RF Emissions Test Report

FCC Part 15.247
(WLAN)

For

Kyocera Corporation
c/o Kyocera Communication Inc.

Product:	CDMA Phone
Model:	C5155 A1

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ATTESTATION

The tested device complies with the requirements in respect of all parameters subject to the test.

The test results and statements relate only to the items tested.

The test equipment used was suitable for the tests specifications and operating parameters.

The test methods were consistent with the methods described in the relevant standards.

Product:	CDMA Cellular Phone with Bluetooth & WLAN
Model #:	C5155
FCC ID:	V65C5155A1
Tested in accordance with:	FCC Part 15.247
Test performed by:	Comptest Services LLC
Test Requested by:	KYOCERA Corporation C/o KYOCERA Communication Inc 8611 Balboa Avenue San Diego, CA92121
Date of Test:	April 9 – April 11, 2012

Responsible Engineer

Benjamin Nguyen

Benjamin Nguyen
Test Engineer

Reviewed and approved by:

Tammy To
Quality Manager

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1 SUMMARY OF TESTING

Section #	Rule Part	Test Description	Verdict
6	FCC § 15.247 a2, IC RSS-210 §A8.2 (1)	6 dB Bandwidth	Pass
7	FCC § 15.247 b3, IC RSS-210 §8.4(4)	Output Power	Pass
8	FCC § 15.247 e, IC RSS-210 §8.2(2)	Power Spectral Density	Pass
9	FCC § 15.247 d, IC RSS-210 §A8.5	Band-edge Compliance of Conducted Emissions	Pass
10	FCC § 15.247 d, IC RSS-210 §A8.5	Spurious RF Conducted Emissions	Pass
11	FCC § 15.107 § 15.207, IC RSS-210 §6.6	AC Power Line Conducted Emissions	Pass
12	FCC § 15.109, § 15.209, IC RSS-210 §A2.9(2)	Spurious Radiated Emissions	Pass
13	FCC § 2.1091/2.1093	SAR Tests	Pass

2 EQUIPMENT UNDER TEST INFORMATION

EUT Serial Number:	268435457816725951
Type:	[ ] Prototype, [X] Pre-Production, [ ] Production
Equipment Category:	Portable
TX Frequency (MHz):	2412 to 2462
Modulation Technology:	DSSS, OFDM
Modulation:	DSSS: CCK, DQPSK, DBPSK OFDM: 64QAM, 16QAM, QPSK, BPSK
Channel Numbers:	11
Mode/Data Rate:	☒ 802.11b: 11/5/2/1 Mbps ☒ 802.11g: 54/48/36/24/18/12/9/6 Mbps ☒ 802.11n: 7/6/5/4/3/2/1/0 MCS
Max. Output Power (dBm)	19
WLAN Antenna:	Internal
Antenna Gain (dBi):	-1.0 (Peak)

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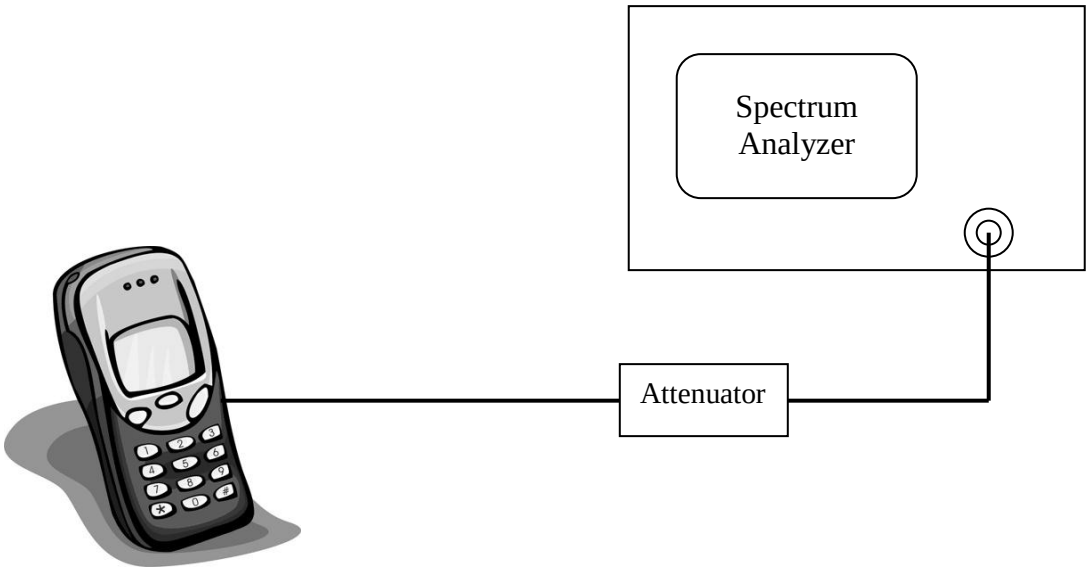
3 TEST FACILITIES

