

PCTEST ENGINEERING LABORATORY, INC.

18855 Adams Court, Morgan Hill, CA 95037 USA Tel. 410.290.6652 / Fax 410.290.6654 http://www.pctest.com



# MEASUREMENT REPORT FCC Part 22, 24, & 27 LTE

#### **Applicant Name:**

Apple Inc. 1 Infinite Loop Cupertino, CA 95014 United States Date of Testing: 6/7-8/18/2017 Test Site/Location: PCTEST Lab., Morgan Hill, CA, USA Test Report Serial No.: 1C1706160002-61-03-R4.BCG

FCC ID :	BCG-A1861

APPLICANT:

APPLE INC.

Application Type:	Certification
Model:	A1861, A1958
EUT Type:	Watch
FCC Classification:	PCS Licensed Transmitter Worn on Body (PCT)
FCC Rule Part(s):	§2; §22; §24; §27
Test Procedure(s):	ANSI/TIA-603-E-2016, KDB 971168 D01 v02r02, KDB 648474 D03 v01r04, KDB 414788 D01 Radiated Test Site v01
Test Device Serial No.:	identical prototype [S/N: FH7TT00HJ78M, FH7TT00JJ78C, FH7TT006J79R]

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.

This revised Test Report (S/N: 1C1706160002-61-03-R4.BCG) supersedes and replaces the previously issued test report (S/N: 1C1706160002-61-03-R3.BCG) on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

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.

Randy Ortanez President



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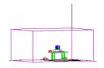
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MEASUREMENT REPORT FCC Part 22, 24, & 27



§2.1033 General Information

APPLICANT:	Apple Inc.					
APPLICANT ADDRESS:	1 Infinite Loop					
	Cupertino, CA 95014, Ur	nited States				
TEST SITE:	PCTEST ENGINEERING	G LABORATORY, INC.				
TEST SITE ADDRESS:	18855 Adams Court, Mo	rgan Hill, CA 95037 US	SA			
FCC RULE PART(S):	§2; §22; §24; §27					
BASE MODEL:	A1861, A1958					
FCC ID:	BCG-A1861					
FCC CLASSIFICATION:	PCS Licensed Transmitt	er Worn on Body (PCT	)			
FREQUENCY TOLERANCE:	±0.00025 % (2.5 ppm)					
Test Device Serial No.:	FH7TT00HJ78M, FH7TT00JJ78C, FH7TT006J79R	Production	Pre-Production			
DATE(S) OF TEST:	6/7-8/18/2017					
TEST REPORT S/N:	1C1706160002-61-03-R	4.BCG				

# Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab located in Morgan Hill, CA 95037, U.S.A.

- PCTEST is an ISO 17025-2005 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.02 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- PCTEST facility is a registered (22831) test laboratory with the site description on file with ISED.

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			ERP/	'EIRP		
Mode	FCC Rule Part	Tx Frequency (MHz)	Max. Power (W)	Max. Power (dBm)	Emission Designator	Modulation
LTE Band 12	27	699.7 - 715.3	0.00073	-1.37	1M08G7D	QPSK
LTE Band 12	27	699.7 - 715.3	0.00060	-2.25	1M07W7D	16QAM
LTE Band 12	27	700.5 - 714.5	0.00073	-1.35	2M71G7D	QPSK
LTE Band 12	27	700.5 - 714.5	0.00060	-2.25	2M71W7D	16QAM
LTE Band 12	27	701.5 - 713.5	0.00072	-1.42	4M51G7D	QPSK
LTE Band 12	27	701.5 - 713.5	0.00060	-2.25	4M50W7D	16QAM
LTE Band 12	27	704 - 711	0.00069	-1.62	9M01G7D	QPSK
LTE Band 12	27	704 - 711	0.00060	-2.25	9M02W7D	16QAM
LTE Band 17	27	706.5 - 713.5	0.00070	-1.56	4M51G7D	QPSK
LTE Band 17	27	706.5 - 713.5	0.00058	-2.38	4M50W7D	16QAM
LTE Band 17	27	709 - 711	0.00070	-1.58	9M01G7D	QPSK
LTE Band 17	27	709 - 711	0.00059	-2.31	9M02W7D	16QAM
LTE Band 13	27	779.5 - 784.5	0.00118	0.72	4M52G7D	QPSK
LTE Band 13	27	779.5 - 784.5	0.00108	0.33	4M52W7D	16QAM
LTE Band 13	27	782	0.00115	0.60	8M98G7D	QPSK
LTE Band 13	27	782	0.00097	-0.12	9M00W7D	16QAM
LTE Band 5	22H	824.7 - 848.3	0.00138	1.40	1M07G7D	QPSK
LTE Band 5	22H	824.7 - 848.3	0.00112	0.49	1M07W7D	16QAM
LTE Band 5	22H	825.5 - 847.5	0.00136	1.32	2M71G7D	QPSK
LTE Band 5	22H	825.5 - 847.5	0.00113	0.52	2M72W7D	16QAM
LTE Band 5	22H	826.5 - 846.5	0.00133	1.23	4M52G7D	QPSK
LTE Band 5	22H	826.5 - 846.5	0.00113	0.52	4M52W7D	16QAM
LTE Band 5	22H	829 - 844	0.00135	1.31	9M02G7D	QPSK
LTE Band 5	22H	829 - 844	0.00117	0.69	9M03W7D	16QAM
LTE Band 26	22H	824.7 - 848.3	0.00130	1.13	1M07G7D	QPSK
LTE Band 26	22H	824.7 - 848.3	0.00109	0.37	1M07W7D	16QAM
LTE Band 26	22H	825.5 - 847.5	0.00136	1.34	2M71G7D	QPSK
LTE Band 26	22H	825.5 - 847.5	0.00113	0.52	2M72W7D	16QAM
LTE Band 26	22H	826.5 - 846.5	0.00129	1.11	4M52G7D	QPSK
LTE Band 26	22H	826.5 - 846.5	0.00110	0.40	4M52W7D	16QAM
LTE Band 26	22H	829 - 844	0.00129	1.11	9M02G7D	QPSK
LTE Band 26	22H	829 - 844	0.00113	0.52	9M03W7D	16QAM

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			ERP/	'EIRP		
Mode	FCC Rule	Tx Frequency (MHz)	Max. Power	Max. Power	Emission	Modulation
mode	Part		(W)	(dBm)	Designator	modulation
LTE Band 4	27	1710.7 - 1754.3	0.01148	10.60	1M08G7D	QPSK
LTE Band 4	27	1710.7 - 1754.3	0.00918	9.63	1M07W7D	16QAM
LTE Band 4	27	1711.5 - 1753.5	0.01132	10.54	2M71G7D	QPSK
LTE Band 4	27	1711.5 - 1753.5	0.00918	9.63	2M71W7D	16QAM
LTE Band 4	27	1712.5 - 1752.5	0.01114	10.47	4M52G7D	QPSK
LTE Band 4	27	1712.5 - 1752.5	0.00912	9.60	4M51W7D	16QAM
LTE Band 4	27	1715 - 1750	0.01156	10.63	9M01G7D	QPSK
LTE Band 4	27	1715 - 1750	0.00918	9.63	9M01W7D	16QAM
LTE Band 4	27	1717.5 - 1747.5	0.01156	10.63	13M5G7D	QPSK
LTE Band 4	27	1717.5 - 1747.5	0.00918	9.63	13M5W7D	16QAM
LTE Band 4	27	1720 - 1745	0.01156	10.63	18M0G7D	QPSK
LTE Band 4	27	1720 - 1745	0.00953	9.79	18M0W7D	16QAM
LTE Band 2	24E	1850.7 - 1909.3	0.01374	11.38	1M08G7D	QPSK
LTE Band 2	24E	1850.7 - 1909.3	0.01130	10.53	1M07W7D	16QAM
LTE Band 2	24E	1851.5 - 1908.5	0.01409	11.49	2M71G7D	QPSK
LTE Band 2	24E	1851.5 - 1908.5	0.01130	10.53	2M72W7D	16QAM
LTE Band 2	24E	1852.5 - 1907.5	0.01406	11.48	4M51G7D	QPSK
LTE Band 2	24E	1852.5 - 1907.5	0.01130	10.53	4M51W7D	16QAM
LTE Band 2	24E	1855 - 1905	0.01393	11.44	9M03G7D	QPSK
LTE Band 2	24E	1855 - 1905	0.01119	10.49	9M03W7D	16QAM
LTE Band 2	24E	1857.5 - 1902.5	0.01409	11.49	13M5G7D	QPSK
LTE Band 2	24E	1857.5 - 1902.5	0.01130	10.53	13M5W7D	16QAM
LTE Band 2	24E	1860 - 1900	0.01422	11.53	18M0G7D	QPSK
LTE Band 2	24E	1860 - 1900	0.01130	10.53	18M1W7D	16QAM
LTE Band 25	24E	1850.7 - 1914.3	0.01334	11.25	1M08G7D	QPSK
LTE Band 25	24E	1850.7 - 1914.3	0.01067	10.28	1M07W7D	16QAM
LTE Band 25	24E	1851.5 - 1913.5	0.01371	11.37	2M71G7D	QPSK
LTE Band 25	24E	1851.5 - 1913.5	0.01199	10.79	2M72W7D	16QAM
LTE Band 25	24E	1852.5 - 1912.5	0.01343	11.28	4M51G7D	QPSK
LTE Band 25	24E	1852.5 - 1912.5	0.01130	10.53	4M51W7D	16QAM
LTE Band 25	24E	1855 - 1910	0.01358	11.33	9M03G7D	QPSK
LTE Band 25	24E	1855 - 1910	0.01130	10.53	9M03W7D	16QAM
LTE Band 25	24E	1857.5 - 1907.5	0.01416	11.51	13M5G7D	QPSK
LTE Band 25	24E	1857.5 - 1907.5	0.01130	10.53	13M5W7D	16QAM
LTE Band 25	24E	1860 - 1905	0.01419	11.52	18M0G7D	QPSK
LTE Band 25	24E	1860 - 1905	0.01130	10.53	18M1W7D	16QAM
LTE Band 41	27	2498.5 - 2687.5	0.02710	14.33	4M50G7D	QPSK
LTE Band 41	27	2498.5 - 2687.5	0.02113	13.25	4M50W7D	16QAM
LTE Band 41	27	2501 - 2685	0.02729	14.36	8M99G7D	QPSK
LTE Band 41	27	2501 - 2685	0.02113	13.25	9M03W7D	16QAM
LTE Band 41	27	2503.5 - 2682.5	0.02780	14.44	13M5G7D	QPSK
LTE Band 41	27	2503.5 - 2682.5	0.02163	13.35	13M5W7D	16QAM
LTE Band 41	27	2506 - 2680	0.02780	14.44	18M0G7D	QPSK
LTE Band 41	27	2506 - 2680	0.02208	13.44	18M0W7D	16QAM

**EUT Overview** 

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# 1.0 INTRODUCTION

### 1.1 Scope

Measurement and determination of electromagnetic emissions (EME) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science, and Economic Development Canada.

