

MEASUREMENT REPORT

FCC PART 15C / WLAN 802.11b/g/n

FCC ID: 2AUSXABEGALSP

Applicant: Tocoding Technologies Co., Ltd

Application Type: Certification

Product: Abegal Battery Camera

Model No.: Abegal S

Brand Name: Abegal

FCC Classification: Digital Transmission System (DTS)

FCC Rule Part(s): Part 15 Subpart C (Section 15.247)

Test Procedure(s): ANSI C63.10-2013

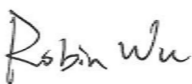
Test Date: January 14 ~ 22, 2021

Reviewed By:



Vincent Yu

Approved By:



Robin Wu



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 ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

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

Revision History

Report No.	Version	Description	Issue Date	Note
2101RSU020-U1	Rev. 01	Initial Report	01-27-2021	Valid

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1. GENERAL INFORMATION

1.1. Applicant

Tocoding Technologies Co., Ltd

2905, Building 11A, Shenzhen Bay Science and Technology Ecological Park, Nanshan District,
Shenzhen, Guangdong, China

1.2. Manufacturer

Tocoding Technologies Co., Ltd

2905, Building 11A, Shenzhen Bay Science and Technology Ecological Park, Nanshan District,
Shenzhen, Guangdong, China

1.3. Testing Facility

☐	Test Site – MRT Suzhou Laboratory Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian’edang Rd., Wuzhong Economic Development Zone, Suzhou, China Laboratory Location (Suzhou - SIP) 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China Laboratory Accreditations A2LA: 3628.01 CNAS: L10551 FCC: CN1166 ISED: CN0001 VCCI: R-20025, G-20034, C-20020, T-20020
☒	Test Site – MRT Shenzhen Laboratory Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China Laboratory Accreditations A2LA: 3628.02 CNAS: L10551 FCC: CN1284 ISED: CN0105
☐	Test Site – MRT Taiwan Laboratory Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) Laboratory Accreditations TAF: L3261-190725 FCC: 291082, TW3261 ISED: TW3261

2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	Abegal Battery Camera
Model No.	Abegal S
Brand Name	Abegal
Wi-Fi Specification	802.11/b/g/n-HT20

2.2. Product Specification Subjective to this Report

Frequency Range	802.11b/g/n-HT20: 2412 ~ 2462 MHz
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: up to 72.2Mbps
Antenna Type	Ceramic Antenna
Antenna Gain	3dBi

2.3. Working Frequencies for this report

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. Test Mode

Test Mode	Mode 1: Transmit by 802.11b (1Mbps)
	Mode 2: Transmit by 802.11g (6Mbps)
	Mode 3: Transmit by 802.11n-HT20 (MCS0)

2.5. Test Environment Condition

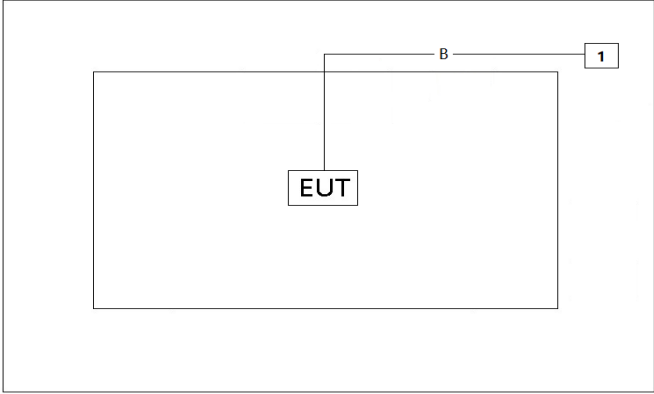
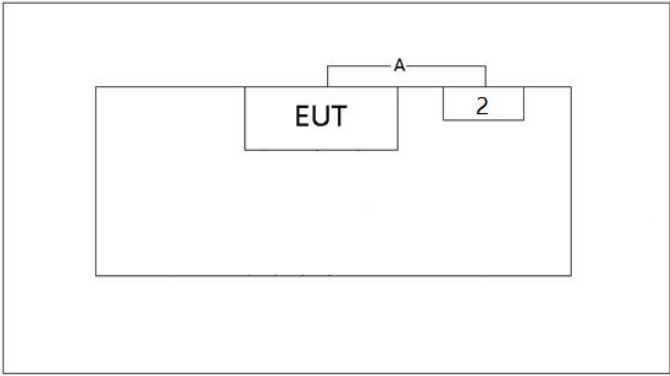
Ambient Temperature	15°C ~ 35°C
Relative Humidity	20%RH ~ 75%RH

2.6. Description of Test Software

The test utility software used during testing was “SecureCRT.exe”, and the version was 6.2.3.313.

2.7. Description of Test Configuration

The ANSI C63.10: 2013 was used to reference the appropriate EUT setup for testing.

Connection Diagram for Radiated Emissions Measurement	
	
Connection Diagram for AC Conducted Emission Measurement	
	
Cable Type	Signal Cable Description
A	USB Cable
B	Control Cable
	Shielding, < 0.5 m
	Non-Shielded, > 5 m

2.8. Test System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

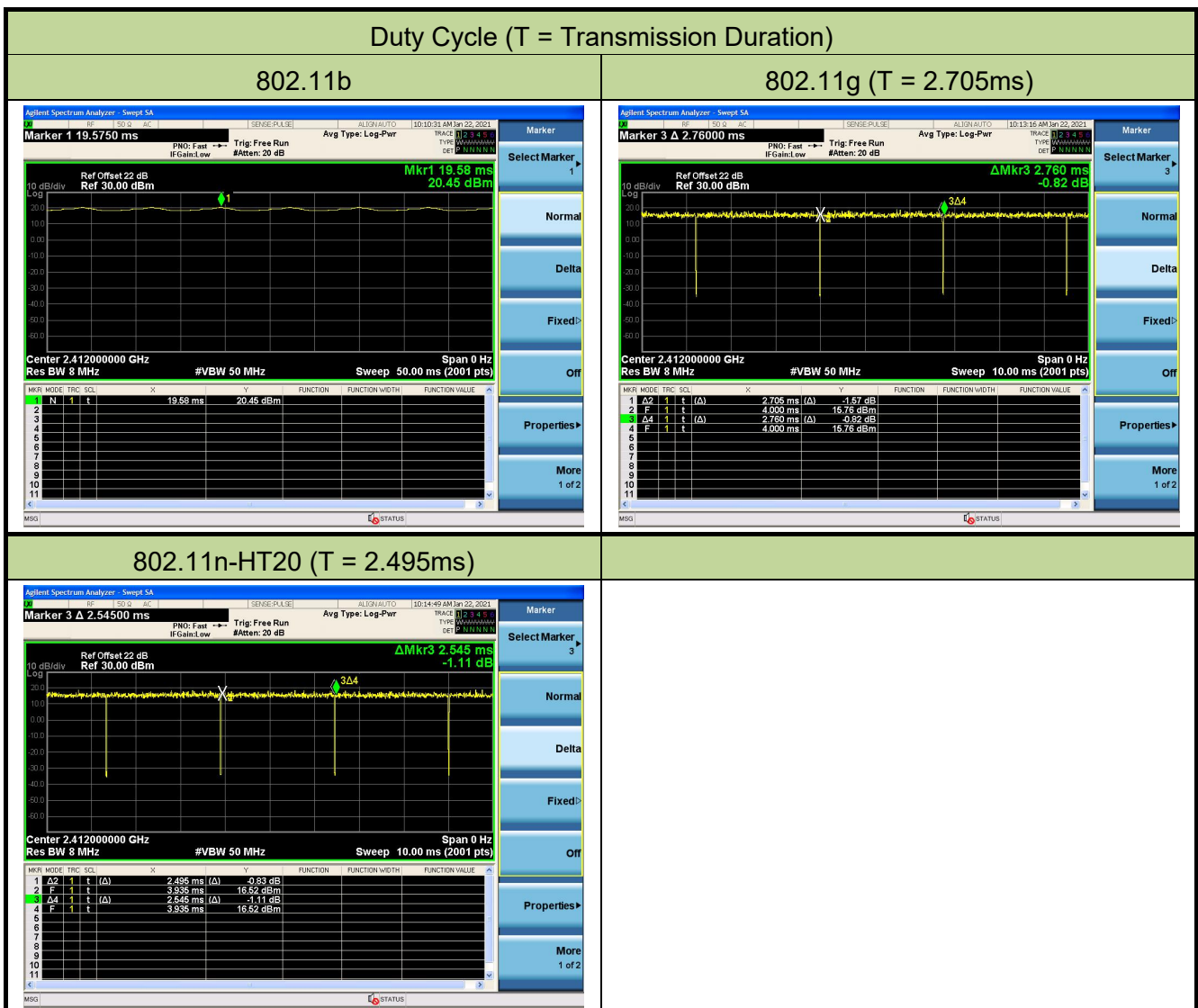
Product	Manufacturer	Model No.
1	Notebook	ThinkPad
2	USB Adapter	KLEC
		SW-1772U

Note: The USB Adapter used during the test was provided by MRT.

2.9. Duty Cycle

The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz. 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 are as follows:

Test Mode	Duty Cycle
802.11b	100%
802.11g	98.01%
802.11n-HT20	98.04%



3. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

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

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

Conclusion:

The unit complies with the requirement of §15.203.

4. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions (NS-SR2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESL3	MRTSUE06575	1 year	2021/07/09
EMI Test Receiver	R&S	ESR3	MRTSUE06575	1 year	2021/07/09
EXA Signal Analyzer	Keysight	N9010A	MRTSUE06195	1 year	2021/04/14
Two-Line V-Network	R&S	ENV 216(102494)	MRTSUE06578	1 year	2021/07/09
Two-Line V-Network	R&S	ENV216	MRTSUE06577	1 year	2021/07/09
8-WIRE ISN	R&S	ENY81	MRTSUE06579	1 year	2021/07/09
8-WIRE ISN for CAT6	R&S	ENY81-CA6	MRTSUE06580	1 year	2021/06/23
USB wideband power sensor	Keysight	U2021XA	MRTSUE06581	1 year	2021/08/21
Temperature/Humidity Meter	DELI	NO.8813	MRTSUE06587	1 year	2021/07/08

Radiated Emissions (NS-AC1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06575	1 year	2021/07/09
EXA Signal Analyzer	Keysight	N9010A	MRTSUE06195	1 year	2021/04/14
Bilog Period Antenna	Schwarzbeck	VULB 9162	MRTSUE06573	1 year	2021/07/03
Broad-Band Horn Antenna	Schwarzbeck	9120D	MRTSUE06572	1 year	2021/07/03
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/08
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06292	1 year	2021/10/24
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06574	1 year	2021/07/13
Thermal Hygrometer	DELI	NO.8813	MRTSUE06588	1 year	2021/07/08
Anechoic Chamber	BOOMWAVE	AC1	MRTSUE06496	1 year	2021/07/25

Software	Version	Function
EMI Software	V3	EMI Test Software

5. 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
Measurement Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 9kHz~150kHz: 3.74dB 150kHz~30MHz: 3.44dB
Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): Horizontal: 30MHz~300MHz: 5.04dB 300MHz~1GHz: 4.95dB 1GHz~40GHz: 6.40dB Vertical: 30MHz~300MHz: 5.24dB 300MHz~1GHz: 6.03dB 1GHz~40GHz: 6.40dB
Spurious Emissions, Conducted
Measurement Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 0.78dB
Output Power
Measurement Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 1.13dB
Power Spectrum Density
Measurement Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 1.15dB
Occupied Bandwidth
Measurement Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 0.28%

6. TEST RESULT

6.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.247(a)(2)	6dB Bandwidth	$\geq 500\text{kHz}$	Conducted	Pass	Section 6.2
15.247(b)(3)	Output Power	$\leq 1\text{Watt}$		Pass	Section 6.3
15.247(e)	Power Spectral Density	$\leq 8\text{dBm} / 3\text{kHz}$		Pass	Section 6.4
15.247(d)	Band Edge / Out-of-Band Emissions	$\geq 20\text{dBc (Peak)}$		Pass	Section 6.5
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 6.6 & 6.7
15.207	AC Conducted Emissions 150kHz - 30MHz	$< \text{FCC 15.207 limits}$	Line Conducted	Pass	Section 6.8

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.

6.2. 6dB Bandwidth Measurement

6.2.1. Test Limit

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

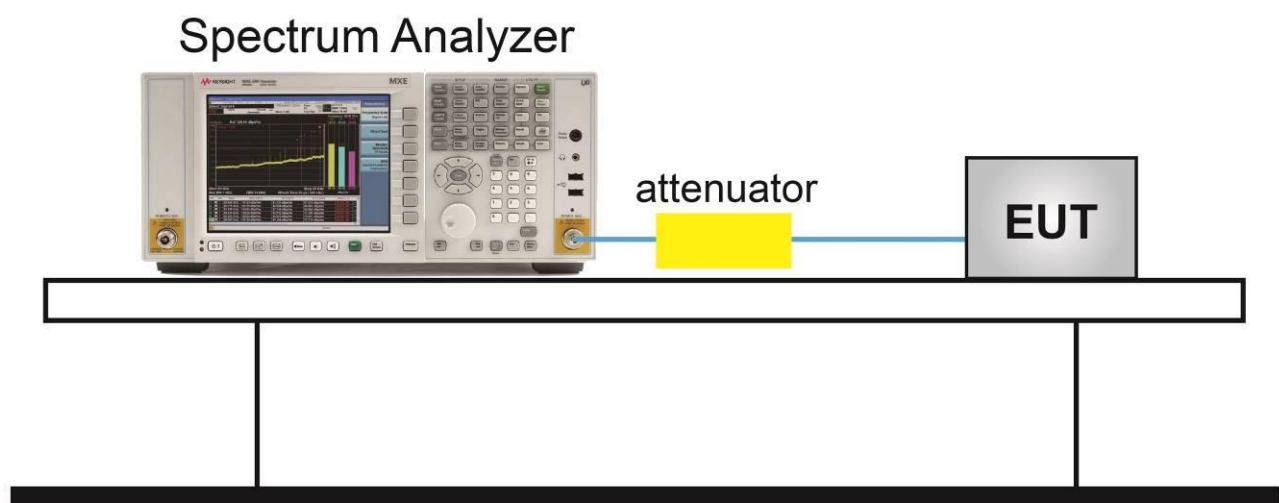
6.2.2. Test Procedure used

ANSI C63.10-2013 - Section 11.8

6.2.3. 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. Use the X dB bandwidth mode with X set to 6 dB

6.2.4. Test Setup



6.2.5. Test Result

Product	Abegal Battery Camera	Test Engineer	Selina Zhang
Test Site	NS-TR2	Test Date	2021/01/18~2021/01/22

Test Mode	Data Rate (Mbps/MCS)	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	1Mbps	01	2412	10.04	≥ 0.5	Pass
802.11b	1Mbps	06	2437	9.58	≥ 0.5	Pass
802.11b	1Mbps	11	2462	9.60	≥ 0.5	Pass
802.11g	6Mbps	01	2412	16.41	≥ 0.5	Pass
802.11g	6Mbps	06	2437	16.42	≥ 0.5	Pass
802.11g	6Mbps	11	2462	16.43	≥ 0.5	Pass
802.11n-HT20	MCS0	01	2412	17.63	≥ 0.5	Pass
802.11n-HT20	MCS0	06	2437	17.62	≥ 0.5	Pass
802.11n-HT20	MCS0	11	2462	17.61	≥ 0.5	Pass

802.11b 6dB Bandwidth

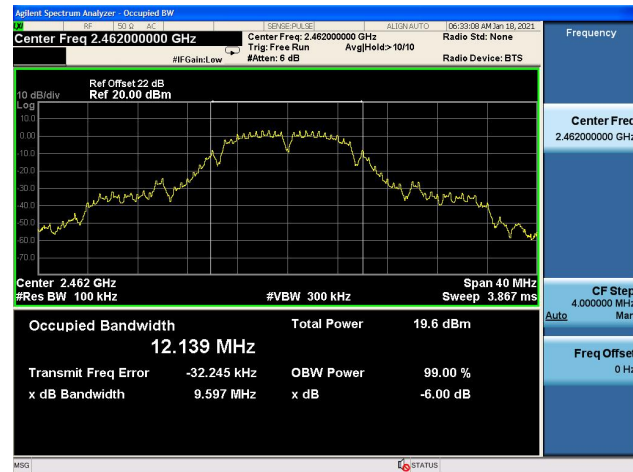
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)

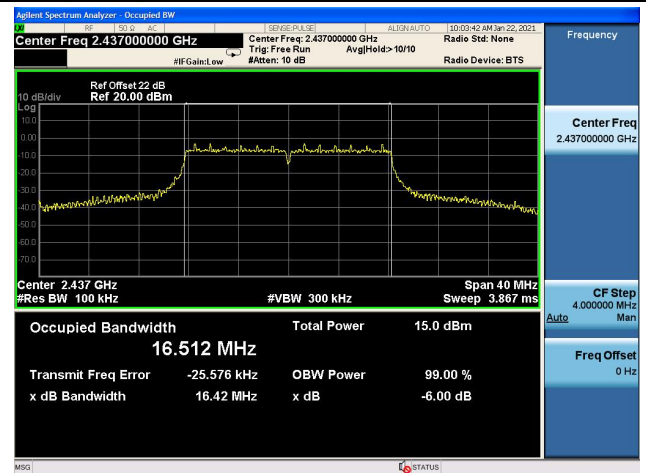


802.11g 6dB Bandwidth

Channel 01 (2412MHz)



Channel 06 (2437MHz)

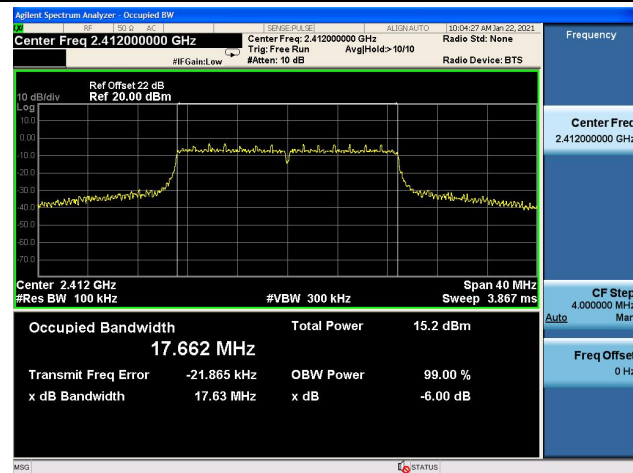


Channel 11 (2462MHz)

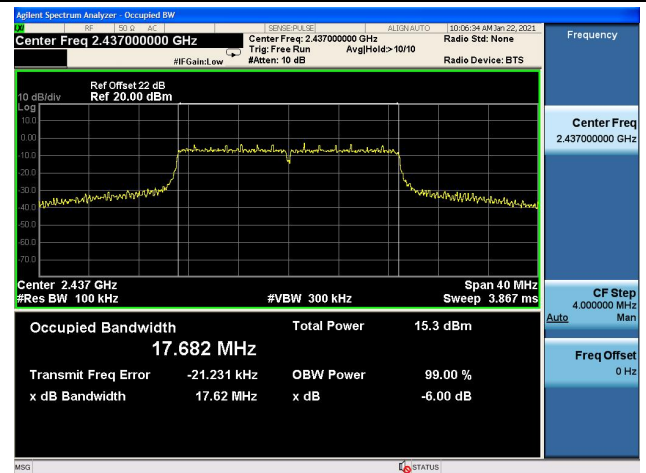


802.11n-HT20 6dB Bandwidth

Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



6.3. Output Power Measurement

6.3.1. Test Limit

The maximum conducted output power shall not exceed 1 Watt (30dBm).

