Testing Cert #1007.01

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FCC
Test Report

FCC CFR 47 Part 15.207, 15.209 and 15.247 COMPLIANCE

Matterport, Inc.
140 S. Whisman Drive Suite A
Mountain View, CA 94041

Product:
Wi-Fi Device for 3D Camera
Model:
MC200

FCC ID:	2AAS4MC200
IC:	11328A-MC200
Test Report Number:	1335MTP_247c2
Date of Report:	August 29, 2013

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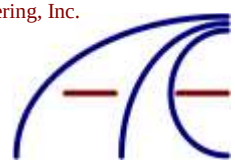

General Information

Test Report Number:	1335MTP_247c2
Date Product Tested:	August 12 – 29, 2013
Date of Report:	August 29, 2013
Applicant:	Matterport, Inc. 140 S. Whisman Drive Suite A Mountain View, CA 94041
Contact Person	Trevor Lofthouse
Equipment Tested:	Wi-Fi Device for 3D Camera
Trade Name:	Matterport
Model:	MC200
Purpose Of Test:	To demonstrate the compliance of the Wi-Fi Device for 3D Camera, MC200, with the requirements of FCC CFR 47 Part 15 Rules and Regulations to the limits of Subpart C 15.207, 15.209 and 15.247 using the procedure stated in FCC 558074 D01and including IC RSS-210 requirements.
Frequency Range Investigated:	9 KHz to 24.835 GHz
FCC ID:	2AAS4MC200
IC:	11328A-MC200
Test Site Locations:	Field Strength Measurement Facility: Atlas Compliance & Engineering, Inc. 726 Hidden Valley Road Royal Oaks, California 95076 Industry Canada test site file number IC 3655B-1, Conducted Interference Measurement Facility: Atlas Compliance & Engineering, Inc. 1792 Little Orchard Street San Jose, California 95125
Test Personnel:	Bruce Smith EMC Engineer

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Test Equipment

The following list contains the test equipment that was utilized in making the measurements in this report.

Description _ Model	Serial	Manufacturer	Calibration Due
Active Loop Antenna _ 6502	9108-2669	EMCO	9/13/13
BiLog Antenna _ CBL6112B	2783	Chase Electronics Ltd.	6/7/14
Biconilog Antenna _ 3142	9610-1101	EMCO	10/15/14
Double Ridge Guide Horn Antenna _ 3115	9003-3340	EMCO	9/14/13
Pre amp 9kHz-2GHz _ CPA9231A	3323	Schaffner	12/21/14
EMI Test Receiver 9 kHz - 2500 MHz _ ESPC (bat)	DE14459 843820/0015	Rohde & Schwarz	12/20/14
EMI Receiver 9kHz – 6.5 GHz _ 8546A	3650A00196	HP	12/4/14
Pre amp 1Ghz-26.5GHz _ 8449B	3008A00910	HP	1/29/15
Spectrum Analyzer 100Hz-22GHz _ 8566B	2542A13058 (IF) 2637A03426 (RF)	HP	2/28/15
Quasi-Peak Adapter _ 85650A	2521A00716	HP	2/28/15
RG8 Cable 75 ft.	0005	Belden	3/1/14
RF Cable 45 ft. _ BM95012.540	106	Bracke Manufacturing	7/2/15
LISN _ 4825/2	9808-1088	EMCO	3/18/15
Thermal Chamber _ F-100/350-8	3411-4	Bemco	9/21/13
Thermal Chamber – 107	0700496	Test Equity	9/21/13

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Test Configuration

Customer:	Matterport, Inc.
Test Date:	August 12- 29, 2013
Specification:	FCC CRF 47 Part 15.247 Limits, FCC 558074 D01, IC RSS-210Methods

EUT Description / Note:

The EUT, MC200, a Wi-Fi Device for 3D Camera was powered up and in a continuous transmitting mode at full power. The EUT is a USB dongle and interface was through the 3D camera circuits to send commands to place it in the different operating modes. The power for the EUT was supplied by an AC adapter that charges the batteries for the device. The frequency stability test condition for AC power was varied ± 15% and the temperature was varied from -30º C to +50º C.

EUT Support Program

The EUT was tested at channel 1, 2412 MHz, channel 6, 2437 MHz, and channel 11, 2462 MHz for 802.11b/g/nHT20 and at channel 3, 2422 MHz, channel 6, 2437 MHz, and channel 9, 2452 MHz for 802.11nHT40 modes. The transmitter was at full power and 100% modulation. The EUT was operated in 802.11 b, g and n modes and all data rates were tested to find worst case levels. Preliminary radiated tests were performed to identify which operating mode and data rate produced the worst case (maximum) transmit level. Using this mode the module was tested to find maximum transmit level. Tests were performed with the measurement antenna in both horizontal and vertical orientations.

EUT Modifications for Compliance

There were no modifications performed on the EUT. The test results state the emission levels of the EUT in the condition as it was received on August 12, 2013.

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EUT Support Devices

Table 1 – Support Equipment Used For Test

Model:	Description:	S/N	FCC ID#
A1460	Apple iPad	DMPK2312F18P	BCGA1460
Inspiron 5720	Dell Laptop computer	DZ53DT1	NA

I/O Ports and Cables

Table 2 – EUT Port Termination's

I/O Port	Cable Type	Length	Connector	Termination
DC power	Shielded/Ferrite	1.5 m	DC jack	AC adapter

Table 3 – Host Port Termination's

I/O Port	Cable Type	Length	Connector	Termination
USB to Serial	Un-Shielded	0.6 meter	header	EUT internal serial

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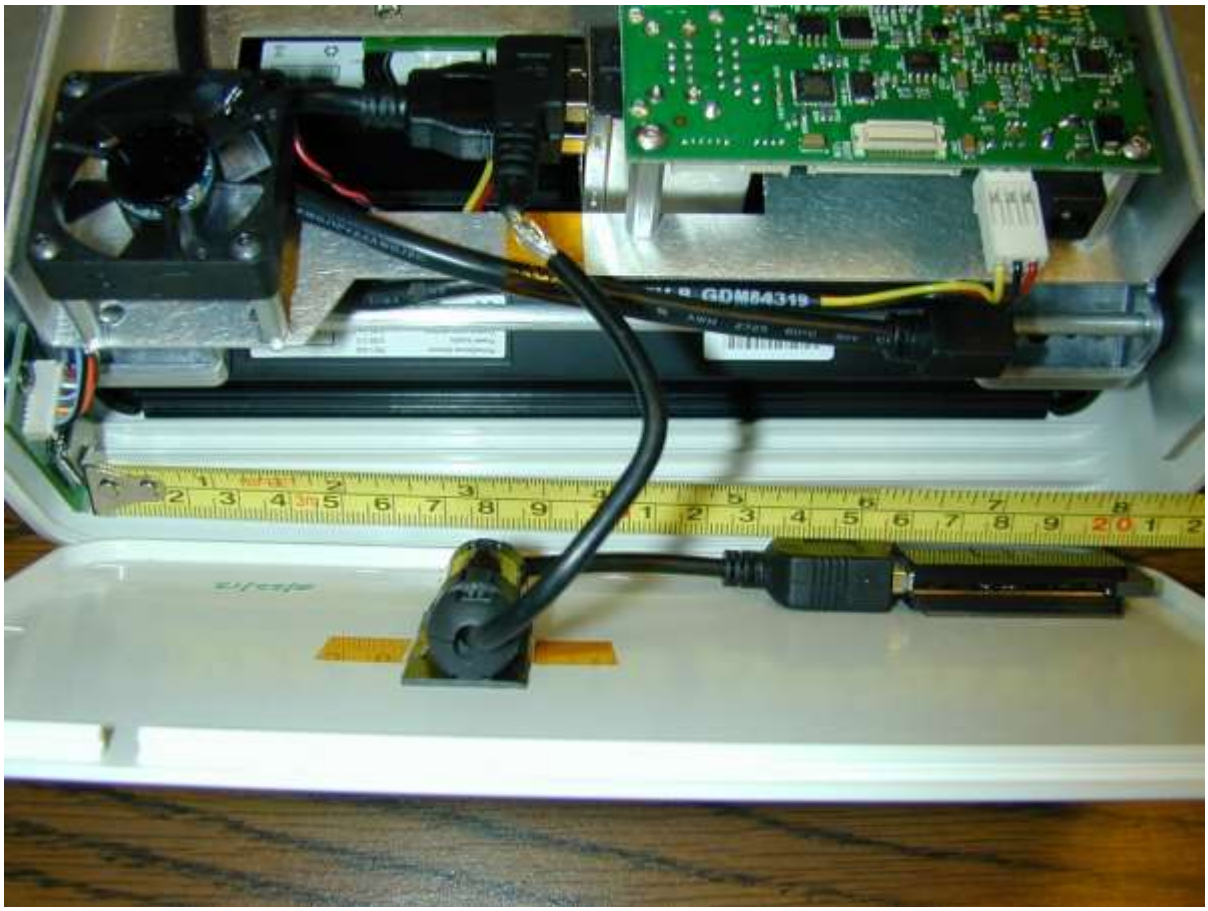
Equipment Under Test

The photographs below show the condition of the EUT for test.



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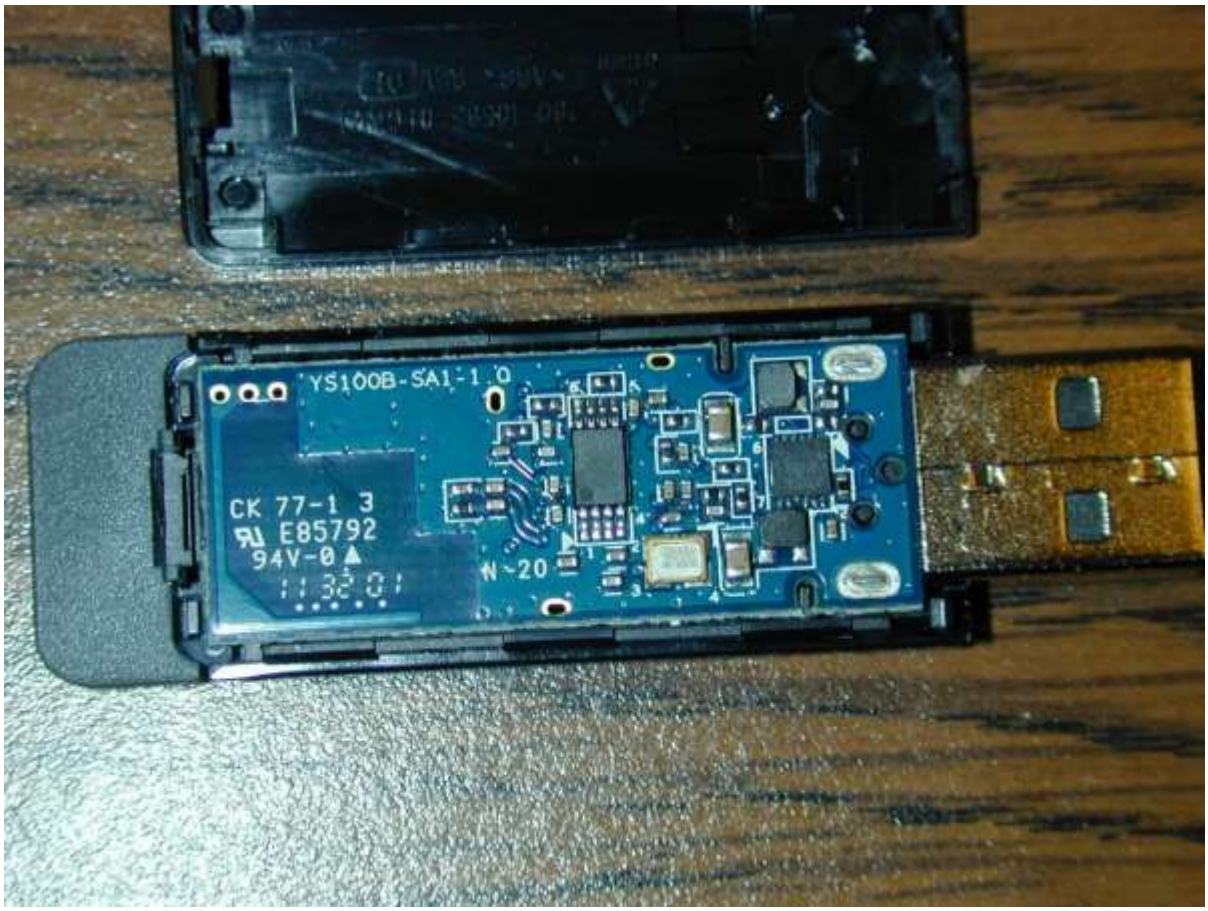

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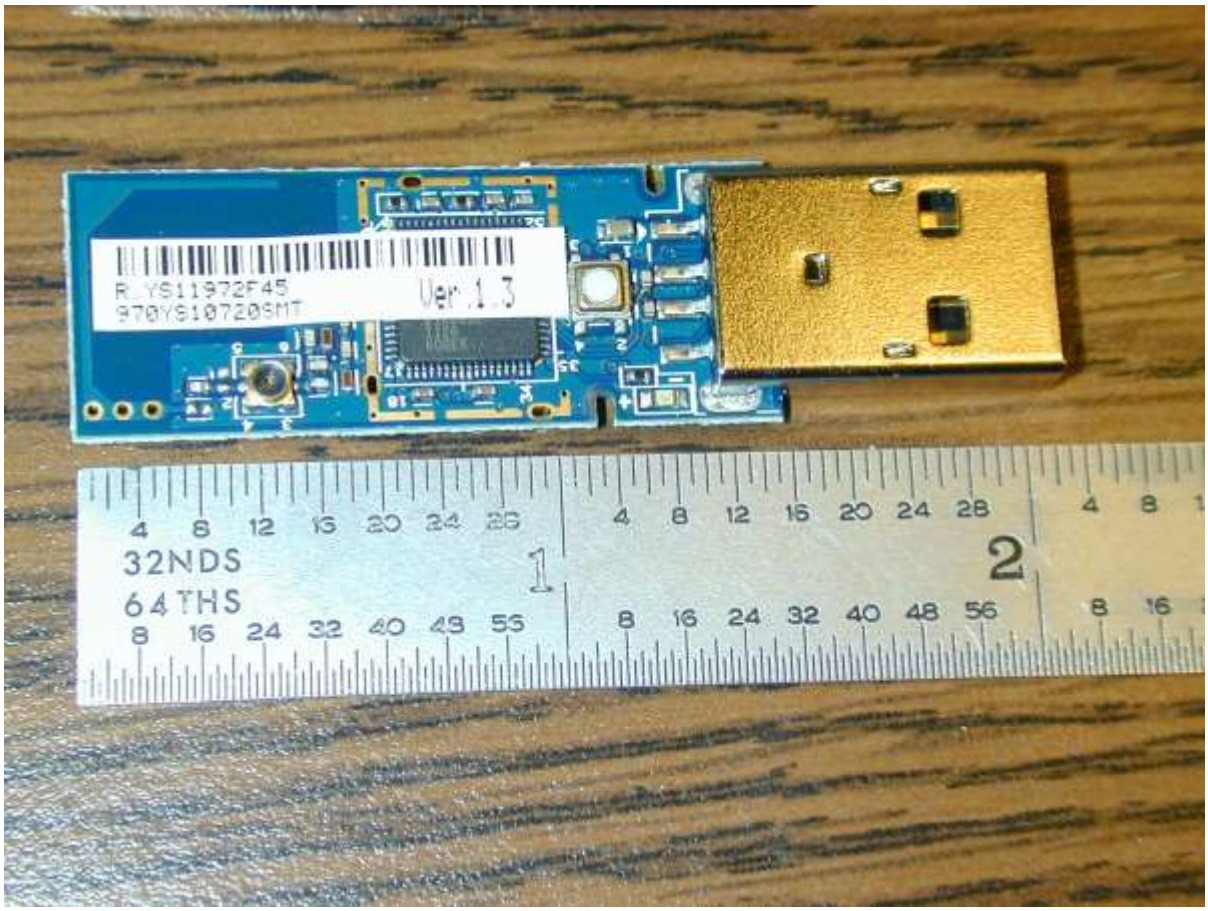

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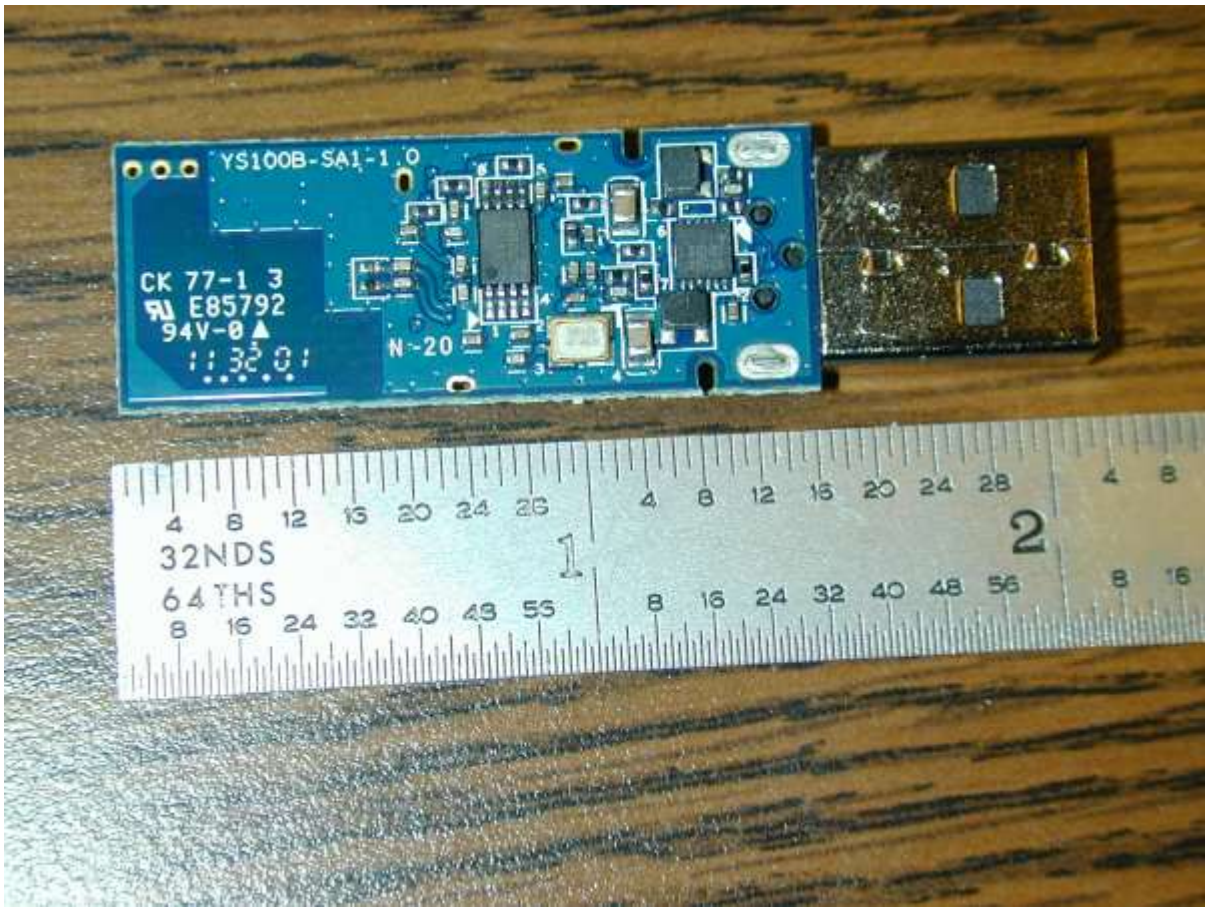

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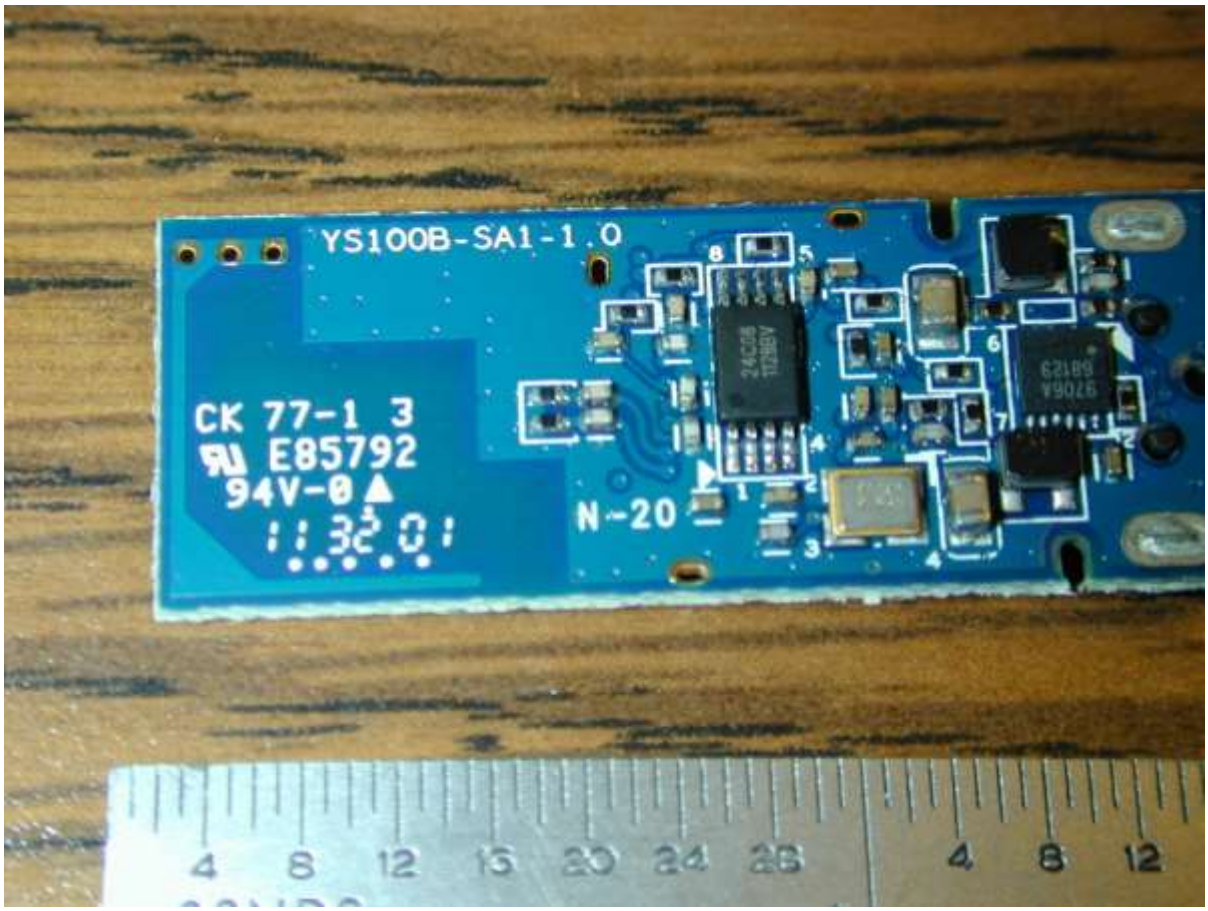

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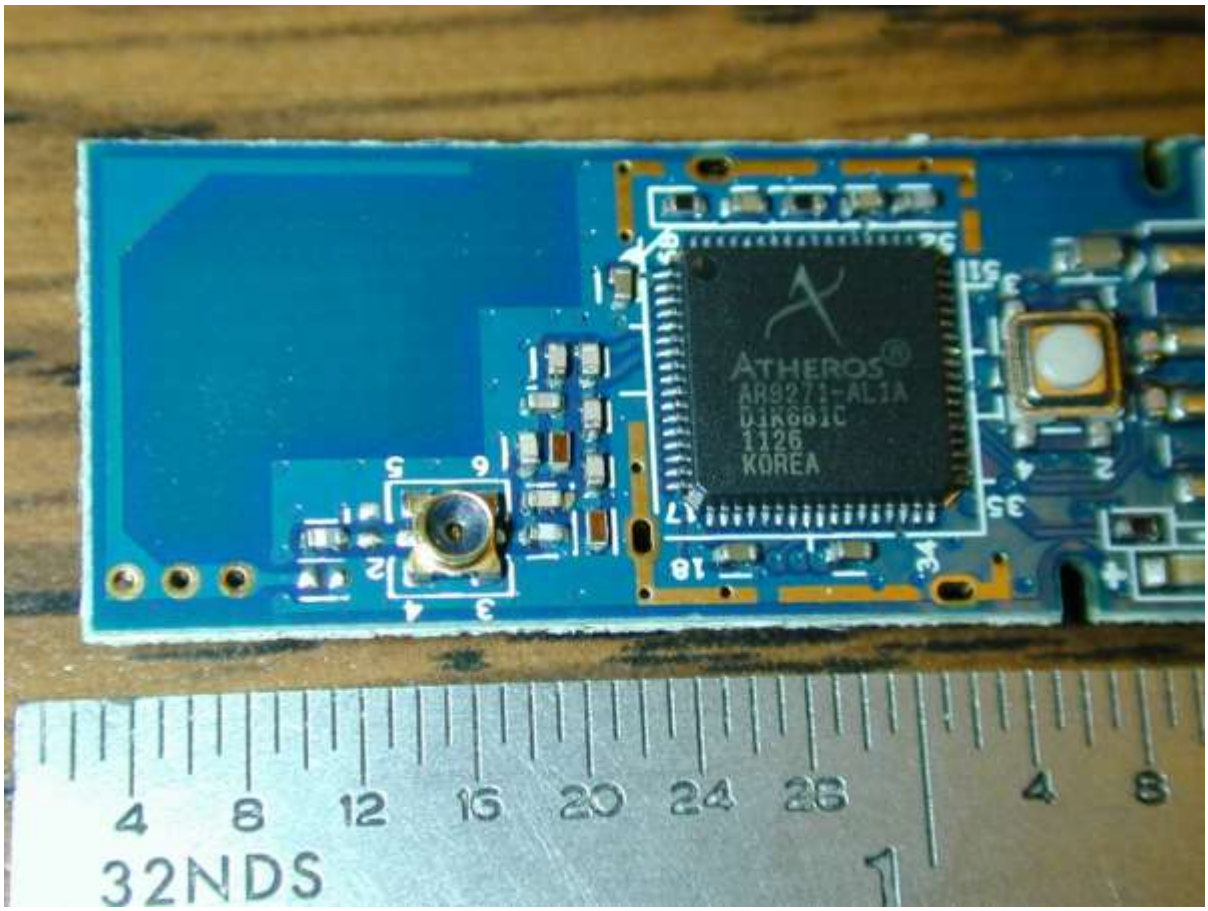

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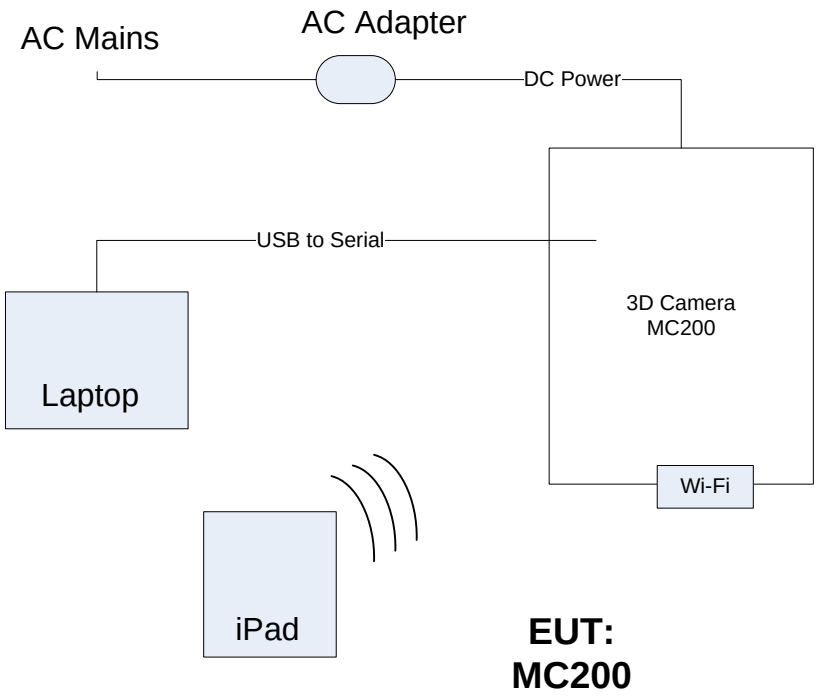
Equipment Block Diagram

Following is the block diagram of the test setup. Refer to TEST CONFIGURATION pages for port connections and information.