### 1.2 Testing Facility

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility located at 18855 Adams Court, Morgan Hill, CA 95037.

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# 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Apple Watch FCC ID: BCG-A1861**. The test data contained in this report pertains only to the emissions due to the EUT's LTE function. According to the manufacturer, models A1861 and A1958 are electrically identical. Model A1861 was used for final testing.

### 2.2 Device Capabilities

This device contains the following capabilities:

850/1700/1900 WCDMA/HSPA, Multi-band LTE, 802.11b/g/n WLAN, Bluetooth (1x, EDR, LE), NFC

LTE Band 12 (699 - 716 MHz) overlaps the entire frequency range of LTE Band 17 (704 - 716 MHz). Therefore, test data provided in this report covers Band 17 as well as Band 12.

LTE Band 26 (814 – 849 MHz) overlaps the entire frequency range of LTE Band 5 (824 – 849 MHz). Therefore, test data provided in this report covers Band 5 and the portion of Band 26 subject to Part 22.

LTE Band 25 (1850 – 1915 MHz) overlaps the entire frequency range of LTE Band 2 (1850 – 1910 MHz). Therefore, test data provided in this report covers Band 2 as well as Band 25.

## 2.3 Antenna Configuration

The following antenna gains were used for testing.

Frequency [MHz]	Ant. Gain [dBi]
699-716	-23.1
777-787	-20.8
814-824	-20.3
824-849	-20.3
1710-1755	-13.4
1850-1915	-12.5
2496-2690	-9.6

Table 2-1. Peak Antenna Gain

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# 2.4 Test Support Equipment

1	Apple MacBook	Model:	A1502	S/N:	C02NQ01YG465
	w/ AC/DC Adapter	Model:	A1435	S/N:	C04325505K1F288BG
2	Apple USB Cable	Model:	Kanzi	S/N:	20153D
	w/ Charging Dock	Model:	FAPS61	S/N:	6304000736
	w/ Dock	Model:	X241	S/N:	SJH3002AP2AS
	_				
3	USB Cable	Model:	N/A	S/N:	N/A
			Shielded USB Cable		
4	w/ AC Adapter	Model:	B353	S/N:	N/A
5	Test Pathfinder Board	Model:	X988	S/N:	FGH7648700BDHMV323
6	Wireless Charging Pad (WCP)	Model:	A1598	FCC ID:	BCGA1598

Table 2-2. Test Equipment

# 2.5 Test Configuration

The EUT was tested per the guidance of ANSI/TIA-603-E-2016 and KDB 971168 D01 v02r02. See Section 7.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

This device supports wireless charging capability and, thus, is subject to the test requirements of KDB 648474 D03 v01r04. Additional radiated spurious emission measurements were performed with the EUT lying flat on a certified wireless charging pad (WCP) while operating under normal conditions in a simulated call or data transmission configuration. The worst case radiated emissions data is shown in this report.

The worst case configuration was investigated for all combinations of the three materials, aluminum, ceramic, and stainless steel, and various types of wristbands, metal and non-metal wrist bands. The store display sample was investigated with the three types of EUTs. The EUT was also investigated with and without wireless charger.

The worst case configuration found was used for all testing. The worst case material was aluminum. The worst case accessory was metal wristband but no significant difference was found between various types of wrist bands.

The emissions below 1GHz and above 18GHz were tested with the highest transmitting power channel and the worst case configuration.

The EUT was manipulated through three orthogonal planes of X-orientation (flatbed), Y-orientation (landscape), and Z-orientation (portrait) during the testing. Only the worst case emissions were reported in this test report.

## 2.6 Software and Firmware

The test was conducted with firmware version 15R328 installed on the EUT.

For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance.

# 2.7 EMI Suppression Device(s)/Modifications

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

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# 3.0 DESCRIPTION OF TESTS

### 3.1 Measurement Procedure

The measurement procedures described in the document titled "Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards" (ANSI/TIA-603-D-2010) and "Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems" (KDB 971168 D01 v02r02) were used in the measurement of the EUT.

# 3.1 Block C Frequency Range

### <u>§27.5(b)(3)</u>

Two paired channels of 11 megahertz each are available for assignment in Block C in the 746-757 MHz and 776-787 MHz bands. In the event that no licenses for two channels in this Block C are assigned based on the results of the first auction in which such licenses were offered because the auction results do not satisfy the applicable reserve price, the spectrum in the 746-757 MHz and 776-787 MHz bands will instead be made available for assignment at a subsequent auction as follows: (i) Two paired channels of 6 megahertz each available for assignment in Block C1 in the 746-752 MHz and 776-782 MHz bands. (ii) Two paired channels of 5 megahertz each available for assignment in Block C2 in the 752-757 MHz and 782-787 MHz bands.

# 3.2 Block A Frequency Range §27.5(c)

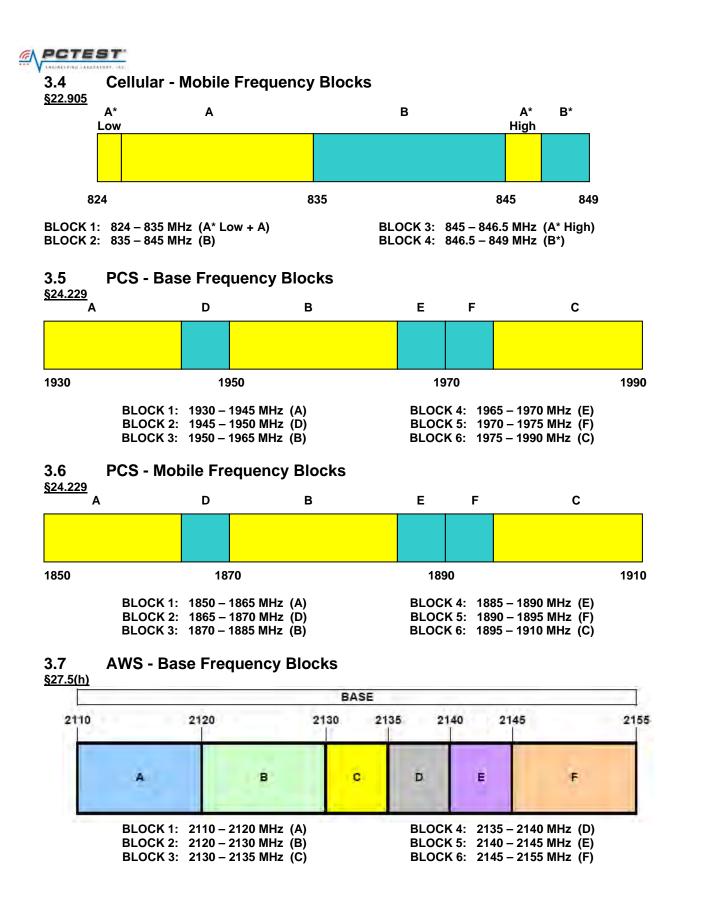
<u>698-746 MHz band</u>. The following frequencies are available for licensing pursuant to this part in the 698-746 MHz band: (1) Three paired channel blocks of 12 megahertz each are available for assignment as follows:

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.

#### 3.3 Cellular - Base Frequency Blocks §22.905 **A**\* В **A**\* **B**\* Α Low High 869 880 890 894 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\*)

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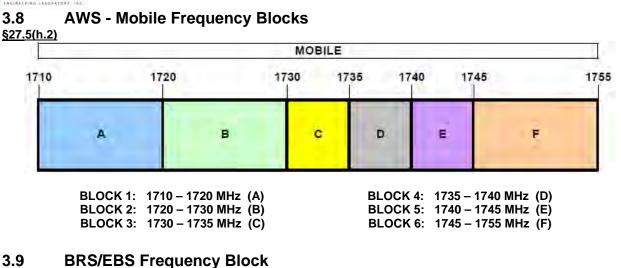
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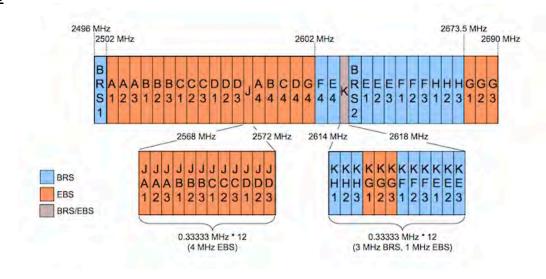
CA PCTEST FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT Approved by: FCC ID: BCG-A1861 (CERTIFICATION) **Quality Manager** Test Report S/N: EUT Type: Test Dates: Page 10 of 166 1C1706160002-61-03-R4.BCG 6/7-8/18/2017 Watch © 2017 PCTEST Engineering Laboratory, Inc. V 6 6

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### 3.10 Radiated Power and Radiated Spurious Emissions §2.1053 §22.913(a.2) §22.917(a) §24.232(c) §24.238(a) §27.50(b.10) §27.50(c.10) §27.50(d.4) §27.53(f) §27.53(g) §27.53(h) §27.53(m)

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high Styrodur Plastic Test Table is placed on top of the turntable.

