



MEASUREMENT REPORT

FCC PART 15.247 & IC RSS-247 WLAN 802.11b/g/n

FCC ID: OU5-MAC2000
IC: 4048B-MAC2000
APPLICANT: GE Medical Systems Information Technologies, Inc.
Application Type: Certification
Product: ECG analysis system
Model No.: MAC 2000
Brand Name: GE
FCC Classification: Digital Transmission System (DTS)
FCC Rule Part(s): Part 15 Subpart C (Section 15.247)
IC Rule(s): RSS-247 Issue 2
Test Procedure(s): ANSI C63.10-2013, KDB 558074 D01v04
Test Date: November 16 ~ 20, 2017

Reviewed By : Kevin Guo
(Kevin Guo)

Approved By : Marlin Chen
(Marlin Chen)



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 D01v04. 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 (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
1710WSU00502	Rev. 01	Initial report	12-08-2017	Valid

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§2.1033 General Information

Applicant:	GE Medical Systems Information Technologies, Inc.
Applicant Address:	8200W, Tower Ave, Milwaukee, WI 53223 USA
Manufacturer:	GE Medical Systems Information Technologies, Inc.
Manufacturer Address:	8200W, Tower Ave, Milwaukee, WI 53223 USA
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
MRT Registration No.:	893164
FCC Rule Part(s):	Part 15.247
IC Rule(s):	RSS-247 Issue 2
FCC ID:	OU5-MAC2000
IC:	4048B-MAC2000
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering
FCC Classification:	Digital Transmission System (DTS)

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC registered (MRT Reg. No. 893164) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-4179, G-814, C-4664, T-2206) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.



1. INTRODUCTION

1.1. Scope

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

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.



2. PRODUCT INFORMATION

2.1. Feature of Equipment under Test

Product Name	ECG analysis system
Model No.	MAC 2000
Brand Name:	GE
Wi-Fi Specification	802.11a/b/g/n
Antenna Type:	Internal Antenna

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
Maximum Peak Output Power	802.11b: 19.23dBm 802.11g: 22.82dBm 802.11n-HT20: 22.45dBm
Antenna Gain	0.8dBi

Note: For other features of this EUT, test report will be issued separately.

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. Test Mode

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

2.5. Description of Test Software

The test utility software used during testing was “LRU.EXE”, and it was supplied by manufacturer.

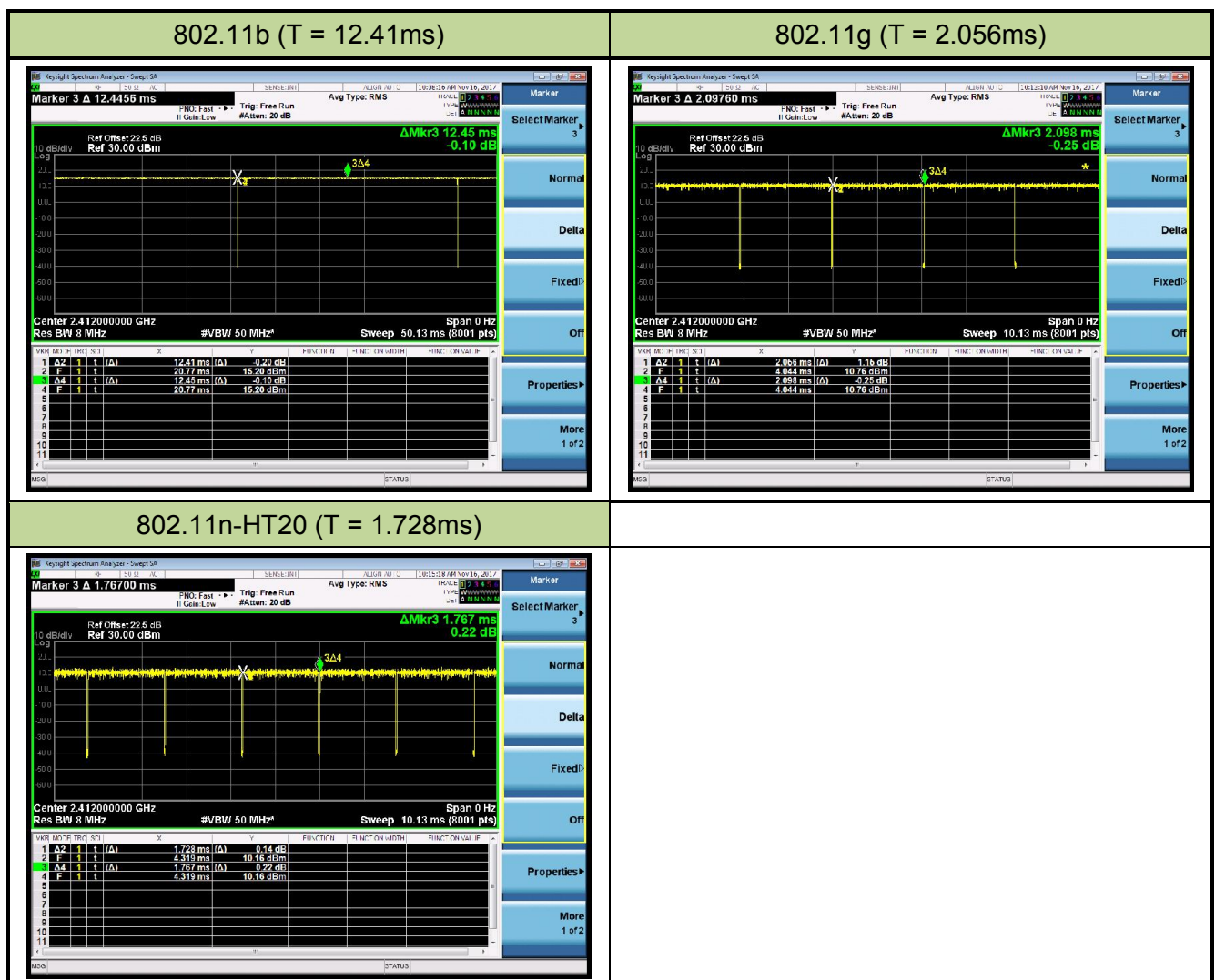
2.6. Device Capabilities

This device contains the following capabilities:

802.11a/b/g/n-HT20 Wi-Fi Device.

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, and detector = peak or average per the guidance of Section 6.0 b) of KDB 558074 D01v04. 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	99.68%
802.11g	98.00%
802.11n-HT20	97.79%



2.7. Test Configuration

The **ECG analysis system** was tested per the guidance of KDB 558074 D01v04. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

2.8. EMI Suppression Device(s)/Modifications

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

2.9. 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.

RSP-100 Issue 11 Section 3

The manufacturer, importer or distributor shall meet the labelling requirements set out in this section for every unit:

- (i) prior to marketing in Canada, for products manufactured in Canada
- (ii) prior to importation into Canada, for imported products

For information regarding the e-labelling option, see Notice 2014–DRS1003. The label for the certified product represents the manufacturer's or importer's compliance with Innovation, Science and Economic Development Canada's (ISED) regulatory requirements.

Please see attachment for IC 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 D01v04 were used in the measurement of the **ECG analysis system**.

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.

Line conducted emissions test results are shown in Section 7.8.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. A MF Model 210SS 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.”

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

Conclusion:

The **ECG analysis system** unit complies with the requirement of §15.203.

5. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions - SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2018/06/20
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2018/06/20
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2018/06/20
Temperature/Humidity Meter	Yuhuaze	HTC-2	MRTSUE06181	1 year	2017/12/20
Shielding Anechoic Chamber	Mikebang	Chamber-SR2	MRTSUE06214	1 year	2018/05/10

Radiated Emission - AC1

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
MXE EMI Receiver	Agilent	N9038A	MRTSUE06125	1 year	2018/08/18
Loop Antenna	Schwarzbeck	FMZB1519	MRTSUE06025	1 year	2018/11/20
Bilog Period Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2017/11/19
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06023	1 year	2018/10/21
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2017/12/11
Broadband Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06024	1 year	2018/04/25
Temperature/Humidity Meter	Yuhuaze	HTC-2	MRTSUE06183	1 year	2017/12/22
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2018/05/10

Conducted Test Equipment - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2018/04/25
Power Meter	Agilent	U2021XA	MRTSUE06030	1 year	2017/12/06
Temperature/Humidity Meter	Yuhuaze	HTC-2	MRTSUE06180	1 year	2017/12/22

Software	Version	Function
e3	V8.3.5	EMI Test Software

6. MEASUREMENT UNCERTAINTY

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

AC Conducted Emission Measurement - SR2
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 150kHz~30MHz: 3.46dB
Radiated Emission Measurement - AC1
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 9kHz ~ 1GHz: 4.18dB 1GHz ~ 25GHz: 4.76dB
Spurious Emissions, Conducted - TR3
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.78dB
Output Power - TR3
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 1.13dB
Power Spectrum Density - TR3
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 1.15dB
Occupied Bandwidth - TR3
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.28%

7. TEST RESULT

7.1. Summary

Company Name: GE Medical Systems Information Technologies, Inc.
FCC ID: OU5-MAC2000
IC: 4048B-MAC2000
FCC Classification: Digital Transmission System (DTS)
Data Rate(s) Tested: 1Mbps ~ 11Mbps (b); 6Mbps ~ 54Mbps (g); MCS0 ~ MCS7 (n-HT20).

FCC Section(s)	IC Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.247(a)(2)	RSS-247 [5.2]	6dB Bandwidth	$\geq 500\text{kHz}$	Conducted	Pass	Section 7.2
15.247(b)(3)	RSS-247 [5.4(4)]	Output Power	$\leq 30\text{dBm}$		Pass	Section 7.3
15.247(e)	RSS-247 [5.2]	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$		Pass	Section 7.4
15.247(d)	RSS-247 [5.5]	Band Edge / Out-of-Band Emissions	$\geq 20\text{dBc(Peak)}$		Pass	Section 7.5
15.205 15.209	RSS-247 [5.5]	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 7.6 & 7.7
15.207	RSS-Gen [8.8]	AC Conducted Emissions 150kHz - 30MHz	< FCC 15.207 limits	Line Conducted	Pass	Section 7.8

Notes:

- 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.
- 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.

7.2. 6dB Bandwidth Measurement

7.2.1. Test Limit

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

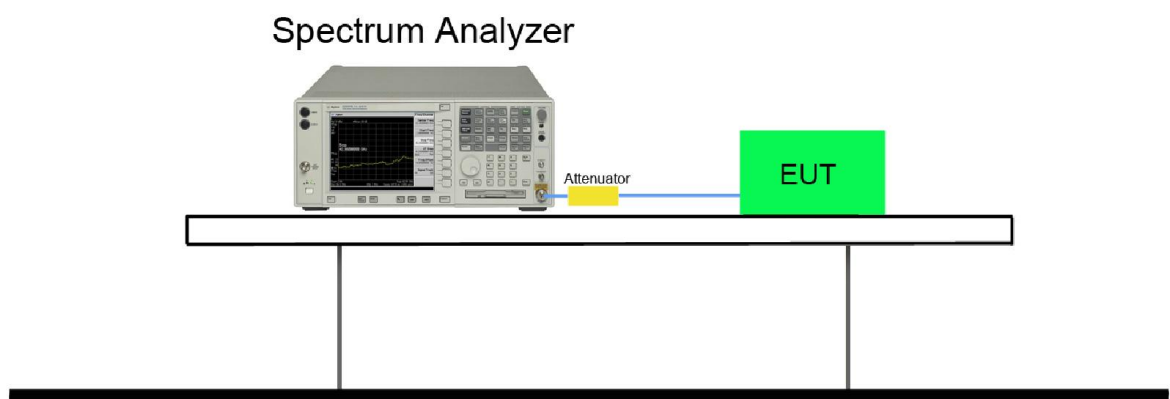
7.2.2. Test Procedure used

KDB 558074 D01v04 – Section 8.2 Option 2

7.2.3. Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 6$. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. Set RBW = 100 kHz
3. $VBW \geq 3 \times RBW$
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace was allowed to stabilize

7.2.4. Test Setup



7.2.5. Test Result

Product	ECG analysis system	Temperature	23°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	TR3	Test Date	2017/11/16
Test Item	6dB Bandwidth		

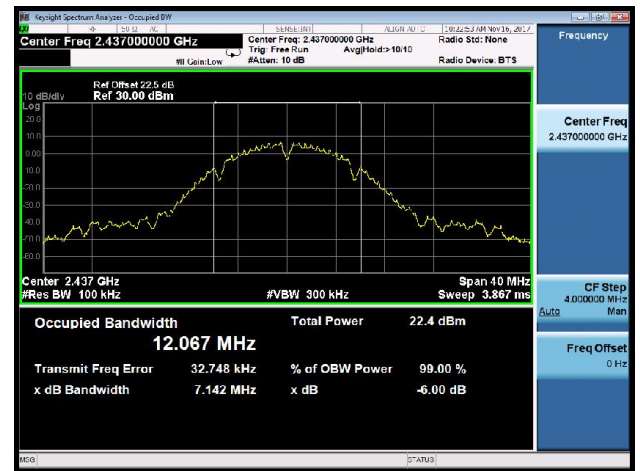
Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	Result
802.11b	1Mbps	01	2412	7.15	≥0.5	Pass
802.11b	1Mbps	06	2437	7.14	≥0.5	Pass
802.11b	1Mbps	11	2462	7.17	≥0.5	Pass
802.11g	6Mbps	01	2412	16.35	≥0.5	Pass
802.11g	6Mbps	06	2437	16.33	≥0.5	Pass
802.11g	6Mbps	11	2462	16.34	≥0.5	Pass
802.11n-HT20	MCS0	01	2412	17.43	≥0.5	Pass
802.11n-HT20	MCS0	06	2437	17.27	≥0.5	Pass
802.11n-HT20	MCS0	11	2462	17.27	≥0.5	Pass

802.11b 6dB Bandwidth

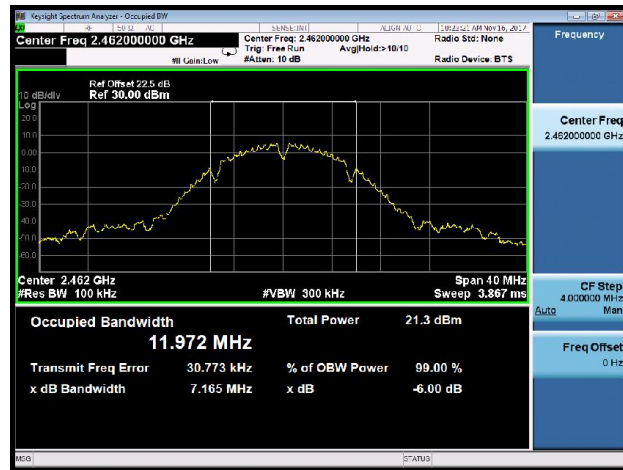
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)

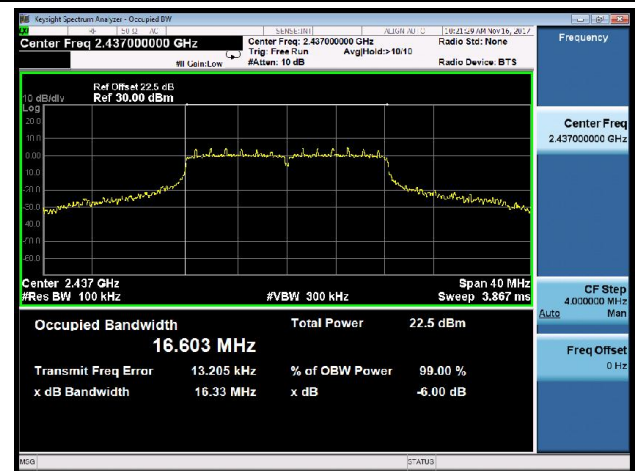


802.11g 6dB Bandwidth

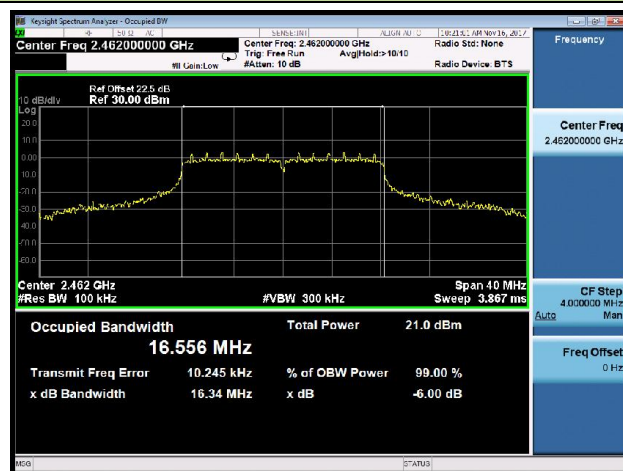
Channel 01 (2412MHz)



Channel 06 (2437MHz)

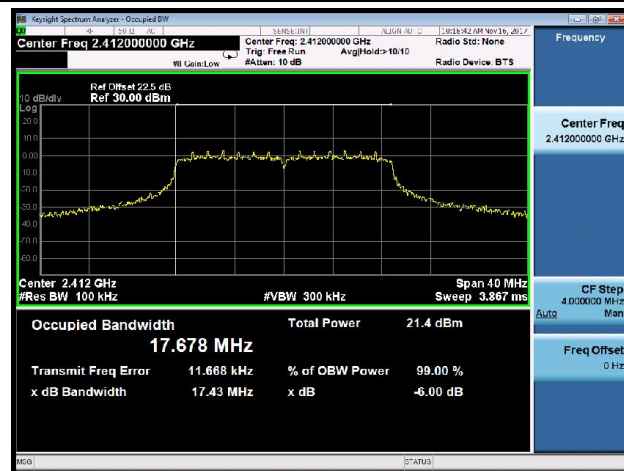


Channel 11 (2462MHz)



802.11n-HT20 6dB Bandwidth

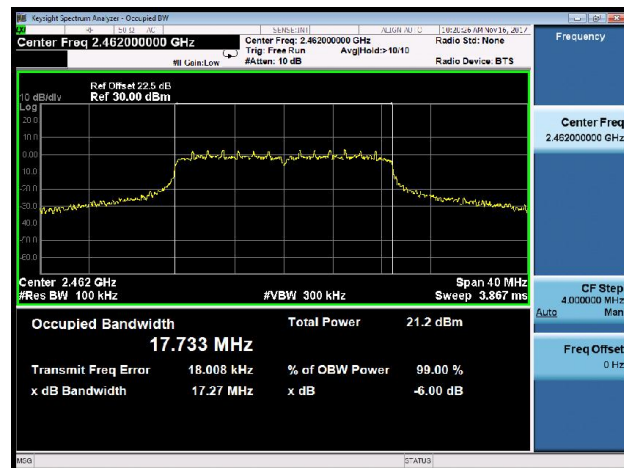
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



7.3. Output Power Measurement

7.3.1. Test Limit

The maximum output power shall be less 1 Watt (30dBm).

