



FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART F
FCC CFR47 PART 27 SUBPART L

C2PC CERTIFICATION TEST REPORT

FOR

CDMA/LTE PHONE/LTE + BLUETOOTH, DTS b/g/n

MODEL NUMBER: LG-US550, LGUS550, US550

FCC ID: ZNFUS550

REPORT NUMBER: 15I19900-E1

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Prepared for

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Rev.	Date	Revisions	Revised By
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC
EUT DESCRIPTION: GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS b/g/n
MODEL: LG-US550, LGUS550, US550
SERIAL NUMBER: 80465E0D (Radiated and Conducted)
DATE TESTED: FEBRUARY 19 - MARCH 2, 2015

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H, 24E, 27F, and 27L	PASS

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 22, FCC CFR Part 24, and FCC CFR 47 Part 27.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☒ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 2324B-4)
☐ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 2324B-5)
☐ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 2324B-6)
	☒ Chamber G(IC: 2324B-7)
	☐ Chamber H(IC: 2324B-8)

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

EIRP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(
between the SG and substitution antenna) + Substitution Antenna Factor (dBi)
ERP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(
between the SG and substitution antenna)
(Path loss = Signal generator output – PSA reading with substitution antenna)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS b/g/n.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted and radiated ERP / EIRP output powers as follows:

FCC Part 22/24						
Band	Frequency Range(MHz)	Modulation	Conducted		Radiated	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
BC0	824~849	1xRTT	24.3	269.15	19.55	90.16
	824~849	EVDO REL. 0	24.3	269.15	20.24	105.68
	824~849	EVDO REV. A	24.3	269.15		
BC1	1850~1910	1xRTT	24.3	269.15	25.33	341.19
	1850~1910	EVDO REL. 0	24.2	263.03	24.43	277.33
	1850~1910	EVDO REV. A	24.2	263.03		

5.3. MAXIMUM OUTPUT POWER (LTE)

The transmitter has a maximum peak conducted and radiated ERP/EIRP output powers as follows:

FCC Part 24							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE25	1850~1915	20MHz	QPSK	23.5	223.87	25.25	334.58
			16QAM	22.5	177.83	25.09	322.48
		15MHz	QPSK	23.7	234.42	25.24	333.81
			16QAM	22.7	186.21	24.60	288.4
		10MHz	QPSK	23.3	213.80	25.03	318.42
			16QAM	22.7	186.21	24.63	290.4
		5MHz	QPSK	23.5	223.87	24.94	311.53
			16QAM	22.4	173.78	24.55	285.1
		3MHz	QPSK	23.2	208.93	25.21	331.51
			16QAM	22.7	186.21	24.65	291.74
		1.4MHz	QPSK	23.0	199.53	24.85	305.49
			16QAM	22.7	186.21	24.35	272.27

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE17	704~716	10MHz	QPSK	23.2	208.93	16.61	45.81
			16QAM	22.7	186.21	16.27	42.36
		5MHz	QPSK	23.2	208.93	16.19	41.59
			16QAM	22.3	169.82	15.71	37.24

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE12	699~716	10MHz	QPSK	23.4	218.78	16.61	45.81
			16QAM	22.7	186.21	16.27	42.36
		5MHz	QPSK	23.7	234.42	16.19	41.59
			16QAM	22.7	186.21	15.71	37.24
		3MHz	QPSK	23.7	234.42	16.19	41.59
			16QAM	22.7	186.21	15.71	37.24
		1.4MHz	QPSK	23.3	213.80	16.41	43.75
			16QAM	22.7	186.21	15.76	37.67

FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE5	824~849	10MHz	QPSK	23.3	213.80	20.88	122.49
			16QAM	22.7	186.21	19.83	96.18
		5MHz	QPSK	23.7	234.42	20.37	108.92
			16QAM	22.7	186.21	19.29	84.94
		3MHz	QPSK	23.3	213.80	20.75	118.88
			16QAM	22.7	186.21	19.86	96.85
		1.4MHz	QPSK	23.2	208.93	20.50	112.23
			16QAM	22.7	186.21	20.20	104.74

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE4	1710~1755	20MHz	QPSK	23.2	208.93	22.87	193.81
			16QAM	22.7	186.21	21.86	153.46
		15MHz	QPSK	23.2	208.93	23.99	250.78
			16QAM	22.7	186.21	23.69	234.04
		10MHz	QPSK	23.1	204.17	24.05	254.22
			16QAM	22.6	181.97	23.80	240
		5MHz	QPSK	23.7	234.42	23.98	250.11
			16QAM	22.7	186.21	23.13	205.65
		3MHz	QPSK	23.1	204.17	24.13	259.11
			16QAM	22.7	186.21	23.86	243.5
		1.4MHz	QPSK	23.1	204.17	24.09	256.32
			16QAM	22.7	186.21	23.82	240.87

FCC Part 24							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE2	1850~1910	20MHz	QPSK	23.7	234.42	26.22	418.77
			16QAM	22.7	186.21	25.77	377.55
		15MHz	QPSK	23.7	234.42	25.55	358.91
			16QAM	22.7	186.21	25.02	317.47
		10MHz	QPSK	23.7	234.42	25.13	325.82
			16QAM	22.7	186.21	24.54	284.43
		5MHz	QPSK	23.7	234.42	25.55	358.67
			16QAM	22.2	165.96	24.27	267.12
		3MHz	QPSK	23.3	213.80	25.88	386.99
			16QAM	22.7	186.21	25.42	348.1
		1.4MHz	QPSK	23.3	213.80	25.96	394.18
			16QAM	22.7	186.21	24.08	255.68

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna for the [List the bands supported] with a maximum peak gain as follow:

Frequency (MHz)	Peak Gain (dBi)
CDMA BC1 / LTE 2, 1850~1910MHz	-0.42
LTE 4, 1710~1755MHz	-5.19
CDMA BC0 / LTE 5, 824~849MHz	-5.25
LTE 12 699~716MHz	-4.69
LTE 17 699~716MHz	-4.69
LTE 25, 1850~1915MHz	-1.68

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS-01WR	RD4X0891946	N/A
Earphone	LG	LG-US550	N/A	N/A

I/O CABLES (CONDUCTED SETUP)

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	RF Out	1	Spectrum Analyzer	Shielded	None	NA
2	Antenna Port	1	EUT	Shielded	0.1m	NA
3	RF In/Out	1	Communication Test Set	Shielded	1m	NA

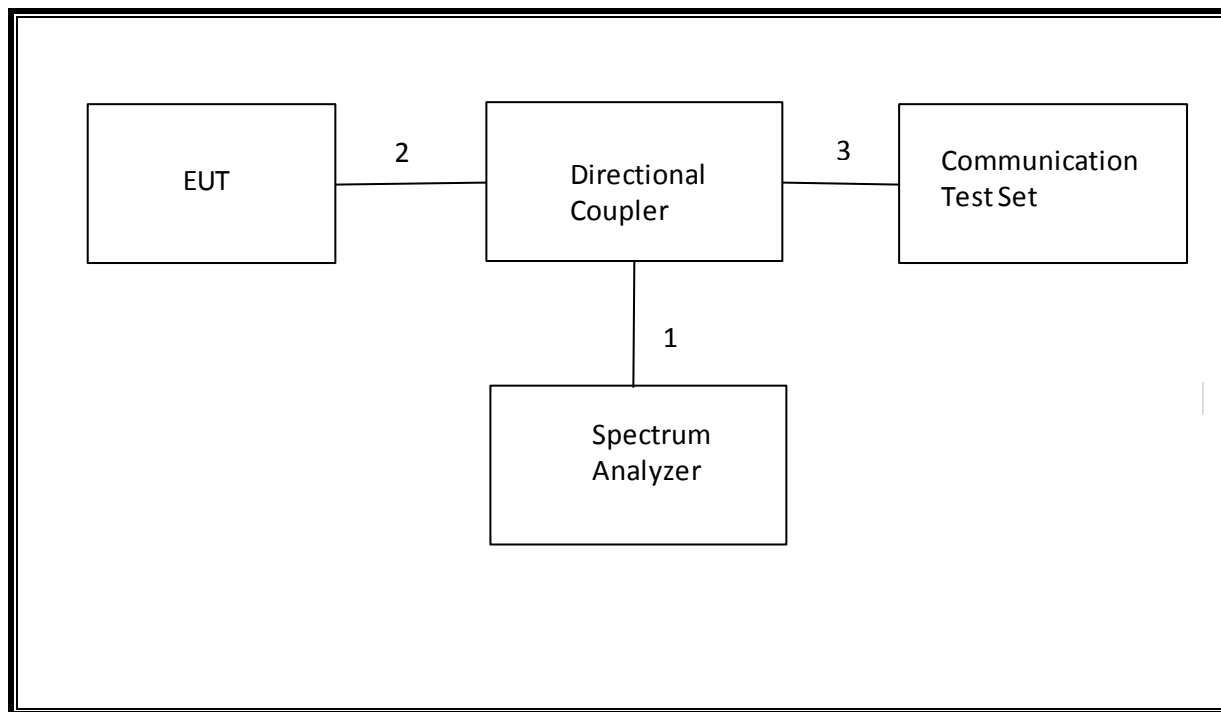
I/O CABLES (RADIATED SETUP)

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	USB	1	AC Adapter	Un-shielded	1.2m	NA
2	Jack	1	Headset	Shielded	1m	NA
3	RF In/out	1	Communication Test Set	Un-shielded	2m	NA

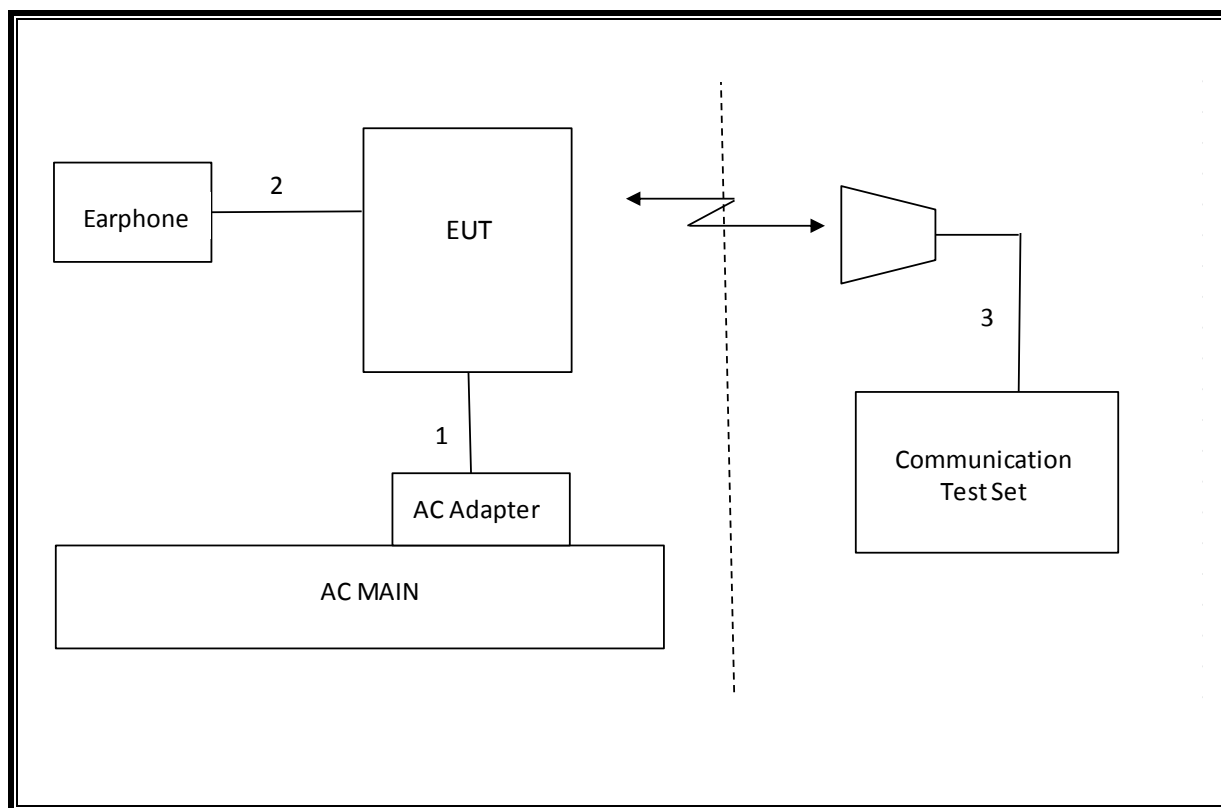
TEST SETUP

The EUT is continuously communicated to the call box during the tests.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	T177	05/01/15
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	04/22/15
Antenna, Horn, 18 GHz	EMCO	3115	C00783	10/25/15
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02688	CNR
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	T80	05/11/15
Communications Test Set	R&S	CMW500	T159	07/02/15
DC power supply, 8 V @ 3 A or 15 V	Agilent / HP	E3610A	None	CNR
Antenna, Tuned Dipole 400~1000	ETS	3121C DB4	C00993	02/11/16
Directional Coupler	RF-Lambda	RFDC5M06G15	None	CNR
Antenna, Horn, 26.5 GHz	ARA	MWH-2640/B	C00589	05/09/15

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Version 9.5, 07/22/14
Conducted Software	UL	UL EMC	Version 9.5, 05/17/14
CLT Software	UL	UL RF	Version 1.0, 02/02/15
Antenna Port Software	UL	UL RF	Version 2.1.1.1, 1/20/15

7. SUMMARY TABLE

C2PC Reason:

1. LTE Band 4 and 12 added 1.4MHz and 3MHz bandwidth without hardware change.
2. LTE Band 25 added 1.4MHz, 3MHz, 10MHz, 15MHz, and 20MHz bandwidth without hardware change.

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Note
2.1049	N/A	Occupied Band width (99%)	N/A	Conducted	Pass	17.85 MHz
22.917(a) 24.238(a) 27.53(g) 90.691	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Band Edge / Conducted Spurious Emission	-13dBm		Pass	-18.27 dBm
2.1046	N/A	Conducted output power	N/A		Pass	24.3 dBm
22.355 24.235 27.54 90.213	RSS-132(4.3) RSS-133(6.3) RSS-139(6.3) RSS-199(4.3)	Frequency Stability	2.5PPM		Pass	See Original
22.913(a)(2)	RSS-132(4.4)	Effective Radiated Power	38 dBm	Radiated	Pass	20.9 dBm
27.50(c)(10)	N/A		34.77 dBm		Pass	16.6 dBm
24.232(c) 27.50(h)(2)	RSS-133(6.4) RSS-199(4.4)	Equivalent Isotropic Radiated Power	33dBm		Pass	26.2 dBm
27.50(d)(4)	RSS-139(6.4)		30dBm		Pass	24.1 dBm
22.917(a) 24.238(a) 27.53(g)	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Radiated Spurious Emission	-13dBm		Pass	-31.2 dBm

8.1.2. CDMA2000 OUTPUT POWER RESULT

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC0	RC1, SO55 (Loopback)	1013	824.70	24.3
		384	836.52	24.2
		777	848.31	24.2
	RC3, SO55 (Loopback)	1013	824.70	24.3
		384	836.52	24.3
		777	848.31	24.3
	RC3, SO32 (+F-SCH)	1013	824.70	24.4
		384	836.52	24.3
		777	848.31	24.4

Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
BC1	RC1, SO55 (Loopback)	25	1851.25	24.1
		600	1880.00	24.2
		1175	1908.75	24.1
	RC3, SO55 (Loopback)	25	1851.25	24.1
		600	1880.00	24.2
		1175	1908.75	24.1
	RC3, SO32 (+F-SCH)	25	1851.25	24.2
		600	1880.00	24.3
		1175	1908.75	24.1

8.2. 1xEV-DO Release 0

TEST PROCEDURE

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

<u>Application</u>	<u>Rev, License</u>
1xEV-DO Terminal Test	A.09.13

EVDO Release 0 - RTAP

- Call Setup > Shift & Preset
- Call Control:
 - Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
 - Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Params:
 - Cell Power > -105.5 dBm/1.23 MHz
 - Cell Band > (Select US Cellular or US PCS)
 - Channel > (Enter channel number)
 - Application Config > Enhanced Test Application Protocol > RTAP
 - RTAP Rate > 153.6 kbps
 - Rvs Power Ctrl > Active bits
 - Protocol Rel > 0 (1xEV-DO)
- Press "Start Data Connection" when "Session Open" appear in "Active Cell"
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

EVDO Release 0 - FTAP

- Call Setup > Shift & Preset
- Call Control:
 - Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
 - Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Params:
 - Cell Power > -105.5 dBm/1.23 MHz
 - Cell Band > (Select US Cellular or US PCS)
 - Channel > (Enter channel number)
 - Application Config > Enhanced Test Application Protocol > FTAP (default)
 - FTAP Rate > 307.2 kbps (2 Slot, QPSK)
 - Rvs Power Ctrl > Active bits
 - Protocol Rel > 0 (1xEV-DO)
- Press "Start Data Connection" when "Session Open" appear in "Active Cell"
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

8.2.1. 1XEVD0 REL 0 OUTPUT POWER RESULT

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC0	307.2 kbps (2 slot, QPSK)	1013	824.70	24.3
		384	836.52	24.3
		777	848.31	24.2

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC1	307.2 kbps (2 slot, QPSK)	25	1851.25	24.1
		600	1880.00	24.2
		1175	1908.75	24.2

8.3. 1xEV-DO Rev. A

TEST PROCEDURE

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

<u>Application</u>	<u>Rev, License</u>
1xEV-DO Terminal Test	A.09.13

EVDO Release A – RETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > RETAP
- R-Data Pkt Size > 4096
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2
- > PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

EVDO Release A - FETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > FETAP
- F-Traffic Format > 4 (1024, 2,128) Canonical (307.2k, QPSK)
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2
- > PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

8.3.1. 1xEVDO REV A OUTPUT RESULT

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC0	307.2k, QPSK/ ACK channel is transmitted at all the slots	1013	824.70	24.3
		384	836.52	24.3
		777	848.31	24.2

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
BC1	307.2k, QPSK/ ACK channel is transmitted at all the slots	25	1851.25	24.1
		600	1880.00	24.2
		1175	1908.75	24.2

8.5. LTE OUTPUT VERIFICATION

8.5.1. LTE OUTPUT RESULT

LTE Band 25

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26140	26365	26590
						1860 MHz	1882.5 MHz	1905 MHz
LTE Band 25	20	QPSK	1	0	0	23.4	23.5	23.3
			1	49	0	23.3	23.2	23.2
			1	99	0	23.2	23.1	23.3
			50	0	1	22.2	22.2	22.2
			50	25	1	22.1	22.0	22.1
			50	49	1	22.1	21.9	22.1
			100	0	1	22.1	22.1	22.2
		16QAM	1	0	1	22.1	22.5	22.3
			1	49	1	22.3	22.1	22.2
			1	99	1	22.1	22.0	22.3
			50	0	2	21.2	21.3	21.2
			50	25	2	21.0	21.0	21.0
			50	49	2	21.2	21.0	21.1
			100	0	2	21.1	21.0	21.0
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26115	26365	26615
						1857.5 MHz	1882.5 MHz	1907.5 MHz
LTE Band 25	15	QPSK	1	0	0	23.1	23.5	23.2
			1	37	0	23.3	23.7	23.5
			1	74	0	23.0	23.2	23.3
			36	0	1	22.1	22.1	22.1
			36	18	1	22.1	22.0	22.1
			36	35	1	22.0	21.9	22.1
			75	0	1	22.0	22.0	22.2
		16QAM	1	0	1	22.2	22.7	22.7
			1	37	1	22.0	22.2	22.7
			1	74	1	22.0	22.2	22.7
			36	0	2	21.0	21.1	20.9
			36	18	2	21.0	21.1	20.9
			36	35	2	21.0	21.0	21.0
			75	0	2	21.0	21.0	21.0

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26090	26365	26640
						1855 MHz	1882.5 MHz	1910 MHz
LTE Band 25	10	QPSK	1	0	0	23.1	23.1	23.1
			1	24	0	23.0	23.0	23.3
			1	49	0	22.8	23.1	23.1
			25	0	1	22.0	22.0	22.1
			25	12	1	22.0	22.0	22.2
			25	24	1	22.1	21.9	22.1
			50	0	1	22.0	21.9	22.1
		16QAM	1	0	1	22.7	22.4	22.3
			1	24	1	22.7	22.6	22.5
			1	49	1	22.7	22.7	22.5
			25	0	2	20.8	21.1	21.2
			25	12	2	20.9	21.1	21.3
			25	24	2	20.9	21.0	21.2
			50	0	2	20.9	20.9	21.1
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26065	26365	26665
						1852.5 MHz	1882.5 MHz	1912.5 MHz
LTE Band 25	5	QPSK	1	0	0	22.8	23.1	23.3
			1	12	0	23.1	23.5	23.4
			1	24	0	22.8	23.0	23.2
			12	0	1	22.0	22.0	22.2
			12	6	1	22.0	21.9	22.2
			12	11	1	22.0	21.9	22.2
			25	0	1	22.0	21.9	22.1
		16QAM	1	0	1	21.8	22.0	22.3
			1	12	1	22.3	22.0	22.4
			1	24	1	22.0	21.9	22.5
			12	0	2	21.0	21.2	21.3
			12	6	2	20.9	21.0	21.2
			12	11	2	21.0	21.0	21.3
			25	0	2	21.0	20.8	20.9

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26055	26365	26675
						1851.5 MHz	1882.5 MHz	1913.5 MHz
LTE Band 25	3	QPSK	1	0	0	23.0	23.1	23.0
			1	7	0	23.1	23.2	23.0
			1	14	0	22.9	22.8	23.1
			6	0	1	22.0	21.9	22.2
			6	3	1	22.0	21.9	22.1
			6	5	1	22.0	21.9	22.1
			15	0	1	22.2	21.9	22.2
		16QAM	1	0	1	22.7	22.3	22.1
			1	7	1	22.3	22.1	22.5
			1	14	1	22.2	22.1	22.0
			6	0	2	21.2	20.7	21.3
			6	3	2	21.0	21.0	21.2
			6	5	2	21.0	20.8	21.3
			15	0	2	21.0	20.9	21.0
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						26047	26365	26683
						1850.7 MHz	1882.5 MHz	1914.3 MHz
LTE Band 25	1.4	QPSK	1	0	0	22.8	22.8	23.0
			1	2	0	23.0	23.0	23.1
			1	5	0	22.9	22.8	23.0
			3	0	0	22.9	22.9	23.2
			3	1	0	22.9	22.9	23.2
			3	2	0	23.1	23.0	23.2
			6	0	1	21.9	21.8	22.0
		16QAM	1	0	1	22.4	22.5	21.7
			1	2	1	22.7	22.7	21.7
			1	5	1	22.6	22.5	22.2
			3	0	1	22.1	21.7	21.8
			3	1	1	21.8	21.8	22.1
			3	2	1	21.9	21.7	22.4
			6	0	2	20.9	21.1	21.0

LTE Band 17

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)
						23790
						710 MHz
LTE Band 17	10	QPSK	1	0	0	23.2
			1	25	0	23.1
			1	49	0	23.0
			25	0	1	22.3
			25	12	1	22.2
			25	25	1	22.2
			50	0	1	22.1
		16QAM	1	0	1	22.7
			1	25	1	22.7
			1	49	1	22.3
			25	0	2	21.3
			25	12	2	21.1
			25	25	2	21.1
			50	0	2	21.1
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)
						23790
						710 MHz
LTE Band 17	5	QPSK	1	0	0	22.9
			1	12	0	23.2
			1	24	0	22.8
			12	0	1	22.1
			12	7	1	22.1
			12	13	1	22.1
			25	0	1	22.1
		16QAM	1	0	1	22.1
			1	12	1	22.3
			1	24	1	21.7
			12	0	2	21.2
			12	7	2	21.1
			12	13	2	21.2
			25	0	2	21.2