Figure 1 – Test Setup Diagram



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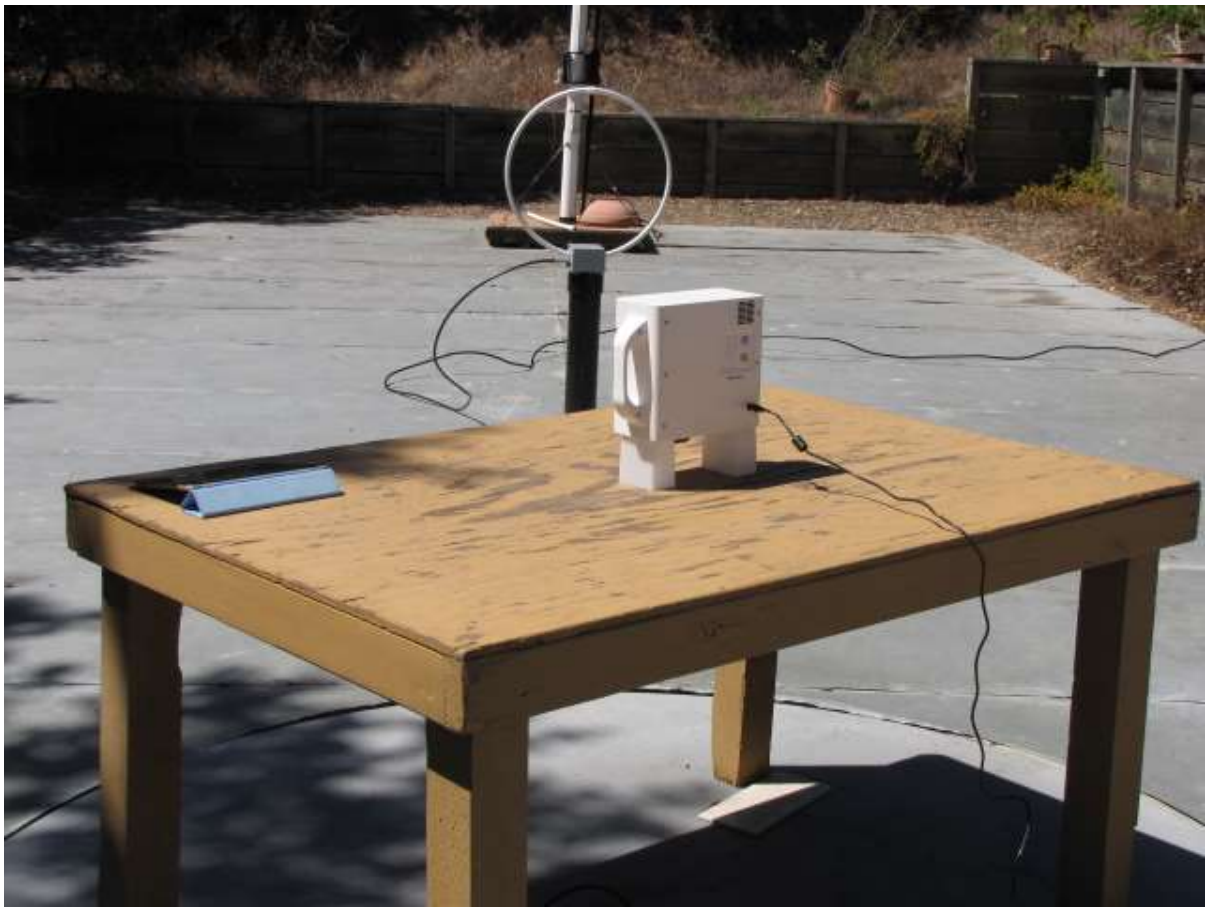
Test Setup (Radiated Emissions)

The photographs below show the test setup for radiated emission testing.



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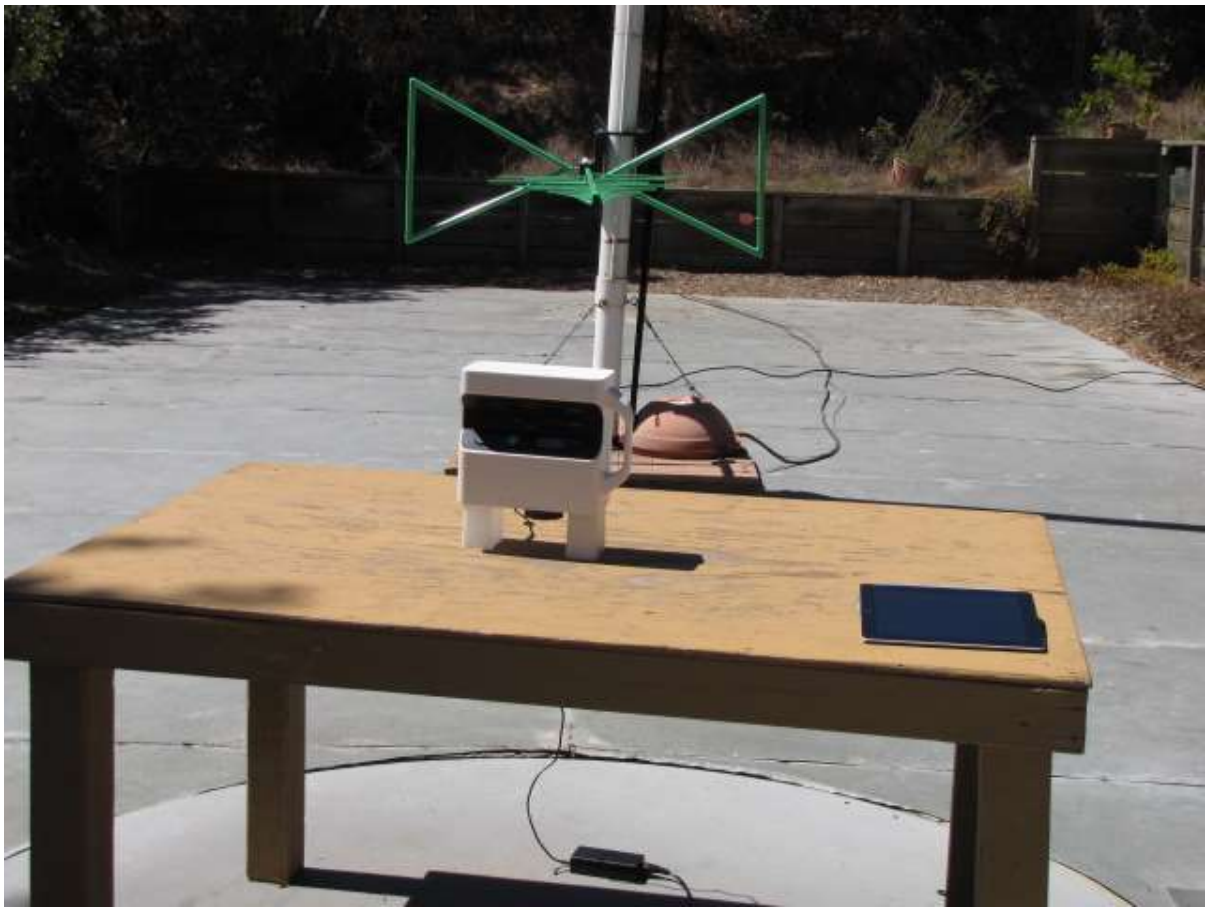

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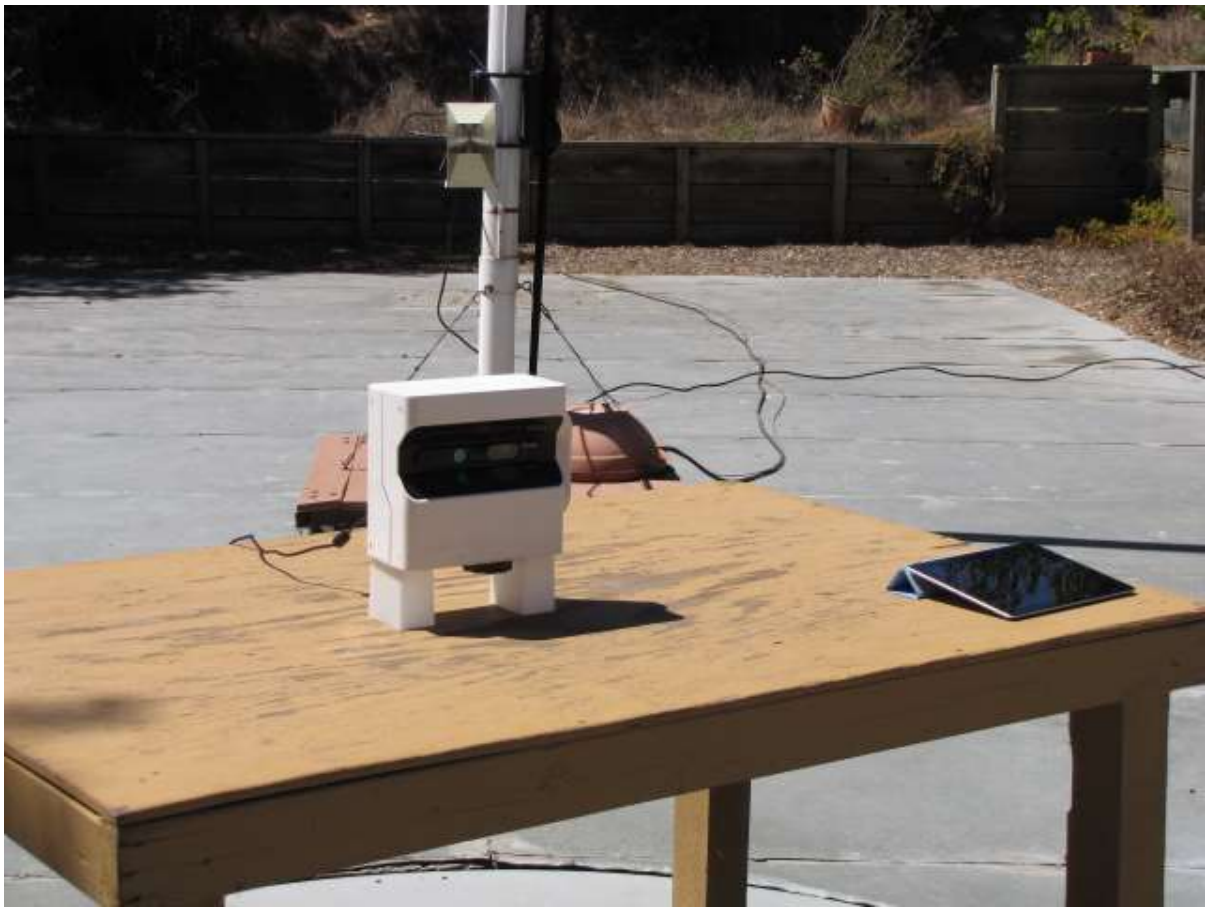

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Test Setup (Conducted Emissions)

The photographs below show worst case setup for line conducted testing.

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Test Setup (Conducted RF)

The photographs below show the test setup for conducted RF testing.

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Test Setup (Frequency Stability)

The photographs below show the test setup for extreme temperatures.

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Measurement Configurations

The measurement procedures described herein are based on the use of an antenna-port conducted test configuration. However, in those cases where antenna-port conducted tests cannot be performed, then the use of a radiated measurement configuration is acceptable to demonstrate compliance to the various emissions limit requirements specified in §15.247. These procedures are equally applicable to either antenna-port conducted or radiated measurements.

If a radiated test configuration is used, then the measured field strength levels must be converted to equivalent conducted power levels for final comparison to the applicable emissions limit. In order to determine the equivalent antenna-port conducted power from the EIRP, subtract the transmit antenna gain of the EUT (in dBi).

Test Conditions

The emission limits specified in the rule section apply to the worst-case (maximum) output power of the equipment under test (EUT). When a device is capable of operating in multiple transmission modes (e.g., variable data rates), the worst-case output power levels over all operating modes must be used to demonstrate compliance to the applicable emission limit. Measurement data and/or other supporting documentation must be provided to demonstrate that the maximum EUT output power levels have indeed been realized and used to show compliance to the relevant emissions limit.

If power levels are adjustable through associated computer software, the applicant must include a declaration regarding how the software is implemented and controlled (e.g., how is software manipulation by the end user to increase power levels beyond what was measured to be precluded).

When average power is used to demonstrate compliance to the pertinent limit, the power averaging is permitted only during the ‘on-time’ of the EUT transmitter. Duty cycle power reduction attributable to transmitter ‘off-time’ is not permitted. Thus, whenever possible, the EUT must be configured to transmit continuously (i.e., $\geq$ 98% duty cycle) when average power measurements are used to demonstrate compliance to the limits.

For tunable EUTs, the minimum number of operating frequencies/channels that must be tested are defined in §15.31(m).

All antenna-port conducted measurements shall be performed using equipment that matches the nominal impedance of the antenna assembly to be used with the EUT.

Transmit Antenna Performance Considerations

The conducted output power limits specified in §15.247(b) are based on the use of transmit antennae with directional gains that do not exceed 6 dBi. If transmit antennae with an effective directional gain greater than 6 dBi are used, then the conducted output power from the EUT shall be reduced as specified in §15.247(b) and (c).

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Test Methods for Emissions

The test procedure stated in ANSI C63.4-2009 and FCC KDB 558074 was used to collect the test data. The emission data of the EUT was taken with the Rohde & Schwarz EMI Test Receiver and HP 8566B. Incorporating the application of correction factors programmed into the Test Receiver and verified for distance, antenna, cable loss, and amplifier gain, the data was reduced as shown in the Sample Calculations. These correction factors are available upon request. The corrected data was then compared to the emission limits to determine compliance.

During radiated emission testing, the EUT was placed on a nonconductive rotating table 0.8 meter above the conductive grid. The nonconductive table dimensions were 1 meter deep by 1.5 meters wide at 0.8 meter high. The EUT is centered on the tabletop and the measurement antenna was placed 10 or 3 meters from the EUT as noted in the test data.

For emissions testing, scans in the frequency range of 9 kHz to 24.835 GHz were made. Measurement bandwidths and detectors stated in ANSI C63.4 were used.

Measurements were made at a distance of 3 or 10 meters.

For conducted RF testing the procedures stated in FCC KDB 558074 was used.

Conducted Emission Testing

For the conducted emissions testing, the EMCO LISN, Model No. 4825/2, was used for the EUT. During conducted emission testing the EUT was located on a wooden test bench measuring 0.8 meter high, 1 meter deep, and 1.5 meters in width. The vertical conducting surface was 0.4 meter from the back of the test bench. The LISNs were placed on the ground plane of the test area in accordance with ANSI C63.4-2009.

The metal plane used for conducted emission testing was grounded to the earth by a heavy gage braided wire attached to the plane. All other objects were kept a minimum of 1 meter away from the EUT during the conducted test.

For conducted emissions testing a scan of the frequency band 150 kHz to 30 MHz was made stepping every 5 kHz. Each frequency was measured at a bandwidth of 10 kHz for 20 msec. All readings within 25 dB of the limits were recorded, and those emissions were then measured using the CISPR quasi-peak and average detectors at a bandwidth of 10 kHz for a 2 second measurement time. All emissions within 6 dB of the limit were examined with additional measurements to ensure compliance with the FCC 15.207 limits. The results of the conducted emissions test are shown in Tables 8 and 9 and Figures 3 and 4.

RSS 210 Annex 8

A8.2 Digital Modulation Systems

These include systems that employ digital modulation techniques resulting in spectral characteristics similar to direct sequence systems. The following applies to all three bands:

(a) The minimum -6 dB bandwidth shall be at least 500 kHz.

(b) The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of Section A8.4 (4), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

A8.4 Transmitter Output Power and e.i.r.p. Requirements

For systems employing digital modulation techniques operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz, the maximum peak conducted output power shall not exceed 1 W. Except as provided in Section A8.4 (5), the e.i.r.p. shall not exceed 4 W.

As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power. The maximum conducted output power is 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. The average must not include any time intervals during which the transmitter is off or transmitting at a reduced power level. If multiple modes of operation are implemented, the maximum conducted output power is the highest total transmit power occurring in any mode.

A8.5 Out-of-band Emissions

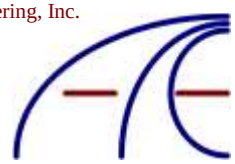
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section A8.4 (4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

RSS GEN

4.6.1 Occupied Bandwidth

When an occupied bandwidth value is not specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99% emission bandwidth, as calculated or measured. The transmitter shall be operated at its maximum carrier power measured under normal test conditions.

The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted.



Where practical, a sampling detector shall be used given that a peak or peak hold may produce a wider bandwidth than actual.

The trace data points are recovered and directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

4.6.2 -6 dB Emission Bandwidth

Where indicated, the -6 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 6 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

4.7 Transmitter Frequency Stability

Frequency stability is a measure of frequency drift due to temperature and supply voltage variations with reference to the frequency measured at an appropriate reference temperature and the rated supply voltage.

Unless specified otherwise in the RSS that is applicable to the device, the reference temperature for transmitters is +20°C.

A hand-held device that is only capable of operating using internal batteries shall be tested using a new battery without any further requirement to vary the supply voltage. Alternatively, an external supply voltage can be used and set at the battery nominal voltage, and again at the battery operating end point voltage which must be specified by the equipment manufacturer.

The operating carrier frequency shall be set up in accordance with the manufacturer's published operation and instruction manual prior to the commencement of these tests. No adjustment of any frequency-determining circuit element shall be made subsequent to this initial set-up.

With the transmitter installed in an environment test chamber, the unmodulated carrier frequency shall be measured under the conditions specified below. A sufficient stabilization period at each temperature shall be used prior to each frequency measurement. The following temperatures and supply voltage ranges apply, unless specified otherwise in the applicable RSS.

(a) at temperatures of -30°C, +20°C and +50°C, and at the manufacturer's rated supply voltage; and

(b) at a temperature of +20°C and at ±15 percent of the manufacturer's rated supply voltage.

If the frequency stability limits are only met at a different temperature range than specified in (a), the frequency stability requirement will be deemed met if the transmitter

is automatically inhibited from operating outside this different temperature range and the published equipment operating characteristics are revised to reflect this different temperature range.

If an unmodulated carrier is not available, the measurement method shall be described in the test report.

Temperature and Humidity

The ambient temperature of the actual EUT was within the range of 10° to 40° C (50° to 104° F) unless the particular equipment requirements specify testing over a different temperature range. The humidity levels were within the range of 10% to 90% relative humidity unless the EUT operating requirements call for a different level.

Sample Calculations

An example of how the EMI Test Receiver reading is converted using correction factors is given for the emissions recorded in Table 6. These correction factors are programmed into the EMI Test Receiver and verified. For radiated emissions in dBµV/m, the EMI Test Receiver reading in dBµV is corrected by using the following formula:

33.90	Meter Reading (dBµV/m)
34.01	- Pre amp Gain (dB)
12.48	+ Cable Loss (dB)
33.12	+ Antenna Factor (dB)
45.49	= Corrected Reading (dBµV/m)

This reading is then compared to the applicable specification limits and the difference will determine compliance.

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FCC Part 15 Subpart C 15.207 and 15.209 Limits

Table 4 – Conducted Limits

Frequency MHz	Limit Quasi-Peak dBµV	Limit Average dBµV
0.15-0.50	66-56	56-46
0.50-5	56	46
5-30	60	50

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Both Quasi-Peak and Average limits for power line conducted testing must be met.
3. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

Table 5 – Radiated Emission Limits, General Requirements

Frequency MHz	Field Strength µV/m	Measurement 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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closest point of any part of the device or system.
3. The level of any unwanted emissions from an intentional radiator operating under these general provisions shall not exceed the level of the fundamental emission.
4. The emission limits shown are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

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Bandwidth and Peak PSD

Preliminary testing was performed to identify the worst case levels for fundamental emissions. Testing was performed at all data rates and modes of operation. The results of these tests determined the following worst case conditions.

- b mode worst case at 11Mbps
- g mode worst case at 54Mbps
- n HT20 mode worst case at 65Mbps
- n HT40 mode worst case at 150Mbps

Modulation	Channel	Frequency MHz	6dB Bandwidth MHz	20dB bandwidth MHz	PKPSD dBm
802.11b 11Mbps	1	2412	12.00	18.00	-8.2
	6	2437	13.80	18.00	-7.9
	11	2462	11.90	18.05	-9.2
802.11g 54Mbps	1	2412	16.55	18.25	-8.8
	6	2437	16.65	17.95	-9.7
	11	2462	16.70	18.05	-10.6
802.11n HT20 65Mbps	1	2412	17.95	19.40	-10.0
	6	2437	17.90	18.90	-9.9
	11	2462	17.70	18.90	-10.5
802.11n HT40 150Mbps	3	2422	36.9	38.7	-16.1
	6	2437	36.5	37.9	-14.2
	9	2452	36.5	38.1	-16.4

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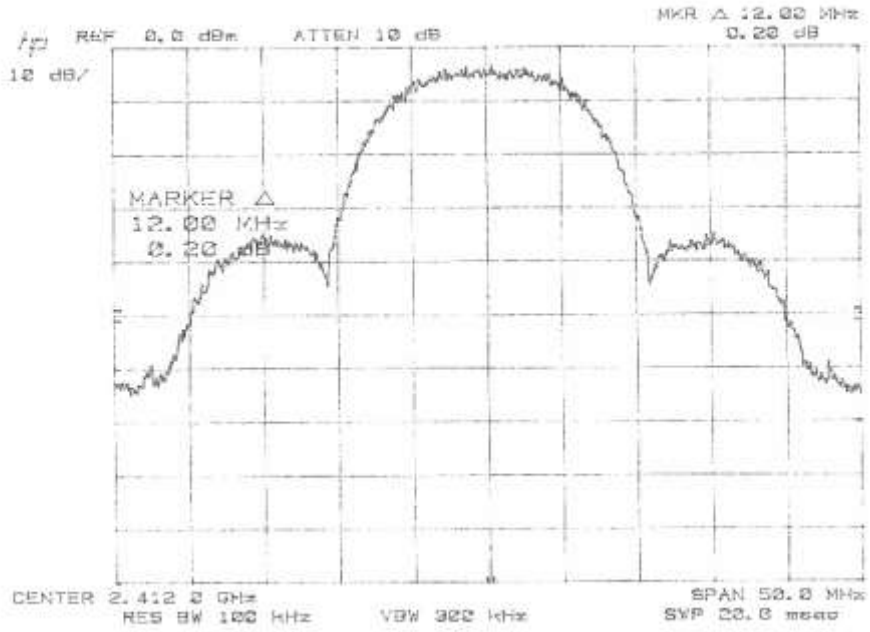
Report of Measurements 6dB Emission Bandwidth Data

15.247(a)(2) and RSS 210 A8.2(a) specifies that the minimum 6 dB bandwidth shall be at least 500 kHz. The following plots report the results of the 6dB bandwidth measurements for the Wi-Fi Device for 3D Camera, MC200. Procedure: FCC 558074 D01 with RBW at 100kHz.

Chanel 1 at 802.11b 11Mbps = 12.00 MHz



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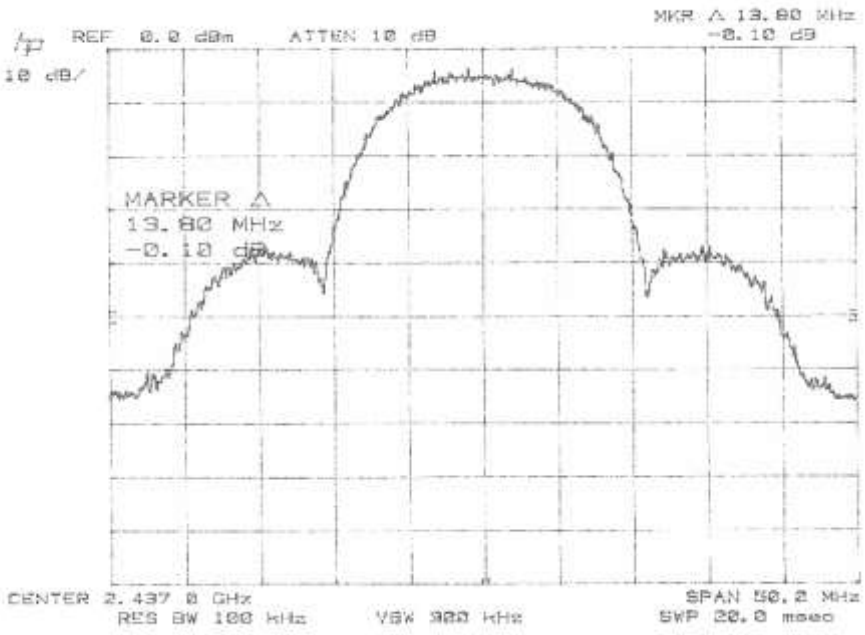
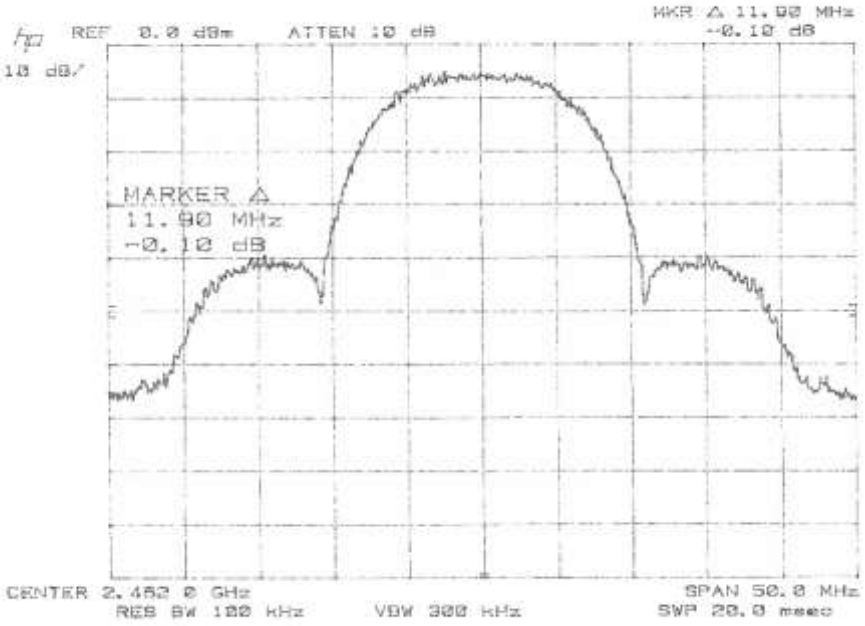
Chanel 6 at 802.11b 11Mbps = 13.80 MHz



