



PCTEST ENGINEERING LABORATORY, INC.

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MEASUREMENT REPORT

FCC Part 22, 24 & 27 LTE

Applicant Name:

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

Date of Testing:

10/26 - 11/03/2011

Test Site/Location:

PCTEST Lab., Columbia, MD, USA

Test Report Serial No.:

0Y1110251871.A3L

FCC ID : A3LSCHR930

APPLICANT: SAMSUNG ELECTRONICS, CO. LTD.

Application Type:

Certification

FCC Classification:

PCS Licensed Transmitter Held to Ear (PCE)

FCC Rule Part(s):

§2; §22; §24; §27

EUT Type:

Portable Handset

Model(s):

SCH-R930

Test Device Serial No.:

identical prototype [S/N: 99000023047485, 99000023047483]

Mode	BW (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	ERP/EIRP	
					Max. Power (W)	Max. Power (dBm)
LTE Band 12	5	701.5 - 713.5	4M47G7D	QPSK	0.020	12.94
LTE Band 12	5	701.5 - 713.5	4M47W7D	16-QAM	0.017	12.27
LTE Band 12	10	703 - 711	8M95G7D	QPSK	0.014	11.59
LTE Band 12	10	703 - 711	8M96W7D	16-QAM	0.011	10.42
LTE Band 5	1.4	824.7 - 848.3	1M10G7D	QPSK	0.078	18.91
LTE Band 5	1.4	824.7 - 848.3	1M10W7D	16-QAM	0.060	17.80
LTE Band 5	3	825.5 - 847.5	2M71G7D	QPSK	0.033	15.18
LTE Band 5	3	825.5 - 847.5	2M70W7D	16-QAM	0.027	14.37
LTE Band 5	5	826.5 - 846.5	4M47G7D	QPSK	0.035	15.41
LTE Band 5	5	826.5 - 846.5	4M48W7D	16-QAM	0.028	14.42
LTE Band 4	5	1712.5 - 1752.5	4M46G7D	QPSK	0.255	24.07
LTE Band 4	5	1712.5 - 1752.5	4M46W7D	16-QAM	0.187	22.73
LTE Band 4	10	1715 - 1750	8M94G7D	QPSK	0.243	23.85
LTE Band 4	10	1715 - 1750	8M93W7D	16-QAM	0.184	22.65
LTE Band 2	1.4	1850.7 - 1909.3	1M10G7D	QPSK	0.085	19.31
LTE Band 2	1.4	1850.7 - 1909.3	1M10W7D	16-QAM	0.068	18.30
LTE Band 2	3	1851.5 - 1908.5	2M71G7D	QPSK	0.089	19.51
LTE Band 2	3	1851.5 - 1908.5	2M71W7D	16-QAM	0.071	18.52
LTE Band 2	5	1852.5 - 1907.5	4M47G7D	QPSK	0.103	20.11
LTE Band 2	5	1852.5 - 1907.5	4M47W7D	16-QAM	0.077	18.88

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. 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.

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

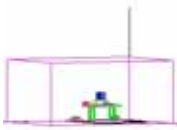


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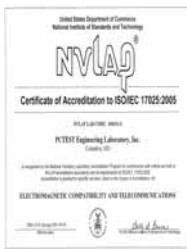


§2.1033 General Information

APPLICANT: Samsung Electronics, Co. Ltd.
APPLICANT ADDRESS: 18600 Broadwick St.
 Rancho Dominguez, CA 90220, United States
TEST SITE: PCTEST ENGINEERING LABORATORY, INC.
TEST SITE ADDRESS: 6660-B Dobbin Road, Columbia, MD 21045 USA
FCC RULE PART(S): §2; §22; §24; §27
BASE MODEL: SCH-R930
FCC ID: A3LSCHR930
FCC CLASSIFICATION: PCS Licensed Transmitter Held to Ear (PCE)
FREQUENCY TOLERANCE: $\pm 0.00025\%$ (2.5 ppm)
Test Device Serial No.: 99000023047485, ☐ Production ☒ Pre-Production ☐ Engineering
 99000023047483
DATE(S) OF TEST: 10/26 - 11/03/2011
TEST REPORT S/N: 0Y1110251871.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.

1.2 Testing Facility

The map below shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity, the Baltimore-Washington Intern't'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.

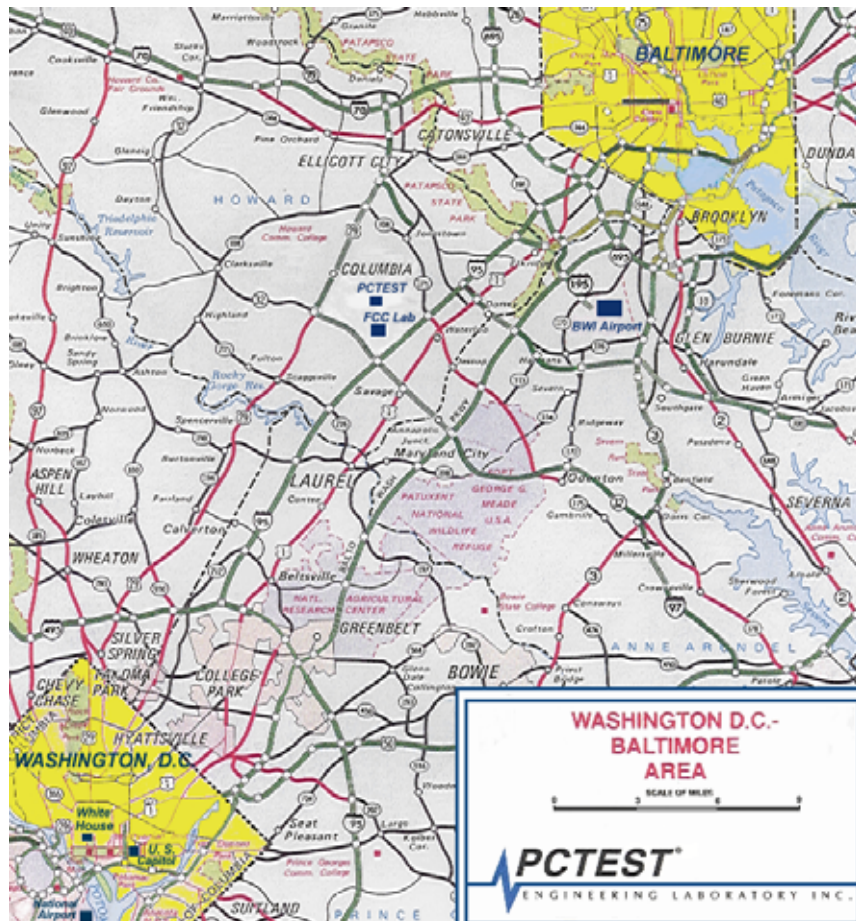


Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSCHR930**. The test data contained in this report pertains only to the emissions due to the EUT's LTE function. The EUT consisted of the following component(s):

Trade Name / Base Model	FCC ID	Description
Samsung / Model: SCH-R930	A3LSCHR930	Portable Handset

Table 2-1. EUT Equipment Description

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 CDMA/EvDO (BC0, BC1), Band 2, 4, 5, 12 LTE, 802.11b/g/n WLAN, Bluetooth

2.3 EMI Suppression Device(s)/Modifications

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

2.4 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.

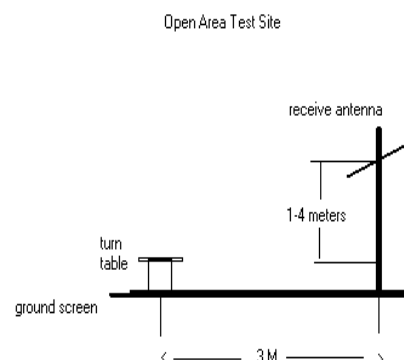


Figure 3-1. Diagram of 3-meter outdoor test range

Deviation from Measurement Procedure.....None

3.2 Occupied Bandwidth Emission Limits

§2.1049, §27.53(g)(1), §27.53(l)(6), RSS-Gen (4.6.1)

- On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log(P)$ dB.
- Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

3.3 Block A Frequency Range

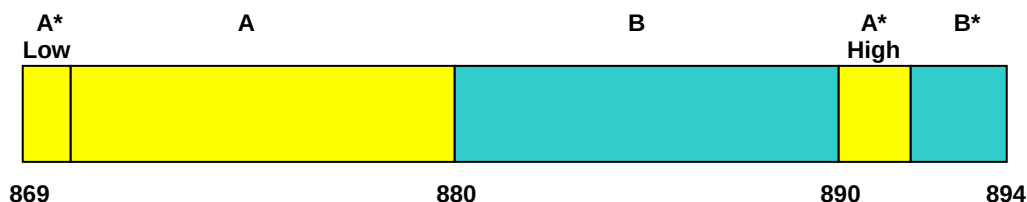
§27.5(c)

698-746 MHz band. The following frequencies are available for licensing pursuant to this part in the 698-746 MHz band: (1) Three paired channel blocks of 12 megahertz each are available for assignment as follows:

Block A: 698-704 MHz and 728-734 MHz;
 Block B: 704-710 MHz and 734-740 MHz; and
 Block C: 710-716 MHz and 740-746 MHz.

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3.4 Cellular - Base Frequency Blocks



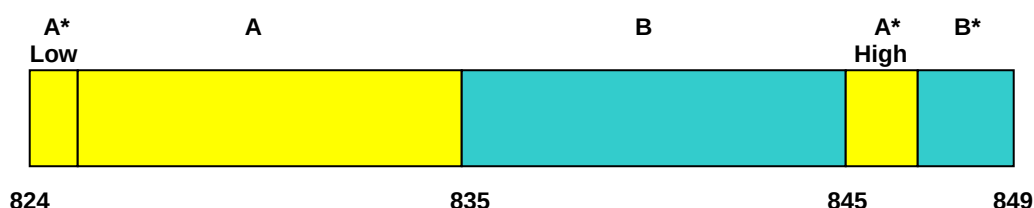
BLOCK 1: 869 – 880 MHz (A* Low + A)

BLOCK 3: 890 – 891.5 MHz (A* High)

BLOCK 2: 880 – 890 MHz (B)

BLOCK 4: 891.5 – 894 MHz (B*)

3.5 Cellular - Mobile Frequency Blocks



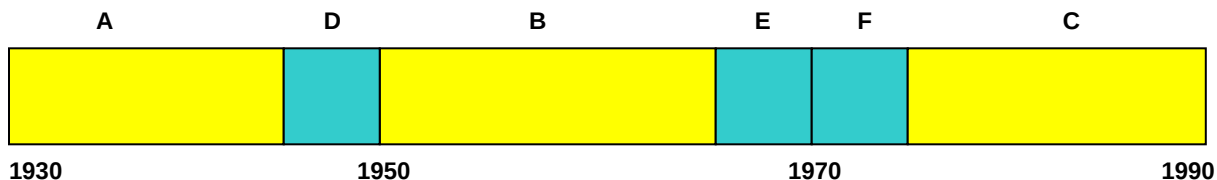
BLOCK 1: 824 – 835 MHz (A* Low + A)

BLOCK 3: 845 – 846.5 MHz (A* High)

BLOCK 2: 835 – 845 MHz (B)

BLOCK 4: 846.5 – 849 MHz (B*)

3.6 PCS - Base Frequency Blocks



BLOCK 1: 1930 – 1945 MHz (A)

BLOCK 4: 1965 – 1970 MHz (E)

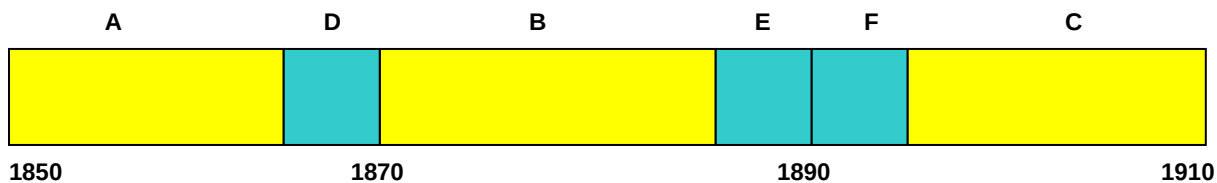
BLOCK 2: 1945 – 1950 MHz (D)

BLOCK 5: 1970 – 1975 MHz (F)

BLOCK 3: 1950 – 1965 MHz (B)

BLOCK 6: 1975 – 1990 MHz (C)

3.7 PCS - Mobile Frequency Blocks



BLOCK 1: 1850 – 1865 MHz (A)

BLOCK 4: 1885 – 1890 MHz (E)

BLOCK 2: 1865 – 1870 MHz (D)

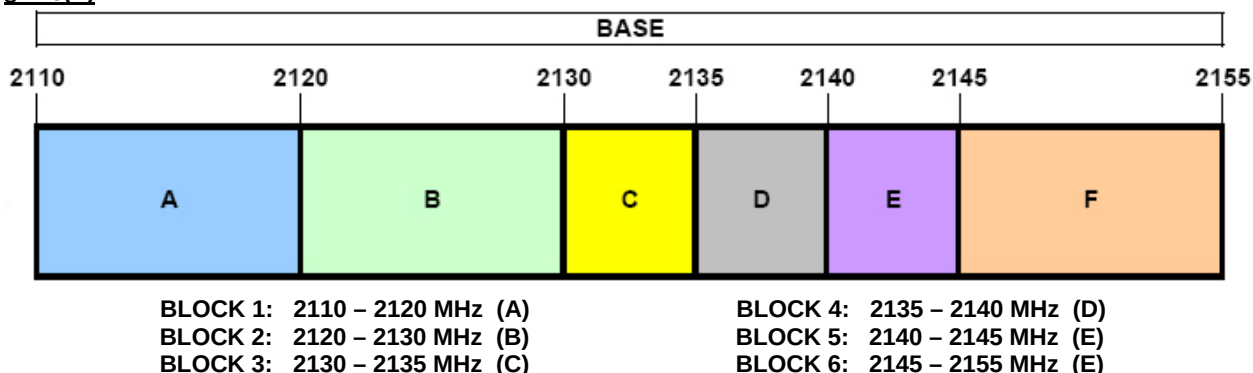
BLOCK 5: 1890 – 1895 MHz (F)

BLOCK 3: 1870 – 1885 MHz (B)

BLOCK 6: 1895 – 1910 MHz (C)

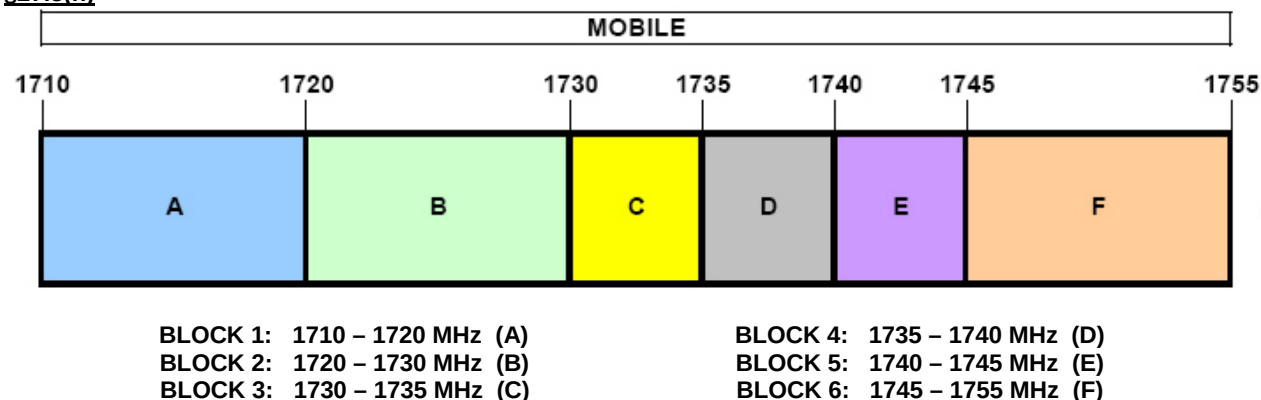
3.8 AWS - Base Frequency Blocks

§27.5(h)



3.9 AWS - Mobile Frequency Blocks

§27.5(h)



3.10 Spurious and Harmonic Emissions at Antenna Terminal

§2.1051, 22.917(a), 24.238(a)(b); RSS-132 (4.5.1), RSS-133 (6.5.1), §27.53(c), §27.53(g)

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. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log(P)$ dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

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3.11 Radiated Power and Radiated Spurious Emissions

§2.1053, §22.913(a)(2), 22.917(a), 24.232(c), 24.238(a), §27.53(c)(d)(g), RSS-132(4.5.1.2), RSS-133 (6.5.1)

Radiated power and radiated spurious emissions are measured outdoors at our 3-meter test range. 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 level is then measured with a broadband average power meter. 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 average power meter reading. This spurious level is recorded with the power meter. 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.

3.12 Peak-Average Ratio

§24.232(d), §27.50(d)(5), RSS-133 (6.4)

A peak to average ratio measurement is performed at the conducted port of the EUT. For CDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

3.13 Frequency Stability / Temperature Variation

§2.1055, 22.355, 24.235, §27.54, RSS-132 (4.3), RSS-133 (6.3)

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 and AC powered 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. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

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 sufficient stabilization period at each temperature shall be used prior to each frequency requirement.

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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
-	263-10dB	(DC-18GHz) 10 dB Attenuator	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	8449B	(1-26.5GHz) Pre-Amplifier	2/8/2011	Annual	2/8/2012	3008A00985
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/8/2011	Annual	4/8/2012	MY45470194
Agilent	N9020A	MXA Signal Analyzer	10/10/2011	Annual	10/10/2012	US46470561
Agilent	N9038A	MXE EMI Receiver	8/5/2011	Annual	8/5/2012	MY51210133
Anritsu	MA2411B	Pulse Sensor	10/13/2011	Annual	10/13/2012	1027293
Anritsu	ML2495A	Power Meter	10/13/2011	Annual	10/13/2012	1039008
Espec	ESX-2CA	Environmental Chamber	4/21/2011	Annual	4/21/2012	17620
MiniCircuits	VHF-1300+	High Pass Filter	N/A		N/A	30716
MiniCircuits	VHF-3100+	High Pass Filter	N/A		N/A	30721
Pasternack	PE2208-6	Bidirectional Coupler	N/A		N/A	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	N/A		N/A	836536/0005
Rohde & Schwarz	CMW500	LTE Radio Communication Tester	8/25/2011	Annual	8/25/2012	100976
Schwarzbeck	UHA9105	Dipole Antenna (400 - 1GHz) Rx	11/17/2009	Biennial	11/17/2011	9105-2404
Schwarzbeck	UHA9105	Dipole Antenna (400 - 1GHz) Tx	11/17/2009	Biennial	11/17/2011	9105-2403
Sunol	DRH-118	Horn Antenna (1 - 18GHz)	7/5/2011	Biennial	7/5/2013	A050307
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	12/17/2009	Biennial	12/17/2011	A051107
Sunol	DRH-118	Horn Antenna (1-18 GHz)	6/17/2011	Biennial	6/17/2013	A042511

Table 4-1. Test Equipment

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5.0 SAMPLE CALCULATIONS

Emission Designator

QPSK Modulation

Emission Designator = 8M62G7D

LTE BW = 8.62 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Amplitude/Angle Modulated

16QAM Modulation

Emission Designator = 8M45W7D

LTE BW = 8.45 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Combination (Audio/Data)

Spurious Radiated Emission – LTE Band

Example: Middle Channel LTE Mode 2nd Harmonic (1564 MHz)

The spectrum 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 spectrum analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 1564 MHz. So 6.1 dB is added to the signal generator reading of –30.9 dBm yielding –24.80 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm – (-24.80).

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6.0 TEST RESULTS

6.1 Summary

Company Name: Samsung Electronics, Co. Ltd.
 FCC ID: A3LSCHR930
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)
 Mode(s): LTE

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (TX)					
2.1049, 22.917(a), 24.238(a), 27.53(g)(1)	Occupied Bandwidth	N/A	CONDUCTED	PASS	Section 7.0
2.1051, 22.917(a), 24.238(a), 27.53(g)	Band Edge / Conducted Spurious Emissions	< 43 + 10log ₁₀ (P[Watts]) at Band Edge and for all out-of-band emissions		PASS	Section 7.0
24.232(d)	Peak-Average Ratio	< 13 dB		PASS	Section 7.0
2.1046	Transmitter Conducted Output Power	N/A		PASS	See RF Exposure Report
22.913(a)(2)	Effective Radiated Power (Band 5)	< 7 Watts max. ERP	RADIATED	PASS	Section 6.2
27.50(c)(9)	Effective Radiated Power (Band 12)	< 3 Watts max. ERP		PASS	Section 6.2
24.232(c)	Equivalent Isotropic Radiated Power (Band 2)	< 2 Watts max. EIRP		PASS	Section 6.3
27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	< 1 Watts max. EIRP		PASS	Section 6.3
2.1053, 24.238(a), 27.53(g), 27.53(h)	Undesirable Emissions	< 43 + 10log ₁₀ (P[Watts]) for all out-of-band emissions		PASS	Section 6.4, 6.5, 6.6, 6.7
2.1055, 24.235, 27.54	Frequency Stability	< 2.5 ppm		PASS	Section 6.8, 6.9, 6.10, 6.11

Table 6-1. Summary of Test Results

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6.2 Effective Radiated Power Output Data

§27.50(c)(9), §22.913(c)

	Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery
Band XII LTE	701.50	5	QPSK	1 / 24	-24.31	10.17	0.00	H	10.17	0.010	Standard
	707.50	5	QPSK	1 / 0	-22.37	12.11	0.00	H	12.11	0.016	Standard
	713.50	5	QPSK	1 / 24	-21.54	12.94	0.00	H	12.94	0.020	Standard
	701.50	5	16-QAM	1 / 24	-25.21	9.27	0.00	H	9.27	0.008	Standard
	707.50	5	16-QAM	1 / 0	-23.38	11.10	0.00	H	11.10	0.013	Standard
	713.50	5	16-QAM	1 / 24	-22.21	12.27	0.00	H	12.27	0.017	Standard
	703.00	10	QPSK	25 / 12	-24.11	10.37	0.00	H	10.37	0.011	Standard
	707.50	10	QPSK	25 / 12	-22.89	11.59	0.00	H	11.59	0.014	Standard
	711.00	10	QPSK	25 / 12	-23.91	10.57	0.00	H	10.57	0.011	Standard
	703.00	10	16-QAM	25 / 12	-24.91	9.57	0.00	H	9.57	0.009	Standard
	707.50	10	16-QAM	25 / 12	-24.06	10.42	0.00	H	10.42	0.011	Standard
	711.00	10	16-QAM	25 / 12	-24.75	9.73	0.00	H	9.73	0.009	Standard

Table 6-2. Effective Radiated Power Output Data (Band 12)

	Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery
Band V LTE	824.70	1.4	QPSK	1 / 0	-22.31	12.04	0.00	H	12.04	0.016	Standard
	836.50	1.4	QPSK	1 / 0	-19.67	14.68	0.00	H	14.68	0.029	Standard
	848.30	1.4	QPSK	1 / 5	-20.31	18.91	0.00	H	18.91	0.078	Standard
	824.70	1.4	16-QAM	1 / 0	-23.22	11.13	0.00	H	11.13	0.013	Standard
	836.50	1.4	16-QAM	1 / 0	-20.75	13.60	0.00	H	13.60	0.023	Standard
	848.30	1.4	16-QAM	1 / 5	-21.42	17.80	0.00	H	17.80	0.060	Standard
	825.50	3	QPSK	1 / 14	-21.76	12.59	0.00	H	12.59	0.018	Standard
	836.50	3	QPSK	1 / 0	-19.17	15.18	0.00	H	15.18	0.033	Standard
	847.50	3	QPSK	1 / 14	-19.45	14.90	0.00	H	14.90	0.031	Standard
	825.50	3	16-QAM	1 / 14	-22.64	11.71	0.00	H	11.71	0.015	Standard
	836.50	3	16-QAM	1 / 0	-19.98	14.37	0.00	H	14.37	0.027	Standard
	847.50	3	16-QAM	1 / 14	-20.58	13.77	0.00	H	13.77	0.024	Standard
	826.50	5	QPSK	1 / 24	-20.63	13.72	0.00	H	13.72	0.024	Standard
	836.50	5	QPSK	1 / 0	-18.94	15.41	0.00	H	15.41	0.035	Standard
	846.50	5	QPSK	1 / 24	-19.15	15.20	0.00	H	15.20	0.033	Standard
	826.50	5	16-QAM	1 / 24	-21.90	12.45	0.00	H	12.45	0.018	Standard
	836.50	5	16-QAM	1 / 0	-19.93	14.42	0.00	H	14.42	0.028	Standard
	846.50	5	16-QAM	1 / 24	-20.24	14.11	0.00	H	14.11	0.026	Standard

Table 6-3. Effective Radiated Power Output Data (Band 5)

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. Final power measurements are made with 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 spectrum analyzer reading. This level is recorded using the power meter. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

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6.3 Equivalent Isotropic Radiated Power Output Data

\$27.50(d)(4), \$24.232(c)

	Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery
Band IV LTE	1712.50	5	QPSK	1 / 24	-16.51	15.74	8.33	H	24.07	0.255	Standard
	1732.50	5	QPSK	1 / 0	-20.54	11.71	8.23	H	19.94	0.099	Standard
	1752.50	5	QPSK	1 / 24	-20.64	11.61	8.12	H	19.73	0.094	Standard
	1712.50	5	16-QAM	1 / 24	-17.85	14.40	8.33	H	22.73	0.187	Standard
	1732.50	5	16-QAM	1 / 0	-21.08	11.17	8.23	H	19.40	0.087	Standard
	1752.50	5	16-QAM	1 / 24	-21.83	10.42	8.12	H	18.54	0.071	Standard
	1715.00	10	QPSK	1 / 49	-16.73	15.52	8.33	H	23.85	0.243	Standard
	1732.50	10	QPSK	1 / 0	-20.08	12.17	8.23	H	20.40	0.110	Standard
	1750.00	10	QPSK	1 / 49	-20.93	11.32	8.12	H	19.44	0.088	Standard
	1715.00	10	16-QAM	1 / 49	-17.93	14.32	8.33	H	22.65	0.184	Standard
	1732.50	10	16-QAM	1 / 0	-21.14	11.11	8.23	H	19.34	0.086	Standard
	1750.00	10	16-QAM	1 / 49	-22.01	10.24	8.12	H	18.36	0.069	Standard

Table 6-4. Equivalent Isotropic Radiated Power Output Data (Band 4)

	Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	RB Size/Offset	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery
Band II LTE	1850.70	1.4	QPSK	1 / 5	-23.91	9.42	7.95	H	17.37	0.055	Standard
	1880.00	1.4	QPSK	1 / 5	-22.01	11.32	7.99	H	19.31	0.085	Standard
	1909.30	1.4	QPSK	1 / 0	-23.65	9.68	8.06	H	17.74	0.059	Standard
	1850.70	1.4	16-QAM	1 / 5	-24.87	8.46	7.95	H	16.41	0.044	Standard
	1880.00	1.4	16-QAM	1 / 5	-23.02	10.31	7.99	H	18.30	0.068	Standard
	1909.30	1.4	16-QAM	1 / 0	-23.79	9.54	8.06	H	17.60	0.058	Standard
	1851.50	3	QPSK	1 / 14	-23.85	10.28	7.95	H	18.23	0.067	Standard
	1880.00	3	QPSK	1 / 14	-22.61	11.52	7.99	H	19.51	0.089	Standard
	1908.50	3	QPSK	1 / 0	-22.78	11.35	8.06	H	19.41	0.087	Standard
	1851.50	3	16-QAM	1 / 14	-25.22	8.91	7.95	H	16.86	0.049	Standard
	1880.00	3	16-QAM	1 / 14	-23.60	10.53	7.99	H	18.52	0.071	Standard
	1908.50	3	16-QAM	1 / 0	-24.10	10.03	8.06	H	18.09	0.064	Standard
	1852.50	5	QPSK	1 / 24	-23.59	10.54	7.95	H	18.49	0.071	Standard
	1880.00	5	QPSK	1 / 24	-22.01	12.12	7.99	H	20.11	0.103	Standard
	1907.50	5	QPSK	1 / 0	-23.16	10.97	8.06	H	19.03	0.080	Standard
	1852.50	5	16-QAM	1 / 24	-24.65	9.48	7.95	H	17.43	0.055	Standard
	1880.00	5	16-QAM	1 / 24	-23.24	10.89	7.99	H	18.88	0.077	Standard
	1907.50	5	16-QAM	1 / 0	-24.17	9.96	8.06	H	18.02	0.063	Standard

Table 6-5. Equivalent Isotropic Radiated Power Output Data (Band 2)

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. Final power measurements are made with a broadband average power meter. 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 spectrum analyzer reading. This level is recorded using the power meter. 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.

The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

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6.4 Band 12 Radiated Measurements

§2.1053, 27.53(g)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 701.50 MHz
 MEASURED OUTPUT POWER: 10.17 dBm = 0.010 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 23.17 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1403.00	-47.31	5.75	-41.57	H	65.6
2104.50	-44.74	6.48	-38.25	H	62.3
2806.00	-94.16	7.73	-86.43	H	110.5
3507.50	-90.89	7.42	-83.47	H	107.5

Table 6-6. Radiated Spurious Data (Band 12 LTE – Low Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

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Band 12 Radiated Measurements (Cont'd)

§2.1053, 27.53(g)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 707.00 MHz
 MEASURED OUTPUT POWER: 12.11 dBm = 0.016 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 25.11 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-49.90	5.81	-44.09	H	64.0
5640.00	-34.22	6.48	-27.73	H	47.7
7520.00	-55.54	7.70	-47.84	H	67.8
9400.00	-90.87	7.48	-83.39	H	103.3

Table 6-7. Radiated Spurious Data (Band 12 LTE – Mid Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

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Band 12 Radiated Measurements (Cont'd)

§2.1053, 27.53(g)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 713.50 MHz
 MEASURED OUTPUT POWER: 12.94 dBm = 0.020 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 25.94 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1427.00	-48.14	5.87	-42.27	H	62.0
2140.50	-47.40	6.48	-40.93	H	60.7
2854.00	-93.85	7.67	-86.17	H	105.9
3567.50	-90.85	7.54	-83.31	H	103.0

Table 6-8. Radiated Spurious Data (Band 12 LTE – High Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

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6.5 Band 5 Radiated Measurements

§2.1053, 22.917(a)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.70 MHz
 MEASURED OUTPUT POWER: 12.04 dBm = 0.016 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 25.04 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1649.40	-42.61	6.16	-36.45	H	60.5
2474.10	-49.94	6.34	-43.60	H	67.7
3298.80	-50.18	6.71	-43.48	H	67.5
4123.50	-52.18	7.39	-44.79	H	68.9

Table 6-9. Radiated Spurious Data (Band 5 LTE – Low Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

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Band 5 Radiated Measurements (Cont'd)

§2.1053, 22.917(a)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.50 MHz
 MEASURED OUTPUT POWER: 14.68 dBm = 0.029 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 27.68 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1673.00	-44.94	6.09	-38.85	H	58.8
2509.50	-50.84	6.38	-44.46	H	64.4
3346.00	-49.85	6.90	-42.95	H	62.9
4182.50	-52.50	7.79	-44.70	H	64.6

Table 6-10. Radiated Spurious Data (Band 5 LTE – Mid Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

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Band 5 Radiated Measurements (Cont'd)

§2.1053, 22.917(a)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 848.30 MHz
 MEASURED OUTPUT POWER: 18.91 dBm = 0.078 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 31.91 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1696.60	-41.44	6.01	-35.42	H	55.2
2544.90	-50.48	6.47	-44.01	H	63.7
3393.20	-50.66	7.10	-43.56	H	63.3
4241.50	-51.64	8.09	-43.55	H	63.3

Table 6-11. Radiated Spurious Data (Band 5 LTE – High Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

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6.6 Band 4 Radiated Measurements

§2.1053, 27.53(h)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1712.50 MHz
 MEASURED OUTPUT POWER: 24.07 dBm = 0.255 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 37.07 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3425.00	-29.66	9.34	-20.32	H	44.4
5137.50	-52.95	10.96	-42.00	H	66.1
6850.00	-47.23	10.52	-36.71	H	60.8
8562.50	-81.60	11.07	-70.53	H	94.6

Table 6-12. Radiated Spurious Data (Band 4 LTE – Low Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Band 4 Radiated Measurements (Cont'd)

§2.1053, 27.53(h)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1732.50 MHz
 MEASURED OUTPUT POWER: 19.94 dBm = 0.099 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 32.94 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3465.00	-34.41	9.30	-25.11	H	45.1
5197.50	-53.06	10.89	-42.17	H	62.1
6930.00	-37.14	10.85	-26.28	H	46.2
8662.50	-45.47	12.17	-33.30	H	53.2

Table 6-13. Radiated Spurious Data (Band 4 LTE – Mid Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Band 4 Radiated Measurements (Cont'd)

§2.1053, 27.53(h)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1752.50 MHz
 MEASURED OUTPUT POWER: 19.73 dBm = 0.094 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 32.73 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3505.00	-33.70	9.58	-24.12	H	43.8
5257.50	-52.57	10.56	-42.00	H	61.7
7010.00	-38.80	10.86	-27.94	H	47.7
8762.50	-43.38	11.50	-31.88	H	51.6

Table 6-14. Radiated Spurious Data (Band 4 LTE – High Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

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6.7 Band 2 Radiated Measurements

§2.1053, 24.238(a)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1852.50 MHz
 MEASURED OUTPUT POWER: 18.49 dBm = 0.071 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 31.49 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3705.00	-53.27	9.62	-43.66	H	67.7
5557.50	-52.59	10.61	-41.98	H	66.0
7410.00	-45.94	10.84	-35.10	H	59.2
9262.50	-82.72	12.20	-70.52	H	94.6

Table 6-15. Radiated Spurious Data (Band 2 LTE – Low Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Band 2 Radiated Measurements (Cont'd)

§2.1053, 24.238(a)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1880.00 MHz
 MEASURED OUTPUT POWER: 20.11 dBm = 0.103 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 33.11 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-51.38	9.30	-42.08	H	62.0
5640.00	-51.98	10.89	-41.09	H	61.0
7520.00	-46.28	10.85	-35.43	H	55.4
9400.00	-82.63	12.17	-70.46	H	90.4

Table 6-16. Radiated Spurious Data (Band 2 LTE – Mid Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Band 2 Radiated Measurements (Cont'd)

§2.1053, 24.238(a)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1907.50 MHz
 MEASURED OUTPUT POWER: 19.03 dBm = 0.080 W
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5 MHz
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 32.03 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3815.00	-51.26	9.05	-42.21	H	61.9
5722.50	-50.51	11.07	-39.43	H	59.2
7630.00	-46.41	11.11	-35.30	H	55.0
9537.50	-82.85	12.36	-70.50	H	90.2

Table 6-17. Radiated Spurious Data (Band 2 LTE – High Channel)

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. Final power measurements are made with 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 spectrum analyzer reading. This spurious level is recorded using 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 or dipole antenna are taken into consideration.

This device was tested under all modulations and channel bandwidth configurations and the worst case spurious emissions are reported in all bands with the EUT employing 1RB (with offset 0) and QPSK modulation. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the horizontal setup. The data reported in the table above was measured in this test setup.

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.8 Band 12 Frequency Stability Measurements

§2.1055, 27.54, RSS-133 (6.3)

OPERATING FREQUENCY: 707,000,000 Hz

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	707,000,008	8	0.000001
100 %		- 30	707,000,017	17	0.000002
100 %		- 20	707,000,010	10	0.000001
100 %		- 10	706,999,978	-22	-0.000003
100 %		0	706,999,964	-36	-0.000005
100 %		+ 10	706,999,994	-6	-0.000001
100 %		+ 20	706,999,979	-21	-0.000003
100 %		+ 30	706,999,985	-15	-0.000002
100 %		+ 40	707,000,003	3	0.000000
100 %		+ 50	707,000,019	19	0.000003
115 %	4.26	+ 20	706,999,982	-18	-0.000003
BATT. ENDPOINT	3.41	+ 20	706,999,985	-15	-0.000002

Table 6-18. Frequency Stability Data (Band 12 LTE – Mid Channel)

FCC ID: A3LSCHR930	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)			Reviewed by: Quality Manager
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Band 12 Frequency Stability Measurements (Cont'd)

§2.1055, 27.54, RSS-133 (6.3)

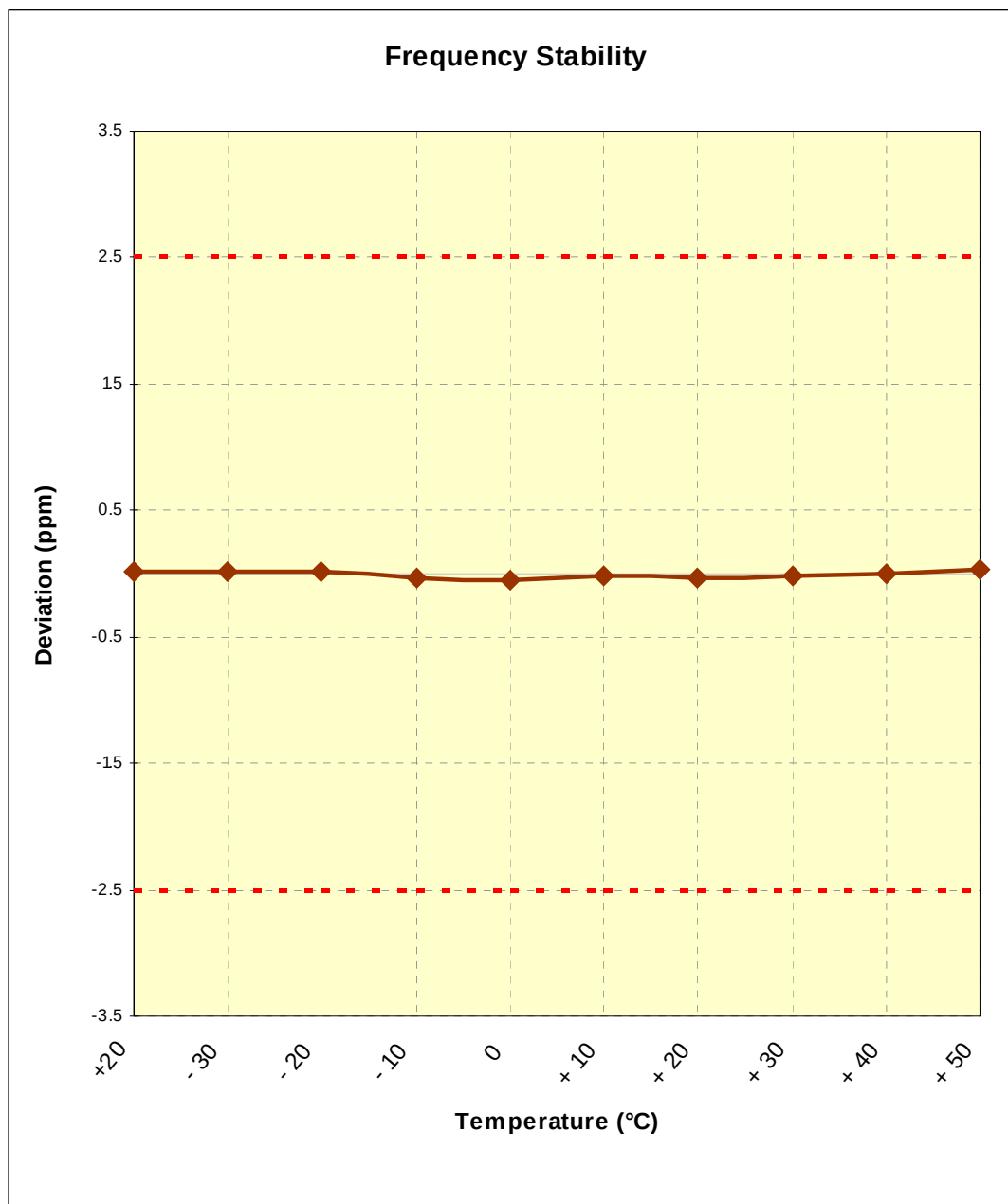


Figure 6-1. Frequency Stability Graph (Band 12 LTE – Mid Channel)

FCC ID: A3LSCHR930			FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.9 Band 5 Frequency Stability Measurements

§2.1055, 22.355

OPERATING FREQUENCY: 836,000,000 Hz

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	836,000,010	10	0.000001
100 %		- 30	835,999,971	-29	-0.000003
100 %		- 20	835,999,989	-11	-0.000001
100 %		- 10	836,000,010	10	0.000001
100 %		0	835,999,991	-9	-0.000001
100 %		+ 10	836,000,024	24	0.000003
100 %		+ 20	835,999,990	-10	-0.000001
100 %		+ 30	835,999,980	-20	-0.000002
100 %		+ 40	835,999,968	-32	-0.000004
100 %		+ 50	835,999,979	-21	-0.000003
115 %	4.26	+ 20	835,999,974	-26	-0.000003
BATT. ENDPOINT	3.41	+ 20	836,000,002	2	0.000000

Table 6-19. Frequency Stability Data (Band 5 LTE – Mid Channel)

Band 5 Frequency Stability Measurements (Cont'd)
§2.1055, 22.355

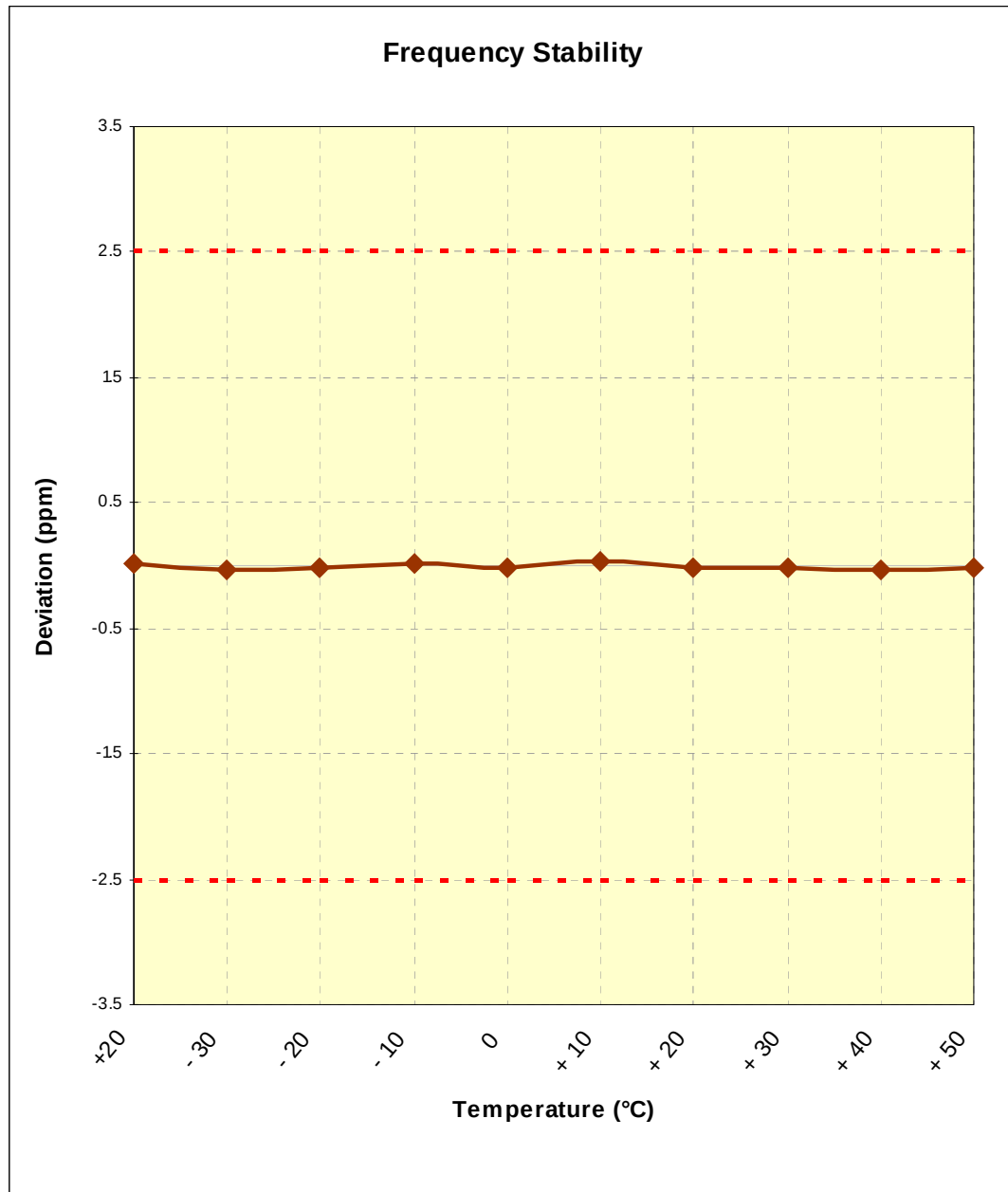


Figure 6-2. Frequency Stability Graph (Band 5 LTE – Mid Channel)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)			Reviewed by: Quality Manager
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6.10 Band 4 Frequency Stability Measurements

§2.1055, 27.54, RSS-133 (6.3)

OPERATING FREQUENCY: 1,732,500,000 Hz

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	1,732,499,974	-26	-0.000002
100 %		- 30	1,732,499,971	-29	-0.000002
100 %		- 20	1,732,499,977	-23	-0.000001
100 %		- 10	1,732,499,983	-17	-0.000001
100 %		0	1,732,499,987	-13	-0.000001
100 %		+ 10	1,732,500,016	16	0.000001
100 %		+ 20	1,732,499,996	-4	0.000000
100 %		+ 30	1,732,499,981	-19	-0.000001
100 %		+ 40	1,732,499,989	-11	-0.000001
100 %		+ 50	1,732,499,966	-34	-0.000002
115 %	4.26	+ 20	1,732,499,969	-31	-0.000002
BATT. ENDPOINT	3.41	+ 20	1,732,500,020	20	0.000001

Table 6-20. Frequency Stability Data (Band 4 LTE – Mid Channel)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)				Reviewed by: Quality Manager
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Band 4 Frequency Stability Measurements (Cont'd)

§2.1055, 27.54, RSS-133 (6.3)

