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MEASUREMENT REPORT FCC Part 27 / RSS-199 WIMAX

Applicant Name:
Samsung Electronics, Co. Ltd.
18600 Broadwick St.
Rancho Dominguez, CA 90220
United States

Date of Testing:
April 16, 2011
Test Site/Location:
PCTEST Lab., Columbia, MD, USA
Test Report Serial No.:
0Y1104120695.A3L

FCC ID:	A3LSPHD600
APPLICANT:	SAMSUNG ELECTRONICS, CO. LTD.

Application Type: Certification
FCC Classification: Licensed portable transmitter held to ear (PCE)
FCC Rule Part(s): §2; §27 Subpart M
EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14
Model(s): SPH-D600
Tx Frequency Range: 2498.5 - 2687.5MHz (WiMAX - 5MHz BW)
2501 - 2685MHz (WiMAX - 10MHz BW)
Max. RF Output Power: 0.09 W EIRP WiMAX (5MHz, QPSK) (19.56 dBm)
0.082 W EIRP WiMAX (5MHz, 16-QAM) (19.13 dBm)
0.072 W EIRP WiMAX (10MHz, QPSK) (18.55 dBm)
0.066 W EIRP WiMAX (10MHz, 16-QAM) (18.21 dBm)
Emission Designators: 4M48G7D (QPSK) / 4M49W7D (16QAM) (WiMAX - 5MHz BW)
9M19G7D (QPSK) / 9M30W7D (16QAM) (WiMAX - 10MHz BW)
Test Device Serial No.: *identical prototype* [S/N: N/A]

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

Grant Conditions: Power output listed is EIRP for Part 27.

PCTEST certifies that no party to this application has been subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.



Randy Ortanez
President



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T A B L E O F C O N T E N T S

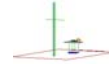
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MEASUREMENT REPORT

FCC Part 27



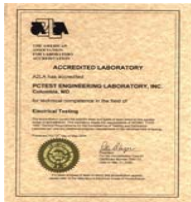
§2.1033 General Information

APPLICANT: Samsung Electronics, Co. Ltd.
APPLICANT ADDRESS: 18600 Broadwick St.
 Rancho Dominguez, CA 90220
TEST SITE: PCTEST ENGINEERING LABORATORY, INC.
TEST SITE ADDRESS: 6660-B Dobbin Road, Columbia, MD 21045 USA
FCC RULE PART(S): §2; §27(M)
BASE MODEL: SPH-D600
FCC ID: A3LSPHD600
FCC CLASSIFICATION: Licensed portable transmitter held to ear (PCE)



EMISSION DESIGNATOR(S): 4M48G7D (QPSK) / 4M49W7D (16QAM) (WiMAX - 5MHz BW)
 9M19G7D (QPSK) / 9M30W7D (16QAM) (WiMAX - 10MHz BW)
MODE: WiMAX
FREQUENCY TOLERANCE: Emission must remain in band
Test Device Serial No.: N/A Production Pre-Production Engineering
DATE(S) OF TEST: April 16, 2011
TEST REPORT S/N: 0Y1104120695.A3L

Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab. located in Columbia, MD 21045, U.S.A.



- PCTEST facility is an FCC registered (PCTEST Reg. No. 90864) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (2451A-1).
- PCTEST Lab is accredited to ISO 17025 by U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP Lab code: 100431-0) in EMC, FCC and Telecommunications.
- PCTEST Lab is accredited to ISO 17025-2005 by the American Association for Laboratory Accreditation (A2LA) in Specific Absorption Rate (SAR) testing, Hearing Aid Compatibility (HAC) testing, CTIA Test Plans, and wireless testing for FCC and Industry Canada Rules.
- PCTEST Lab is a recognized U.S. Conformity Assessment Body (CAB) in EMC and R&TTE (n.b. 0982) under the U.S.-EU Mutual Recognition Agreement (MRA).
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC Guide 65 by the American National Standards Institute (ANSI) in all scopes of FCC Rules and Industry Canada Standards (RSS).
- PCTEST facility is an IC registered (2451A-1) test laboratory with the site description on file at Industry Canada.
- PCTEST is a CTIA Authorized Test Laboratory (CATL) for AMPS, CDMA, and EvDO wireless devices and for Over-the-Air (OTA) Antenna Performance testing for AMPS, CDMA, GSM, GPRS, EGPRS, UMTS (W-CDMA), CDMA 1xEVDO, and CDMA 1xRTT.

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1.0 INTRODUCTION

1.1 Scope

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

1.2 Testing Facility

The map below shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity area, the Baltimore-Washington Internt'l (BWI) airport, the city of Baltimore and the Washington, DC area. (See Figure 1-1).

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility in New Concept Business Park, Guilford Industrial Park, Columbia, Maryland. The site address is 6660-B Dobbin Road, Columbia, MD 21045. The test site is one of the highest points in the Columbia area with an elevation of 390 feet above mean sea level. The site coordinates are 39° 11'15" N latitude and 76° 49'38" W longitude. The facility is 1.5 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. There are no FM or TV transmitters within 15 miles of the site. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2003 on January 28, 2009.

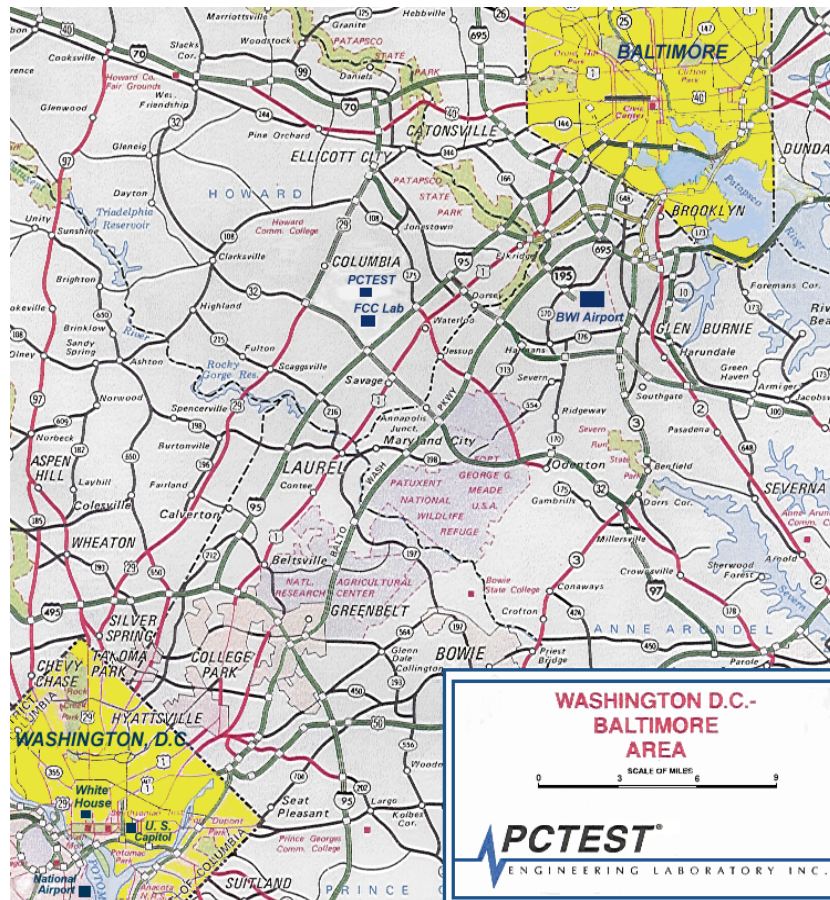




Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14 FCC ID: A3LSPHD600**. The test data contained in this report pertains only to the emissions due to the EUT's WiMAX function. The EUT consisted of the following component(s):

Trade Name / Base Model	FCC ID	Description
Samsung / Model: SPH-D600	A3LSPHD600	Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14

Table 2-1. EUT Equipment Description

The EUT was set to transmit at full power through test software installed in a laptop computer. Each of the available types of modulations and zone types was tested to determine the configuration producing the worst case emissions. The gated triggering functionality of the spectrum analyzer was used so that all measurements were made during the transmitter's "on" period.

2.2 EMI Suppression Device(s)/Modifications

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

2.3 Labeling Requirements

Per 2.925

The FCC identifier shall be permanently affixed to the equipment and shall be readily visible to the purchaser at the time of purchase.



Per 15.19; Docket 95-19

In addition to this requirement, a device subject to certification shall be labeled as follows:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the trade name and FCC ID must be displayed on the device per Section 15.19(b)(2).

Please see attachment for FCC ID label and label location.

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3.0 DESCRIPTION OF TESTS

3.1 Measurement Procedure

The radiated spurious measurements were made outdoors at a 3-meter test range (See Figure 3-1). The equipment under test is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. This power level was recorded using a broadband average power meter. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This level is recorded with the power meter. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.

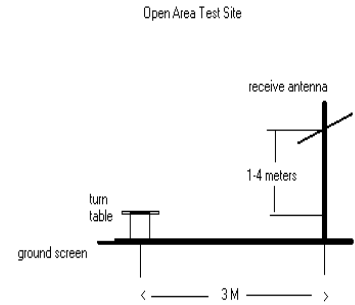


Figure 3-1. Diagram of 3-meter outdoor test range

Deviation from Measurement Procedure.....None

3.2 Occupied Bandwidth Emission Limits



§2.1049, §27.53(m)(6)

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. 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 percent of the selected span as is possible without being below 1 percent. 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 since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent 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.

3.3 Channel Edge

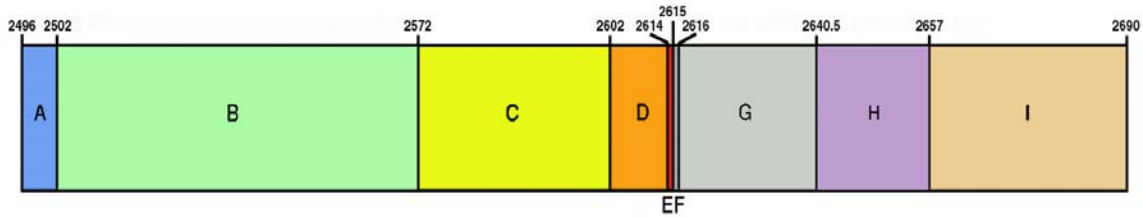
§2.1051, §27.53(m)(4)(6)

When measuring conducted channel edge, the ACP (Adjacent Channel Power) feature of the signal analyzer was used. For each segment of the channel edge, the allowed integration bandwidth was configured to calculate the channel power that is highest within that channel edge segment.

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3.4 EBS/BRS - Frequency Blocks

§27.5(i)



BLOCK A: 2496MHz – 2502MHz (BRS)

BLOCK B: 2502MHz – 2572MHz (EBS)

BLOCK C: 2572MHz – 2602MHz (EBS)

BLOCK D: 2602MHz – 2614MHz (BRS)

BLOCK E: 2614MHz – 2615MHz (BRS)

BLOCK F: 2615MHz – 2616MHz (EBS)

BLOCK G: 2616MHz – 2640.5MHz (BRS)

BLOCK H: 2640.5MHz – 2657MHz (EBS)

BLOCK A: 2657MHz – 2690MHz (BRS)

3.5 Spurious and Harmonic Emissions at Antenna Terminal



§2.1051, §27.53(m)(4)(6)

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic.

3.6 Radiated Spurious and Harmonic Emissions

§2.1053, §27.53(m)(4)(6)

Spurious and harmonic radiated emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 3-meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer reading. This level is recorded. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all configurations and the worst case is reported with PUSC QPSK modulation when operating with 5MHz and 10MHz bandwidth. The device was tested in all setup positions and the worst case was reported in the horizontally flat configuration.

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3.7 Frequency Stability / Temperature Variation

§2.1055, §27.54



The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.



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4.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST).