Chanel 11 at 802.11b 11Mbps = 11.90 MHz



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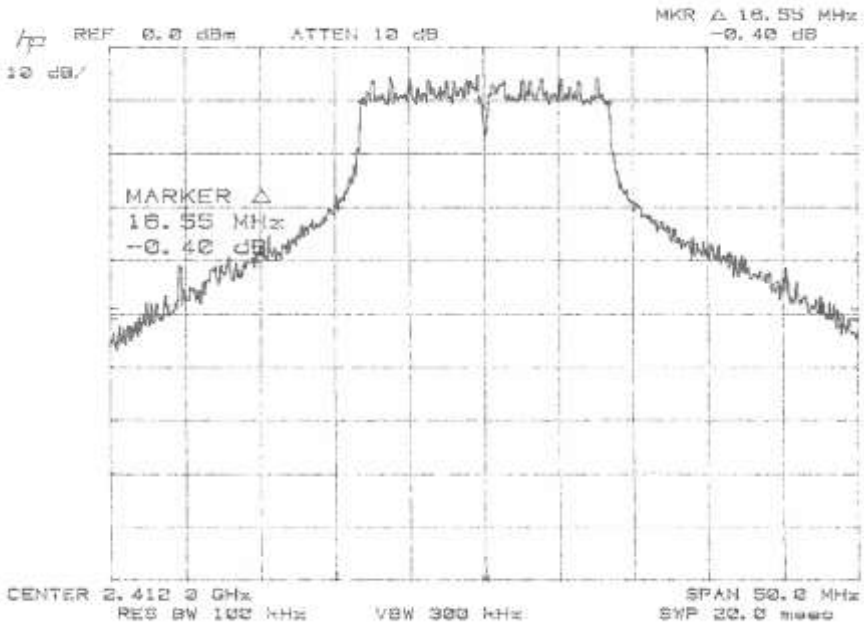
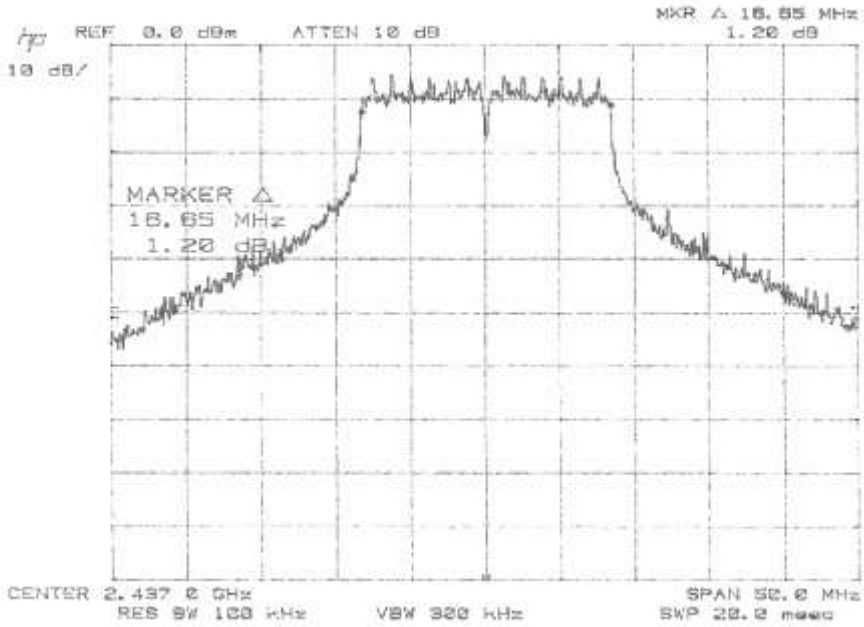
Chanel 1 at 802.11g 54Mbps = 16.55 MHz



Chanel 6 at 802.11g 54Mbps = 16.65 MHz



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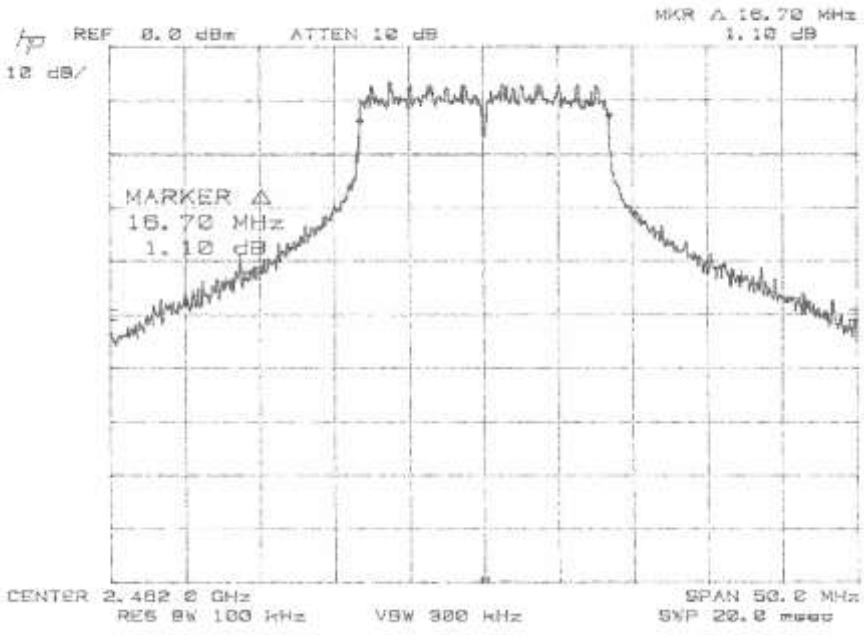
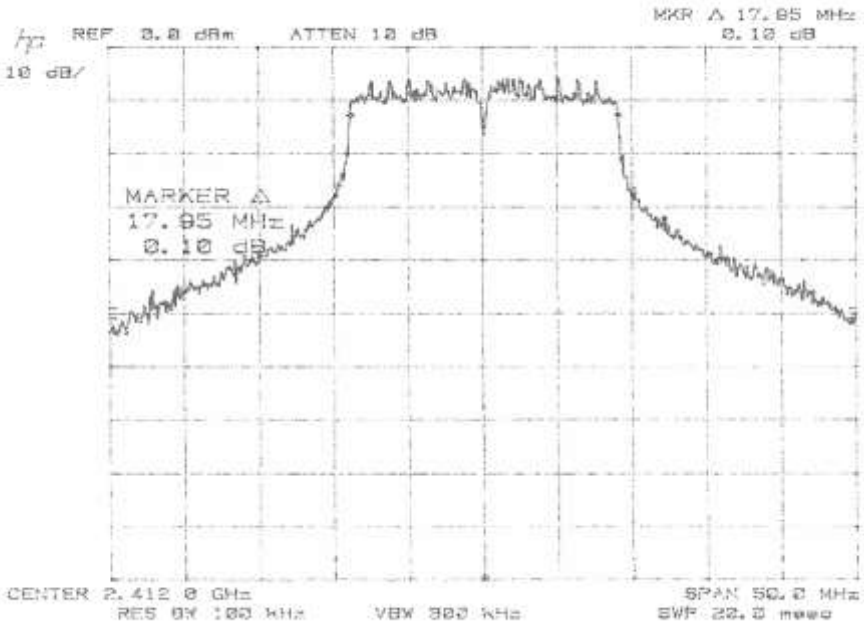
Chanel 11 at 802.11g 54Mbps = 16.70 MHz



Chanel 1 at 802.11n HT20 65Mbps = 17.95 MHz



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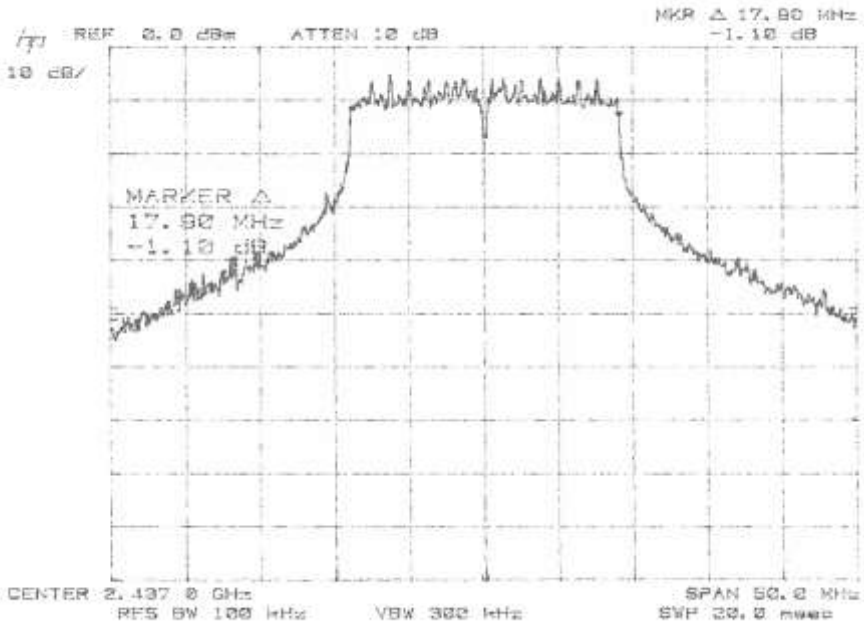
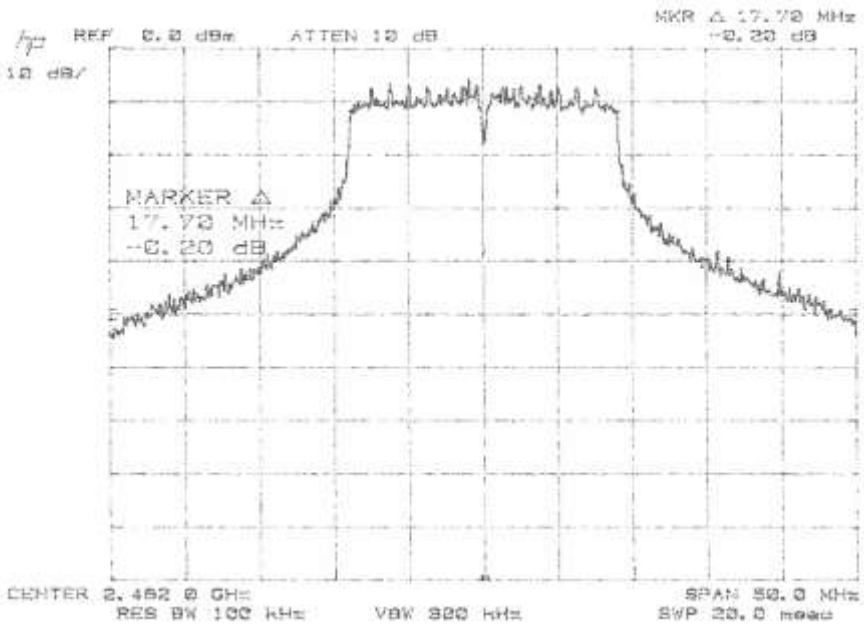
Chanel 6 at 802.11n HT20 65Mbps = 17.90 MHz



Chanel 11 at 802.11n HT20 65Mbps = 17.70 MHz



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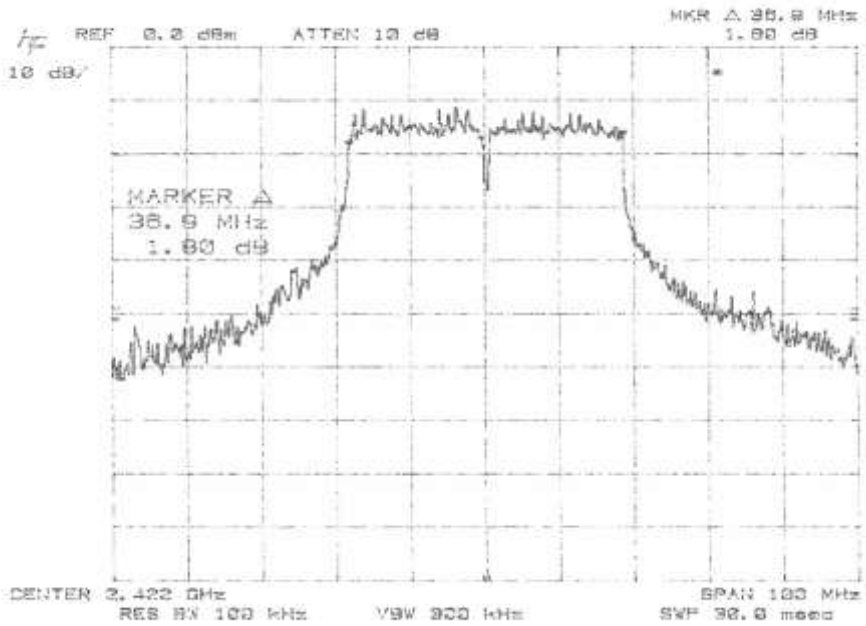
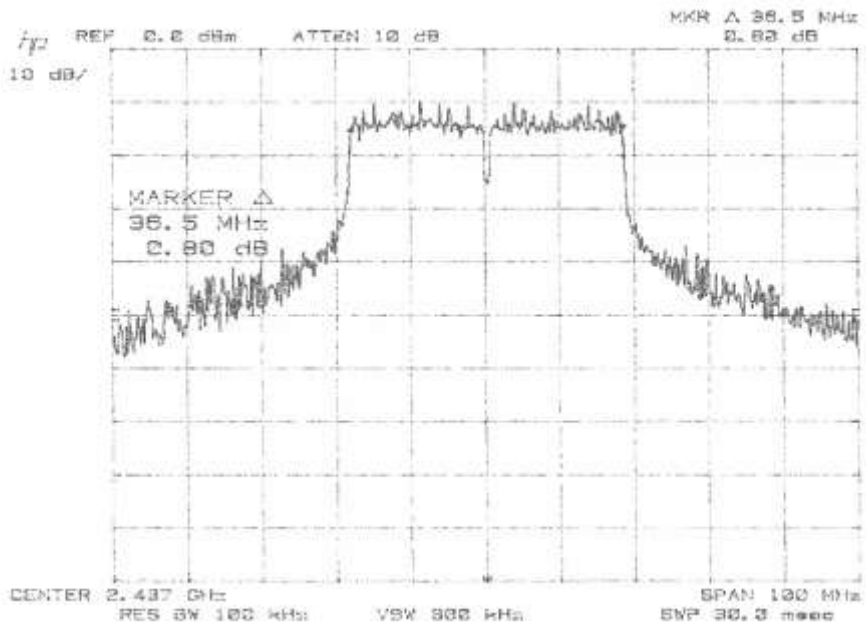
Chanel 3 at 802.11n HT40 150Mbps = 36.9 MHz



Chanel 6 at 802.11n HT40 150Mbps = 36.5 MHz



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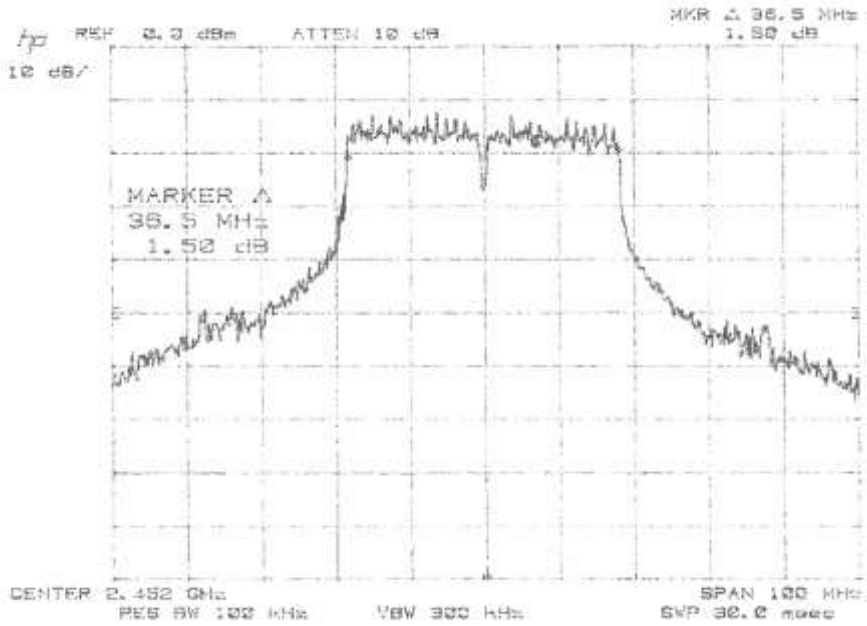
Chanel 9 at 802.11n HT40 150Mbps = 36.5 MHz



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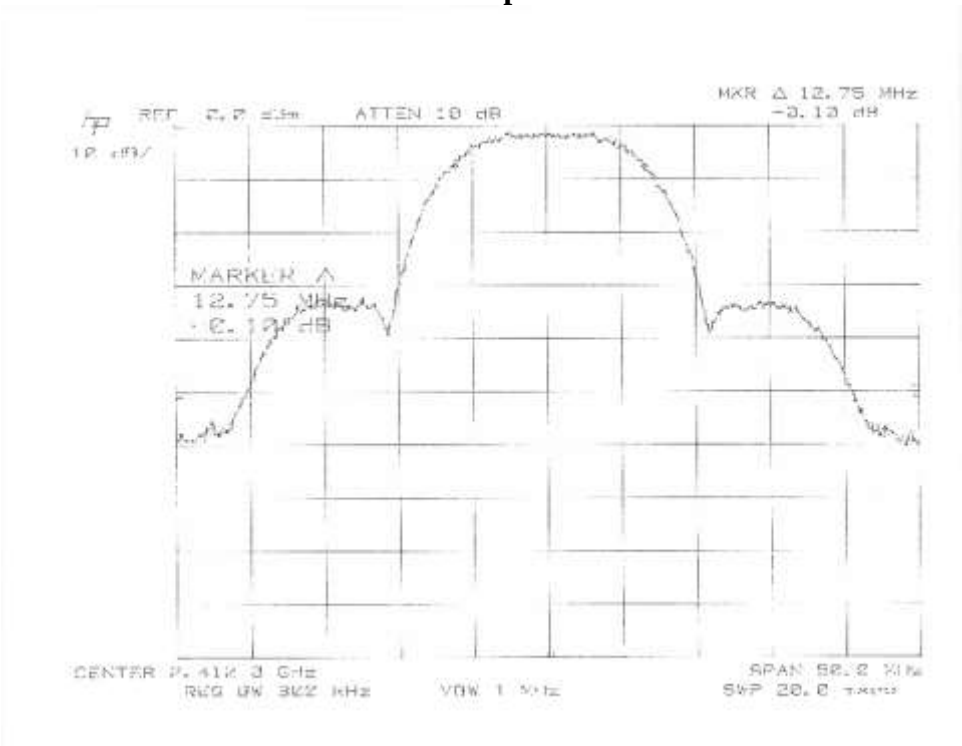
Report of Measurements 6dB Emission Bandwidth Data

15.247(a)(2) and RSS 210 A8.2(a) specifies that the minimum 6 dB bandwidth shall be at least 500 kHz. The following plots report the results of the 6dB bandwidth measurements for the Wi-Fi Device for 3D Camera, MC200. Procedure: RSS-Gen 4.6.2 with RBW ≈ 1% of EBW.

Chanel 1 at 802.11b 11Mbps = 12.75 MHz



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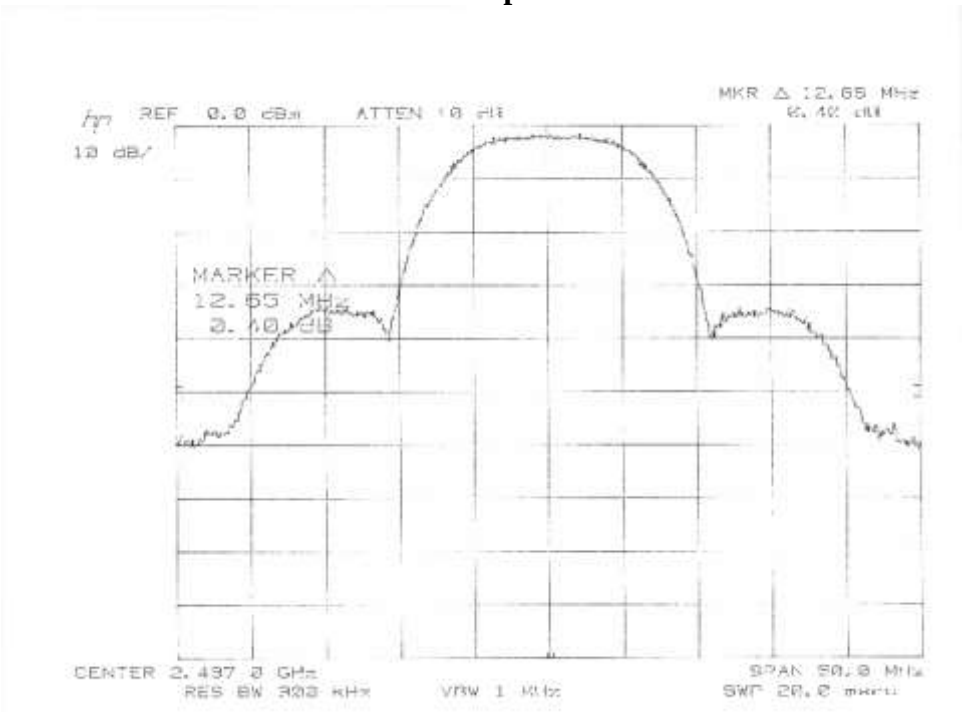
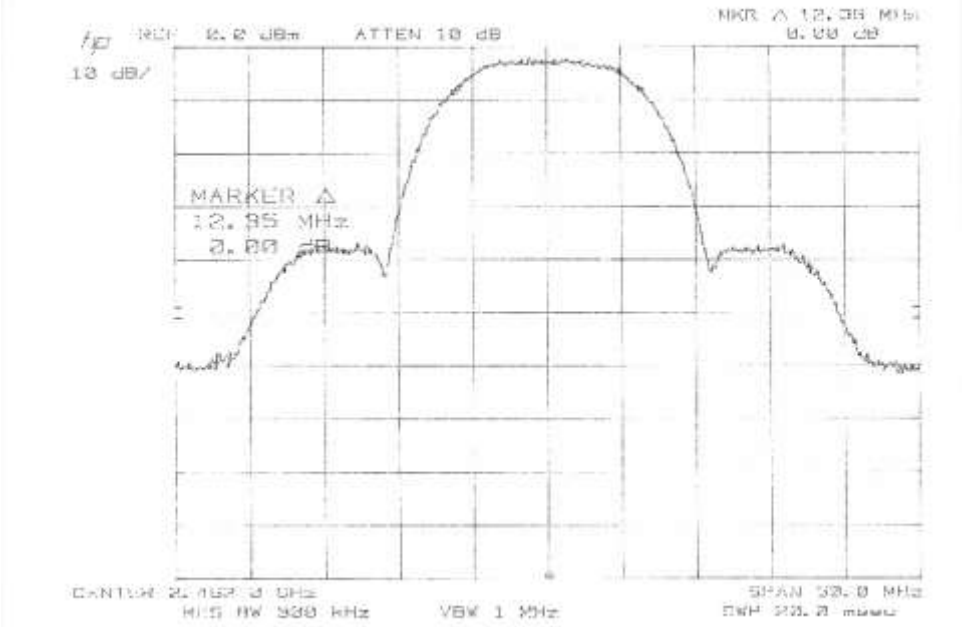
Chanel 6 at 802.11b 11Mbps = 12.65 MHz



Chanel 11 at 802.11b 11Mbps = 12.35 MHz



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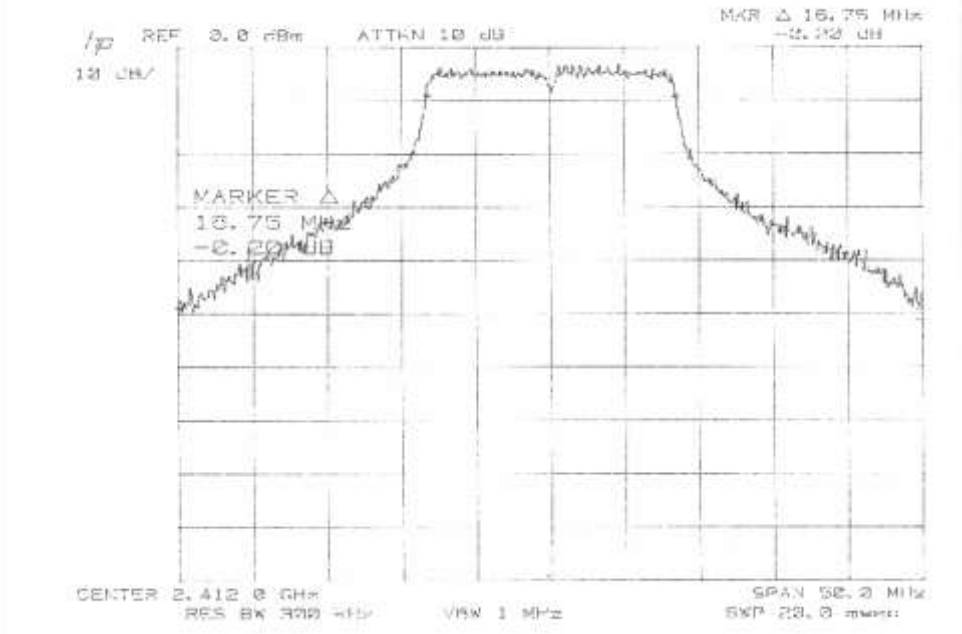
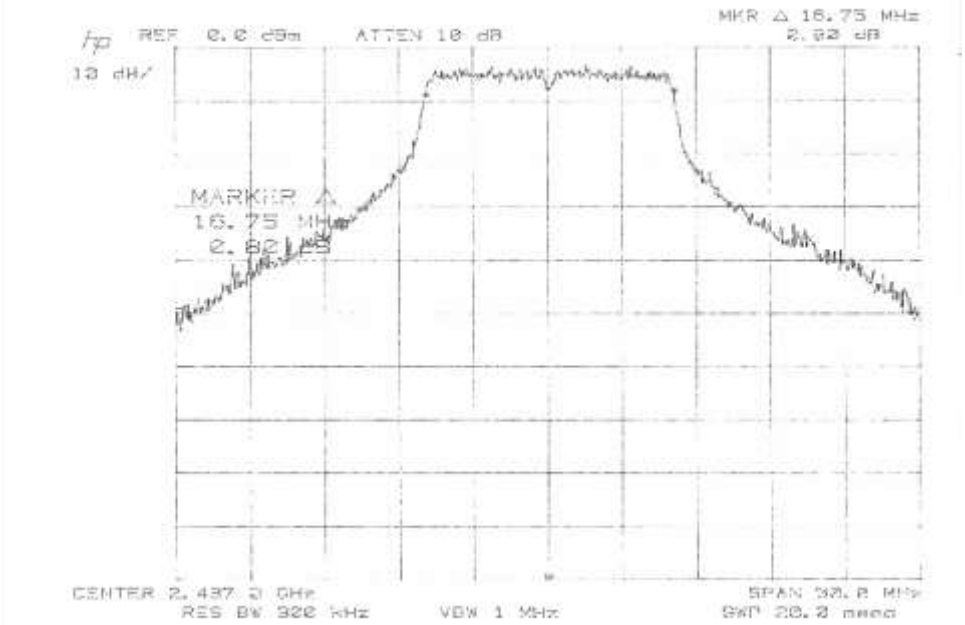
Chanel 1 at 802.11g 54Mbps = 16.75 MHz