LTE Band 12

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23060	23095	23130
						704 MHz	707.5 MHz	711 MHz
LTE Band 12	10	QPSK	1	0	0	23.1	23.2	23.4
			1	25	0	23.1	23.3	23.3
			1	49	0	23.1	23.3	23.3
			25	0	1	22.2	22.4	22.5
			25	12	1	22.2	22.3	22.4
			25	25	1	22.2	22.3	22.4
			50	0	1	22.3	22.3	22.4
		16QAM	1	0	1	22.4	22.7	22.7
			1	25	1	22.7	22.7	22.6
			1	49	1	22.7	22.7	22.5
			25	0	2	21.1	21.3	21.7
			25	12	2	21.2	21.2	21.4
			25	25	2	21.1	21.3	21.5
			50	0	2	21.1	21.3	21.3
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23035	23095	23155
						701.5 MHz	707.5 MHz	713.5 MHz
LTE Band 12	5	QPSK	1	0	0	22.9	23.4	23.3
			1	12	0	23.3	23.7	23.5
			1	24	0	23.0	23.2	23.3
			12	0	1	22.1	22.3	22.3
			12	7	1	22.2	22.3	22.2
			12	13	1	22.2	22.3	22.3
			25	0	1	22.2	22.3	22.3
		16QAM	1	0	1	21.9	22.5	22.7
			1	12	1	22.3	22.7	22.7
			1	24	1	22.2	22.4	22.6
			12	0	2	21.0	21.4	21.3
			12	7	2	21.2	21.4	21.2
			12	13	2	21.3	21.3	21.3
			25	0	2	21.2	21.2	21.3

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23025	23095	23165
						700.5 MHz	707.5 MHz	714.5 MHz
LTE Band 12	3	QPSK	1	0	0	23.0	23.4	23.1
			1	8	0	23.1	23.7	23.4
			1	14	0	23.1	23.2	23.2
			8	0	1	22.2	22.3	22.3
			8	4	1	22.1	22.3	22.3
			8	7	1	22.1	22.3	22.3
			15	0	1	22.1	22.3	22.3
		16QAM	1	0	1	22.5	22.7	22.6
			1	8	1	22.7	22.7	22.7
			1	14	1	22.5	22.7	22.5
			8	0	2	20.9	21.0	21.4
			8	4	2	21.0	21.2	21.4
			8	7	2	21.1	21.0	21.4
			15	0	2	21.1	21.3	21.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						23017	23095	23173
						699.7 MHz	707.5 MHz	715.3 MHz
LTE Band 12	1.4	QPSK	1	0	0	23.0	23.1	23.2
			1	3	0	23.0	23.1	23.3
			1	5	0	23.0	23.3	23.1
			3	0	0	23.0	23.2	23.3
			3	1	0	23.1	23.4	23.3
			3	3	0	23.1	23.3	23.3
			6	0	1	22.1	22.3	22.3
		16QAM	1	0	1	22.7	22.7	22.3
			1	3	1	22.7	22.7	22.7
			1	5	1	22.7	22.7	21.8
			3	0	1	22.5	22.2	22.6
			3	1	1	22.3	22.0	22.3
			3	3	1	22.7	22.3	22.2
			6	0	2	21.3	21.3	21.4

LTE Band 5

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20450	20525	20600
						829 MHz	836.5 MHz	844 MHz
LTE Band 5	10	QPSK	1	0	0	23.3	23.2	23.3
			1	25	0	23.3	23.1	23.3
			1	49	0	23.2	23.3	23.3
			25	0	1	22.4	22.4	22.5
			25	12	1	22.4	22.4	22.4
			25	25	1	22.3	22.5	22.4
			50	0	1	22.3	22.4	22.4
		16QAM	1	0	1	22.7	22.7	22.4
			1	25	1	22.7	22.7	22.7
			1	49	1	22.7	22.7	22.7
			25	0	2	21.3	21.4	21.6
			25	12	2	21.4	21.4	21.5
			25	25	2	21.3	21.4	21.5
			50	0	2	21.3	21.4	21.4
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20425	20525	20625
						826.5 MHz	836.5 MHz	846.5 MHz
LTE Band 5	5	QPSK	1	0	0	23.1	23.3	23.3
			1	12	0	23.4	23.7	23.7
			1	24	0	23.1	23.3	23.3
			12	0	1	22.3	22.4	22.4
			12	7	1	22.3	22.3	22.4
			12	13	1	22.3	22.3	22.4
			25	0	1	22.4	22.4	22.3
		16QAM	1	0	1	21.9	22.3	22.7
			1	12	1	22.5	22.3	22.7
			1	24	1	22.1	22.3	22.7
			12	0	2	21.4	21.5	21.5
			12	7	2	21.3	21.3	21.5
			12	13	2	21.3	21.4	21.4
			25	0	2	21.3	21.5	21.3

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20415	20525	20635
						825.5 MHz	836.5 MHz	847.5 MHz
LTE Band 5	3	QPSK	1	0	0	23.2	23.2	23.2
			1	8	0	23.3	23.2	23.2
			1	14	0	23.2	23.2	23.2
			8	0	1	22.3	22.3	22.3
			8	4	1	22.3	22.3	22.3
			8	7	1	22.3	22.3	22.4
			15	0	1	22.3	22.3	22.4
		16QAM	1	0	1	22.7	22.6	22.2
			1	8	1	22.7	22.7	22.7
			1	14	1	22.7	22.6	22.7
			8	0	2	21.3	21.1	21.4
			8	4	2	21.4	21.1	21.4
			8	7	2	21.3	21.1	21.5
			15	0	2	21.4	21.3	21.3
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20407	20525	20643
						824.7 MHz	836.5 MHz	848.3 MHz
LTE Band 5	1.4	QPSK	1	0	0	23.1	23.1	23.1
			1	3	0	23.2	23.1	23.2
			1	5	0	23.2	23.0	23.2
			3	0	0	23.2	23.2	23.3
			3	1	0	23.1	23.2	23.4
			3	3	0	23.2	23.3	23.3
			6	0	1	22.2	22.2	22.4
		16QAM	1	0	1	21.9	22.7	22.4
			1	3	1	22.2	22.5	22.4
			1	5	1	22.6	22.7	22.2
			3	0	1	22.6	22.1	22.7
			3	1	1	22.2	22.2	22.5
			3	3	1	22.2	22.1	22.5
			6	0	2	21.5	21.2	21.4

LTE Band 4

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20050	20175	20300
						1720 MHz	1732.5 MHz	1745 MHz
LTE Band 4	20	QPSK	1	0	0	23.0	23.2	23.0
			1	49	0	23.1	23.0	22.9
			1	99	0	22.9	22.9	22.8
			50	0	1	22.2	22.3	22.1
			50	25	1	22.1	22.1	22.0
			50	49	1	22.1	21.9	22.0
			100	0	1	22.2	22.1	22.0
		16QAM	1	0	1	22.5	22.5	22.6
			1	49	1	22.5	22.2	22.7
			1	99	1	22.6	22.0	22.5
			50	0	2	21.1	21.3	21.0
			50	25	2	21.0	21.1	21.0
			50	49	2	21.1	21.0	20.9
			100	0	2	21.1	21.1	21.0
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20025	20175	20325
						1717.5 MHz	1732.5 MHz	1747.5 MHz
LTE Band 4	15	QPSK	1	0	0	23.1	23.2	23.0
			1	37	0	22.9	23.0	23.0
			1	74	0	23.0	22.9	22.8
			36	0	1	22.0	22.0	22.1
			36	18	1	22.0	22.0	22.0
			36	35	1	22.0	22.0	22.0
			75	0	1	22.0	22.1	22.0
		16QAM	1	0	1	22.7	22.7	22.7
			1	37	1	22.7	22.5	22.7
			1	74	1	22.3	22.7	22.3
			36	0	2	21.0	21.3	21.0
			36	18	2	21.0	21.2	21.1
			36	35	2	21.0	21.2	21.0
			75	0	2	21.0	21.1	21.0

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						20000	20175	20350
						1715 MHz	1732.5 MHz	1750 MHz
LTE Band 4	10	QPSK	1	0	0	23.1	23.1	23.1
			1	24	0	22.9	23.0	22.7
			1	49	0	23.0	23.0	22.8
			25	0	1	22.0	22.1	22.0
			25	12	1	22.0	22.0	22.0
			25	24	1	22.0	22.0	21.9
			50	0	1	22.0	22.0	21.9
		16QAM	1	0	1	22.6	22.4	22.4
			1	24	1	22.4	22.4	22.1
			1	49	1	22.6	22.7	21.9
			25	0	2	20.9	21.2	21.1
			25	12	2	21.0	21.1	21.1
			25	24	2	21.0	21.1	21.2
			50	0	2	21.0	21.1	21.0
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						19975	20175	20375
						1712.5 MHz	1732.5 MHz	1752.5 MHz
LTE Band 4	5	QPSK	1	0	0	22.7	23.0	22.9
			1	12	0	23.6	23.7	23.3
			1	24	0	23.6	22.9	22.9
			12	0	1	21.9	22.0	21.9
			12	6	1	21.9	21.9	22.0
			12	11	1	21.9	22.0	22.0
			25	0	1	21.9	22.0	21.9
		16QAM	1	0	1	22.0	22.2	22.7
			1	12	1	22.2	22.0	22.5
			1	24	1	22.0	22.2	21.9
			12	0	2	21.0	21.2	21.1
			12	6	2	21.0	21.1	21.1
			12	11	2	21.0	20.9	21.1
			25	0	2	20.9	21.1	20.9

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						19965	20175	20385
						1711.5 MHz	1732.5 MHz	1753.5 MHz
LTE Band 4	3	QPSK	1	0	0	22.8	23.0	23.0
			1	7	0	22.8	23.1	23.1
			1	14	0	22.7	23.1	22.8
			6	0	1	22.0	22.1	22.0
			6	3	1	22.0	22.1	22.0
			6	5	1	22.0	22.1	22.0
			15	0	1	22.0	22.1	22.0
		16QAM	1	0	1	22.1	22.0	22.6
			1	7	1	21.8	22.0	22.7
			1	14	1	22.7	22.0	22.7
			6	0	2	21.1	20.9	21.4
			6	3	2	21.0	21.0	21.4
			6	5	2	21.0	21.0	21.4
			15	0	2	21.0	21.1	21.1
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						19957	20175	20393
						1710.7 MHz	1732.5 MHz	1754.3 MHz
LTE Band 4	1.4	QPSK	1	0	0	22.7	22.9	22.8
			1	2	0	22.7	23.1	22.8
			1	5	0	22.7	23.0	22.8
			3	0	0	22.8	22.9	22.9
			3	1	0	22.9	23.1	22.9
			3	2	0	22.9	23.0	23.1
			6	0	1	22.0	21.9	22.0
		16QAM	1	0	1	22.1	22.6	22.0
			1	2	1	22.2	22.7	21.9
			1	5	1	21.7	22.7	22.3
			3	0	1	21.8	21.8	21.9
			3	1	1	21.8	21.9	22.5
			3	2	1	21.8	22.1	22.5
			6	0	2	20.7	20.7	21.3

LTE Band 2

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18700	18900	19100
						1860 MHz	1880 MHz	1900 MHz
LTE Band 2	20	QPSK	1	0	0	23.6	23.7	23.4
			1	49	0	23.3	23.3	23.3
			1	99	0	23.1	23.2	23.3
			50	0	1	22.4	22.4	22.4
			50	24	1	22.4	22.3	22.2
			50	50	1	22.3	22.2	22.1
			100	0	1	22.3	22.2	22.1
		16QAM	1	0	1	22.7	22.4	22.7
			1	49	1	22.5	22.7	22.7
			1	99	1	22.4	22.7	22.6
			50	0	2	21.3	21.3	21.4
			50	24	2	21.3	21.2	21.2
			50	50	2	21.3	21.1	21.2
			100	0	2	21.2	21.2	21.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18675	18900	19125
						1857.5 MHz	1880 MHz	1902.5 MHz
LTE Band 2	15	QPSK	1	0	0	23.1	23.2	23.1
			1	37	0	23.2	23.7	23.3
			1	74	0	23.5	23.2	23.2
			36	0	1	22.3	22.3	22.2
			36	20	1	22.3	22.2	22.2
			36	39	1	22.3	22.3	22.1
			75	0	1	22.2	22.2	22.1
		16QAM	1	0	1	22.7	22.7	22.7
			1	37	1	22.7	22.6	22.7
			1	74	1	22.7	22.2	22.7
			36	0	2	21.1	21.4	21.2
			36	20	2	21.2	21.3	21.1
			36	39	2	21.1	21.3	21.1
			75	0	2	21.2	21.3	21.2

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18650	18900	19150
						1855 MHz	1880 MHz	1905 MHz
LTE Band 2	10	QPSK	1	0	0	23.2	23.2	23.1
			1	25	0	23.2	23.1	23.2
			1	49	0	23.1	23.1	23.3
			25	0	1	22.2	22.3	22.2
			25	12	1	22.2	22.2	22.2
			25	25	1	22.2	22.2	22.2
			50	0	1	22.2	22.2	22.2
		16QAM	1	0	1	22.7	22.7	22.5
			1	25	1	22.7	22.4	22.5
			1	49	1	22.7	22.7	22.7
			25	0	2	21.1	21.3	21.3
			25	12	2	21.1	21.3	21.4
			25	25	2	21.1	21.2	21.5
			50	0	2	21.0	21.2	21.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18625	18900	19175
						1852.5 MHz	1880 MHz	1907.5 MHz
LTE Band 2	5	QPSK	1	0	0	22.8	23.2	23.1
			1	12	0	23.4	23.7	23.2
			1	24	0	22.8	23.0	23.1
			12	0	1	21.9	22.0	22.1
			12	6	1	22.0	21.9	22.1
			12	11	1	22.0	22.0	22.1
			25	0	1	22.0	22.1	22.1
		16QAM	1	0	1	21.9	22.2	22.0
			1	12	1	22.0	22.1	22.0
			1	24	1	22.0	22.1	22.0
			12	0	2	20.7	21.2	21.0
			12	6	2	20.7	21.2	21.1
			12	11	2	20.7	21.2	21.2
			25	0	2	21.1	20.8	21.0

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18615	18900	19185
						1851.5 MHz	1880 MHz	1908.5 MHz
LTE Band 2	3	QPSK	1	0	0	22.9	23.1	23.1
			1	8	0	23.1	23.2	23.3
			1	14	0	23.0	23.1	23.2
			8	0	1	22.1	22.2	22.1
			8	4	1	22.1	22.1	22.2
			8	7	1	22.1	22.1	22.1
			15	0	1	22.1	22.2	22.2
		16QAM	1	0	1	22.1	22.5	22.7
			1	8	1	22.6	22.6	22.5
			1	14	1	22.5	22.6	22.6
			8	0	2	21.1	21.0	21.3
			8	4	2	21.0	21.0	21.4
			8	7	2	21.0	21.0	21.4
			15	0	2	21.0	21.2	21.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)		
						18607	18900	19193
						1850.7 MHz	1880 MHz	1909.3 MHz
LTE Band 2	1.4	QPSK	1	0	0	23.0	23.3	23.1
			1	3	0	23.0	23.1	23.2
			1	5	0	22.9	23.0	23.1
			3	0	0	23.1	23.1	23.3
			3	1	0	23.1	23.1	23.3
			3	3	0	23.0	23.2	23.3
			6	0	1	22.1	22.2	22.3
		16QAM	1	0	1	22.7	22.5	22.7
			1	3	1	22.7	22.7	21.8
			1	5	1	22.7	22.2	22.7
			3	0	1	22.0	22.2	22.3
			3	1	1	21.9	22.6	22.3
			3	3	1	22.3	22.2	22.5
			6	0	2	21.3	21.2	21.4

9. PEAK TO AVERAGE RATIO

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

TEST SPEC

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

9.1. CONDUCTED PEAK TO AVERAGE RESULT

PAR Measurement					
Cell Bandwidth	Channel (MHz)	Mode	Peak (dBm)	Average (dBm)	Delta
LTE4 1.4M	1732.5	QPSK	26.36	20.85	5.51
		16QAM	26.34	20.03	6.31
LTE4 3M		QPSK	26.5	20.84	5.66
		16QAM	26.43	19.82	6.61

PAR Measurement					
Cell Bandwidth	Channel (MHz)	Mode	Peak (dBm)	Average (dBm)	Delta
LTE12 1.4M	707.5	QPSK	27.73	21.9	5.83
		16QAM	27.87	21.28	6.59
LTE12 3M		QPSK	27.97	21.94	6.03
		16QAM	27.79	20.73	7.06

PAR Measurement					
Cell Bandwidth	Channel (MHz)	Mode	Peak (dBm)	Average (dBm)	Delta
LTE25 1.4M	1882.5	QPSK	26.35	20.6	5.75
		16QAM	26.47	19.83	6.64
LTE25 3M		QPSK	26.54	20.65	5.89
		16QAM	26.53	19.62	6.91
LTE25 10M		QPSK	26.37	20.49	5.88
		16QAM	26.29	19.42	6.87
LTE25 15M		QPSK	25.2	20.51	4.69
		16QAM	25.58	19.76	5.82
LTE25 20M		QPSK	24.58	20.55	4.03
		16QAM	24.89	19.47	5.42

10. LIMITS AND CONDUCTED RESULTS

10.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

(KDB 971168 D01 Power Meas License Digital Systems v02r02)

MODES TESTED

LTE

RESULTS

10.1.1. LTE OCCUPIED BANDWIDTH RESULTS

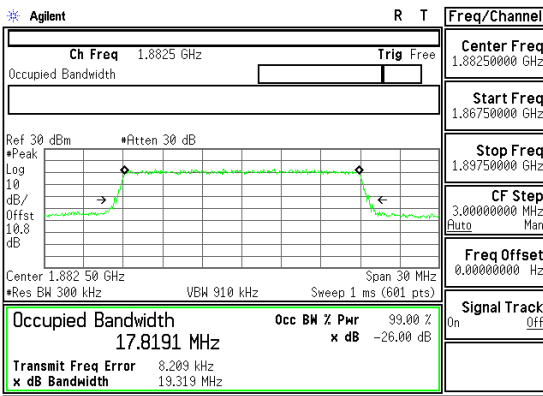
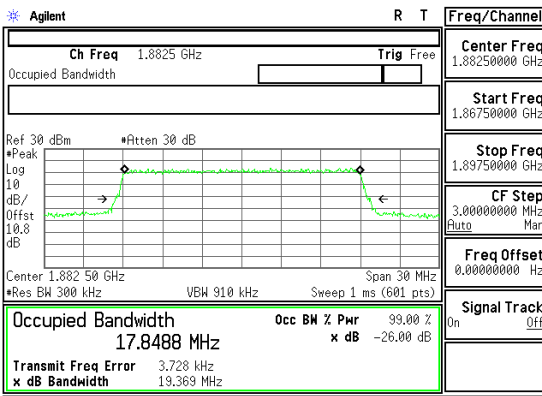
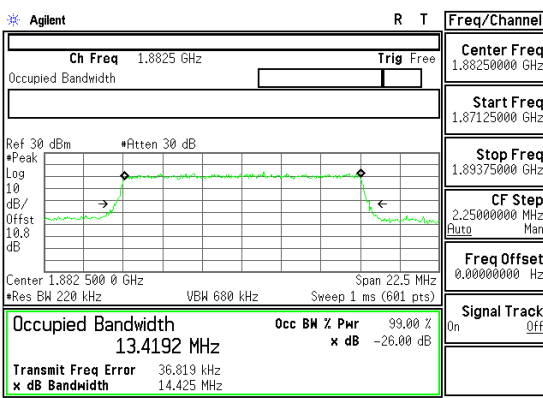
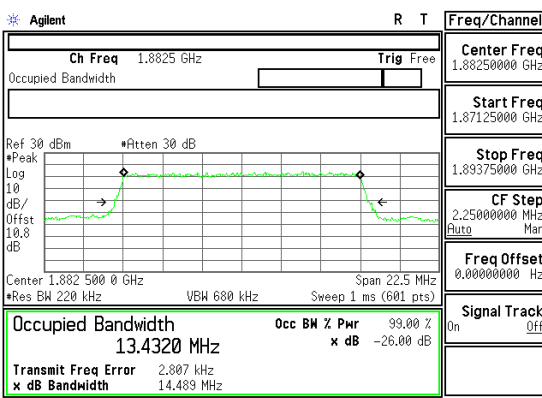
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE25	20	QPSK	100/0	1860	17.810	19.210
			100/0	1882.5	17.850	19.370
			100/0	1905	17.820	19.250
		16QAM	100/0	1860	17.810	19.190
			100/0	1882.5	17.820	19.320
			100/0	1905	17.830	19.170
	15	QPSK	75/0	1857.5	13.400	14.660
			75/0	1882.5	13.430	14.490
			75/0	1907.5	13.400	14.530
		16QAM	75/0	1857.5	13.440	14.530
			75/0	1882.5	13.420	14.430
			75/0	1907.5	13.380	14.460
	10	QPSK	50/0	1855	8.970	9.722
			50/0	1882.5	8.958	9.697
			50/0	1910	8.952	9.837
		16QAM	50/0	1855	8.950	9.675
			50/0	1882.5	8.962	9.939
			50/0	1910	8.984	9.712
	3	QPSK	15/0	1851.5	2.692	2.964
			15/0	1882.5	2.693	2.979
			15/0	1913.5	2.690	2.956
		16QAM	15/0	1851.5	2.692	2.956
			15/0	1882.5	2.690	2.935
			15/0	1913.5	2.688	2.952
	1.4	QPSK	6/0	1850.7	1.079	1.240
			6/0	1882.5	1.086	1.286
			6/0	1914.3	1.086	1.285
		16QAM	6/0	1850.7	1.090	1.296
			6/0	1882.5	1.088	1.277
			6/0	1914.3	1.088	1.297

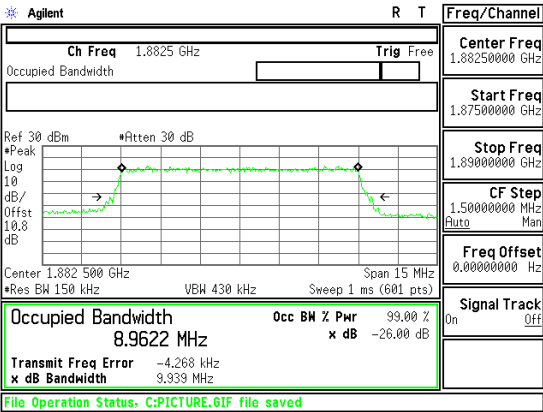
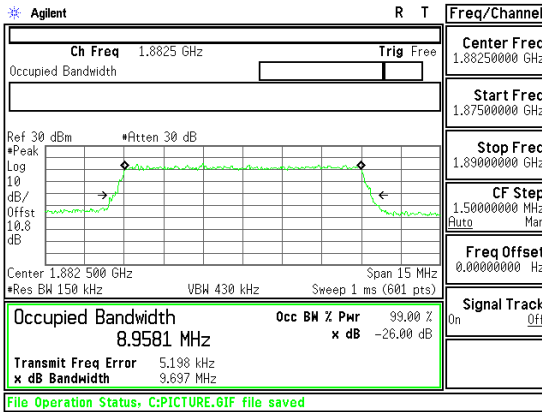
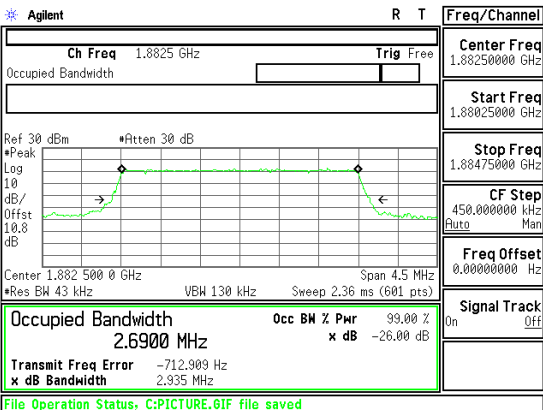
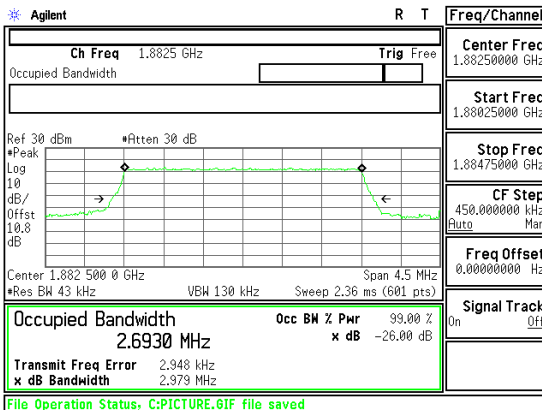
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE12	3	QPSK	15/0	700.5	2.694	2.969
			15/0	707.5	2.686	2.950
			15/0	714.5	2.683	2.962
		16QAM	15/0	700.5	2.692	2.976
			15/0	707.5	2.681	2.970
			15/0	714.5	2.688	2.984
	1.4	QPSK	6/0	699.7	1.084	1.252
			6/0	707.5	1.083	1.254
			6/0	715.3	1.083	1.254
		16QAM	6/0	699.7	1.090	1.287
			6/0	707.5	1.092	1.255
			6/0	715.3	1.092	1.284