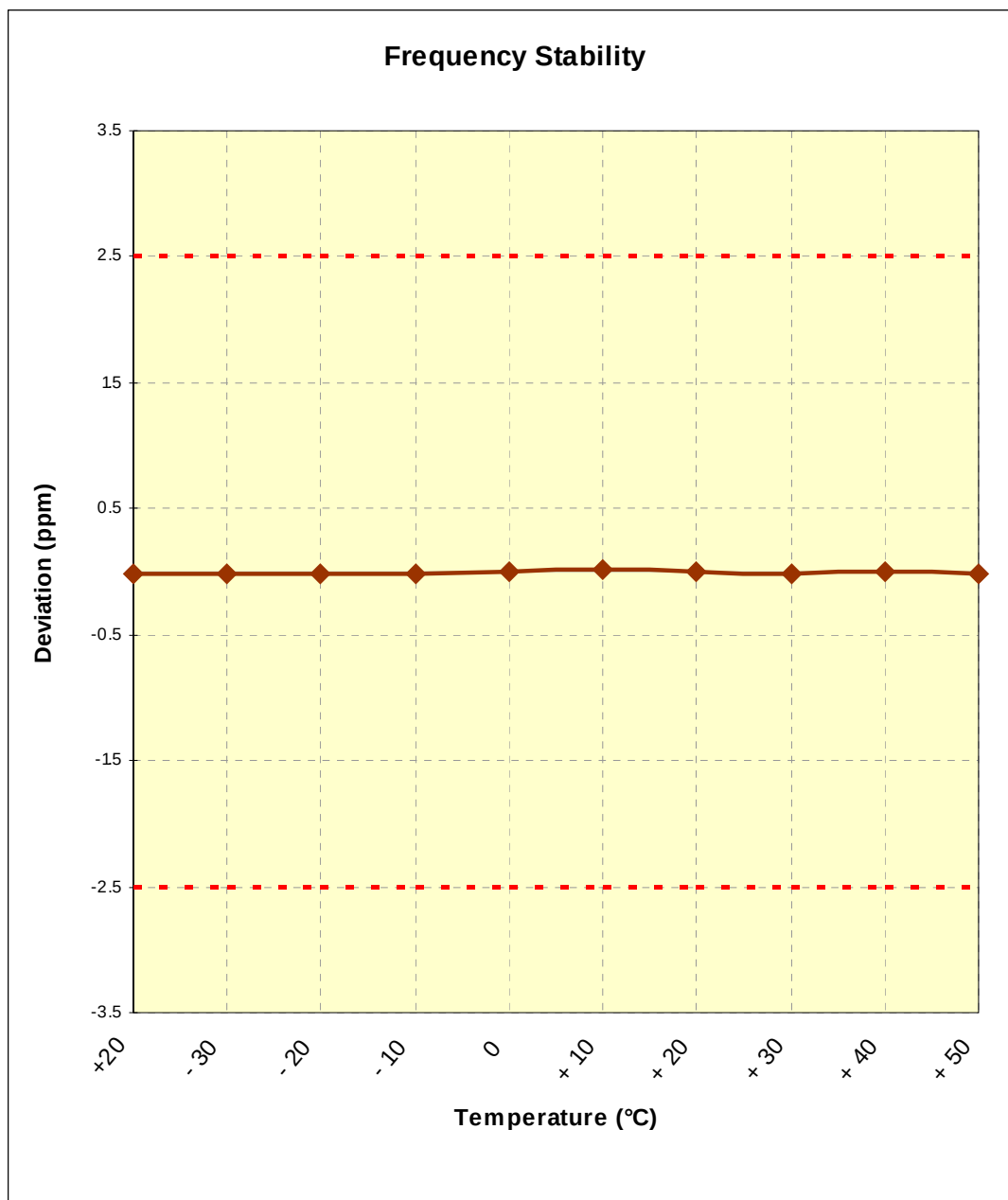


Figure 6-3. Frequency Stability Graph (Band 4 LTE – Mid Channel)

FCC ID: A3LSCHR930			FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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6.11 Band 2 Frequency Stability Measurements

§2.1055, 24.235

OPERATING FREQUENCY: 1,880,000,000 Hz

REFERENCE VOLTAGE: 3.7 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	1,880,000,010	10	0.000001
100 %		- 30	1,879,999,983	-17	-0.000001
100 %		- 20	1,880,000,021	21	0.000001
100 %		- 10	1,880,000,007	7	0.000000
100 %		0	1,879,999,987	-13	-0.000001
100 %		+ 10	1,880,000,005	5	0.000000
100 %		+ 20	1,879,999,972	-28	-0.000001
100 %		+ 30	1,879,999,967	-33	-0.000002
100 %		+ 40	1,879,999,968	-32	-0.000002
100 %		+ 50	1,879,999,989	-11	-0.000001
115 %	4.26	+ 20	1,879,999,981	-19	-0.000001
BATT. ENDPOINT	3.41	+ 20	1,880,000,010	10	0.000001

Table 6-21. Frequency Stability Data (Band 2 LTE – Mid Channel)

Band 2 Frequency Stability Measurements (Cont'd)

§2.1055, 24.235

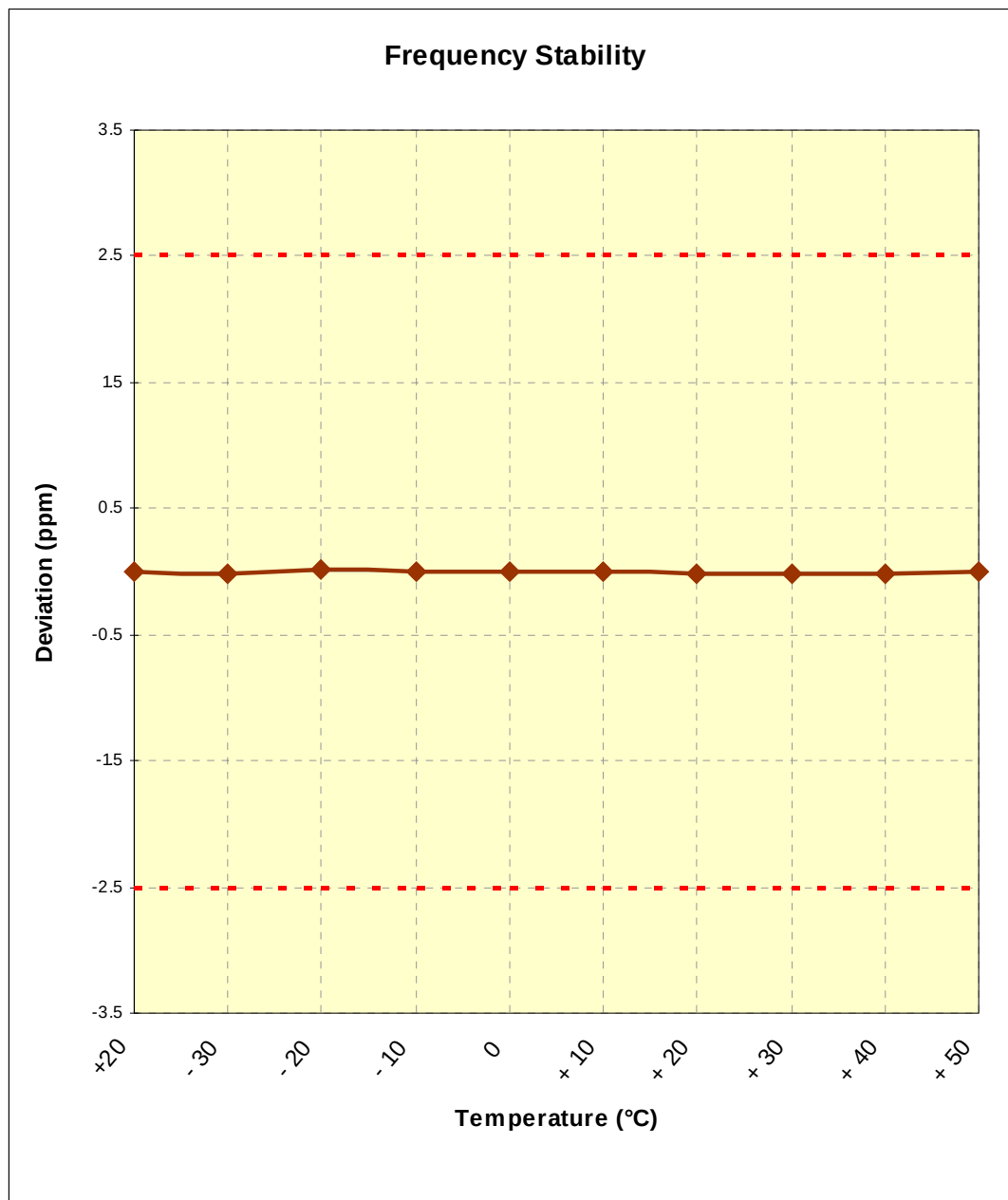


Figure 6-4. Frequency Stability Graph (Band 2 LTE – Mid Channel)

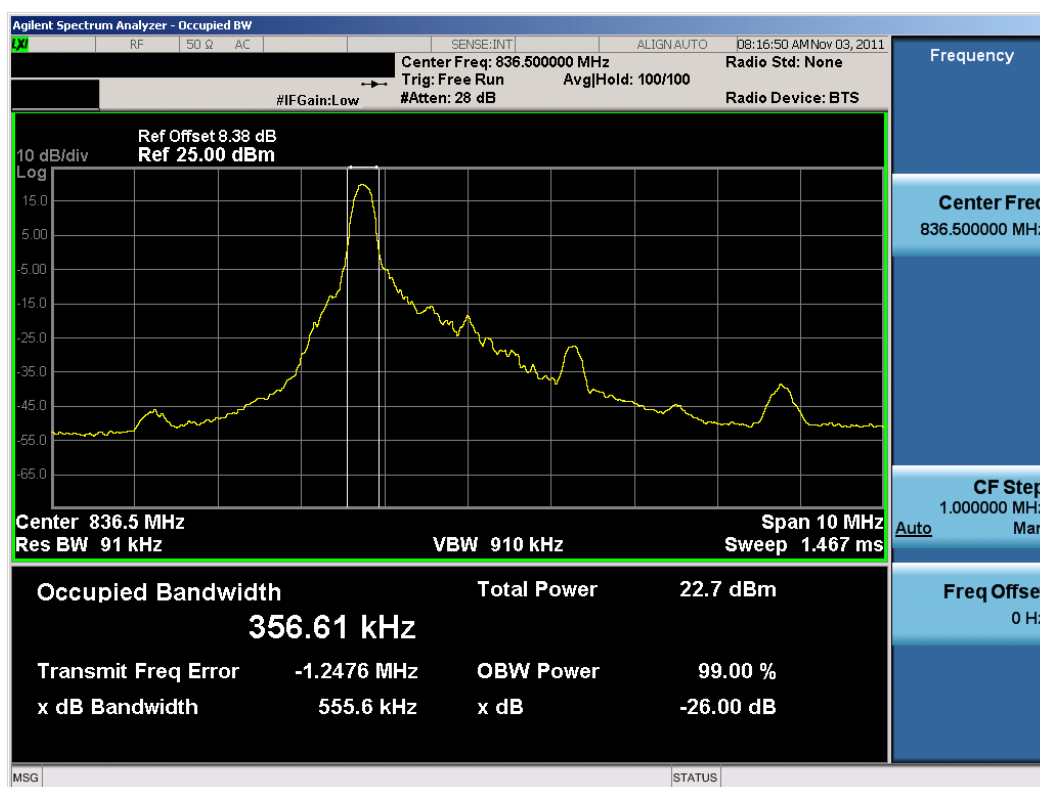
FCC ID: A3LSCHR930			FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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7.0 PLOT(S) OF EMISSIONS

In the following sets of plots, the worst case emissions were found in the following configurations:

Test	Worst Case Configuration
Out of band spurious emissions	1 RB, 0 RB Offset
Out of band emissions at the band edge	1 RB, 0 RB Offset (low channel), max RB Offset (high channel)
Out of band emissions 1MHz removed from the band edge (Bands 2, 4, 5) and 100kHz removed from the band edge (Band 12)	Max RB's

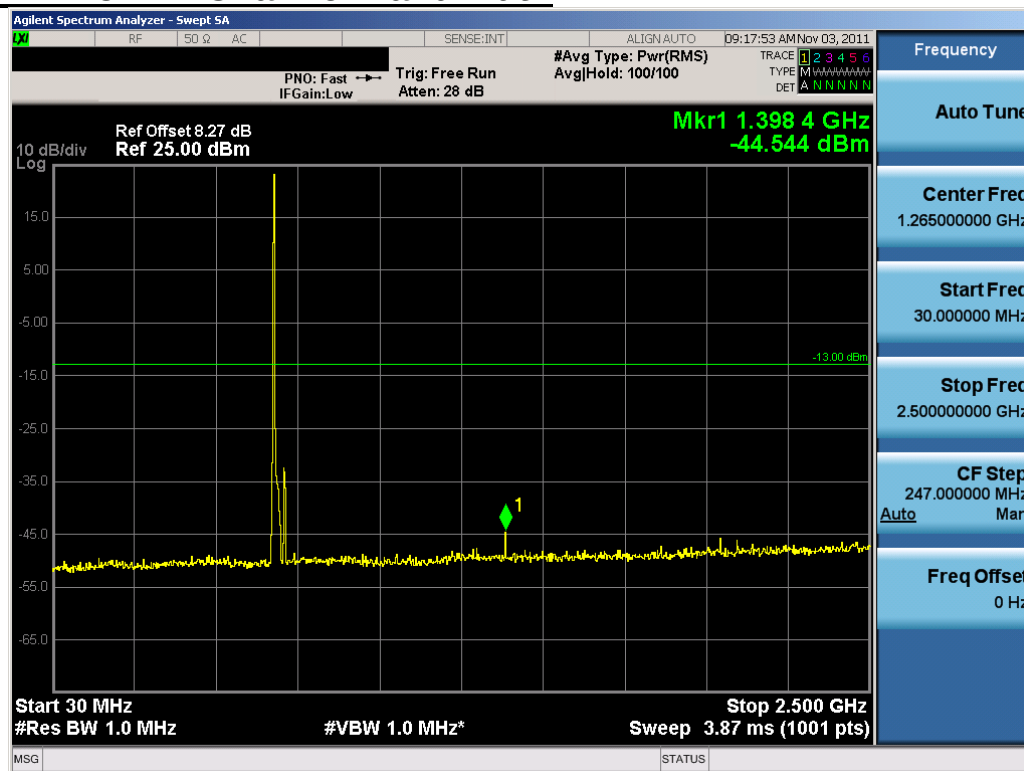
Emissions were investigated with both QPSK and 16-QAM modulations. Worst case emissions were found while operating with QPSK modulation. For all band edge emissions who spurious limits are subject to the rules of Parts 22, 24, and 27 (Bands 5, 2, and 4, respectively, but excluding Band 12), a resolution bandwidth of 1% of the emission bandwidth is used to measure the band edge. Since 1 RB allocation represents the worst case band edge emission, the emission bandwidth at 1 RB is approximately 556 kHz, as shown in the plot below. Thus, for all band edge emissions, a RBW of at least 10kHz is used to demonstrate compliance at the band edge with the exception of band edge emissions for Band 12 operation whose emission limit specified under 27.53(g) requires a 30kHz RBW.



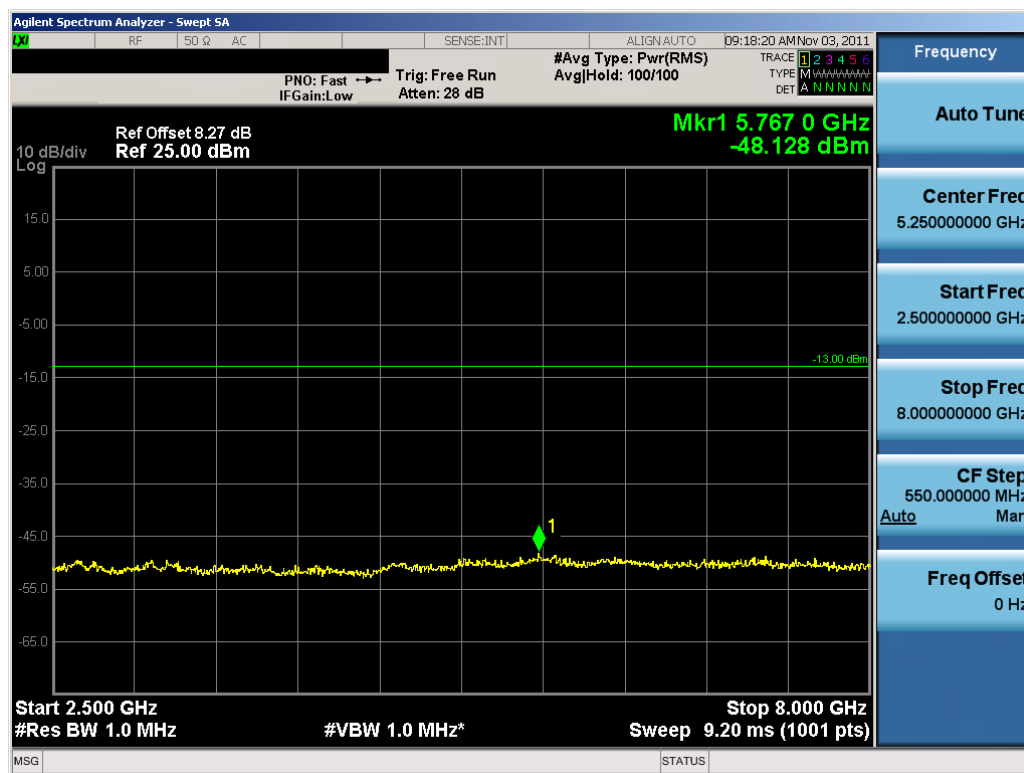
Plot 7-1. Emission Bandwidth for 1 Resource Block

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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BAND 12 – 5MHz Channel Bandwidth

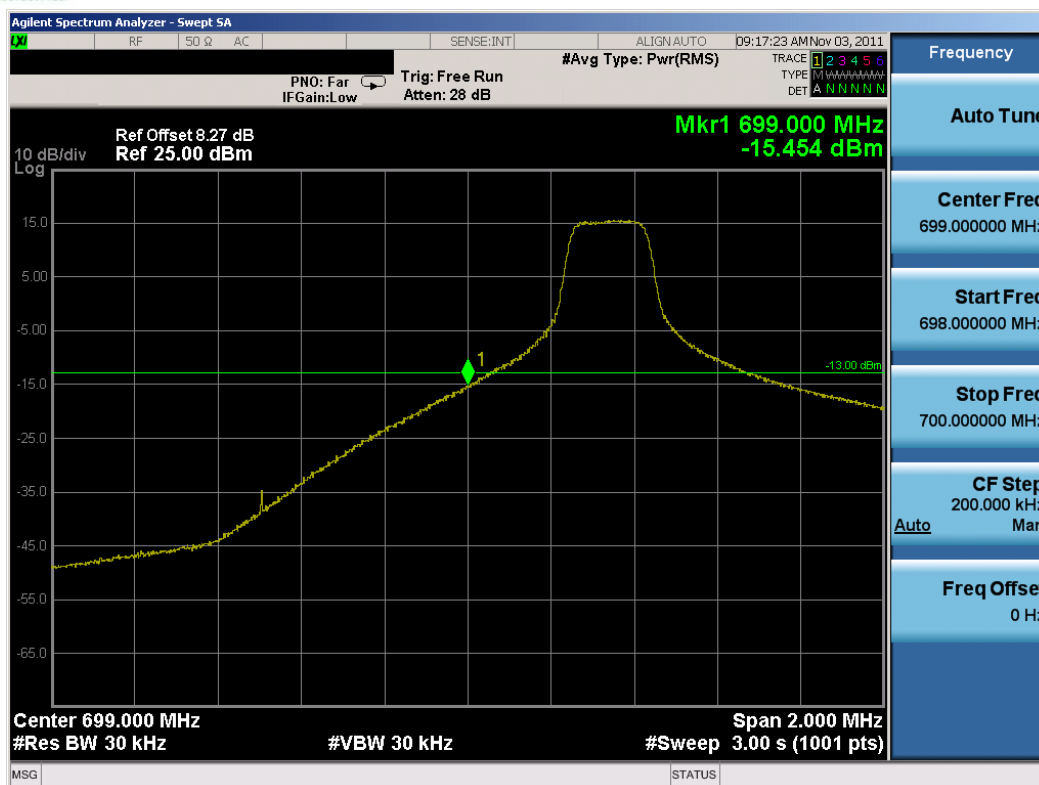


Plot 7-2. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

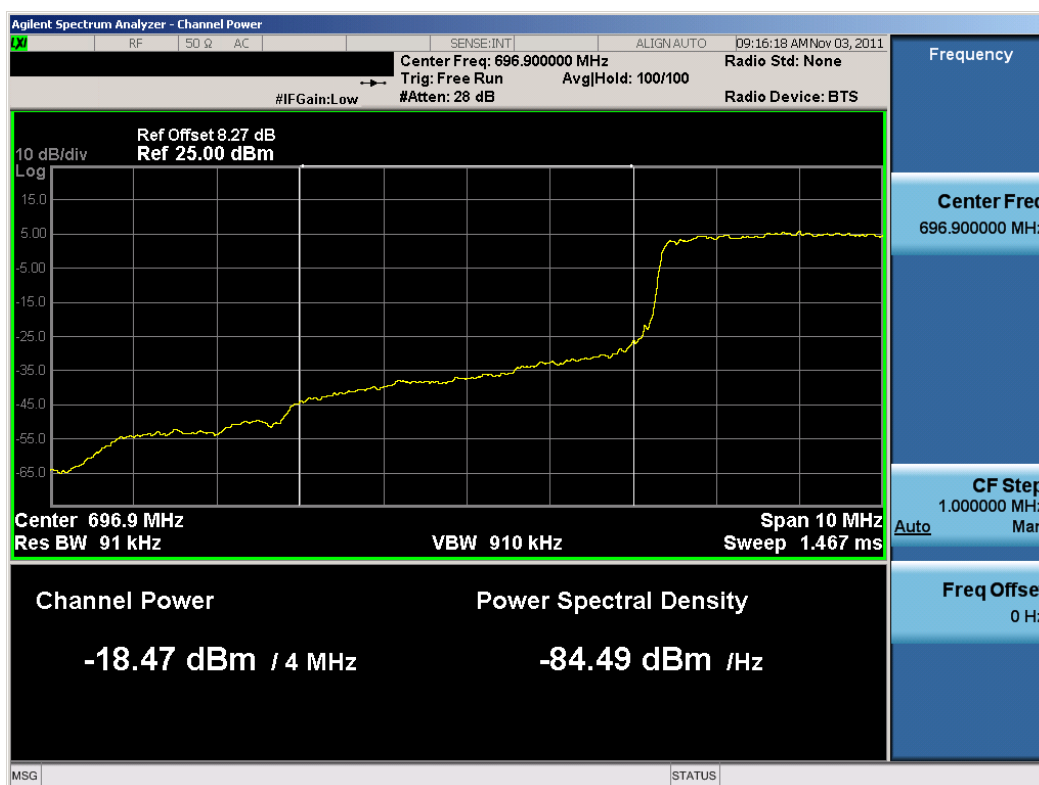


Plot 7-3. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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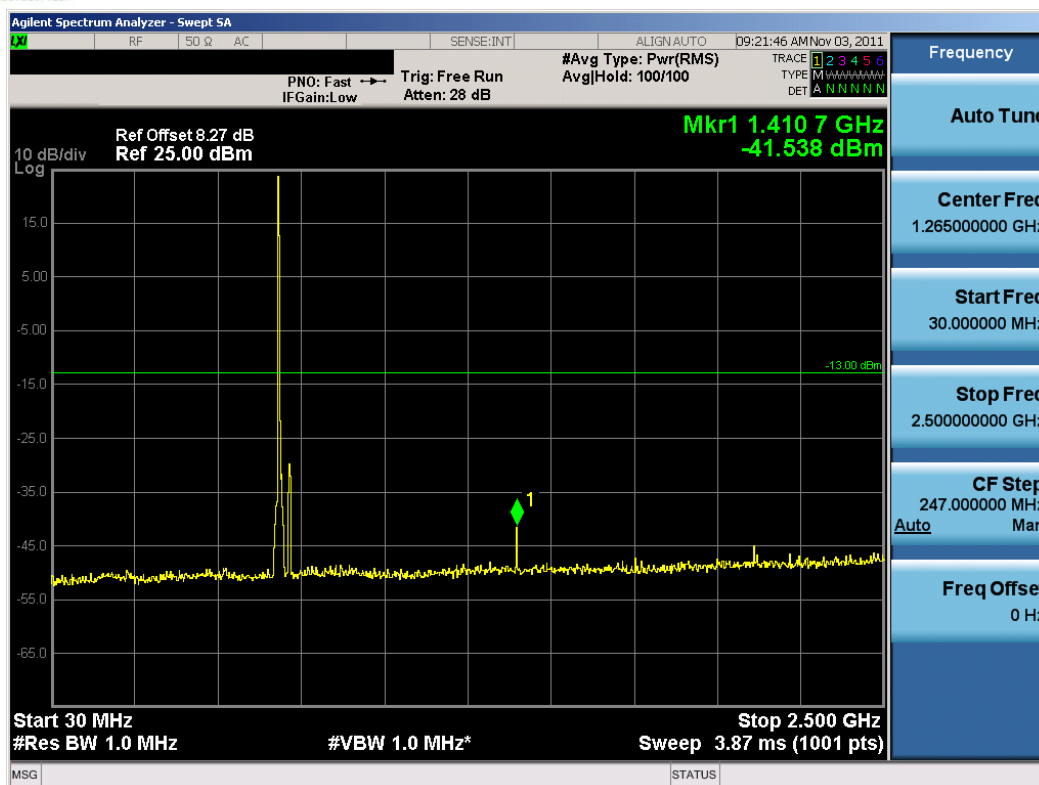


Plot 7-4. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

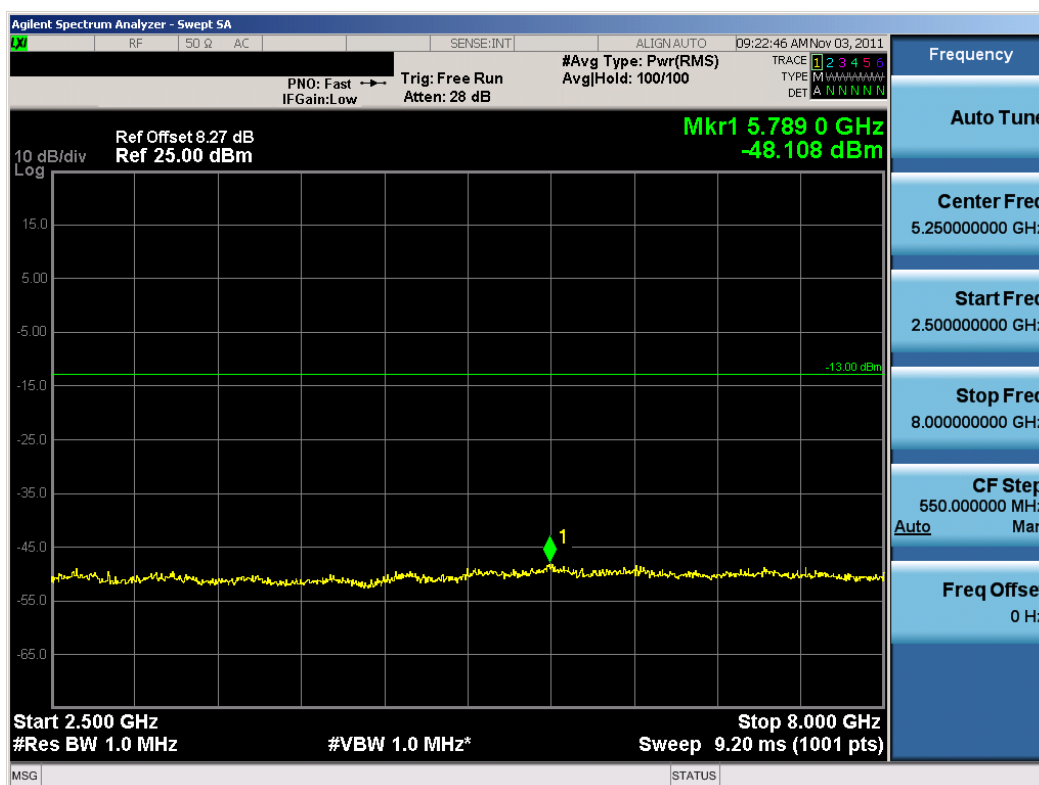


Plot 7-5. 4MHz Span Plot (Low Channel, QPSK, RB Size 25)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 37 of 101

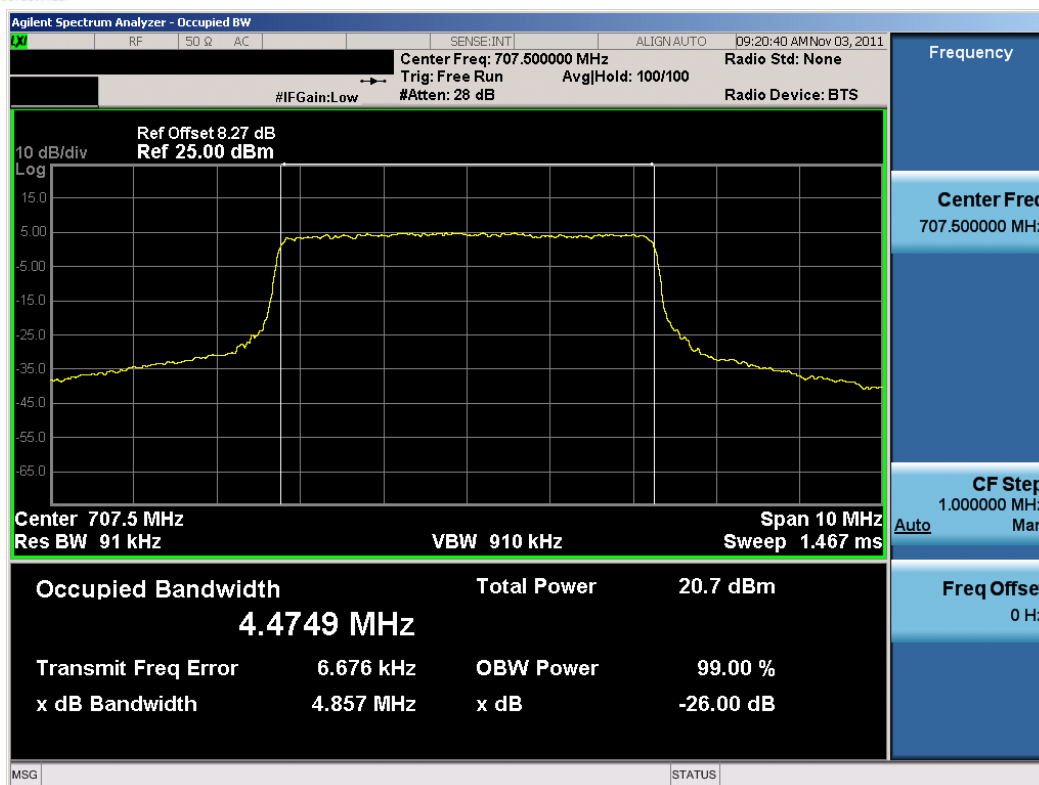


Plot 7-6. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

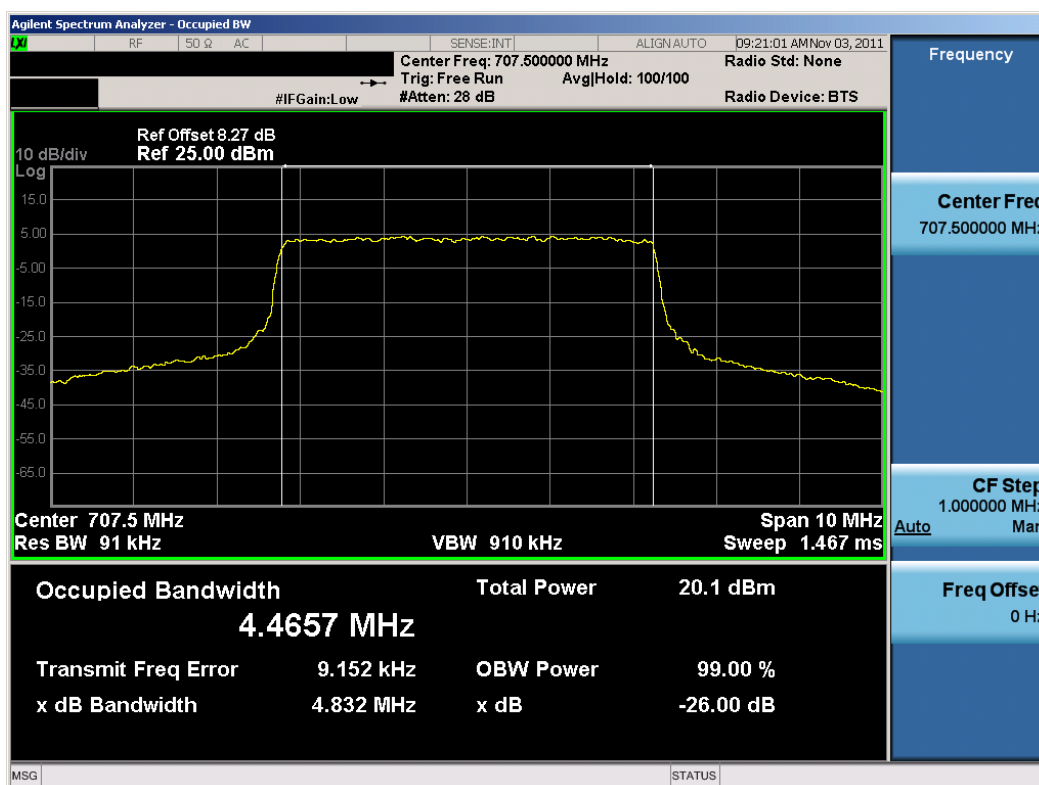


Plot 7-7. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 38 of 101

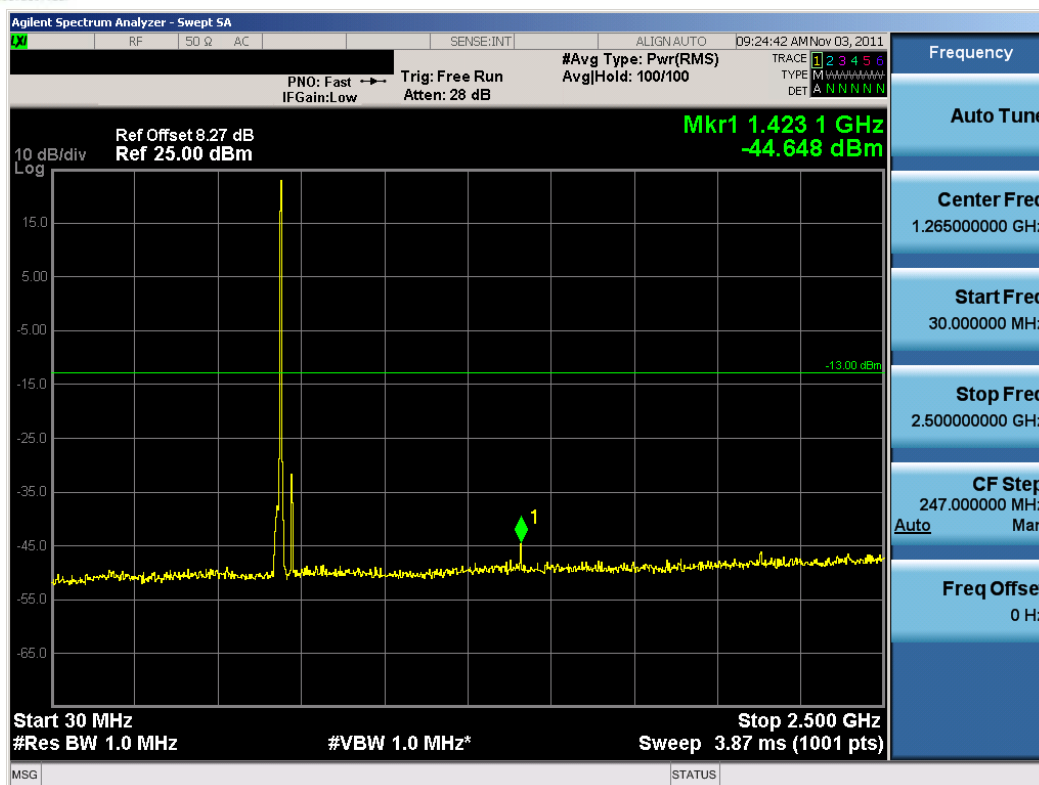


Plot 7-8. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 25)

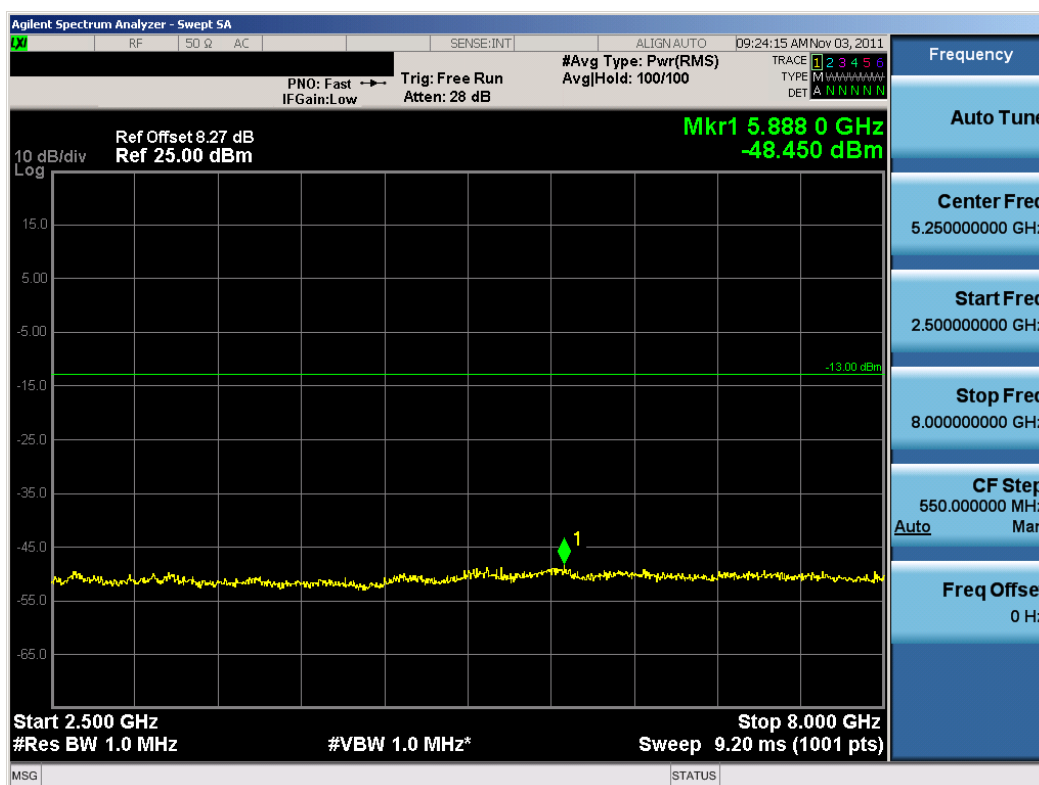


Plot 7-9. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 25)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 39 of 101

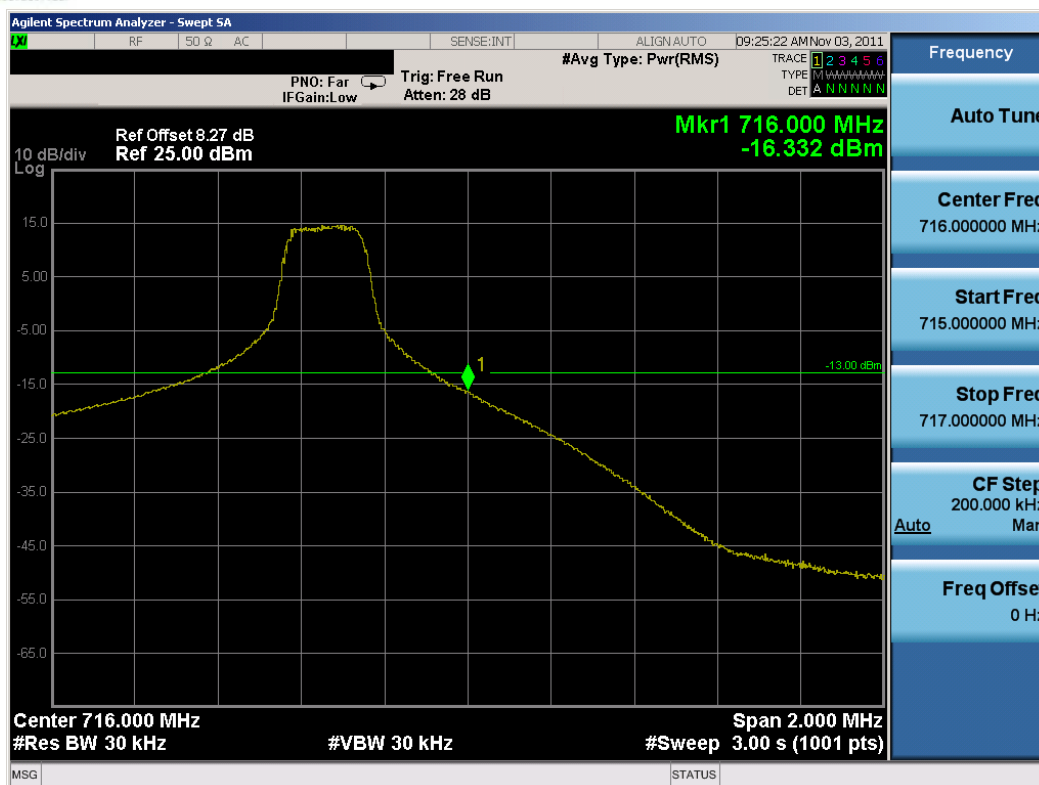


Plot 7-10. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, Offset 0)



Plot 7-11. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 40 of 101



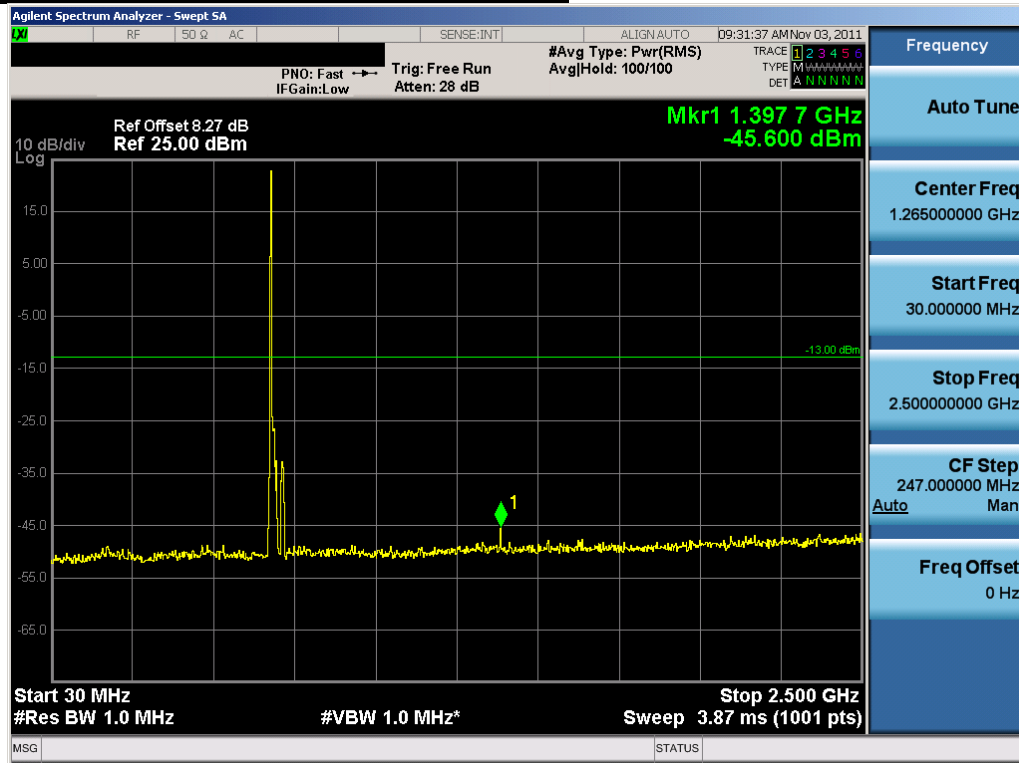
Plot 7-12. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, Offset 24)



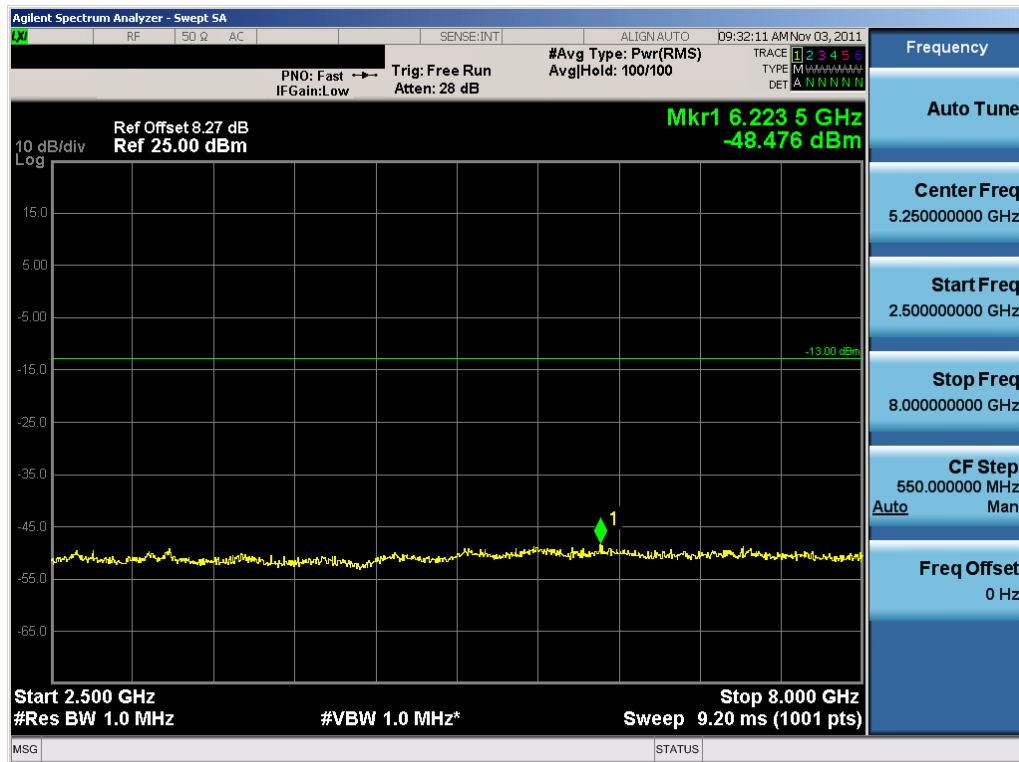
Plot 7-13. 4MHz Span Plot (High Channel, QPSK, RB Size 25)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 41 of 101

BAND 12 – 10MHz Channel Bandwidth

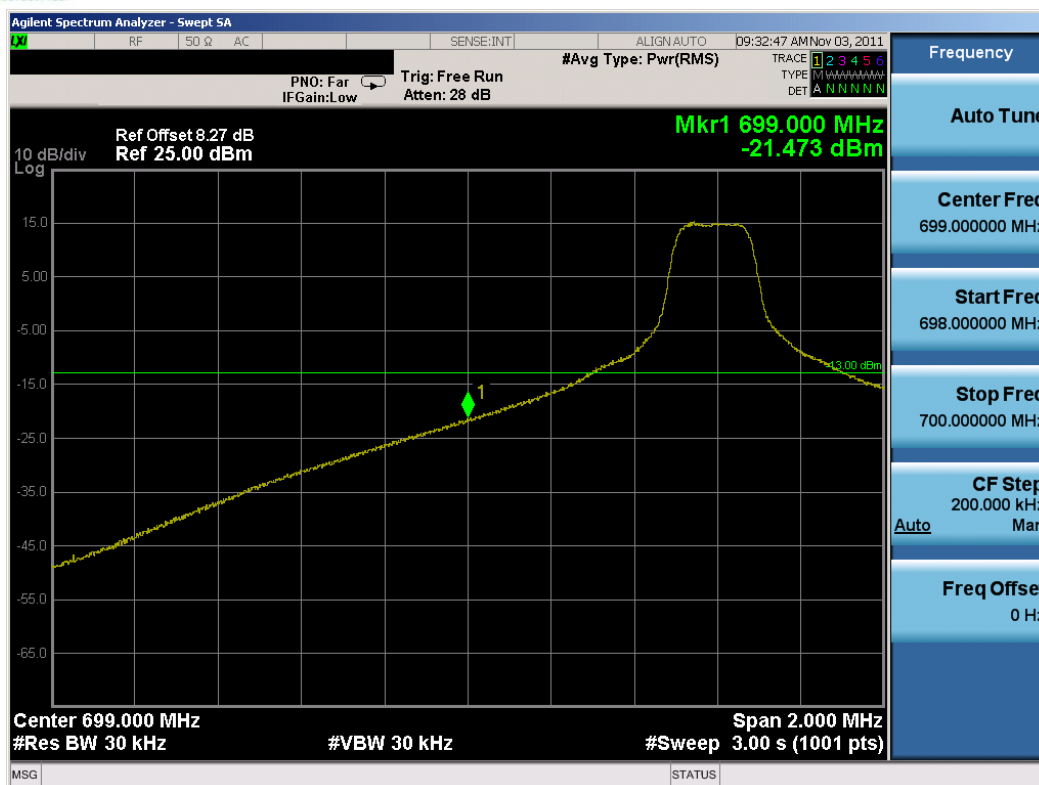


Plot 7-14. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)