The test sites and measurement facilities used to collect data are located at 8611 Balboa Ave., San Diego, CA 92123, USA

4 TEST SETUP

The WLAN RF output of the equipment under test (EUT) was connected to the input of the spectrum analyzer through a RF cable with a specialized RF connector. The amplitude of the spectrum analyzer is corrected for the cable insertion loss and any other applicable losses. A fully charged battery was used as power supply voltage.



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5 ANTENNA REQUIREMENTS

5.1 Requirements

FCC:	**§ 15.203**
IC:	**RSS-210**

1) For intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached atenna 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.

2) According to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

5.2 Antenna Information

a) The Antennas used in this product are permanently attached
b) There are no provisions for connection to an external antenna

This phone unit complies with the requirement of 15.203

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6 6dB BANDWIDTH

6.1 Test Configuration

FCC:	**§ 15.247 a2**
IC:	**RSS-210 §A8.2 (a)**

The RF output port of the EUT was directly connected to the input of the spectrum analyzer with sufficient attenuation. Subsequently, the low, mid and high channels of transmitter were enabled separately to investigate the 6 dB-bandwidth for each channel. A fully charged battery was used as supply voltage.

Spectrum Analyzer Parameters:
RBW = 100kHz, VBW = 300kHz, Span=40MHz, Sweep Time = 20mS

Frequencies of Interest: Spectrum was investigated from 2412 MHz ï 2462 MHz.

6.2 Results and Limits:

Figure	802.11 Mode	Channel	Frequency	Data Rate (Mbps)	Measured BW (MHz)
6-1a	b	1	2412	1	**12.88**
6-1b		6	2437	1	**12.81**
6-1c		11	2462	1	**12.75**
6-2a	g	1	2412	6	**16.36**
6-2b		6	2437	6	**16.47**
6-2c		11	2462	6	**16.37**
6-3a	n	1	2412	6.5/7.2 (MCS0)	**17.42**
6-3b		6	2437	6.5/7.2 (MCS0)	**17.55**
6-3c		11	2462	6.5/7.2 (MCS0)	**17.50**

