Peak	Vertical
*	6885.0000	50.26	14.06	86.27	36.01	Peak	Vertical
	7320.0000	54.41	14.88	74.00	19.59	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.27dBμV/m) or 15.209 which is higher.

Test Mode:	802.11b - Ant 2	Test Date:	2023-02-19
Test Channel:	06	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4870.0000	47.32	7.18	74.00	26.68	Peak	Horizontal
*	6235.0000	48.03	11.47	86.35	38.32	Peak	Horizontal
*	7930.0000	53.05	15.38	86.35	33.3	Peak	Horizontal
	8350.0000	53.85	15.86	74.00	20.15	Peak	Horizontal
	4780.0000	44.86	7.05	74.00	29.14	Peak	Vertical
*	6810.0000	50.09	13.48	86.35	36.26	Peak	Vertical
*	7910.0000	52.58	15.09	86.35	33.77	Peak	Vertical
	9305.0000	54.27	17.00	74.00	19.73	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.35dBμV/m) or 15.209 which is higher.

Test Mode:	802.11b - Ant 2	Test Date:	2023-02-19
Test Channel:	11	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4925.0000	45.63	7.31	74.00	28.37	Peak	Horizontal
*	6430.0000	48.71	12.22	86.58	37.87	Peak	Horizontal
*	7095.0000	51.54	14.35	86.58	35.04	Peak	Horizontal
	9370.0000	53.69	16.85	74.00	20.31	Peak	Horizontal
	4790.0000	45.02	7.08	74.00	28.98	Peak	Vertical
*	6580.0000	48.59	12.73	86.58	37.99	Peak	Vertical
*	7165.0000	51.79	14.46	86.58	34.79	Peak	Vertical
	8330.0000	53.64	15.72	74.00	20.36	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.58dBμV/m) or 15.209 which is higher.

Test Mode:	802.11g - Ant 2	Test Date:	2023-02-19
Test Channel:	01	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4815.0000	44.46	7.10	74.00	29.54	Peak	Horizontal
*	6310.0000	48.44	11.94	86.51	38.07	Peak	Horizontal
*	7990.0000	53.01	15.33	86.51	33.50	Peak	Horizontal
	9080.0000	54.66	16.13	74.00	19.34	Peak	Horizontal
	4525.0000	45.57	7.04	74.00	28.43	Peak	Vertical
*	6240.0000	48.83	11.49	86.51	37.68	Peak	Vertical
*	8175.0000	52.84	15.20	86.51	33.67	Peak	Vertical
	10665.0000	57.52	18.88	74.00	16.48	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.51dBμV/m) or 15.209 which is higher.

Test Mode:	802.11g - Ant 2	Test Date:	2023-02-19
Test Channel:	06	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4860.0000	45.80	7.13	74.00	28.20	Peak	Horizontal
*	6160.0000	48.28	11.40	86.34	38.06	Peak	Horizontal
*	7955.0000	52.46	15.62	86.34	33.88	Peak	Horizontal
	8340.0000	53.33	15.79	74.00	20.67	Peak	Horizontal
	3990.0000	44.37	5.09	74.00	29.63	Peak	Vertical
*	6490.0000	49.29	12.27	86.34	37.05	Peak	Vertical
*	7920.0000	52.37	15.24	86.34	33.97	Peak	Vertical
	8360.0000	53.42	15.67	74.00	20.58	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.34dBμV/m) or 15.209 which is higher.

Test Mode:	802.11g - Ant 2	Test Date:	2023-02-19
Test Channel:	11	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4920.0000	45.12	7.31	74.00	28.88	Peak	Horizontal
*	6275.0000	48.34	11.72	86.74	38.4	Peak	Horizontal
*	7020.0000	51.51	14.16	86.74	35.23	Peak	Horizontal
	8455.0000	53.06	15.52	74.00	20.94	Peak	Horizontal
	4915.0000	44.49	7.31	74.00	29.51	Peak	Vertical
*	6590.0000	48.53	12.78	86.74	38.21	Peak	Vertical
*	7970.0000	52.66	15.50	86.74	34.08	Peak	Vertical
	9085.0000	53.62	16.15	74.00	20.38	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.74dBμV/m) or 15.209 which is higher.

Test Mode:	802.11n - Ant 2	Test Date:	2023-02-19
Test Channel:	01	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4985.0000	45.12	7.55	74.00	28.88	Peak	Horizontal
*	5525.0000	47.24	9.94	86.12	38.88	Peak	Horizontal
*	6500.0000	48.51	12.30	86.12	37.61	Peak	Horizontal
	8295.0000	53.27	15.50	74.00	20.94	Peak	Horizontal
	4520.0000	44.62	7.03	74.00	29.51	Peak	Vertical
*	6525.0000	48.35	12.44	86.12	37.77	Peak	Vertical
*	7980.0000	53.39	15.42	86.12	32.73	Peak	Vertical
	8270.0000	53.15	15.45	74.00	20.38	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (106.12dBμV/m) or 15.209 which is higher.

Test Mode:	802.11n - Ant 2	Test Date:	2023-02-19
Test Channel:	06	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4730.0000	45.23	6.97	74.00	28.77	Peak	Horizontal
*	6350.0000	49.25	12.14	85.84	36.59	Peak	Horizontal
*	6685.0000	49.55	13.08	85.84	36.29	Peak	Horizontal
	8325.0000	53.58	15.68	74.00	20.42	Peak	Horizontal
	4665.0000	44.21	6.90	74.00	29.79	Peak	Vertical
*	6670.0000	48.10	13.08	85.84	37.74	Peak	Vertical
*	7955.0000	52.64	15.62	85.84	33.20	Peak	Vertical
	8365.0000	53.51	15.58	74.00	20.49	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.84dBμV/m) or 15.209 which is higher.

Test Mode:	802.11n - Ant 2	Test Date:	2023-02-19
Test Channel:	11	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4930.0000	44.86	7.31	74.00	29.14	Peak	Horizontal
*	6040.0000	48.80	10.91	85.39	36.59	Peak	Horizontal
*	7170.0000	51.83	14.51	85.39	33.56	Peak	Horizontal
	8310.0000	53.20	15.58	74.00	20.80	Peak	Horizontal
	4895.0000	44.86	7.30	74.00	29.14	Peak	Vertical
*	6880.0000	50.01	14.04	85.39	35.38	Peak	Vertical
*	8060.0000	52.60	15.23	85.39	32.79	Peak	Vertical
	9140.0000	53.86	16.46	74.00	20.14	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (105.39dBμV/m) or 15.209 which is higher.

Test Mode:	802.11n - CDD	Test Date:	2023-02-19
Test Channel:	01	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4820.0000	45.73	7.10	74.00	28.27	Peak	Horizontal
*	6445.0000	48.79	12.16	88.05	39.26	Peak	Horizontal
*	7925.0000	52.30	15.31	88.05	35.75	Peak	Horizontal
	9165.0000	54.46	16.43	74.00	19.54	Peak	Horizontal
	4595.0000	44.58	6.89	74.00	29.42	Peak	Vertical
*	6240.0000	48.32	11.49	88.05	39.73	Peak	Vertical
*	7930.0000	52.13	15.38	88.05	35.92	Peak	Vertical
	9325.0000	54.31	16.94	74.00	19.69	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (108.05dBμV/m) or 15.209 which is higher.

Test Mode:	802.11n - CDD	Test Date:	2023-02-19
Test Channel:	06	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4880.0000	45.01	7.23	74.00	28.99	Peak	Horizontal
*	6425.0000	48.56	12.24	88.23	39.67	Peak	Horizontal
*	7175.0000	51.76	14.55	88.23	36.47	Peak	Horizontal
	8335.0000	52.51	15.75	74.00	21.49	Peak	Horizontal
	4680.0000	45.22	6.93	74.00	28.78	Peak	Vertical
*	6865.0000	49.89	13.97	88.23	38.34	Peak	Vertical
*	7975.0000	52.19	15.46	88.23	36.04	Peak	Vertical
	8370.0000	52.85	15.49	74.00	21.15	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (108.23dBμV/m) or 15.209 which is higher.

Test Mode:	802.11n - CDD	Test Date:	2023-02-19
Test Channel:	11	Test Engineer:	Amos Xia
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Mark	Frequency (MHz)	Level (dBμV)	Factor (dB)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4925.0000	44.98	7.31	74.00	29.02	Peak	Horizontal
*	6040.0000	48.21	10.91	88.52	40.31	Peak	Horizontal
*	7020.0000	51.23	14.16	88.52	37.29	Peak	Horizontal
	8255.0000	53.78	15.42	74.00	20.22	Peak	Horizontal
	4645.0000	44.40	6.87	74.00	29.60	Peak	Vertical
*	6355.0000	47.94	12.16	88.52	40.58	Peak	Vertical
*	7920.0000	52.62	15.24	88.52	35.90	Peak	Vertical
	8380.0000	53.46	15.31	74.00	20.54	Peak	Vertical

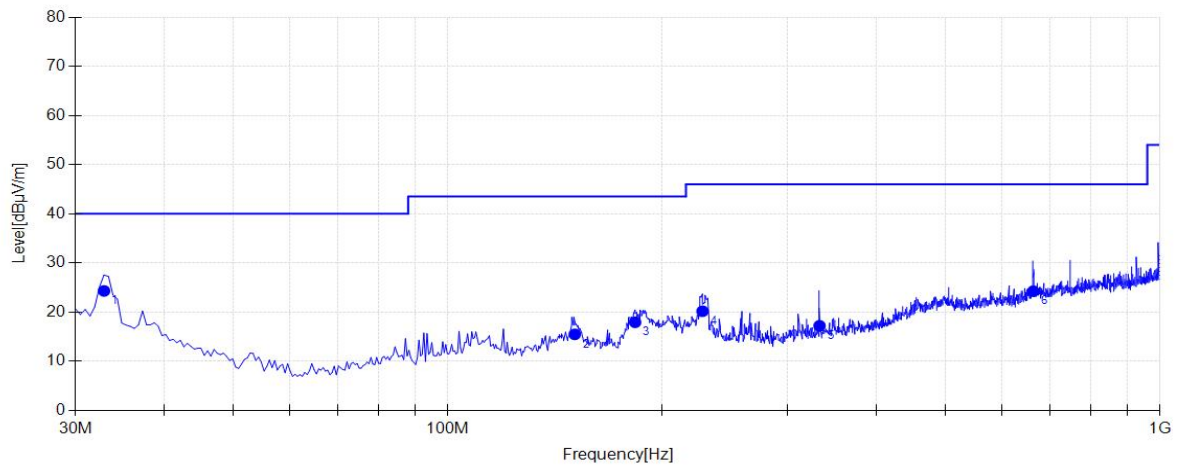
Note 1: "*" is not in restricted band, its limit is 20dBc of the fundamental emission level (108.52dBμV/m) or 15.209 which is higher.

The worst case of Radiated Emission below 1GHz:

30MHz – 1GHz Test Data

EUT:	Caper Cart M3 Android board	Polarity:	Horizontal
Model:	PCBA-CAP-CA03AN-RK39	S/N:	/
Mode:	Transmit by 802.11N CDD at Channel 2412MHz	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia

Test Graph



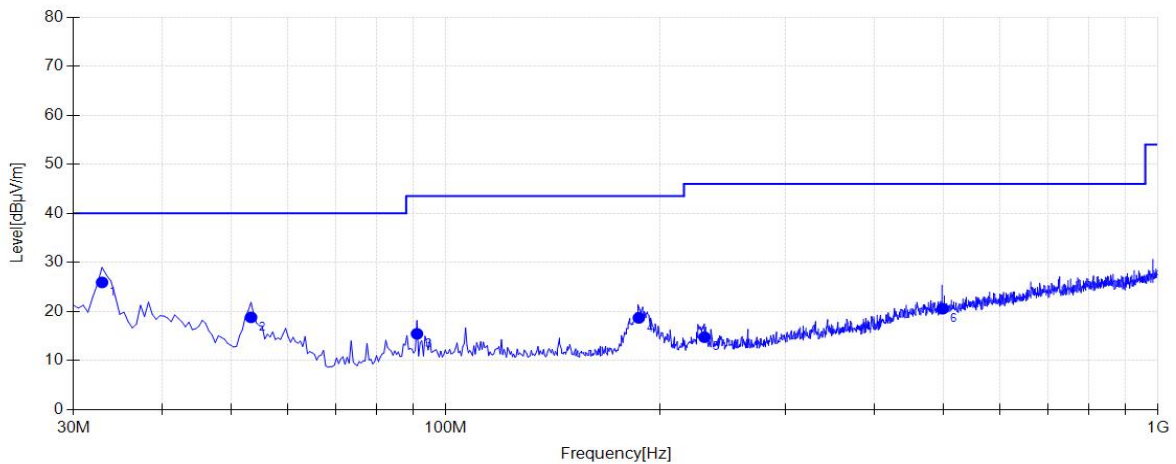
Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.9100	18.24	24.32	40.00	15.68	200	336	Horizontal
2	150.765	10.79	15.48	43.50	28.02	200	61	Horizontal
3	183.260	10.56	17.94	43.50	25.56	200	74	Horizontal
4	227.880	10.74	20.19	46.00	25.81	200	14	Horizontal
5	332.640	14.51	17.23	46.00	28.77	200	81	Horizontal
6	663.895	21.26	24.27	46.00	21.73	200	54	Horizontal

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

EUT:	Caper Cart M3 Android board	Polarity:	Vertical
Model:	PCBA-CAP-CA03AN-RK39	S/N:	/
Mode:	Transmit by 802.11N CDD at Channel 2412MHz	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia

Test Graph



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.9100	18.24	25.93	40.00	14.07	100	276	Vertical
2	53.2800	8.63	18.81	40.00	21.19	100	39	Vertical
3	91.1100	10.11	15.46	43.50	28.04	100	359	Vertical
4	186.655	10.39	18.70	43.50	24.80	200	100	Vertical
5	230.790	10.85	14.77	46.00	31.23	100	148	Vertical
6	498.510	18.88	20.57	46.00	25.43	100	128	Vertical

Note 1: The test trace is same as the ambient noise and the amplitude of the emissions are attenuated more than 20dB below the permissible (the test frequency range: 9kHz ~ 30MHz, 18GHz ~ 25GHz), therefore no data appear in the report.

7.7. Radiated Restricted Band Edge Measurement

7.7.1. 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	--	--	--

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

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/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

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

7.7.3. Test Setting

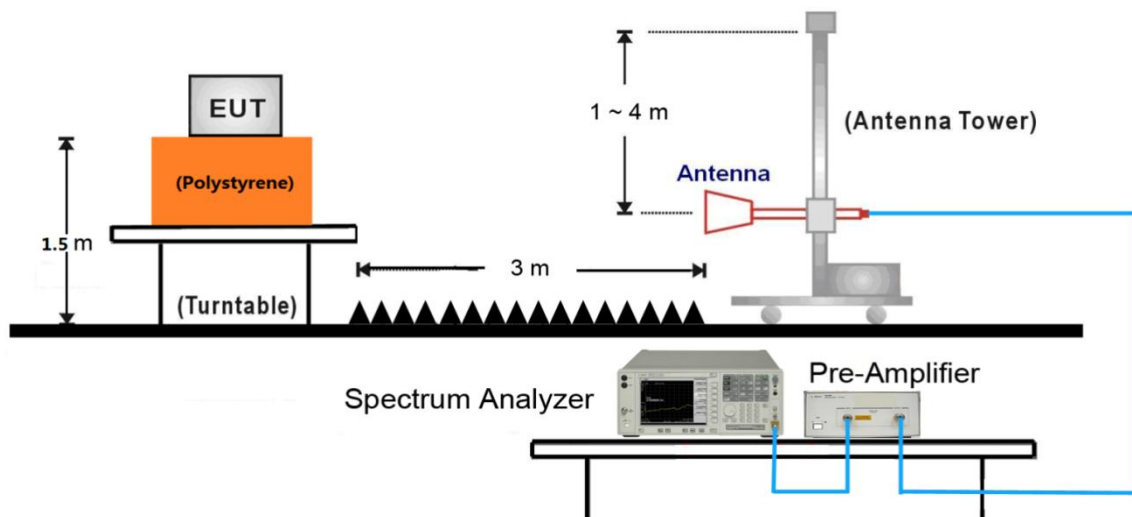
Peak Field Strength Measurements

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

Average Field Strength Measurements

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 (RMS)
5. Number of sweep point = 2001 (Number of sweep points must be $\geq 2 \times \text{span} / \text{RBW}$)
6. Sweep time = auto
7. Trace (RMS) averaging was performed over at least 100 traces.