Chanel 6 at 802.11g 54Mbps = 16.75 MHz



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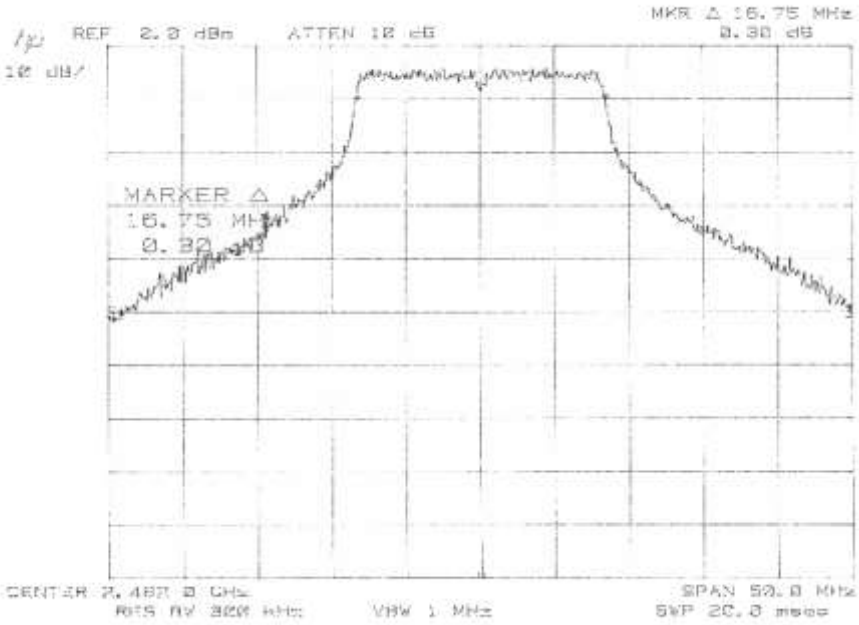
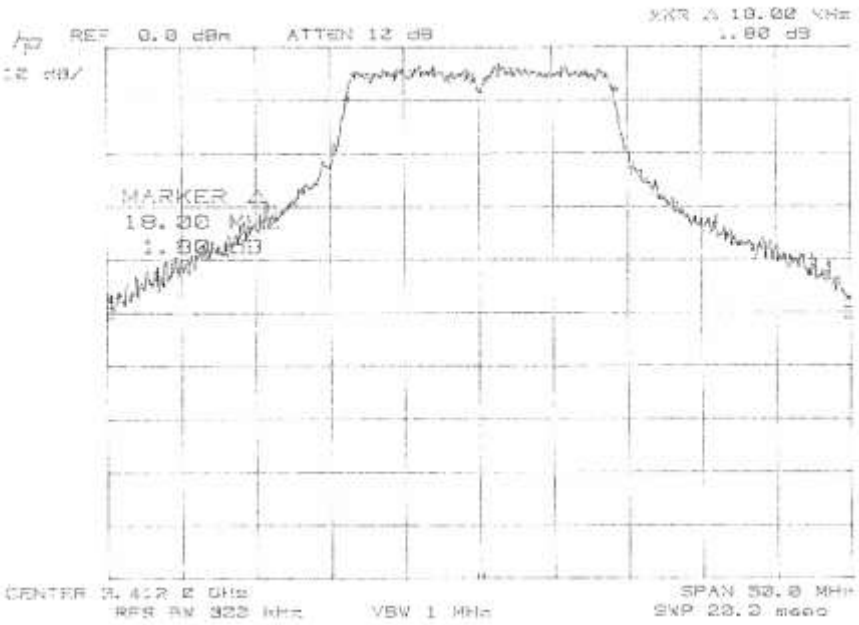
Chanel 11 at 802.11g 54Mbps = 16.75 MHz



Chanel 1 at 802.11n HT20 65Mbps = 18.00 MHz



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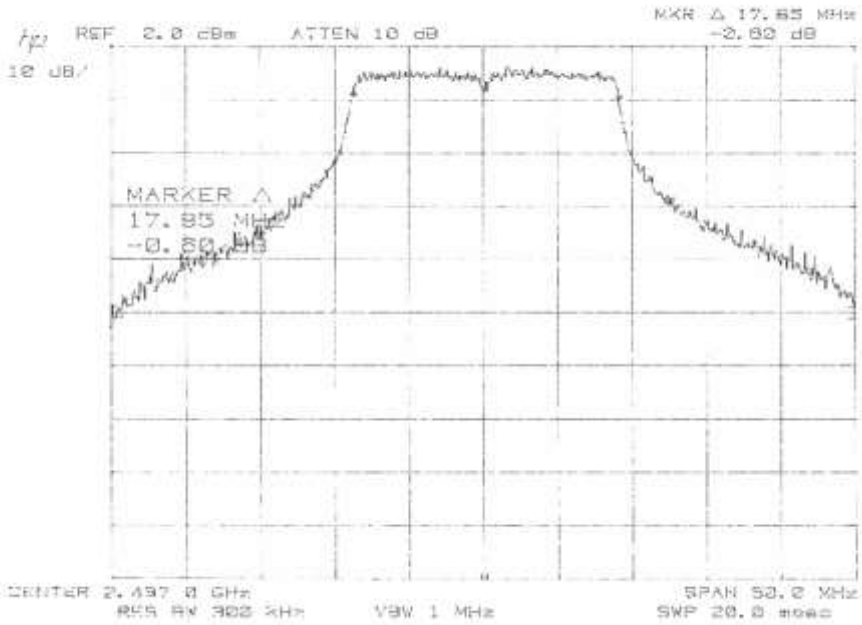
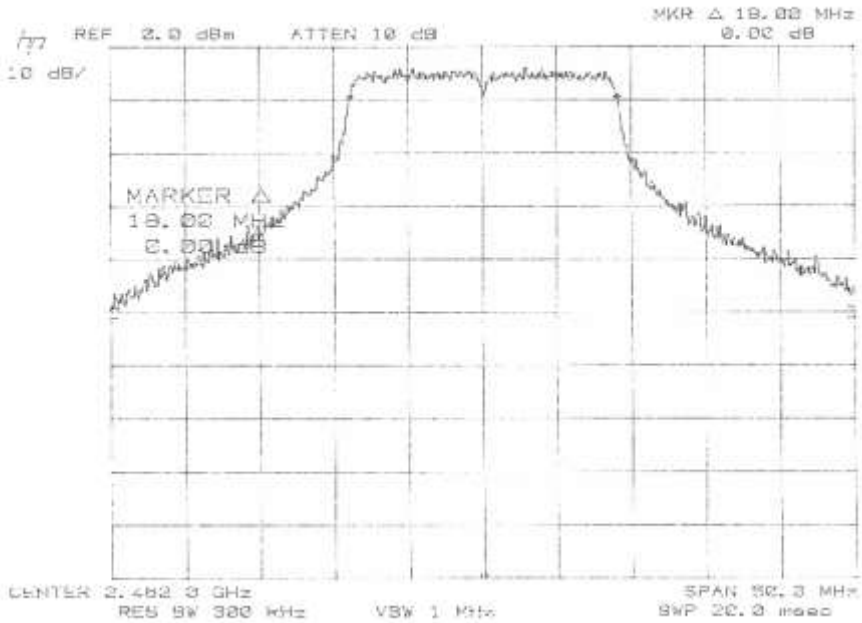
Chanel 6 at 802.11n HT20 65Mbps = 17.85 MHz



Chanel 11 at 802.11n HT20 65Mbps = 18.00 MHz



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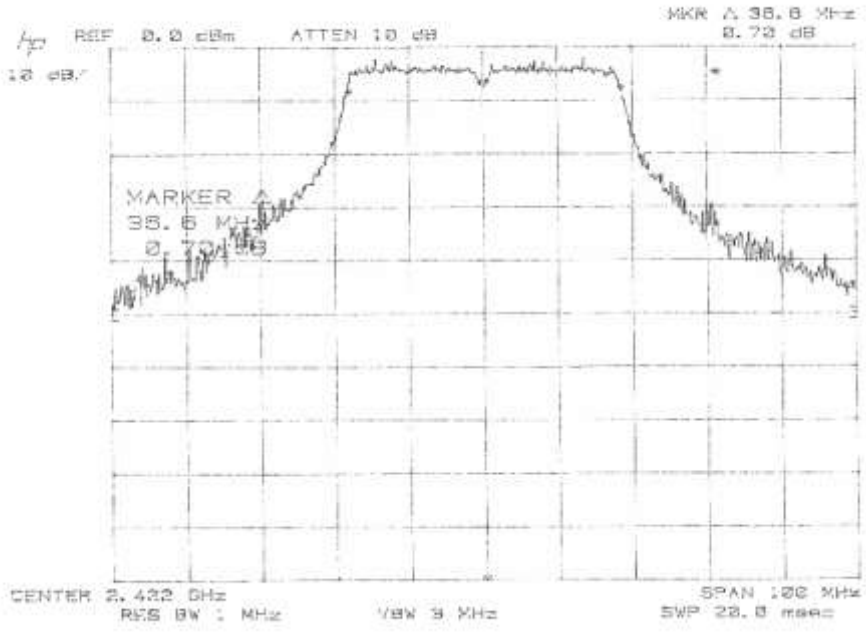
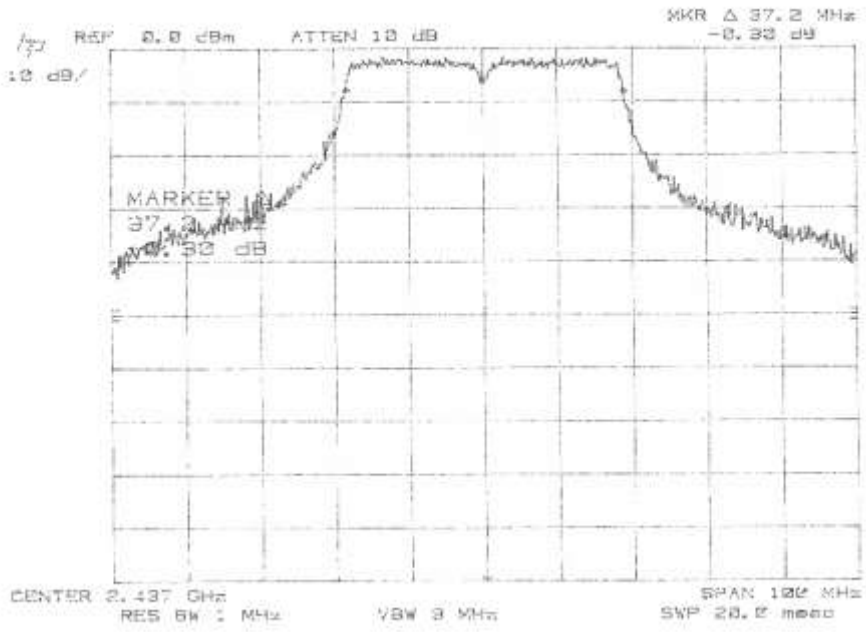
Chanel 3 at 802.11n HT40 150Mbps = 36.6 MHz



Chanel 6 at 802.11n HT40 150Mbps = 37.2 MHz



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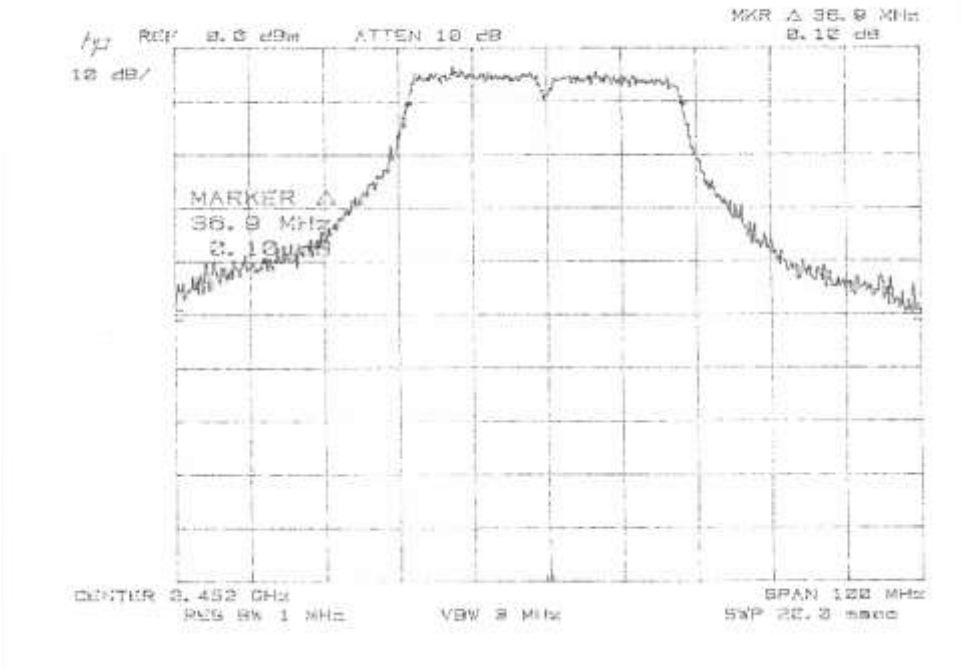
Chanel 9 at 802.11n HT40 150Mbps = 36.9 MHz



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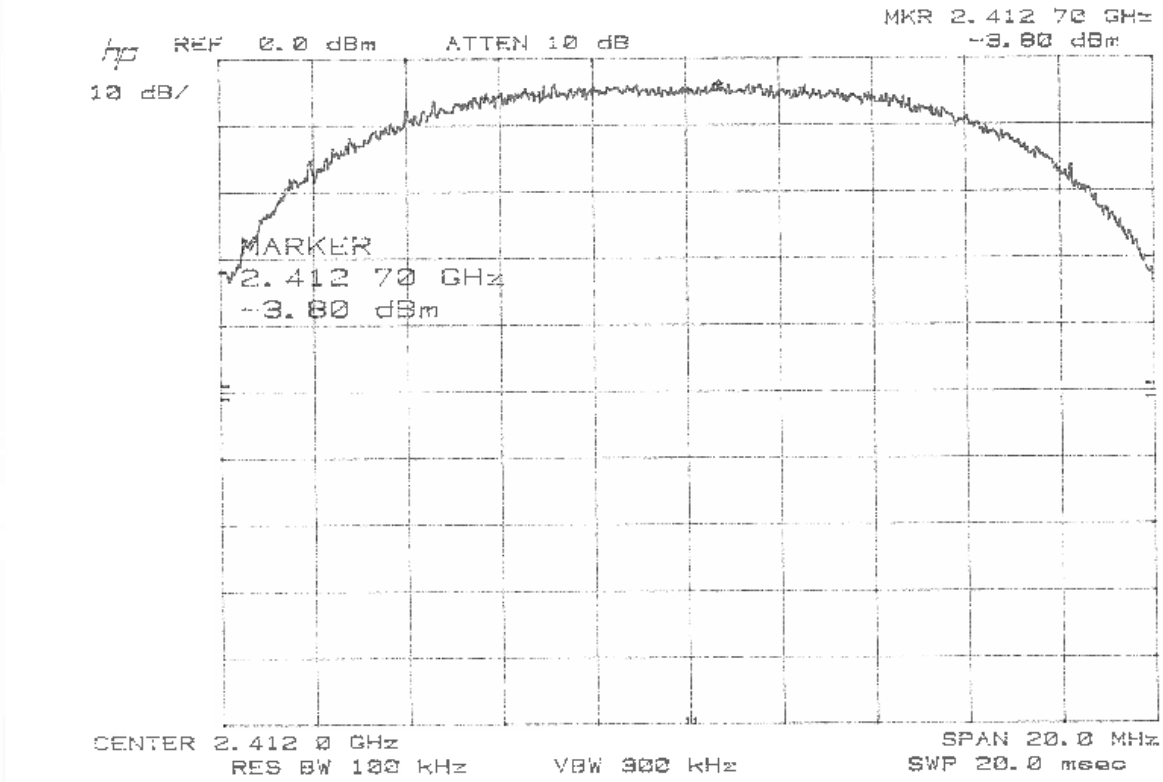
Report of Measurements Maximum PKPSD Level – Peak Detector

15.247(e) specifies a conducted power spectral density (PSD) limit of 8 dBm in any 3 kHz band segment within the fundamental EBW during any time interval of continuous transmission. The following plots report the results of the Maximum Power Spectral Density Level in the Fundamental Emission measurements for the Wi-Fi Device for 3D Camera, MC200. Procedure: FCC KDB 558074.

Chanel 1 at 802.11b 11Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-3.8	10.8	7



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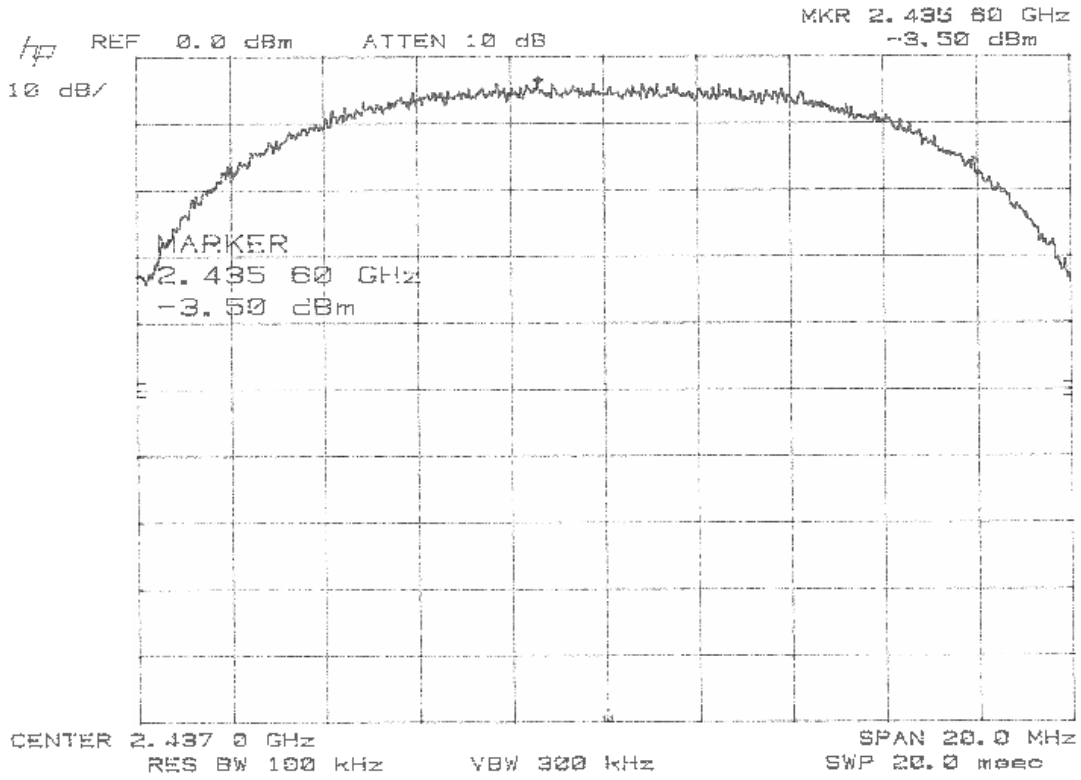
Chanel 6 at 802.11b 11Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-3.5	10.8	7.3



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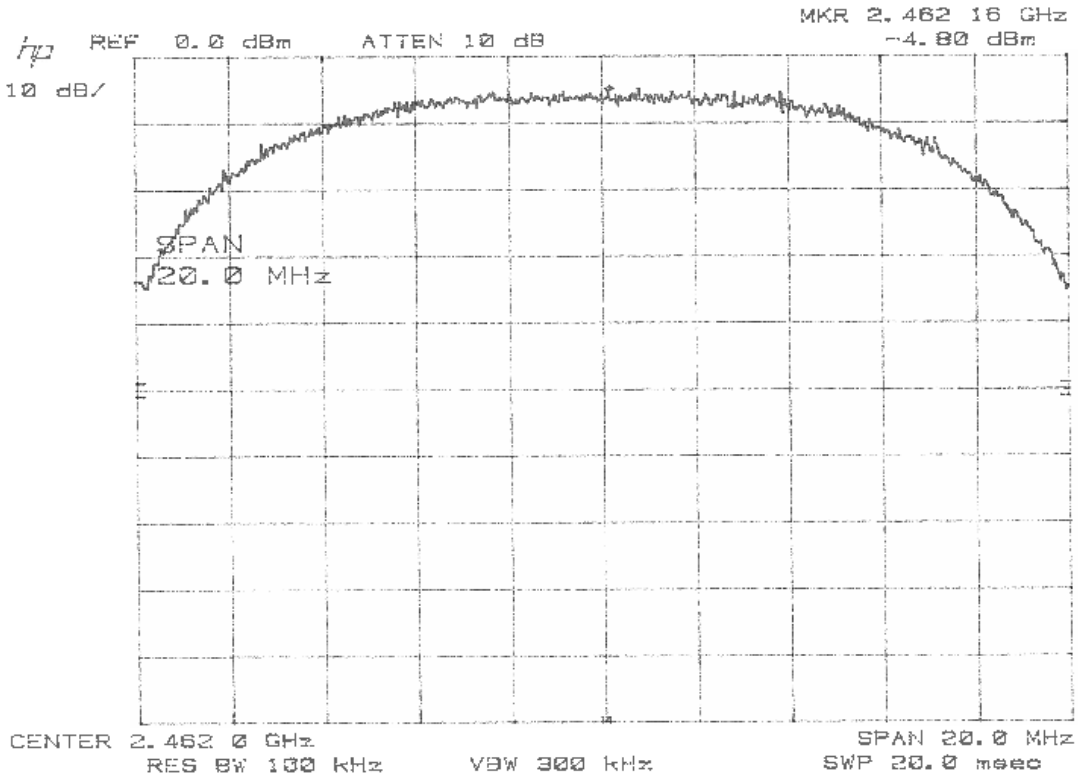
Chanel 11 at 802.11b 11Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-4.8	10.8	6



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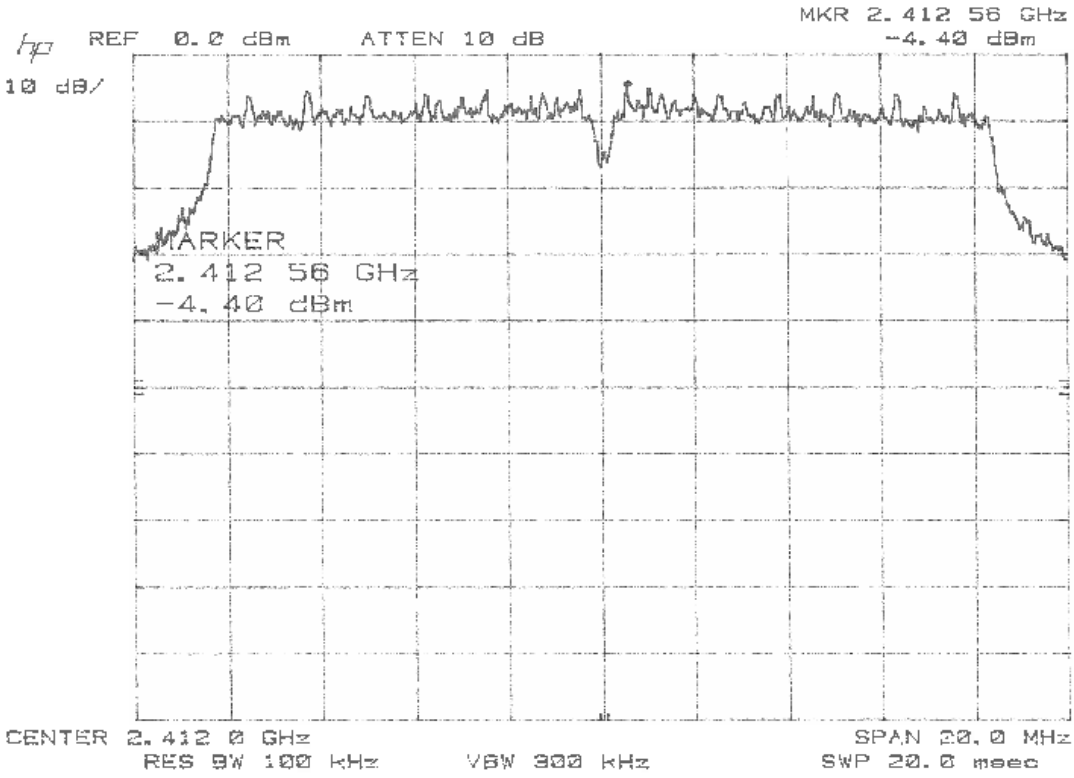
Chanel 1 at 802.11g 54Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-4.4	10.8	6.4



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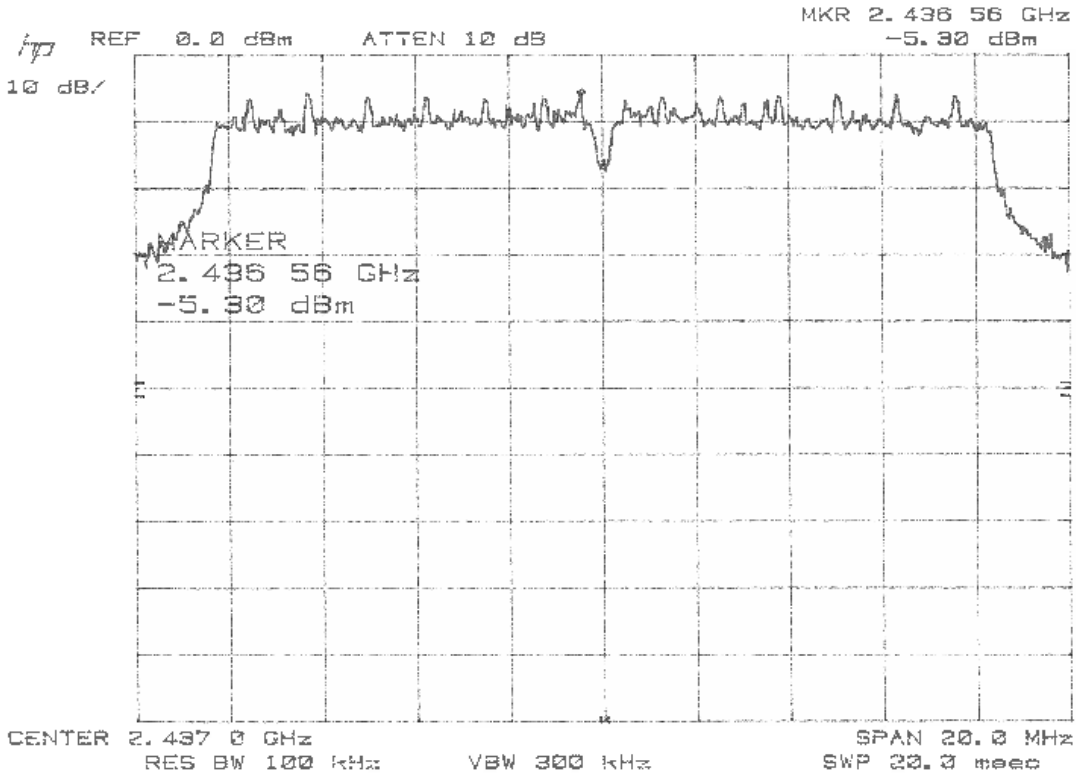
Chanel 6 at 802.11g 54Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-5.3	10.8	5.5



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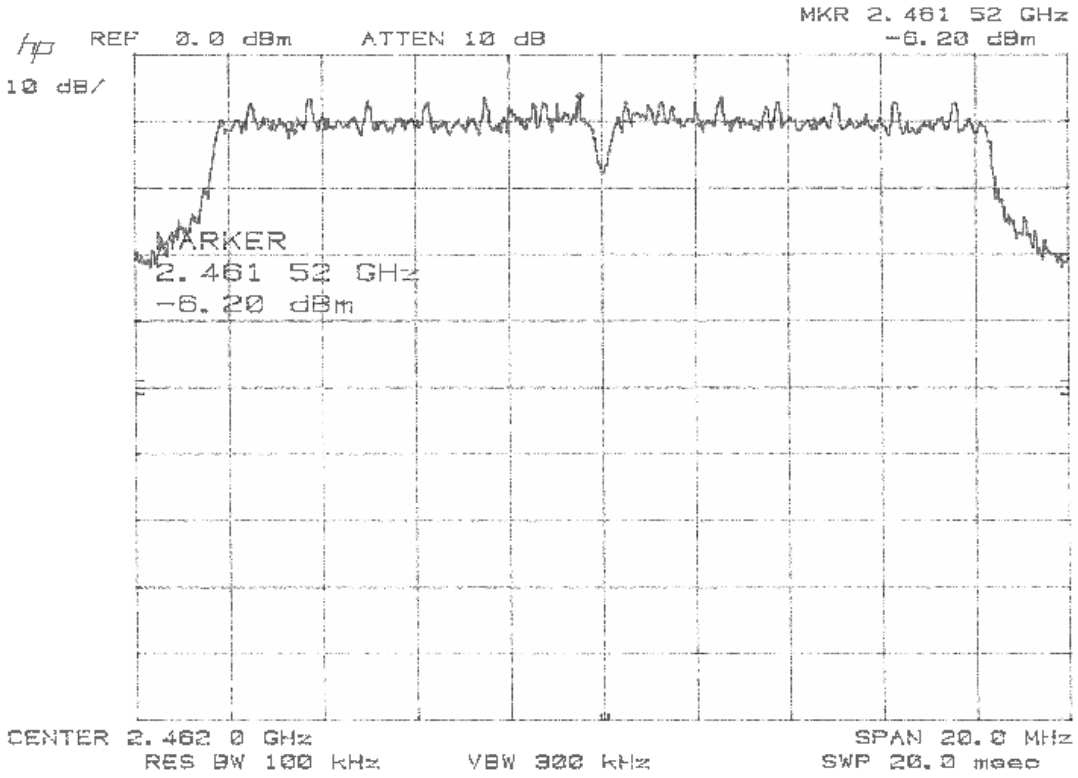
Chanel 11 at 802.11g 54Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-6.2	10.8	4.6