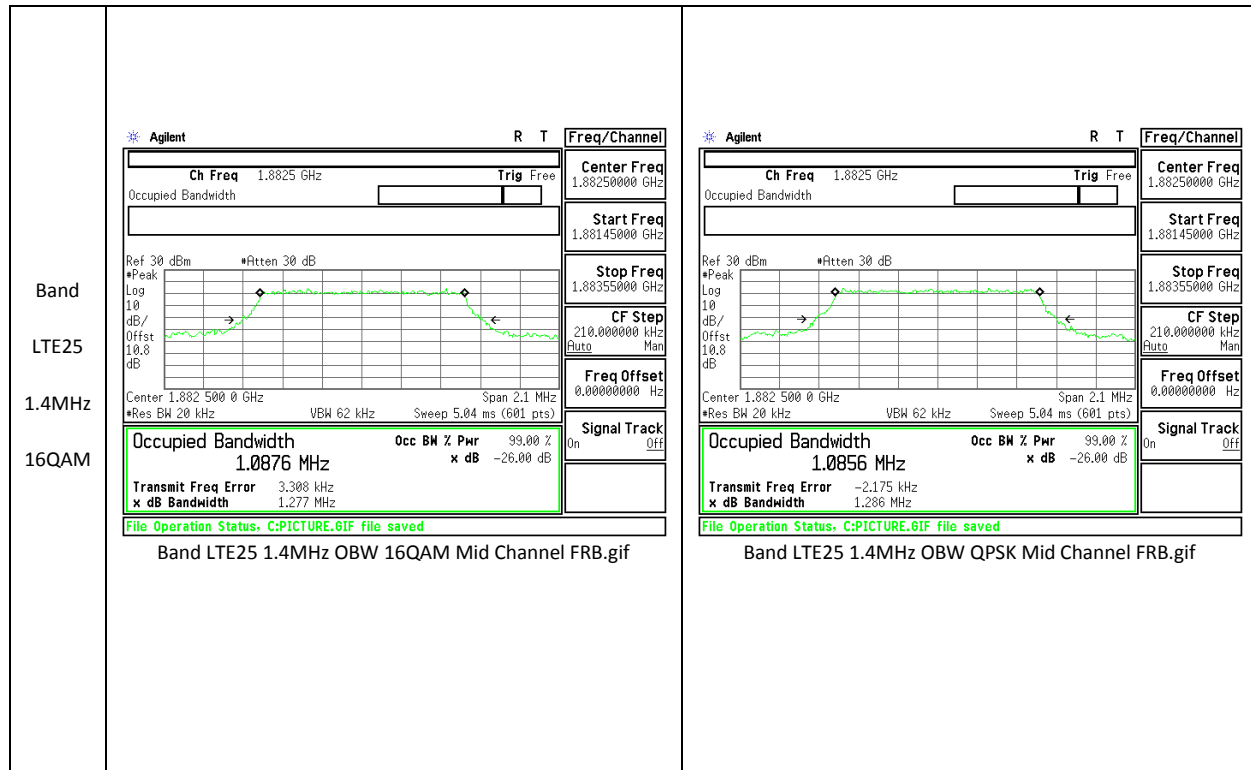
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE4	3	QPSK	15/0	1711.5	2.692	2.981
			15/0	1732.5	2.684	2.969
			15/0	1753.5	2.694	2.977
		16QAM	15/0	1711.5	2.684	2.968
			15/0	1732.5	2.683	2.941
			15/0	1753.5	2.684	2.969
	1.4	QPSK	6/0	1710.7	1.086	1.263
			6/0	1732.5	1.085	1.269
			6/0	1754.3	1.085	1.272
		16QAM	6/0	1710.7	1.09	1.288
			6/0	1732.5	1.088	1.277
			6/0	1754.3	1.086	1.271

10.1.1. OCCUPIED BANDWIDTH PLOTS

LTE Band 25

Band	LTE25	20MHz	16QAM	
				Band LTE25 20MHz OBW 16QAM Mid Channel FRB.gif
Band	LTE25	20MHz	QPSK	
				Band LTE25 20MHz OBW QPSK Mid Channel FRB.gif
Band	LTE25	15MHz	16QAM	
				Band LTE25 15MHz OBW 16QAM Mid Channel FRB.gif
Band	LTE25	15MHz	QPSK	
				Band LTE25 15MHz OBW QPSK Mid Channel FRB.gif

Band LTE25 10MHz 16QAM	 Agilent R T Freq/Channel Ch Freq 1.8825 GHz Trig Free Center Freq 1.88250000 GHz Start Freq 1.87500000 GHz Stop Freq 1.89000000 GHz CF Step 1.50000000 MHz Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 8.9622 MHz Transmit Freq Error -4.268 kHz x dB Bandwidth 3.939 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE25 10MHz OBW 16QAM Mid Channel FRB.gif	 Agilent R T Freq/Channel Ch Freq 1.8825 GHz Trig Free Center Freq 1.88250000 GHz Start Freq 1.87500000 GHz Stop Freq 1.89000000 GHz CF Step 1.50000000 MHz Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 8.9581 MHz Transmit Freq Error 5.190 kHz x dB Bandwidth 3.697 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE25 10MHz OBW QPSK Mid Channel FRB.gif
Band LTE25 3MHz 16QAM	 Agilent R T Freq/Channel Ch Freq 1.8825 GHz Trig Free Center Freq 1.88250000 GHz Start Freq 1.88025000 GHz Stop Freq 1.88475000 GHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 2.6900 MHz Transmit Freq Error -712.909 Hz x dB Bandwidth 2.935 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE25 3MHz OBW 16QAM Mid Channel FRB.gif	 Agilent R T Freq/Channel Ch Freq 1.8825 GHz Trig Free Center Freq 1.88250000 GHz Start Freq 1.88025000 GHz Stop Freq 1.88475000 GHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 2.6930 MHz Transmit Freq Error 2.948 kHz x dB Bandwidth 2.979 MHz File Operation Status: C:PICTURE.GIF file saved Band LTE25 3MHz OBW QPSK Mid Channel FRB.gif



LTE Band 12

Band LTE12 3MHz 16QAM	Agilent R T Freq/Channel Ch Freq 707.5 MHz Trig Free Center Freq 707.500000 MHz Start Freq 705.250000 MHz Stop Freq 709.750000 MHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Ref 30 dBm Atten 30 dB Peak Log 10 dB/Offst 10.8 dB Center 707.500 0 MHz Span 4.5 MHz Res BW 43 kHz VBW 130 kHz Sweep 2.36 ms (601 pts) Occupied Bandwidth 2.6812 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -9.374 kHz x dB Bandwidth 2.970 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE12 3MHz OBW 16QAM Mid Channel FRB.gif
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Band LTE12 1.4MHz 16QAM	Agilent R T Freq/Channel Ch Freq 707.5 MHz Trig Free Center Freq 707.500000 MHz Start Freq 706.450000 MHz Stop Freq 708.550000 MHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Ref 30 dBm Atten 30 dB Peak Log 10 dB/Offst 10.8 dB Center 707.500 0 MHz Span 2.1 MHz Res BW 20 kHz VBW 62 kHz Sweep 5.04 ms (601 pts) Occupied Bandwidth 1.0924 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -2.873 kHz x dB Bandwidth 1.255 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE12 1.4MHz OBW 16QAM Mid Channel FRB.gif
	Agilent R T Freq/Channel Ch Freq 707.5 MHz Trig Free Center Freq 707.500000 MHz Start Freq 706.450000 MHz Stop Freq 708.550000 MHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track Off Ref 30 dBm Atten 30 dB Peak Log 10 dB/Offst 10.8 dB Center 707.500 0 MHz Span 2.1 MHz Res BW 20 kHz VBW 62 kHz Sweep 5.04 ms (601 pts) Occupied Bandwidth 1.0828 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -1.691 kHz x dB Bandwidth 1.254 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE12 1.4MHz OBW QPSK Mid Channel FRB.gif

LTE Band 4

Band LTE4 3MHz 16QAM	Agilent R T Freq/Channel Ch Freq 1.7325 GHz Trig Free Center Freq 1.73250000 GHz Start Freq 1.73025000 GHz Stop Freq 1.73475000 GHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 2.6829 MHz Transmit Freq Error -2.100 kHz File Operation Status, C:PICTURE.GIF file saved Band LTE4 3MHz OBW 16QAM Mid Channel FRB.gif
Band LTE4 1.4MHz 16QAM	Agilent R T Freq/Channel Ch Freq 1.7325 GHz Trig Free Center Freq 1.73250000 GHz Start Freq 1.73145000 GHz Stop Freq 1.73355000 GHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 1.0883 MHz Transmit Freq Error 1.311 kHz File Operation Status, C:PICTURE.GIF file saved Band LTE4 1.4MHz OBW 16QAM Mid Channel FRB.gif
	Agilent R T Freq/Channel Ch Freq 1.7325 GHz Trig Free Center Freq 1.73250000 GHz Start Freq 1.73025000 GHz Stop Freq 1.73475000 GHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track Off Occupied Bandwidth 2.6843 MHz Transmit Freq Error -3.949 kHz File Operation Status, C:PICTURE.GIF file saved Band LTE4 3MHz OBW QPSK Mid Channel FRB.gif
	Agilent R T Freq/Channel Ch Freq 1.7325 GHz Trig Free Center Freq 1.73250000 GHz Start Freq 1.73145000 GHz Stop Freq 1.73355000 GHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track Off Occupied Bandwidth 1.0852 MHz Transmit Freq Error 423.740 Hz File Operation Status, C:PICTURE.GIF file saved Band LTE4 1.4MHz OBW QPSK Mid Channel FRB.gif

10.2. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §22.359, §24.238, and §27.53

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

Part 27: (m)(4) For mobile station, the attenuation factor shall be not less than $43+10\log(P)$ dB at the channel edge and $(55+10\log(P))$ dB at 5.5MHz from the channel edges.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

The transmitter output was connected to an Agilent 8960 or a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

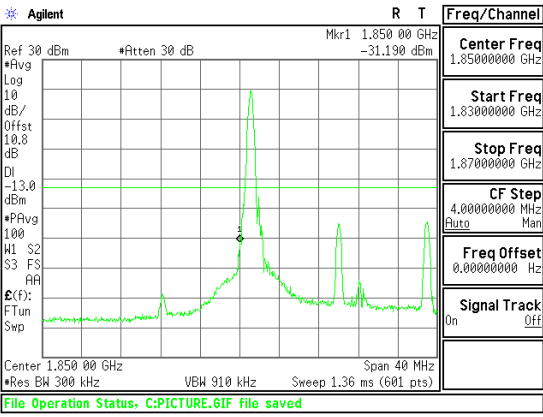
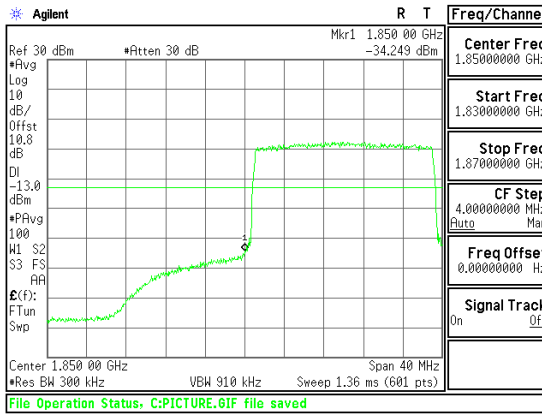
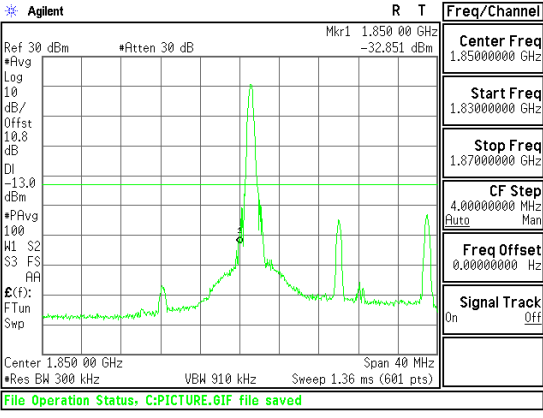
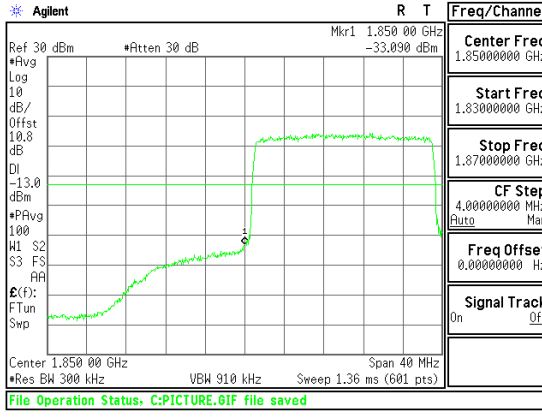
MODES TESTED

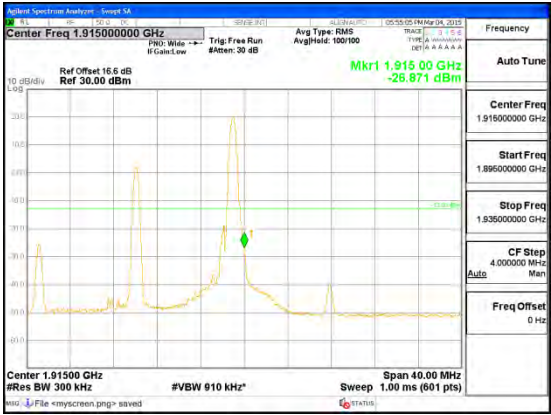
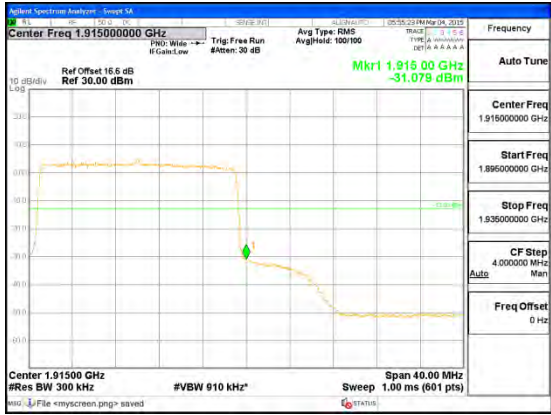
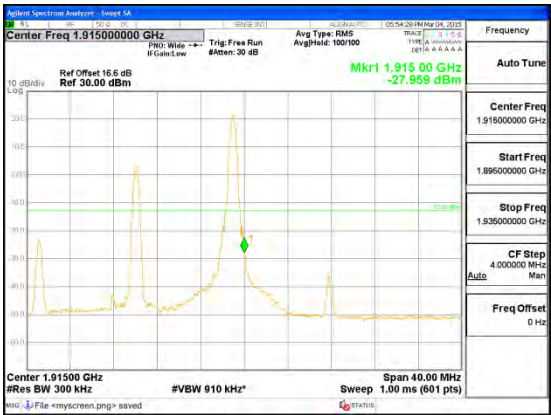
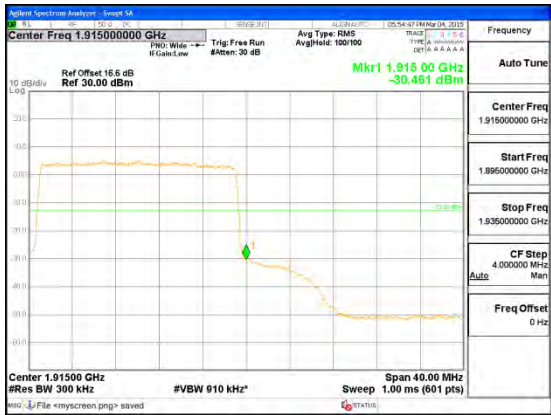
LTE

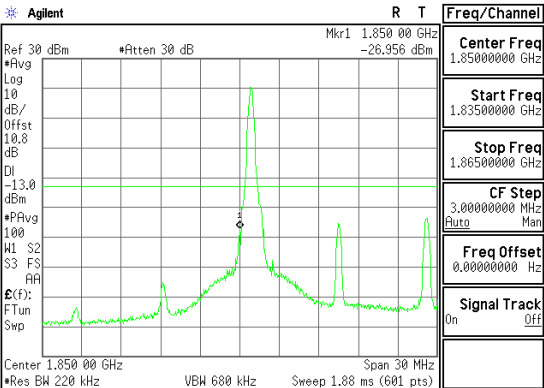
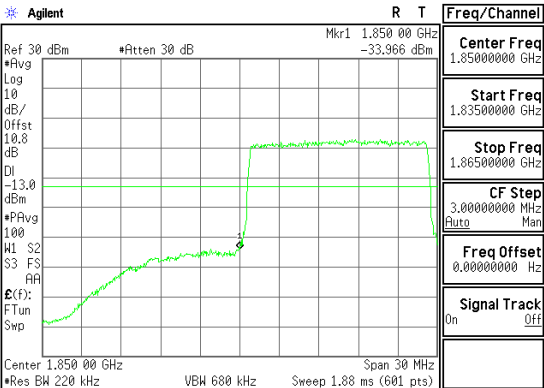
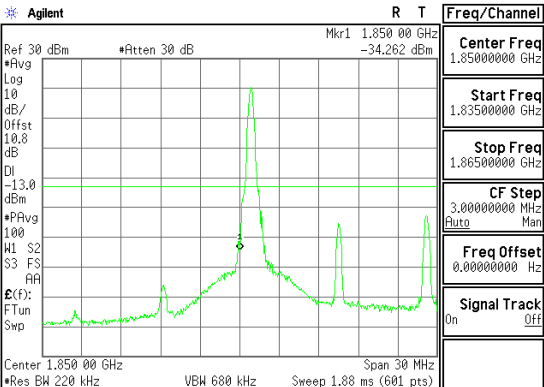
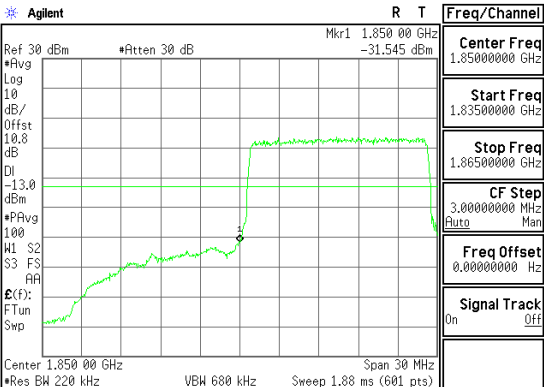
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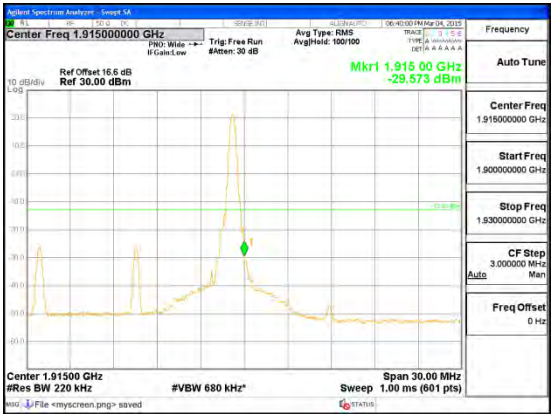
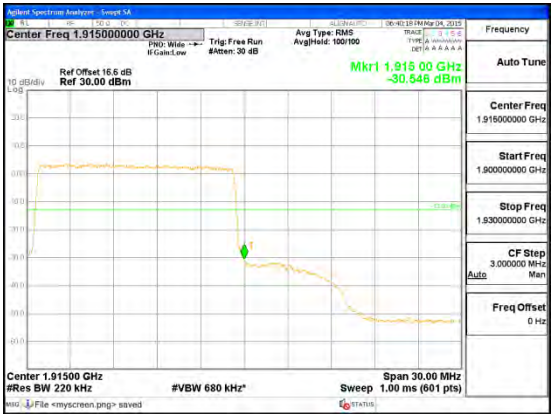
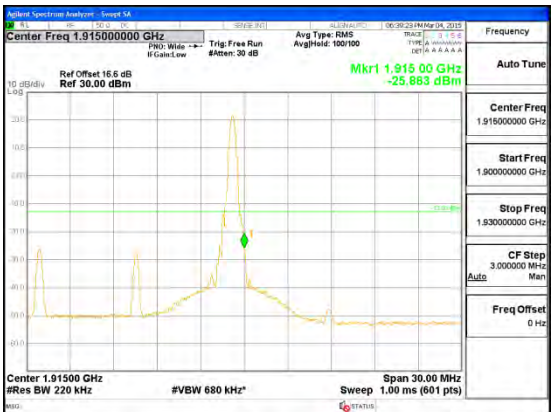
10.2.1. BAND EDGE PLOTS