7.7.4. Test Setup



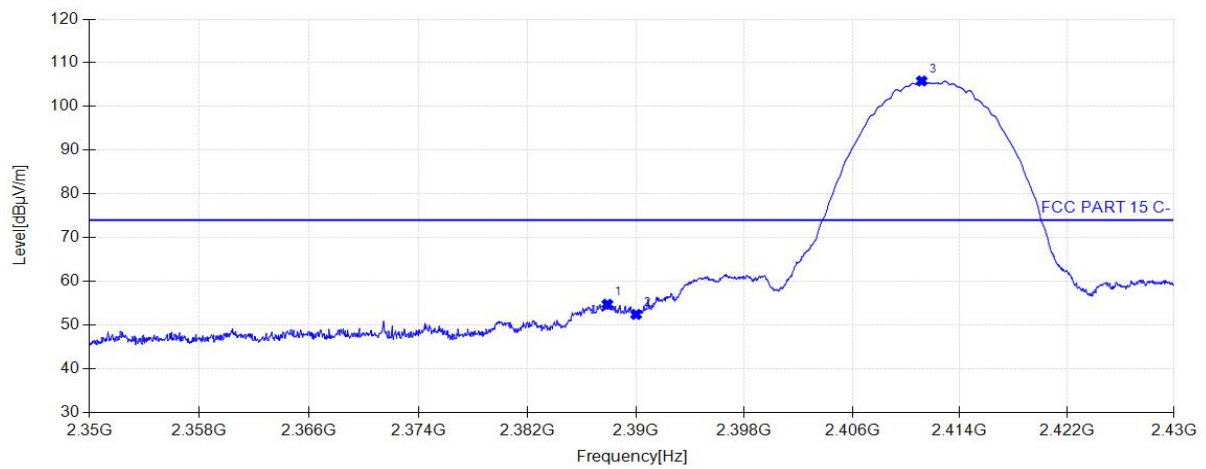
Note: This item was performed with the WIFI antenna connected.

7.7.5. Test Result

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 14:37:44

Test Graph

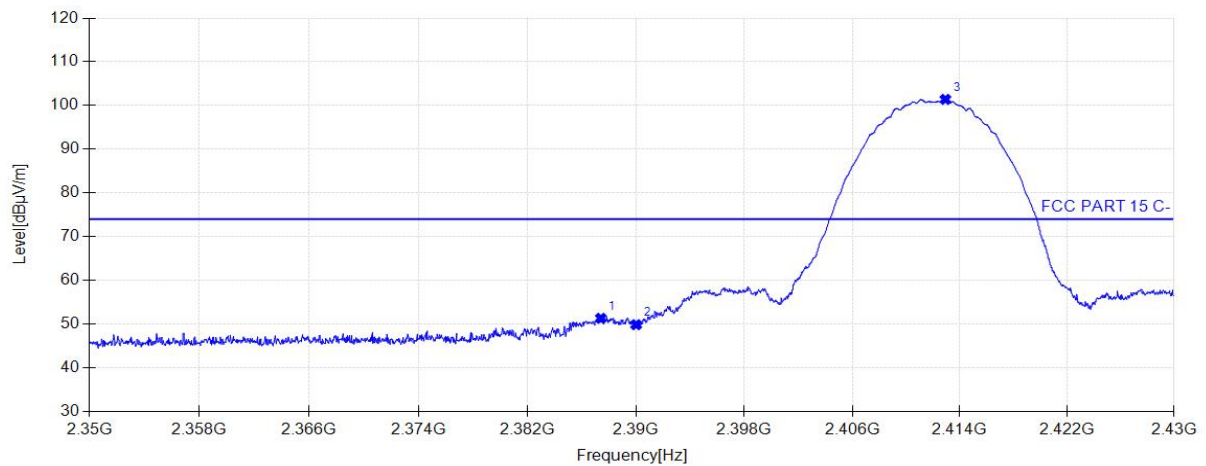


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2387.88	54.76	32.73	74.00	19.24	160	126	Horizontal
2	2390.00	52.43	32.74	74.00	21.57	160	140	Horizontal
3	2411.16	105.85	32.85	74.00	-31.85	160	78	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 14:38:52

Test Graph

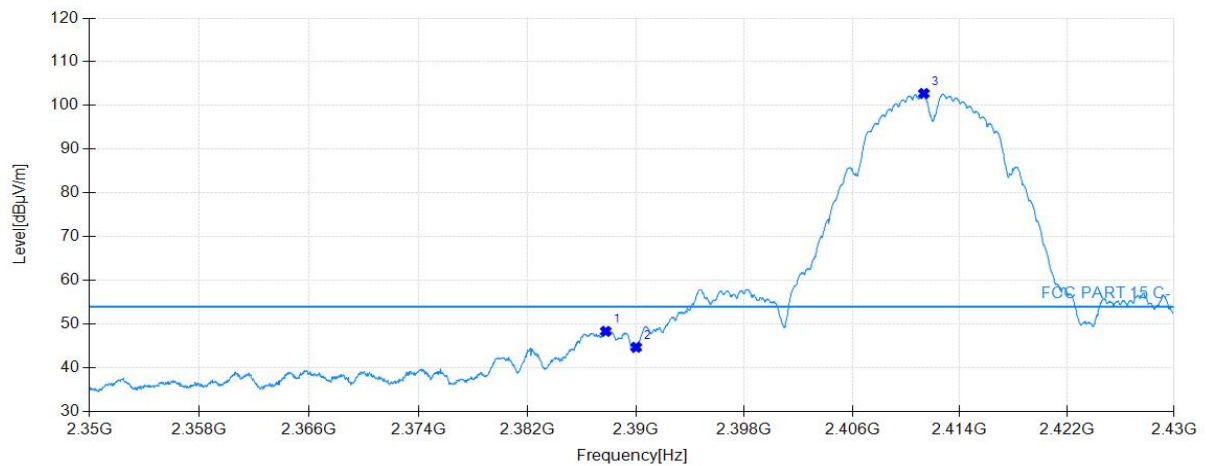


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2387.40	51.32	32.73	74.00	22.68	160	172	Vertical
2	2390.00	49.85	32.74	74.00	24.15	160	150	Vertical
3	2412.92	101.41	32.86	74.00	-27.41	160	178	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 14:40:37

Test Graph

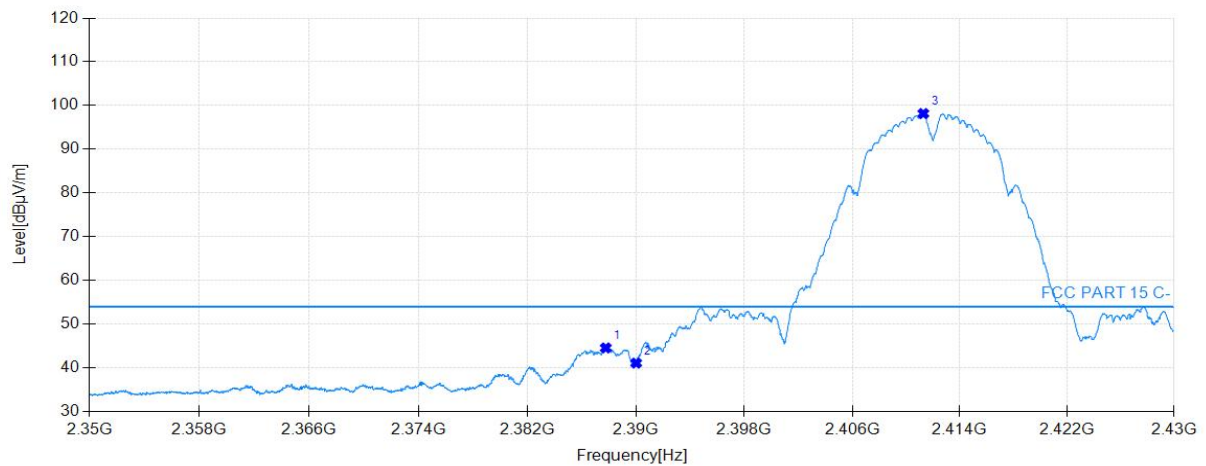


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2387.76	48.33	32.73	54.00	5.67	160	127	Horizontal
2	2390.00	44.69	32.74	54.00	9.31	160	119	Horizontal
3	2411.32	102.75	32.85	54.00	-48.75	160	85	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 14:41:45

Test Graph

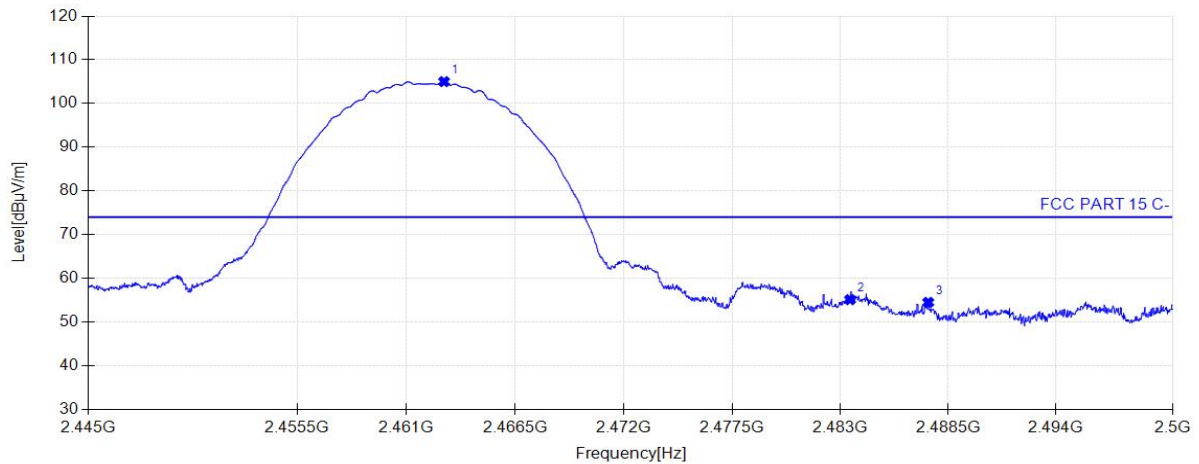


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2387.76	44.53	32.73	54.00	9.47	160	179	Vertical
2	2390.00	41.06	32.74	54.00	12.94	160	179	Vertical
3	2411.28	98.16	32.85	54.00	-44.16	160	207	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 14:45:04

Test Graph

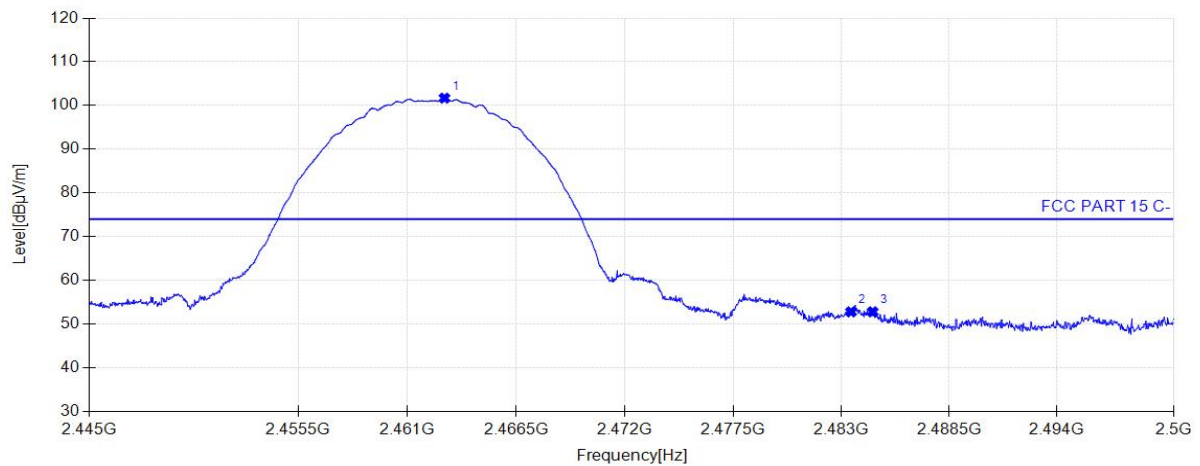


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.90	105.01	33.12	74.00	-31.01	160	86	Horizontal
2	2483.50	55.12	33.23	74.00	18.88	160	86	Horizontal
3	2487.48	54.51	33.25	74.00	19.49	160	86	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 14:45:57

Test Graph

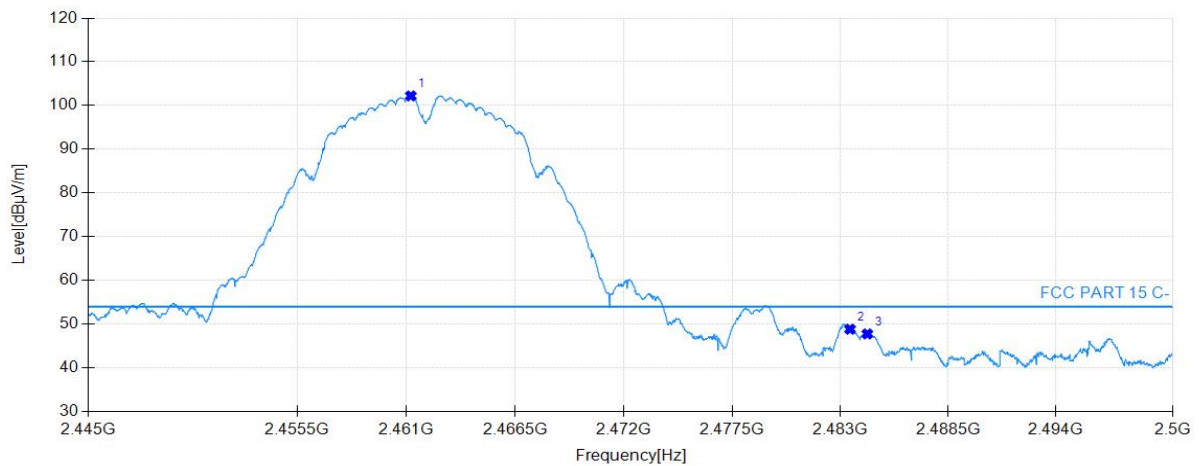


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.87	101.70	33.12	74.00	-27.70	160	39	Vertical
2	2483.50	52.80	33.23	74.00	21.20	160	148	Vertical
3	2484.60	52.80	33.24	74.00	21.20	160	141	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 14:47:18

Test Graph

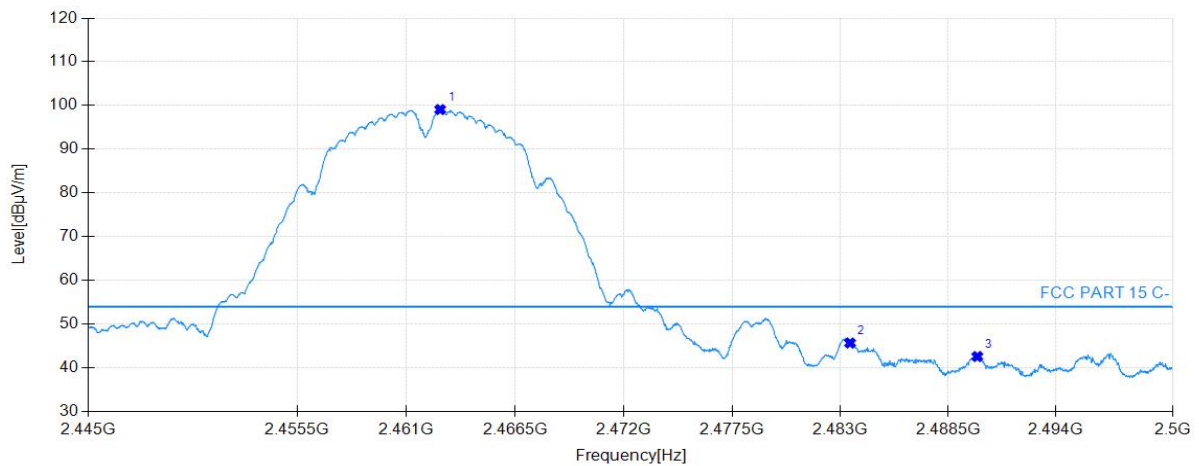


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2461.22	102.20	33.12	54.00	-48.20	160	85	Horizontal
2	2483.50	48.82	33.23	54.00	5.18	160	85	Horizontal
3	2484.38	47.74	33.24	54.00	6.26	160	85	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 14:48:10

Test Graph

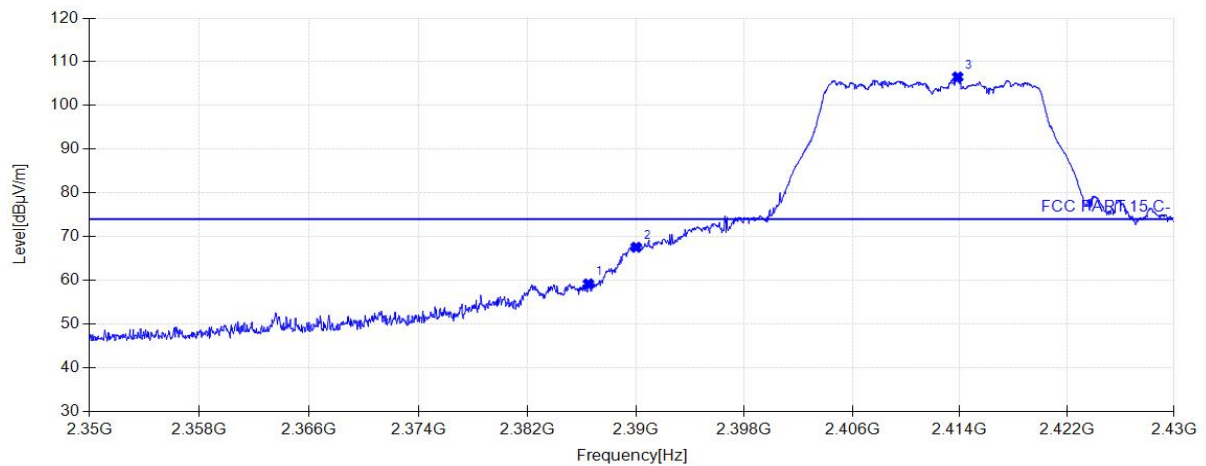


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2462.71	99.08	33.12	54.00	-45.08	160	38	Vertical
2	2483.50	45.66	33.23	54.00	8.34	160	135	Vertical
3	2489.99	42.57	33.27	54.00	11.43	160	135	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 15:09:47