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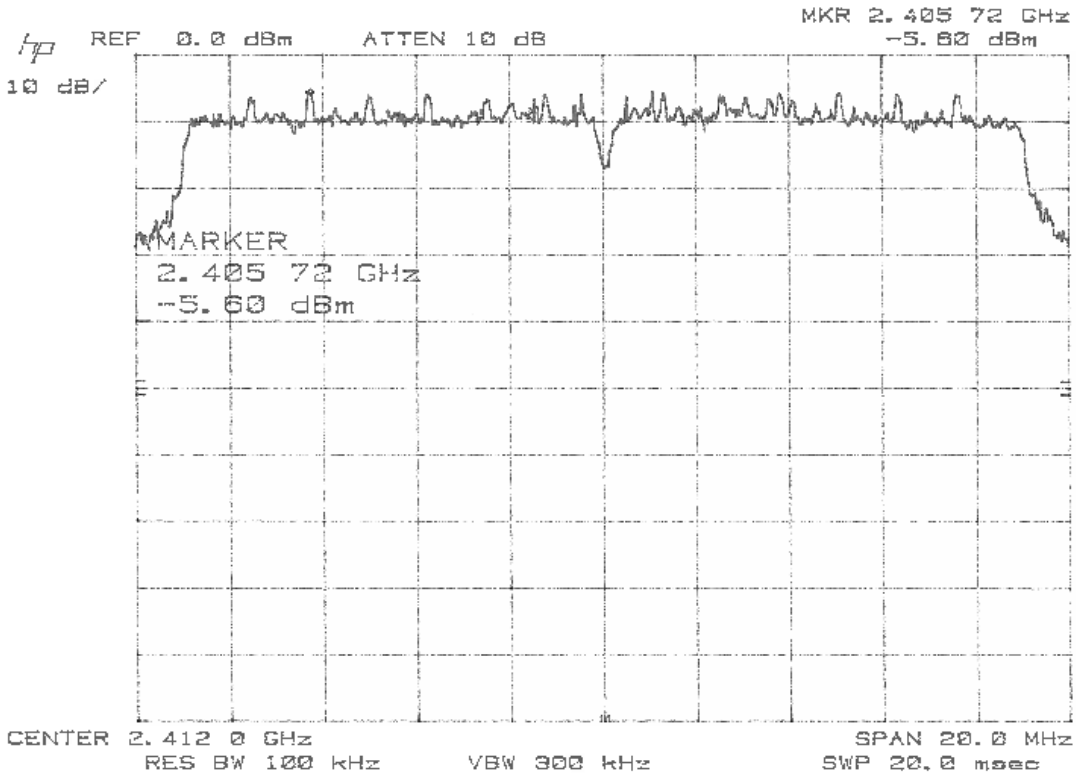
Chanel 1 at 802.11n HT20 65Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-5.6	10.8	5.2



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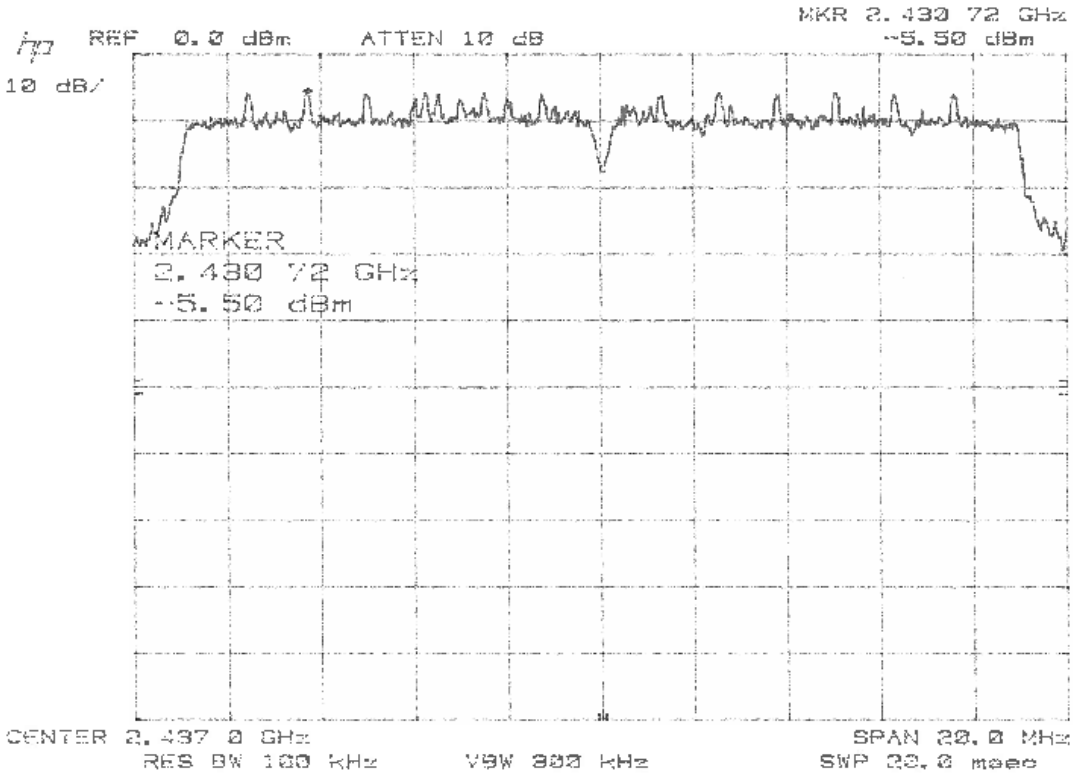
Chanel 6 at 802.11n HT20 65Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-5.5	10.8	5.3



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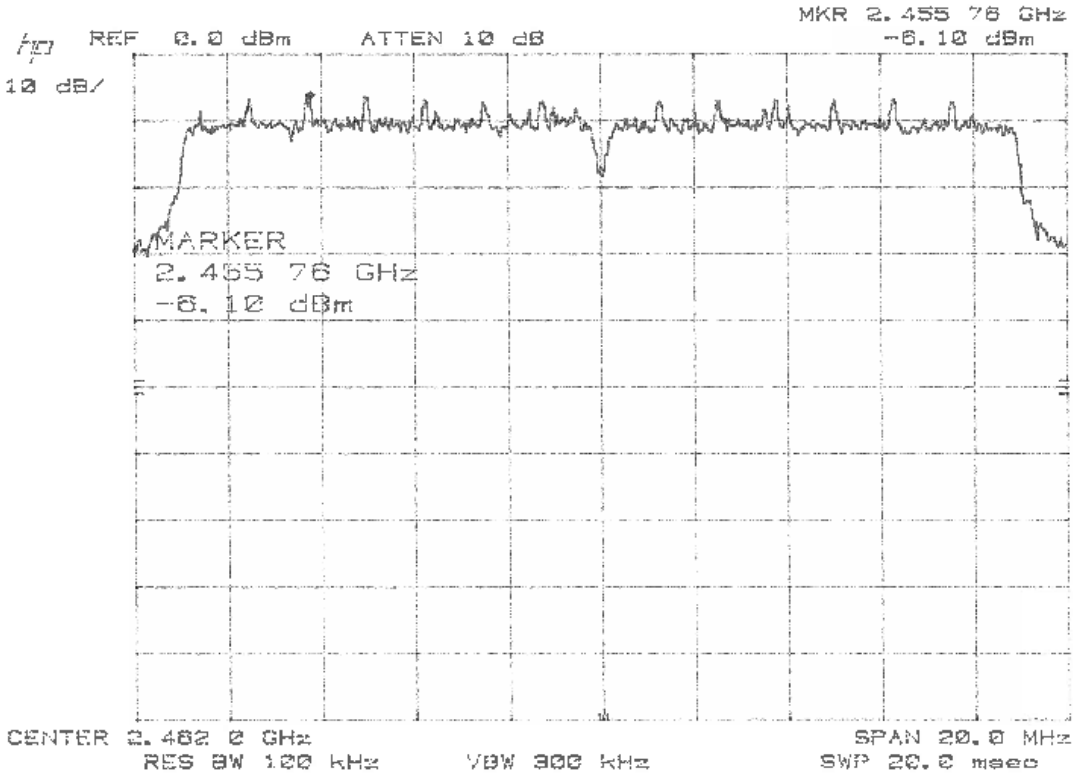
Chanel 11 at 802.11n HT20 65Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-6.1	10.8	4.7



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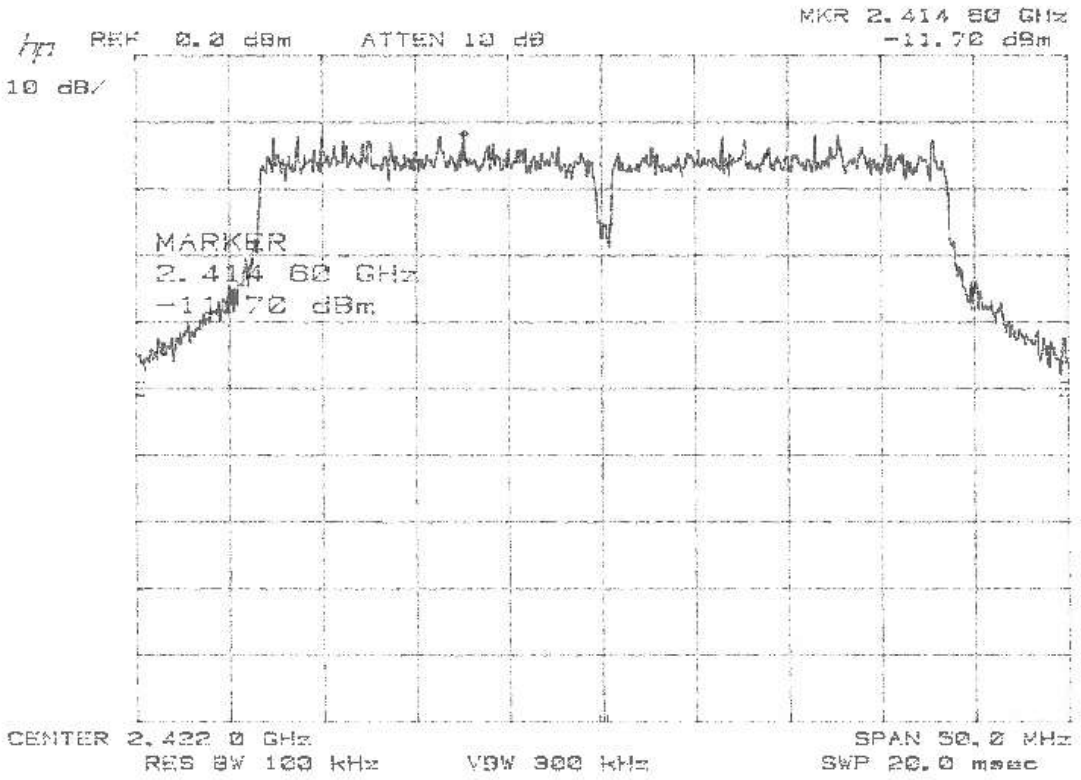
Chanel 3 at 802.11n HT40 150Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-11.7	10.8	-0.9



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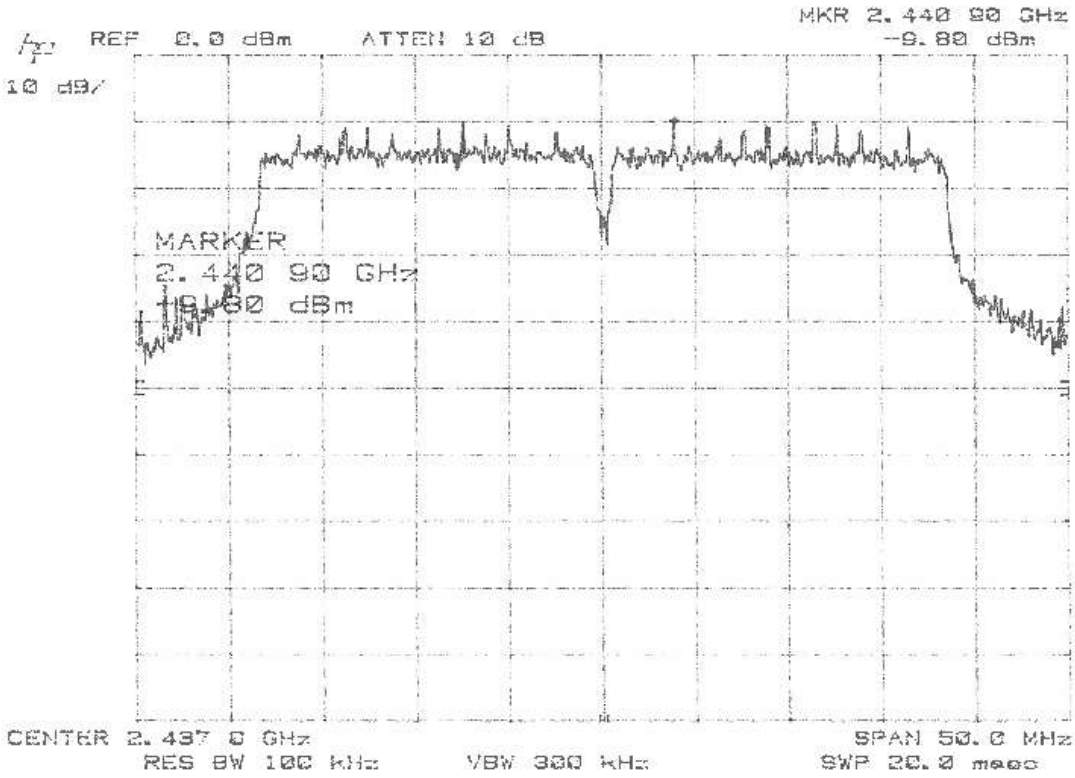
Chanel 6 at 802.11n HT40 150Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-9.8	10.8	1



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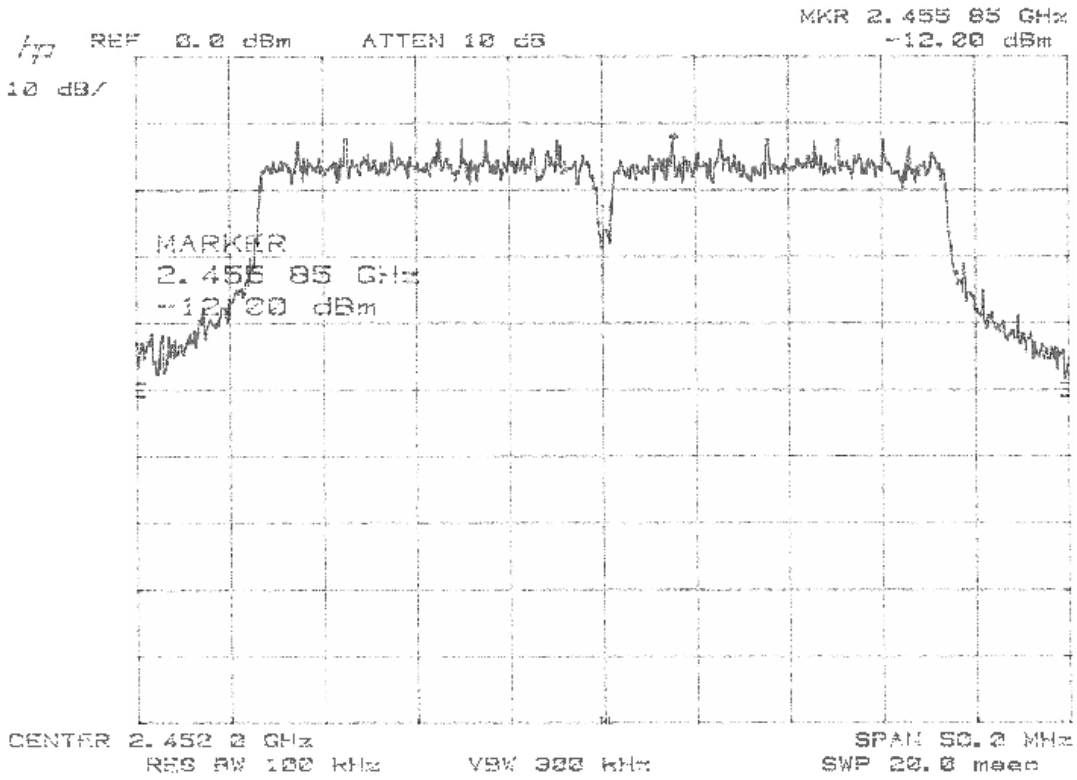
Chanel 9 at 802.11n HT40 150Mbps

Measured dBm	Cable/Pad	Corrected dBm/100kHz
-12	10.8	-1.2



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Report of Measurements Fundamental Emission Output Power Data – Peak Detector

15.247(b)(3) and RSS 210 A8.4 (4) specifies that the maximum peak conducted output power for DTS transmitters in any of the three authorized frequency bands is 1 watt (30 dBm). The following plots and tables report the results of the Fundamental Emission Output Power measurements for the Wi-Fi Device for 3D Camera, MC200. Procedure: FCC KDB 558074.

Modulation	Channel	Frequency MHz	Peak Power mW
802.11b 11Mbps	1	2412	227.4
	6	2437	189.0
	11	2462	178.6
802.11g 54Mbps	1	2412	384.8
	6	2437	358.2
	11	2462	309.1
802.11n HT20 65Mbps	1	2412	387.0
	6	2437	427.2
	11	2462	310.0
802.11n HT40 150Mbps	3	2422	214.4
	6	2437	234.7
	9	2452	175.3

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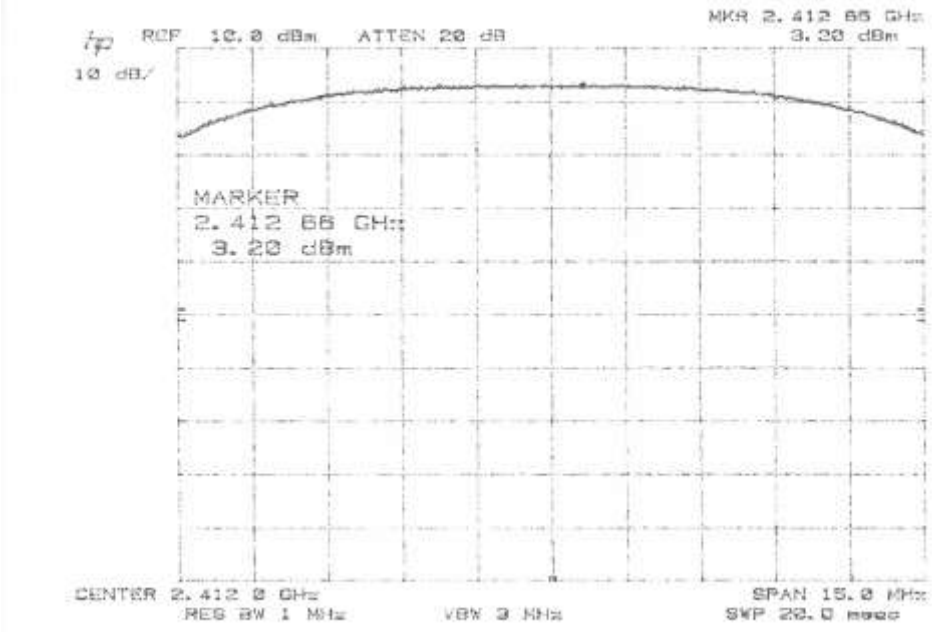
Chanel 1 at 802.11b 11Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
-0.4	10.8	10.4		11.0	
1.3	10.8	12.1		16.2	
2.3	10.8	13.1		20.4	
2.4	10.8	13.2		20.9	
3.0	10.8	13.8		24.0	
2.7	10.8	13.5		22.4	
3.2	10.8	14.0		25.1	
2.8	10.8	13.6		22.9	
2.4	10.8	13.2		20.9	
1.9	10.8	12.7		18.6	
0.9	10.8	11.7		14.8	
-0.7	10.8	10.1		10.2	
			Total	**227.4**	**mW**



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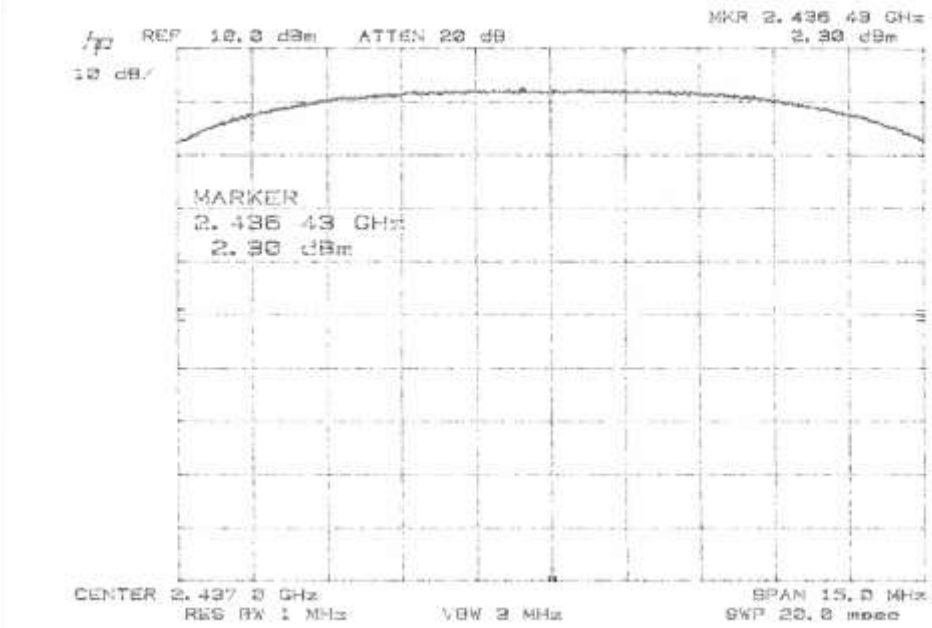
Chanel 6 at 802.11b 11Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
-1.4	10.8	9.4		8.7	
0.1	10.8	10.9		12.3	
1.4	10.8	12.2		16.6	
1.9	10.8	12.7		18.6	
2.0	10.8	12.8		19.1	
2.3	10.8	13.1		20.4	
1.9	10.8	12.7		18.6	
2.0	10.8	12.8		19.1	
1.7	10.8	12.5		17.8	
1.3	10.8	12.1		16.2	
0.3	10.8	11.1		12.9	
-1.4	10.8	9.4		8.7	
			Total	**189.0**	**mW**



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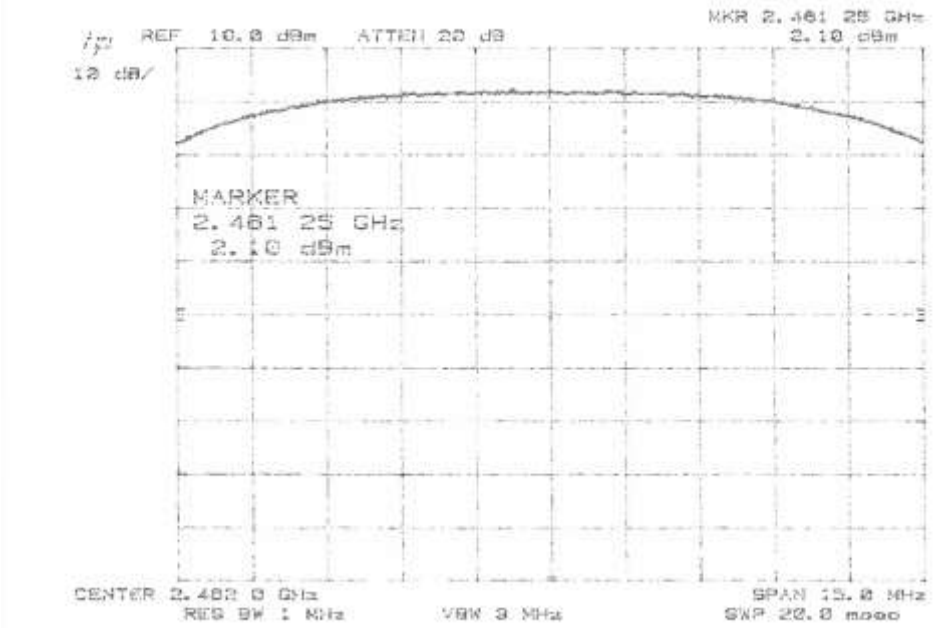
Chanel 11 at 802.11b 11Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
-1.9	10.8	8.9		7.8	
-0.3	10.8	10.5		11.2	
1.0	10.8	11.8		15.1	
1.5	10.8	12.3		17.0	
1.6	10.8	12.4		17.4	
2.1	10.8	12.9		19.5	
1.8	10.8	12.6		18.2	
1.7	10.8	12.5		17.8	
1.5	10.8	12.3		17.0	
1.1	10.8	11.9		15.5	
0.2	10.8	11.0		12.6	
-1.0	10.8	9.8		9.5	
			Total	**178.6**	**mW**



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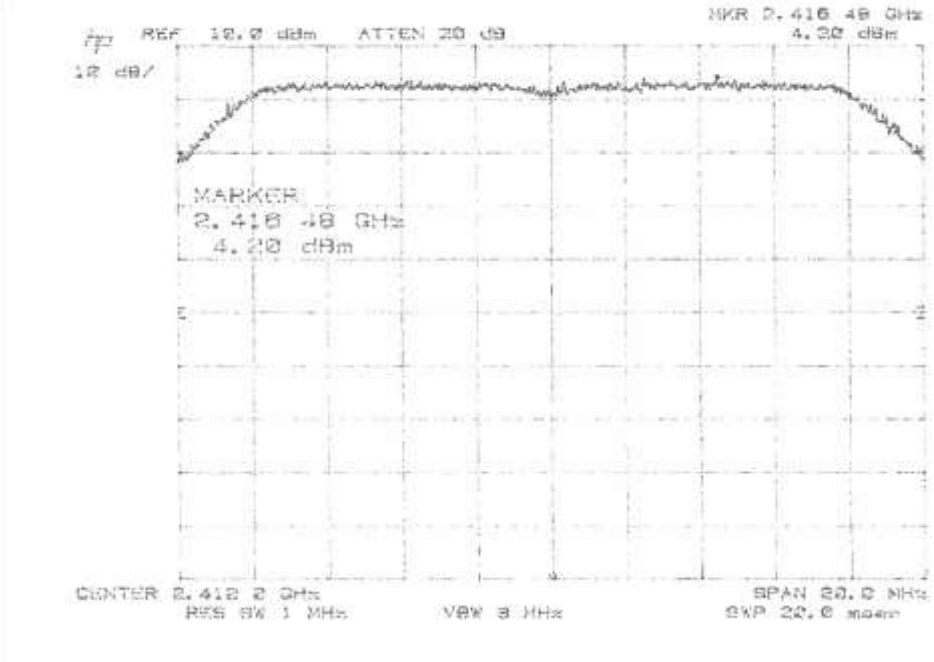
Chanel 1 at 802.11g 54Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
0.7	10.8	11.5		14.1	
2.5	10.8	13.3		21.4	
2.8	10.8	13.6		22.9	
3.4	10.8	14.2		26.3	
2.7	10.8	13.5		22.4	
2.7	10.8	13.5		22.4	
2.4	10.8	13.2		20.9	
3.2	10.8	14.0		25.1	
2.9	10.8	13.7		23.4	
3.9	10.8	14.7		29.5	
3.3	10.8	14.1		25.7	
4.2	10.8	15.0		31.6	
3.3	10.8	14.1		25.7	
2.7	10.8	13.5		22.4	
2.6	10.8	13.4		21.9	
1.3	10.8	12.1		16.2	
0.3	10.8	11.1		12.9	
			Total	**384.9**	**mW**