Limit: >= 500kHz

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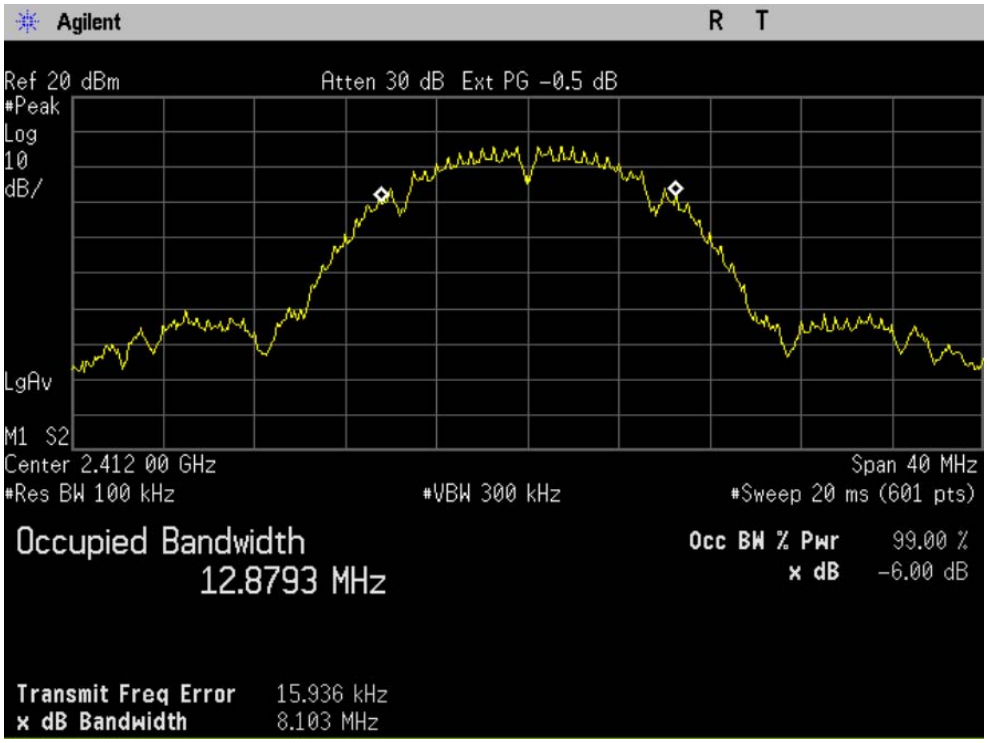

Figure 6-1a: 6 dB Bandwidth, 802.11b 1Mbps, Ch 1.

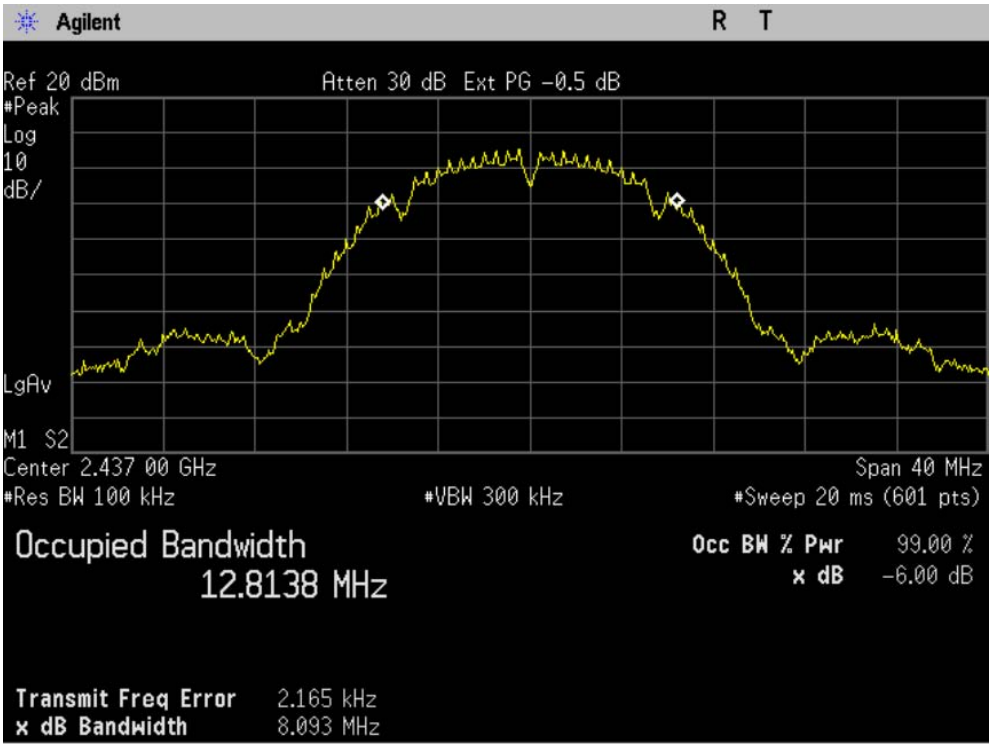

Figure 6-1b: 6 dB Bandwidth, 802.11b 1Mbps, Ch 6.