Plot 7-15. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 42 of 101

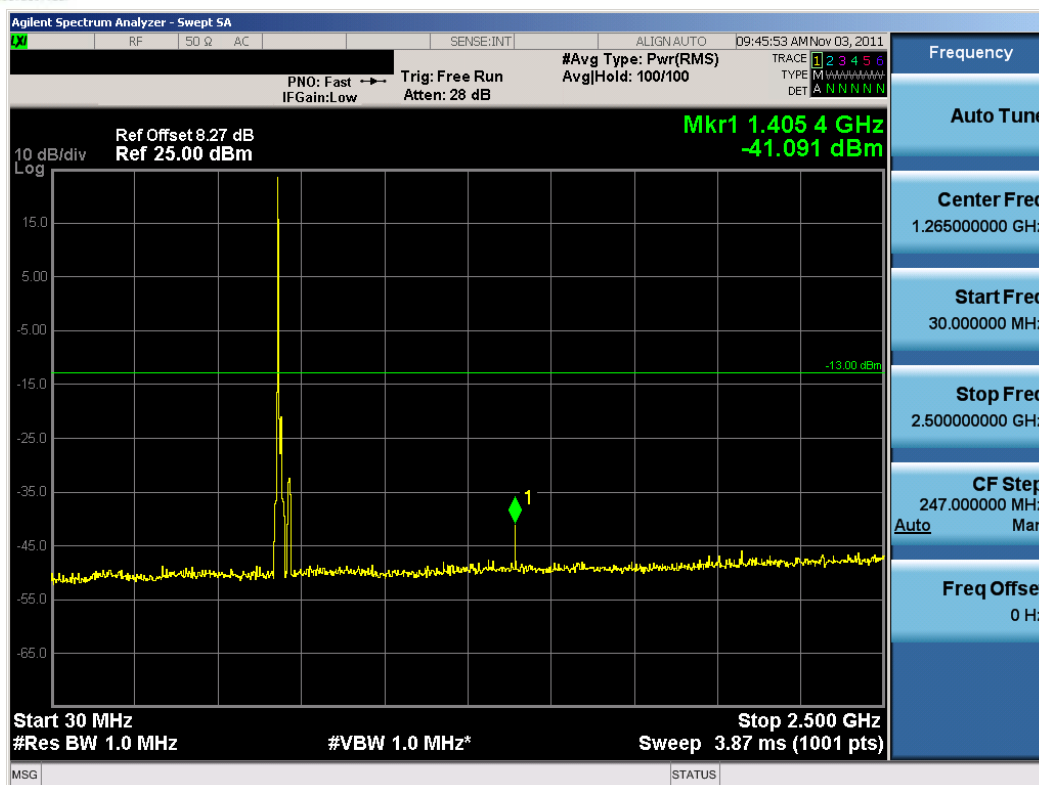


Plot 7-16. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

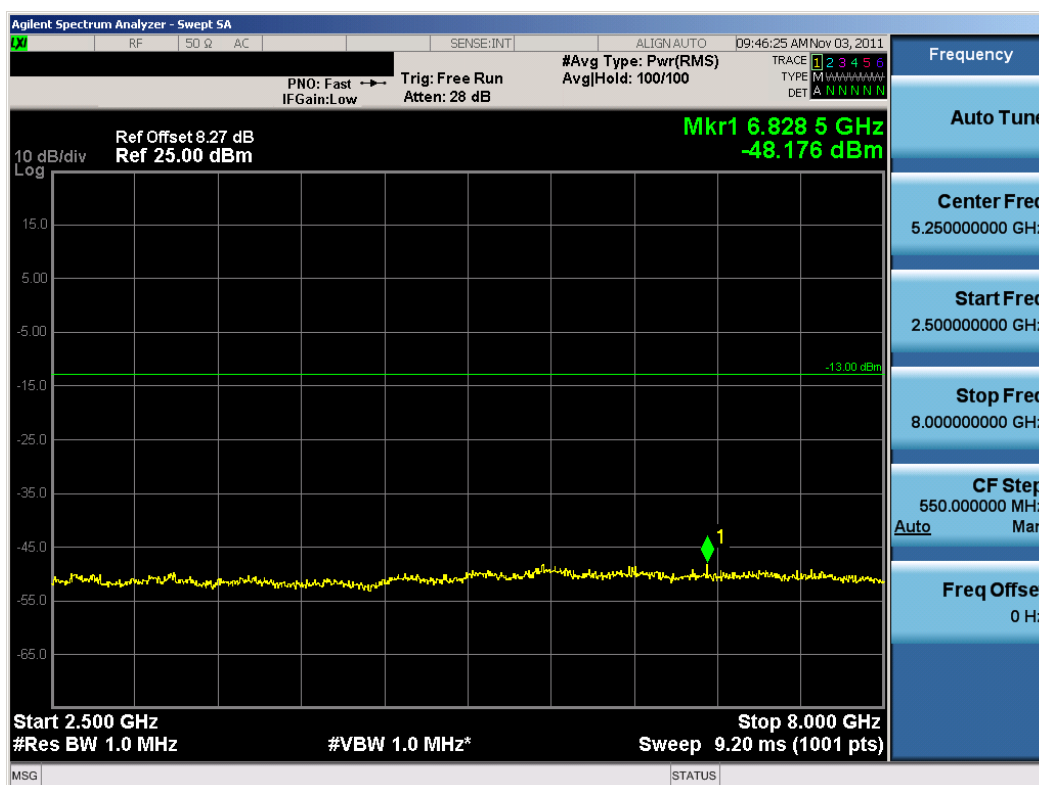


Plot 7-17. 4MHz Span Plot (Low Channel, QPSK, RB Size 50)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 43 of 101

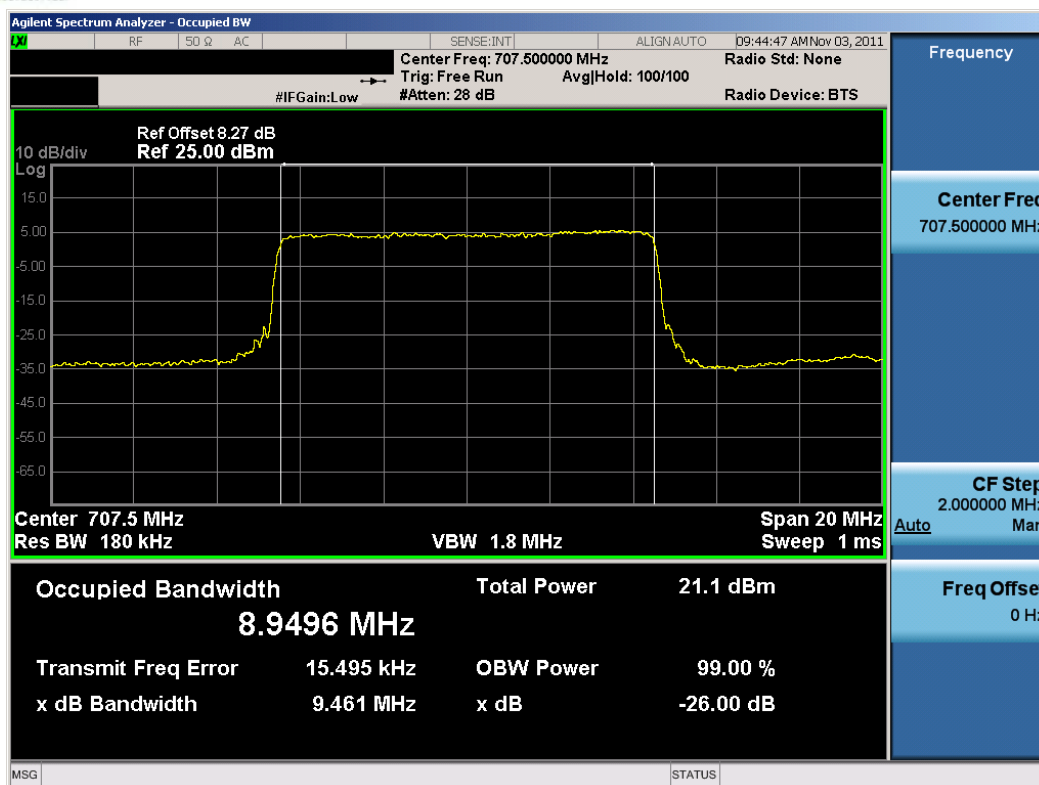


Plot 7-18. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

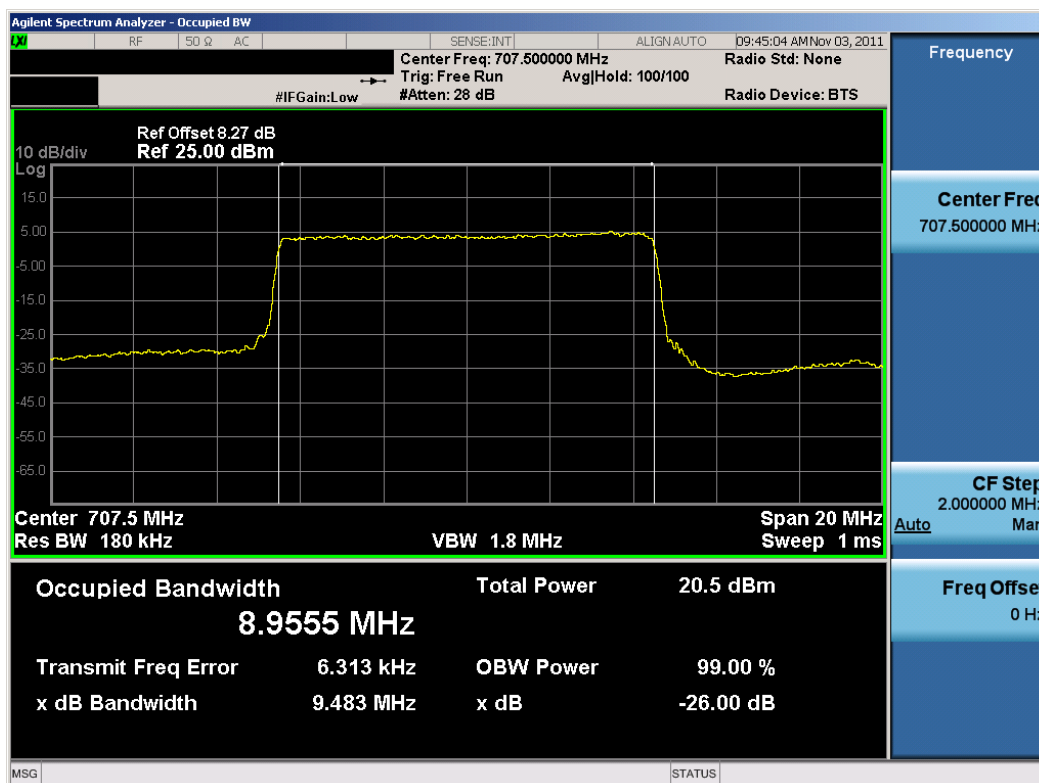


Plot 7-19. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 44 of 101

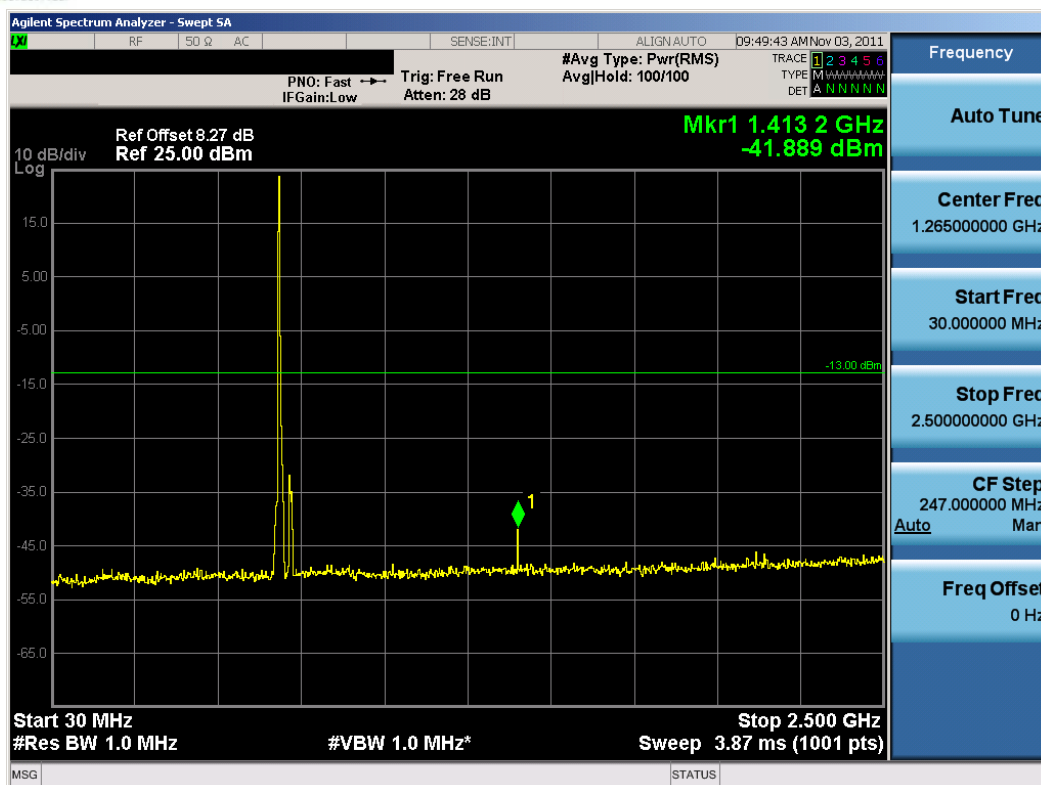


Plot 7-20. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 50)

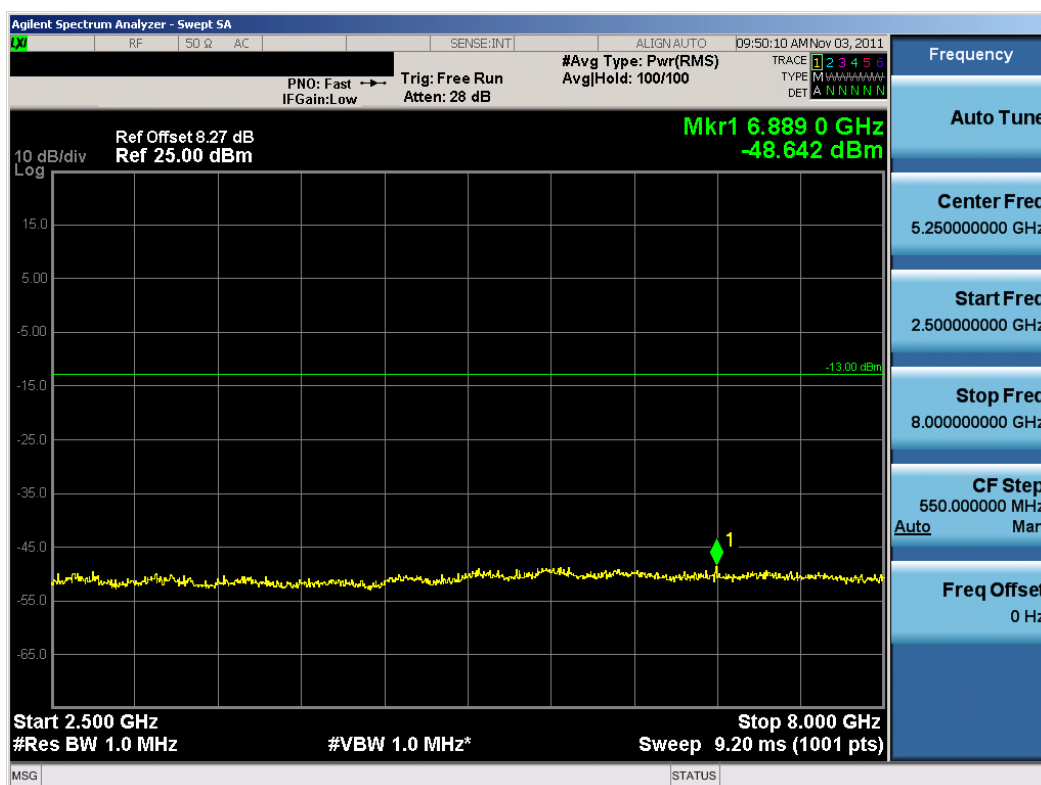


Plot 7-21. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 50)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 45 of 101

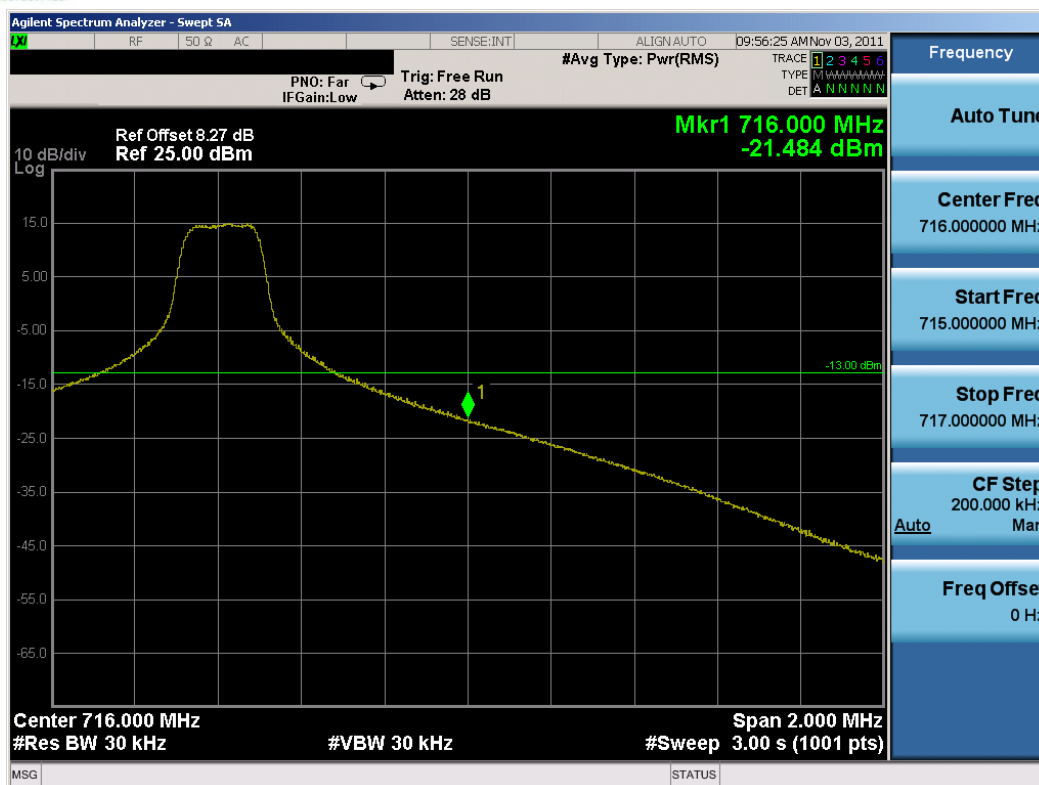


Plot 7-22. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, Offset 0)



Plot 7-23. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 46 of 101



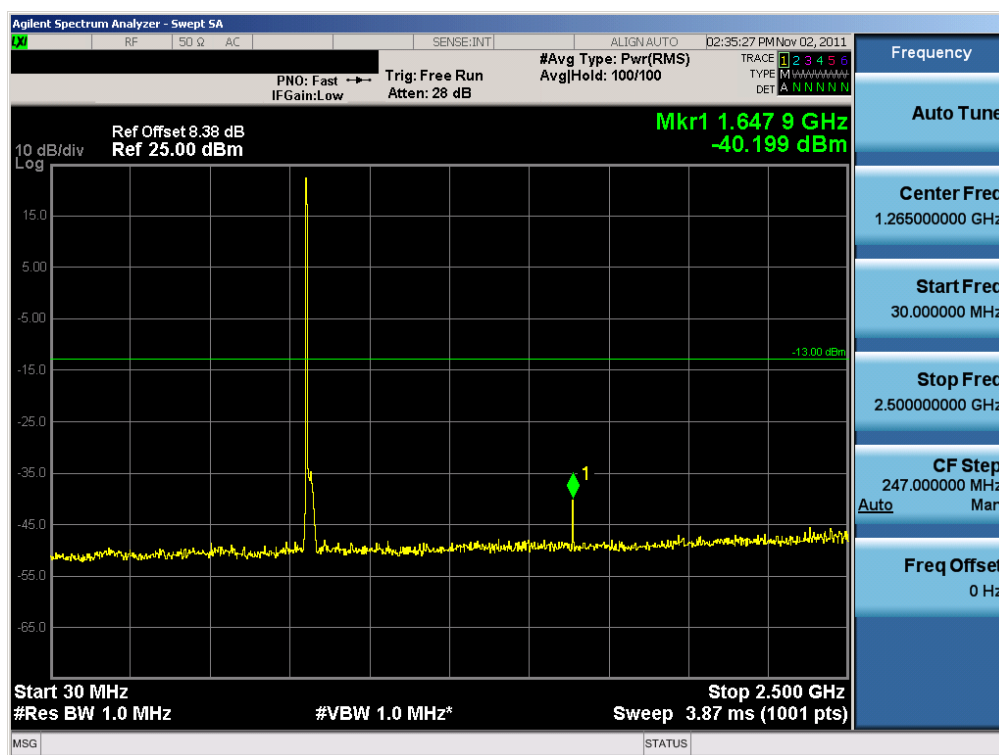
Plot 7-24. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, Offset 49)



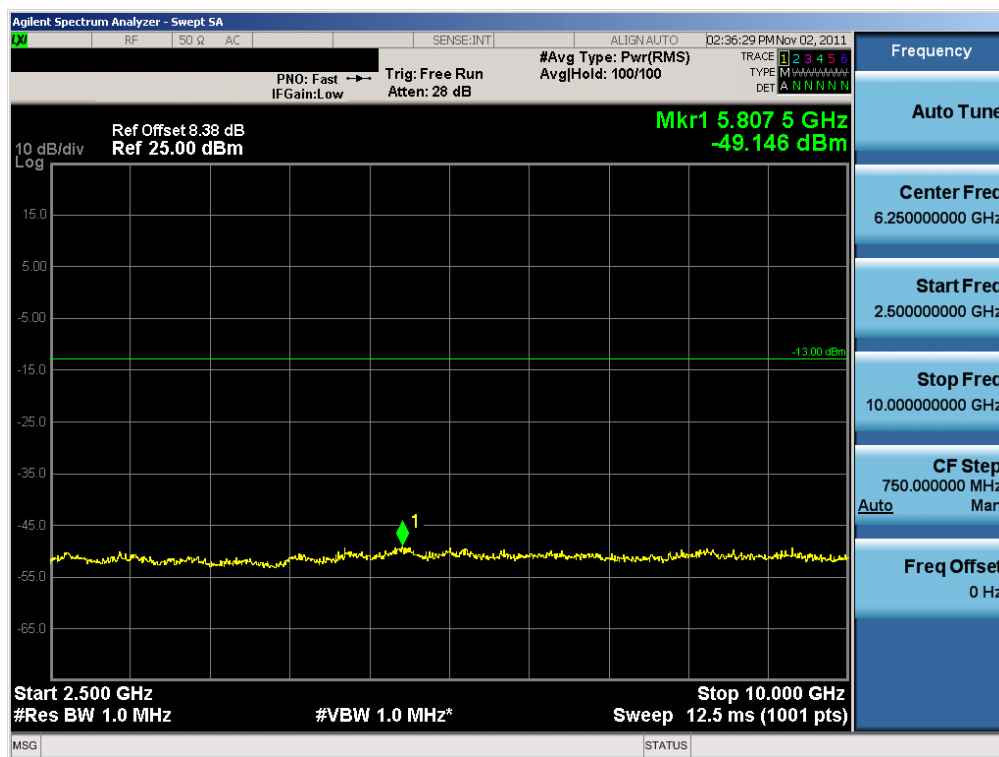
Plot 7-25. 4MHz Span Plot (High Channel, QPSK, RB Size 50)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 47 of 101

BAND 5 – 1.4MHz Channel Bandwidth

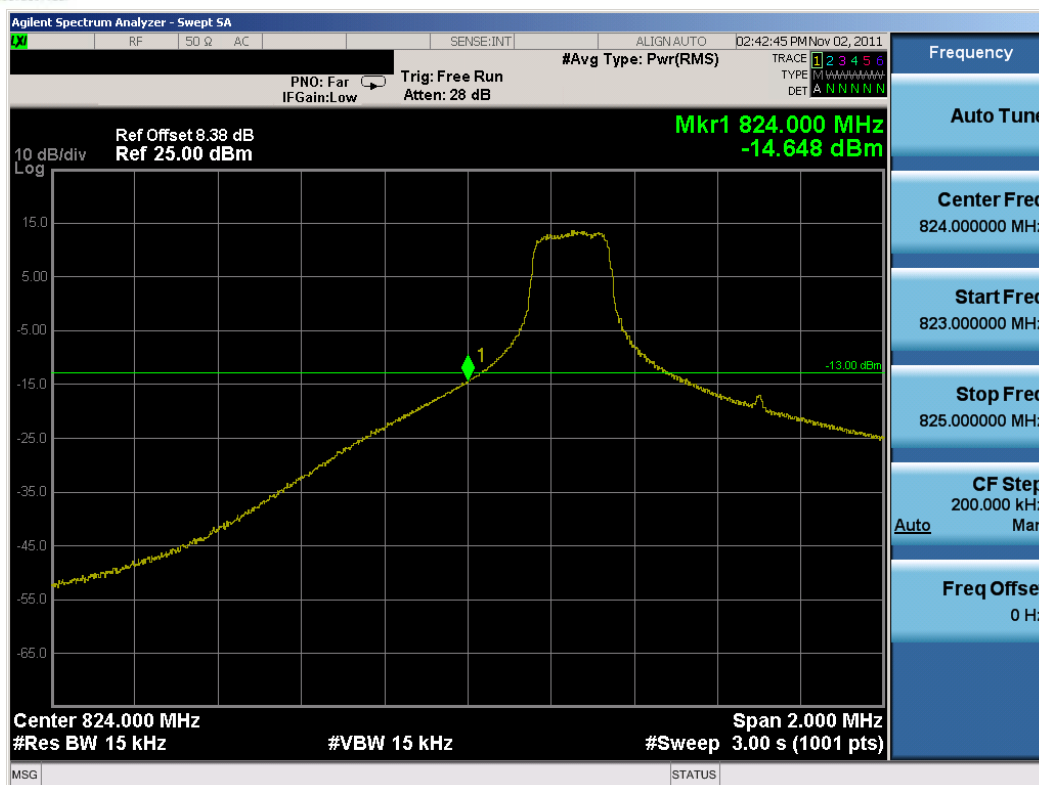


Plot 7-26. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)



Plot 7-27. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 48 of 101

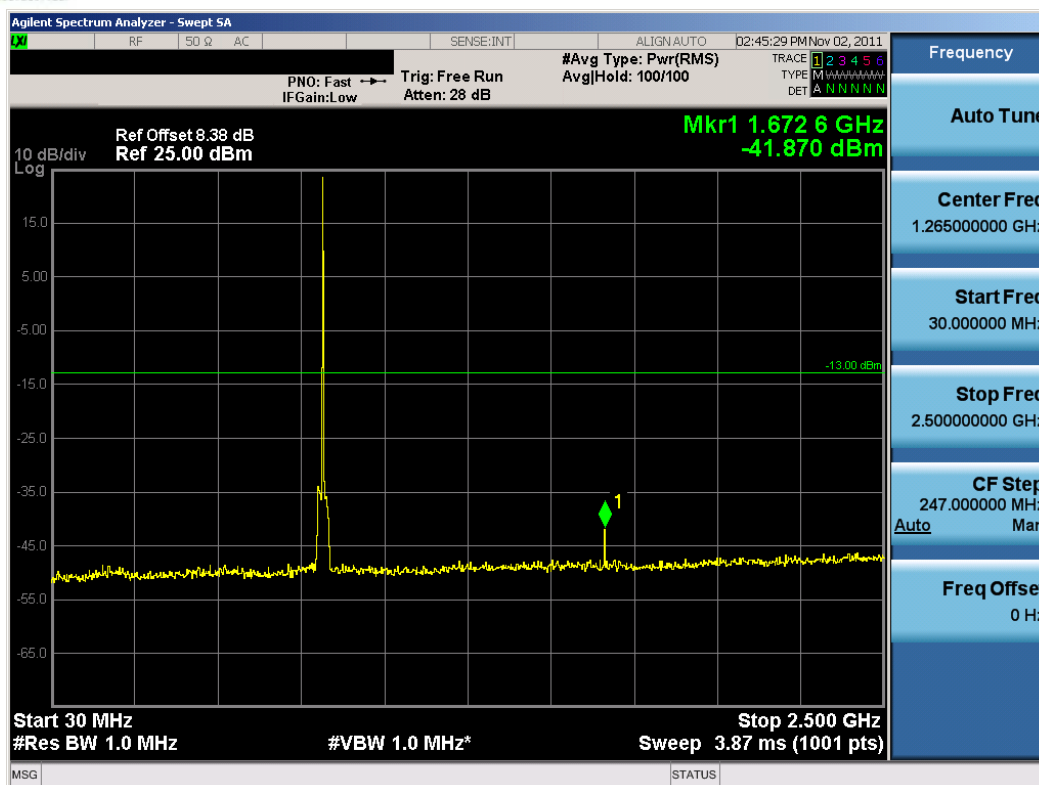


Plot 7-28. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

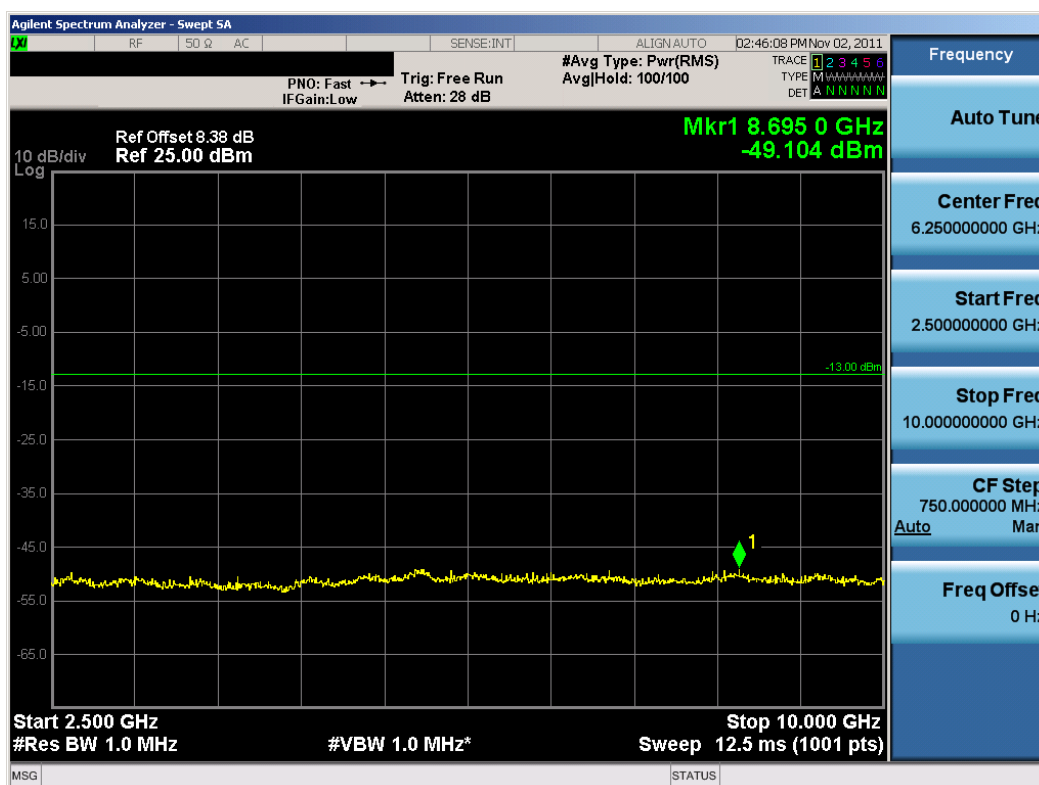


Plot 7-29. 4MHz Span Plot (Low Channel, QPSK, RB Size 6)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 49 of 101

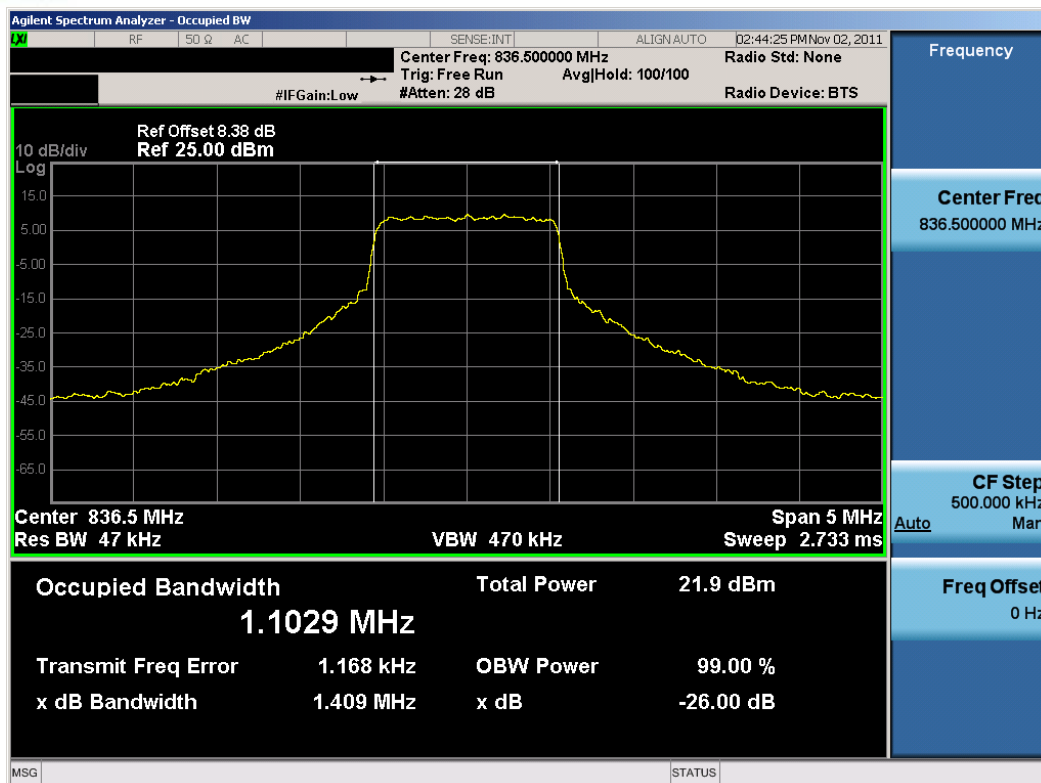


Plot 7-30. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

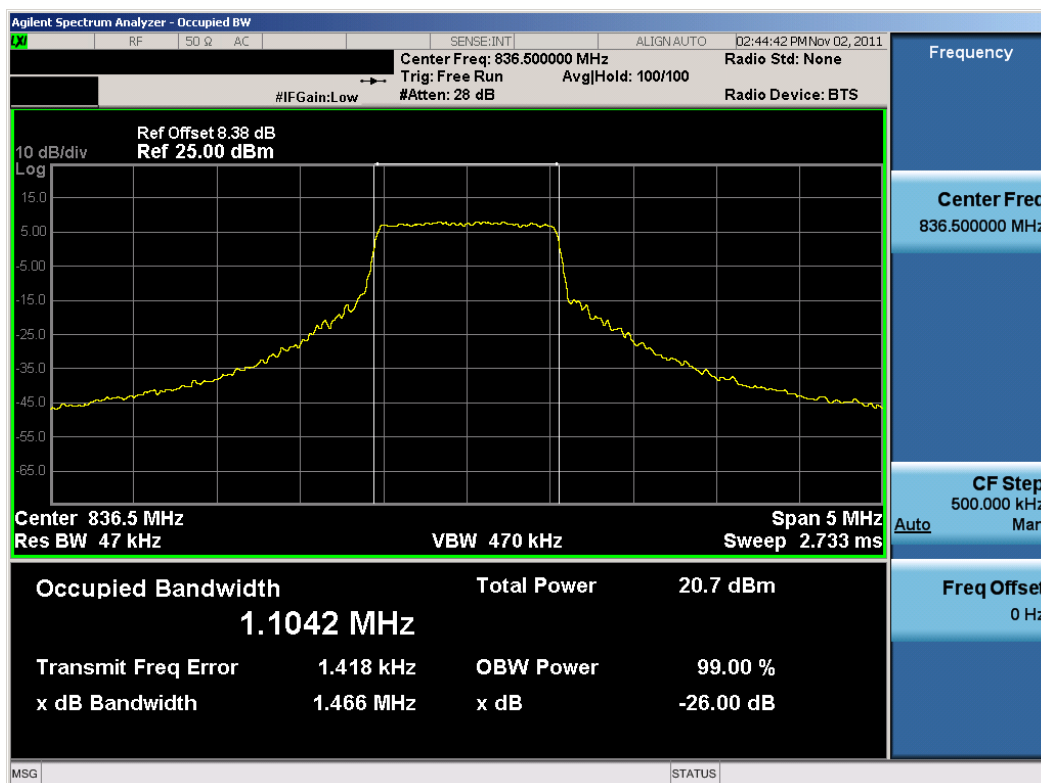


Plot 7-31. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 50 of 101

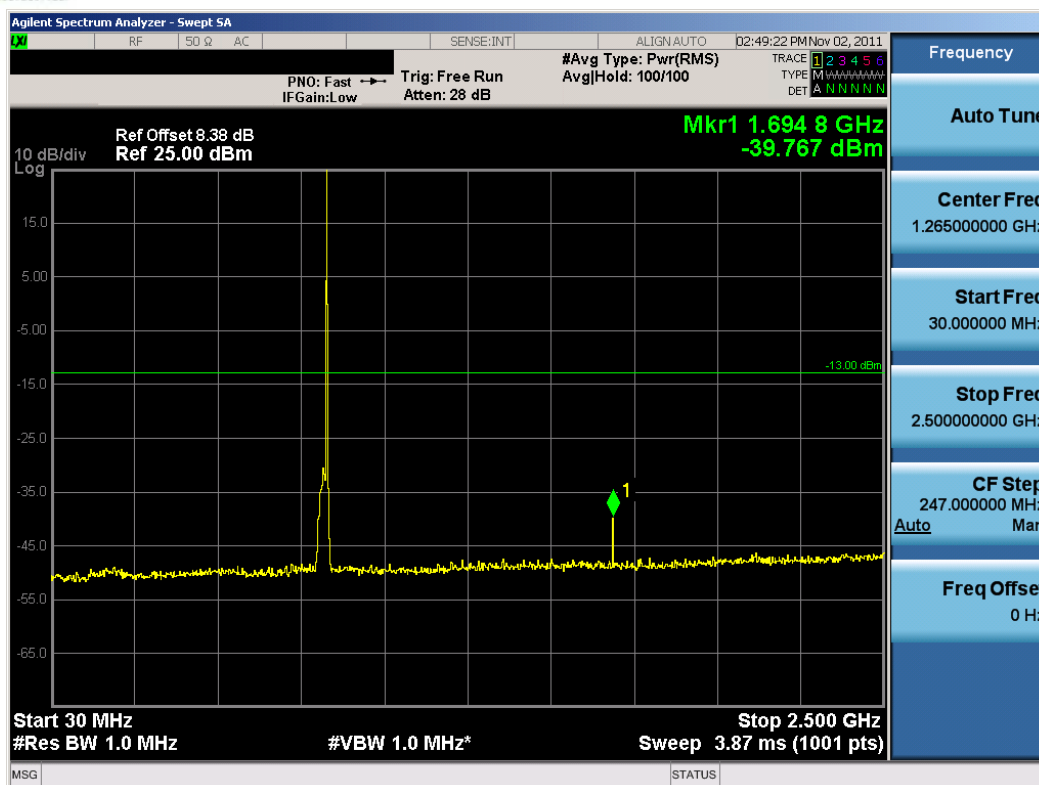


Plot 7-32. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 6)

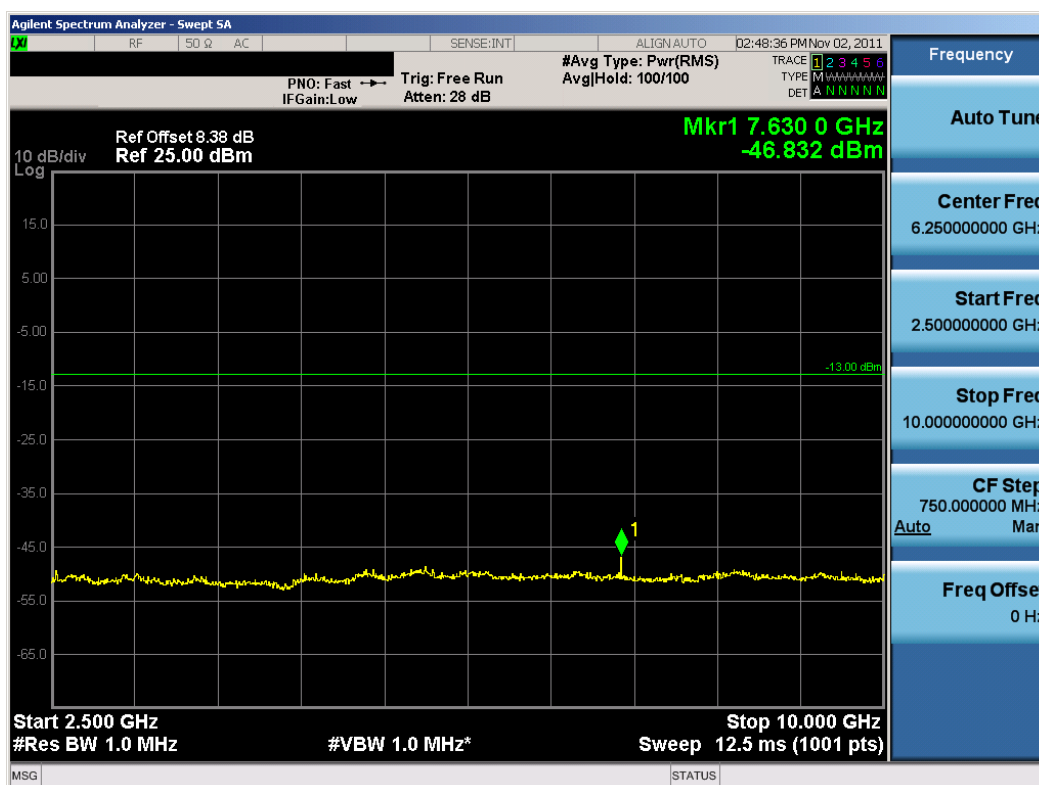


Plot 7-33. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 6)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 51 of 101

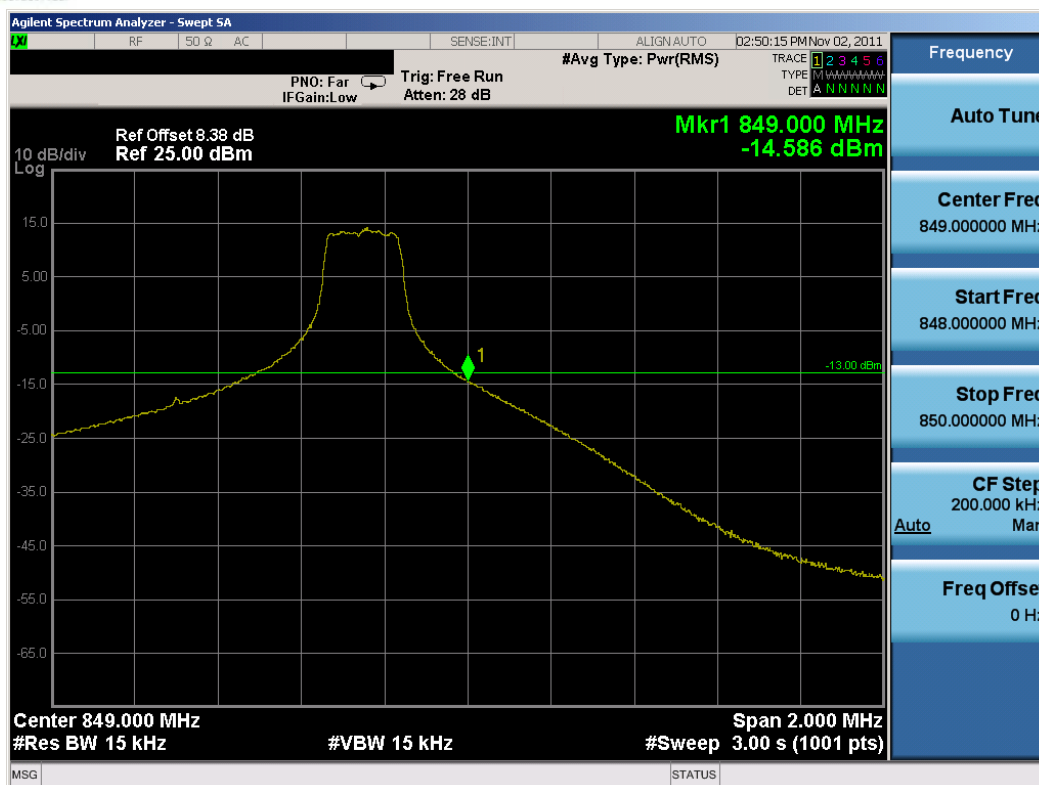


Plot 7-34. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)



Plot 7-35. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 52 of 101



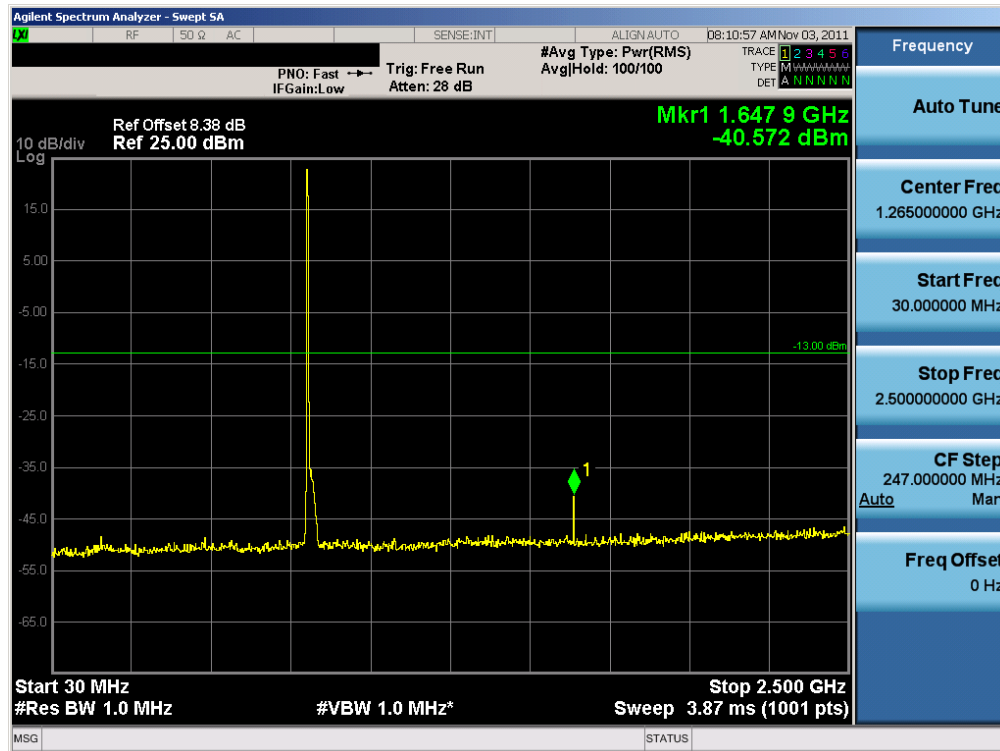
Plot 7-36. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, RB Offset 5)



