FCC RF TEST REPORT

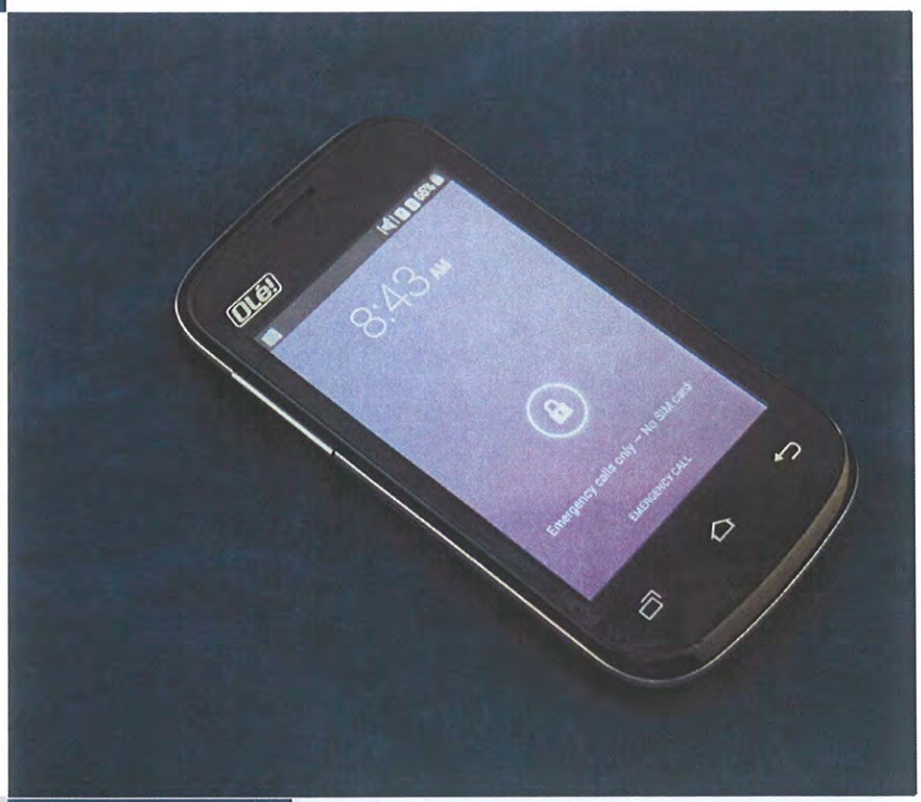
ISSUED BY
Shenzhen BALUN Technology Co., Ltd.

FOR

Moblie Phone

ISSUED TO
ShenZhen Hipad Telecommunication Technology Co., LTD.

Room 502-503, Unit 3,Building C, Kexing Science Park, Keyuan Road, Hi-tech industrial Park, NanShan District, Shenzhen, GuangDong, China



Report No.:	BL-SZ1490065-602
EUT Type:	Moblie Phone
Model Name:	MK5022, MK5022-CA, MK5022-MX
Brand Name:	N/A
Test Standard:	47 CFR Part 15 Subpart C
FCC ID:	2ABOU5022
Test conclusion:	PASS
Test Date:	Sep 15, 2014 ~ Sep 30, 2014
Date of Issue:	Oct 8, 2014

Prepared by: Zhang Yanqing
(Reporting Specialist)
Date Oct 8, 2014

Approved by: Wei Yanquan
(Chief Engineer)
Date Oct 8. 2014

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Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong, P. R. China 518055
TEL: +86-755-66850100, FAX: +86-755-61824271
Email: info@baluntek.com
www.baluntek.com

Revision History

Version	Issue Date	Revisions
Rev. 01	Oct 8, 2014	Initial Issue

TABLE OF CONTENTS

1 ADMINISTRATIVE DATA (GENERAL INFORMATION)

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6683 3402
Fax Number	+86 755 6182 4271

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory has been listed by US Federal Communications Commission to perform electromagnetic emission measurements. The recognition numbers of test site are 832625. The laboratory has met the requirements of the IAS Accreditation Criteria for Testing Laboratories (AC89), has demonstrated compliance with ISO/IEC Standard 17025:2005. The accreditation certificate number is TL-588. The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Test Environment Condition

Ambient Temperature	15 to 35℃
Ambient Relative Humidity	30 to 60%
Ambient Pressure	86 to106 kPa

1.4 Announce

(1) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.

(2) The test report is invalid if there is any evidence and/or falsification.

(3) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.

(4) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.

(5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

2 PRODUCT INFORMATION

2.1 Applicant

Applicant	ShenZhen Hipad Telecommunication Technology Co., LTD.
Address	Room 502-503, Unit 3,Building C, Kexing Science Park, Keyuan Road, Hi-tech industrial Park, NanShan District, Shenzhen, GuangDong, China

2.2 Manufacturer

Manufacturer	ShenZhen Hipad Telecommunication Technology Co., LTD.
Address	Room 502-503, Unit 3,Building C, Kexing Science Park, Keyuan Road, Hi-tech industrial Park, NanShan District, Shenzhen, GuangDong, China

2.3 General Description for Equipment under Test (EUT)

EUT Type	Mobile Phone
The Under Test Model Name	MK5022
Series Model Name	MK5022, MK5022-CA, MK5022-MX
Description of Model Name differentiation	The equipment model MK5022 and MK5022-CA, MK5022-MX are mobile phone, the electrical parameters and internal structure of circuit are same, only the model name is different.
Hardware Version	WS4050_V1.2
Software Version	N/A
Network and Wireless connectivity	WIFI 802.11b, 802.11g and 802.11n(20MHz), Bluetooth 2.1+EDR
About the Product	The equipment is Smart Phone, it contains Bluetooth and WIFI Modules operating at 2.4GHz ISM band. Only the WIFI which supports 802.11b, 802.11g and 802.11n(20MHz) was tested in this report

2.4 Technical Information

TX/ RX Operating Range	802.11b/g/n(20MHz): 2.412GHz - 2.462GHz f_c = 2412 MHz + (N-1)*5 MHz, where - f_c = “Operating Frequency” in MHz, - N = “Channel Number” with the range from 1 to 11.
Modulation Type	DSSS, OFDM
Antenna Type	PIFA Antenna
Antenna Gain	0dBi

Modulation technology	Modulation Type	Transfer Rate (Mbps)	The Frequency Equal to the Transmission Rate of Modulation Signal
DSSS (802.11b)	DBPSK	1	1MHz
	DQPSK	2	
	CCK	5.5/ 11	1.375MHz
OFDM (802.11g)	BPSK	6 / 9	1MHz
	QPSK	12 / 18	
	16QAM	24 / 36	
	64QAM	48 / 54	
OFDM (802.11n-20MHz)	BPSK	6.5	1MHz
	QPSK	13/19.5	
	16QAM	26/39	
	64QAM	52/58.5/65	

Note: Preliminary tests were performed in different data rate in above table to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate(Mbps)	Channel
Maximum transmit power	11b / 11g/11n20	11/54/65	1/6/11
Maximum e.i.r.p. spectral density	11b / 11g/11n20	11/54/65	1/6/11
Frequency range	11b / 11g/11n20	11/54/65	1/6/11
Medium Access Protocol	11b / 11g/11n20	11/54/65	1/6/11
Transmitter spurious emissions	11b / 11g/11n20	11/54/65	1/6/11
Receiver spurious emissions	11b / 11g/11n20	11/54/65	1/6/11

Note: The above EUT information in section 2.3 and 2.4 was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	KingerPower
	Model No	29.B0628000008
	Serial No	N/A
	Capacitance	1100 mAh
	Rated Voltage	3.7V
	Extreme Voltage	Low: 3.5V / High:4.2V
Ancillary Equipment 2	Brand Name	AOHAI
	Model No	A75-500550-US
	Serial No	N/A
	Rated Input	AC 100V~240V, 150mA, 36W, 50/60Hz
	Rated Output	DC 5V, 550mA, 2.75W
Ancillary Equipment 3	USB Cable	
Ancillary Equipment 4	Earphone	

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 15, Subpart C (12-30-13 Edition)	Miscellaneous Wireless Communications Services
2	KDB Publication 558074 D01v03r02	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247
3	ANSI C63.4-2009	American National Standard for Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
4	ANSI C63.10-2009	American National Standard for Testing Unlicensed Wireless Devices

3.2 Verdict

No.	Description	FCC Part No.	Test Result	Verdict
1	Antenna Requirement	15.203 15.247(b)	Note1	PASS
2	Output Power	15.247(b)	ANNEX A.1	PASS
3	6dB Bandwidth	15.247(a)	ANNEX A.2	PASS
4	Conducted Spurious Emission	15.247(c)	ANNEX A.3	PASS
5	Conducted Emission	15.207	ANNEX A.4	PASS
6	Radiated Spurious Emission	15.209 15.247(c)	ANNEX A.5	PASS
7	Band Edge	15.247(c)	ANNEX A.6	PASS
8	Power spectral density (PSD)	15.247(d)	ANNEX A.7	PASS
Note 1: Please refer to section 5.1				

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the normal environmental conditions were within the listed ranges:

Relative Humidity (%)	30 -60	
Atmospheric Pressure (kPa)	86-106	
Temperature	NT (Normal Temperature)	+20℃ to +25℃
	LT (Low Temperature)	-20℃
	HT (High Temperature)	+55℃
Working Voltage of the EUT	NV (Normal Voltage)	3.7 V
	LV (Low Voltage)	3.5 V
	HV (High Voltage)	4.2 V

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	AGILENT	E4440A	MY45304434	2014.07.07	2015.07.06
Spectrum Analyzer	ROHDE&SCHWARZ	FSL3	103640/003	2014.07.07	2015.07.06
Power Splitter	KMW	DCPD-LDC	1305003215	2014.07.07	2015.07.06
Power Sensor	ROHDE&SCHWARZ	NRP-Z21	103971	2014.07.07	2015.07.06
Attenuator (20dB)	KMW	ZA-S1-201	110617091	--	--
Attenuator (6dB)	KMW	ZA-S1-61	1305003189	--	--
DC Power Supply	ROHDE&SCHWARZ	HMP2020	018141664	2014.07.07	2015.07.06
Temperature Chamber	ANGELANTIONI SCIENCE	NTH64-40A	1310	2014.07.07	2015.07.06
Test Antenna-Loop(9kHz-30MHz)	SCHWARZBECK	FMZB 1519	1519-037	2013.07.03	2015.07.02
Test Antenna-Bi-Log(30MHz-3GHz)	SCHWARZBECK	VULB 9163	9163-624	2013.07.02	2015.07.01
Test Antenna-Horn(1-18GHz)	SCHWARZBECK	BBHA 9120D	9120D-1148	2013.07.02	2015.07.01
Test Antenna-Horn(15-26.5GHz)	SCHWARZBECK	BBHA 9170	9170-305	2013.07.02	2015.07.01
Anechoic Chamber	RAINFORD	9m*6m*6m	N/A	2014.10.07	2015.10.06

4.3 Test Configurations

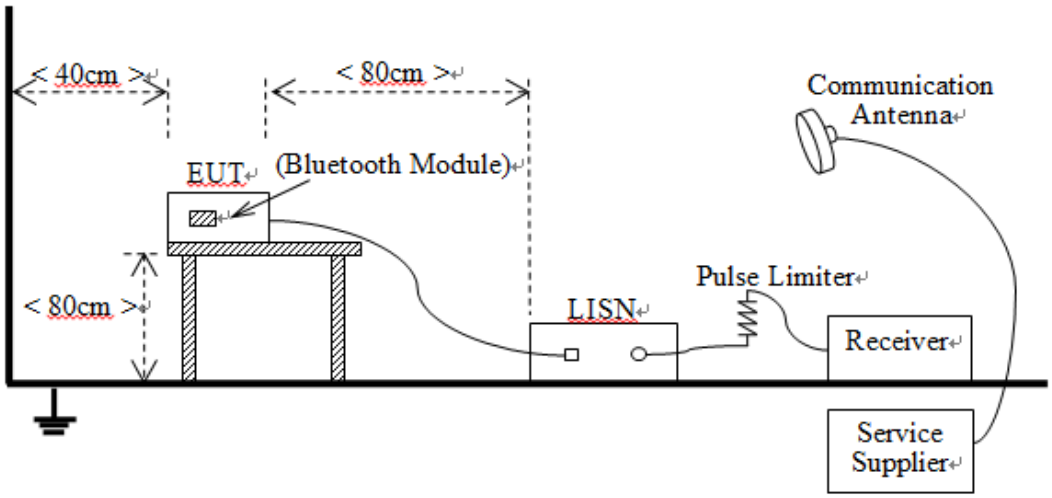
Test Configurations (TC) NO.	Description	
	Signal Description	Operating Frequency
Transmitter		
TC01	DSSS modulation, 802.11b	Ch No. 1/ 2412MHz
TC02	DSSS modulation, 802.11b	Ch No. 6/ 2437MHz
TC03	DSSS modulation, 802.11b	Ch No. 11/ 2462MHz
TC04	OFDM modulation, 802.11g	Ch No. 1/ 2412MHz
TC05	OFDM modulation, 802.11g	Ch No. 6/ 2437MHz
TC06	OFDM modulation, 802.11g	Ch No. 11/ 2462MHz
TC07	OFDM modulation, 802.11n(20MHz)	Ch No. 1/ 2412MHz
TC08	OFDM modulation, 802.11n(20MHz)	Ch No. 6/ 2437MHz
TC09	OFDM modulation, 802.11n(20MHz)	Ch No. 11/ 2462MHz

4.4 Description of Test Setup

4.4.1 For Antenna Port Test

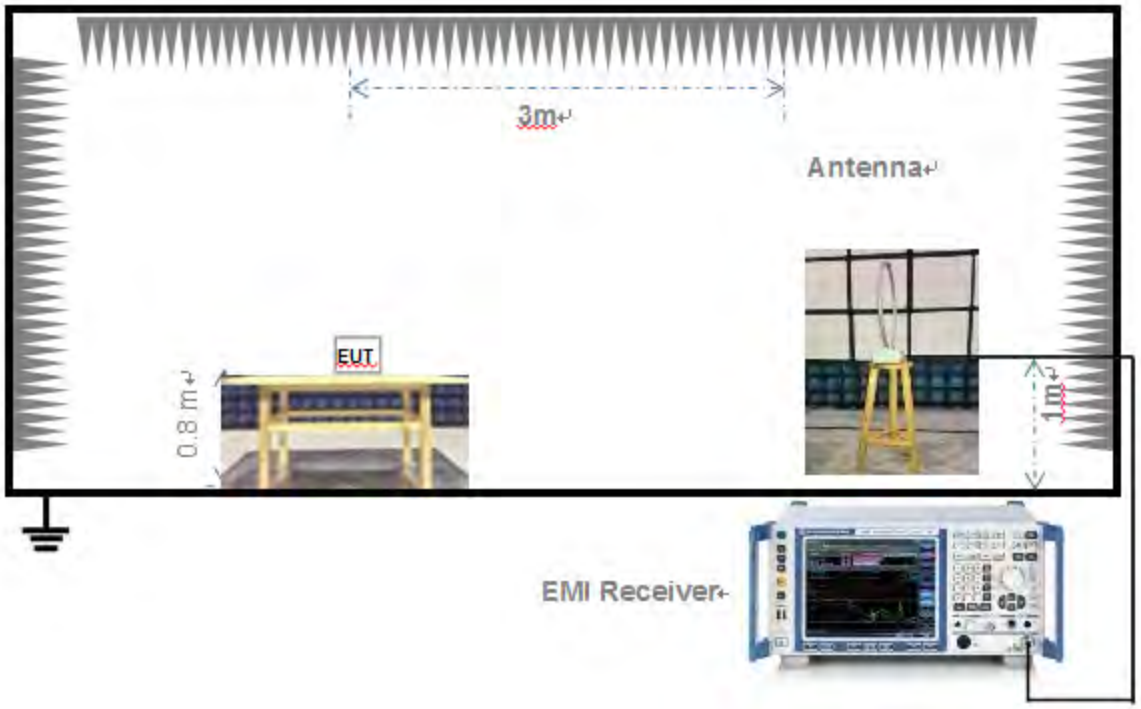
(Diagram 1)

4.4.2 For AC Power Supply Port Test



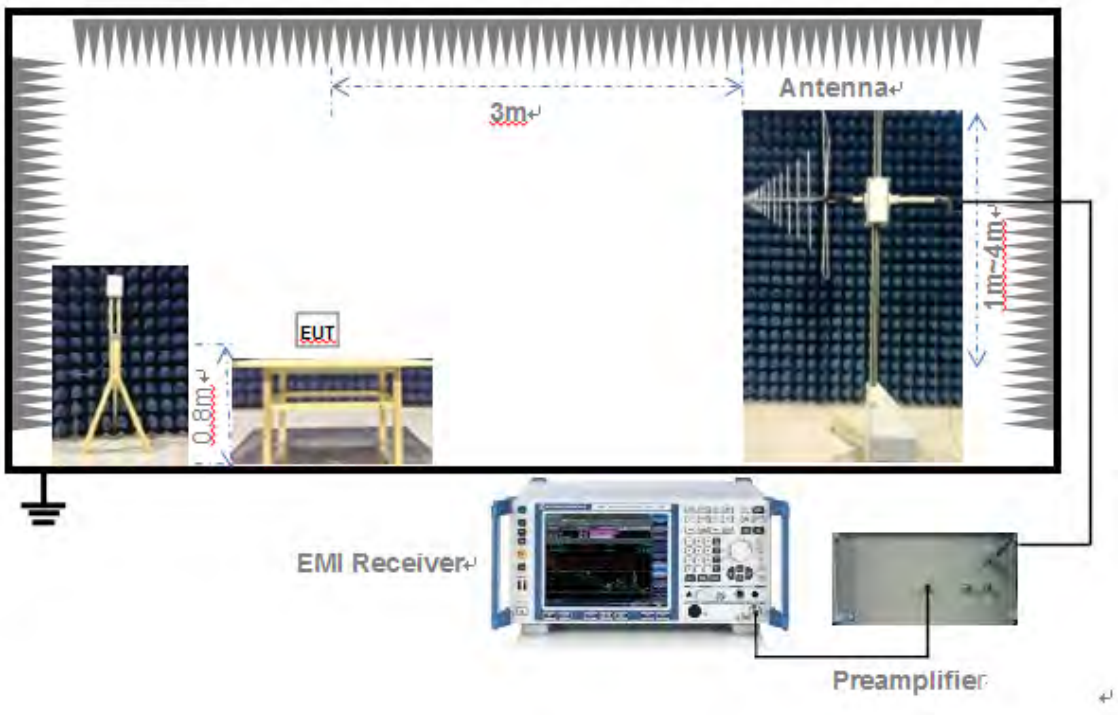
(Diagram 2)

4.4.3 For Radiated Test (Below 30MHz)



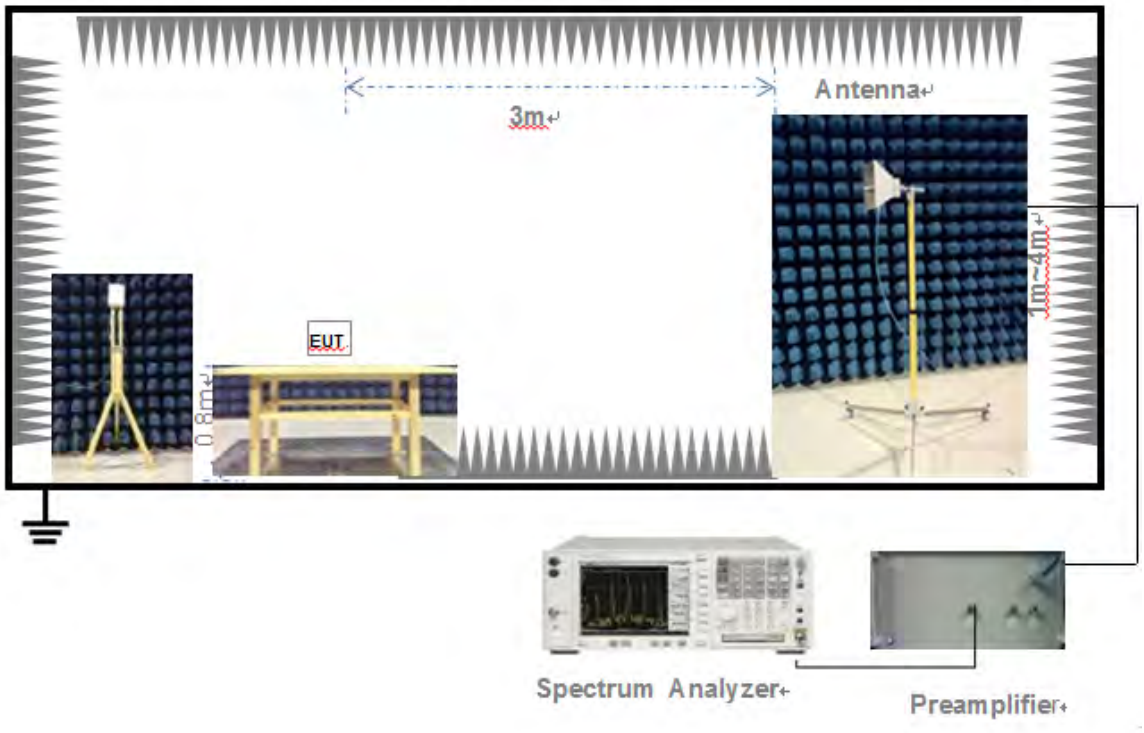
(Diagram 3)

4.4.4 For Radiated Test (30MHz-1GHz)



(Diagram 4)

4.4.5 For Radiated Test (Above 1GHz)



(Diagram 5)

4.5 Test Conditions

Test Case	Test Conditions		
	Test Env.	Test Setup Note 1	Test Configuration Note 2
Peak Output Power	NTNV	Test Setup 1	TC01~TC09
Occupied Bandwidth	NTNV	Test Setup 1	TC01~TC09
Conducted Spurious Emission	NTNV	Test Setup 1	TC01~TC09
Conducted Emission	NTNV	Test Setup 2	TC01~TC09
Radiated Spurious Emission	NTNV	Test Setup 3 Test Setup 4 Test Setup 5	TC01~TC09
Band Edge	NTNV	Test Setup 1	TC01, TC03, TC04, TC06,TC07,TC09
Power spectral density (PSD)	NTNV	Test Setup 2	TC01~TC09
Note: 1. Please refer to section 4.4 for test setup details. 2. Please refer to section 4.3 for test setup details.			

5 TEST ITEMS

5.1 Antenna Requirements

5.1.1 Standard Applicable

FCC §15.203 & 15.247(b)

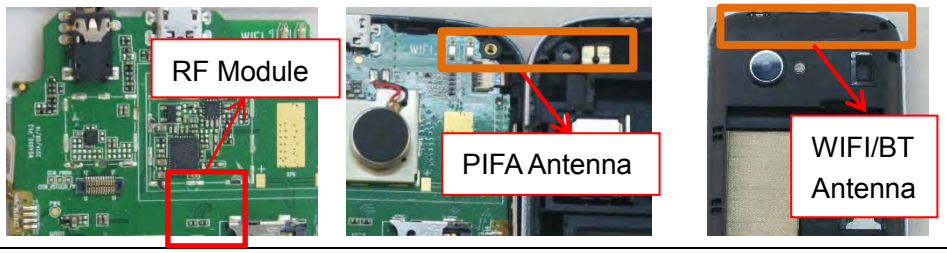
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, § 15.213, § 15.217, § 15.219, or § 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. 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 FCC rule.

5.1.2 Antenna Anti-Replacement Construction

The Antenna Anti-Replacement as following method:

Protected Method	Description
The antenna is An embedded-in	An embedded-in antenna design is used.

Reference Documents	Item
Photo	

5.1.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5.2 Output Power

5.2.1 Test Limit

FCC § 15.247(b)

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements.

5.2.2 Test Procedure

Maximum peak conducted output power

This procedure may be used when the maximum available RBW of the measurement instrument is less than the DTS bandwidth.

Set the RBW = 1 MHz

Set the VBW ≥ 3 RBW

Set the span ≥1.5 x DTS bandwidth.

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select peak detector).

Maximum conducted (average) output power (Reporting Only)

a) As an alternative to spectrum analyzer or EMI receiver measurements, measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.

1) The EUT is configured to transmit continuously, or to transmit with a constant duty factor.

2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.

3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

b) If the transmitter does not transmit continuously, measure the duty cycle (x) of the transmitter output signal as described in Section 6.0.

c) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.

d) Adjust the measurement in dBm by adding 10log (1/x), where x is the duty cycle to the measurement result.

Measurements of duty cycle

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal.

Set the center frequency of the instrument to the center frequency of the transmission.

Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value.

Set VBW ≥ RBW. Set detector = peak or average.

The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T ≤ 16.7 microseconds.)

5.3 6dB Bandwidth

5.3.1 Limit

FCC §15.247(a)

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW. The 6 dB bandwidth must be greater than 500 kHz.

5.3.2 Test Procedure

Use the following spectrum analyzer settings:

Set RBW = 100 kHz.

Set the video bandwidth (VBW) ≥ 3 RBW.

Detector = Peak.

Trace mode = max hold.

Sweep = auto couple.

Allow the trace to stabilize.

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.4 Conducted Spurious Emission

5.4.1 Limit

FCC §15.247(c)

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.4.2 Test Procedure

The DTS rules specify that in any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions:

a) If the maximum peak conducted output power procedure was used to demonstrate compliance as described in 9.1, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).

b) If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

c) In either case, attenuation to levels below the 15.209 general radiated emissions limits is not required.

The following procedures shall be used to demonstrate compliance to these limits. Note that these procedures can be used in either an antenna-port conducted or radiated test set-up. Radiated tests must conform to the test site requirements and utilize maximization procedures defined herein.

Reference level measurement

Establish a reference level by using the following procedure:

Set instrument center frequency to DTS channel center frequency.

Set the span to ≥ 1.5 times the DTS bandwidth.

Set the RBW = 100 kHz.

Set the VBW ≥ 3 x RBW.

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum PSD level.

Emission level measurement

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.

Set the RBW = 100 kHz.

Set the VBW ≥ 3 x RBW.

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in 11.1 a) or 11.1 b). Report the three highest emissions relative to the limit.

5.5 Conducted Emission

5.5.1 Limit

FCC §15.207

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dBμV)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

5.5.2 Test Procedure

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

5.6 Radiated Spurious Emission

5.6.1 Limit

FCC §15.209&15.247(c)

Radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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

Note:

1. For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

2. For above 1000MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK).

5.6.2 Test Procedure

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The power of the EUT transmitting frequency should be ignored.

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

5.7 Band Edge

5.7.1 Limit

FCC §15.209&15.247(d)

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

5.7.2 Test Procedure

The following procedures may be used to determine the peak or average field strength or power of an unwanted emission that is within 2 MHz of the authorized band edge. If a peak detector is utilized, use the procedure described in 13.2.1. Use the procedure described in 13.2.2 when using an average detector and the EUT can be configured to transmit continuously (i.e., duty cycle ≥ 98%). Use the procedure described in 13.2.3 when using an average detector and the EUT cannot be configured to transmit continuously but the duty cycle is constant (i.e., duty cycle variations are less than ± 2 percent). Use the procedure described in 13.2.4 when using an average detector for those cases where the EUT cannot be configured to transmit continuously and the duty cycle is not constant (duty cycle variations equal or exceed 2 percent).

When using a peak detector to measure unwanted emissions at or near the band edge (within 2 MHz of the authorized band), the following integration procedure can be used.

Set instrument center frequency to the frequency of the emission to be measured (must be within 2 MHz of the authorized band edge).

Set span to 2 MHz

RBW = 100 kHz.

VBW ≥ 3 x RBW.

Detector = peak.

Sweep time = auto.

Trace mode = max hold.

Allow sweep to continue until the trace stabilizes (required measurement time may increase for low duty cycle applications)

Compute the power by integrating the spectrum over 1 MHz using the analyzer's band power measurement function with band limits set equal to the emission frequency (femission) ± 0.5 MHz. If the instrument does not have a band power function, then sum the amplitude levels (in power units) at 100 kHz intervals extending across the 1 MHz spectrum defined by femission ± 0.5 MHz.

5.8 Power Spectral density (PSD)

5.8.1 Limit

FCC §15.247(d)

The same method of determining the conducted output power shall be used to determine the power spectral density. If a peak output power is measured, then a peak power spectral density measurement is required. If an average output power is measured, then an average power spectral density measurement should be used.

5.8.2 Test Procedure

Set analyzer center frequency to DTS channel center frequency.

Set the span to 1.5 times the DTS bandwidth.

Set the RBW to: 3 kHz $\leqslant$ RBW $\leqslant$ 100 kHz.

Set the VBW $\geqslant$ 3 RBW.

Detector = peak.

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

ANNEX A TEST RESULT

A.1 Output Power

Duty Cycle

Test Mode	Duty Cycle (%)	T(ms)	1/T(kHz)
802.11b	95.3	1.207	0.829
802.11g	80.2	0.250	4.000
802.11n-20MHz	79.1	0.227	4.411

Peak Power Test Data

802.11b Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	16.62	45.92	30	1000	PASS
Middle	17.57	57.15			PASS
High	17.56	57.02			PASS

802.11g Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	17.35	54.33	30	1000	PASS
Middle	17.95	62.37			PASS
High	18.36	68.55			PASS

802.11n-20MHz Mode:

Channel	Measured Output Peak Power		Limit		Verdict
	dBm	mW	dBm	mW	
Low	14.10	25.70	30	1000	PASS
Middle	15.01	31.70			PASS
High	15.28	33.73			PASS

Average Power Test Data (Reporting Only)

802.11b Mode:

Channel	Duty Factor(10 log (1/x))	Measured Output Average Power		Verdict
		dBm	mW	
Low	0.21	10.04	10.09	PASS
Middle	0.21	10.82	12.08	PASS
High	0.21	11.33	13.58	PASS

802.11g Mode:

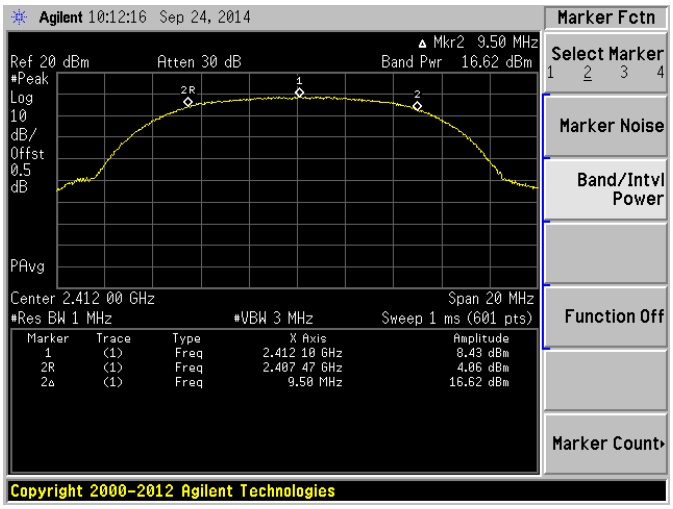
Channel	Duty Factor(10 log (1/x))	Measured Output Average Power		Verdict
		dBm	mW	
Low	0.96	8.1	6.46	PASS
Middle	0.96	9.03	8.00	PASS
High	0.96	8.74	7.48	PASS

802.11n-20MHz Mode:

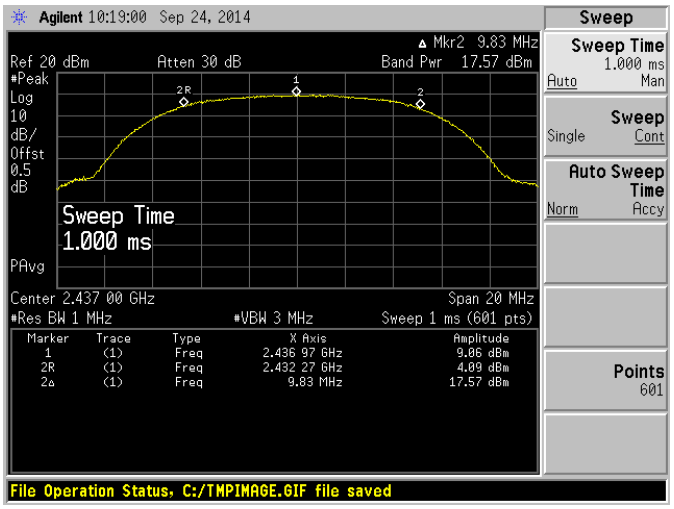
Channel	Duty Factor(10 log (1/x))	Measured Output Average Power		Verdict
		dBm	mW	
Low	1.02	5.04	3.19	PASS
Middle	1.02	5.88	3.87	PASS
High	1.02	6.27	4.24	PASS