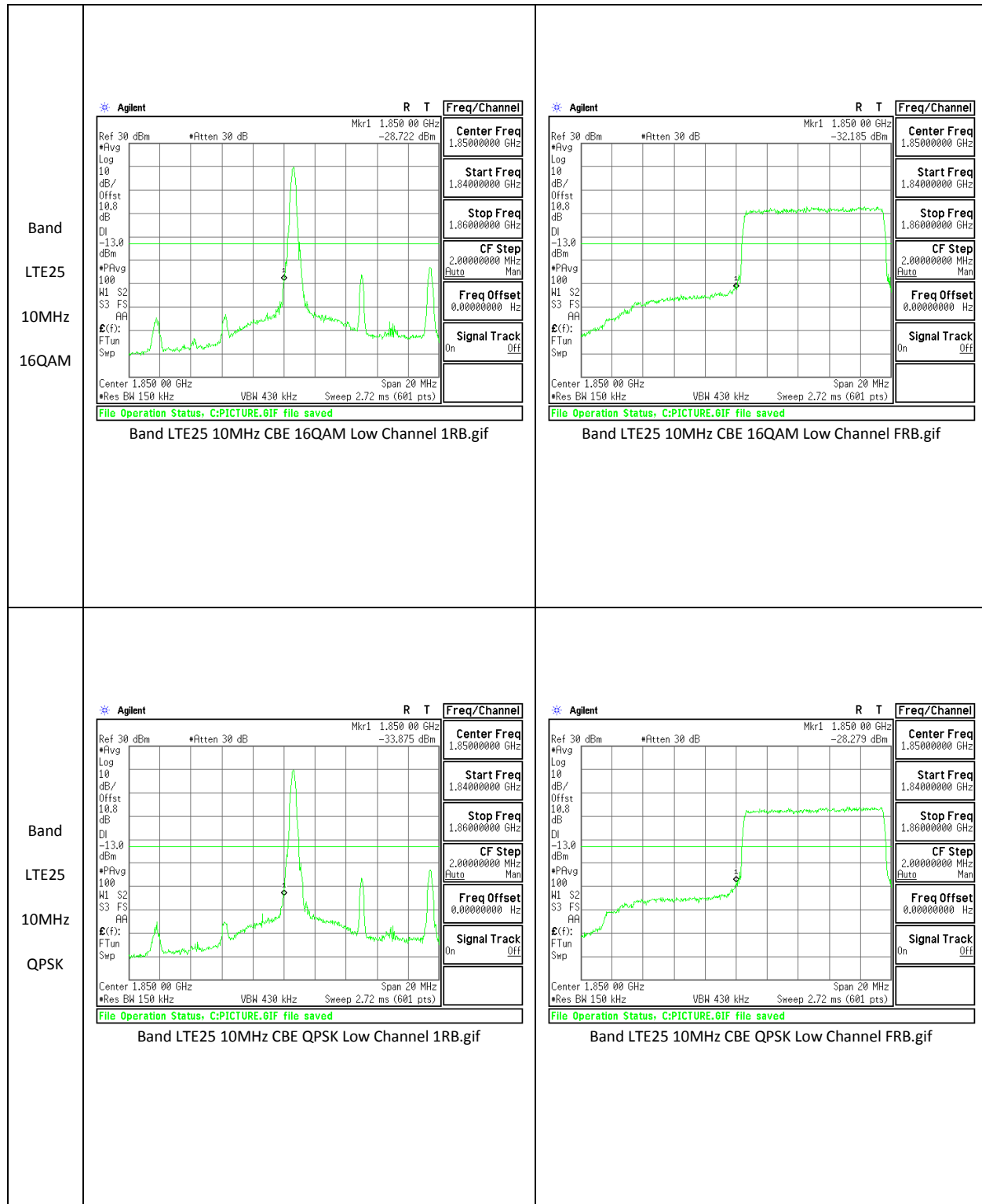
LTE Band 25

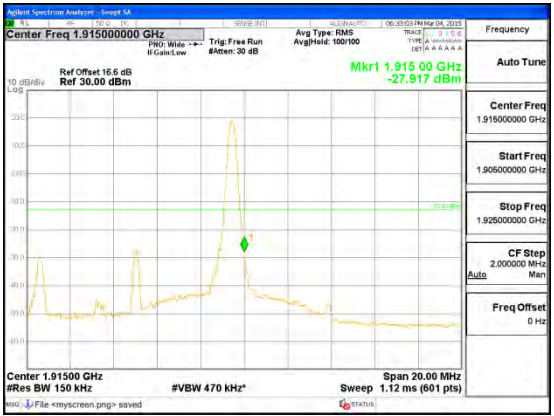
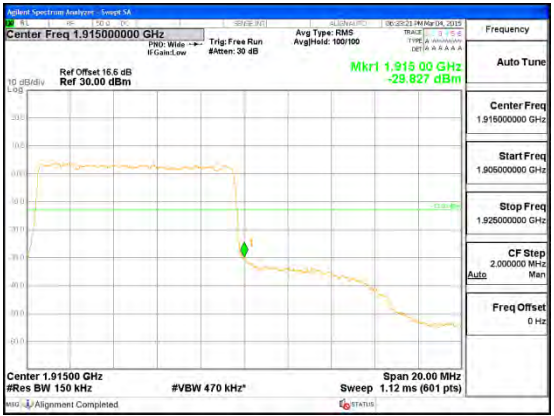
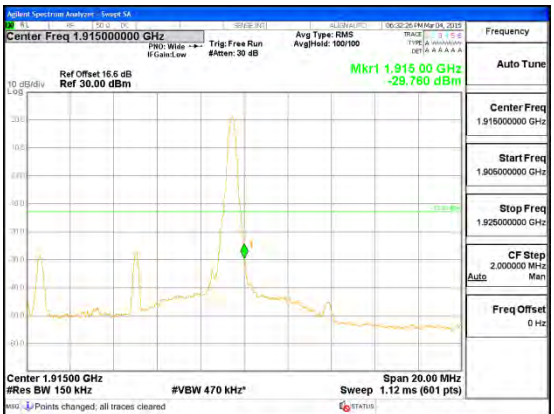
Band LTE25 20MHz 16QAM	 Agilent R T Freq/Channel Ref 30 dBm *Atten 30 dB Mkr1 1.850 00 GHz -31.190 dBm Center Freq 1.85000000 GHz Start Freq 1.83000000 GHz Stop Freq 1.87000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Center 1.850 00 GHz Span 40 MHz *Res BW 300 kHz VBW 910 kHz Sweep 1.36 ms (601 pts) File Operation Status. C:PICTURE.GIF file saved Band LTE25 20MHz CBE 16QAM Low Channel 1RB.gif	 Agilent R T Freq/Channel Ref 30 dBm *Atten 30 dB Mkr1 1.850 00 GHz -34.249 dBm Center Freq 1.85000000 GHz Start Freq 1.83000000 GHz Stop Freq 1.87000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Center 1.850 00 GHz Span 40 MHz *Res BW 300 kHz VBW 910 kHz Sweep 1.36 ms (601 pts) File Operation Status. C:PICTURE.GIF file saved Band LTE25 20MHz CBE 16QAM Low Channel FRB.gif
Band LTE25 20MHz QPSK	 Agilent R T Freq/Channel Ref 30 dBm *Atten 30 dB Mkr1 1.850 00 GHz -32.851 dBm Center Freq 1.85000000 GHz Start Freq 1.83000000 GHz Stop Freq 1.87000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Center 1.850 00 GHz Span 40 MHz *Res BW 300 kHz VBW 910 kHz Sweep 1.36 ms (601 pts) File Operation Status. C:PICTURE.GIF file saved Band LTE25 20MHz CBE QPSK Low Channel 1RB.gif	 Agilent R T Freq/Channel Ref 30 dBm *Atten 30 dB Mkr1 1.850 00 GHz -33.090 dBm Center Freq 1.85000000 GHz Start Freq 1.83000000 GHz Stop Freq 1.87000000 GHz CF Step 4.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Center 1.850 00 GHz Span 40 MHz *Res BW 300 kHz VBW 910 kHz Sweep 1.36 ms (601 pts) File Operation Status. C:PICTURE.GIF file saved Band LTE25 20MHz CBE QPSK Low Channel FRB.gif

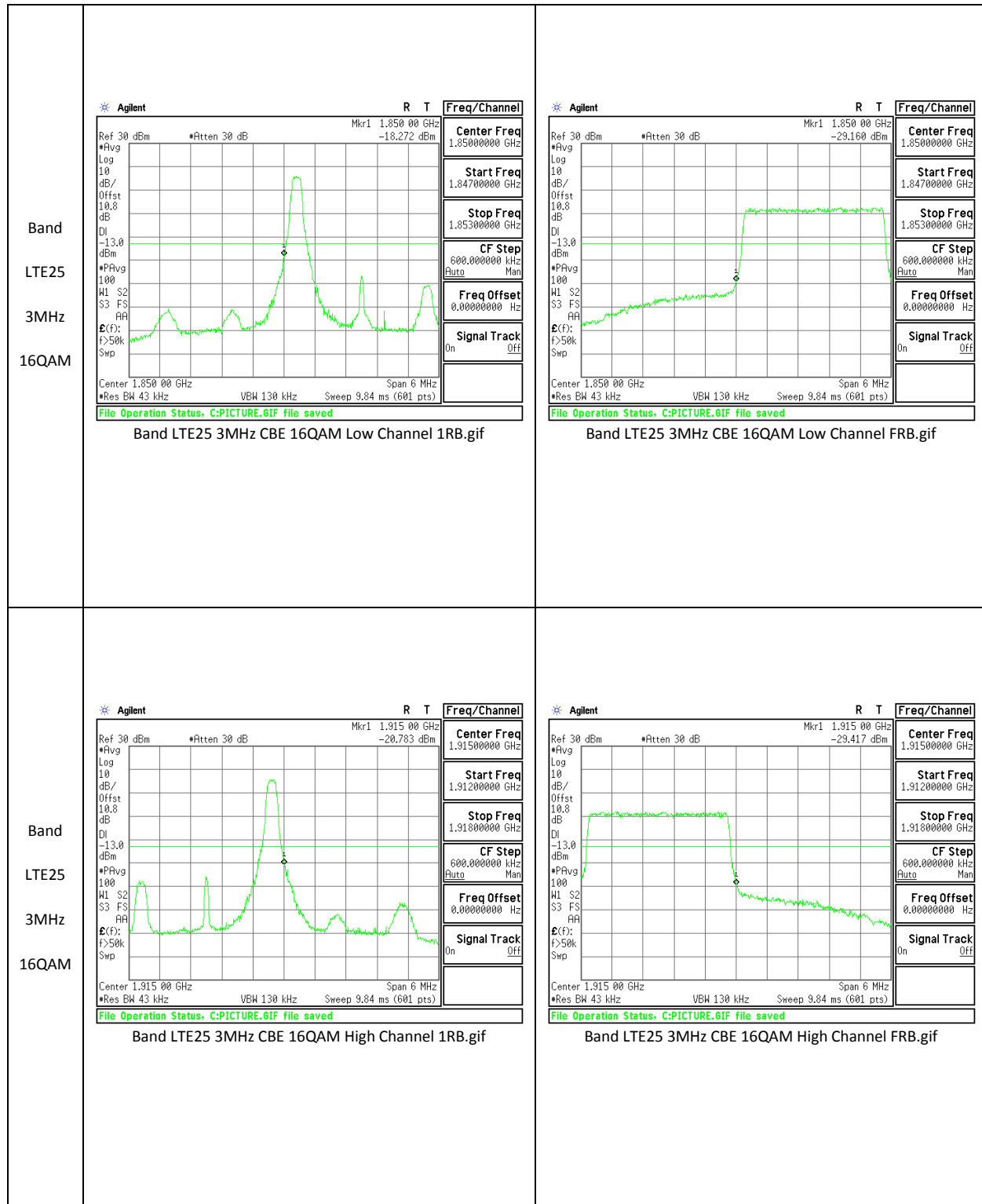
Band LTE25 20MHz 16QAM	 Band LTE25 20MHz CBE 16QAM High Channel 1RB.gif	 Band LTE25 20MHz CBE 16QAM High Channel FRB.gif
Band LTE25 20MHz QPSK	 Band LTE25 20MHz CBE QPSK High Channel 1RB.gif	 Band LTE25 20MHz CBE QPSK High Channel FRB.gif

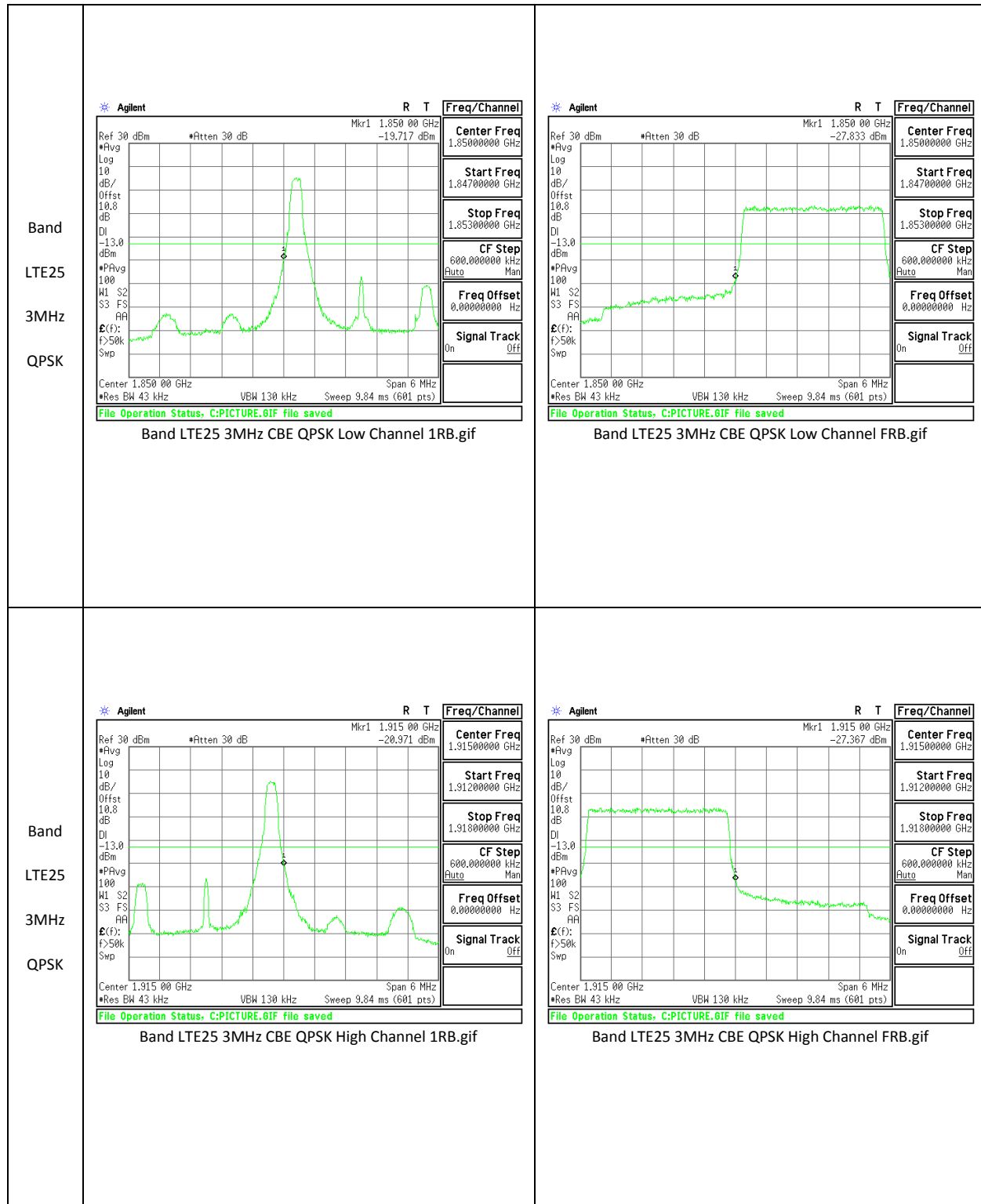
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Band LTE25 15MHz QPSK	 File Operation Status, C:PICTURE.GIF file saved Band LTE25 15MHz CBE QPSK Low Channel 1RB.gif	 File Operation Status, C:PICTURE.GIF file saved Band LTE25 15MHz CBE QPSK Low Channel FRB.gif

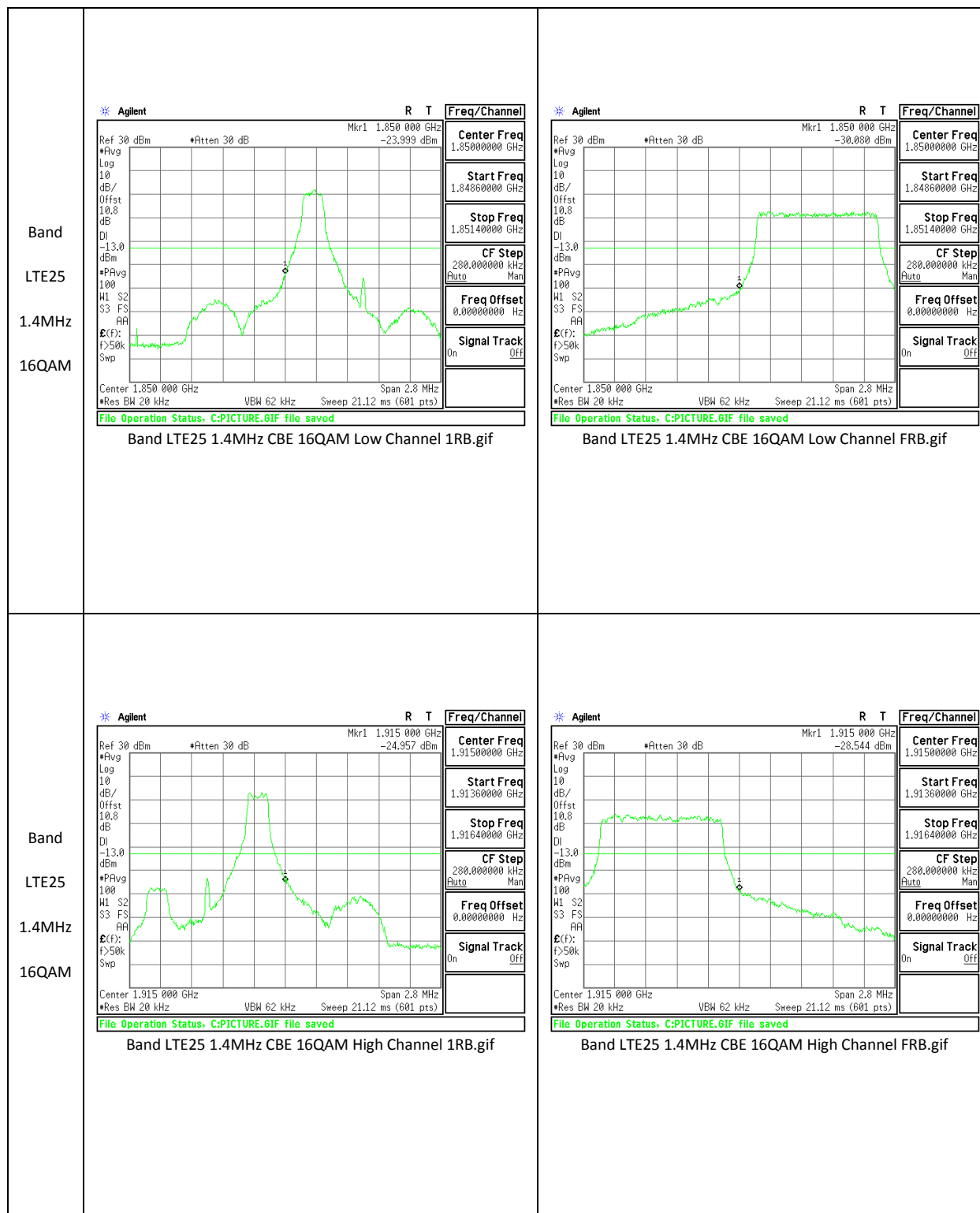
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Band LTE25 15MHz QPSK	 Band LTE25 15MHz CBE QPSK High Channel 1RB.gif	 Band LTE25 15MHz CBE QPSK High Channel FRB.gif

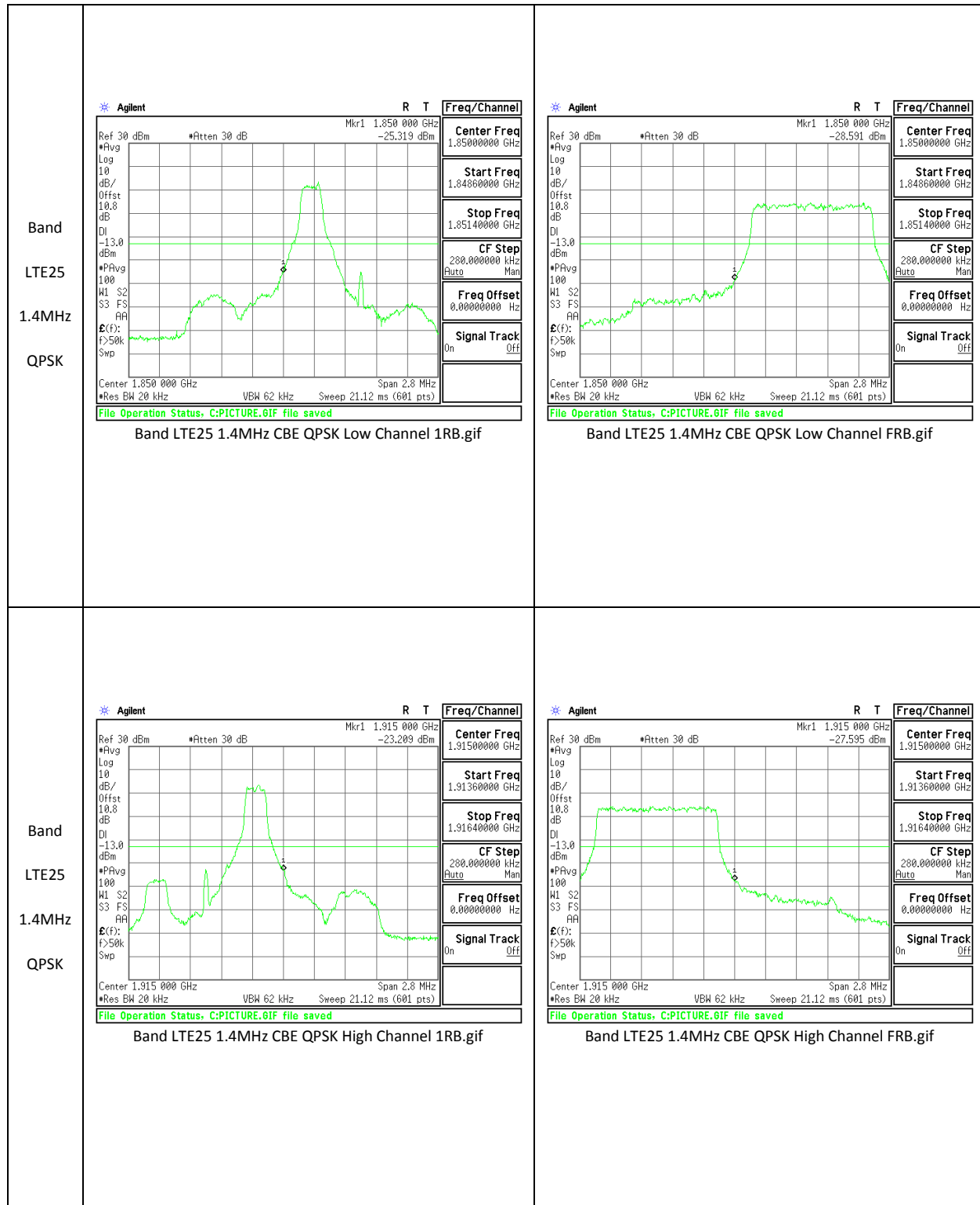


Band LTE25 10MHz 16QAM	 Band LTE25 10MHz CBE 16QAM High Channel 1RB.gif	 Band LTE25 10MHz CBE 16QAM High Channel FRB.gif
Band LTE25 10MHz QPSK	 Band LTE25 10MHz CBE QPSK High Channel 1RB.gif	 Band LTE25 10MHz CBE QPSK High Channel FRB.gif

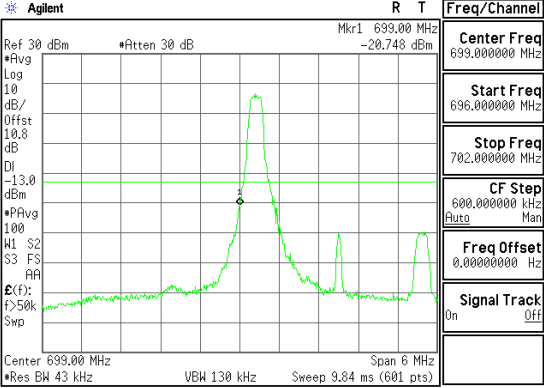
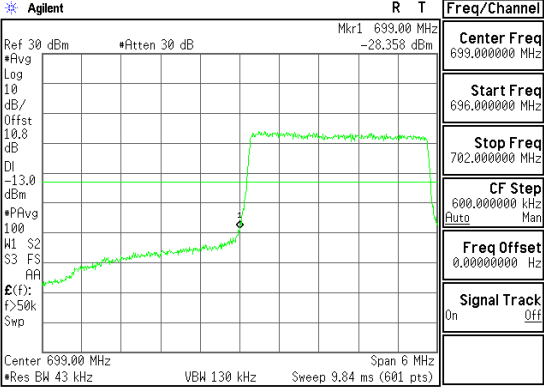
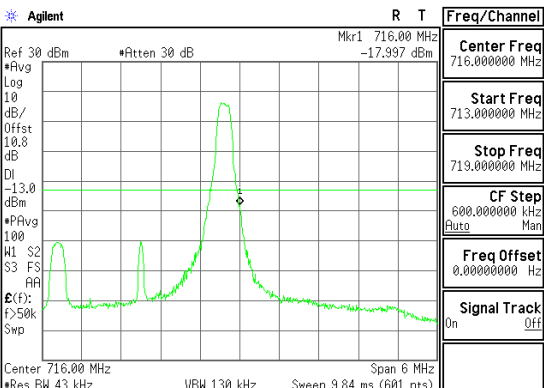
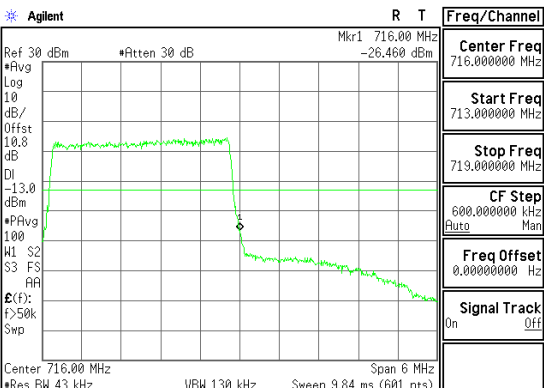