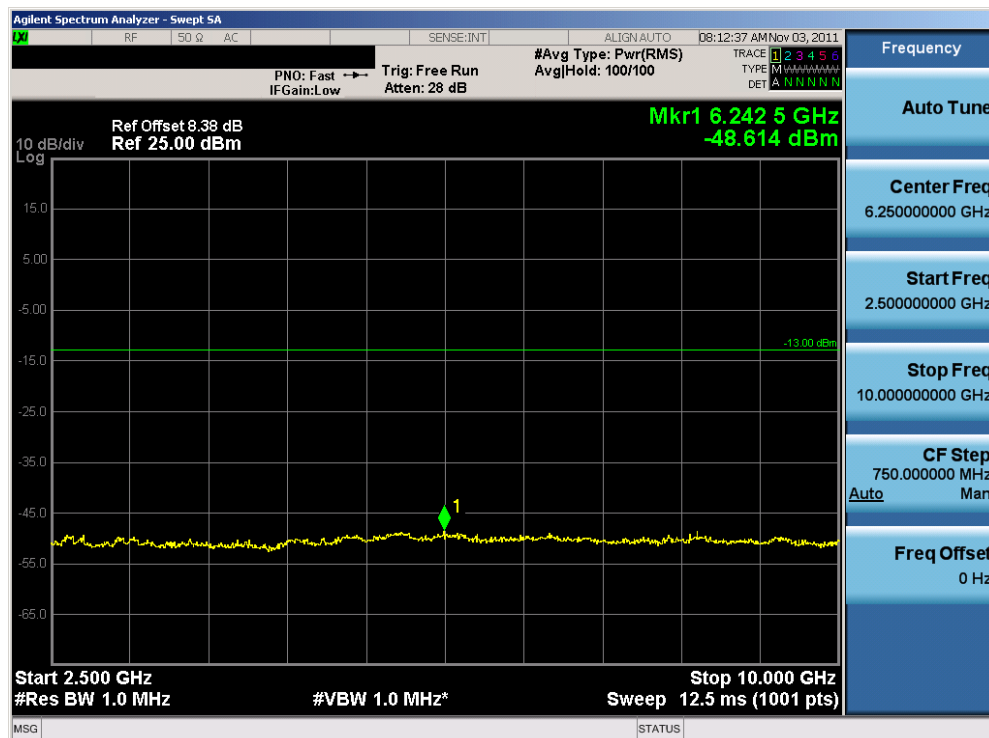
Plot 7-37. 4MHz Span Plot (High Channel, QPSK, RB Size 6)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 53 of 101

Band 5 – 3MHz Channel Bandwidth

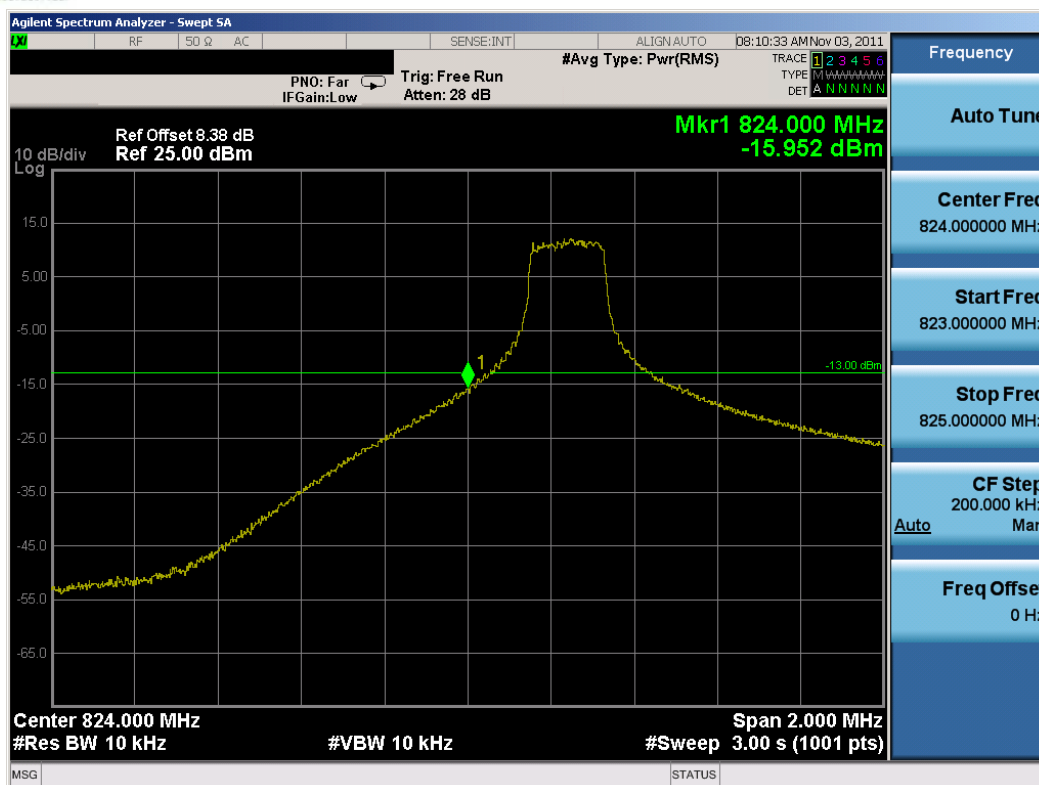


Plot 7-38. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)



Plot 7-39. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 54 of 101

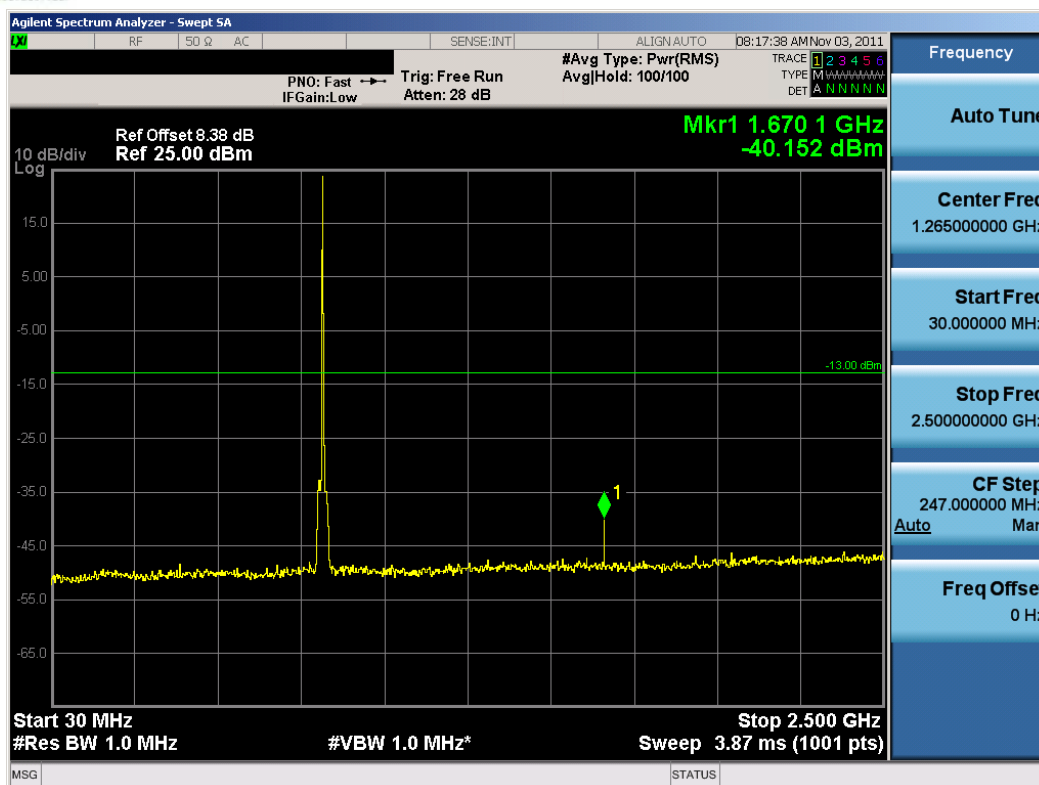


Plot 7-40. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

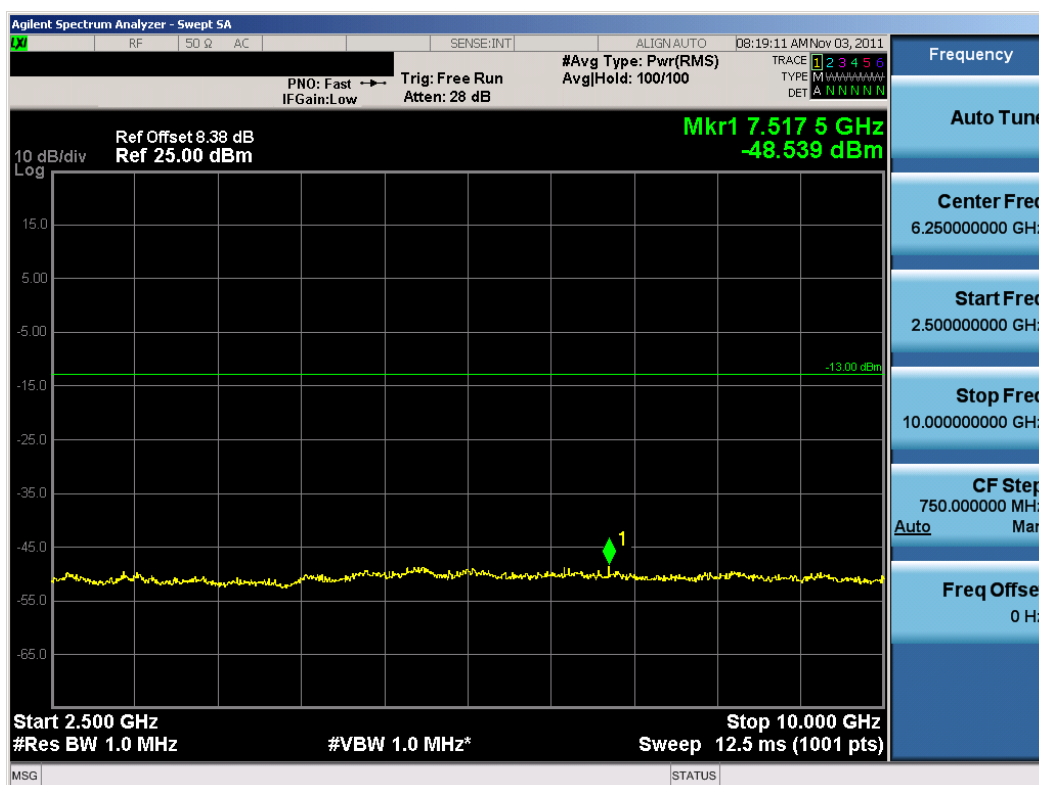


Plot 7-41. 4MHz Span Plot (Low Channel, QPSK, RB Size 15)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 55 of 101

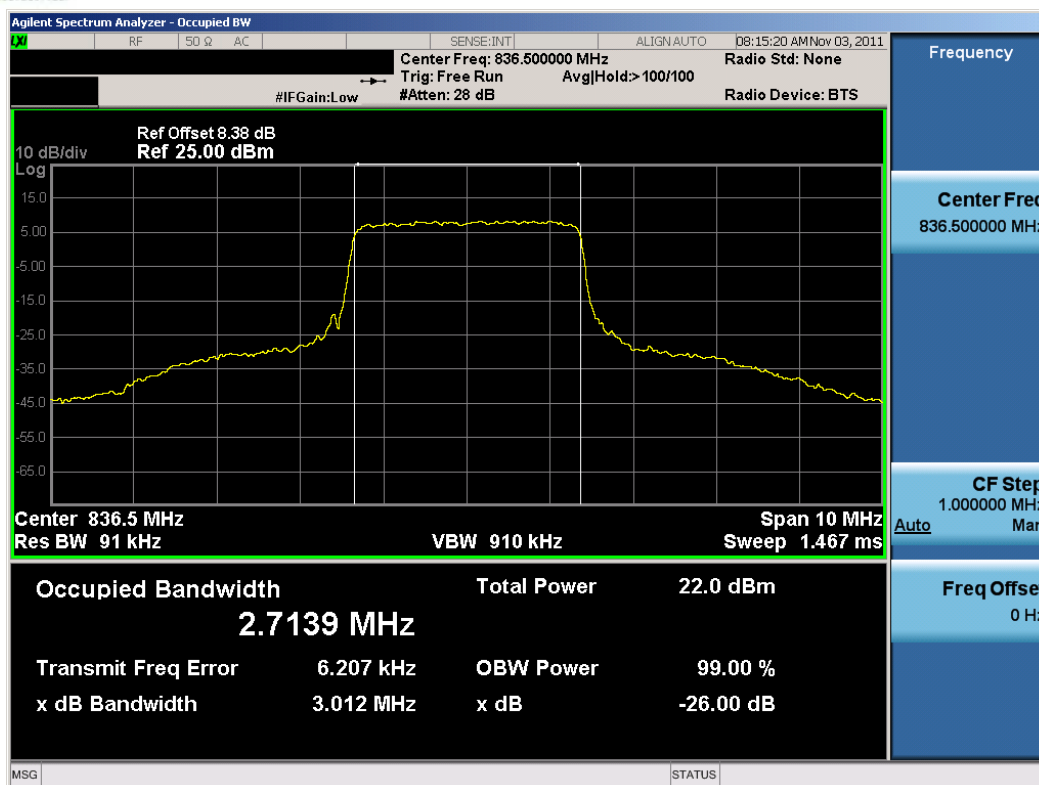


Plot 7-42. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

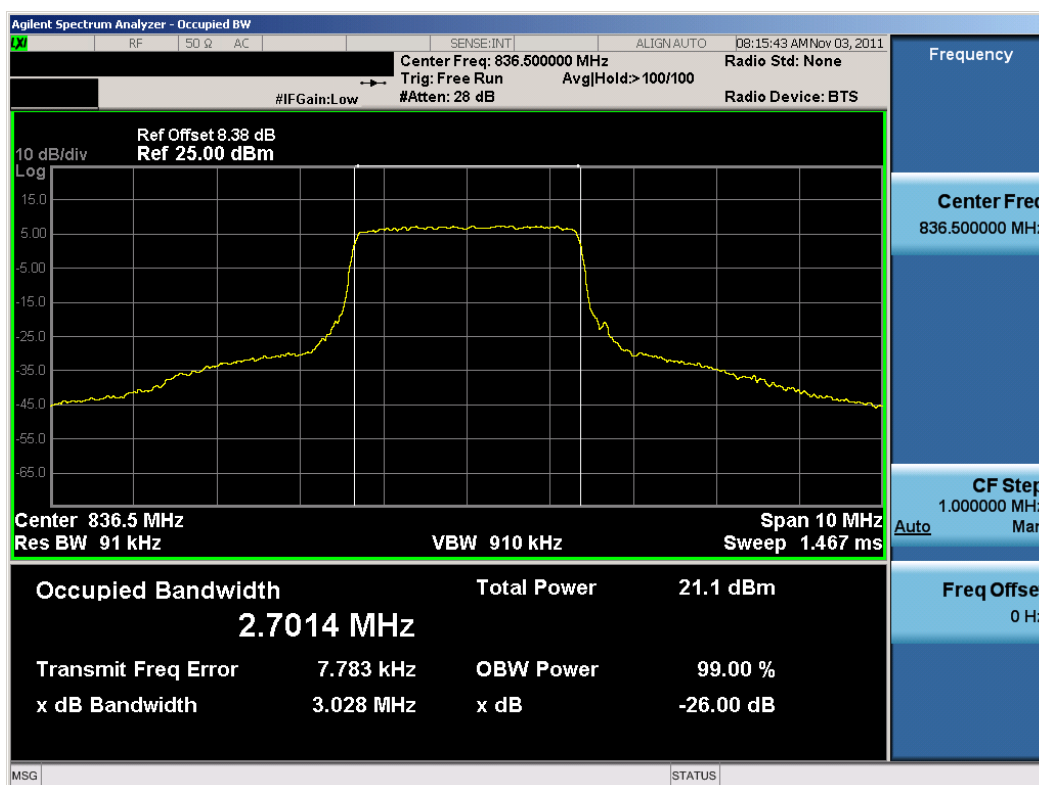


Plot 7-43. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 56 of 101

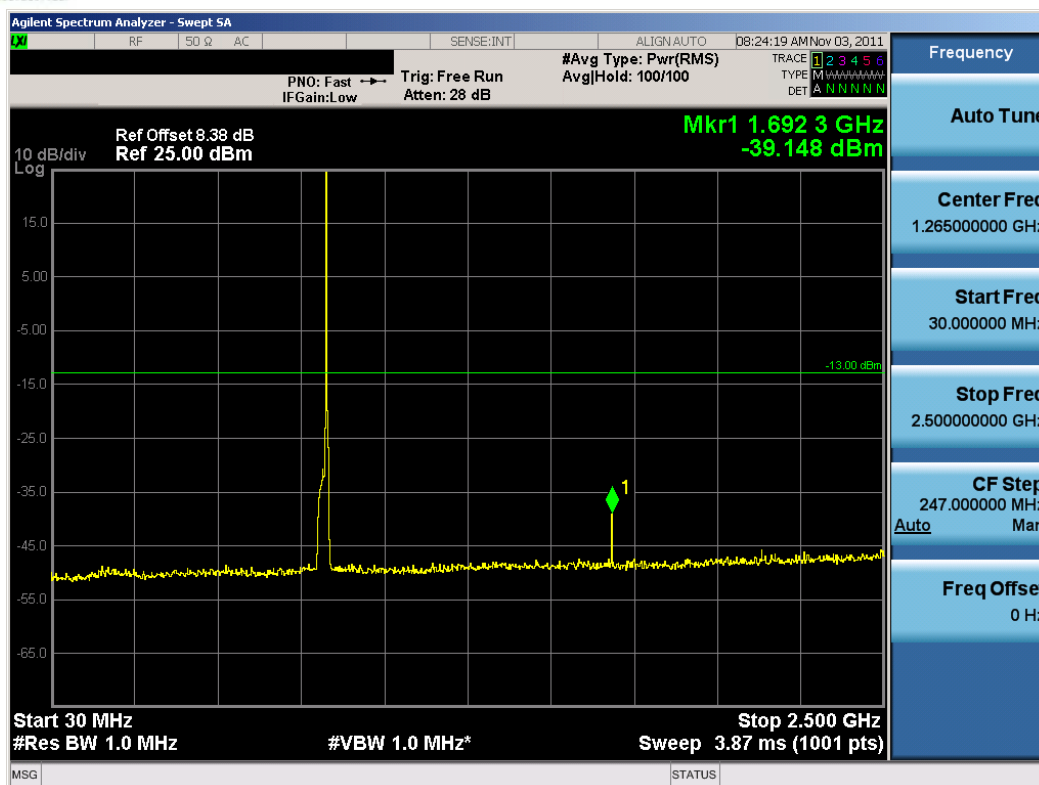


Plot 7-44. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 15)

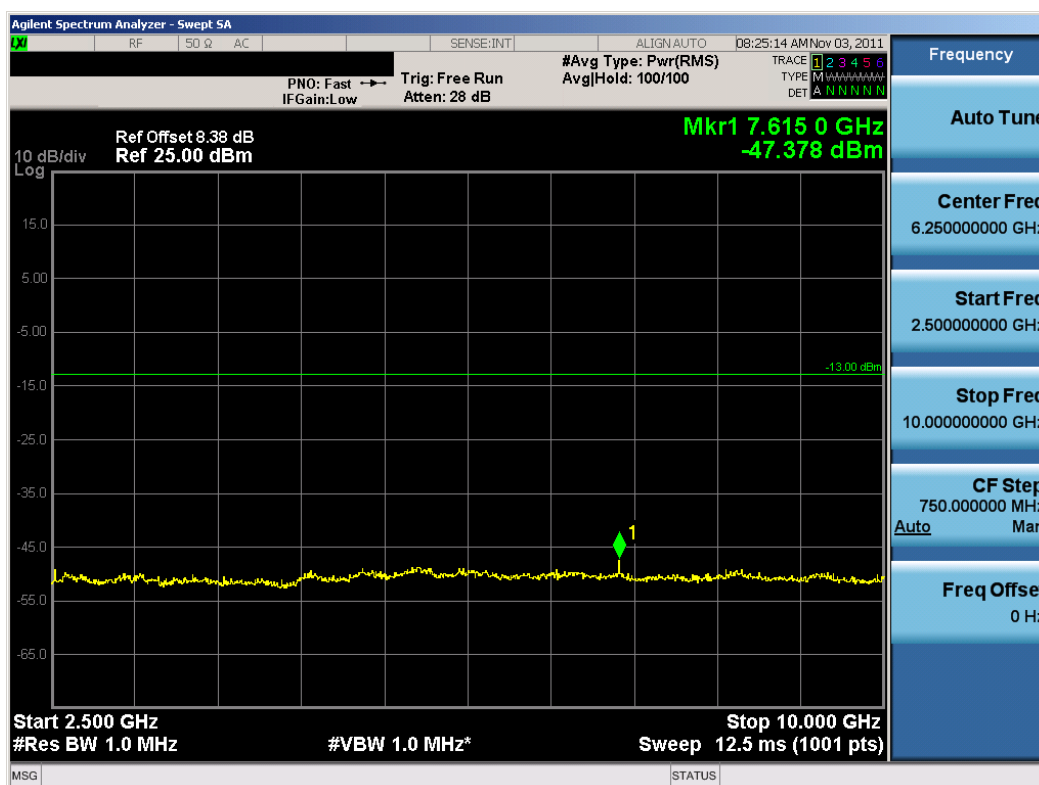


Plot 7-45. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 15)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 57 of 101

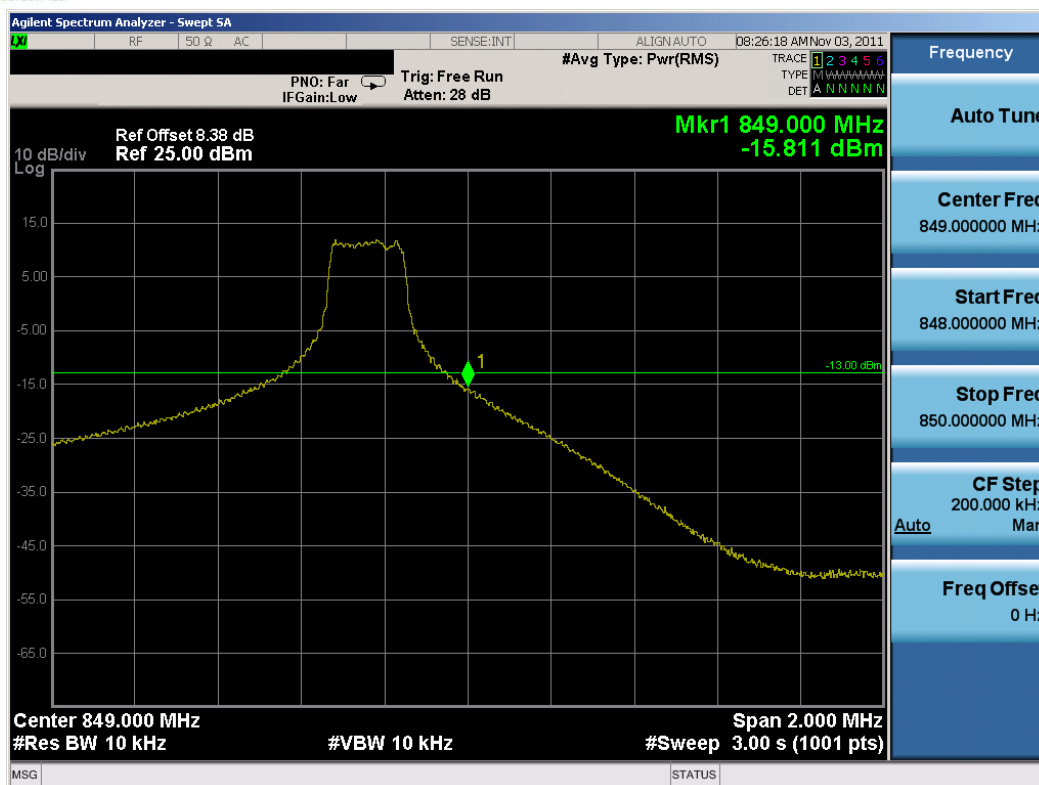


Plot 7-46. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)



Plot 7-47. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 58 of 101



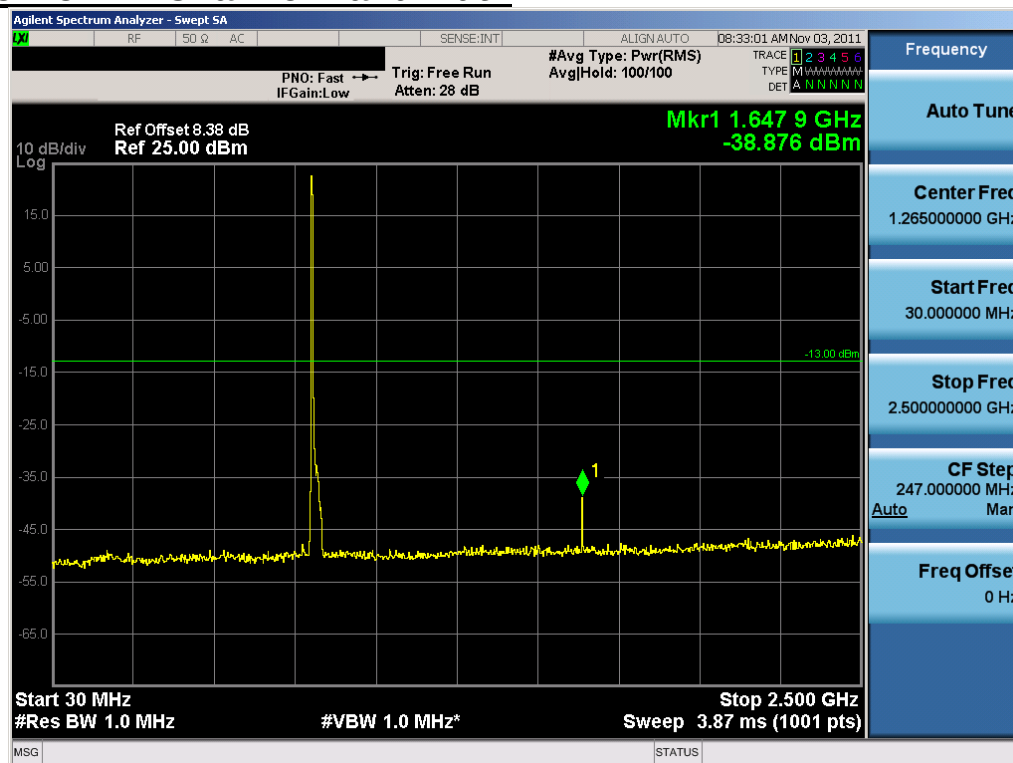
Plot 7-48. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, RB Offset 14)



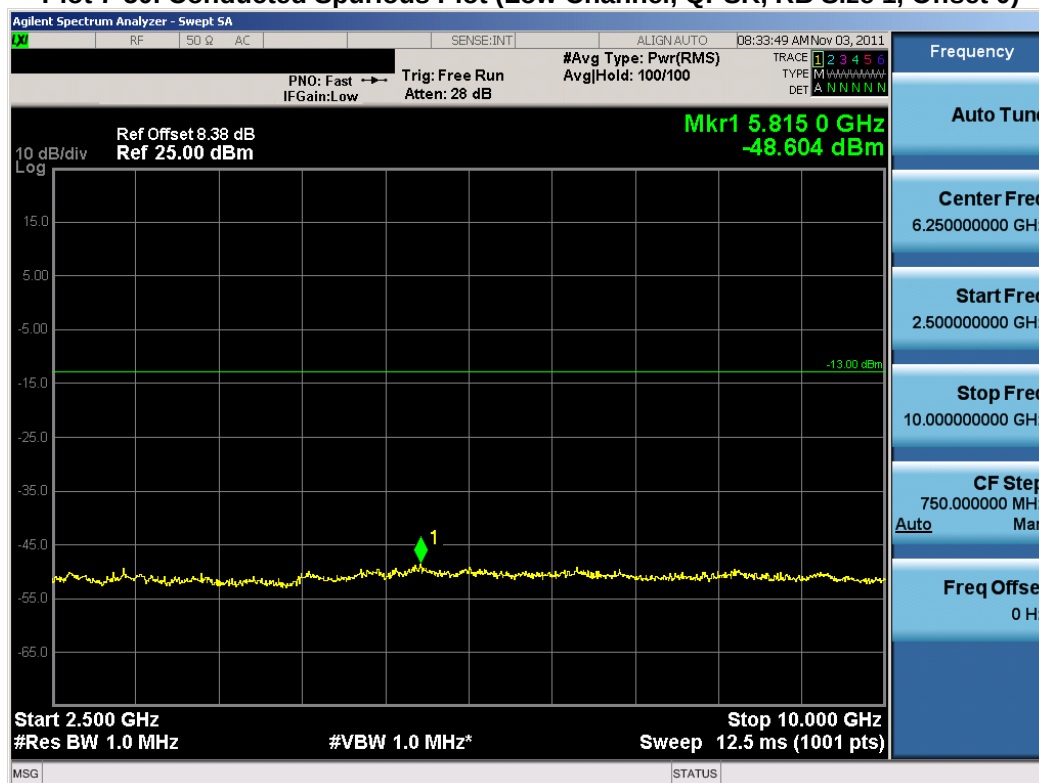
Plot 7-49. 4MHz Span Plot (High Channel, QPSK, RB Size 15)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 59 of 101

Band 5 – 5MHz Channel Bandwidth

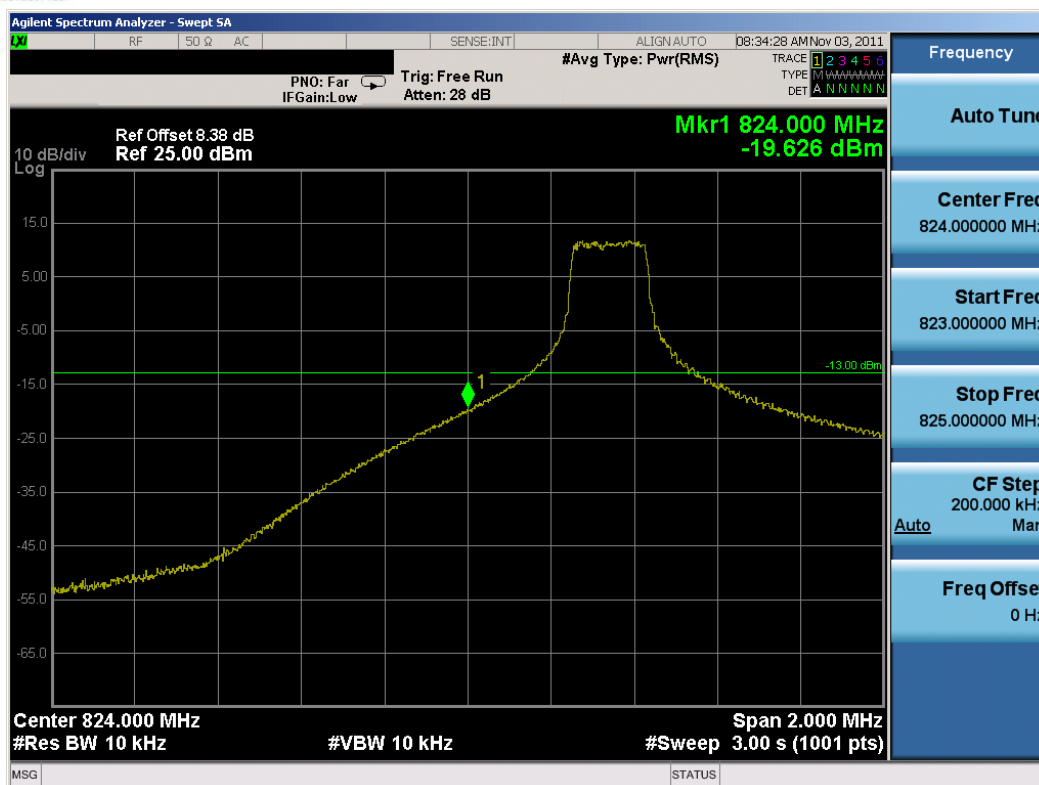


Plot 7-50. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

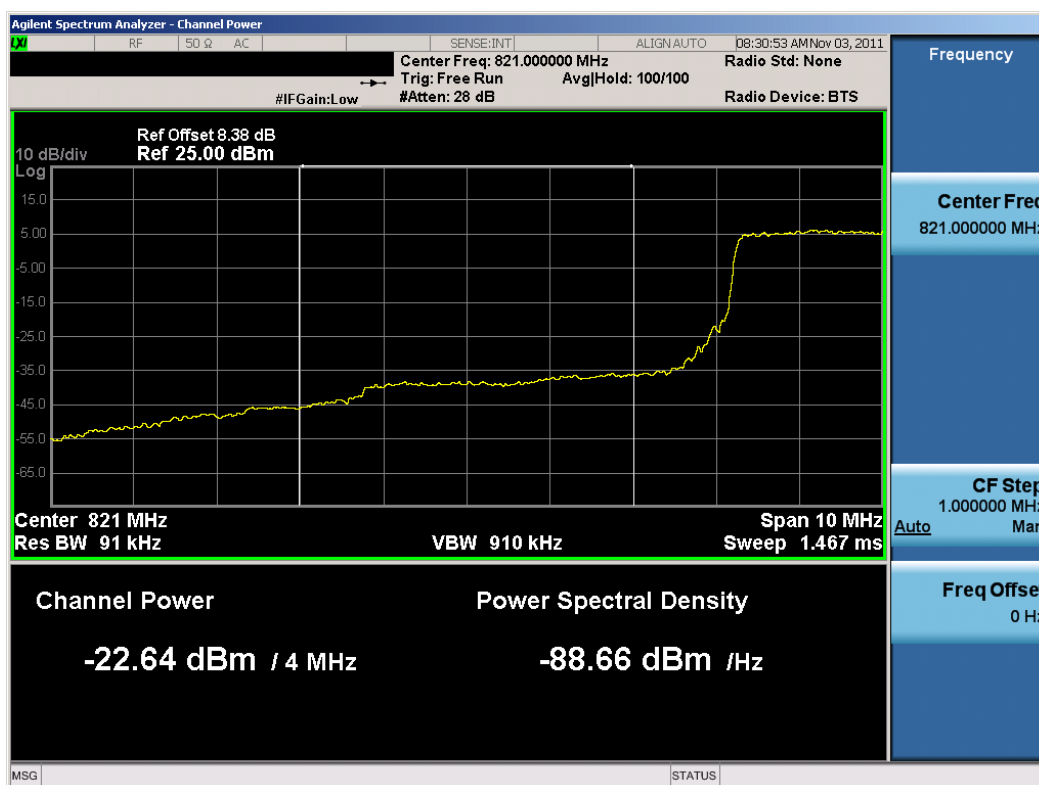


Plot 7-51. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 60 of 101

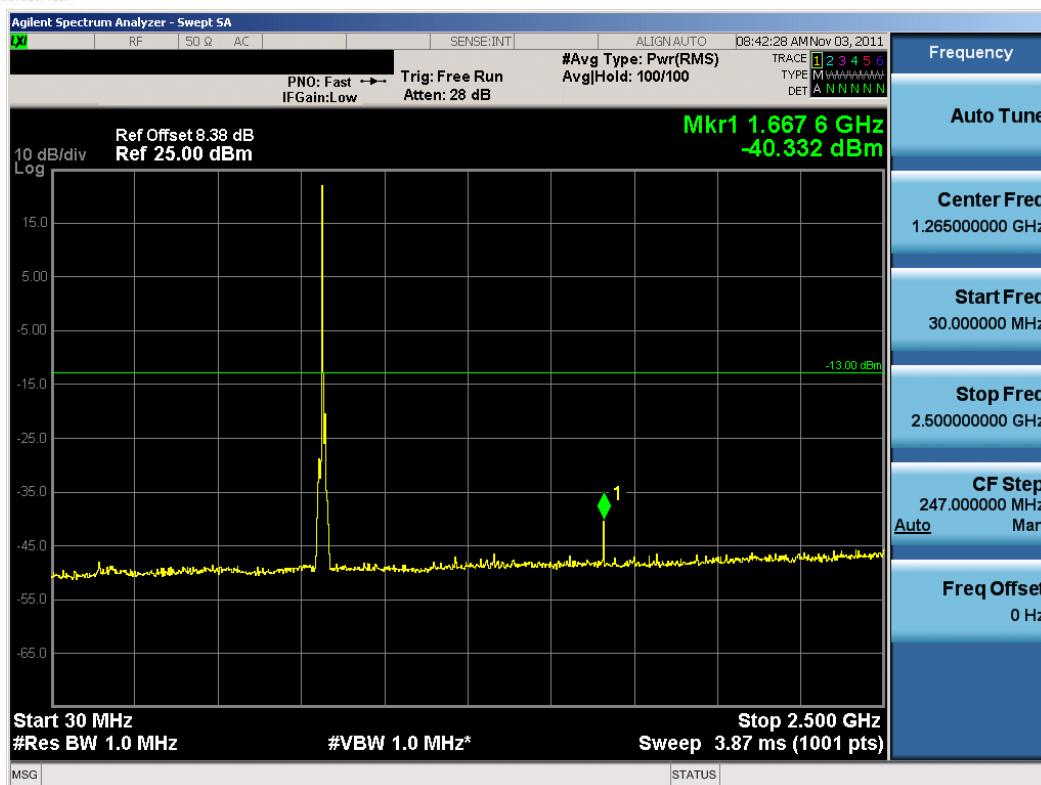


Plot 7-52. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

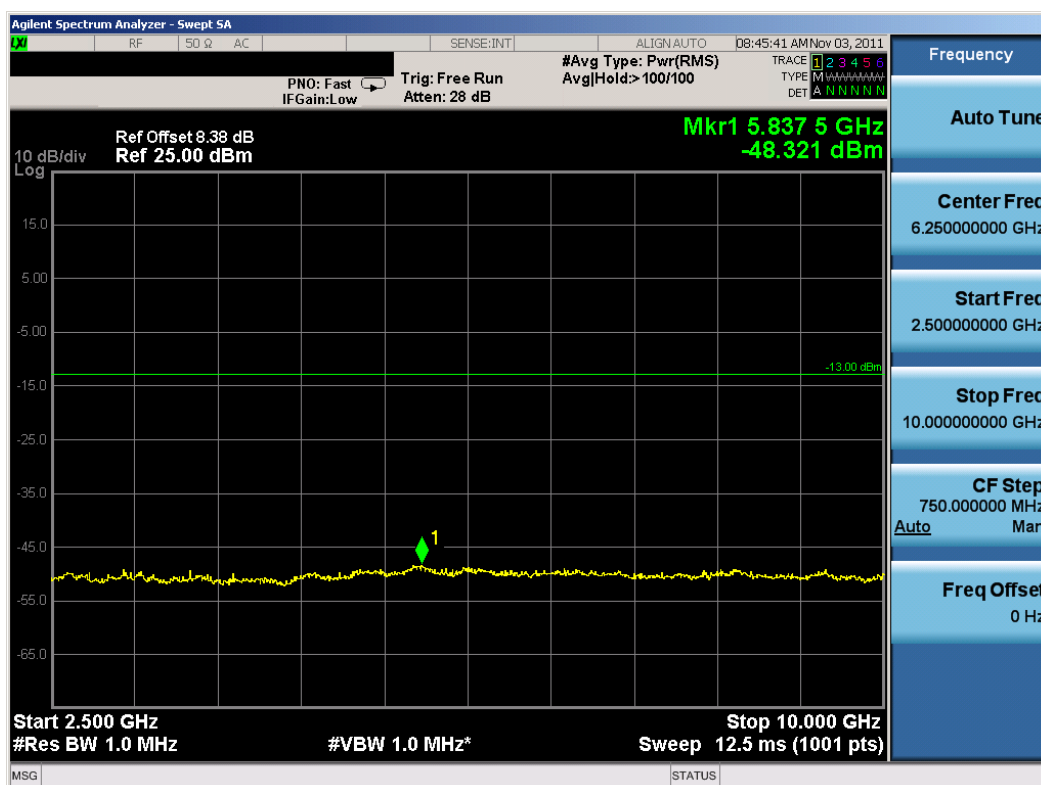


Plot 7-53. 4MHz Span Plot (Low Channel, QPSK, RB Size 25)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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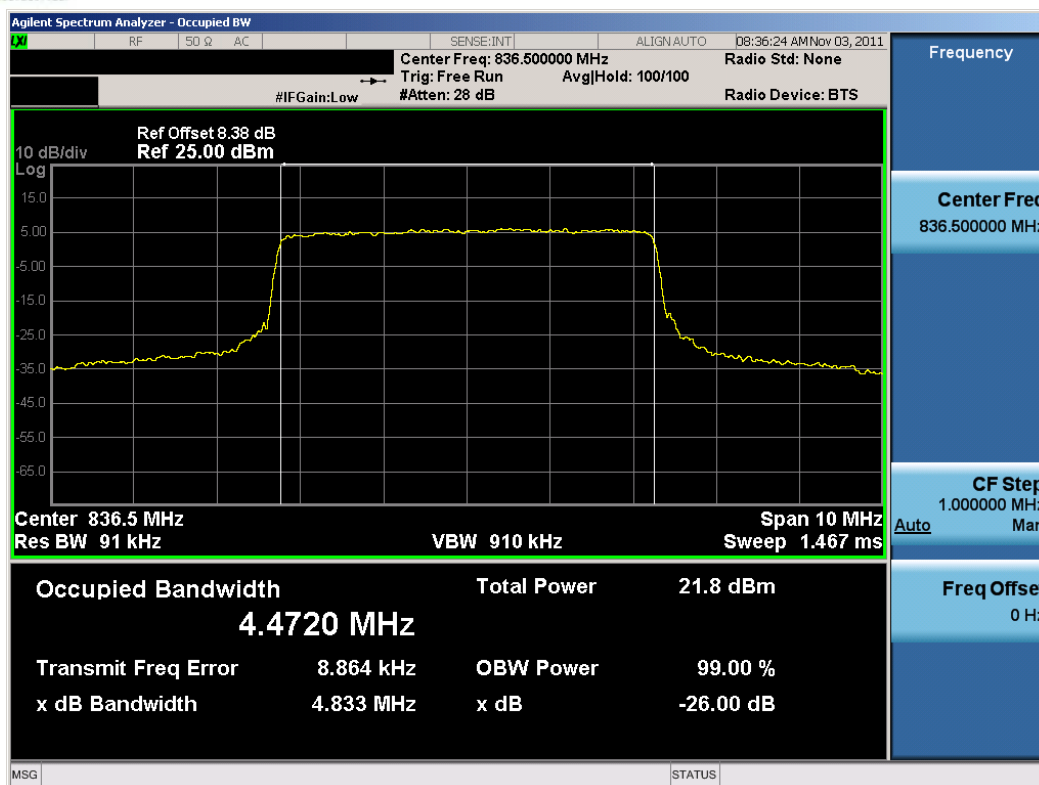


Plot 7-54. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

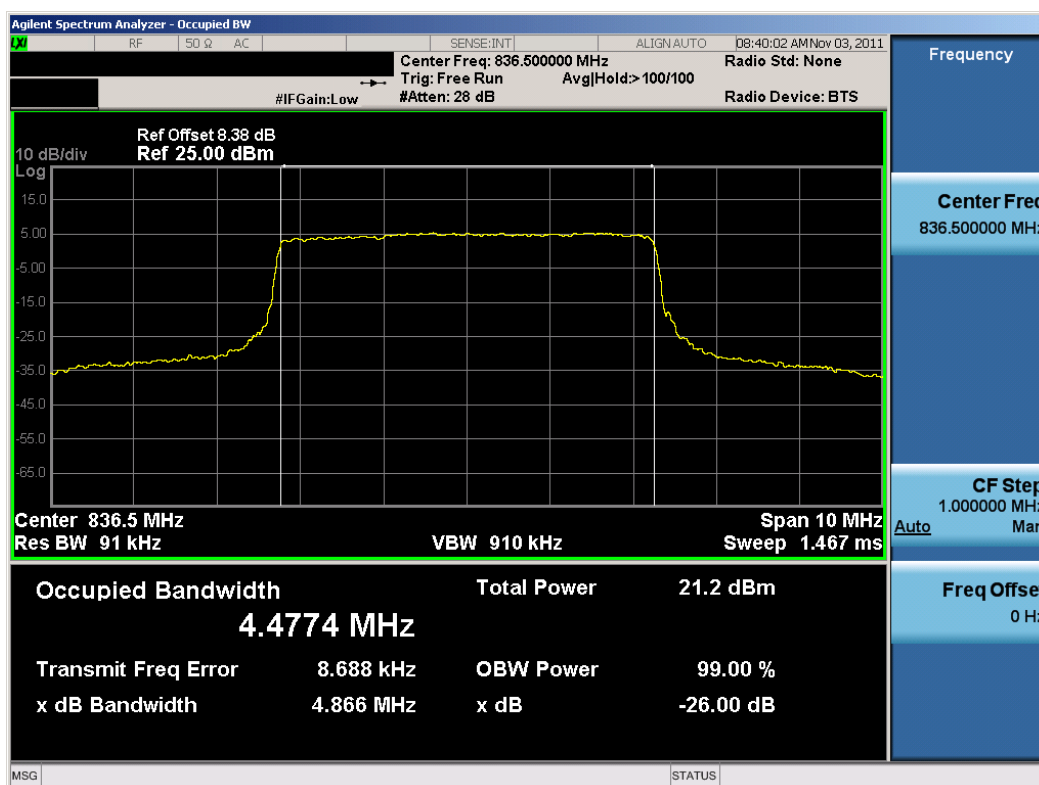


Plot 7-55. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 62 of 101

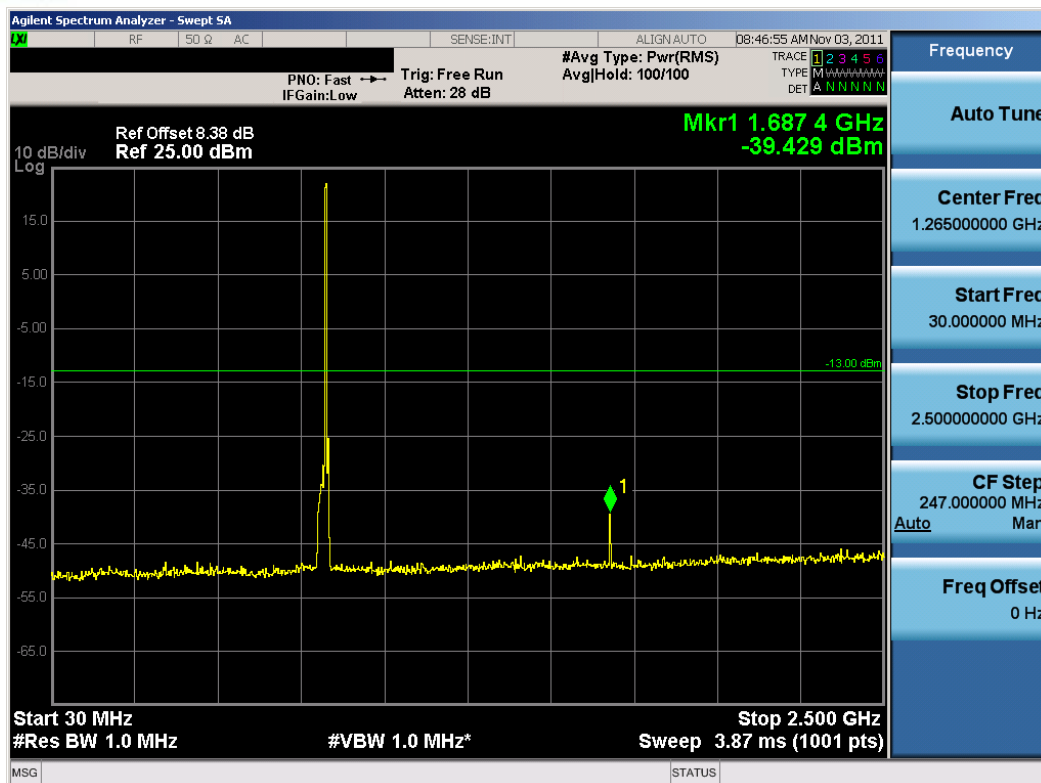


Plot 7-56. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 25)