Peak Power Test Plots

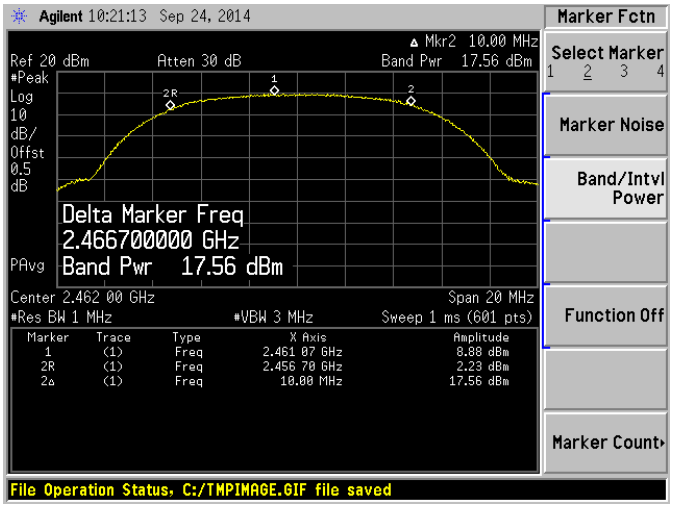
802.11b LOW CHANNEL



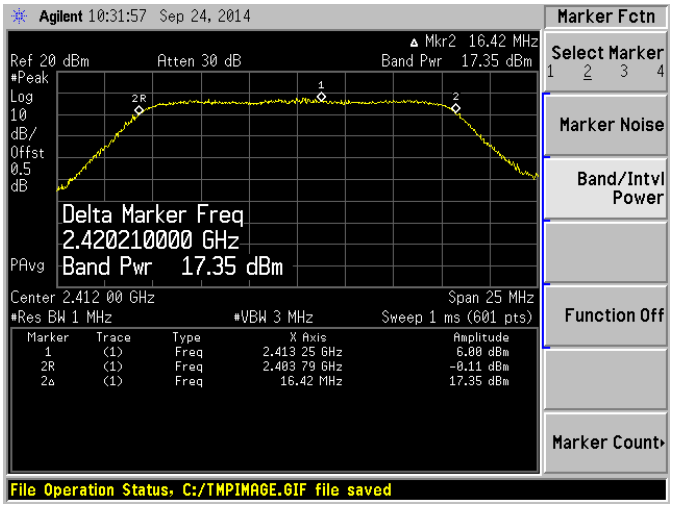
802.11b MID CHANNEL



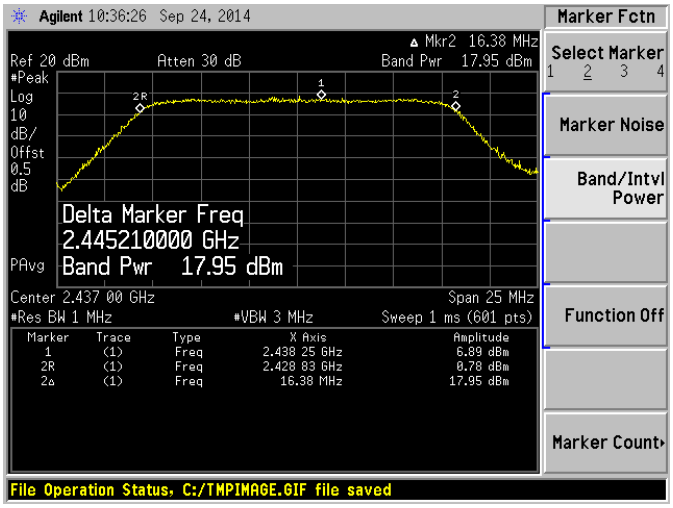
802.11b HIGH CHANNEL



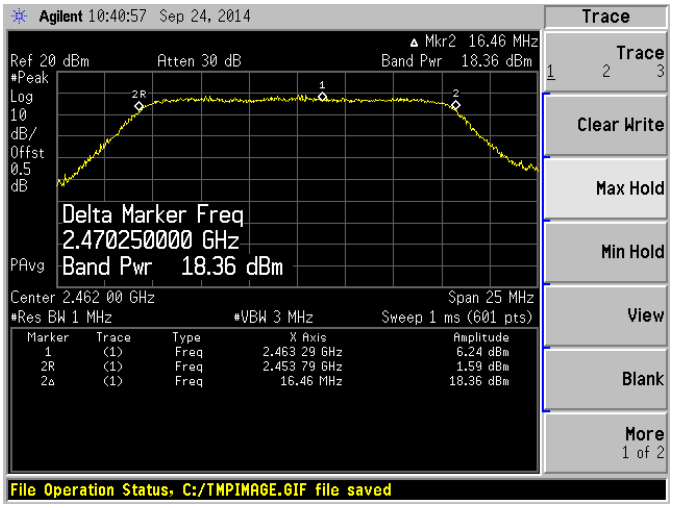
802.11g LOW CHANNEL



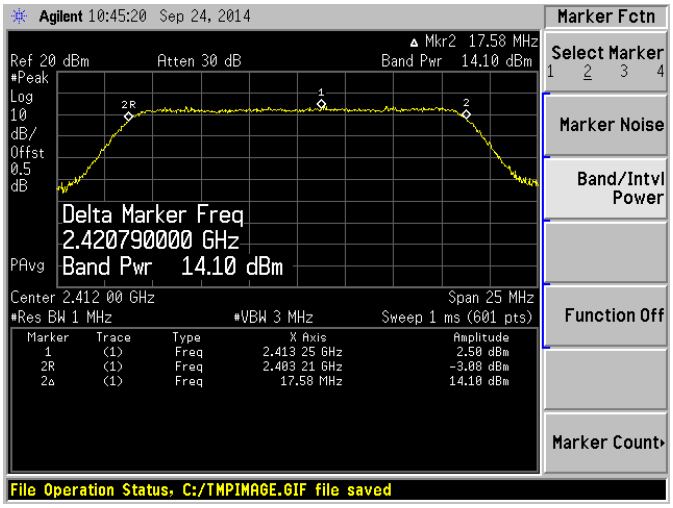
802.11g MID CHANNEL



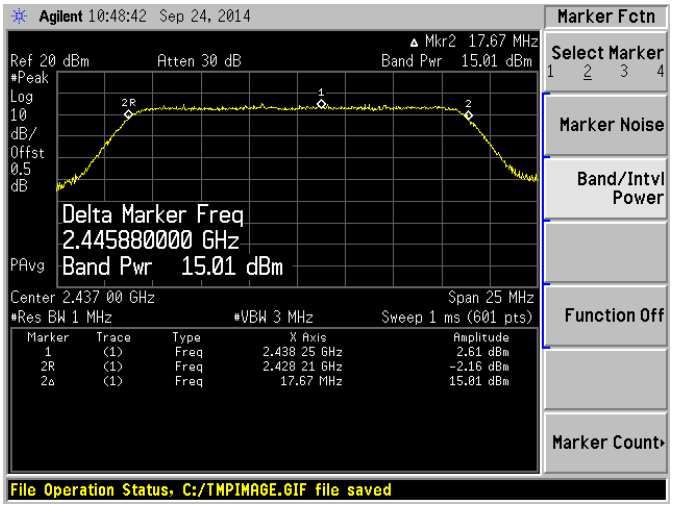
802.11g HIGH CHANNEL



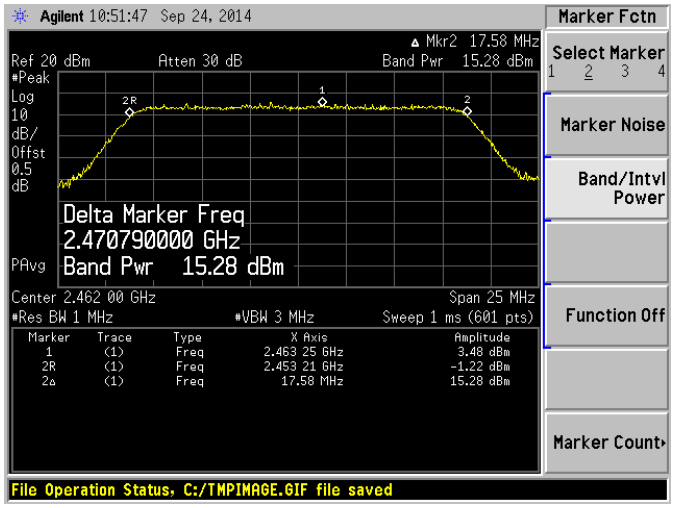
802.11n 20MHz LOW CHANNEL



802.11 n 20MHz MID CHANNEL



802.11 n 20MHz HIGH CHANNEL



A.2 Bandwidth

Test Data

802.11b Mode:

Channel	6 dB Bandwidth (MHz)	Limits (kHz)
Low	9.50	⩾500
Middle	9.83	⩾500
High	10.00	⩾500

802.11g Mode:

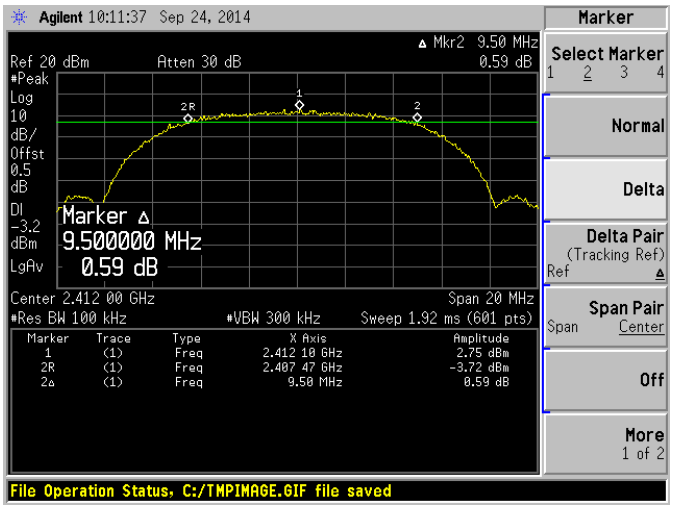
Channel	6 dB Bandwidth (MHz)	Limits (kHz)
Low	16.42	⩾500
Middle	16.38	⩾500
High	16.46	⩾500

802.11n-20MHz Mode:

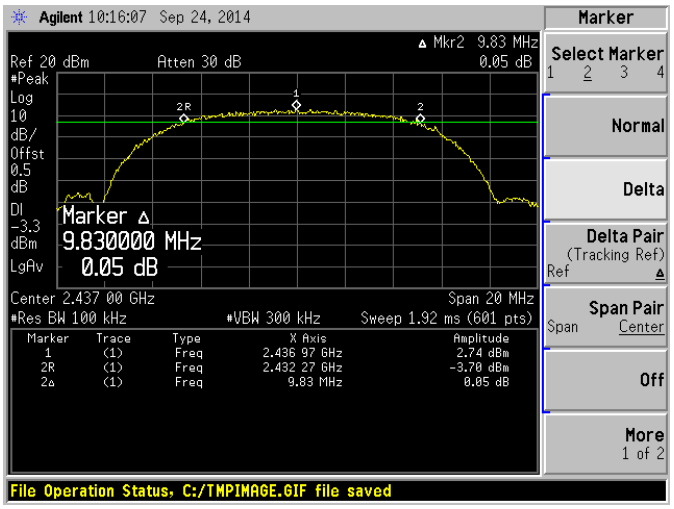
Channel	6 dB Bandwidth (MHz)	Limits (kHz)
Low	17.58	⩾500
Middle	17.67	⩾500
High	17.58	⩾500

Test plots

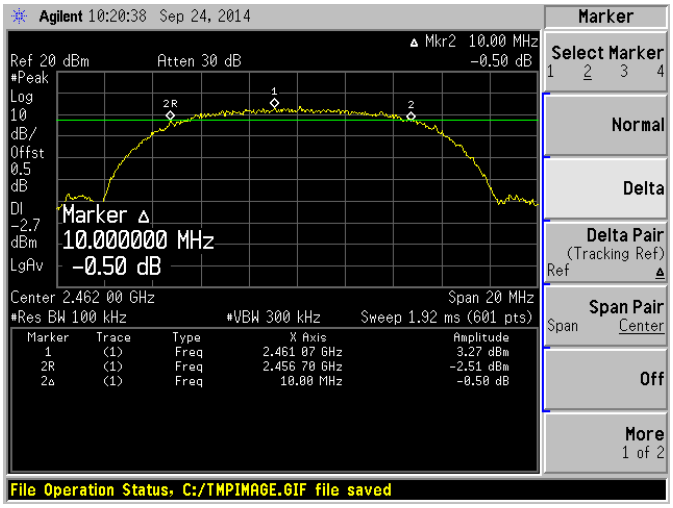
802.11b LOW CHANNEL



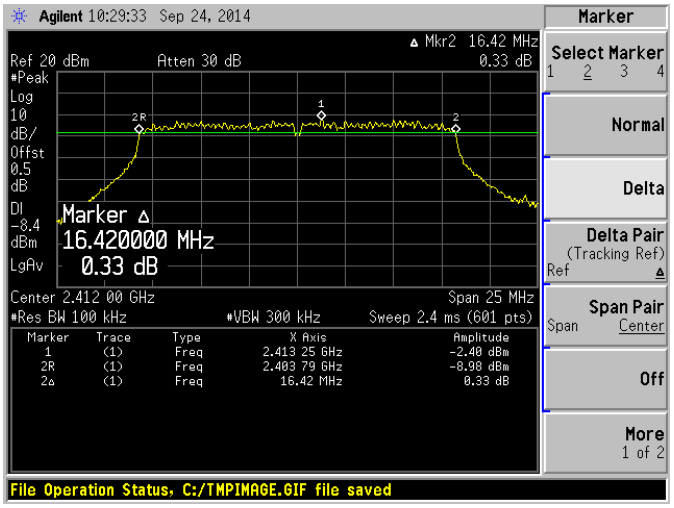
802.11b MID CHANNEL



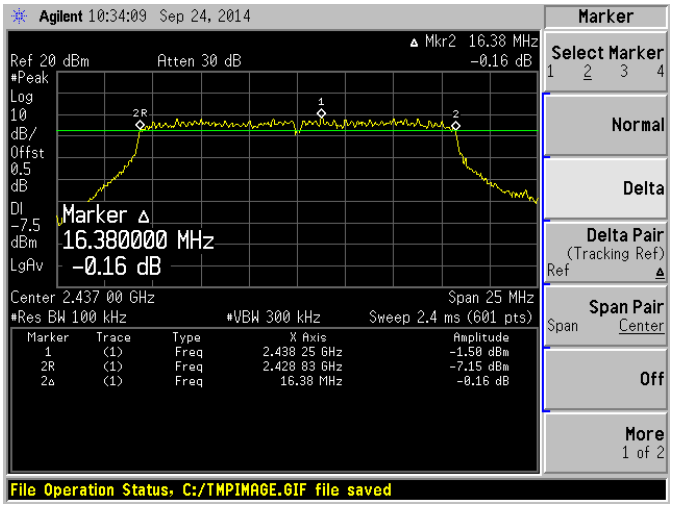
802.11b HIGH CHANNEL



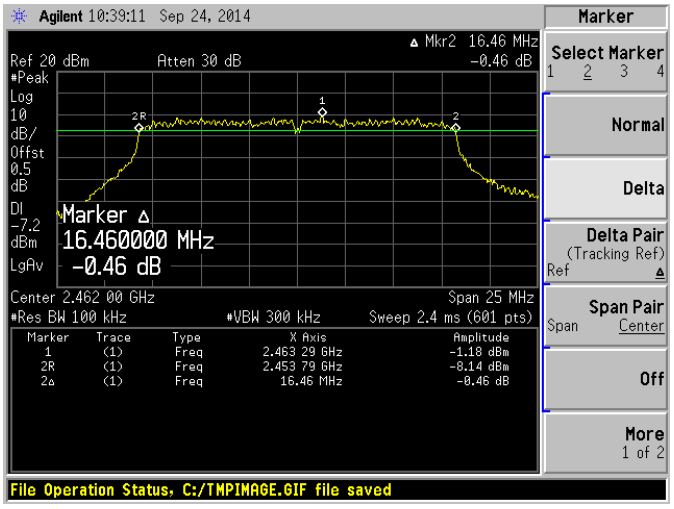
802.11g LOW CHANNEL



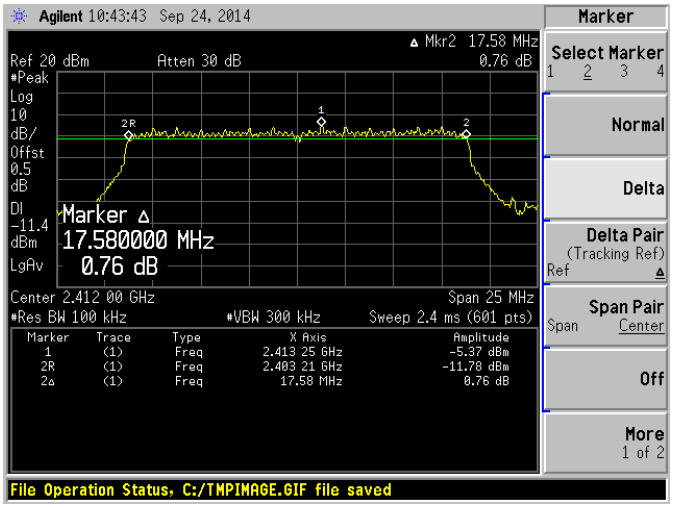
802.11g MID CHANNEL



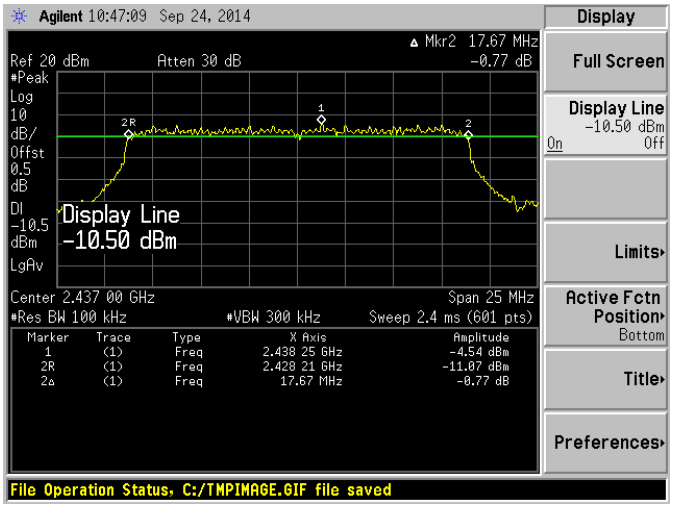
802.11g HIGH CHANNEL



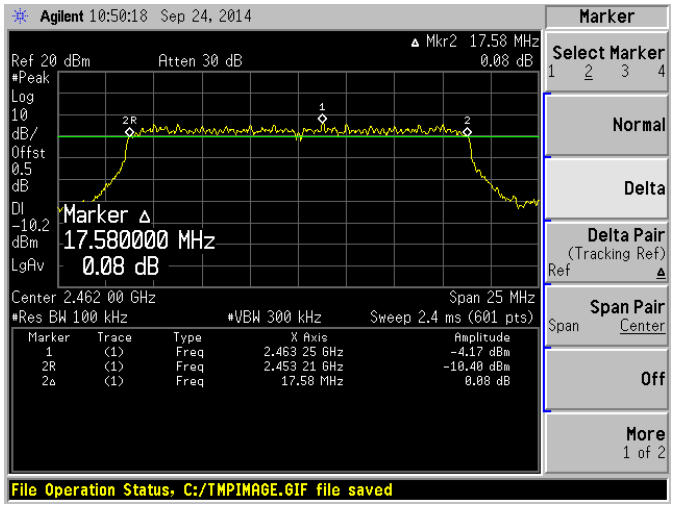
802.11n-20MHz LOW CHANNEL



802.11 n-20MHz MID CHANNEL



802.11n-20MHz HIGH CHANNEL



A.3 Conducted Spurious Emissions

Test Data

802.11b Mode:

Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-48.63	2.52	-17.5	PASS
Middle	-47.63	3.04	-17.0	PASS
High	-44.91	2.81	-17.2	PASS

802.11g Mode:

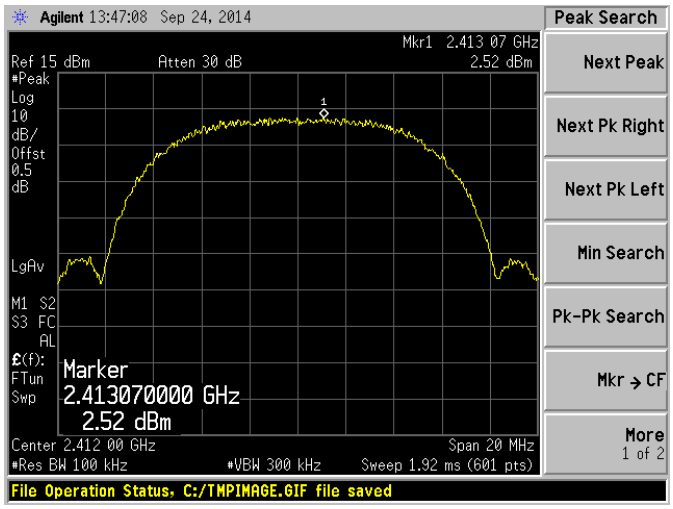
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-47.52	-1.55	-21.5	PASS
Middle	-47.18	-1.15	-21.1	PASS
High	-44.40	-0.83	-20.8	PASS

802.11n-20MHz Mode:

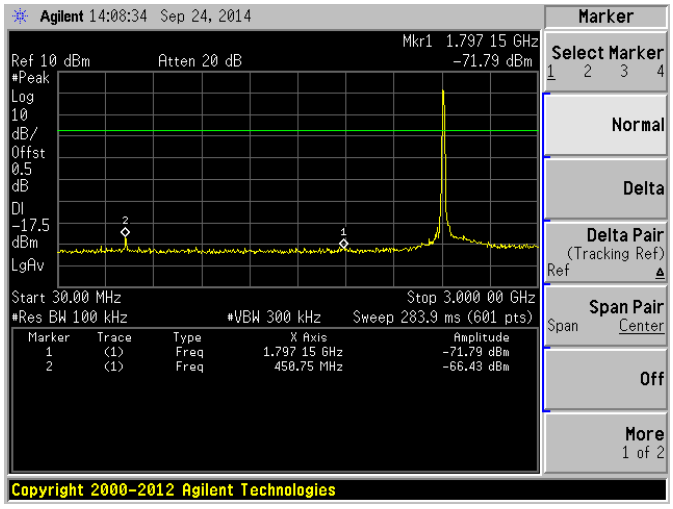
Channel	Measured Max. Out of Band Emission (dBm)	Limit (dBm)		Verdict
		Carrier Level	Calculated 20 dBc Limit	
Low	-47.42	-5.05	-25.0	PASS
Middle	-46.94	-4.23	-24.2	PASS
High	-43.97	-3.88	-23.9	PASS

Test Plots

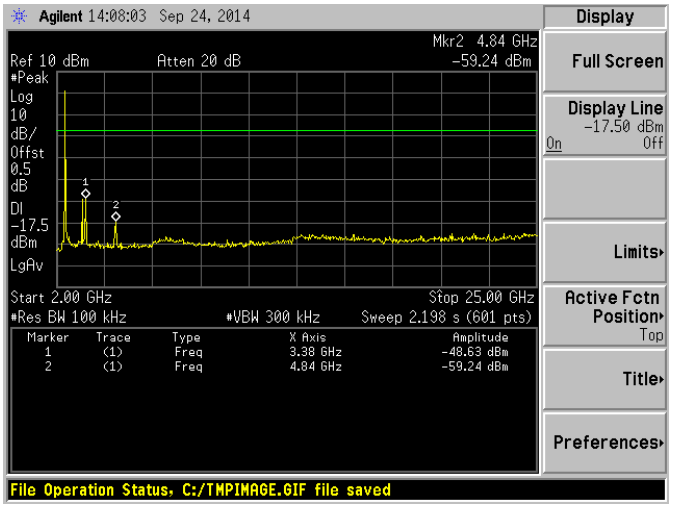
802.11b LOW CHANNEL CARRIER LEVEL



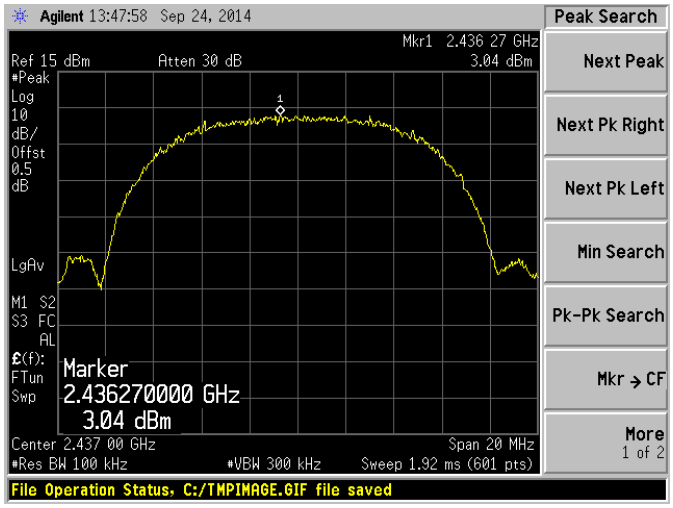
802.11b LOW CHANNEL, SPURIOUS 30MHz~3GHz



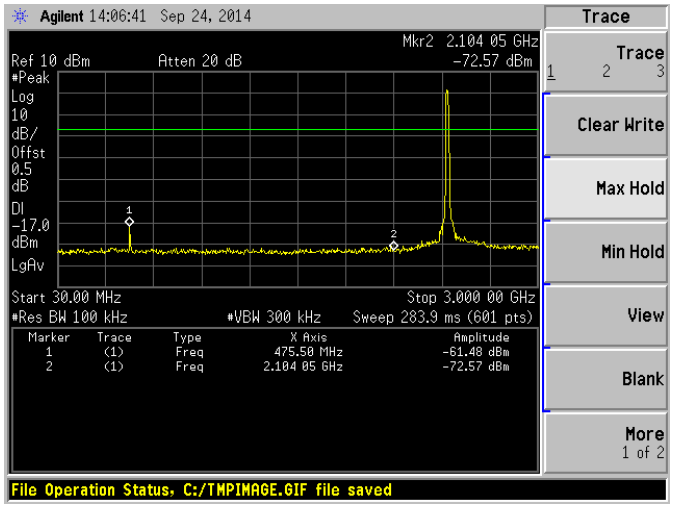
802.11b LOW CHANNEL, SPURIOUS 2GHz~25GHz



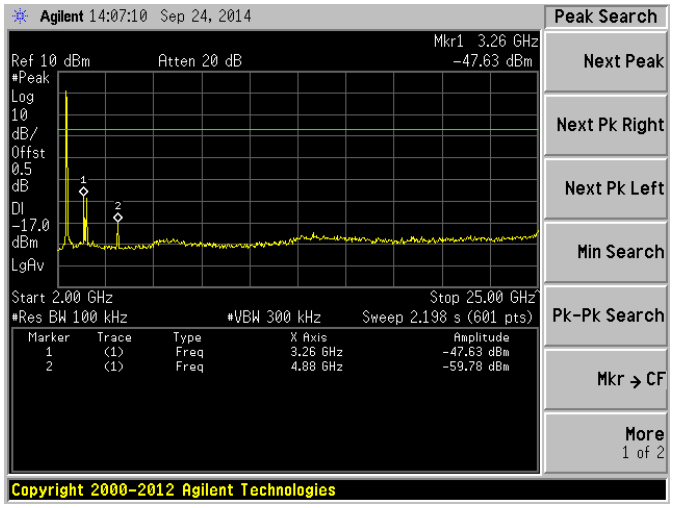
802.11b MID CHANNEL CARRIER LEVEL



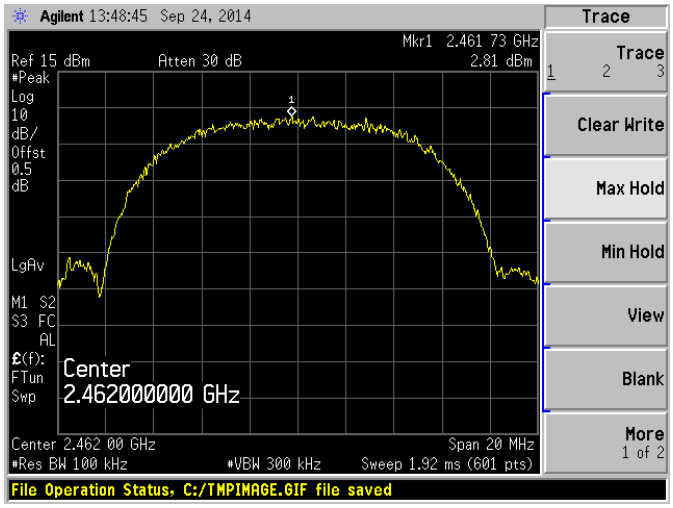
802.11b MID CHANNEL, SPURIOUS 30MHz~3GHz



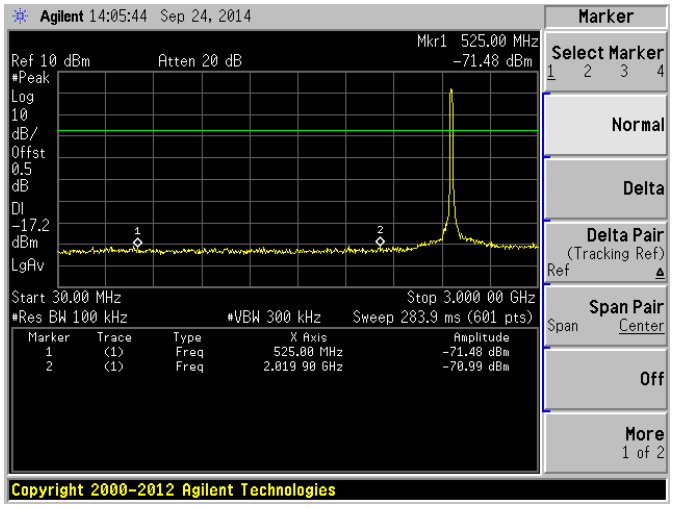
802.11b MID CHANNEL, SPURIOUS 2GHz~25GHz



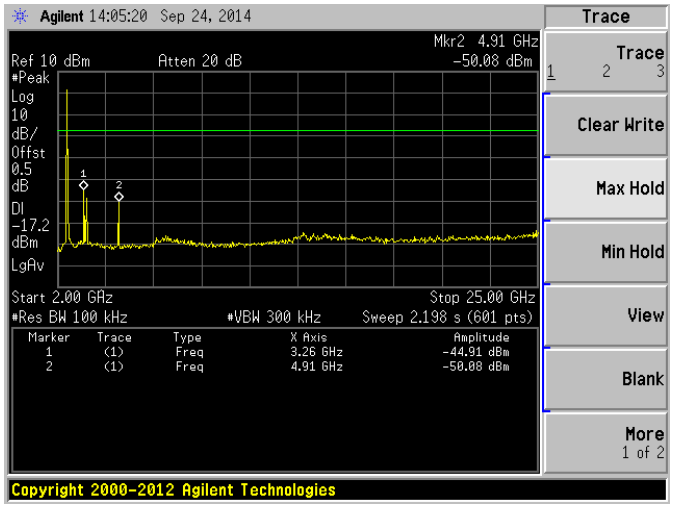
802.11b HIGH CHANNEL CARRIER LEVEL



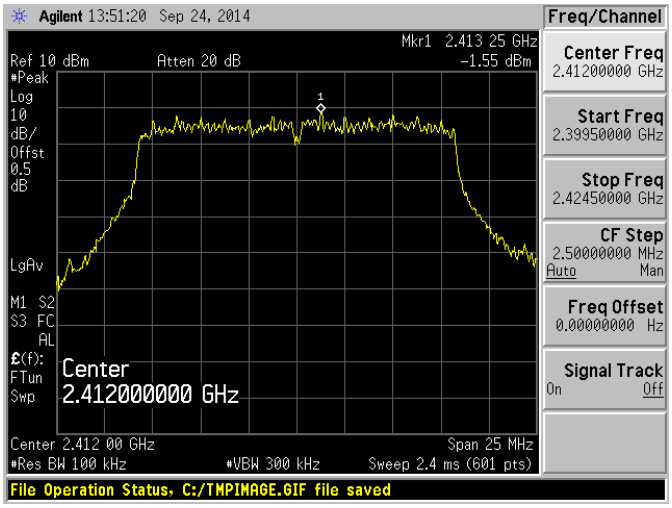
802.11b HIGH CHANNEL, SPURIOUS 30MHz~3GHz



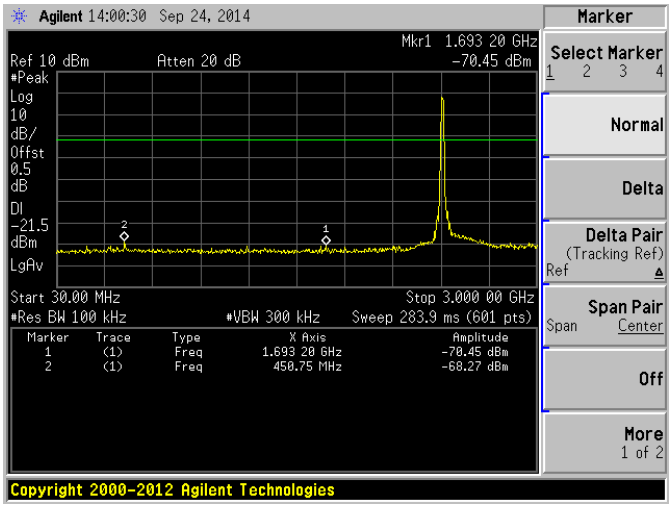
802.11b HIGH CHANNEL, SPURIOUS 2GHz~25GHz



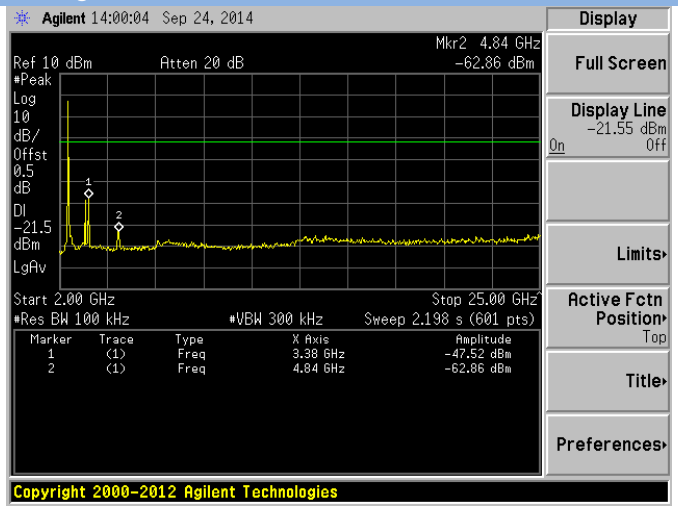
802.11g LOW CHANNEL CARRIER LEVEL



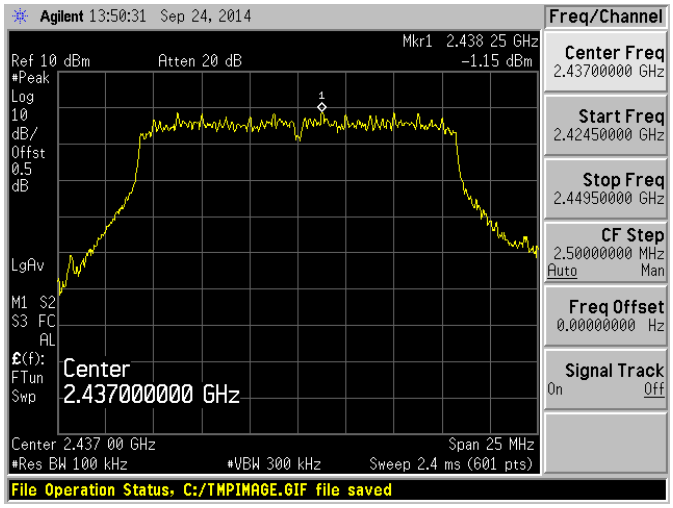
802.11g LOW CHANNEL, SPURIOUS 30MHz~3GHz



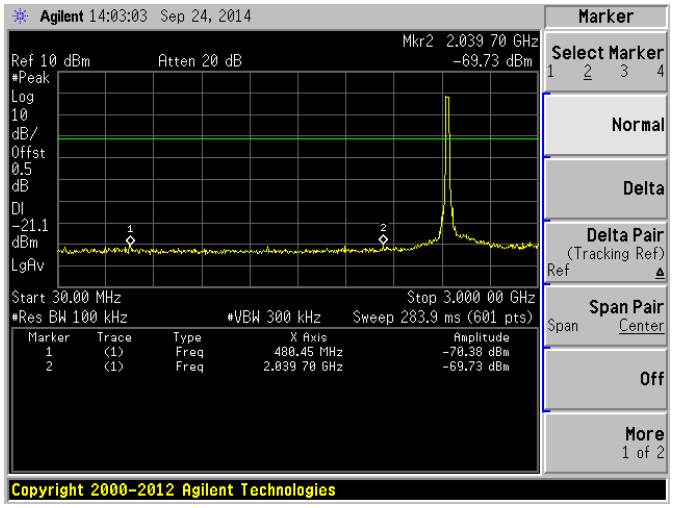
802.11g LOW CHANNEL, SPURIOUS 2GHz~25GHz



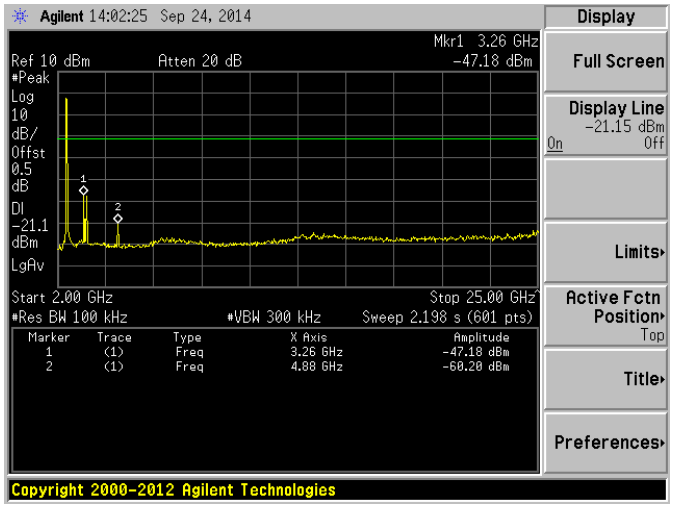
802.11g MID CHANNEL CARRIER LEVEL



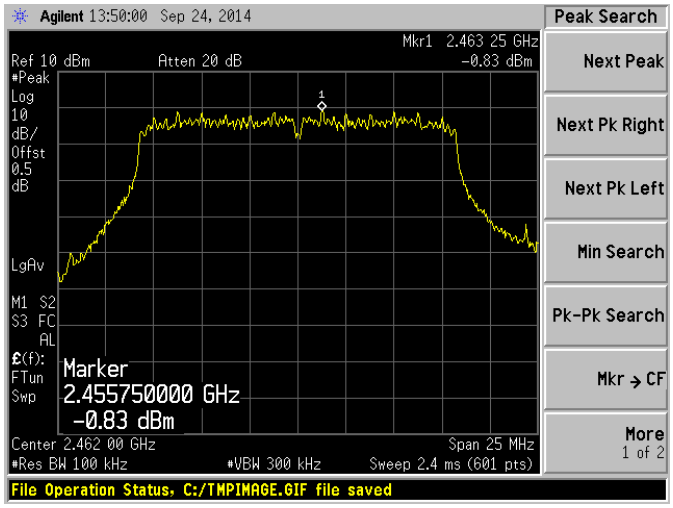
802.11g MID CHANNEL, SPURIOUS 30MHz~3GHz