6.3.2. Test Procedure Used

ANSI C63.10-2013 Section 11.9.1.3

ANSI C63.10-2013 Section 11.9.2.3.2

6.3.3. Test Setting

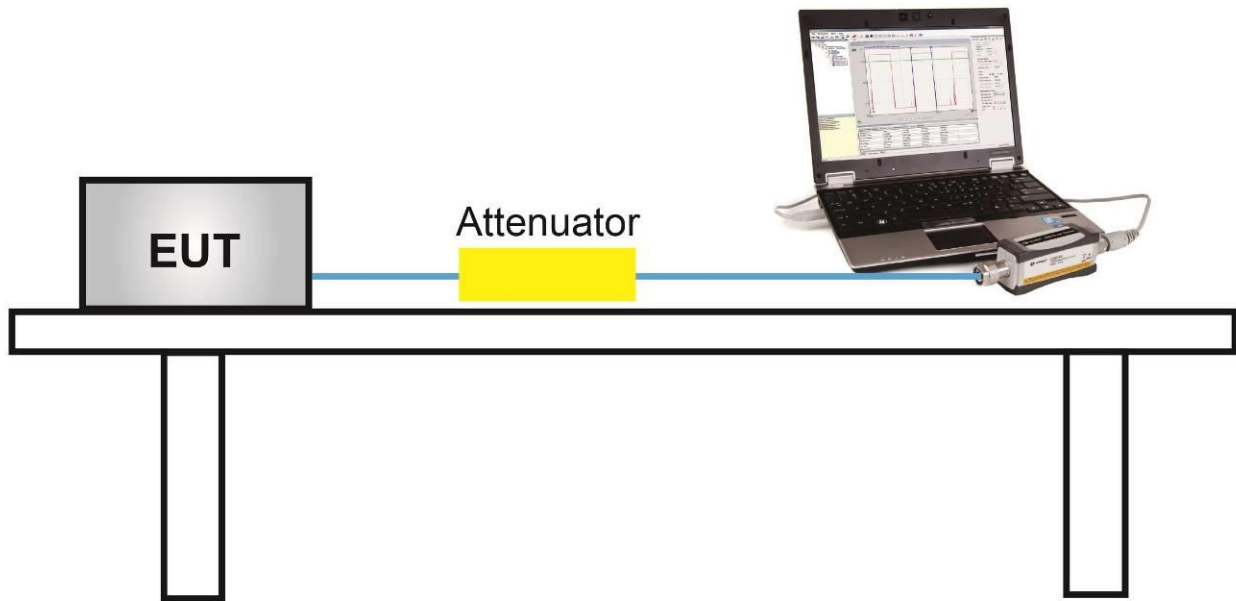
PKPM1 Peak-reading power meter method

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

Method AVGPM-G (Measurement using a gated RF average-reading power meter)

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.

6.3.4. Test Setup



6.3.5.Test Result

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

Test Mode	Bandwidth (MHz)	Channel No.	Frequency (MHz)	Data Rate (Mbps/MCS)	Average Power (dBm)
802.11b	20	6	2437	1Mbps	12.34
				5.5Mbps	12.13
				11Mbps	11.61
802.11g	20	6	2437	6Mbps	8.95
				24Mbps	7.62
				54Mbps	6.49
802.11n	20	6	2437	MCS0	8.62
				MCS3	7.85
				MCS7	6.87

Product	Abegal Battery Camera	Test Engineer	Selina Zhang
Test Site	NS-TR2	Test Date	2021/01/18

Test Mode	Data Rate (Mbps/MCS)	Channel No.	Frequency (MHz)	RF Output Power (dBm)		Limit (dBm)	Result
				Peak	Average		
11b	1Mbps	01	2412	18.00	15.12	≤ 30.00	Pass
11b	1Mbps	06	2437	15.52	12.34	≤ 30.00	Pass
11b	1Mbps	11	2462	15.47	12.23	≤ 30.00	Pass
11g	6Mbps	01	2412	15.78	8.93	≤ 30.00	Pass
11g	6Mbps	06	2437	15.80	8.95	≤ 30.00	Pass
11g	6Mbps	11	2462	15.49	8.47	≤ 30.00	Pass
11n-HT20	MCS0	01	2412	15.37	8.32	≤ 30.00	Pass
11n-HT20	MCS0	06	2437	15.89	8.62	≤ 30.00	Pass
11n-HT20	MCS0	11	2462	16.24	8.77	≤ 30.00	Pass

6.4. Power Spectral Density Measurement

6.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band.

The same method of determining the conducted output power shall be used to determine the power spectral density.

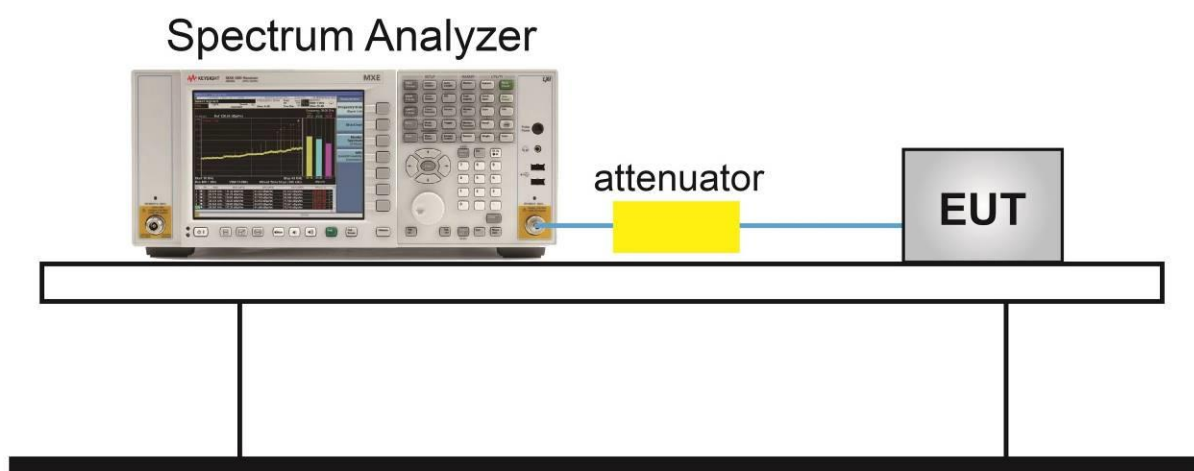
6.4.2. Test Procedure Used

ANSI C63.10-2013 Section 11.10.2

6.4.3. Test Setting

1. Analyzer was set to the center frequency of the DTS channel under investigation
2. Span = 1.5 times the OBW
3. RBW = 3kHz
4. VBW = 10kHz
5. Detector = Peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Trace was allowed to stabilize

6.4.4. Test Setup



6.4.5. Test Result

Product	Abegal Battery Camera	Test Engineer	Selina Zhang
Test Site	NS-TR2	Test Date	2021/01/18

Test Mode	Data Rate (Mbps/MCS)	Channel No.	Frequency (MHz)	PKPSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
11b	1Mbps	01	2412	-8.01	≤ 8	Pass
11b	1Mbps	06	2437	-10.78	≤ 8	Pass
11b	1Mbps	11	2462	-11.20	≤ 8	Pass
11g	6Mbps	01	2412	-15.41	≤ 8	Pass
11g	6Mbps	06	2437	-15.99	≤ 8	Pass
11g	6Mbps	11	2462	-15.97	≤ 8	Pass
11n-HT20	MCS0	01	2412	-16.99	≤ 8	Pass
11n-HT20	MCS0	06	2437	-16.79	≤ 8	Pass
11n-HT20	MCS0	11	2462	-17.13	≤ 8	Pass

802.11b PKPSD

Channel 01 (2412MHz)



Channel 06 (2437MHz)

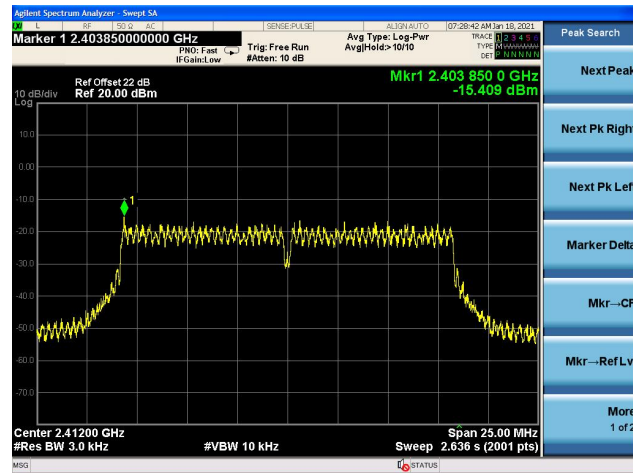


Channel 11 (2462MHz)

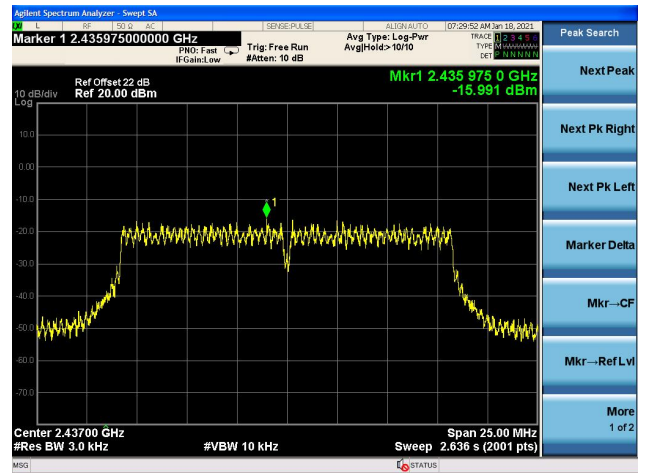


802.11g - PKPSD

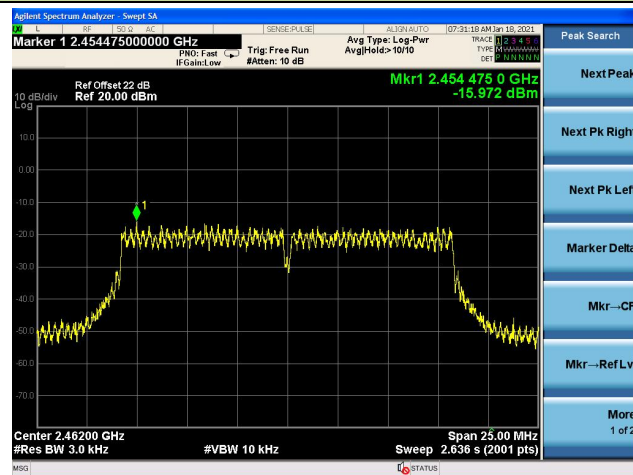
Channel 01 (2412MHz)



Channel 06 (2437MHz)

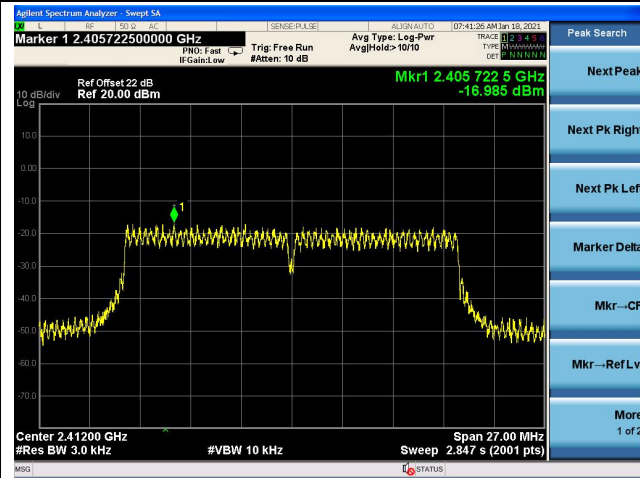


Channel 11 (2462MHz)

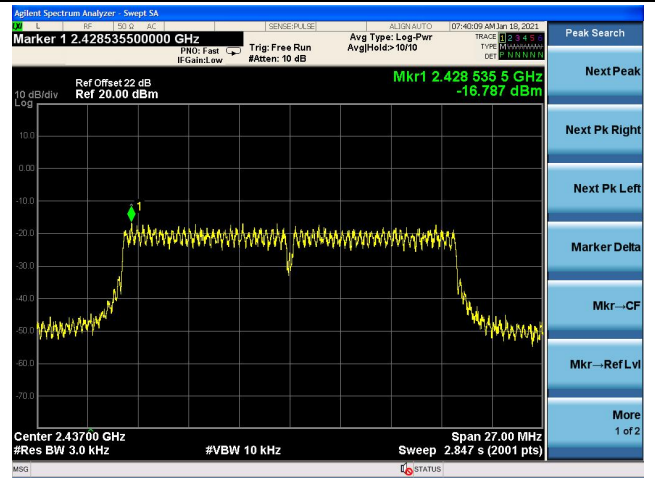


802.11n-HT20 - PKPSD

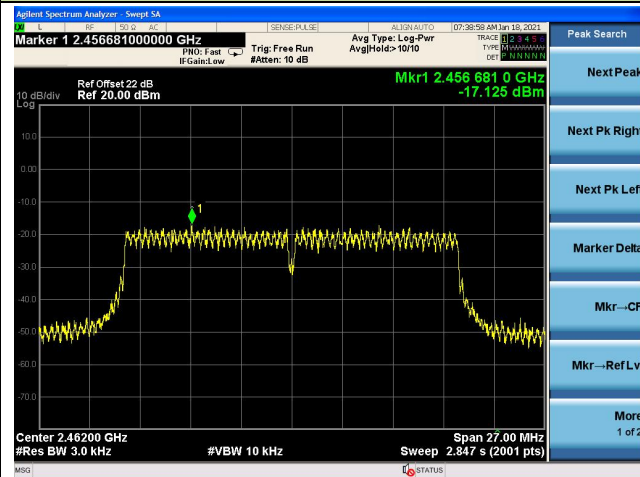
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



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

6.5.1. 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.

6.5.2. Test Procedure Used

ANSI C63.10-2013 - Section 11.11

6.5.3. Test Setting

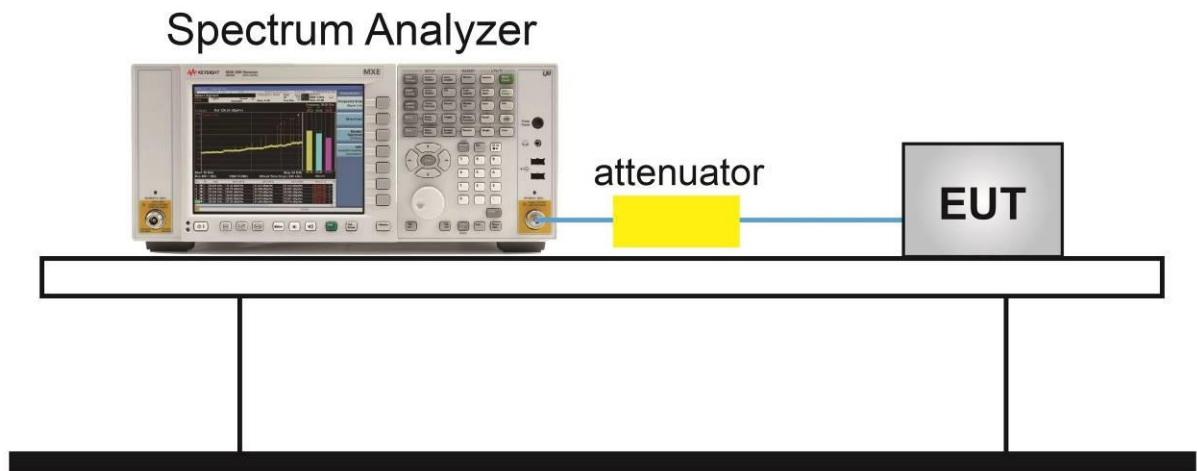
Reference level measurement

1. Set instrument center frequency to DTS channel center frequency
2. Set the span to ≥ 1.5 times the DTS bandwidth
3. Set the RBW = 100 kHz
4. Set the VBW $\geq 3 \times$ RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize

Emission level measurement

1. Set the center frequency and span to encompass frequency range to be measured
2. RBW = 100kHz
3. VBW = 300kHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

6.5.4. Test Setup



6.5.5. Test Result

Product	Abegal Battery Camera	Test Engineer	Selina Zhang
Test Site	NS-SR2	Test Date	2021/01/18

Test Mode	Data Rate (Mbps/MCS)	Channel No.	Frequency (MHz)	Limit (dBm)	Result
802.11b	1Mbps	01	2412	-13.94	Pass
802.11b	1Mbps	06	2437	-17.00	Pass
802.11b	1Mbps	11	2462	-17.10	Pass
802.11g	6Mbps	01	2412	-23.02	Pass
802.11g	6Mbps	06	2437	-23.15	Pass
802.11g	6Mbps	11	2462	-23.16	Pass
802.11n-HT20	MCS0	01	2412	-22.97	Pass
802.11n-HT20	MCS0	06	2437	-22.71	Pass
802.11n-HT20	MCS0	11	2462	-22.74	Pass

Note: The limit is 20dB below the fundamental emission level.