Test Graph

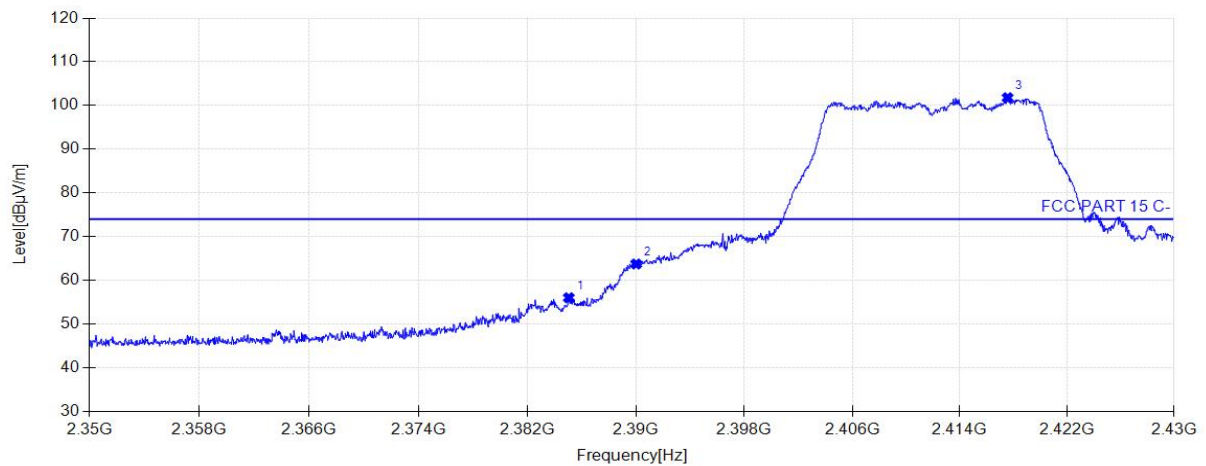


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.48	59.19	32.72	74.00	14.81	160	122	Horizontal
2	2390.00	67.57	32.74	74.00	6.43	160	80	Horizontal
3	2413.84	106.54	32.87	74.00	-32.54	160	80	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 15:10:39

Test Graph

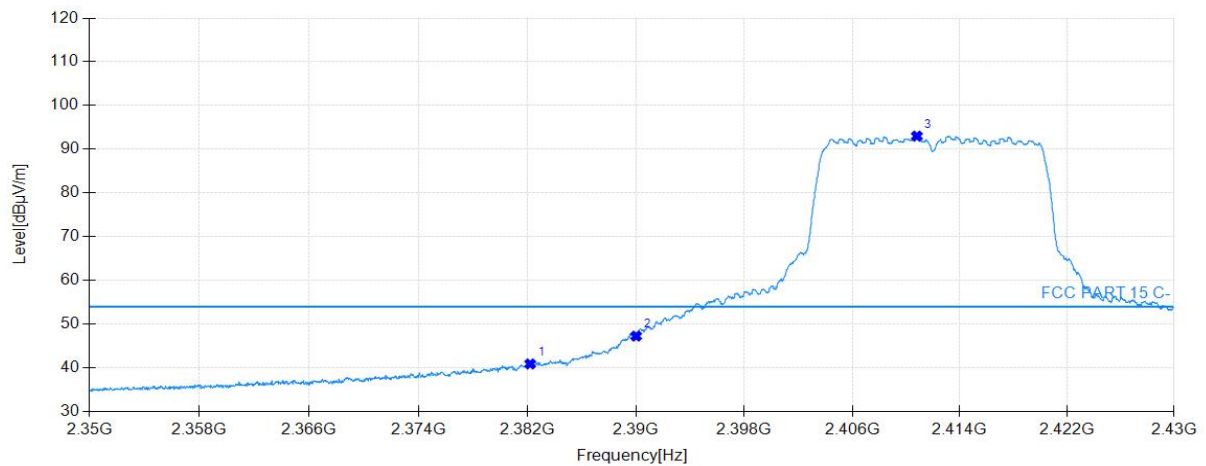


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2385.04	56.02	32.72	74.00	17.98	160	189	Vertical
2	2390.00	63.74	32.74	74.00	10.26	160	177	Vertical
3	2417.56	101.78	32.89	74.00	-27.78	160	100	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 15:12:46

Test Graph

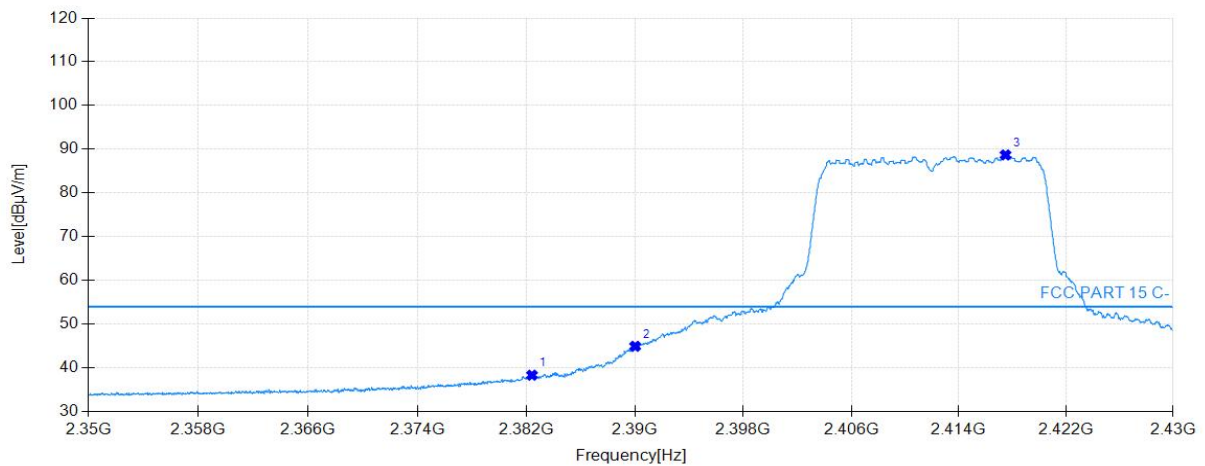


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2382.20	40.87	32.70	54.00	13.13	160	83	Horizontal
2	2390.00	47.24	32.74	54.00	6.76	160	83	Horizontal
3	2410.80	93.00	32.85	54.00	-39.00	160	83	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 15:13:38

Test Graph

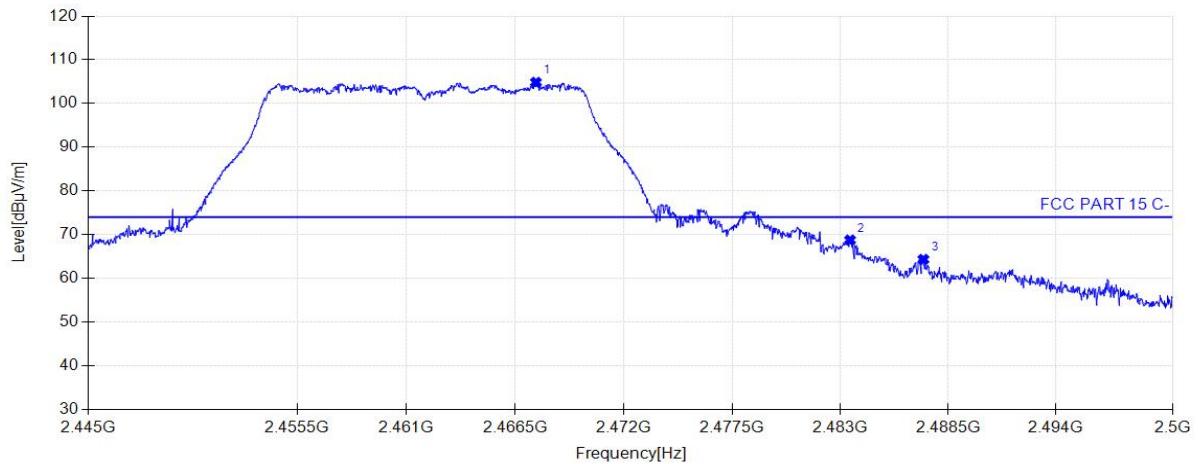


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2382.40	38.30	32.70	54.00	15.70	160	194	Vertical
2	2390.00	44.91	32.74	54.00	9.09	160	194	Vertical
3	2417.48	88.69	32.89	54.00	-34.69	160	105	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 15:17:19

Test Graph

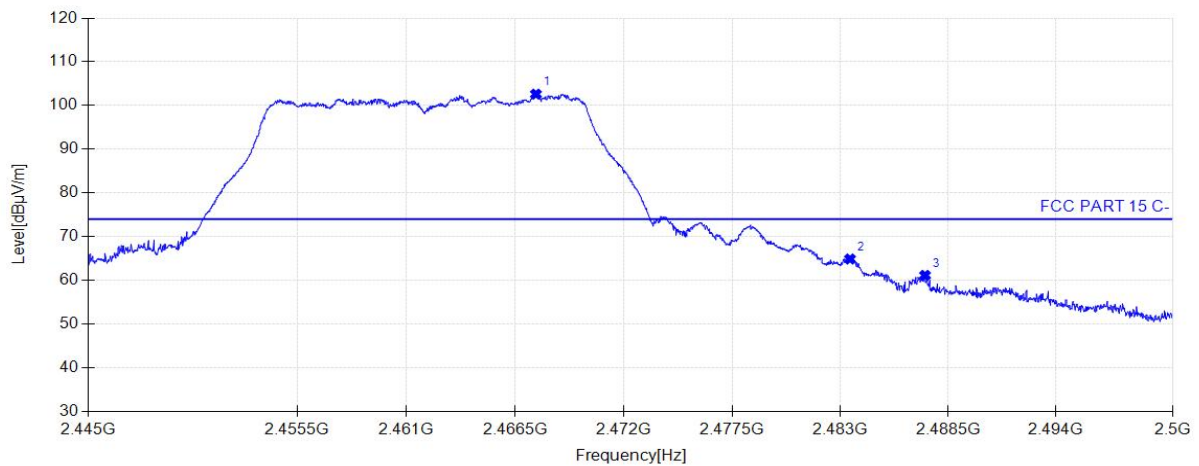


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2467.55	104.85	33.15	74.00	-30.85	160	83	Horizontal
2	2483.50	68.76	33.23	74.00	5.24	160	83	Horizontal
3	2487.24	64.33	33.25	74.00	9.67	160	83	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 15:18:12

Test Graph

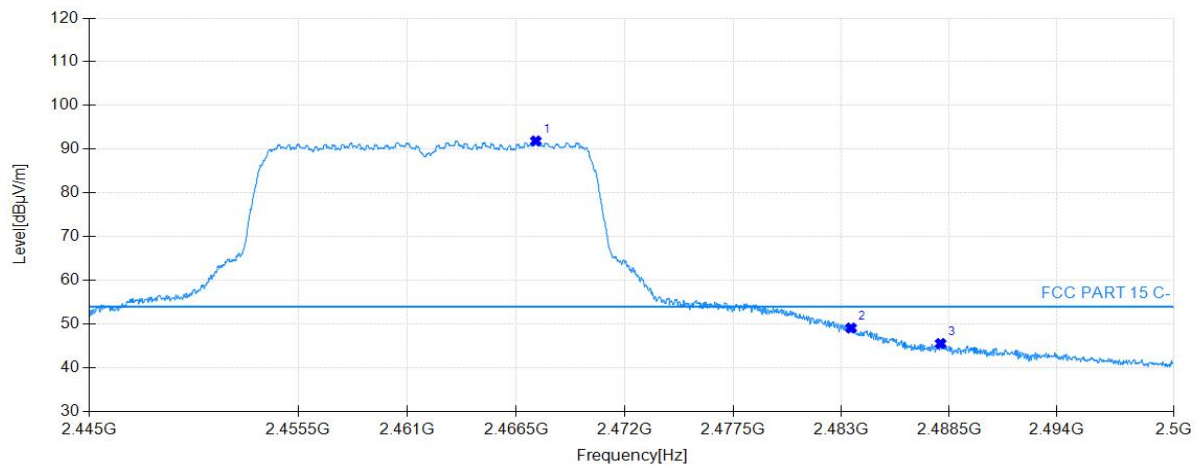


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2467.55	102.61	33.15	74.00	-28.61	160	36	Vertical
2	2483.50	64.88	33.23	74.00	9.12	160	43	Vertical
3	2487.32	61.14	33.25	74.00	12.86	160	140	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 15:20:07

Test Graph

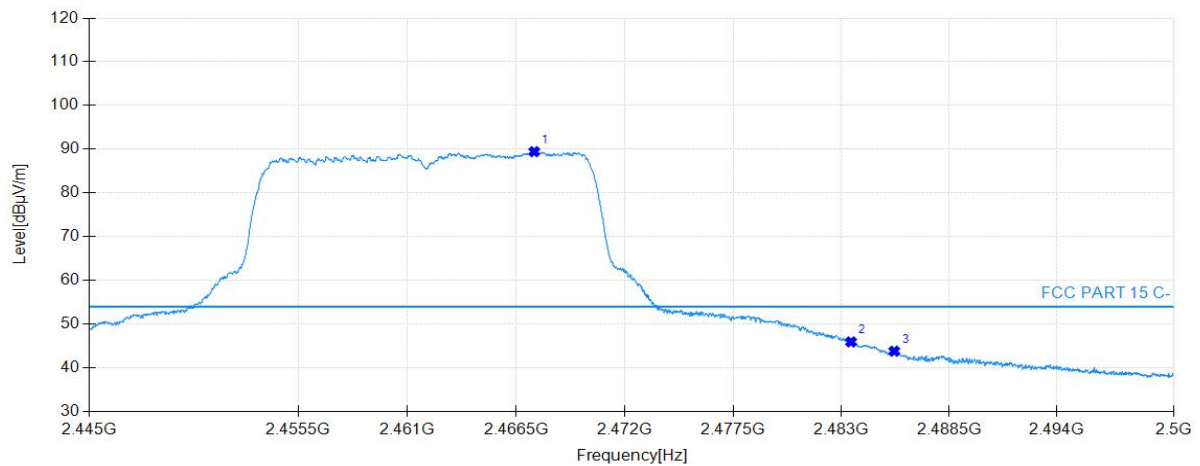


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2467.49	91.88	33.15	54.00	-37.88	160	79	Horizontal
2	2483.50	49.09	33.23	54.00	4.91	160	79	Horizontal
3	2488.06	45.53	33.26	54.00	8.47	160	86	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 15:21:00

Test Graph

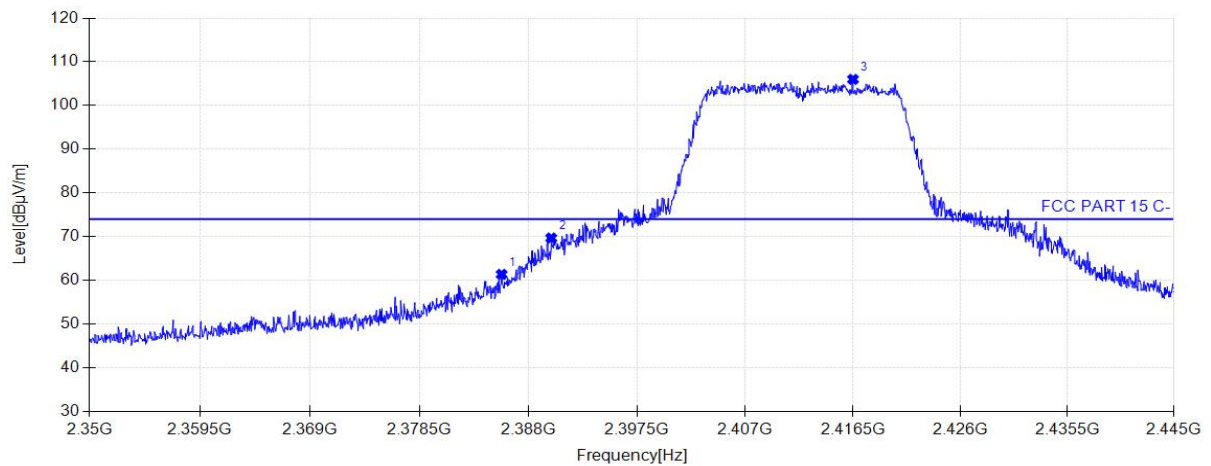


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2467.41	89.45	33.15	54.00	-35.45	160	43	Vertical
2	2483.50	45.91	33.23	54.00	8.09	160	184	Vertical
3	2485.70	43.79	33.24	54.00	10.21	160	142	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 15:02:39