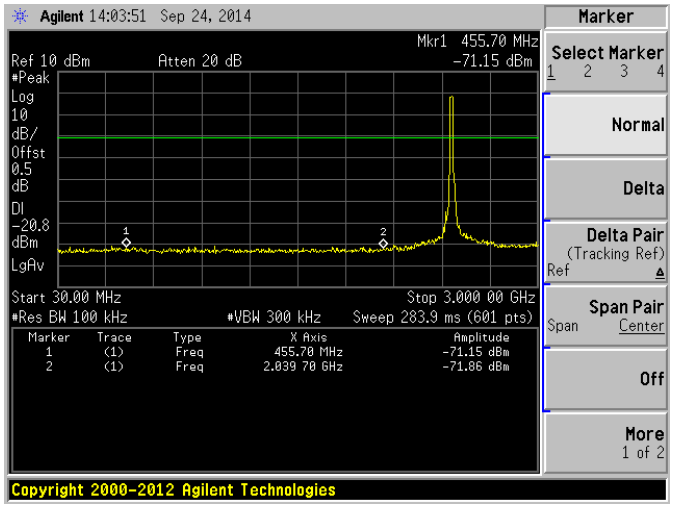
802.11g MID CHANNEL, SPURIOUS 2GHz~25GHz



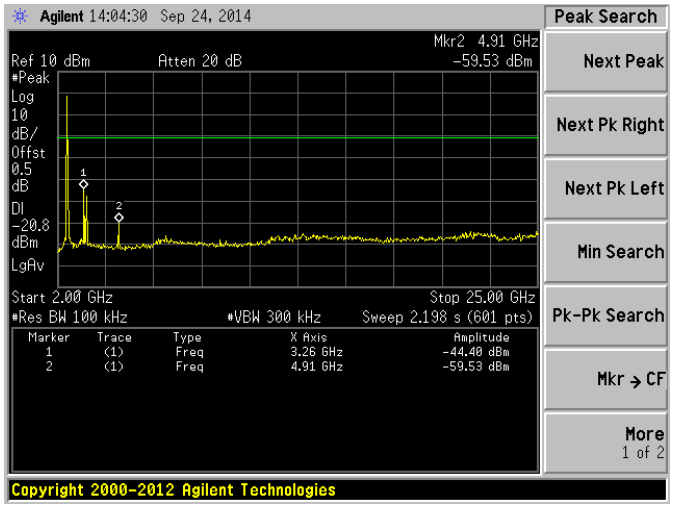
802.11g HIGH CHANNEL CARRIER LEVEL



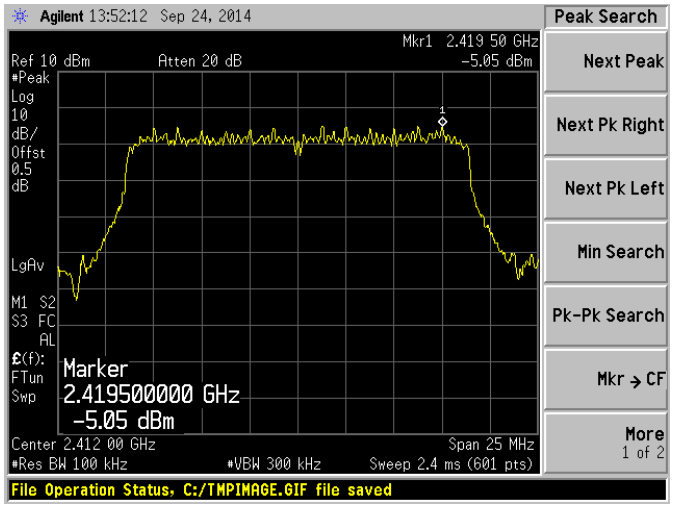
802.11g HIGH CHANNEL, SPURIOUS 30MHz~3GHz



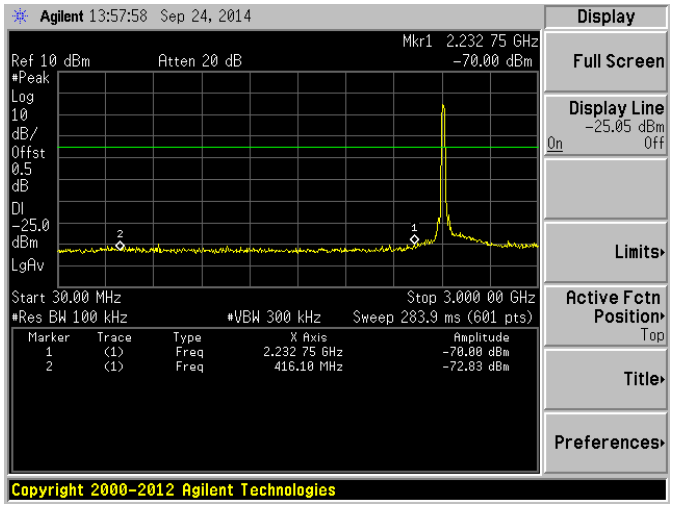
802.11g HIGH CHANNEL, SPURIOUS 2GHz~25GHz



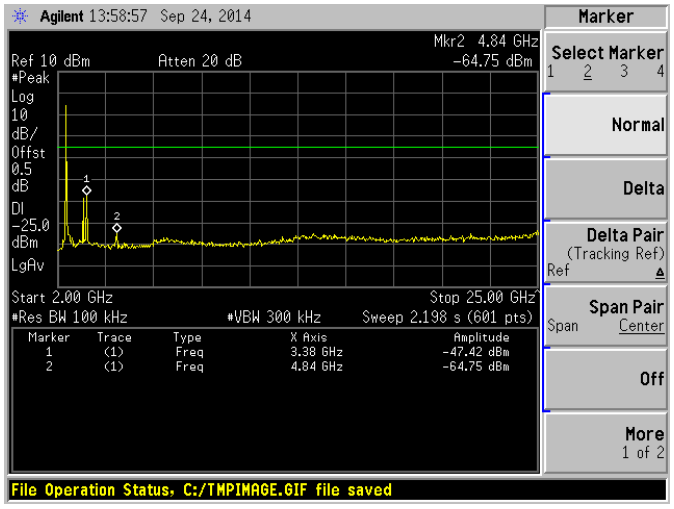
802.11n 20MHz LOW CHANNEL CARRIER LEVEL



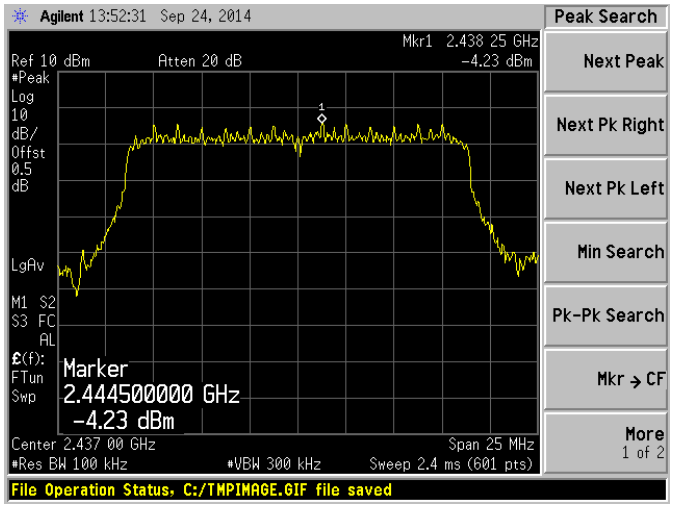
802.11 n 20MHz LOW CHANNEL, SPURIOUS 30MHz~3GHz



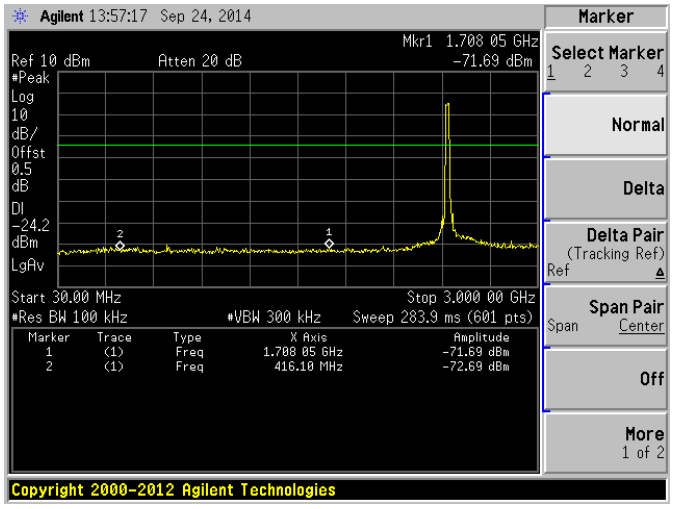
802.11 n 20MHz LOW CHANNEL, SPURIOUS 2GHz~25GHz



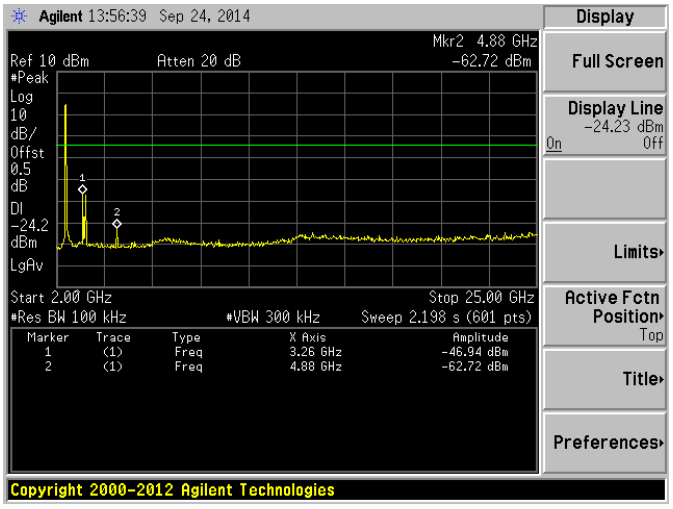
802.11 n 20MHz MID CHANNEL CARRIER LEVEL



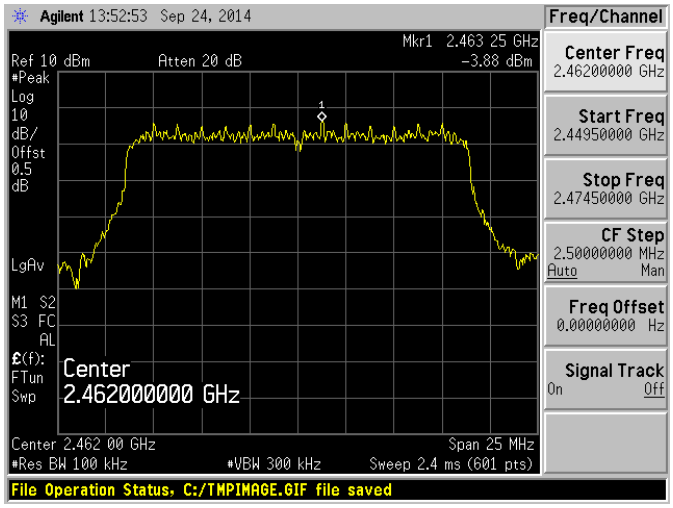
802.11 n 20MHz MID CHANNEL, SPURIOUS 30MHz~3GHz



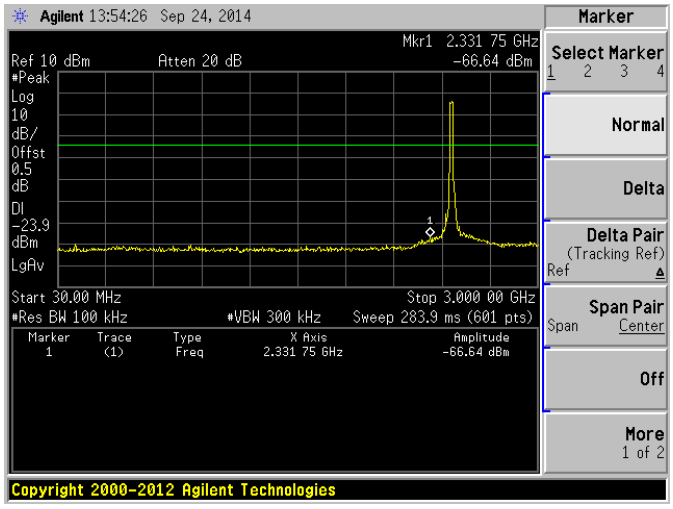
802.11 n 20MHz MID CHANNEL, SPURIOUS 2GHz~25GHz



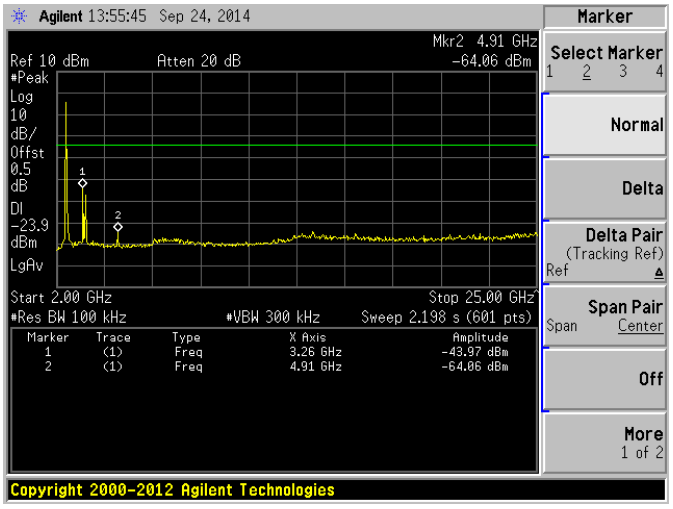
802.11 n 20MHz HIGH CHANNEL CARRIER LEVEL



802.11 n 20MHz HIGH CHANNEL, SPURIOUS 30MHz~3GHz



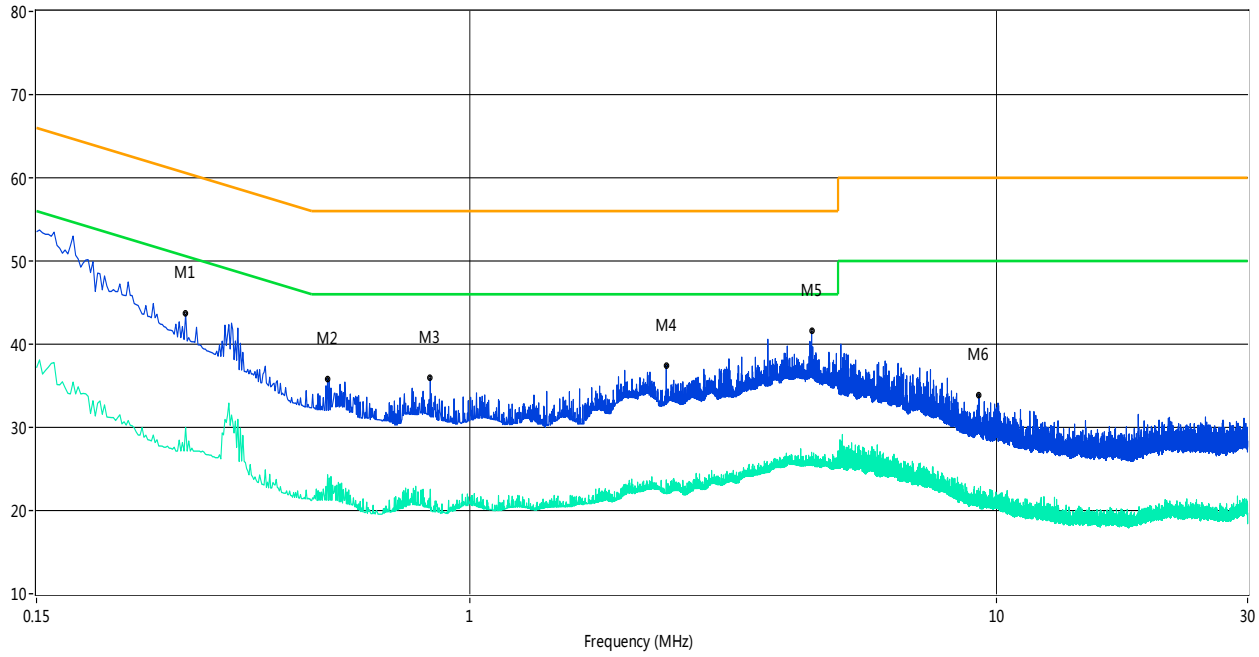
802.11 n 20MHz HIGH CHANNEL, SPURIOUS 2GHz~25GHz



A.4 Conducted Emissions

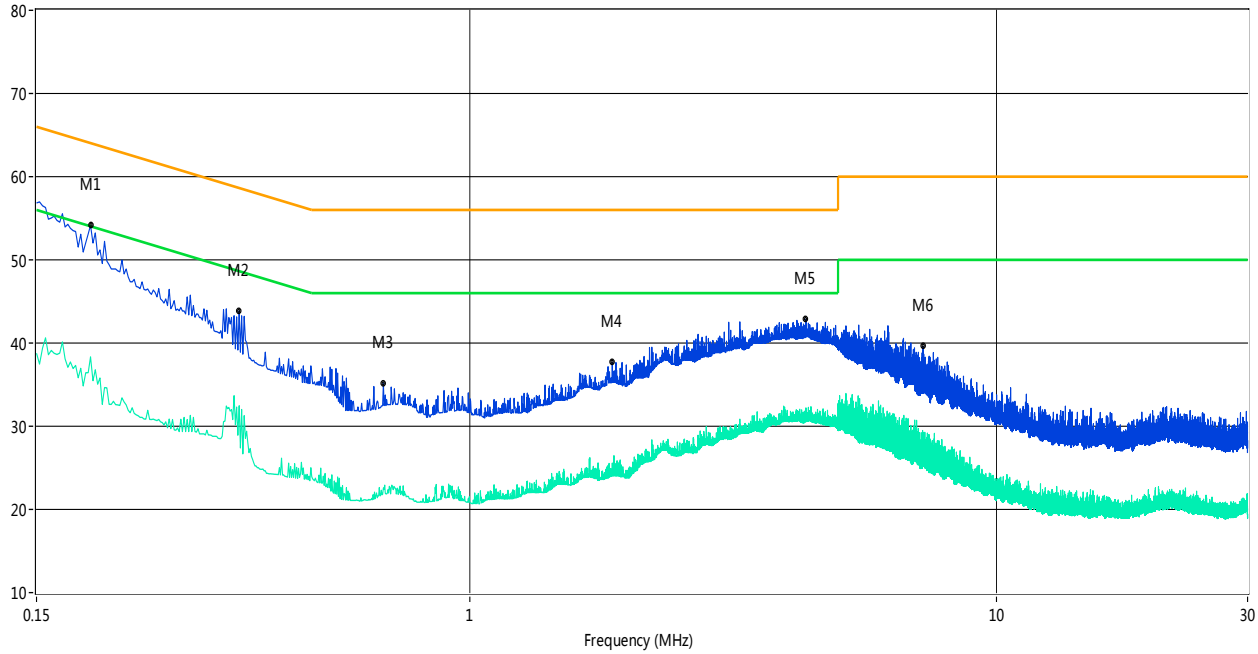
Test Data and Plots

PHASE L



Frequency (MHz)	Peak (dBm)	Q-peak (dBuV)	Average (dBuV)	Factor (dB)	QP Limit (dBuV)	AV Limit (dBuV)	Margin (dB)	Line	Verdict
0.29	43.6	--	30.0	10.00	62.1	52.1	22.10	L Line	PASS
0.54	35.9	--	24.3	10.00	56.0	46.0	21.70	L Line	PASS
0.84	35.9	--	22.6	10.00	56.0	46.0	23.40	L Line	PASS
2.36	37.5	--	23.7	10.00	56.0	46.0	22.30	L Line	PASS
4.45	41.6	--	27.0	10.00	56.0	46.0	19.00	L Line	PASS
9.26	33.9	--	22.3	10.00	60.0	50.0	27.70	L Line	PASS

PHASE L



Frequency (MHz)	Peak (dBm)	Q-peak (dBuV)	Average (dBuV)	Factor (dB)	QP Limit (dBuV)	AV Limit (dBuV)	Margin (dB)	Line	Verdict
0.19	54.2	--	38.3	10.00	64.9	54.9	16.60	N Line	PASS
0.36	43.9	--	32.5	10.00	59.9	49.9	17.40	N Line	PASS
0.68	35.2	--	22.6	10.00	56.0	46.0	23.40	N Line	PASS
1.86	37.7	--	25.6	10.00	56.0	46.0	20.40	N Line	PASS
4.34	42.9	--	30.6	10.00	56.0	46.0	15.40	N Line	PASS
7.25	39.6	--	29.2	10.00	60.0	50.0	20.80	N Line	PASS

A.5 Radiated Emission

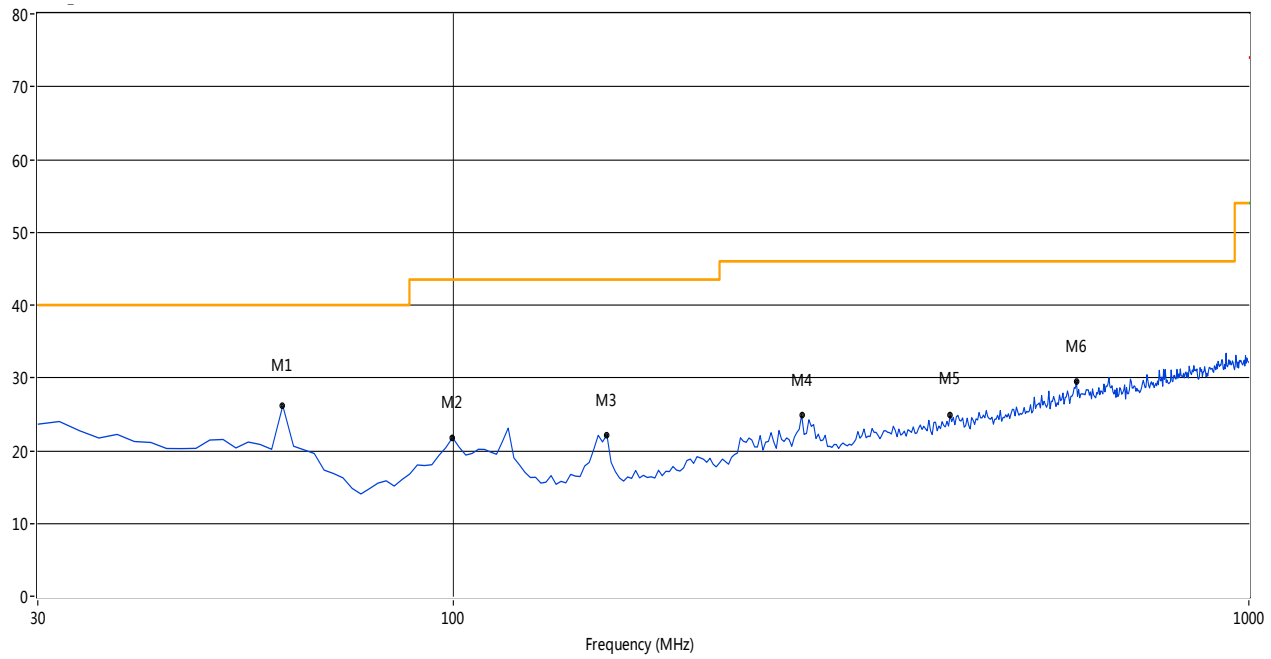
Note 1: The symbol of "--" in the table which means not application.

Note 2: For the test data above 1GHz，According the ANSI C63.4-2009, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

Note 3: The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

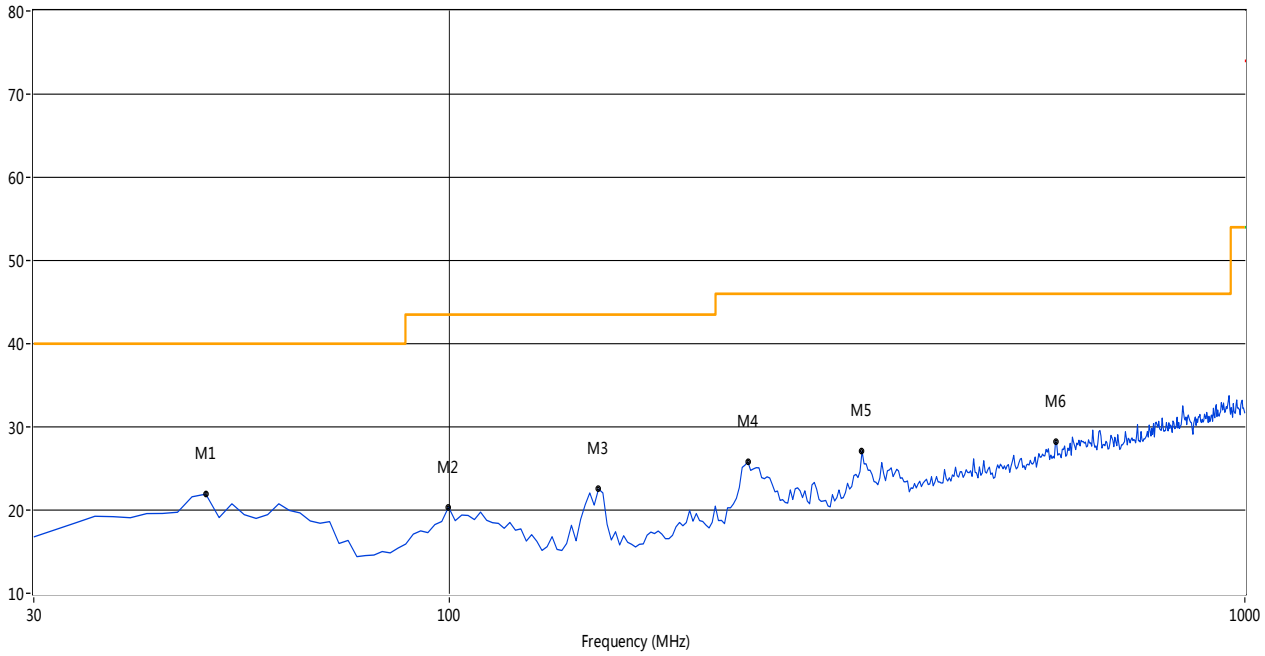
The worst data of 30 MHz to 1GHz

30MHz to 1GHz, ANT V



Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
60.98		26.17		-19.60	--	40.0	--	13.83	323.00	100	Vertical	PASS
99.70		21.79		-19.60	--	43.5	--	21.71	248.50	100	Vertical	PASS
155.85		22.17		-22.69	--	43.5	--	21.33	308.90	100	Vertical	PASS
273.95		24.89		-17.84	--	46.0	--	21.11	359.60	100	Vertical	PASS
421.10		24.83		-14.22	--	46.0	--	21.17	248.50	100	Vertical	PASS
606.97		29.48		-10.01	--	46.0	--	16.52	308.90	100	Vertical	PASS

30MHz to 1GHz, ANT H

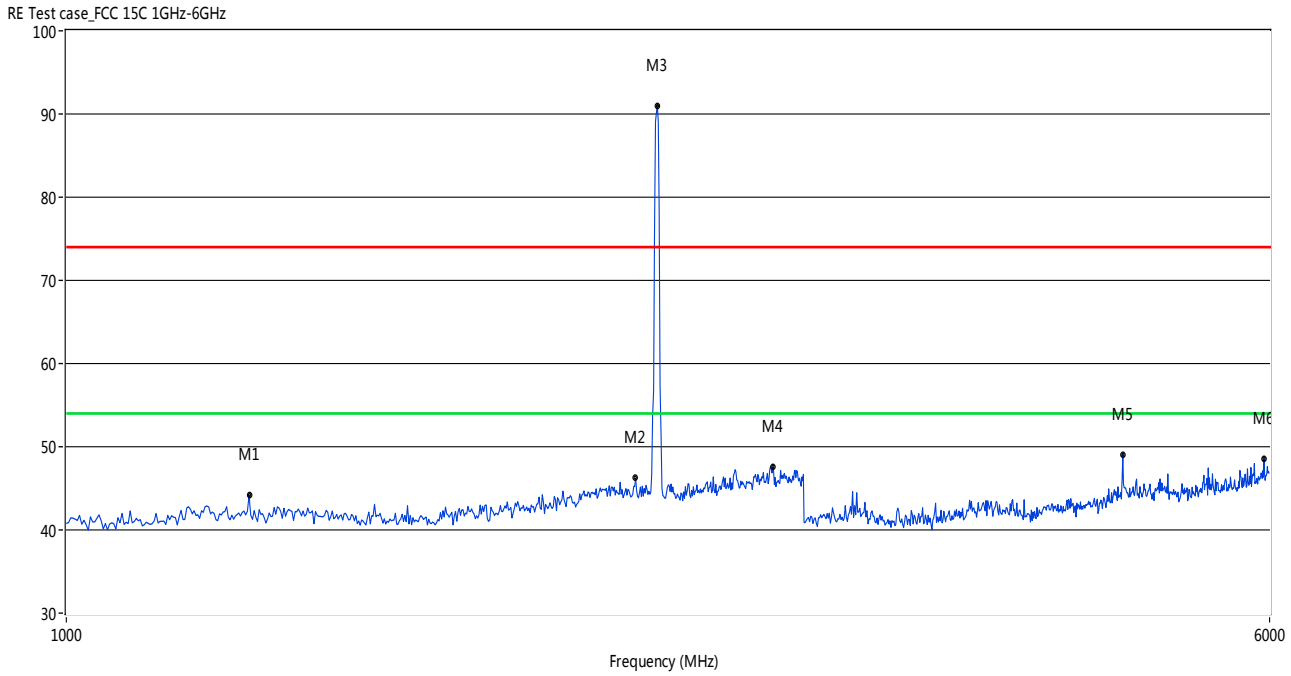


Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
49.36		21.92		-17.98	--	40.0	--	18.08	238.70	100	Horizontal	PASS
99.70		20.36		-19.60	--	43.5	--	23.14	145.40	100	Horizontal	PASS
153.91		22.54		-22.79	--	43.5	--	20.96	31.80	100	Horizontal	PASS
237.17		25.80		-18.72	--	46.0	--	20.20	3.50	100	Horizontal	PASS
330.10		27.08		-16.16	--	46.0	--	18.92	8.30	100	Horizontal	PASS
577.92		28.23		-10.68	--	46.0	--	17.77	159.50	100	Horizontal	PASS

Note: The marked spikes near 2400MHz with circle should be ignored because they are Fundamental signal.