7.3.2. Test Procedure Used

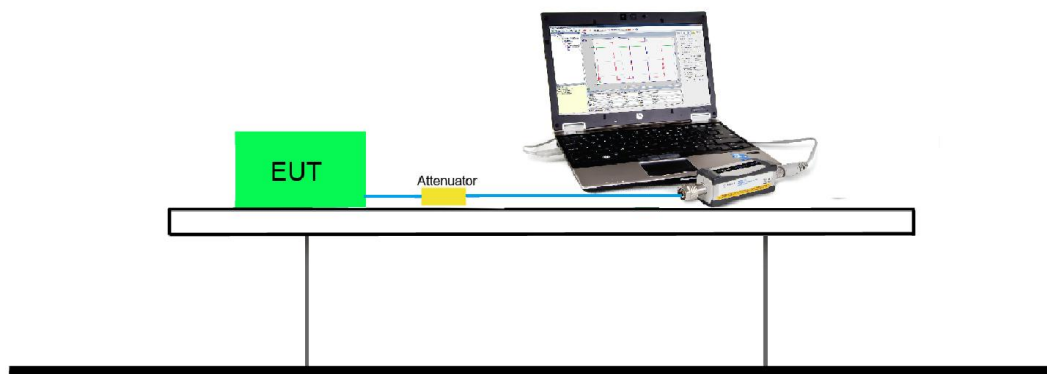
KDB 558074 D01v04 - Section 9.1.2 PKPM1 Peak Power Method (for signals with $BW \leq 50\text{MHz}$)

7.3.3. Test Setting

Method PKPM1 (Peak Power Measurement of Signals with DTS $BW \leq 50\text{MHz}$)

Peak power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The pulse sensor employs a VBW = 50MHz so this method was only used for signals whose DTS bandwidth was less than or equal to 50MHz.

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 (gray marker) for final test of each channel.

Output power at various data rates:

Test Mode	Bandwidth (MHz)	Channel No.	Frequency (MHz)	Data Rate / MCS	Average Power (dBm)
802.11b	20	6	2437	1Mbps	16.48
				5.5Mbps	16.33
				11Mbps	16.14
802.11g	20	6	2437	6Mbps	16.21
				24Mbps	16.01
				54Mbps	15.83
802.11n	20	6	2437	MCS0	16.34
				MCS3	16.09
				MCS7	15.89

Product	ECG analysis system	Temperature	23°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	TR3	Test Date	2017/11/16
Test Item	Output Power		

Test Result of Peak Output Power

Test Mode	Data Rate / MCS	Channel No.	Freq. (MHz)	Peak Power (dBm)	Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11b	1Mbps	1	2412	18.64	≤ 30.00	19.44	≤ 36.00	Pass
11b	1Mbps	6	2437	19.23	≤ 30.00	20.03	≤ 36.00	Pass
11b	1Mbps	11	2462	17.45	≤ 30.00	18.25	≤ 36.00	Pass
11g	6Mbps	1	2412	22.82	≤ 30.00	23.62	≤ 36.00	Pass
11g	6Mbps	6	2437	22.15	≤ 30.00	22.95	≤ 36.00	Pass
11g	6Mbps	11	2462	21.03	≤ 30.00	21.83	≤ 36.00	Pass
11n-HT20	MCS0	1	2412	22.45	≤ 30.00	23.25	≤ 36.00	Pass
11n-HT20	MCS0	6	2437	22.25	≤ 30.00	23.05	≤ 36.00	Pass
11n-HT20	MCS0	11	2462	21.04	≤ 30.00	21.84	≤ 36.00	Pass

Note: Max EIRP (dBm) = Peak Power (dBm) + Antenna Gain (dBi), Antenna Gain (dBi) = 0.8dBi.

Test Result of Average Output Power (Reporting Only)

Test Mode	Data Rate / MCS	Channel No.	Freq. (MHz)	Average Power (dBm)	Limit (dBm)	Max EIRP (dBm)	EIRP Limit (dBm)	Result
11b	1Mbps	1	2412	15.77	≤ 30.00	16.57	≤ 36.00	Pass
11b	1Mbps	6	2437	16.48	≤ 30.00	17.28	≤ 36.00	Pass
11b	1Mbps	11	2462	14.63	≤ 30.00	15.43	≤ 36.00	Pass
11g	6Mbps	1	2412	15.48	≤ 30.00	16.28	≤ 36.00	Pass
11g	6Mbps	6	2437	16.21	≤ 30.00	17.01	≤ 36.00	Pass
11g	6Mbps	11	2462	14.52	≤ 30.00	15.32	≤ 36.00	Pass
11n-HT20	MCS0	1	2412	15.63	≤ 30.00	16.43	≤ 36.00	Pass
11n-HT20	MCS0	6	2437	16.34	≤ 30.00	17.14	≤ 36.00	Pass
11n-HT20	MCS0	11	2462	14.57	≤ 30.00	15.37	≤ 36.00	Pass

Note: Max EIRP (dBm) = Average Power (dBm) + Antenna Gain (dBi), Antenna Gain (dBi) = 0.8dBi.

7.4. Power Spectral Density Measurement

7.4.1. Test Limit

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

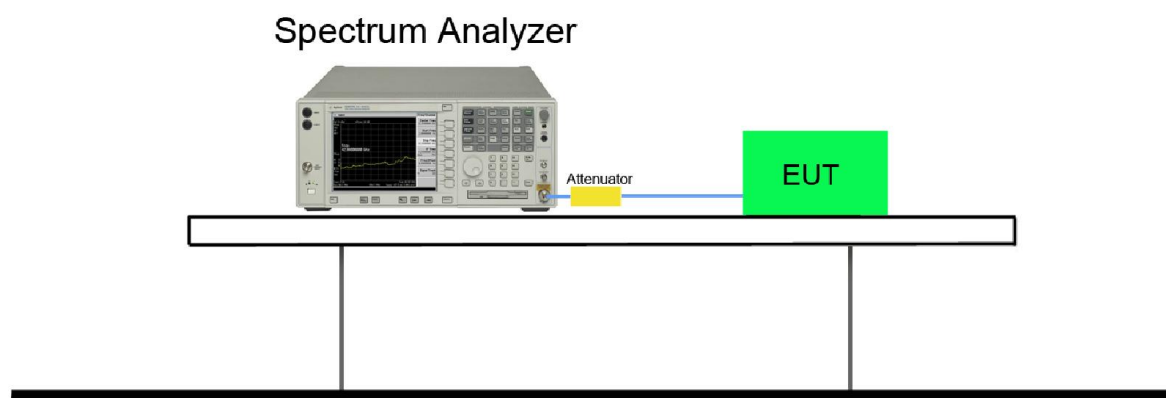
7.4.2. Test Procedure Used

KDB 558074 D01v04 - Section 10.2 Method PKPSD

7.4.3. Test Setting

- 1) Analyzer was set to the center frequency of the DTS channel under investigation
- 2) Span = 1.5 times the DTS channel bandwidth
- 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

7.4.4. Test Setup



7.4.5. Test Result

Product	ECG analysis system	Temperature	23°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	TR3	Test Date	2017/11/16
Test Item	Power Spectral Density		

Test Mode	Data Rate / MCS	Channel No.	Freq. (MHz)	PSD (dBm/3kHz)	Duty Cycle (%)	Final PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
11b	1Mbps	1	2412	-9.26	99.68	-9.26	≤ 8.0	Pass
11b	1Mbps	6	2437	-9.10	99.68	-9.10	≤ 8.0	Pass
11b	1Mbps	11	2462	-9.01	99.68	-9.01	≤ 8.0	Pass
11g	6Mbps	1	2412	-12.03	98.00	-12.03	≤ 8.0	Pass
11g	6Mbps	6	2437	-12.59	98.00	-12.59	≤ 8.0	Pass
11g	6Mbps	11	2462	-14.02	98.00	-14.02	≤ 8.0	Pass
11n-HT20	MCS0	1	2412	-11.61	97.79	-11.51	≤ 8.0	Pass
11n-HT20	MCS0	6	2437	-10.72	97.79	-10.62	≤ 8.0	Pass
11n-HT20	MCS0	11	2462	-13.30	97.79	-13.20	≤ 8.0	Pass

Note 1: When EUT duty cycle ≥ 98%, Final PSD (dBm/3kHz) = PSD (dBm/3kHz).

Note 2: When EUT duty cycle < 98%, Final PSD (dBm/3kHz) = PSD (dBm/3kHz) + 10*log (1/duty cycle).

802.11b Peak PSD

Channel 01 (2412MHz)



Channel 06 (2437MHz)

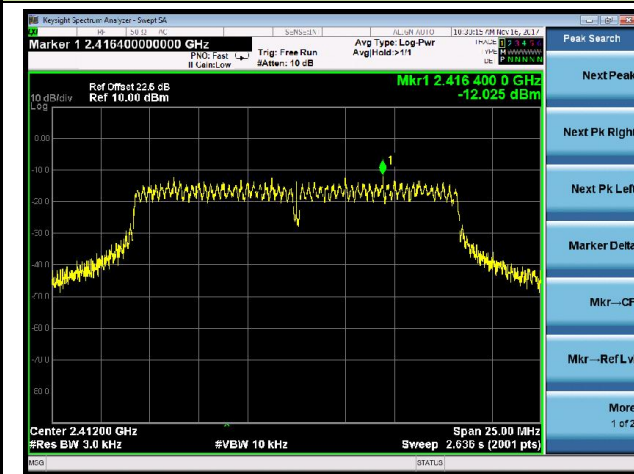


Channel 11 (2462MHz)

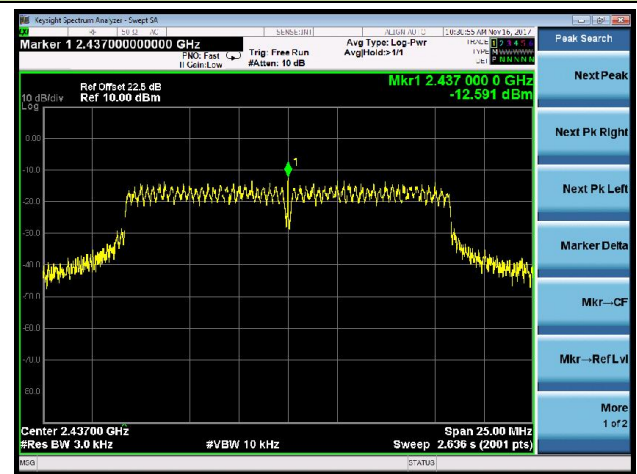


802.11g Peak PSD

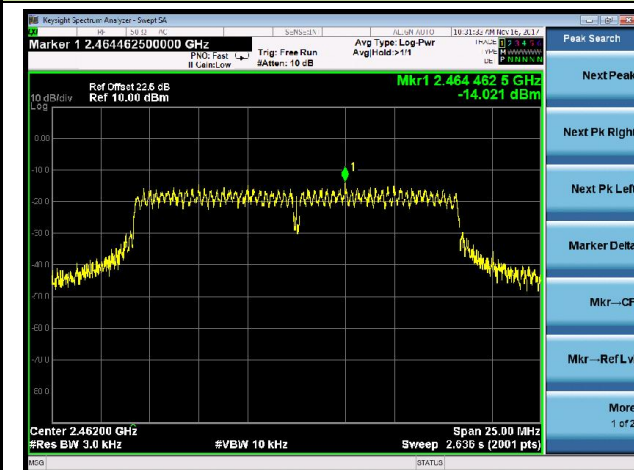
Channel 01 (2412MHz)



Channel 06 (2437MHz)

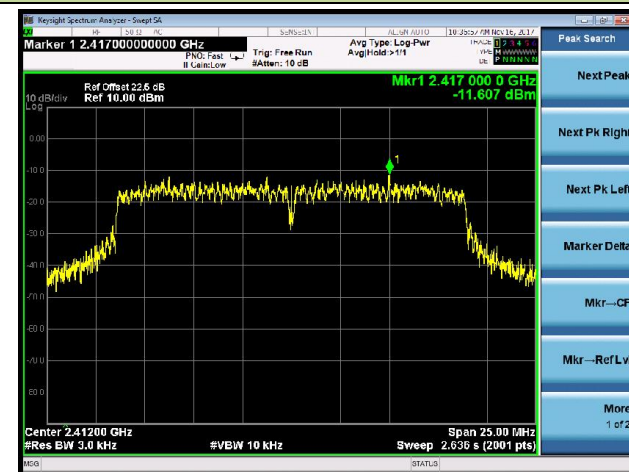


Channel 11 (2462MHz)

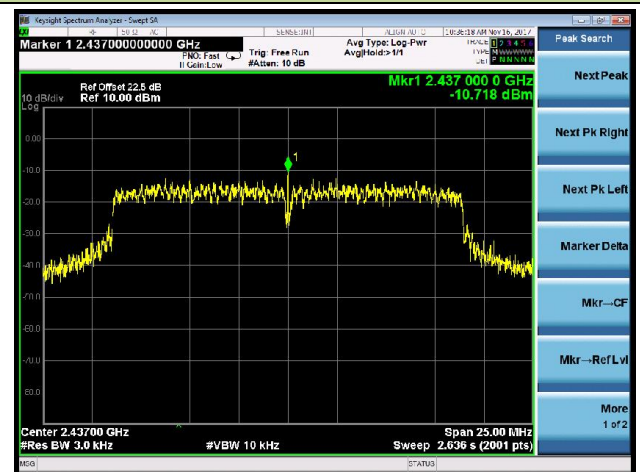


802.11n-HT20 Peak PSD

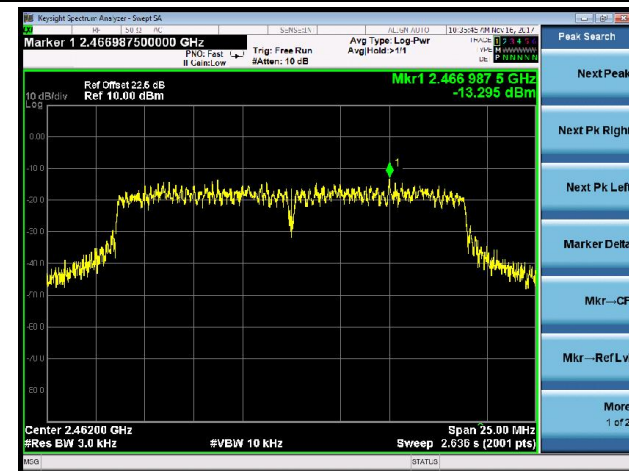
Channel 01 (2412MHz)



Channel 06 (2437MHz)



Channel 11 (2462MHz)



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 20dB 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 D01v04 - Section 11.2 & Section 11.3

7.5.3. Test Setting

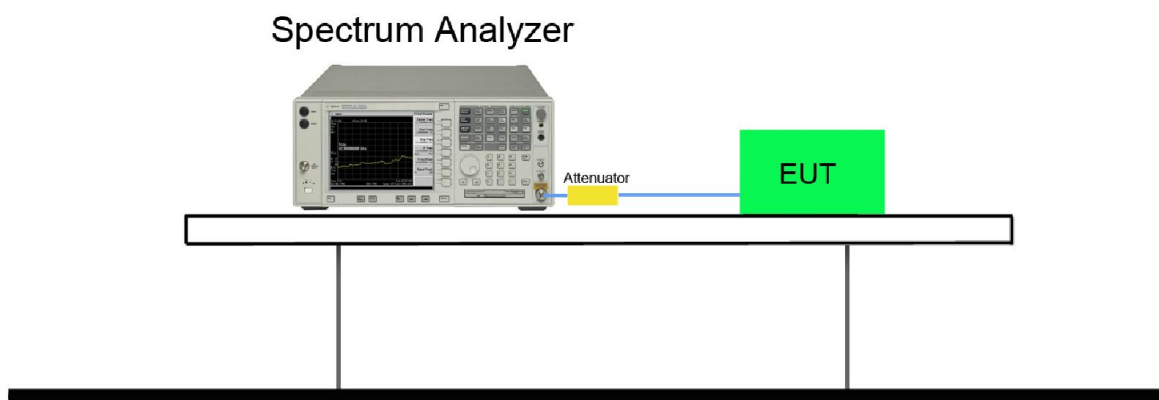
Reference level measurement

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

7.5.4. Test Setup



7.5.5. Test Result

Product	ECG analysis system	Temperature	23°C
Test Engineer	Dandy Li	Relative Humidity	54%
Test Site	TR3	Test Date	2017/11/16
Test Item	Conducted Band Edge and Out-of-Band Emissions		

Test Mode	Data Rate / MCS	Channel No.	Frequency (MHz)	Limit	Result
802.11b	1Mbps	01	2412	20dBc	Pass
802.11b	1Mbps	06	2437	20dBc	Pass
802.11b	1Mbps	11	2462	20dBc	Pass
802.11g	6Mbps	01	2412	20dBc	Pass
802.11g	6Mbps	06	2437	20dBc	Pass
802.11g	6Mbps	11	2462	20dBc	Pass
802.11n-HT20	MCS0	01	2412	20dBc	Pass
802.11n-HT20	MCS0	06	2437	20dBc	Pass
802.11n-HT20	MCS0	11	2462	20dBc	Pass