The equipment under test was transmitting while connected to its integral antenna and is placed on a turntable 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer. Radiated power levels are also investigated with the receive antenna horizontally and vertically polarized. The maximized power level is recorded using the spectrum analyzer "Channel Power" function with the integration band set to the emissions' occupied bandwidth, a RMS detector, RBW = 100kHz, VBW = 300kHz, and a 1 second sweep time over a minimum of 10 sweeps, per the guidelines of KDB 971168 D01 v02r02.

Per the guidance of ANSI/TIA-603-D-2010, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

$$P_{d [dBm]} = P_{g [dBm]} - cable loss _{[dB]} + antenna gain _{[dBd/dBi]}$$

Where,  $P_d$  is the dipole equivalent power,  $P_g$  is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to  $P_g [dBm]$  – cable loss [dB].

The calculated  $P_d$  levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of 43 + 10log<sub>10</sub>(Power [Watts]). For Band 41, the calculated  $P_d$  levels are compared to the absolute spurious emission limit of -25dBm which is equivalent to the required minimum attenuation of 55 + 10log<sub>10</sub>(Power [Watts]).

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# 4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the  $U_{CISPR}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

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# 5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2006.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	AM LTX1	Licensed Tramsmitter Cable Set	3/17/2017	Annual	3/17/2018	AM LTX1
-	EMI 3117-ESW1	Radiated Cable Set	3/1/2017	Biennial	3/1/2018	N/A
-	EMI HL562E-ESW1	Radiated Cable Set	2/28/2017	Biennial	2/28/2018	N/A
ESPEC	SU-241	Temperature Chamber	3/10/2017	Annual	3/10/2018	92009574
Keysight Technologies	N9030A	3Hz-44Ghz PXA Signal Analyzer	3/13/2017	Annual	3/13/2018	MY49430244
Pasternack	NC100	Torque Wrench	8/21/2015	Biennial	8/21/2017	81968
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/10/2017	Annual	1/10/2018	161675
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	5/8/2017	Annual	5/8/2018	161616-DF
Rohde & Schwarz	ESW26	ESW26 EMI Test Receiver	1/20/2017	Annual	1/20/2018	101299
Rohde & Schwarz	HL562E	Bi-Log Antenna (30MHz - 6GHz)	1/19/2017	Annual	1/19/2018	100610
Rohde & Schwarz	OSP130	Open Switch and control unit	1/18/2017	Annual	1/18/2018	100970
Rohde & Schwarz	SFUNIT-RX	TS-SFUNIT SHIELDED FILTER UNIT	2/3/2017	Annual	2/3/2018	102131
Rohde & Schwarz	TS-PR8	Pre-amplifer (30MHz - 8GHz)	2/3/2017	Annual	2/3/2018	102325
Rohde & Schwarz	TC-TA18	CROSS POL. VIVALDI ANT (400MHz - 18GHz)	11/8/2016	Annual	11/8/2017	101056-AE

Table 5-1. Test Equipment

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# 6.0 SAMPLE CALCULATIONS

### **Emission Designator**

#### **QPSK Modulation**

### Emission Designator = 8M62G7D

LTE BW = 8.62 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission, telemetry, telecommand

### **16QAM Modulation**

### Emission Designator = 8M45W7D

LTE BW = 8.45 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data transmission, telemetry, telecommand

# Spurious Radiated Emission – LTE Band

### Example: Middle Channel LTE Mode 2<sup>nd</sup> Harmonic (1564 MHz)

The average 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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# 7.0 TEST RESULTS

### 7.1 Summary

Company Name:	
FCC ID:	
FCC Classification:	
Mode(s):	

Apple Inc. BCG-A1861 PCS Licensed Transmitter Worn on Body (PCT) LTE

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Result	Reference
2.1049	Occupied Bandwidth	N/A		PASS	Section 7.2
2.1051, 22.917(a), 24.238(a), 27.53(c), 27.53(g), 27.53(h)	Out of Band Emissions	> 43 + 10log <sub>10</sub> (P[Watts]) at Band Edge and for all out-of-band emissions		PASS	Section 7.3, 7.4
27.53(m)	Out of Band Emissions	See 27.53(m)(4)		PASS	Section 7.3, 7.4
24.232(d)	Peak-Average Ratio	< 13 dB		PASS	Section 7.5
2.1046	Transmitter Conducted Output Power	N/A	CONDUCTED	PASS	See RF Exposure Report
22.913(a.2)	Effective Radiated Power (Band 5/26)	< 7 Watts max. ERP	CONDUCTED	PASS	Section 7.6
27.50(b.10), 27.50(c.10)	Effective Radiated Power (Band 12/17 13)	< 3 Watts max. ERP		PASS	Section 7.6
24.232(c) 27.50(h.2)	Equivalent Isotropic Radiated Power (Band 2/25, 41)	< 2 Watts max. EIRP		PASS	Section 7.6
27.50(d.4)	Equivalent Isotropic Radiated Power (Band 4)	< 1 Watts max. EIRP		PASS	Section 7.6
2.1055, 22.355, 24.235, 27.54	Frequency Stability	< 2.5 ppm (Part 22) and fundamental emissions stay within authorized frequency block (Part 24, 27)		PASS	Section 7.9
2.1053, 22.917(a), 24.238(a), 27.53(c), 27.53(g), 27.53(h)	Undesirable Emissions (Band 12/17, 5/26, 4, 2/25)	> 43 + 10log <sub>10</sub> (P[Watts]) for all out-of-band emissions		PASS	Section 7.7
27.53(f)	Undesirable Emissions (Band 13)	< -70 dBW/MHz (for wideband signals) < -80 dBW (for discrete emissions less than 700Hz BW) For all emissions in the band 1559 – 1610 MHz	RADIATED	PASS	Section 7.7
27.53(m)	Undesirable Emissions (Band 41)	See 27.53(m)(4)		PASS	Section 7.7

#### Table 7-1. Summary of Test Results

#### Notes:

- 1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots (Sections 7.2, 7.3, 7.4, 7.5) were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.
- 4) For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is PCTEST "LTE Automation," Version 4.8.

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# 7.2 Occupied Bandwidth §2.1049

### Test Overview

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. All modes of operation were investigated and the worst case configuration results are reported in this section.

### Test Procedure Used

KDB 971168 D01 v02r02 - Section 4.2

### Test Settings

- 1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- 3. VBW  $\geq$  3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within

1-5% of the 99% occupied bandwidth observed in Step 7

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-1. Test Instrument & Measurement Setup

#### Test Notes

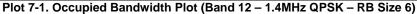
#### None.

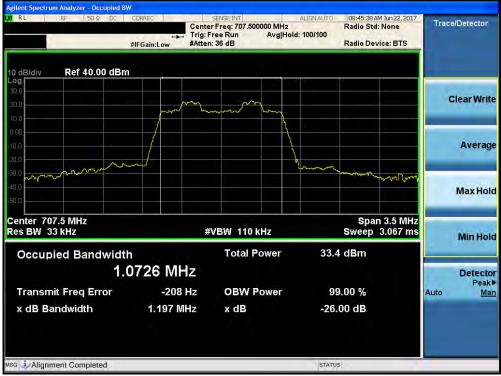
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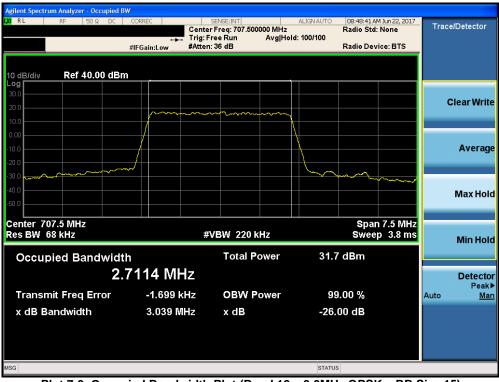




Plot 7-2. Occupied Bandwidth Plot (Band 12 – 1.4MHz 16-QAM – RB Size 6)

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Plot 7-3. Occupied Bandwidth Plot (Band 12 – 3.0MHz QPSK – RB Size 15)



Plot 7-4. Occupied Bandwidth Plot (Band 12 – 3.0MHz 16-QAM – RB Size 15)

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Agilent Spectrum Analyzer - Occu	upied BW									
LXIRL RF 50Ω	DC COF	RREC		SE:INT		ALIGN AUTO		M Jun 22, 2017	Trac	e/Detector
			Total France	eq: 707.500 Run	Avg Hold	I: 100/100	Radio Std:	None		
	#IF	Gain:Low	#Atten: 36				Radio Dev	ice: BTS		
10 dB/div Ref 30.00	) dBm									
Log										
20.0		m	mount	and the second s	mon					Clear Write
10.0										
0.00		1				1				
-10.0		/				\				
-20.0										Average
-30.0 monther work	www					mon	www.w	Vinnen M		
-40.0										
-50.0										
-60.0										Max Hold
-00.0									_	
Center 707.5 MHz					· · · · ·		Span	12.5 MHz		
Res BW 120 kHz			#VB	W 390 k	Hz			ep 1 ms		Min Hold
										Mill Hold
Occupied Bandy	width			Total P	ower	31.2	dBm !			
	4.50	73 MF	z							Detector
Transmit Freq Erro	or	18.894 k	Hz	OBW P	ower	99	.00 %		Auto	Peak▶ <u>Man</u>
x dB Bandwidth		4.954 M	<b>U</b> -7	x dB		-26	00 dB			
		4.334 191		x ub		-20.				
MSG						STATUS	5			
					1 4 6 / 4 7				<u>.</u>	