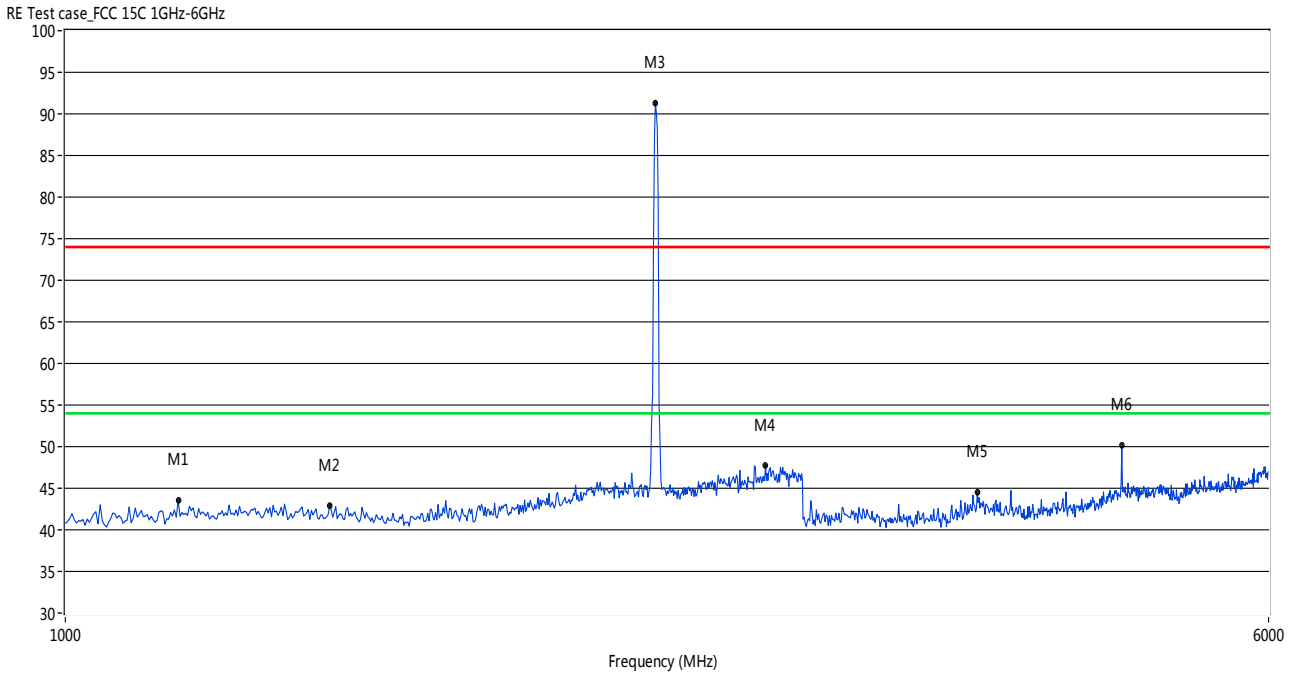
Test Data and Plots

802.11b LOW CHANNEL 1GHz to 6GHz, ANT V



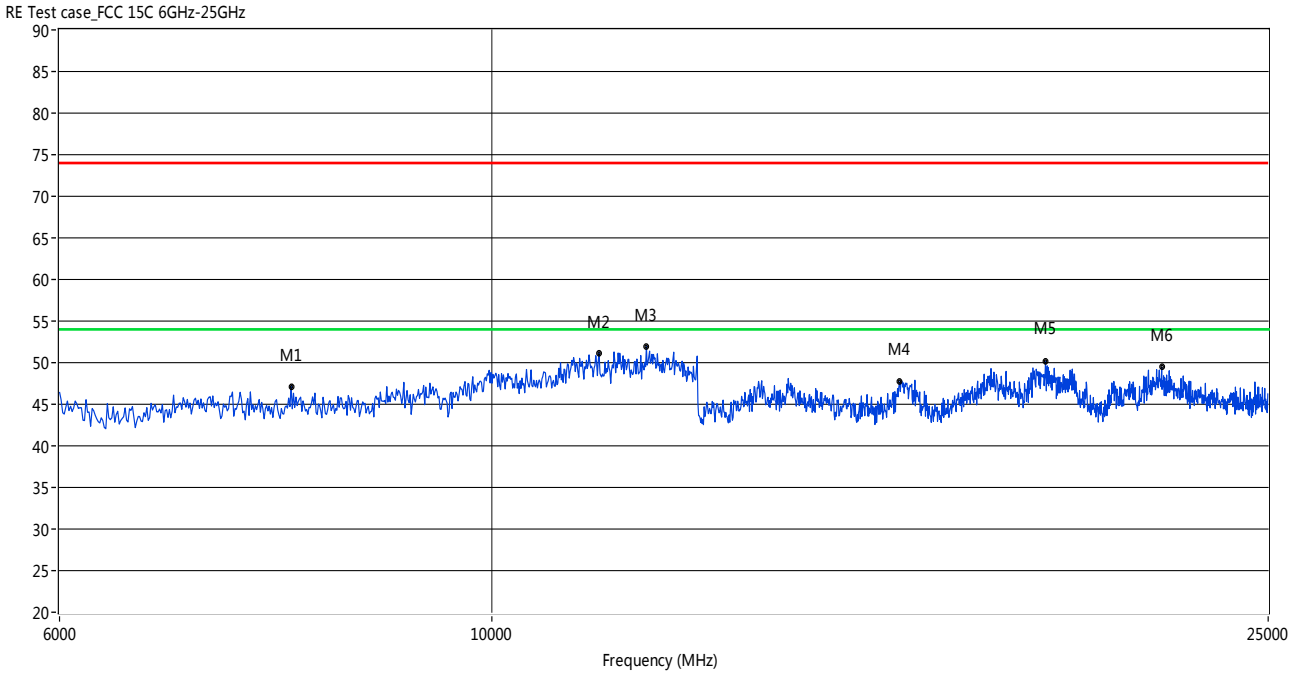
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1312.81	44.14			-3.72	74.0	--	54.0	9.86	16.30	100	Vertical	PASS
2334.44	46.24			-0.10	74.0	--	54.0	7.76	359.60	100	Vertical	PASS
2410.98	91.03			0.06	74.0	--	54.0	-37.03	332.30	100	Vertical	N/A
2863.56	47.59			3.23	74.0	--	54.0	6.41	258.90	100	Vertical	PASS
4821.96	49.07			12.58	74.0	--	54.0	4.93	6.60	100	Vertical	PASS
5950.08	48.54			15.03	74.0	--	54.0	5.46	359.40	100	Vertical	PASS

802.11b LOW CHANNEL 1GHz to 6GHz, ANT H



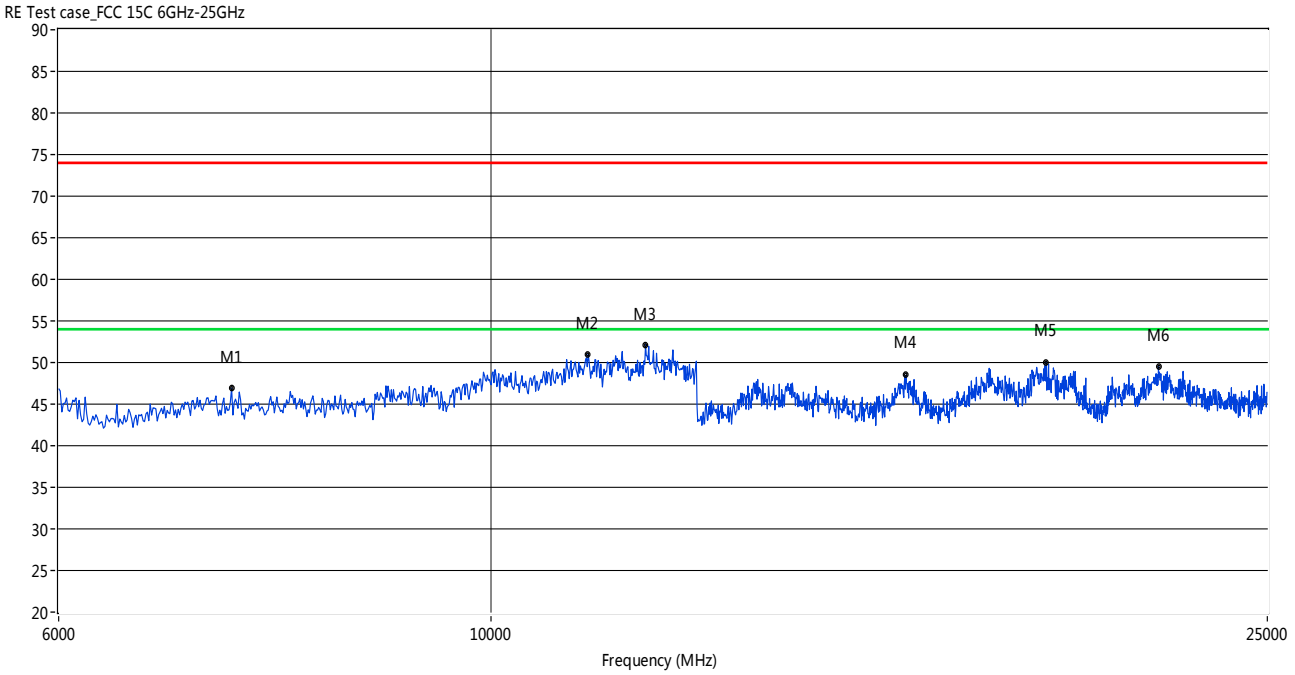
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1183.03	43.50			-4.13	74.0	--	54.0	10.50	245.10	100	Horizontal	PASS
1482.53	42.93			-3.58	74.0	--	54.0	11.07	202.40	100	Horizontal	PASS
2407.65	91.37			-0.02	74.0	--	54.0	-37.37	332.30	100	Horizontal	N/A
2836.94	47.72			2.66	74.0	--	54.0	6.28	140.50	100	Horizontal	PASS
3888.52	44.46			9.88	74.0	--	54.0	9.54	337.30	100	Horizontal	PASS
4821.96	50.10			12.58	74.0	--	54.0	3.90	4.50	100	Horizontal	PASS

802.11b LOW CHANNEL 6GHz to 25GHz, ANT V



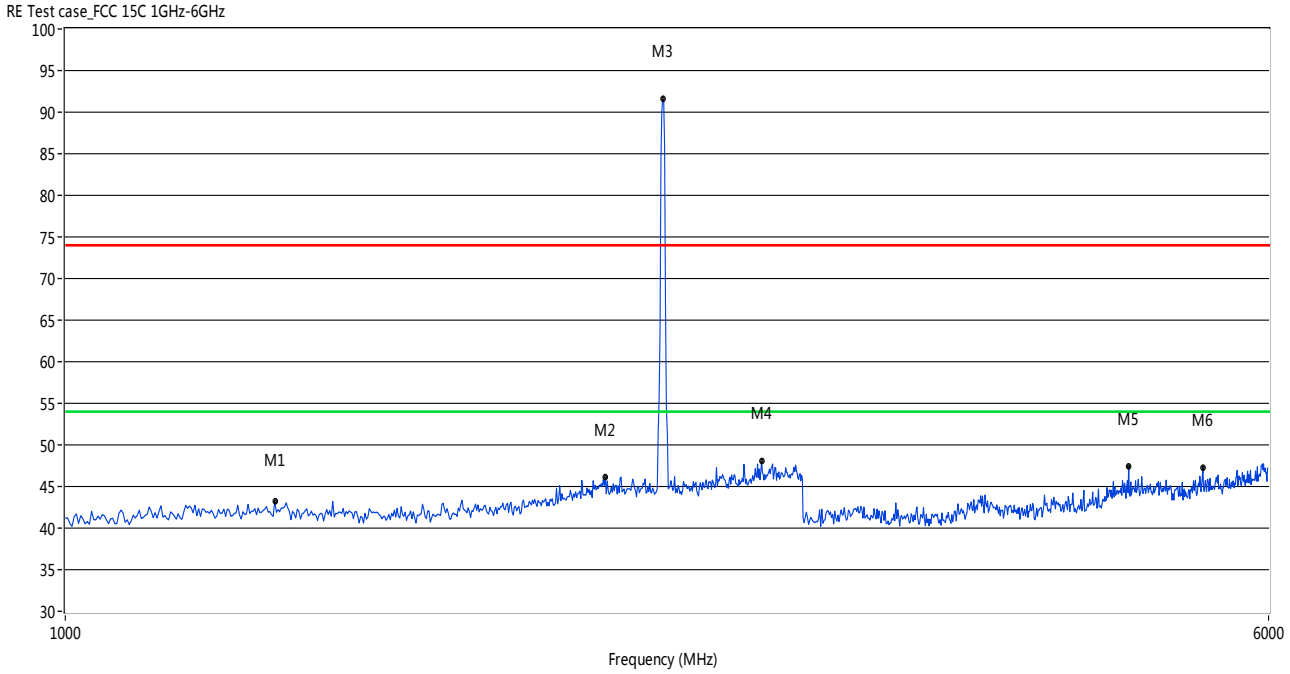
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7886.85	47.15			10.81	74.0	--	54.0	6.85	341.40	100.00	Vertical	PASS
11346.09	51.20			13.34	74.0	--	54.0	2.80	218.60	100.00	Vertical	PASS
11997.50	51.99			19.92	74.0	--	54.0	2.01	301.00	100.00	Vertical	PASS
16181.78	47.70			9.29	74.0	--	54.0	6.30	204.50	100.00	Vertical	PASS
19219.63	50.15			11.13	74.0	--	54.0	3.85	335.60	100.00	Vertical	PASS
22044.92	49.48			12.34	74.0	--	54.0	4.52	316.00	100.00	Vertical	PASS

802.11b LOW CHANNEL 6GHz to 25GHz, ANT H



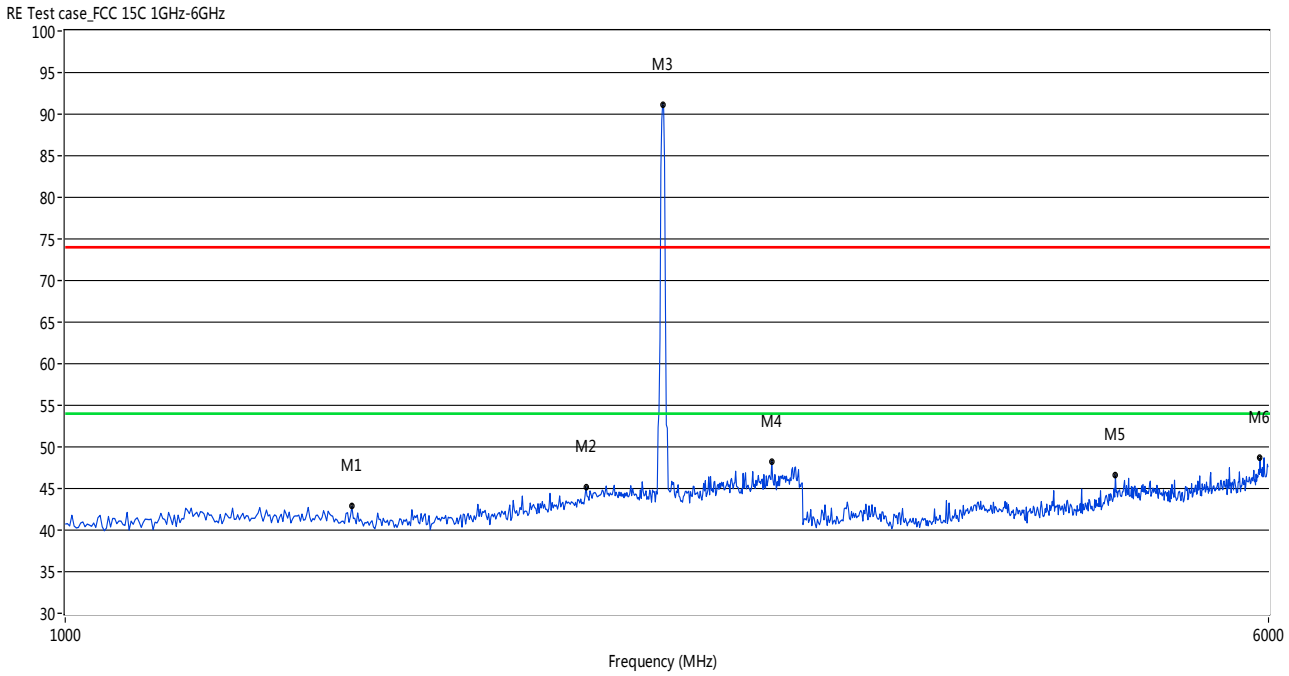
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7358.98	46.93			10.75	74.0	--	54.0	7.07	67.90	100.00	Horizontal	PASS
11211.31	50.99			13.88	74.0	--	54.0	3.01	7.60	100.00	Horizontal	PASS
11997.50	51.99			19.31	74.0	--	54.0	2.01	67.90	100.00	Horizontal	PASS
16316.97	48.48			9.35	74.0	--	54.0	5.52	67.90	100.00	Horizontal	PASS
19259.57	50.04			10.85	74.0	--	54.0	3.96	126.00	100.00	Horizontal	PASS
21985.03	49.52			11.91	74.0	--	54.0	4.48	179.70	100.00	Horizontal	PASS

802.11b MID CHANNEL 1GHz to 6GHz, ANT V



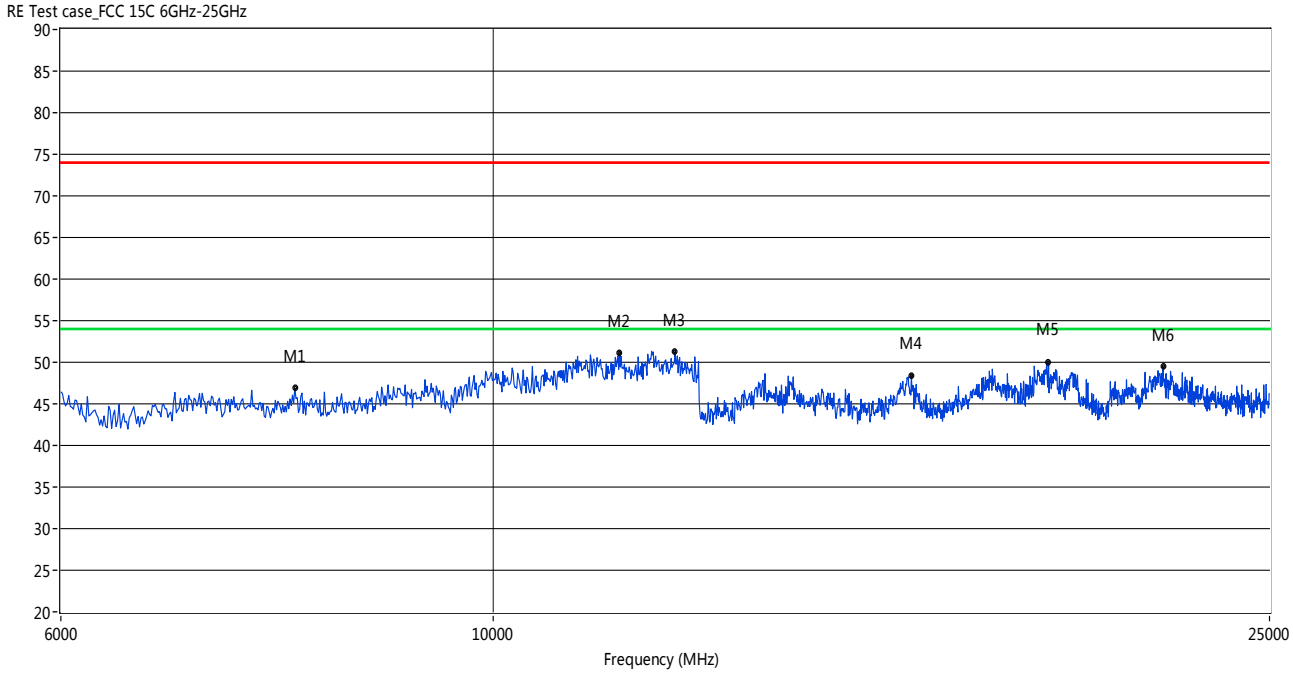
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1366.06	43.21			-3.69	74.0	--	54.0	10.79	179.40	100	Vertical	PASS
2234.61	46.06			0.01	74.0	--	54.0	7.94	197.20	100	Vertical	PASS
2434.28	91.56			-0.02	74.0	--	54.0	-37.56	38.70	100	Vertical	N/A
2820.30	48.00			2.56	74.0	--	54.0	6.00	359.60	100	Vertical	PASS
4871.88	47.44			12.28	74.0	--	54.0	6.56	29.30	100	Vertical	PASS
5440.93	47.34			13.48	74.0	--	54.0	6.66	175.90	100	Vertical	PASS

802.11b MID CHANNEL 1GHz to 6GHz, ANT H



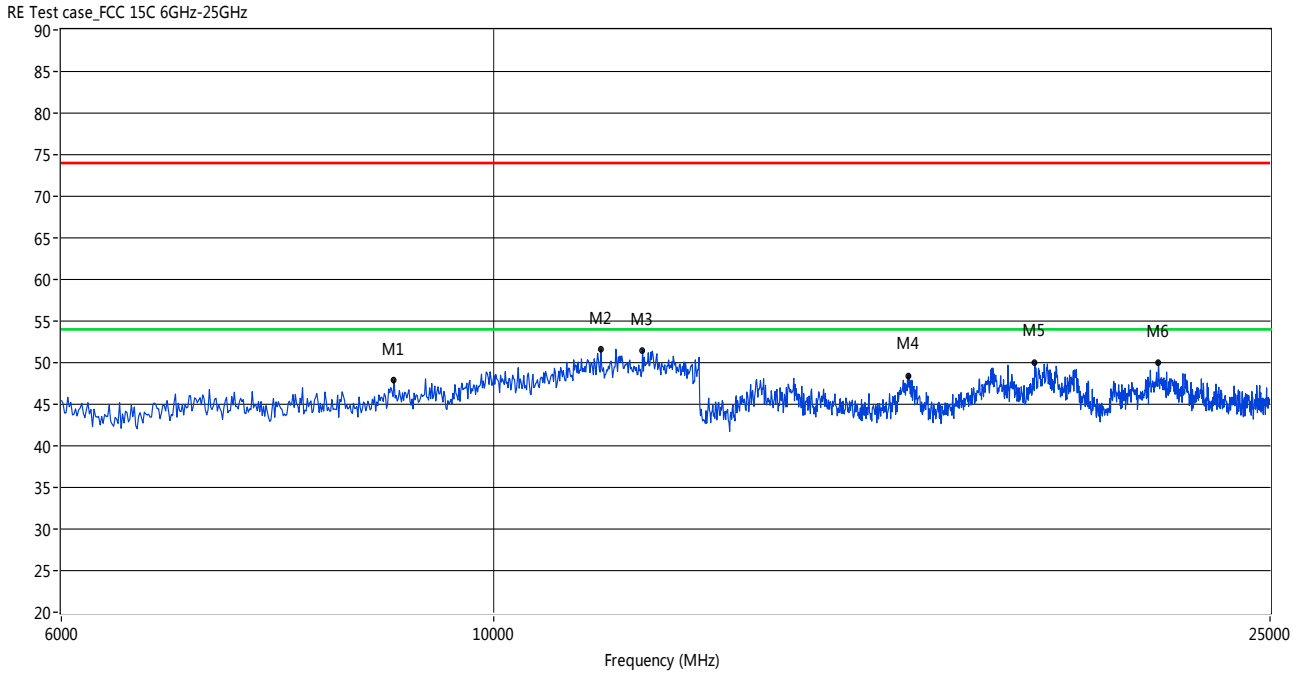
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1532.45	42.84			-3.56	74.0	--	54.0	11.16	344.80	100	Horizontal	PASS
2171.38	45.14			-0.15	74.0	--	54.0	8.86	247.00	100	Horizontal	PASS
2434.28	91.21			-0.02	74.0	--	54.0	-37.21	38.00	100	Horizontal	N/A
2863.56	48.25			3.23	74.0	--	54.0	5.75	142.30	100	Horizontal	PASS
4777.04	46.62			12.31	74.0	--	54.0	7.38	360.00	100	Horizontal	PASS
5925.12	48.63			15.29	74.0	--	54.0	5.37	159.00	100	Horizontal	PASS

802.11b MID CHANNEL 6GHz to 25GHz, ANT V



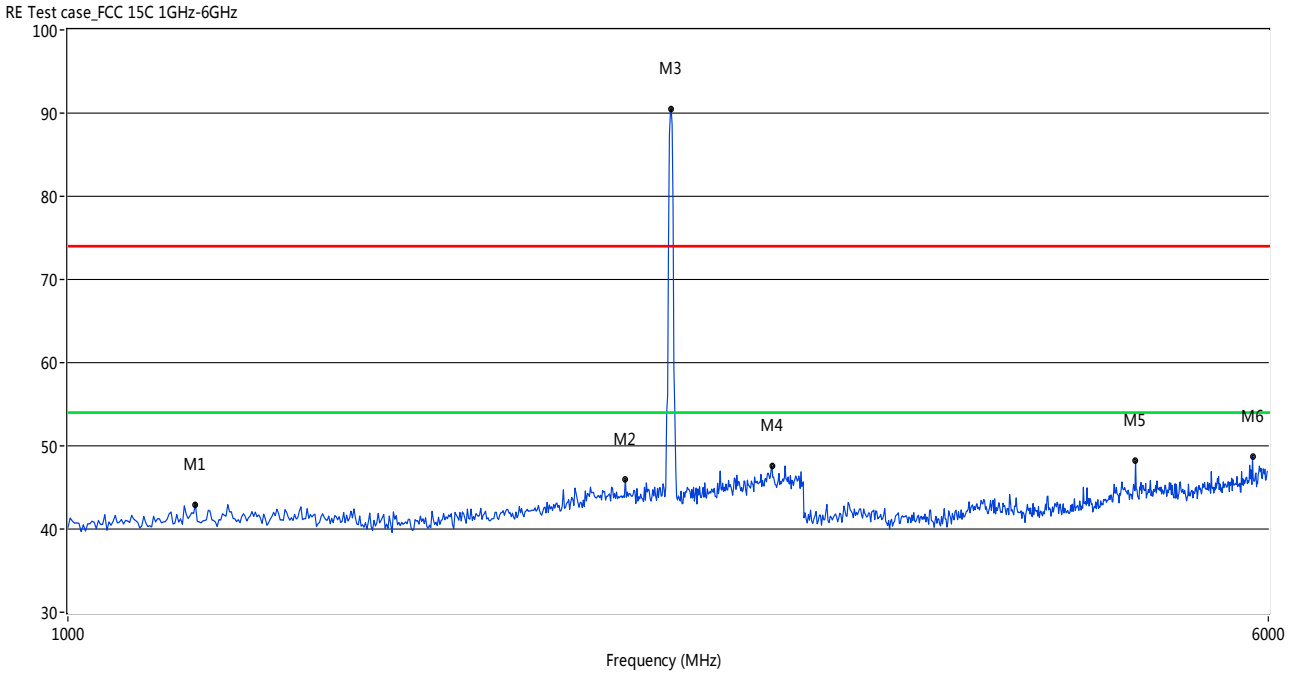
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7909.32	46.89			11.47	74.0	--	54.0	7.11	4.20	100.00	Vertical	PASS
11604.41	51.20			14.59	74.0	--	54.0	2.80	150.50	100.00	Vertical	PASS
12390.60	51.31			19.55	74.0	--	54.0	2.69	20.30	100.00	Vertical	PASS
16379.37	48.43			8.69	74.0	--	54.0	5.57	301.00	100.00	Vertical	PASS
19259.57	50.04			11.35	74.0	--	54.0	3.96	355.90	100.00	Vertical	PASS
22044.92	49.52			12.57	74.0	--	54.0	4.48	306.00	100.00	Vertical	PASS

802.11b MID CHANNEL 6GHz to 25GHz, ANT H



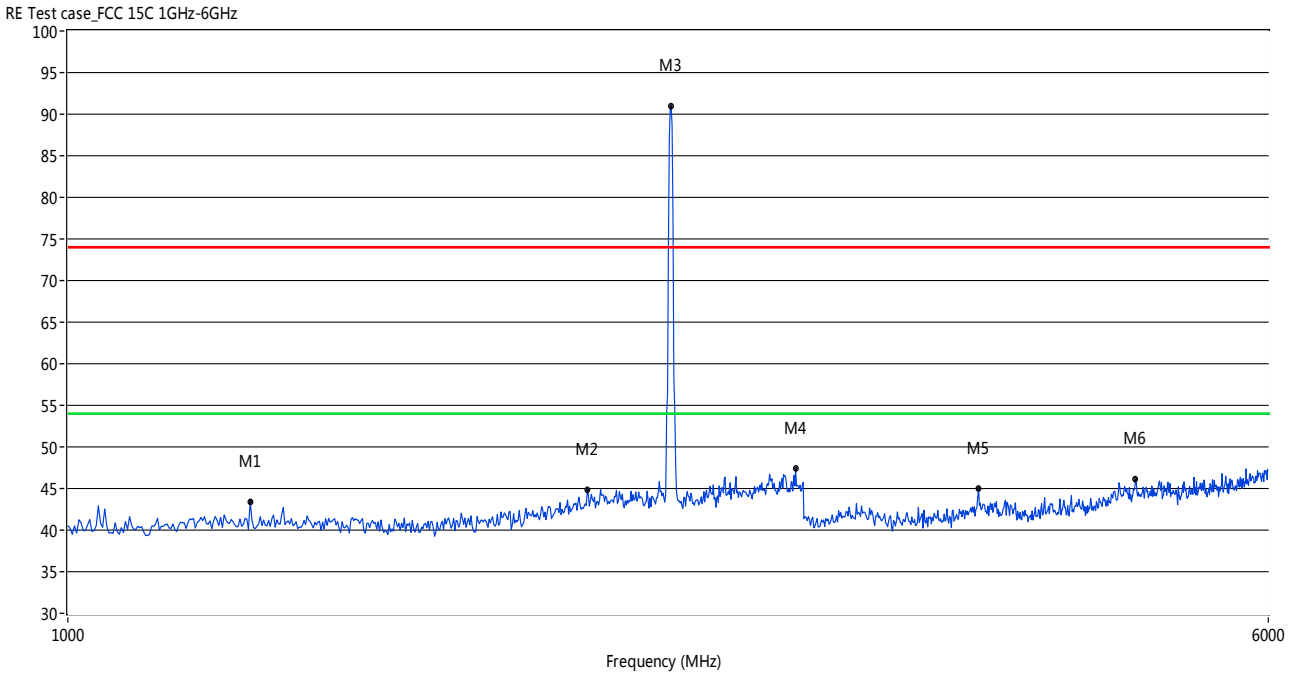
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
8886.44	47.88			11.26	74.0	--	54.0	6.12	61.10	100.00	Horizontal	PASS
11346.09	51.64			13.69	74.0	--	54.0	2.36	212.90	100.00	Horizontal	PASS
11918.89	51.52			19.40	74.0	--	54.0	2.48	7.80	100.00	Horizontal	PASS
16316.97	48.44			8.76	74.0	--	54.0	5.56	238.10	100.00	Horizontal	PASS
18937.60	50.06			10.75	74.0	--	54.0	3.94	183.70	100.00	Horizontal	PASS
21915.14	49.95			11.66	74.0	--	54.0	4.05	135.20	100.00	Horizontal	PASS

802.11b HIGH CHANNEL 1GHz to 6GHz, ANT V



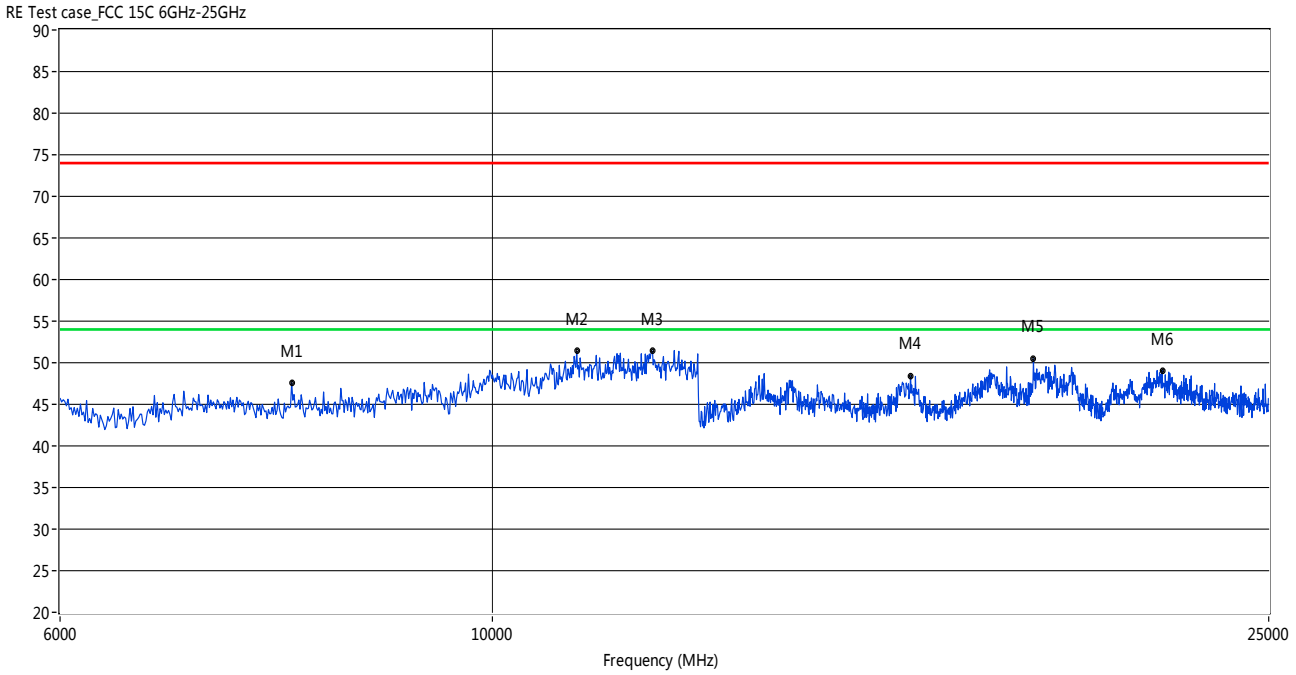
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1209.65	42.98			-3.67	74.0	--	54.0	11.02	220.70	100	Vertical	PASS
2297.84	46.01			0.01	74.0	--	54.0	7.99	141.30	100	Vertical	PASS
2460.90	90.51			0.72	74.0	--	54.0	-36.51	42.40	100	Vertical	N/A
2860.23	47.52			3.42	74.0	--	54.0	6.48	257.80	100	Vertical	PASS
4921.80	48.19			12.89	74.0	--	54.0	5.81	305.10	100	Vertical	PASS
5860.23	48.74			14.48	74.0	--	54.0	5.26	339.40	100	Vertical	PASS

802.11b HIGH CHANNEL 1GHz to 6GHz, ANT H



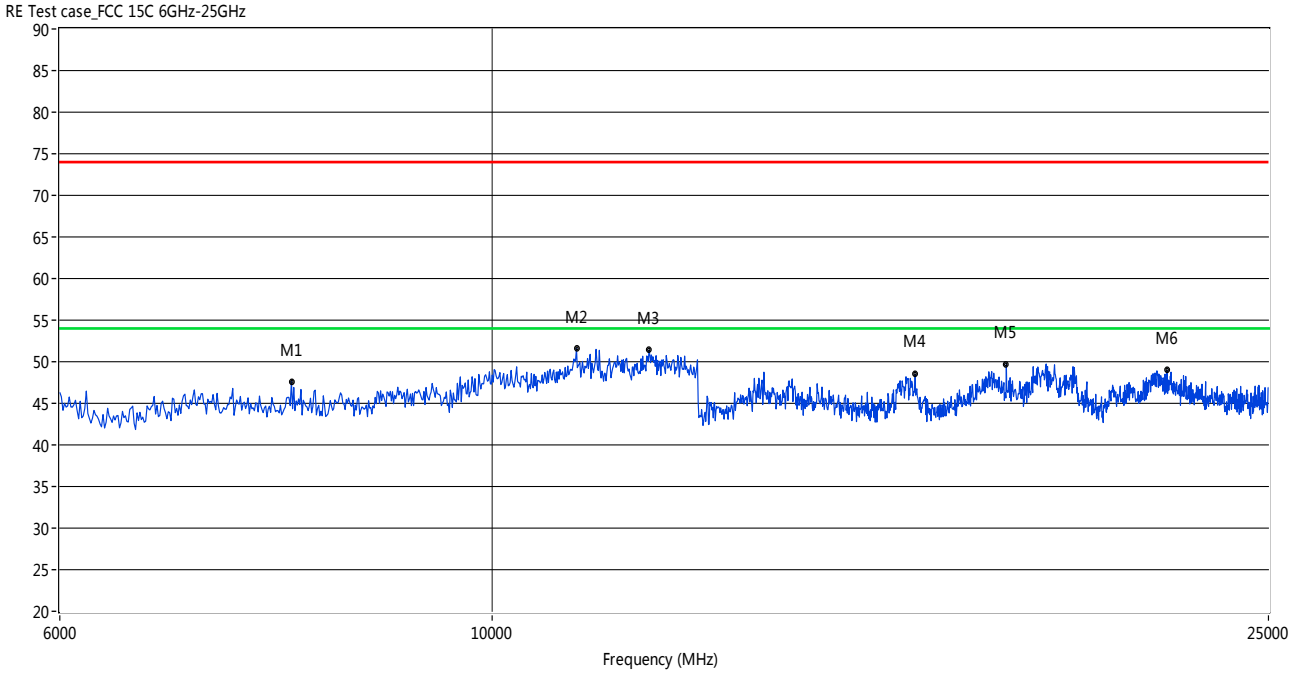
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1312.81	43.44			-3.72	74.0	--	54.0	10.56	98.00	100	Horizontal	PASS
2171.38	44.89			-0.15	74.0	--	54.0	9.11	147.60	100	Horizontal	PASS
2460.90	91.00			0.72	74.0	--	54.0	-37.00	36.80	100	Horizontal	N/A
2963.39	47.37			3.00	74.0	--	54.0	6.63	159.80	100	Horizontal	PASS
3893.51	44.96			9.90	74.0	--	54.0	9.04	225.50	100	Horizontal	PASS
4921.80	46.10			12.89	74.0	--	54.0	7.90	355.70	100	Horizontal	PASS

802.11b HIGH CHANNEL 6GHz to 25GHz, ANT V



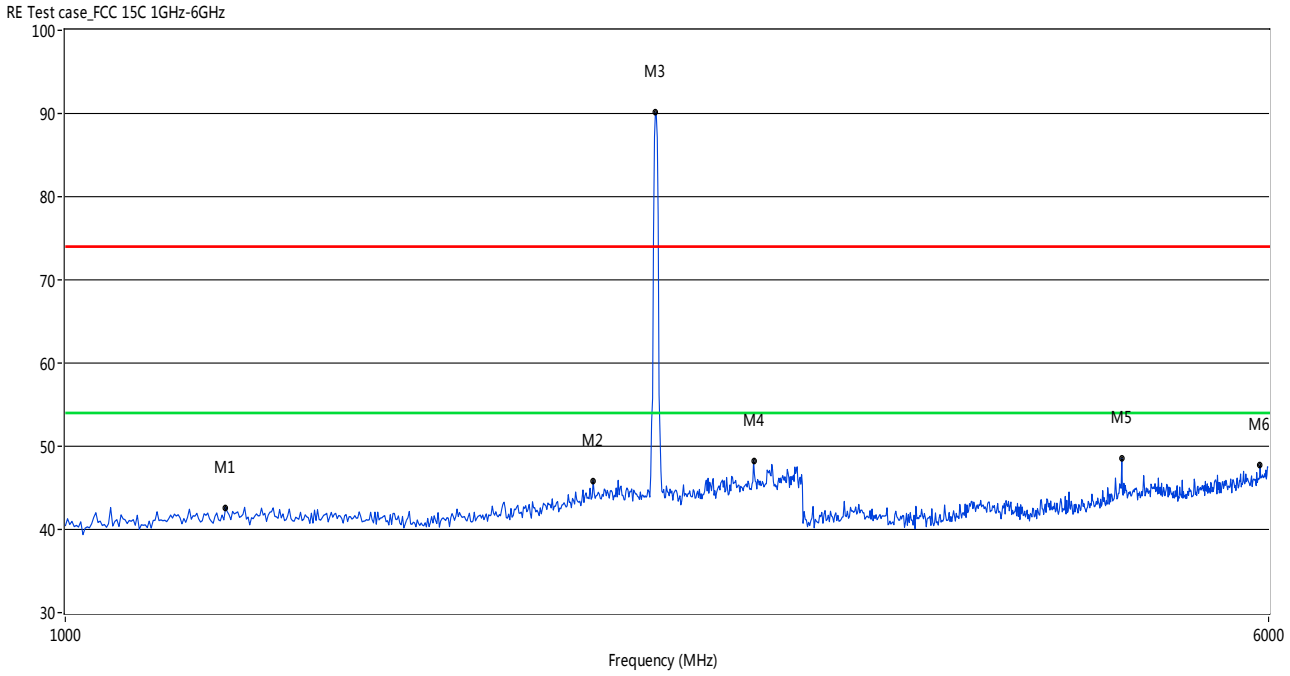
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7886.85	47.59			12.23	74.0	--	54.0	6.41	75.20	100.00	Vertical	PASS
11042.84	51.42			14.00	74.0	--	54.0	2.58	212.00	100.00	Vertical	PASS
12076.12	51.41			19.60	74.0	--	54.0	2.59	7.60	100.00	Vertical	PASS
16379.37	48.40			8.81	74.0	--	54.0	5.60	1.10	100.00	Vertical	PASS
18937.60	50.06			10.66	74.0	--	54.0	3.94	354.40	100.00	Vertical	PASS
22044.92	49.07			12.12	74.0	--	54.0	4.93	301.80	100.00	Vertical	PASS