802.11b Out-of-Band Emissions

Channel 01 (2412MHz)

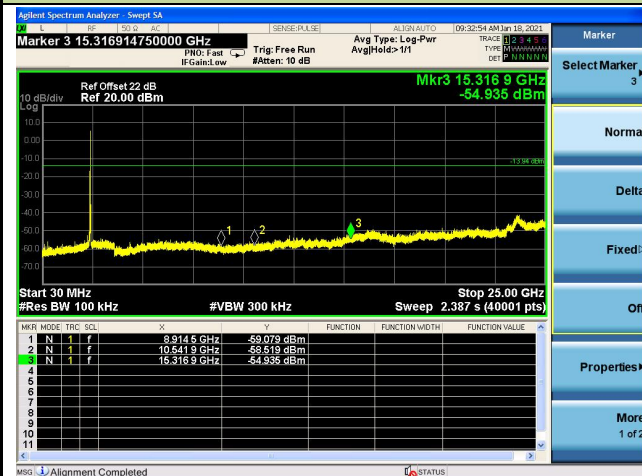
100kHz PSD Reference Level



Low Band Edge



Spurious Emission

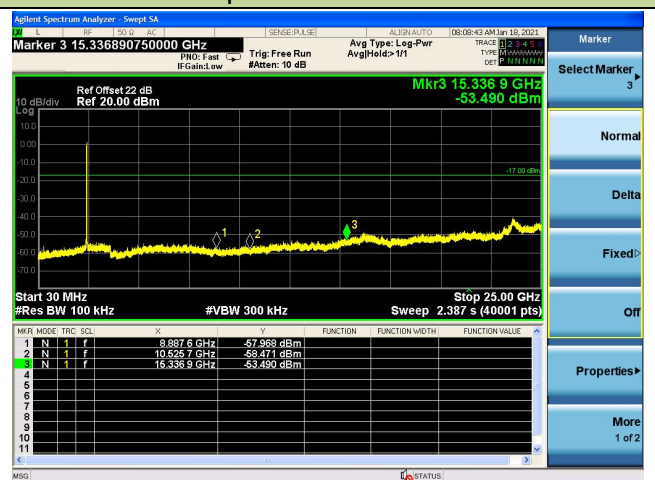


Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission



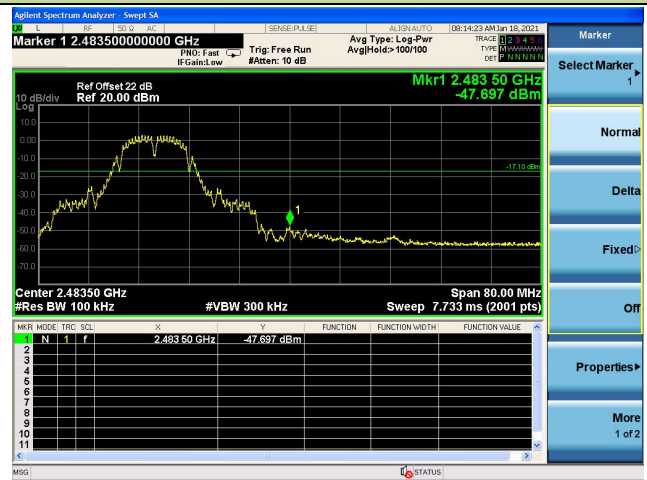
802.11b Out-of-Band Emissions

Channel 11 (2462MHz)

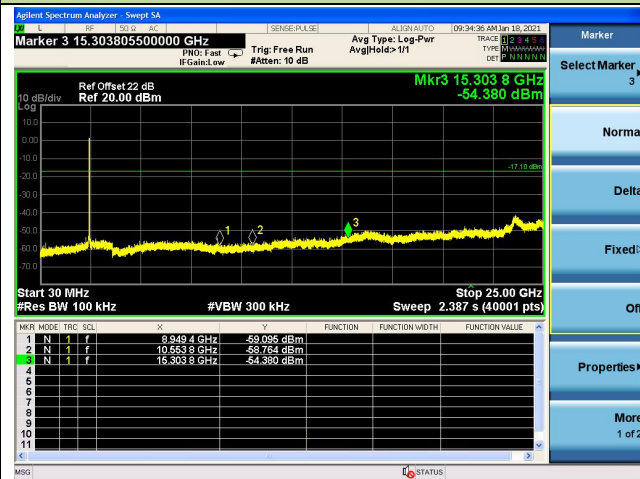
100kHz PSD Reference Level



High Band Edge



Spurious Emission



802.11g Out-of-Band Emissions

Channel 01 (2412MHz)

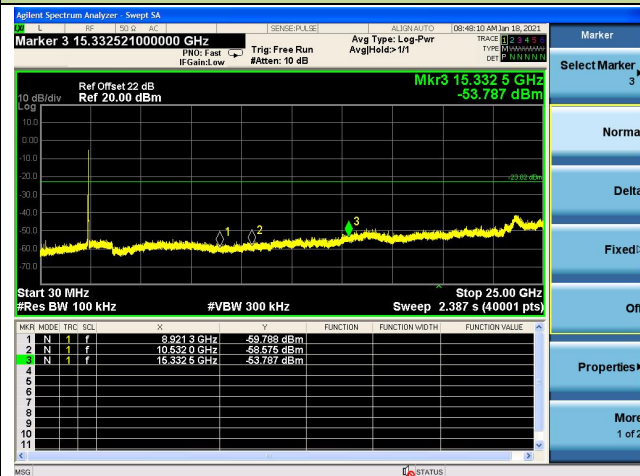
100kHz PSD Reference Level



Low Band Edge



Spurious Emission

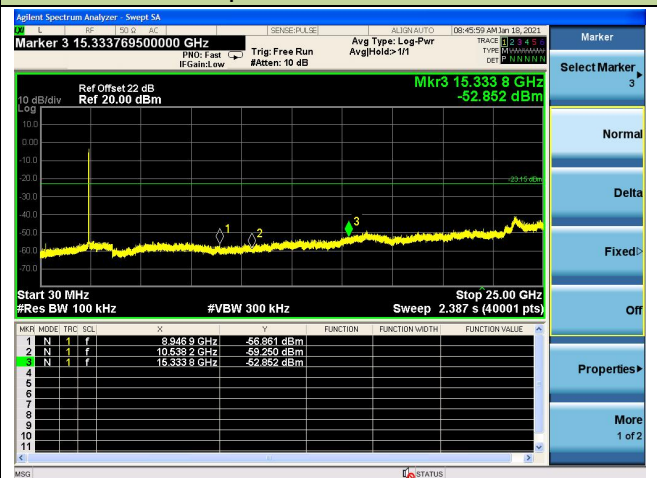


Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission



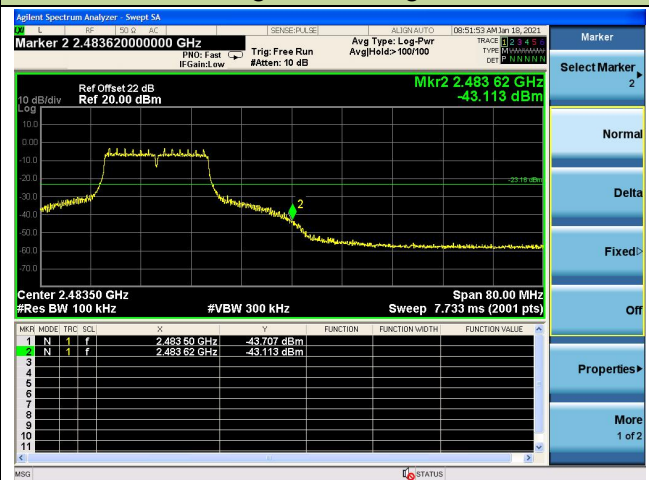
802.11g Out-of-Band Emissions

Channel 11 (2462MHz)

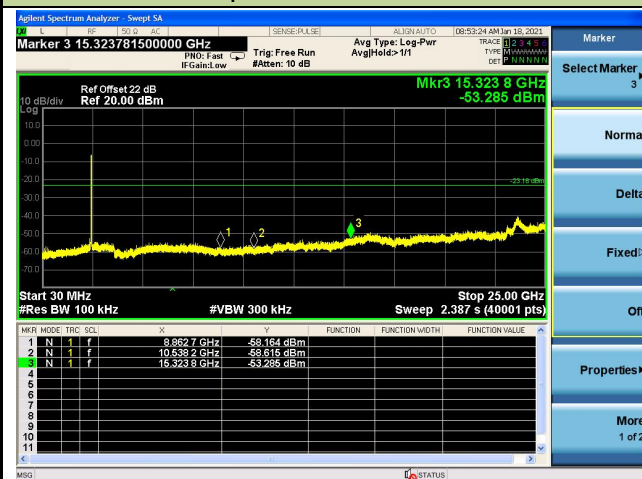
100kHz PSD Reference Level



High Band Edge



Spurious Emission



802.11n-HT20 Out-of-Band Emissions

Channel 01 (2412MHz)

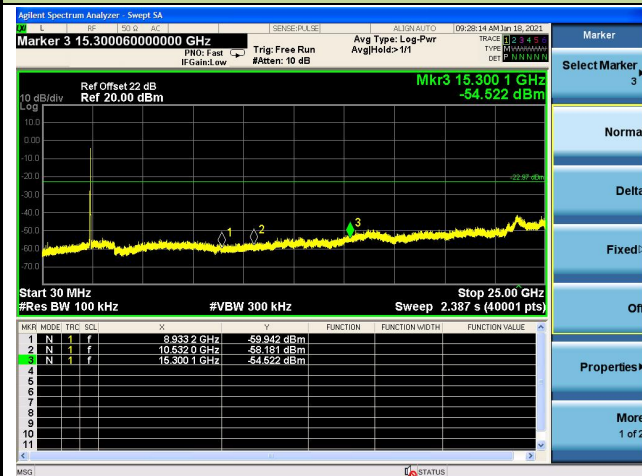
100kHz PSD Reference Level



Low Band Edge



Spurious Emission

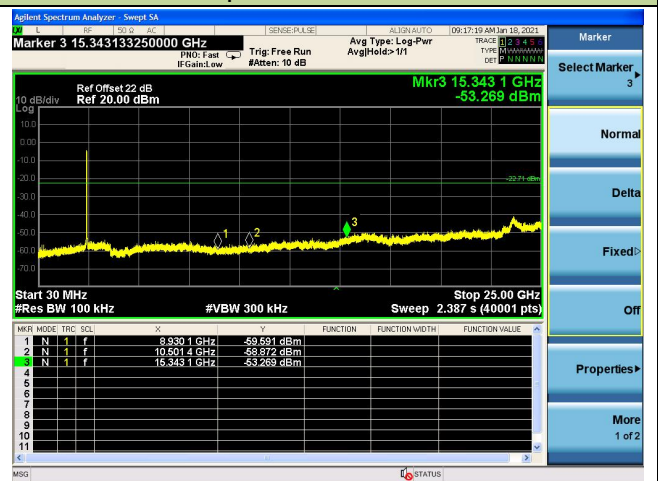


Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission



802.11n-HT20 Out-of-Band Emissions

Channel 11 (2462MHz)

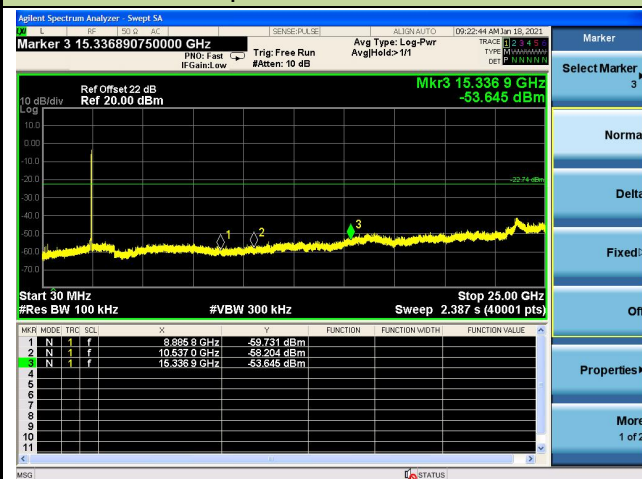
100kHz PSD Reference Level



High Band Edge



Spurious Emission



6.6. Radiated Spurious Emission Measurement

6.6.1. 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 [$\mu\text{V}/\text{m}$]	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

6.6.2. Test Procedure Used

ANSI C63.10-2013 Section 6.3

ANSI C63.10-2013 Section 6.4

ANSI C63.10-2013 Section 6.5

ANSI C63.10-2013 Section 6.6

6.6.3. Test Setting

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
> 1000MHz	1MHz

Quasi-Peak Measurements below 1GHz

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

Peak Measurements above 1GHz

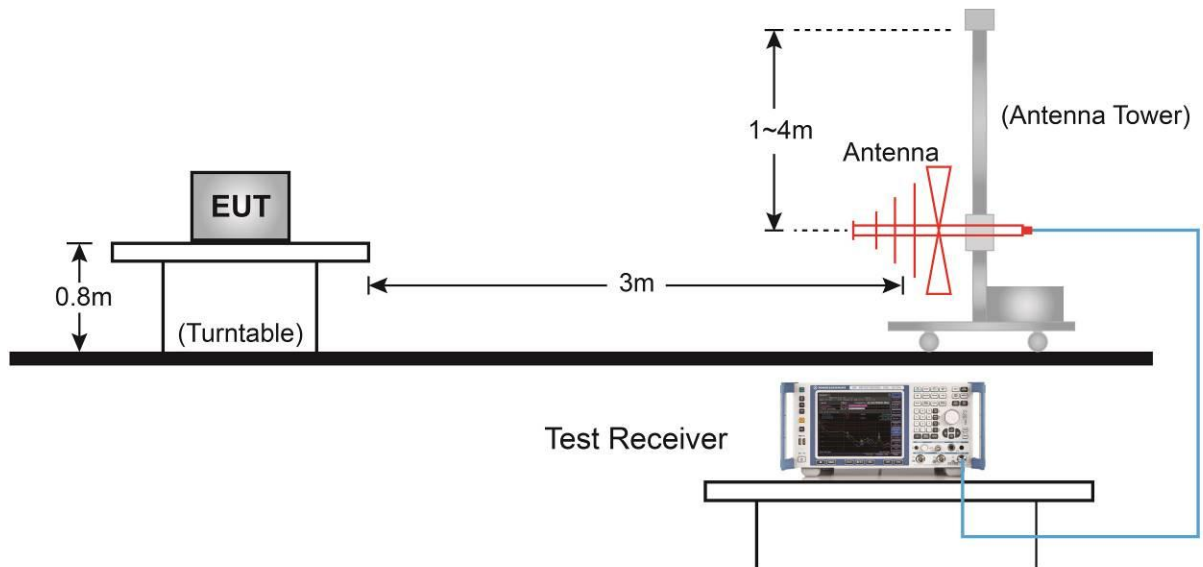
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

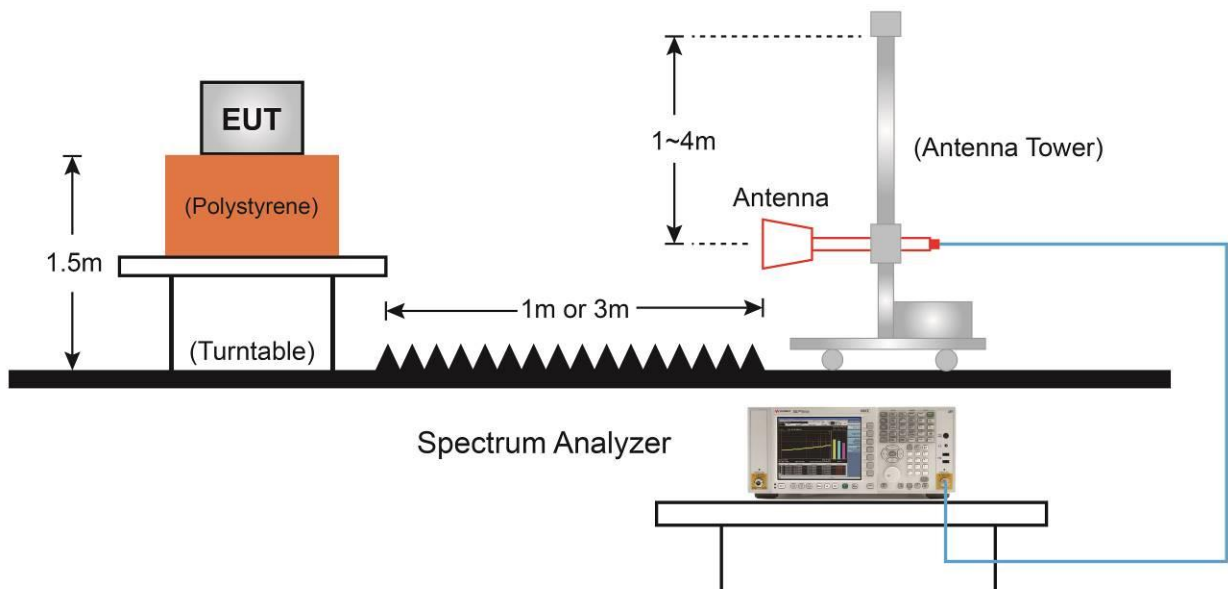
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

6.6.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.6.5. Test Result

Product	Abegal Battery Camera	Test Engineer	Silence Liu
Test Site	NS-AC1	Test Date	2021/01/17
Test Mode:	802.11b	Test Channel:	01
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)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4825.0	46.2	1.8	48.0	74.0	-26.0	Peak	Horizontal
*	6482.5	37.6	6.1	43.7	74.0	-30.3	Peak	Horizontal
	8233.5	35.1	10.6	45.7	74.0	-28.3	Peak	Horizontal
*	9908.0	36.1	12.4	48.5	74.0	-25.5	Peak	Horizontal
	4825.0	43.8	1.8	45.6	74.0	-28.4	Peak	Vertical
*	6193.5	37.2	5.3	42.5	74.0	-31.5	Peak	Vertical
	7511.0	34.6	9.8	44.4	74.0	-29.6	Peak	Vertical
*	9942.0	35.7	12.9	48.6	74.0	-25.4	Peak	Vertical