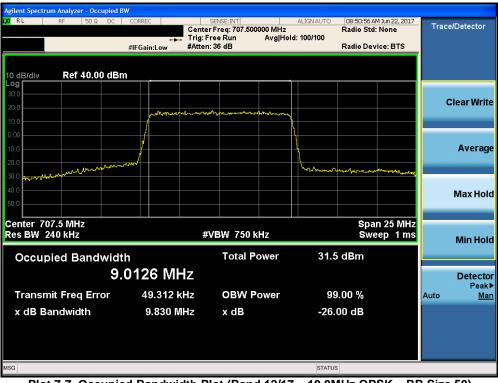
Plot 7-5. Occupied Bandwidth Plot (Band 12/17 - 5.0MHz QPSK - RB Size 25)



Plot 7-6. Occupied Bandwidth Plot (Band 12/17 – 5.0MHz 16-QAM – RB Size 25)

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Plot 7-7. Occupied Bandwidth Plot (Band 12/17 - 10.0MHz QPSK - RB Size 50)



Plot 7-8. Occupied Bandwidth Plot (Band 12/17 – 10.0MHz 16-QAM – RB Size 50)

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Plot 7-9. Occupied Bandwidth Plot (Band 13 – 5.0MHz QPSK – RB Size 25)



Plot 7-10. Occupied Bandwidth Plot (Band 13 – 5.0MHz 16-QAM – RB Size 25)

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Plot 7-11. Occupied Bandwidth Plot (Band 13 – 10.0MHz QPSK – RB Size 50)



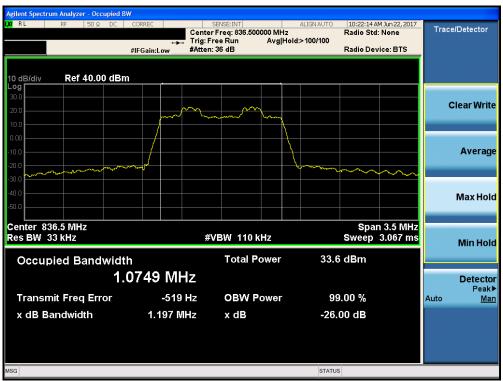
Plot 7-12. Occupied Bandwidth Plot (Band 13 – 10.0MHz 16-QAM – RB Size 50)

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Plot 7-13. Occupied Bandwidth Plot (Band 5/26 - 1.4MHz QPSK - RB Size 6)



Plot 7-14. Occupied Bandwidth Plot (Band 5/26 – 1.4MHz 16-QAM – RB Size 6)

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Plot 7-15. Occupied Bandwidth Plot (Band 5/26 - 3.0MHz QPSK - RB Size 15)



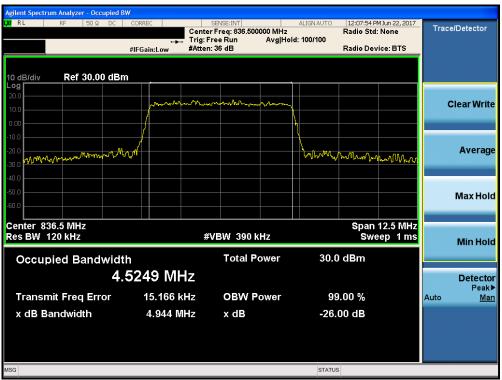
Plot 7-16. Occupied Bandwidth Plot (Band 5/26 – 3.0MHz 16-QAM – RB Size 15)

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Agilent Spectrum	Analyzer - Oco	cupied BW										
L <mark>XI</mark> RL	RL RF 50 Ω DC CORREC				ENSE:INT Freq: 836.500	1000 MHz	ALIGN AUTO	12:07:29 P Radio Std	M Jun 22, 2017	Trac	e/Detector	
				🛶 Trig: Fr	Trig: Free Run Avg Hold:>100/100							
		#I	FGain:Low	#Atten:	36 dB			Radio Dev	rice: BTS			
10 dB/div Log	Ref 30.0	0 dBm										
20.0					10							
10.0											Clear Write	
0.00			_/				\					
-10.0			/				\					
-20.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	man	J				Im		Jud Manager		Average	
-30.0											-	
-40.0												
-50.0											Max Hold	
-60.0											Max Hold	
Center 836 Res BW 12				-#1	/BW 390 k	- Ll - J			12.5 MHz ep 1 ms			
Res DW 12				#1	DAA 1901	λΠZ		SWG	ep mis		Min Hold	
Occupi	ed Band	width			Total P	ower	32.1	l dBm				
		4 5'	225 N								Detector	
		<b>T.</b> V		11 12							Detector Peak▶	
Transmit	t Freq Err	ror	16.60	9 kHz	OBW P	ower	99	9.00 %		Auto	<u>Man</u>	
x dB Bar	ndwidth		5.001	MHz	x dB		-26.	00 dB				
MSG							STATUS	3				

Plot 7-17. Occupied Bandwidth Plot (Band 5/26 – 5.0MHz QPSK – RB Size 25)



Plot 7-18. Occupied Bandwidth Plot (Band 5/26 – 5.0MHz 16-QAM – RB Size 25)

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	trum Analyzer - O	ccupied BV	V									
L <b>XI</b> RL	RF 50 s	Ω DC	CORRE	ic		NSE:INT		ALIGN AUTO	12:15:45 P Radio Std	M Jun 22, 2017	Trac	e/Detector
						Freq: 836.500000 MHz Radio 5 ree Run Avg Hold: 100/100			Radio Sta	: None		
			#IFGai	in:Low	#Atten: 3	6 dB			Radio Dev	/ice: BTS		
10 dB/div	Ref 40.	00 dBm										
Log 30.0												
20.0												Clear Write
				mon	-epont	-	moren					
10.0			/					}				
0.00			1					1				
-10.0												Average
	Lales weeks and a second	pro- man	<b>V~1</b>						and prover from man	an ray and		
-30.0												
-40.0												Max Hold
-50.0												
Center S	336.5 MHz								Sna	n 25 MHz		
	240 kHz				#V	BW 750 k	Hz		Swe	eep 1 ms		
												Min Hold
Occu	pied Band	dwidtl	h			Total P	ower	31.	8 dBm			
		9 (	017	'5 MI	17							Detector
												Peak►
Trans	mit Freq Er	ror	3	2.769	κΗz	OBW P	ower	9	9.00 %		Auto	<u>Man</u>
x dB B	Bandwidth		9	9.915 N	<b>1Hz</b>	x dB		-26	i.00 dB			
MSG								STAT	US			
												= 0 \

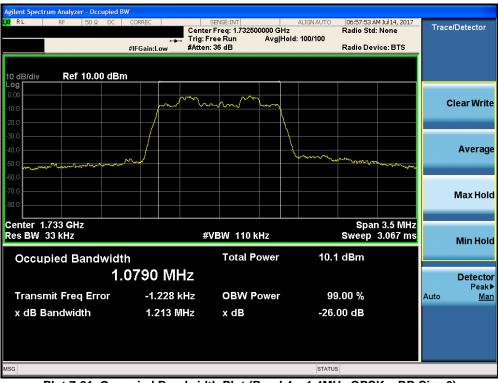
Plot 7-19. Occupied Bandwidth Plot (Band 5/26 - 10.0MHz QPSK - RB Size 50)



Plot 7-20. Occupied Bandwidth Plot (Band 5/26 – 10.0MHz 16-QAM – RB Size 50)

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Plot 7-21. Occupied Bandwidth Plot (Band 4 – 1.4MHz QPSK – RB Size 6)



Plot 7-22. Occupied Bandwidth Plot (Band 4 – 1.4MHz 16-QAM – RB Size 6)

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Plot 7-23. Occupied Bandwidth Plot (Band 4 – 3.0MHz QPSK – RB Size 15)



Plot 7-24. Occupied Bandwidth Plot (Band 4 – 3.0MHz 16-QAM – RB Size 15)

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Agilent Spectrum Analyzer - Occupied	BW				
LX/RL RF 50Ω DC	CORREC	SENSE:INT Center Freg: 1.7325000		07:47:08 AM Jun 22, 20: Radio Std: None	Trace/Detector
	• <b>•</b> •	Trig: Free Run	Avg Hold: 100/100		
	#IFGain:Low	#Atten: 36 dB		Radio Device: BTS	_
10 dB/div Ref 30.00 dB	m				
20.0					
10.0					Clear Write
0.00	/				
-10.0					
-20.0	m		- the manda		Average
-30.0					
-40.0					
-50.0					Max Hold
-60.0					Maxilola
				0	
Center 1.733 GHz Res BW 120 kHz		#VBW 390 kH	7	Span 12.5 MF Sweep 1 m	
		<i>"••</i> <b>•</b> ••••			Min Hold
Occupied Bandwid	th	Total Po	wer 32.1	dBm	
4	.5199 MH	7			Detector
					Peak►
Transmit Freq Error	17.521 ki	Iz OBW Po	wer 99	0.00 %	Auto <u>Man</u>
x dB Bandwidth	4.992 M	lz x dB	-26.	00 dB	
MSG			STATUS	3	
		T			

Plot 7-25. Occupied Bandwidth Plot (Band 4 – 5.0MHz QPSK – RB Size 25)



Plot 7-26. Occupied Bandwidth Plot (Band 4 – 5.0MHz 16-QAM – RB Size 25)

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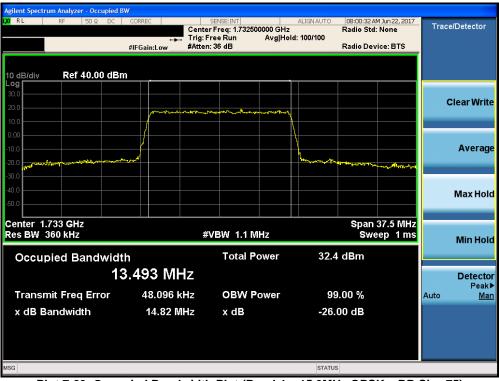
Plot 7-27. Occupied Bandwidth Plot (Band 4 – 10.0MHz QPSK – RB Size 50)