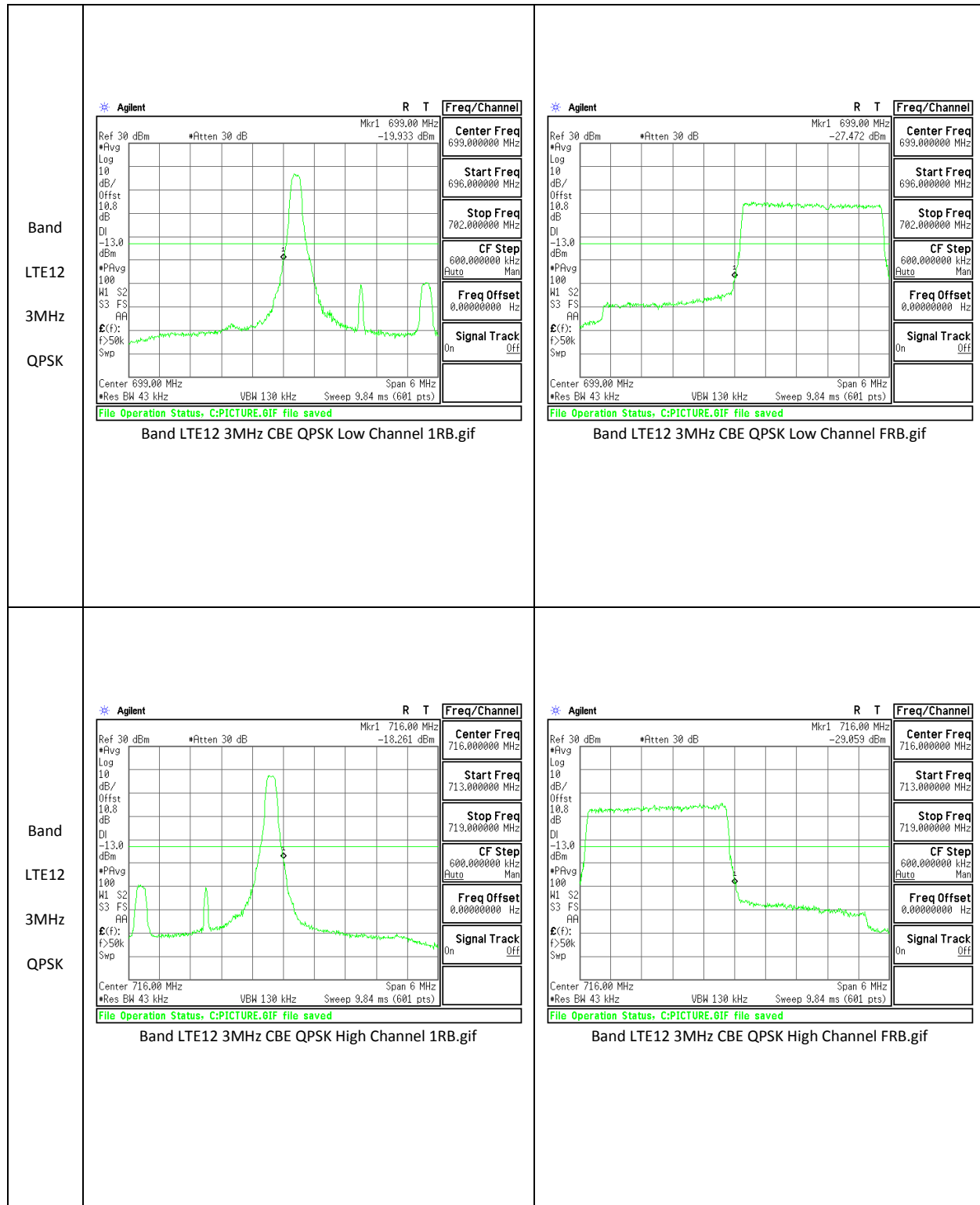


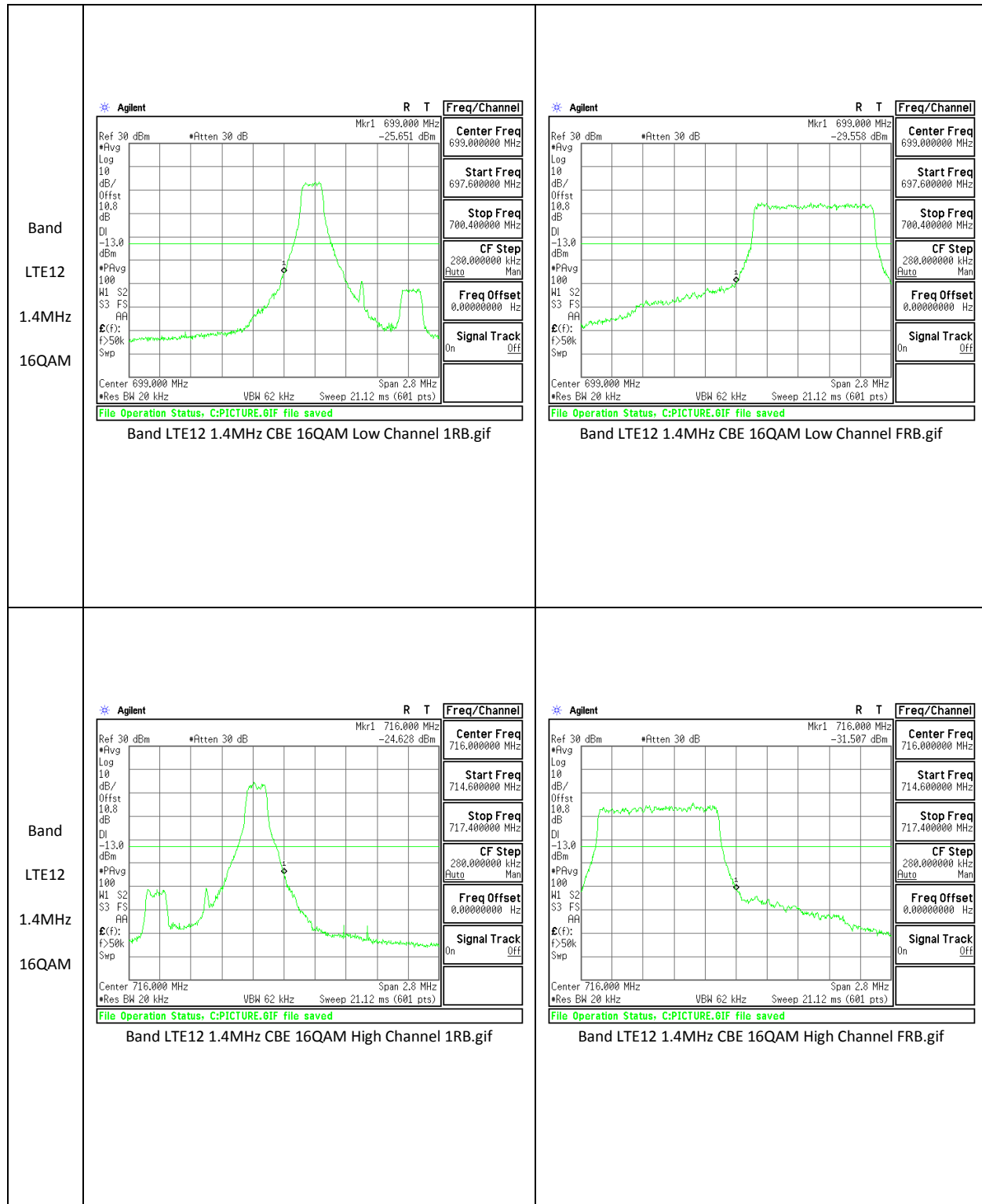


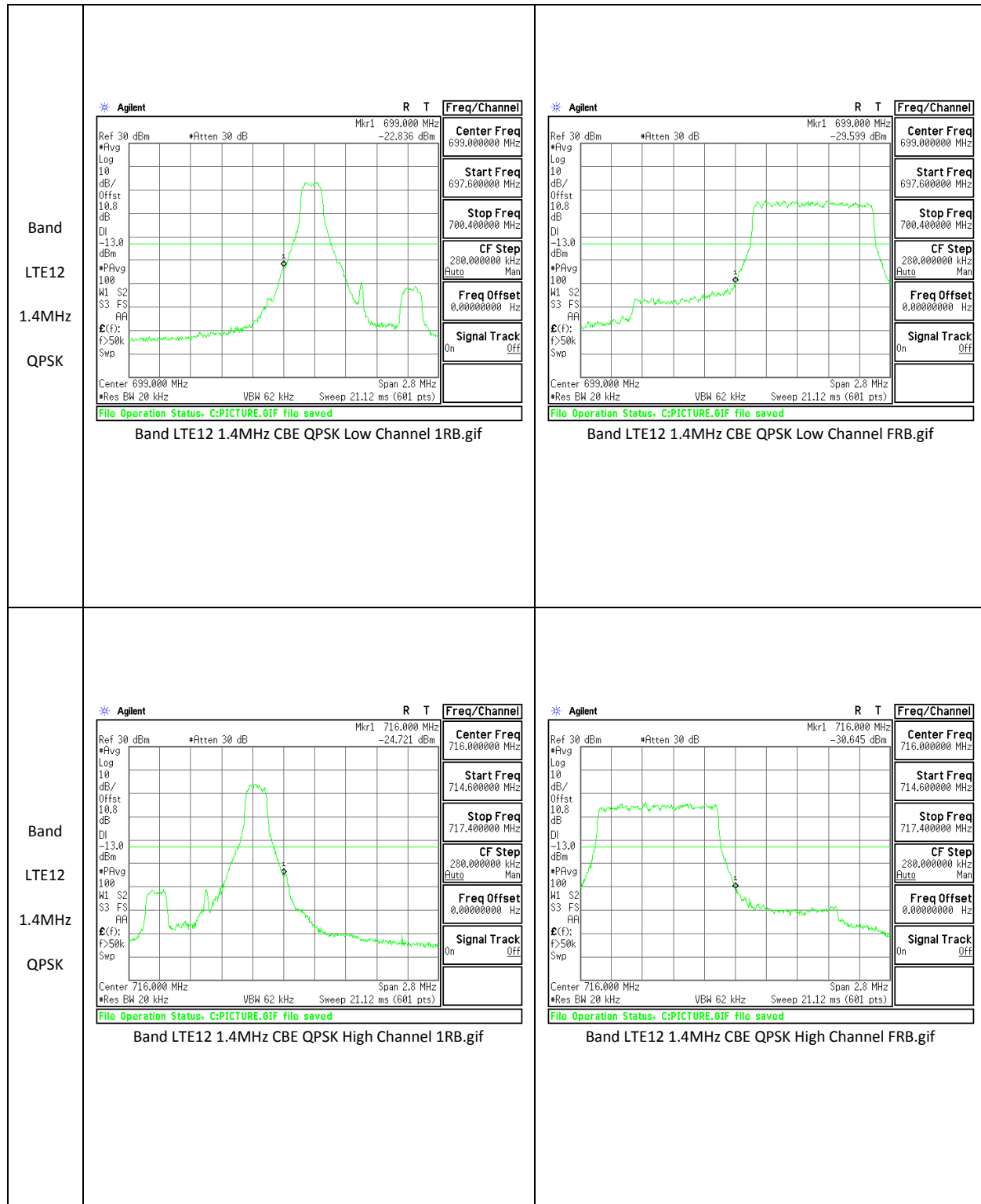


LTE Band 12

Band LTE12 3MHz 16QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE12 3MHz CBE 16QAM Low Channel 1RB.gif	 File Operation Status, C:PICTURE.GIF file saved Band LTE12 3MHz CBE 16QAM Low Channel FRB.gif
Band LTE12 3MHz 16QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE12 3MHz CBE 16QAM High Channel 1RB.gif	 File Operation Status, C:PICTURE.GIF file saved Band LTE12 3MHz CBE 16QAM High Channel FRB.gif







LTE Band 4

Band LTE4 3MHz 16QAM	Agilent Ref 30 dBm •Atten 30 dB Mkr1 1.710 00 GHz -18.884 dBm Center Freq 1.71000000 GHz Start Freq 1.70700000 GHz Stop Freq 1.71300000 GHz CF Step 600.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Center 1.710 00 GHz Span 6 MHz Res BW 43 kHz VBW 130 kHz Sweep 9.84 ms (601 pts) File Operation Status, C:PICTURE.GIF file saved Band LTE4 3MHz CBE 16QAM Low Channel 1RB.gif
Band LTE4 3MHz 16QAM	Agilent Ref 30 dBm •Atten 30 dB Mkr1 1.755 00 GHz -21.035 dBm Center Freq 1.75500000 GHz Start Freq 1.75200000 GHz Stop Freq 1.75800000 GHz CF Step 600.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Center 1.755 00 GHz Span 6 MHz Res BW 43 kHz VBW 130 kHz Sweep 9.84 ms (601 pts) File Operation Status, C:PICTURE.GIF file saved Band LTE4 3MHz CBE 16QAM High Channel 1RB.gif

Agilent

Ref 30 dBm •Atten 30 dB Mkr1 1.710 00 GHz -29.528 dBm

Center Freq 1.71000000 GHz

Start Freq 1.70700000 GHz

Stop Freq 1.71300000 GHz

CF Step 600.000000 kHz Auto Man

Freq Offset 0.00000000 Hz

Signal Track On Off

Center 1.710 00 GHz Span 6 MHz

Res BW 43 kHz VBW 130 kHz Sweep 9.84 ms (601 pts)

File Operation Status, C:PICTURE.GIF file saved

Band LTE4 3MHz CBE 16QAM Low Channel FRB.gif

Agilent

Ref 30 dBm •Atten 30 dB Mkr1 1.755 00 GHz -28.541 dBm

Center Freq 1.75500000 GHz

Start Freq 1.75200000 GHz

Stop Freq 1.75800000 GHz

CF Step 600.000000 kHz Auto Man

Freq Offset 0.00000000 Hz

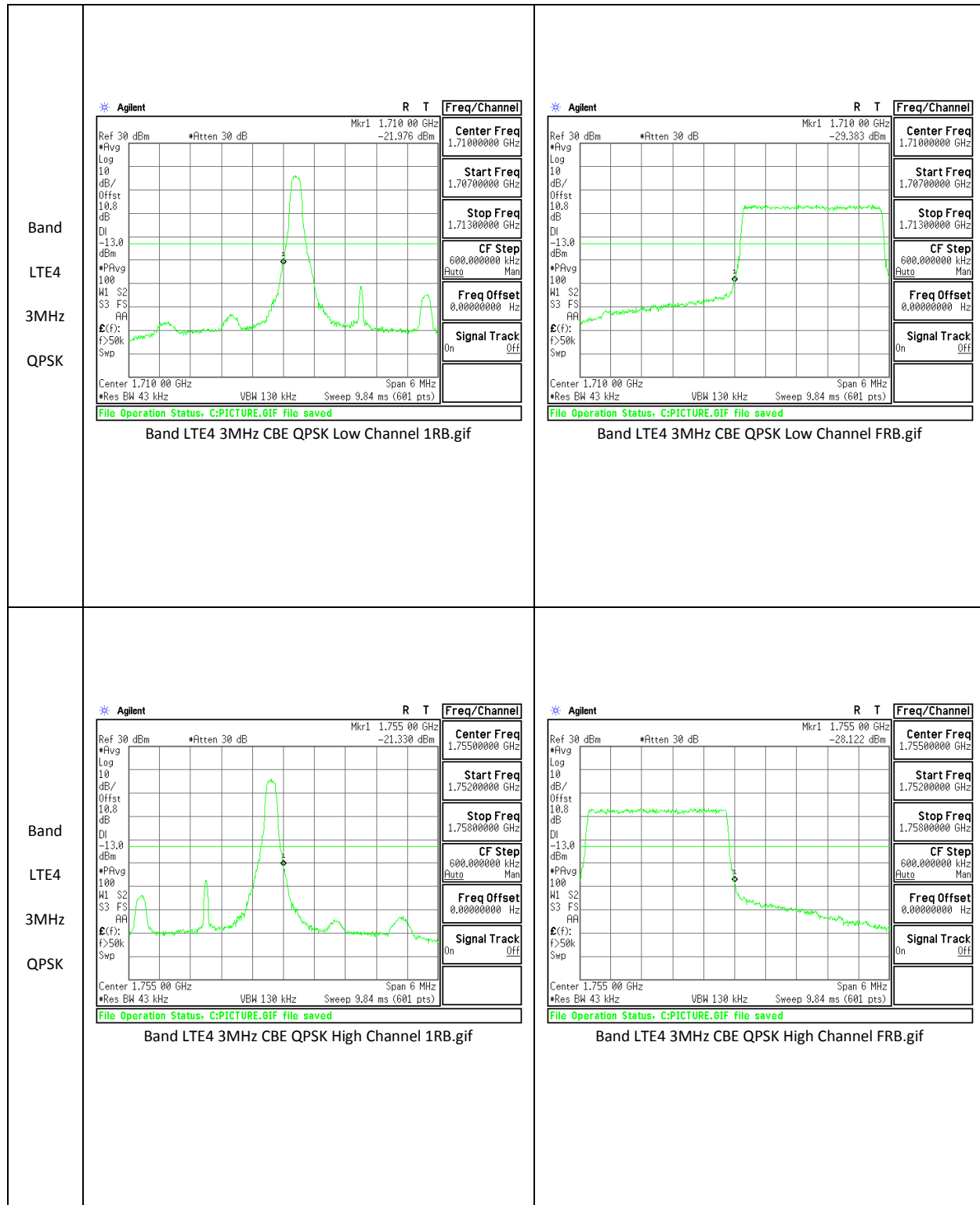
Signal Track On Off

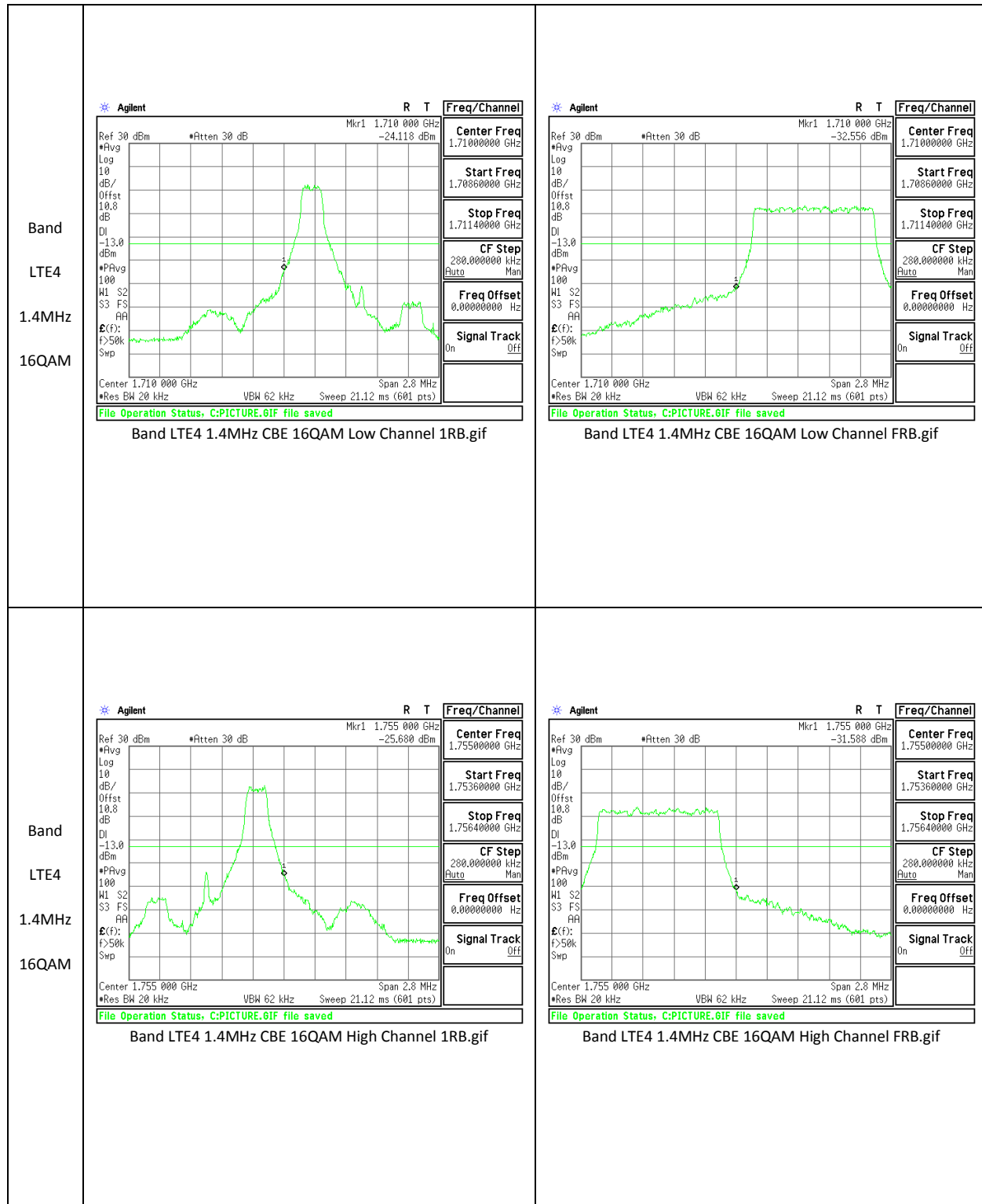
Center 1.755 00 GHz Span 6 MHz

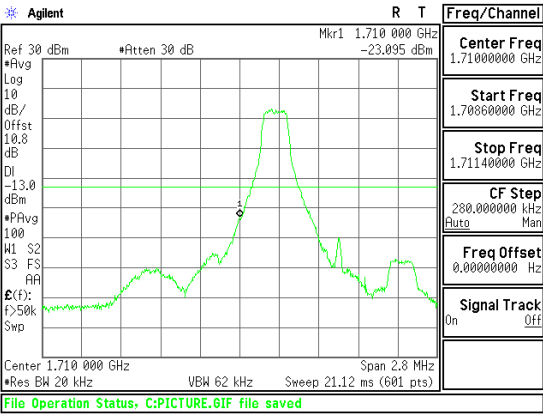
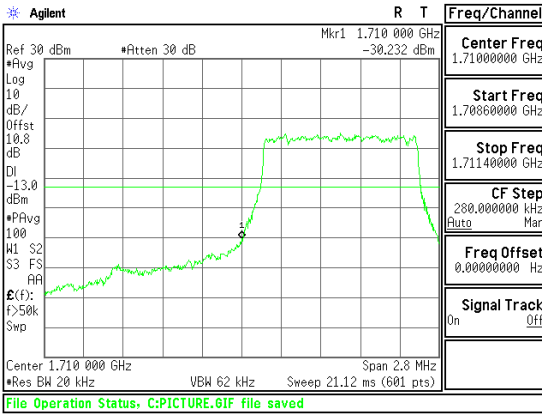
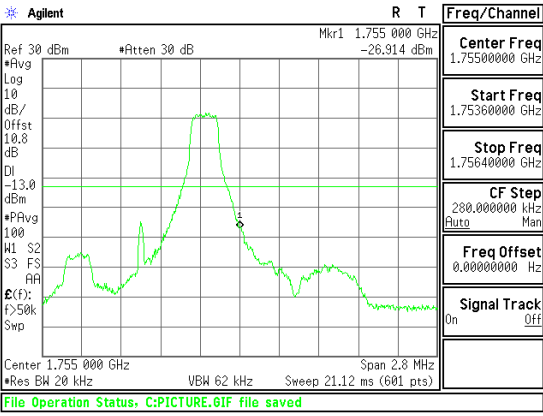
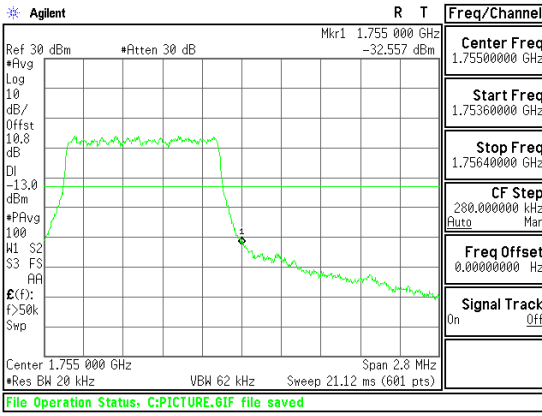
Res BW 43 kHz VBW 130 kHz Sweep 9.84 ms (601 pts)