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	No.165	(30MHz - 1000MHz) RG58 Coax Cable	N/A		N/A	N/A
-	No.166	(1000-26500MHz) Microwave RF Cable	N/A		N/A	N/A
-	No.167	(100kHz - 100MHz) RG58 Coax Cable	N/A		N/A	N/A
Agilent	8447D	Broadband Amplifier	3/17/2011	Annual	3/17/2012	1937A03348
Agilent	8447D	Broadband Amplifier	3/17/2011	Annual	3/17/2012	2443A01900
Agilent	8449B	(1-26.5GHz) Pre-Amplifier	2/8/2011	Annual	2/8/2012	3008A00985
Agilent	85650A	Quasi-Peak Adapter	4/7/2011	Annual	4/7/2012	3303A01872
Agilent	85650A	Quasi-Peak Adapter	4/7/2011	Annual	4/7/2012	2043A00301
Agilent	8566B	(100Hz-22GHz) Spectrum Analyzer	4/7/2011	Annual	4/7/2012	2618A02866
Agilent	8566B	(100Hz-22GHz) Spectrum Analyzer	4/7/2011	Annual	4/7/2012	2542A11898
Agilent	E4407B	ESA Spectrum Analyzer	4/5/2011	Annual	4/5/2012	US39210313
Agilent	E4448A	PSA (3Hz-50GHz) Spectrum Analyzer	11/30/2010	Annual	11/30/2011	US42510244
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/5/2011	Annual	4/5/2012	MY45470194
Agilent	N9020A	MXA Signal Analyzer	9/8/2010	Annual	9/8/2011	US46470561
Anritsu	ML2495A	Power Meter	10/13/2010	Annual	10/13/2011	941001
Anritsu	MA2411B	Pulse Sensor	N/A	Annual		1027293
Emco	3115	Horn Antenna (1-18GHz)	10/14/2009	Biennial	10/14/2011	9704-5182
Emco	3115	Horn Antenna (1-18GHz)	4/8/2010	Biennial	4/8/2012	9205-3874
Emco	3116	Horn Antenna (18 - 40GHz)	9/9/2008	Triennial	9/9/2011	9203-2178
Emco	3816/2	LISN	11/5/2010	Biennial	11/5/2012	9707-1077
Emco	3816/2	LISN	11/3/2010	Biennial	11/3/2012	9707-1079
Gigatronics	80701A	(0.05-18GHz) Power Sensor	10/11/2010	Annual	10/11/2011	1833460
Gigatronics	8651A	Universal Power Meter	10/11/2010	Annual	10/11/2011	8650319
MiniCircuits	VHF-3100+	High Pass Filter	N/A		N/A	30721
Rohde & Schwarz	FSQ 26	Spectrum Analyzer	8/28/2010	Annual	8/28/2011	200452
Sunol	DRH-118	Horn Antenna (1 - 18GHz)	5/14/2009	Biennial	5/14/2011	A050307
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	7/17/2009	Biennial	7/17/2011	A051107

Table 4-1. Test Equipment

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5.0 SAMPLE CALCULATIONS

Emission Designator

QPSK Modulation

Emission Designator = 9M62G7D

WiMAX BW = 9.62 MHz
 G = Phase Modulation
 7 = Quantized/Digital Info
 D = Combination (Audio/Data)

16QAM Modulation



Emission Designator = 9M45W7D

WiMAX BW = 9.45 MHz
 W = Amplitude/Angle Modulated
 7 = Quantized/Digital Info
 D = Combination (Audio/Data)

Spurious Radiated Emission – WiMAX Band

Example: Middle Channel WiMAX Mode 2nd Harmonic (5200 MHz)

The receive analyzer reading at 3 meters with the EUT on the turntable was -81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0 dBm on the receive analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 3.2 dB at 5200 MHz. So 4.9 dB is added to the signal generator reading of -30.00 dBm yielding -25.1 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm $- (-25.1) = 50.6$ dBc.

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6.0 TEST RESULTS

6.1 Summary

Company Name: Samsung Electronics, Co. Ltd.
 FCC ID: A3LSPHD600
 FCC Classification: Licensed portable transmitter held to ear (PCE)
 Mode(s): WiMAX

FCC Part Section(s)	RSS Section	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (TX)						
2.1049, 27.53(m)(6)	RSS-199 [4.2]	Occupied Bandwidth / Channel Bandwidth	N/A [FCC] > 1MHz [IC]	CONDUCTED	PASS	Section 7.0, 8.0
2.1051, 27.53(m)(4)(6)	RSS-199 [4.5]	Channel Edge	< 43 + 10log ₁₀ (P[Watts]) within 5.5MHz from the band edge		PASS	Section 7.0, 8.0
2.1051, 27.53(m)(4)(6)	RSS-199 [4.5]	Conducted Spurious Emissions	< 55 + 10log ₁₀ (P[Watts]) for all emissions greater than 5.5MHz from the band edge		PASS	Section 7.0, 8.0
2.1046	N/A	Transmitter Conducted Output Power Measurements	N/A		PASS	Section 6.2
27.50(h)(2)	RSS-199 [4.4]	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP	RADIATED	PASS	Section 6.3
2.1053, 27.53(m)(4)	RSS-199 [4.5]	Undesirable Emissions	< 55 + 10log ₁₀ (P[Watts]) for all out-of-band emissions		PASS	Section 6.4, 6.5
2.1055, 27.54	RSS-199 [4.3]	Frequency Stability	Fundamental emissions must stay within the allotted band		PASS	Section 6.6, 6.7
RECEIVER MODE (RX) / DIGITAL EMISSIONS						
N/A	RSS-199 [4.6]	Receiver Spurious Emissions Limits	< RSS-Gen limits [Section 6; Table 1]	RADIATED	PASS	Section 6.8

Table 6-1. Summary of Test Results

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.2 Transmitter Conducted Output Power

§2.1046

The MXA Signal Analyzer was used to measure the power of the WiMAX device. The WiMAX channel power measurement feature of the MXA was utilized in conjunction with the MXA's gating function to measure conducted powers. The WiMAX conducted powers are reported below as well as a test setup diagram.

Channel	Modulation	Coding Rate	PUSC	
			5 MHz BW	10 MHz BW
			Avg	Avg
Low	QPSK	1/2	23.66	23.49
		3/4	23.44	23.27
	16QAM	1/2	23.63	23.55
		3/4	23.48	23.31
Mid	QPSK	1/2	23.71	23.80
		3/4	23.54	23.66
	16QAM	1/2	23.82	23.74
		3/4	23.53	23.51
High	QPSK	1/2	23.36	23.72
		3/4	23.28	23.58
	16QAM	1/2	23.35	23.72
		3/4	23.26	23.64

Table 6-2. WiMAX Conducted Output Power

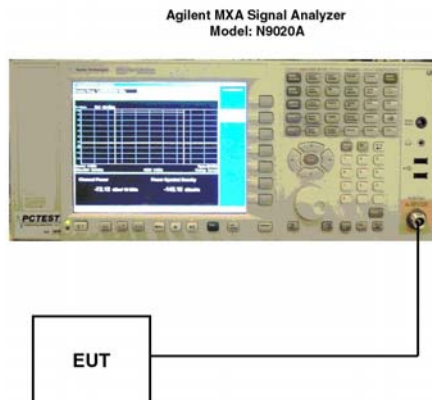


Figure 6-1. WiMAX Conducted Power Test Setup Diagram

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.3 Equivalent Isotropic Radiated Power Output Data §27.50(h)(2)

Frequency [MHz]	Mod.	Channel Bandwidth [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
2498.50	QPSK	5.0	-24.800	8.78	8.90	H	17.68	0.059	Standard
2498.50	16QAM	5.0	-25.210	8.37	8.90	H	17.27	0.053	Standard
2600.00	QPSK	5.0	-25.400	8.51	9.07	H	17.58	0.057	Standard
2600.00	16QAM	5.0	-25.720	8.19	9.07	H	17.26	0.053	Standard
2687.50	QPSK	5.0	-23.440	10.34	9.21	H	19.56	0.090	Standard
2687.50	16QAM	5.0	-23.870	9.91	9.21	H	19.13	0.082	Standard

Table 6-3. Average Equivalent Isotropic Radiated Power Output Data for 5MHz WiMAX

Frequency [MHz]	Mod.	Channel Bandwidth [MHz]	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
2501.00	QPSK	10.0	-25.410	8.17	8.90	H	17.07	0.051	Standard
2501.00	16QAM	10.0	-25.830	7.75	8.90	H	16.65	0.046	Standard
2600.00	QPSK	10.0	-24.430	9.48	9.07	H	18.55	0.072	Standard
2600.00	16QAM	10.0	-24.770	9.14	9.07	H	18.21	0.066	Standard
2685.00	QPSK	10.0	-24.530	9.25	9.21	H	18.47	0.070	Standard
2685.00	16QAM	10.0	-24.980	8.80	9.21	H	18.02	0.063	Standard



Table 6-4. Average Equivalent Isotropic Radiated Power Output Data for 10MHz WiMAX

NOTES:

Equivalent Isotropic Radiated Power Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For WiMAX signals, an average broadband power meter was used to measure EIRP. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all configurations and the worst case is reported with PUSC QPSK modulation when operating with 5MHz and 10MHz bandwidth. The device was tested in all setup positions and the worst case was reported in the horizontally flat configuration. This unit was tested with its standard battery.

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6.4 5MHz WiMAX Radiated Measurements

§2.1053, §27.53(l)(4)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 2498.50 MHz
 CHANNEL: LBS
 MEASURED OUTPUT POWER: 19.56 dBm = 0.090 W
 MODULATION SIGNAL: 5MHz QPSK WiMAX
 DISTANCE: 3 meters
 LIMIT: $55 + 10 \log_{10}(W) =$ 44.56 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
4997.00	-62.11	11.20	-50.91	H	70.5
7495.50	-67.50	11.10	-56.40	H	76.0
9994.00	-67.05	12.55	-54.49	H	74.1
12492.50	-87.56	12.70	-74.86	H	94.4
14991.00	-82.83	11.64	-71.19	H	90.7



Table 6-4. Radiated Spurious Data (WiMAX Mode)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For WiMAX signals, an average detector is used, with RBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all configurations and the worst case is reported with PUSC QPSK modulation when operating with 5MHz and 10MHz bandwidth. The device was tested in all setup positions and the worst case was reported in the horizontally flat configuration. This unit was tested with its standard battery.

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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5MHz WiMAX Radiated Measurements (Cont'd)
§2.1053, §27.53(l)(4)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 2600.00 MHz
 CHANNEL: MBS
 MEASURED OUTPUT POWER: 19.56 dBm = 0.090 W
 MODULATION SIGNAL: 5MHz QPSK WiMAX
 DISTANCE: 3 meters
 LIMIT: $55 + 10 \log_{10} (W) =$ 44.56 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
5200.00	-63.05	10.91	-52.13	H	71.7
7800.00	-67.82	11.34	-56.47	H	76.0
10400.00	-67.24	12.83	-54.41	H	74.0
13000.00	-87.85	13.10	-74.75	H	94.3
15600.00	-88.95	14.98	-73.97	H	93.5



Table 6-5. Radiated Spurious Data (WiMAX Mode)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For WiMAX signals, an average detector is used, with RBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all configurations and the worst case is reported with PUSC QPSK modulation when operating with 5MHz and 10MHz bandwidth. The device was tested in all setup positions and the worst case was reported in the horizontally flat configuration. This unit was tested with its standard battery.

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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5MHz WiMAX Radiated Measurements (Cont'd)
§2.1053, §27.53(l)(4)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 2687.50 MHz
 CHANNEL: UBS
 MEASURED OUTPUT POWER: 19.56 dBm = 0.090 W
 MODULATION SIGNAL: 5MHz QPSK WiMAX
 DISTANCE: 3 meters
 LIMIT: $55 + 10 \log_{10} (W) =$ 44.56 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
5375.00	-64.24	10.68	-53.56	H	73.1
8062.50	-68.52	11.51	-57.02	H	76.6
10750.00	-69.17	13.05	-56.12	H	75.7
13437.50	-88.80	13.13	-75.68	H	95.2
16125.00	-92.32	16.17	-76.16	H	95.7



Table 6-6. Radiated Spurious Data (WiMAX Mode)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For WiMAX signals, an average detector is used, with RBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all configurations and the worst case is reported with PUSC QPSK modulation when operating with 5MHz and 10MHz bandwidth. The device was tested in all setup positions and the worst case was reported in the horizontally flat configuration. This unit was tested with its standard battery.

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.5 10MHz WiMAX Radiated Measurements

§2.1053, §27.53(l)(4)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 2501.00 MHz
 MEASURED OUTPUT POWER: 18.55 dBm = 0.072 W
 MODULATION SIGNAL: 10MHz QPSK WiMAX
 DISTANCE: 3 meters
 LIMIT: $55 + 10 \log_{10}(W) =$ 43.55 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
5002.00	-65.18	11.20	-53.98	H	72.5
7503.00	-67.52	11.10	-56.42	H	75.0
10004.00	-67.40	12.55	-54.84	H	73.4
12505.00	-87.56	12.70	-74.86	H	93.4
15006.00	-82.83	11.64	-71.19	H	89.7



Table 6-7. Radiated Spurious Data (WiMAX Mode)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For WiMAX signals, an average detector is used, with RBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all configurations and the worst case is reported with PUSC QPSK modulation when operating with 5MHz and 10MHz bandwidth. The device was tested in all setup positions and the worst case was reported in the horizontally flat configuration. This unit was tested with its standard battery.