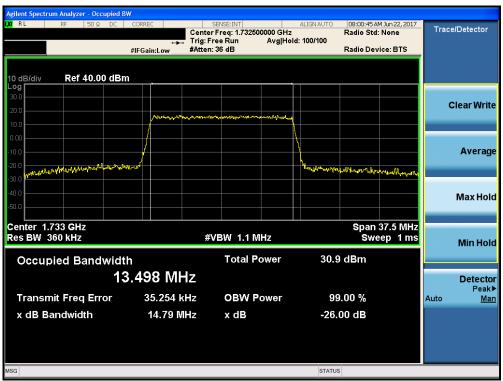
Plot 7-28. Occupied Bandwidth Plot (Band 4 – 10.0MHz 16-QAM – RB Size 50)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-29. Occupied Bandwidth Plot (Band 4 – 15.0MHz QPSK – RB Size 75)



Plot 7-30. Occupied Bandwidth Plot (Band 4 – 15.0MHz 16-QAM – RB Size 75)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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	rum Analyzer - O										
LXI RL	RF 50	Ω DC C	ORREC		ENSE:INT	0000 GHz	ALIGN AUTO	08:09:16 A	M Jun 22, 2017	Trac	e/Detector
				📕 Trig: Fr	Center Freq: 1.732500000 GHz Trig: Free Run Avg Hold: 100/100			0			
		#	FGain:Low	#Atten:	36 dB			Radio Dev	ice: BTS		
10 dB/div	Ref 40.	00 dBm		_	_						
Log 30.0											
20.0										(	Clear Write
10.0			prime	will the and the second		mound					
0.00											
							۱. ۱				A
-10.0	h	- malan and de	~				<u> </u>				Average
-20.0 <mark>m.,Ar</mark> ten	a fraction of the second se						And and a second of the	and the manufactures	trontenation		
-30.0											
-40.0											Max Hold
-50.0											
Center 1	.733 GHz							Spa	n 50 MHz		
Res BW				#∖	/BW 1.5 N	1Hz			ep 1 ms		Min Hold
Occu	pied Ban	dwidth			Total P	ower	32.4	l dBm			
		18.	031 M	Hz							Detector
											Peak▶
Transi	mit Freq Ei	rror	54.230	kHz	OBW P	ower	99	9.00 %		Auto	<u>Man</u>
x dB E	Bandwidth		19.66	MHz	x dB		-26.	00 dB			
MSG							STATU	S			
										_	

Plot 7-31. Occupied Bandwidth Plot (Band 4 – 20.0MHz QPSK – RB Size 100)



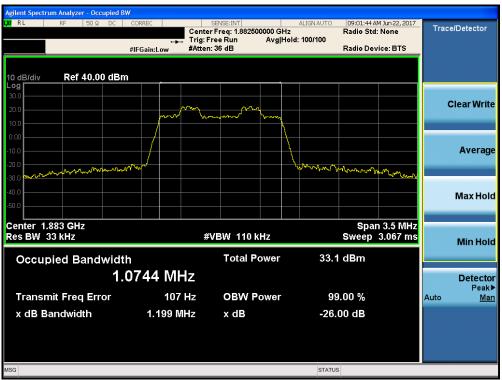
Plot 7-32. Occupied Bandwidth Plot (Band 4 – 20.0MHz 16-QAM – RB Size 100)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-33. Occupied Bandwidth Plot (Band 2/25 - 1.4MHz QPSK - RB Size 6)



Plot 7-34. Occupied Bandwidth Plot (Band 2/25 – 1.4MHz 16-QAM – RB Size 6)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-35. Occupied Bandwidth Plot (Band 2/25 - 3.0MHz QPSK - RB Size 15)



Plot 7-36. Occupied Bandwidth Plot (Band 2/25 – 3.0MHz 16-QAM – RB Size 15)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Agilent Spectrum Analyzer - Occu	upied BW									
LX RL RF 50Ω	DC CO	RREC		E:INT	0000 011-	ALIGN AUTO		M Jun 22, 2017	Trac	e/Detector
			Center Freq: 1.882500000 GHz Trig: Free Run Avg Hold: 100/100		: 100/100	Radio Std: None				
	#IF	Gain:Low	#Atten: 36 dB				Radio Device: BTS			
10 dB/div Ref 30.00	) dBm									
20.0										
10.0		-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~	hund					Clear Write
0.00		/								
-10.0										A
-20.0								m		Average
-30.0										
-40.0										
-50.0										Max Hold
-60.0										
Center 1.883 GHz					<u> </u>		Span	12.5 MHz		
Res BW 120 kHz			#VB	W 390 k	Hz		Swe	eep 1 ms		Min Hold
				Total P		22.4	dBm			minitiona
Occupied Bandy				l otal P	ower	32.1	авт			
	4.51	26 MF	Z							Detector
Transmit Freq Erro	or	13.677 k	Hz	OBW P	ower	99	.00 %		Auto	Peak▶ <u>Man</u>
x dB Bandwidth		4.989 M	Hz	x dB		-26.	00 dB			
x ab Banamatri		4.000 111				20.				
MSG						STATUS				
					1.0/01				<u>.</u>	

Plot 7-37. Occupied Bandwidth Plot (Band 2/25 - 5.0MHz QPSK - RB Size 25)



Plot 7-38. Occupied Bandwidth Plot (Band 2/25 – 5.0MHz 16-QAM – RB Size 25)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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	trum Analyzer -	Occupi	ied BW										
L <mark>XI</mark> RL	RF 5	50Ω C	DC O	ORREC			NSE:INT		ALIGN AUT	0 09:44:29) Radio Sto	M Jun 22, 2017	Trac	e/Detector
						Totas Free	req: 1.88250 e Run		d: 100/100		: None		
			#1	FGair	n:Low	#Atten: 3	6 dB				vice: BTS		
10 dB/div	Ref 40	0.00 q	dBm										
Log 30.0													
20.0													Clear Write
				1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mannah	mar let mar and	Mumu					
10.0				1					{				
0.00				1					1				_
-10.0				+					$\uparrow$				Average
-20.0	www.walungard	at at hard	بها هور <sup>ال</sup> ورومي	∦					Warm	well the new month	Mar Mar Mar Mar Mar		
-30.0				$\rightarrow$									
-40.0													Max Hold
-50.0													Maxilolu
	1.883 GHz									Spa	an 25 MHz		
Res BW	240 kHz					#V	BW 750	KHZ		SW	eep 1 ms		Min Hold
Occu	pied Ba	ndw	idth				Total P	ower	3	1.9 dBm			
			<u>م</u> م	26	1 M⊦	7							Detector
			0.0	20		12							Detector Peak▶
Trans	mit Freq I	Error		38	3.463 k	Hz	OBW P	ower		99.00 %		Auto	Man
x dB E	Bandwidth	h		9	.835 M	Hz	x dB		-2	26.00 dB			
MSG									ST	ATUS			
								10/05					50)

Plot 7-39. Occupied Bandwidth Plot (Band 2/25 - 10.0MHz QPSK - RB Size 50)



Plot 7-40. Occupied Bandwidth Plot (Band 2/25 – 10.0MHz 16-QAM – RB Size 50)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
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	trum Analyzer - Oc	cupied BW									
LXI RL	RF 50 Ω	DC C	DRREC		SENSE:INT r Freq: 1.88250	0000 GHz	ALIGN AUTO	09:54:26 AI Radio Std:	M Jun 22, 2017	Trac	e/Detector
				🖌 Trig: F	ree Run : 36 dB	Avg Hold	l: 100/100	Radio Dev			
	_	#1	FGain:Low	#Atten	:36 00			Radio Dev	ice: BIS		
10 dB/div	Ref 40.0	0 dBm									
Log	Rei 40.0										
30.0											Clear Write
20.0			Roman	meron mary	mound	mar mar Mart					Cical Wille
10.0			+								
0.00			1				\				
-10.0	Winner		-				howwwww				Average
-20.0	With a second in a second						-for a Minth of	mannand	and a second and a second as a		
-30.0											
-40.0											Max Hold
-50.0											
Center 7	1.883 GHz					· · ·		Span	37.5 MHz		
Res BW	360 kHz			#	VBW 1.1 N	Hz		Swe	ep 1ms		Min Hold
000	pied Banc	width			Total P	ower	32.0	dBm			
0000	ipied Balle				i otai i	01101	02.10				
		13.	505 N	IHZ							Detector Peak▶
Trans	mit Freq Er	ror	39.620	) kHz	OBW P	ower	99	0.00 %		Auto	Man
x dB l	Bandwidth		14.84	MH7	x dB		-26.1	00 dB			
MSG							STATUS	;			
						1.0/05	15.01		014 00		>

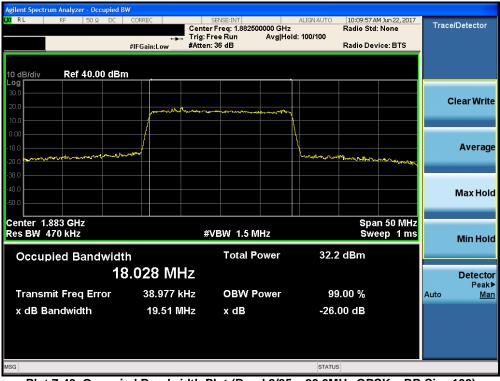
Plot 7-41. Occupied Bandwidth Plot (Band 2/25 – 15.0MHz QPSK – RB Size 75)



Plot 7-42. Occupied Bandwidth Plot (Band 2/25 – 15.0MHz 16-QAM – RB Size 75)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
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Plot 7-43. Occupied Bandwidth Plot (Band 2/25 - 20.0MHz QPSK - RB Size 100)



Plot 7-44. Occupied Bandwidth Plot (Band 2/25 – 20.0MHz 16-QAM – RB Size 100)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
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Plot 7-45. Occupied Bandwidth Plot (Band 41 – 5.0MHz QPSK – RB Size 25)