Test Graph

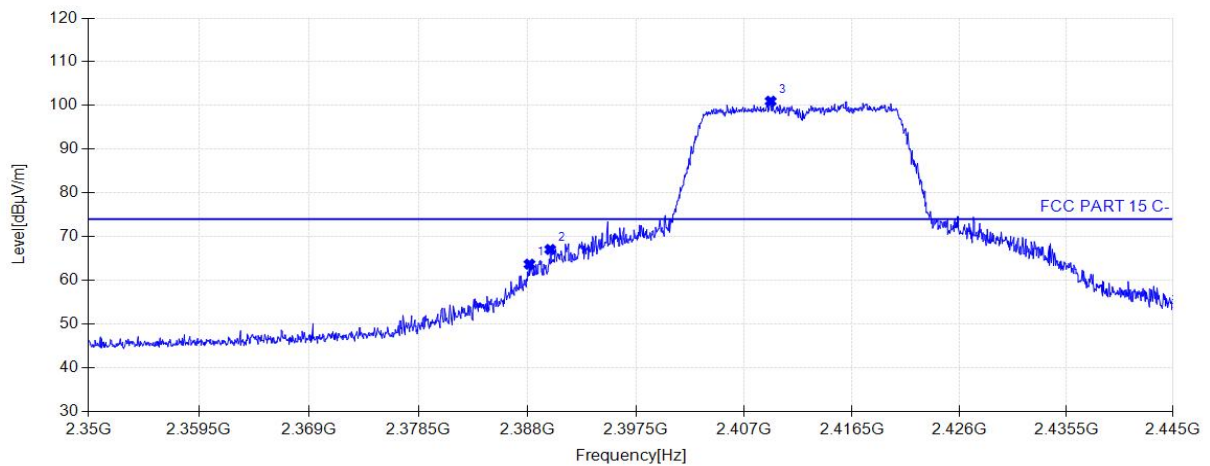


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2385.67	61.37	32.72	74.00	12.63	160	124	Horizontal
2	2390.00	69.69	32.74	74.00	4.31	160	41	Horizontal
3	2416.50	105.99	32.88	74.00	-31.99	160	82	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 15:03:32

Test Graph

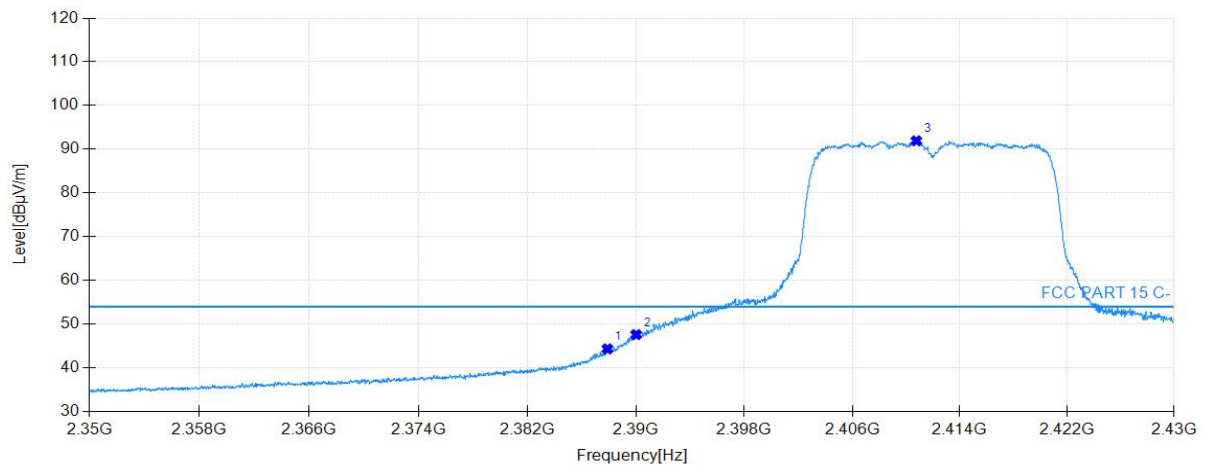


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2388.19	63.69	32.73	74.00	10.31	160	195	Vertical
2	2390.00	67.06	32.74	74.00	6.94	160	195	Vertical
3	2409.32	100.99	32.84	74.00	-26.99	160	105	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 15:04:49

Test Graph

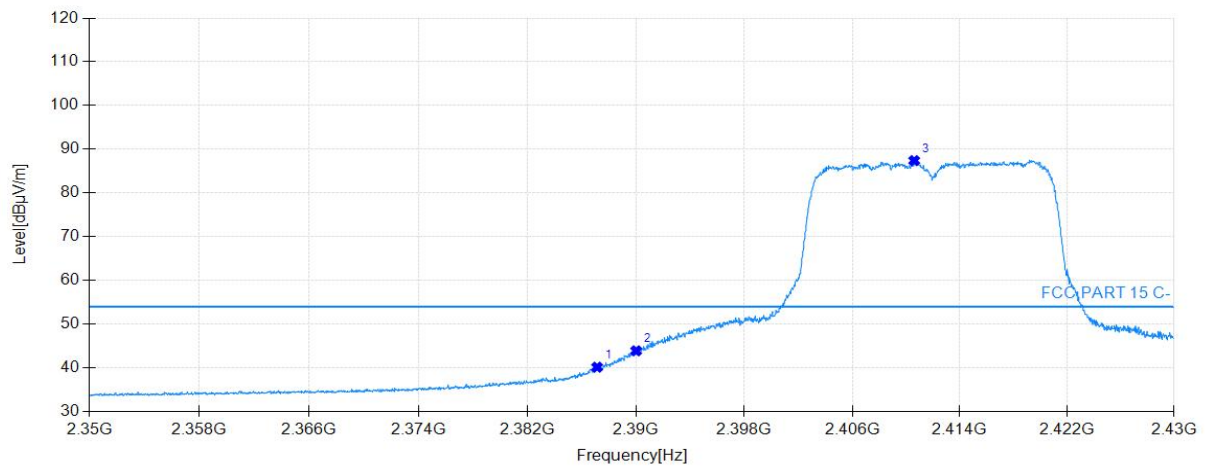


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2387.88	44.32	32.73	54.00	9.68	160	83	Horizontal
2	2390.00	47.58	32.74	54.00	6.42	160	83	Horizontal
3	2410.76	91.93	32.85	54.00	-37.93	160	83	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 1 at Channel 2412MHz		

Start of Test:2023-02-19 15:05:42

Test Graph

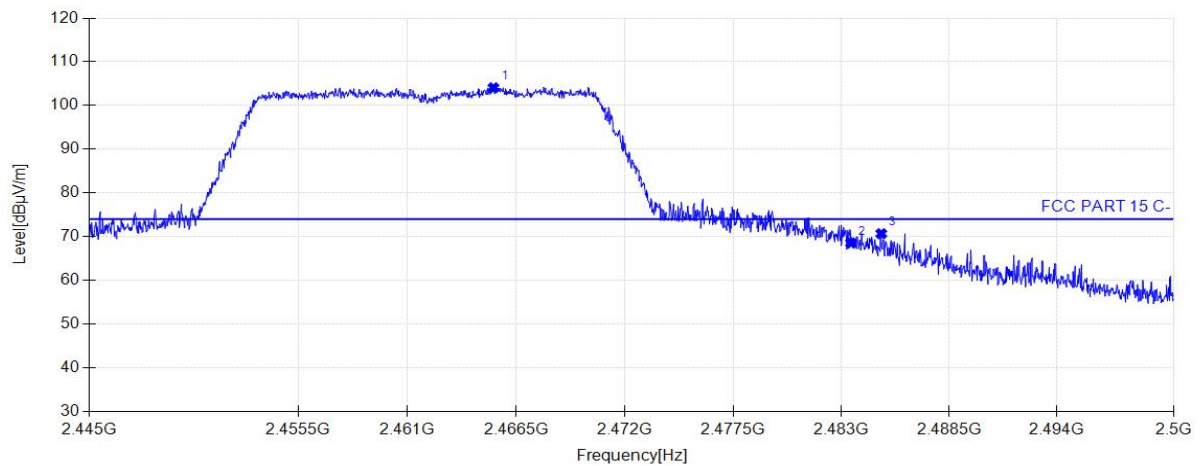


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2387.12	40.13	32.73	54.00	13.87	160	126	Vertical
2	2390.00	43.87	32.74	54.00	10.13	160	196	Vertical
3	2410.60	87.39	32.85	54.00	-33.39	160	188	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 14:53:57

Test Graph

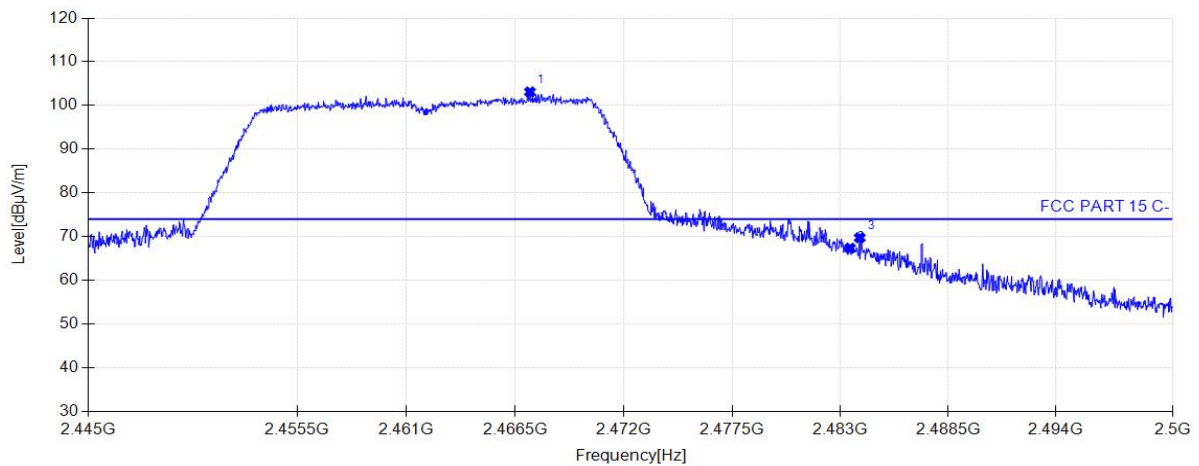


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2465.35	104.06	33.14	74.00	-30.06	160	85	Horizontal
2	2483.50	68.53	33.23	74.00	5.47	160	202	Horizontal
3	2485.04	70.68	33.24	74.00	3.32	160	85	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 14:54:50

Test Graph

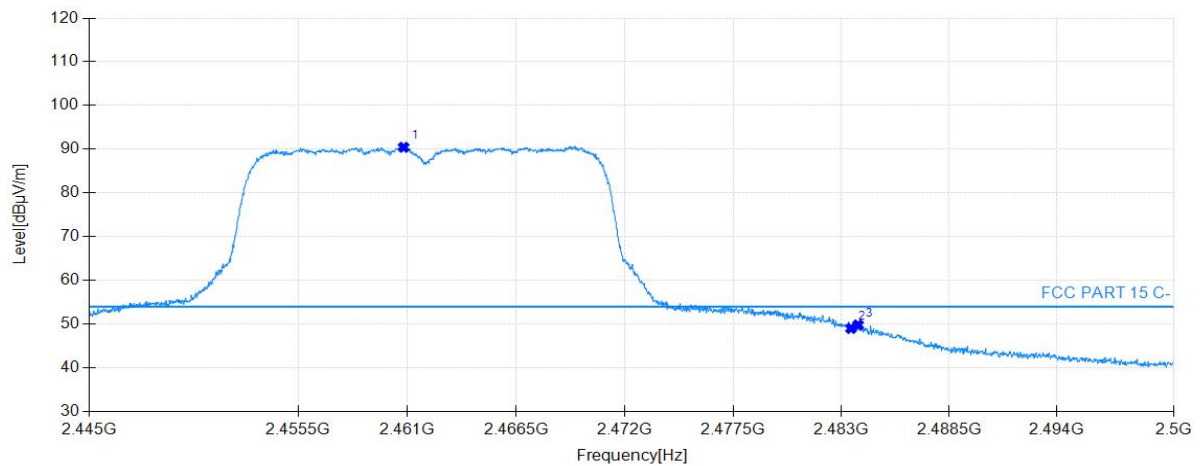


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2467.24	103.11	33.15	74.00	-29.11	160	153	Vertical
2	2483.50	67.36	33.23	74.00	6.64	160	200	Vertical
3	2483.99	69.75	33.24	74.00	4.25	160	200	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 14:56:09

Test Graph

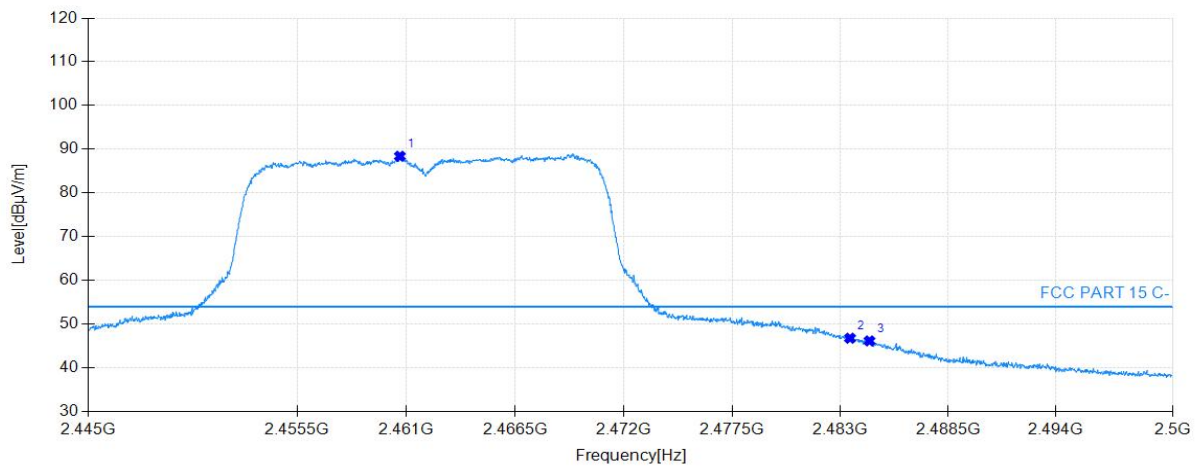


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2460.81	90.44	33.11	54.00	-36.44	160	78	Horizontal
2	2483.50	48.99	33.23	54.00	5.01	160	85	Horizontal
3	2483.85	49.80	33.24	54.00	4.20	160	85	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 1 at Channel 2462MHz		

Start of Test:2023-02-19 14:57:01

Test Graph

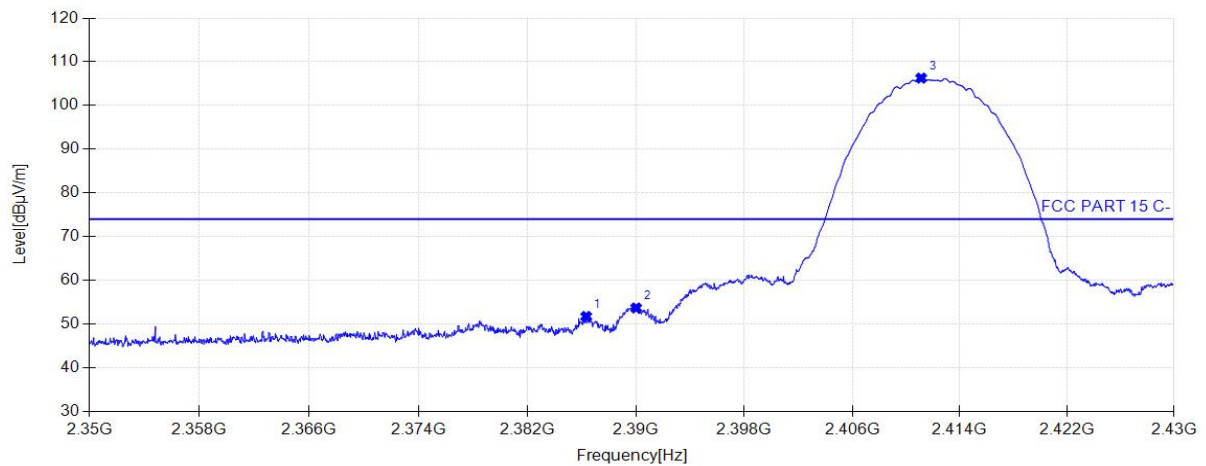


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2460.67	88.40	33.11	54.00	-34.40	160	151	Vertical
2	2483.50	46.76	33.23	54.00	7.24	160	70	Vertical
3	2484.49	46.14	33.24	54.00	7.86	160	138	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 15:29:13