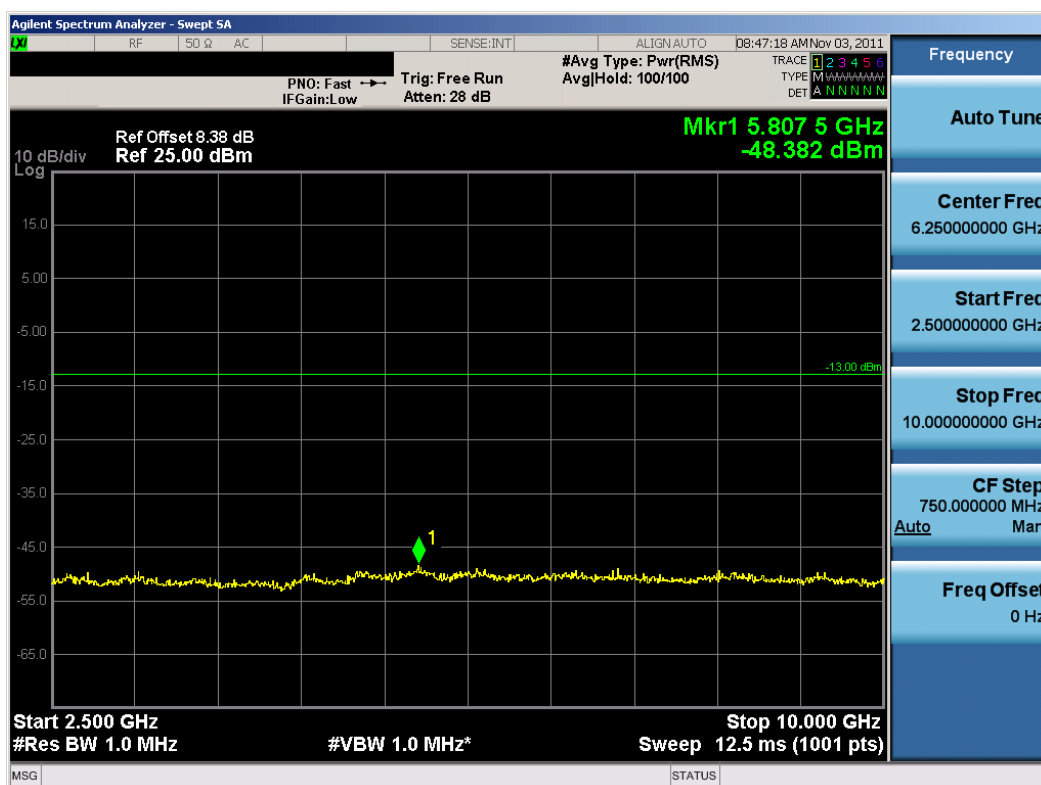


Plot 7-57. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 25)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 63 of 101

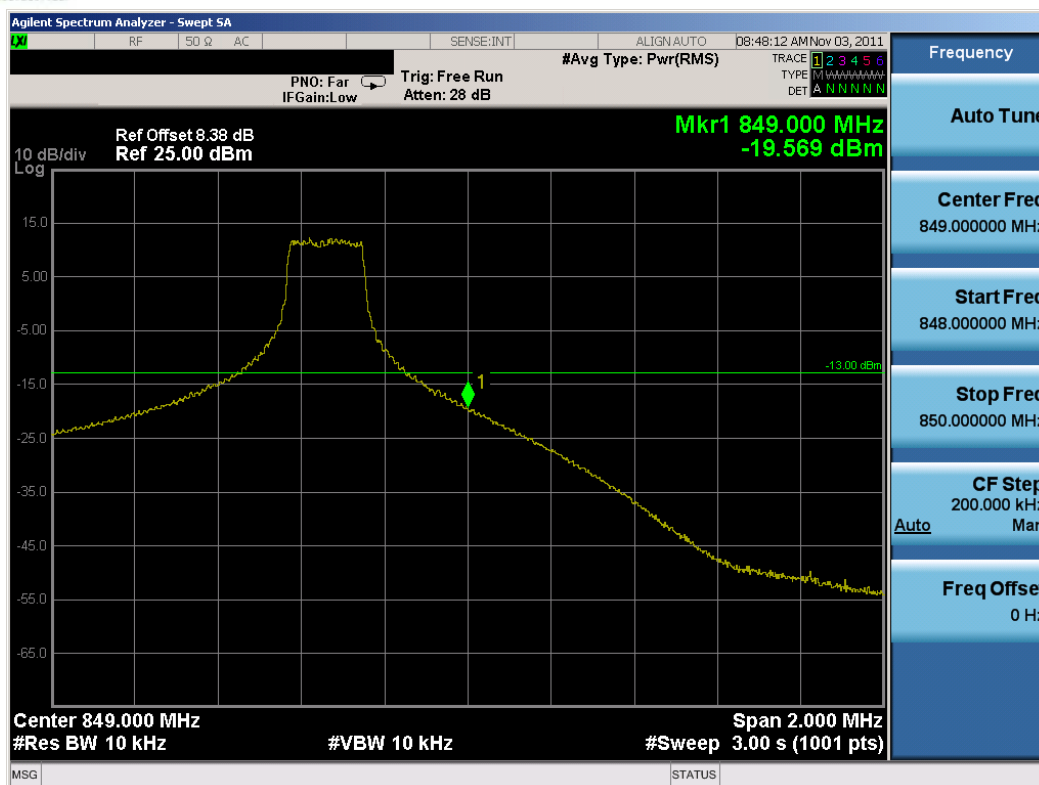


Plot 7-58. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)

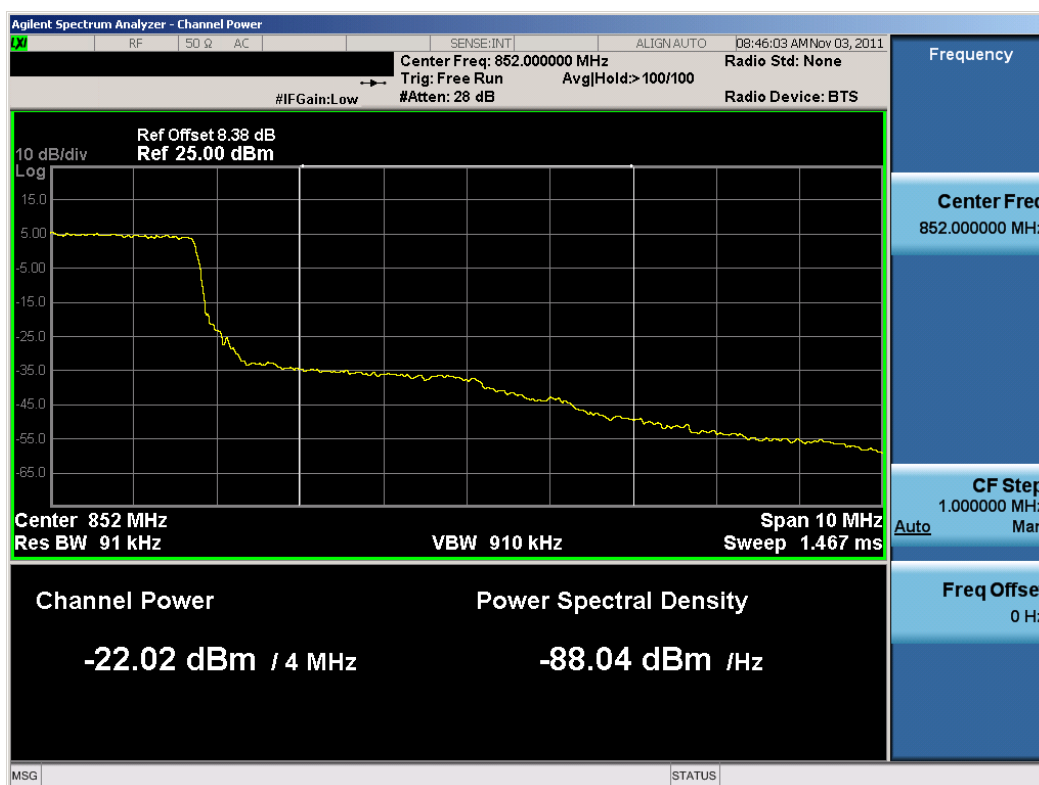


Plot 7-59. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 64 of 101



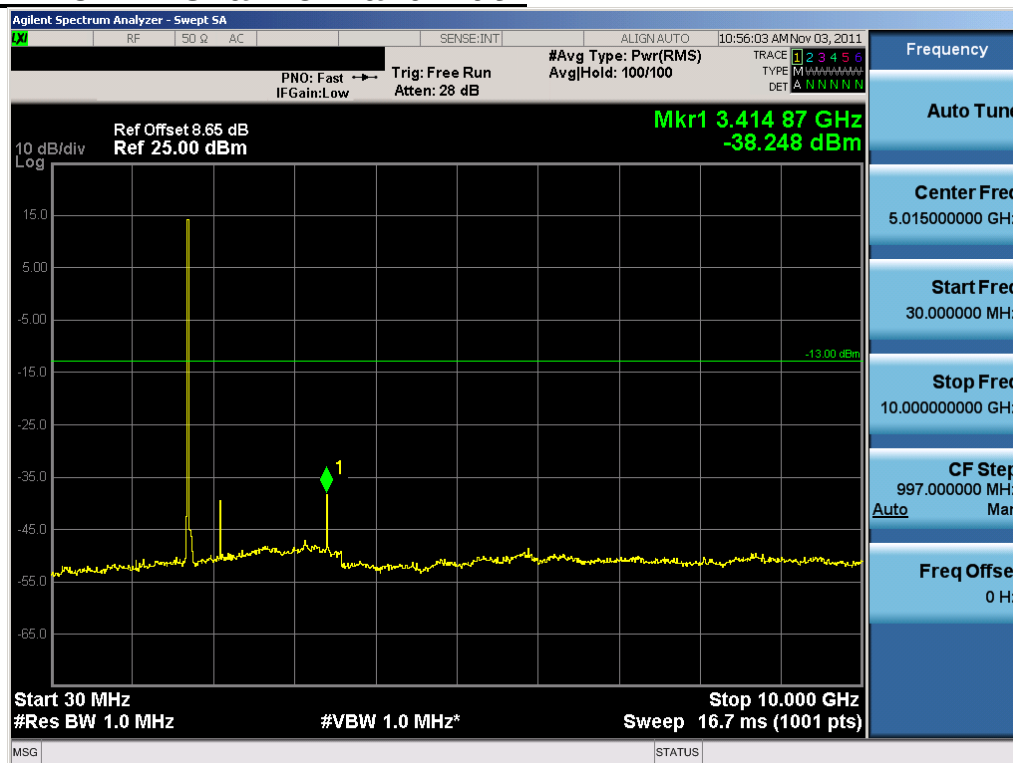
Plot 7-60. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, RB Offset 24)



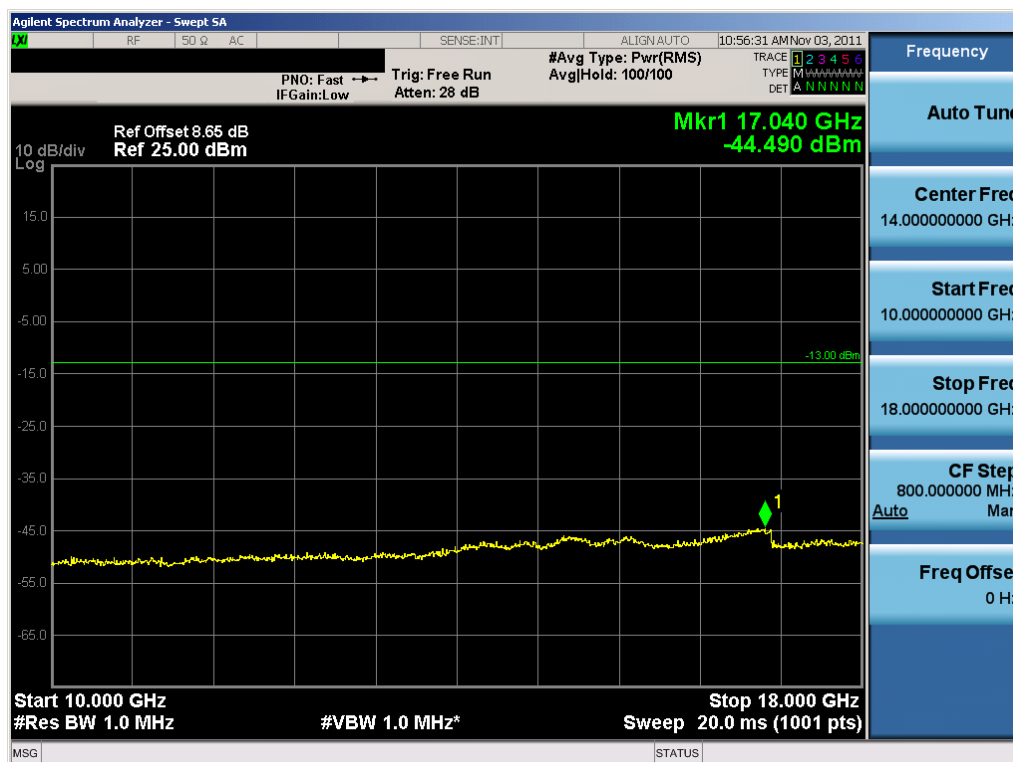
Plot 7-61. 4MHz Span Plot (High Channel, QPSK, RB Size 25)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 65 of 101

BAND 4 – 5MHz Channel Bandwidth

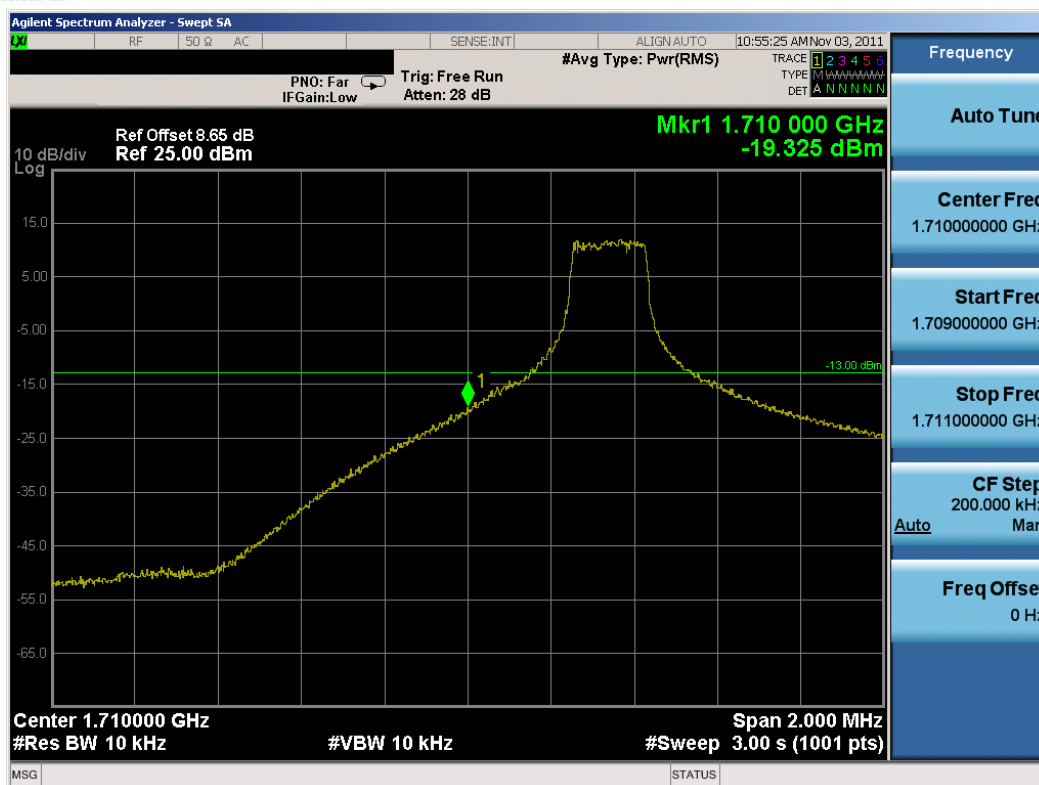


Plot 7-62. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

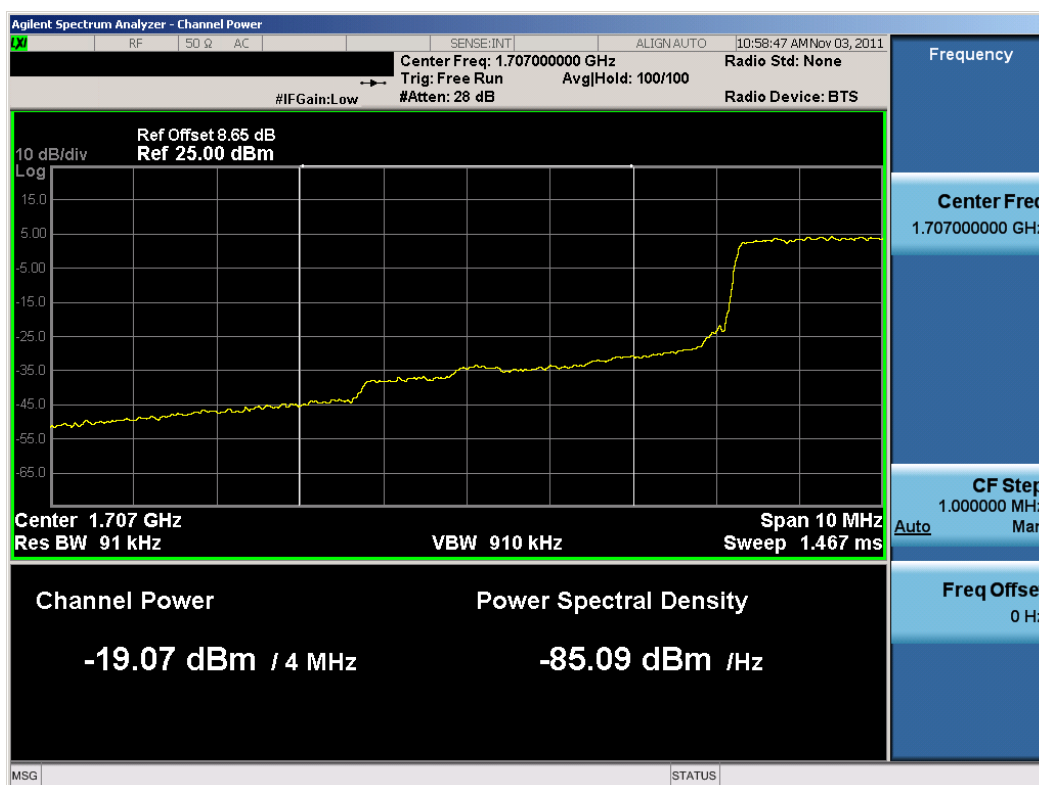


Plot 7-63. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 66 of 101

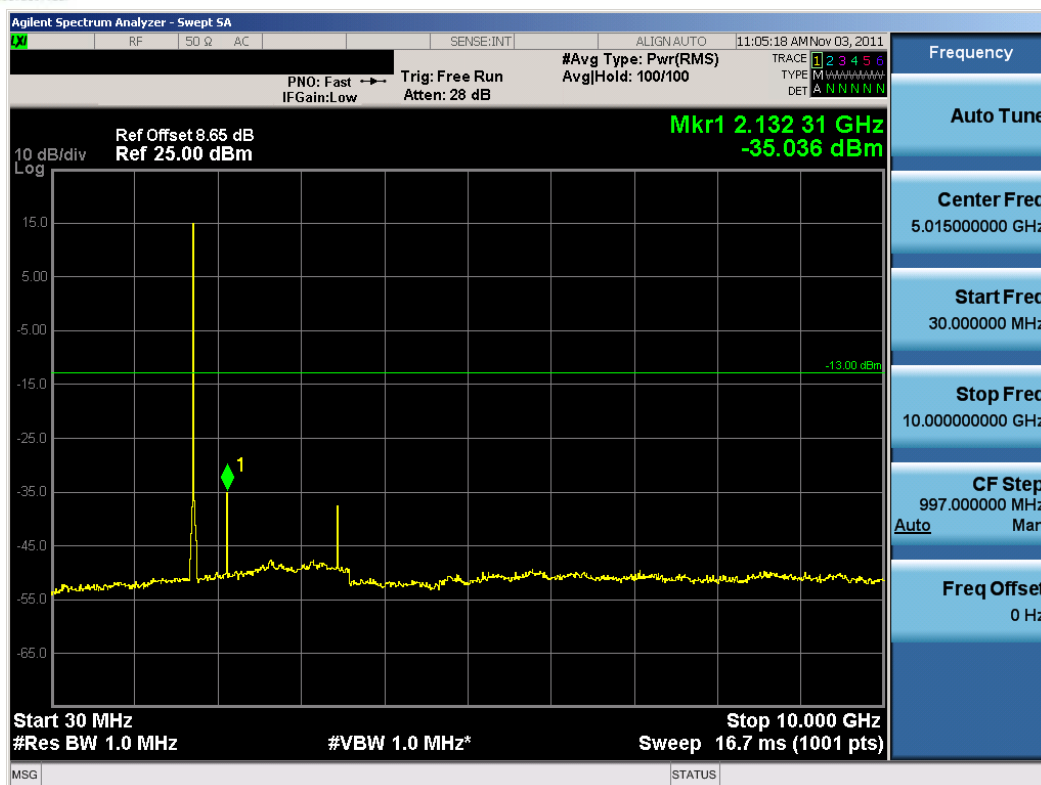


Plot 7-64. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

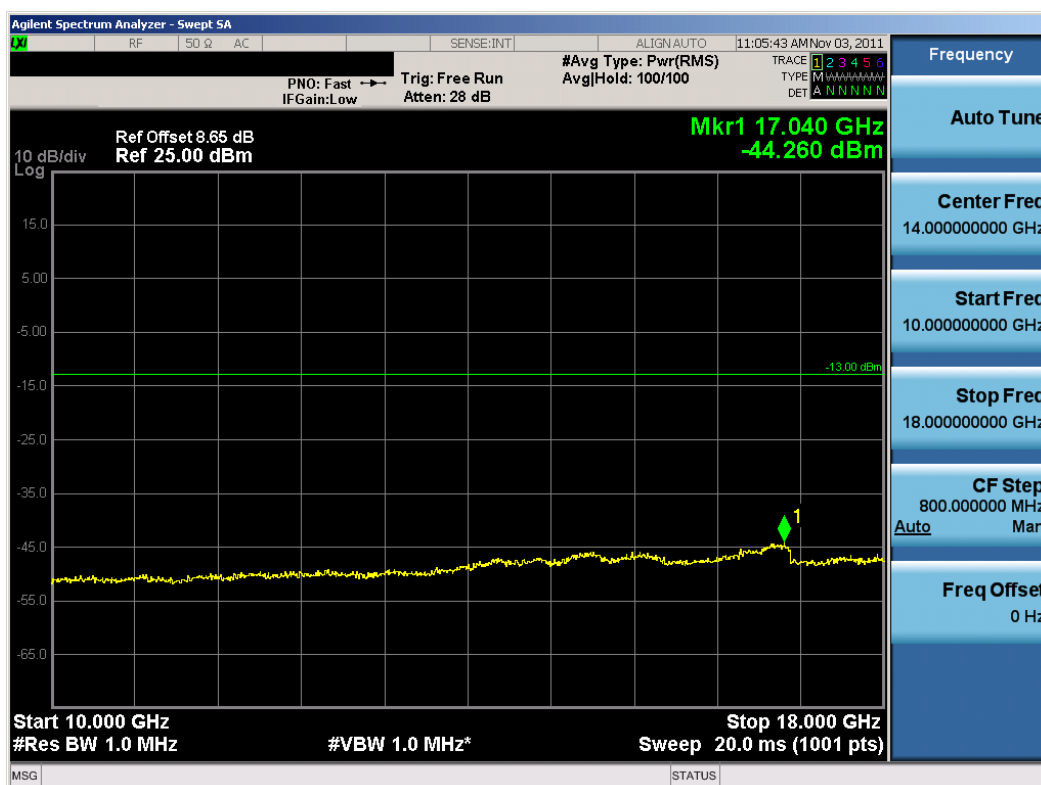


Plot 7-65. 4MHz Span Plot (Low Channel, QPSK, RB Size 25)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 67 of 101

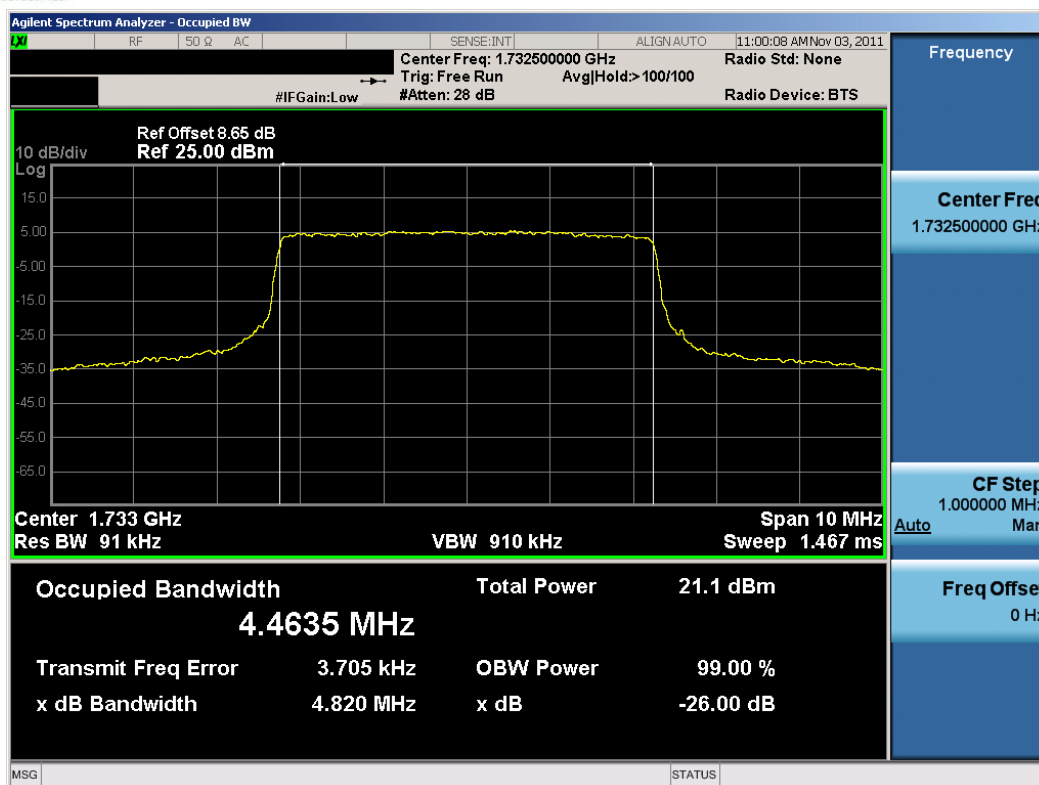


Plot 7-66. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

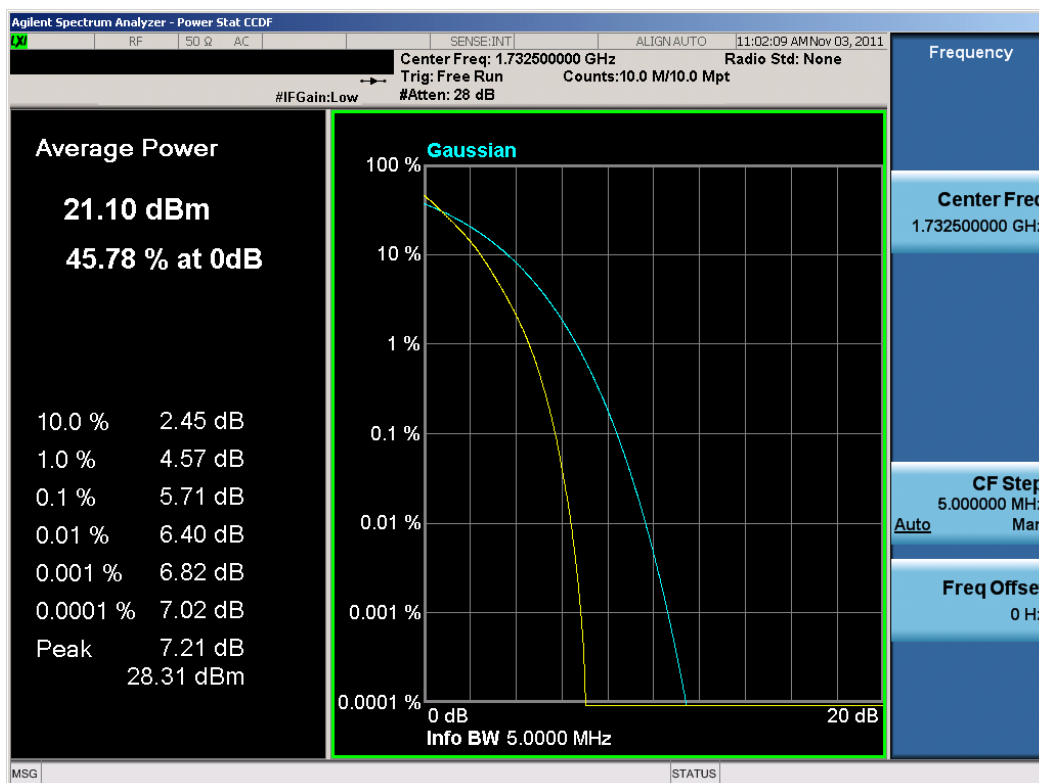


Plot 7-67. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 68 of 101

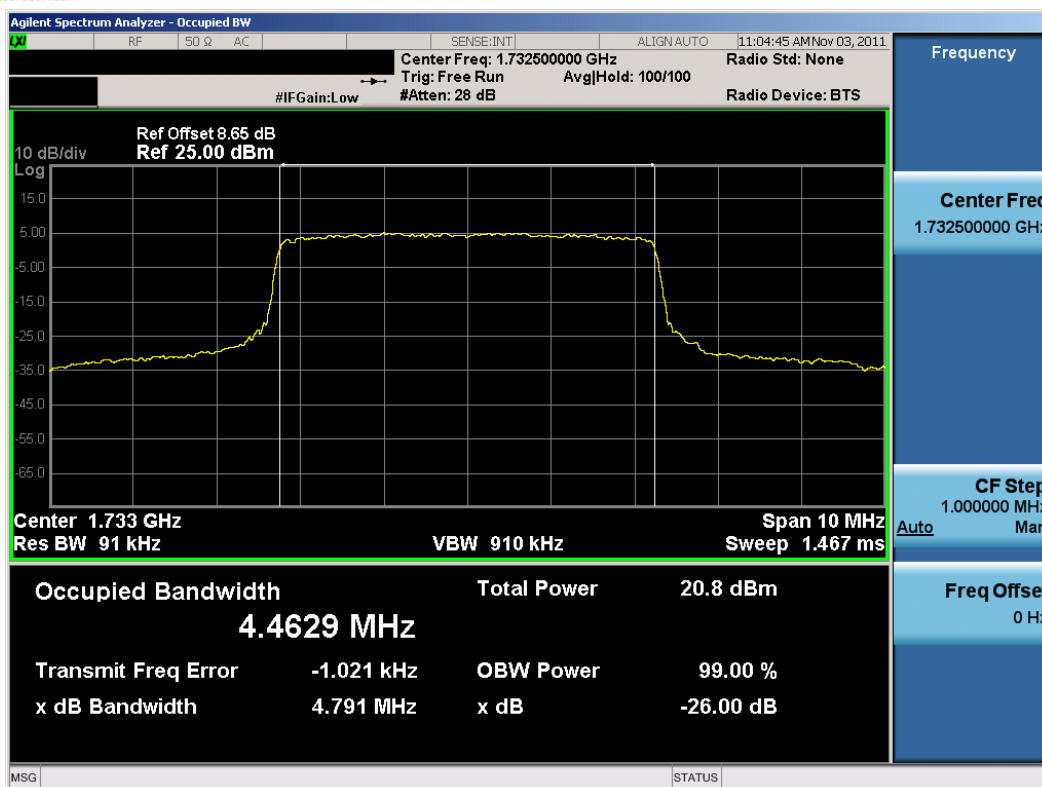


Plot 7-68. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 25)

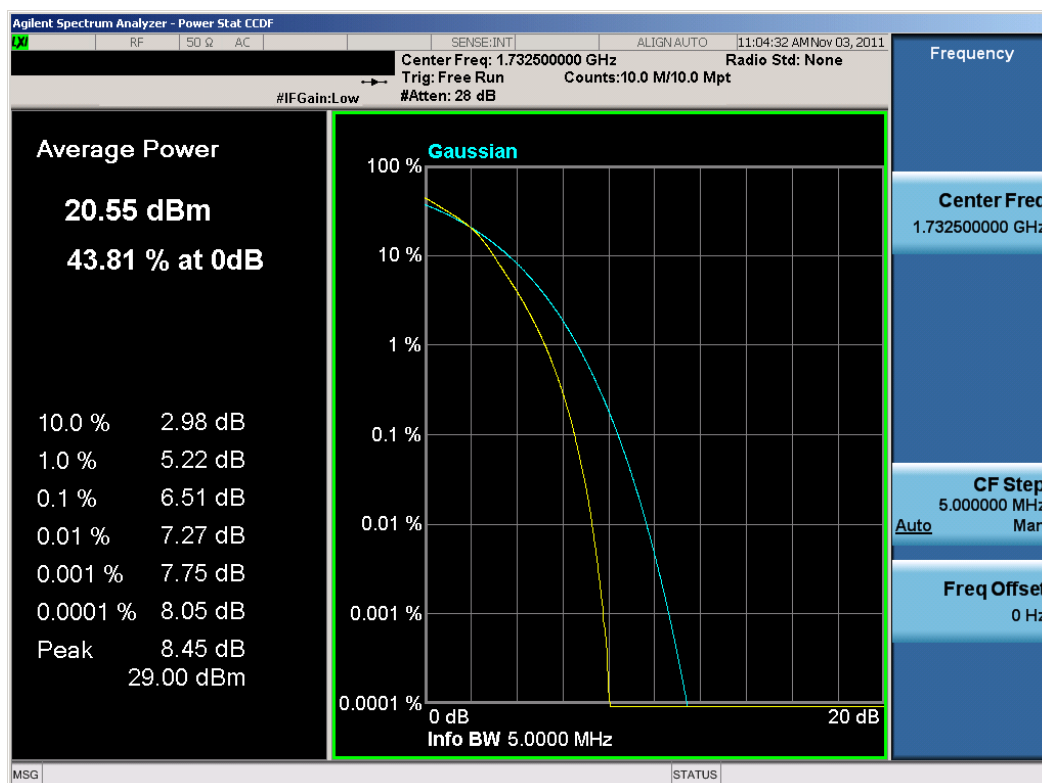


Plot 7-69. Peak-Average Ratio Plot (Mid Channel, QPSK, RB Size 25)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 69 of 101

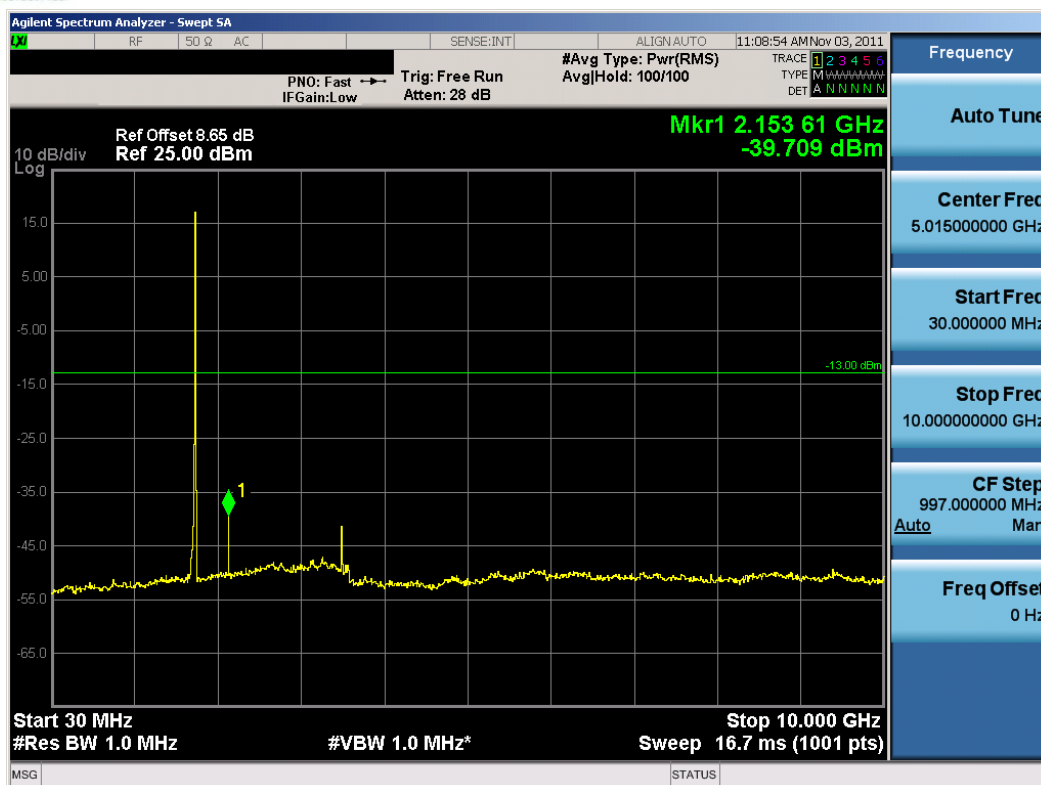


Plot 7-70. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 25)

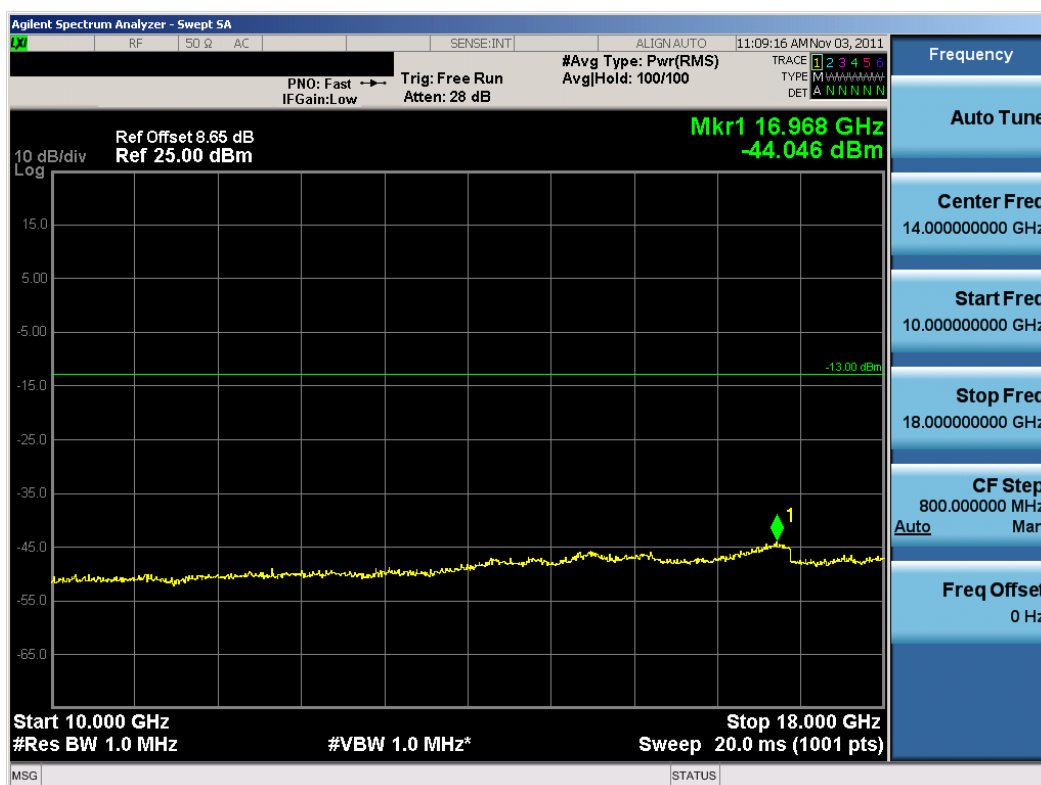


Plot 7-71. Peak-Average Ratio Plot (Mid Channel, 16-QAM, RB Size 25)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 70 of 101

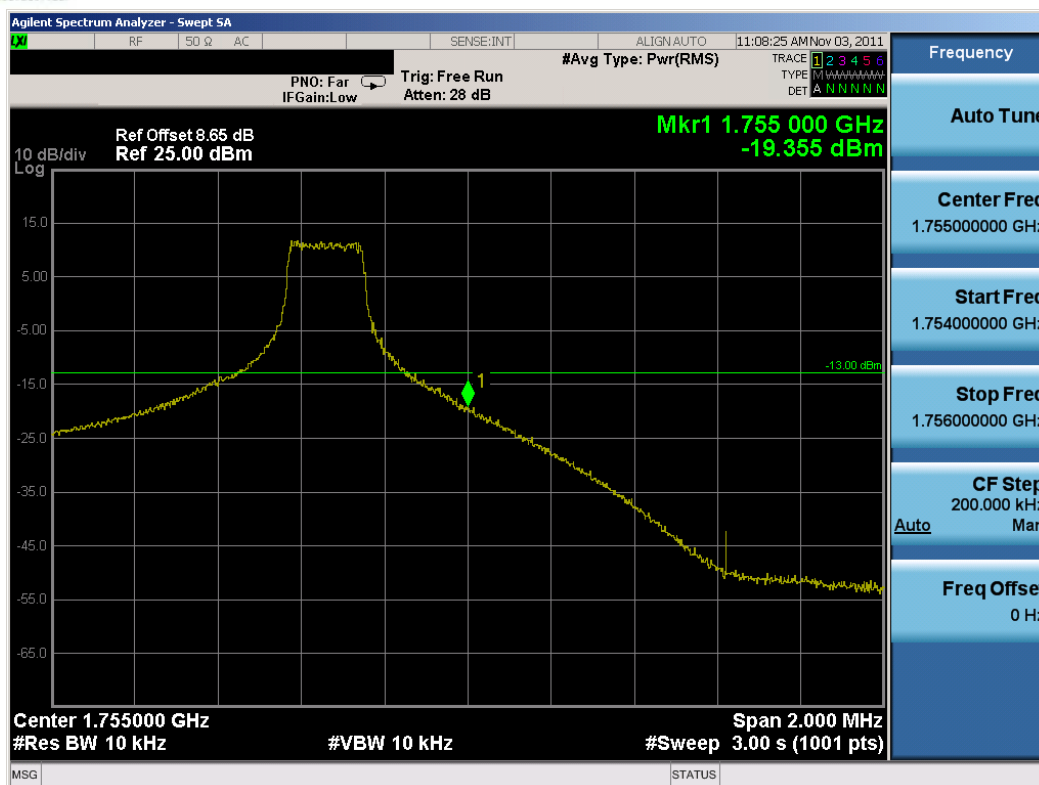


Plot 7-72. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, Offset 0)

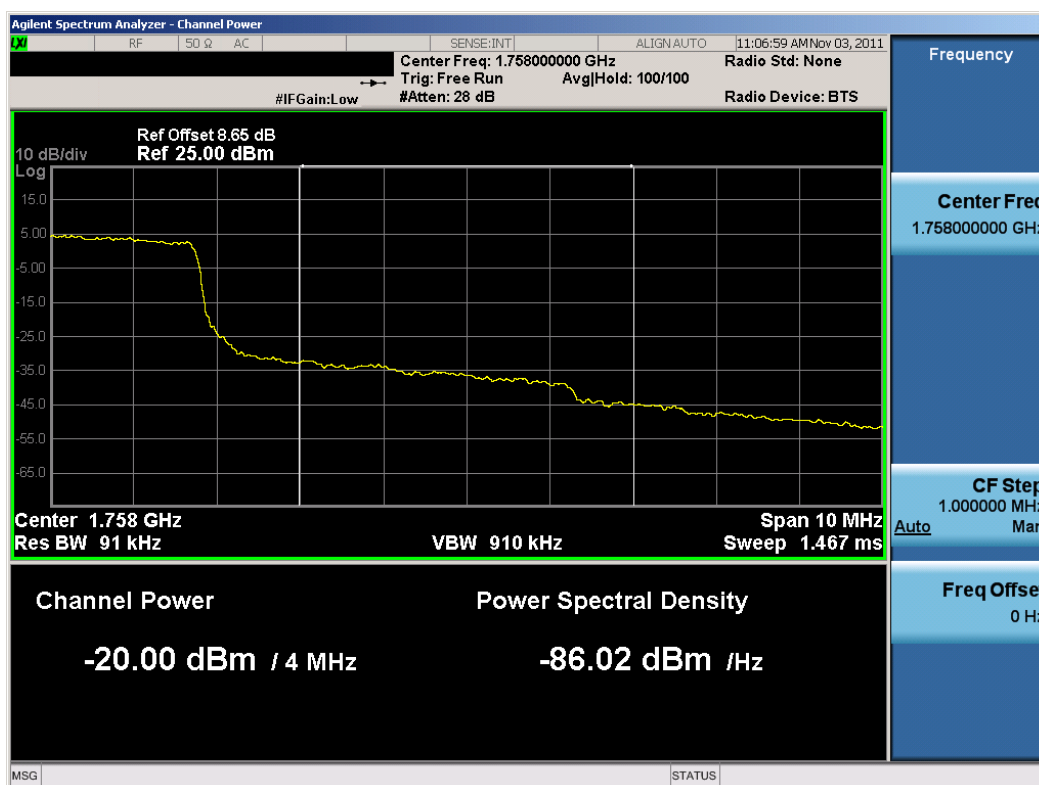


Plot 7-73. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 71 of 101



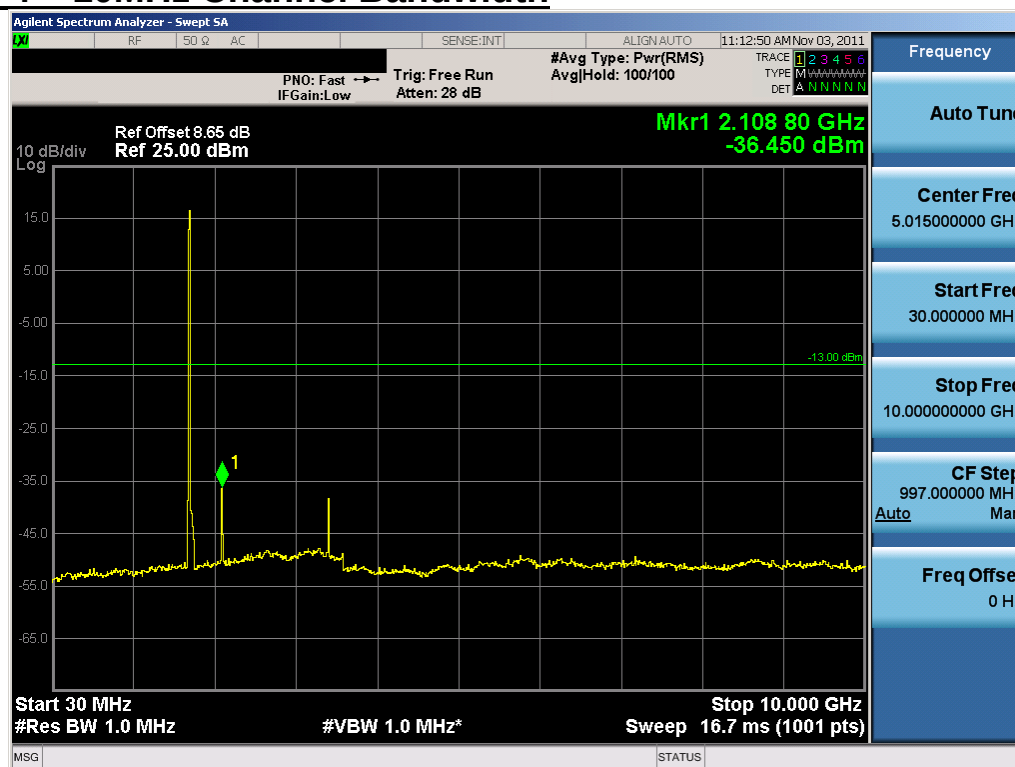
Plot 7-74. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, Offset 24)