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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10MHz WiMAX Radiated Measurements (Cont'd)
§2.1053, §27.53(l)(4)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 2600.00 MHz
 MEASURED OUTPUT POWER: 18.55 dBm = 0.072 W
 MODULATION SIGNAL: 10MHz QPSK WiMAX
 DISTANCE: 3 meters
 LIMIT: $55 + 10 \log_{10} (W) =$ 43.55 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
5200.00	-61.84	10.91	-50.92	H	69.5
7800.00	-67.85	11.34	-56.50	H	75.1
10400.00	-67.81	12.83	-54.98	H	73.5
13000.00	-87.85	13.10	-74.75	H	93.3
15600.00	-88.95	14.98	-73.97	H	92.5



Table 6-8. Radiated Spurious Data (WiMAX Mode)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For WiMAX signals, an average detector is used, with RBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all configurations and the worst case is reported with PUSC QPSK modulation when operating with 5MHz and 10MHz bandwidth. The device was tested in all setup positions and the worst case was reported in the horizontally flat configuration. This unit was tested with its standard battery.

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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10MHz WiMAX Radiated Measurements (Cont'd)
§2.1053, §27.53(l)(4)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 2685.00 MHz
 MEASURED OUTPUT POWER: 18.55 dBm = 0.072 W
 MODULATION SIGNAL: 10MHz QPSK WiMAX
 DISTANCE: 3 meters
 LIMIT: $55 + 10 \log_{10}(W) =$ 43.55 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
5370.00	-64.22	10.68	-53.54	H	72.1
8055.00	-68.98	11.51	-57.48	H	76.0
10740.00	-69.24	13.05	-56.19	H	74.7
13425.00	-88.80	13.13	-75.68	H	94.2
16110.00	-92.32	16.17	-76.16	H	94.7



Table 6-9. Radiated Spurious Data (WiMAX Mode)

NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For WiMAX signals, an average detector is used, with RBW = 1 MHz. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all configurations and the worst case is reported with PUSC QPSK modulation when operating with 5MHz and 10MHz bandwidth. The device was tested in all setup positions and the worst case was reported in the horizontally flat configuration. This unit was tested with its standard battery.

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6.6 5MHz WiMAX Frequency Stability Measurements

\$2.1055, \$27.54

OPERATING FREQUENCY: 2,600,000,000 Hz



REFERENCE VOLTAGE: 3.7 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	2,599,999,988	-12	0.000000
100 %		- 30	2,600,000,016	16	0.000001
100 %		- 20	2,600,000,010	10	0.000000
100 %		- 10	2,599,999,989	-11	0.000000
100 %		0	2,599,999,992	-8	0.000000
100 %		+ 10	2,599,999,985	-15	-0.000001
100 %		+ 20	2,599,999,988	-12	0.000000
100 %		+ 30	2,599,999,986	-14	-0.000001
100 %		+ 40	2,599,999,990	-10	0.000000
100 %		+ 50	2,599,999,983	-17	-0.000001
115 %		4.26	+ 20	2,599,999,978	-22
BATT. ENDPOINT	3.40	+ 20	2,599,999,976	-24	-0.000001

Table 6-7. Frequency Stability Data (WiMAX Mode)

Note:

The frequency deviation was measured to ensure that the channels emissions remained within the authorized band with varying temperature and voltage.

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5MHz WiMAX Frequency Stability Measurements (Cont'd)
§2.1055, §27.54

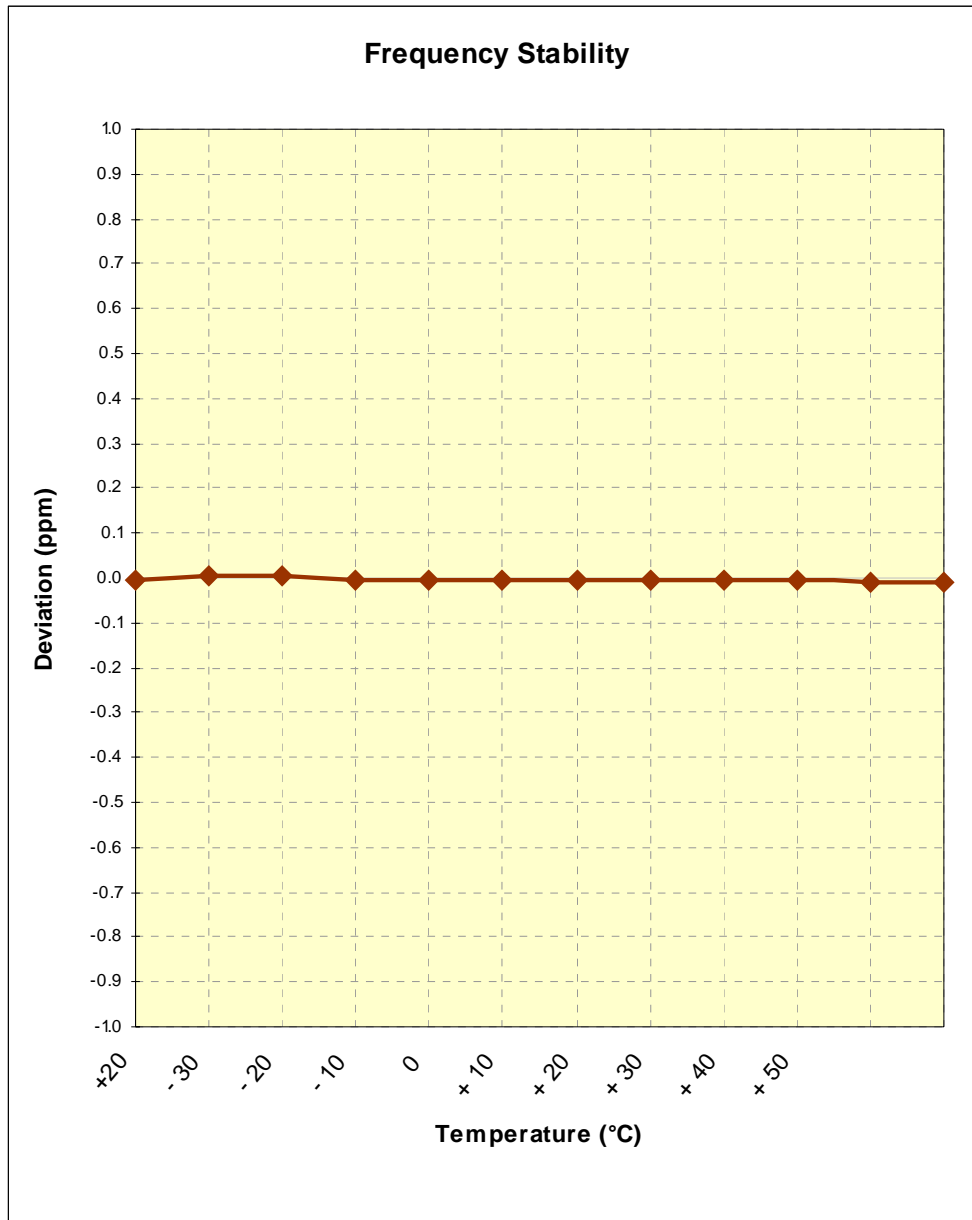




Figure 6-2. Frequency Stability Graph (WiMAX Mode)

Note:

The frequency deviation was measured to ensure that the channels emissions remained within the authorized band with varying temperature and voltage.

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.7 10MHz WiMAX Frequency Stability Measurements

\$2.1055, \$27.54

OPERATING FREQUENCY: 2,600,000,000 Hz



REFERENCE VOLTAGE: 3.7 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	2,599,999,984	-16	-0.000001
100 %		- 30	2,600,000,012	12	0.000000
100 %		- 20	2,600,000,010	10	0.000000
100 %		- 10	2,599,999,986	-14	-0.000001
100 %		0	2,600,000,017	17	0.000001
100 %		+ 10	2,599,999,982	-18	-0.000001
100 %		+ 20	2,599,999,984	-16	-0.000001
100 %		+ 30	2,600,000,010	10	0.000000
100 %		+ 40	2,599,999,986	-14	-0.000001
100 %		+ 50	2,599,999,982	-18	-0.000001
115 %		4.26	+ 20	2,599,999,981	-19
BATT. ENDPOINT	3.40	+ 20	2,599,999,979	-21	-0.000001

Table 6-8. Frequency Stability Data (WiMAX Mode)

Note:

The frequency deviation was measured to ensure that the channels emissions remained within the authorized band with varying temperature and voltage.

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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10MHz WiMAX Frequency Stability Measurements (Cont'd)
§2.1055, §27.54

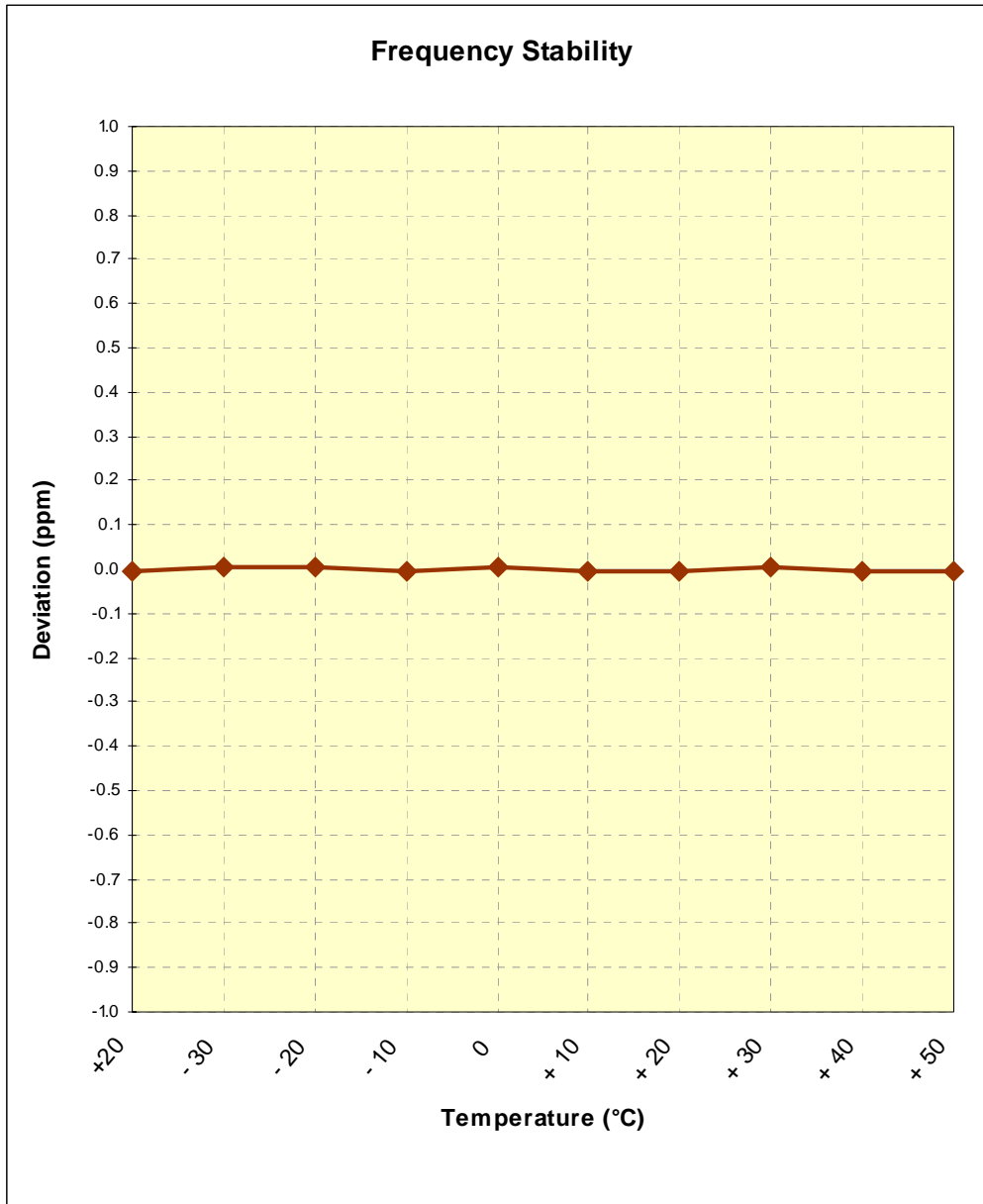




Figure 6-3. Frequency Stability Graph (WiMAX Mode)

Note:

The frequency deviation was measured to ensure that the channels emissions remained within the authorized band with varying temperature and voltage.