Note 1: “*” means test frequency did not fall into restricted band.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Abegal Battery Camera	Test Engineer	Silence Liu
Test Site	NS-AC1	Test Date	2021/01/17
Test Mode:	802.11b	Test Channel:	06
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)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4876.0	40.2	1.7	41.9	74.0	-32.1	Peak	Horizontal
*	6117.0	36.3	5.2	41.5	74.0	-32.5	Peak	Horizontal
	7570.5	35.3	9.7	45.0	74.0	-29.0	Peak	Horizontal
*	9874.0	35.6	12.7	48.3	74.0	-25.7	Peak	Horizontal
	4876.0	41.6	1.7	43.3	74.0	-30.7	Peak	Vertical
*	6474.0	37.3	6.1	43.4	74.0	-30.6	Peak	Vertical
	7528.0	34.8	9.6	44.4	74.0	-29.6	Peak	Vertical
*	9942.0	35.7	12.9	48.6	74.0	-25.4	Peak	Vertical

Note 1: “*” means test frequency did not fall into restricted band.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Abegal Battery Camera	Test Engineer	Silence Liu
Test Site	NS-AC1	Test Date	2021/01/17
Test Mode:	802.11b	Test Channel:	11
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)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4842.0	38.5	1.8	40.3	74.0	-33.7	Peak	Horizontal
*	6049.0	37.2	4.9	42.1	74.0	-31.9	Peak	Horizontal
	7664.0	35.9	10.0	45.9	74.0	-28.1	Peak	Horizontal
*	10078.0	35.3	13.0	48.3	74.0	-25.7	Peak	Horizontal
	4791.0	39.7	1.6	41.3	74.0	-32.7	Peak	Vertical
*	6958.5	37.3	8.4	45.7	74.0	-28.3	Peak	Vertical
	8335.5	36.4	10.4	46.8	74.0	-27.2	Peak	Vertical
*	10239.5	35.5	13.3	48.8	74.0	-25.2	Peak	Vertical

Note 1: “*” means test frequency did not fall into restricted band.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Abegal Battery Camera	Test Engineer	Silence Liu
Test Site	NS-AC1	Test Date	2021/01/17
Test Mode:	802.11g	Test Channel:	01
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)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4816.5	37.8	1.8	39.6	74.0	-34.4	Peak	Horizontal
*	6168.0	37.2	4.9	42.1	74.0	-31.9	Peak	Horizontal
	7485.5	34.7	9.5	44.2	74.0	-29.8	Peak	Horizontal
*	10163.0	34.7	13.6	48.3	74.0	-25.7	Peak	Horizontal
	4799.5	40.6	1.7	42.3	74.0	-31.7	Peak	Vertical
*	5989.5	38.9	4.8	43.7	74.0	-30.3	Peak	Vertical
	7536.5	34.0	9.5	43.5	74.0	-30.5	Peak	Vertical
*	8964.5	36.4	11.5	47.9	74.0	-26.1	Peak	Vertical

Note 1: “*” means test frequency did not fall into restricted band.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Abegal Battery Camera	Test Engineer	Silence Liu
Test Site	NS-AC1	Test Date	2021/01/17
Test Mode:	802.11g	Test Channel:	06
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)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4825.0	38.8	1.8	40.6	74.0	-33.4	Peak	Horizontal
*	6712.0	37.1	7.2	44.3	74.0	-29.7	Peak	Horizontal
	8259.0	36.8	10.3	47.1	74.0	-26.9	Peak	Horizontal
*	9925.0	35.3	12.7	48.0	74.0	-26.0	Peak	Horizontal
	4791.0	40.1	1.6	41.7	74.0	-32.3	Peak	Vertical
*	6848.0	36.5	7.5	44.0	74.0	-30.0	Peak	Vertical
	8276.0	35.0	10.5	45.5	74.0	-28.5	Peak	Vertical
*	10350.0	36.0	13.3	49.3	74.0	-24.7	Peak	Vertical

Note 1: “*” means test frequency did not fall into restricted band.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Abegal Battery Camera	Test Engineer	Silence Liu
Test Site	NS-AC1	Test Date	2021/01/17
Test Mode:	802.11g	Test Channel:	11
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)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4808.0	37.9	1.8	39.7	74.0	-34.3	Peak	Horizontal
*	6125.5	36.6	5.2	41.8	74.0	-32.2	Peak	Horizontal
	7698.0	35.5	9.8	45.3	74.0	-28.7	Peak	Horizontal
*	9848.5	35.6	12.3	47.9	74.0	-26.1	Peak	Horizontal
	4791.0	39.6	1.6	41.2	74.0	-32.8	Peak	Vertical
*	6355.0	36.7	5.8	42.5	74.0	-31.5	Peak	Vertical
	8267.5	36.5	10.4	46.9	74.0	-27.1	Peak	Vertical
*	9840.0	35.2	12.4	47.6	74.0	-26.4	Peak	Vertical

Note 1: “*” means test frequency did not fall into restricted band.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Abegal Battery Camera	Test Engineer	Silence Liu
Test Site	NS-AC1	Test Date	2021/01/17
Test Mode:	802.11n-HT20	Test Channel:	01
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)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4825.0	38.3	1.8	40.1	74.0	-33.9	Peak	Horizontal
*	6176.5	37.5	5.1	42.6	74.0	-31.4	Peak	Horizontal
	7434.5	34.3	9.5	43.8	74.0	-30.2	Peak	Horizontal
*	9916.5	35.8	12.6	48.4	74.0	-25.6	Peak	Horizontal
	4791.0	40.2	1.6	41.8	74.0	-32.2	Peak	Vertical
*	6185.0	37.0	5.2	42.2	74.0	-31.8	Peak	Vertical
	7528.0	35.6	9.6	45.2	74.0	-28.8	Peak	Vertical
*	9950.5	35.3	12.8	48.1	74.0	-25.9	Peak	Vertical

Note 1: "*" means test frequency did not fall into restricted band.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Abegal Battery Camera	Test Engineer	Silence Liu
Test Site	NS-AC1	Test Date	2021/01/17
Test Mode:	802.11n-HT20	Test Channel:	06
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)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4867.5	38.5	1.7	40.2	74.0	-33.8	Peak	Horizontal
*	6414.5	36.8	5.9	42.7	74.0	-31.3	Peak	Horizontal
	7443.0	35.6	9.5	45.1	74.0	-28.9	Peak	Horizontal
*	10248.0	35.8	13.4	49.2	74.0	-24.8	Peak	Horizontal
	4774.0	40.8	1.9	42.7	74.0	-31.3	Peak	Vertical
*	6729.0	36.7	7.2	43.9	74.0	-30.1	Peak	Vertical
	7689.5	35.5	10.0	45.5	74.0	-28.5	Peak	Vertical
*	9950.5	36.0	12.8	48.8	74.0	-25.2	Peak	Vertical

Note 1: “*” means test frequency did not fall into restricted band.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Product	Abegal Battery Camera	Test Engineer	Silence Liu
Test Site	NS-AC1	Test Date	2021/01/17
Test Mode:	802.11n-HT20	Test Channel:	11
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)	Reading Level (dBμV)	Factor (dB)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
	4850.5	38.6	1.8	40.4	74.0	-33.6	Peak	Horizontal
*	6788.5	35.9	7.6	43.5	74.0	-30.5	Peak	Horizontal
	7655.5	35.1	9.8	44.9	74.0	-29.1	Peak	Horizontal
*	9840.0	35.8	12.4	48.2	74.0	-25.8	Peak	Horizontal
	4782.5	38.6	1.8	40.4	74.0	-33.6	Peak	Vertical
*	6431.5	38.1	6.1	44.2	74.0	-29.8	Peak	Vertical
	7545.0	34.8	9.4	44.2	74.0	-29.8	Peak	Vertical
*	9993.0	34.4	12.7	47.1	74.0	-26.9	Peak	Vertical

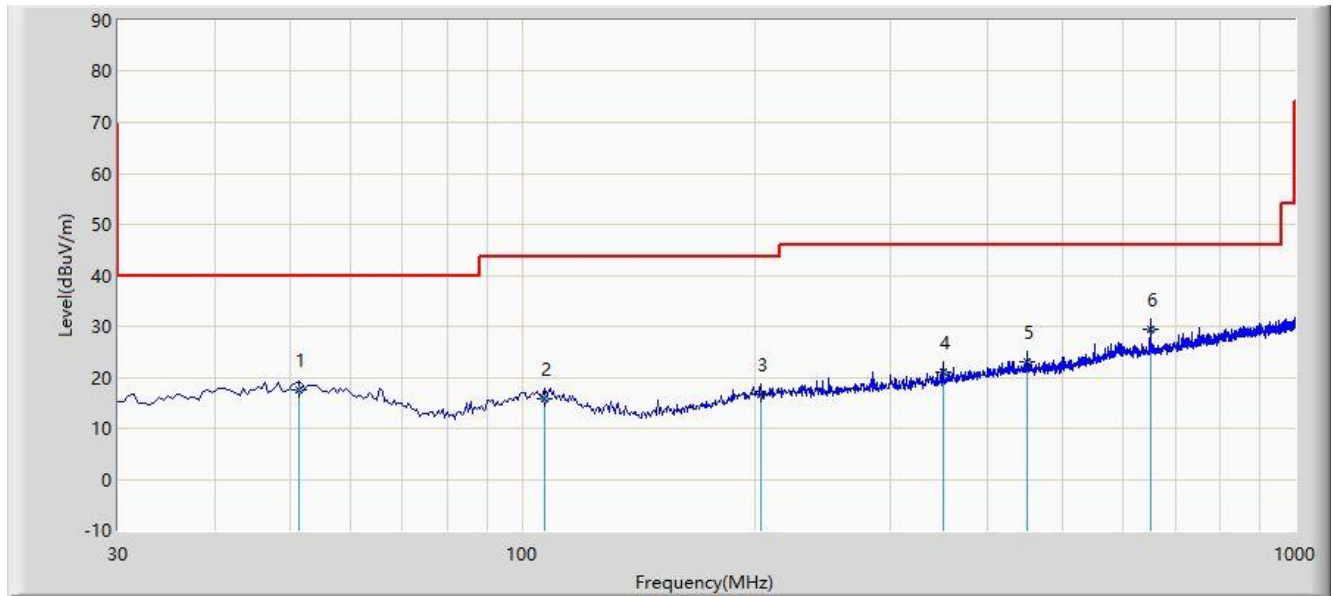
Note 1: "*" means test frequency did not fall into restricted band.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Result of Radiated Emission below 1GHz:

Site: NS-AC1	Time: 2021/01/14 - 09:48
Limit: FCC_Part 15.209_RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_VULB9162	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	



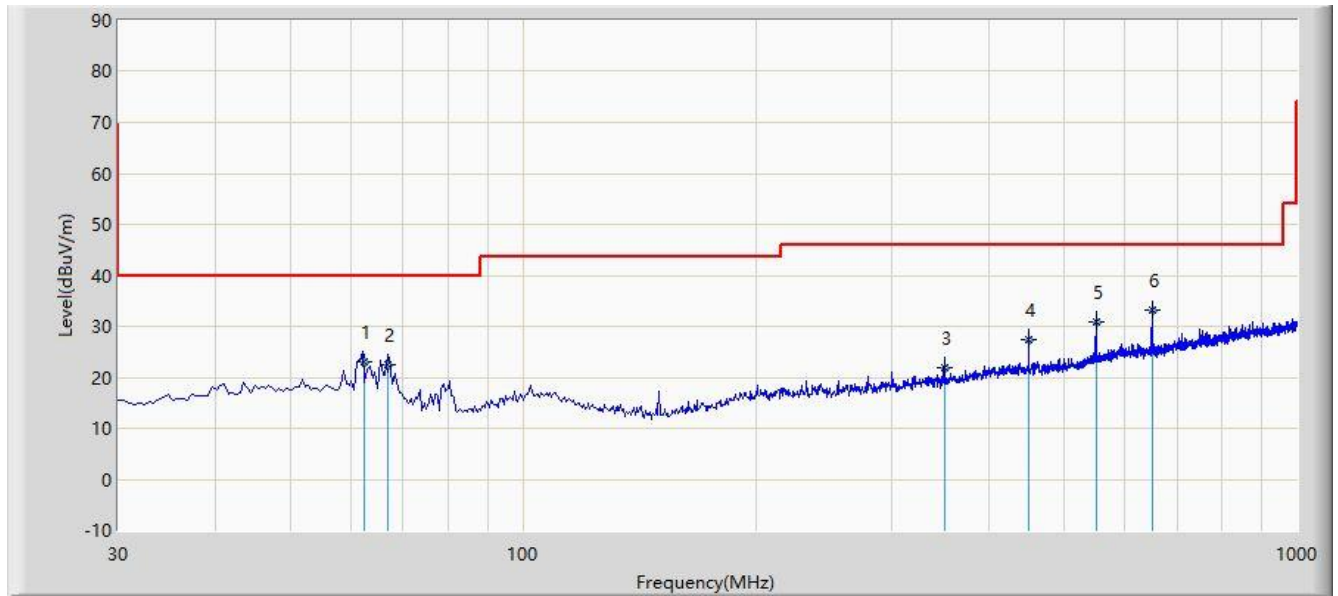
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			51.340	17.421	-2.100	-22.579	40.000	19.521	QP
2			107.115	15.817	-2.280	-27.683	43.500	18.096	QP
3			204.115	16.567	-0.950	-26.933	43.500	17.517	QP
4			350.100	21.012	0.840	-24.988	46.000	20.172	QP
5			450.010	23.021	0.990	-22.979	46.000	22.031	QP
6		*	650.315	29.459	4.150	-16.541	46.000	25.309	QP

Note 1: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The amplitude of radiated emissions (frequency range from 9kHz ~ 30MHz, 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Site: NS-AC1	Time: 2021/01/14 - 09:58
Limit: FCC_Part 15.209_RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_VULB9162	Polarity: Vertical
EUT: Abegat Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at Channel 2412MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			62.500	22.972	4.981	-17.028	40.000	17.991	QP
2			66.860	22.592	5.655	-17.408	40.000	16.937	QP
3			350.100	21.945	1.773	-24.055	46.000	20.172	QP
4			450.010	27.350	5.319	-18.650	46.000	22.031	QP
5			549.920	30.864	7.093	-15.136	46.000	23.771	QP
6		*	649.830	33.051	7.747	-12.949	46.000	25.304	QP

Note 1: Measure Level (dBμV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Note 2: The amplitude of radiated emissions (frequency range from 9kHz ~ 30MHz, 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

6.7. Radiated Restricted Band Edge Measurement

6.7.1. 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	8.025 - 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 - 156.52525	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 [μ V/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.7.2.Test Procedure Used

ANSI C63.10-2013 Section 6.3

ANSI C63.10-2013 Section 6.6

ANSI C63.10-2013 Section 6.10

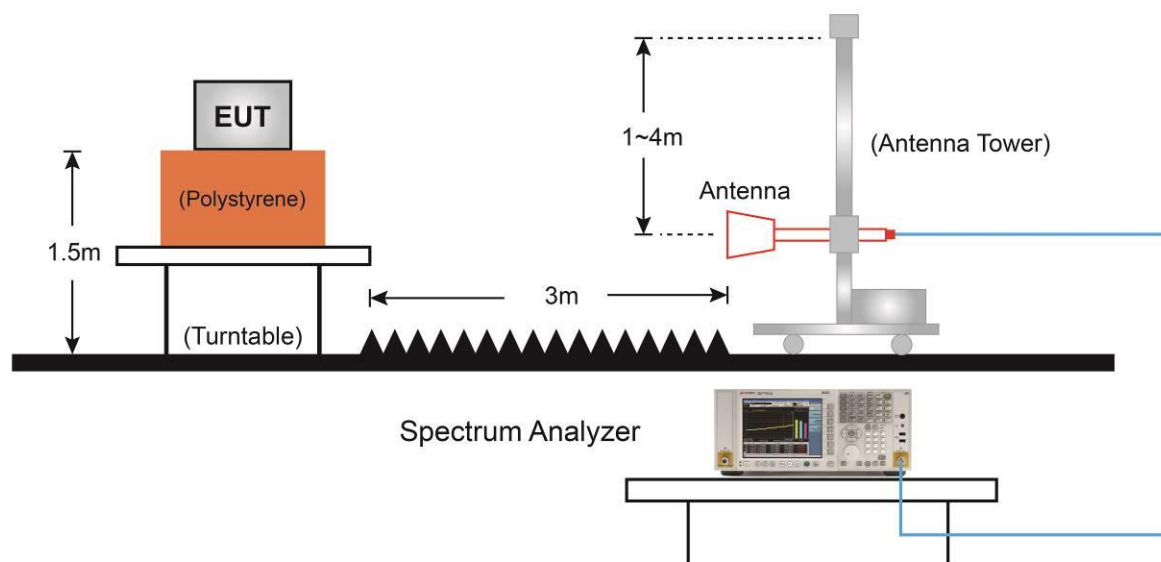
6.7.3.Test Setting

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

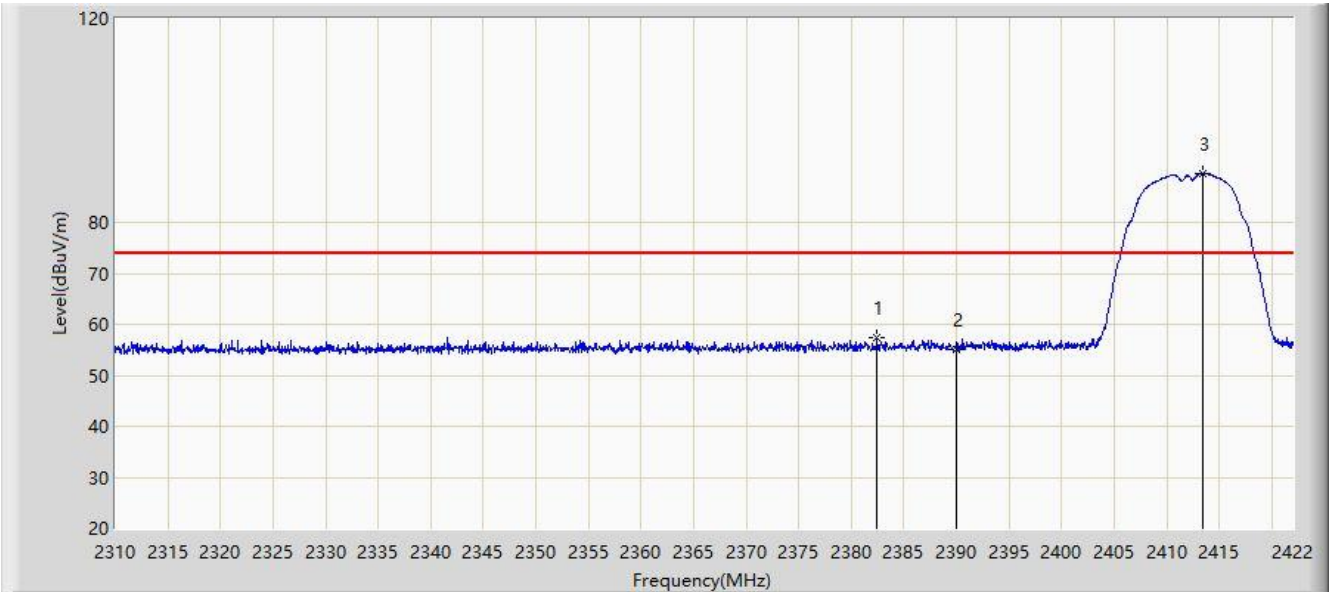
Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW $\geq 1/T$
4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