802.11b HIGH CHANNEL 6GHz to 25GHz, ANT H



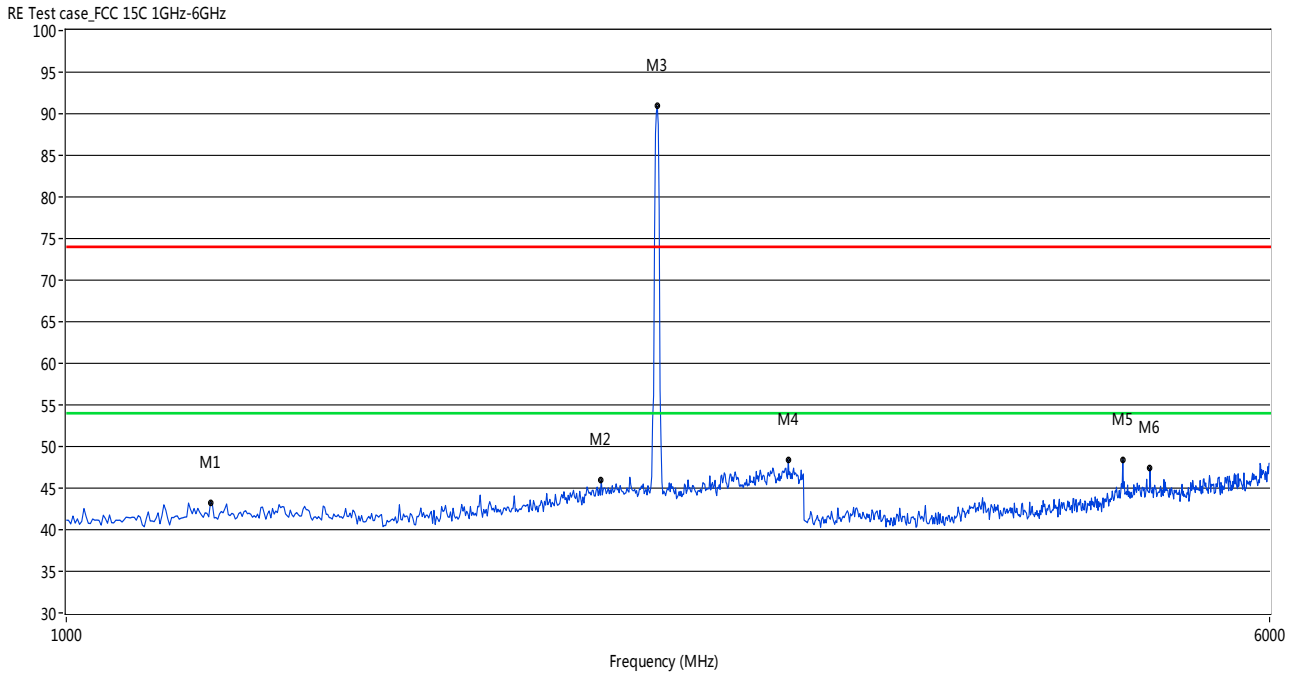
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7886.85	47.61			10.57	74.0	--	54.0	6.39	2.20	100.00	Horizontal	PASS
11042.84	51.42			13.84	74.0	--	54.0	2.58	294.60	100.00	Horizontal	PASS
12031.20	51.38			19.76	74.0	--	54.0	2.62	280.50	100.00	Horizontal	PASS
16472.96	48.47			9.60	74.0	--	54.0	5.53	169.60	100.00	Horizontal	PASS
18344.84	49.66			10.70	74.0	--	54.0	4.34	27.50	100.00	Horizontal	PASS
22174.71	48.96			12.37	74.0	--	54.0	5.04	291.90	100.00	Horizontal	PASS

802.11g LOW CHANNEL 1GHz to 6GHz, ANT V



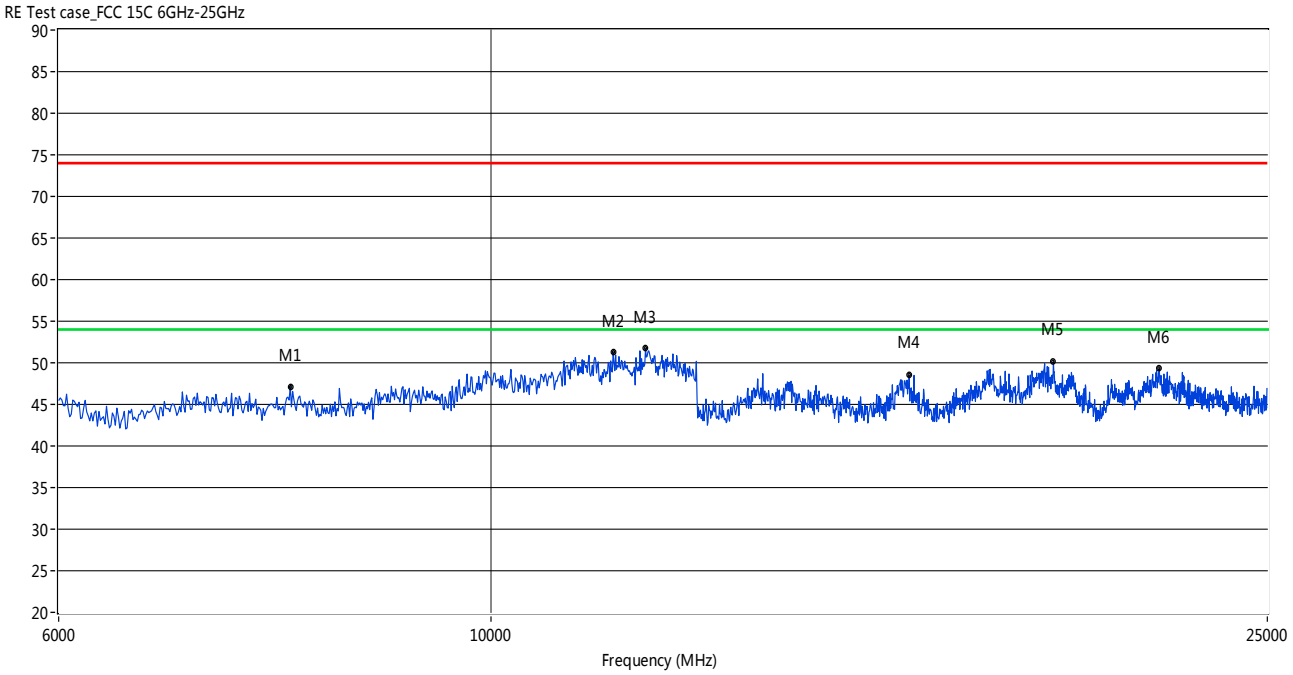
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1269.55	42.63			-3.61	74.0	--	54.0	11.37	-0.00	100	Vertical	PASS
2194.68	45.83			-0.37	74.0	--	54.0	8.17	38.90	100	Vertical	PASS
2407.65	90.10			-0.02	74.0	--	54.0	-36.10	26.60	100	Vertical	N/A
2787.02	48.29			2.94	74.0	--	54.0	5.71	69.30	100	Vertical	PASS
4821.96	48.54			12.58	74.0	--	54.0	5.46	309.10	100	Vertical	PASS
5925.12	47.75			15.29	74.0	--	54.0	6.25	358.40	100	Vertical	PASS

802.11g LOW CHANNEL 1GHz to 6GHz, ANT H



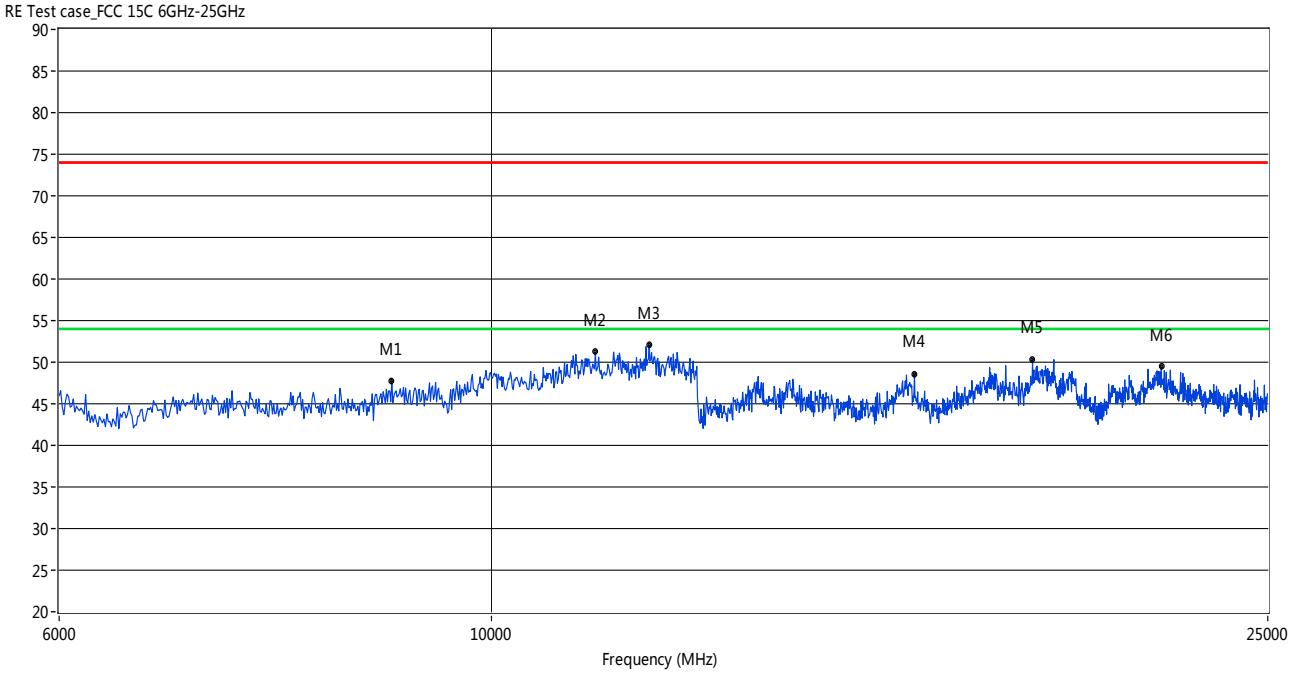
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1239.60	43.27			-3.83	74.0	--	54.0	10.73	146.70	100	Horizontal	PASS
2217.97	45.99			0.07	74.0	--	54.0	8.01	110.30	100	Horizontal	PASS
2410.98	90.93			0.06	74.0	--	54.0	-36.93	326.00	100	Horizontal	N/A
2930.12	48.40			3.02	74.0	--	54.0	5.60	270.30	100	Horizontal	PASS
4821.96	48.41			12.58	74.0	--	54.0	5.59	307.10	100	Horizontal	PASS
5021.63	47.37			12.94	74.0	--	54.0	6.63	145.80	100	Horizontal	PASS

802.11g LOW CHANNEL 6GHz to 25GHz, ANT V



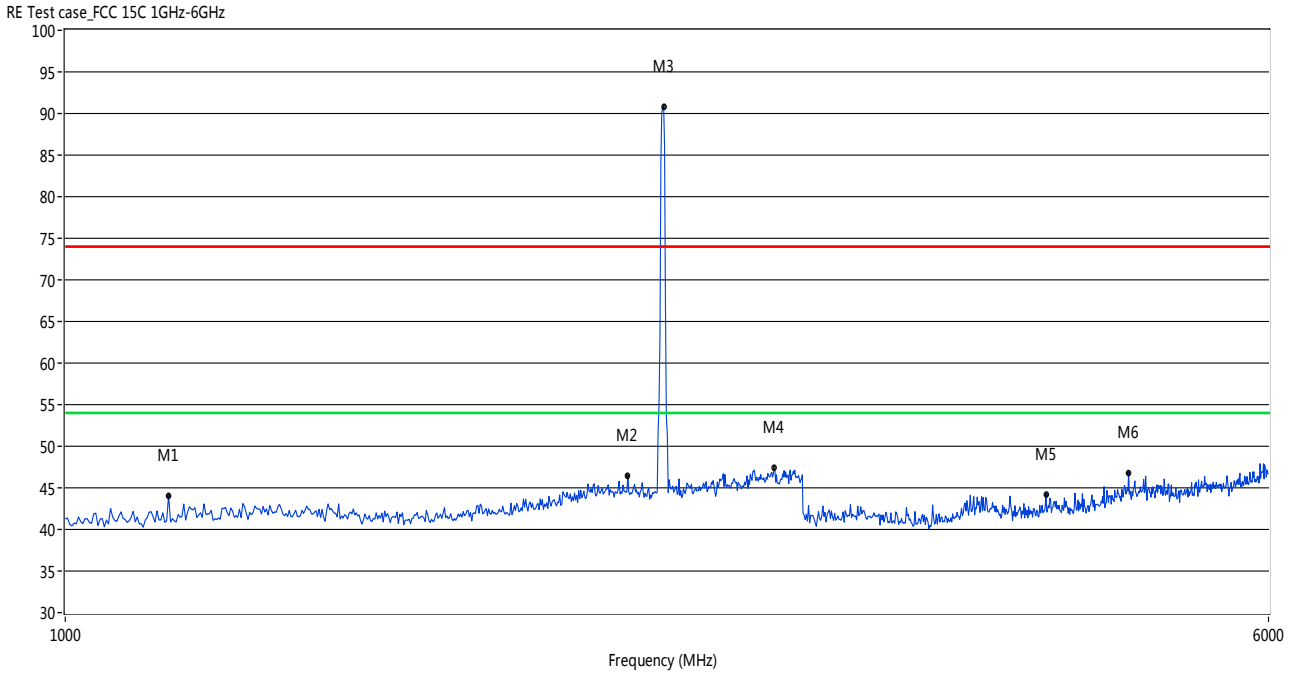
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7886.85	47.61			11.57	74.0	--	54.0	6.39	241.30	100.00	Vertical	PASS
11548.25	51.30			13.74	74.0	--	54.0	2.70	5.00	100.00	Vertical	PASS
11997.50	51.71			19.28	74.0	--	54.0	2.29	0.60	100.00	Vertical	PASS
16379.37	48.51			9.44	74.0	--	54.0	5.49	241.30	100.00	Vertical	PASS
19419.30	50.12			10.64	74.0	--	54.0	3.88	360.30	100.00	Vertical	PASS
22004.99	49.31			12.15	74.0	--	54.0	4.69	346.00	100.00	Vertical	PASS

802.11g LOW CHANNEL 6GHz to 25GHz, ANT H



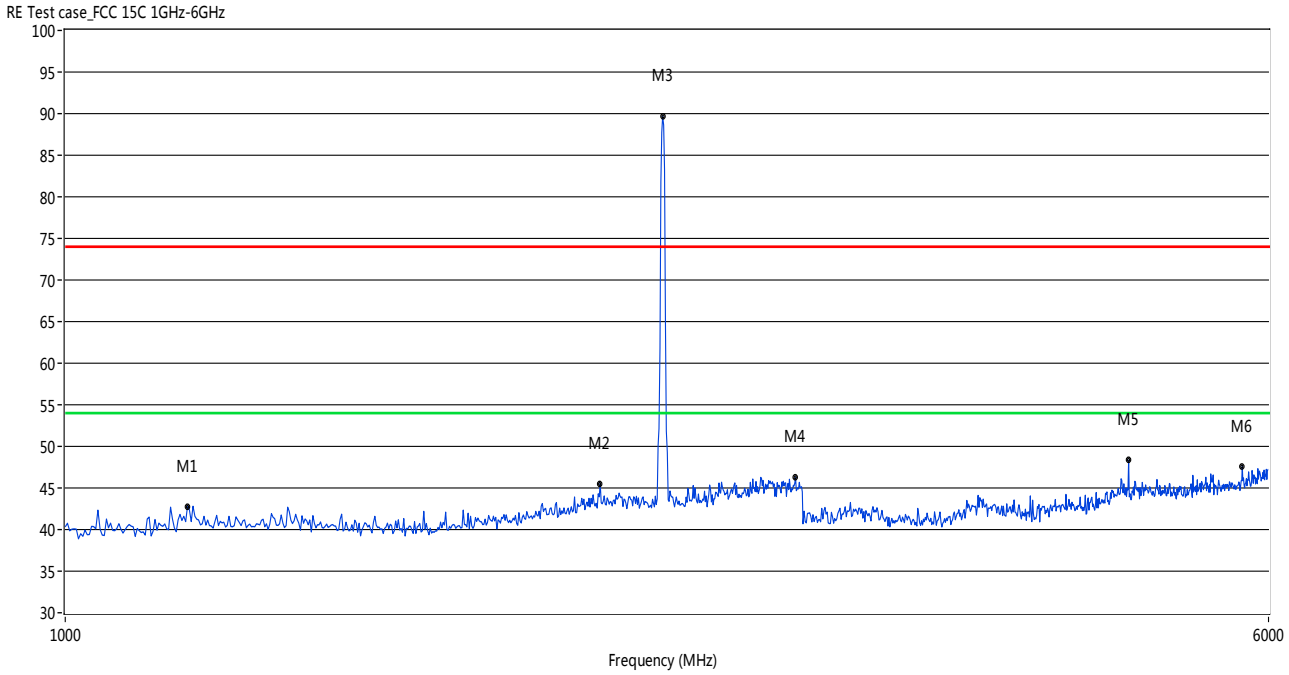
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
8886.44	47.78			11.41	74.0	--	54.0	6.22	288.50	100.00	Horizontal	PASS
11301.17	51.22			14.12	74.0	--	54.0	2.78	302.20	100.00	Horizontal	PASS
12042.43	52.08			19.49	74.0	--	54.0	1.92	205.40	100.00	Horizontal	PASS
16472.96	48.54			8.72	74.0	--	54.0	5.46	322.00	100.00	Horizontal	PASS
18937.60	50.36			11.49	74.0	--	54.0	3.64	248.40	100.00	Horizontal	PASS
22044.92	49.44			11.74	74.0	--	54.0	4.56	1.10	100.00	Horizontal	PASS

802.11g MID CHANNEL 1GHz to 6GHz, ANT V



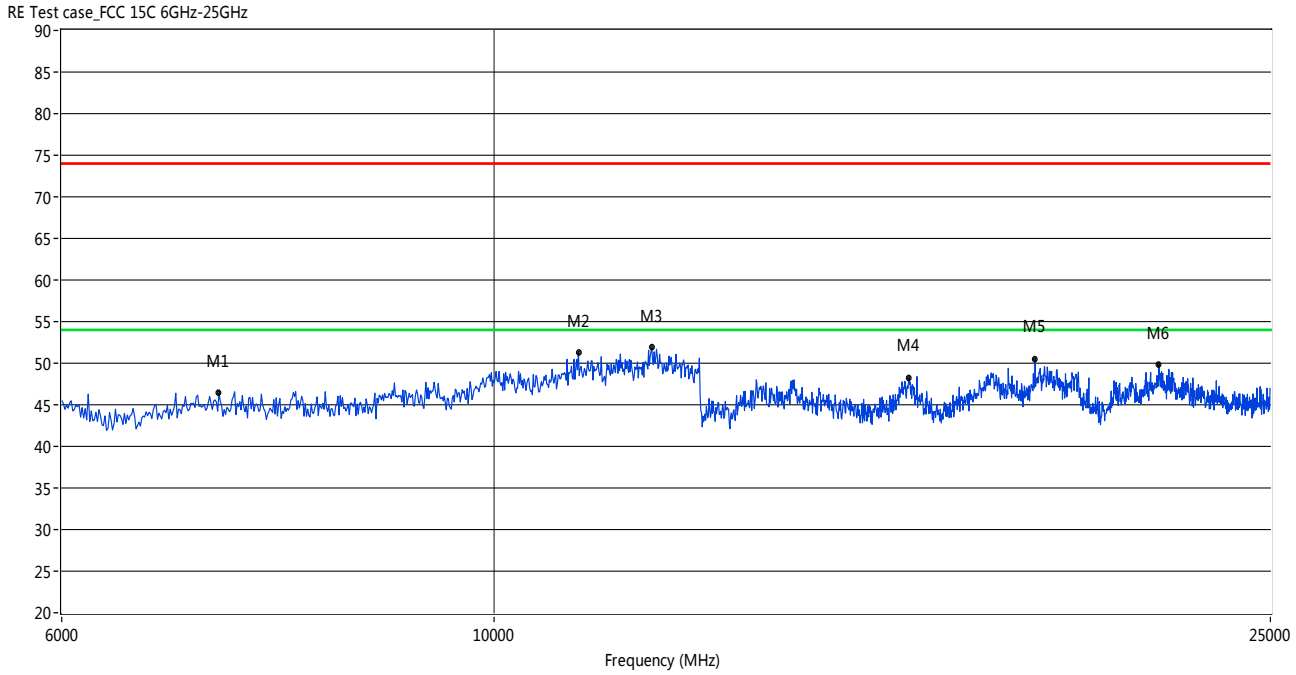
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1166.39	44.07			-4.15	74.0	--	54.0	9.93	12.50	100	Vertical	PASS
2311.15	46.52			0.15	74.0	--	54.0	7.48	160.80	100	Vertical	PASS
2437.60	90.85			-0.09	74.0	--	54.0	-36.85	31.10	100	Vertical	N/A
2873.54	47.37			2.59	74.0	--	54.0	6.63	136.30	100	Vertical	PASS
4307.82	44.23			10.85	74.0	--	54.0	9.77	332.20	100	Vertical	PASS
4871.88	46.85			12.28	74.0	--	54.0	7.15	292.70	100	Vertical	PASS

802.11g MID CHANNEL 1GHz to 6GHz, ANT H



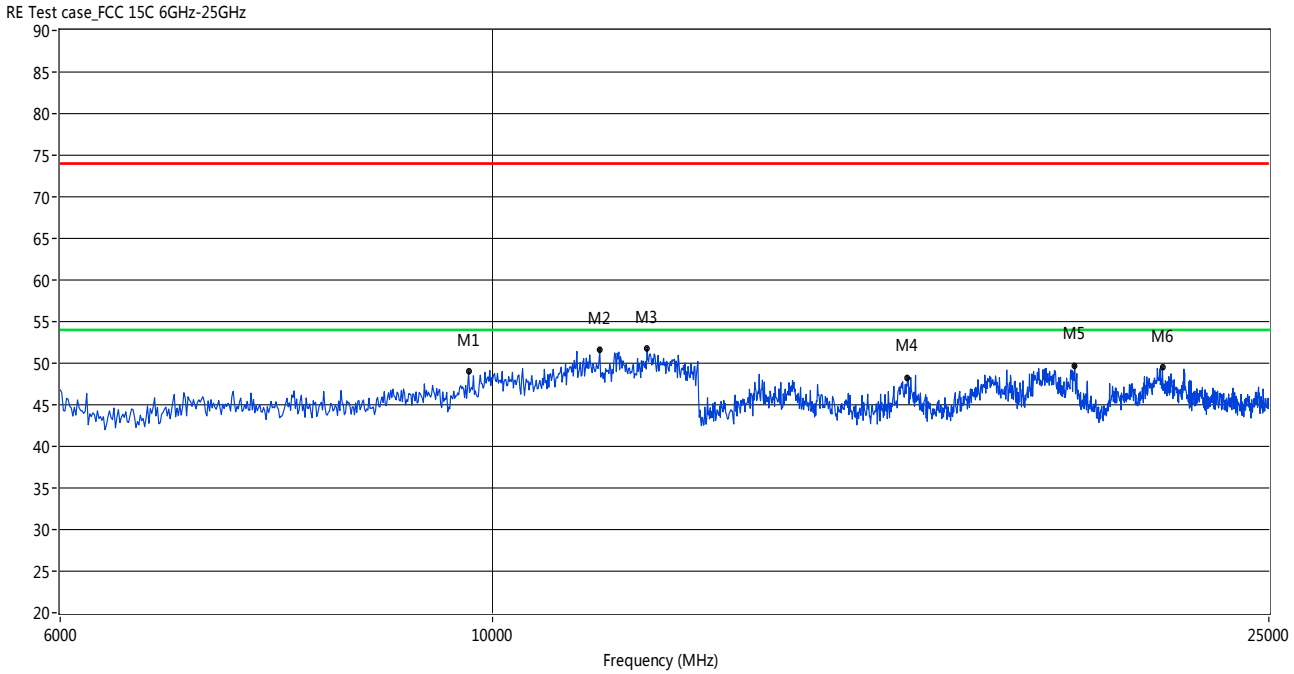
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1199.67	42.76			-3.77	74.0	--	54.0	11.24	281.90	100	Horizontal	PASS
2217.97	45.55			0.07	74.0	--	54.0	8.45	300.80	100	Horizontal	PASS
2434.28	89.64			-0.02	74.0	--	54.0	-35.64	332.30	100	Horizontal	N/A
2966.72	46.30			2.81	74.0	--	54.0	7.70	281.90	100	Horizontal	PASS
4871.88	48.33			12.28	74.0	--	54.0	5.67	356.90	100	Horizontal	PASS
5770.38	47.60			14.05	74.0	--	54.0	6.40	49.60	100	Horizontal	PASS

802.11g MID CHANNEL 6GHz to 25GHz, ANT V



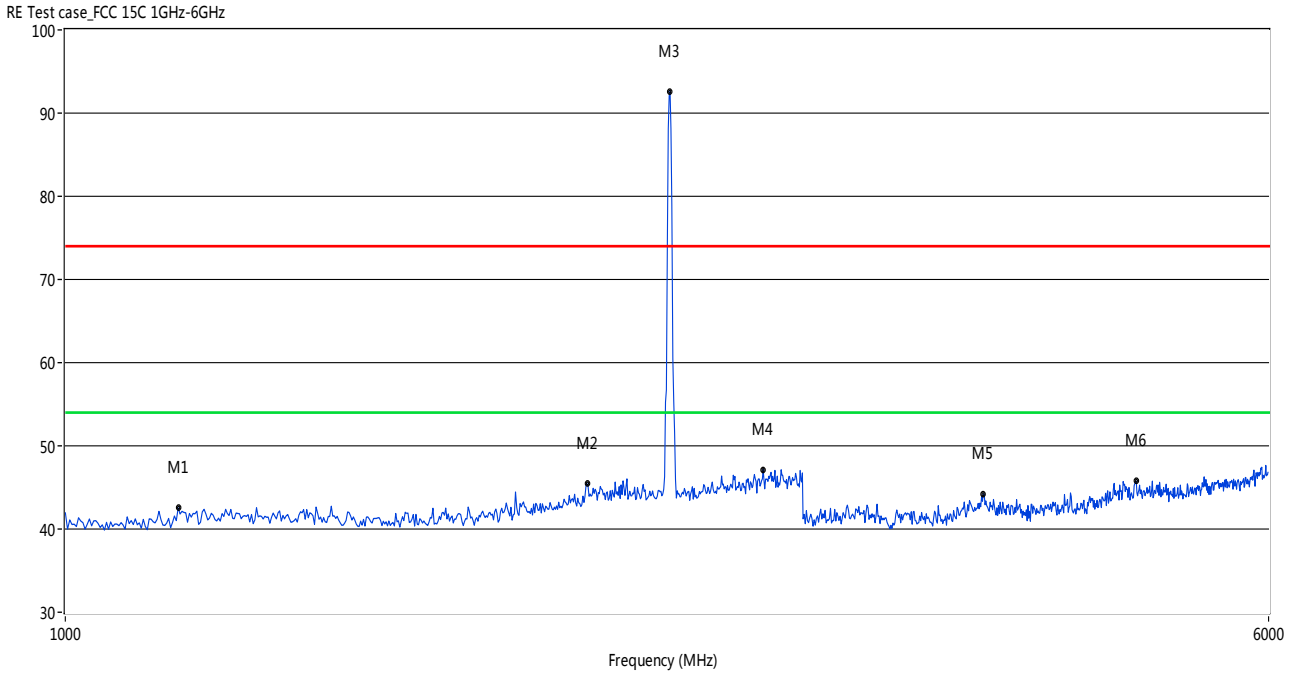
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7224.21	46.46			11.39	74.0	--	54.0	7.54	294.10	100.00	Vertical	PASS
11042.84	51.26			13.88	74.0	--	54.0	2.74	1.00	100.00	Vertical	PASS
12042.43	52.08			20.06	74.0	--	54.0	1.92	0.00	100.00	Vertical	PASS
16316.97	48.22			9.58	74.0	--	54.0	5.78	41.90	100.00	Vertical	PASS
18937.60	50.36			11.00	74.0	--	54.0	3.64	247.80	100.00	Vertical	PASS
21915.14	49.90			11.70	74.0	--	54.0	4.10	164.40	100.00	Vertical	PASS

802.11g MID CHANNEL 6GHz to 25GHz, ANT H



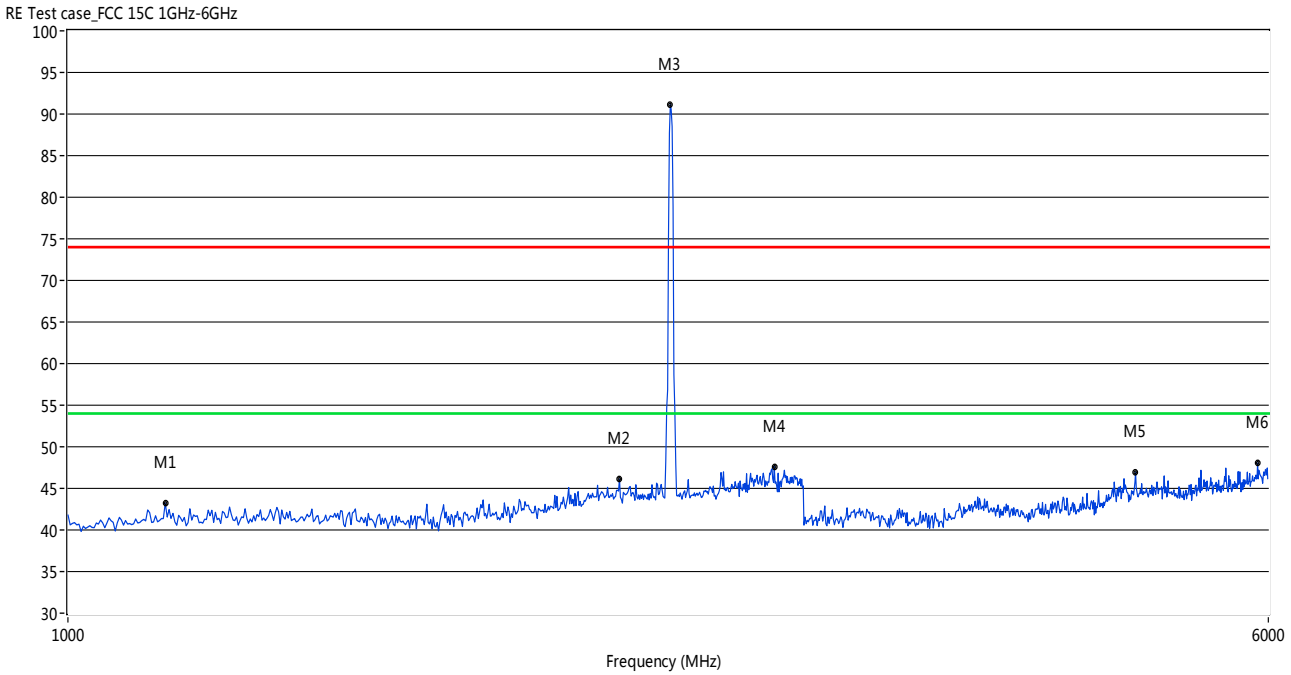
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
9717.55	48.97			11.15	74.0	--	54.0	5.03	2.60	100.00	Horizontal	PASS
11346.09	51.62			14.07	74.0	--	54.0	2.38	359.60	100.00	Horizontal	PASS
11997.50	51.74			20.17	74.0	--	54.0	2.26	296.50	100.00	Horizontal	PASS
16316.97	48.22			8.76	74.0	--	54.0	5.78	359.50	100.00	Horizontal	PASS
19878.54	49.73			10.84	74.0	--	54.0	4.27	350.50	100.00	Horizontal	PASS
22044.92	49.52			12.00	74.0	--	54.0	4.48	317.10	100.00	Horizontal	PASS

802.11g HIGH CHANNEL 1GHz to 6GHz, ANT V



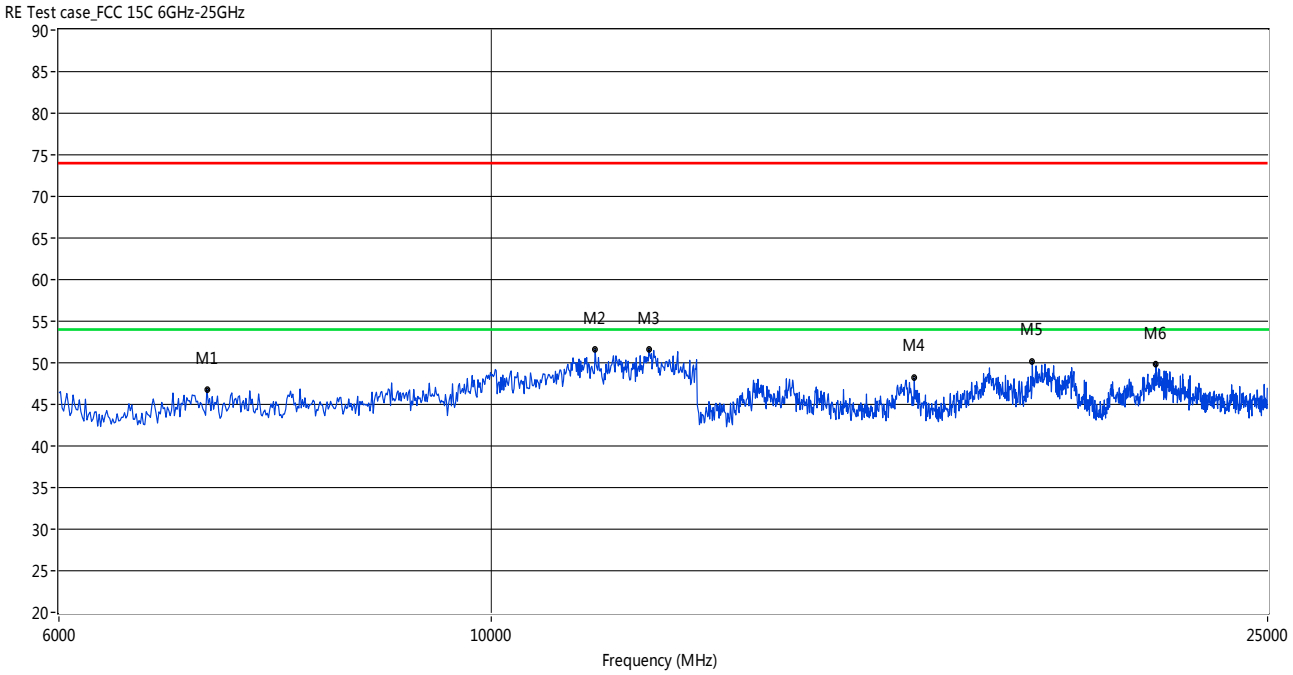
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1183.03	42.55			-4.13	74.0	--	54.0	11.45	24.70	100	Vertical	PASS
2174.71	45.46			0.05	74.0	--	54.0	8.54	0.90	100	Vertical	PASS
2460.90	92.61			0.72	74.0	--	54.0	-38.61	43.20	100	Vertical	N/A
2826.96	47.17			2.29	74.0	--	54.0	6.83	7.50	100	Vertical	PASS
3923.46	44.21			10.10	74.0	--	54.0	9.79	24.30	100	Vertical	PASS
4926.79	45.78			12.72	74.0	--	54.0	8.22	304.60	100	Vertical	PASS