File Operation Status, C:PICTURE.GIF file saved

Band LTE4 3MHz CBE 16QAM High Channel FRB.gif





Band LTE4 1.4MHz QPSK	 Agilent R T Freq/Channel Ref 30 dBm #Atten 30 dB Mkr1 1.710 000 GHz -23.095 dBm Center Freq 1.710000000 GHz Start Freq 1.706000000 GHz Stop Freq 1.714000000 GHz CF Step 200.000000 kHz Auto Man Freq Offset 0.000000000 Hz Signal Track On Off Center 1.710 000 GHz Span 2.8 MHz Res BW 20 kHz VBW 62 kHz Sweep 21.12 ms (601 pts) File Operation Status: C:PICTURE.GIF file saved Band LTE4 1.4MHz CBE QPSK Low Channel 1RB.gif
	 Agilent R T Freq/Channel Ref 30 dBm #Atten 30 dB Mkr1 1.710 000 GHz -30.232 dBm Center Freq 1.710000000 GHz Start Freq 1.706000000 GHz Stop Freq 1.714000000 GHz CF Step 200.000000 kHz Auto Man Freq Offset 0.000000000 Hz Signal Track On Off Center 1.710 000 GHz Span 2.8 MHz Res BW 20 kHz VBW 62 kHz Sweep 21.12 ms (601 pts) File Operation Status: C:PICTURE.GIF file saved Band LTE4 1.4MHz CBE QPSK Low Channel FRB.gif
Band LTE4 1.4MHz QPSK	 Agilent R T Freq/Channel Ref 30 dBm #Atten 30 dB Mkr1 1.755 000 GHz -26.914 dBm Center Freq 1.755000000 GHz Start Freq 1.753000000 GHz Stop Freq 1.756400000 GHz CF Step 200.000000 kHz Auto Man Freq Offset 0.000000000 Hz Signal Track On Off Center 1.755 000 GHz Span 2.8 MHz Res BW 20 kHz VBW 62 kHz Sweep 21.12 ms (601 pts) File Operation Status: C:PICTURE.GIF file saved Band LTE4 1.4MHz CBE QPSK High Channel 1RB.gif
	 Agilent R T Freq/Channel Ref 30 dBm #Atten 30 dB Mkr1 1.755 000 GHz -32.557 dBm Center Freq 1.755000000 GHz Start Freq 1.753000000 GHz Stop Freq 1.756400000 GHz CF Step 200.000000 kHz Auto Man Freq Offset 0.000000000 Hz Signal Track On Off Center 1.755 000 GHz Span 2.8 MHz Res BW 20 kHz VBW 62 kHz Sweep 21.12 ms (601 pts) File Operation Status: C:PICTURE.GIF file saved Band LTE4 1.4MHz CBE QPSK High Channel FRB.gif

10.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, and §27.53

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

Part 27: (m)(4) For mobile station, the attenuation factor shall be not less than $43+10\log(P)$ dB at the channel edge and $(55+10\log(P))$ dB at 5.5MHz from the channel edges.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

MODES TESTED

LTE

RESULTS

10.3.1. OUT OF BAND EMISSIONS RESULT

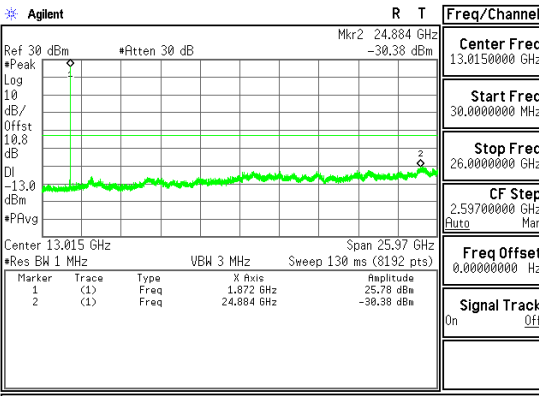
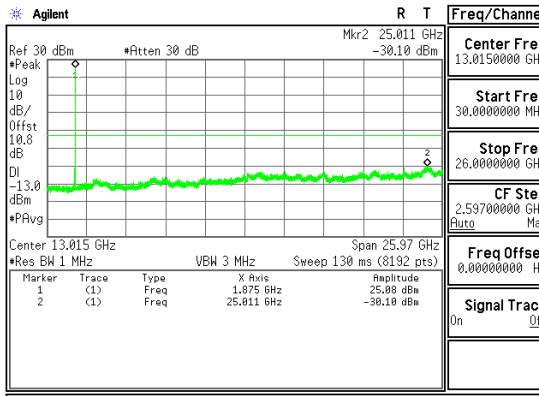
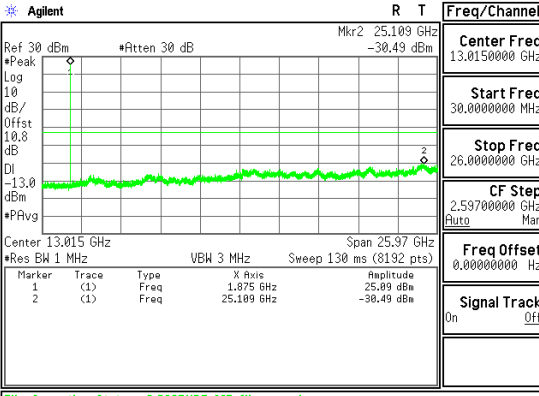
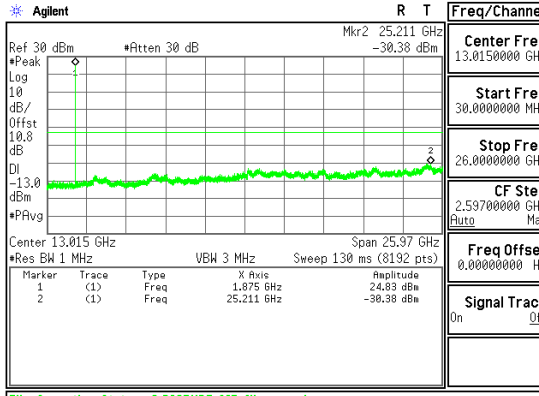
Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE25	20	QPSK	1860	-29.61	-13	-16.61
			1882.5	-29.85	-13	-16.85
			1905	-30.16	-13	-17.16
		16QAM	1860	-30.35	-13	-17.35
			1882.5	-30.51	-13	-17.51
			1905	-30.18	-13	-17.18
	15	QPSK	1857.5	-30.52	-13	-17.52
			1882.5	-30.27	-13	-17.27
			1907.5	-30.25	-13	-17.25
		16QAM	1857.5	-30.18	-13	-17.18
			1882.5	-30.49	-13	-17.49
			1907.5	-29.53	-13	-16.53
	10	QPSK	1855	-30.06	-13	-17.06
			1882.5	-30.38	-13	-17.38
			1910	-30.05	-13	-17.95
		16QAM	1855	-30.28	-13	-17.28
			1882.5	-29.76	-13	-16.76
			1910	-29.66	-13	-16.66
	3	QPSK	1851.5	-29.65	-13	-16.65
			1882.5	-29.35	-13	-16.35
			1913.5	-29.51	-13	-16.51
		16QAM	1851.5	-30.62	-13	-17.62
			1882.5	-30.39	-13	-17.39
			1913.5	-30.30	-13	-17.30
	1.4	QPSK	1850.7	-29.72	-13	-16.72
			1882.5	-30.38	-13	-17.38
			1914.3	-30.17	-13	-17.17
		16QAM	1850.7	-29.94	-13	-16.94
			1882.5	-30.10	-13	-17.10
			1914.3	-29.23	-13	-16.23

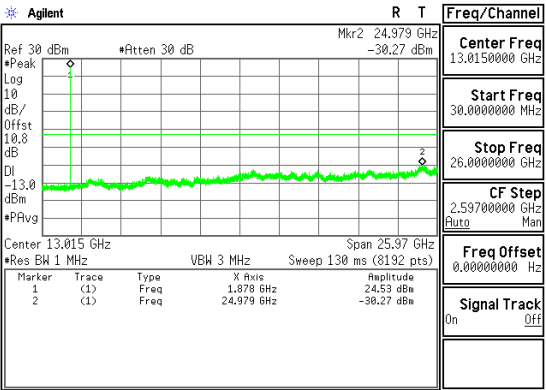
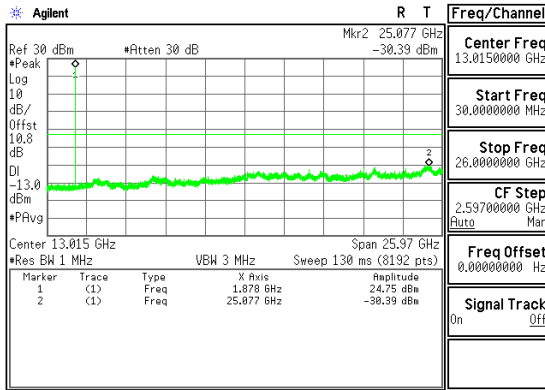
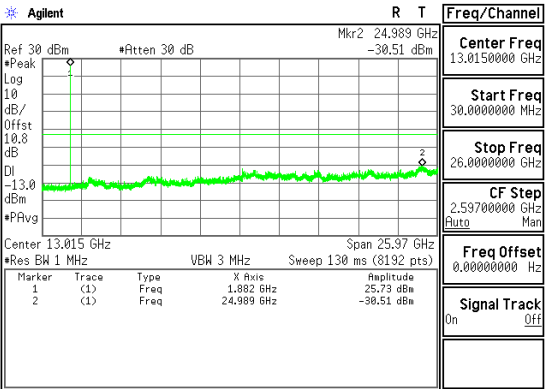
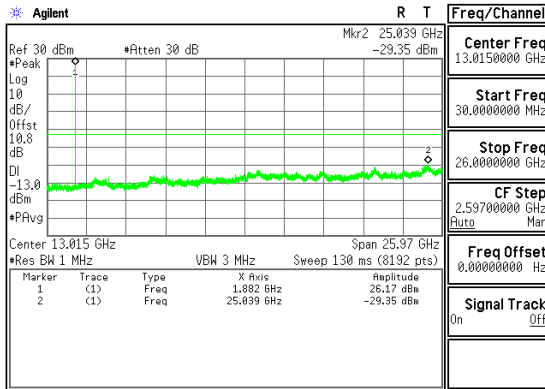
Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE12	3	QPSK	700.5	-30.371	-13	-17.371
			707.5	-30.186	-13	-17.186
			714.5	-30.411	-13	-17.411
		16QAM	700.5	-29.067	-13	-16.067
			707.5	-30.472	-13	-17.472
			714.5	-30.256	-13	-17.256
	1.4	QPSK	699.7	-30.000	-13	-17.000
			707.5	-29.418	-13	-16.418
			715.3	-29.902	-13	-16.902
		16QAM	699.7	-30.618	-13	-17.618
			707.5	-30.134	-13	-17.134
			715.3	-29.620	-13	-16.620

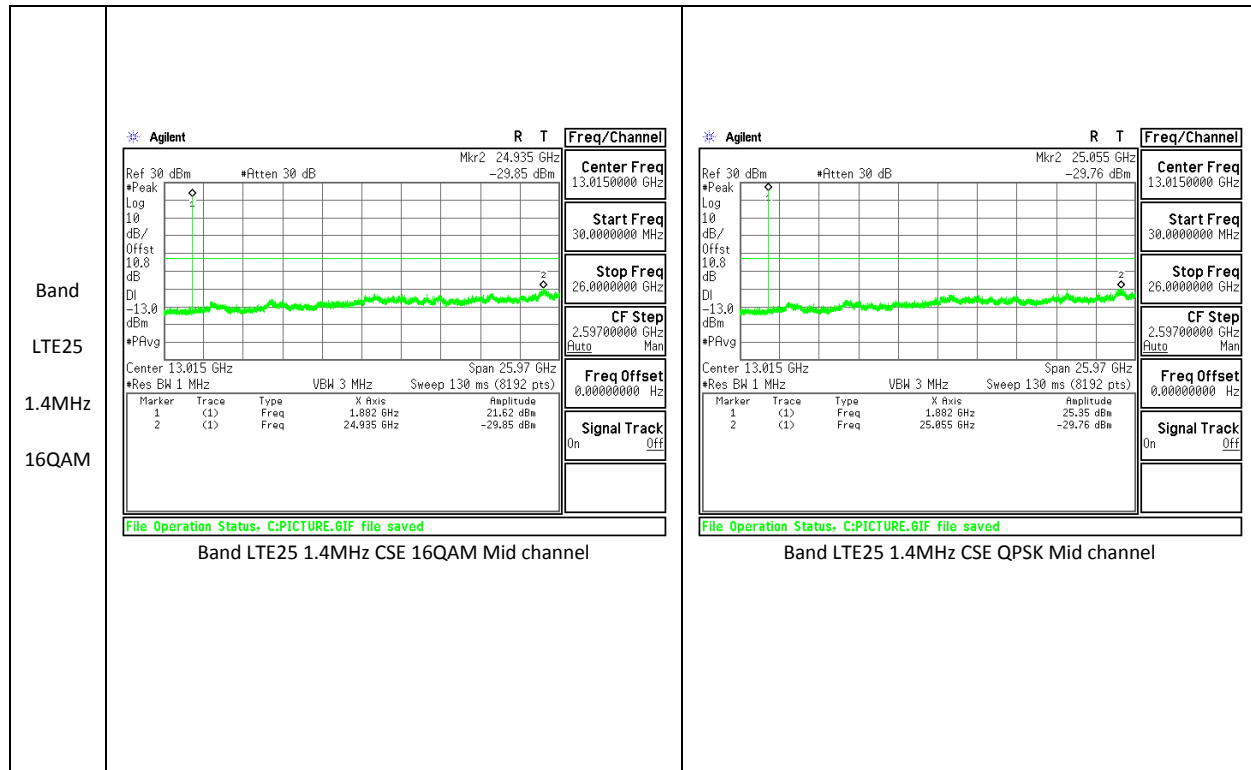
Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE4	3	QPSK	1711.5	-29.034	-13	-16.034
			1732.5	-30.132	-13	-17.132
			1753.5	-30.543	-13	-17.543
		16QAM	1711.5	-29.732	-13	-16.732
			1732.5	-29.585	-13	-16.585
			1753.5	-29.752	-13	-16.752
	1.4	QPSK	1710.7	-30.651	-13	-17.651
			1732.5	-30.447	-13	-17.447
			1754.3	-30.253	-13	-17.253
		16QAM	1710.7	-30.148	-13	-17.148
			1732.5	-30.497	-13	-17.497
			1754.3	-29.403	-13	-16.403

10.3.2. OUT OF BAND EMISSIONS PLOTS

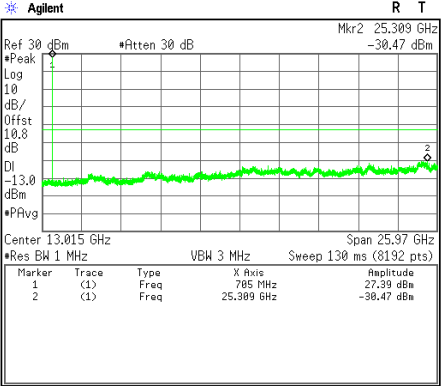
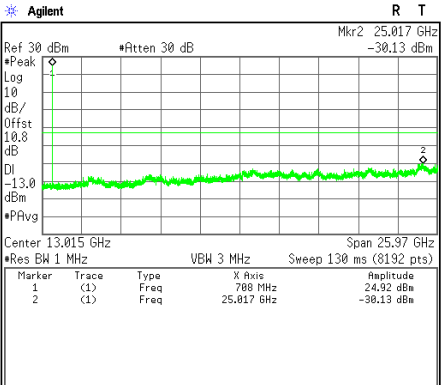
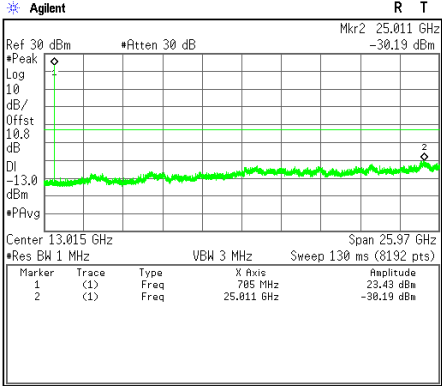
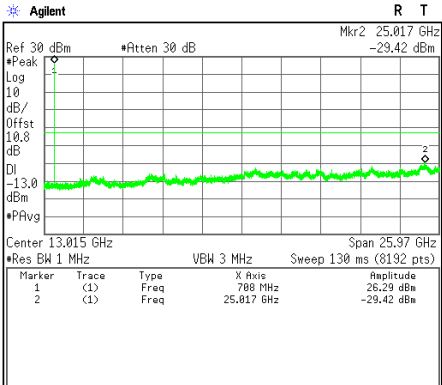
LTE Band 25

Band LTE25 20MHz 16QAM	 File Operation Status: C:PICTURE.GIF file saved Band LTE25 20MHz CSE 16QAM Mid channel	 File Operation Status: C:PICTURE.GIF file saved Band LTE25 20MHz CSE QPSK Mid channel
Band LTE25 15MHz 16QAM	 File Operation Status: C:PICTURE.GIF file saved Band LTE25 15MHz CSE 16QAM Mid channel	 File Operation Status: C:PICTURE.GIF file saved Band LTE25 15MHz CSE QPSK Mid channel

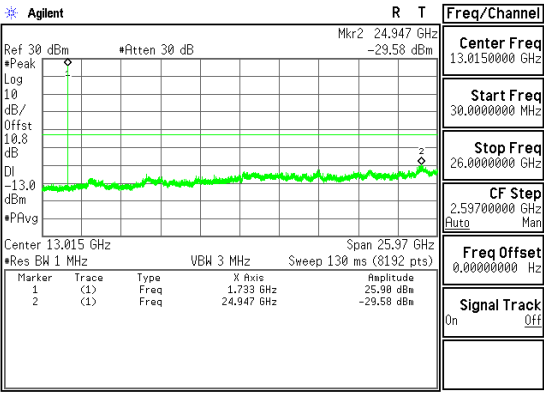
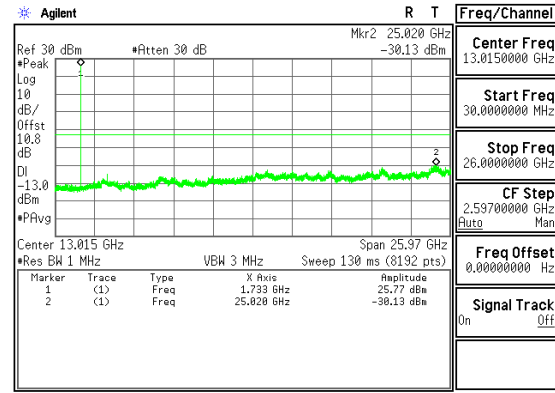
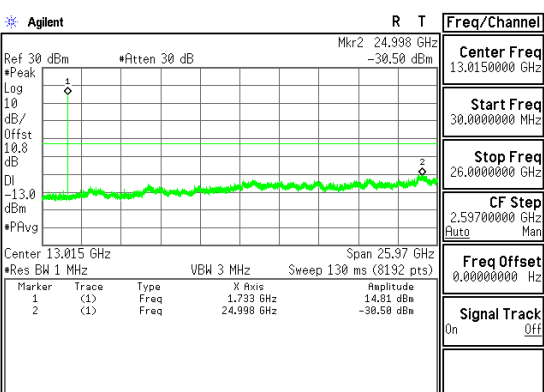
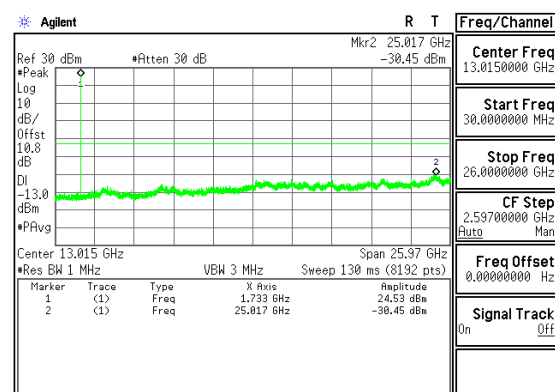
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Band LTE25 3MHz 16QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE25 3MHz CSE 16QAM Mid channel	 File Operation Status, C:PICTURE.GIF file saved Band LTE25 3MHz CSE QPSK Mid channel



LTE Band 12

Band LTE12 3MHz 16QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE12 3MHz CSE 16QAM Mid channel
Band LTE12 1.4MHz 16QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE12 1.4MHz CSE 16QAM Mid channel
 File Operation Status, C:PICTURE.GIF file saved Band LTE12 3MHz CSE QPSK Mid channel	 File Operation Status, C:PICTURE.GIF file saved Band LTE12 1.4MHz CSE QPSK Mid channel

LTE Band 4

Band LTE4 3MHz 16QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE4 3MHz CSE 16QAM Mid channel
	 File Operation Status, C:PICTURE.GIF file saved Band LTE4 3MHz CSE QPSK Mid channel
Band LTE4 1.4MHz 16QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE4 1.4MHz CSE 16QAM Mid channel
	 File Operation Status, C:PICTURE.GIF file saved Band LTE4 1.4MHz CSE QPSK Mid channel

11. RADIATED TEST RESULTS

11.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, and §27

LIMITS

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50(b) - (10) Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP. (LTE B13)

27.50(c) - (10) Portable stations (hand-held devices) are limited to 3 watts ERP; (LTE B17)

27.50(d) - (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.(Band 4)

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17; PSA setting reference to 971168 D01 v02r02

For peak power measurement with a PSA:

a) Set the RBW $\geq$ OBW; b) Set VBW $\geq 3 \times$ RBW; c) Set span $\geq 2 \times$ RBW; d) Sweep time = auto couple; e) Detector = peak; f) Ensure that the number of measurement points $\geq$ span/RBW; g) Trace mode = max hold;

For average power measurement with a PSA:

a) Set span to at least 1.5 times the OBW; b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz; c) Set VBW $\geq 3 \times$ RBW; d) Set number of points in sweep $\geq 2 \times$ span / RBW; e) Sweep time = auto-couple; f) Detector = RMS (power averaging); g) Use free run trigger If burst duty cycle ≥ 98 ; h) Use trigger to capture bursts If burst duty cycle < 98 ; i) Trace average at least 100 traces in power averaging (*i.e.*, RMS) mode. j) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function.