6.7.4. Test Setup

6.7.5.Test Result

Site: NS-AC1	Time: 2021/01/16 - 11:11
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	

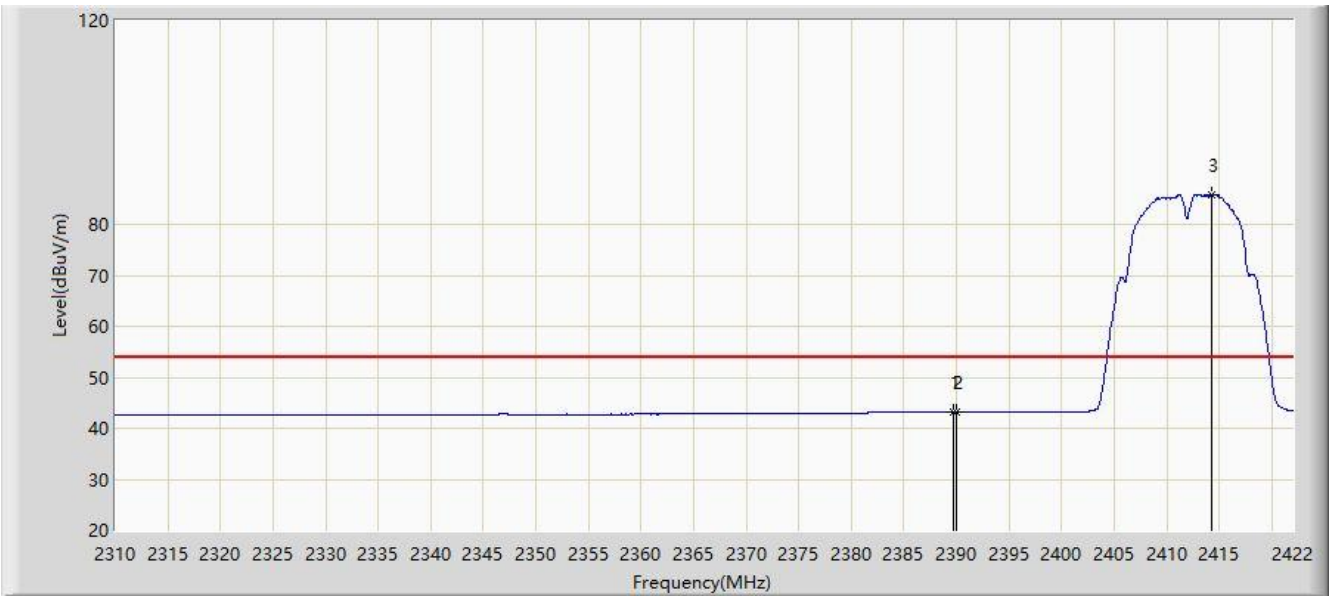


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			2382.464	57.531	28.061	-16.469	74.000	29.470	PK
2			2390.000	55.063	25.581	-18.937	74.000	29.482	PK
3		*	2413.488	89.707	60.166	N/A	N/A	29.540	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:17
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	

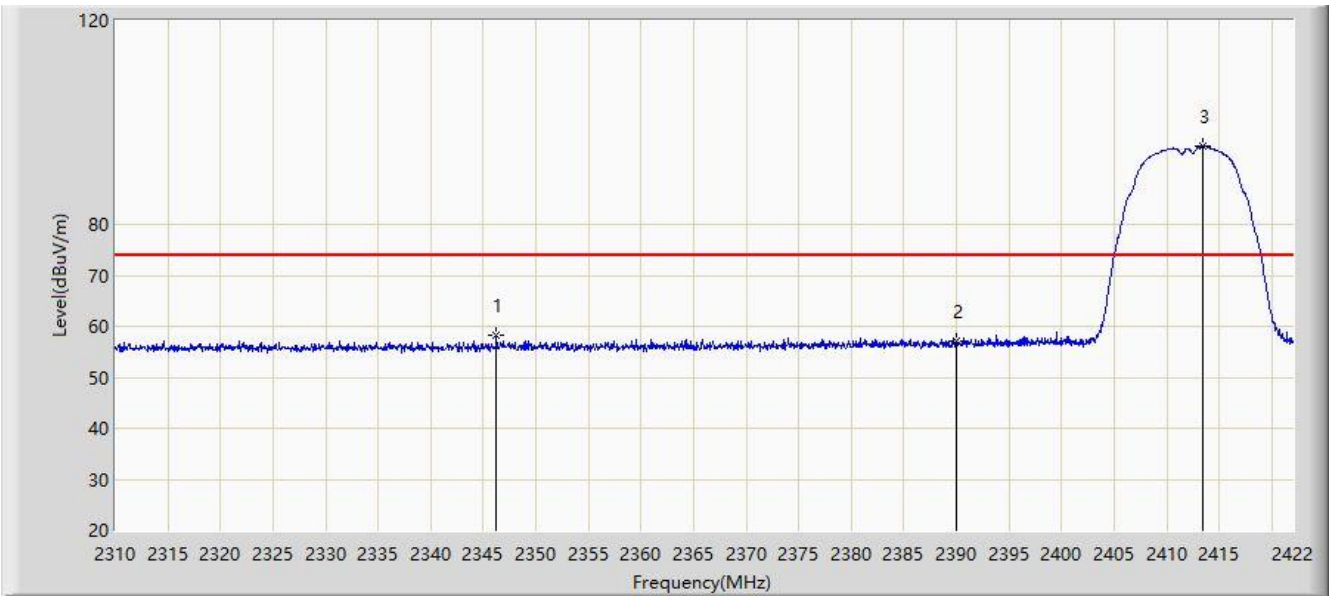


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.688	43.142	13.660	-10.858	54.000	29.482	AV
2			2390.000	43.094	13.612	-10.906	54.000	29.482	AV
3		*	2414.216	85.884	56.343	N/A	N/A	29.541	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:18
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	

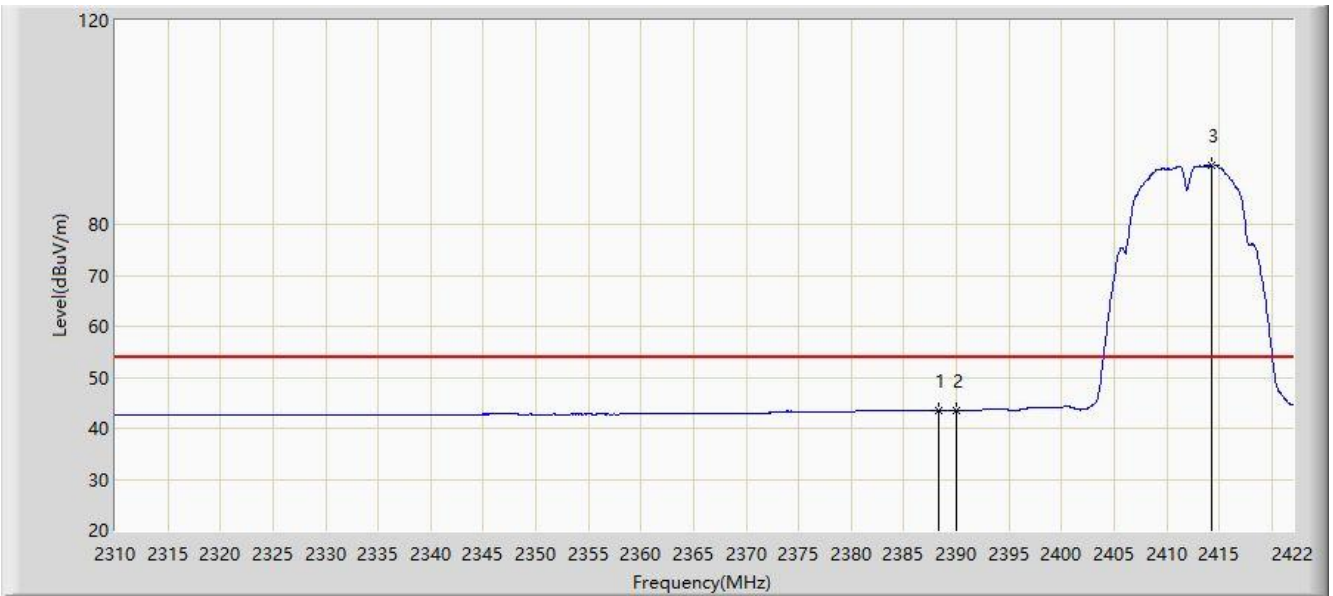


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			2346.232	58.174	28.769	-15.826	74.000	29.405	PK
2			2390.000	57.061	27.579	-16.939	74.000	29.482	PK
3		*	2413.432	95.327	65.786	N/A	N/A	29.540	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:22
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2412MHz	

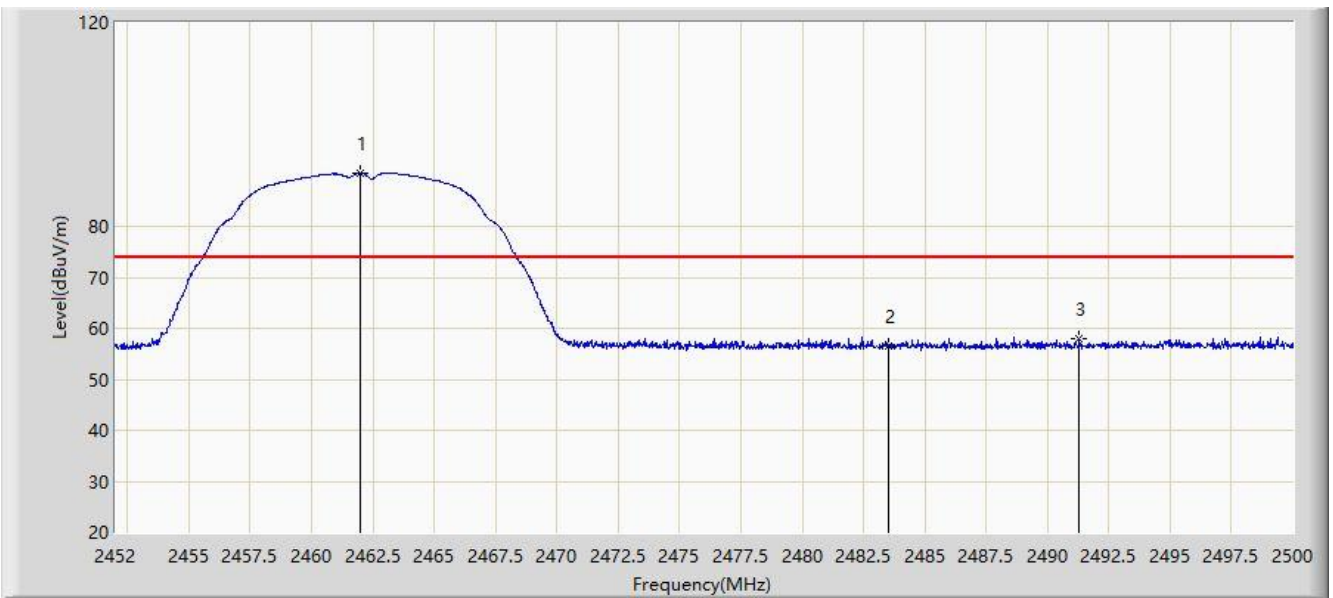


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			2388.344	43.549	14.070	-10.451	54.000	29.479	AV
2			2390.000	43.502	14.020	-10.498	54.000	29.482	AV
3		*	2414.216	91.585	62.044	N/A	N/A	29.541	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:23
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2462MHz	

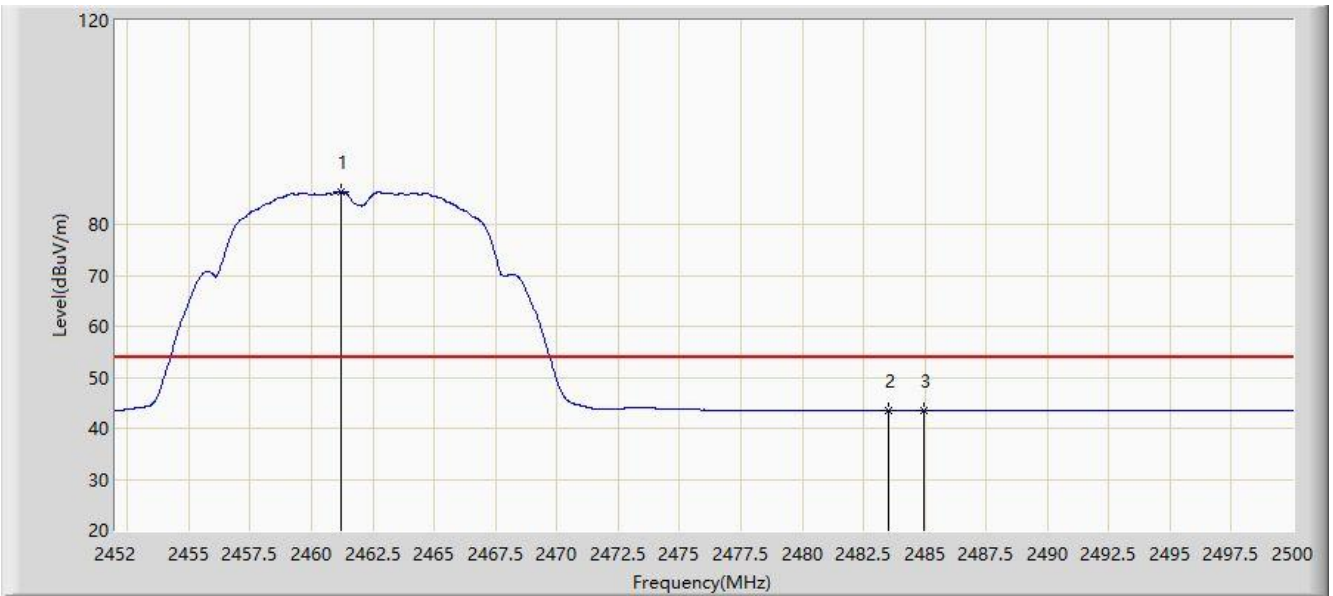


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2462.000	90.509	60.907	N/A	N/A	29.602	PK
2			2483.500	56.501	26.839	-17.499	74.000	29.662	PK
3			2491.300	58.025	28.361	-15.975	74.000	29.663	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:28
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2462MHz	

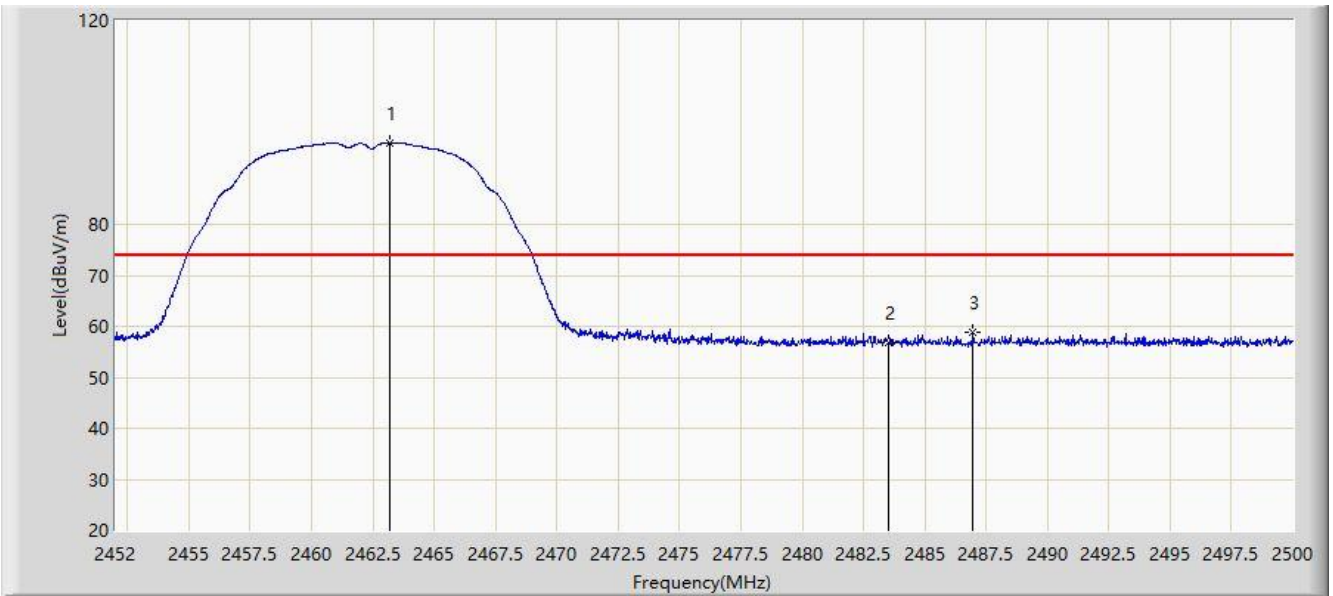


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2461.200	86.428	56.828	N/A	N/A	29.600	AV
2			2483.500	43.512	13.850	-10.488	54.000	29.662	AV
3			2484.975	43.586	13.924	-10.414	54.000	29.662	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:28
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2462MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2463.200	96.064	66.458	N/A	N/A	29.606	PK
2			2483.500	56.942	27.280	-17.058	74.000	29.662	PK
3			2486.975	58.875	29.212	-15.125	74.000	29.663	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:37
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11b at channel 2462MHz	