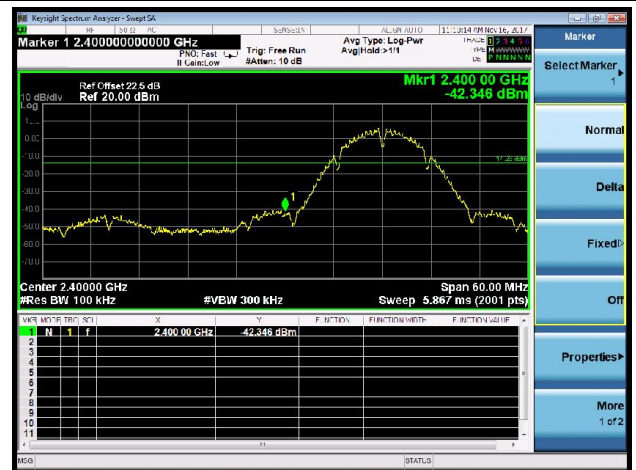
802.11b Out-of-Band Emissions

Channel 01 (2412MHz)

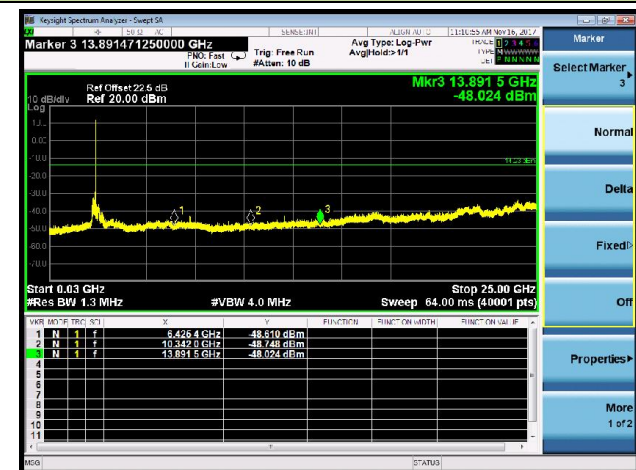
100kHz PSD Reference Level



Low Band Edge



Spurious Emission

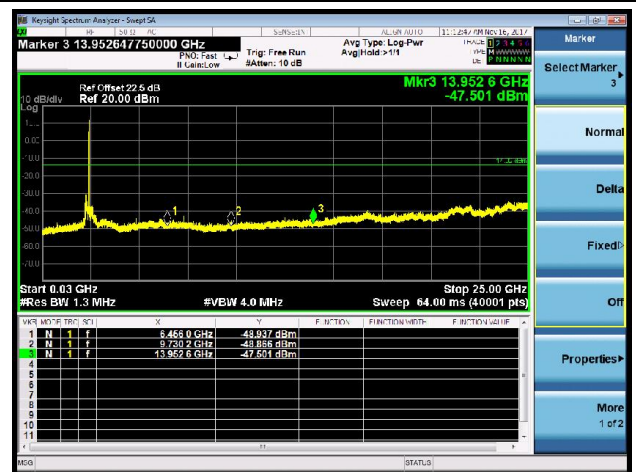


Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission

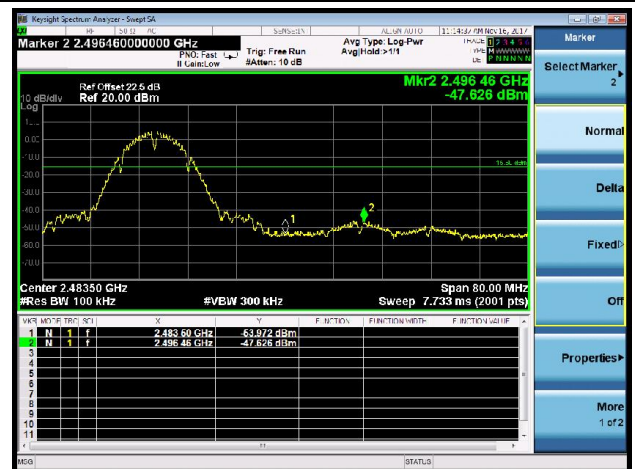


Channel 11 (2462MHz)

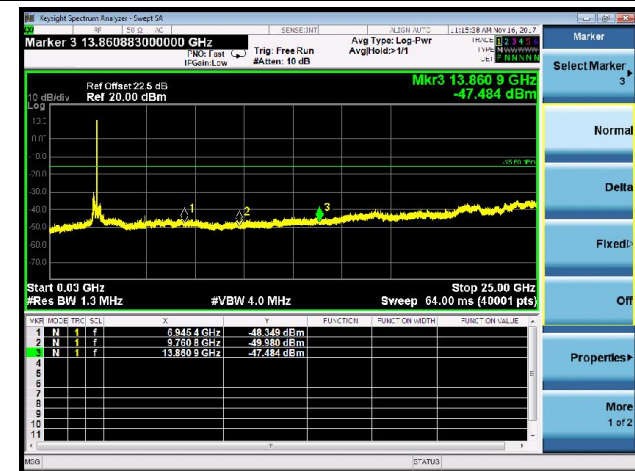
100kHz PSD Reference Level



High Band Edge



Spurious Emission



802.11g Out-of-Band Emissions

Channel 01 (2412MHz)

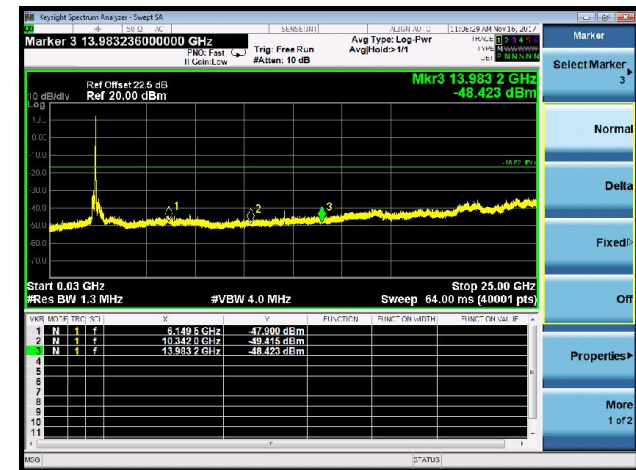
100kHz PSD Reference Level



Low Band Edge



Spurious Emission

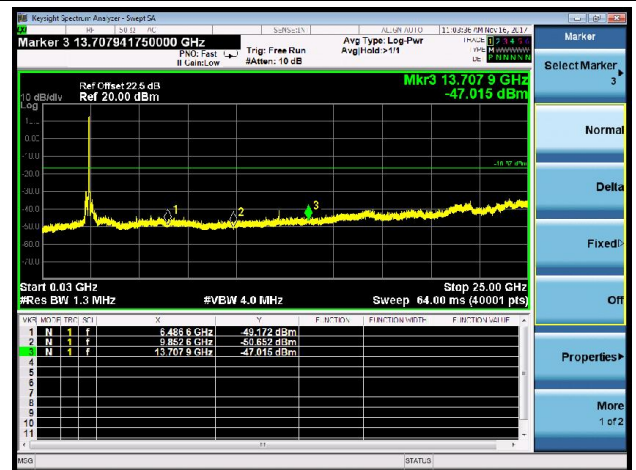


Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission



Channel 11 (2462MHz)

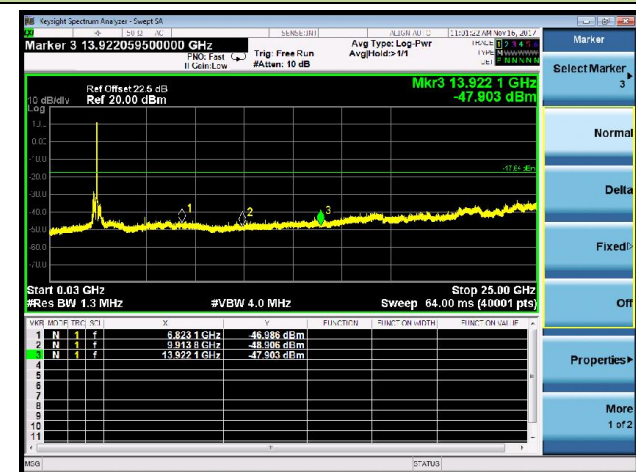
100kHz PSD Reference Level



High Band Edge



Spurious Emission



802.11n-HT20 Out-of-Band Emissions

Channel 01 (2412MHz)

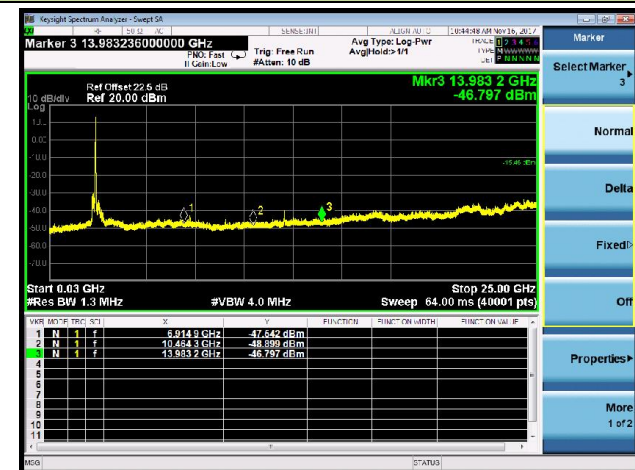
100kHz PSD Reference Level



Low Band Edge

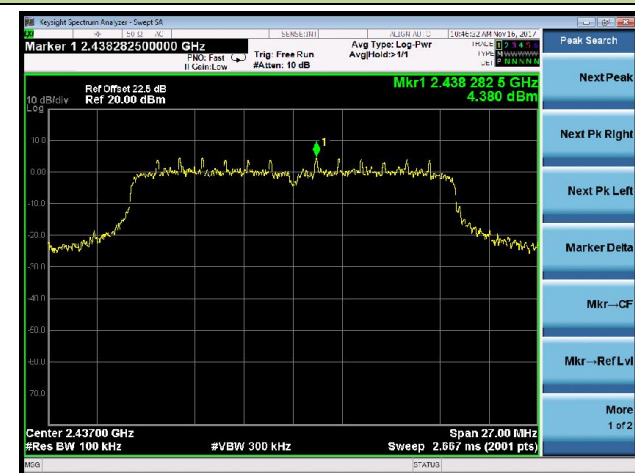


Spurious Emission

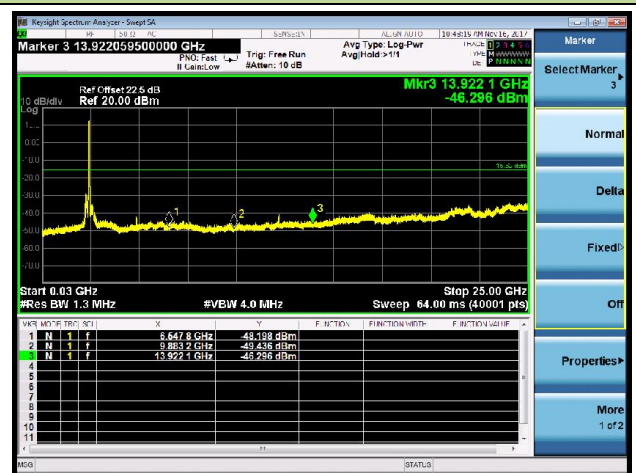


Channel 06 (2437MHz)

100kHz PSD Reference Level

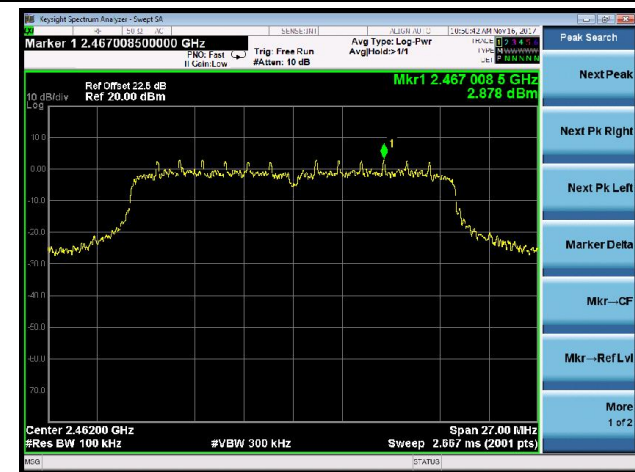


Spurious Emission



Channel 11 (2462MHz)

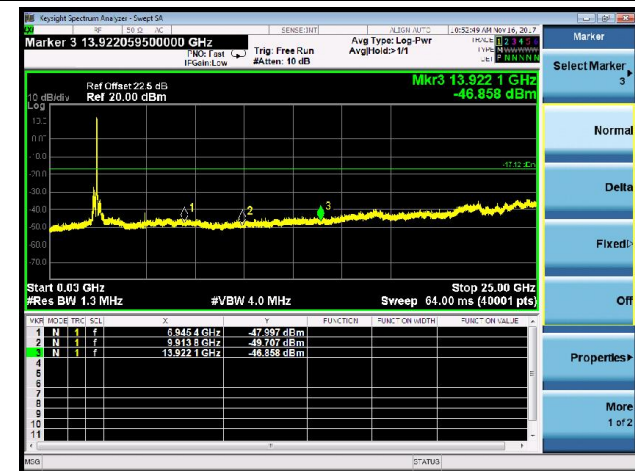
100kHz PSD Reference Level



High Band Edge



Spurious Emission



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

KDB 558074 D01v04 – Section 12.2.3 (quasi-peak measurements)

KDB 558074 D01v04 – Section 12.2.4 (peak power measurements)

KDB 558074 D01v04 – Section 12.2.5 (average power measurements)

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
7. Trace was allowed to stabilize

Table 1 - RBW as a function of frequency

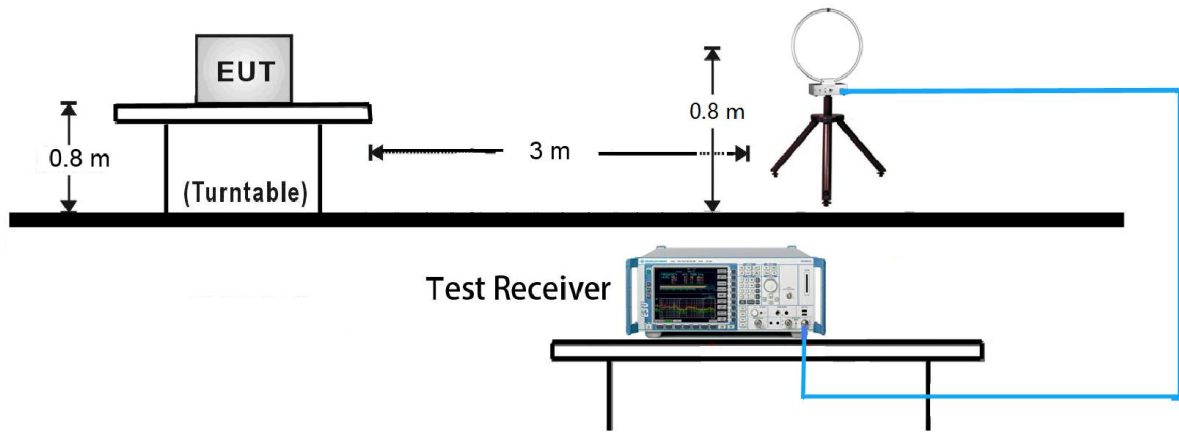
Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000 MHz	1 MHz

Average Field Strength Measurements

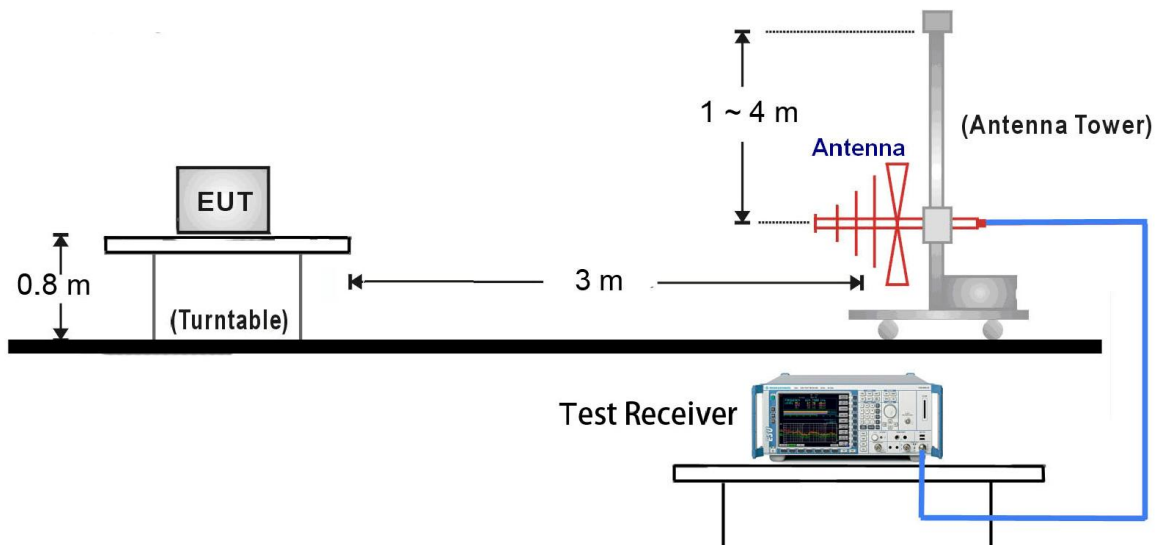
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW $\geq 1/T$
4. De As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). 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