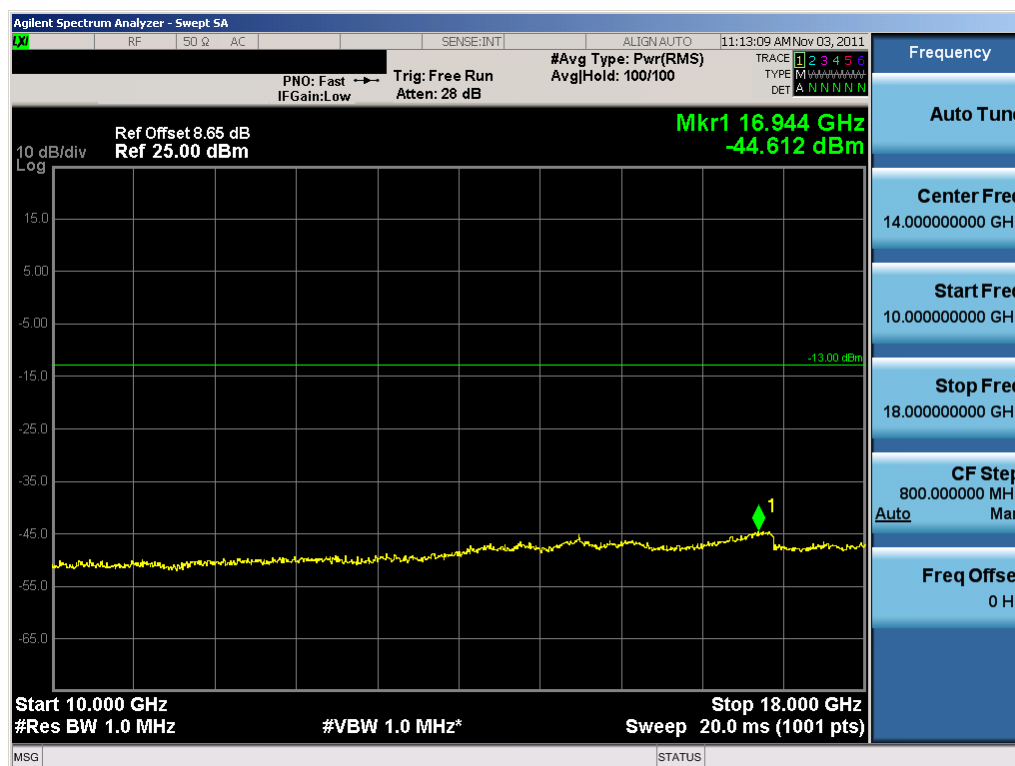
Plot 7-75. 4MHz Span Plot (High Channel, QPSK, RB Size 25)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 72 of 101

BAND 4 – 10MHz Channel Bandwidth

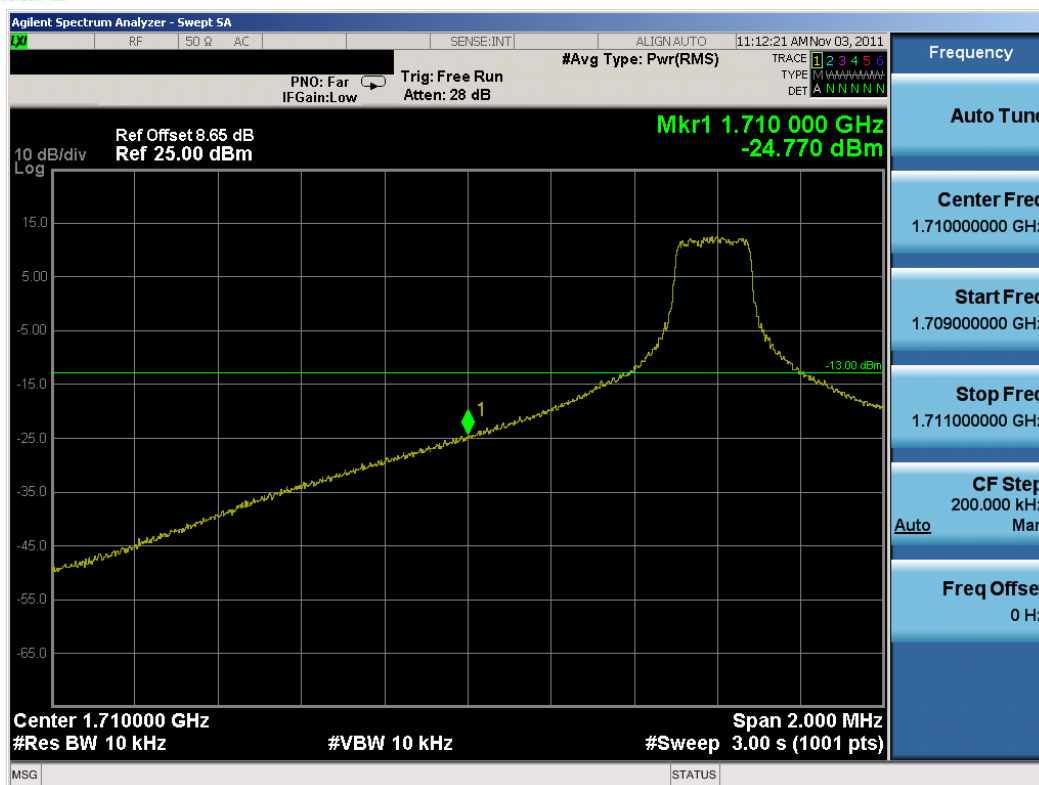


Plot 7-76. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

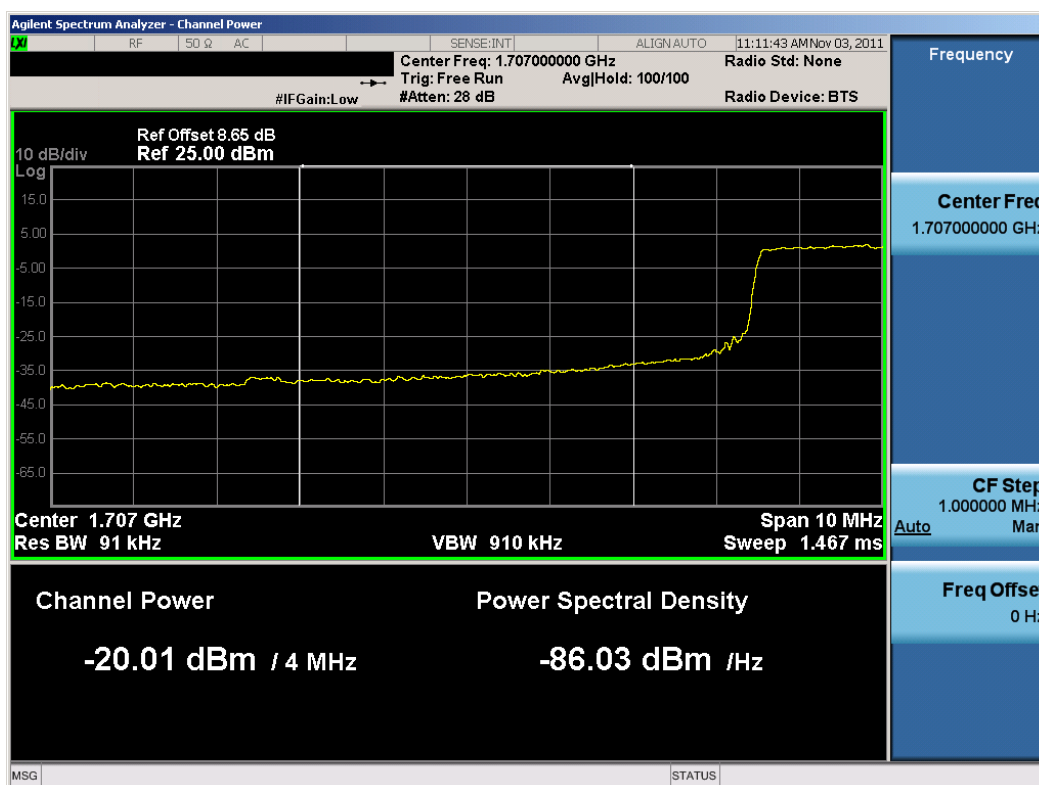


Plot 7-77. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 73 of 101

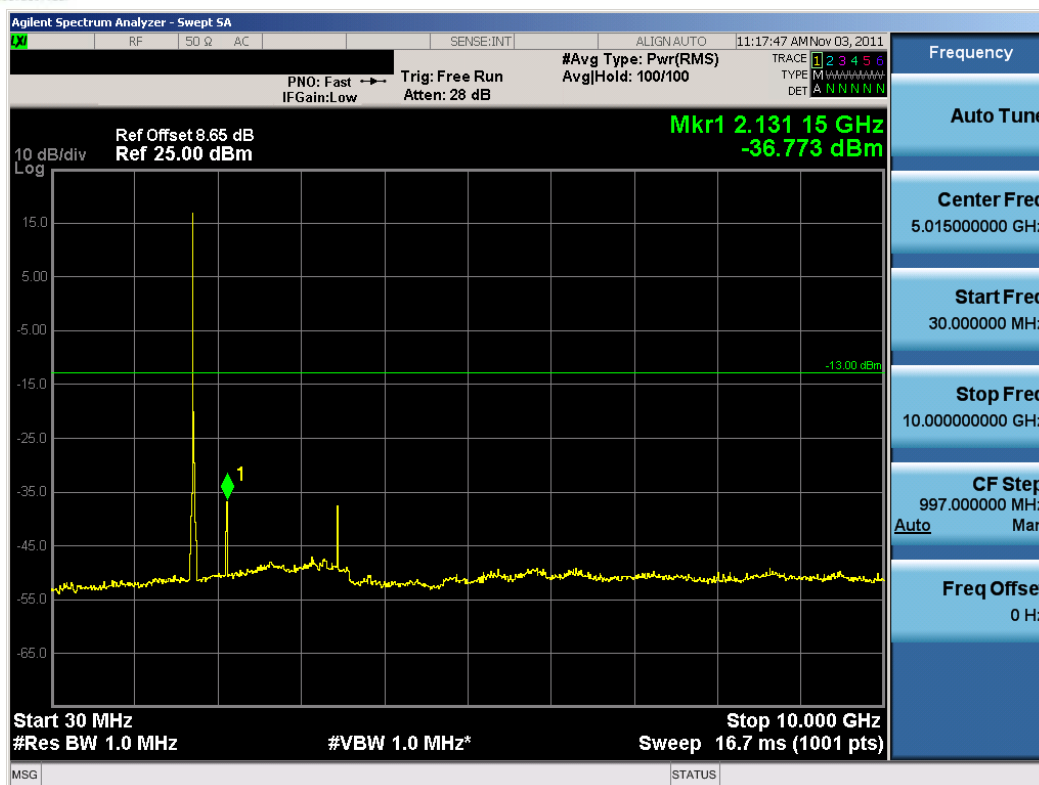


Plot 7-78. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

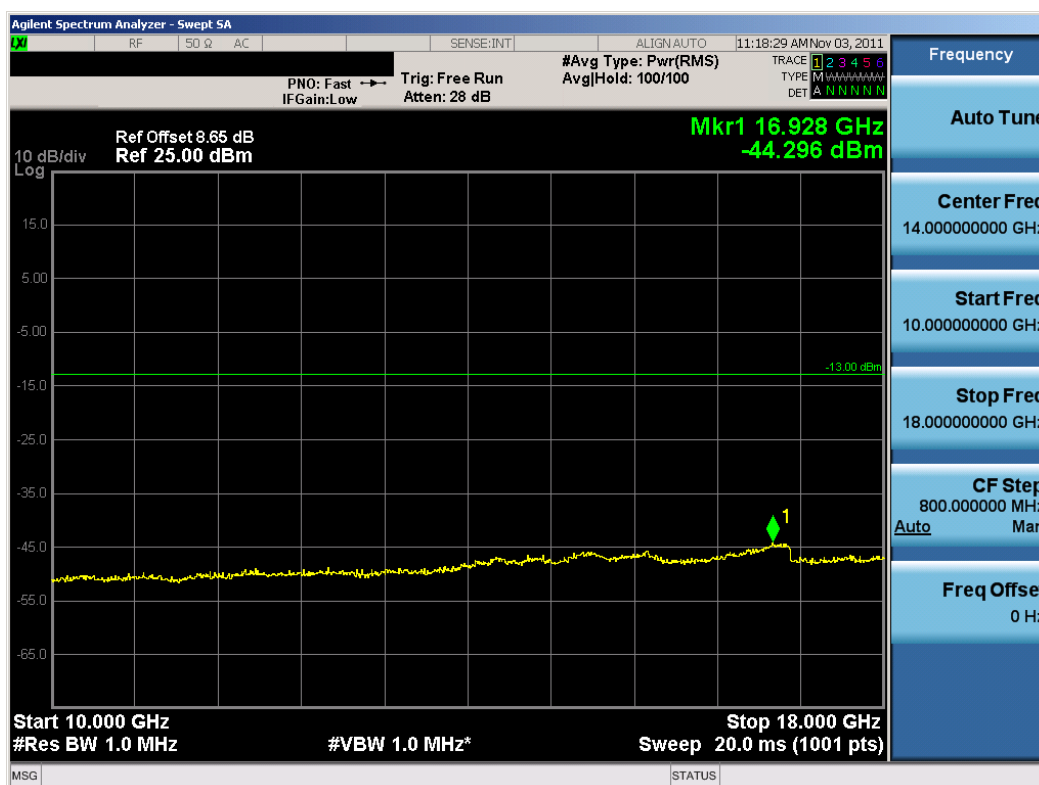


Plot 7-79. 4MHz Span Plot (Low Channel, QPSK, RB Size 50)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
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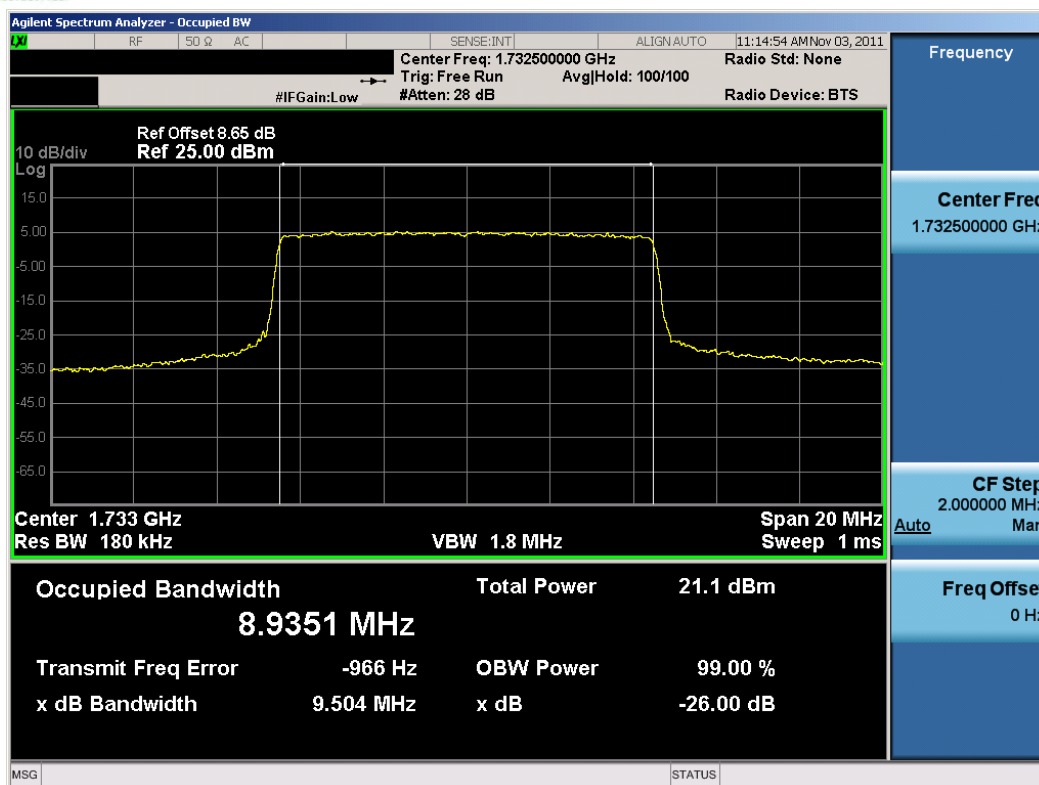


Plot 7-80. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

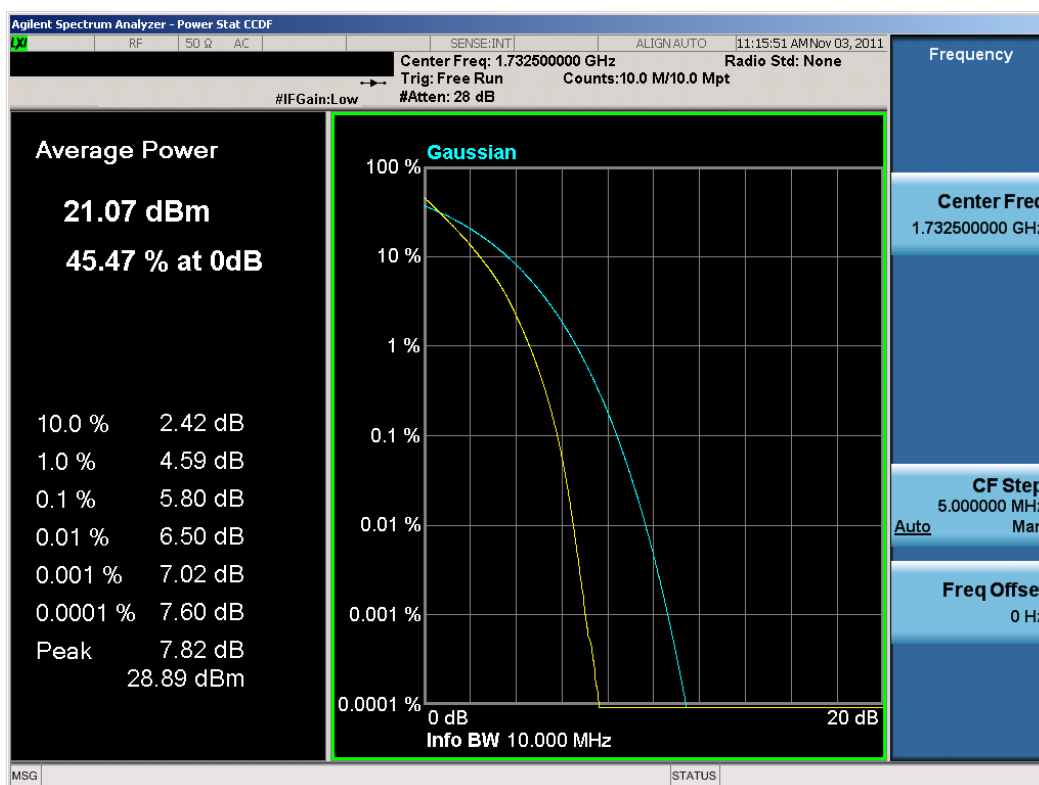


Plot 7-81. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 75 of 101

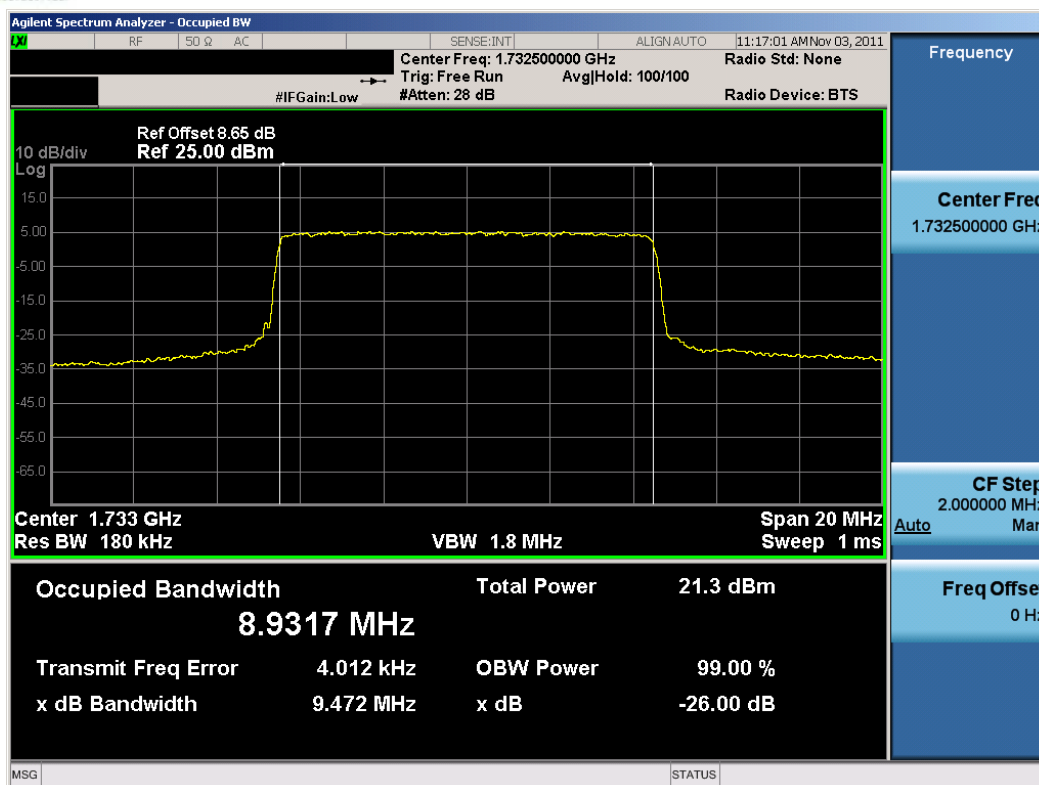


Plot 7-82. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 50)

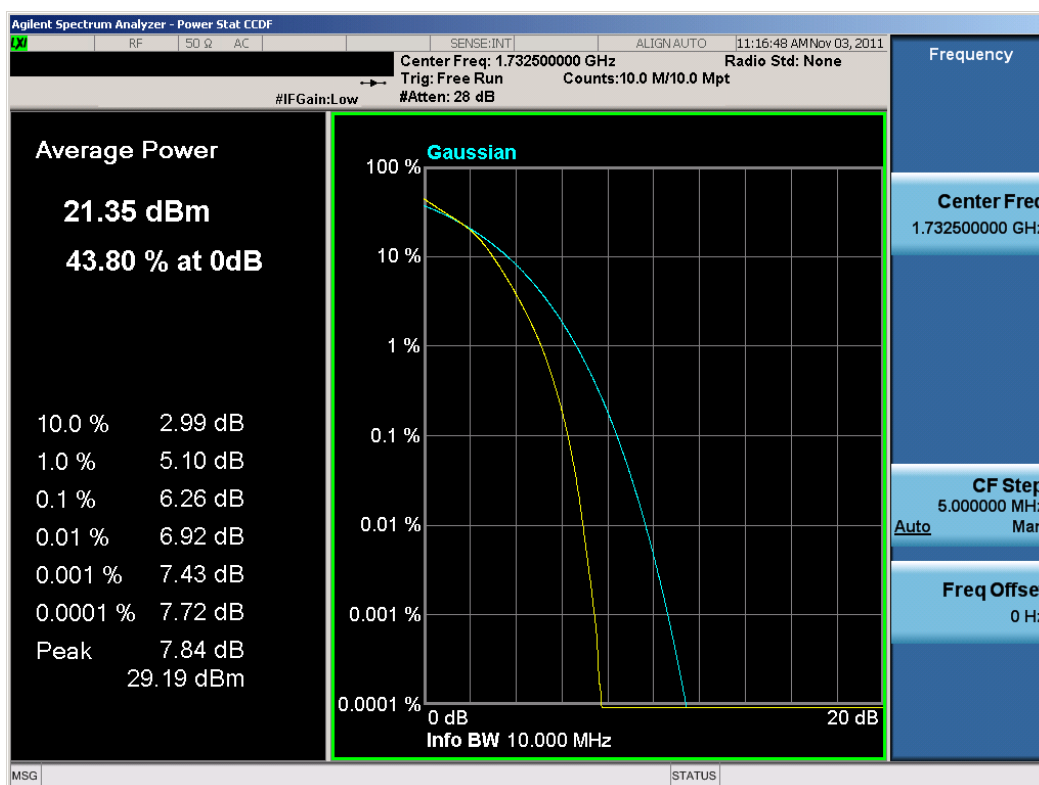


Plot 7-83. Peak-Average Ratio Plot (Mid Channel, QPSK, RB Size 50)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 76 of 101

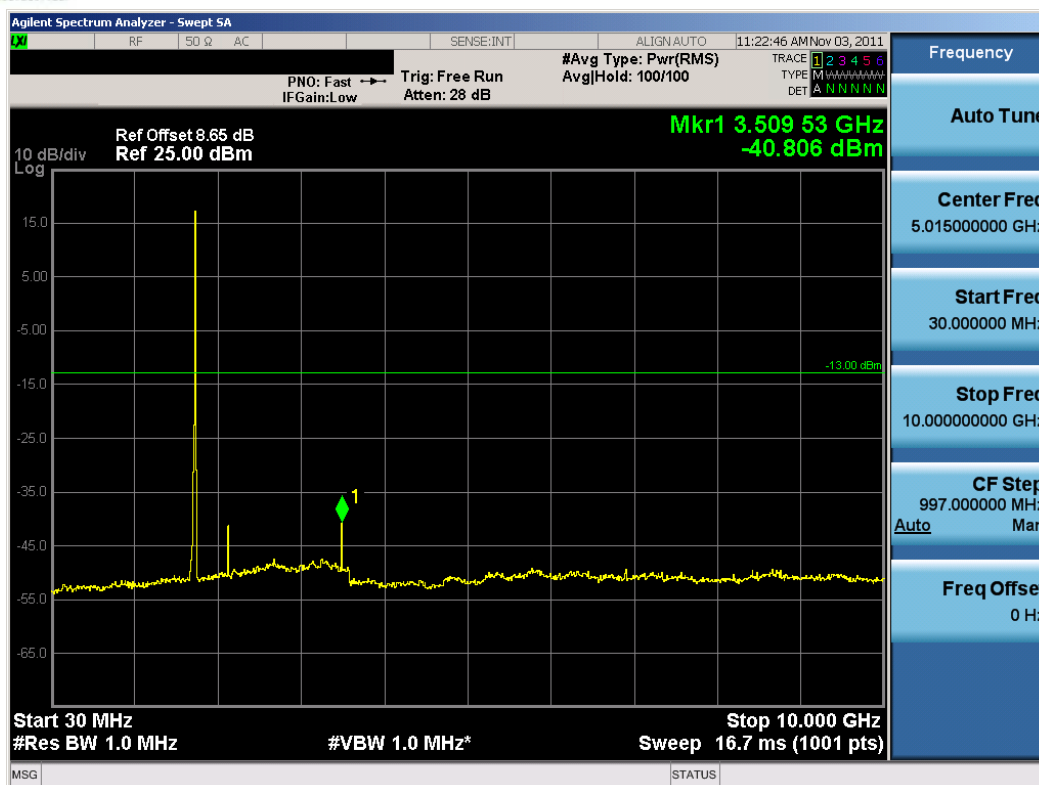


Plot 7-84. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 50)

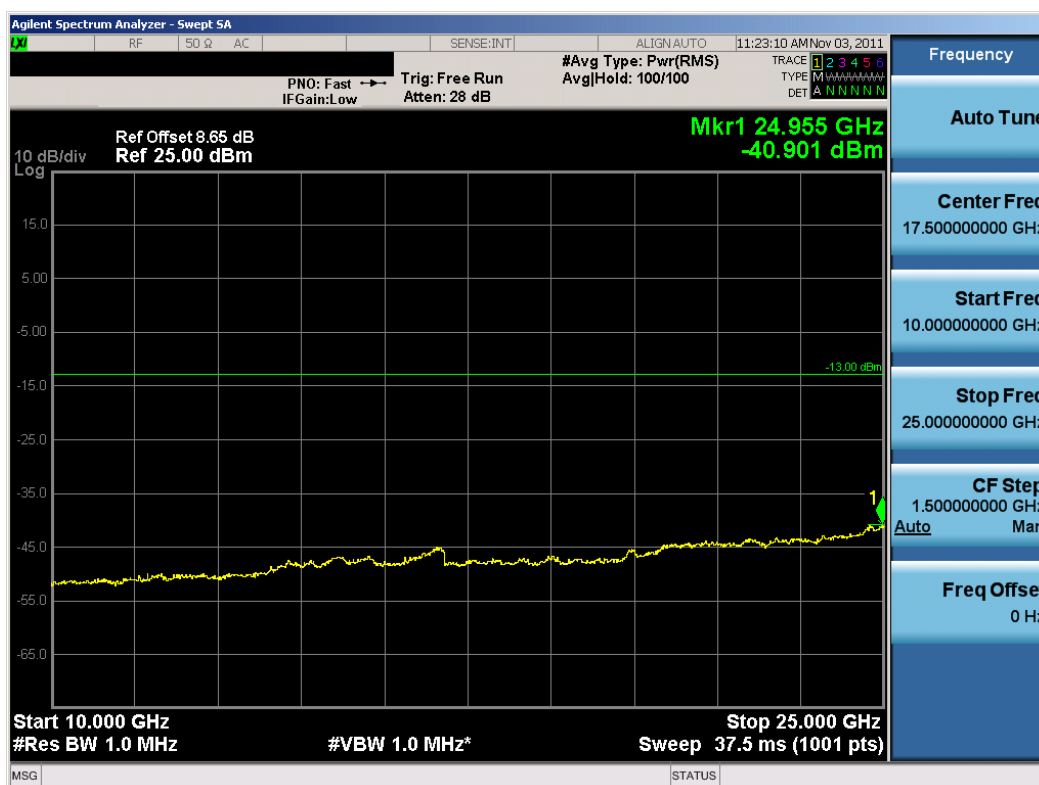


Plot 7-85. Peak-Average Ratio Plot (Mid Channel, 16-QAM, RB Size 50)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 77 of 101

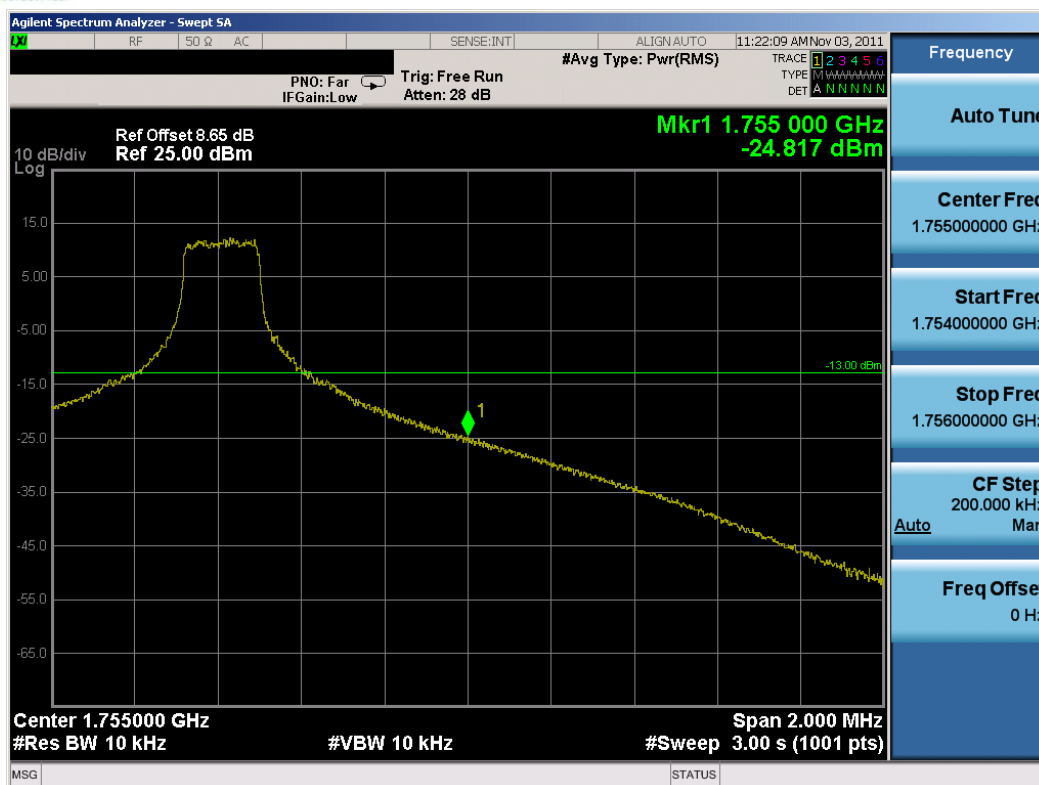


Plot 7-86. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, Offset 0)

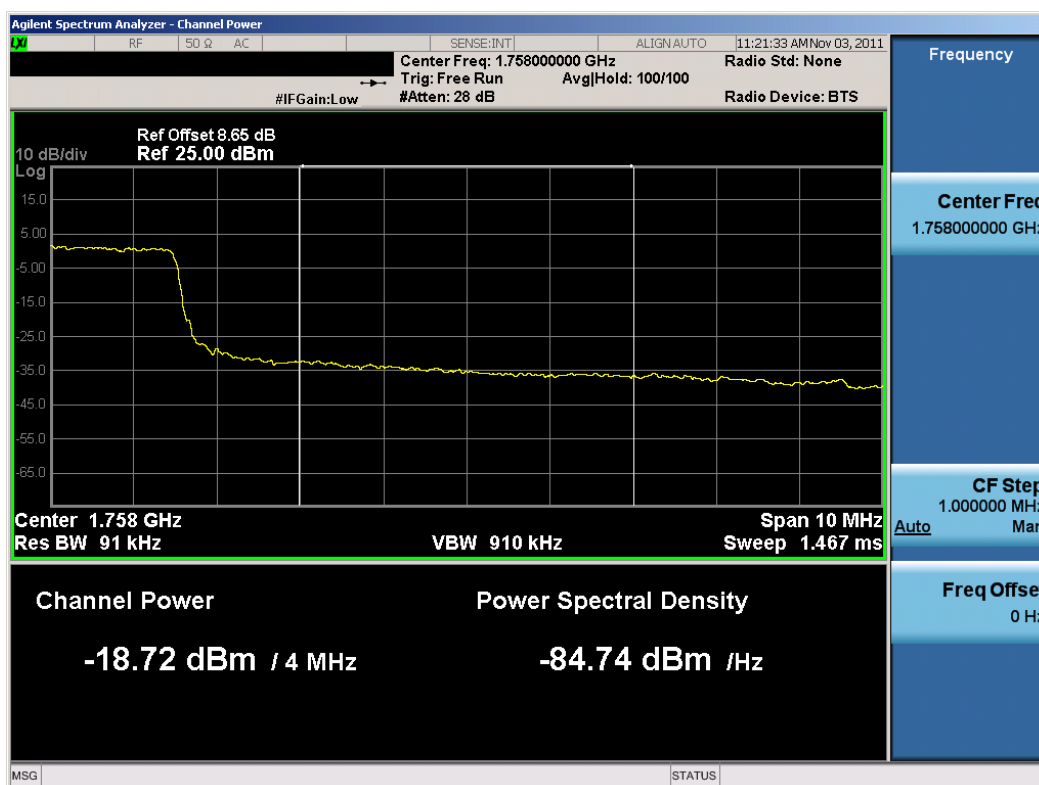


Plot 7-87. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 78 of 101



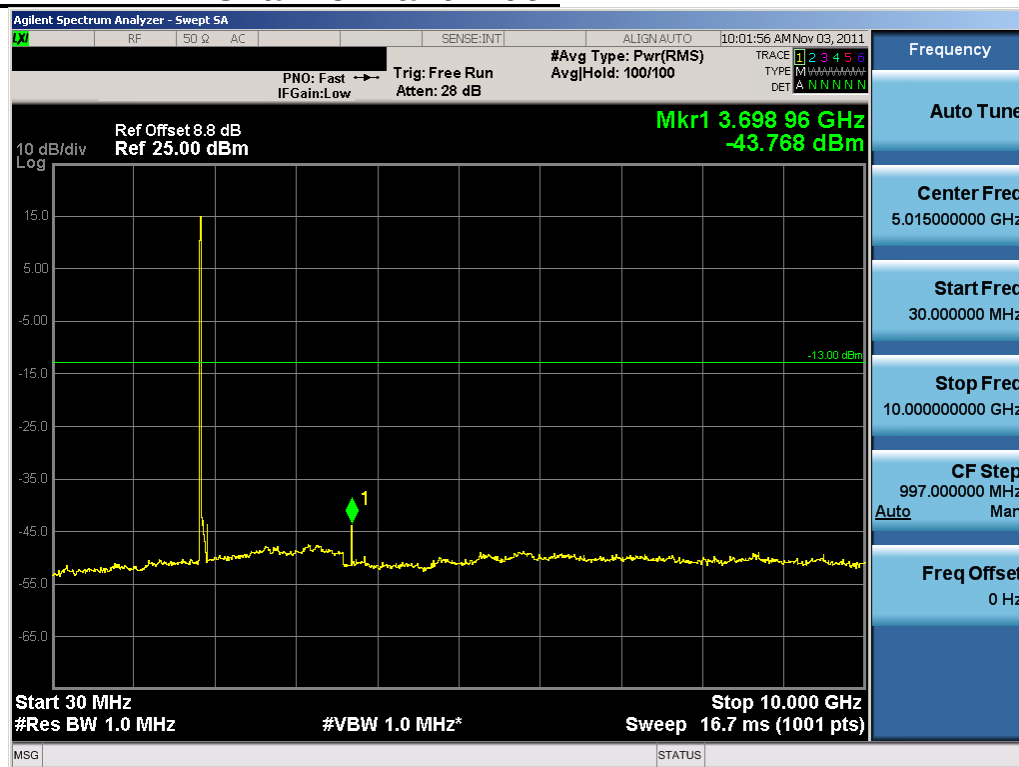
Plot 7-88. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, Offset 49)



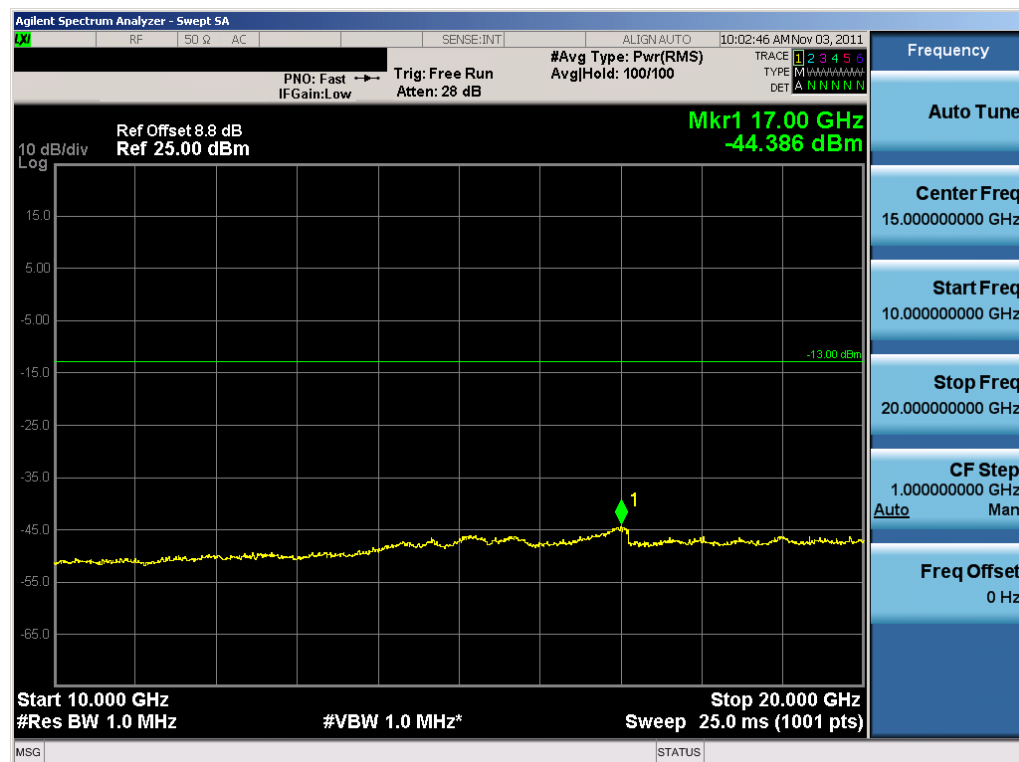
Plot 7-89. 4MHz Span Plot (High Channel, QPSK, RB Size 50)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
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BAND 2 – 1.4MHz Channel Bandwidth

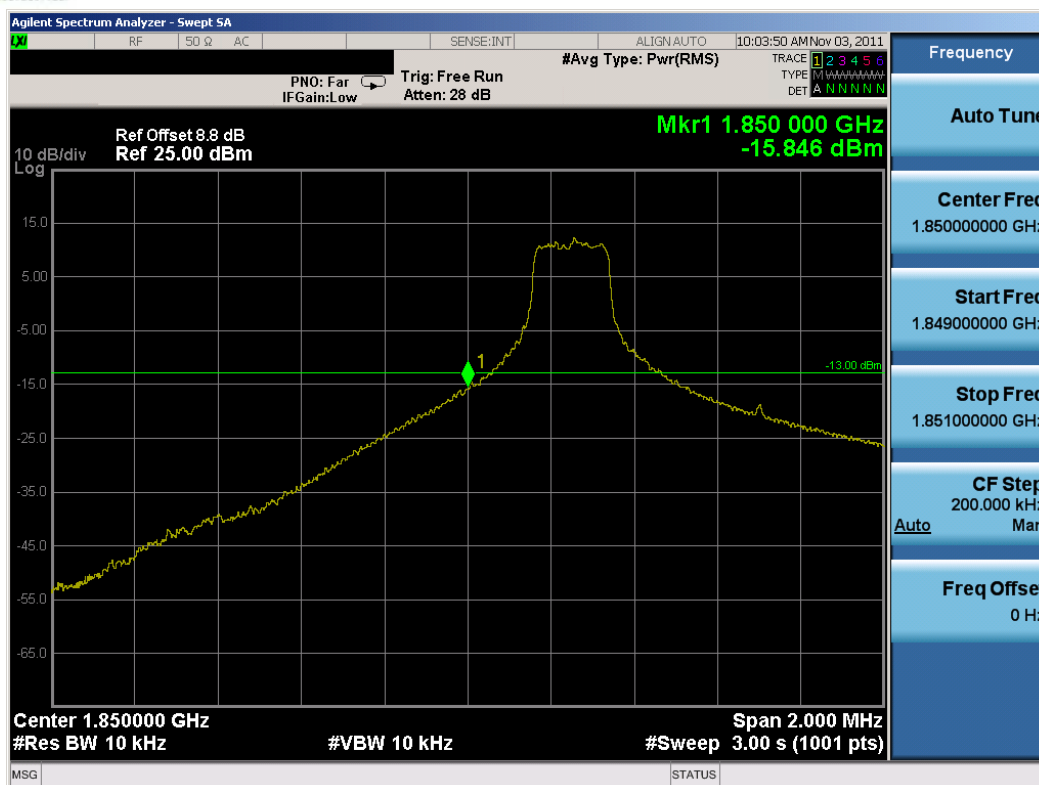


Plot 7-90. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)