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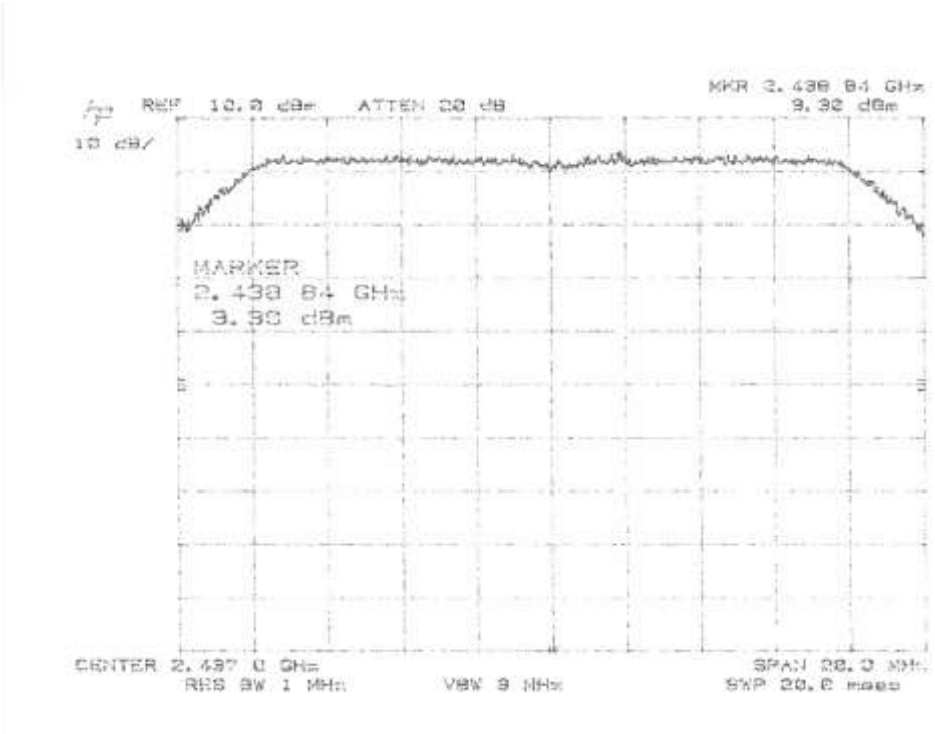
Chanel 6 at 802.11g 54Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
0.3	10.8	11.1		12.9	
2.6	10.8	13.4		21.9	
2.8	10.8	13.6		22.9	
2.9	10.8	13.7		23.4	
2.8	10.8	13.6		22.9	
2.4	10.8	13.2		20.9	
3.1	10.8	13.9		24.5	
1.9	10.8	12.7		18.6	
1.9	10.8	12.7		18.6	
3.3	10.8	14.1		25.7	
2.6	10.8	13.4		21.9	
2.4	10.8	13.2		20.9	
3.1	10.8	13.9		24.5	
3.0	10.8	13.8		24.0	
2.0	10.8	12.8		19.1	
3.0	10.8	13.8		24.0	
-0.2	10.8	10.6		11.5	
			Total	**358.2**	**mW**



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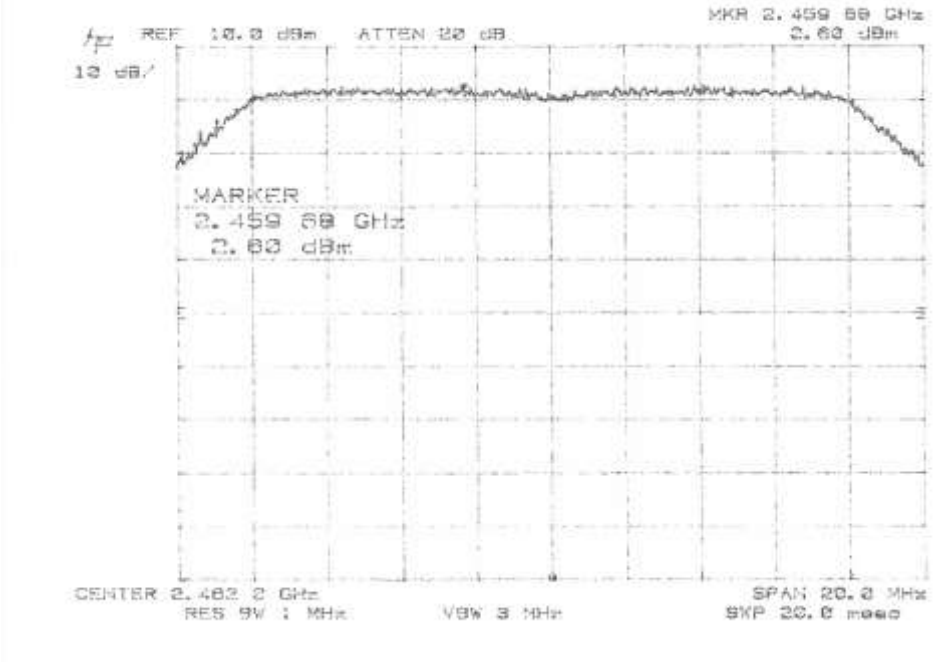
Chanel 11 at 802.11g 54Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
0.1	10.8	10.9		12.3	
1.7	10.8	12.5		17.8	
2.4	10.8	13.2		20.9	
2.0	10.8	12.8		19.1	
2.1	10.8	12.9		19.5	
2.6	10.8	13.4		21.9	
1.7	10.8	12.5		17.8	
1.9	10.8	12.7		18.6	
1.3	10.8	12.1		16.2	
1.7	10.8	12.5		17.8	
2.2	10.8	13.0		20.0	
2.3	10.8	13.1		20.4	
2.2	10.8	13.0		20.0	
1.9	10.8	12.7		18.6	
2.4	10.8	13.2		20.9	
1.3	10.8	12.1		16.2	
-0.3	10.8	10.5		11.2	
			Total	**309.1**	**mW**



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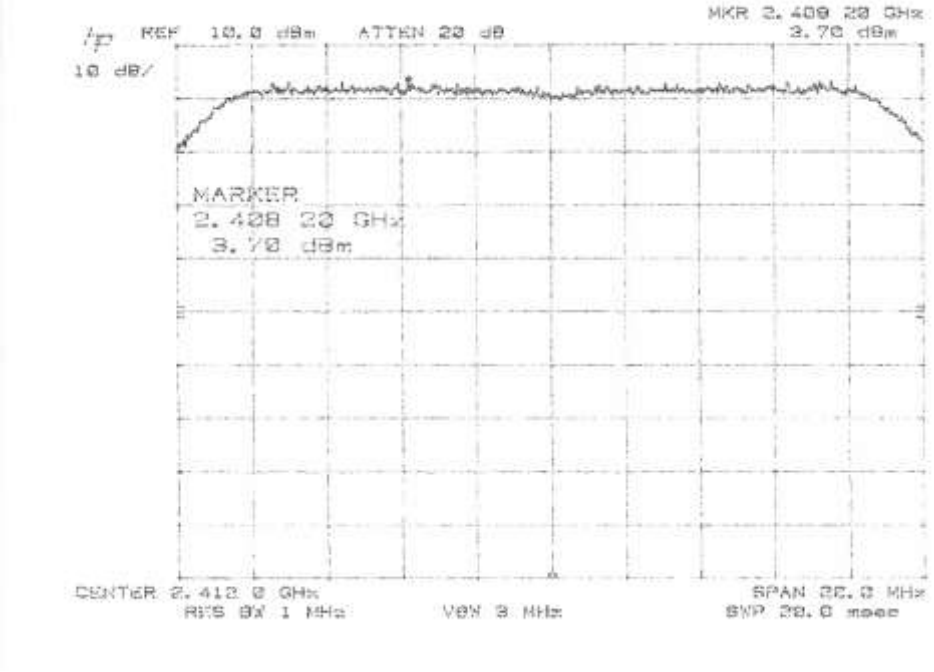
Chanel 1 at 802.11n HT20 65Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
2.2	10.8	13.0		20.0	
3.1	10.8	13.9		24.5	
3.0	10.8	13.8		24.0	
2.5	10.8	13.3		21.4	
2.7	10.8	13.5		22.4	
2.6	10.8	13.4		21.9	
2.2	10.8	13.0		20.0	
2.4	10.8	13.2		20.9	
2.1	10.8	12.9		19.5	
2.0	10.8	12.8		19.1	
1.8	10.8	12.6		18.2	
2.8	10.8	13.6		22.9	
3.7	10.8	14.5		28.2	
2.1	10.8	12.9		19.5	
3.1	10.8	13.9		24.5	
2.2	10.8	13.0		20.0	
3.0	10.8	13.8		24.0	
1.3	10.8	12.1		16.2	
			Total	**387.0**	**mW**



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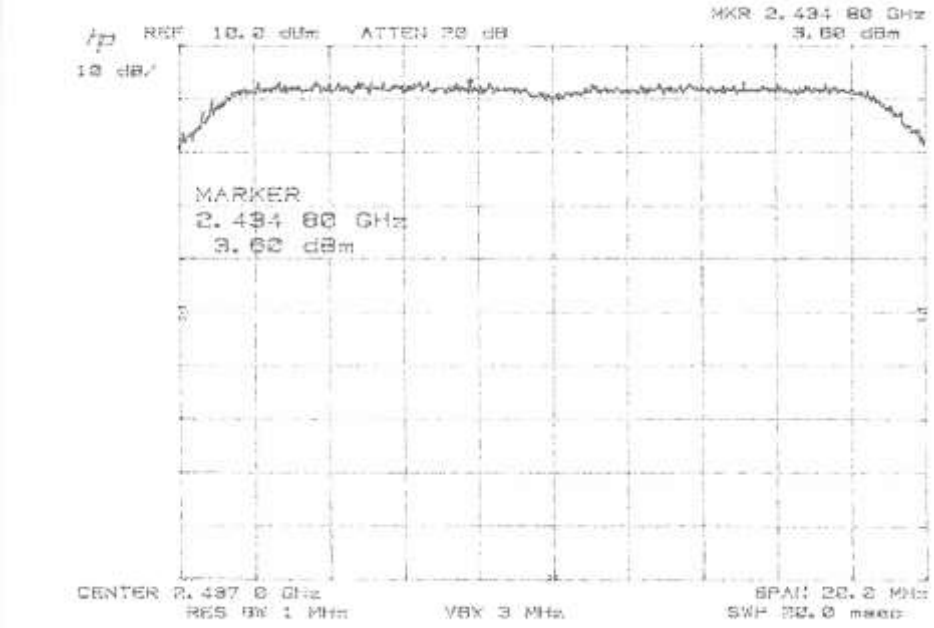
Chanel 6 at 802.11n HT20 65Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
2.0	10.8	12.8		19.1	
3.2	10.8	14.0		25.1	
3.4	10.8	14.2		26.3	
3.2	10.8	14.0		25.1	
3.4	10.8	14.2		26.3	
3.4	10.8	14.2		26.3	
3.6	10.8	14.4		27.5	
3.2	10.8	14.0		25.1	
2.4	10.8	13.2		20.9	
1.5	10.8	12.3		17.0	
3.0	10.8	13.8		24.0	
3.1	10.8	13.9		24.5	
3.1	10.8	13.9		24.5	
2.8	10.8	13.6		22.9	
3.5	10.8	14.3		26.9	
2.8	10.8	13.6		22.9	
3.0	10.8	13.8		24.0	
1.9	10.8	12.7		18.6	
			Total	**427.2**	**mW**



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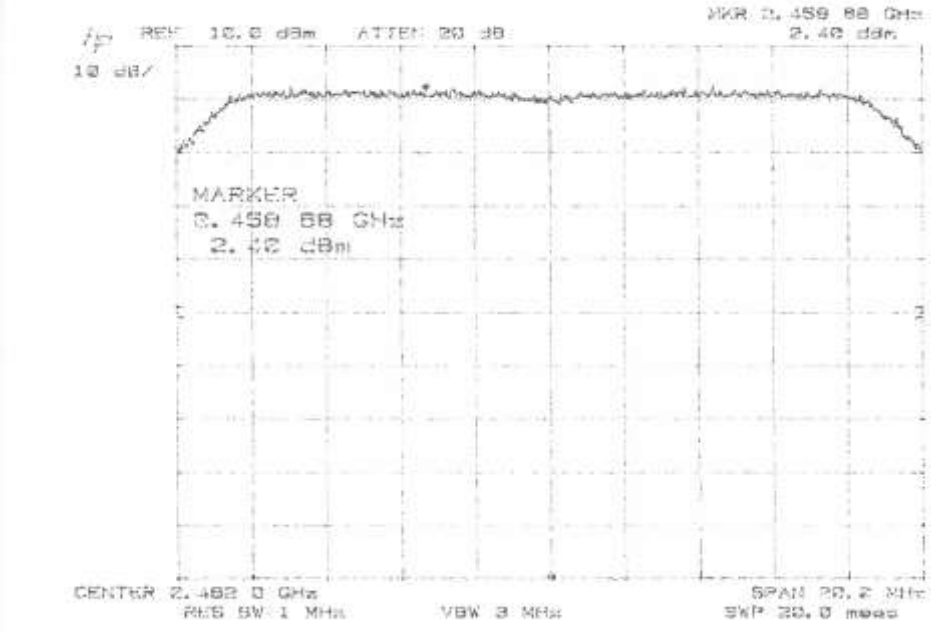
Chanel 11 at 802.11n HT20 65Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
0.9	10.8	11.7		14.8	
1.3	10.8	12.1		16.2	
2.2	10.8	13.0		20.0	
1.4	10.8	12.2		16.6	
1.5	10.8	12.3		17.0	
2.4	10.8	13.2		20.9	
1.9	10.8	12.7		18.6	
1.5	10.8	12.3		17.0	
1.1	10.8	11.9		15.5	
1.0	10.8	11.8		15.1	
1.2	10.8	12.0		15.8	
1.6	10.8	12.4		17.4	
1.9	10.8	12.7		18.6	
2.4	10.8	13.2		20.9	
1.5	10.8	12.3		17.0	
1.5	10.8	12.3		17.0	
1.7	10.8	12.5		17.8	
0.6	10.8	11.4		13.8	
			Total	**310.0**	**mW**



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Chanel 3 at 802.11n HT40 150Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
-3.7	10.8	7.1		5.1	
-3.7	10.8	7.1		5.1	
-3.2	10.8	7.6		5.8	
-3.7	10.8	7.1		5.1	
-3.3	10.8	7.5		5.6	
-2.8	10.8	8.0		6.3	
-3.1	10.8	7.7		5.9	
-2.9	10.8	7.9		6.2	
-2.7	10.8	8.1		6.5	
-2.5	10.8	8.3		6.8	
-2.8	10.8	8.0		6.3	
-3.0	10.8	7.8		6.0	
-2.5	10.8	8.3		6.8	
-2.7	10.8	8.1		6.5	
-3.6	10.8	7.2		5.2	
-3.1	10.8	7.7		5.9	
-3.8	10.8	7.0		5.0	
-3.6	10.8	7.2		5.2	
-4.9	10.8	5.9		3.9	
-2.6	10.8	8.2		6.6	
-3.3	10.8	7.5		5.6	
-2.5	10.8	8.3		6.8	
-3.4	10.8	7.4		5.5	
-3.6	10.8	7.2		5.2	
-2.7	10.8	8.1		6.5	
-3.4	10.8	7.4		5.5	
-4.0	10.8	6.8		4.8	
-3.5	10.8	7.3		5.4	
-2.9	10.8	7.9		6.2	
-2.9	10.8	7.9		6.2	
-3.3	10.8	7.5		5.6	
-2.8	10.8	8.0		6.3	
-3.3	10.8	7.5		5.6	
-3.0	10.8	7.8		6.0	
-2.4	10.8	8.4		6.9	
-3.1	10.8	7.7		5.9	
-4.1	10.8	6.7		4.7	
			Total	**214.4**	**mW**

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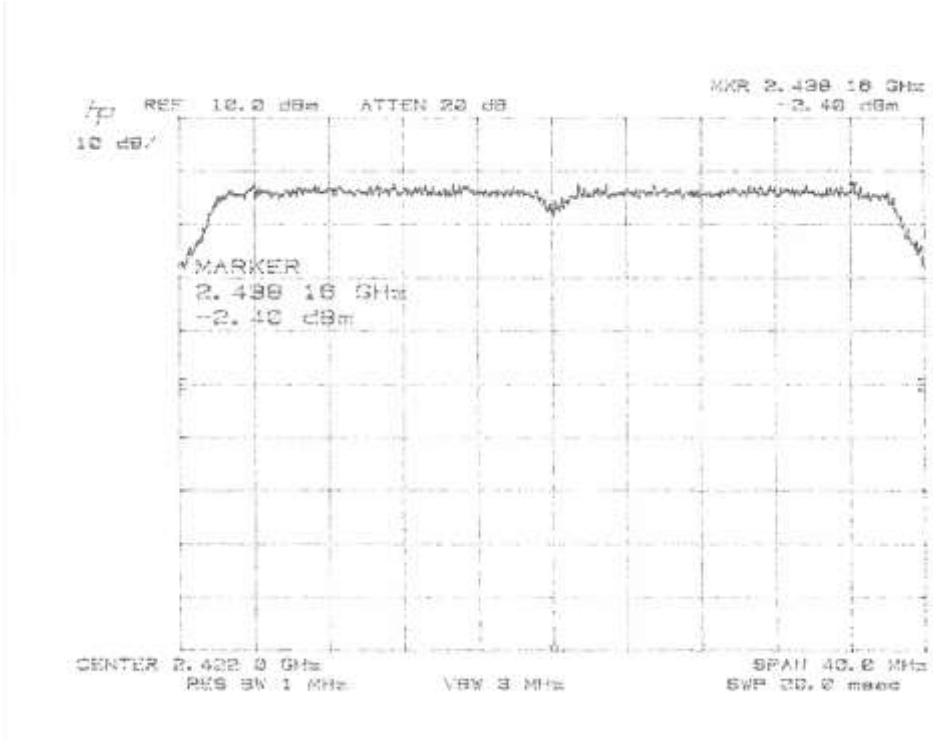
Chanel 3 at 802.11n HT40 150Mbps



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Chanel 6 at 802.11n HT40 150Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
-4.2	10.8	6.6		4.6	
-2.8	10.8	8.0		6.3	
-1.3	10.8	9.5		8.9	
-2.5	10.8	8.3		6.8	
-2.9	10.8	7.9		6.2	
-2.9	10.8	7.9		6.2	
-3.0	10.8	7.8		6.0	
-2.1	10.8	8.7		7.4	
-2.6	10.8	8.2		6.6	
-2.5	10.8	8.3		6.8	
-2.1	10.8	8.7		7.4	
-2.1	10.8	8.7		7.4	
-3.2	10.8	7.6		5.8	
-1.5	10.8	9.3		8.5	
-2.3	10.8	8.5		7.1	
-3.2	10.8	7.6		5.8	
-2.2	10.8	8.6		7.2	
-2.6	10.8	8.2		6.6	
-4.8	10.8	6.0		4.0	
-3.4	10.8	7.4		5.5	
-2.7	10.8	8.1		6.5	
-1.9	10.8	8.9		7.8	
-3.0	10.8	7.8		6.0	
-2.3	10.8	8.5		7.1	
-3.5	10.8	7.3		5.4	
-2.3	10.8	8.5		7.1	
-2.3	10.8	8.5		7.1	
-3.3	10.8	7.5		5.6	
-3.5	10.8	7.3		5.4	
-2.3	10.8	8.5		7.1	
-2.3	10.8	8.5		7.1	
-3.0	10.8	7.8		6.0	
-3.5	10.8	7.3		5.4	
-3.0	10.8	7.8		6.0	
-3.7	10.8	7.1		5.1	
-3.8	10.8	7.0		5.0	
-4.6	10.8	6.2		4.2	
			Total	**234.7**	**mW**

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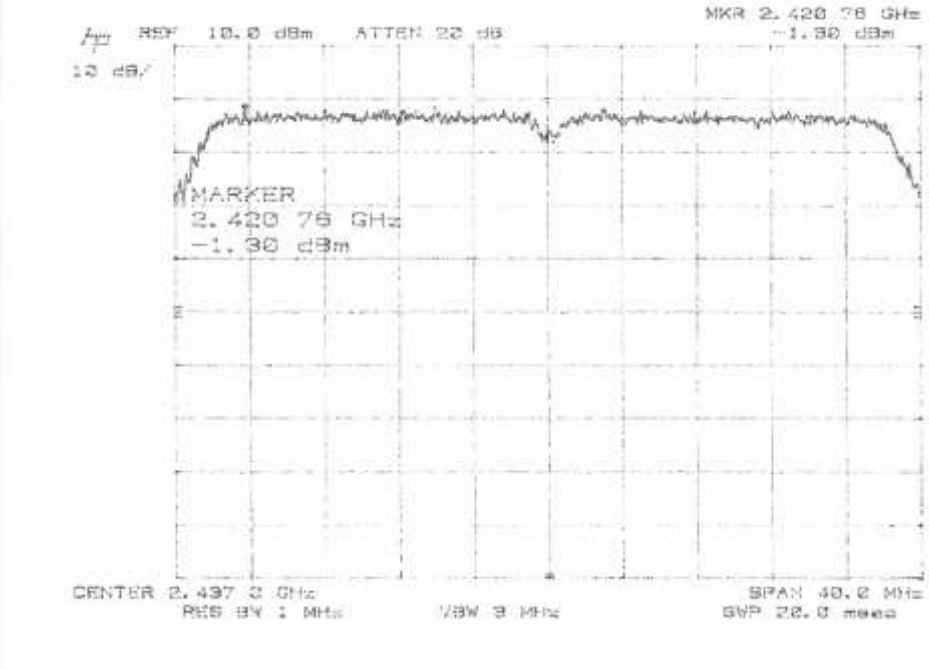
Chanel 6 at 802.11n HT40 150Mbps



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Chanel 9 at 802.11n HT40 150Mbps

Measured dBm	Cable/Pad	Corrected dBm		Convert mW	
-5.3	10.8	5.5		3.5	
-4.7	10.8	6.1		4.1	
-3.7	10.8	7.1		5.1	
-4.4	10.8	6.4		4.4	
-3.6	10.8	7.2		5.2	
-3.9	10.8	6.9		4.9	
-3.7	10.8	7.1		5.1	
-3.8	10.8	7.0		5.0	
-3.2	10.8	7.6		5.8	
-3.4	10.8	7.4		5.5	
-3.8	10.8	7.0		5.0	
-4.0	10.8	6.8		4.8	
-3.4	10.8	7.4		5.5	
-4.0	10.8	6.8		4.8	
-3.9	10.8	6.9		4.9	
-4.1	10.8	6.7		4.7	
-4.0	10.8	6.8		4.8	
-4.1	10.8	6.7		4.7	
-5.4	10.8	5.4		3.5	
-4.5	10.8	6.3		4.3	
-3.9	10.8	6.9		4.9	
-4.4	10.8	6.4		4.4	
-3.9	10.8	6.9		4.9	
-3.9	10.8	6.9		4.9	
-3.8	10.8	7.0		5.0	
-4.8	10.8	6.0		4.0	
-3.7	10.8	7.1		5.1	
-4.4	10.8	6.4		4.4	
-4.3	10.8	6.5		4.5	
-3.8	10.8	7.0		5.0	
-4.1	10.8	6.7		4.7	
-4.5	10.8	6.3		4.3	
-3.7	10.8	7.1		5.1	
-4.3	10.8	6.5		4.5	
-3.5	10.8	7.3		5.4	
-4.2	10.8	6.6		4.6	
-4.5	10.8	6.3		4.3	
			Total	**175.3**	**mW**

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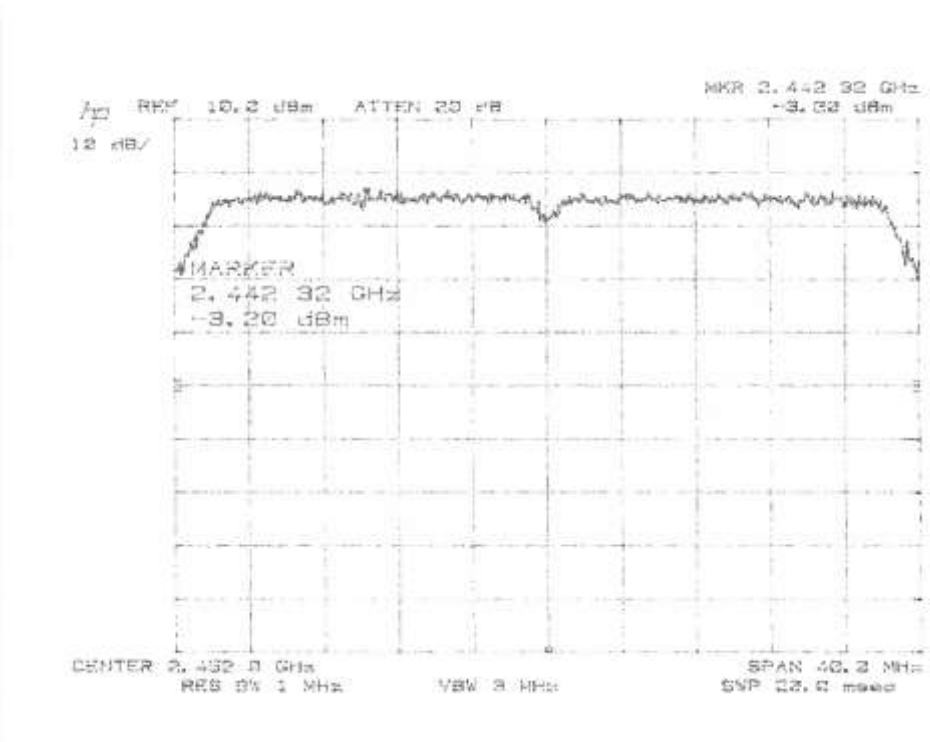
Chanel 9 at 802.11n HT40 150Mbps



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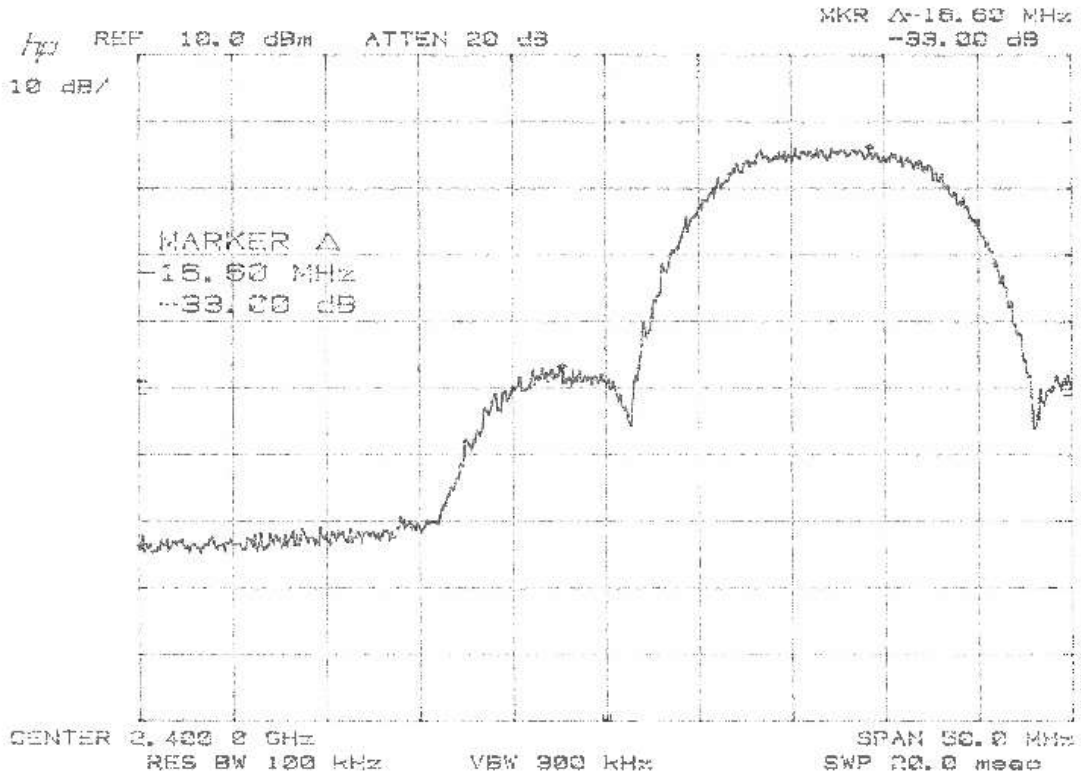
Report of Measurements Unwanted Emissions Data