7.6.4. Test Setup

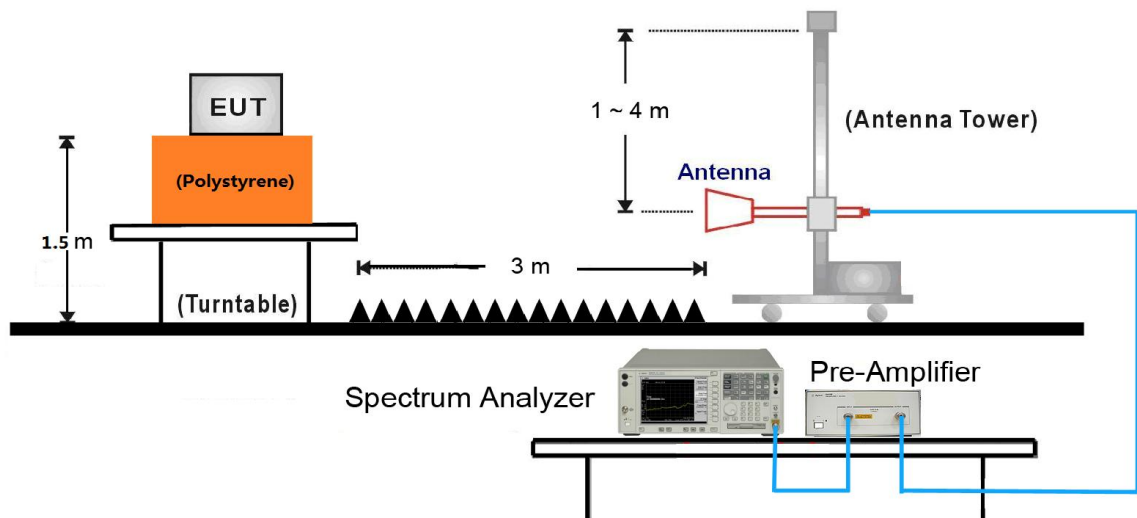
9kHz ~ 30MHz Test Setup:



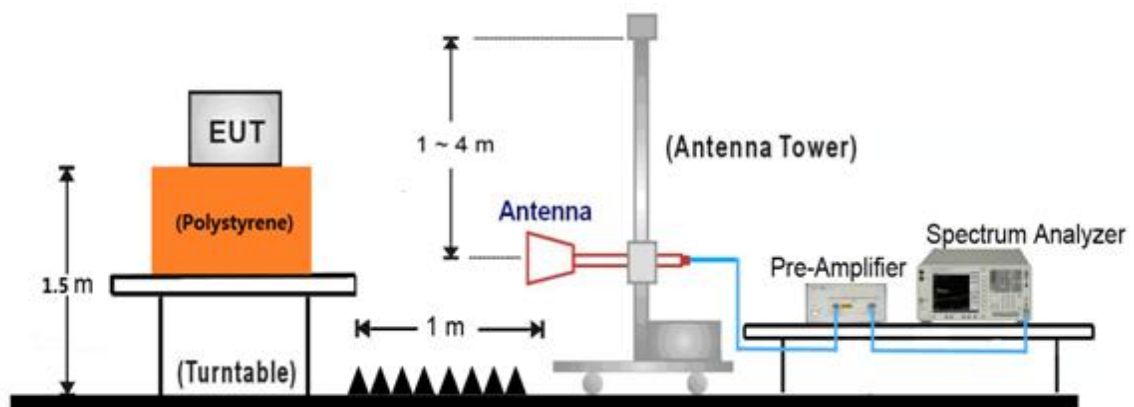
30MHz ~ 1GHz Test Setup:



1GHz ~ 18GHz Test Setup:



18GHz ~ 25GHz Test Setup:



7.6.5. Test Result

Product	ECG analysis system	Temperature	26°C
Test Engineer	Dandy Li	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/16
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
	3983.5	37.1	0.4	37.5	74.0	-36.5	Peak	Horizontal
	4825.0	45.3	2.7	48.0	74.0	-26.0	Peak	Horizontal
*	7239.0	37.6	7.8	45.4	79.7	-34.3	Peak	Horizontal
*	9644.5	35.1	11.0	46.1	79.7	-33.6	Peak	Horizontal
	4094.0	37.3	0.6	37.9	74.0	-36.1	Peak	Vertical
	4825.0	42.7	2.7	45.4	74.0	-28.6	Peak	Vertical
*	6508.0	35.6	6.0	41.6	79.7	-38.1	Peak	Vertical
*	8709.5	35.3	9.0	44.3	79.7	-35.4	Peak	Vertical

Note 1: "*" is not in restricted band, its limit is 30dBc of the fundamental emission level (99.7dBμV/m) or 15.209 which is higher.

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	ECG analysis system	Temperature	26°C
Test Engineer	Dandy Li	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/16
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
	4017.5	37.1	0.4	37.5	74.0	-36.5	Peak	Horizontal
	4876.0	47.6	2.7	50.3	74.0	-23.7	Peak	Horizontal
*	6525.0	35.9	5.9	41.8	81.3	-39.5	Peak	Horizontal
*	8905.0	35.3	9.2	44.5	81.3	-36.8	Peak	Horizontal
	4017.5	37.1	0.4	37.5	74.0	-36.5	Peak	Vertical
	4876.0	43.6	2.7	46.3	74.0	-27.7	Peak	Vertical
*	6499.5	36.1	6.0	42.1	81.3	-39.2	Peak	Vertical
*	8599.0	35.4	8.7	44.1	81.3	-37.2	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (101.3dBμV/m) or 15.209 which is higher.

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	ECG analysis system	Temperature	26°C
Test Engineer	Dandy Li	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/16
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
	4102.5	36.5	0.7	37.2	74.0	-36.8	Peak	Horizontal
	4927.0	42.2	2.8	45.0	74.0	-29.0	Peak	Horizontal
*	6499.5	34.5	6.0	40.5	80.5	-40.0	Peak	Horizontal
*	8837.0	35.6	9.1	44.7	80.5	-35.8	Peak	Horizontal
	3983.5	36.7	0.4	37.1	74.0	-36.9	Peak	Vertical
	4927.0	36.3	2.8	39.1	74.0	-34.9	Peak	Vertical
*	6508.0	35.2	6.0	41.2	80.5	-39.3	Peak	Vertical
*	8650.0	35.2	8.8	44.0	80.5	-36.5	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (100.5dBμV/m) or 15.209 which is higher.

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	ECG analysis system	Temperature	26°C
Test Engineer	Dandy Li	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/16
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
	4060.0	38.0	0.5	38.5	74.0	-35.5	Peak	Horizontal
	4825.0	46.0	2.7	48.7	74.0	-25.3	Peak	Horizontal
*	6423.0	36.1	5.6	41.7	80.0	-38.3	Peak	Horizontal
*	8684.0	36.2	9.0	45.2	80.0	-34.8	Peak	Horizontal
	4136.5	36.8	0.7	37.5	74.0	-36.5	Peak	Vertical
	4825.0	43.5	2.7	46.2	74.0	-27.8	Peak	Vertical
*	6584.5	35.3	6.0	41.3	80.0	-38.7	Peak	Vertical
*	8913.5	35.3	9.1	44.4	80.0	-35.6	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (100.0dBμV/m) or 15.209 which is higher.

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	ECG analysis system	Temperature	26°C
Test Engineer	Dandy Li	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/16
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
	4876.0	48.5	2.7	51.2	74.0	-22.8	Peak	Horizontal
	7315.5	36.3	8.0	44.3	74.0	-29.7	Peak	Horizontal
*	8573.5	35.8	8.7	44.5	81.5	-37.0	Peak	Horizontal
*	9899.5	34.9	11.6	46.5	81.5	-35.0	Peak	Horizontal
	4876.0	43.3	2.7	46.0	74.0	-28.0	Peak	Vertical
	7460.0	36.9	8.1	45.0	74.0	-29.0	Peak	Vertical
*	8854.0	35.5	9.1	44.6	81.5	-36.9	Peak	Vertical
*	10001.5	35.8	11.4	47.2	81.5	-34.3	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (101.5dBμV/m) or 15.209 which is higher.

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	ECG analysis system	Temperature	26°C
Test Engineer	Dandy Li	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/16
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
	4043.0	37.4	0.5	37.9	74.0	-36.1	Peak	Horizontal
	4918.5	43.4	2.8	46.2	74.0	-27.8	Peak	Horizontal
*	6474.0	35.0	5.8	40.8	78.9	-38.1	Peak	Horizontal
*	8879.5	35.5	9.2	44.7	78.9	-34.2	Peak	Horizontal
	4077.0	36.6	0.6	37.2	74.0	-36.8	Peak	Vertical
	4927.0	41.9	2.8	44.7	74.0	-29.3	Peak	Vertical
*	7800.0	35.4	8.4	43.8	78.9	-35.1	Peak	Vertical
*	8930.5	36.1	9.0	45.1	78.9	-33.8	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (98.9dBμV/m) or 15.209 which is higher.

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	ECG analysis system	Temperature	26°C
Test Engineer	Dandy Li	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/16
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
	4043.0	36.3	0.5	36.8	74.0	-37.2	Peak	Horizontal
	4825.0	46.6	2.7	49.3	74.0	-24.7	Peak	Horizontal
*	6644.0	34.9	6.0	40.9	81.1	-40.2	Peak	Horizontal
*	8760.5	35.0	9.0	44.0	81.1	-37.1	Peak	Horizontal
	4009.0	36.4	0.4	36.8	74.0	-37.2	Peak	Vertical
	4825.0	39.9	2.7	42.6	74.0	-31.4	Peak	Vertical
*	6542.0	35.4	5.9	41.3	81.1	-39.8	Peak	Vertical
*	8845.5	34.7	9.1	43.8	81.1	-37.3	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (101.1dBμV/m) or 15.209 which is higher.

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	ECG analysis system	Temperature	26°C
Test Engineer	Dandy Li	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/16
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
	4026.0	36.6	0.4	37.0	74.0	-37.0	Peak	Horizontal
	4876.0	50.2	2.7	52.9	74.0	-21.1	Peak	Horizontal
*	6516.5	35.0	6.0	41.0	81.9	-40.9	Peak	Horizontal
*	8531.0	36.1	8.4	44.5	81.9	-37.4	Peak	Horizontal
	4068.5	36.3	0.6	36.9	74.0	-37.1	Peak	Vertical
	4876.0	39.9	2.7	42.6	74.0	-31.4	Peak	Vertical
*	6550.5	34.6	5.9	40.5	81.9	-41.4	Peak	Vertical
*	8837.0	35.5	9.1	44.6	81.9	-37.3	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (101.9dBμV/m) or 15.209 which is higher.

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	ECG analysis system	Temperature	26°C
Test Engineer	Dandy Li	Relative Humidity	56%
Test Site	AC1	Test Date	2017/11/16
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
	4034.5	36.7	0.5	37.2	74.0	-36.8	Peak	Horizontal
	4910.0	42.8	2.7	45.5	74.0	-28.5	Peak	Horizontal
*	6899.0	36.6	6.5	43.1	79.8	-36.7	Peak	Horizontal
*	9636.0	35.4	11.0	46.4	79.8	-33.4	Peak	Horizontal
	3907.0	42.0	0.2	42.2	74.0	-31.8	Peak	Vertical
	4927.0	41.7	2.8	44.5	74.0	-29.5	Peak	Vertical
*	6550.5	36.1	5.9	42.0	79.8	-37.8	Peak	Vertical
*	8820.0	34.4	9.0	43.4	79.8	-36.4	Peak	Vertical

Note 1: “*” is not in restricted band, its limit is 30dBc of the fundamental emission level (99.8dBμV/m) or 15.209 which is higher.

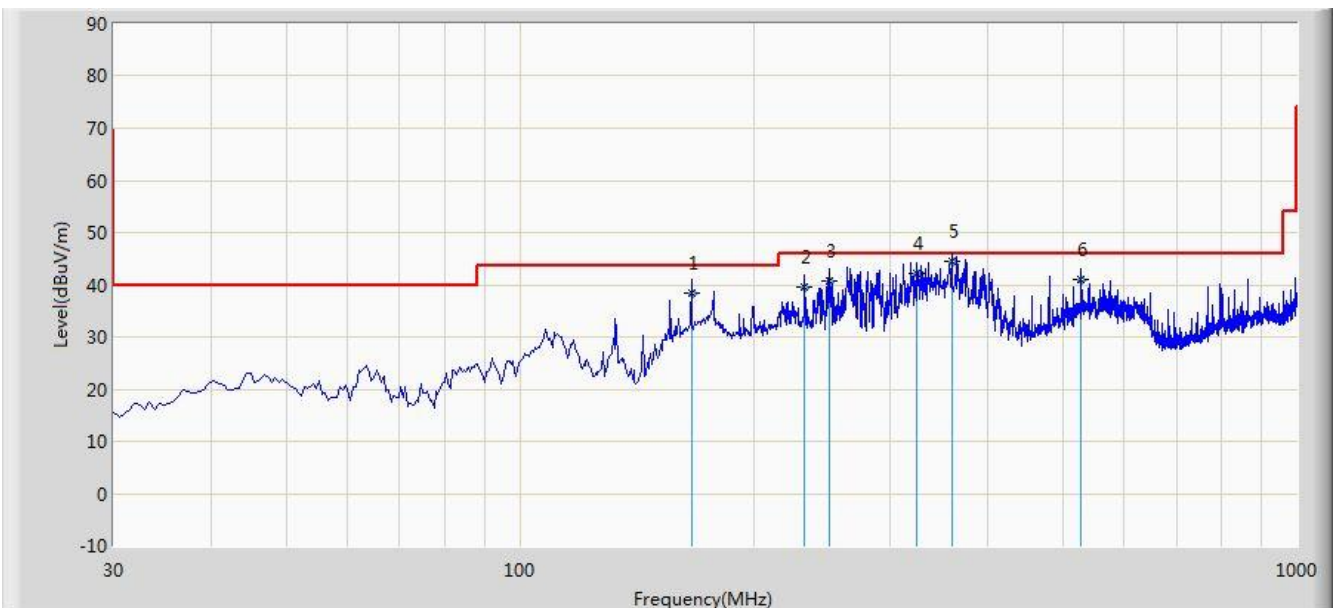
Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

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

The worst case of Radiated Emission below 1GHz:

Site: AC1	Time: 2017/11/20 - 18:23
Limit: FCC_Part15.209_RE(3m)	Engineer: Bacon Dong
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz

Note: There is the worst case within frequency range 30MHz~1GHz.



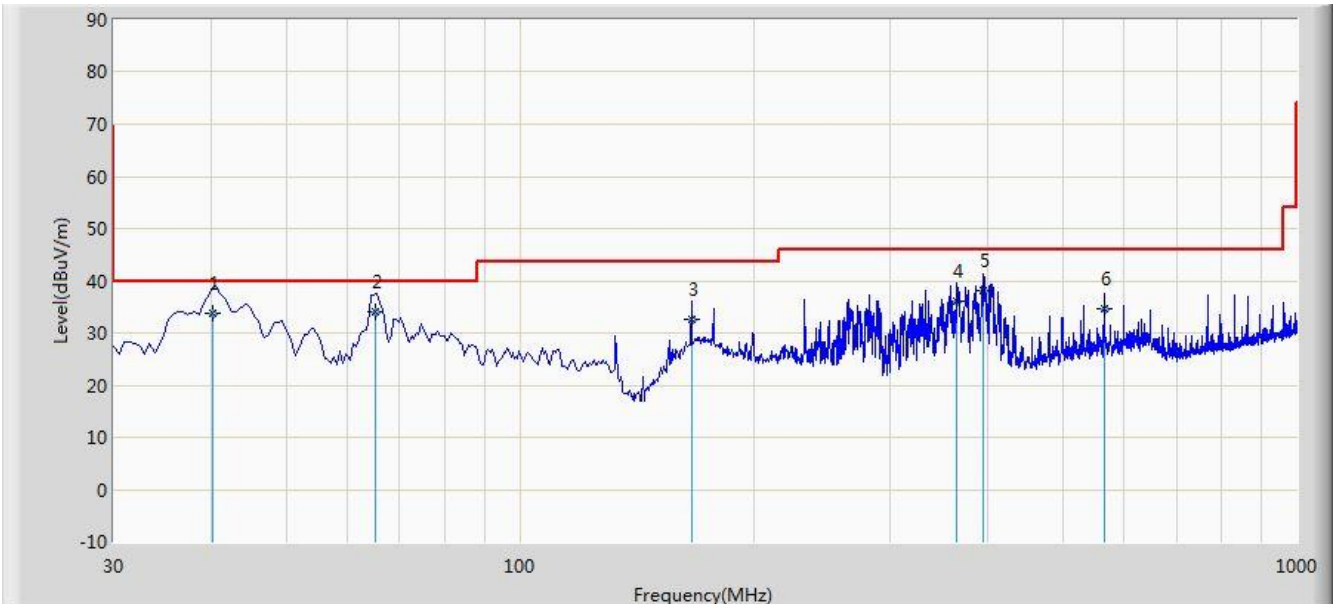
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			166.285	38.545	28.448	-4.955	43.500	10.097	QP
2			232.670	39.659	26.483	-6.341	46.000	13.176	QP
3			250.140	40.812	27.118	-5.188	46.000	13.694	QP
4			323.940	42.285	27.083	-3.715	46.000	15.202	QP
5		*	360.027	44.412	28.400	-1.588	46.000	16.012	QP
6			528.047	40.928	22.176	-5.072	46.000	18.752	QP

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

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

Note 2: 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.