802.11g HIGH CHANNEL 1GHz to 6GHz, ANT H



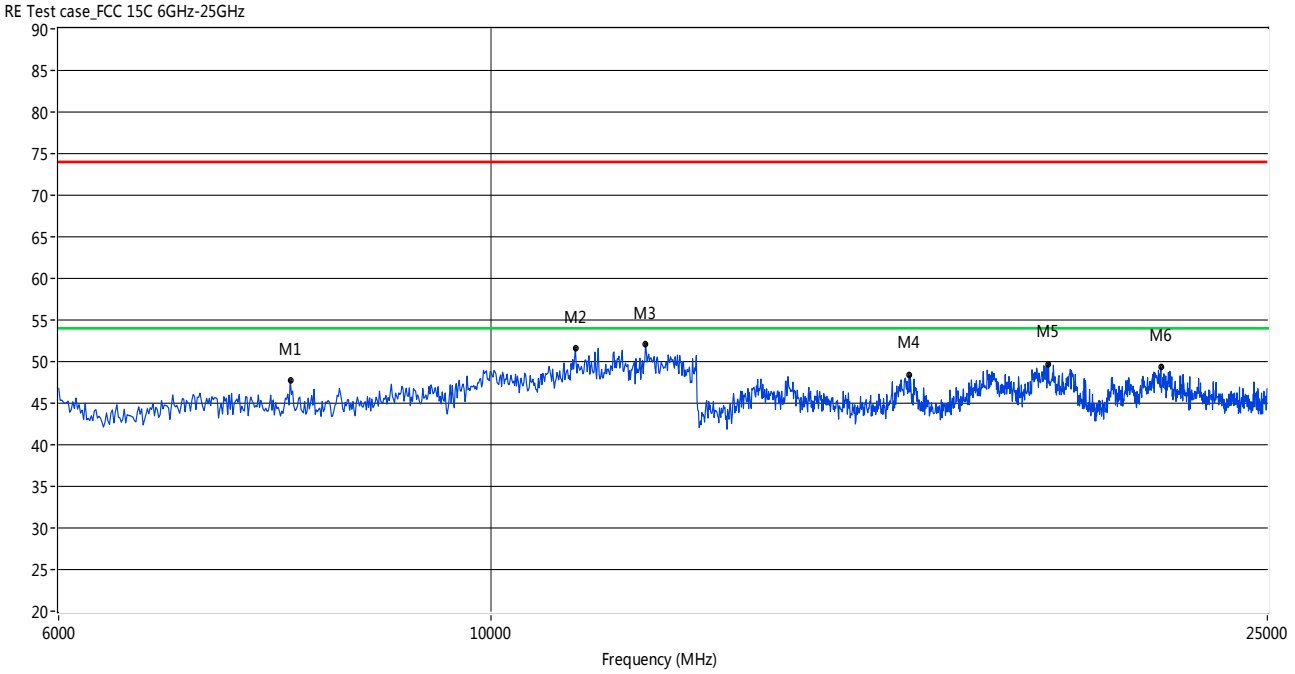
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1156.41	43.22			-4.29	74.0	--	54.0	10.78	359.60	100	Horizontal	PASS
2277.87	46.13			0.04	74.0	--	54.0	7.87	312.50	100	Horizontal	PASS
2457.57	91.19			0.78	74.0	--	54.0	-37.19	36.50	100	Horizontal	N/A
2870.22	47.61			2.79	74.0	--	54.0	6.39	3.80	100	Horizontal	PASS
4921.80	46.95			12.89	74.0	--	54.0	7.05	341.00	100	Horizontal	PASS
5905.16	48.05			14.84	74.0	--	54.0	5.95	2.60	100	Horizontal	PASS

802.11g HIGH CHANNEL 6GHz to 25GHz, ANT V



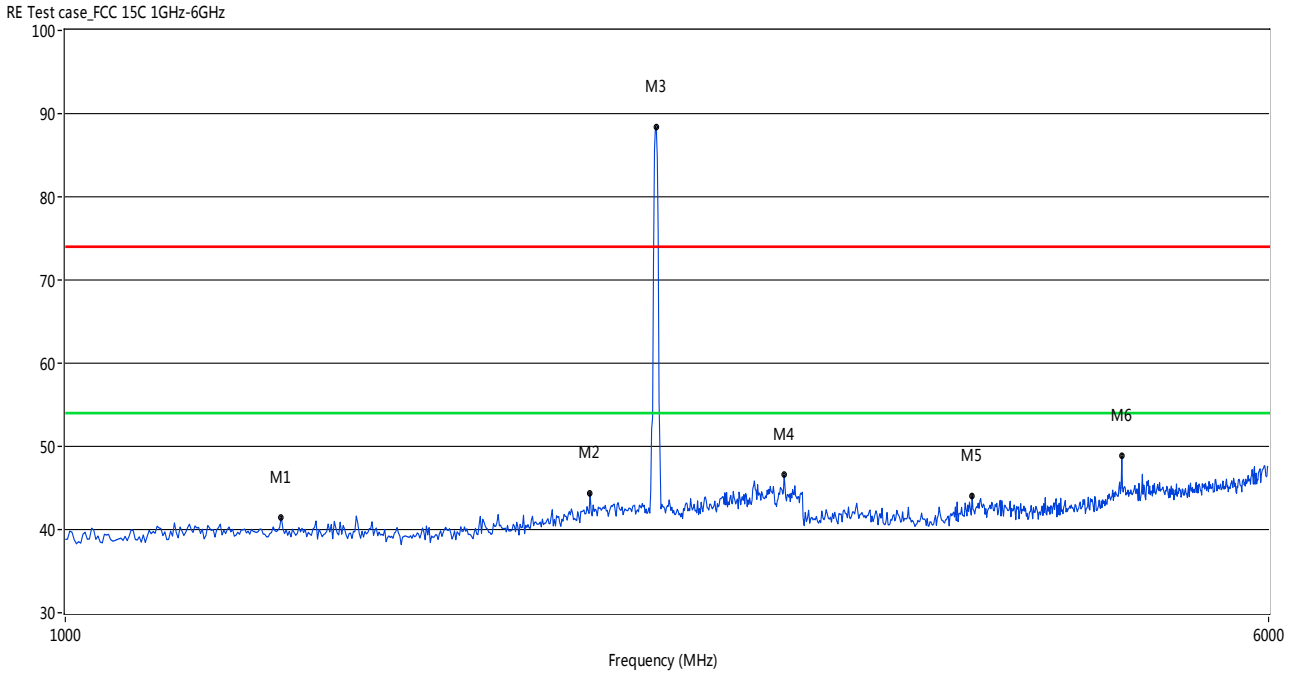
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7145.59	46.80			11.90	74.0	--	54.0	7.20	68.70	100.00	Vertical	PASS
11301.17	51.62			13.99	74.0	--	54.0	2.38	157.50	100.00	Vertical	PASS
12042.43	51.64			19.40	74.0	--	54.0	2.36	7.80	100.00	Vertical	PASS
16472.96	48.18			9.59	74.0	--	54.0	5.82	95.80	100.00	Vertical	PASS
18937.60	50.18			10.64	74.0	--	54.0	3.82	360.70	100.00	Vertical	PASS
21915.14	49.82			11.89	74.0	--	54.0	4.18	346.00	100.00	Vertical	PASS

802.11g HIGH CHANNEL 6GHz to 25GHz, ANT H



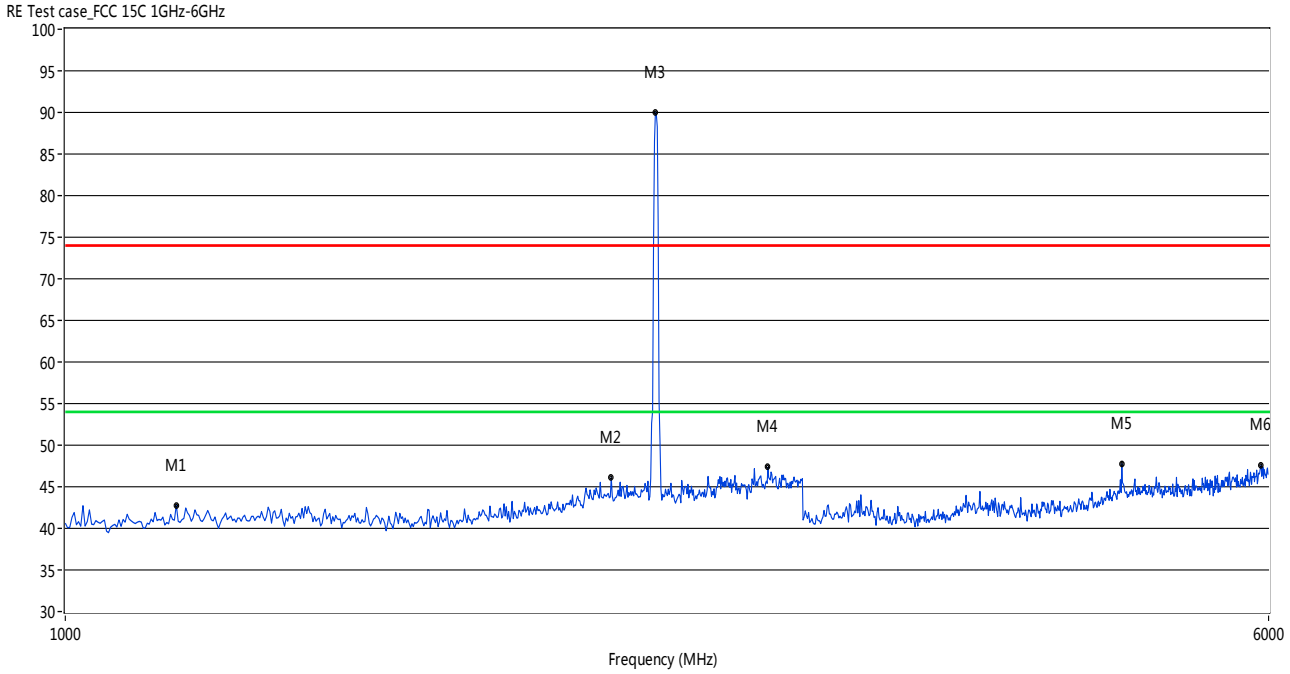
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7886.85	47.74			11.09	74.0	--	54.0	6.26	1.10	100.00	Horizontal	PASS
11042.84	51.66			14.29	74.0	--	54.0	2.34	116.80	100.00	Horizontal	PASS
11997.50	52.15			19.34	74.0	--	54.0	1.85	294.30	100.00	Horizontal	PASS
16379.37	48.33			9.02	74.0	--	54.0	5.67	47.40	100.00	Horizontal	PASS
19309.48	49.74			11.22	74.0	--	54.0	4.26	341.20	100.00	Horizontal	PASS
22044.92	49.28			12.03	74.0	--	54.0	4.72	341.20	100.00	Horizontal	PASS

802.11n-20MHz LOW CHANNEL 1GHz to 6GHz, ANT V



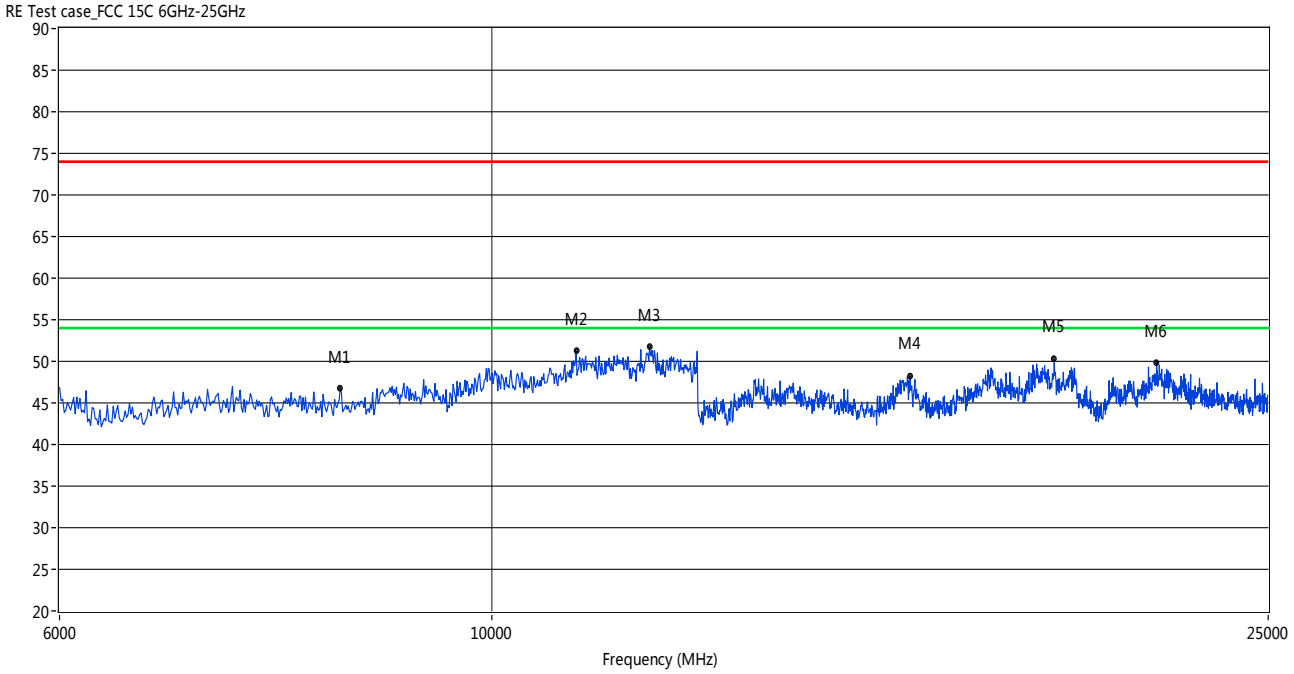
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1379.37	41.51			-3.83	74.0	--	54.0	12.49	308.20	100	Vertical	PASS
2184.69	44.40			-0.12	74.0	--	54.0	9.60	-0.00	100	Vertical	PASS
2410.98	88.32			0.06	74.0	--	54.0	-34.32	326.70	100	Vertical	N/A
2916.81	46.58			3.17	74.0	--	54.0	7.42	27.40	100	Vertical	PASS
3858.57	44.10			10.09	74.0	--	54.0	9.90	134.50	100	Vertical	PASS
4821.96	48.83			12.58	74.0	--	54.0	5.17	307.40	100	Vertical	PASS

802.11n-20MHz LOW CHANNEL 1GHz to 6GHz, ANT H



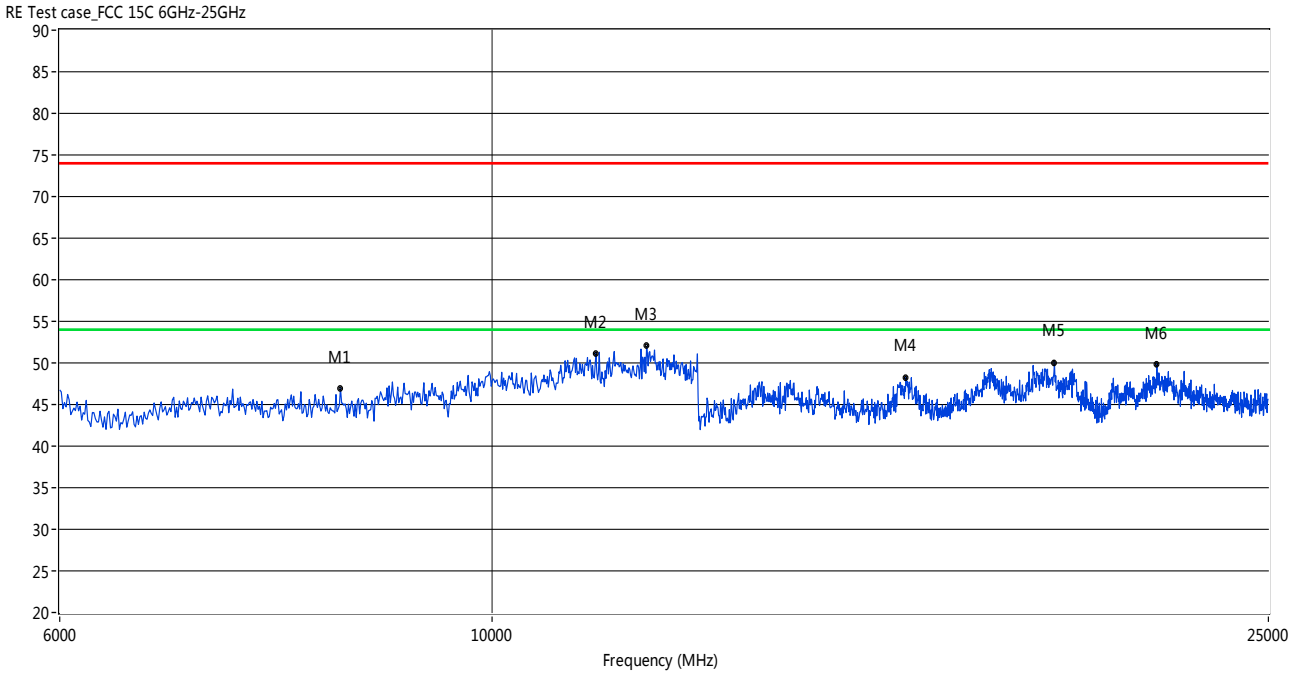
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1179.70	42.82			-4.16	74.0	--	54.0	11.18	233.40	100	Horizontal	PASS
2254.58	46.08			-0.21	74.0	--	54.0	7.92	354.50	100	Horizontal	PASS
2407.65	89.95			-0.02	74.0	--	54.0	-35.95	332.60	100	Horizontal	N/A
2846.92	47.36			3.38	74.0	--	54.0	6.64	116.20	100	Horizontal	PASS
4821.96	47.77			12.58	74.0	--	54.0	6.23	359.50	100	Horizontal	PASS
5935.11	47.63			15.03	74.0	--	54.0	6.37	145.10	100	Horizontal	PASS

802.11n-20MHz LOW CHANNEL 6GHz to 25GHz, ANT V



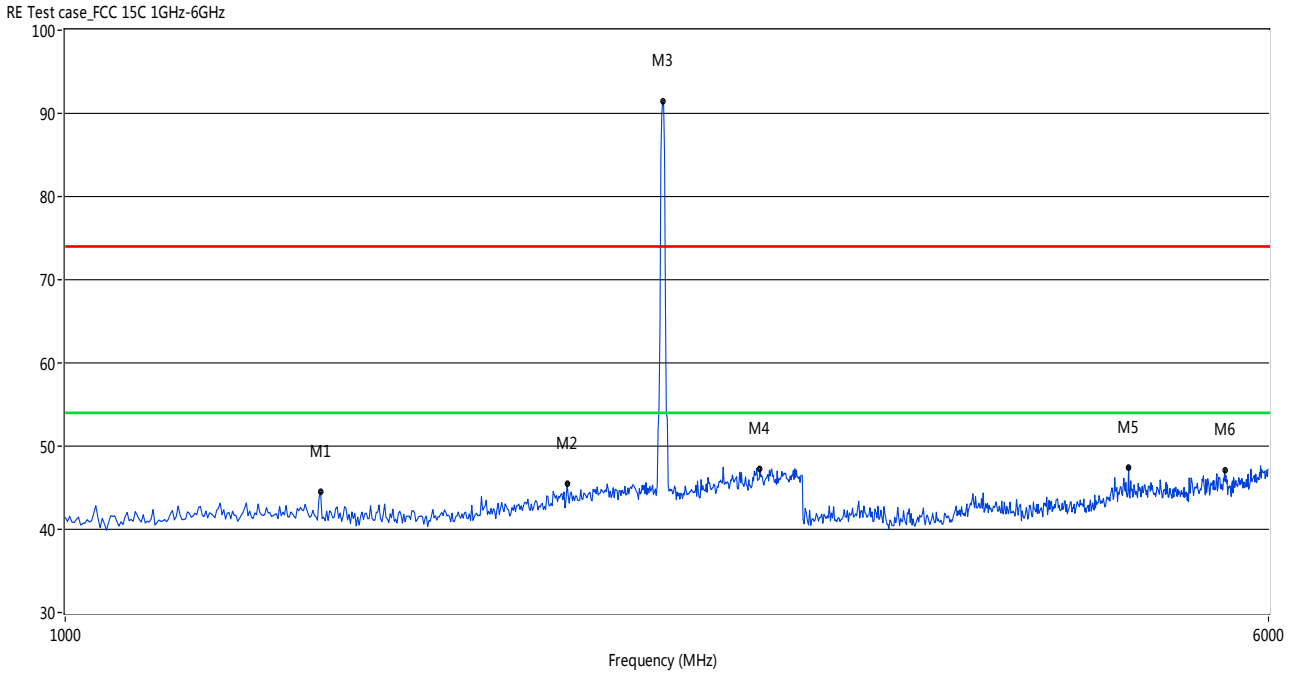
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
8358.57	46.83			11.66	74.0	--	54.0	7.17	360.00	100.00	Vertical	PASS
11042.84	51.66			14.26	74.0	--	54.0	2.34	273.50	100.00	Vertical	PASS
12042.43	51.75			19.28	74.0	--	54.0	2.25	4.40	100.00	Vertical	PASS
16379.37	48.33			9.22	74.0	--	54.0	5.67	321.90	100.00	Vertical	PASS
19419.30	50.27			10.99	74.0	--	54.0	3.73	307.10	100.00	Vertical	PASS
21915.14	49.92			12.12	74.0	--	54.0	4.08	360.30	100.00	Vertical	PASS

802.11n-20MHz LOW CHANNEL 6GHz to 25GHz, ANT H



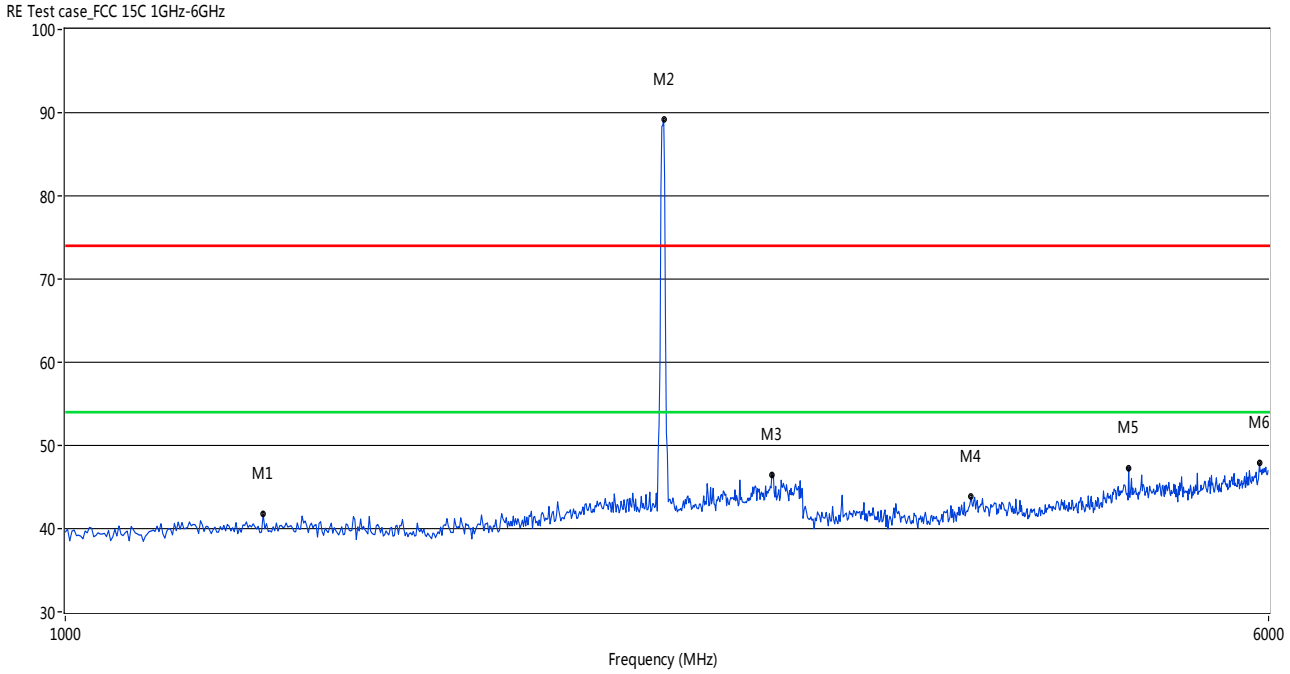
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
8358.57	46.83			11.31	74.0	--	54.0	7.17	0.50	100.00	Horizontal	PASS
11301.17	51.17			14.09	74.0	--	54.0	2.83	307.30	100.00	Horizontal	PASS
11997.50	52.02			19.93	74.0	--	54.0	1.98	300.30	100.00	Horizontal	PASS
16296.17	48.26			8.76	74.0	--	54.0	5.74	88.40	100.00	Horizontal	PASS
19419.30	50.27			11.09	74.0	--	54.0	3.73	346.40	100.00	Horizontal	PASS
21915.14	49.92			12.42	74.0	--	54.0	4.08	336.40	100.00	Horizontal	PASS

802.11n-20MHz MID CHANNEL 1GHz to 6GHz, ANT V



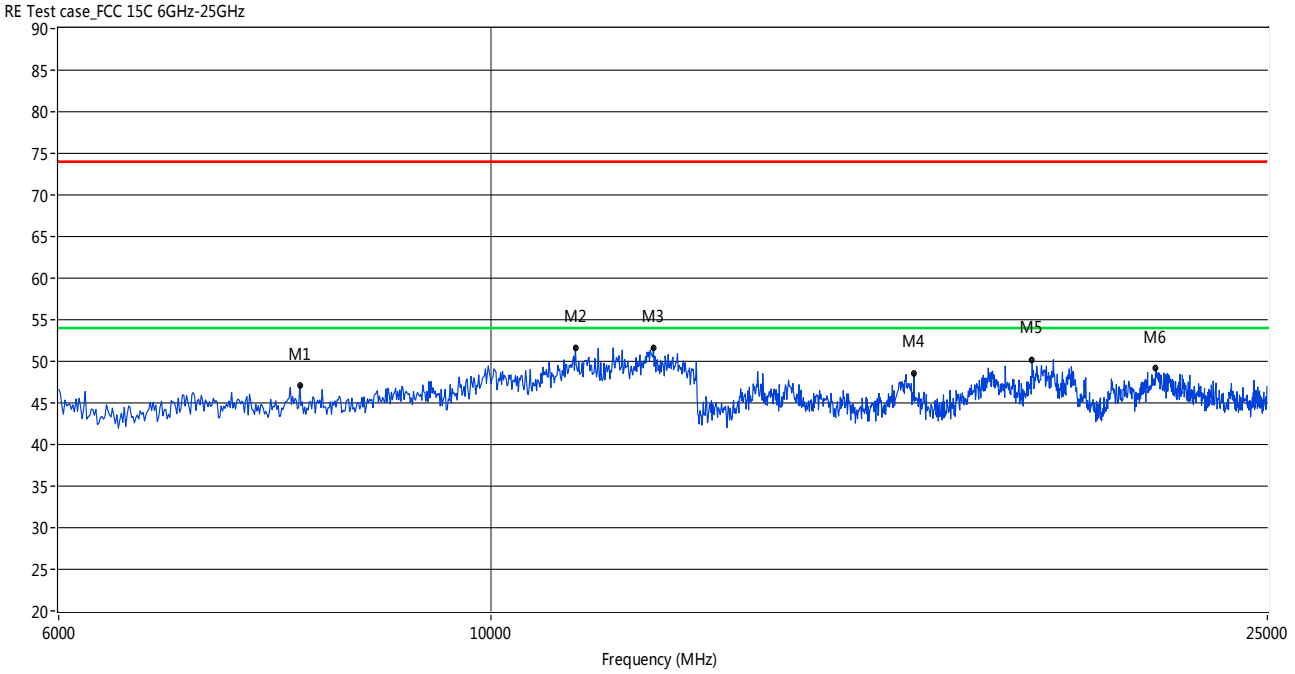
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1462.56	44.49			-3.97	74.0	--	54.0	9.51	358.10	100	Vertical	PASS
2111.48	45.49			-1.12	74.0	--	54.0	8.51	144.50	100	Vertical	PASS
2434.28	91.40			-0.02	74.0	--	54.0	-37.40	38.80	100	Vertical	N/A
2813.64	47.18			2.73	74.0	--	54.0	6.82	63.20	100	Vertical	PASS
4871.88	47.45			12.28	74.0	--	54.0	6.55	19.50	100	Vertical	PASS
5620.63	47.14			14.24	74.0	--	54.0	6.86	-0.70	100	Vertical	PASS

802.11n-20MHz MID CHANNEL 1GHz to 6GHz, ANT H



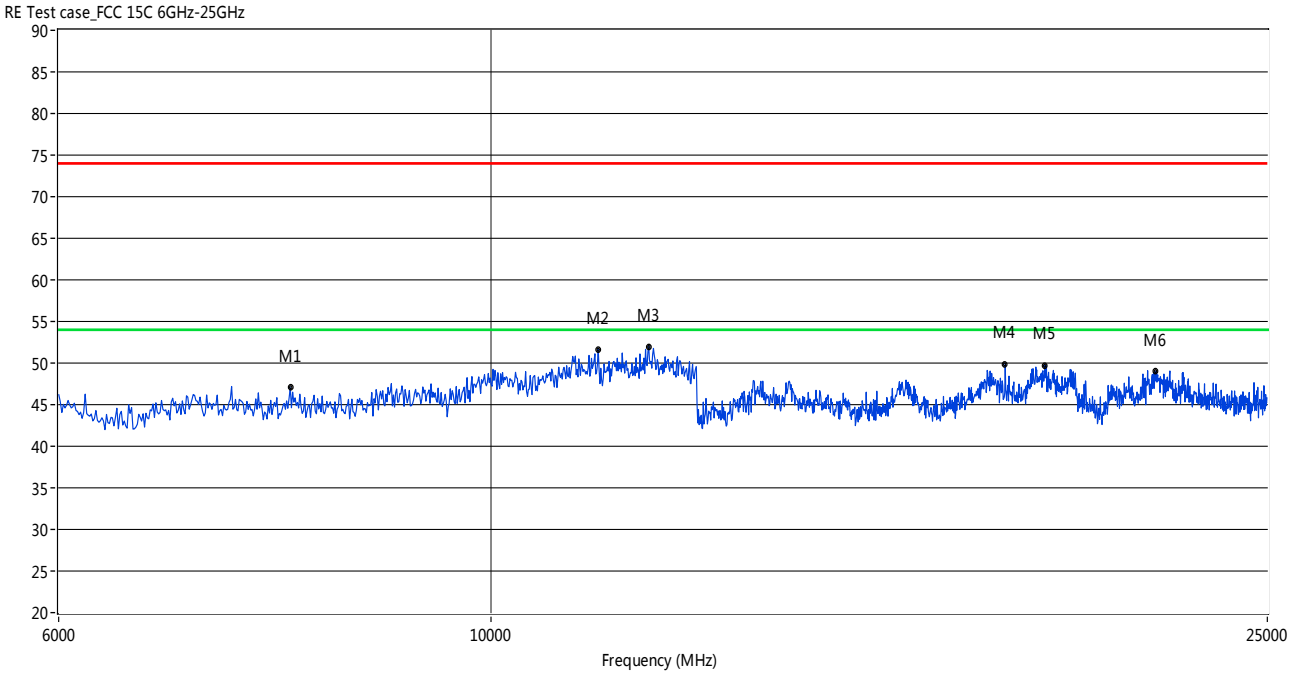
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1342.76	41.71			-3.89	74.0	--	54.0	12.29	333.00	100	Horizontal	PASS
2437.60	89.27			-0.09	74.0	--	54.0	-35.27	326.70	100	Horizontal	N/A
2863.56	46.50			3.23	74.0	--	54.0	7.50	251.80	100	Horizontal	PASS
3853.58	43.79			10.03	74.0	--	54.0	10.21	102.30	100	Horizontal	PASS
4871.88	47.30			12.28	74.0	--	54.0	6.70	14.00	100	Horizontal	PASS
5920.13	47.87			15.35	74.0	--	54.0	6.13	146.90	100	Horizontal	PASS

802.11n-20MHz MID CHANNEL 6GHz to 25GHz, ANT V



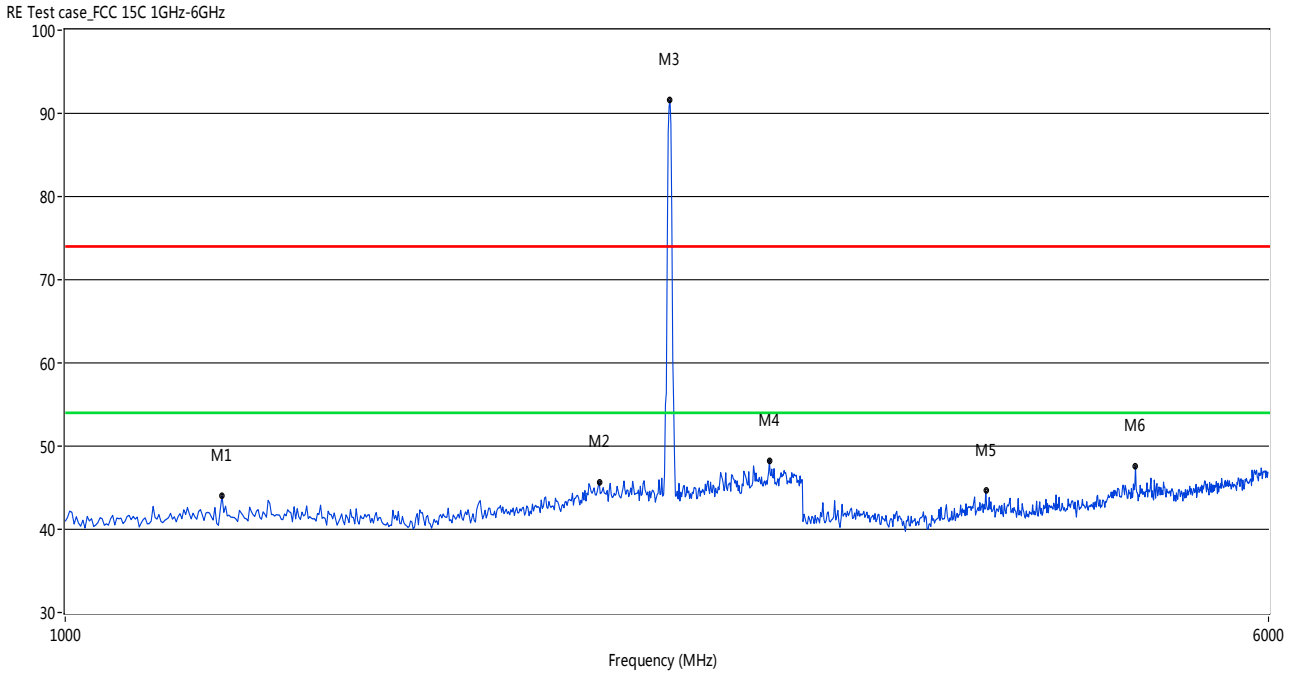
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7976.70	47.16			12.09	74.0	--	54.0	6.84	360.00	100.00	Vertical	PASS
11042.84	51.67			14.33	74.0	--	54.0	2.33	150.60	100.00	Vertical	PASS
12109.82	51.63			19.98	74.0	--	54.0	2.37	7.50	100.00	Vertical	PASS
16472.96	48.57			9.15	74.0	--	54.0	5.43	82.10	100.00	Vertical	PASS
18937.60	50.11			10.76	74.0	--	54.0	3.89	126.80	100.00	Vertical	PASS
21915.14	49.92			12.40	74.0	--	54.0	4.08	48.70	100.00	Vertical	PASS