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. Attenuation below the general field strength limits specified in RSS-Gen is not required. Restricted bands at 2390 MHz and 2483.5 MHz

Chanel 1 at 802.11b 11Mbps – Conducted Measurement



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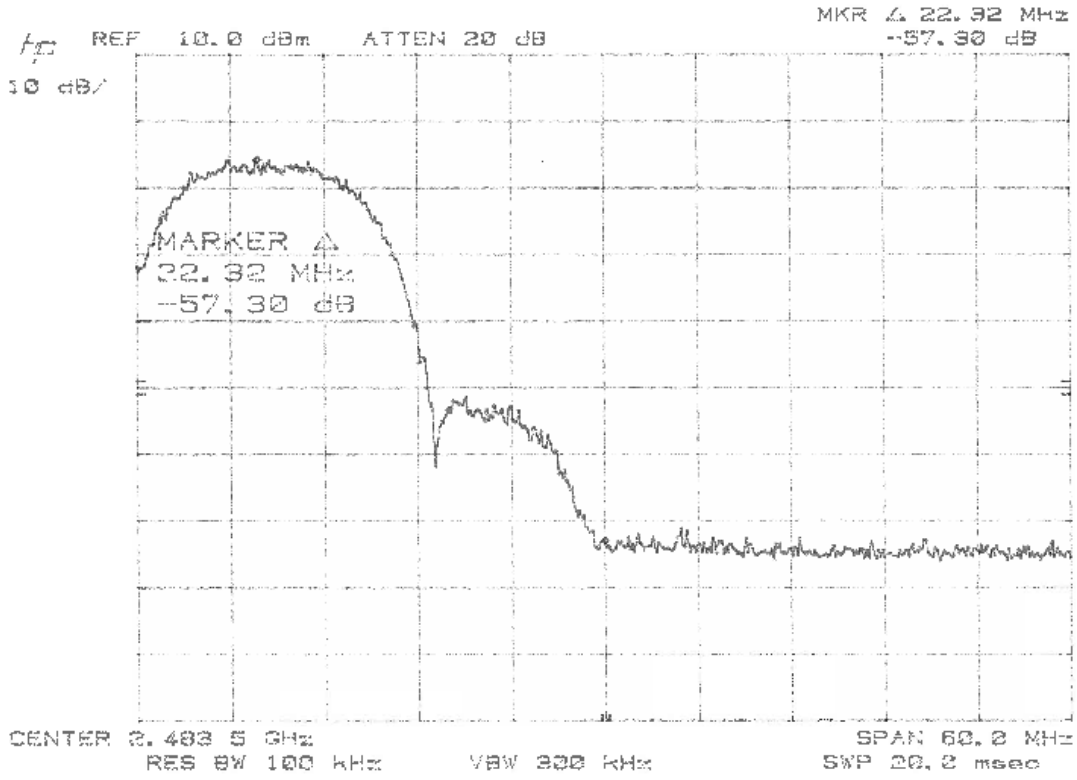
Chanel 11 at 802.11b 11Mbps – Conducted Measurement



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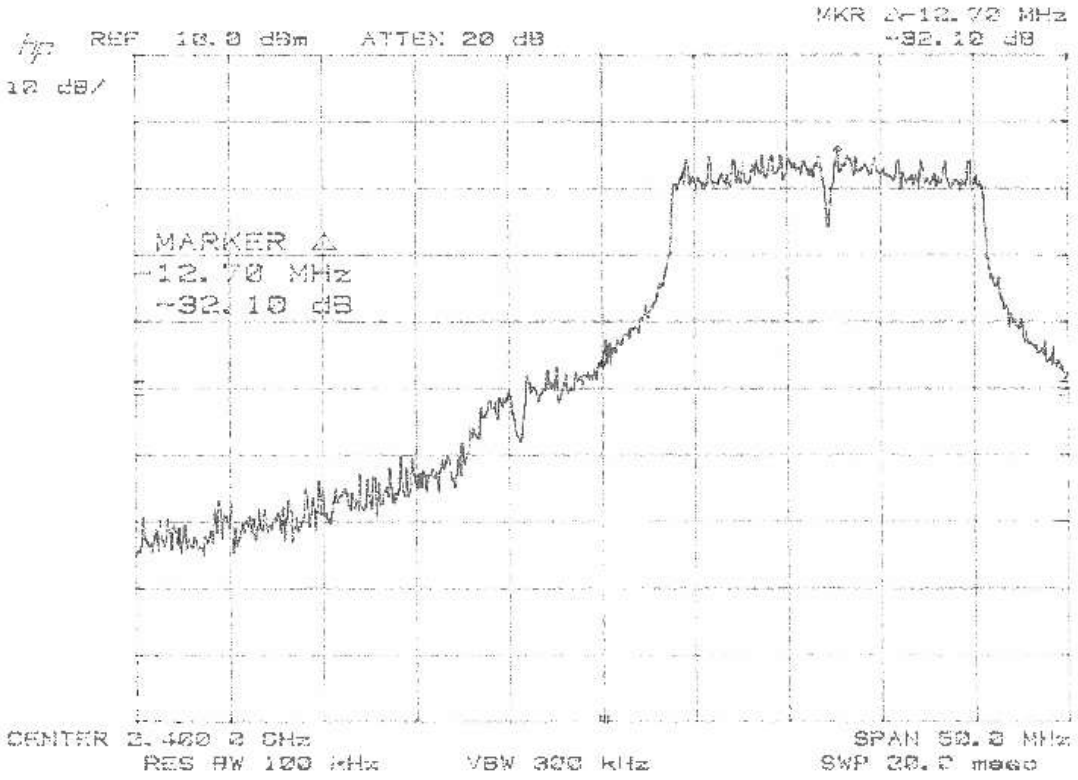
Chanel 1 at 802.11g 54Mbps – Conducted Measurement



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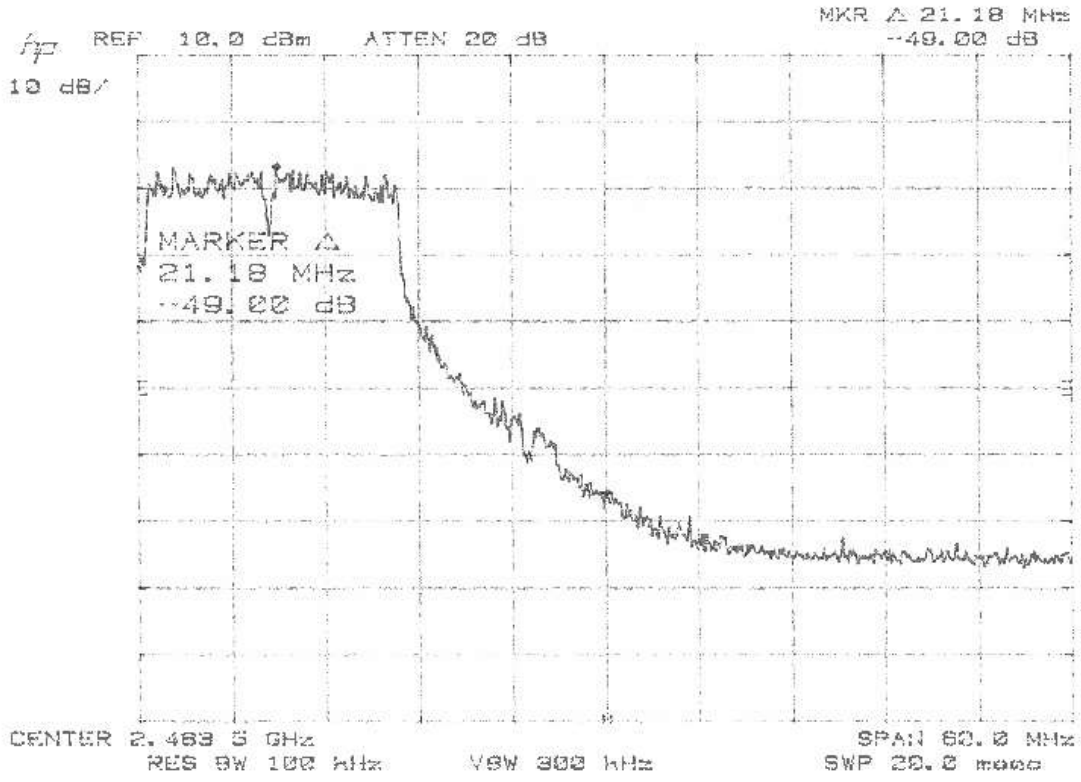
Chanel 11 at 802.11g 54Mbps – Conducted Measurement



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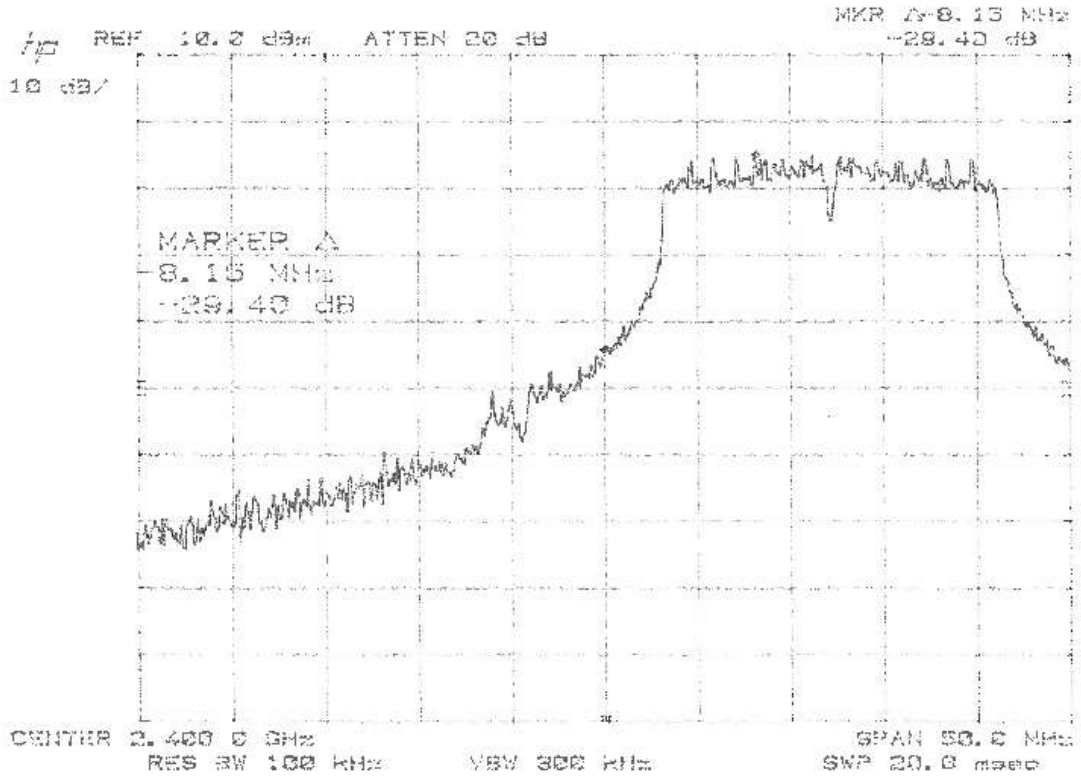
Chanel 1 at 802.11n HT20 65Mbps – Conducted Measurement



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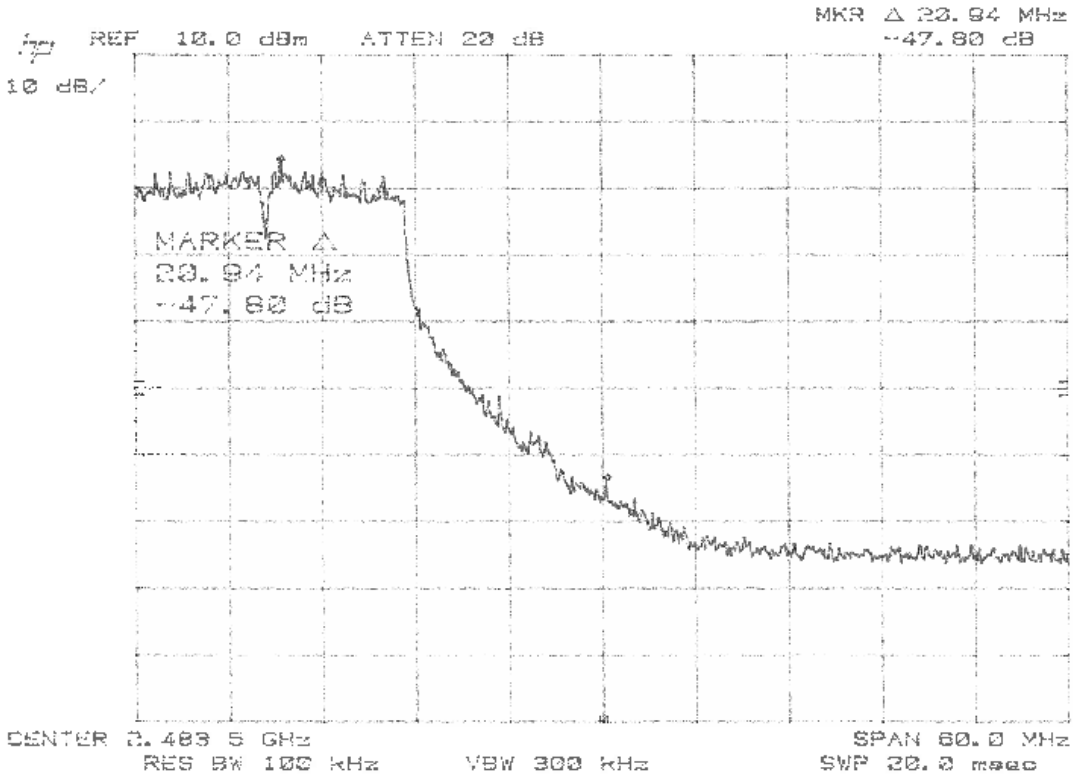
Chanel 11 at 802.11n HT20 65Mbps – Conducted Measurement



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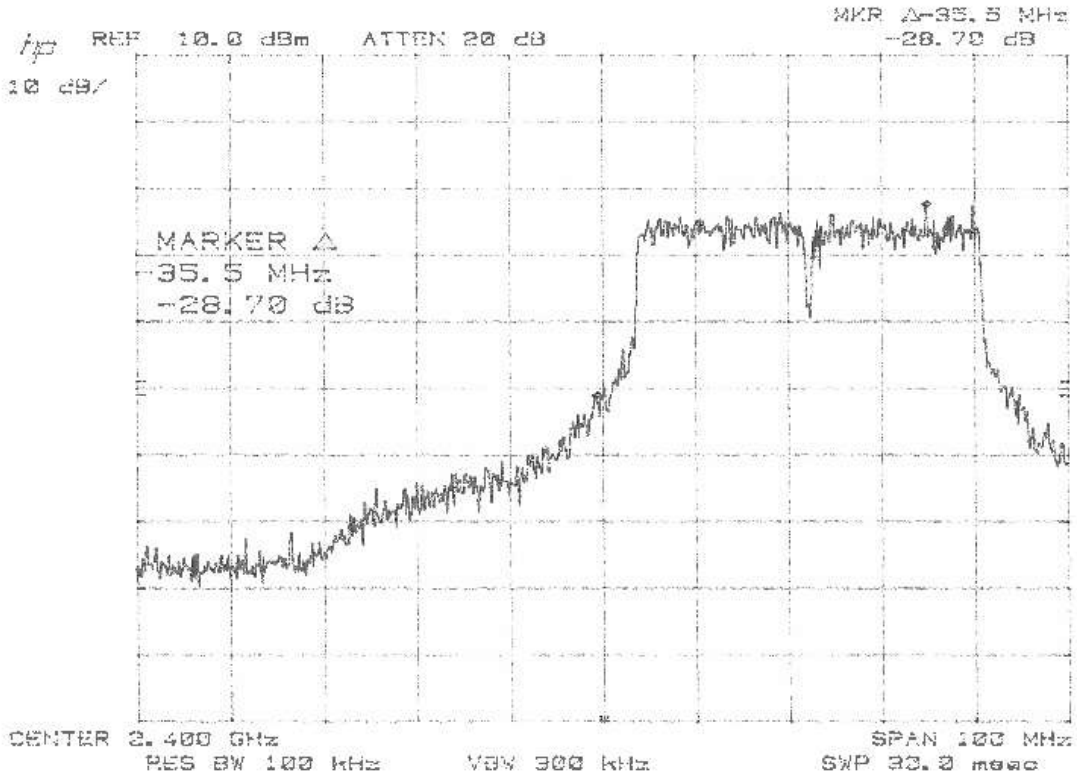
Chanel 3 at 802.11n HT40 150Mbps – Conducted Measurement



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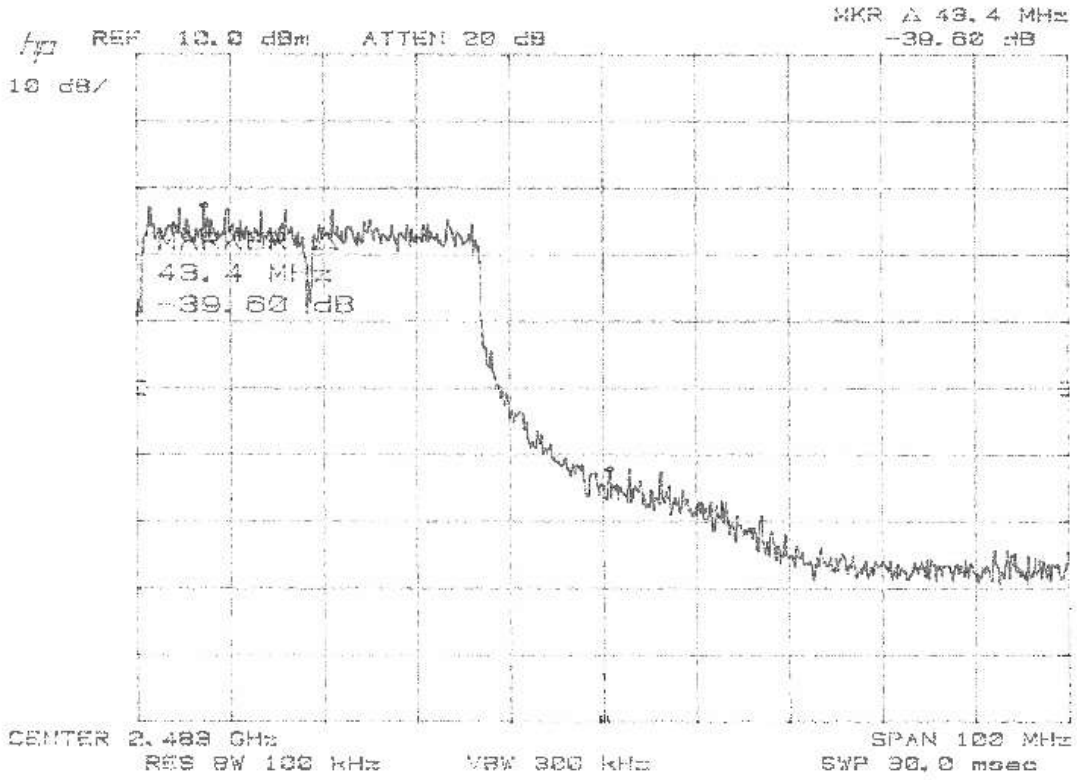
Chanel 9 at 802.11n HT40 150Mbps – Conducted Measurement



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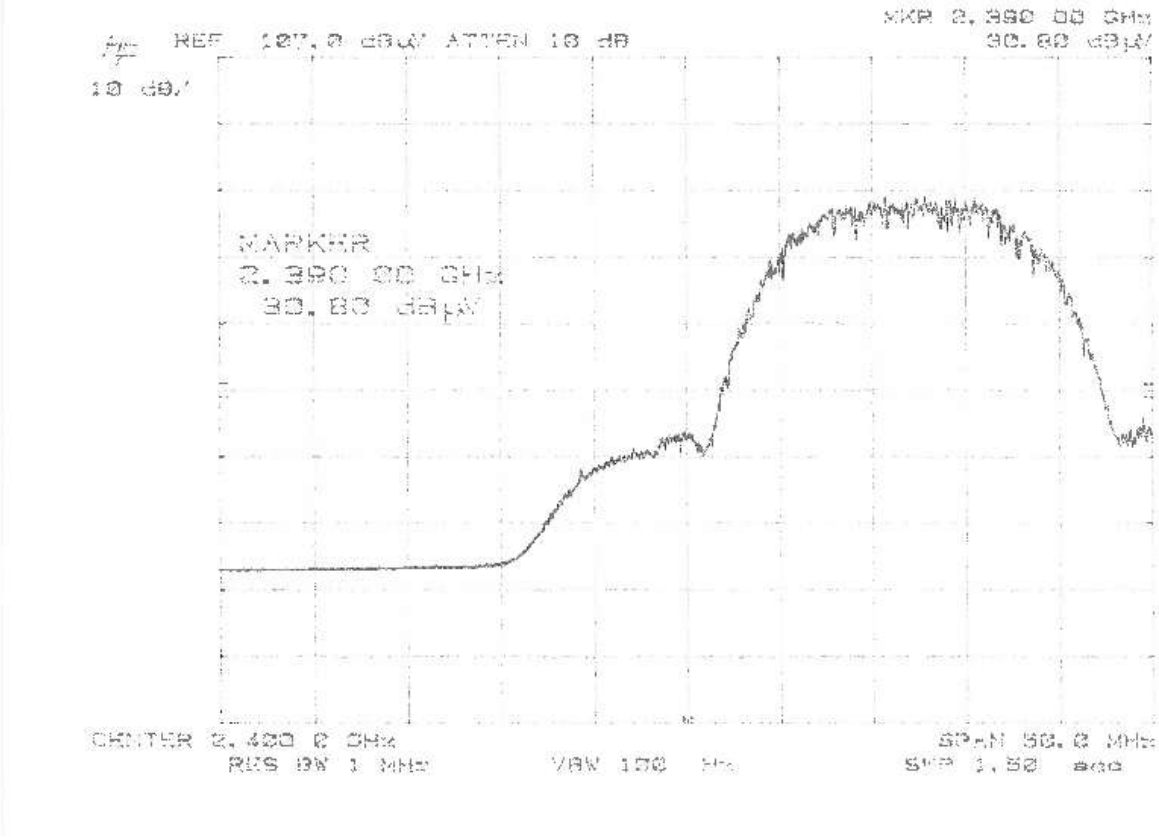
Report of Measurements Restricted Band Unwanted Emissions Data

Emissions that fall in the restricted bands must comply with the radiated emissions limits specified in FCC 15.209(a) and RSS-Gen. The peak measurements of all radiated emissions levels meet the requirement of 74dBuV/m at 3 meter distance, FCC 15.35(b).

Chanel 1 at 802.11b 11Mbps – Radiated Measurement



Frequency MHz	dBuV/m	CF	Corrected dBuV/m @ 3 meter
2390	30.8	3.19	33.99

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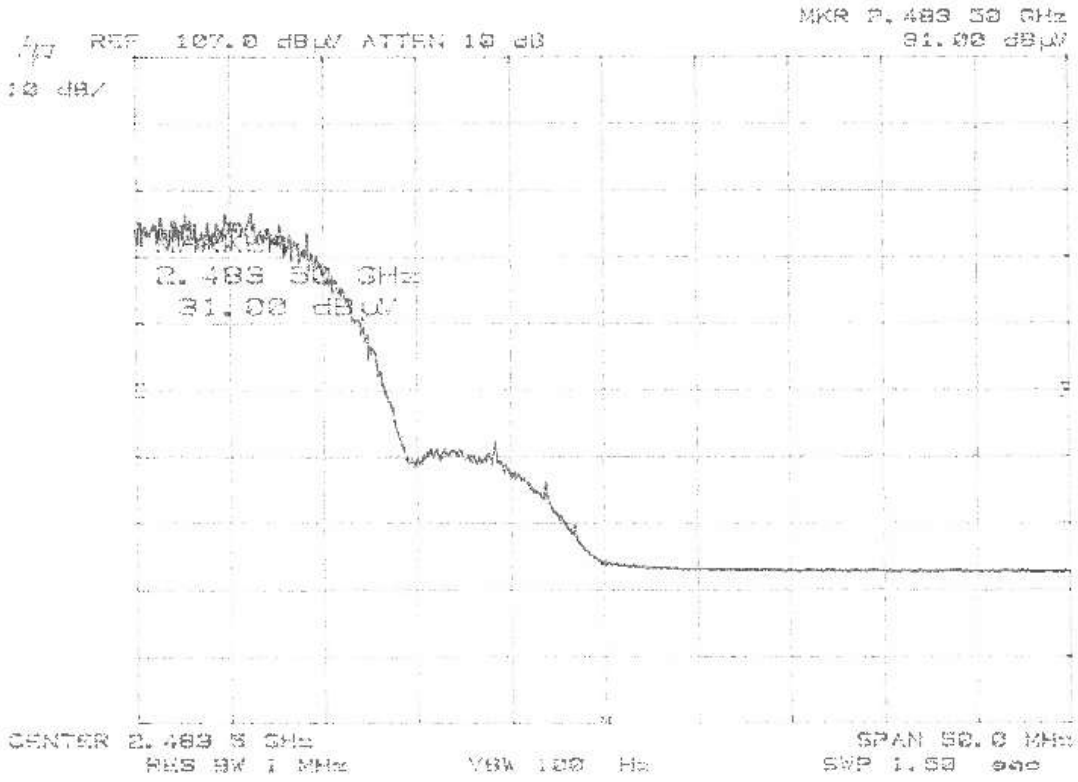
Chanel 11 at 802.11b 11Mbps – Radiated Measurement



Frequency MHz	dBuV/m	CF	Corrected dBuV/m @ 3 meter
2483.5	31.0	3.74	34.74

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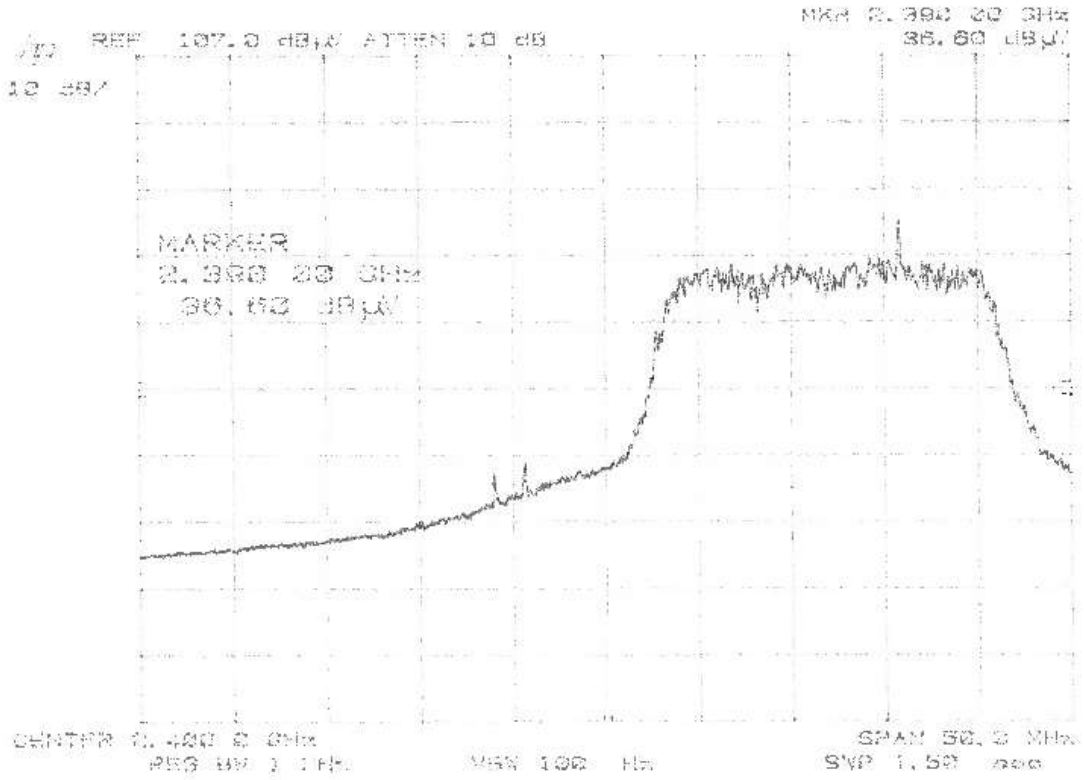
Chanel 1 at 802.11g 54Mbps – Radiated Measurement