Site: AC1	Time: 2017/11/20 - 18:32
Limit: FCC_Part15.209_RE(3m)	Engineer: Bacon Dong
Probe: VULB9162_0.03-8GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Note: There is the worst case within frequency range 30MHz~1GHz.	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Margin (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			40.263	33.743	19.830	-6.257	40.000	13.914	QP
2		*	65.072	33.984	21.449	-6.016	40.000	12.535	QP
3			166.273	32.536	22.439	-10.964	43.500	10.097	QP
4			365.280	36.208	20.117	-9.792	46.000	16.092	QP
5			395.690	38.138	21.483	-7.862	46.000	16.654	QP
6			564.975	34.553	15.073	-11.447	46.000	19.480	QP

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

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

Note 2: 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

KDB 558074 D01v04 - Section 12.2.4 (peak power measurements)

KDB 558074 D01v04 - Section 13.3.3 (average power measurements)

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 = as specified in Table 1
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

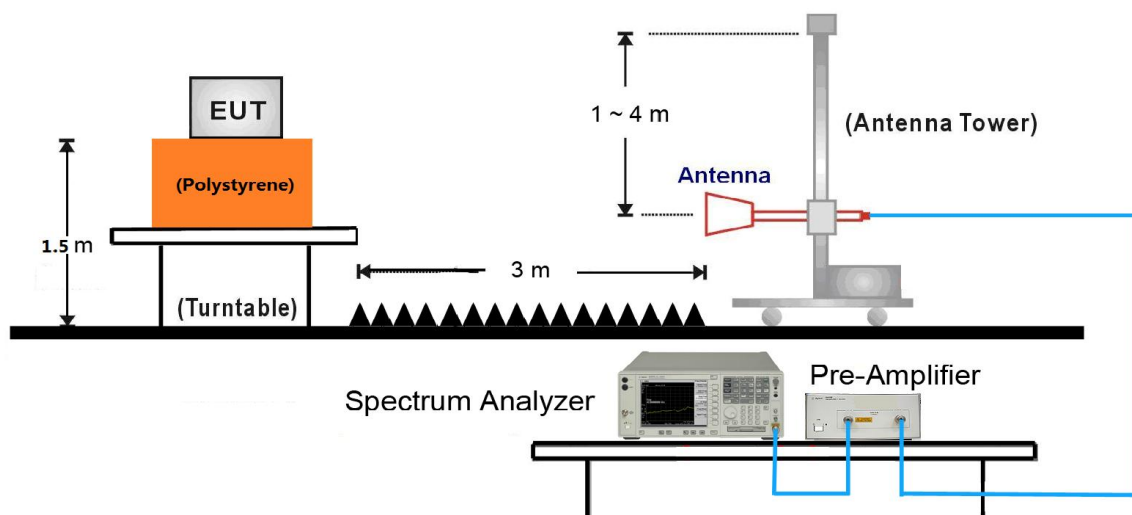
Table 1 - RBW as a function of frequency

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

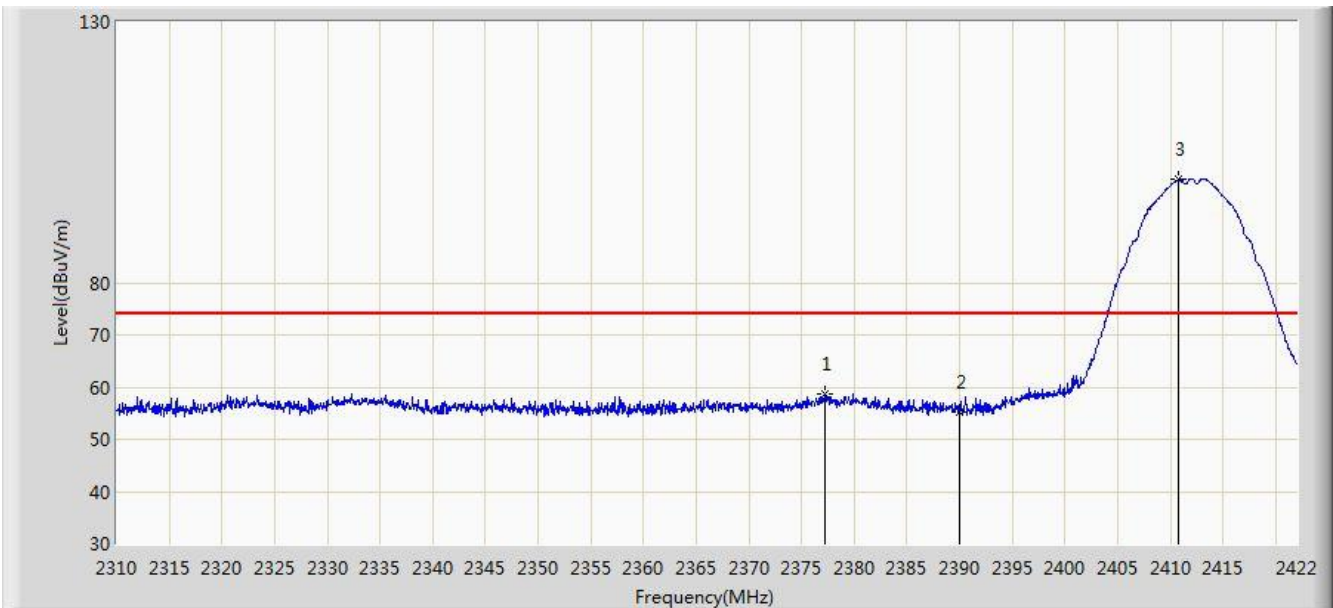
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW $\geq 1/T$
4. De As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). 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

7.7.4.Test Setup



7.7.5.Test Result

Site: AC1	Time: 2017/11/16 - 21:59
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2412MHz	

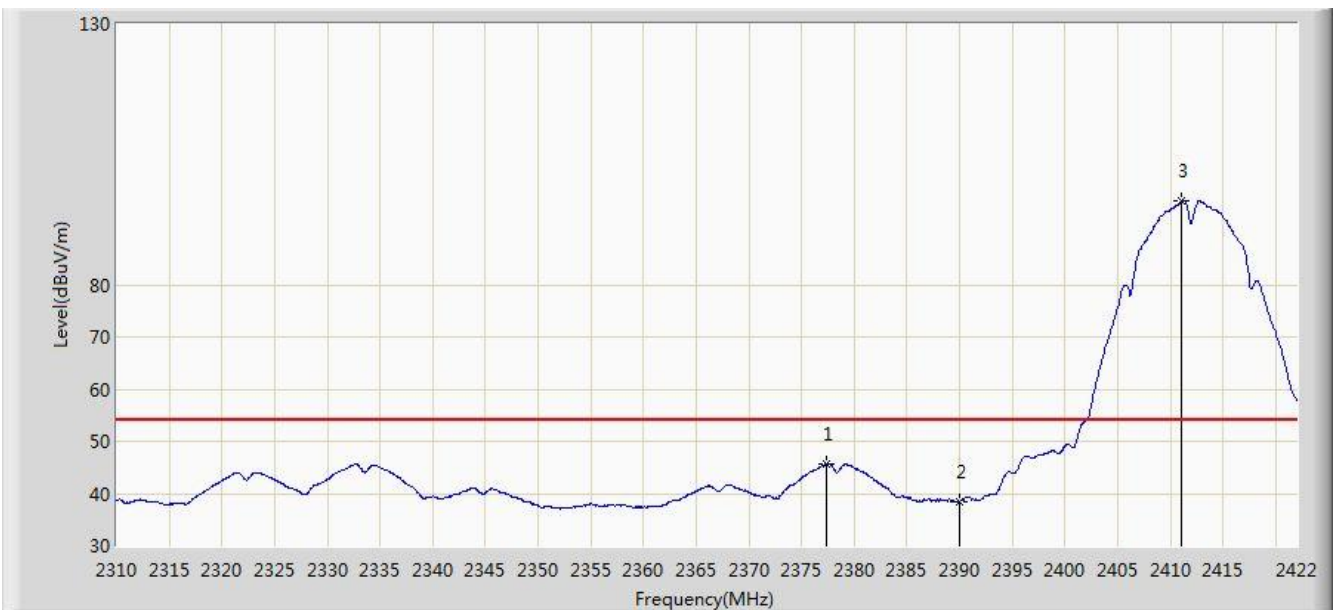


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2377.256	58.613	27.387	-15.387	74.000	31.226	PK
2			2390.000	55.260	24.057	-18.740	74.000	31.203	PK
3		*	2410.800	99.724	68.552	N/A	N/A	31.172	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:02
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2412MHz	

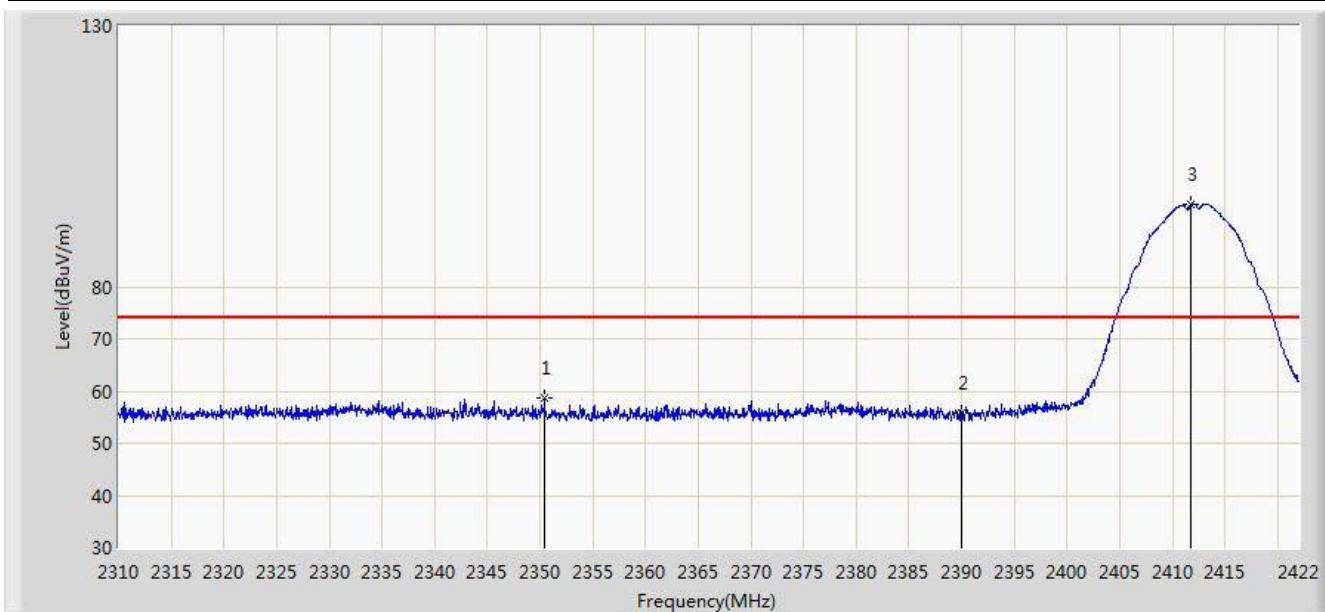


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2377.424	45.692	14.466	-8.308	54.000	31.225	AV
2			2390.000	38.436	7.233	-15.564	54.000	31.203	AV
3		*	2411.080	96.052	64.881	N/A	N/A	31.171	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:02
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2412MHz	

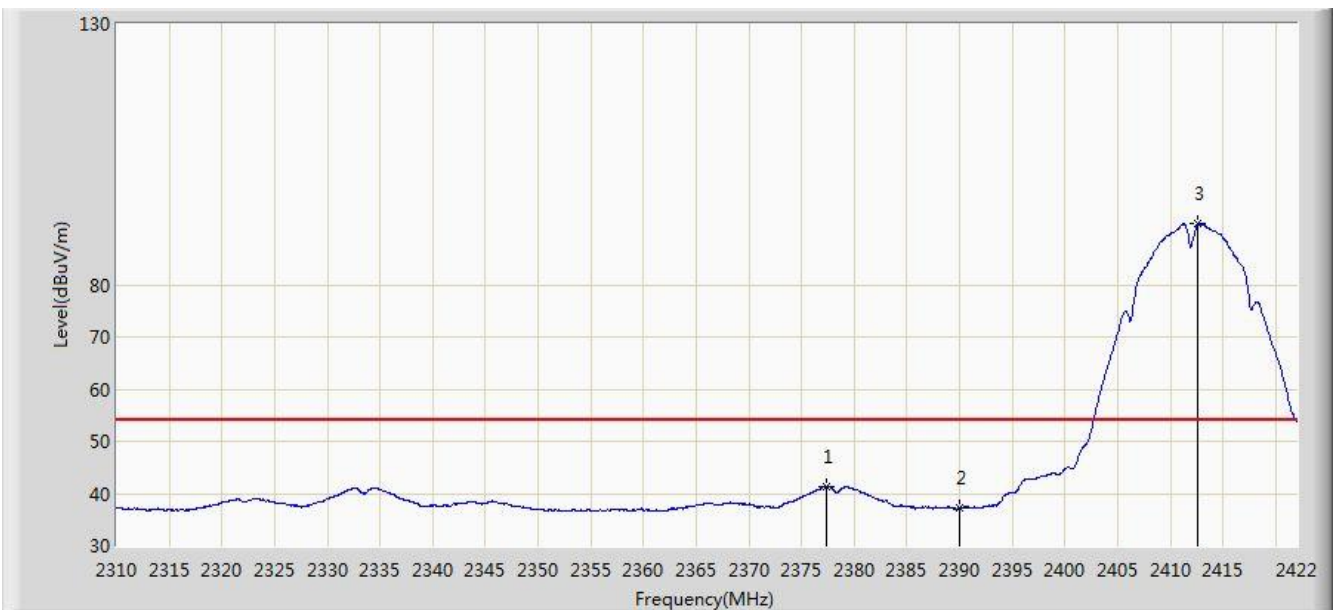


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2350.432	58.612	27.321	-15.388	74.000	31.290	PK
2			2390.000	55.847	24.644	-18.153	74.000	31.203	PK
3		*	2411.808	95.693	64.523	N/A	N/A	31.170	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2412MHz	

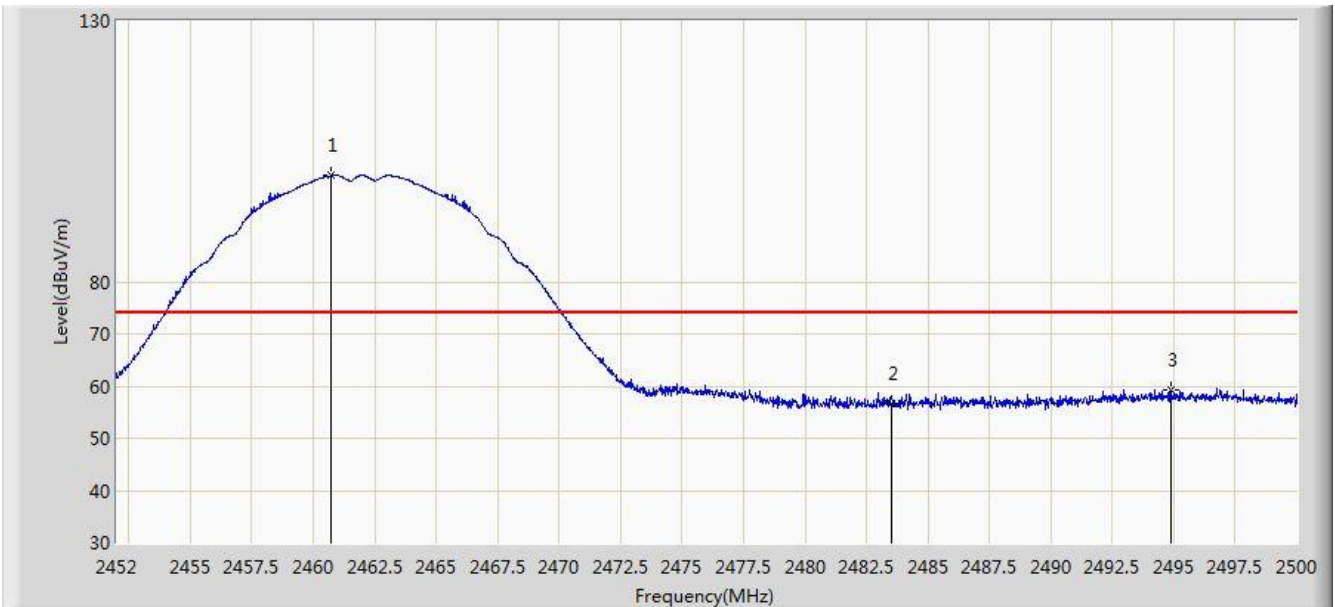


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2377.424	41.355	10.129	-12.645	54.000	31.225	AV
2			2390.000	37.283	6.080	-16.717	54.000	31.203	AV
3		*	2412.648	91.684	60.516	N/A	N/A	31.168	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:05
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2462MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2460.712	100.471	69.338	N/A	N/A	31.133	PK
2			2483.500	56.793	25.600	-17.207	74.000	31.194	PK
3			2494.864	59.193	27.970	-14.807	74.000	31.223	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:09
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2462MHz	

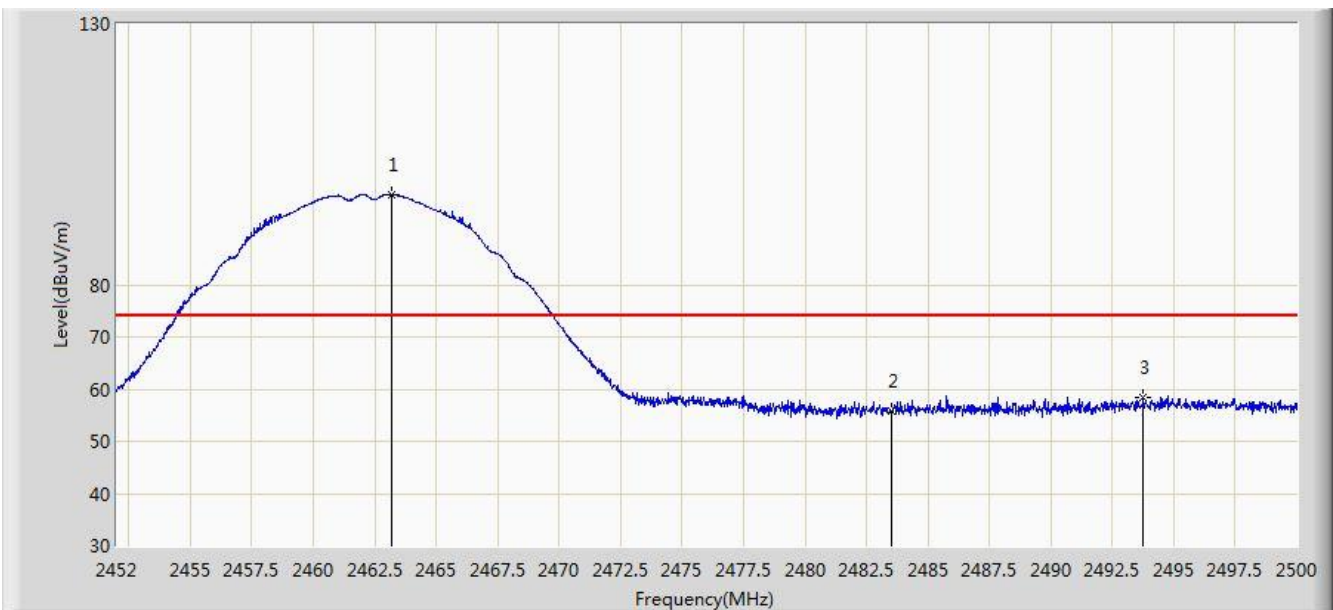


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2461.312	97.048	65.914	N/A	N/A	31.134	AV
2			2483.500	39.354	8.161	-14.646	54.000	31.194	AV
3			2494.672	46.244	15.021	-7.756	54.000	31.223	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:09
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2462MHz	