MODES TESTED

CDMA and LTE

TEST RESULTS

11.1.1. ERP/EIRP Results

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC1	1xRTT	25	1851.25	25.05	319.89
		600	1880	25.33	341.19
		1175	1908.75	25.04	318.79
	EVDO REL. 0	25	1851.25	24.43	277.33
		600	1880	24.17	261.22
		1175	1908.75	24.40	275.42

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
BC0	1xRTT	1013	824.7	17.57	57.15
		384	836.52	19.41	87.24
		777	848.31	19.55	90.16
	EVDO REL. 0	1013	824.7	18.07	64.12
		384	836.52	19.97	99.31
		777	848.31	20.24	105.68

11.1.2. LTE ERP/EIRP Results

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	20	QPSK	1/0	1860	24.84	304.79
			1/0	1882.5	24.43	277.33
			1/0	1905	25.25	334.58
		16QAM	1/0	1860	23.75	237.14
			1/0	1882.5	24.15	260.02
			1/0	1905	25.09	322.48
	15	QPSK	1/0	1857.5	24.83	304.09
			1/0	1882.5	25.11	324.34
			1/0	1907.5	25.24	333.81
		16QAM	1/0	1857.5	24.60	288.4
			1/0	1882.5	24.41	276.06
			1/0	1907.5	24.34	271.33
	10	QPSK	1/0	1855	24.59	287.74
			1/0	1882.5	25.03	318.42
			1/0	1910	25.01	316.59
		16QAM	1/0	1855	23.75	237.14
			1/0	1882.5	24.63	290.4
			1/0	1910	23.97	249.17
	5	QPSK	1/0	1852.5	24.92	310.46
			1/0	1882.5	24.76	299.23
			1/0	1912.5	24.94	311.53
		16QAM	1/0	1852.5	24.55	285.1
			1/0	1882.5	23.87	243.78
			1/0	1912.5	24.24	265.16

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE25	3	QPSK	1/0	1851.5	24.98	314.77
			1/0	1882.5	24.63	290.4
			1/0	1913.5	25.21	331.51
		16QAM	1/0	1851.5	24.65	291.74
			1/0	1882.5	23.4	218.78
			1/0	1913.5	24.26	267.61
	1.4	QPSK	1/0	1850.7	24.85	305.49
			1/0	1882.5	24.49	281.19
			1/0	1914.3	24.64	290.74
		16QAM	1/0	1850.7	24.35	272.27
			1/0	1882.5	24.3	269.15
			1/0	1914.3	23.74	236.32

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE17	10	QPSK	1/0	709	15.75	37.58
			1/0	710	15.5	35.48
			1/0	711	16.61	45.81
		16QAM	1/0	709	14.92	31.05
			1/0	710	15.4	34.67
			1/0	711	16.27	42.36
	5	QPSK	1/0	706.5	15.61	36.39
			1/0	710	16.08	40.55
			1/0	713.5	16.19	41.59
		16QAM	1/0	706.5	14.75	29.85
			1/0	710	15.22	33.27
			1/0	713.5	15.71	37.24

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE12	10	QPSK	1/0	704	15.75	37.58
			1/0	707.5	15.5	35.48
			1/0	711	16.61	45.81
		16QAM	1/0	704	14.92	31.05
			1/0	707.5	15.40	34.67
			1/0	711	16.27	42.36
	5	QPSK	1/0	701.5	15.61	36.39
			1/0	707.5	16.08	40.55
			1/0	713.5	16.19	41.59
		16QAM	1/0	701.5	14.75	29.85
			1/0	707.5	15.22	33.27
			1/0	713.5	15.71	37.24
	3	QPSK	1/0	700.5	15.61	36.39
			1/0	707.5	16.08	40.55
			1/0	714.5	16.19	41.59
		16QAM	1/0	700.5	14.75	29.85
			1/0	707.5	15.22	33.27
			1/0	714.5	15.71	37.24
	1.4	QPSK	1/0	699.7	15.83	38.28
			1/0	707.5	16.3	42.66
			1/0	715.3	16.41	43.75
		16QAM	1/0	699.7	14.80	30.2
			1/0	707.5	15.27	33.65
			1/0	715.3	15.76	37.67

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	10	QPSK	1/0	829	19.37	86.52
			1/0	836.5	19.73	93.99
			1/0	844	20.88	122.49
		16QAM	1/0	829	18.44	69.84
			1/0	836.5	18.65	73.3
			1/0	844	19.83	96.18
	5	QPSK	1/0	826.5	19.24	83.97
			1/0	836.5	19.91	97.97
			1/0	846.5	20.37	108.92
		16QAM	1/0	826.5	18.30	67.62
			1/0	836.5	18.88	77.29
			1/0	846.5	19.29	84.94
	3	QPSK	1/0	825.5	19.02	79.82
			1/0	836.5	19.91	97.97
			1/0	847.5	20.75	118.88
		16QAM	1/0	825.5	18.17	65.63
			1/0	836.5	18.81	76.05
			1/0	847.5	19.86	96.85
	1.4	QPSK	1/0	824.7	20.50	112.23
			1/0	836.5	19.97	99.33
			1/0	848.3	19.65	92.28
		16QAM	1/0	824.7	20.20	104.74
			1/0	836.5	19.59	91.01
			1/0	848.3	19.39	86.92

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	20	QPSK	1/0	1720	22.87	193.81
			1/0	1732.5	22.31	170.22
			1/0	1745	22.68	185.54
		16QAM	1/0	1720	21.53	142.36
			1/0	1732.5	21.86	153.46
			1/0	1745	22.18	165.36
	15	QPSK	1/0	1717.5	23.99	250.78
			1/0	1732.5	23.90	245.47
			1/0	1747.5	23.93	246.9
		16QAM	1/0	1717.5	23.69	234.04
			1/0	1732.5	23.11	204.65
			1/0	1747.5	23.20	208.7
	10	QPSK	1/0	1715	24.05	254.22
			1/0	1732.5	23.11	204.65
			1/0	1750	23.49	223.15
		16QAM	1/0	1715	23.80	240
			1/0	1732.5	21.89	154.53
			1/0	1750	22.19	165.42
	5	QPSK	1/0	1712.5	23.98	250.11
			1/0	1732.5	23.65	231.74
			1/0	1752.5	23.84	241.93
		16QAM	1/0	1712.5	23.13	205.65
			1/0	1732.5	22.69	185.78
			1/0	1752.5	22.97	198.01

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE4	3	QPSK	1/0	1711.5	24.13	259.11
			1/0	1732.5	23.74	236.59
			1/0	1753.5	23.94	247.92
		16QAM	1/0	1711.5	23.86	243.5
			1/0	1732.5	23.20	208.93
			1/0	1753.5	23.58	228.2
	1.4	QPSK	1/0	1710.7	24.09	256.32
			1/0	1732.5	23.71	234.97
			1/0	1754.3	23.94	247.76
		16QAM	1/0	1710.7	23.82	240.87
			1/0	1732.5	23.31	214.29
			1/0	1754.3	23.45	221.32

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	20	QPSK	1/0	1860	25.13	326.02
			1/0	1880	26.22	418.77
			1/0	1900	25.66	367.87
		16QAM	1/0	1860	24.06	254.83
			1/0	1880	25.77	377.55
			1/0	1900	24.87	306.69
	15	QPSK	1/0	1857.5	25.04	319.34
			1/0	1880	25.55	358.91
			1/0	1902.5	25.29	337.83
		16QAM	1/0	1857.5	24.27	267.39
			1/0	1880	25.01	316.94
			1/0	1902.5	25.02	317.47
	10	QPSK	1/0	1855	24.18	261.91
			1/0	1880	25.13	325.82
			1/0	1905	24.79	301.09
		16QAM	1/0	1855	23.51	224.47
			1/0	1880	24.54	284.43
			1/0	1905	23.16	206.87
	5	QPSK	1/0	1852.5	24.84	304.97
			1/0	1880	24.92	310.44
			1/0	1907.5	25.55	358.67
		16QAM	1/0	1852.5	23.86	243.36
			1/0	1880	24.07	255.26
			1/0	1907.5	24.27	267.12

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE2	3	QPSK	1/0	1851.5	24.95	312.79
			1/0	1880	25.46	351.54
			1/0	1908.5	25.88	386.99
		16QAM	1/0	1851.5	23.89	245.05
			1/0	1880	24.82	303.38
			1/0	1908.5	25.42	348.1
	1.4	QPSK	1/0	1850.7	24.60	288.57
			1/0	1880	25.35	342.75
			1/0	1909.3	25.96	394.18
		16QAM	1/0	1850.7	23.77	238.37
			1/0	1880	23.96	248.87
			1/0	1909.3	24.08	255.68

11.1.3. ERP/EIRP PLOTS

LTE Band 25

Band LTE25 20MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_16QAM Band 25 Fundamentals, 20MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60 Substitution, and 8ft SMA Cable								
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
	Low Ch								
	1860.00	12.43	V	0.9	9.2	20.73	30.0	-9.3	
	1860.00	15.45	H	0.9	9.2	23.75	30.0	-6.3	
	Mid Ch								
	1882.50	12.23	V	0.9	9.1	20.43	30.0	-9.6	
	1882.50	15.95	H	0.9	9.1	24.15	30.0	-5.9	
	High Ch								
	1905.00	12.00	V	0.9	9.1	20.20	30.0	-9.8	
	1905.00	16.89	H	0.9	9.1	25.09	30.0	-4.9	

Band LTE25 20MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_QPSK Band 25 Fundamentals, 20MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60 Substitution, and 8ft SMA Cable <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>f MHz</th> <th>SG reading (dBm)</th> <th>Ant. Pol. (H/V)</th> <th>Cable Loss (dB)</th> <th>Antenna Gain (dBi)</th> <th>EIRP (dBm)</th> <th>Limit (dBm)</th> <th>Delta (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Low Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1860.00</td> <td>13.03</td> <td>V</td> <td>0.9</td> <td>9.2</td> <td>21.33</td> <td>30.0</td> <td>-8.7</td> <td></td> </tr> <tr> <td>1860.00</td> <td>16.54</td> <td>H</td> <td>0.9</td> <td>9.2</td> <td>24.84</td> <td>30.0</td> <td>-5.2</td> <td></td> </tr> <tr> <td>Mid Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1882.50</td> <td>13.31</td> <td>V</td> <td>0.9</td> <td>9.1</td> <td>21.51</td> <td>30.0</td> <td>-8.5</td> <td></td> </tr> <tr> <td>1882.50</td> <td>16.23</td> <td>H</td> <td>0.9</td> <td>9.1</td> <td>24.43</td> <td>30.0</td> <td>-5.6</td> <td></td> </tr> <tr> <td>High Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1905.00</td> <td>13.40</td> <td>V</td> <td>0.9</td> <td>9.1</td> <td>21.60</td> <td>30.0</td> <td>-8.4</td> <td></td> </tr> <tr> <td>1905.00</td> <td>17.05</td> <td>H</td> <td>0.9</td> <td>9.1</td> <td>25.25</td> <td>30.0</td> <td>-4.8</td> <td></td> </tr> </tbody> </table>	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									1860.00	13.03	V	0.9	9.2	21.33	30.0	-8.7		1860.00	16.54	H	0.9	9.2	24.84	30.0	-5.2		Mid Ch									1882.50	13.31	V	0.9	9.1	21.51	30.0	-8.5		1882.50	16.23	H	0.9	9.1	24.43	30.0	-5.6		High Ch									1905.00	13.40	V	0.9	9.1	21.60	30.0	-8.4		1905.00	17.05	H	0.9	9.1	25.25	30.0	-4.8	
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																			
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1860.00	13.03	V	0.9	9.2	21.33	30.0	-8.7																																																																																				
1860.00	16.54	H	0.9	9.2	24.84	30.0	-5.2																																																																																				
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1882.50	13.31	V	0.9	9.1	21.51	30.0	-8.5																																																																																				
1882.50	16.23	H	0.9	9.1	24.43	30.0	-5.6																																																																																				
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1905.00	17.05	H	0.9	9.1	25.25	30.0	-4.8																																																																																				

Band

LTE25

15MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60 Substitution, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	10.93	V	0.9	9.2	19.23	30.0	-10.8	
1857.50	16.30	H	0.9	9.2	24.60	30.0	-5.4	
Mid Ch								
1882.50	11.40	V	0.9	9.1	19.60	30.0	-10.4	
1882.50	16.21	H	0.9	9.1	24.41	30.0	-5.6	
High Ch								
1907.50	11.80	V	0.9	9.1	20.00	30.0	-10.0	
1907.50	16.14	H	0.9	9.1	24.34	30.0	-5.7	

Band

LTE25

15MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I19900

2/24/2015

R.Z

X-pos EUT Only

Chamber G

LTE_QPSK Band 25 Fundamentals, 15MHz Bandwidth

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60 Substitution, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	11.83	V	0.9	9.2	20.13	30.0	-9.9	
1857.50	16.53	H	0.9	9.2	24.83	30.0	-5.2	
Mid Ch								
1882.50	12.05	V	0.9	9.1	20.25	30.0	-9.8	
1882.50	16.91	H	0.9	9.1	25.11	30.0	-4.9	
High Ch								
1907.50	12.40	V	0.9	9.1	20.60	30.0	-9.4	
1907.50	17.04	H	0.9	9.1	25.24	30.0	-4.8	

Band

LTE25

10MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60 Substitution, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	10.97	V	0.9	9.2	19.27	30.0	-10.7	
1855.00	15.45	H	0.9	9.2	23.75	30.0	-6.3	
Mid Ch								
1882.50	11.51	V	0.9	9.1	19.71	30.0	-10.3	
1882.50	16.43	H	0.9	9.1	24.63	30.0	-5.4	
High Ch								
1910.00	11.40	V	0.9	9.1	19.60	30.0	-10.4	
1910.00	15.77	H	0.9	9.1	23.97	30.0	-6.0	

Band

LTE25

10MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60 Substitution, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	11.57	V	0.9	9.2	19.87	30.0	-10.1	
1855.00	16.29	H	0.9	9.2	24.59	30.0	-5.4	
Mid Ch								
1882.50	12.14	V	0.9	9.1	20.34	30.0	-9.7	
1882.50	16.83	H	0.9	9.1	25.03	30.0	-5.0	
High Ch								
1910.00	12.43	V	0.9	9.1	20.63	30.0	-9.4	
1910.00	16.81	H	0.9	9.1	25.01	30.0	-5.0	

Band LTE25 1.4MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_QPSK Band 25 Fundamentals, 1.4MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60 Substitution, and 8ft SMA Cable							
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)
	Low Ch							
	1850.70	12.99	V	0.9	9.2	21.29	30.0	-8.7
	1850.70	16.55	H	0.9	9.2	24.85	30.0	-5.2
	Mid Ch							
	1882.50	12.84	V	0.9	9.1	21.04	30.0	-9.0
	1882.50	16.29	H	0.9	9.1	24.49	30.0	-5.5
	High Ch							
	1914.30	13.70	V	0.9	9.1	21.90	30.0	-8.1
	1914.30	16.44	H	0.9	9.1	24.64	30.0	-5.4

LTE Band 17

Band LTE17 10MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc.																																																																																																	
	Company:		LG																																																																																															
	Project #:		15I19900																																																																																															
	Date:		2/24/2015																																																																																															
	Test Engineer:		R.Z																																																																																															
	Configuration:		X-pos EUT Only																																																																																															
	Location:		Chamber G																																																																																															
	Mode:		LTE_16QAM Band 12 Fundamentals, 10MHz Bandwidth																																																																																															
	Test Equipment:																																																																																																	
	Receiving: Sunol T899, and Chamber G Cable Substitution: Dipole S/N: 00022117, and 8ft SMA Cable																																																																																																	
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711.00	17.17	H	0.9	0.0	16.27	34.8	-18.5																																																																																											

Band

LTE17

10MHz

QPSK

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19900
Date: 2/24/2015
Test Engineer: R.Z
Configuration: X-pos EUT Only
Location: Chamber G
Mode: LTE_QPSK Band 17 Fundamentals, 10MHz Bandwidth

Test Equipment:
Receiving: Sunol T899, and Chamber G Cable
Substitution: Dipole S/N: 00022117, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
709.00	7.47	V	0.9	0.0	6.57	34.8	-28.2	
709.00	16.65	H	0.9	0.0	15.75	34.8	-19.0	
Mid Ch								
710.00	7.93	V	0.9	0.0	7.03	34.8	-27.7	
710.00	16.40	H	0.9	0.0	15.50	34.8	-19.3	
High Ch								
711.00	9.67	V	0.9	0.0	8.77	34.8	-26.0	
711.00	17.51	H	0.9	0.0	16.61	34.8	-18.2	

Band LTE17 5MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_16QAM Band 17 Fundamentals, 5MHz Bandwidth Test Equipment: Receiving: Sunol T899, and Chamber G Cable Substitution: Dipole S/N: 00022117, and 8ft SMA Cable <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>f MHz</th> <th>SG reading (dBm)</th> <th>Ant. Pol. (H/V)</th> <th>Cable Loss (dB)</th> <th>Antenna Gain (dBd)</th> <th>ERP (dBm)</th> <th>Limit (dBm)</th> <th>Delta (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td>Low Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>706.50</td> <td>6.60</td> <td>V</td> <td>0.9</td> <td>0.0</td> <td>5.70</td> <td>34.8</td> <td>-29.1</td> <td></td> </tr> <tr> <td>706.50</td> <td>15.65</td> <td>H</td> <td>0.9</td> <td>0.0</td> <td>14.75</td> <td>34.8</td> <td>-20.0</td> <td></td> </tr> <tr> <td>Mid Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>710.00</td> <td>7.38</td> <td>V</td> <td>0.9</td> <td>0.0</td> <td>6.48</td> <td>34.8</td> <td>-28.3</td> <td></td> </tr> <tr> <td>710.00</td> <td>16.12</td> <td>H</td> <td>0.9</td> <td>0.0</td> <td>15.22</td> <td>34.8</td> <td>-19.6</td> <td></td> </tr> <tr> <td>High Ch</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>713.50</td> <td>9.30</td> <td>V</td> <td>0.9</td> <td>0.0</td> <td>8.40</td> <td>34.8</td> <td>-26.4</td> <td></td> </tr> <tr> <td>713.50</td> <td>16.61</td> <td>H</td> <td>0.9</td> <td>0.0</td> <td>15.71</td> <td>34.8</td> <td>-19.1</td> <td></td> </tr> </tbody> </table>	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes	Low Ch									706.50	6.60	V	0.9	0.0	5.70	34.8	-29.1		706.50	15.65	H	0.9	0.0	14.75	34.8	-20.0		Mid Ch									710.00	7.38	V	0.9	0.0	6.48	34.8	-28.3		710.00	16.12	H	0.9	0.0	15.22	34.8	-19.6		High Ch									713.50	9.30	V	0.9	0.0	8.40	34.8	-26.4		713.50	16.61	H	0.9	0.0	15.71	34.8	-19.1	
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Band

LTE17

5MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I19900

2/24/2015

R.Z

X-pos EUT Only

Chamber G

LTE_QPSK Band 17 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Sunol T899, and Chamber G Cable

Substitution: Dipole S/N: 00022117, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
706.50	7.57	V	0.9	0.0	6.67	34.8	-28.1	
706.50	16.51	H	0.9	0.0	15.61	34.8	-19.2	
Mid Ch								
710.00	7.52	V	0.9	0.0	6.62	34.8	-28.2	
710.00	16.98	H	0.9	0.0	16.08	34.8	-18.7	
High Ch								
713.50	8.96	V	0.9	0.0	8.06	34.8	-26.7	
713.50	17.09	H	0.9	0.0	16.19	34.8	-18.6	

LTE Band 12

Band

LTE12

10MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Sunol T899, and Chamber G Cable

Substitution: Dipole S/N: 00022117, and 8ft SMA Cable

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	Limit	Delta	Notes
MHz	(dBm)	(H/V)	(dB)	(dBd)	(dBm)	(dBm)	(dB)	
Low Ch								
704.00	6.74	V	0.9	0.0	5.84	34.8	-28.9	
704.00	15.82	H	0.9	0.0	14.92	34.8	-19.9	
Mid Ch								
707.50	7.23	V	0.9	0.0	6.33	34.8	-28.4	
707.50	16.30	H	0.9	0.0	15.40	34.8	-19.4	
High Ch								
711.00	8.92	V	0.9	0.0	8.02	34.8	-26.8	
711.00	17.17	H	0.9	0.0	16.27	34.8	-18.5	

Band LTE12 10MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc.																																																																																																
	Company:		LG																																																																																														
	Project #:		15I19900																																																																																														
	Date:		2/24/2015																																																																																														
	Test Engineer:		R.Z																																																																																														
	Configuration:		X-pos EUT Only																																																																																														
	Location:		Chamber G																																																																																														
	Mode:		LTE_QPSK Band 12 Fundamentals, 10MHz Bandwidth																																																																																														
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f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes																																																																																									
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Band

LTE12

5MHz

16QAM

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19900
Date: 2/24/2015
Test Engineer: R.Z
Configuration: X-pos EUT Only
Location: Chamber G
Mode: LTE_16QAM Band 12 Fundamentals, 5MHz Bandwidth

Test Equipment:
Receiving: Sunol T899, and Chamber G Cable
Substitution: Dipole S/N: 00022117, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	6.60	V	0.9	0.0	5.70	34.8	-29.1	
701.50	15.65	H	0.9	0.0	14.75	34.8	-20.0	
Mid Ch								
707.50	7.38	V	0.9	0.0	6.48	34.8	-28.3	
707.50	16.12	H	0.9	0.0	15.22	34.8	-19.6	
High Ch								
713.50	9.30	V	0.9	0.0	8.40	34.8	-26.4	
713.50	16.61	H	0.9	0.0	15.71	34.8	-19.1	

Band

LTE12

5MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I19900

2/24/2015

R.Z

X-pos EUT Only

Chamber G

LTE_QPSK Band 12 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Sunol T899, and Chamber G Cable

Substitution: Dipole S/N: 00022117, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
701.50	7.57	V	0.9	0.0	6.67	34.8	-28.1	
701.50	16.51	H	0.9	0.0	15.61	34.8	-19.2	
Mid Ch								
707.50	7.52	V	0.9	0.0	6.62	34.8	-28.2	
707.50	16.98	H	0.9	0.0	16.08	34.8	-18.7	
High Ch								
713.50	8.96	V	0.9	0.0	8.06	34.8	-26.7	
713.50	17.09	H	0.9	0.0	16.19	34.8	-18.6	

Band

LTE12

3MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company: LG

Project #: 15I19900

Date: 2/24/2015

Test Engineer: R.Z

Configuration: X-pos EUT Only

Location: Chamber G

Mode: LTE_16QAM Band 12 Fundamentals, 3MHz Bandwidth

Test Equipment:

Receiving: Sunol T899, and Chamber G Cable

Substitution: Dipole S/N: 00022117, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	6.60	V	0.9	0.0	5.70	34.8	-29.1	
700.50	15.65	H	0.9	0.0	14.75	34.8	-20.0	
Mid Ch								
707.50	7.38	V	0.9	0.0	6.48	34.8	-28.3	
707.50	16.12	H	0.9	0.0	15.22	34.8	-19.6	
High Ch								
714.50	9.30	V	0.9	0.0	8.40	34.8	-26.4	
714.50	16.61	H	0.9	0.0	15.71	34.8	-19.1	

Band

LTE12

3MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I19900

2/24/2015

R.Z

X-pos EUT Only

Chamber G

LTE_QPSK Band 12 Fundamentals, 3MHz Bandwidth

Test Equipment:

Receiving: Sunol T899, and Chamber G Cable

Substitution: Dipole S/N: 00022117, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
700.50	7.57	V	0.9	0.0	6.67	34.8	-28.1	
700.50	16.51	H	0.9	0.0	15.61	34.8	-19.2	
Mid Ch								
707.50	7.52	V	0.9	0.0	6.62	34.8	-28.2	
707.50	16.98	H	0.9	0.0	16.08	34.8	-18.7	
High Ch								
714.50	8.96	V	0.9	0.0	8.06	34.8	-26.7	
714.50	17.09	H	0.9	0.0	16.19	34.8	-18.6	

Band

LTE12

1.4MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Sunol T899, and Chamber G Cable

Substitution: Dipole S/N: 00022117, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
699.70	7.79	V	0.9	0.0	6.89	34.8	-27.9	
699.70	16.73	H	0.9	0.0	15.83	34.8	-18.9	
Mid Ch								
707.50	7.74	V	0.9	0.0	6.84	34.8	-27.9	
707.50	17.20	H	0.9	0.0	16.30	34.8	-18.5	
High Ch								
715.30	9.18	V	0.9	0.0	8.28	34.8	-26.5	
715.30	17.31	H	0.9	0.0	16.41	34.8	-18.4	

LTE Band 5

Band LTE5 10MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc. Chamber A Company: LG Project #: 15I19900 Date: 02/23/15 Test Engineer: Jude Semana Configuration: EUT Only Mode: LTE5 10MHz 16QAM Test Equipment: Receiving: Sunol T185, and 3m Chamber C N-type Cable Substitution: Dipole T273, 4ft SMA Cable Warehouse. <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>f MHz</th> <th>SG reading (dBm)</th> <th>Ant. Pol. (H/V)</th> <th>Cable Loss (dB)</th> <th>Antenna Gain (dBd)</th> <th>ERP (dBm)</th> <th>Limit (dBm)</th> <th>Margin (dB)</th> <th>Notes</th> </tr> </thead> <tbody> <tr> <td colspan="9">Low Ch</td> </tr> <tr> <td>829.00</td> <td>9.96</td> <td>V</td> <td>0.9</td> <td>0.0</td> <td>9.06</td> <td>38.5</td> <td>-29.4</td> <td></td> </tr> <tr> <td>829.00</td> <td>19.34</td> <td>H</td> <td>0.9</td> <td>0.0</td> <td>18.44</td> <td>38.5</td> <td>-20.0</td> <td></td> </tr> <tr> <td colspan="9">Mid Ch</td> </tr> <tr> <td>836.50</td> <td>10.74</td> <td>V</td> <td>0.9</td> <td>0.0</td> <td>9.84</td> <td>38.5</td> <td>-28.6</td> <td></td> </tr> <tr> <td>836.50</td> <td>19.55</td> <td>H</td> <td>0.9</td> <td>0.0</td> <td>18.65</td> <td>38.5</td> <td>-19.8</td> <td></td> </tr> <tr> <td colspan="9">High Ch</td> </tr> <tr> <td>844.00</td> <td>10.66</td> <td>V</td> <td>0.9</td> <td>0.0</td> <td>9.76</td> <td>38.5</td> <td>-28.7</td> <td></td> </tr> <tr> <td>844.00</td> <td>20.73</td> <td>H</td> <td>0.9</td> <td>0.0</td> <td>19.83</td> <td>38.5</td> <td>-18.6</td> <td></td> </tr> </tbody> </table> Rev. 3.17.11 Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes	Low Ch									829.00	9.96	V	0.9	0.0	9.06	38.5	-29.4		829.00	19.34	H	0.9	0.0	18.44	38.5	-20.0		Mid Ch									836.50	10.74	V	0.9	0.0	9.84	38.5	-28.6		836.50	19.55	H	0.9	0.0	18.65	38.5	-19.8		High Ch									844.00	10.66	V	0.9	0.0	9.76	38.5	-28.7		844.00	20.73	H	0.9	0.0	19.83	38.5	-18.6	
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes																																																																																			
Low Ch																																																																																											
829.00	9.96	V	0.9	0.0	9.06	38.5	-29.4																																																																																				
829.00	19.34	H	0.9	0.0	18.44	38.5	-20.0																																																																																				
Mid Ch																																																																																											
836.50	10.74	V	0.9	0.0	9.84	38.5	-28.6																																																																																				
836.50	19.55	H	0.9	0.0	18.65	38.5	-19.8																																																																																				
High Ch																																																																																											
844.00	10.66	V	0.9	0.0	9.76	38.5	-28.7																																																																																				
844.00	20.73	H	0.9	0.0	19.83	38.5	-18.6																																																																																				

Band

LTE5

3MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc. Chamber A

Company: LG

Project #: 15I19900

Date: 02/23/15

Test Engineer: Jude Semana

Configuration: EUT Only

Mode: LTE5 3MHz 16QAM

Test Equipment:

Receiving: Sunol T185, and 3m Chamber C N-type Cable

Substitution: Dipole T273, 4ft SMA Cable Warehouse.