Test Graph

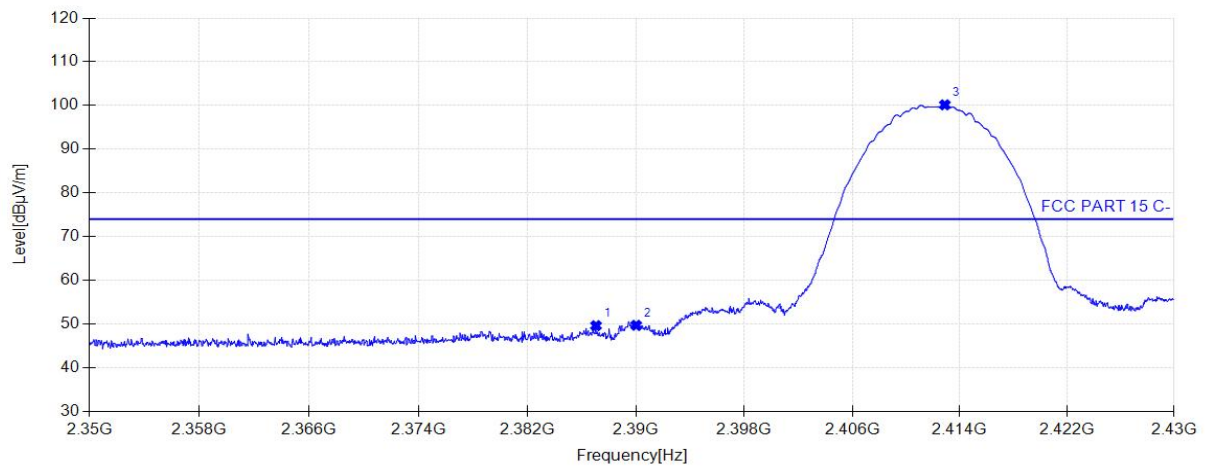


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.32	51.74	32.72	74.00	22.26	160	330	Horizontal
2	2390.00	53.68	32.74	74.00	20.32	160	324	Horizontal
3	2411.12	106.27	32.85	74.00	-32.27	160	330	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 15:30:05

Test Graph

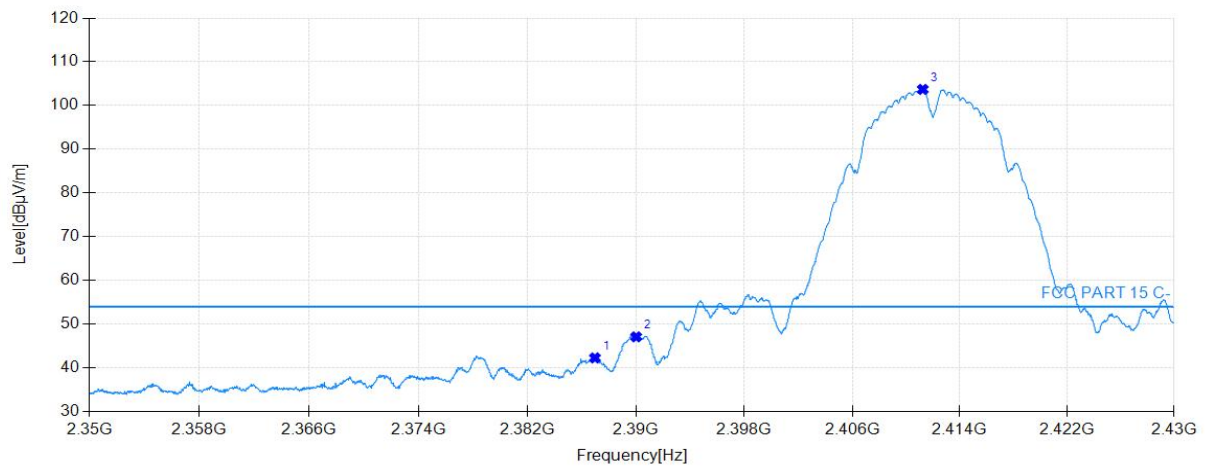


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2387.04	49.63	32.73	74.00	24.37	160	359	Vertical
2	2390.00	49.72	32.74	74.00	24.28	160	3	Vertical
3	2412.88	100.16	32.86	74.00	-26.16	160	359	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 15:32:11

Test Graph

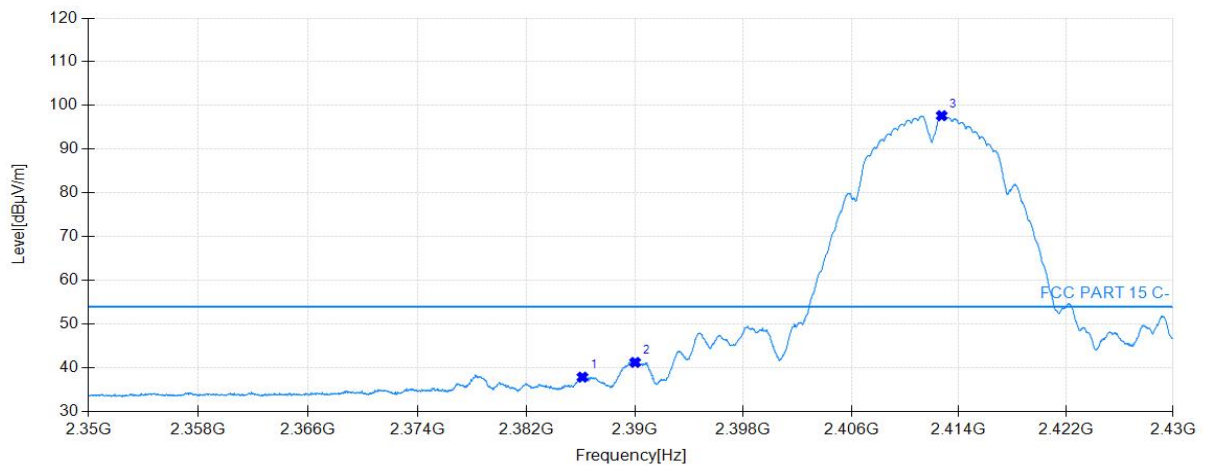


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.96	42.25	32.73	54.00	11.75	160	329	Horizontal
2	2390.00	47.07	32.74	54.00	6.93	160	329	Horizontal
3	2411.24	103.69	32.85	54.00	-49.69	160	329	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 15:33:03

Test Graph

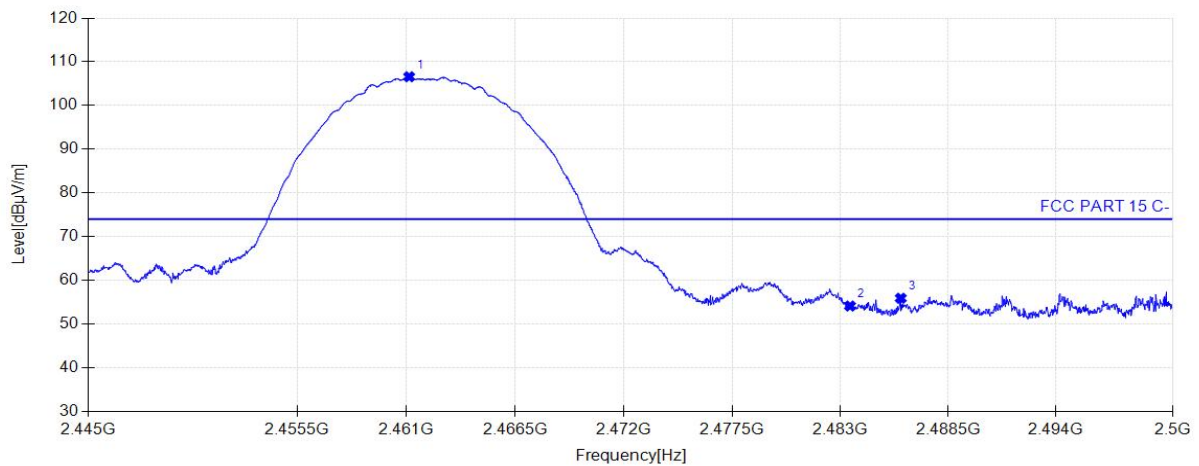


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.12	37.85	32.72	54.00	16.15	160	358	Vertical
2	2390.00	41.22	32.74	54.00	12.78	160	359	Vertical
3	2412.72	97.67	32.86	54.00	-43.67	160	359	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 15:37:39

Test Graph

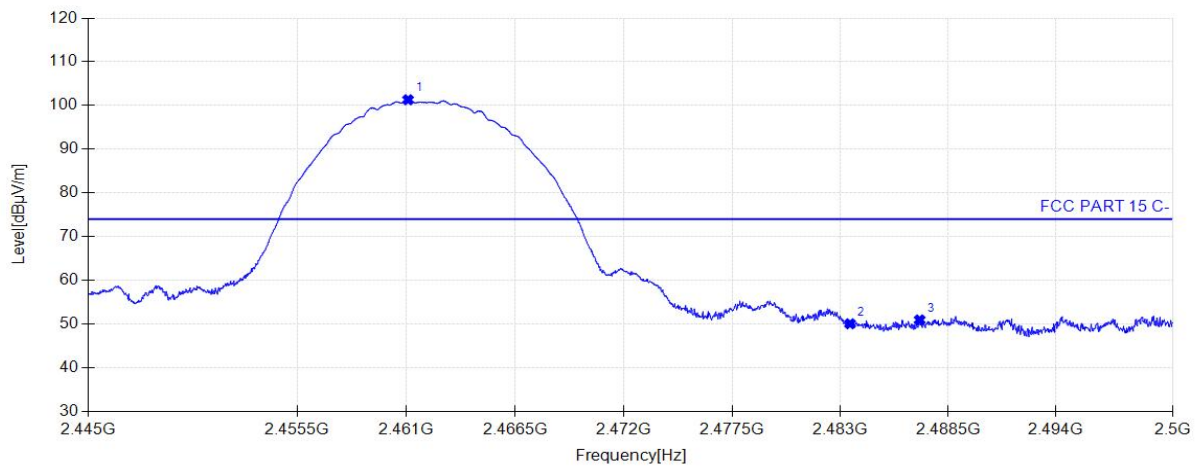


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2461.14	106.58	33.12	74.00	-32.58	160	336	Horizontal
2	2483.50	54.13	33.23	74.00	19.87	160	220	Horizontal
3	2486.08	55.91	33.25	74.00	18.09	160	83	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 15:38:31

Test Graph

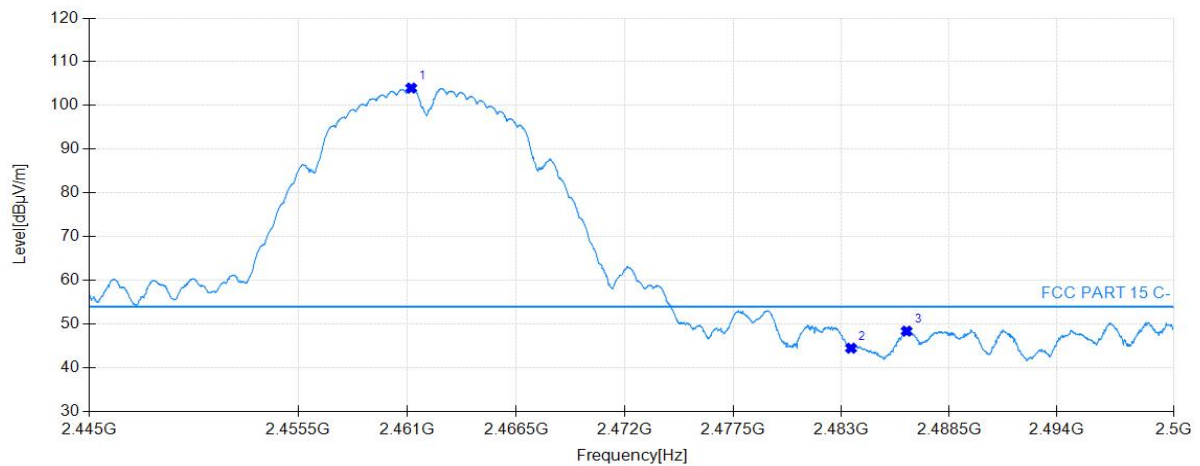


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2461.08	101.32	33.12	74.00	-27.32	160	210	Vertical
2	2483.50	50.06	33.23	74.00	23.94	160	4	Vertical
3	2487.04	50.95	33.25	74.00	23.05	160	154	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 15:39:42

Test Graph

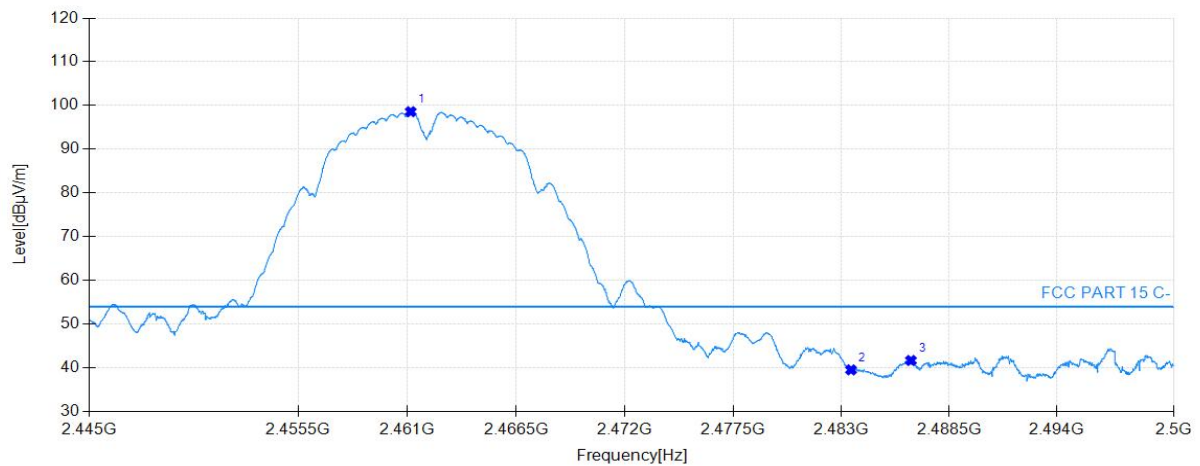


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2461.19	103.99	33.12	54.00	-49.99	160	330	Horizontal
2	2483.50	44.48	33.23	54.00	9.52	160	41	Horizontal
3	2486.33	48.38	33.25	54.00	5.62	160	41	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11b - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 15:40:35

Test Graph

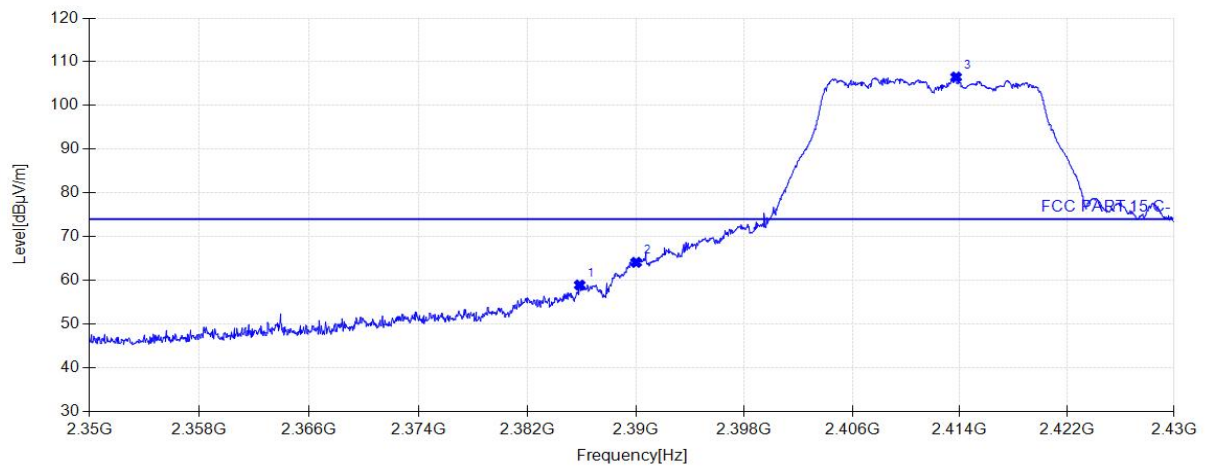


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2461.17	98.59	33.12	54.00	-44.59	160	211	Vertical
2	2483.50	39.51	33.23	54.00	14.49	160	4	Vertical
3	2486.55	41.66	33.25	54.00	12.34	160	4	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 15:46:24