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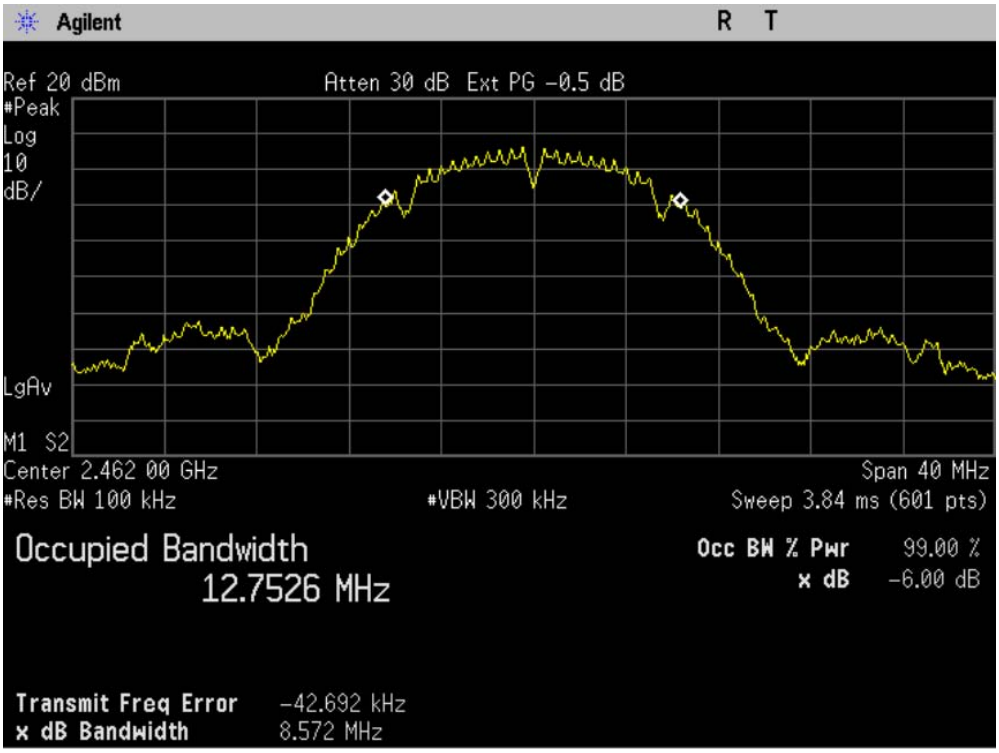

Figure 6-1c: 6 dB Bandwidth, 802.11b 1Mbps, Ch 11.