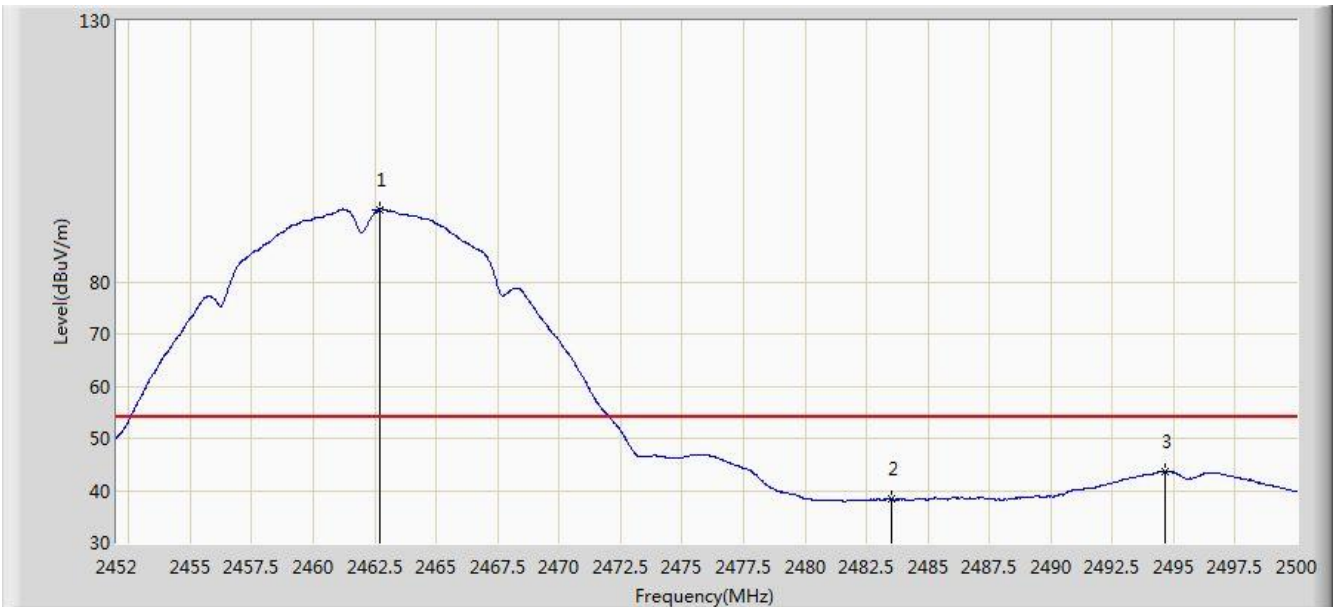


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2463.184	97.285	66.147	N/A	N/A	31.137	PK
2			2483.500	55.755	24.562	-18.245	74.000	31.194	PK
3			2493.760	58.430	27.210	-15.570	74.000	31.220	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:11
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at channel 2462MHz	

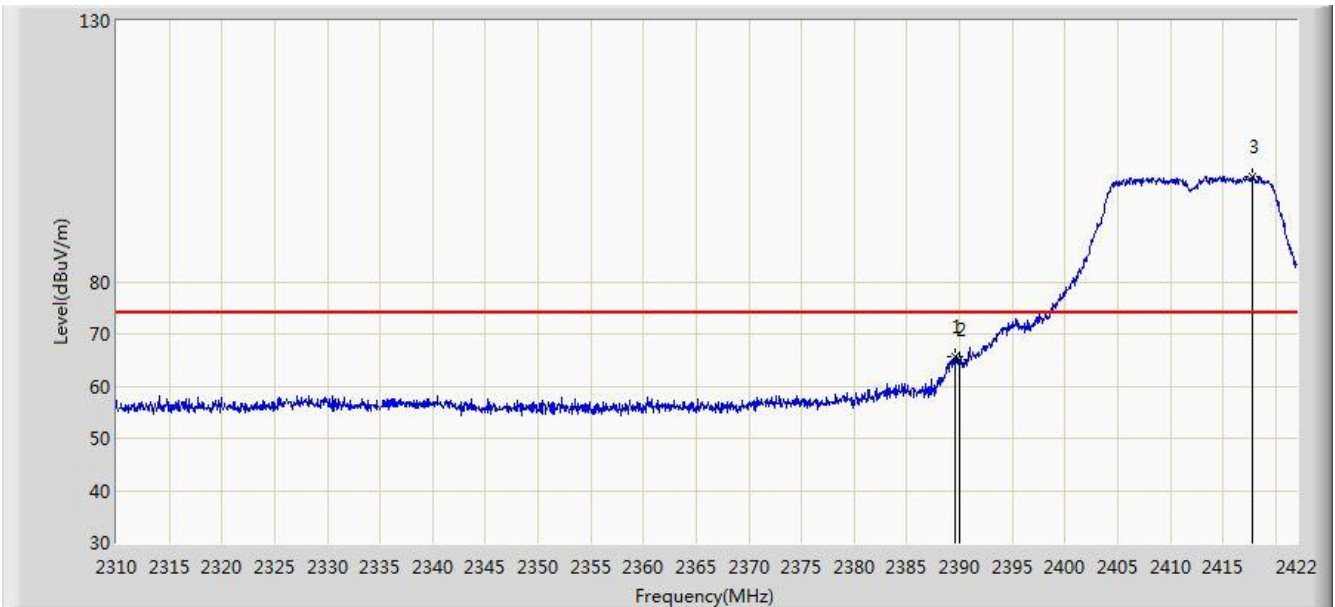


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2462.680	93.845	62.708	N/A	N/A	31.137	AV
2			2483.500	38.365	7.172	-15.635	54.000	31.194	AV
3			2494.672	43.623	12.400	-10.377	54.000	31.223	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:12
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at channel 2412MHz	

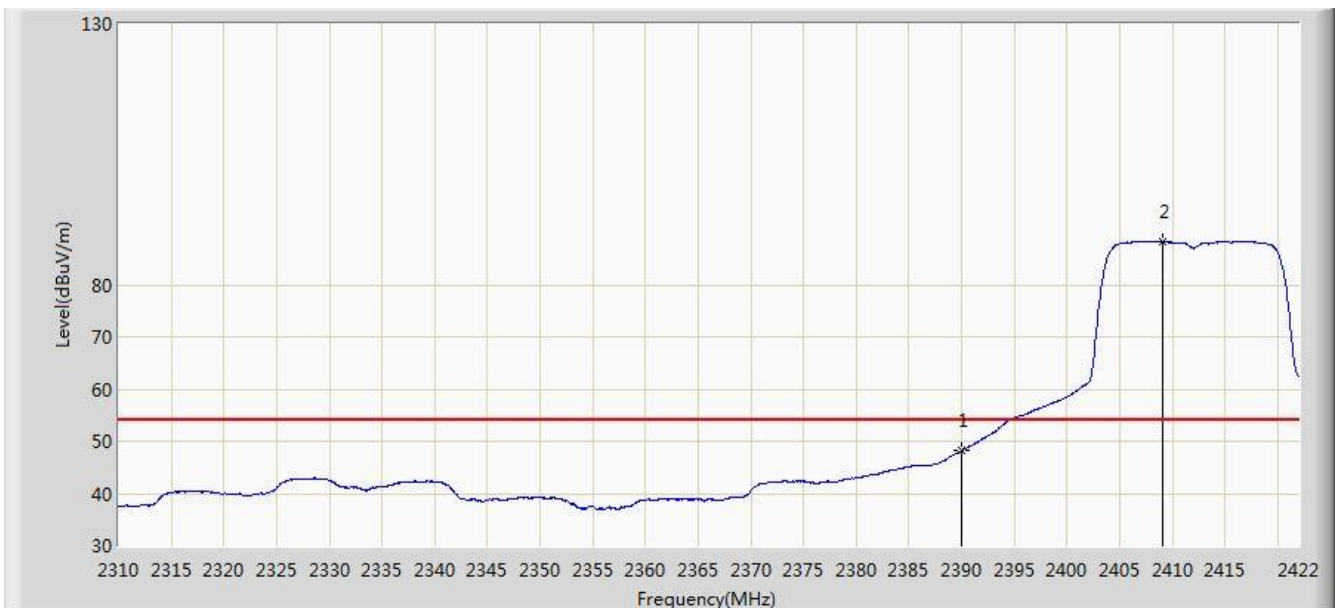


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.632	65.634	34.431	-8.366	74.000	31.204	PK
2			2390.000	64.957	33.754	-9.043	74.000	31.203	PK
3		*	2417.800	100.037	68.877	N/A	N/A	31.159	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:15
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at channel 2412MHz	

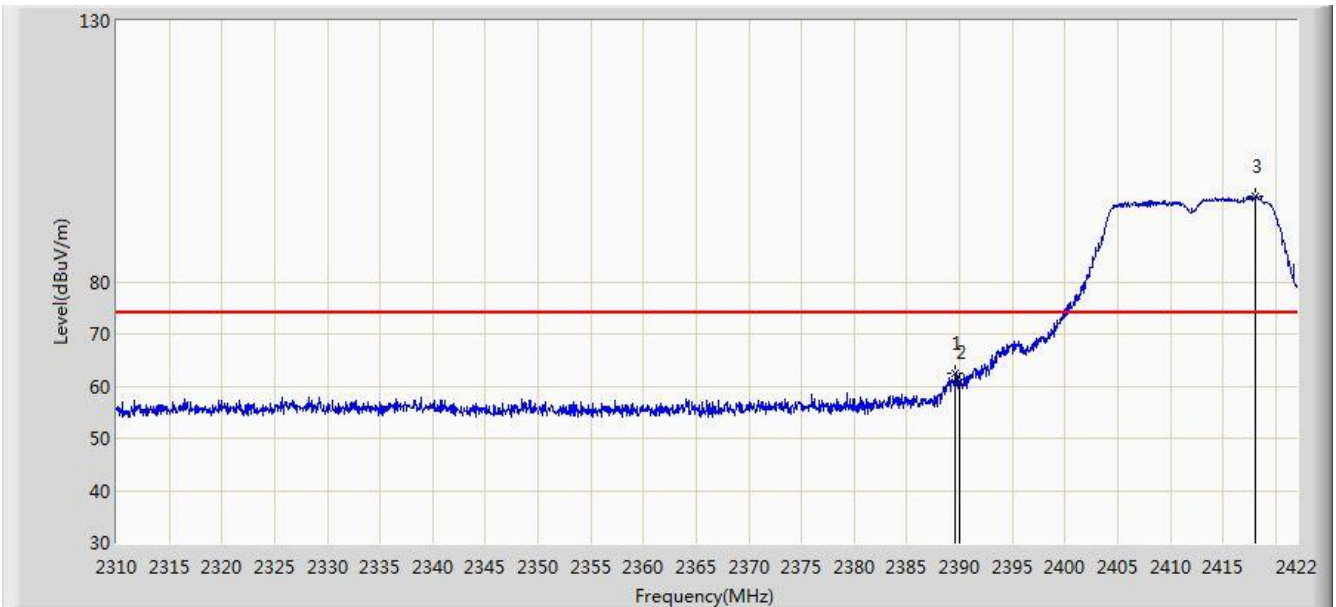


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	48.178	16.975	-5.822	54.000	31.203	AV
2		*	2409.064	88.165	56.991	N/A	N/A	31.174	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:16
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at channel 2412MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.632	62.395	31.192	-11.605	74.000	31.204	PK
2			2390.000	60.799	29.596	-13.201	74.000	31.203	PK
3		*	2418.136	96.366	65.207	N/A	N/A	31.159	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:17
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at channel 2412MHz	

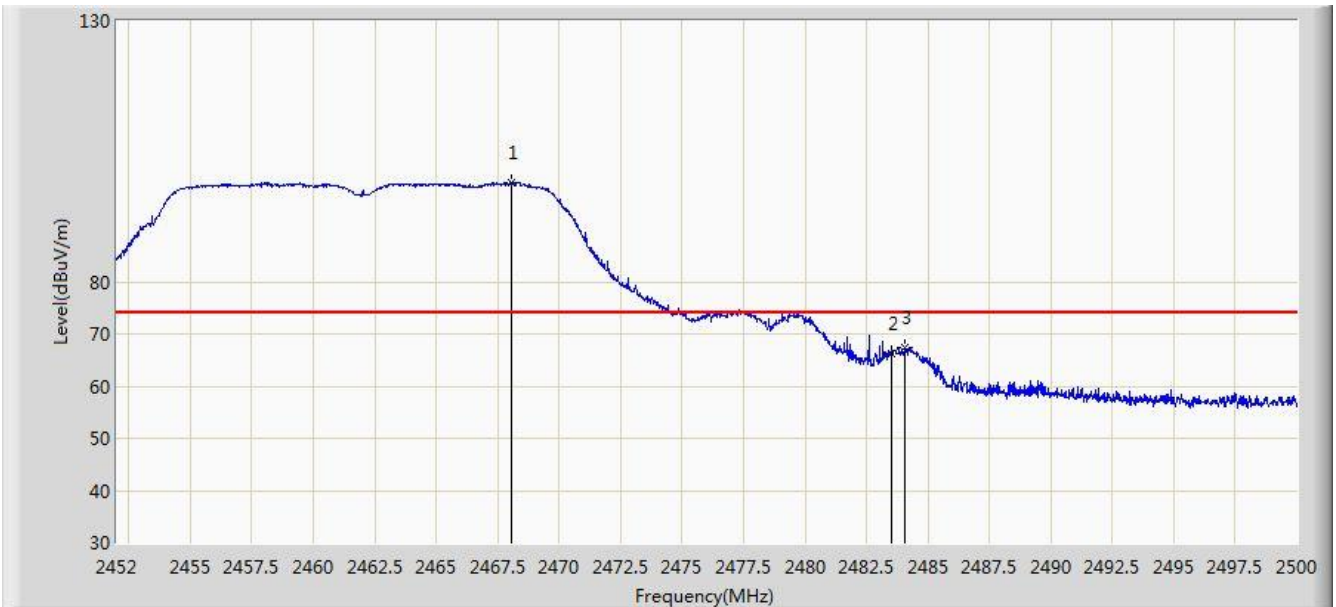


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	44.687	13.484	-9.313	54.000	31.203	AV
2		*	2415.672	85.322	54.159	N/A	N/A	31.163	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:18
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at channel 2462MHz	

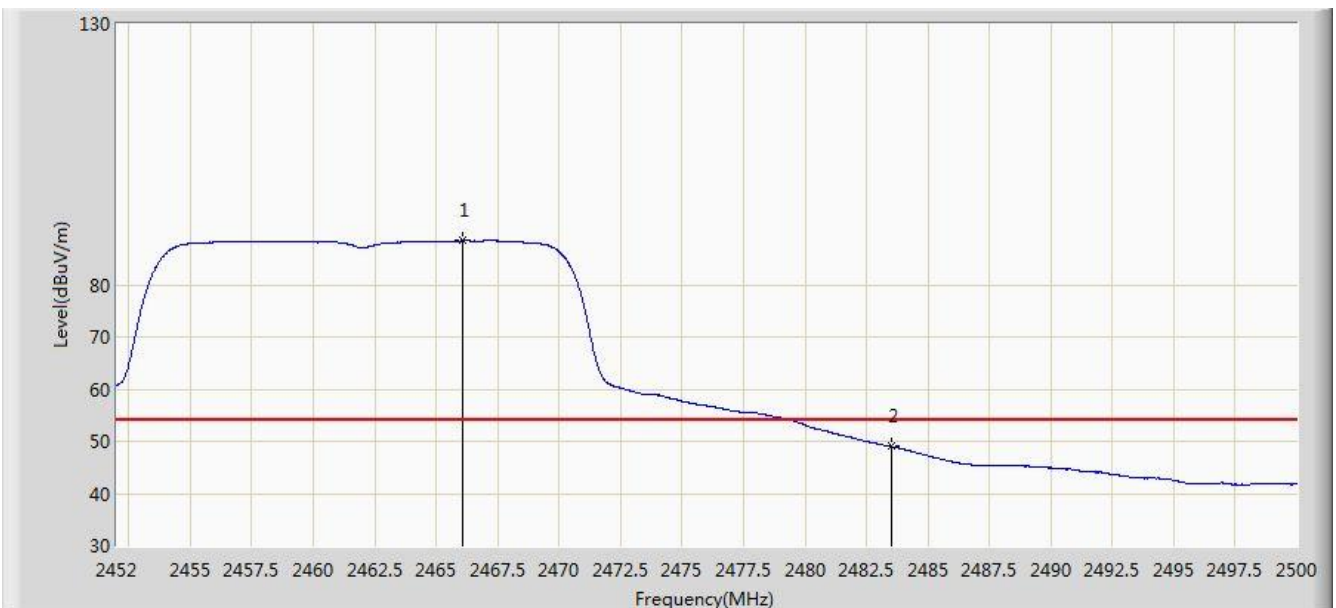


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2468.032	98.909	67.758	N/A	N/A	31.151	PK
2			2483.500	66.315	35.122	-7.685	74.000	31.194	PK
3			2484.088	67.267	36.072	-6.733	74.000	31.195	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:20
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at channel 2462MHz	