Frequency MHz	dBuV/m	CF	Corrected dBuV/m @ 3 meter
2390	36.6	3.19	39.79

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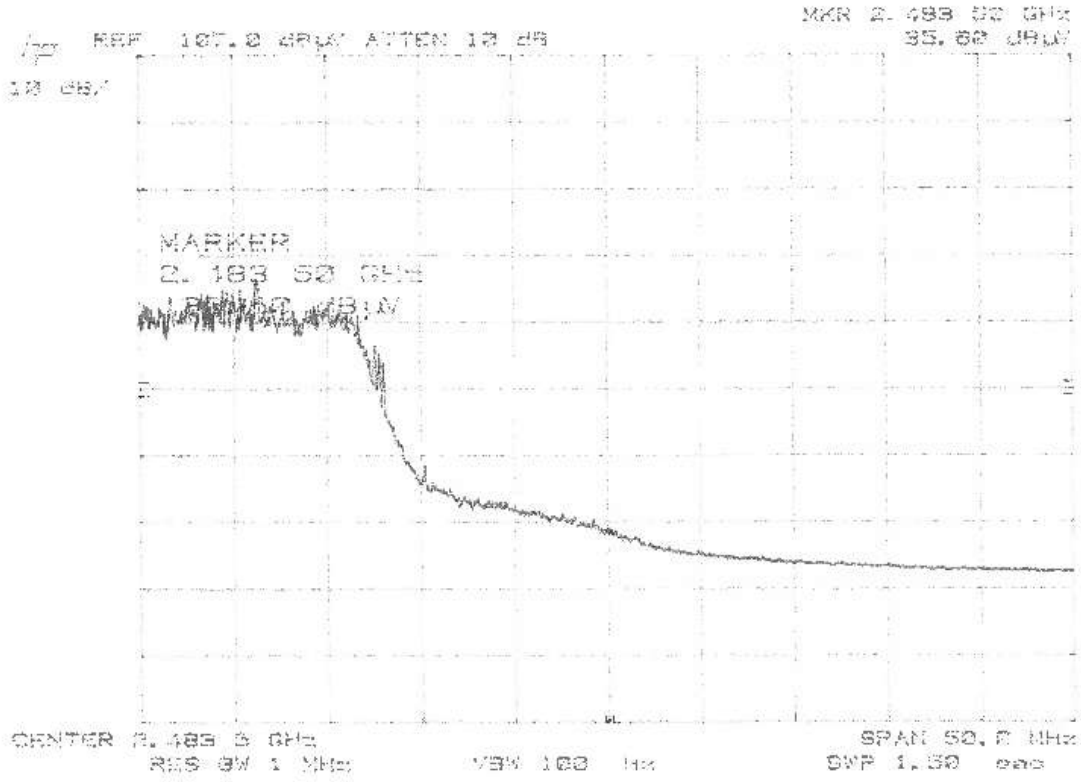
Chanel 11 at 802.11g 54Mbps – Radiated Measurement



Frequency MHz	dBuV/m	CF	Corrected dBuV/m @ 3 meter
2483.5	35.6	3.74	39.34

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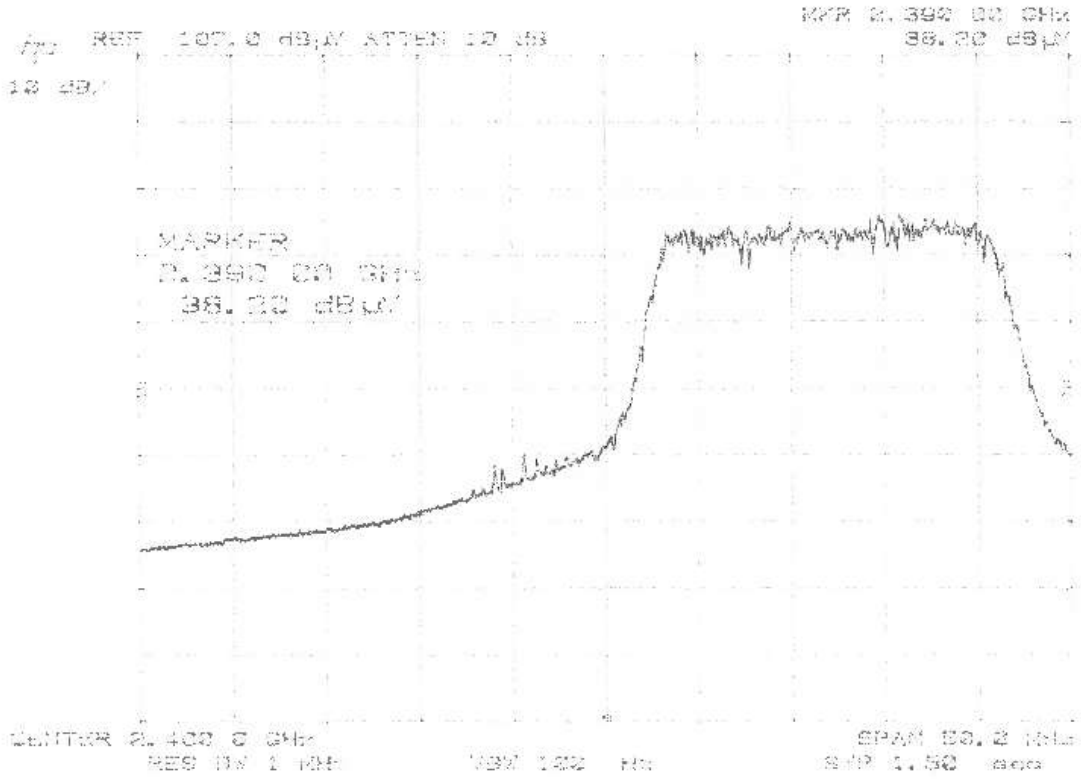
Chanel 1 at 802.11n HT20 65Mbps – Radiated Measurement



Frequency MHz	dBuV/m	CF	Corrected dBuV/m @ 3 meter
2390	38.2	3.19	41.39

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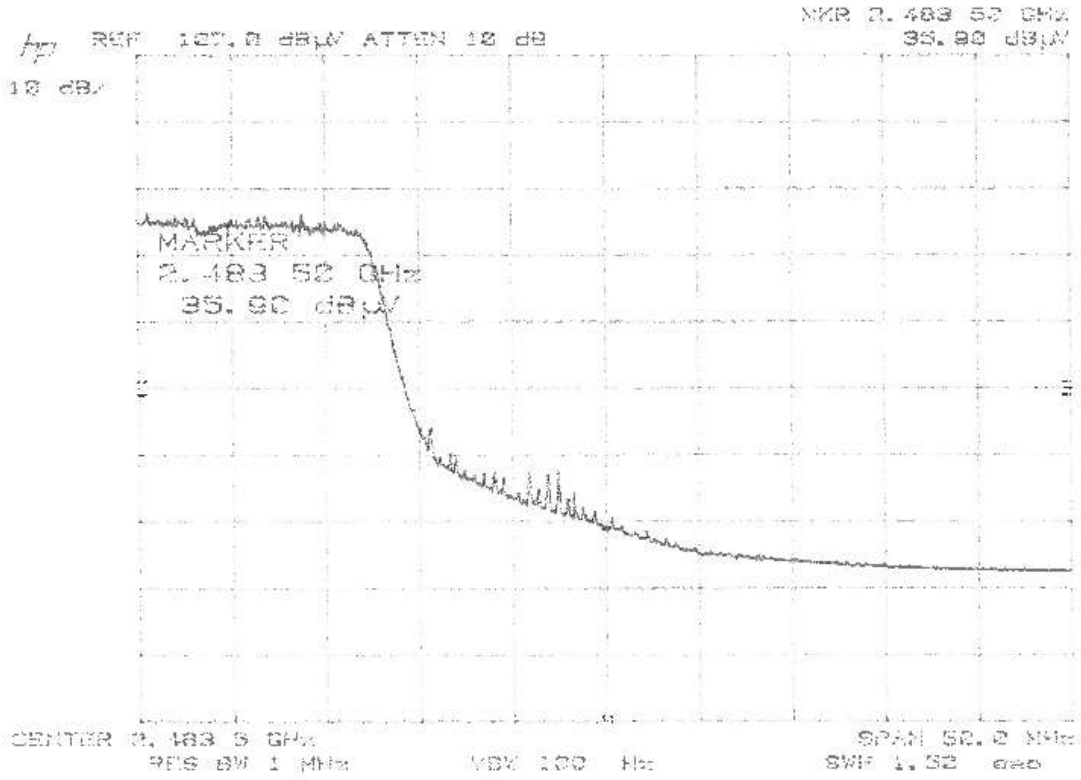
Chanel 11 at 802.11n HT20 65Mbps – Radiated Measurement



Frequency MHz	dBuV/m	CF	Corrected dBuV/m @ 3 meter
2483.5	35.9	3.74	39.64

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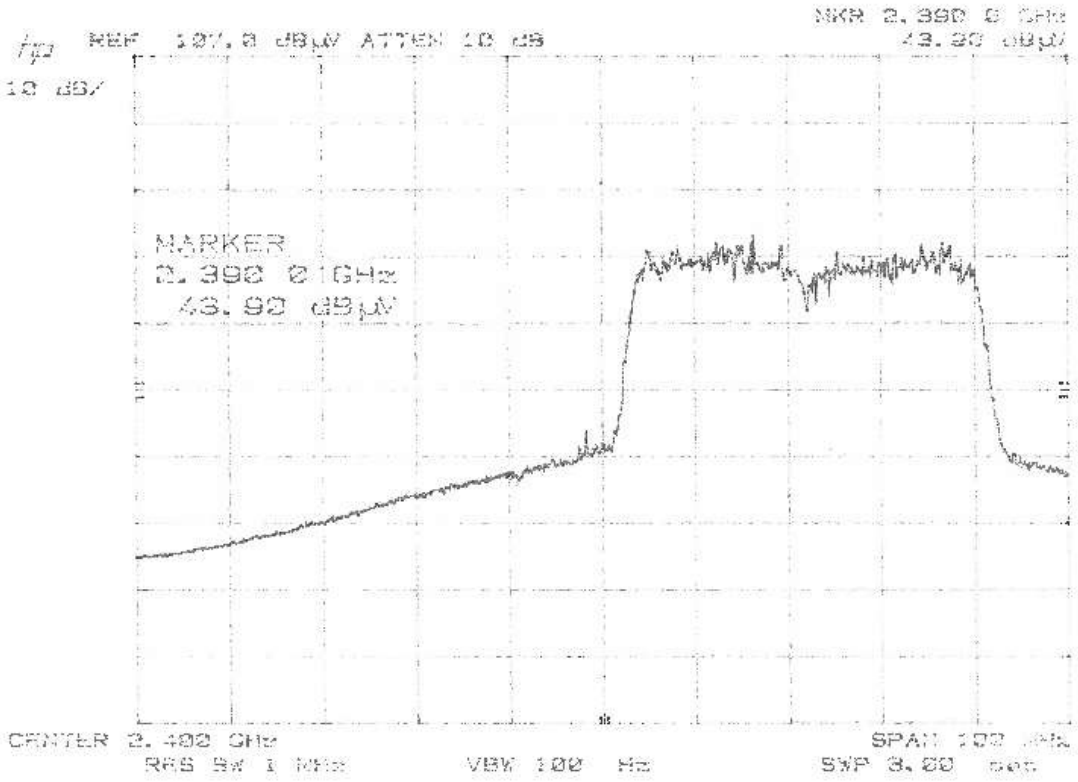
Chanel 3 at 802.11n HT40 150Mbps – Radiated Measurement



Frequency MHz	dBuV/m	CF	Corrected dBuV/m @ 3 meter
2390	43.5	3.19	46.69

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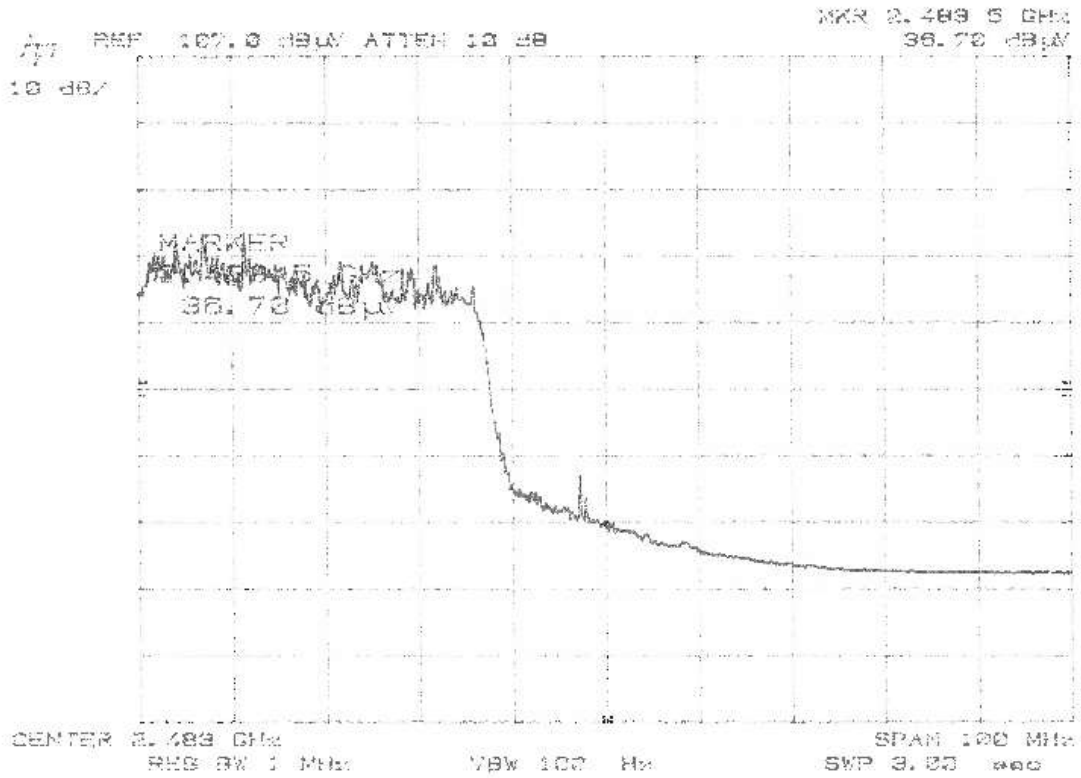
Chanel 9 at 802.11n HT40 150Mbps – Radiated Measurement



Frequency MHz	dBuV/m	CF	Corrected dBuV/m @ 3 meter
2483.5	36.7	3.74	40.44

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Report of Measurements Radiated Data

Radiated emissions measurements were performed from 9 kHz to 30 MHz at 3-meter distance. The loop antenna was placed at 1-meter height and was rotated about its vertical axis. The EUT was also rotated 360 degrees in front of the measurement antenna. No emissions were observed from the EUT in this frequency range.

Measurements were performed in the frequency range of 30 MHz to 1 GHz at 10-meter distance. The Bilog antenna was searched from 1 to 4 meters in height in both horizontal and vertical orientation. The EUT was also rotated 360 degrees in front of the measurement antenna.

Measurements were performed in the frequency range of 1 GHz to 24.835 GHz at 3-meter distance. The Horn antenna was searched from 1 to 4 meters in height in both horizontal and vertical orientation. The EUT was also rotated 360 degrees in front of the measurement antenna. Only the second harmonics of the transmitter was observed, all others were baseline of the noise floor measurements. Measurements above 18 GHz were performed as exploratory at a much closer distance with the standard gain horn. No emissions were observed above the second harmonic of the fundamental frequency.

Exploratory radiated emissions measurements of the transmitter frequencies were made to determine the maximum transmit level of the EUT. All frequencies were searched for any intermodulation emissions from the Bluetooth and Wi-Fi transmitters. No intermodulation emissions were observed. The transmit frequency of 2437 MHz was determined to be the highest level. With the antenna in horizontal orientation the highest level was recorded.

Frequency Stability

IC RSS Gen states frequency stability is a measure of frequency drift due to temperature and supply voltage variations with reference to the frequency measured at an appropriate reference temperature and the rated supply voltage.

(a) at temperatures of -30°C, +20°C and +50°C, and at the manufacturer's rated supply voltage; and

(b) at a temperature of +20°C and at ±15 percent of the manufacturer's rated supply voltage.

FCC 15.31(e) specifies – For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

Measurements were performed with the stated voltage variation and no drift was observed. For temperature changes the drift of the fundamental was observed to be from 2411.9846 MHz to 2412.003 MHz which is 20.6 kHz.

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Report of Measurements Conducted Spurious Data

Table 6 – Conducted Spurious Data

Frequency MHz	Note	Measured dBm
802.11b - MAX PKPSD = -7.9dBm at 2437MHz		
4874		-42.0
7311	baseline	-69.1
9748	baseline	-70.1
12185	baseline	-70.2
14622	baseline	-65.4
17059	baseline	-65.9
19496	baseline	-60.9
21933	baseline	-59.6
24370	baseline	-59.6
802.11g - MAX PKPSD = -8.8dBm at 2412MHz		
4824		**-41.4**
7236	baseline	-67.7
9648	baseline	-67.4
12060	baseline	-70.2
14472	baseline	-65.3
16884	baseline	-66.3
19296	baseline	-60.5
21708	baseline	-58.7
24120	baseline	-59.3
802.11n HT20 - MAX PKPSD = -9.9dBm at 2437MHz		
4874		-44.9
7311	baseline	-67.3
9748	baseline	-65.9
12185	baseline	-69.7
14622	baseline	-65.4
17059	baseline	-66.3
19496	baseline	-60.7
21933	baseline	-59.4
24370	baseline	-59.6
802.11n HT40 - MAX PKPSD = -14.2dBm at 2412MHz		
4874		-49.9
7311	baseline	-68.9
9748	baseline	-68.6
12185	baseline	-70.8
14622	baseline	-65.8
17059	baseline	-66.1
19496	baseline	-60.9
21933	baseline	-58.8
24370	baseline	-59.2

Only baseline noise floor was observed after the second harmonic.

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Report of Measurements Maximum Unwanted Emission Levels Data

15.247(d) specifies that in any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions:

> If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to 15.247(b)(3) requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.
>
> If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to 15.247(b)(3) requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in band average PSD level.

In either case, attenuation to levels below the general emission limits specified in 15.209(a) is not required.

The following tables report the results of the Maximum Unwanted Emission Level measurements for the Wi-Fi Device for 3D Camera, MC200. These measurements were taken on the OATS and compared to the general emission limits of 15.209. Final testing of the low, middle and high channels was performed to find worst case levels. The EUT was operating in the worst case condition at 2437MHz, 802.11b 11Mbps.

All emissions within the restricted bands of operation were below the limits of FCC part 15.209(a) and Industry Canada RSS-Gen.

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Radiated Data for 15.209

Matterport, Inc.

Product - Wi-Fi Device for 3D Camera

Model - MC200

Table 7 – Radiated Data

Frequency MHz	QP Level dBµV/m	QP Limit dBµV/m	Margin dB	Azimuth, Height	Antenna, Polarization
The data below was taken at 10 meter distance.					
129.8	17.57	30.00	12.43	90, 4	BiLog, H
148.95	27.09	30.00	2.91	90, 4	BiLog, H
151.2	25.23	30.00	4.77	90, 4	BiLog, H
166.45	20.66	30.00	9.34	90, 4	BiLog, H
170.8	20.64	30.00	9.36	68, 4	BiLog, H
189.5	20.83	30.00	9.17	68, 4	BiLog, H
204.95	21.68	30.00	8.32	68, 4	BiLog, H
240.0	15.18	37.00	21.82	180, 3.8	BiLog, H
360.05	27.04	37.00	9.96	180, 2.5	BiLog, H
480.0	25.72	37.00	11.28	0, 1.9	BiLog, H
600.0	24.90	37.00	12.10	180, 1.9	BiLog, H
960.05	28.57	37.00	8.43	202, 2.3	BiLog, H
62.4	22.18	30.00	7.82	180, 1	BiLog, V
110.25	19.41	30.00	10.59	135, 1	BiLog, V
149.75	11.21	30.00	18.79	0, 1.1	BiLog, V
194.65	26.34	30.00	3.66	0, 1.1	BiLog, V
200.55	26.51	30.00	3.49	0, 1.1	BiLog, V
240.0	17.73	37.00	19.27	22, 1.1	BiLog, V
384.0	22.40	37.00	14.60	338, 1.1	BiLog, V
600.0	19.42	37.00	17.58	90, 1	BiLog, V
960.05	32.90	37.00	4.10	315, 1.7	BiLog, V
The data below was taken at 3 meter distance					
4874.0	45.49	54.00	8.51	45, 1.2	Horn, H
7311.0	46.19 BL	54.00	7.81	45, 1.2	Horn, H
4874.0	42.19	54.00	11.81	225, 1.2	Horn, V
7311.0	46.19 BL	54.00	7.81	225, 1.2	Horn, V
No other emissions were observed					

Operating mode of the transmitter was 802.11b 11Mbps. Only baseline noise floor was observed after the second harmonic. (BL)

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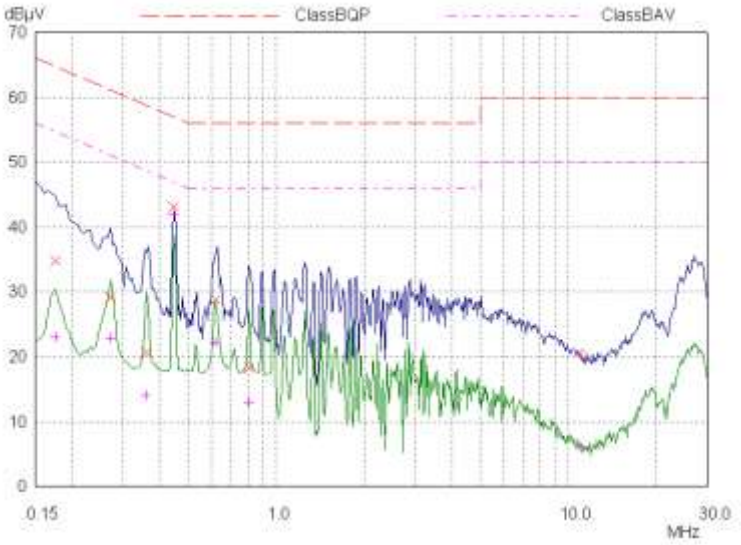
Conducted Data for 15.207 Line

Figure 2 – Line Scan



Blue Trace: Peak Measurement Green Trace: Average Measurement
Final Measurement: x = QP / + = AV at 2 second measurement time.

Table 8 – Line Scan Data

Frequency MHz	Level dBµV	Detector	Limit dBµV	Margin dB	Phase	PE
0.175	34.80	QP	64.72	29.92	L1	gnd
0.27	29.19	QP	61.12	31.93	L1	gnd
0.36	20.58	QP	58.73	38.15	L1	gnd
0.445	43.14	QP	56.97	13.83	L1	gnd
0.62	28.87	QP	56.00	27.13	L1	gnd
0.81	18.31	QP	56.00	37.69	L1	gnd
0.175	23.06	AV	54.72	31.66	L1	gnd
0.27	22.76	AV	51.12	28.36	L1	gnd
0.36	14.01	AV	48.73	34.72	L1	gnd
0.445	42.07	AV	46.97	4.90	L1	gnd
0.62	22.16	AV	46.00	23.84	L1	gnd
0.81	13.00	AV	46.00	33.00	L1	gnd

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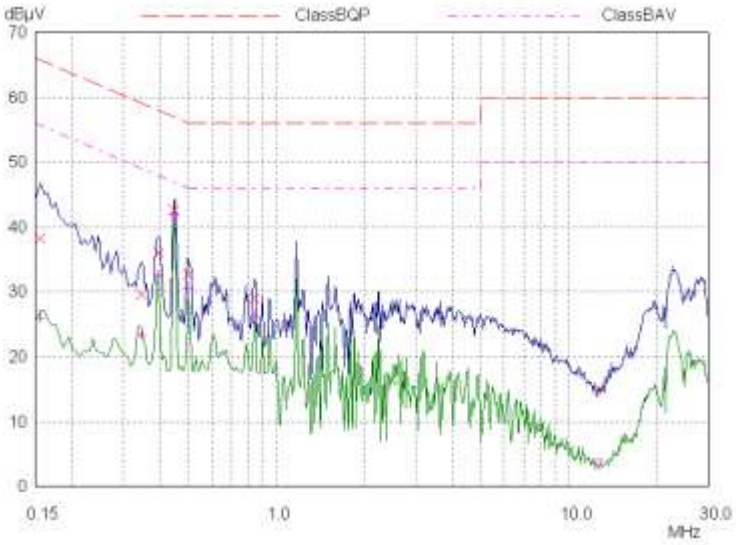
Conducted Data for 15.207 Neutral

Figure 3 – Neutral Scan



Blue Trace: Peak Measurement Green Trace: Average Measurement
Final Measurement: x = QP / + = AV at 2 second measurement time.

Table 9 – Neutral Scan Data

Frequency MHz	Level dBµV	Detector	Limit dBµV	Margin dB	Phase	PE
0.155	38.19	QP	65.73	27.54	N	gnd
0.345	29.55	QP	59.08	29.53	N	gnd
0.395	36.01	QP	57.96	21.95	N	gnd
0.445	42.69	QP	56.97	14.28	N	gnd
0.5	32.78	QP	56.00	23.22	N	gnd
0.84	29.02	QP	56.00	26.98	N	gnd
0.155	26.05	AV	55.73	29.68	N	gnd
0.345	23.27	AV	49.08	25.81	N	gnd
0.395	32.62	AV	47.96	15.34	N	gnd
0.445	41.83	AV	46.97	5.14	N	gnd
0.5	30.56	AV	46.00	15.44	N	gnd
0.84	26.26	AV	46.00	19.74	N	gnd

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COMPLIANCE VERIFICATION REPORT

TEST CERTIFICATE

APPLICANT:	Matterport, Inc. 140 S. Whisman Drive Suite A Mountain View, CA 94041
Trade Name:	Matterport
Model:	MC200

I HEREBY CERTIFY THAT:

The measurements shown in this report were made in accordance with the procedures indicated and that the energy emitted by this equipment, as received, was found to be within the FCC CFR 47 Part 15 Subpart C section 15.247 requirements. This also satisfies the Industry Canada RSS-210 requirements. Additionally, it should be noted that the results in this report apply only to the items tested, as identified herein.

I FURTHER CERTIFY THAT:

On the basis of the measurements taken at the test site, the equipment tested is capable of operation in compliance with the requirements set forth in FCC CFR 47 Part 15.207, 15.209 and 15.247 Rules and Regulations and Industry Canada RSS-210.

On this Date: August 29, 2013

Bruce Smith
Atlas Compliance & Engineering, Inc.

_____
Printed Name

_____
Signature
Matterport, Inc. Representative