FCC ID: A3LSPHD600		<p align="center">FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)</p> 	Reviewed by: Quality Manager
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6.8 Receiver Spurious Emissions

RSS-199 (4.6)

Frequency [MHz]	Level [dBm]	AFCL [dB]	Pol [H/V]	Height [m]	Azimuth [degrees]	Field Strength [dB μ V/m]	Limit [dB μ V/m]	Margin [dB]
47.31	-89.18	10.59	V	1.4	135	28.41	40.00	-11.59
86.50	-95.63	11.11	H	1.2	240	22.48	40.00	-17.52
198.70	-95.35	14.56	V	1.3	165	26.21	43.52	-17.31
265.40	-95.22	14.70	H	1.2	10	26.48	46.02	-19.54
316.89	-96.47	16.69	V	1.4	160	27.22	46.02	-18.80
447.30	-96.56	19.78	V	1.4	235	30.21	46.02	-15.81

Table 6-9. Radiated Measurements at 3-meters

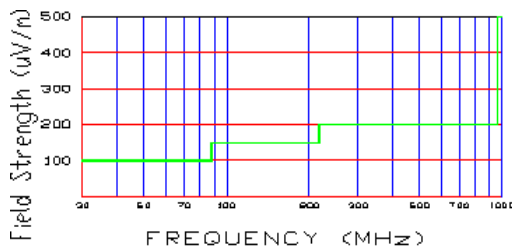




Figure 6-4. 3-Meter Limits

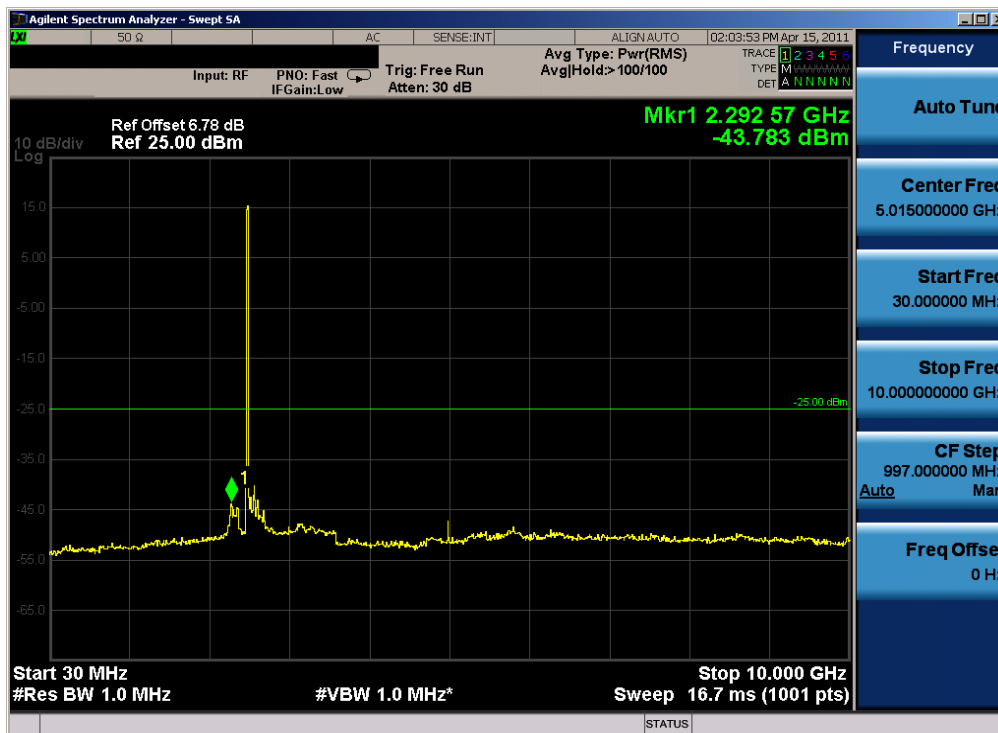
NOTES:

1. All modes of operation were investigated and the worst-case emissions are reported.
2. The EUT was set to receive mode in the middle channel of operation.
3. Radiated emissions were measured from 30MHz to three times that of the highest tunable frequency or local oscillator.
4. The radiated limits are shown on Figure 6-4. Above 960MHz the limit is 500 μ V/m.

1. All readings are calibrated by a Signal Generator with accuracy traceable to the National Institute of Standards and Technology (NIST).
2. AFCL = Antenna Factor and Cable Loss
3. Measurements are made using CISPR quasi-peak mode. Average measurements are recorded above 1GHz.

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7.0 PLOT(S) OF EMISSIONS – 5MHZ WIMAX

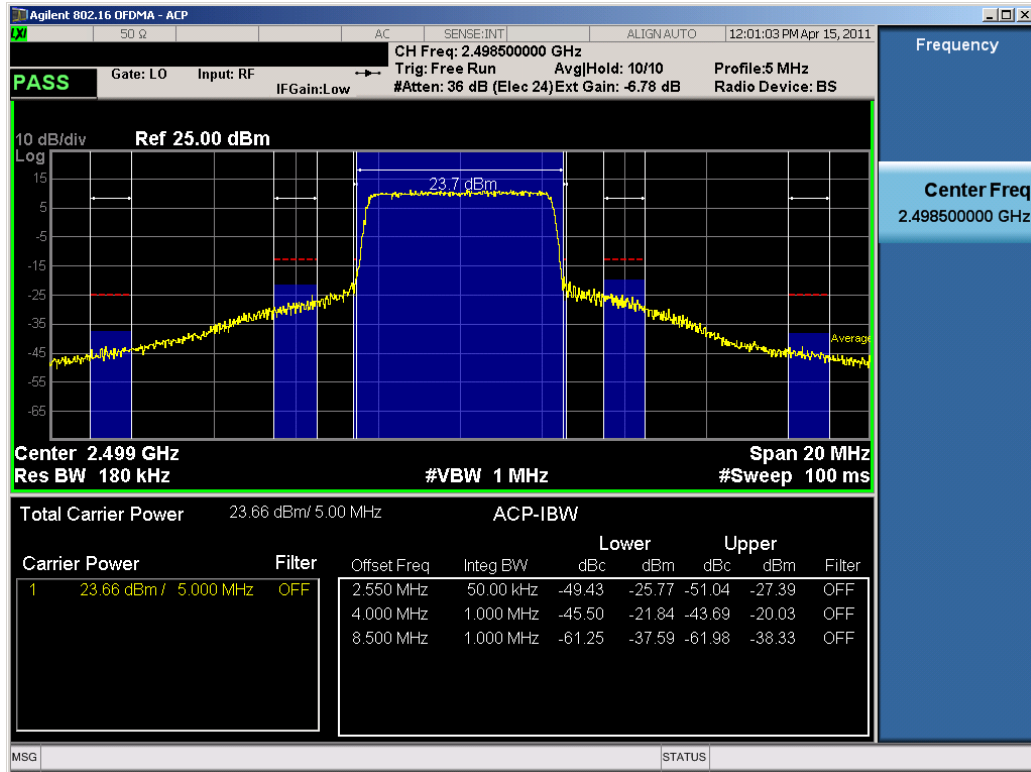


Plot 7-1. Conducted Spurious Plot (WiMAX – Low Channel)

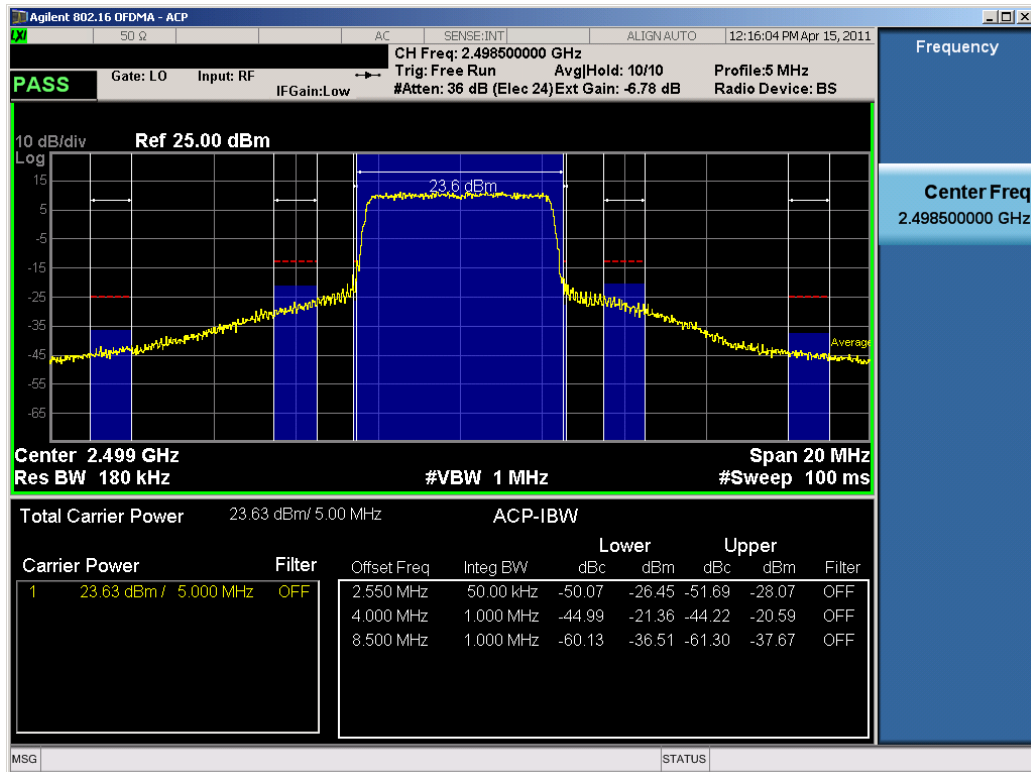


Plot 7-2. Conducted Spurious Plot (WiMAX – Low Channel)

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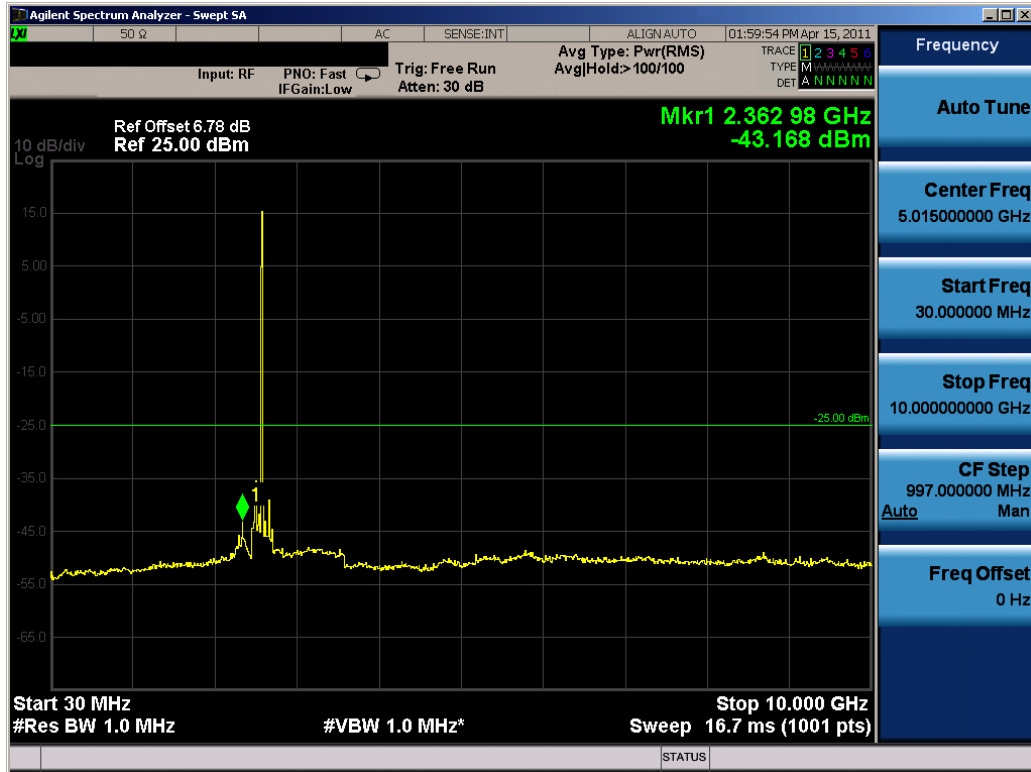


Plot 7-3. Adjacent Channel Power Plot (WiMAX PUSC QPSK – Low Channel)



Plot 7-4. Adjacent Channel Power Plot (WiMAX PUSC 16-QAM – Low Channel)

FCC ID: A3LSPHD600	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 26 of 39