Test Graph

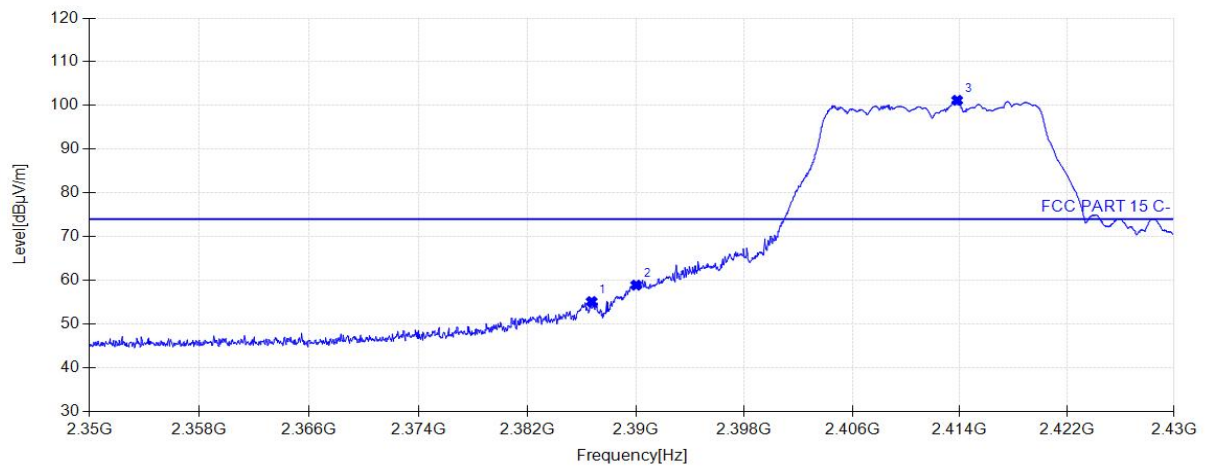


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2385.84	58.92	32.72	74.00	15.08	160	329	Horizontal
2	2390.00	64.11	32.74	74.00	9.89	160	329	Horizontal
3	2413.72	106.51	32.87	74.00	-32.51	160	329	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 15:47:17

Test Graph

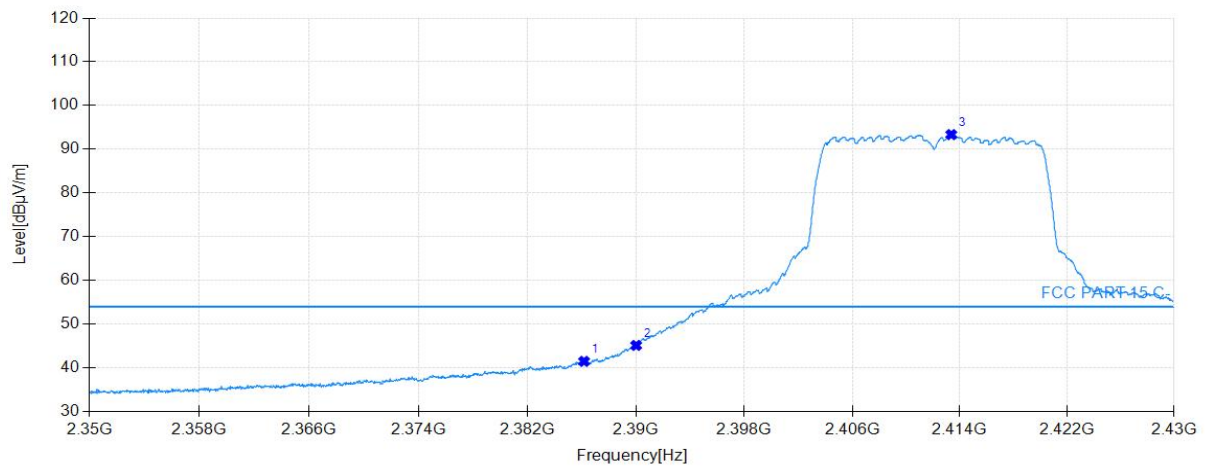


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.72	55.13	32.72	74.00	18.87	160	357	Vertical
2	2390.00	58.90	32.74	74.00	15.10	160	360	Vertical
3	2413.80	101.19	32.87	74.00	-27.19	160	359	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 15:49:08

Test Graph

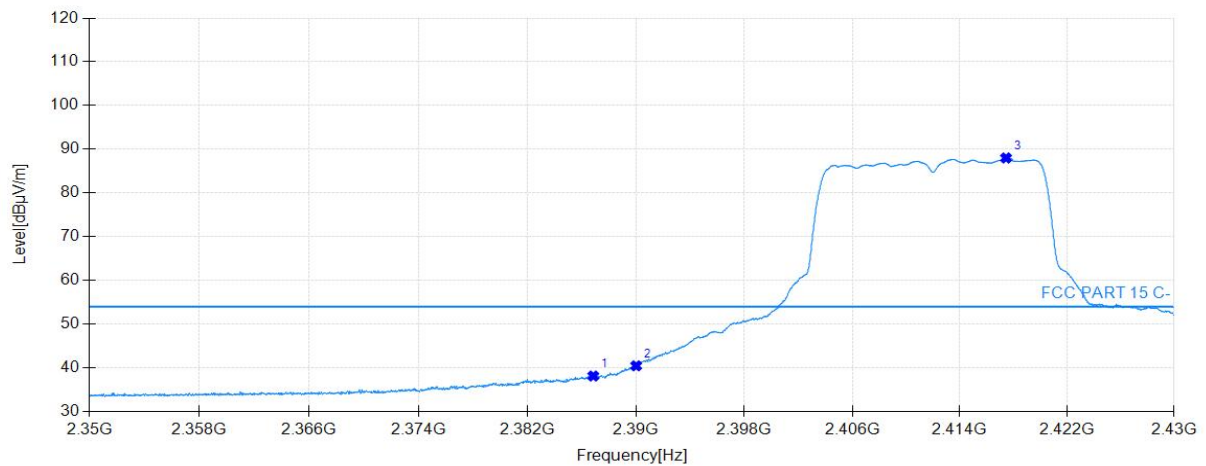


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.16	41.46	32.72	54.00	12.54	160	323	Horizontal
2	2390.00	45.11	32.74	54.00	8.89	160	329	Horizontal
3	2413.36	93.35	32.86	54.00	-39.35	160	329	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 15:50:00

Test Graph

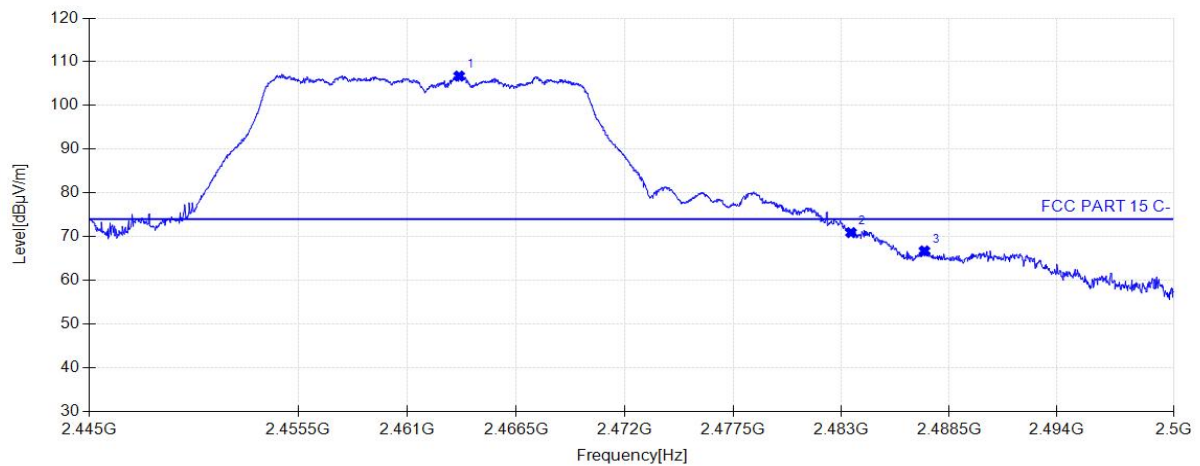


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.84	38.11	32.72	54.00	15.89	160	360	Vertical
2	2390.00	40.44	32.74	54.00	13.56	160	354	Vertical
3	2417.44	88.00	32.89	54.00	-34.00	160	360	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 15:58:03

Test Graph

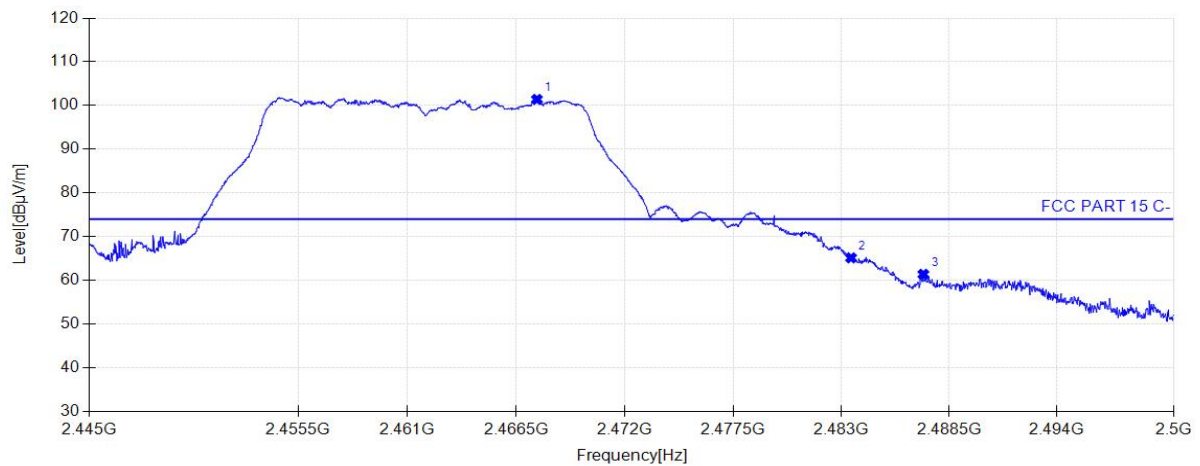


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2463.61	106.74	33.13	74.00	-32.74	160	337	Horizontal
2	2483.50	70.92	33.23	74.00	3.08	160	83	Horizontal
3	2487.24	66.73	33.25	74.00	7.27	160	47	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 15:58:56

Test Graph

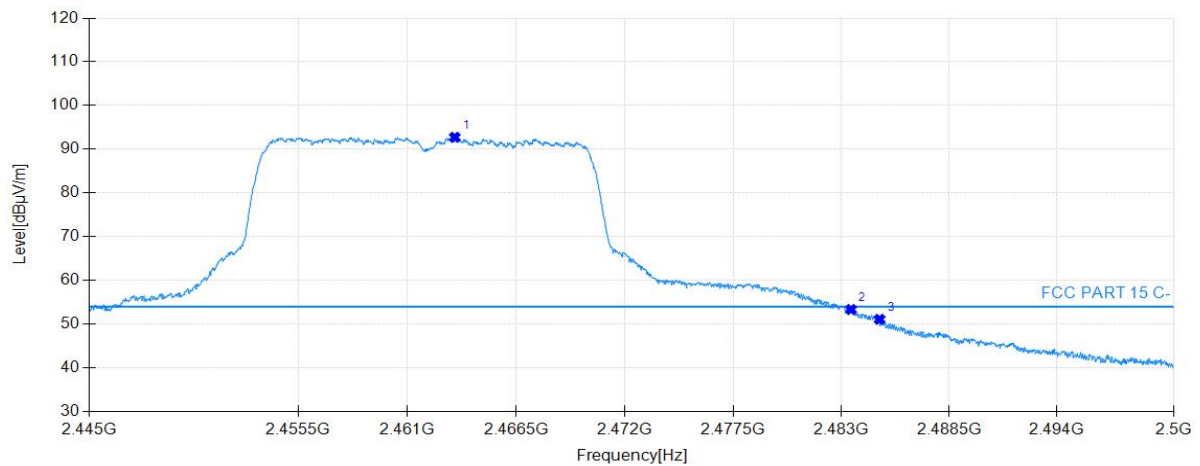


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2467.55	101.40	33.15	74.00	-27.40	160	4	Vertical
2	2483.50	65.14	33.23	74.00	8.86	160	4	Vertical
3	2487.18	61.38	33.25	74.00	12.62	160	153	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 16:00:04

Test Graph

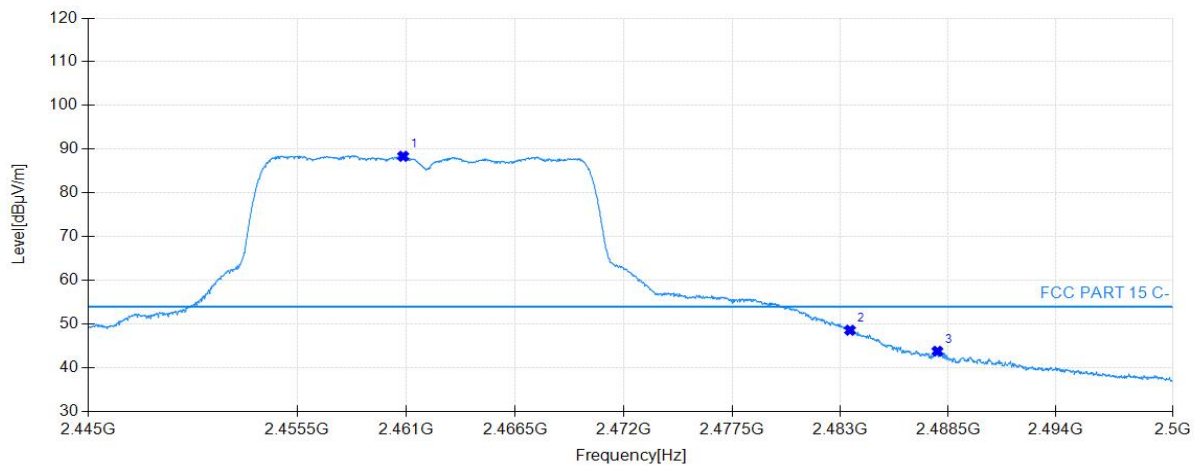


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2463.39	92.73	33.13	54.00	-38.73	160	336	Horizontal
2	2483.50	53.32	33.23	54.00	0.68	160	45	Horizontal
3	2484.95	51.08	33.24	54.00	2.92	160	39	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11g - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 16:00:56

Test Graph

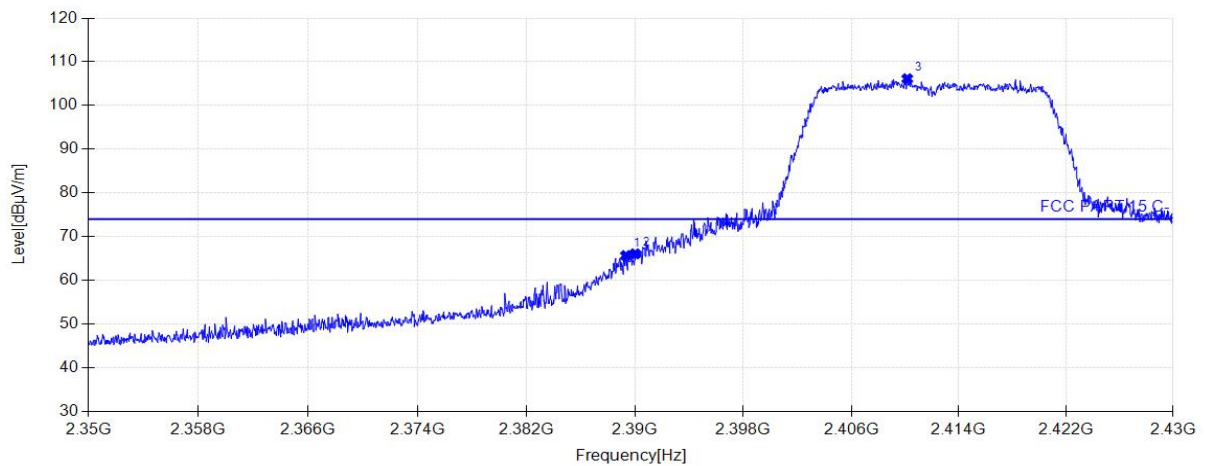


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2460.84	88.38	33.11	54.00	-34.38	160	211	Vertical
2	2483.50	48.58	33.23	54.00	5.42	160	4	Vertical
3	2487.95	43.78	33.26	54.00	10.22	160	142	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 16:05:28