Plot 7-46. Occupied Bandwidth Plot (Band 41 – 5.0MHz 16-QAM – RB Size 25)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
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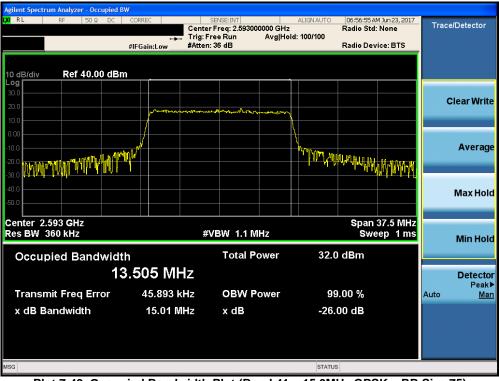
Plot 7-47. Occupied Bandwidth Plot (Band 41 – 10.0MHz QPSK – RB Size 50)



Plot 7-48. Occupied Bandwidth Plot (Band 41 – 10.0MHz 16-QAM – RB Size 50)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 41 of 166
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Plot 7-49. Occupied Bandwidth Plot (Band 41 – 15.0MHz QPSK – RB Size 75)



Plot 7-50. Occupied Bandwidth Plot (Band 41 – 15.0MHz 16-QAM – RB Size 75)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
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Plot 7-51. Occupied Bandwidth Plot (Band 41 - 20.0MHz QPSK - RB Size 100)



Plot 7-52. Occupied Bandwidth Plot (Band 41 – 20.0MHz 16-QAM – RB Size 100)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager				
Test Report S/N:	Test Dates:	EUT Type:	Daga 42 of 166				
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# 7.3 Spurious and Harmonic Emissions at Antenna Terminal §2.1051 §22.917(a) §24.238(a) §27.53(c.2) §27.53(g) §27.53(h) §27.53(m)

# **Test Overview**

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 10<sup>th</sup> harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

For Band 41, the minimum permissible attenuation level of any spurious emission is  $55 + log_{10}(P_{[Watts]})$ .

The minimum permissible attenuation level of any spurious emission is  $43 + \log_{10}(P_{[Watts]})$ , where P is the transmitter power in Watts.

# Test Procedure Used

KDB 971168 D01 v02r02 - Section 6.0

#### Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to at least 10 \* the fundamental frequency (separated into at least two plots per channel)
- 2. Detector = RMS
- 3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 4. Sweep time = auto couple
- 5. The trace was allowed to stabilize
- 6. Please see test notes below for RBW and VBW settings

# Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-2. Test Instrument & Measurement Setup

# Test Notes

Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. 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.

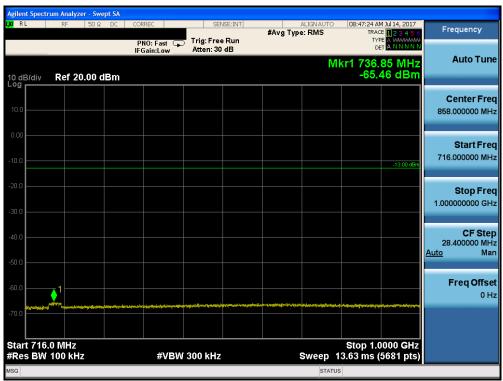
FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Domo 44 of 166
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	um Analyzer - Swept S					
XI RL	RF 50 Ω DC	PNO: Fast	SENSE:INT Trig: Free Run Atten: 30 dB	ALIGNAUTO #Avg Type: RMS	08:47:15 AM Jul 14, 2017 TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A N N N N N	Frequency
10 dB/div	Ref 20.00 dBn	IFGain:Low	Atten: 30 dB	М	kr1 694.30 MHz -66.20 dBm	Auto Tune
10.0						<b>Center Fre</b> 363.950000 MH
10.00					-13.00 dBm	Start Fre 30.000000 MH
30.0						<b>Stop Fre</b> 697.900000 MH
40.0						CF Ste 66.790000 MH <u>Auto</u> Ma
60.0					1	Freq Offse 0 ⊦
70.0 Start 30.0 #Res BW		#) (B)M	300 kHz	Swoon-2	Stop 697.9 MHz 2.06 ms (13359 pts)	
SG		#VDVV	500 MH2	Sweep 52		

Plot 7-53. Conducted Spurious Plot (Band 12/17 – 10.0MHz QPSK – RB Size 1, RB Offset 0– Low Channel)



Plot 7-54. Conducted Spurious Plot (Band 12/17 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
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Plot 7-55. Conducted Spurious Plot (Band 12/17 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Plot 7-56. Conducted Spurious Plot (Band 12/17 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
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Plot 7-57. Conducted Spurious Plot (Band 12/17 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-58. Conducted Spurious Plot (Band 12/17 - 10.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 47 of 166		
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RL RF 50 Q DC	CORREC	SENSE:INT	ALIGNAUTO	07:12:26 AM Jul 14, 2017	(Construction)
Center Freq 364.000000 M		Trig: Free Run Atten: 30 dB	#Avg Type: RMS	TRACE 123456 TYPE A WWWWW DET A N N N N N	Frequency
0 dB/div Ref 20.00 dBm			М	kr1 697.80 MHz -63.88 dBm	Auto Tun
10.0					Center Free 364.000000 MH
10:0				-13.00 dBm	Start Fre 30.000000 MH
30.0					Stop Fre 698.000000 MH
σ.ο					CF Ste 66.800000 MH Auto Ma
0.0				1	Freq Offs 0 H
70.0 <b>Arrange and a second second</b>	anna a cuip a sin la chair an dù an dù				
Start 30.0 MHz Res BW 100 kHz	#VBW	300 kHz	Sweep 32	Stop 698.0 MHz 2.06 ms (13361 pts)	

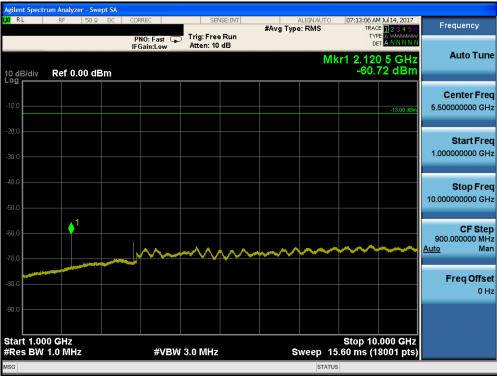
Plot 7-59. Conducted Spurious Plot (Band 12/17 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-60. Conducted Spurious Plot (Band 12/17 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-61. Conducted Spurious Plot (Band 12/17 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-62. Conducted Spurious Plot (Band 13 - 5.0MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager			
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		7	4 Jul 14, 2017	17:25:03 A	UTO	ALIGN/		VSE:INT	SE	REC	DC COR	50 Ω	R	a RI
uency	Freq	5 6	E 1 2 3 4 5 0 E A 4444444 T A NNNN 1	TRAC TYL		g Type: RM	#Av	e Run	Trig: Fre Atten: 30		DOO MHZ		ter Freq	
uto Tun	A	iz m	Mkr1 933.45 MHz 0 dB/diy Ref 20.00 dBm -65.91 dBm											
nter Fre 0000 MH														0.0
tart Fre 0000 M⊦		Bm	-13,00 dBr											1.00 0.0
t <b>op Fre</b> 10000 GH														0.0 0.0
CF Ste 0000 MH Ma	21.30 Auto	A												
eq Offse 0 ⊢	Fr		an a	er bekinn och An "M	mennen	1-		Angel and a galaxy state of the lat				ats a Preside Add users (		
		iz	0000 GHz	top 1.0									t 787.0 M	tar
C	1.0000 21.30 <u>Auto</u>	iz	0000 GHz 4261 pts	Stop 1.0 22 ms (	p 10				300 kHz		aces cleare	kHz	t 787.0 M s BW 100 Points ch	Re

Plot 7-63. Conducted Spurious Plot (Band 13 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



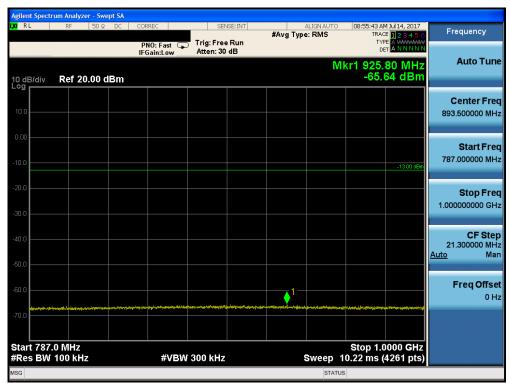
Plot 7-64. Conducted Spurious Plot (Band 13 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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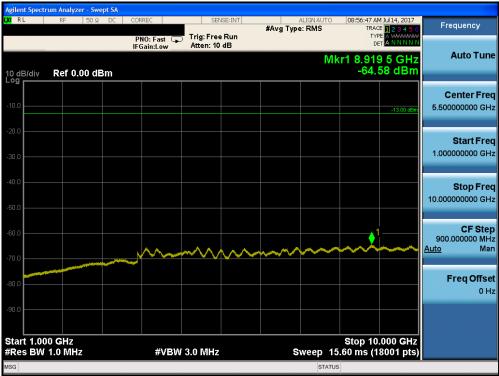
Plot 7-65. Conducted Spurious Plot (Band 13 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-66. Conducted Spurious Plot (Band 13 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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Plot 7-67. Conducted Spurious Plot (Band 13 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-68. Conducted Spurious Plot (Band 13 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
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gilent Spectr	r <mark>um Analyzer - Swept SA</mark> RF 50 Ω DC	CORREC	SENSE:INT	ALIGN AUTO	09:28:28 AM Jul 14, 2017	
KL.	KF JUW DC	PNO: Fast		#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWWWW DET A N N N N N	Frequency
0 dB/div	Ref 20.00 dBm	IFGain:Low	Atten. ov via	IV	lkr1 894.80 MHz -65.93 dBm	Auto Tun
10.0						Center Fre 893.550000 MH
0.00					-13.00 dBm	Start Fre 787.100000 MH
20.0						<b>Stop Fre</b> 1.000000000 GF
0.0						CF Sto 21.290000 M <u>Auto</u> M
0.0		andra side you any maje to provide a program	1			Freq Offs 0
tart 787.					Stop 1.0000 GHz	
Res BW	100 kHz	#VBW	300 kHz	Sweep	10.22 ms (4259 pts)	