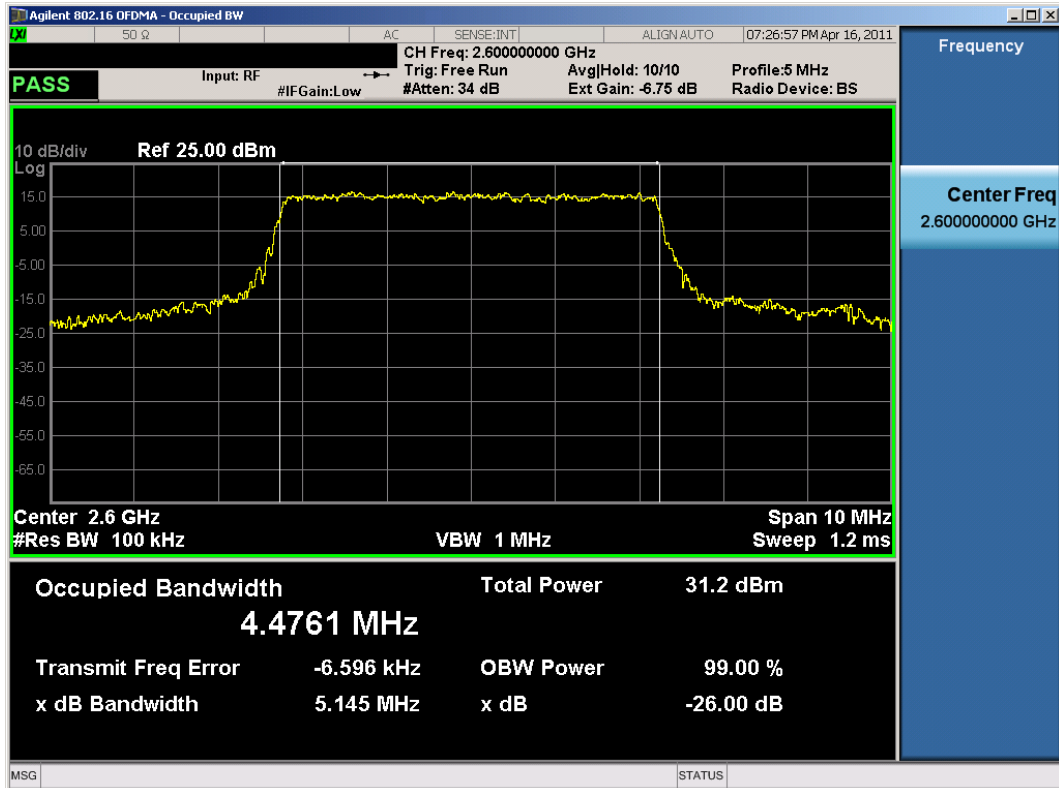


Plot 7-5. Conducted Spurious Plot (WiMAX – Mid Channel)



Plot 7-6. Conducted Spurious Plot (WiMAX – Mid Channel)

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 27 of 39

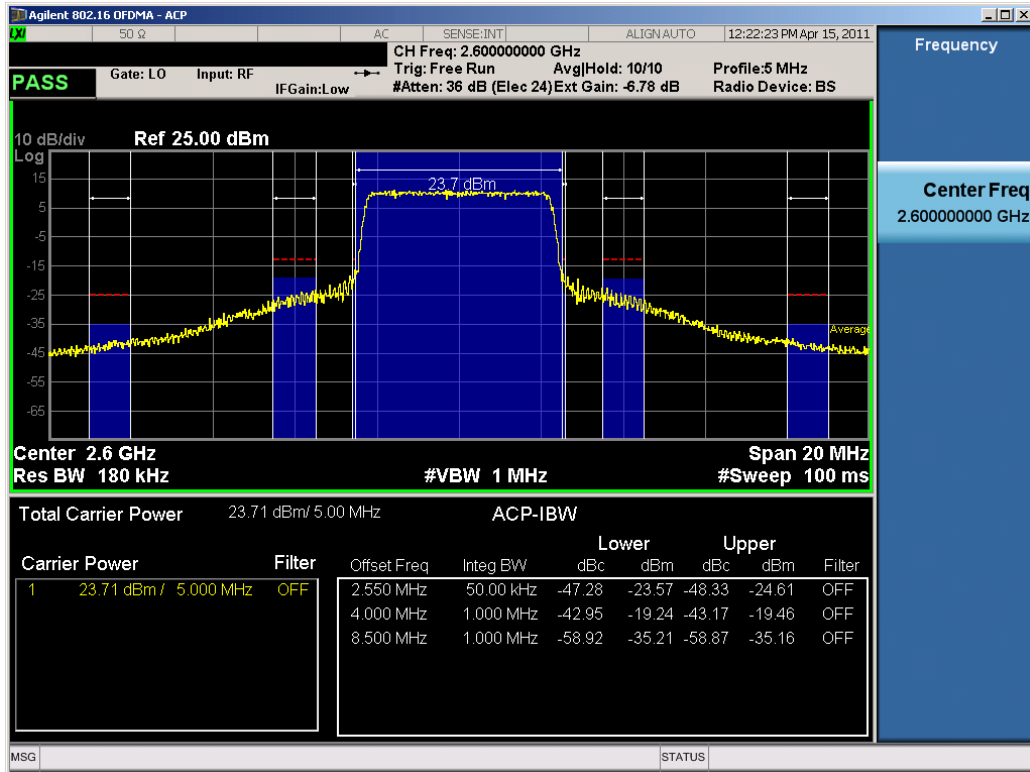


Plot 7-7. Occupied Bandwidth Plot (WiMAX QPSK – Mid Channel)

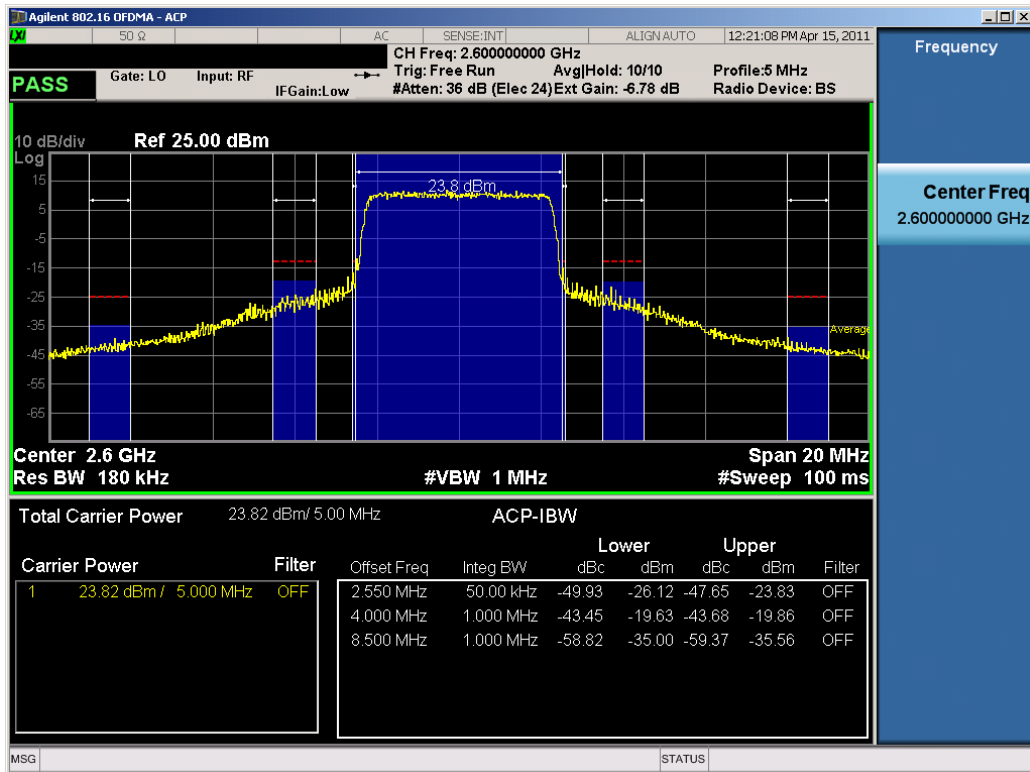


Plot 7-8. Occupied Bandwidth Plot (WiMAX 16-QAM – Mid Channel)

FCC ID: A3LSPHD600	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 28 of 39

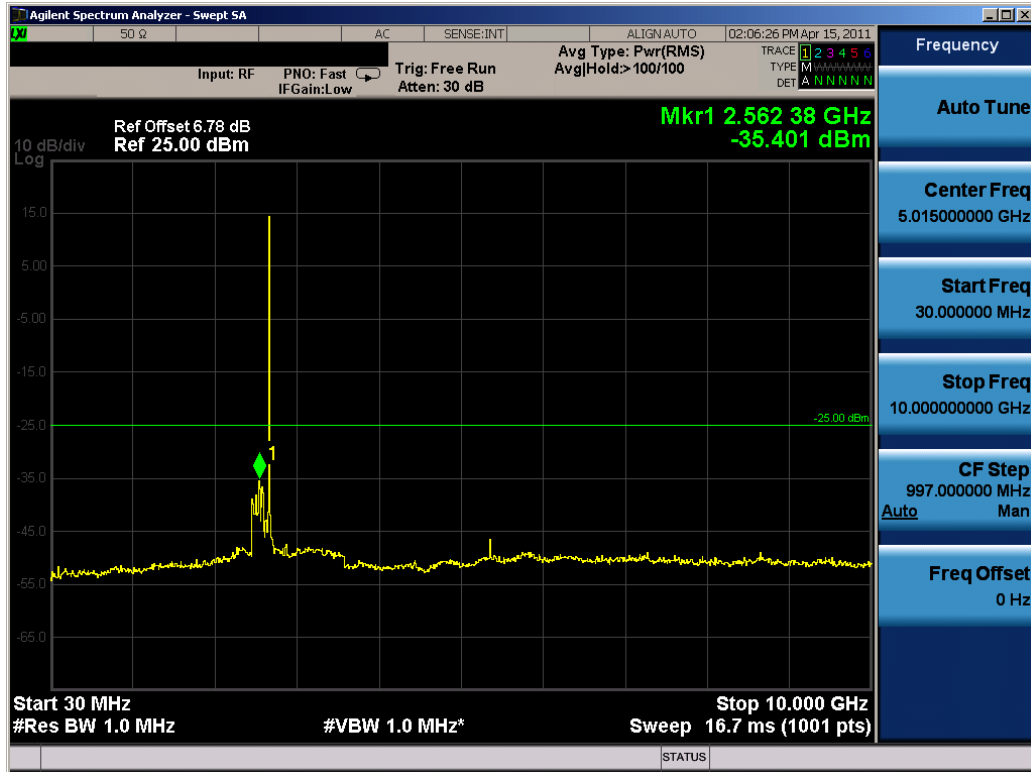


Plot 7-9. Adjacent Channel Power Plot (WiMAX PUSC QPSK – Mid Channel)



Plot 7-10. Adjacent Channel Power Plot (WiMAX PUSC 16-QAM – Mid Channel)



FCC ID: A3LSPHD600	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 29 of 39

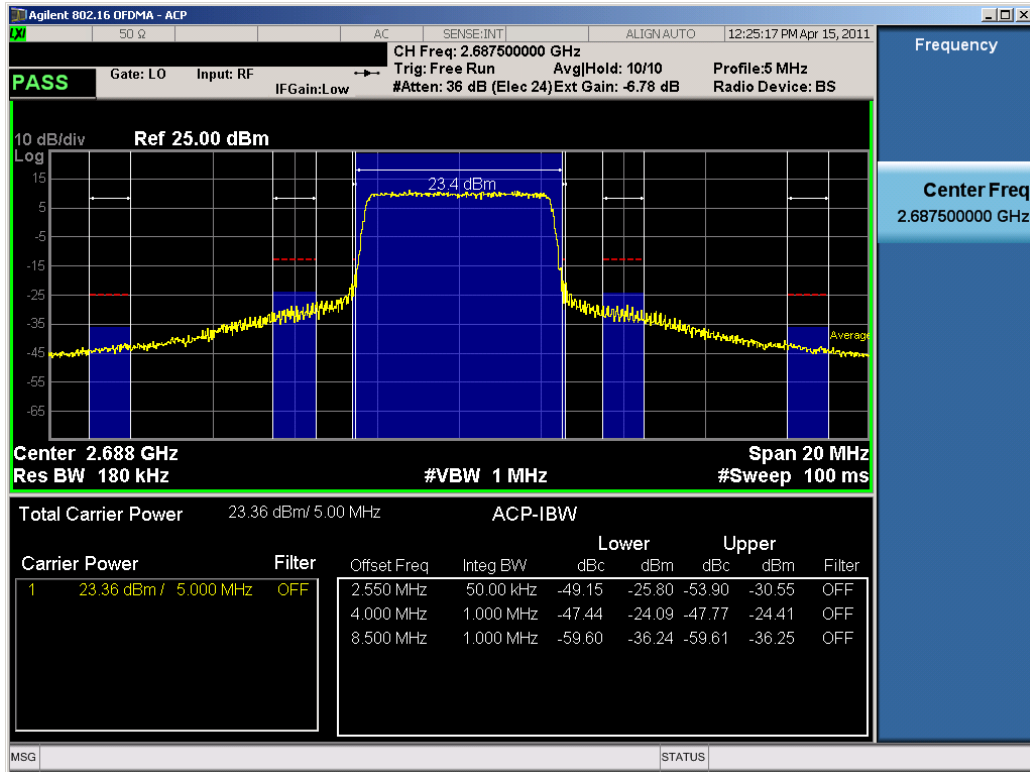


Plot 7-11. Conducted Spurious Plot (WiMAX – High Channel)