Test Graph

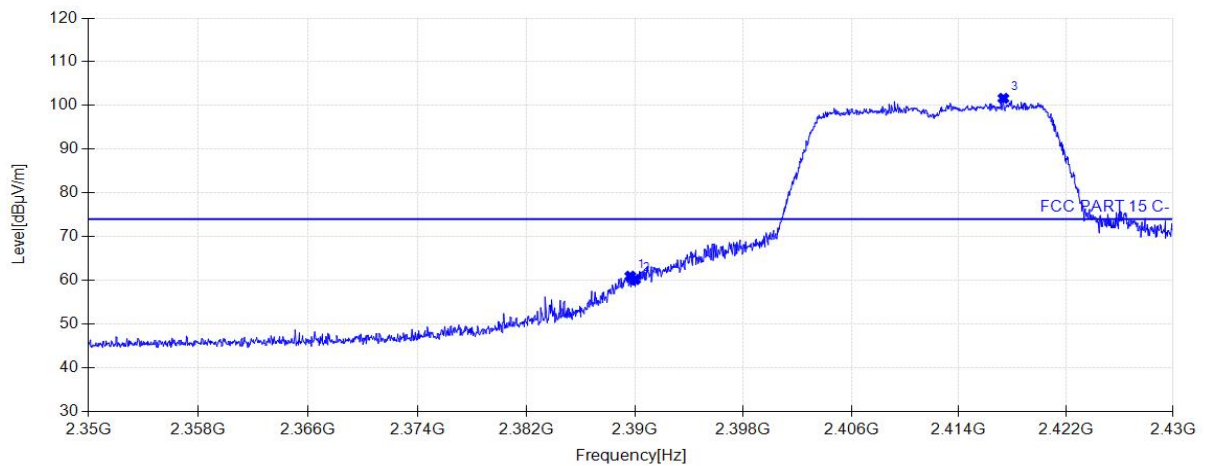


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2389.32	65.65	32.74	74.00	8.35	160	323	Horizontal
2	2390.00	66.06	32.74	74.00	7.94	160	316	Horizontal
3	2410.16	106.12	32.85	74.00	-32.12	160	329	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 16:06:21

Test Graph

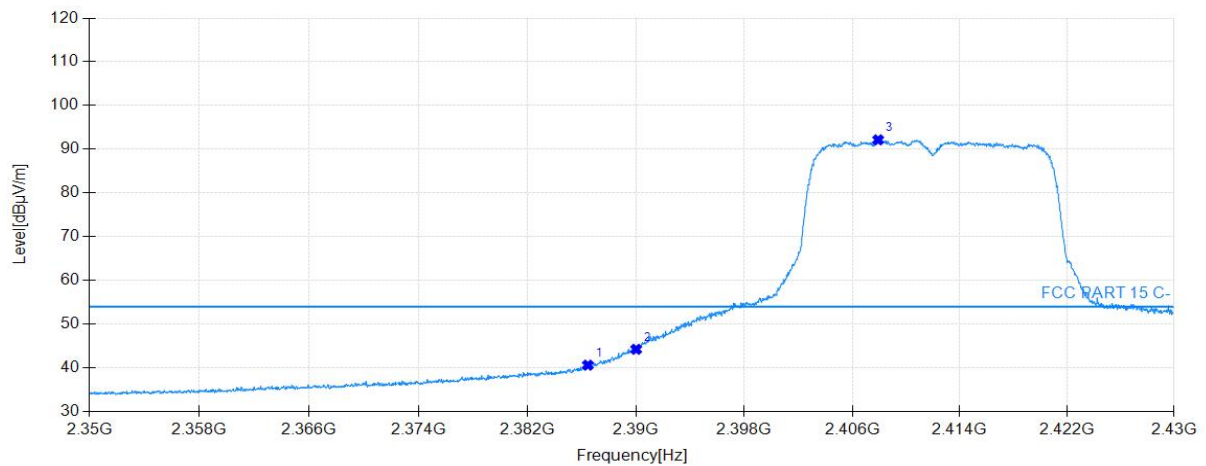


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2389.64	60.95	32.74	74.00	13.05	160	359	Vertical
2	2390.00	60.21	32.74	74.00	13.79	160	360	Vertical
3	2417.32	101.65	32.89	74.00	-27.65	160	359	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 16:07:30

Test Graph

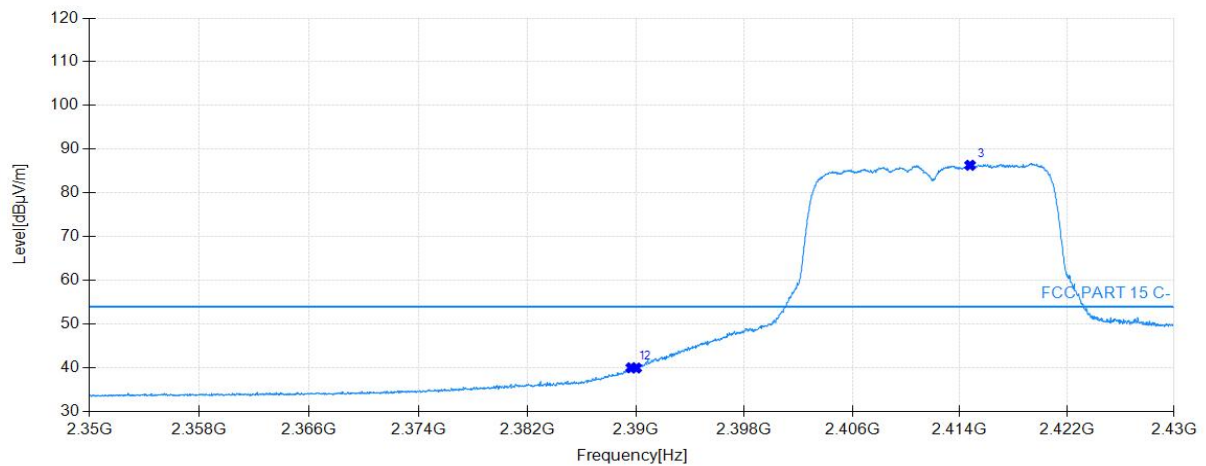


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.44	40.59	32.72	54.00	13.41	160	330	Horizontal
2	2390.00	44.22	32.74	54.00	9.78	160	323	Horizontal
3	2407.92	92.15	32.84	54.00	-38.15	160	330	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 2 at Channel 2412MHz		

Start of Test:2023-02-19 16:08:22

Test Graph

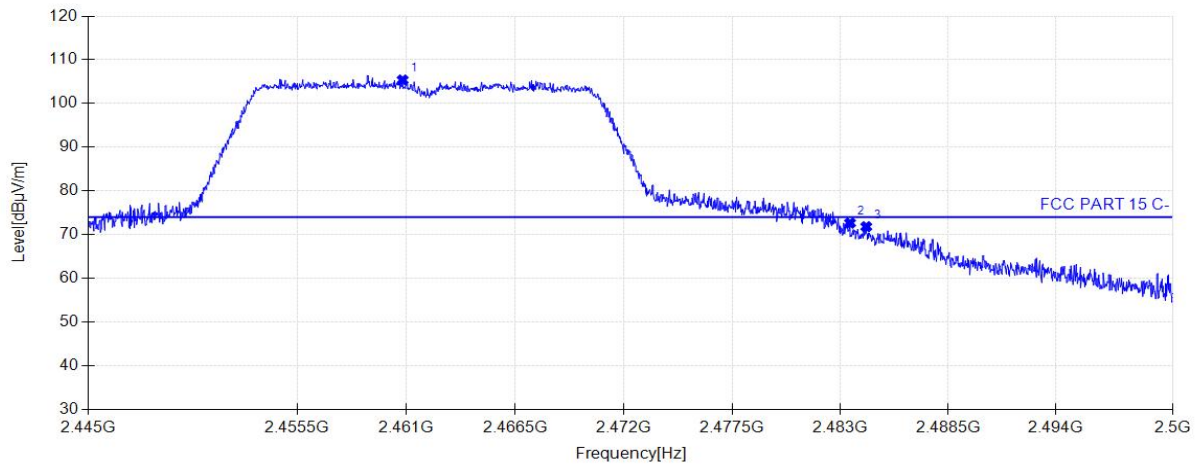


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2389.64	40.00	32.74	54.00	14.00	160	3	Vertical
2	2390.00	39.94	32.74	54.00	14.06	160	3	Vertical
3	2414.76	86.33	32.87	54.00	-32.33	160	360	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 16:11:36

Test Graph

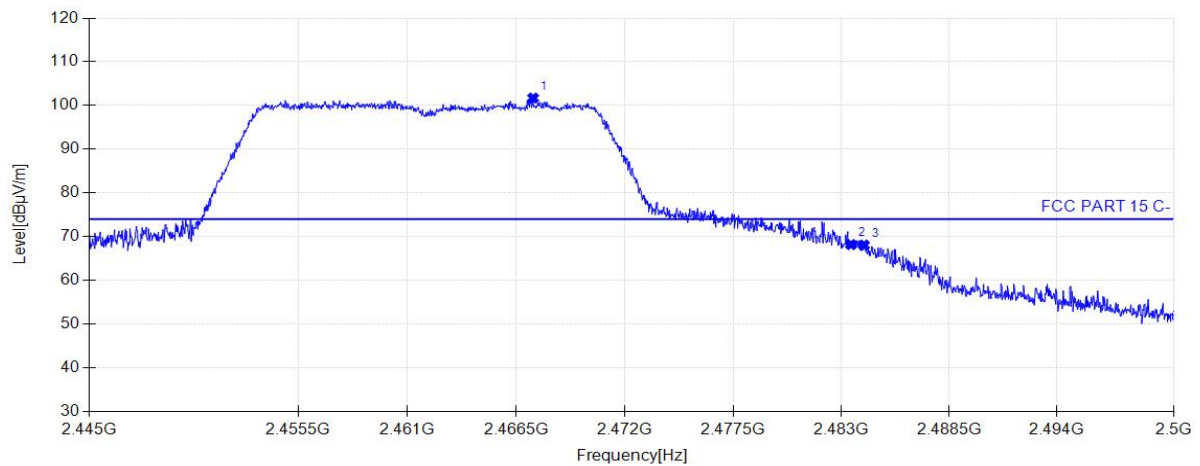


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2460.81	105.39	33.11	74.00	-31.39	160	336	Horizontal
2	2483.50	72.65	33.23	74.00	1.35	160	83	Horizontal
3	2484.32	71.82	33.24	74.00	2.18	160	328	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 16:12:29

Test Graph

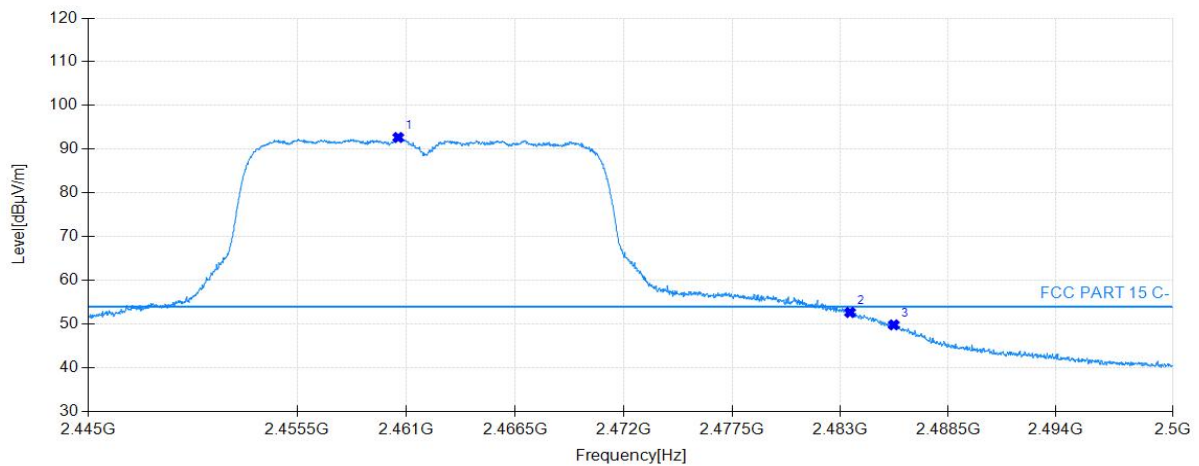


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2467.35	101.70	33.15	74.00	-27.70	160	360	Vertical
2	2483.50	68.19	33.23	74.00	5.81	160	127	Vertical
3	2484.16	68.07	33.24	74.00	5.93	160	4	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 16:14:05

Test Graph

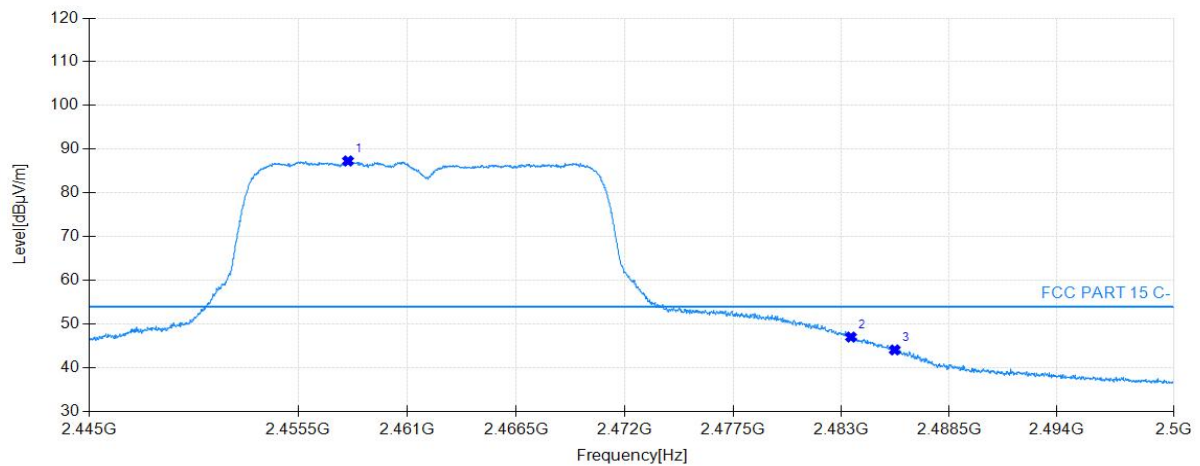


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2460.59	92.69	33.11	54.00	-38.69	160	337	Horizontal
2	2483.50	52.66	33.23	54.00	1.34	160	41	Horizontal
3	2485.72	49.81	33.24	54.00	4.19	160	41	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - Ant 2 at Channel 2462MHz		

Start of Test:2023-02-19 16:14:58

Test Graph

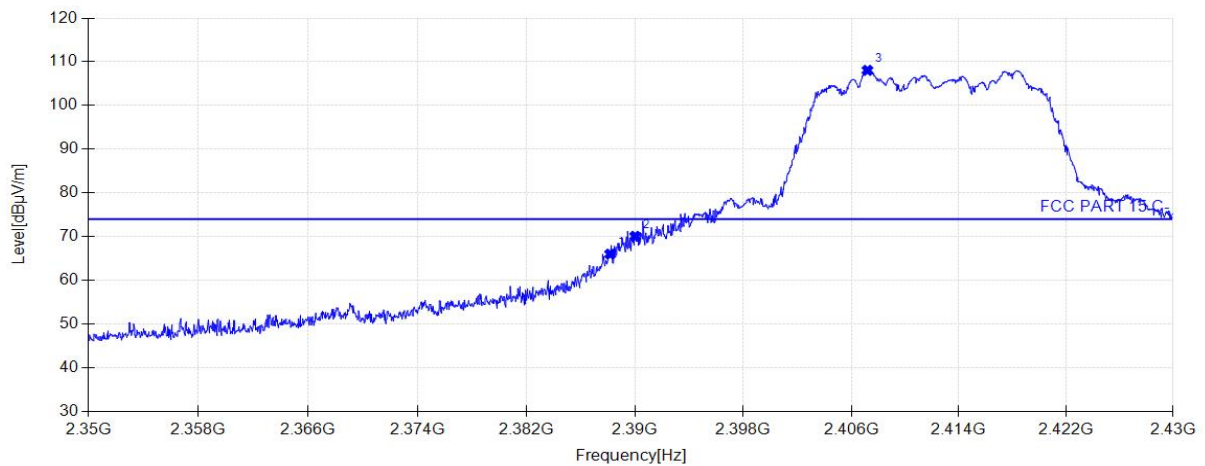


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2458.00	87.31	33.10	54.00	-33.31	160	209	Vertical
2	2483.50	47.02	33.23	54.00	6.98	160	3	Vertical
3	2485.72	44.08	33.24	54.00	9.92	160	154	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - CDD at Channel 2412MHz		

Start of Test:2023-02-19 16:41:57

Test Graph

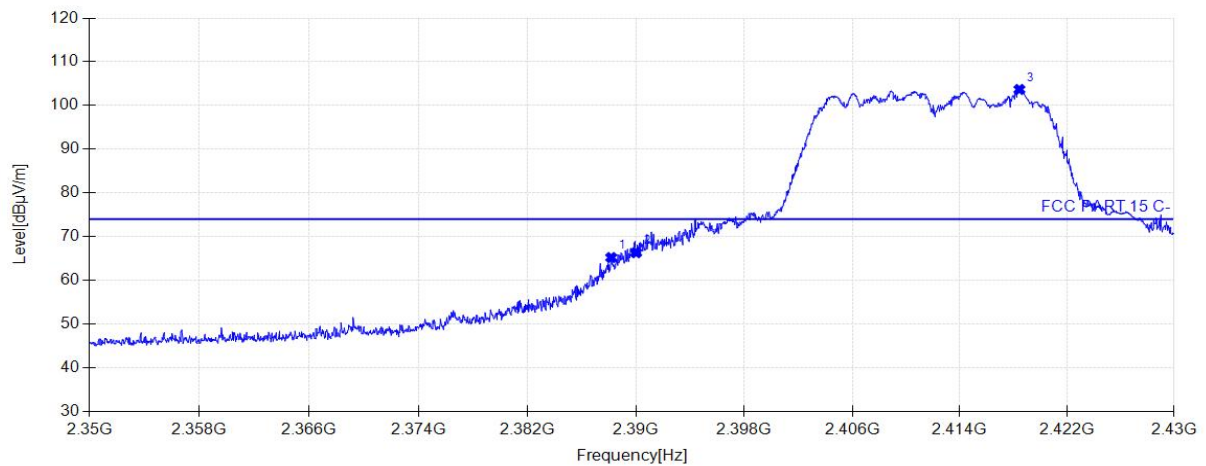


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2388.16	66.00	32.73	74.00	8.00	160	79	Horizontal
2	2390.00	70.08	32.74	74.00	3.92	160	79	Horizontal
3	2407.20	108.05	32.83	74.00	-34.05	160	324	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - CDD at Channel 2412MHz		