Plot 7-69. Conducted Spurious Plot (Band 13 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



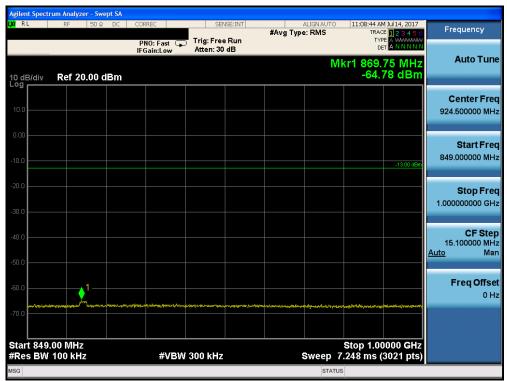
Plot 7-70. Conducted Spurious Plot (Band 13 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dege 52 of 166		
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	um Analyzer - Swept SA					
XV RL	RF 50 Ω DC	PNO: Fast	SENSE:INT Trig: Free Run Atten: 30 dB	ALIGN AUT #Avg Type: RMS	<ul> <li>11:08:09 AM Jul 14, 2017</li> <li>TRACE 1 2 3 4 5 6</li> <li>TYPE A WWWWW</li> <li>DET A N N N N N</li> </ul>	Frequency
10 dB/div	Ref 20.00 dBm	IFGain:Low	Atten: 30 dB		Mkr1 823.00 MHz -64.13 dBm	Auto Tun
10.0						Center Fre 426.500000 MH
10.0					-13.00 dBm	Start Fre 30.000000 M⊦
20.0						Stop Fre 823.000000 MH
0.0						CF Ste 79.300000 Mi <u>Auto</u> Mi
60.0					1	Freq Offs 0 F
70.0		n a gang dan muna sa ka ka mana dan ya maka ka mana				
tart 30.0 Res BW		#VBW	300 kHz	Sweep	Stop 823.0 MHz 38.06 ms (15861 pts)	
SG				STA	TUS	

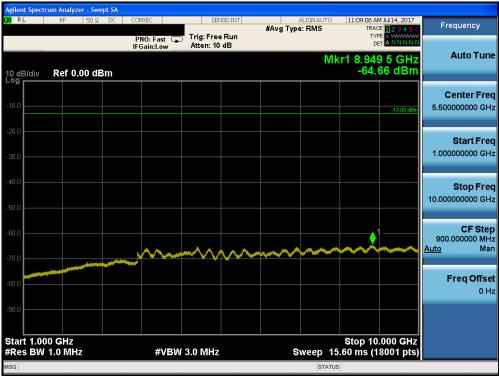
Plot 7-71. Conducted Spurious Plot (Band 5/26 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Plot 7-72. Conducted Spurious Plot (Band 5/26 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-73. Conducted Spurious Plot (Band 5/26 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Plot 7-74. Conducted Spurious Plot (Band 5/26 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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	rum Analyzer - Swept SA					
X/RL	RF 50Ω DC	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	11:05:58 AM Jul 14, 2017 TRACE 1 2 3 4 5 6 TYPE A WWWWW	Frequency
		PNO: Fast 🖵 IFGain:Low	Atten: 30 dB	М	kr1 880.85 MHz	Auto Tun
0 dB/div	Ref 20.00 dBm				-64.77 dBm	
						Center Fre
10.0						924.500000 MH
						Start Fre
10.0					-13.00 dBm	849.000000 MH
20.0						Stop Fre
30.0						1.000000000 GH
						CF Ste
10.0						15.100000 Mi Auto Ma
50.0						
60.0	<mark>_</mark> 1—					Freq Offs 0 H
70.0	anastuspy staff of the agency and far and the	an finishing a start of the sta	angles and the state of the sta	lar frequencies of the second states of the second		
itart 849 Res BW	.00 MHz 100 kHz	#VBW	300 kHz	Sweep 7	Stop 1.00000 GHz 248 ms (3021 pts)	
SG				STATU		

Plot 7-75. Conducted Spurious Plot (Band 5/26 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



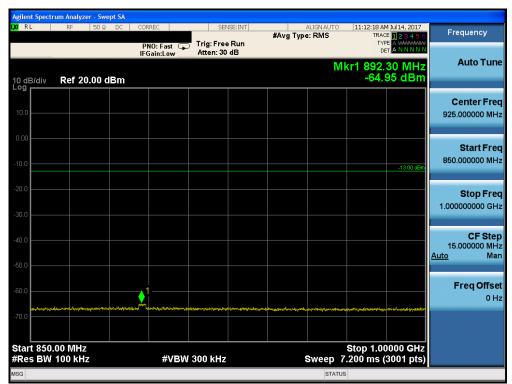
Plot 7-76. Conducted Spurious Plot (Band 5/26 - 3.0MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 56 of 166	
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PNO: Fast         Trig: Free Run IFGain:Low         Trig: Free Run Atten: 30 dB         Trig: Free Run Trig: Free Run Atten: 30 dB         Trig: Free Run Att		um Analyzer - Swept								
Number of the second	U RL	RF   50 Ω   [	PNO: F					11:12:09 AM TRAC TYP DE	1 Jul 14, 2017 E 1 2 3 4 5 6 E A WWWWW T A N N N N N	Frequency
100       Image: Content of the second	0 dB/div	Ref 20.00 dB					MI	kr1 815.	75 MHz	Auto Tun
100       Image: Start F         200       Image: Start F										Center Fre 427.000000 M⊦
0.0       Stop F         0.0       Stop S24.0 MHz									-13.00 dBm	Start Fre 30.000000 M⊦
79.400000 Auto Freq Of tart 30.0 MHz Stop 824.0 MHz										<b>Stop Fre</b> 824.000000 Mi
Freq Of The second sec										<b>CF St</b> e 79.400000 M <u>Auto</u> M
art 30.0 MHz Stop 824.0 MHz									<b>\</b>	Freq Offs
Res BW 100 kHz #VBW 300 kHz Sweep 38.11 ms (15881 pts)	tart 30.0							Stop 8	24.0 MHz	
G		100 kHz		#VBW 300	kHz	S		.11 ms (1	5881 pts)	

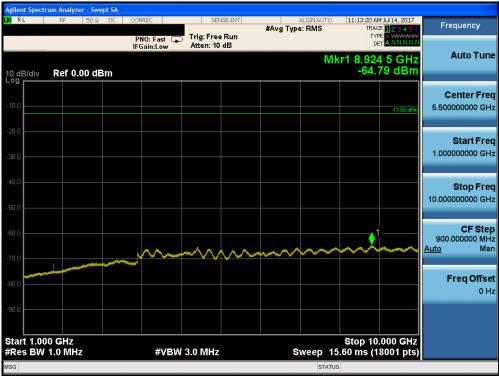
Plot 7-77. Conducted Spurious Plot (Band 5/26 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-78. Conducted Spurious Plot (Band 5/26 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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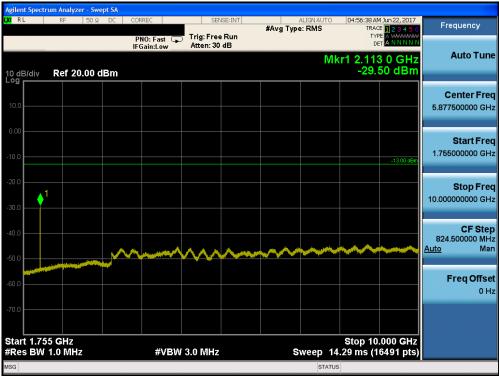
Plot 7-79. Conducted Spurious Plot (Band 5/26 – 3.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



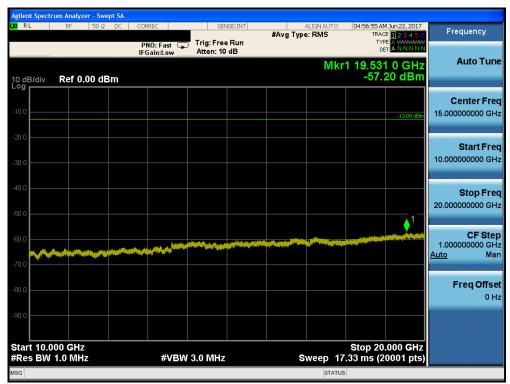
Plot 7-80. Conducted Spurious Plot (Band 4 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-81. Conducted Spurious Plot (Band 4 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



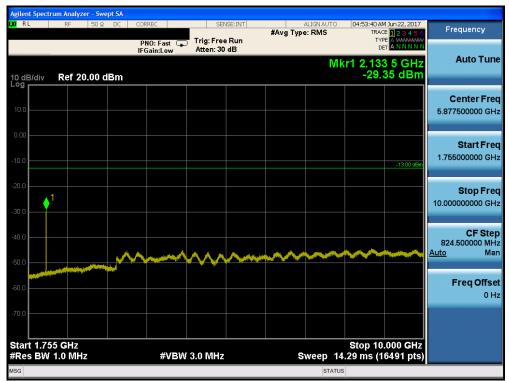
Plot 7-82. Conducted Spurious Plot (Band 4 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Agilent Spectrum Analyzer - Swept	t SA				
IXIRL RF 50Ω	PNO: Fast 🔾	SENSE:INT	ALIGNAUTO #Avg Type: RMS	04:53:26 AM Jun 22, 2017 TRACE 1 2 3 4 5 6 TYPE A WAYWAAA DET A N N N N N	Frequency
10 dB/div Ref 20.00 dB	IFGain:Low	Atten: 30 dB	Mł	(r1 1.708 0 GHz -51.76 dBm	Auto Tune
10.0					Center Fred 870.000000 MHz
-10.0				-13.00 dBm	Start Free 30.000000 MH
-20.0					<b>Stop Fre</b> 1.710000000 GH
-40.0				1	<b>CF Stej</b> 168.000000 MH <u>Auto</u> Ma
-60.0 m.m.t.	ŢĸġŧġġĸĨĸĨĸĨġĬţġĬţġĬĸŎŎĸĬĸĸĸţĸŎĸŢĊĸŎĸŎĸŎĸŎĸŎ	<u></u>		an a	Freq Offse 0 H
-70.0 Start 30.0 MHz #Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 2	Stop 1.7100 GHz .240 ms (3361 pts)	
ISG			STATUS		