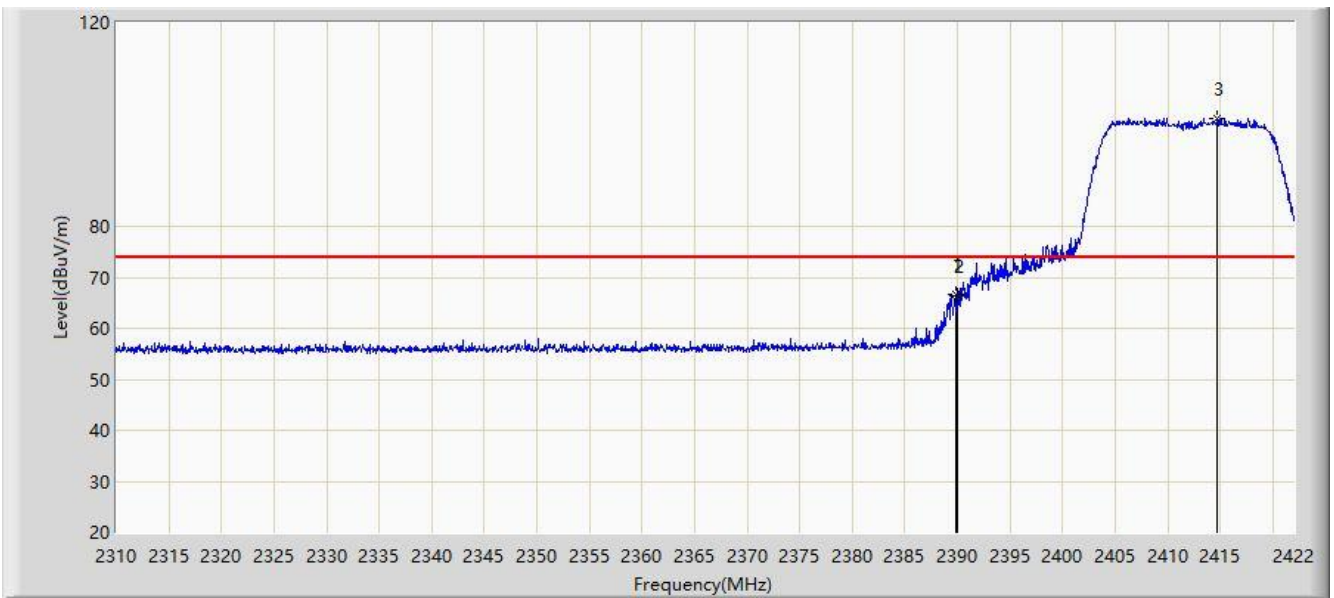


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2461.200	92.227	62.627	N/A	N/A	29.600	AV
2			2483.500	44.280	14.618	-9.720	54.000	29.662	AV
3			2485.050	44.357	14.695	-9.643	54.000	29.662	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:38
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2412MHz	

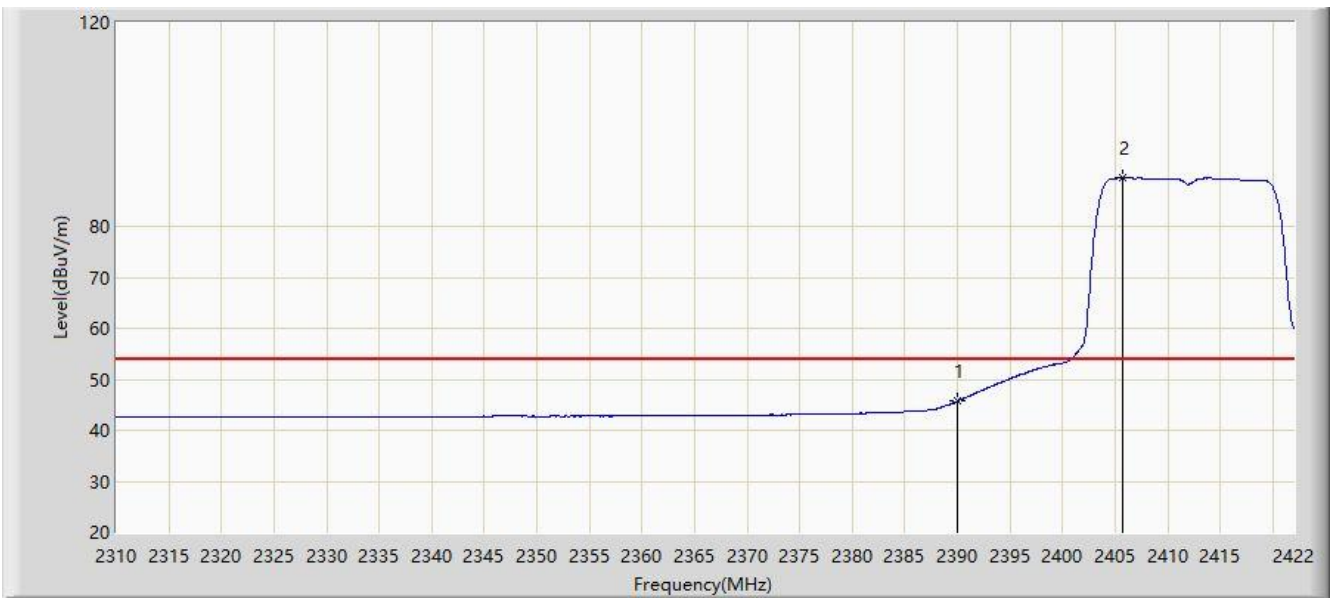


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.800	66.667	37.185	-7.333	74.000	29.482	PK
2			2390.000	66.406	36.924	-7.594	74.000	29.482	PK
3		*	2414.720	101.283	71.742	N/A	N/A	29.542	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:44
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2412MHz	

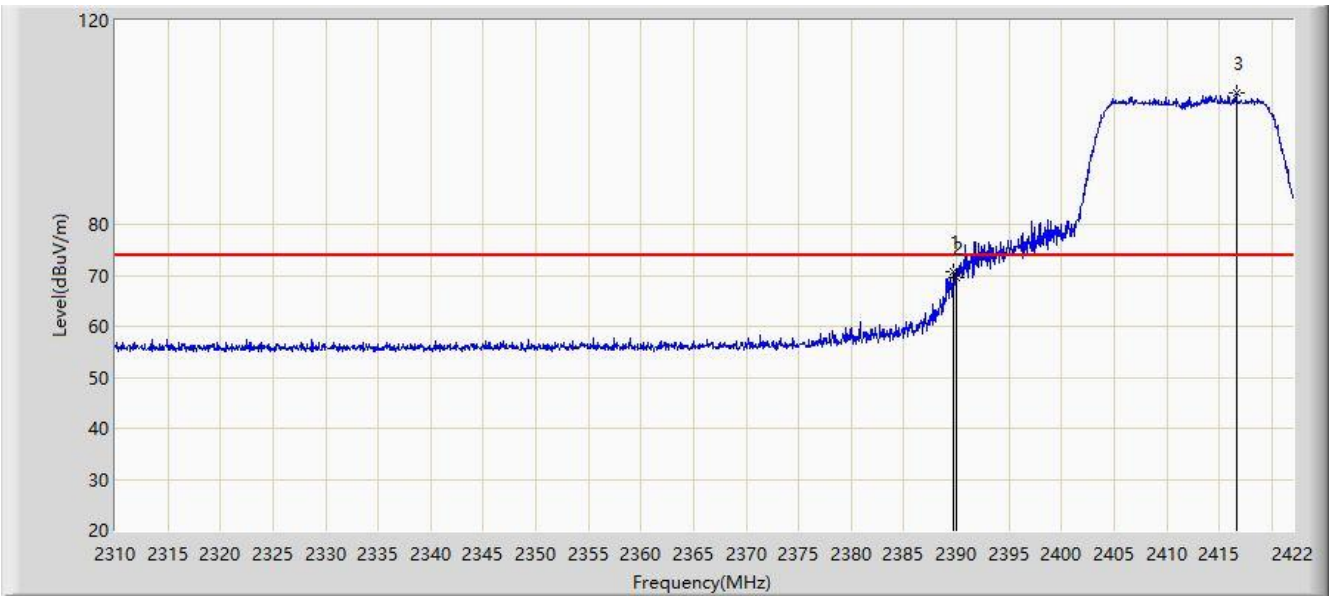


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			2390.000	45.682	16.200	-8.318	54.000	29.482	AV
2		*	2405.760	89.484	59.961	N/A	N/A	29.524	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:45
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2412MHz	

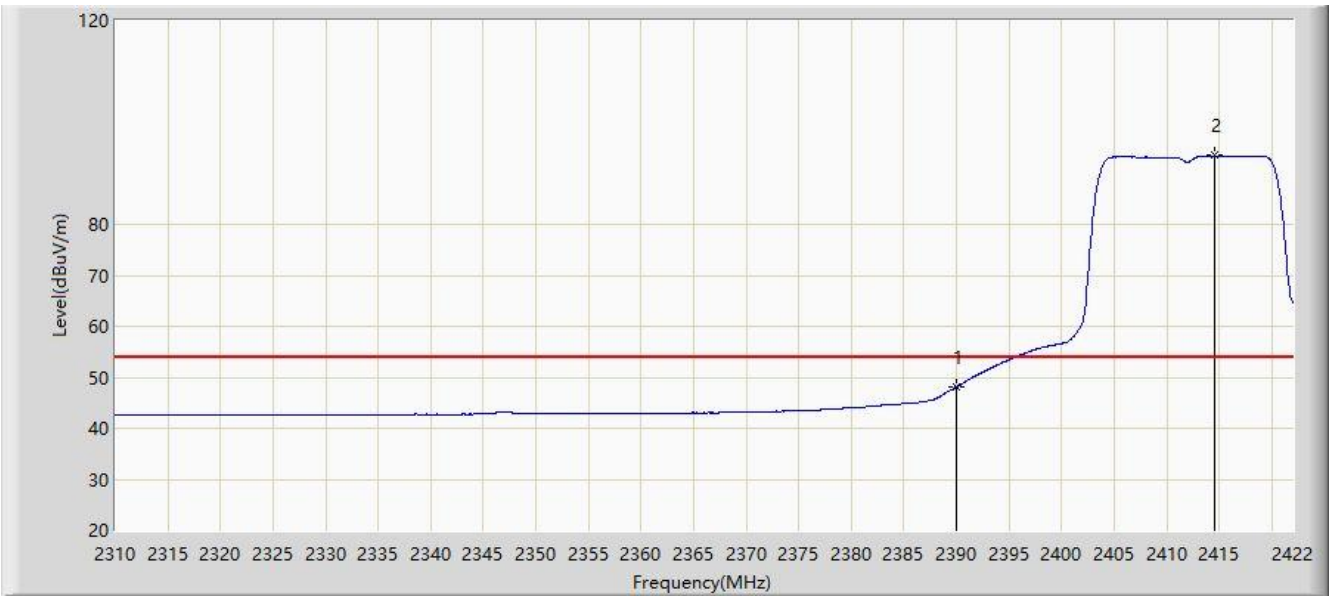


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.744	70.860	41.378	-3.140	74.000	29.482	PK
2			2390.000	69.679	40.197	-4.321	74.000	29.482	PK
3		*	2416.624	105.846	76.303	N/A	N/A	29.543	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 11:49
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11g at channel 2412MHz	

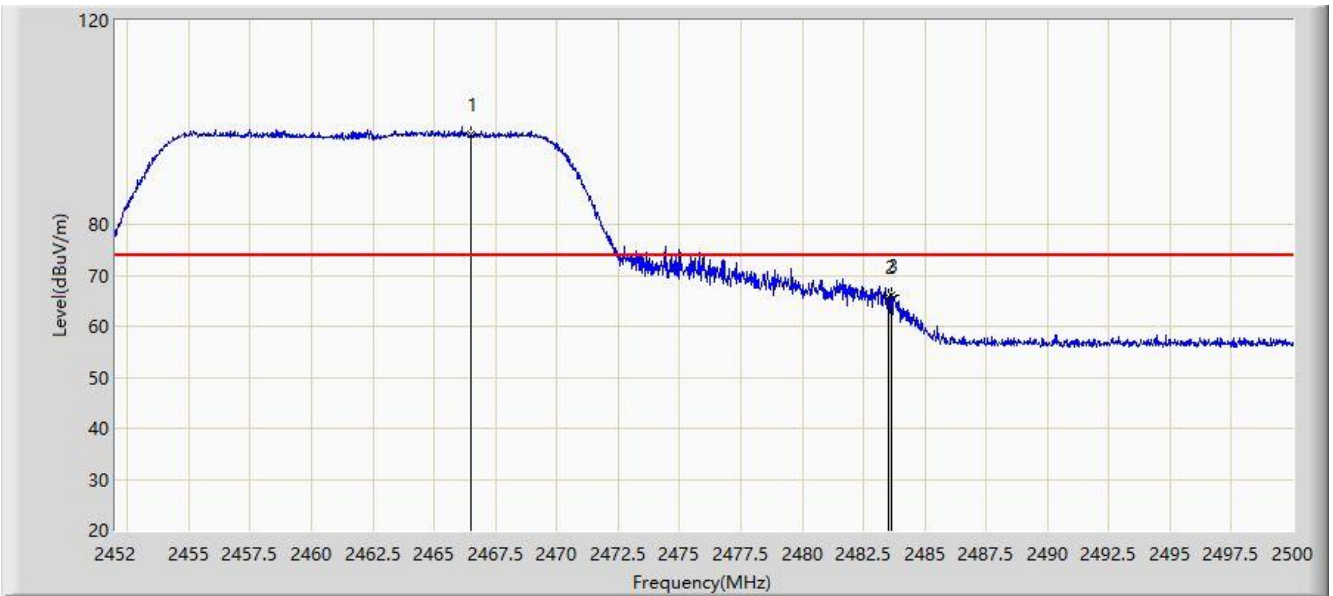


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			2390.000	48.089	18.607	-5.911	54.000	29.482	AV
2		*	2414.608	93.479	63.938	N/A	N/A	29.542	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 18:20
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.1g at channel 2462MHz	

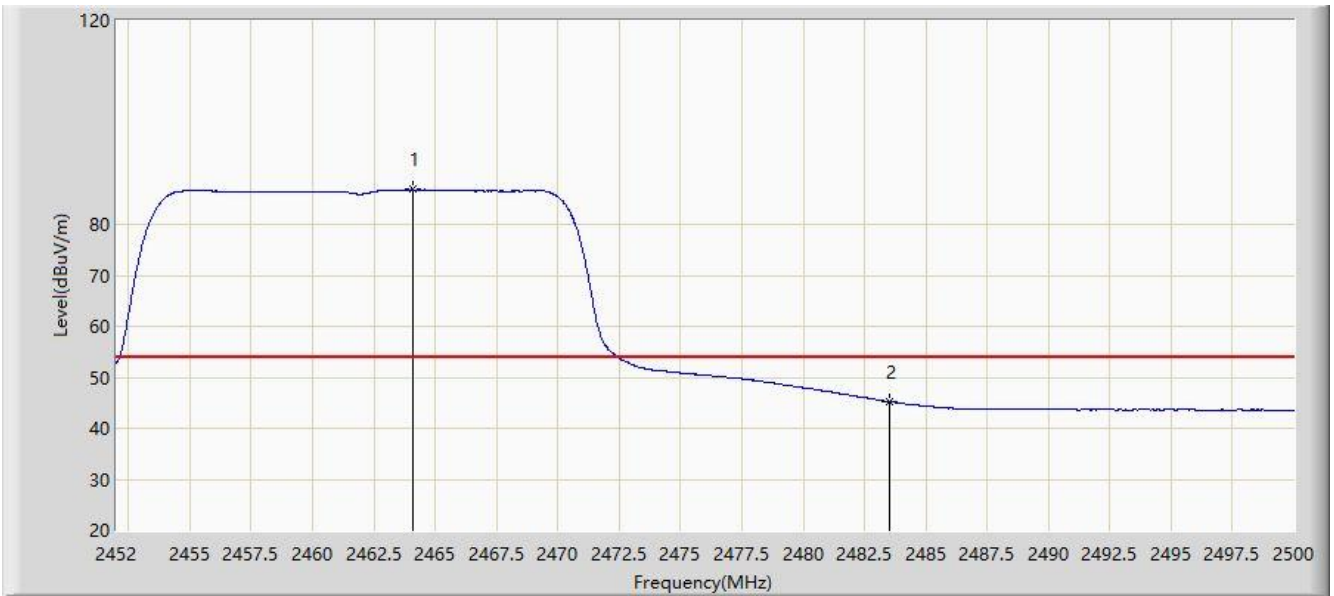


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2466.500	97.607	67.990	N/A	N/A	29.617	PK
2			2483.500	65.655	35.993	-8.345	74.000	29.662	PK
3			2483.625	66.195	36.533	-7.805	74.000	29.662	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 18:23
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.1g at channel 2462MHz	

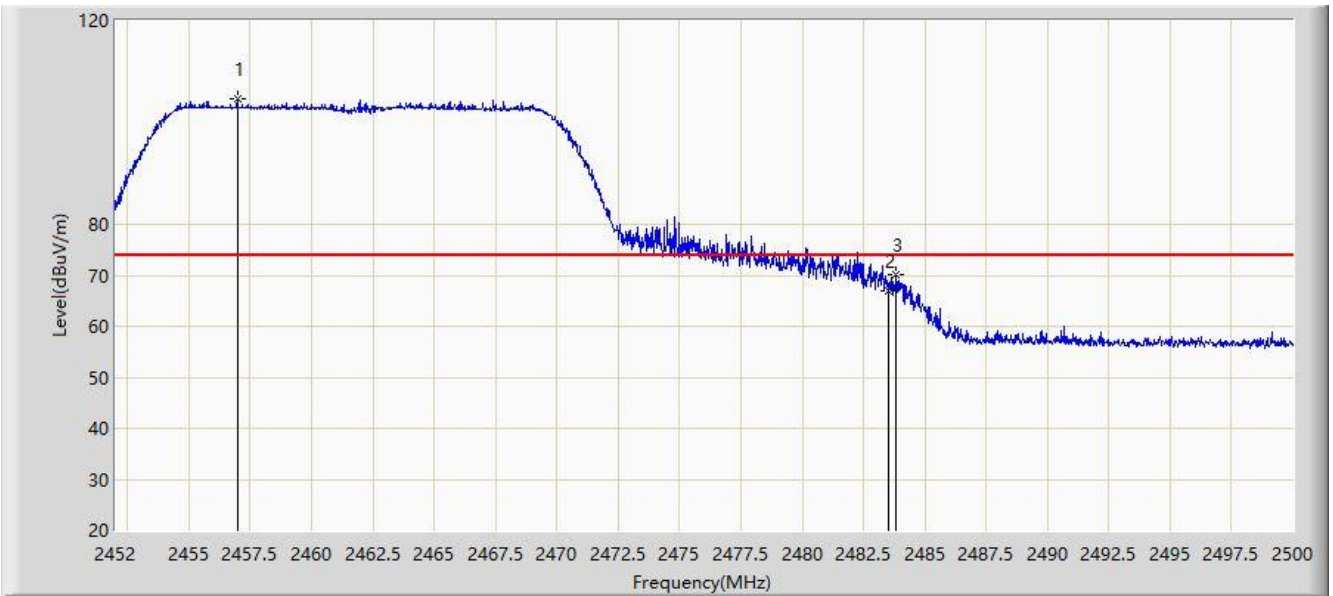


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2464.075	86.824	57.215	N/A	N/A	29.609	AV
2			2483.500	45.209	15.547	-8.791	54.000	29.662	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 18:24
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.1g at channel 2462MHz	