802.11n-20MHz MID CHANNEL 6GHz to 25GHz, ANT H



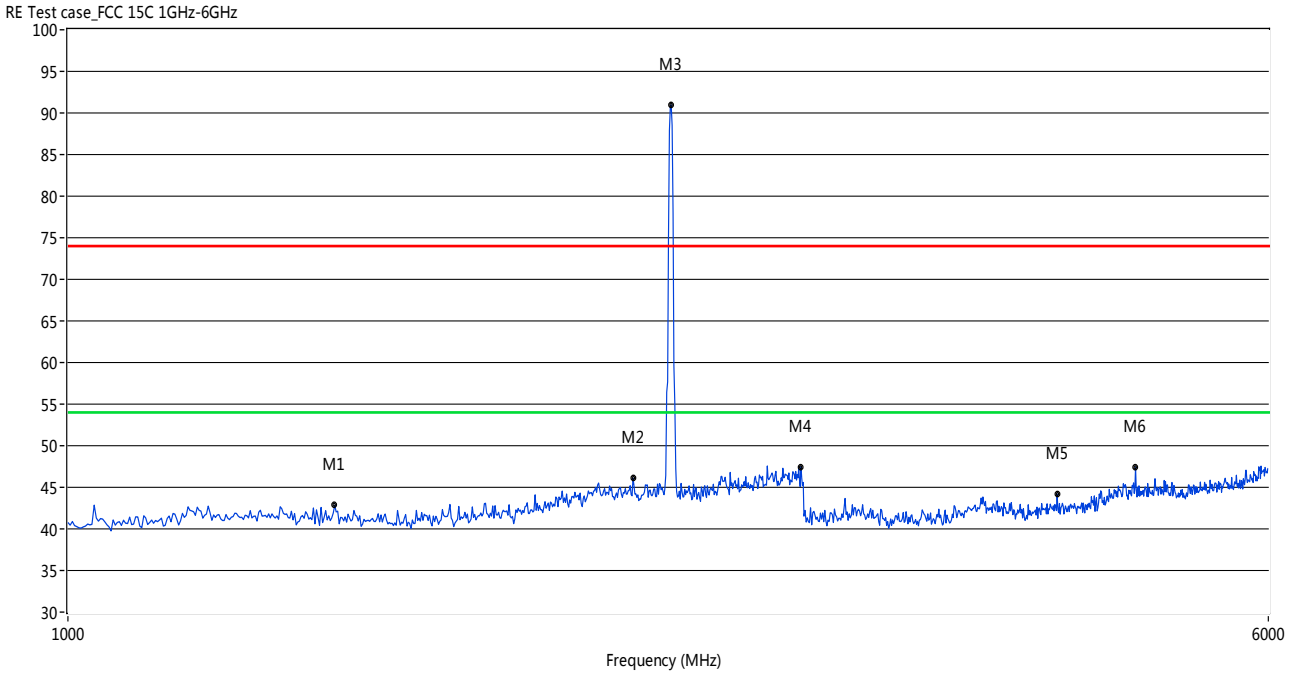
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7886.85	47.04			11.26	74.0	--	54.0	6.96	7.50	100.00	Horizontal	PASS
11346.09	51.69			14.58	74.0	--	54.0	2.31	95.40	100.00	Horizontal	PASS
12042.43	52.00			19.28	74.0	--	54.0	2.00	301.20	100.00	Horizontal	PASS
18344.84	49.85			9.16	74.0	--	54.0	4.15	1.10	100.00	Horizontal	PASS
19229.62	49.74			10.93	74.0	--	54.0	4.26	88.60	100.00	Horizontal	PASS
21915.14	49.04			11.68	74.0	--	54.0	4.96	93.00	100.00	Horizontal	PASS

802.11n-20MHz HIGH CHANNEL 1GHz to 6GHz, ANT V



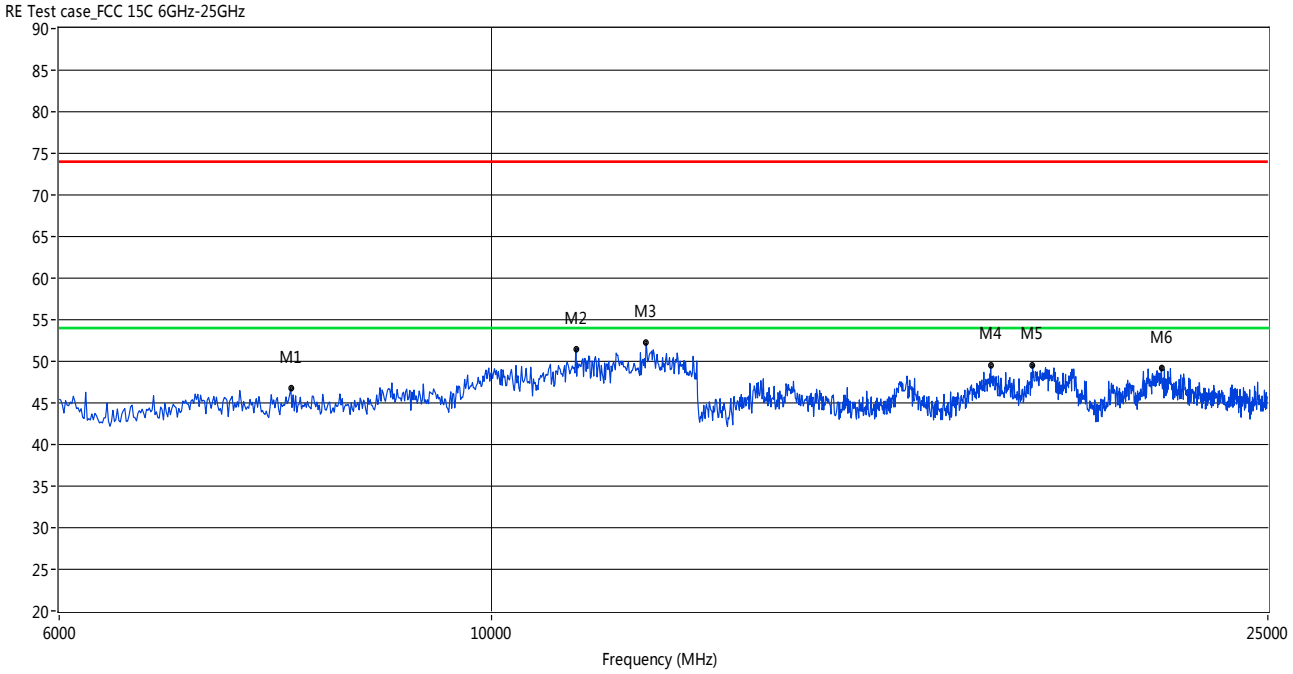
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1262.90	44.03			-3.69	74.0	--	54.0	9.97	67.40	100	Vertical	PASS
2214.64	45.69			0.10	74.0	--	54.0	8.31	92.30	100	Vertical	PASS
2460.90	91.58			0.72	74.0	--	54.0	-37.58	36.10	100	Vertical	N/A
2853.58	48.29			3.56	74.0	--	54.0	5.71	178.30	100	Vertical	PASS
3938.44	44.62			9.96	74.0	--	54.0	9.38	161.20	100	Vertical	PASS
4921.80	47.59			12.89	74.0	--	54.0	6.41	307.50	100	Vertical	PASS

802.11n-20MHz HIGH CHANNEL 1GHz to 6GHz, ANT H



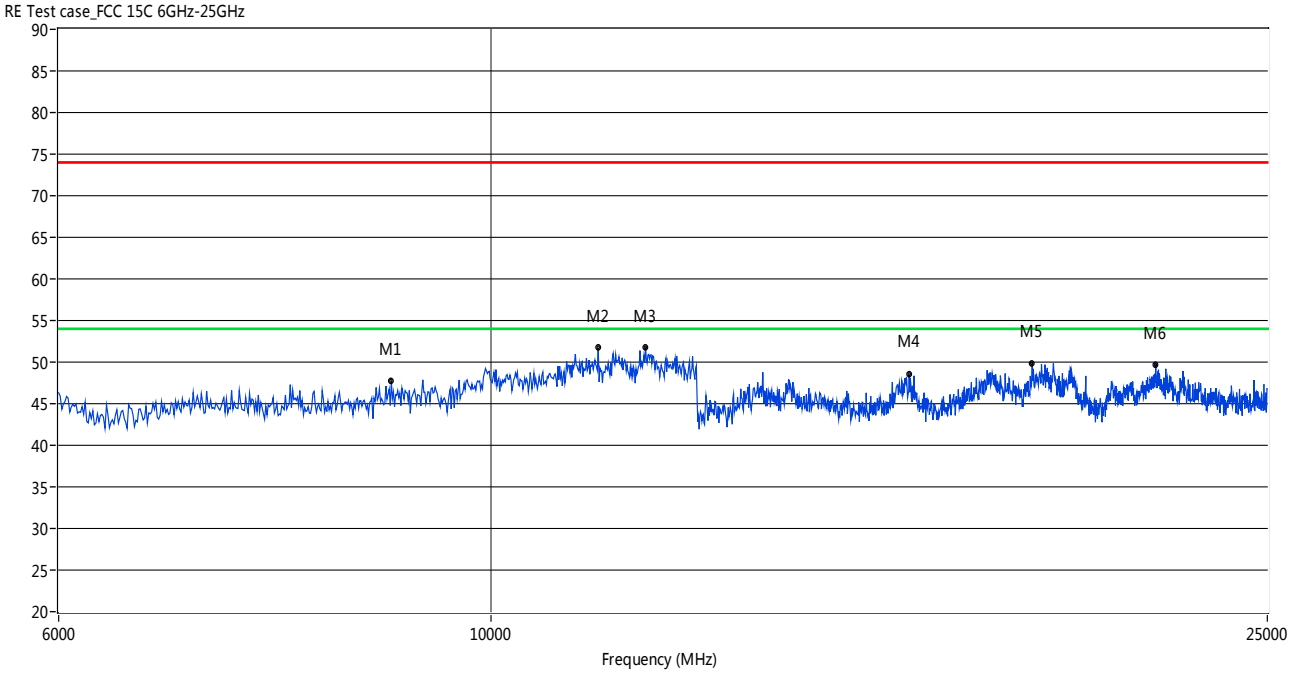
Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
1489.18	42.84			-3.45	74.0	--	54.0	11.16	29.70	100	Horizontal	PASS
2324.46	46.10			0.08	74.0	--	54.0	7.90	240.70	100	Horizontal	PASS
2460.90	90.99			0.72	74.0	--	54.0	-36.99	36.00	100	Horizontal	N/A
2986.69	47.48			2.97	74.0	--	54.0	6.52	3.50	100	Horizontal	PASS
4377.70	44.18			10.76	74.0	--	54.0	9.82	58.70	100	Horizontal	PASS
4921.80	47.44			12.89	74.0	--	54.0	6.56	306.20	100	Horizontal	PASS

802.11n-20MHz HIGH CHANNEL 6GHz to 25GHz, ANT V



Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
7886.85	47.04			11.50	74.0	--	54.0	6.96	61.90	100.00	Vertical	PASS
11042.84	51.52			13.79	74.0	--	54.0	2.48	2.30	100.00	Vertical	PASS
11997.50	52.22			19.39	74.0	--	54.0	1.78	7.80	100.00	Vertical	PASS
18022.46	49.46			9.27	74.0	--	54.0	4.54	281.80	100.00	Vertical	PASS
18937.60	49.55			11.31	74.0	--	54.0	4.45	360.30	100.00	Vertical	PASS
22044.92	49.23			12.32	74.0	--	54.0	4.77	194.10	100.00	Vertical	PASS

802.11n-20MHz HIGH CHANNEL 6GHz to 25GHz, ANT H



Frequency (MHz)	Peak (dBuV/m)	Q-peak (dBuV/m)	Average (dBuV/m)	Factor (dB)	PK Limit (dBuV/m)	QP Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Table (o)	Height (cm)	ANT	Verdict
8886.44	47.67			11.58	74.0	--	54.0	6.33	355.90	100.00	Horizontal	PASS
11346.09	51.70			13.89	74.0	--	54.0	2.30	214.80	100.00	Horizontal	PASS
11997.50	52.22			19.84	74.0	--	54.0	1.78	304.30	100.00	Horizontal	PASS
16379.37	48.50			9.02	74.0	--	54.0	5.50	272.70	100.00	Horizontal	PASS
18937.60	49.79			11.00	74.0	--	54.0	4.21	0.00	100.00	Horizontal	PASS
21915.14	49.73			12.56	74.0	--	54.0	4.27	214.20	100.00	Horizontal	PASS

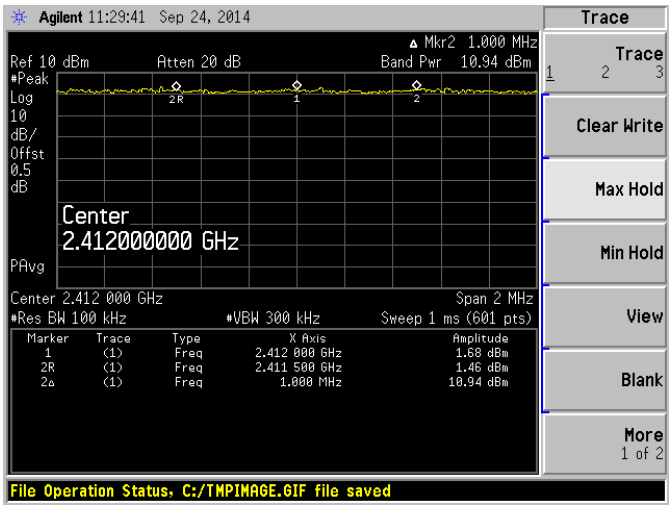
A.6 Band Edge

Test Data

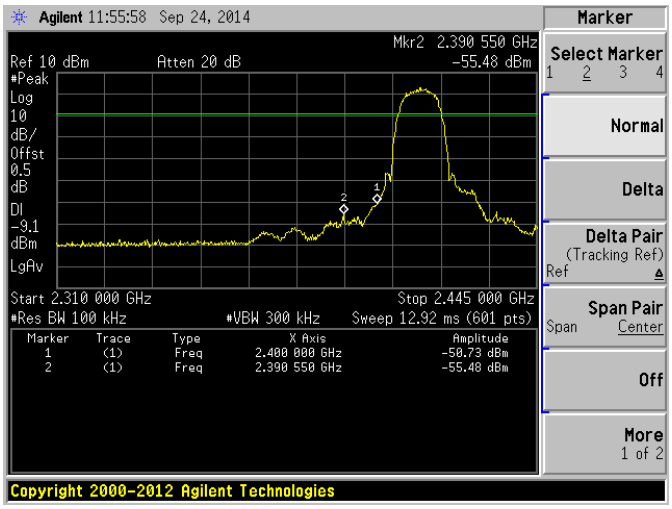
The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

Test Plots

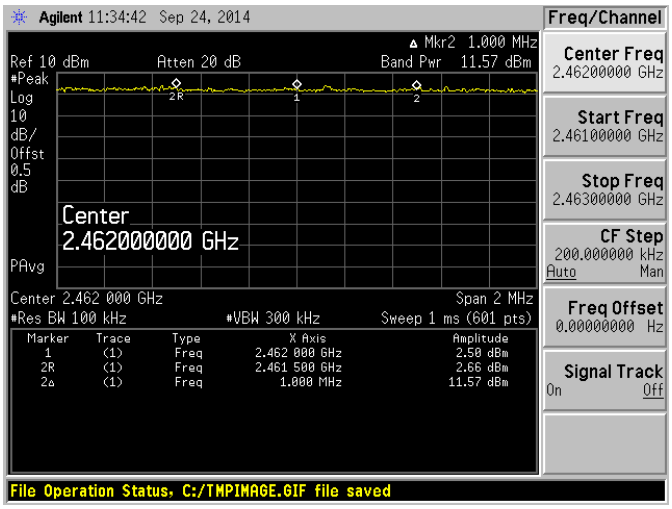
802.11b LOW CHANNEL, Reference level



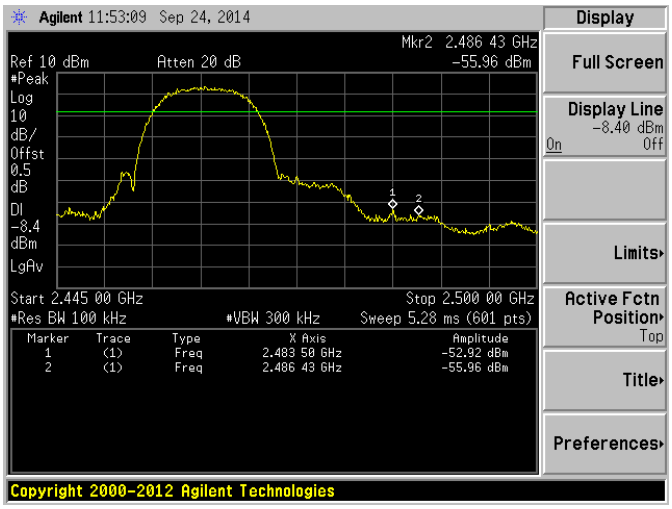
802.11b LOW CHANNEL, Band Edge



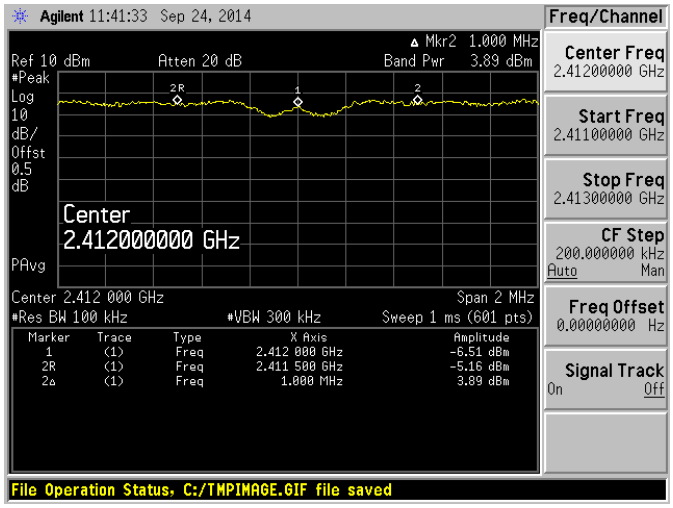
802.11b HIGH CHANNEL, Reference level



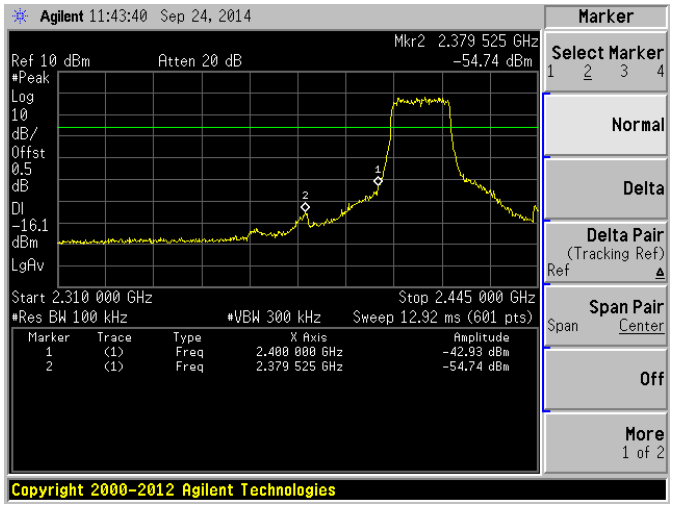
802.11b HIGH CHANNEL, Band Edge



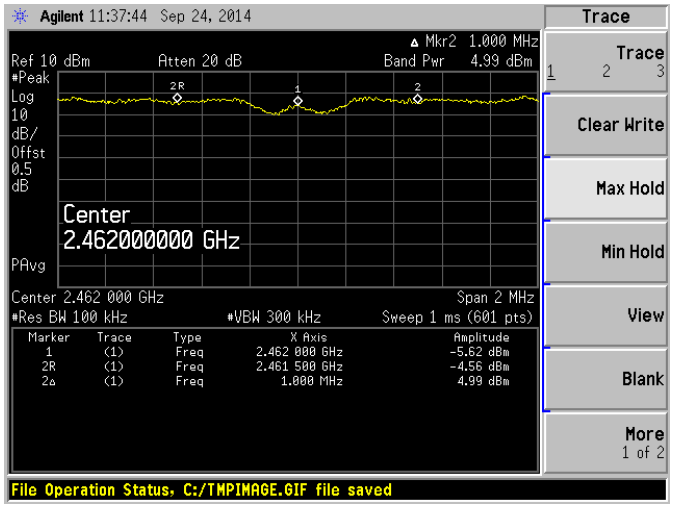
802.11g LOW CHANNEL, Reference level



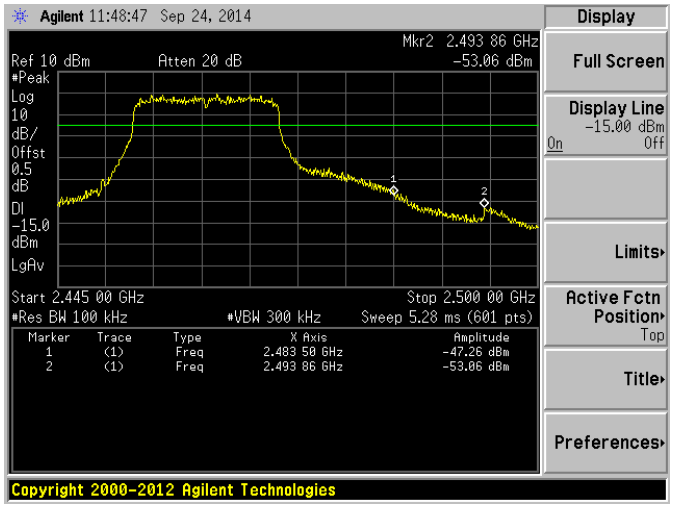
802.11g LOW CHANNEL, Band Edge



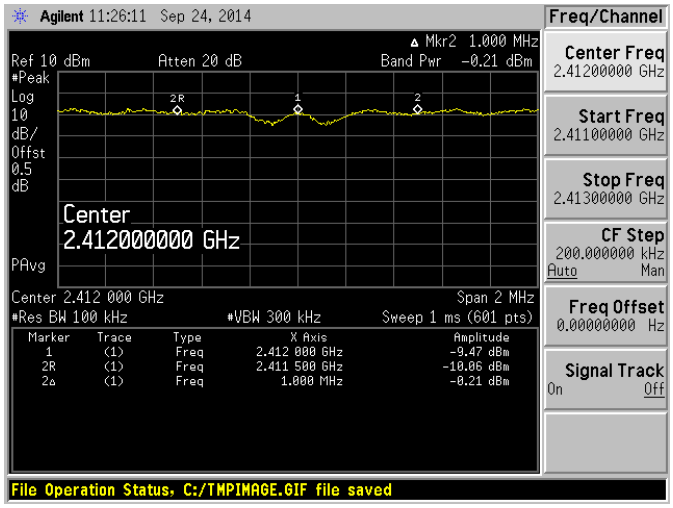
802.11g HIGH CHANNEL, Reference level



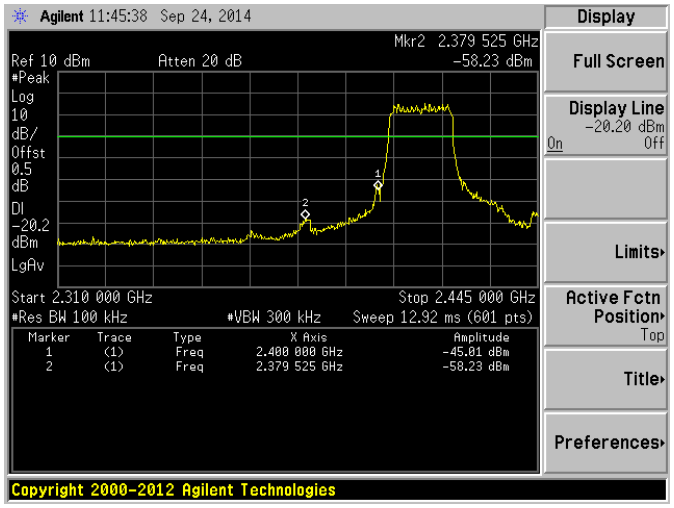
802.11g HIGH CHANNEL, Band Edge



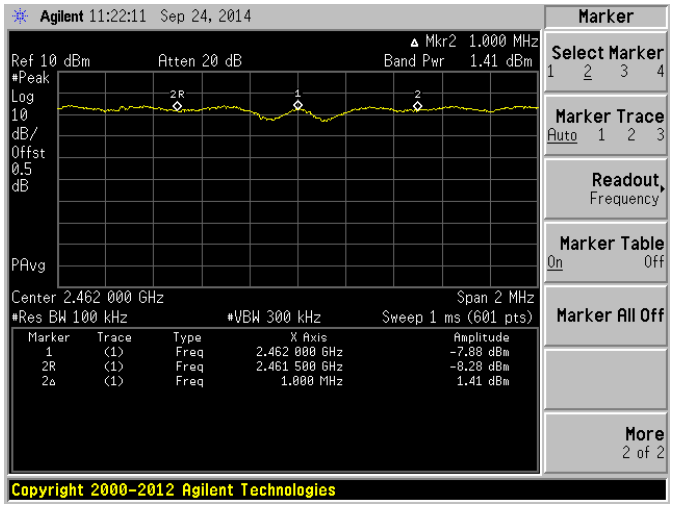
802.11n-20MHz LOW CHANNEL, Reference level



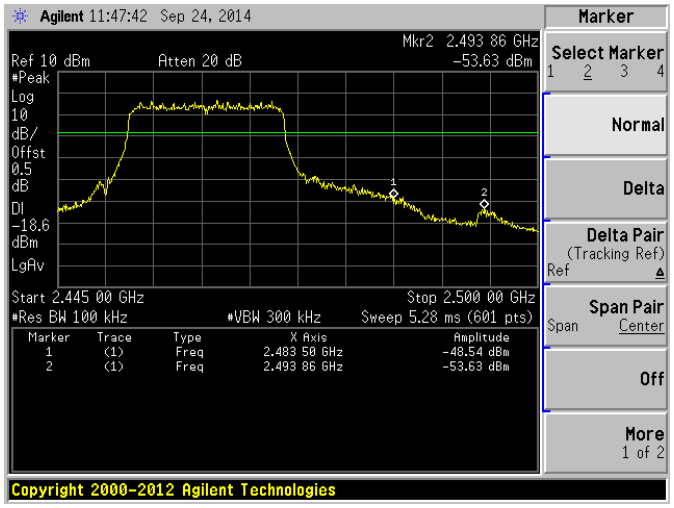
802.11n-20MHz LOW CHANNEL, Band Edge



802.11n-20MHz HIGH CHANNEL, Reference level



802.11n-20MHz HIGH CHANNEL, Band Edge



A.7 Power Spectral Density (PSD)

Test Data

802.11b Mode:

Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-12.12	8
Middle	-12.13	8
High	-11.54	8

802.11g Mode:

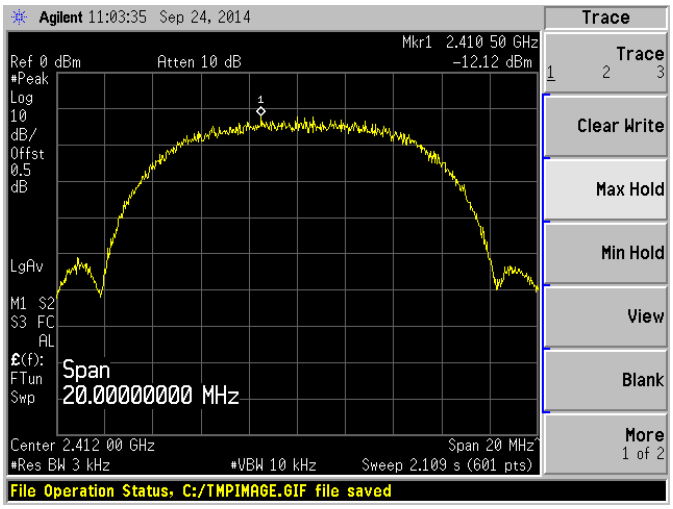
Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-14.99	8
Middle	-13.07	8
High	-13.17	8

802.11n-20MHz Mode:

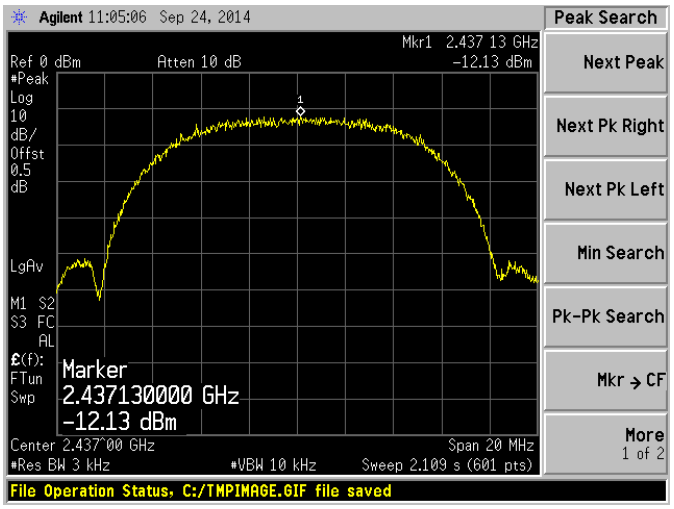
Channel	Spectral power density (dBm/3kHz)	Limit (dBm/3kHz)
Low	-14.95	8
Middle	-14.18	8
High	-13.15	8