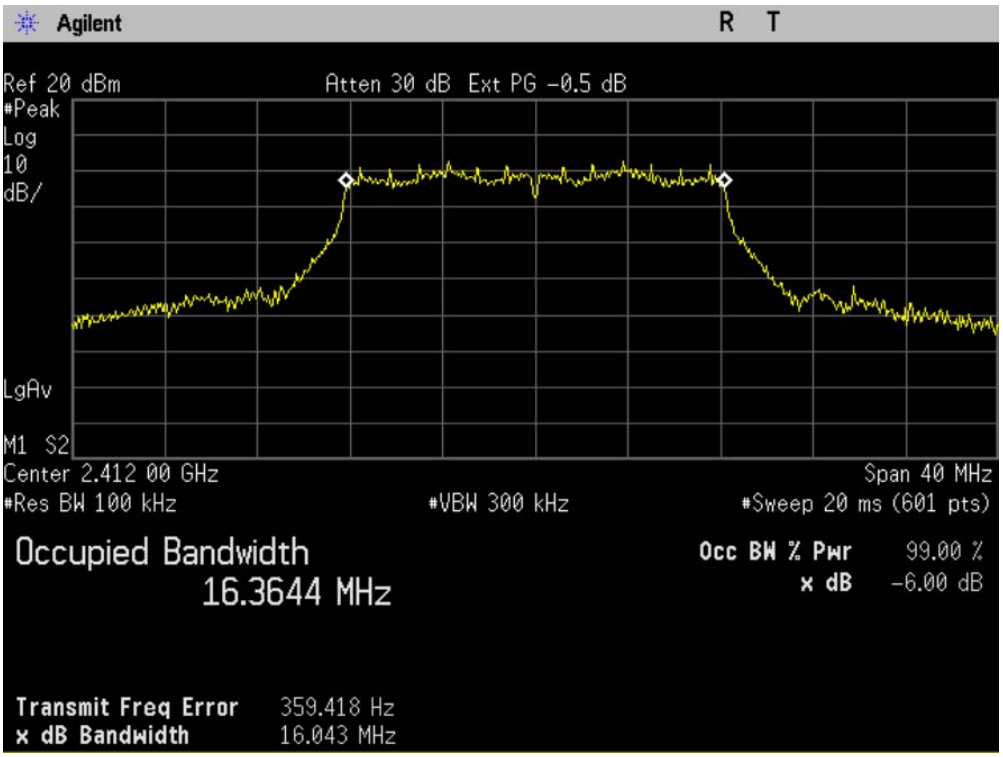

Figure 6-2a: 6 dB Bandwidth, 802.11g 6Mbps, Ch 1.

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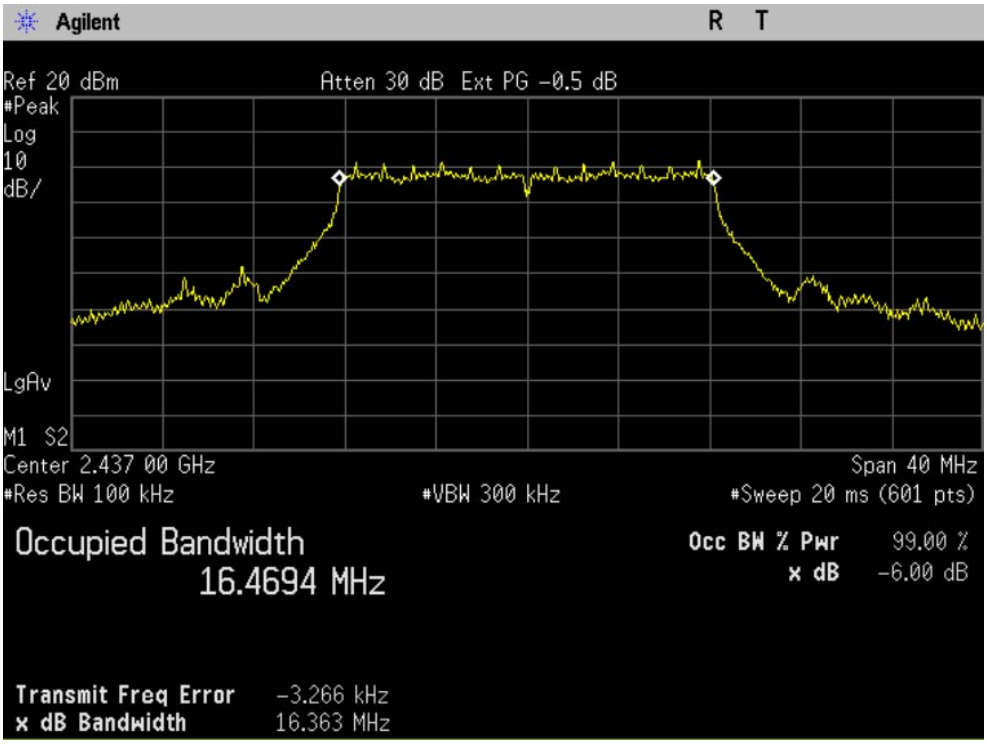

Figure 6-2b: 6 dB Bandwidth, 802.11g 6Mbps, Ch 6.