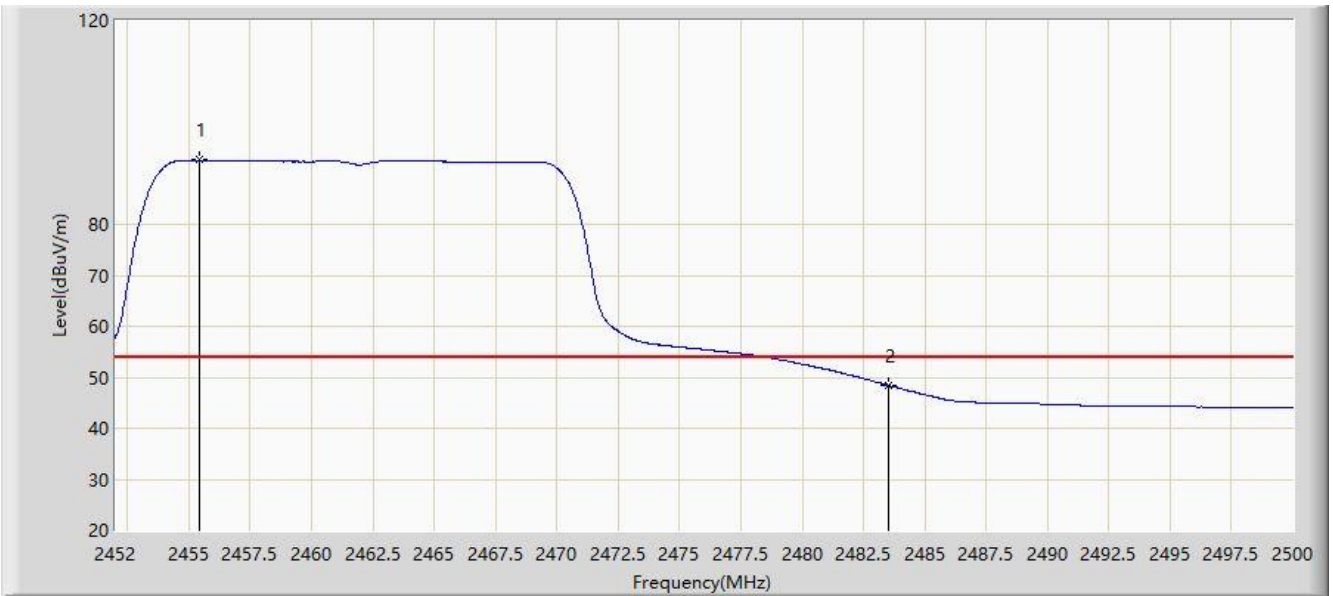


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2456.975	104.597	75.003	N/A	N/A	29.594	PK
2			2483.500	67.035	37.373	-6.965	74.000	29.662	PK
3			2483.825	70.156	40.494	-3.844	74.000	29.662	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 18:27
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.1g at channel 2462MHz	

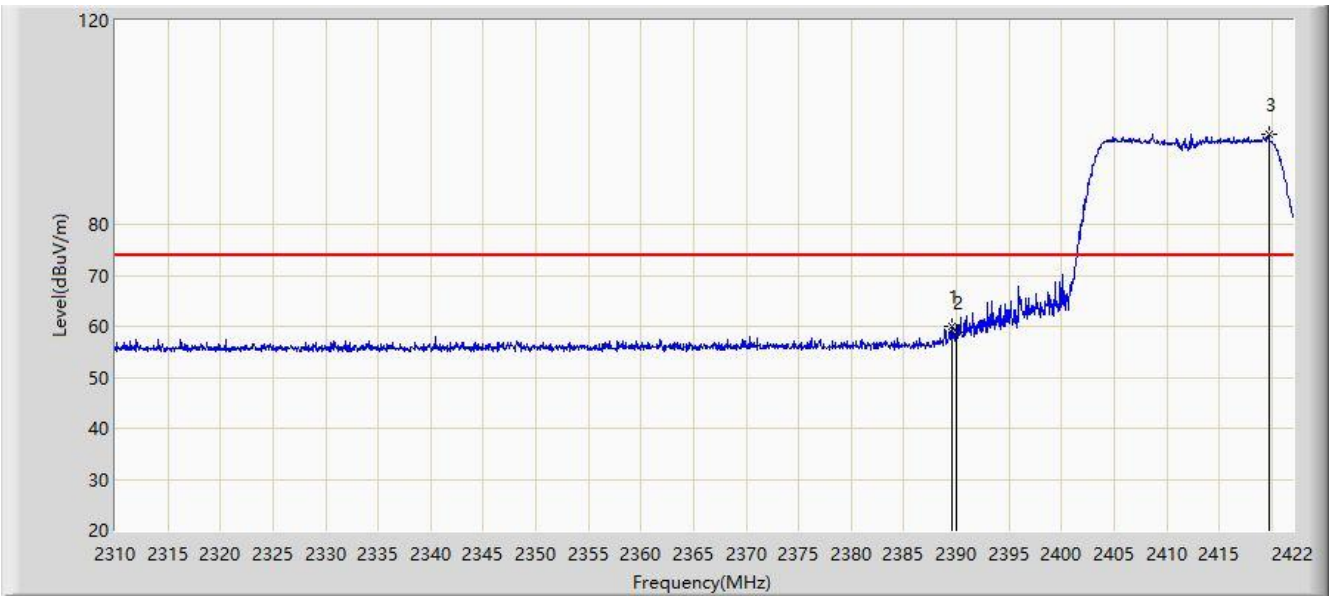


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2455.425	92.615	63.023	N/A	N/A	29.591	AV
2			2483.500	48.420	18.758	-5.580	54.000	29.662	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 18:08
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

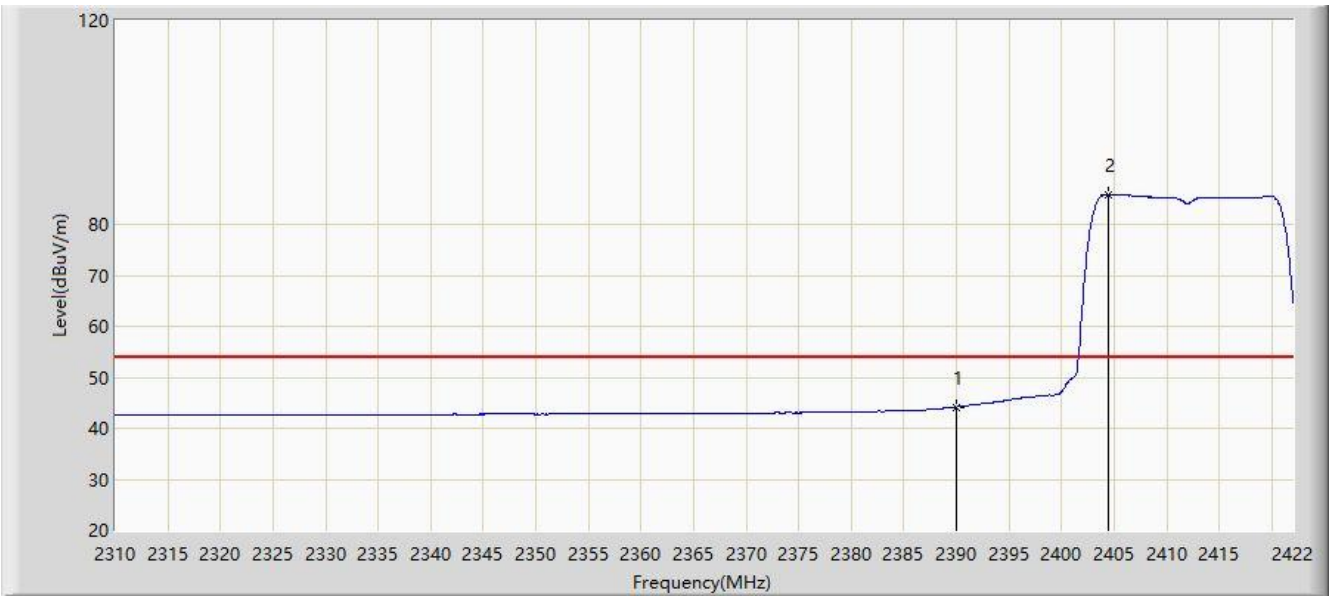


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.520	59.974	30.493	-14.026	74.000	29.482	PK
2			2390.000	58.884	29.402	-15.116	74.000	29.482	PK
3		*	2419.760	97.742	68.197	N/A	N/A	29.545	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 18:13
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

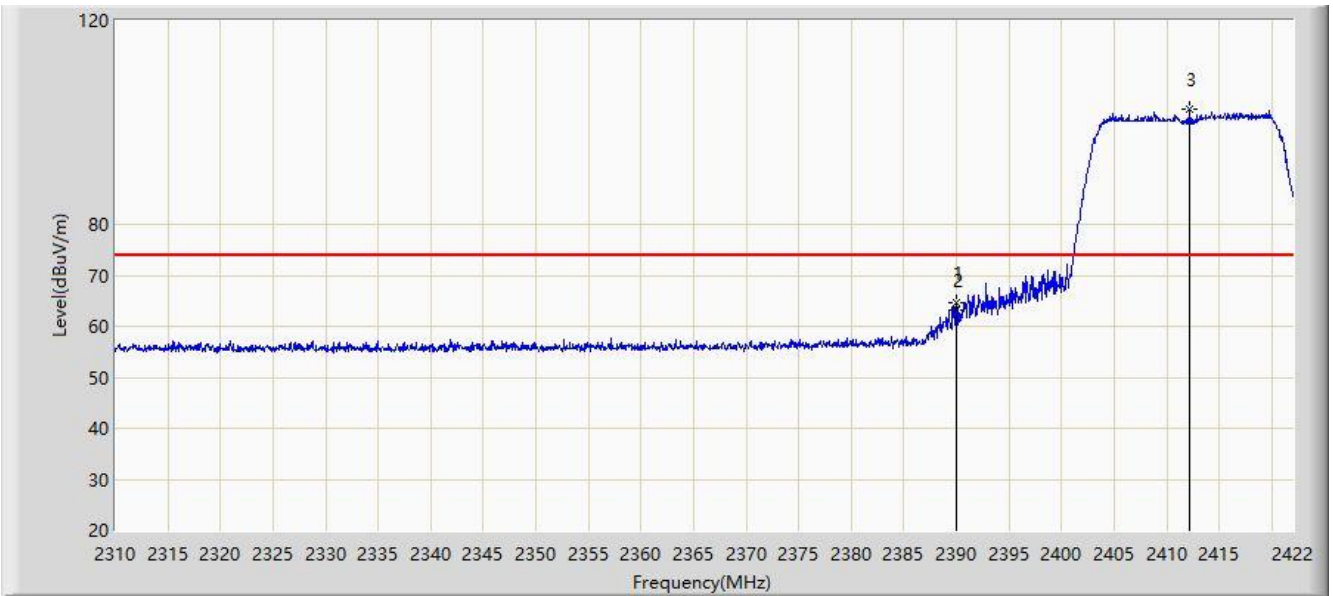


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			2390.000	44.200	14.718	-9.800	54.000	29.482	AV
2		*	2404.472	85.868	56.348	N/A	N/A	29.519	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 18:14
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

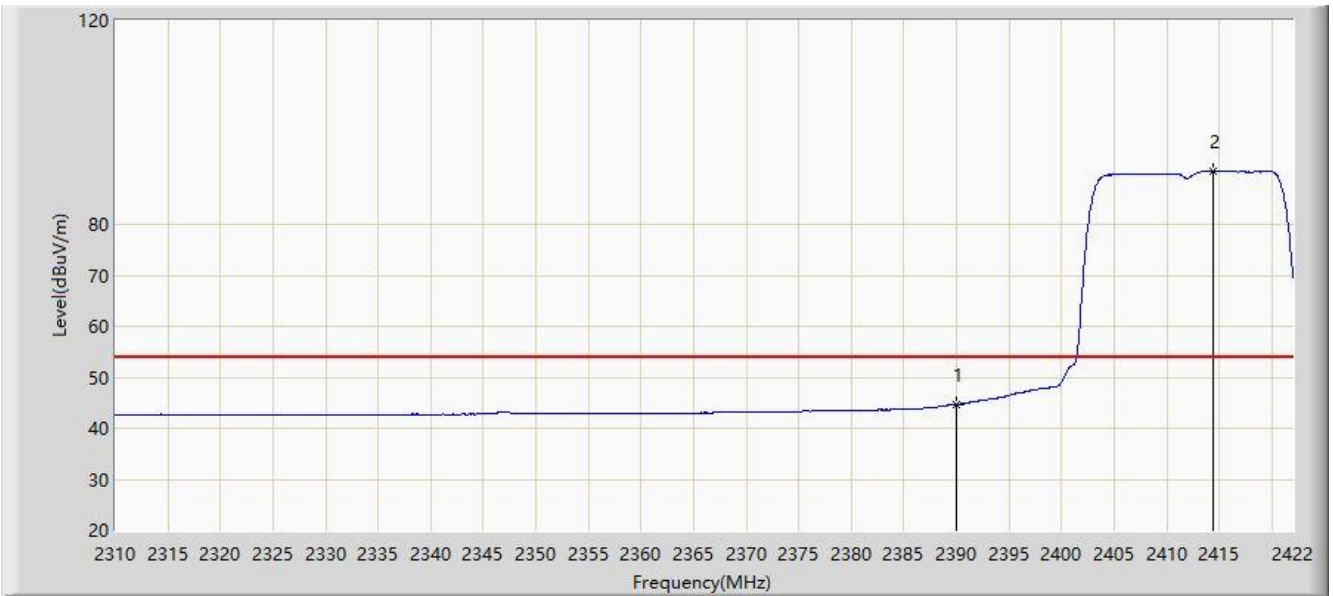


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.968	64.598	35.116	-9.402	74.000	29.482	PK
2			2390.000	63.303	33.821	-10.697	74.000	29.482	PK
3		*	2412.200	102.504	72.964	N/A	N/A	29.540	PK

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 18:17
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

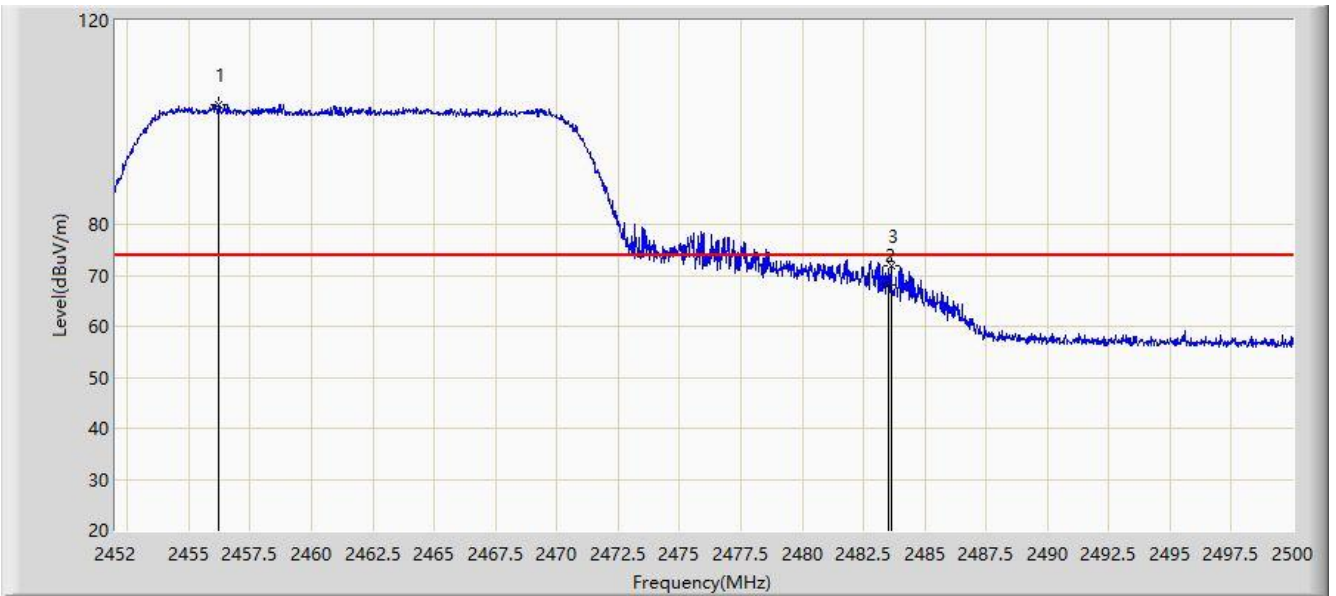


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			2390.000	44.687	15.205	-9.313	54.000	29.482	AV
2		*	2414.384	90.465	60.924	N/A	N/A	29.541	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 17:35
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	