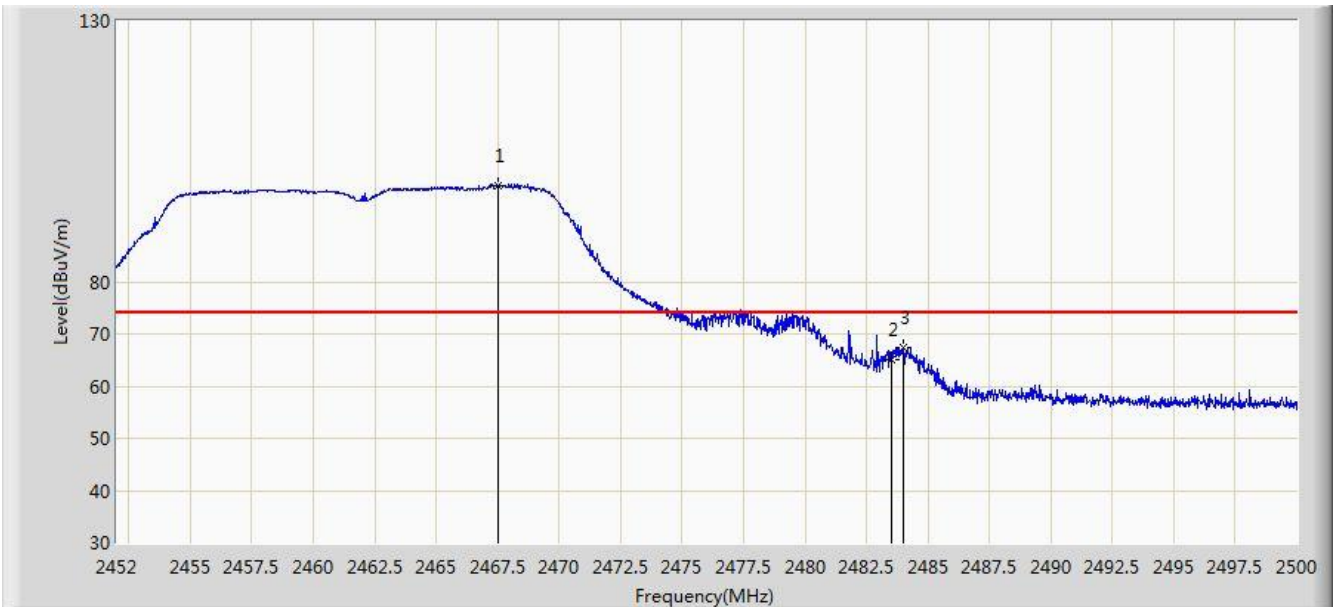


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2466.088	88.416	57.271	N/A	N/A	31.145	AV
2			2483.500	48.996	17.803	-5.004	54.000	31.194	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:20
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at channel 2462MHz	

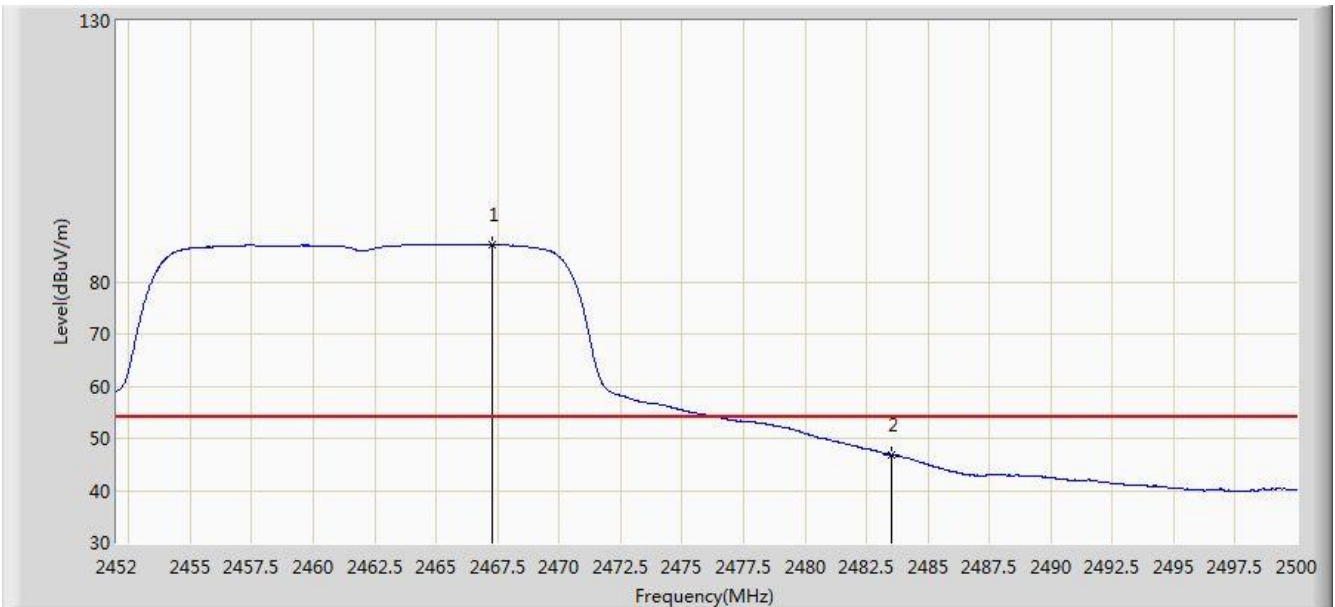


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2467.504	98.524	67.375	N/A	N/A	31.150	PK
2			2483.500	65.124	33.931	-8.876	74.000	31.194	PK
3			2483.992	67.515	36.320	-6.485	74.000	31.195	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:22
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at channel 2462MHz	

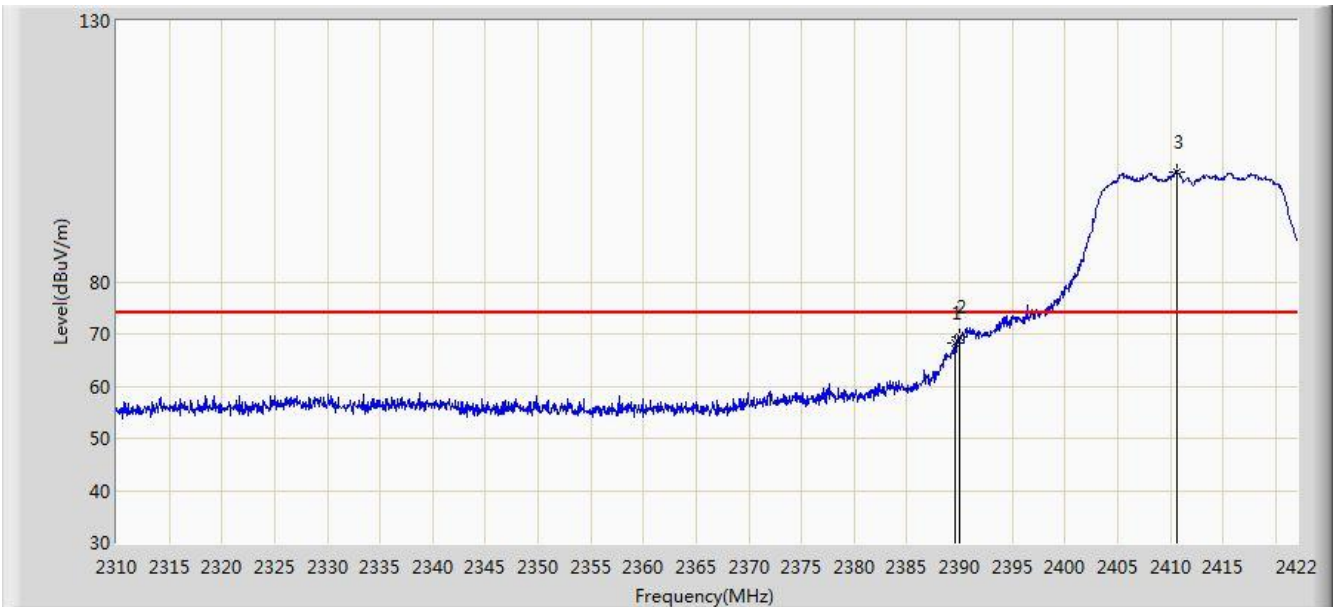


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2467.288	87.183	56.034	N/A	N/A	31.148	AV
2			2483.500	46.921	15.728	-7.079	54.000	31.194	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:23
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

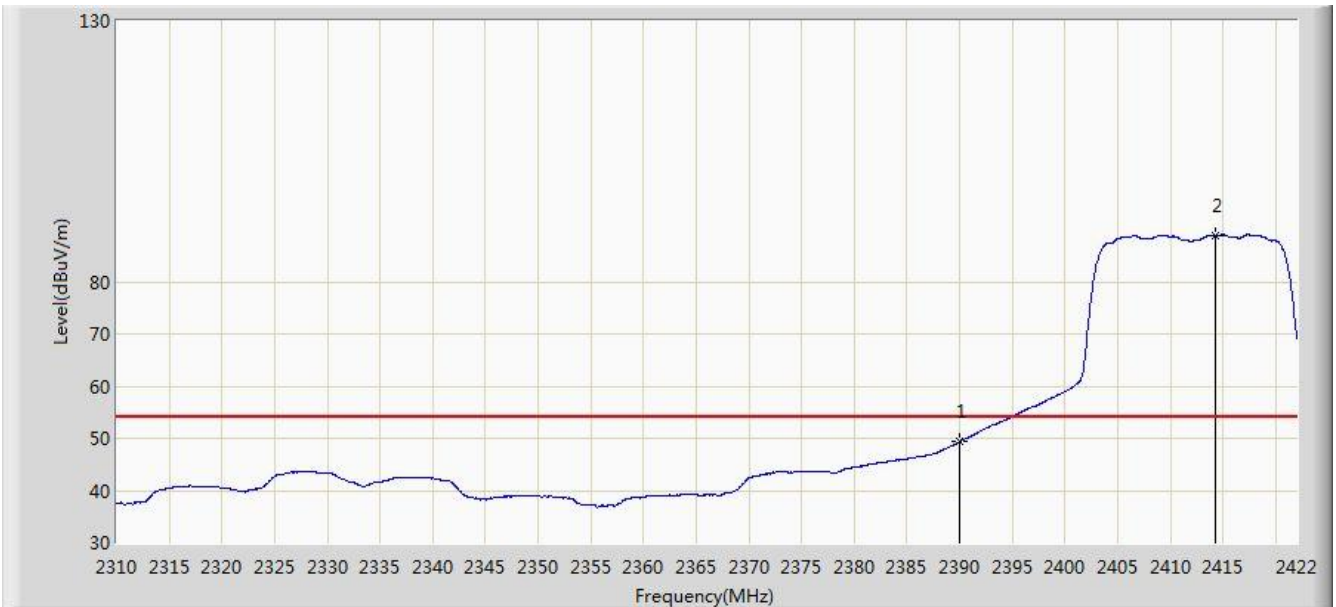


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.576	68.375	37.171	-5.625	74.000	31.204	PK
2			2390.000	69.373	38.170	-4.627	74.000	31.203	PK
3		*	2410.632	101.099	69.927	N/A	N/A	31.172	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:26
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

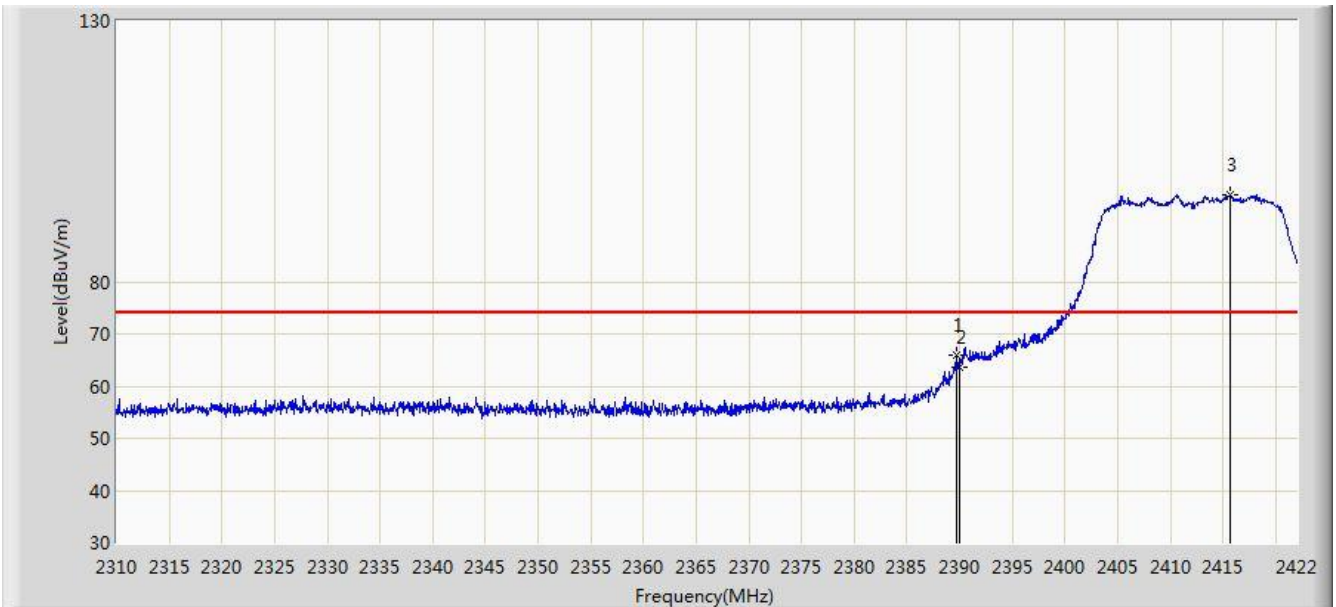


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	49.378	18.175	-4.622	54.000	31.203	AV
2		*	2414.328	88.857	57.691	N/A	N/A	31.165	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:26
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2389.744	65.801	34.598	-8.199	74.000	31.203	PK
2			2390.000	63.679	32.476	-10.321	74.000	31.203	PK
3		*	2415.728	96.732	65.569	N/A	N/A	31.163	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2412MHz	

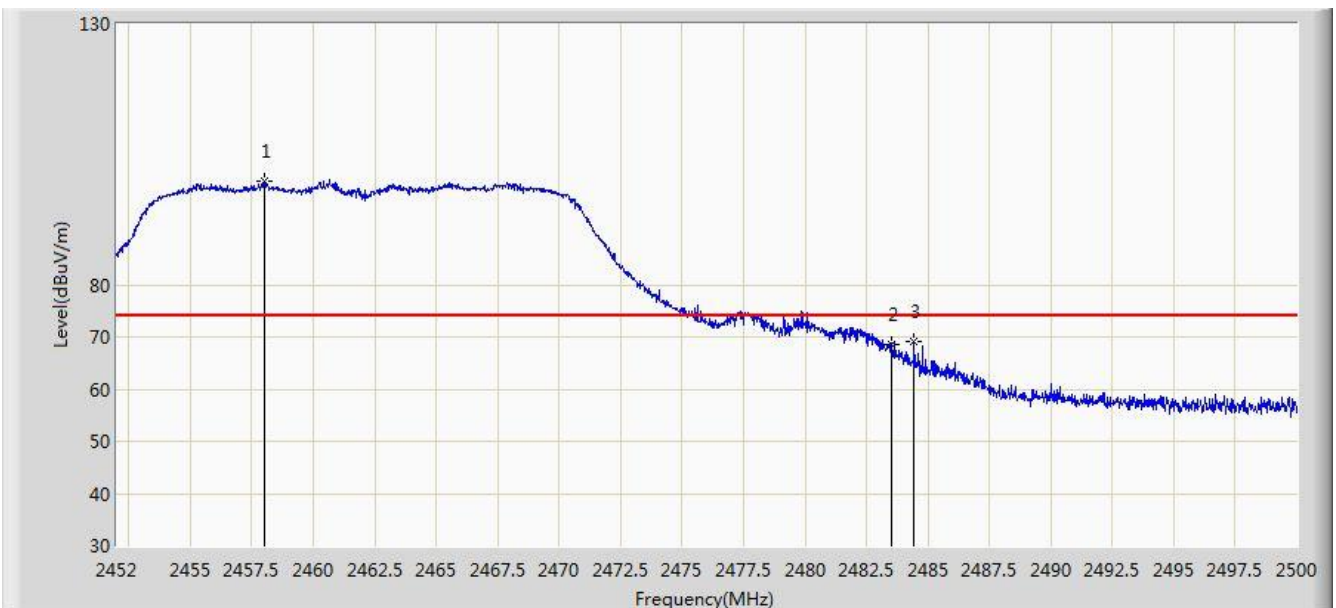


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			2390.000	45.737	14.534	-8.263	54.000	31.203	AV
2		*	2417.912	84.834	53.675	N/A	N/A	31.159	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:28
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	