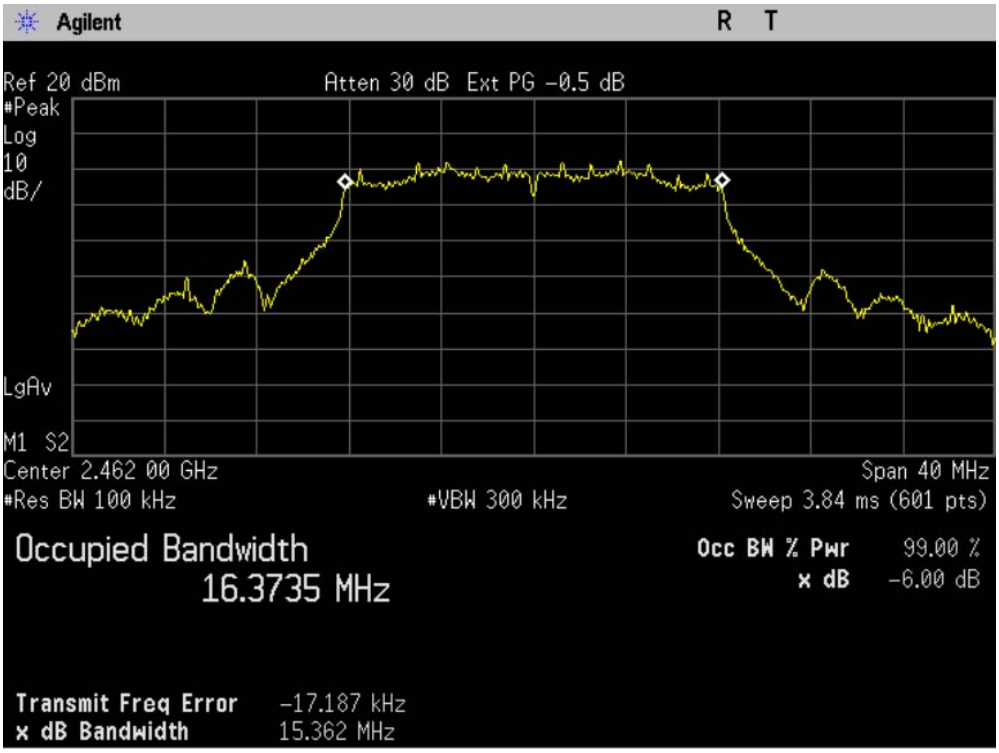

Figure 6-2c: 6 dB Bandwidth, 802.11g 6Mbps, Ch 11.