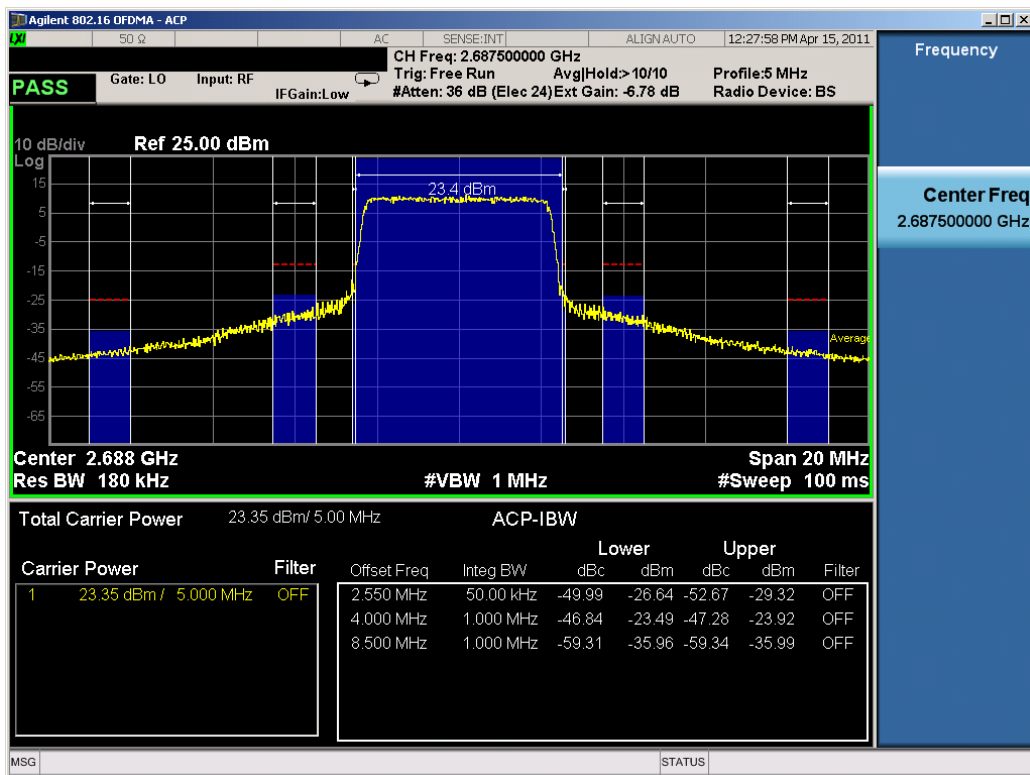


Plot 7-12. Conducted Spurious Plot (WiMAX – High Channel)

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 30 of 39



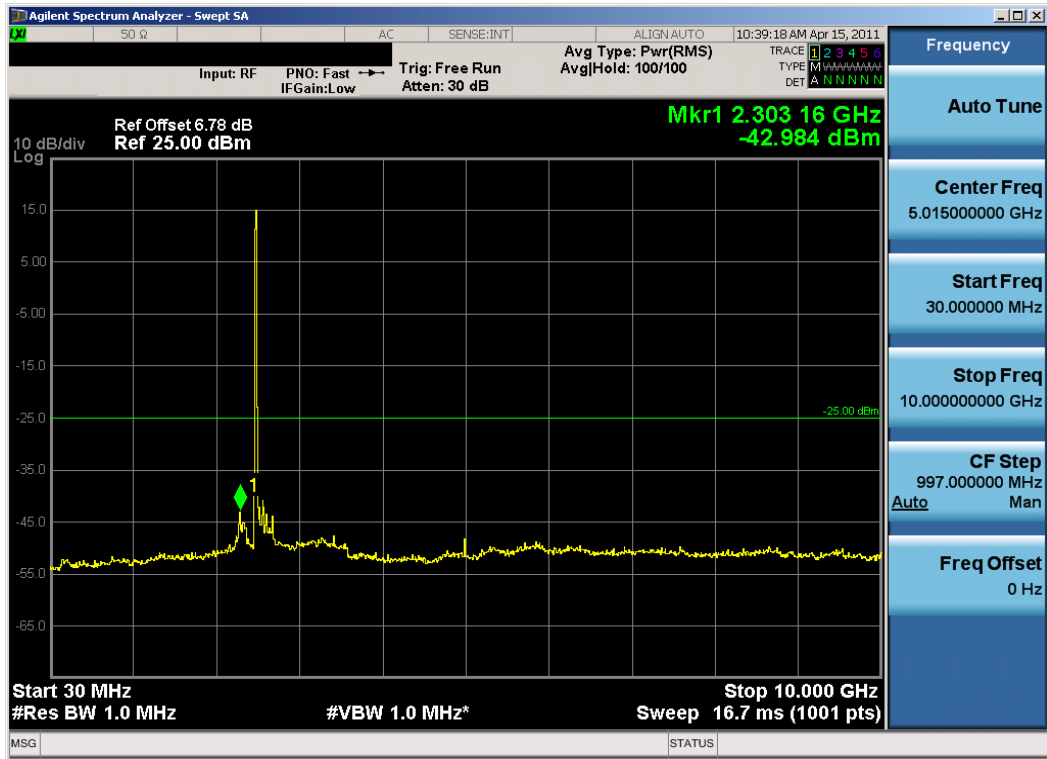
Plot 7-13. Adjacent Channel Power Plot (WiMAX PUSC QPSK – High Channel)



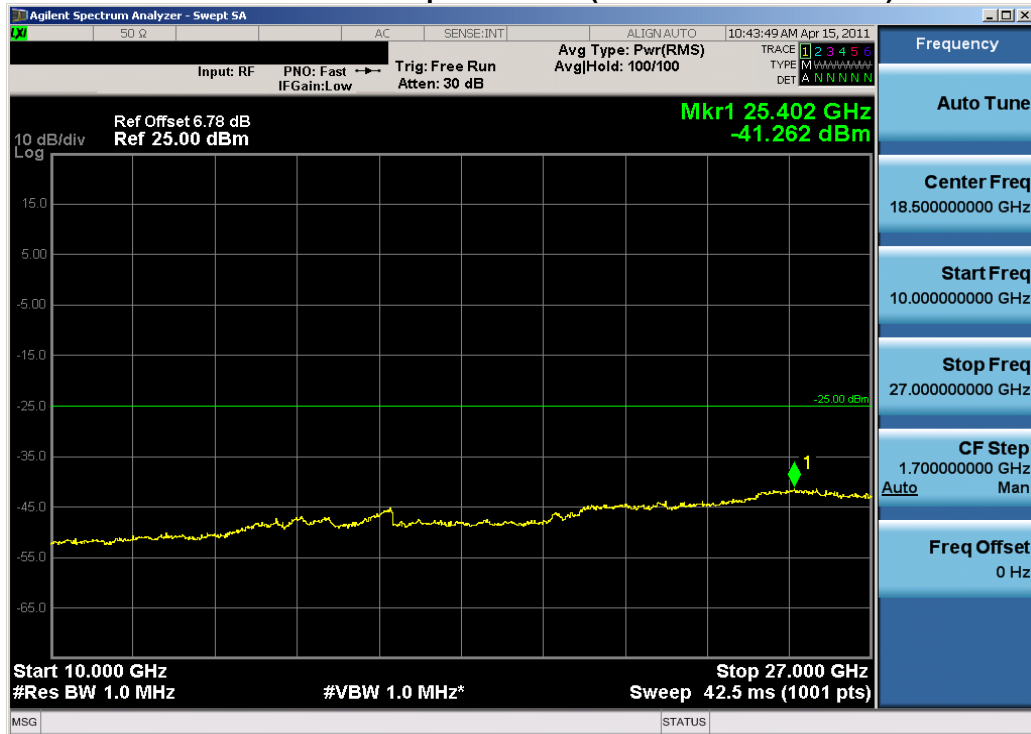
Plot 7-14. Adjacent Channel Power Plot (WiMAX PUSC 16-QAM – High Channel)

FCC ID: A3LSPHD600	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 31 of 39

8.0 PLOT(S) OF EMISSIONS – 10MHZ WiMAX

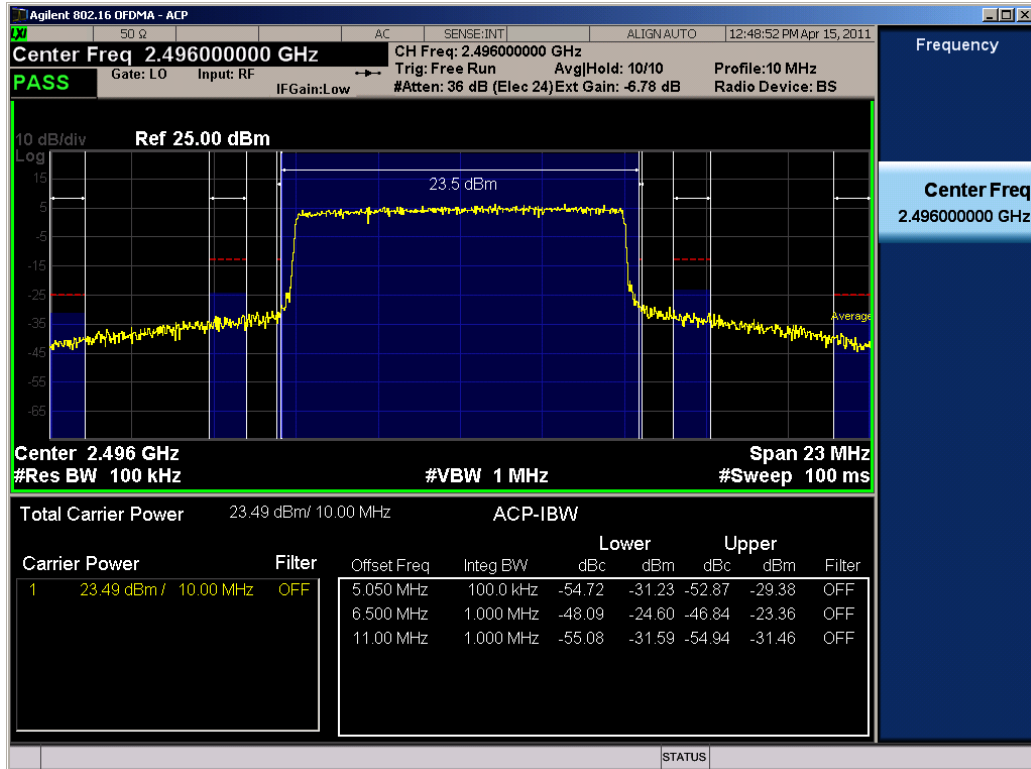


Plot 8-1. Conducted Spurious Plot (WiMAX – Low Channel)

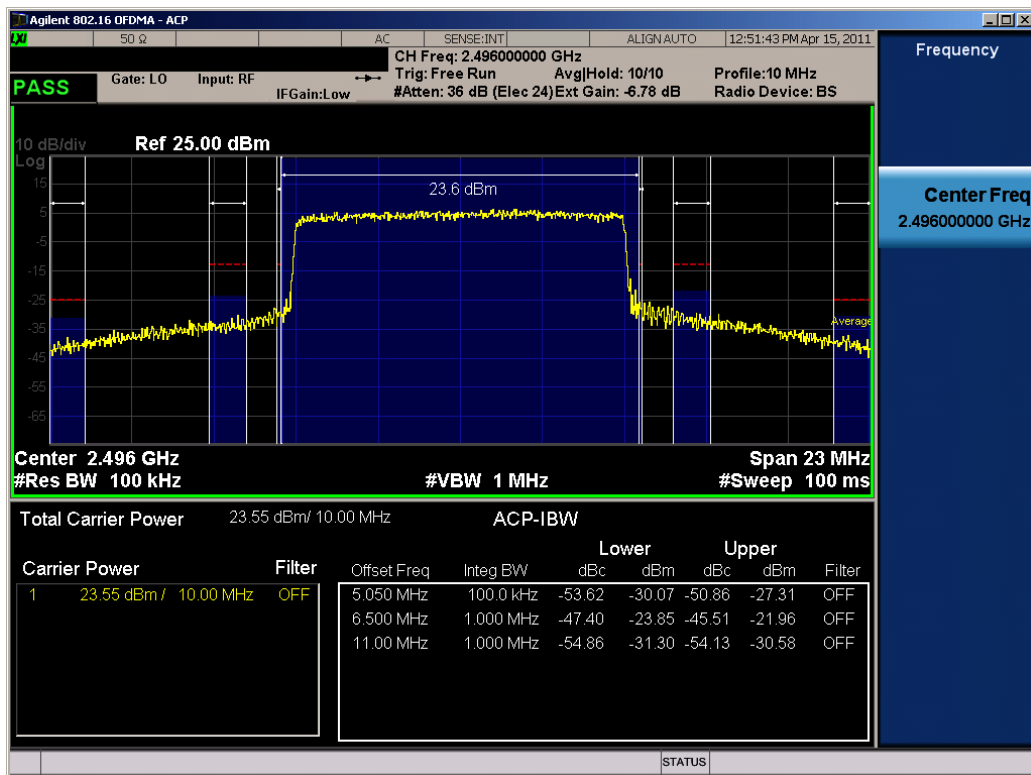


Plot 8-2. Conducted Spurious Plot (WiMAX – Low Channel)