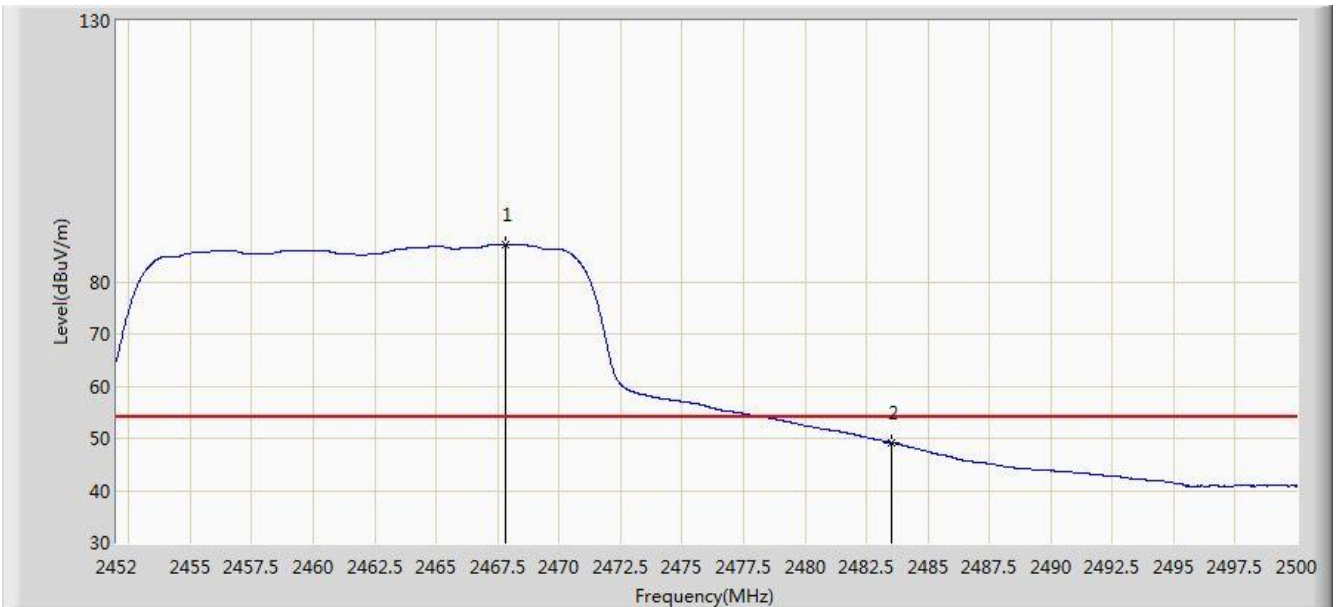


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2458.024	99.759	68.631	N/A	N/A	31.128	PK
2			2483.500	68.560	37.367	-5.440	74.000	31.194	PK
3			2484.448	69.235	38.039	-4.765	74.000	31.195	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:30
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	

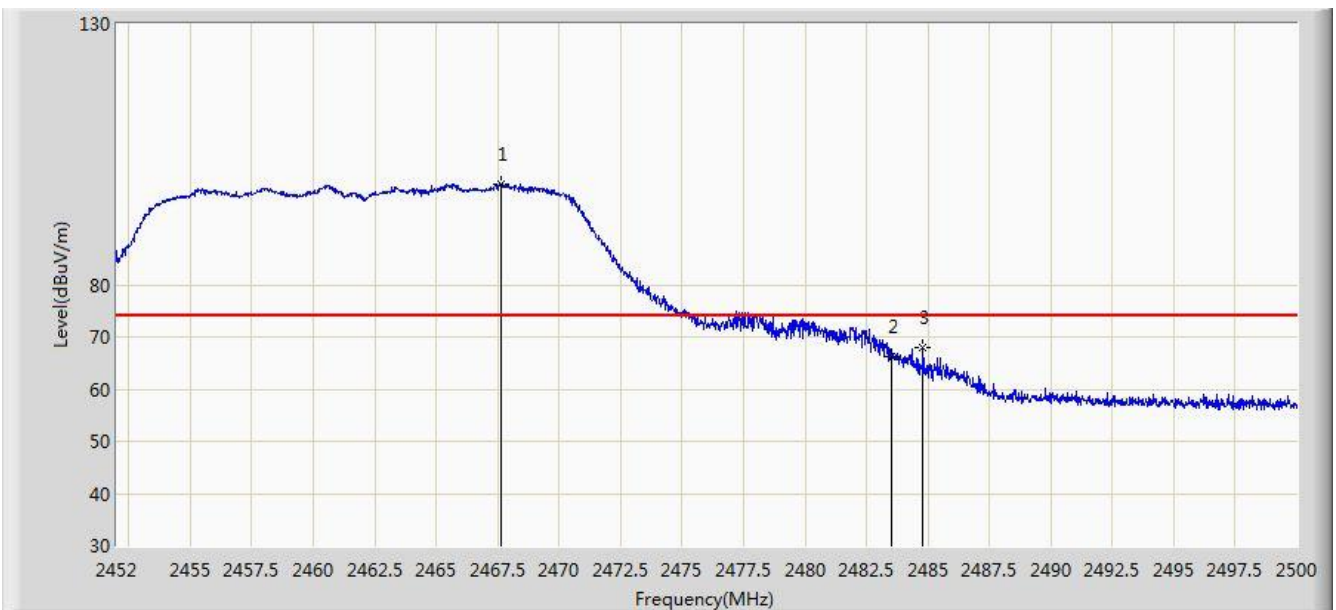


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2467.792	87.154	56.004	N/A	N/A	31.150	AV
2			2483.500	49.178	17.985	-4.822	54.000	31.194	AV

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

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

Site: AC1	Time: 2017/11/16 - 22:30
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	

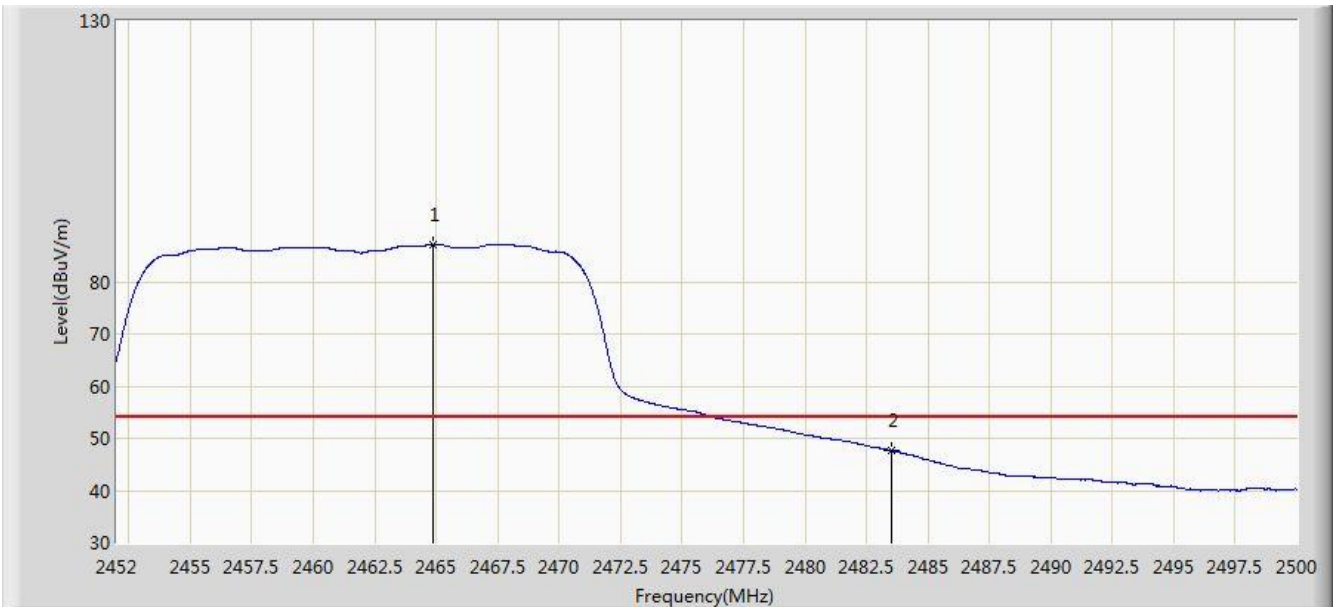


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2467.648	99.411	68.261	N/A	N/A	31.150	PK
2			2483.500	66.243	35.050	-7.757	74.000	31.194	PK
3			2484.808	67.917	36.720	-6.083	74.000	31.197	PK

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

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

Site: AC1	Time: 2017/11/16 - 22:32
Limit: FCC_Part15.209_RE(3m)	Engineer: Will Yan
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: ECG analysis system	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11n-HT20 at channel 2462MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	2464.888	87.030	55.888	N/A	N/A	31.142	AV
2			2483.500	47.653	16.460	-6.347	54.000	31.194	AV

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

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

7.8. AC Conducted Emissions Measurement

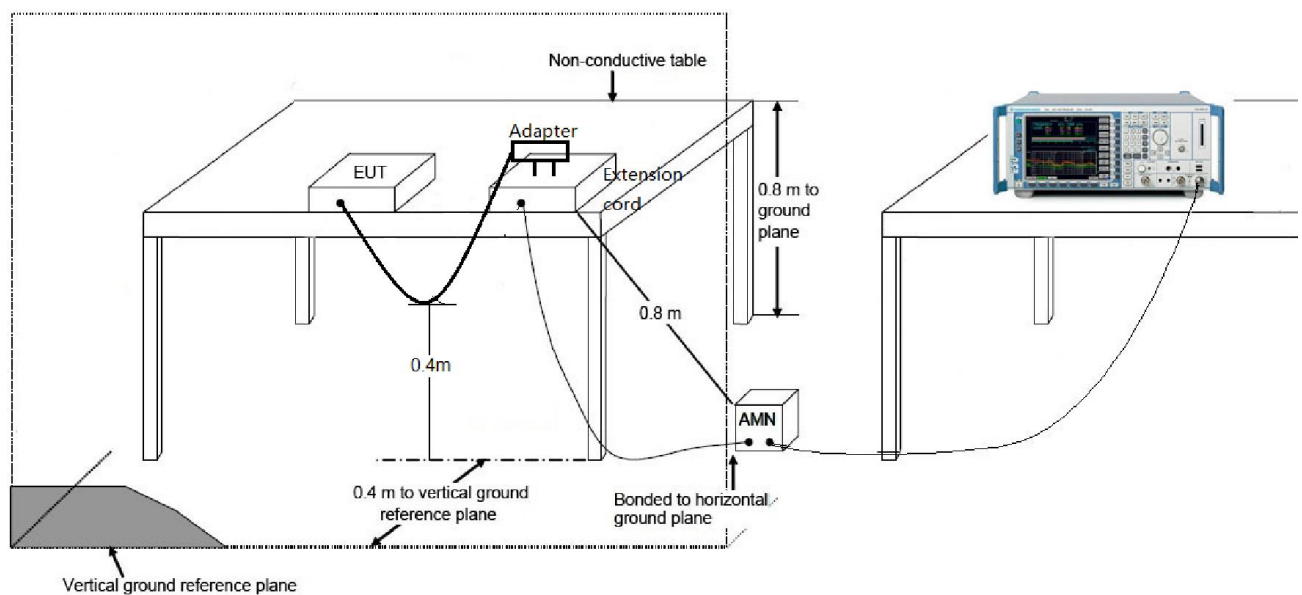
7.8.1. Test Limit

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.

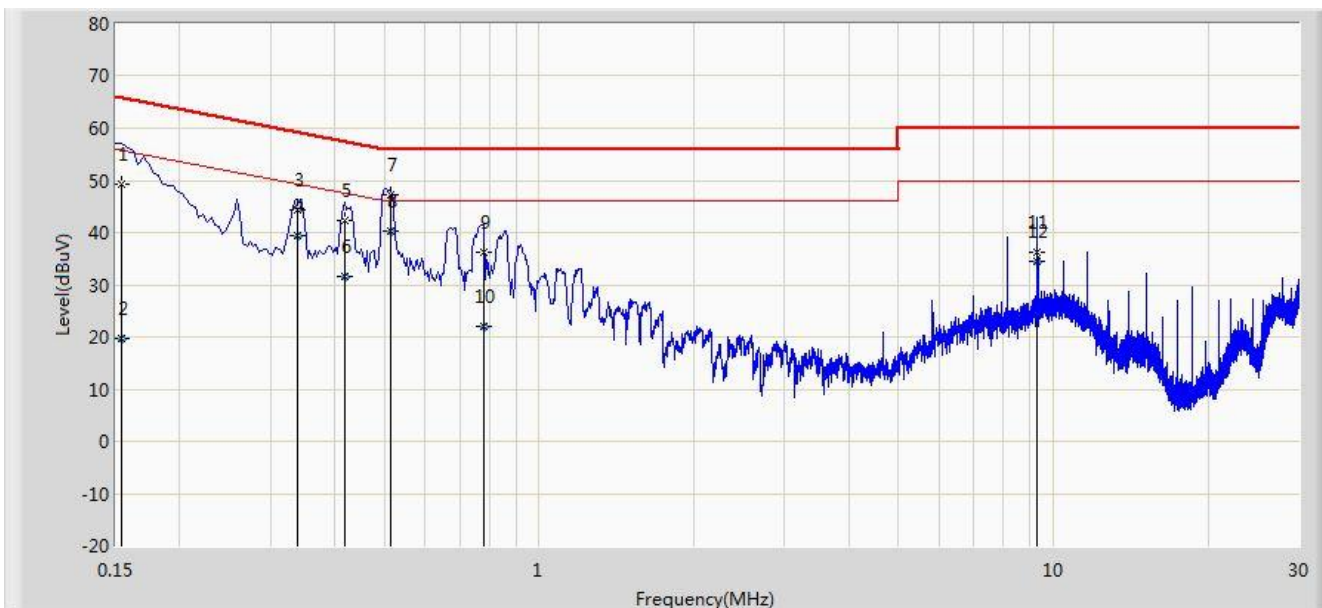
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.8.2. Test Setup



7.8.3.Test Result

Site: SR2	Time: 2017/11/17 - 16:57
Limit: FCC_Part15.207_CE_AC Power	Engineer: Polly Zong
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: ECG analysis system	Power: AC 120V/60Hz
Worst Case Mode: Transmit by 802.11g at Channel 2437MHz	

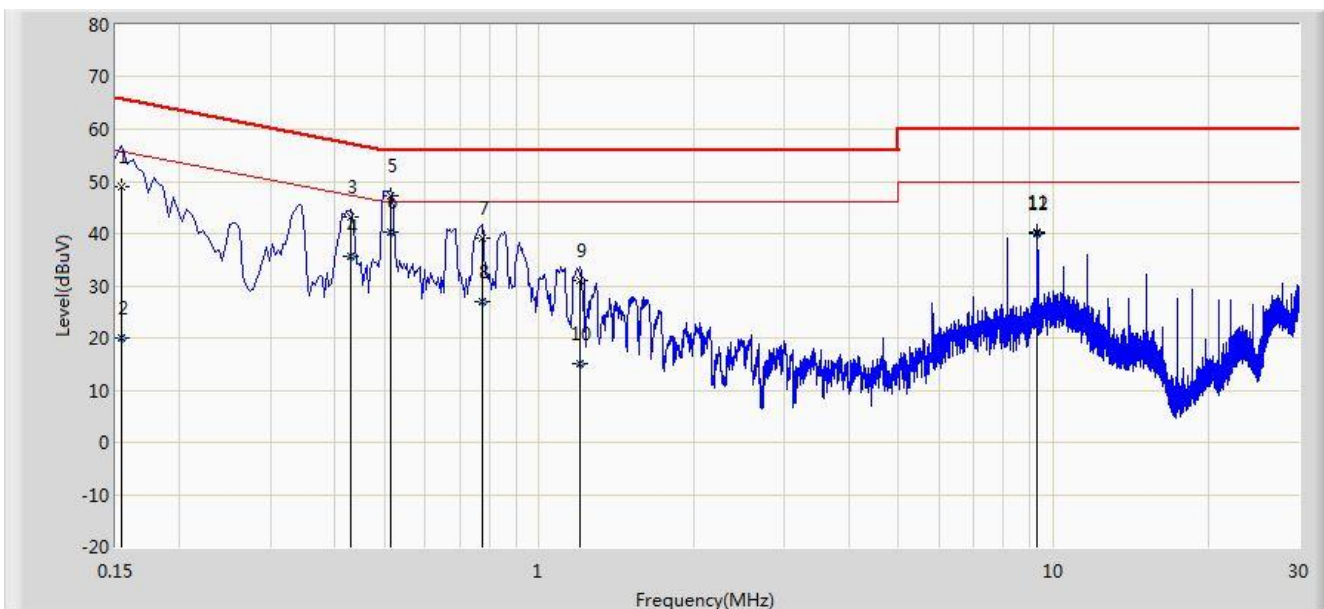


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.154	49.326	38.586	-16.456	65.781	10.740	QP
2			0.154	19.772	9.032	-36.010	55.781	10.740	AV
3			0.338	44.222	34.187	-15.031	59.252	10.034	QP
4			0.338	39.301	29.266	-9.951	49.252	10.034	AV
5			0.418	42.233	32.133	-15.255	57.488	10.101	QP
6			0.418	31.561	21.461	-15.927	47.488	10.101	AV
7			0.514	47.162	37.006	-8.838	56.000	10.156	QP
8		*	0.514	40.424	30.268	-5.576	46.000	10.156	AV
9			0.778	36.228	26.205	-19.772	56.000	10.022	QP
10			0.778	22.030	12.008	-23.970	46.000	10.022	AV
11			9.310	36.155	26.001	-23.845	60.000	10.154	QP
12			9.310	34.556	24.402	-15.444	50.000	10.154	AV

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

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

Site: SR2	Time: 2017/11/17 - 17:05
Limit: FCC_Part15.207_CE_AC Power	Engineer: Polly Zong
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: ECG analysis system	Power: AC 120V/60Hz
Worst Case Mode: Transmit by 802.11g at Channel 2437MHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.154	48.967	38.251	-16.814	65.781	10.716	QP
2			0.154	19.949	9.233	-35.832	55.781	10.716	AV
3			0.430	43.259	33.124	-13.994	57.253	10.135	QP
4			0.430	35.625	25.490	-11.628	47.253	10.135	AV
5			0.514	47.106	36.930	-8.894	56.000	10.176	QP
6		*	0.514	40.234	30.059	-5.766	46.000	10.176	AV
7			0.774	39.075	29.041	-16.925	56.000	10.034	QP
8			0.774	27.019	16.985	-18.981	46.000	10.034	AV
9			1.202	30.887	20.985	-25.113	56.000	9.902	QP
10			1.202	14.938	5.036	-31.062	46.000	9.902	AV
11			9.314	40.156	29.984	-19.844	60.000	10.171	QP
12			9.314	39.959	29.788	-10.041	50.000	10.171	AV

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

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

8. CONCLUSION

The data collected relate only the item(s) tested and show that the **ECG analysis system** is in compliance with Part 15C of the FCC Rules & IC Rules.

_____ The End _____