Plot 7-91. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 80 of 101

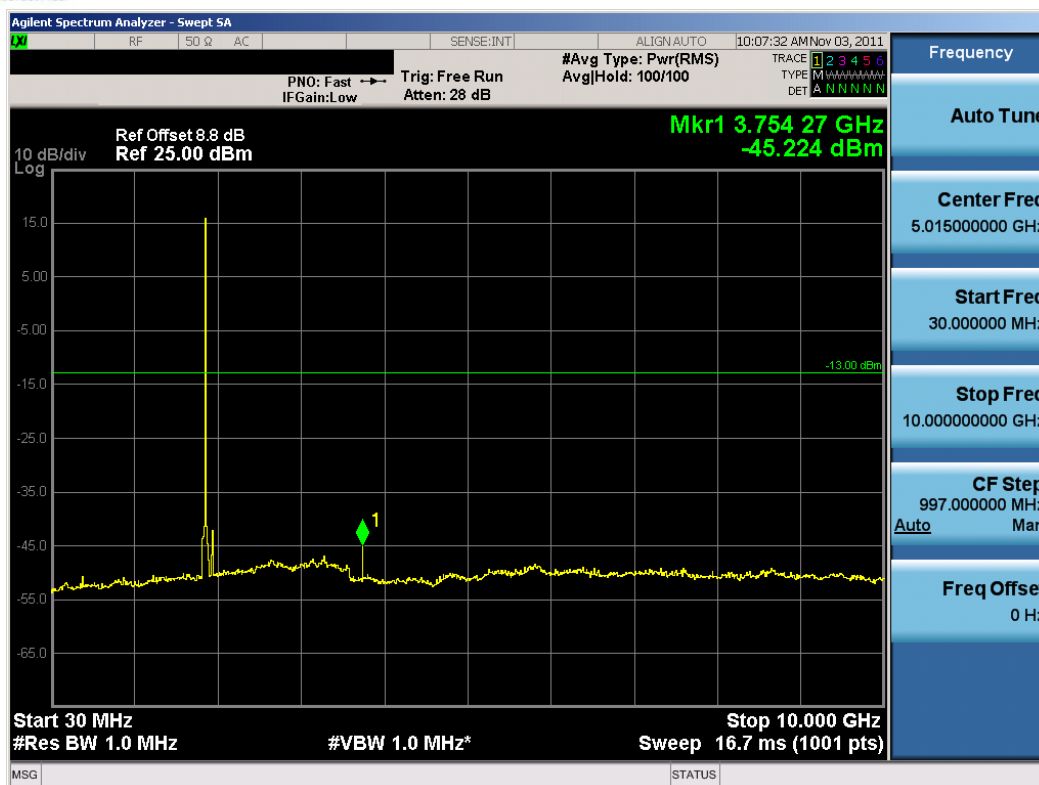


Plot 7-92. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

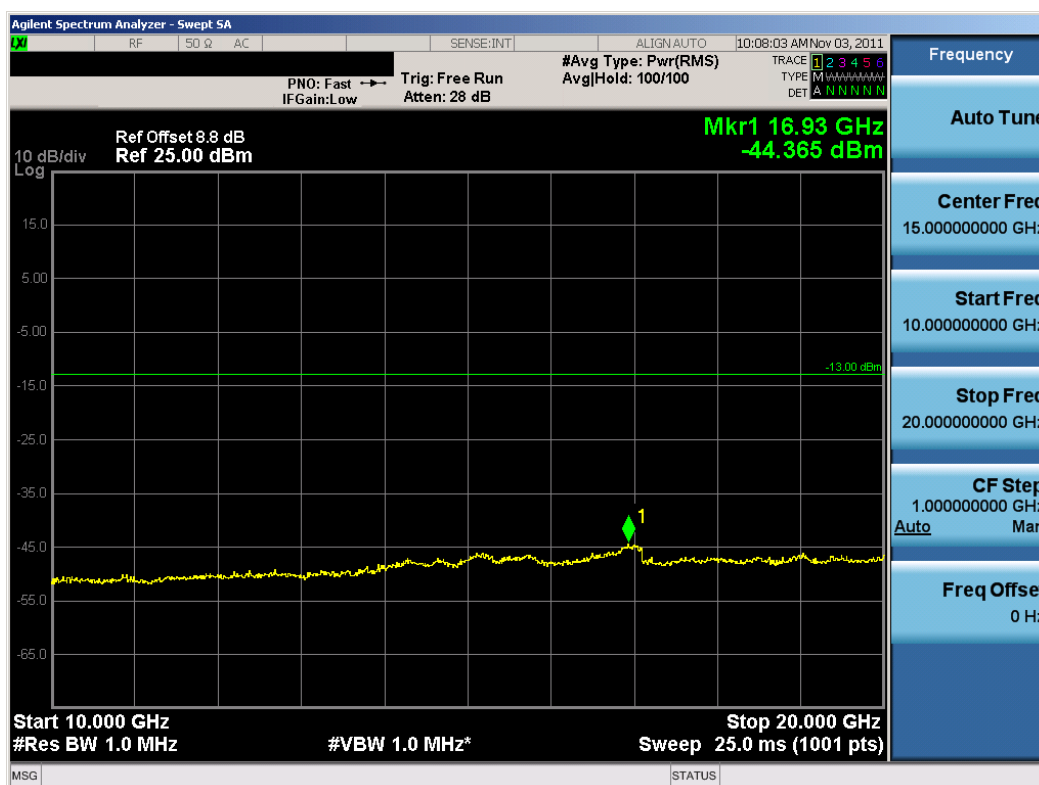


Plot 7-93. 4MHz Span Plot (Low Channel, QPSK, RB Size 6)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
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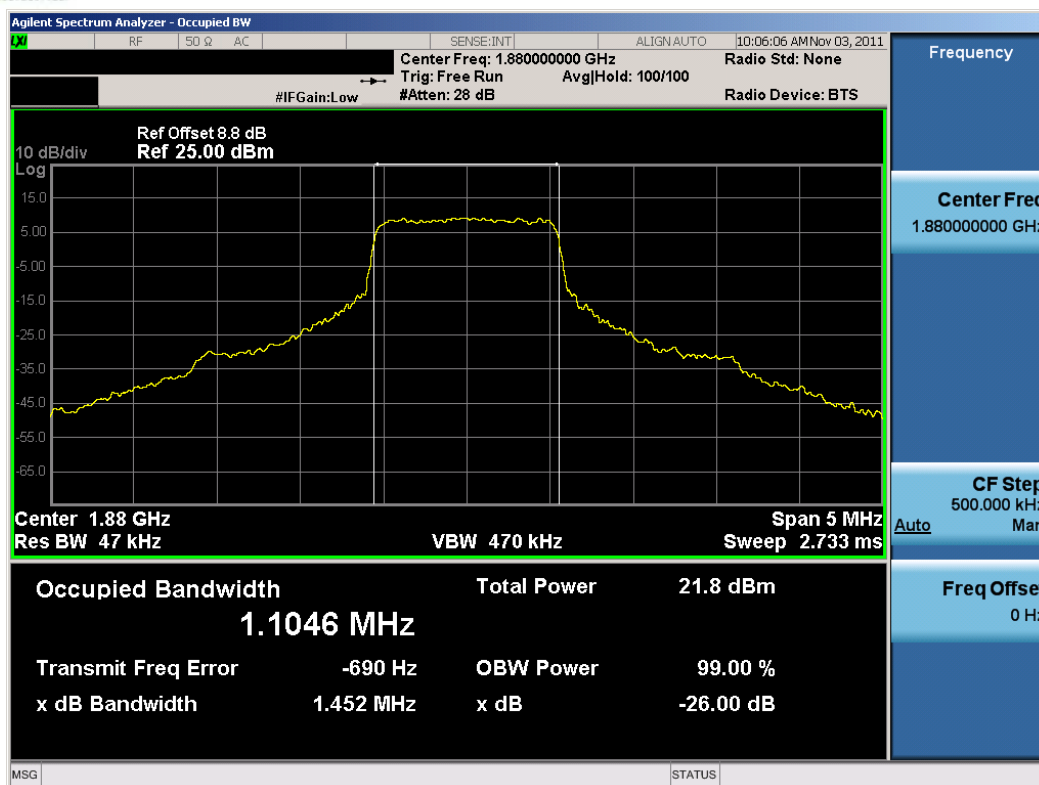


Plot 7-94. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

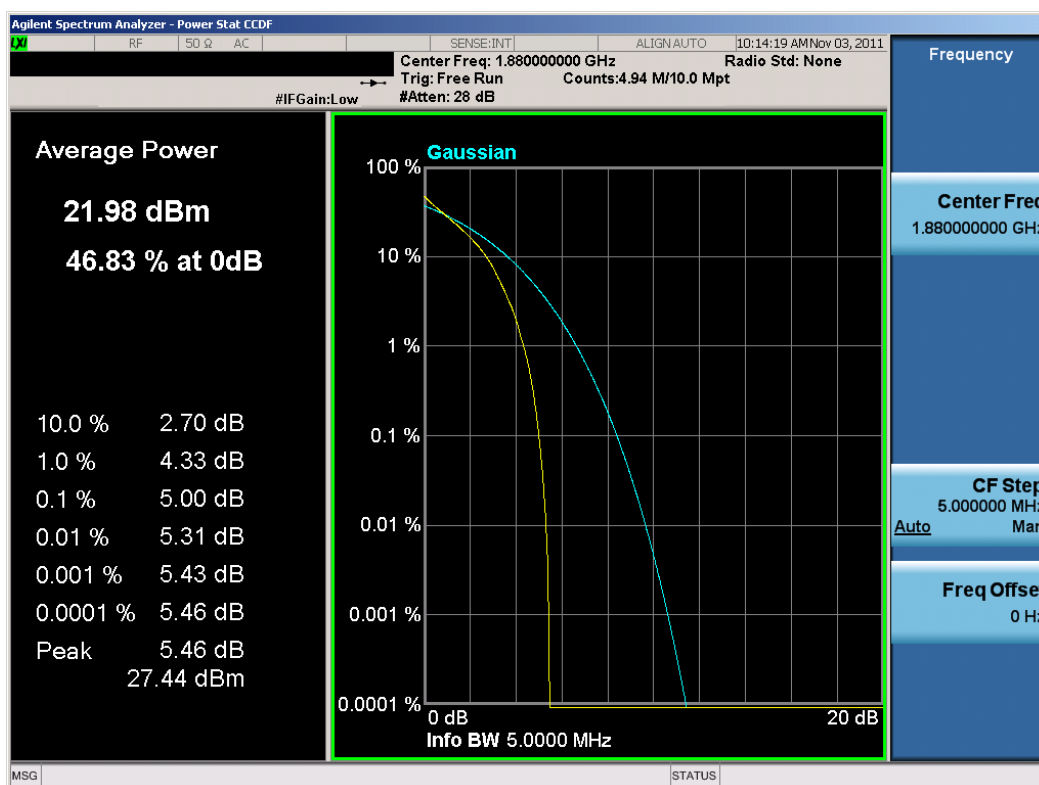


Plot 7-95. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 82 of 101

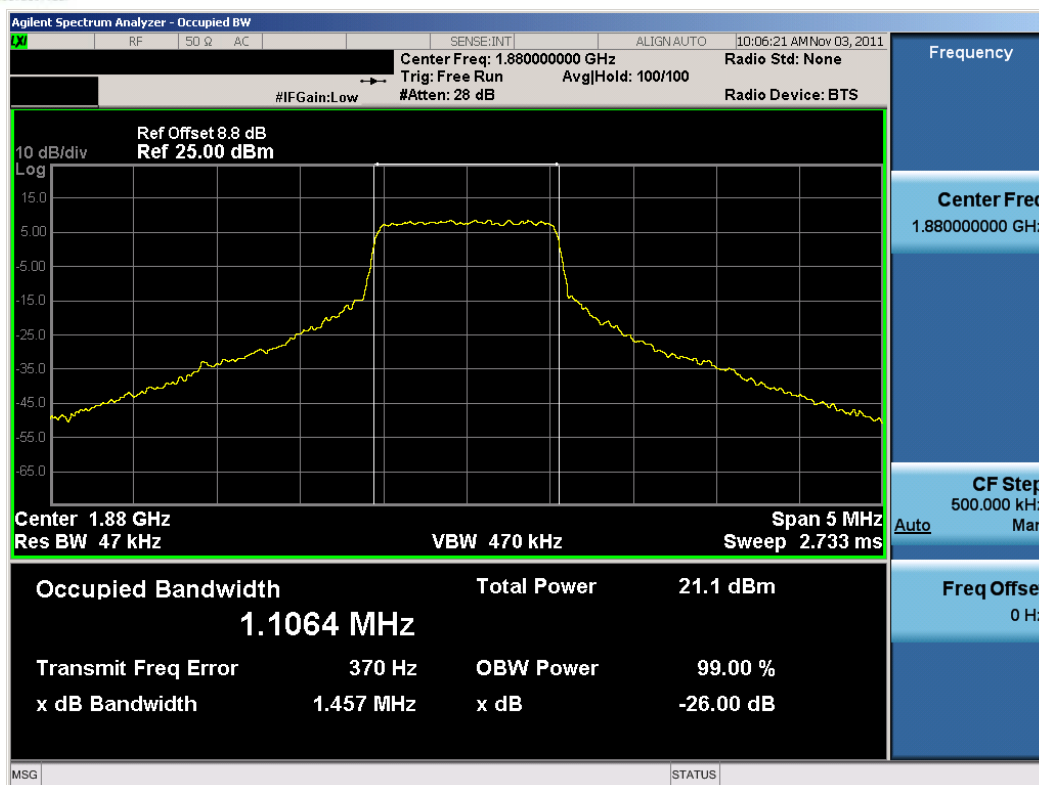


Plot 7-96. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 6)

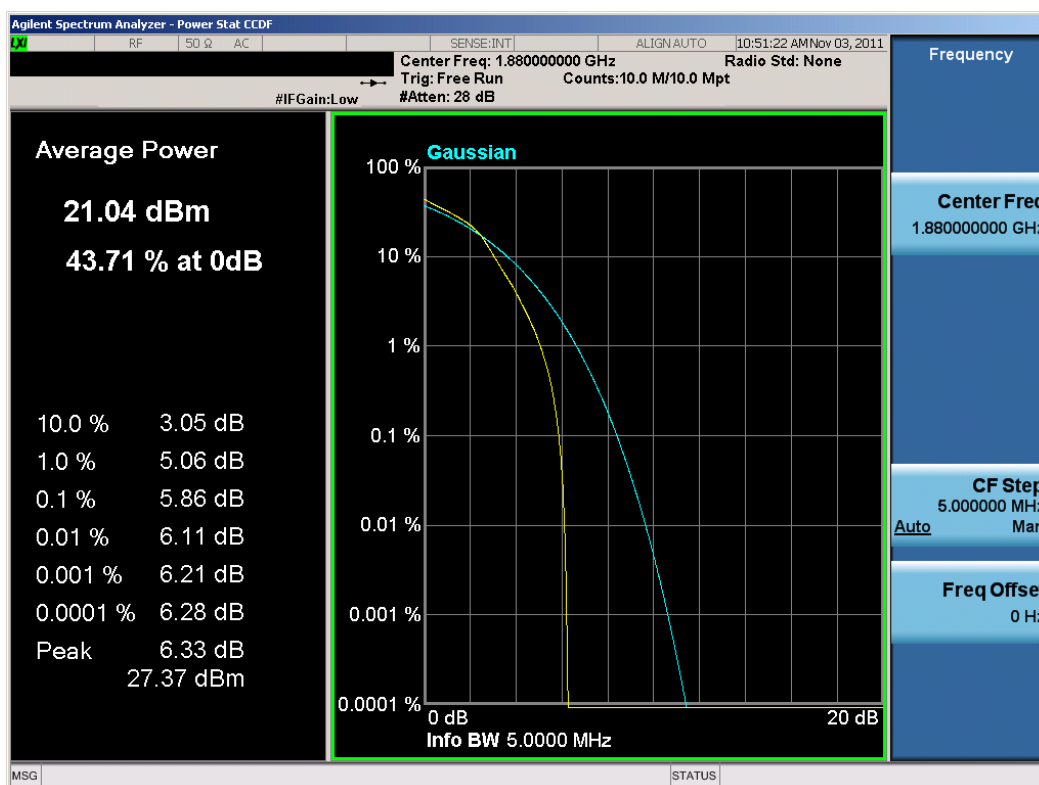


Plot 7-97. Peak-Average Ratio Plot (Mid Channel, QPSK, RB Size 6)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 83 of 101

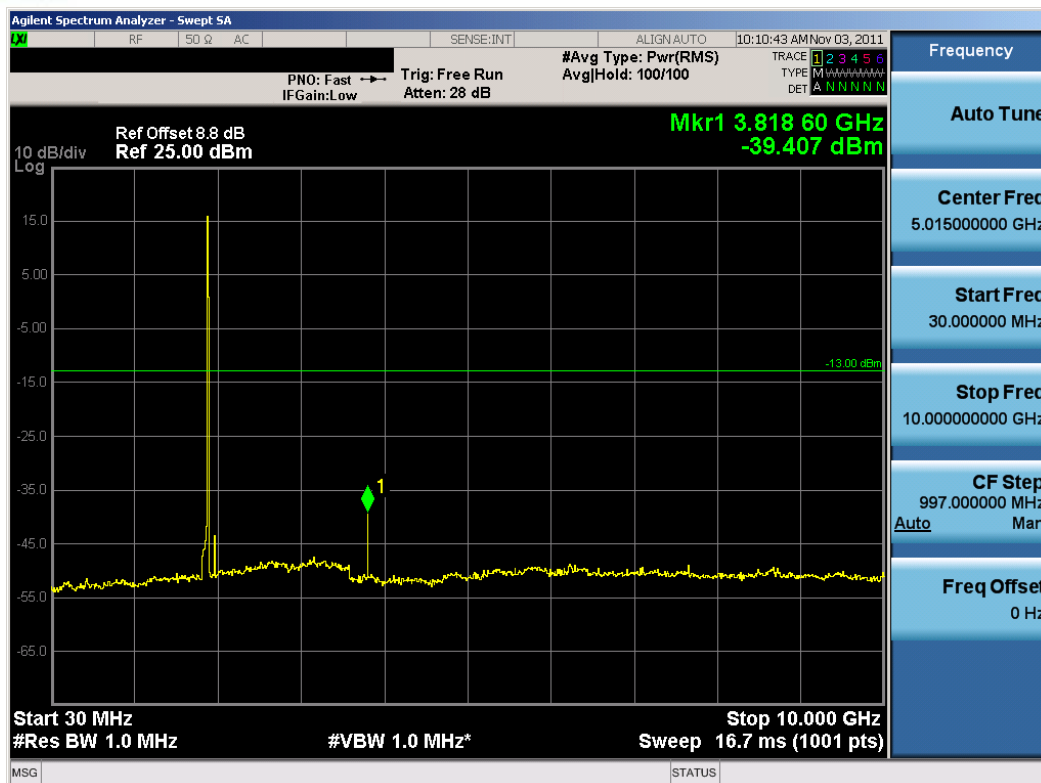


Plot 7-98. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 6)

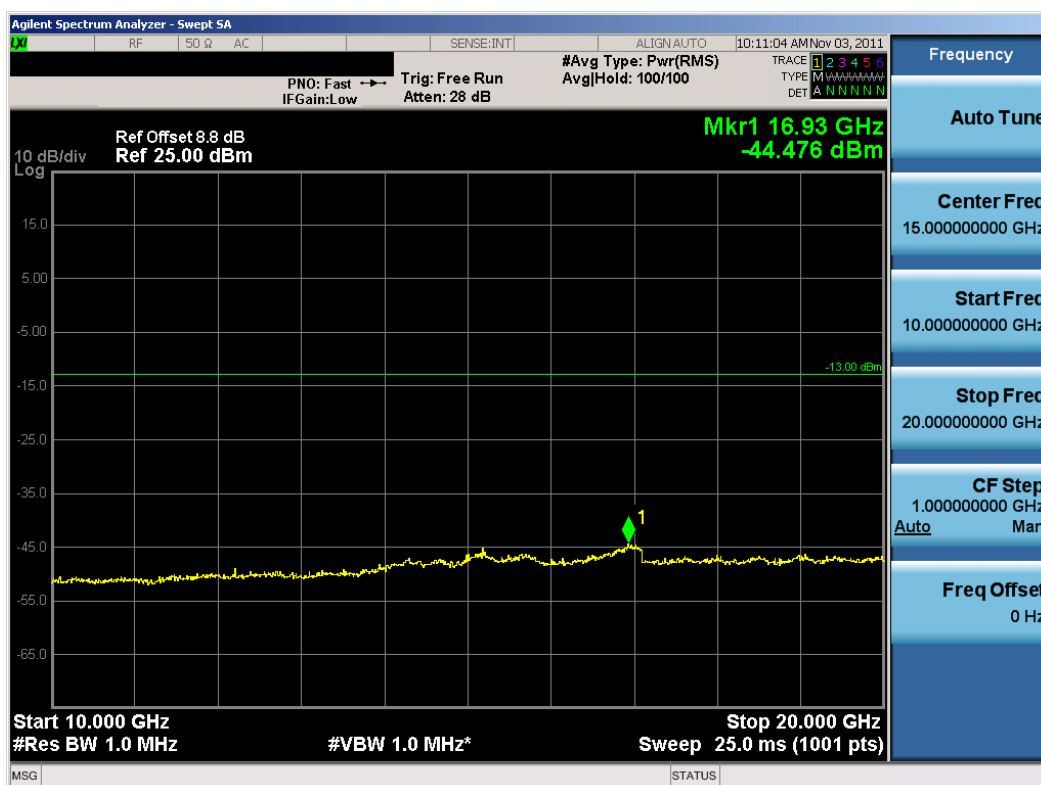


Plot 7-99. Peak-Average Ratio Plot (Mid Channel, 16-QAM, RB Size 6)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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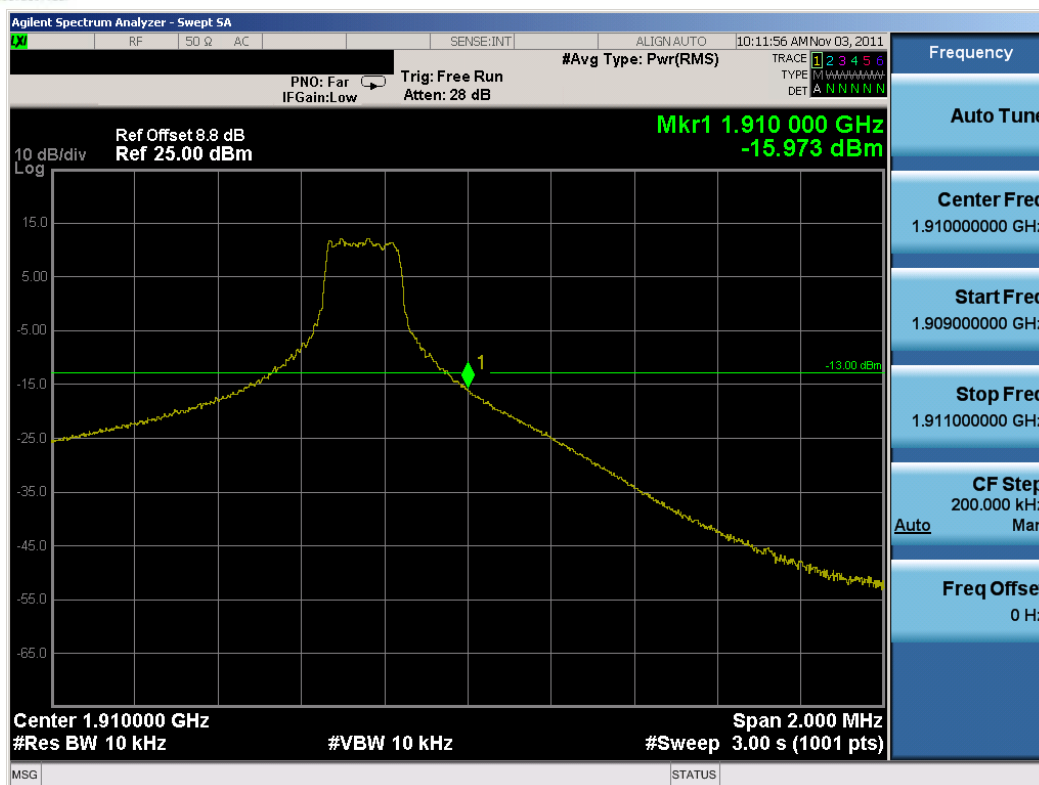


Plot 7-100. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)

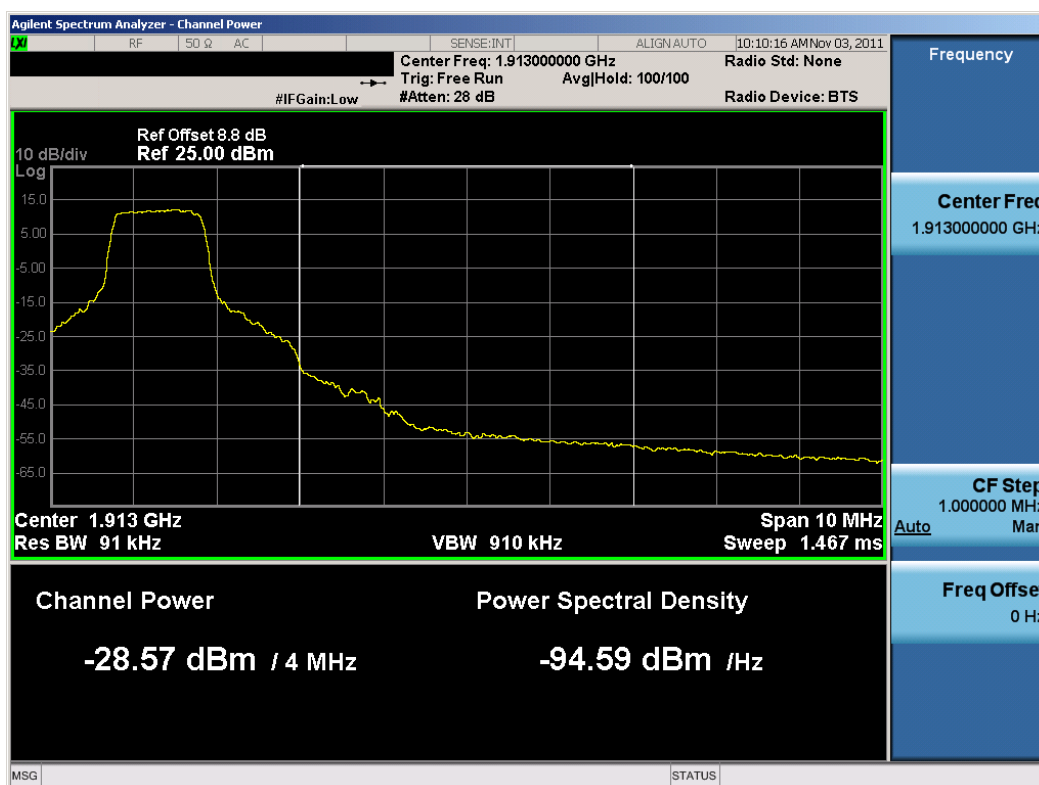


Plot 7-101. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 85 of 101



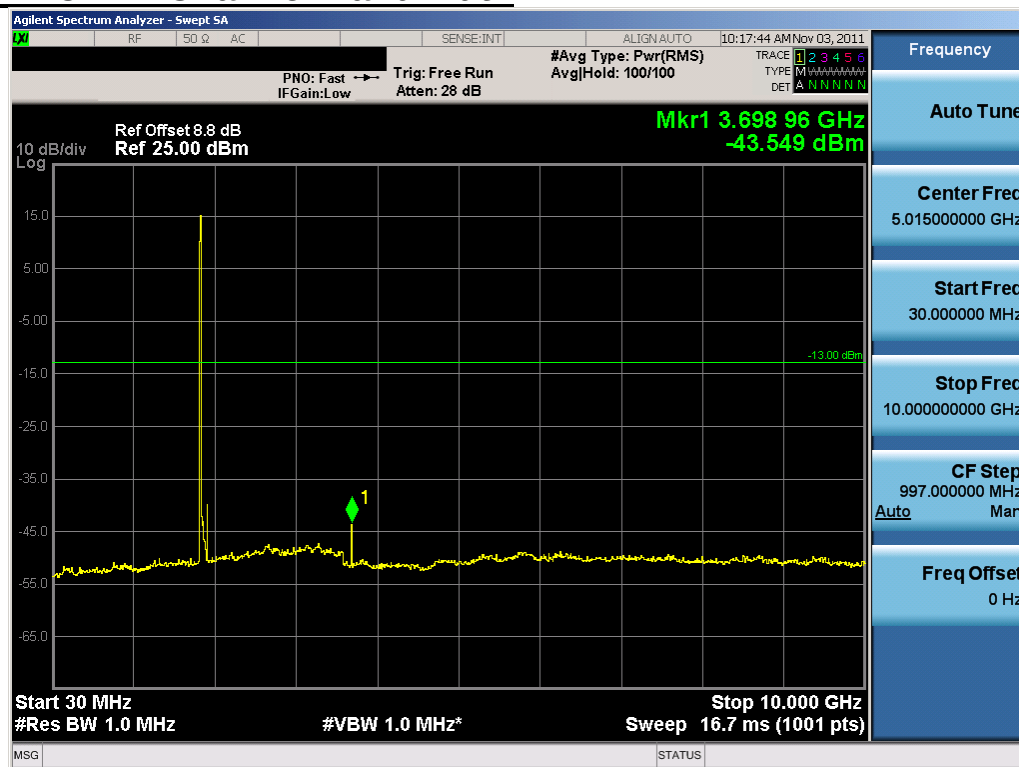
Plot 7-102. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, RB Offset 5)



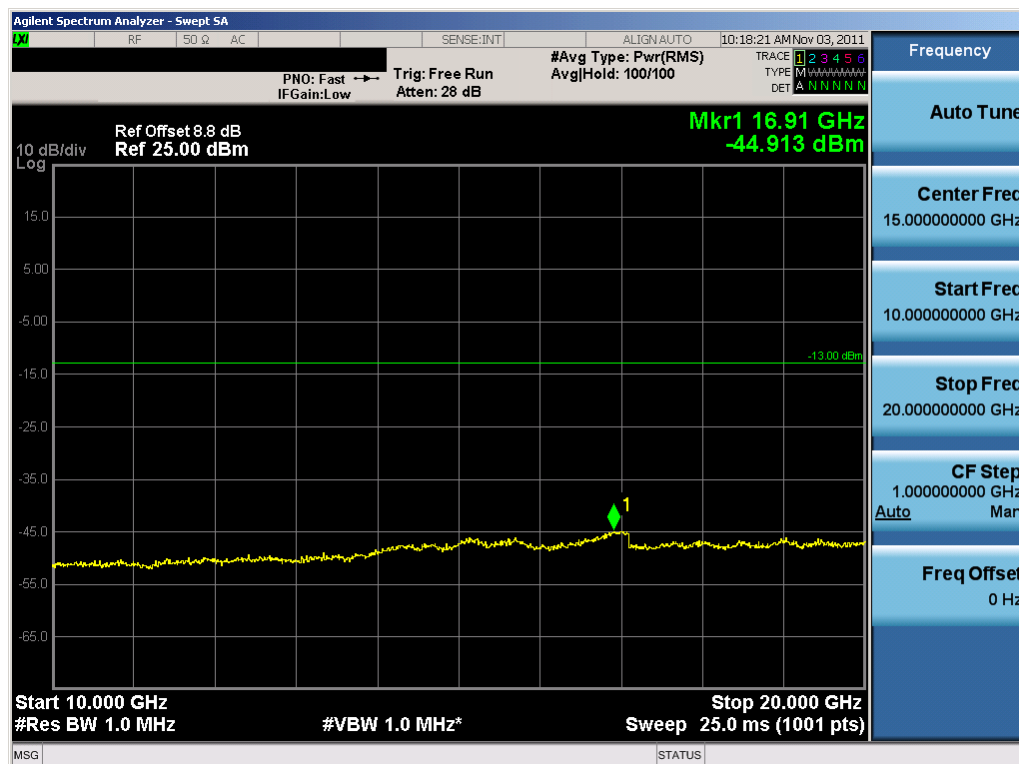
Plot 7-103. 4MHz Span Plot (High Channel, QPSK, RB Size 6)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 86 of 101

Band 2 – 3MHz Channel Bandwidth

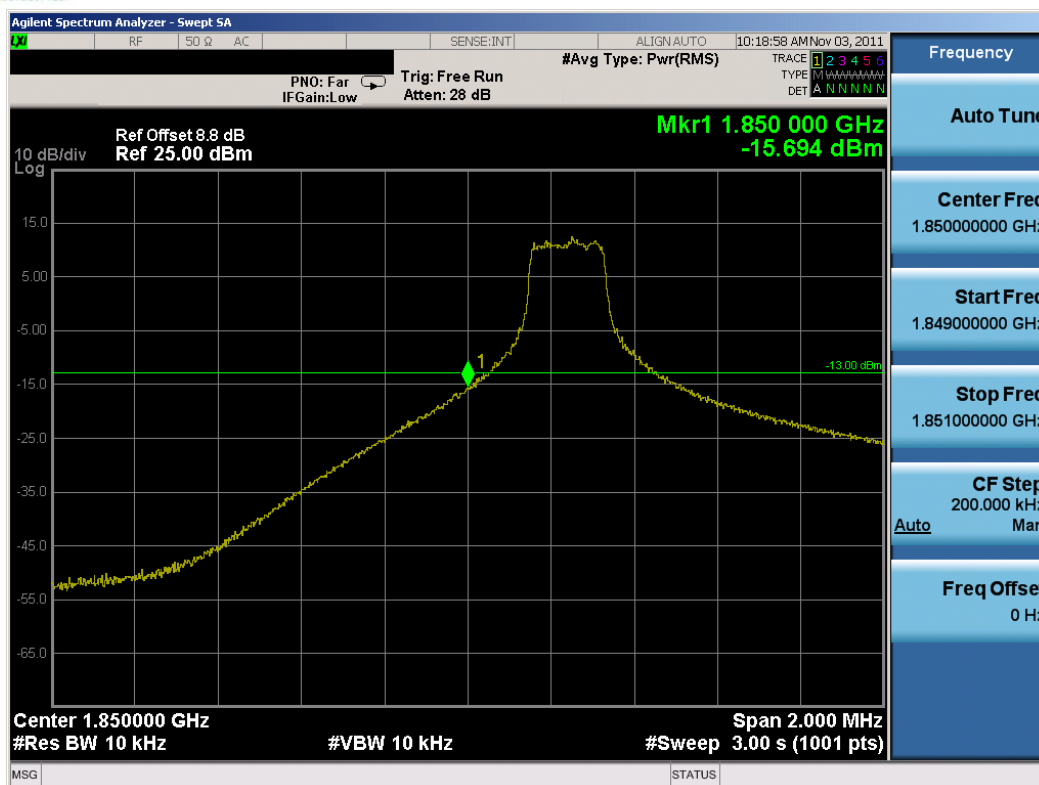


Plot 7-104. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

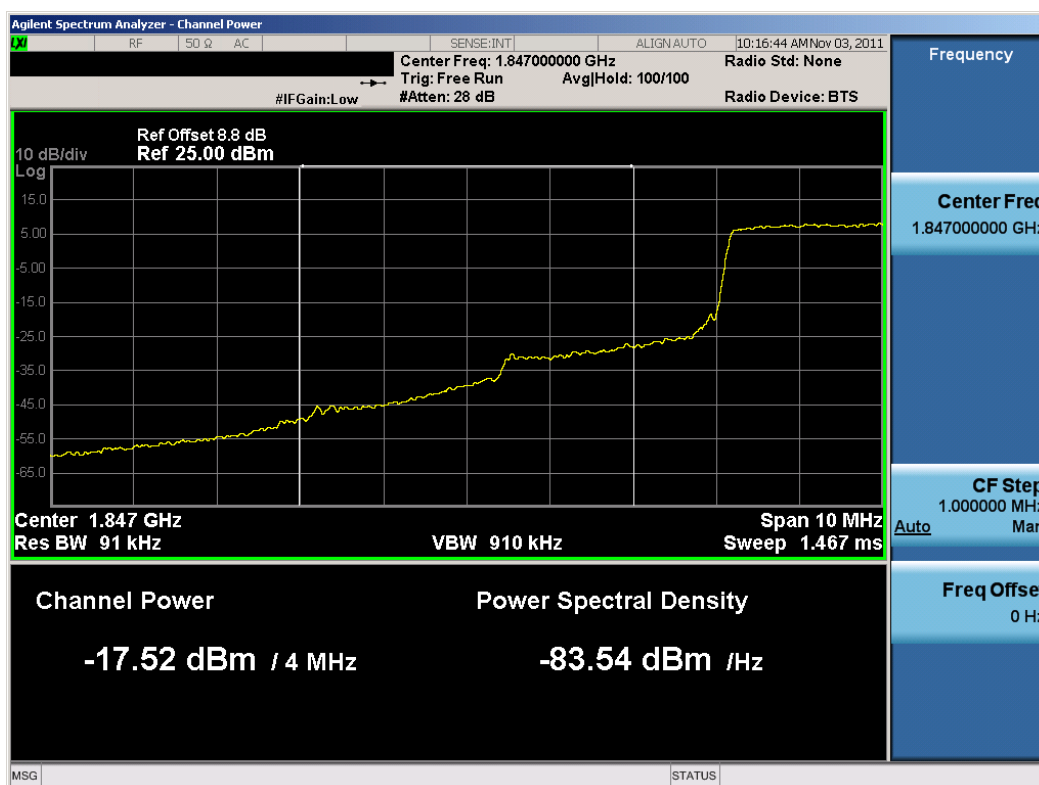


Plot 7-105. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset		Page 87 of 101

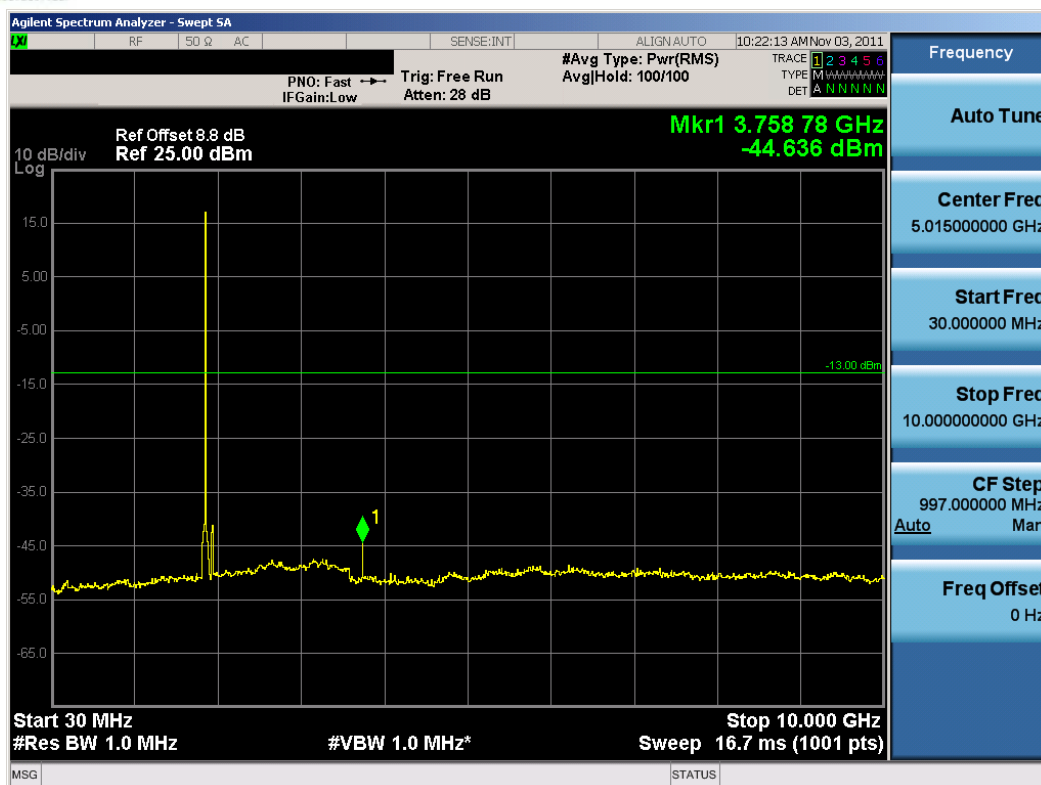


Plot 7-106. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

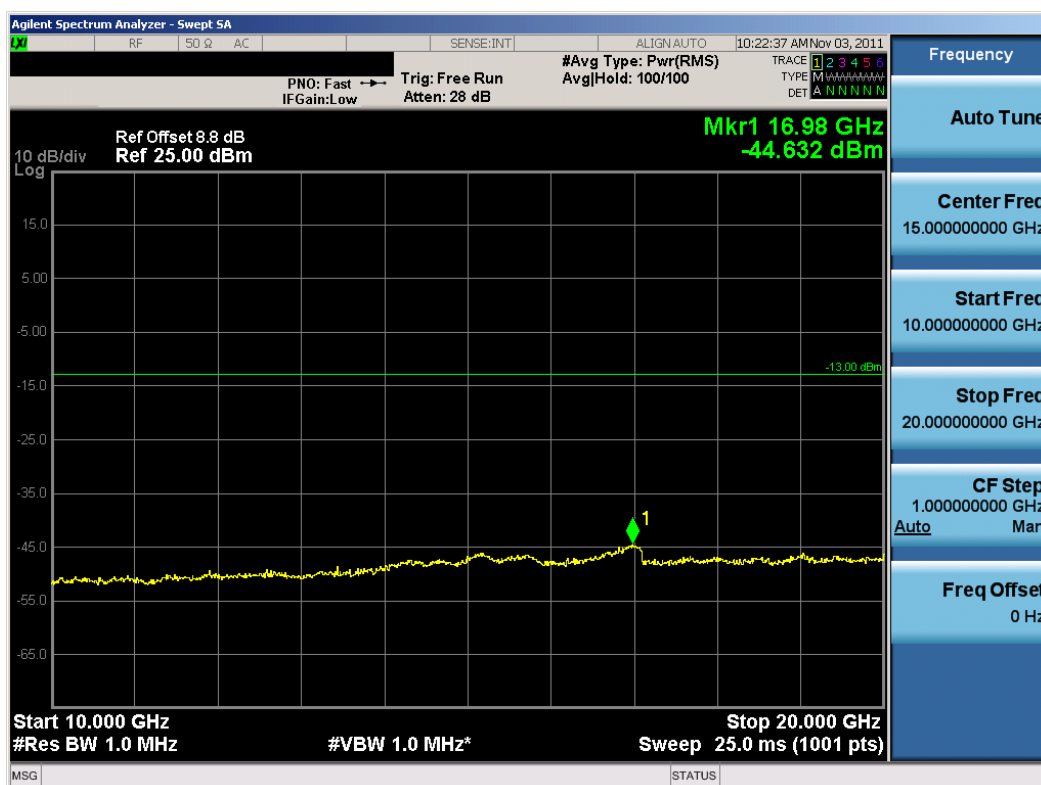


Plot 7-107. 4MHz Span Plot (Low Channel, QPSK, RB Size 15)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1110251871.A3L	Test Dates: 10/26 - 11/03/2011	EUT Type: Portable Handset	Page 88 of 101

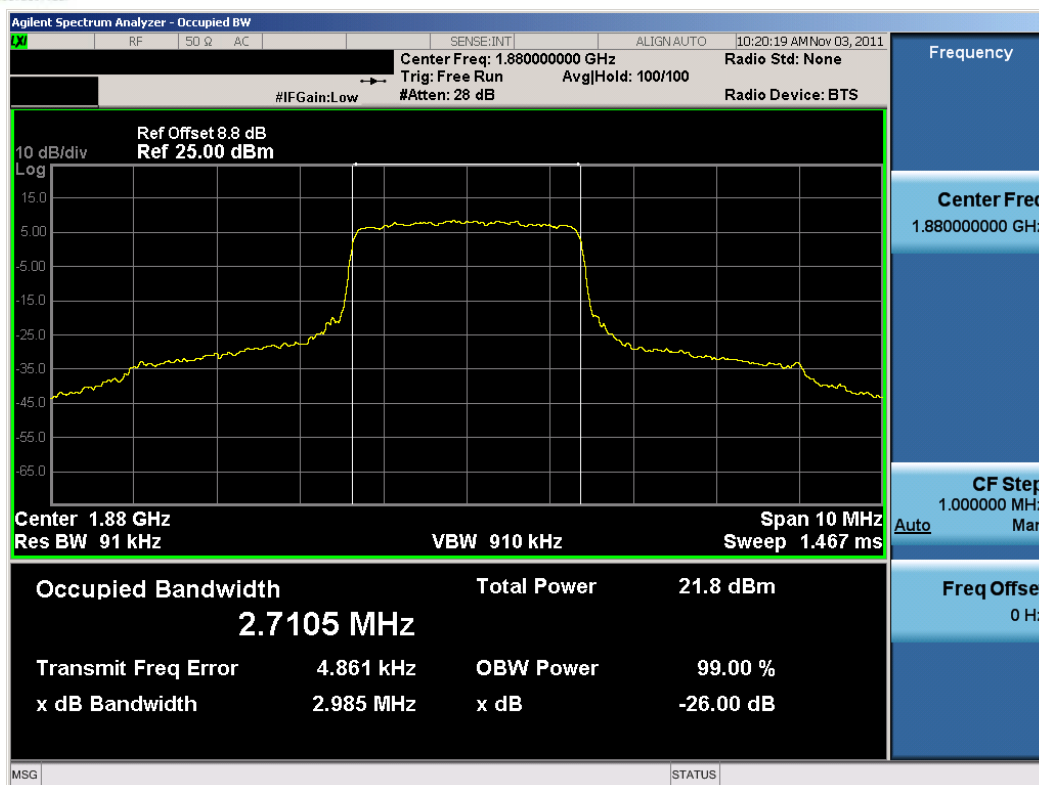


Plot 7-108. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

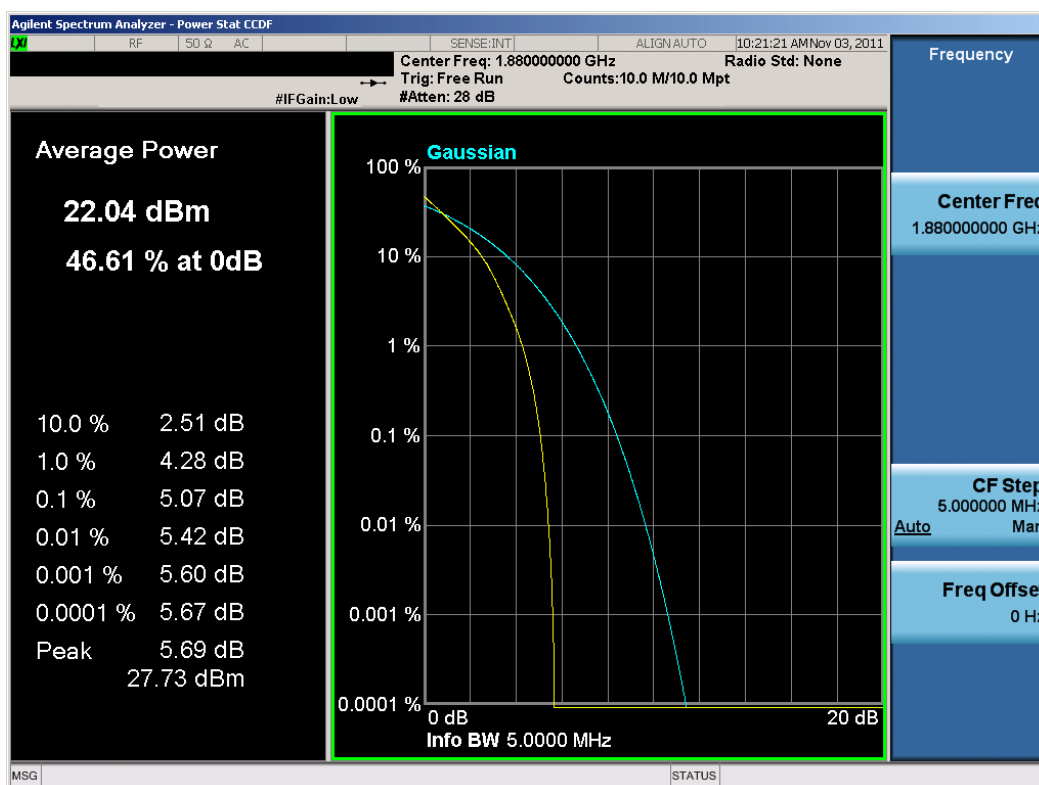


Plot 7-109. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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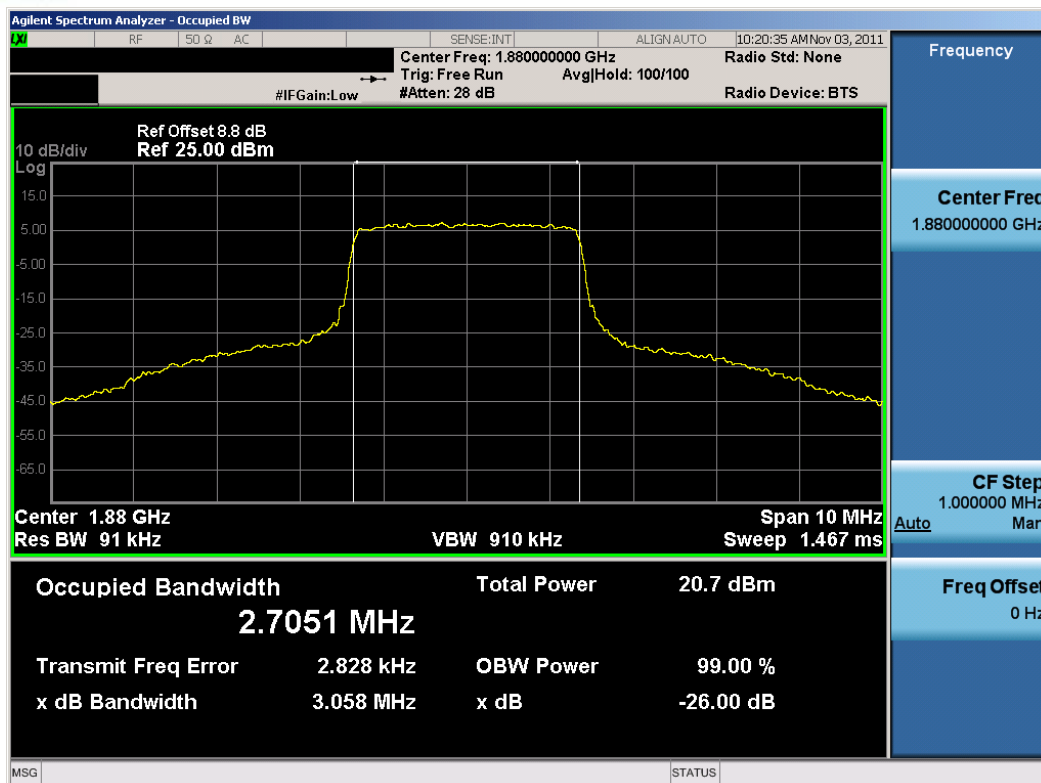