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 32 of 39

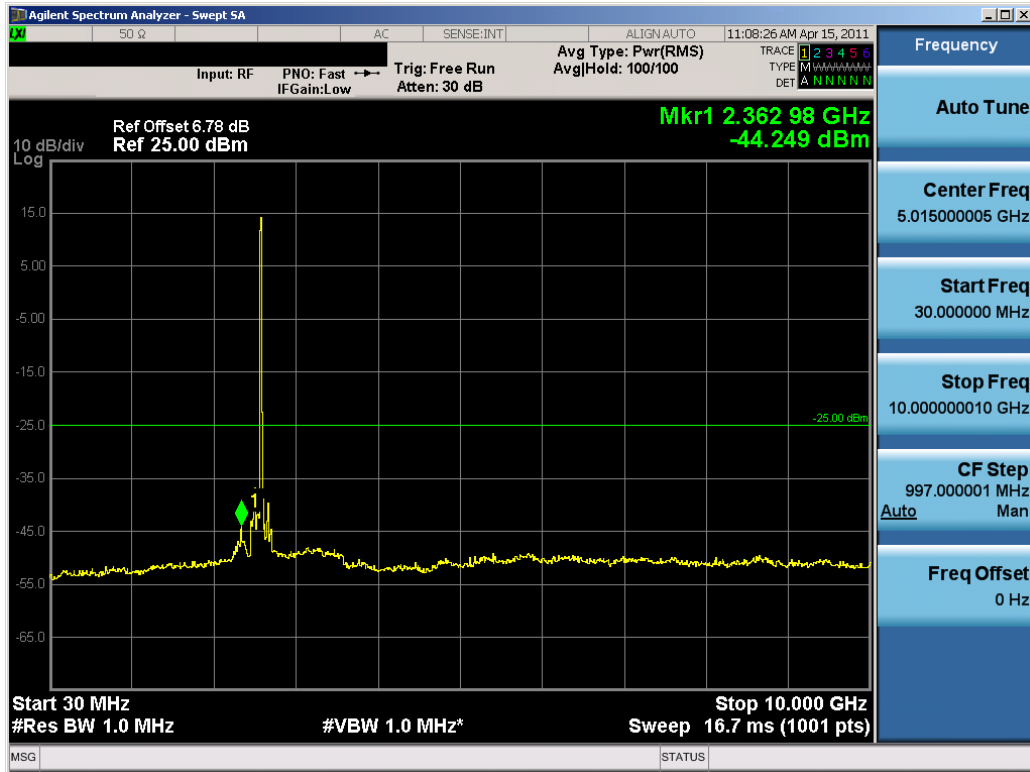


Plot 8-3. Adjacent Channel Power Plot (WiMAX PUSC QPSK – Low Channel)

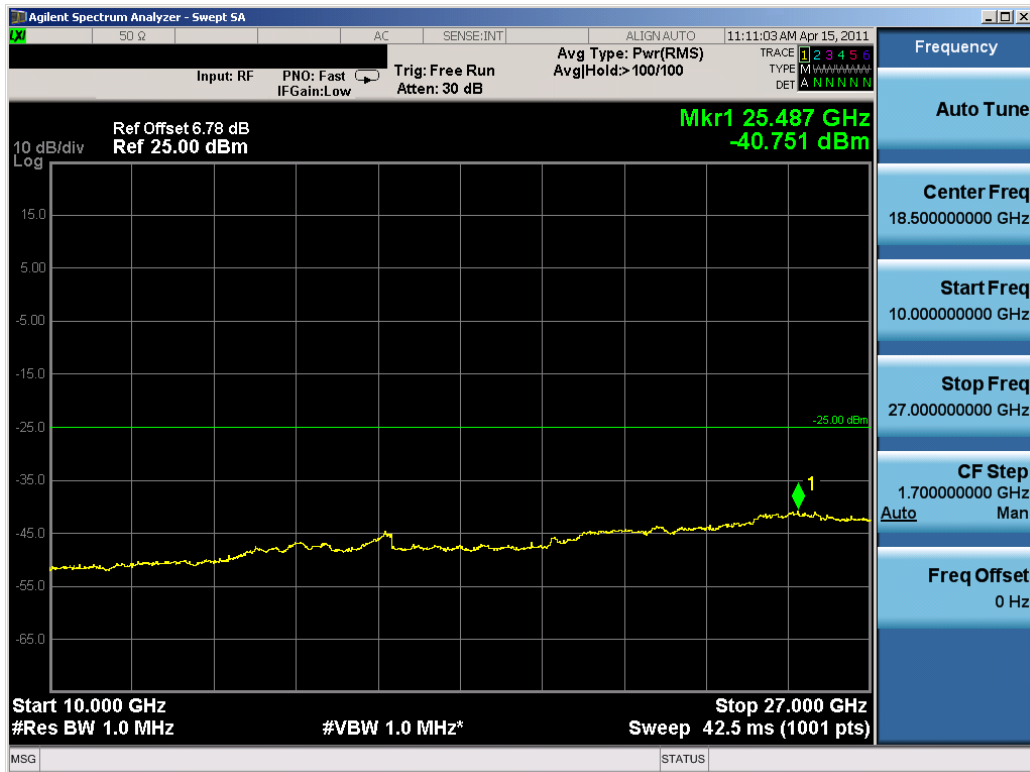


Plot 8-4. Adjacent Channel Power Plot (WiMAX PUSC 16-QAM – Low Channel)

FCC ID: A3LSPHD600	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 33 of 39

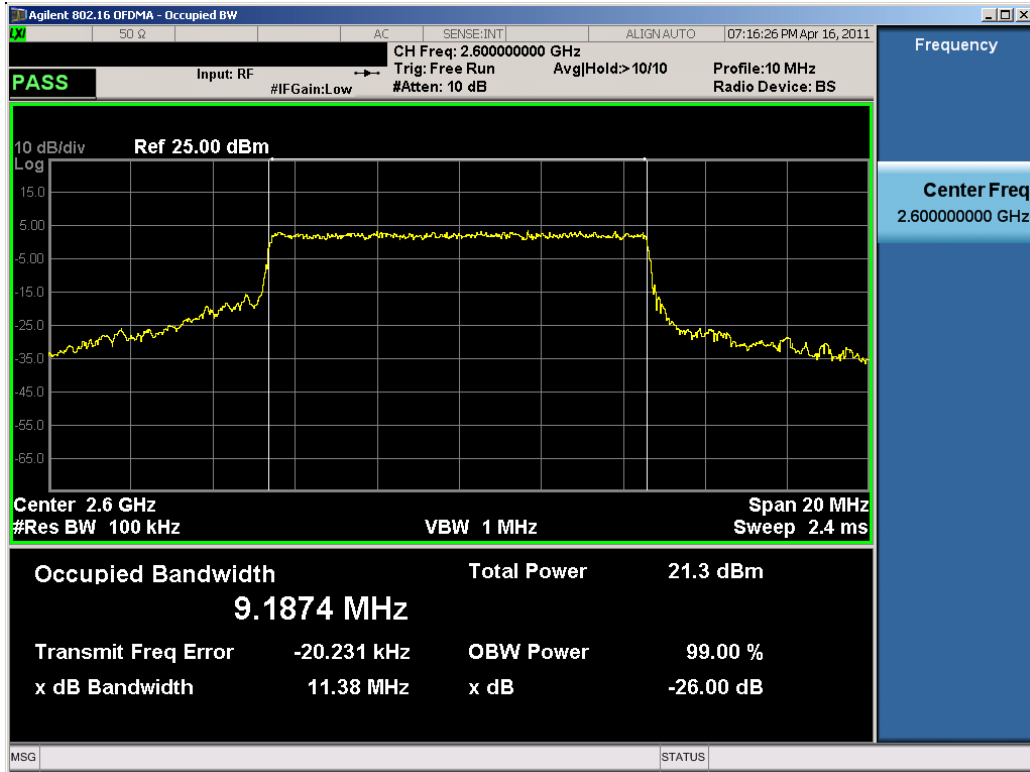


Plot 8-5. Conducted Spurious Plot (WiMAX – Mid Channel)

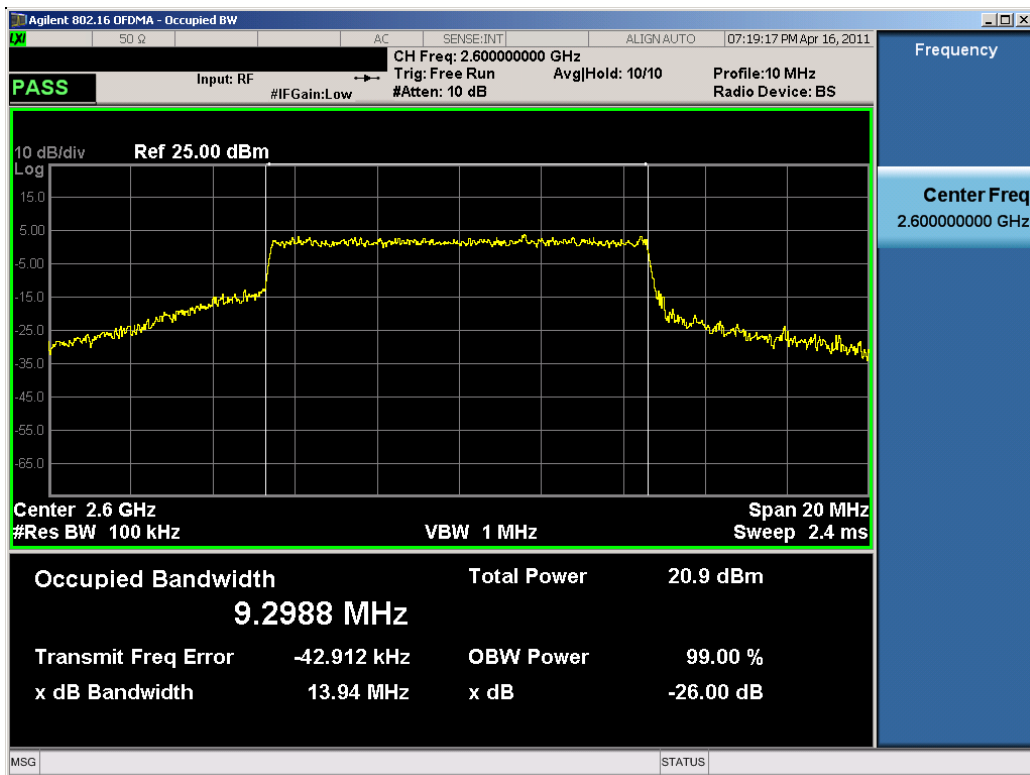


Plot 8-6. Conducted Spurious Plot (WiMAX – Mid Channel)

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 34 of 39

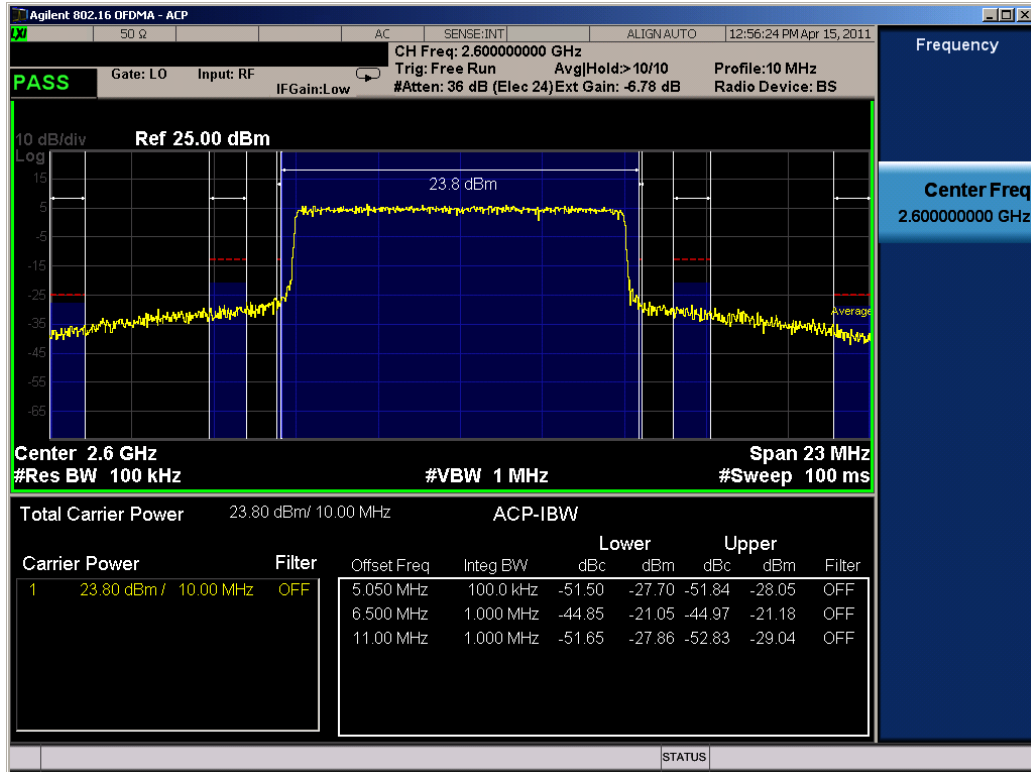


Plot 8-7. Occupied Bandwidth Plot (WiMAX QPSK – Mid Channel)