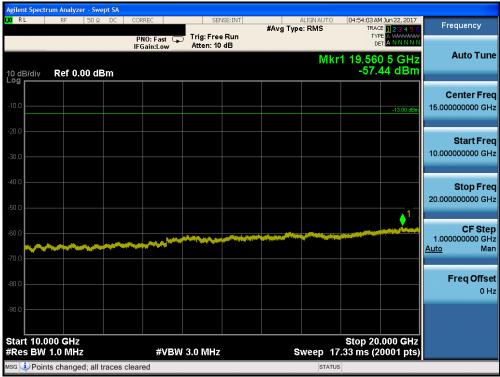
Plot 7-83. Conducted Spurious Plot (Band 4 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-84. Conducted Spurious Plot (Band 4 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-85. Conducted Spurious Plot (Band 4 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-86. Conducted Spurious Plot (Band 4 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-87. Conducted Spurious Plot (Band 4 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-88. Conducted Spurious Plot (Band 4 – 5.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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RL RF 50Ω DC	CORREC	SENSE:INT	ALIGNAUTO	04:30:20 AM Jun 21, 2017	Frequency
	PNO: Fast 😱 IFGain:Low	Trig: Free Run Atten: 30 dB	#Avg Type: RMS	TRACE 123456 TYPE A WANNAM DET A N N N N N	
dB/div Ref 20.00 dBm			M	r1 1.849 0 GHz -37.28 dBm	Auto Tun
0.0					Center Fre 939.500000 MH
.00				-13.00 dBm	Start Fre 30.000000 MH
a.a a.o					<b>Stop Fre</b> 1.849000000 GH
0.0					CF Ste 181.900000 Mi Auto Ma
0.0 https://www.com/anti-anti-anti-anti-anti-anti-anti-anti-	n digaaa ya ah da ka sa da ka da	999994247857847458784745878474599774599775497754	terner anti-same transmission of the second s		Freq Offs 0 I
art 30.0 MHz Res BW 1.0 MHz	#\/D\\	3.0 MHz		Stop 1.8490 GHz 425 ms (3639 pts)	

Plot 7-89. Conducted Spurious Plot (Band 2/25 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Plot 7-90. Conducted Spurious Plot (Band 2/25 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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06/06/2017





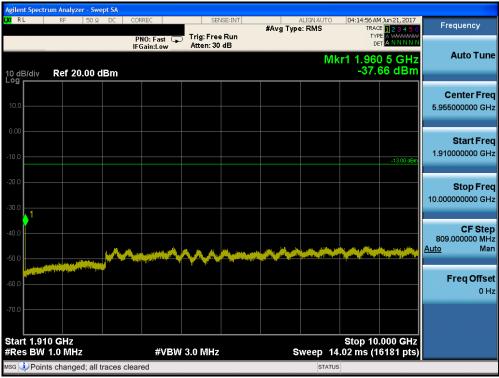
Plot 7-91. Conducted Spurious Plot (Band 2/25 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



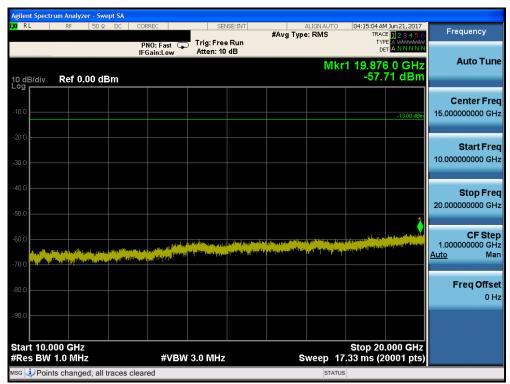
Plot 7-92. Conducted Spurious Plot (Band 2/25 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-93. Conducted Spurious Plot (Band 2/25 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



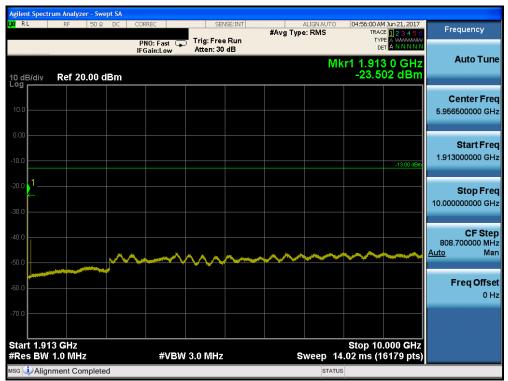
Plot 7-94. Conducted Spurious Plot (Band 2/25 - 1.4MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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RL RF 50 Q DC	CORREC	SENSE:INT	ALIGNAUTO	04:36:11 AM Jun 21, 2017	Frequency
	PNO: Fast 😱 IFGain:Low	Trig: Free Run Atten: 30 dB	#Avg Type: RMS	TRACE 123456 TYPE A WWWWW DET A NNNNN	
0 dB/div Ref 20.00 dBm			M	(r1 1.850 0 GHz -53.85 dBm	Auto Tun
10.0					Center Fre 940.000000 MH
0.0				-13,00 dBm	Start Fre 30.000000 MH
0.0					<b>Stop Fre</b> 1.850000000 GH
0.0				1	CF Ste 182.000000 MH Auto Ma
	rstanaria any cara y matura any	argenteringer ander ander ander ander	14 14 14 14 14 14 14 14 14 14 14 14 14 1	annen an	Freq Offs 0 F
70.0				Stop 1.8500 GHz	
Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 2	.427 ms (3641 pts)	

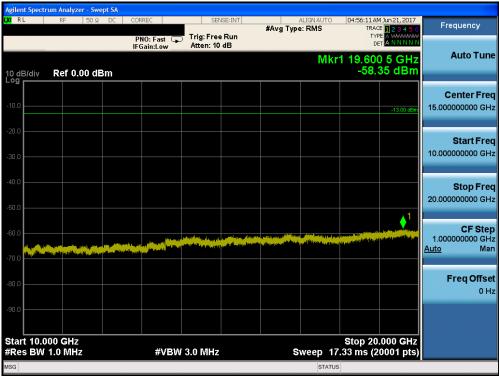
Plot 7-95. Conducted Spurious Plot (Band 2/25 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-96. Conducted Spurious Plot (Band 2/25 - 1.4MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-97. Conducted Spurious Plot (Band 2/25 – 1.4MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

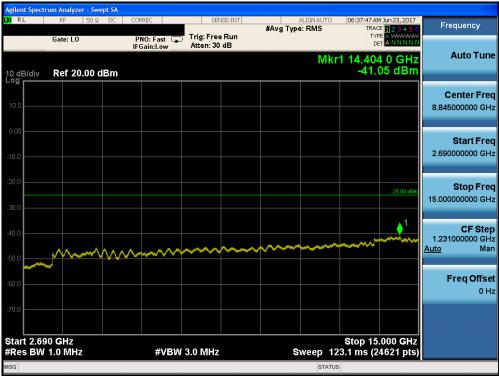


Plot 7-98. Conducted Spurious Plot (Band 41 – 10.0MHz QPSK – RB Size 1, RB Offset 0– Low Channel)

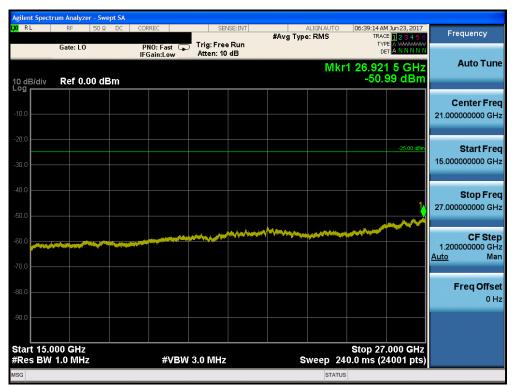
FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-99. Conducted Spurious Plot (Band 41 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)



Plot 7-100. Conducted Spurious Plot (Band 41 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Low Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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Plot 7-101. Conducted Spurious Plot (Band 41 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-102. Conducted Spurious Plot (Band 41 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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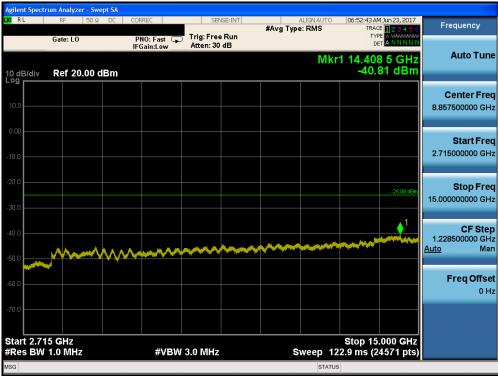
Plot 7-103. Conducted Spurious Plot (Band 41 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – Mid Channel)



Plot 7-104. Conducted Spurious Plot (Band 41 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-105. Conducted Spurious Plot (Band 41 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)



Plot 7-106. Conducted Spurious Plot (Band 41 – 10.0MHz QPSK – RB Size 1, RB Offset 0 – High Channel)

FCC ID: BCG-A1861		FCC Pt. 22, 24, & 27 LTE MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager	
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