Plot 7-110. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 15)

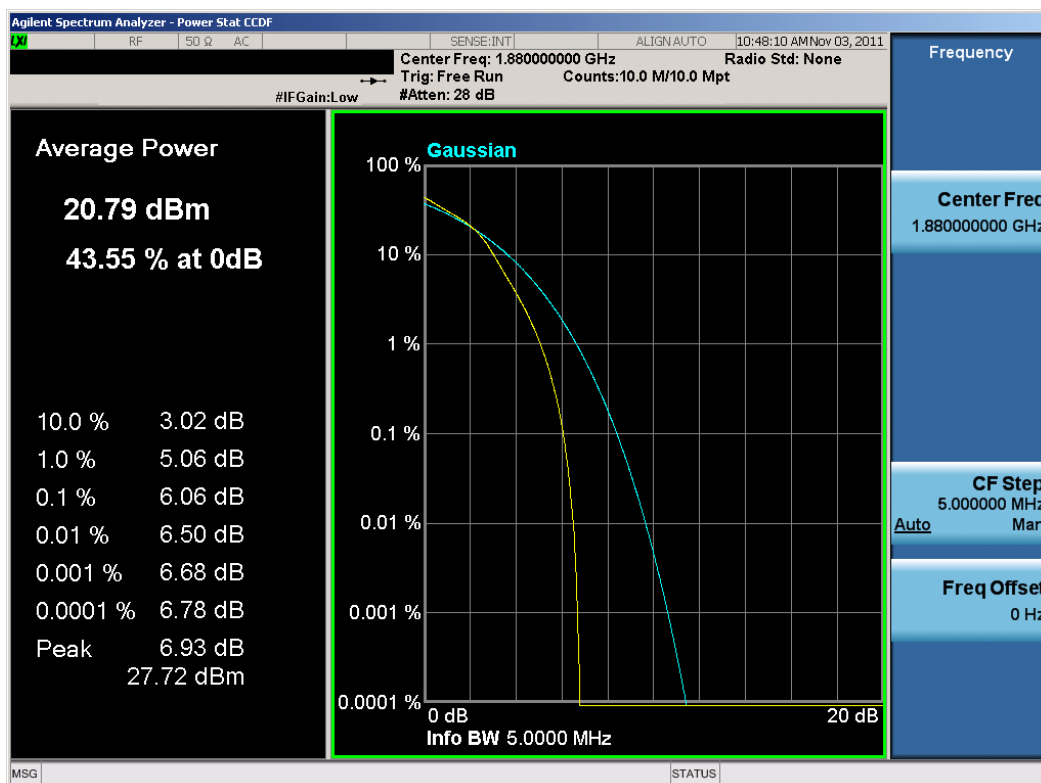


Plot 7-111. Peak-Average Ratio Plot (Mid Channel, QPSK, RB Size 15)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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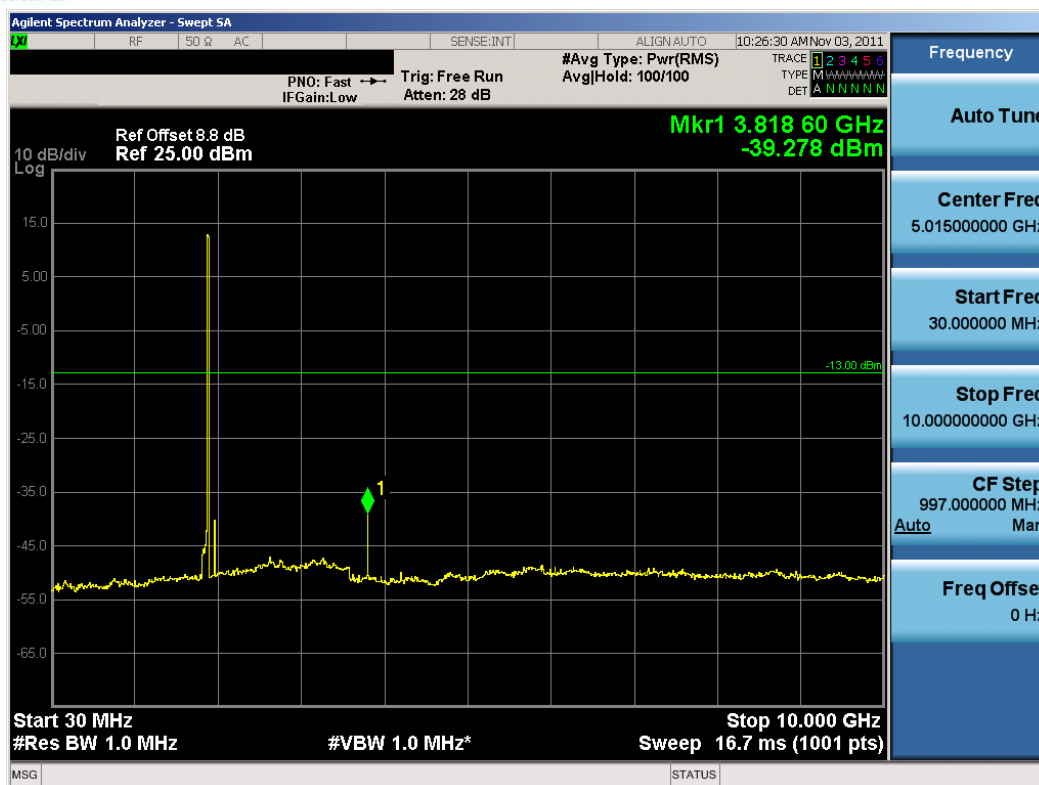


Plot 7-112. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 15)

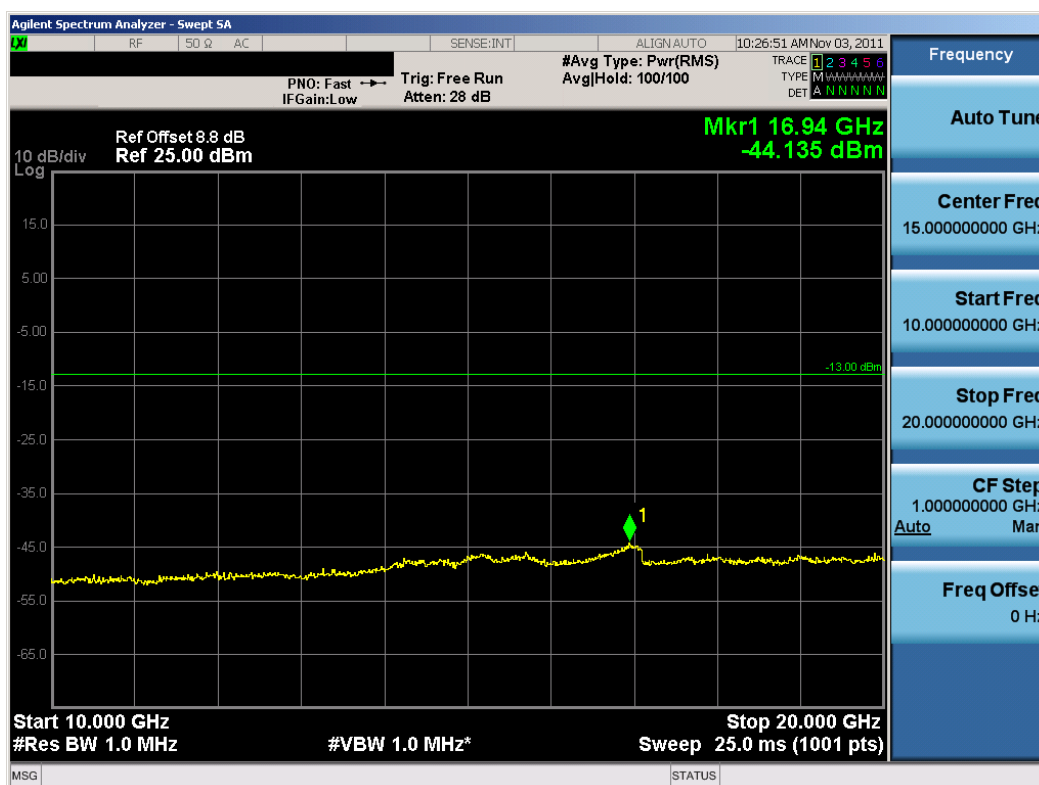


Plot 7-113. Peak-Average Ratio Plot (Mid Channel, 16-QAM, RB Size 15)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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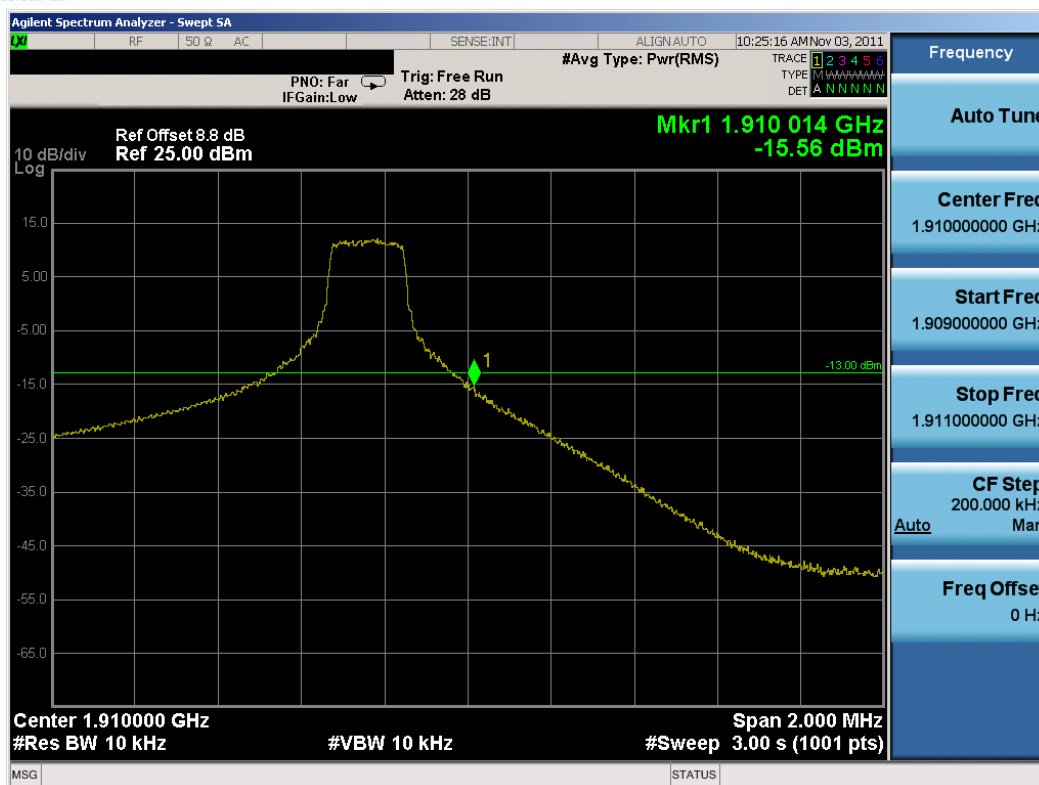


Plot 7-114. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)



Plot 7-115. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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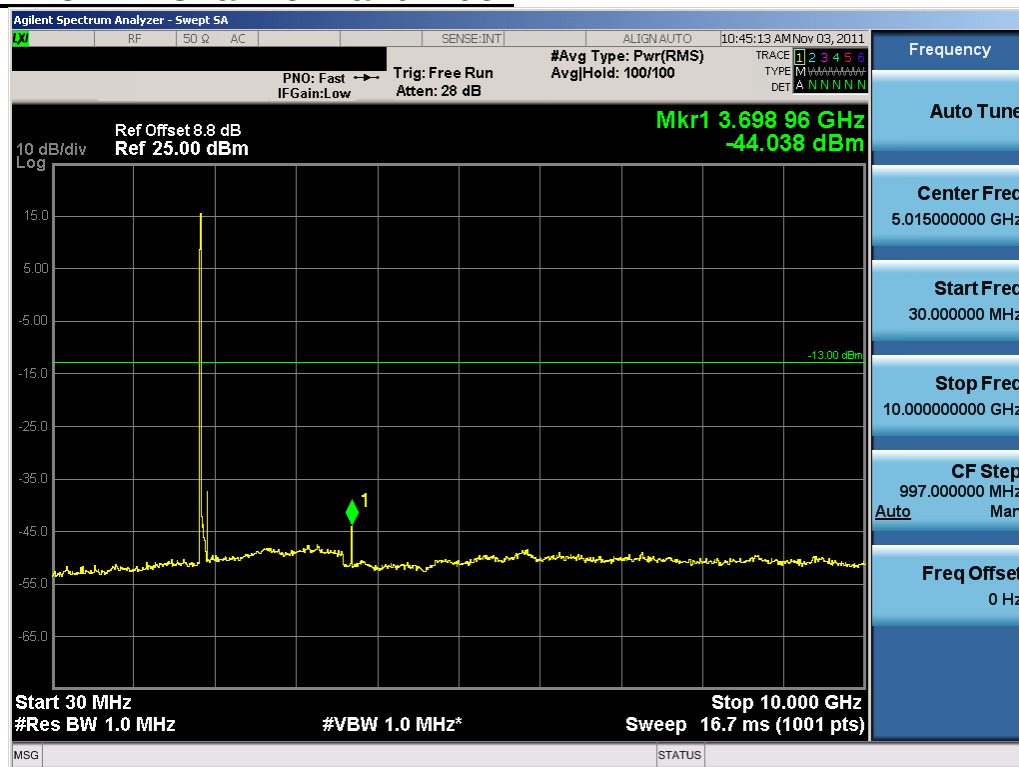
Plot 7-116. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, RB Offset 14)



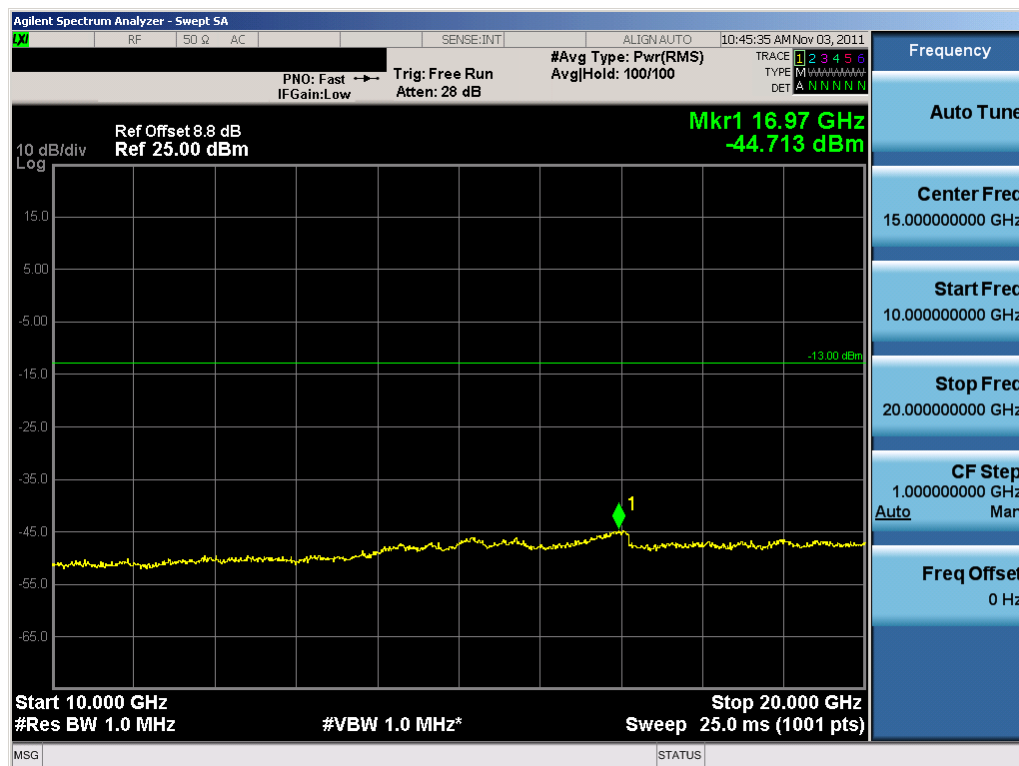
Plot 7-117. 4MHz Span Plot (High Channel, QPSK, RB Size 15)

FCC ID: A3LSCHR930	 FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
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Band 2 – 5MHz Channel Bandwidth

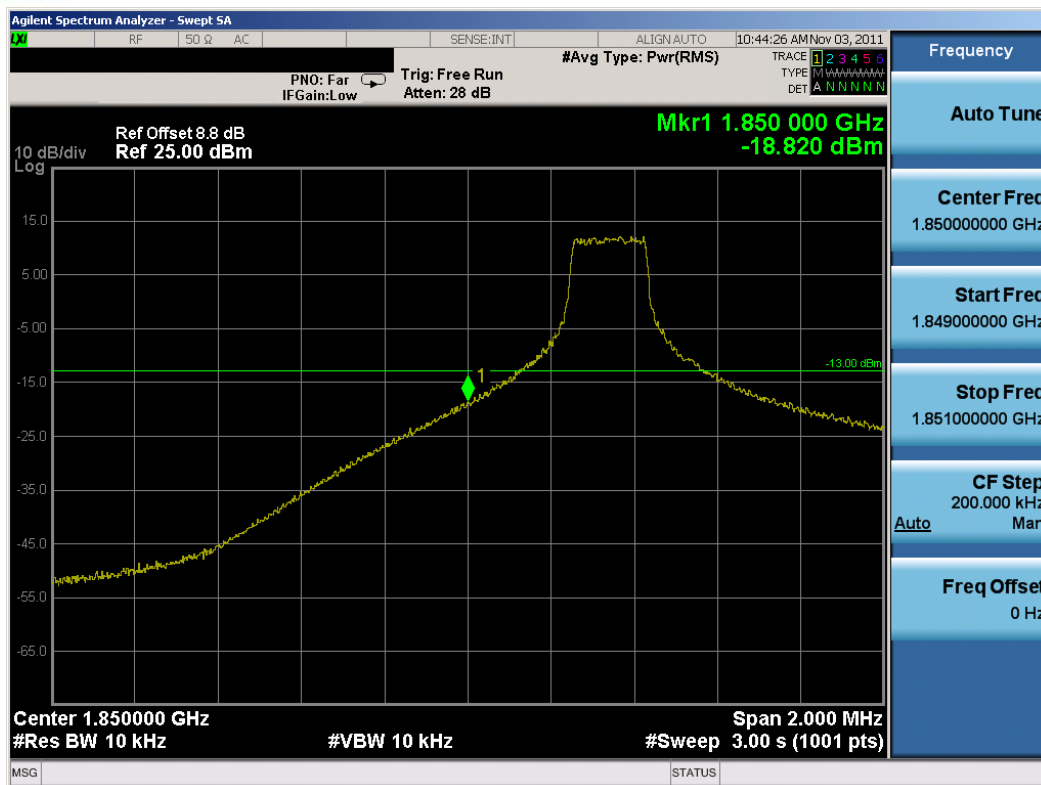


Plot 7-118. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

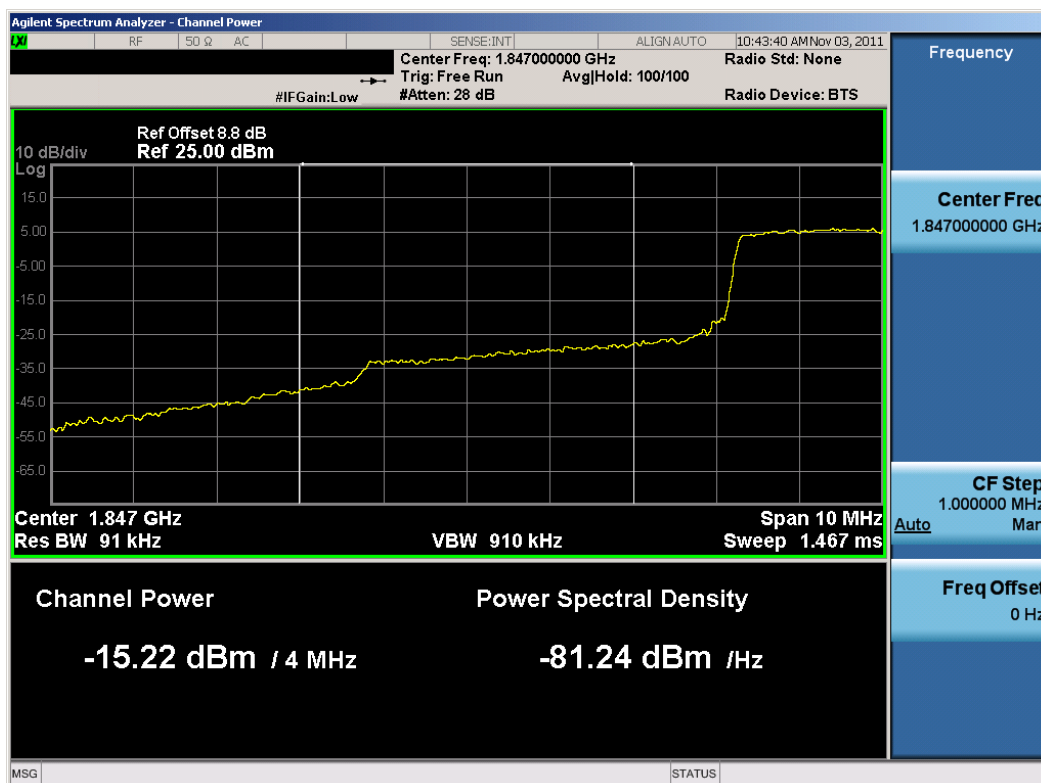


Plot 7-119. Conducted Spurious Plot (Low Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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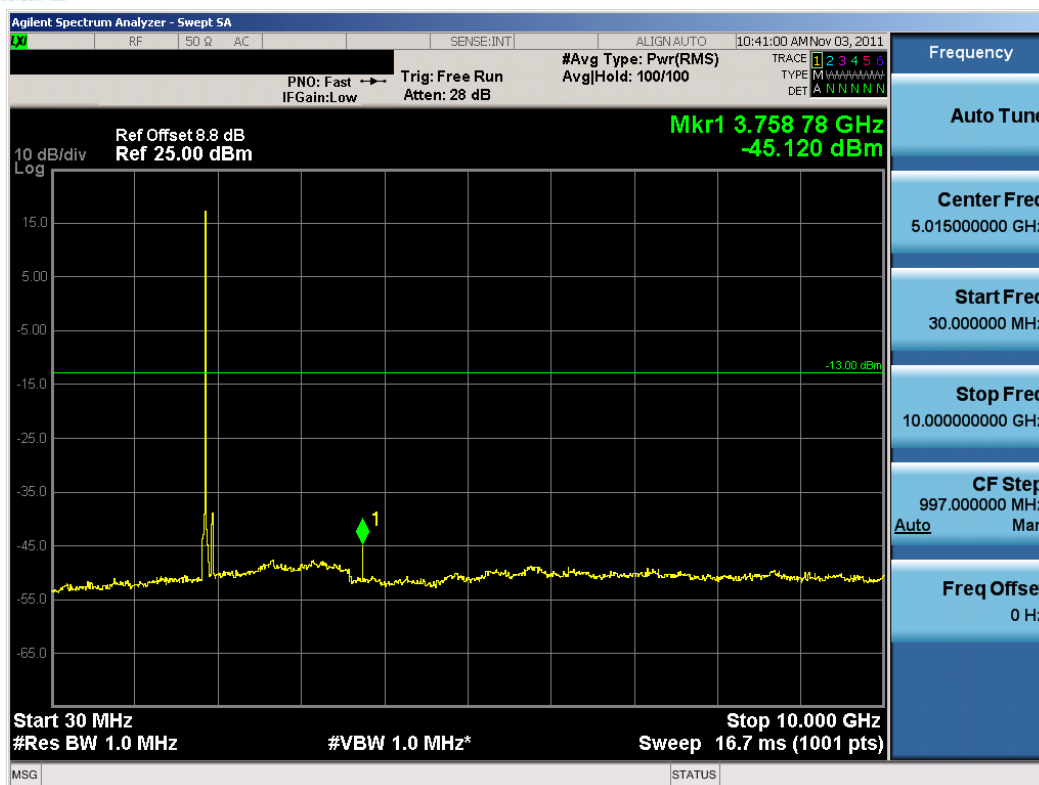


Plot 7-120. Lower Band Edge Plot (Low Channel, QPSK, RB Size 1, Offset 0)

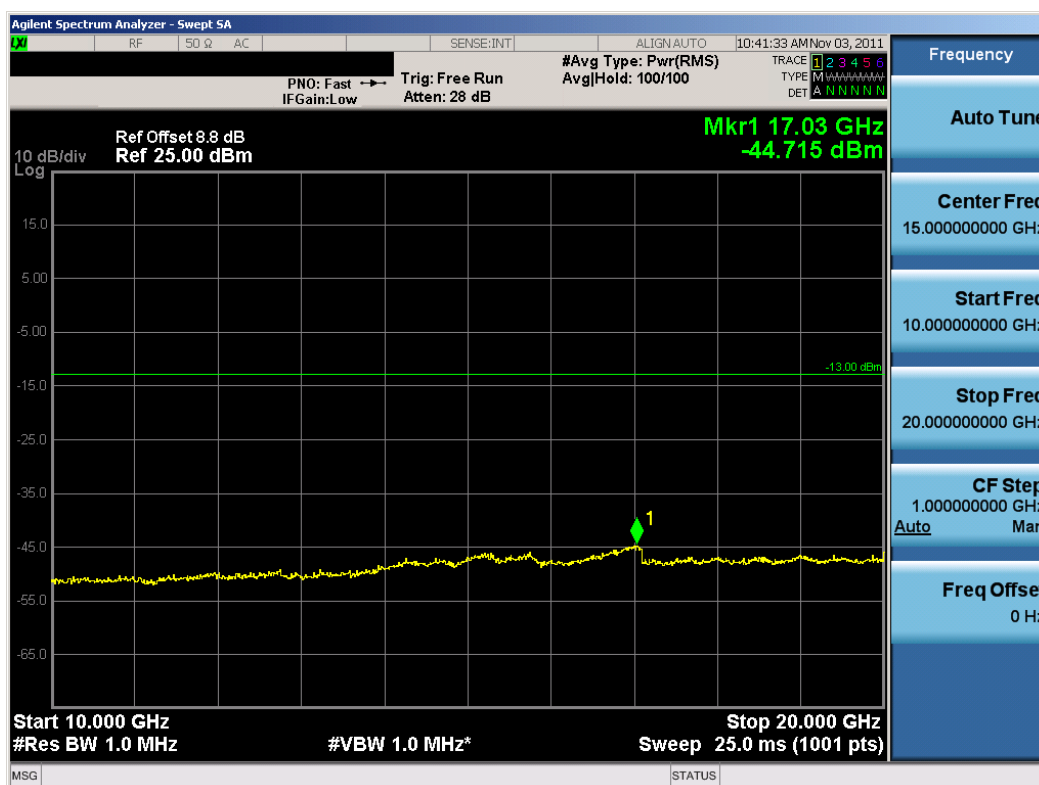


Plot 7-121. 4MHz Span Plot (Low Channel, QPSK, RB Size 25)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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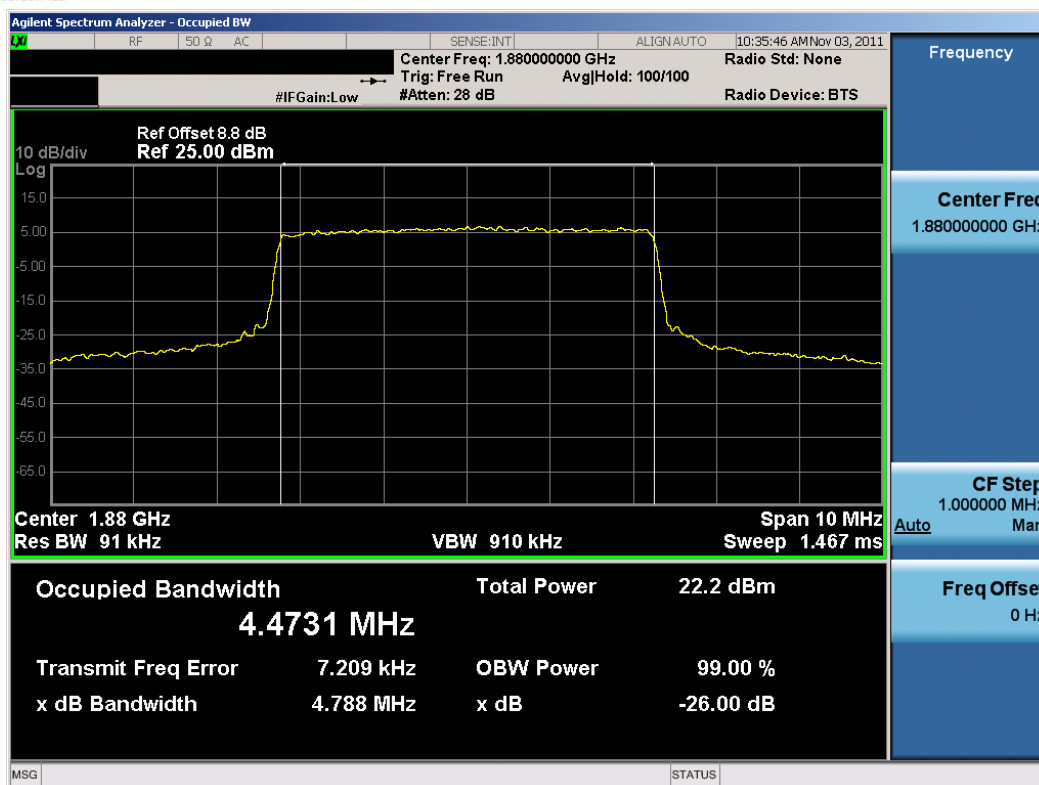


Plot 7-122. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

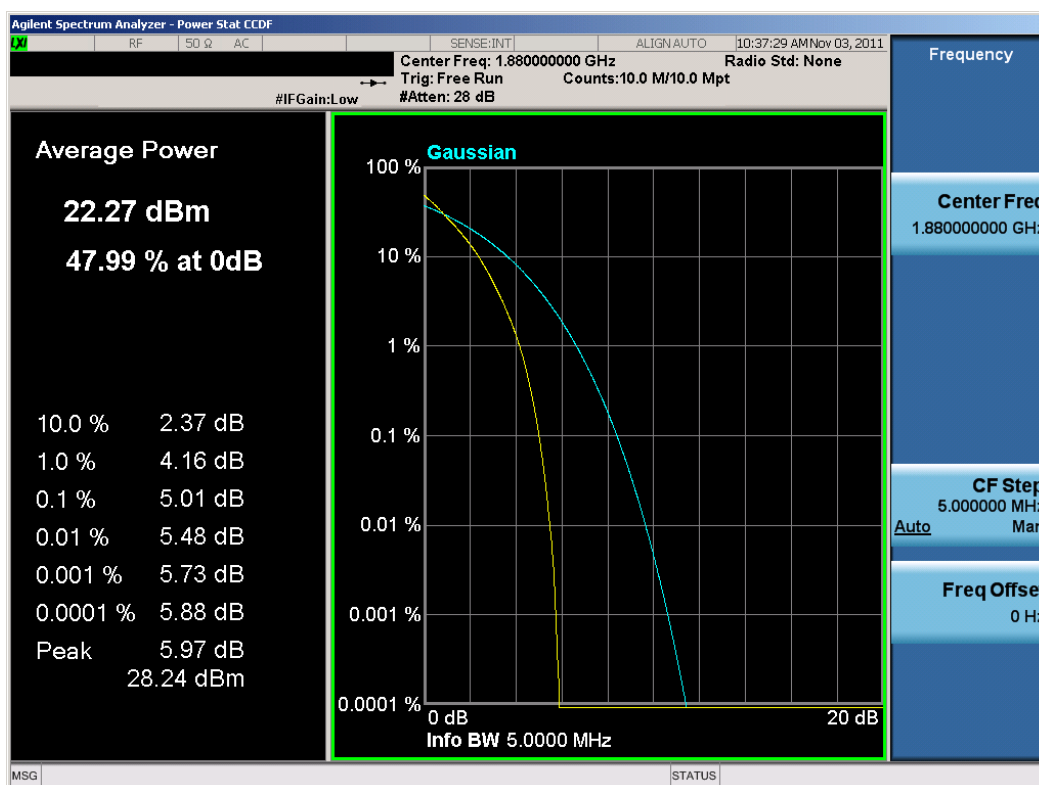


Plot 7-123. Conducted Spurious Plot (Mid Channel, QPSK, RB Size 1, Offset 0)

FCC ID: A3LSCHR930	PCTEST TECHNOLOGICAL LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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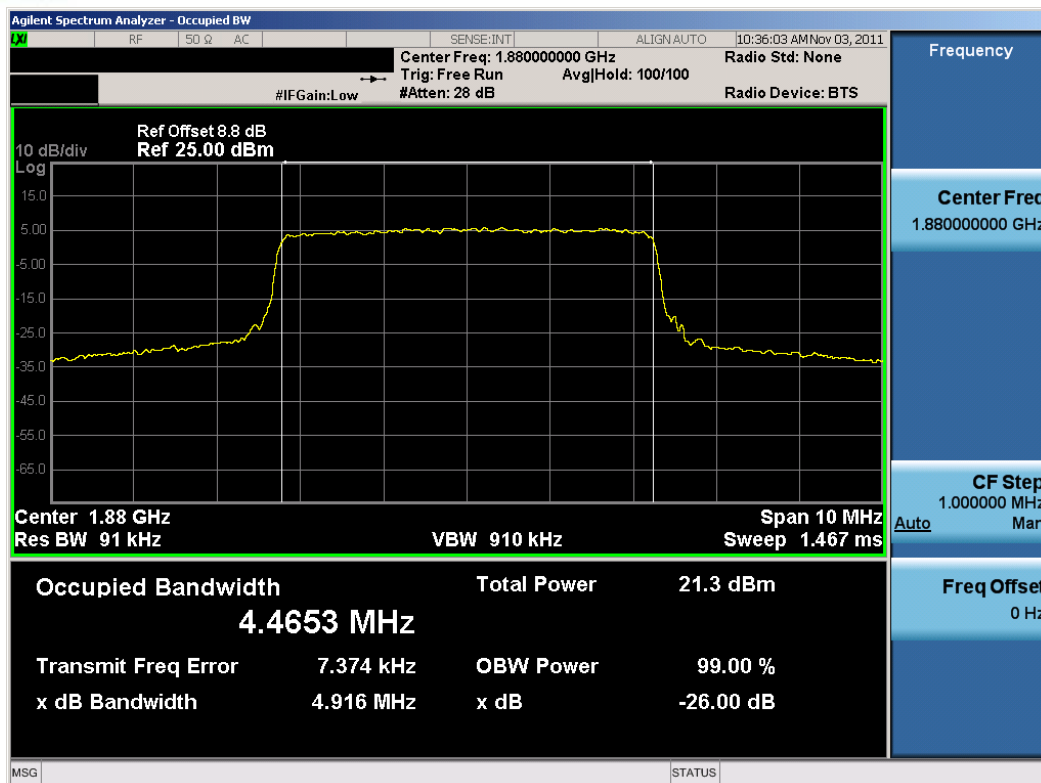


Plot 7-124. Occupied Bandwidth Plot (Mid Channel, QPSK, RB Size 25)

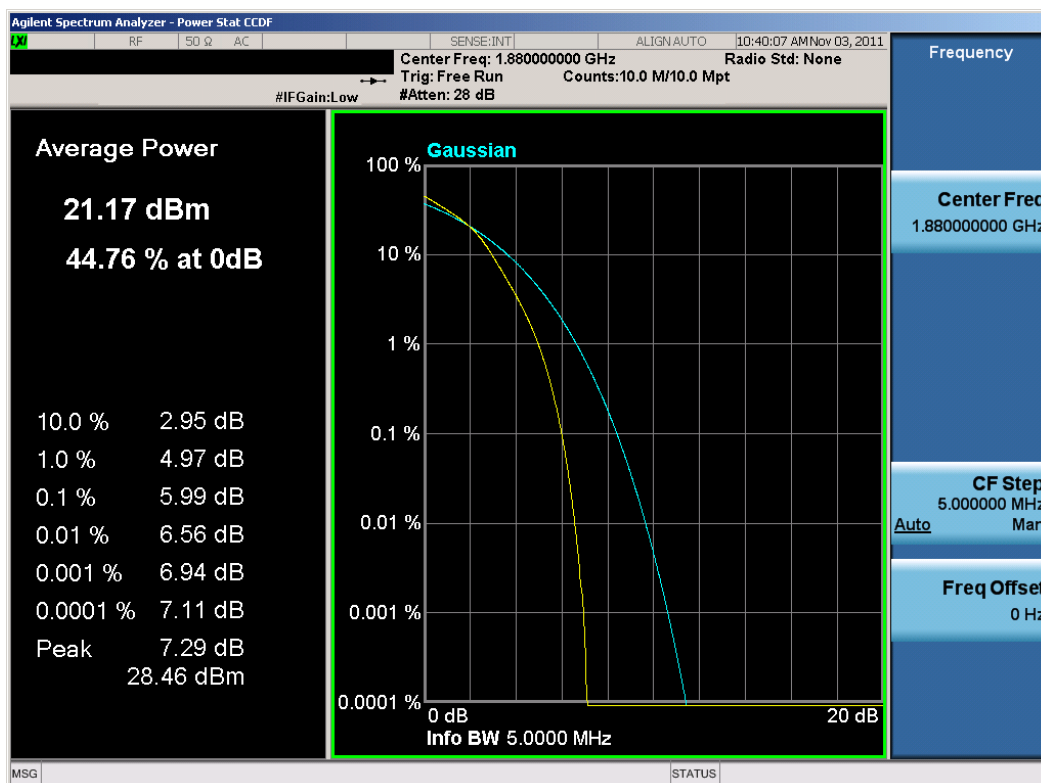


Plot 7-125. Peak-Average Ratio Plot (Mid Channel, QPSK, RB Size 25)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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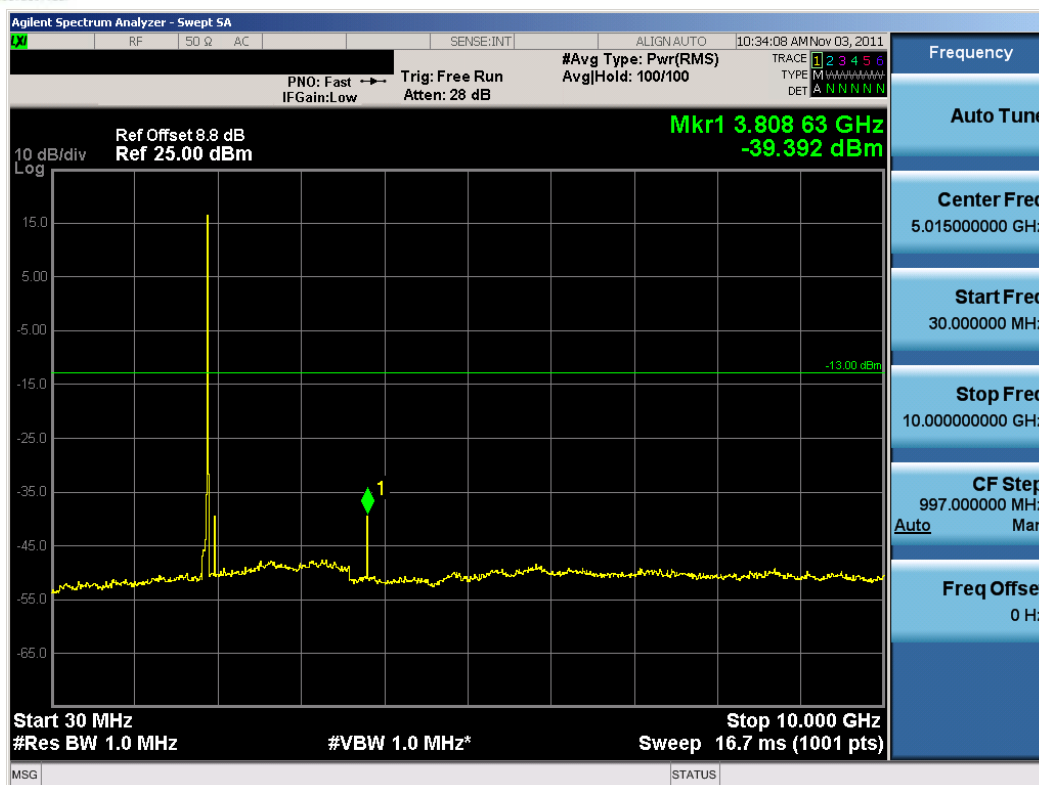


Plot 7-126. Occupied Bandwidth Plot (Mid Channel, 16-QAM, RB Size 25)

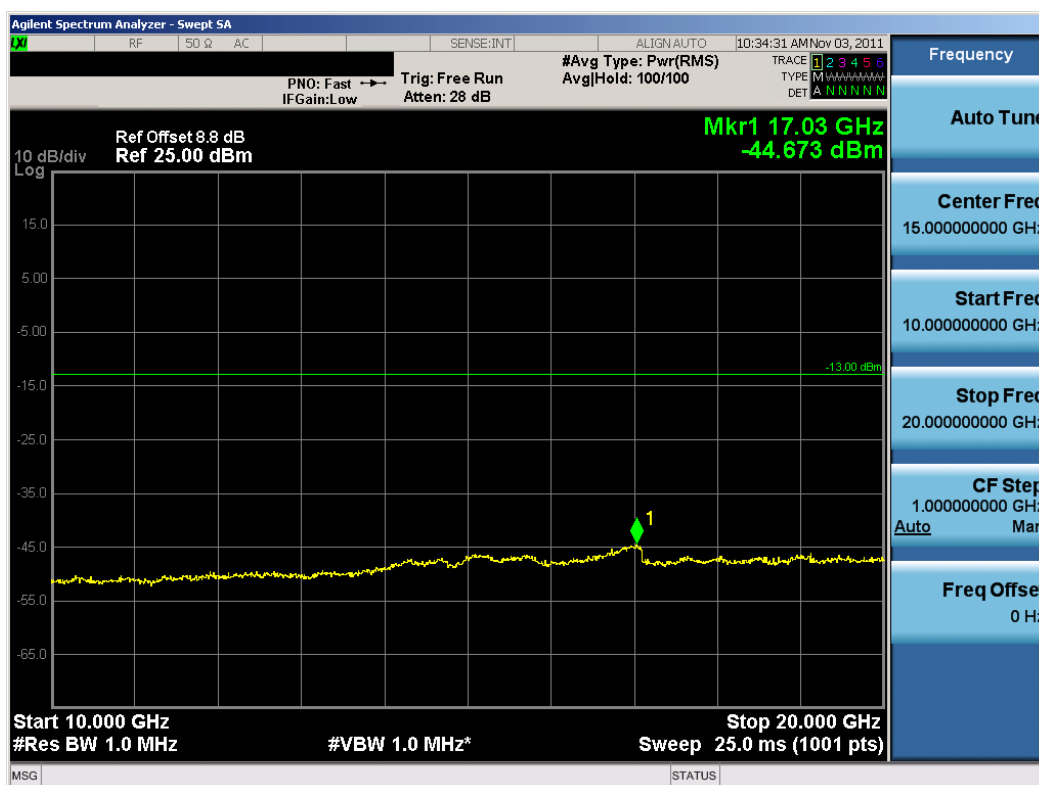


Plot 7-127. Peak-Average Ratio Plot (Mid Channel, 16-QAM, RB Size 25)

FCC ID: A3LSCHR930	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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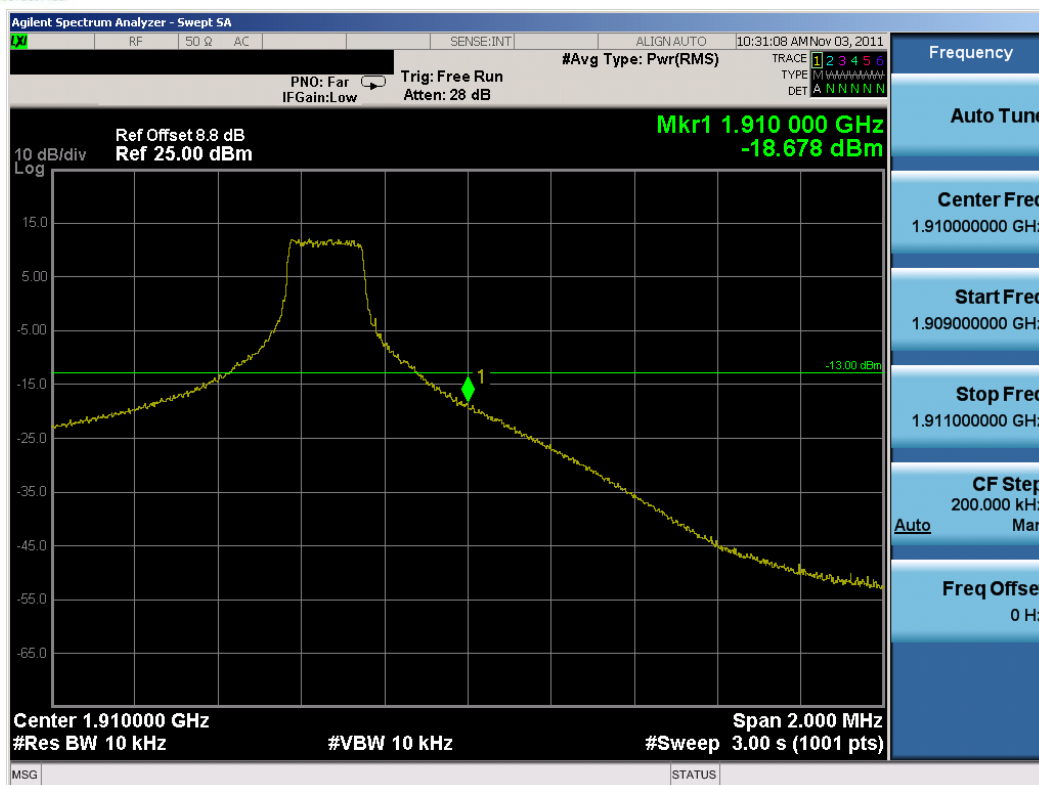


Plot 7-128. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)



Plot 7-129. Conducted Spurious Plot (High Channel, QPSK, RB Size 1, RB Offset 0)

FCC ID: A3LSCHR930		FCC Pt. 22/24/27 LTE MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Plot 7-130. Upper Band Edge Plot (High Channel, QPSK, RB Size 1, RB Offset 24)



Plot 7-131. 4MHz Span Plot (High Channel, QPSK, RB Size 25)

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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSCHR930** complies with all the requirements of Parts 2, 22, 24 and 27 of the FCC rules for LTE operation only.

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