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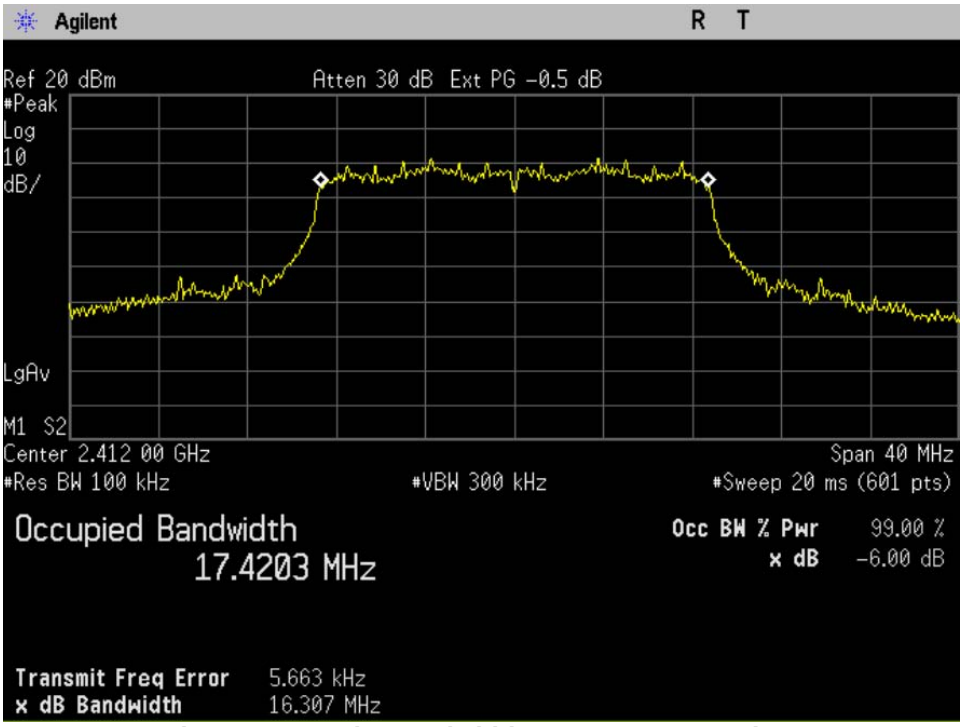

Figure 6-3a: 6 dB Bandwidth, 802.11n MCS0, Ch 1.

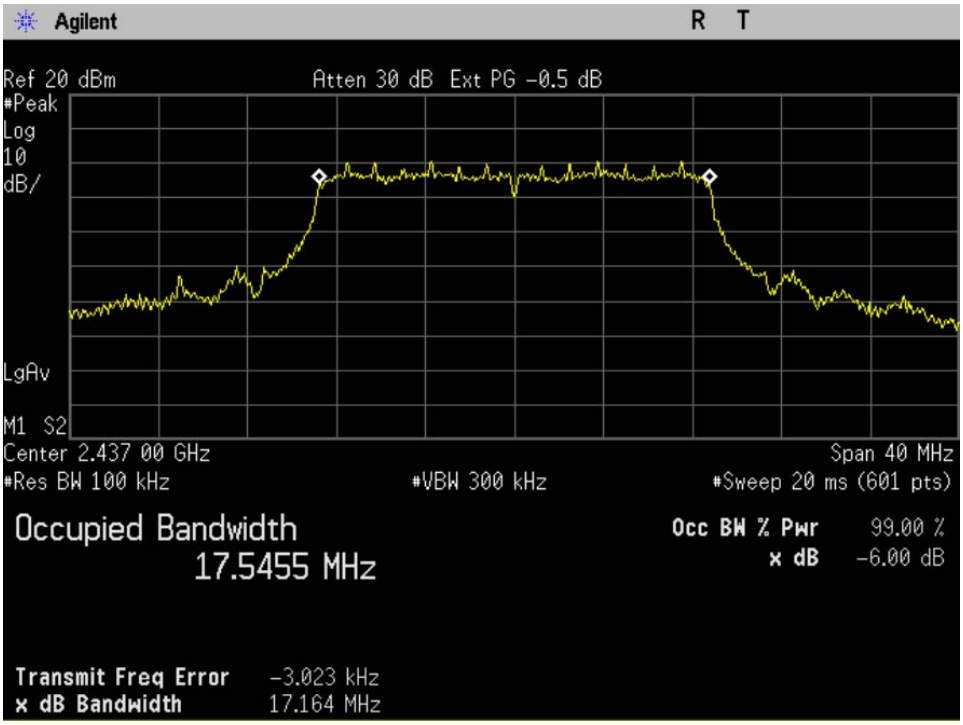

Figure 6-3b: 6 dB Bandwidth, 802.11n MCS0, Ch 6.

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Figure 6-3c: 6 dB Bandwidth, 802.11n MCS0, Ch 11.

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