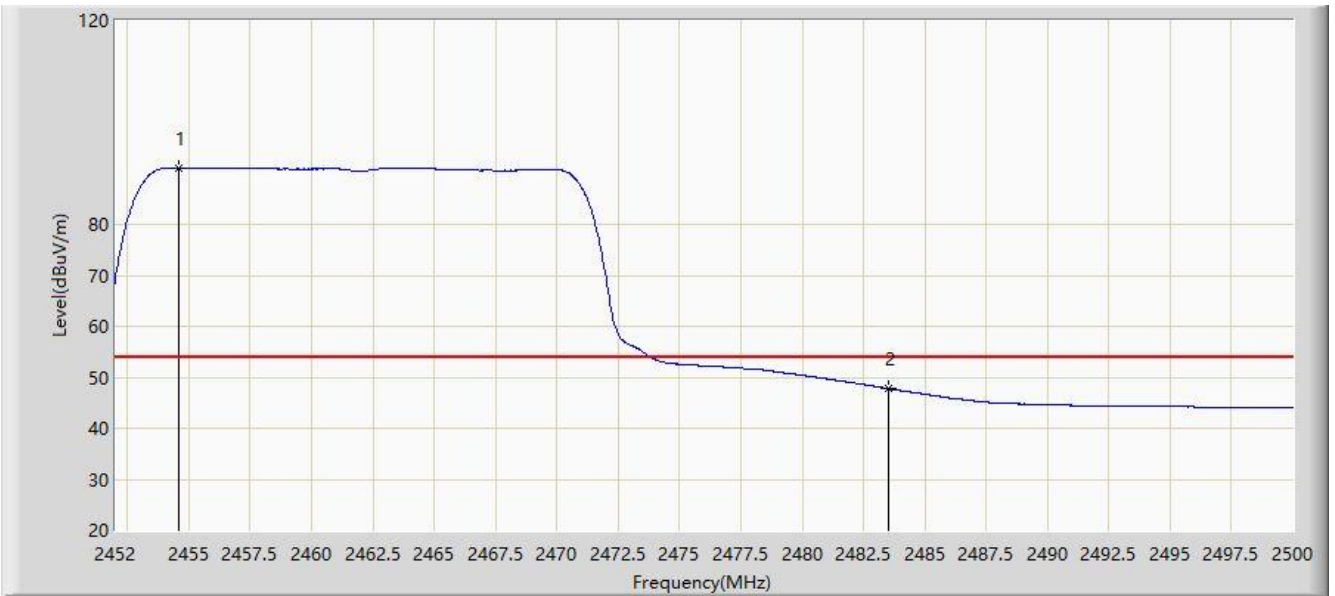


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2456.200	103.622	74.029	N/A	N/A	29.593	PK
2			2483.500	68.244	38.582	-5.756	74.000	29.662	PK
3			2483.625	71.756	42.094	-2.244	74.000	29.662	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 17:55
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Vertical
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	

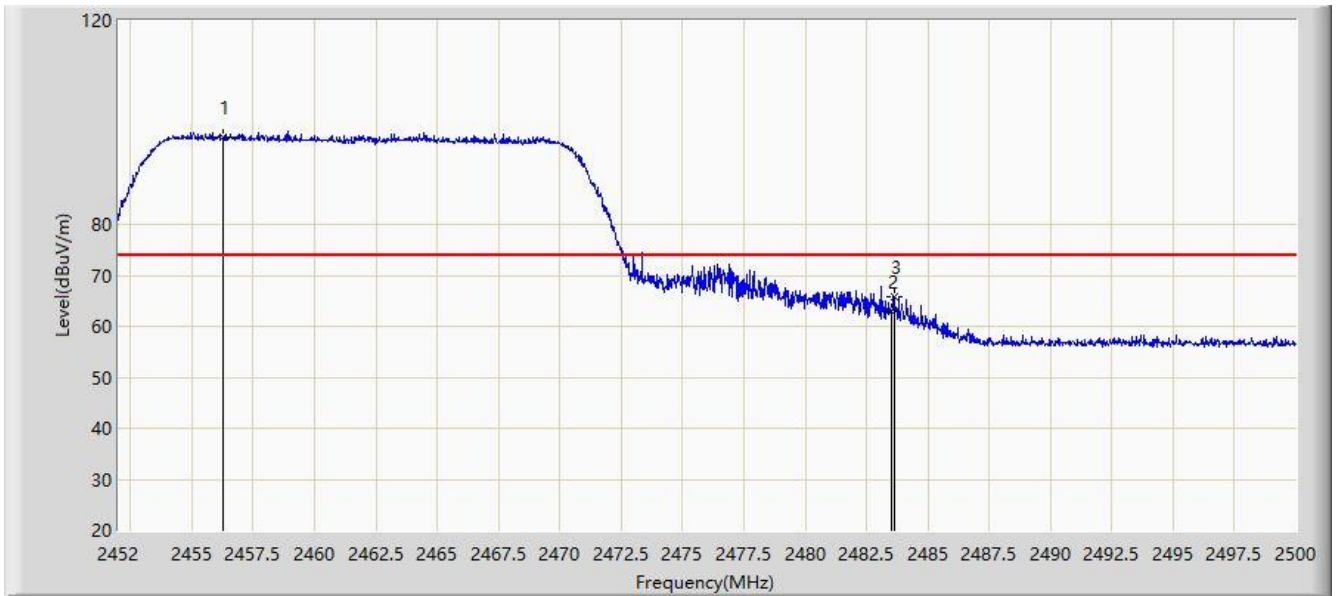


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2454.600	91.138	61.548	N/A	N/A	29.591	AV
2			2483.500	47.774	18.112	-6.226	54.000	29.662	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 17:57
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	

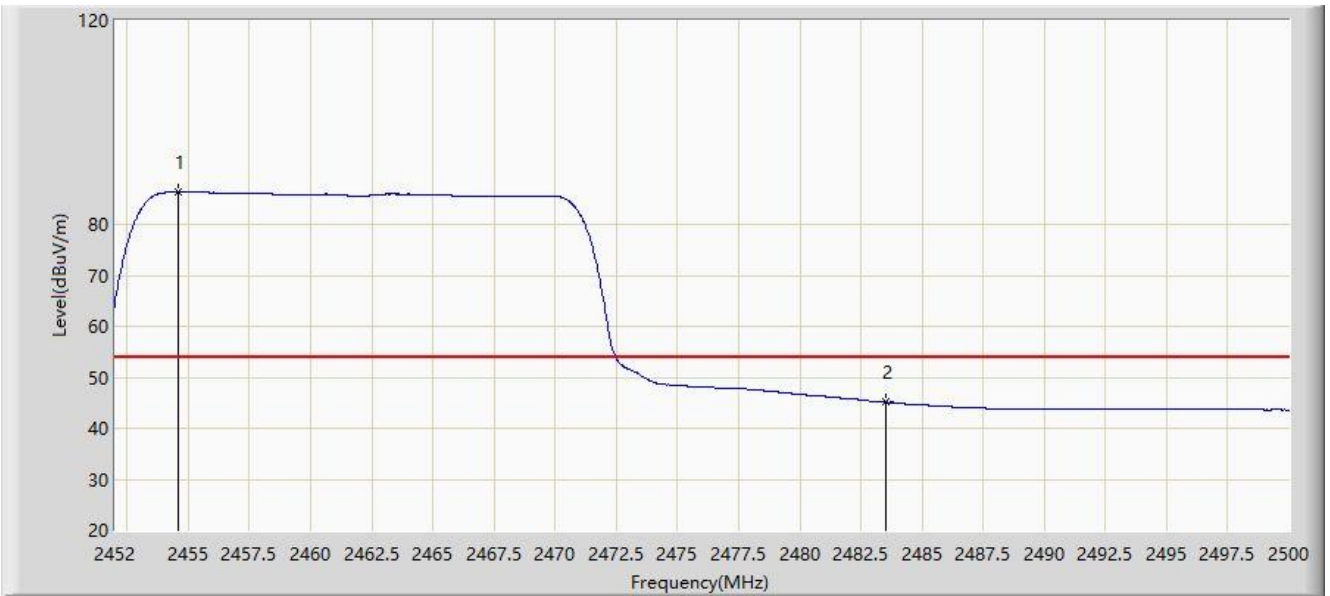


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2456.250	96.984	67.391	N/A	N/A	29.593	PK
2			2483.500	62.816	33.154	-11.184	74.000	29.662	PK
3			2483.625	65.880	36.218	-8.120	74.000	29.662	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: NS-AC1	Time: 2021/01/16 - 18:08
Limit: FCC_Part 15_15.209 RE(3m)	Engineer: Silence Liu
Probe: NS-AC1_BBHA9120D_2111	Polarity: Horizontal
EUT: Abegal Battery Camera	Power: By Battery
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1		*	2454.575	86.373	56.783	N/A	N/A	29.591	AV
2			2483.500	45.102	15.440	-8.898	54.000	29.662	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

6.8. AC Conducted Emissions Measurement

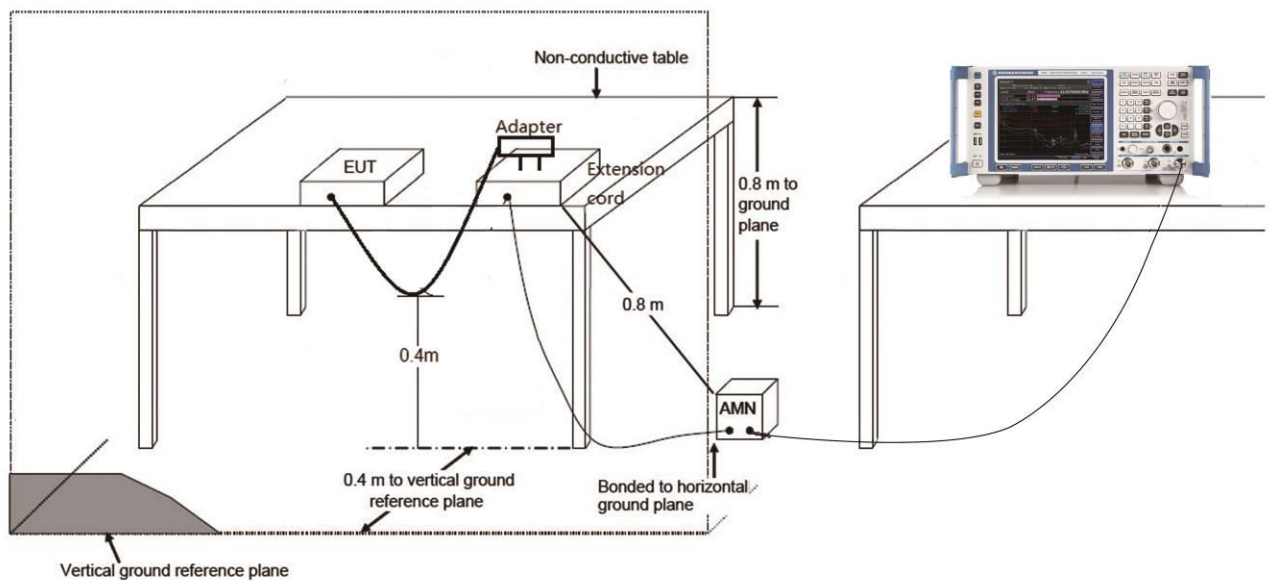
6.8.1. Test Limit

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.

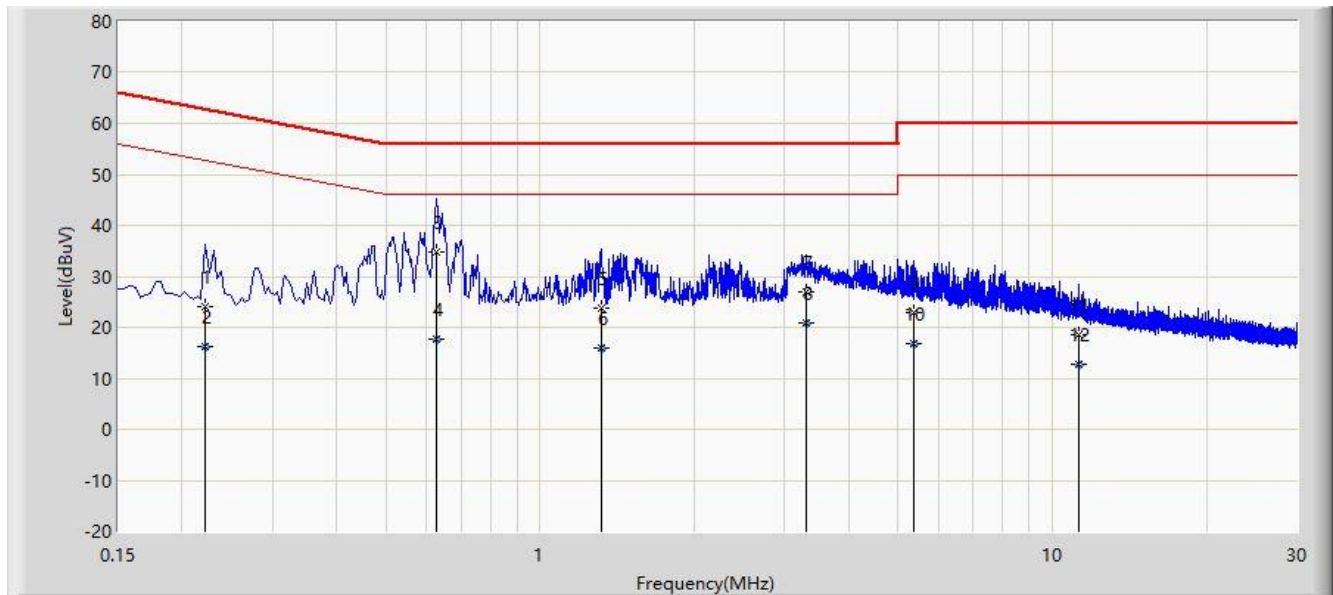
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

6.8.2. Test Setup



6.8.3. Test Result

Site: NS-SR2	Time: 2021/01/22 - 22:30
Limit: FCC_Part15.207_CE_AC Power	Engineer: Flag Yang
Probe: ENV216_102494_Filter On	Polarity: Line
EUT: Abegal Battery Camera	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

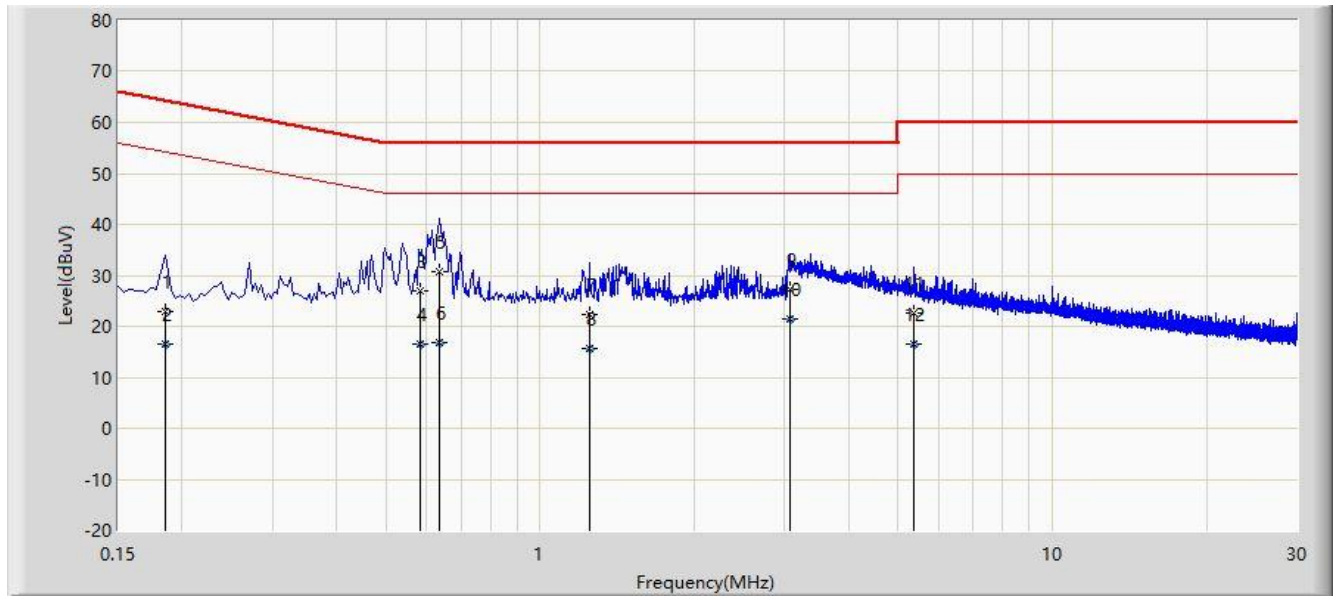


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.222	24.125	14.402	-38.618	62.744	9.723	QP
2			0.222	16.373	6.649	-36.371	52.744	9.723	AV
3		*	0.626	34.647	24.721	-21.353	56.000	9.926	QP
4			0.626	17.753	7.828	-28.247	46.000	9.926	AV
5			1.314	23.703	13.969	-32.297	56.000	9.734	QP
6			1.314	15.910	6.176	-30.090	46.000	9.734	AV
7			3.306	26.921	17.227	-29.079	56.000	9.695	QP
8			3.306	20.858	11.164	-25.142	46.000	9.695	AV
9			5.370	22.988	13.260	-37.012	60.000	9.728	QP
10			5.370	16.712	6.984	-33.288	50.000	9.728	AV
11			11.258	18.654	8.823	-41.346	60.000	9.831	QP
12			11.258	12.688	2.857	-37.312	50.000	9.831	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Site: NS-SR2	Time: 2021/01/22 - 22:48
Limit: FCC_Part15.207_CE_AC Power	Engineer: Flag Yang
Probe: ENV216_102494_Filter On	Polarity: Neutral
EUT: Abegal Battery Camera	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.186	22.758	12.908	-41.455	64.213	9.850	QP
2			0.186	16.474	6.623	-37.740	54.213	9.850	AV
3			0.582	27.025	17.079	-28.975	56.000	9.946	QP
4			0.582	16.443	6.496	-29.557	46.000	9.946	AV
5			0.634	30.680	20.757	-25.320	56.000	9.923	QP
6			0.634	16.870	6.947	-29.130	46.000	9.923	AV
7			1.246	22.217	12.479	-33.783	56.000	9.737	QP
8			1.246	15.747	6.010	-30.253	46.000	9.737	AV
9			3.074	27.348	17.657	-28.652	56.000	9.691	QP
10		*	3.074	21.503	11.811	-24.497	46.000	9.691	AV
11			5.354	22.645	12.916	-37.355	60.000	9.728	QP
12			5.354	16.639	6.911	-33.361	50.000	9.728	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

7. CONCLUSION

The data collected relate only the item(s) tested and show that the device is compliance with Part 15C of the FCC rules.

The End

Appendix A - Test Setup Photograph

Refer to “2101RSU020-UT” file.

Appendix B - EUT Photograph

Refer to “ 2101RSU020-UE” file.