Start of Test:2023-02-19 16:42:50

Test Graph

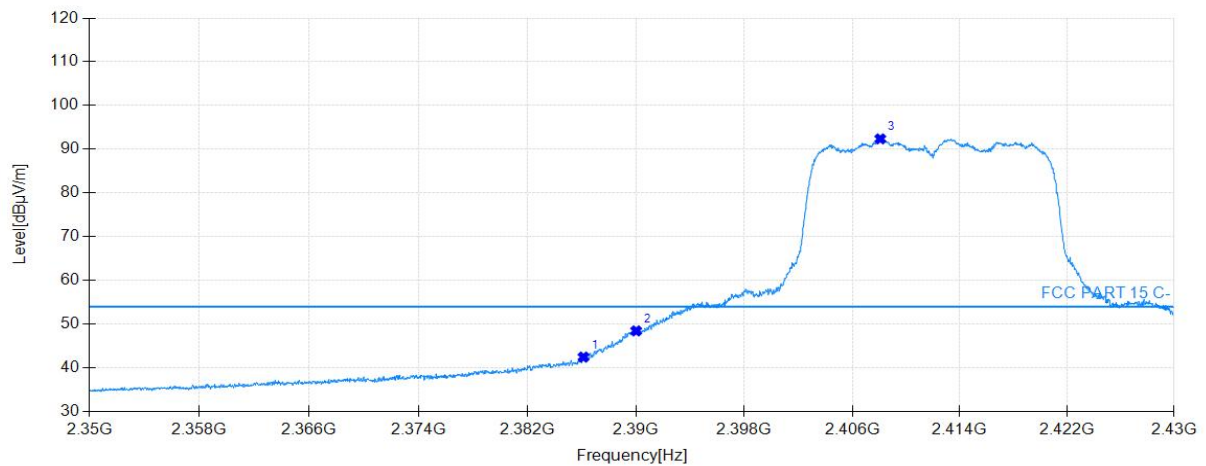


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2388.16	65.22	32.73	74.00	8.78	160	189	Vertical
2	2390.00	66.32	32.74	74.00	7.68	160	182	Vertical
3	2418.44	103.68	32.89	74.00	-29.68	160	127	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - CDD at Channel 2412MHz		

Start of Test:2023-02-19 16:43:56

Test Graph

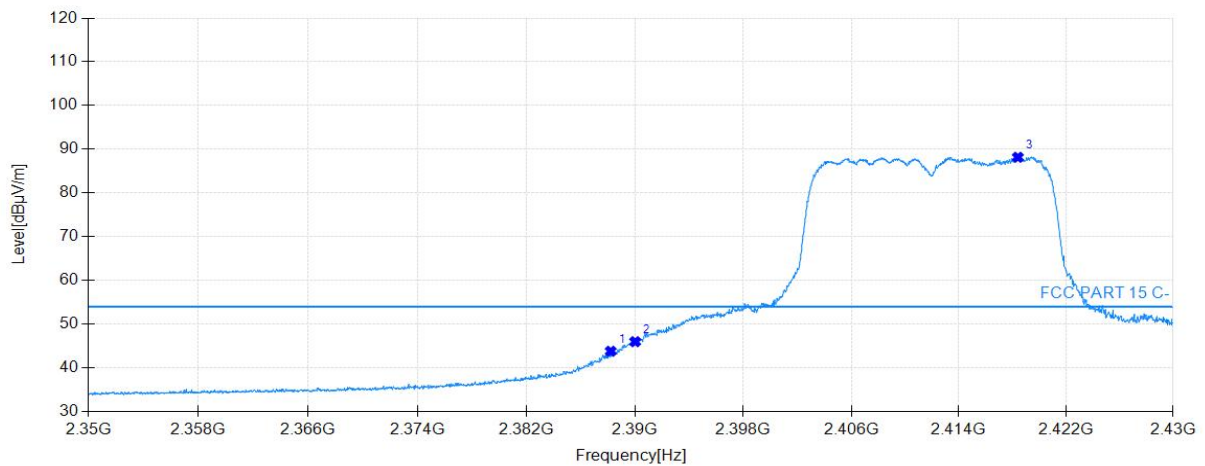


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2386.12	42.45	32.72	54.00	11.55	160	122	Horizontal
2	2390.00	48.43	32.74	54.00	5.57	160	122	Horizontal
3	2408.08	92.37	32.84	54.00	-38.37	160	88	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - CDD at Channel 2412MHz		

Start of Test:2023-02-19 16:44:49

Test Graph

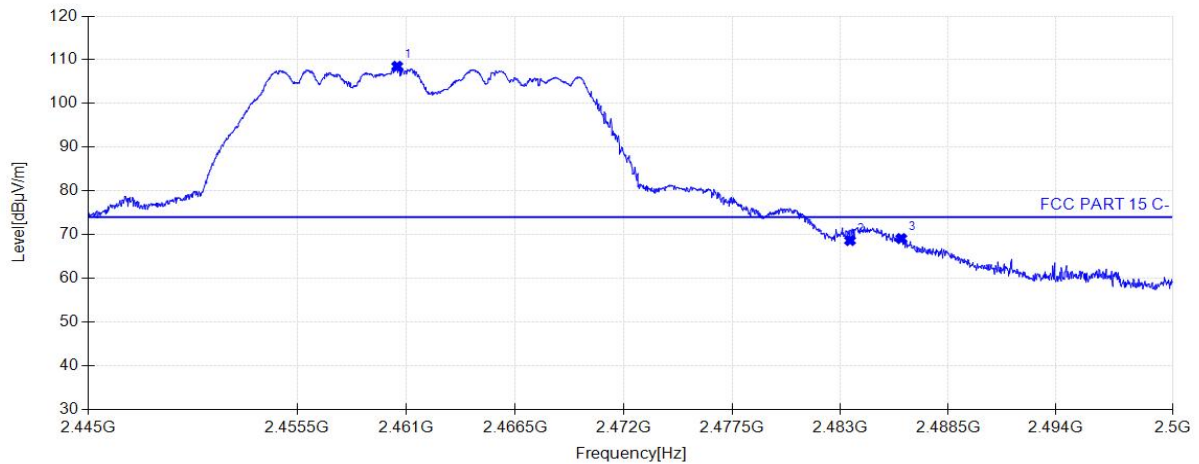


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2388.20	43.78	32.73	54.00	10.22	160	167	Vertical
2	2390.00	45.97	32.74	54.00	8.03	160	196	Vertical
3	2418.40	88.16	32.89	54.00	-34.16	160	126	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - CDD at Channel 2462MHz		

Start of Test:2023-02-19 16:46:55

Test Graph

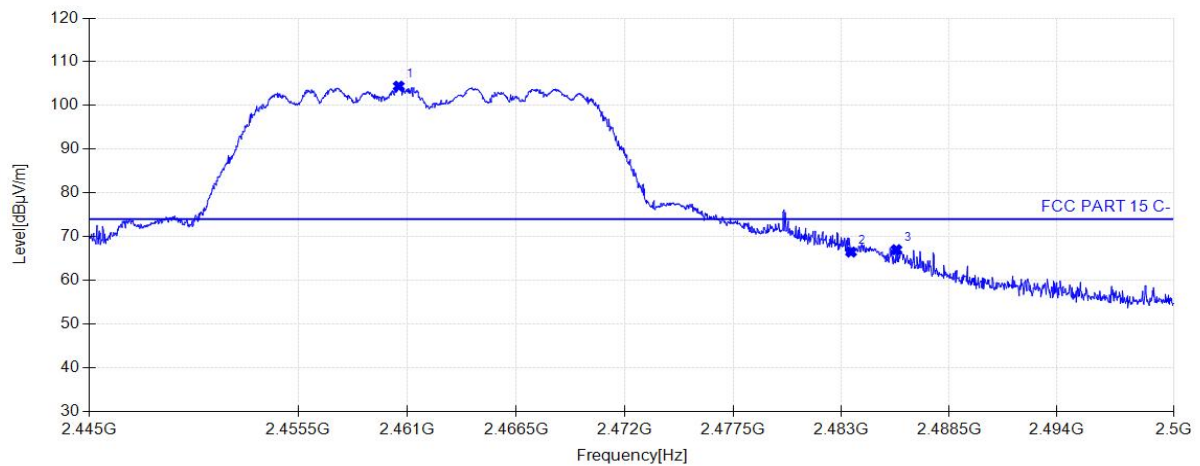


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2460.53	108.52	33.11	74.00	-34.52	160	86	Horizontal
2	2483.50	68.66	33.23	74.00	5.34	160	210	Horizontal
3	2486.11	69.10	33.25	74.00	4.90	160	86	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - CDD at Channel 2462MHz		

Start of Test:2023-02-19 16:47:48

Test Graph

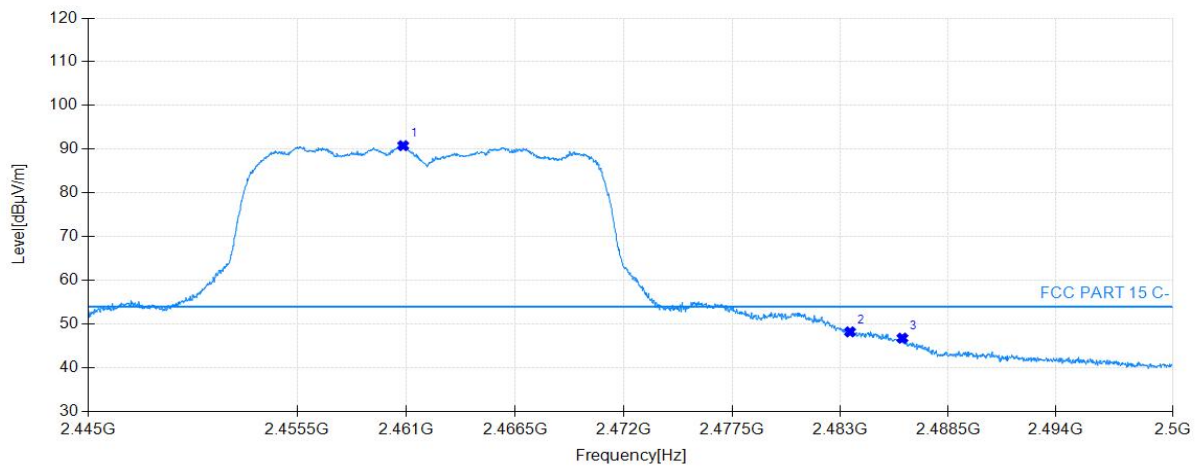


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2460.56	104.43	33.11	74.00	-30.43	160	120	Vertical
2	2483.50	66.48	33.23	74.00	7.52	160	134	Vertical
3	2485.81	67.01	33.25	74.00	6.99	160	134	Vertical

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - CDD at Channel 2462MHz		

Start of Test:2023-02-19 16:49:24

Test Graph

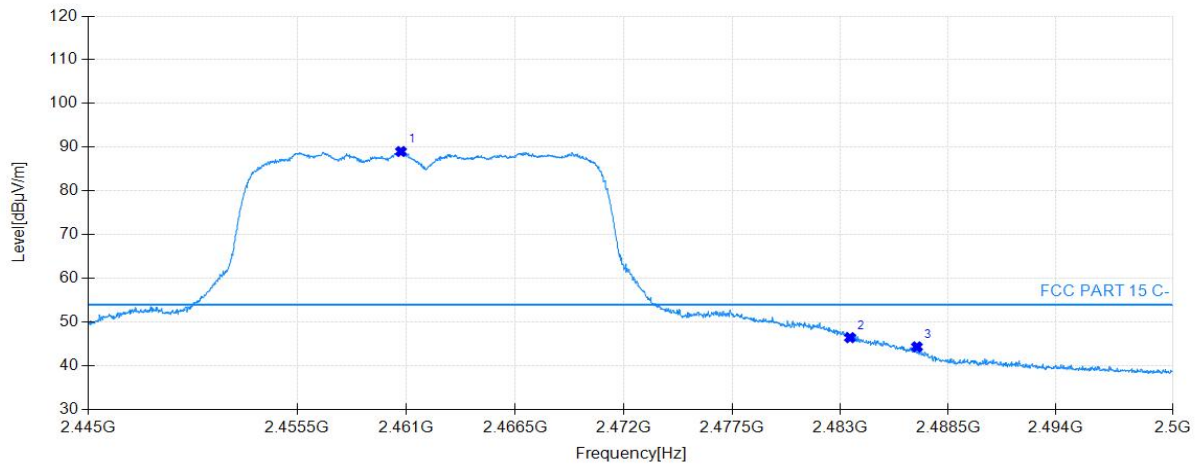


Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2460.84	90.81	33.11	54.00	-36.81	160	80	Horizontal
2	2483.50	48.21	33.23	54.00	5.79	160	87	Horizontal
3	2486.16	46.77	33.25	54.00	7.23	160	87	Horizontal

Project Information			
EUT:	Caper Cart M3 Android board	Model:	PCBA-CAP-CA03AN-RK 39
S/N:	/	Voltage:	DC 24V
Environment:	Temp: 22°C; Humi:54%	Engineer:	Amos Xia
Remark:	Transmit by 802.11n - CDD at Channel 2462MHz		

Start of Test:2023-02-19 16:50:17

Test Graph



Suspected Data List								
NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	2460.73	89.02	33.11	54.00	-35.02	160	119	Vertical
2	2483.50	46.43	33.23	54.00	7.57	160	44	Vertical
3	2486.91	44.33	33.25	54.00	9.67	160	141	Vertical

7.8. AC Conducted Emissions Measurement

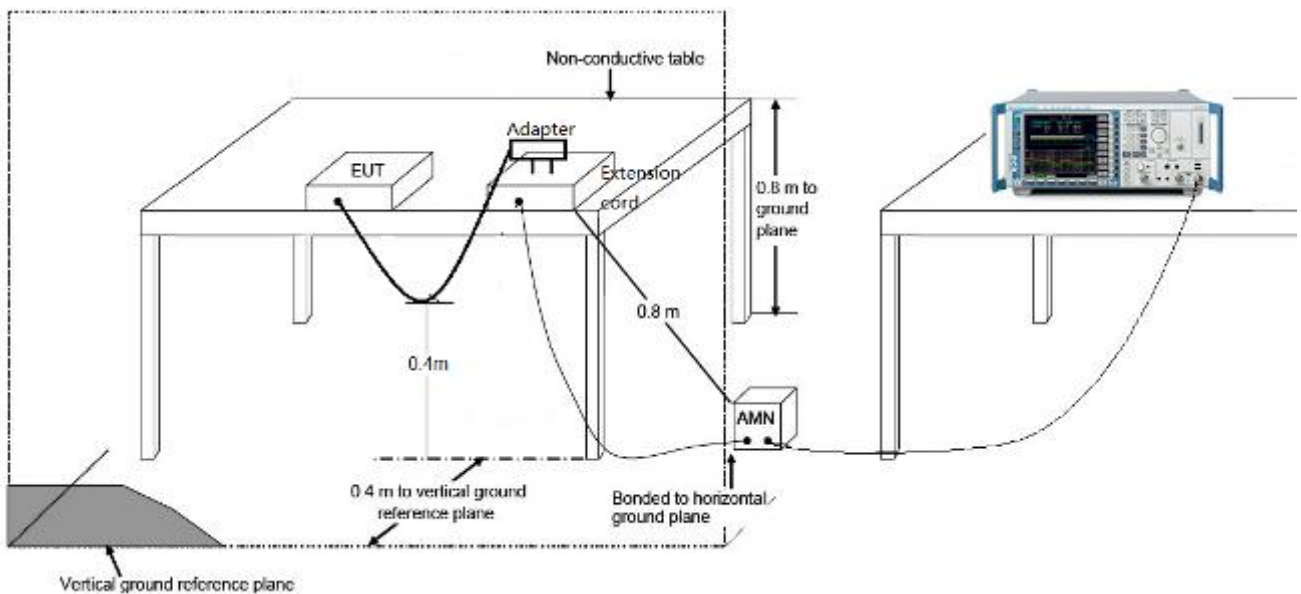
7.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
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.

7.8.2. Test Setup



7.8.3. Test Result

DC power supply, Not applicable.

The End