Test plots

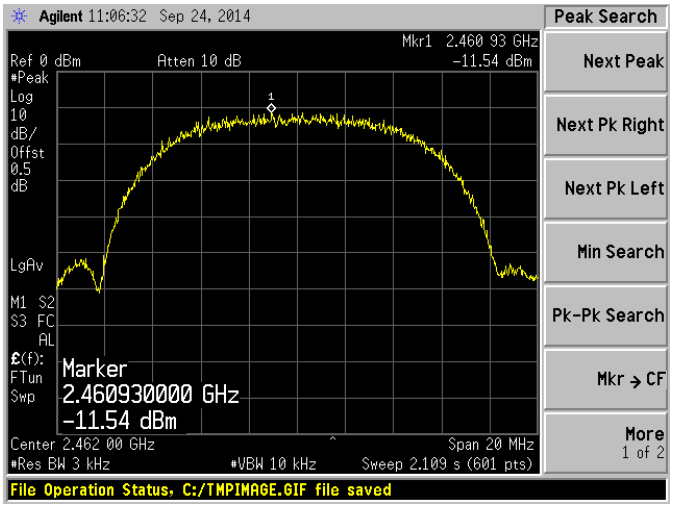
802.11b LOW CHANNEL



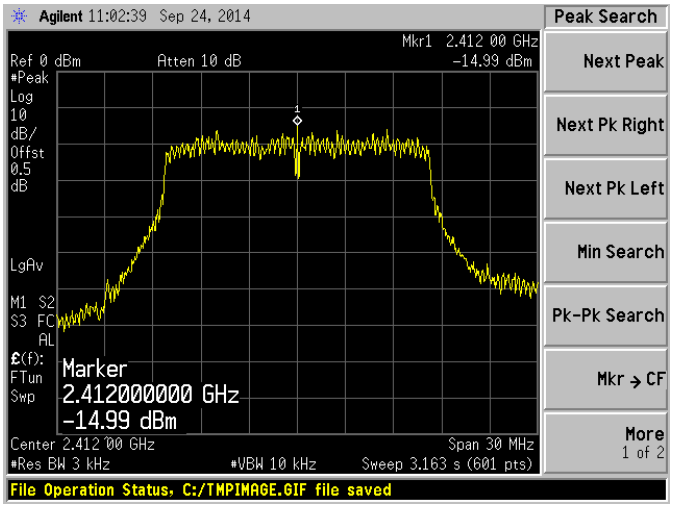
802.11b MID CHANNEL



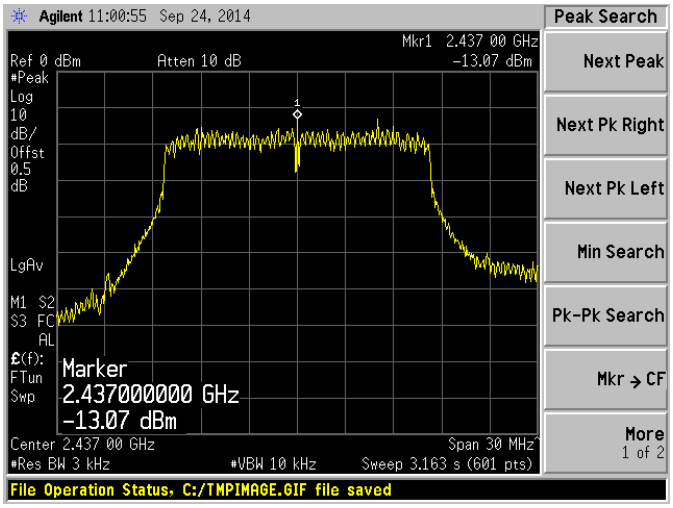
802.11b HIGH CHANNEL



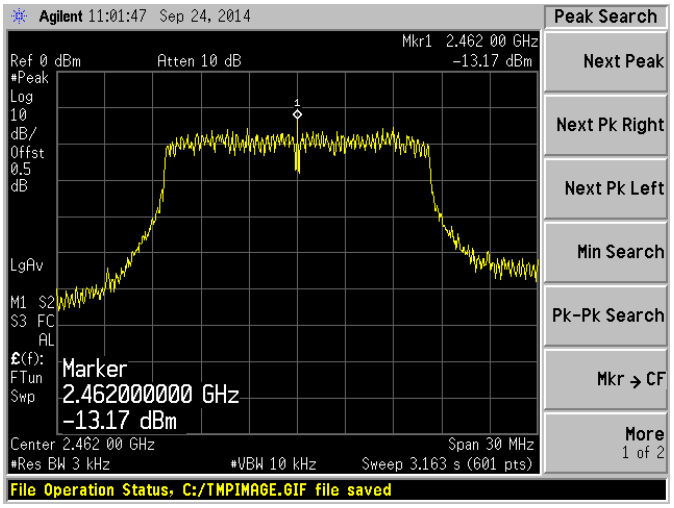
802.11g LOW CHANNEL



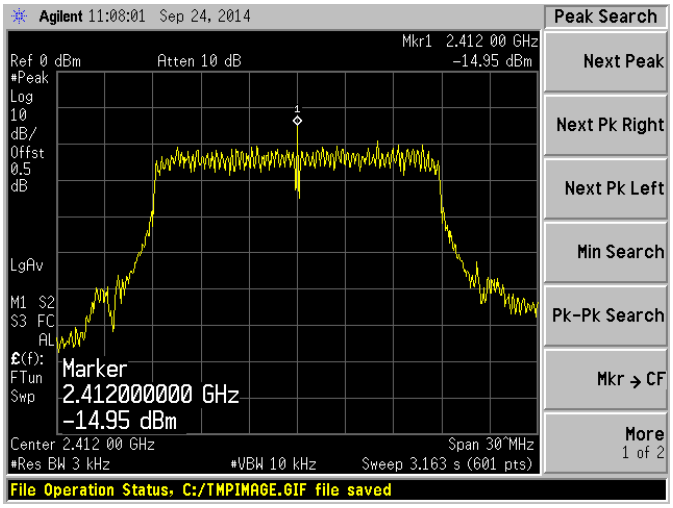
802.11g MID CHANNEL



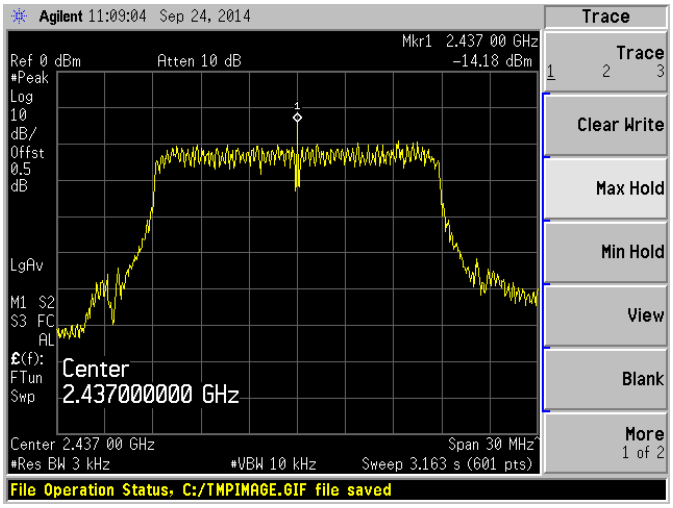
802.11g HIGH CHANNEL



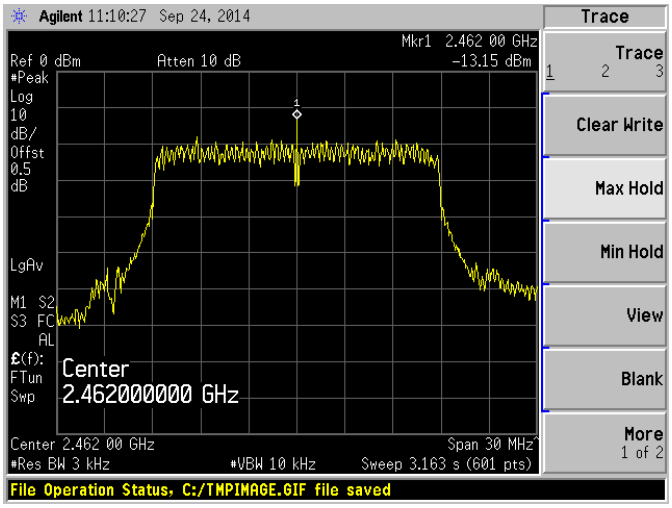
802.11n-20MHz LOW CHANNEL



802.11 n-20MHz MID CHANNEL

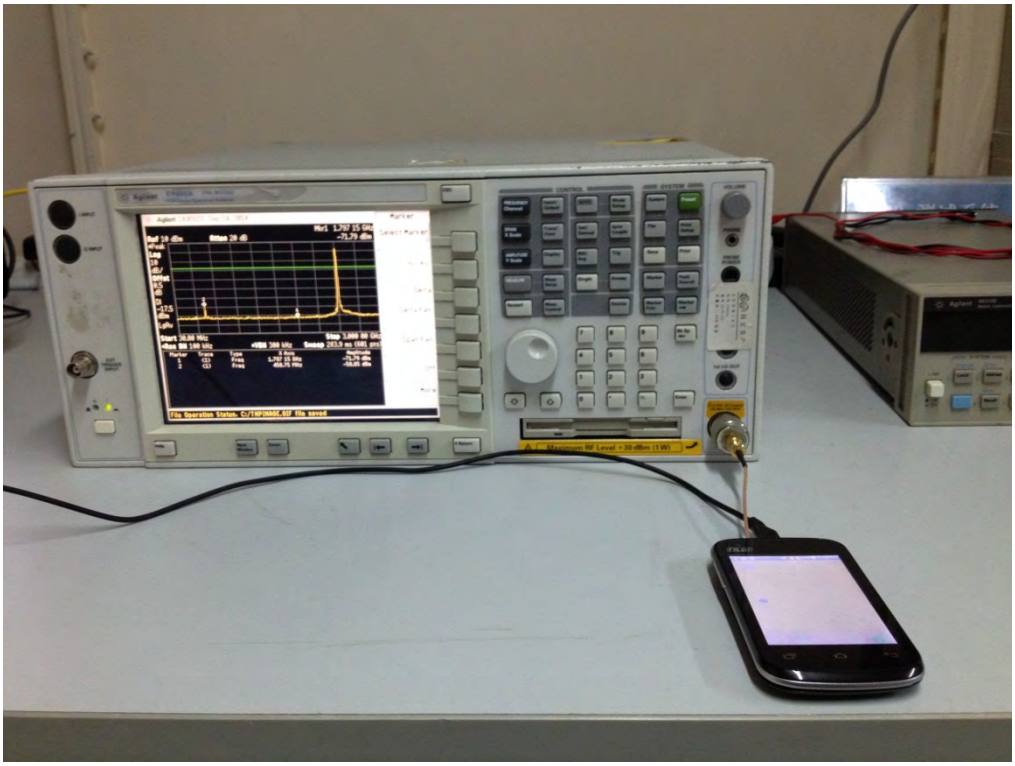


802.11n-20MHz HIGH CHANNEL

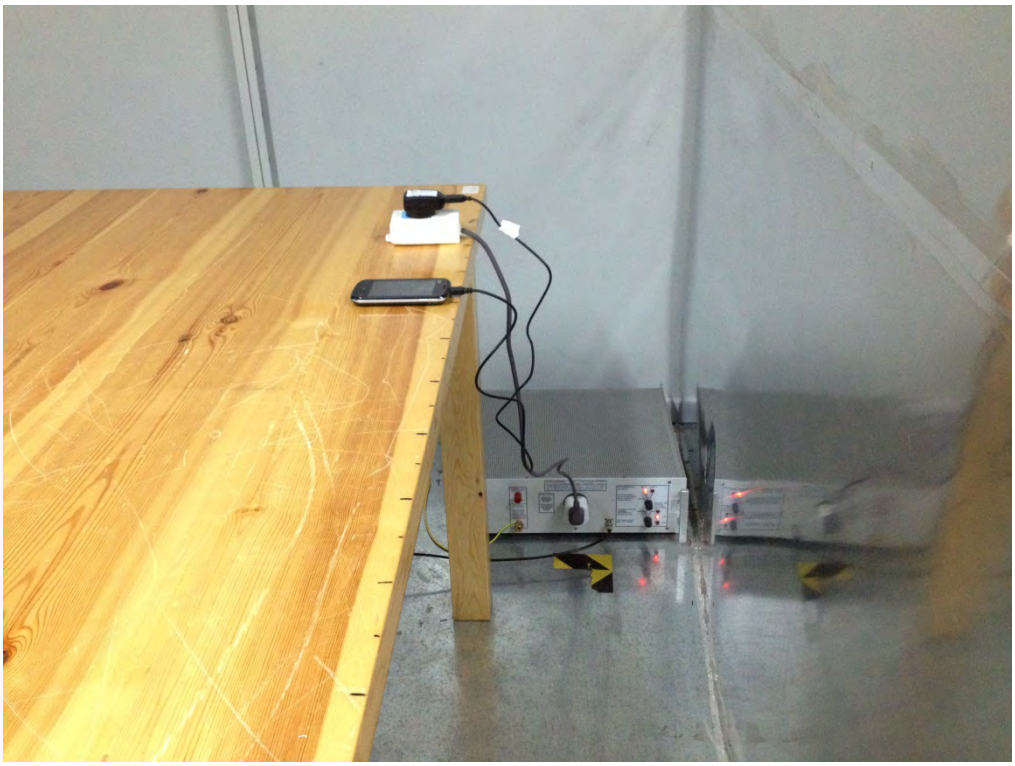


ANNEX B TEST SETUP PHOTOS

B.1. Conducted Test Photo

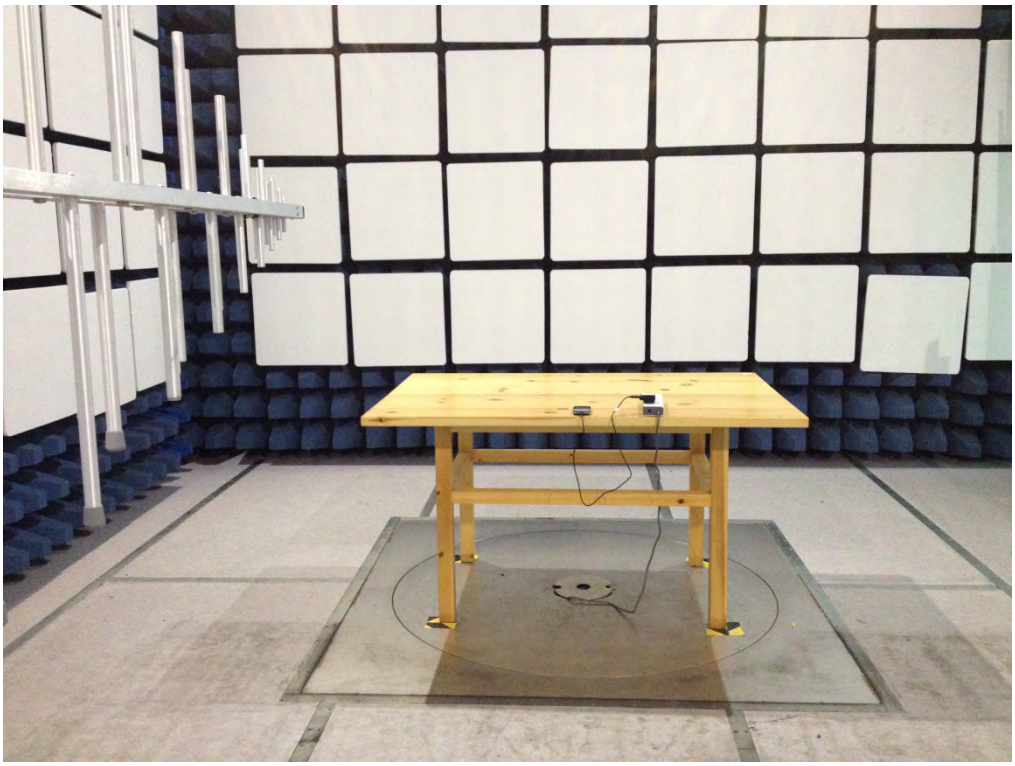


B.2. Conducted Emissions Test Photo

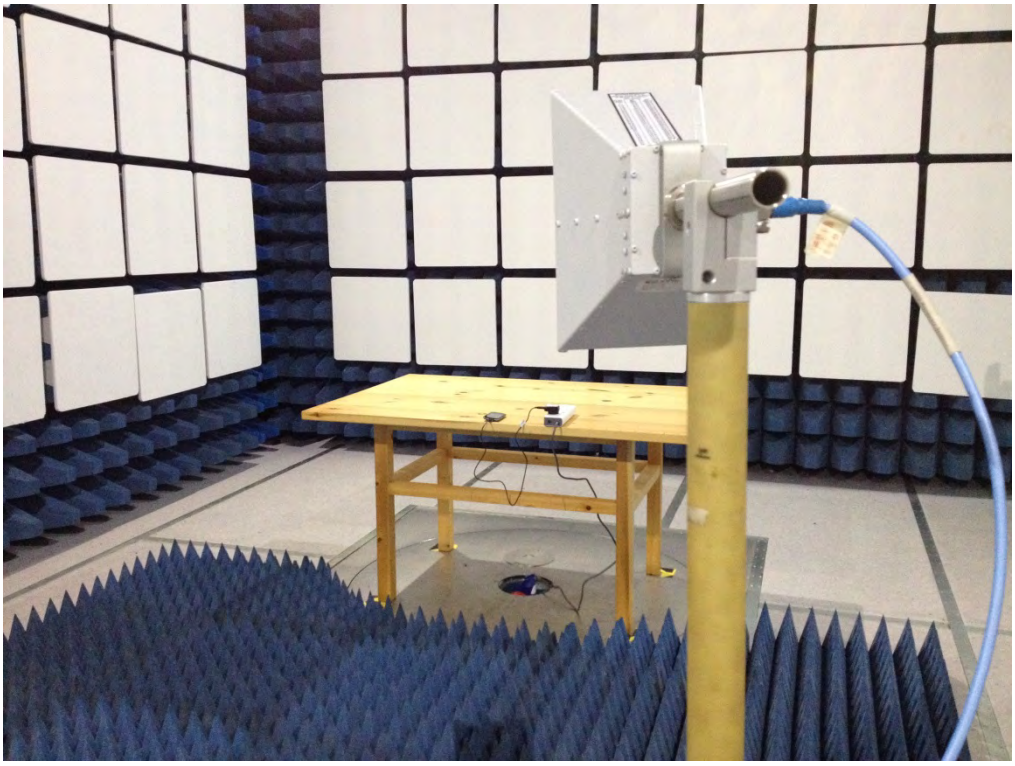


B.3. Radiated Test Photo

Below 30MHz



30MHz to 1GHz



Above 1GHz

ANNEX C EUT PHOTOS

C.1 Appearance of the EUT

THE FRONT OF EUT

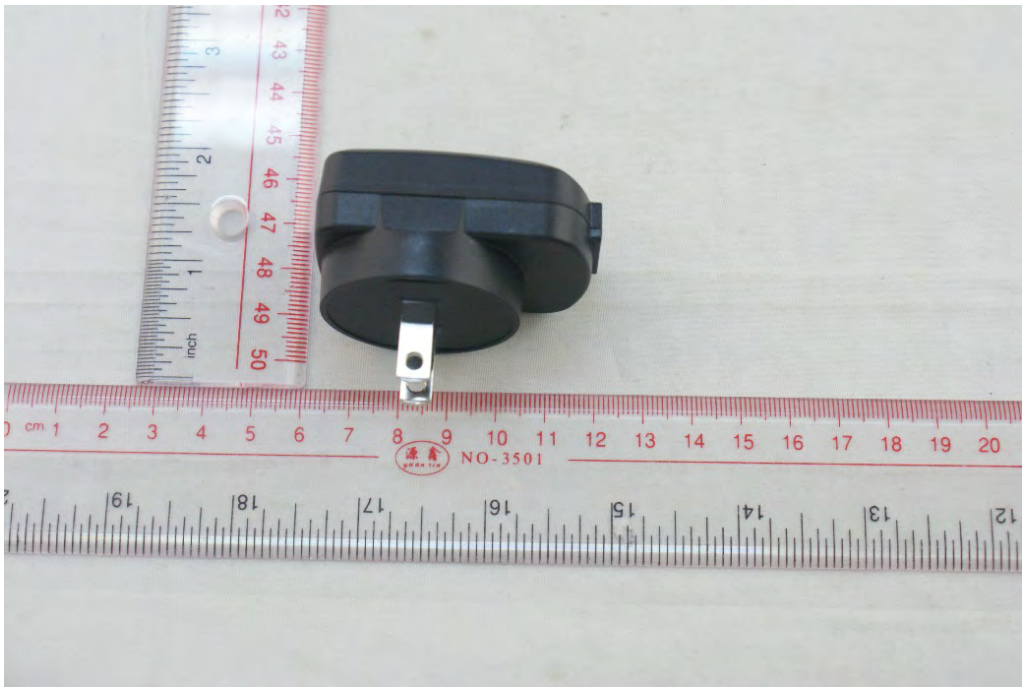
THE BACK OF EUT

THE LEFT OF EUT

THE RIGHT OF EUT

THE UP OF EUT

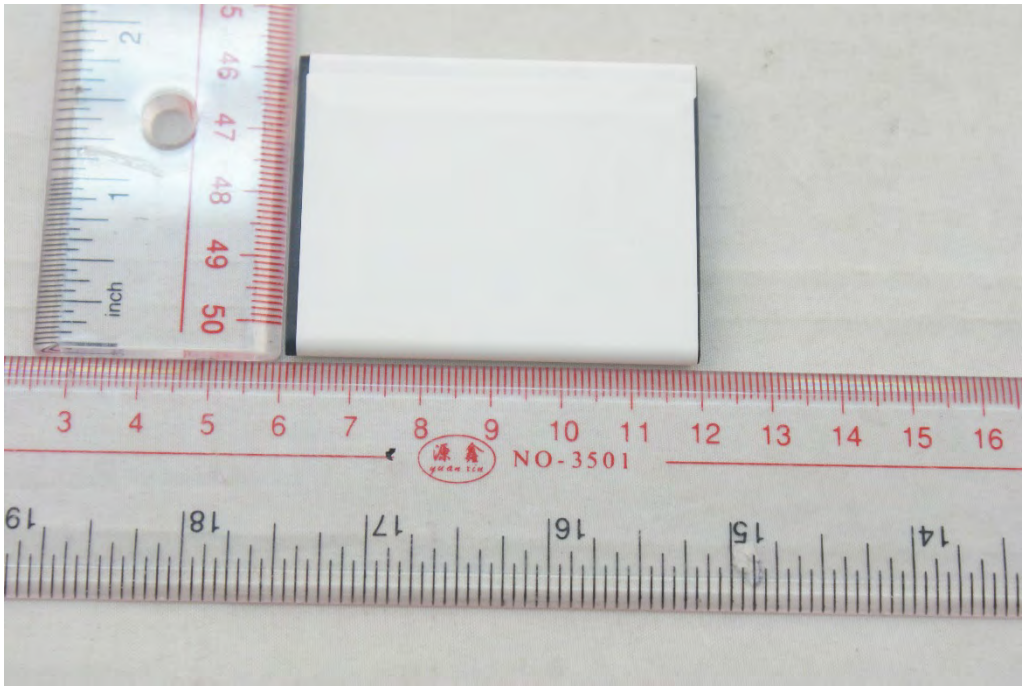
THE DOWN OF EUT



CHARGER

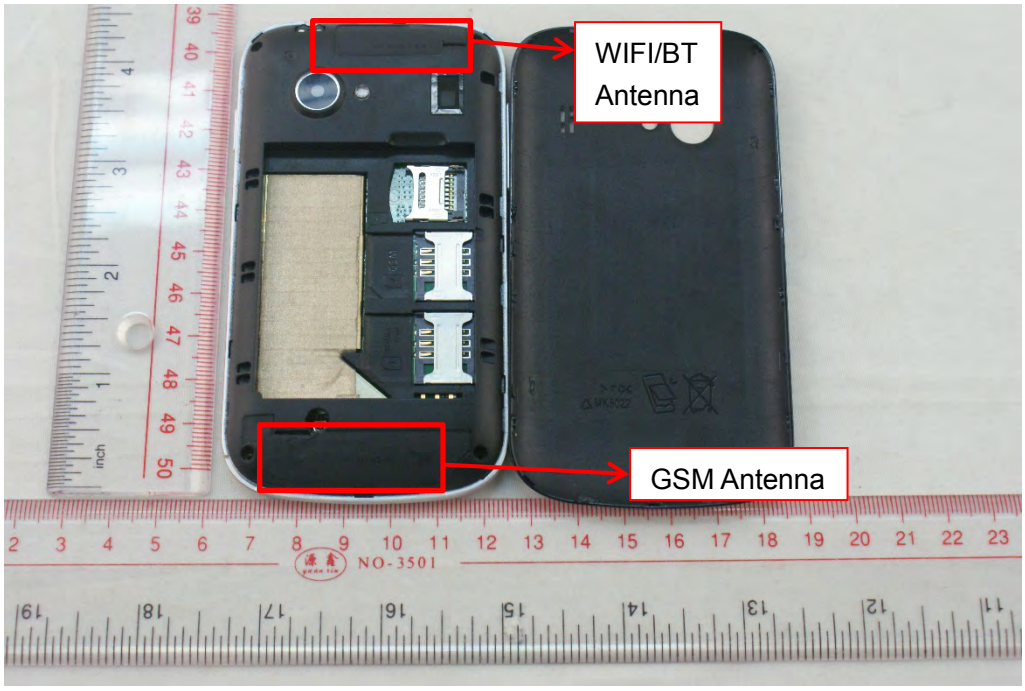
DATA CABLE

HEADPHONE CABLE

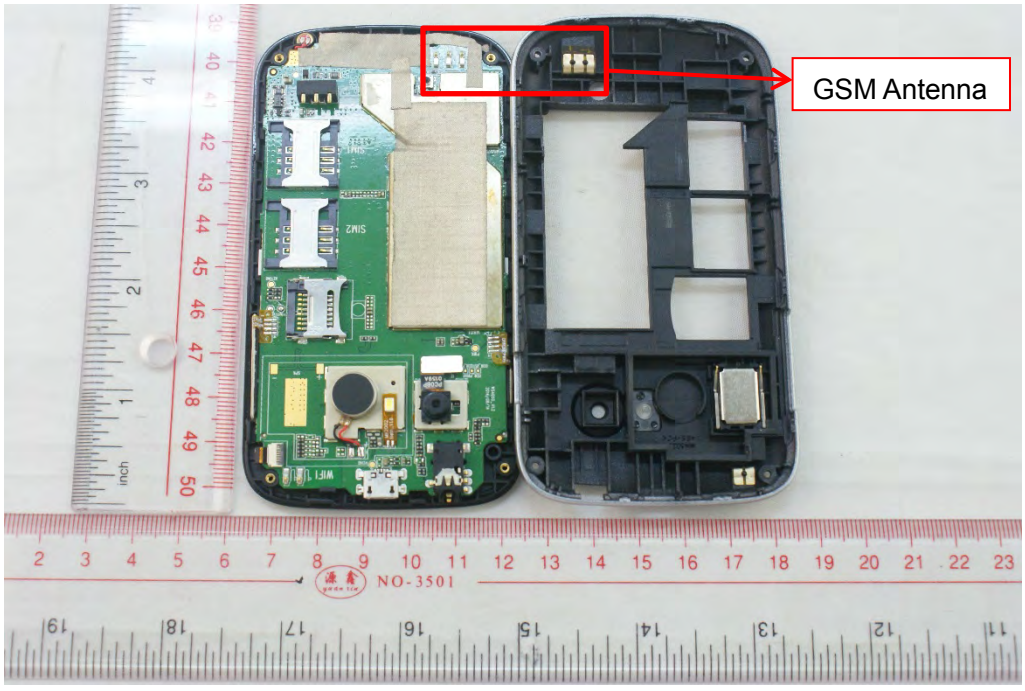


CHARGER

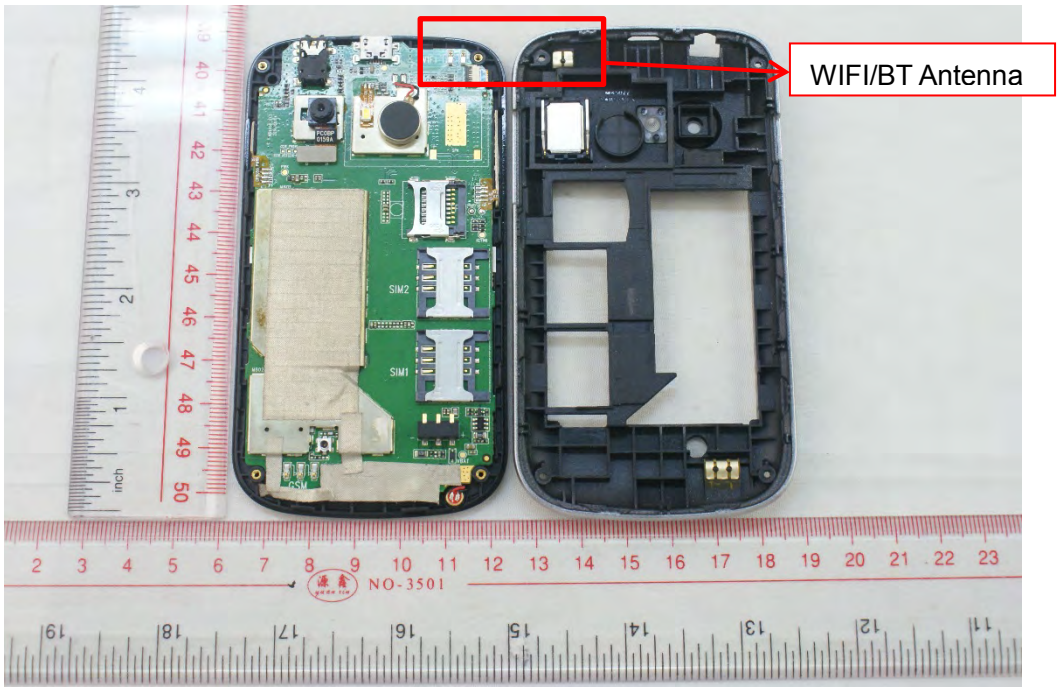
C.2 Inside of the EUT



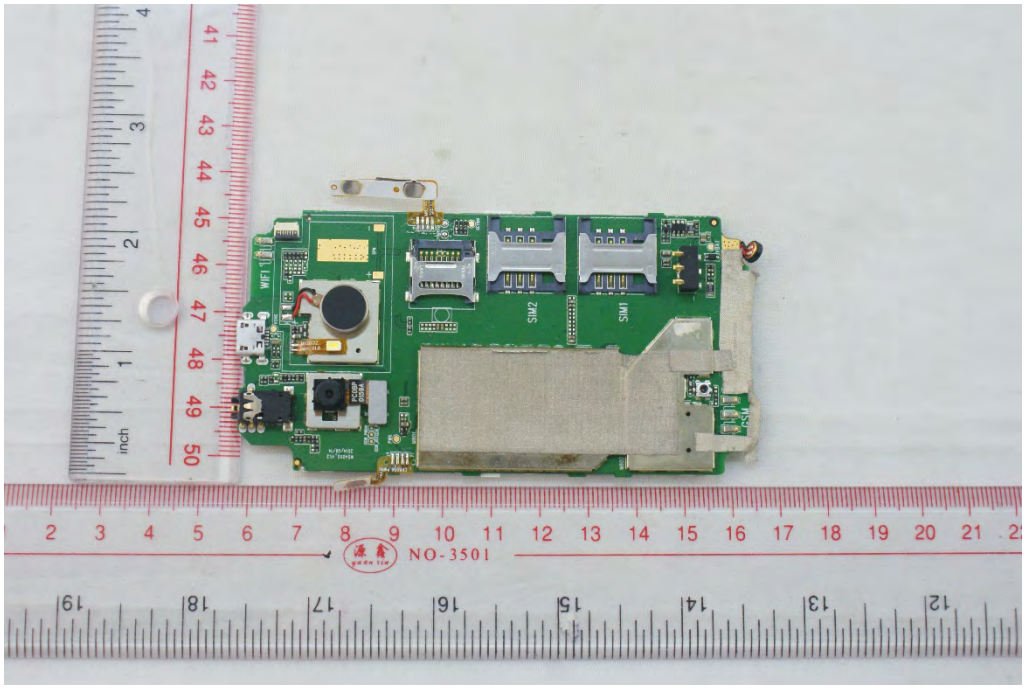
EUT UNCOVER VIEW 1



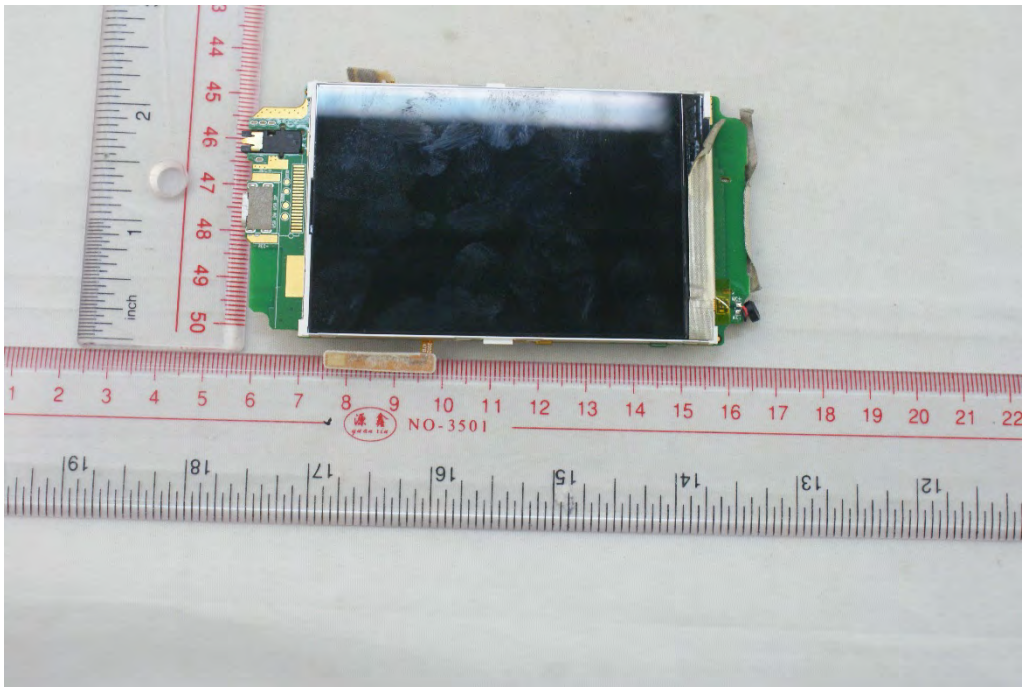
EUT UNCOVER VIEW 2



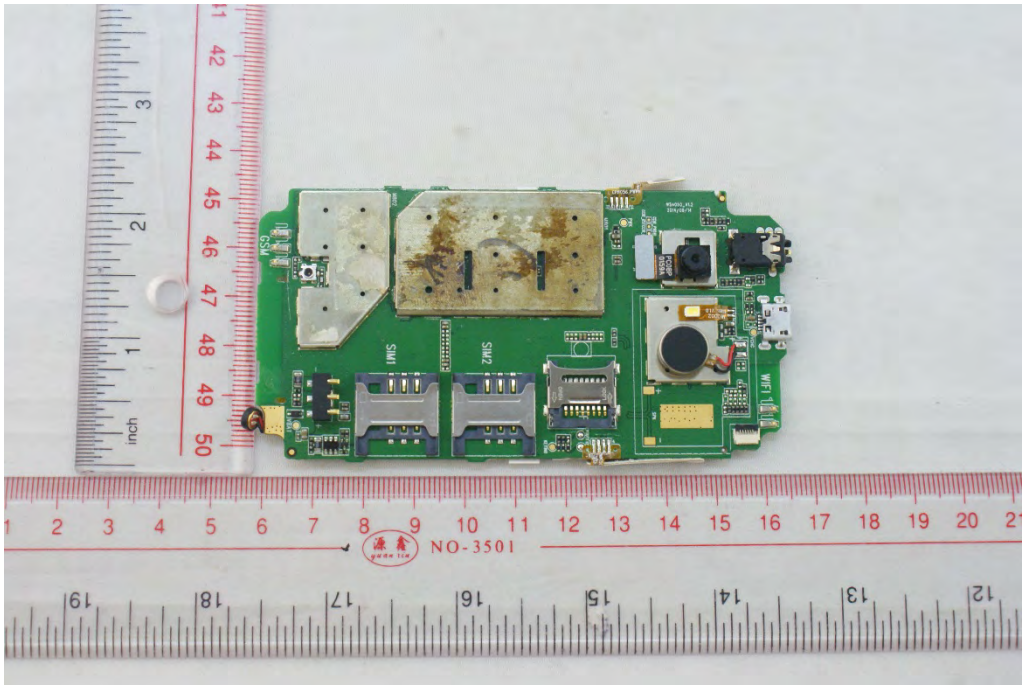
EUT UNCOVER VIEW 3



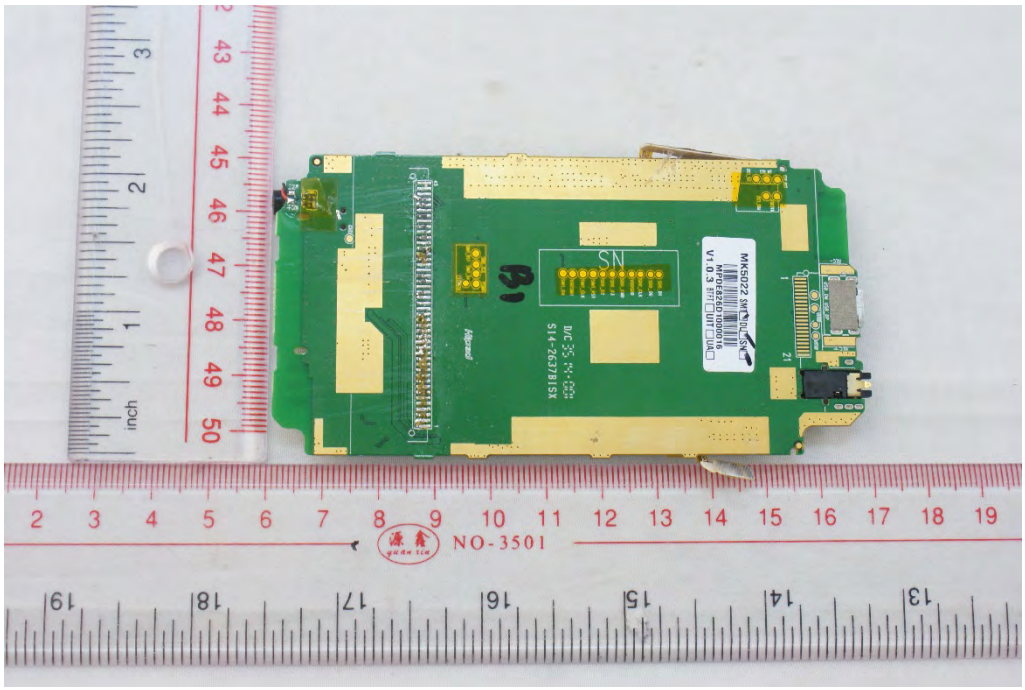
MAIN BOARD TOP VIEW 1



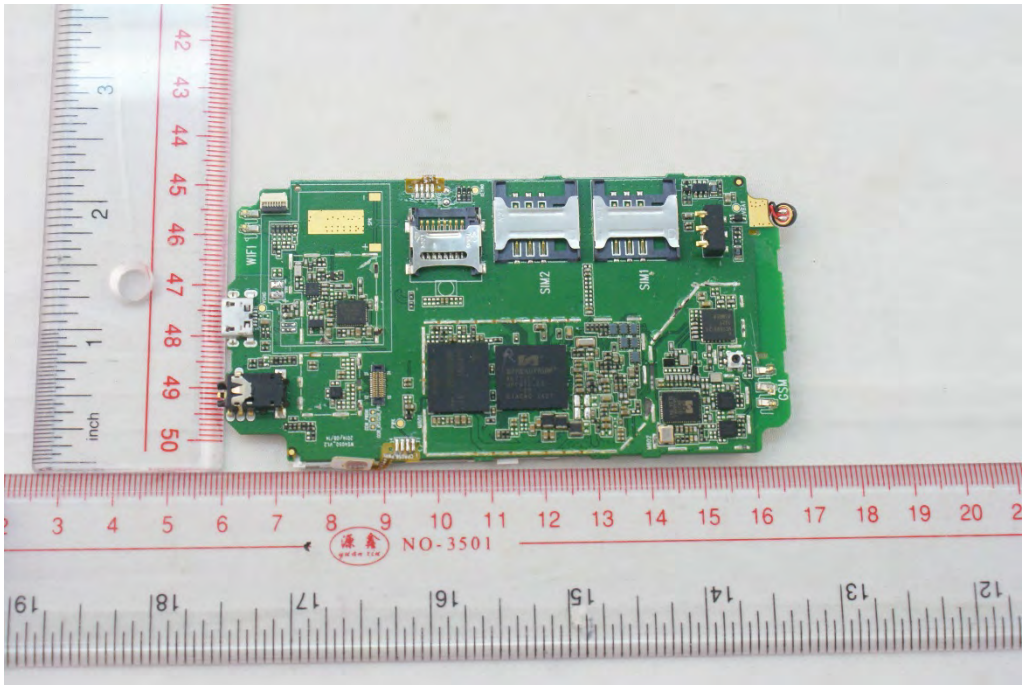
MAIN BOARD BACK VIEW 1



MAIN BOARD TOP VIEW 2



MAIN BOARD BACK VIEW 2



MAIN BOARD TOP VIEW 3

--END OF REPORT--