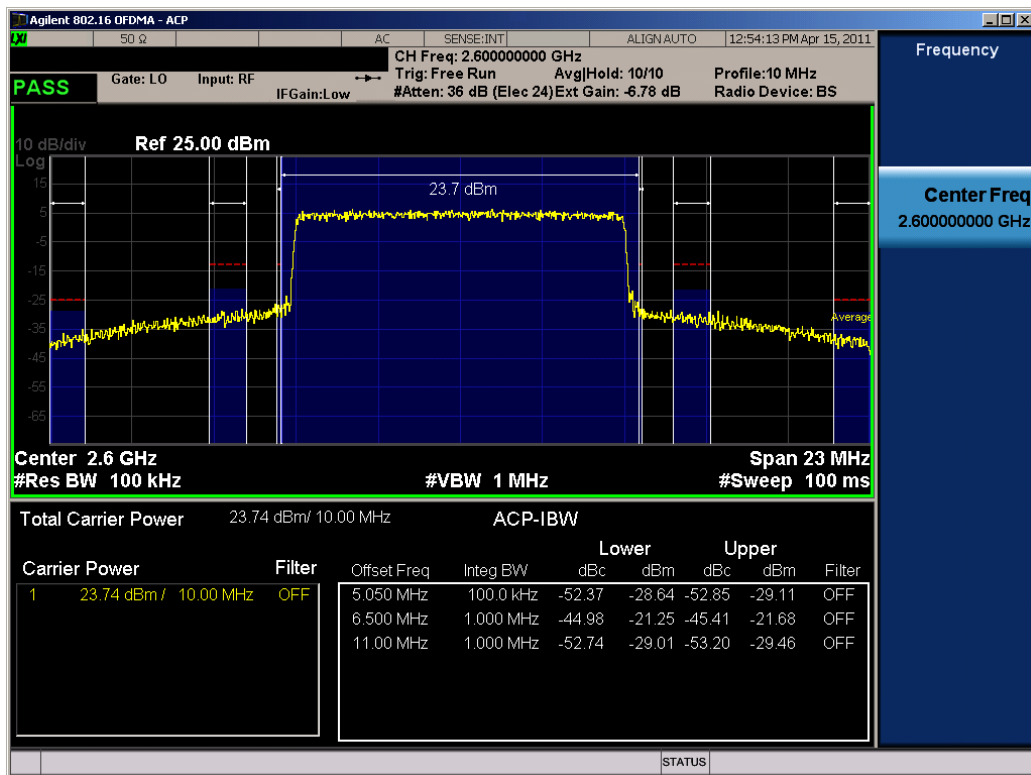


Plot 8-8. Occupied Bandwidth Plot (WiMAX 16-QAM – Mid Channel)

FCC ID: A3LSPHD600	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14	Page 35 of 39	

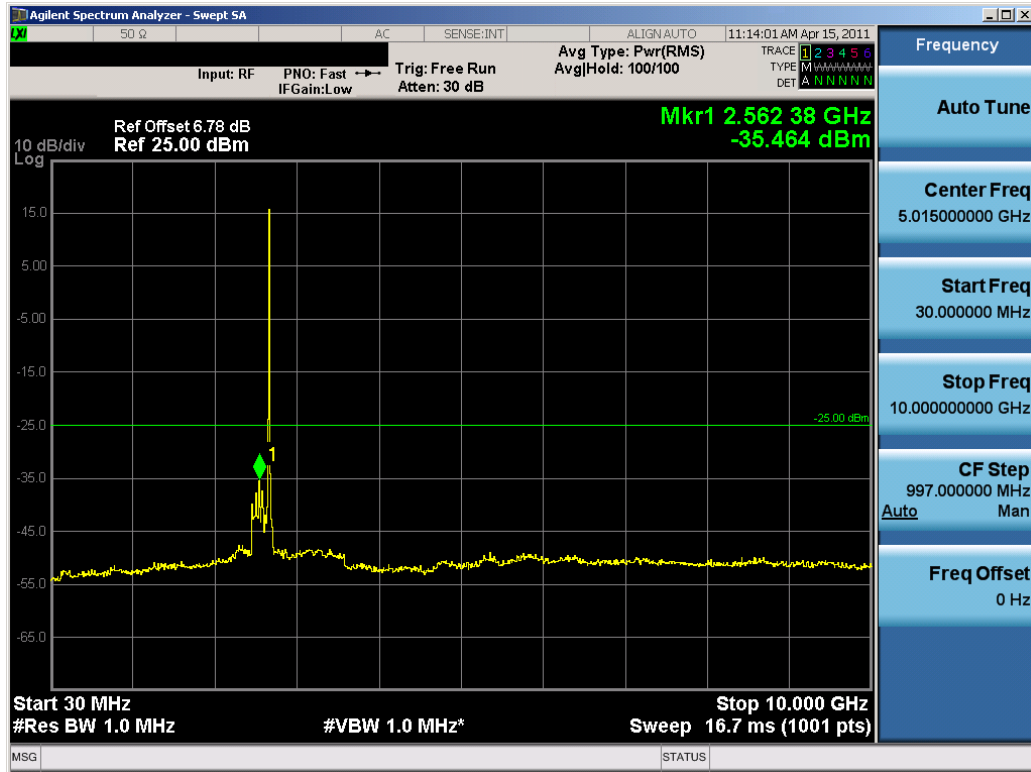


Plot 8-9. Adjacent Channel Power Plot (WiMAX PUSC QPSK – Mid Channel)



Plot 8-10. Adjacent Channel Power Plot (WiMAX PUSC 16-QAM – Mid Channel)

FCC ID: A3LSPHD600	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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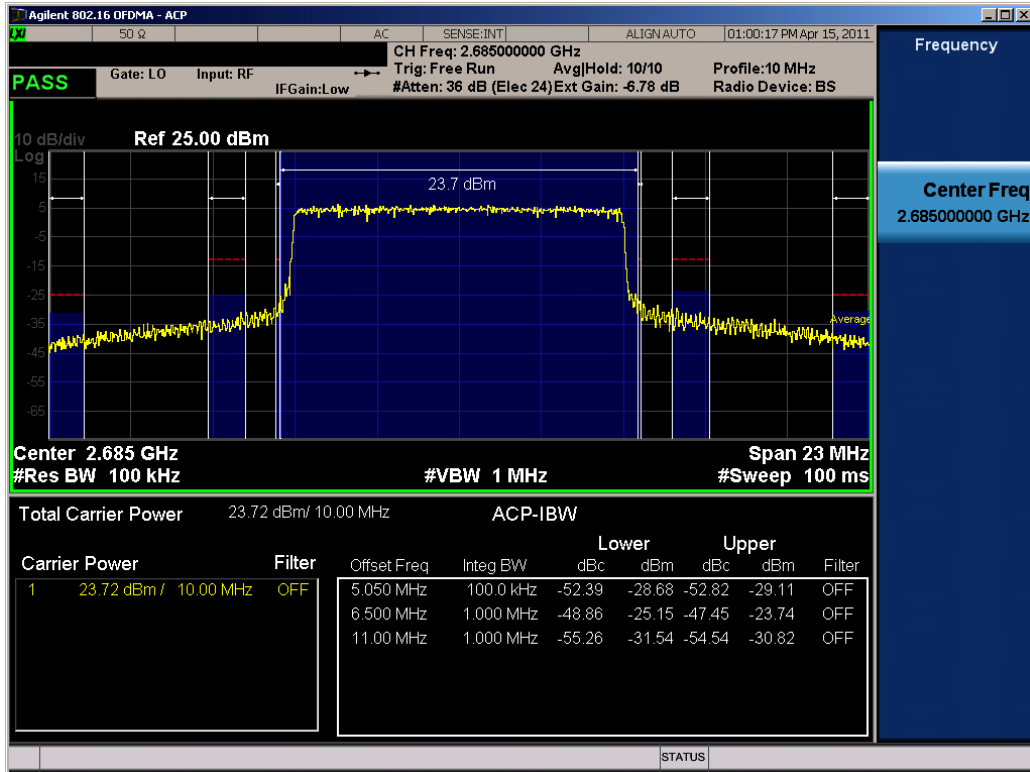


Plot 8-11. Conducted Spurious Plot (WiMAX – High Channel)

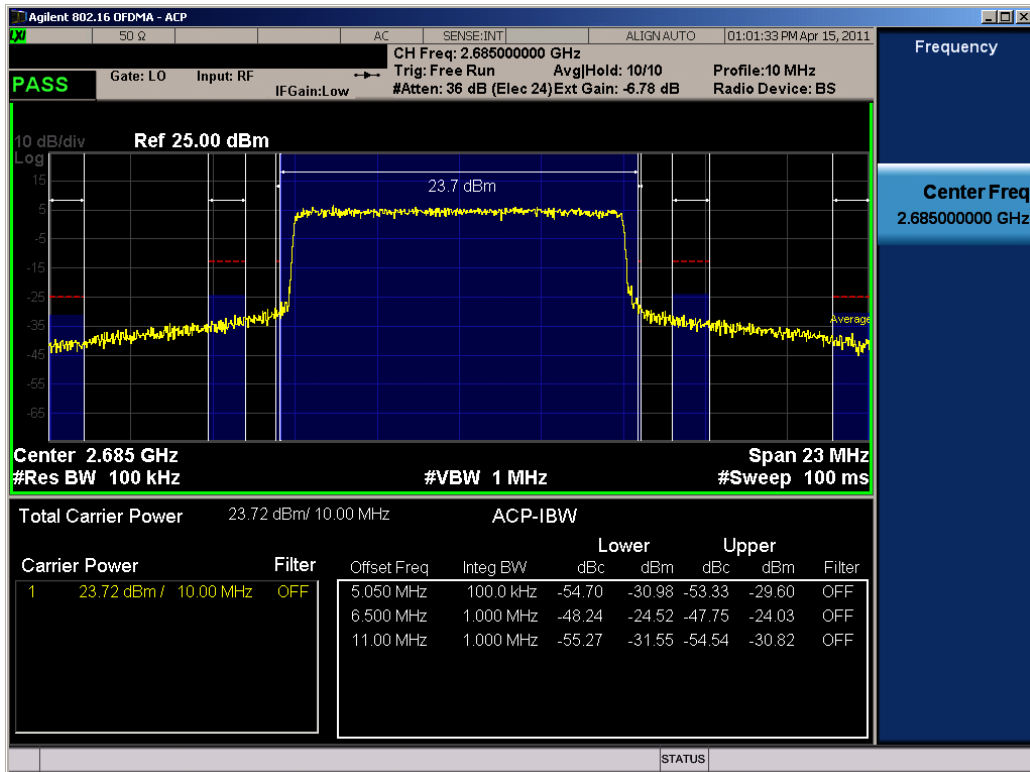


Plot 8-12. Conducted Spurious Plot (WiMAX – High Channel)

FCC ID: A3LSPHD600	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 37 of 39



Plot 8-13. Adjacent Channel Power Plot (WiMAX PUSC QPSK – High Channel)





Plot 8-14. Adjacent Channel Power Plot (WiMAX PUSC 16-QAM – High Channel)

FCC ID: A3LSPHD600	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14		Page 38 of 39

9.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14 FCC ID: A3LSPHD600** complies with all the requirements of Parts 2 and 27 of the FCC rules.

FCC ID: A3LSPHD600		FCC Pt. 27 WiMAX MEASUREMENT REPORT (CERTIFICATION)	 Reviewed by: Quality Manager
Test Report S/N: 0Y1104120695.A3L	Test Date: April 16, 2011	EUT Type: Cellular/PCS CDMA/EvDO Phone with BT, WLAN, WiMAX, BC10 and BC14	Page 39 of 39