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
825.50	10.31	V	0.9	0.0	9.41	38.5	-29.0	
825.50	19.07	H	0.9	0.0	18.17	38.5	-20.3	
Mid Ch								
836.50	11.09	V	0.9	0.0	10.19	38.5	-28.3	
836.50	19.71	H	0.9	0.0	18.81	38.5	-19.6	
High Ch								
847.50	11.09	V	0.9	0.0	10.19	38.5	-28.3	
847.50	20.76	H	0.9	0.0	19.86	38.5	-18.6	

Rev. 3.17.11

Note: For Band 13/17 ERP limit is 34.77dBm; For Band 26 limit is 50dBm

Band LTE4 20MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_QPSK Band 4 Fundamentals, 20MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60 Substitution, and 8ft SMA Cable							
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)
	Low Ch							
	1720.00	13.94	V	0.9	8.2	21.26	30.0	-8.7
	1720.00	15.56	H	0.9	8.2	22.87	30.0	-7.1
	Mid Ch							
	1732.50	14.18	V	0.9	8.2	21.45	30.0	-8.5
	1732.50	15.04	H	0.9	8.2	22.31	30.0	-7.7
	High Ch							
	1745.00	14.22	V	0.9	8.1	21.45	30.0	-8.6
	1745.00	15.46	H	0.9	8.1	22.68	30.0	-7.3

Band

LTE4

15MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I19900

2/24/2015

R.Z

X-pos EUT Only

Chamber G

LTE_16QAM Band 4 Fundamentals, 15MHz Bandwidth

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60 Substitution, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1717.50	15.32	V	0.9	8.2	22.65	30.0	-7.4	
1717.50	16.37	H	0.9	8.2	23.69	30.0	-6.3	
Mid Ch								
1732.50	13.88	V	0.9	8.2	21.15	30.0	-8.8	
1732.50	15.84	H	0.9	8.2	23.11	30.0	-6.9	
High Ch								
1747.50	12.52	V	0.9	8.1	19.74	30.0	-10.3	
1747.50	15.98	H	0.9	8.1	23.20	30.0	-6.8	

Band LTE4 15MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_QPSK Band 4 Fundamentals, 15MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60 Substitution, and 8ft SMA Cable							
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)
	Low Ch							
	1717.50	15.62	V	0.9	8.2	22.95	30.0	-7.1
	1717.50	16.67	H	0.9	8.2	23.99	30.0	-6.0
	Mid Ch							
	1732.50	14.28	V	0.9	8.2	21.55	30.0	-8.4
	1732.50	16.63	H	0.9	8.2	23.90	30.0	-6.1
	High Ch							
	1747.50	13.62	V	0.9	8.1	20.84	30.0	-9.2
	1747.50	16.71	H	0.9	8.1	23.93	30.0	-6.1

Band

LTE4

10MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60 Substitution, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1715.00	14.82	V	0.9	8.2	22.16	30.0	-7.8	
1715.00	16.47	H	0.9	8.2	23.80	30.0	-6.2	
Mid Ch								
1732.50	13.22	V	0.9	8.2	20.49	30.0	-9.5	
1732.50	14.62	H	0.9	8.2	21.89	30.0	-8.1	
High Ch								
1750.00	13.62	V	0.9	8.1	20.83	30.0	-9.2	
1750.00	14.98	H	0.9	8.1	22.19	30.0	-7.8	

Band LTE4 5MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_QPSK Band 4 Fundamentals, 5MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60 Substitution, and 8ft SMA Cable							
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)
	Low Ch							
	1712.50	15.10	V	0.9	8.2	22.45	30.0	-7.6
	1712.50	16.64	H	0.9	8.2	23.98	30.0	-6.0
	Mid Ch							
	1732.50	14.37	V	0.9	8.2	21.64	30.0	-8.4
	1732.50	16.38	H	0.9	8.2	23.65	30.0	-6.3
	High Ch							
	1752.50	14.87	V	0.9	8.1	22.07	30.0	-7.9
	1752.50	16.64	H	0.9	8.1	23.84	30.0	-6.2

Band

LTE4

3MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company: LG

Project #: 15I19900

Date: 2/24/2015

Test Engineer: R.Z

Configuration: X-pos EUT Only

Location: Chamber G

Mode: LTE_16QAM Band 4 Fundamentals, 3MHz Bandwidth

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60 Substitution, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1711.50	14.69	V	0.9	8.2	22.04	30.0	-8.0	
1711.50	16.52	H	0.9	8.2	23.86	30.0	-6.1	
Mid Ch								
1732.50	13.84	V	0.9	8.2	21.11	30.0	-8.9	
1732.50	15.93	H	0.9	8.2	23.20	30.0	-6.8	
High Ch								
1753.50	13.92	V	0.9	8.1	21.12	30.0	-8.9	
1753.50	16.39	H	0.9	8.1	23.58	30.0	-6.4	

LTE Band 2

Band

LTE2

20MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I19900

2/23/2015

O. Stoelting

X-pos EUT Only

Chamber G

LTE_16QAM Band 2 Fundamentals, 20MHz Bandwidth

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, Chamber G SMA Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	17.15	V	3.5	9.3	22.90	33.0	-10.1	
1860.00	18.31	H	3.5	9.3	24.06	33.0	-8.9	
Mid Ch								
1880.00	17.15	V	3.5	9.2	22.80	33.0	-10.2	
1880.00	20.12	H	3.5	9.2	25.77	33.0	-7.2	
High Ch								
1900.00	18.03	V	3.5	9.0	23.57	33.0	-9.4	
1900.00	19.33	H	3.5	9.0	24.87	33.0	-8.1	

Band

LTE2

20MHz

QPSK

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I19900

2/23/2015

O. Stoelting

X-pos EUT Only

Chamber G

LTE_QPSK Band 2 Fundamentals, 20MHz Bandwidth

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, Chamber G SMA Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1860.00	18.63	V	3.5	9.3	24.38	33.0	-8.6	
1860.00	19.38	H	3.5	9.3	25.13	33.0	-7.9	
Mid Ch								
1880.00	18.45	V	3.5	9.2	24.10	33.0	-8.9	
1880.00	20.57	H	3.5	9.2	26.22	33.0	-6.8	
High Ch								
1900.00	18.78	V	3.5	9.0	24.32	33.0	-8.7	
1900.00	20.12	H	3.5	9.0	25.66	33.0	-7.3	

Band

LTE2

15MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, Chamber G SMA Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1857.50	18.52	V	3.5	9.3	24.27	33.0	-8.7	
1857.50	18.21	H	3.5	9.3	23.96	33.0	-9.0	
Mid Ch								
1880.00	16.95	V	3.5	9.2	22.60	33.0	-10.4	
1880.00	19.36	H	3.5	9.2	25.01	33.0	-8.0	
High Ch								
1902.50	18.08	V	3.5	9.0	23.62	33.0	-9.4	
1902.50	19.48	H	3.5	9.0	25.02	33.0	-8.0	

Band

LTE2

10MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, Chamber G SMA Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1855.00	17.76	V	3.5	9.3	23.51	33.0	-9.5	
1855.00	16.88	H	3.5	9.3	22.63	33.0	-10.4	
Mid Ch								
1880.00	10.51	V	3.5	9.2	16.16	33.0	-16.8	
1880.00	18.89	H	3.5	9.2	24.54	33.0	-8.5	
High Ch								
1905.00	16.90	V	3.5	9.0	22.44	33.0	-10.6	
1905.00	17.62	H	3.5	9.0	23.16	33.0	-9.8	

Band

LTE2

5MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

LG

15I19900

2/23/2015

O. Stoelting

X-pos EUT Only

Chamber G

LTE_16QAM Band 2 Fundamentals, 5MHz Bandwidth

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, Chamber G SMA Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1852.50	16.25	V	3.5	9.3	22.00	33.0	-11.0	
1852.50	18.11	H	3.5	9.3	23.86	33.0	-9.1	
Mid Ch								
1880.00	18.14	V	3.5	9.2	23.79	33.0	-9.2	
1880.00	18.42	H	3.5	9.2	24.07	33.0	-8.9	
High Ch								
1907.50	17.05	V	3.5	9.0	22.59	33.0	-10.4	
1907.50	18.73	H	3.5	9.0	24.27	33.0	-8.7	

Band LTE2 5MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/23/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_QPSK Band 2 Fundamentals, 5MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60, Chamber G SMA Cables								
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
	Low Ch								
	1852.50	17.89	V	3.5	9.3	23.64	33.0	-9.4	
	1852.50	19.09	H	3.5	9.3	24.84	33.0	-8.2	
	Mid Ch								
	1880.00	18.22	V	3.5	9.2	23.87	33.0	-9.1	
	1880.00	19.27	H	3.5	9.2	24.92	33.0	-8.1	
	High Ch								
	1907.50	17.97	V	3.5	9.0	23.51	33.0	-9.5	
	1907.50	20.01	H	3.5	9.0	25.55	33.0	-7.5	

Band LTE2 3MHz 16QAM	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/23/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_16QAM Band 2 Fundamentals, 3MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60, Chamber G SMA Cables								
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
	Low Ch								
	1851.50	17.56	V	3.5	9.3	23.31	33.0	-9.7	
	1851.50	18.14	H	3.5	9.3	23.89	33.0	-9.1	
	Mid Ch								
	1880.00	18.41	V	3.5	9.2	24.06	33.0	-8.9	
	1880.00	19.17	H	3.5	9.2	24.82	33.0	-8.2	
	High Ch								
	1908.50	16.97	V	3.5	9.0	22.51	33.0	-10.5	
	1908.50	19.88	H	3.5	9.0	25.42	33.0	-7.6	

Band LTE2 3MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/23/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_QPSK Band 2 Fundamentals, 3MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60, Chamber G SMA Cables							
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)
	Low Ch							
	1851.50	18.59	V	3.5	9.3	24.34	33.0	-8.7
	1851.50	19.20	H	3.5	9.3	24.95	33.0	-8.0
	Mid Ch							
	1880.00	18.57	V	3.5	9.2	24.22	33.0	-8.8
	1880.00	19.81	H	3.5	9.2	25.46	33.0	-7.5
	High Ch							
	1908.50	17.59	V	3.5	9.0	23.13	33.0	-9.9
	1908.50	20.34	H	3.5	9.0	25.88	33.0	-7.1

Band

LTE2

1.4MHz

16QAM

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T862, and Chamber G SMA Cables

Substitution: Horn T60, Chamber G SMA Cables

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1850.70	16.90	V	3.5	9.3	22.65	33.0	-10.3	
1850.70	18.02	H	3.5	9.3	23.77	33.0	-9.2	
Mid Ch								
1880.00	17.63	V	3.5	9.2	23.28	33.0	-9.7	
1880.00	18.31	H	3.5	9.2	23.96	33.0	-9.0	
High Ch								
1909.30	16.41	V	3.5	9.0	21.95	33.0	-11.1	
1909.30	18.54	H	3.5	9.0	24.08	33.0	-8.9	

Band LTE2 1.4MHz QPSK	High Frequency Substitution Measurement UL Verification Services, Inc. Company: LG Project #: 15I19900 Date: 2/23/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT Only Location: Chamber G Mode: LTE_QPSK Band 2 Fundamentals, 1.4MHz Bandwidth Test Equipment: Receiving: Horn T862, and Chamber G SMA Cables Substitution: Horn T60, Chamber G SMA Cables								
	f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
	MHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
	Low Ch								
	1850.70	17.64	V	3.5	9.3	23.39	33.0	-9.6	
	1850.70	18.85	H	3.5	9.3	24.60	33.0	-8.4	
	Mid Ch								
	1880.00	17.58	V	3.5	9.2	23.23	33.0	-9.8	
	1880.00	19.70	H	3.5	9.2	25.35	33.0	-7.7	
	High Ch								
	1909.30	17.43	V	3.5	9.0	22.97	33.0	-10.0	
	1909.30	20.42	H	3.5	9.0	25.96	33.0	-7.0	

High Frequency Substitution Measurement UL Verification Services, Inc.								
Company:	LG							
Project #:	15119900							
Date:	2/24/2015							
Test Engineer:	R.Z							
Configuration:	EUT Only							
Location:	Chamber G							
Mode:	CDMA EVDO 1900MHz Fundamentals							
<u>Test Equipment:</u>								
Receiving: Horn T862 and Chamber G SMA Cables								
Substitution: Horn T60 Substitution, and 8ft SMA Cable								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.00	16.13	V	0.9	9.2	24.43	38.5	-14.1	
1851.00	15.68	H	0.9	9.2	23.98	38.5	-14.5	
Mid Ch								
1880.00	15.91	V	0.9	9.1	24.11	38.5	-14.4	
1880.00	15.97	H	0.9	9.1	24.17	38.5	-14.3	
High Ch								
1908.75	15.70	V	0.9	9.1	23.90	38.5	-14.6	
1908.75	16.20	H	0.9	9.1	24.40	38.5	-14.1	

Band

BC1

1xRTT

High Frequency Substitution Measurement

UL Verification Services, Inc.

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Equipment:

Receiving: Horn T862 and Chamber G SMA Cables

Substitution: Horn T60 Substitution, and 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
1851.00	15.53	V	0.9	9.2	23.83	38.5	-14.7	
1851.00	16.75	H	0.9	9.2	25.05	38.5	-13.5	
Mid Ch								
1880.00	15.65	V	0.9	9.1	23.85	38.5	-14.7	
1880.00	17.13	H	0.9	9.1	25.33	38.5	-13.2	
High Ch								
1908.75	15.90	V	0.9	9.1	24.10	38.5	-14.4	
1908.75	16.84	H	0.9	9.1	25.04	38.5	-13.5	

Band

BC0

1xRTT

High Frequency Substitution Measurement
UL Verification Services, Inc.

Company: LG
Project #: 15I19900
Date: 2/24/2015
Test Engineer: R.Z
Configuration: EUT Only
Location: Chamber G
Mode: CDMA 1XRTT 850MHz Fundamentals

Test Equipment:
Receiving: Sunol T899, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 8ft SMA Cable

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch								
824.70	9.70	V	0.9	0.0	8.80	38.5	-29.7	
824.70	18.47	H	0.9	0.0	17.57	38.5	-20.9	
Mid Ch								
836.52	11.85	V	0.9	0.0	10.95	38.5	-27.6	
836.52	20.31	H	0.9	0.0	19.41	38.5	-19.1	
High Ch								
848.31	10.91	V	0.9	0.0	10.01	38.5	-28.5	
848.31	20.45	H	0.9	0.0	19.55	38.5	-19.0	

11.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, and §27.53

LIMIT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

Part 27: (m)(4) For mobile station, the attenuation factor shall be not less than $43+10\log(P)$ dB at the channel edge and $(55+10\log(P))$ dB at 5.5MHz from the channel edges.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. 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. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). 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 emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules 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. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). 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 emissions are attenuated at least 26 dB below the transmitter power.

MODES TESTED

CDMA and LTE

RESULTS

11.2.1. SPURIOUS RADIATION PLOTS

LTE Band 25

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_16QAM Band 25 Harmonics, 20MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-13.3	V	3.0	35.9	1.0	-48.1	-13.0	-35.1	
5580.00	-13.8	V	3.0	35.5	1.0	-48.3	-13.0	-35.3	
7440.00	-17.1	V	3.0	35.7	1.0	-51.8	-13.0	-38.8	
3720.00	-14.9	H	3.0	35.9	1.0	-49.7	-13.0	-36.7	
5580.00	-18.1	H	3.0	35.5	1.0	-52.6	-13.0	-39.6	
7440.00	-15.6	H	3.0	35.7	1.0	-50.3	-13.0	-37.3	
Mid Ch, 1882.5									
3765.00	-19.9	V	3.0	35.8	1.0	-54.8	-13.0	-41.8	
5647.50	-19.6	V	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7530.00	-17.1	V	3.0	35.7	1.0	-51.9	-13.0	-38.9	
3765.00	-19.7	H	3.0	35.8	1.0	-54.5	-13.0	-41.5	
5647.50	-19.1	H	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7530.00	-16.6	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
High Ch, 1905									
3810.00	-18.3	V	3.0	35.8	1.0	-53.1	-13.0	-40.1	
5715.00	-19.4	V	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7620.00	-16.9	V	3.0	35.8	1.0	-51.6	-13.0	-38.6	
3810.00	-18.2	H	3.0	35.8	1.0	-53.0	-13.0	-40.0	
5715.00	-18.3	H	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7620.00	-16.0	H	3.0	35.8	1.0	-50.8	-13.0	-37.8	

Band	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_QPSK Band 25 Harmonics, 20MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1860									
LTE25	3720.00	-13.8	V	3.0	35.9	1.0	-48.6	-13.0	-35.6	
	5580.00	-14.9	V	3.0	35.5	1.0	-49.4	-13.0	-36.4	
20MHz	7440.00	-17.4	V	3.0	35.7	1.0	-52.1	-13.0	-39.1	
	3720.00	-13.6	H	3.0	35.9	1.0	-48.4	-13.0	-35.4	
QPSK	5580.00	-17.4	H	3.0	35.5	1.0	-51.9	-13.0	-38.9	
	7440.00	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
	Mid Ch, 1882.5									
	3765.00	-18.1	V	3.0	35.8	1.0	-53.0	-13.0	-40.0	
	5647.50	-19.0	V	3.0	35.5	1.0	-53.5	-13.0	-40.5	
	7530.00	-16.6	V	3.0	35.7	1.0	-51.4	-13.0	-38.4	
	3765.00	-18.5	H	3.0	35.8	1.0	-53.3	-13.0	-40.3	
	5647.50	-19.1	H	3.0	35.5	1.0	-53.6	-13.0	-40.6	
	7530.00	-17.0	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
	High Ch, 1905									
	3810.00	-17.0	V	3.0	35.8	1.0	-51.8	-13.0	-38.8	
	5715.00	-19.6	V	3.0	35.5	1.0	-54.1	-13.0	-41.1	
	7620.00	-16.7	V	3.0	35.8	1.0	-51.4	-13.0	-38.4	
	3810.00	-17.8	H	3.0	35.8	1.0	-52.6	-13.0	-39.6	
	5715.00	-17.8	H	3.0	35.5	1.0	-52.3	-13.0	-39.3	
	7620.00	-15.8	H	3.0	35.8	1.0	-50.6	-13.0	-37.6	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		LG Electronics							
Project #:		15I19900							
Date:		2/24/2015							
Test Engineer:		R.Z							
Configuration:		X-pos EUT , AC Adapter, Headset							
Location:		Chamber G							
Mode:		LTE_16QAM Band 25 Harmonics, 15MHz Bandwidth							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-14.7	V	3.0	35.9	1.0	-49.5	-13.0	-36.5	
5572.50	-18.2	V	3.0	35.5	1.0	-52.7	-13.0	-39.7	
7430.00	-17.6	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
3715.00	-15.2	H	3.0	35.9	1.0	-50.0	-13.0	-37.0	
5572.50	-18.7	H	3.0	35.5	1.0	-53.2	-13.0	-40.2	
7430.00	-15.7	H	3.0	35.7	1.0	-50.4	-13.0	-37.4	
Mid Ch, 1882.5									
3765.00	-20.2	V	3.0	35.8	1.0	-55.1	-13.0	-42.1	
5647.50	-16.1	V	3.0	35.5	1.0	-50.6	-13.0	-37.6	
7530.00	-16.8	V	3.0	35.7	1.0	-51.6	-13.0	-38.6	
3765.00	-18.0	H	3.0	35.8	1.0	-52.8	-13.0	-39.8	
5647.50	-18.1	H	3.0	35.5	1.0	-52.6	-13.0	-39.6	
7530.00	-16.8	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1907.5									
3815.00	-19.5	V	3.0	35.8	1.0	-54.3	-13.0	-41.3	
5722.50	-14.0	V	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7630.00	-17.4	V	3.0	35.8	1.0	-52.1	-13.0	-39.1	
3815.00	-22.2	H	3.0	35.8	1.0	-57.0	-13.0	-44.0	
5722.50	-17.6	H	3.0	35.5	1.0	-52.1	-13.0	-39.1	
7630.00	-17.1	H	3.0	35.8	1.0	-51.8	-13.0	-38.8	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_QPSK Band 25 Harmonics, 15MHz Bandwidth										
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band LTE25 15MHz QPSK	Low Ch, 1857.5									
	3715.00	-14.5	V	3.0	35.9	1.0	-49.3	-13.0	-36.3	
	5572.50	-18.0	V	3.0	35.5	1.0	-52.5	-13.0	-39.5	
	7430.00	-15.9	V	3.0	35.7	1.0	-50.6	-13.0	-37.6	
	3715.00	-14.1	H	3.0	35.9	1.0	-48.9	-13.0	-35.9	
	5572.50	-18.7	H	3.0	35.5	1.0	-53.2	-13.0	-40.2	
	7430.00	-15.1	H	3.0	35.7	1.0	-49.8	-13.0	-36.8	
	Mid Ch, 1882.5									
	3765.00	-20.6	V	3.0	35.8	1.0	-55.5	-13.0	-42.5	
	5647.50	-15.1	V	3.0	35.5	1.0	-49.6	-13.0	-36.6	
	7530.00	-17.3	V	3.0	35.7	1.0	-52.1	-13.0	-39.1	
	3765.00	-18.8	H	3.0	35.8	1.0	-53.6	-13.0	-40.6	
	5647.50	-18.9	H	3.0	35.5	1.0	-53.4	-13.0	-40.4	
	7530.00	-16.5	H	3.0	35.7	1.0	-51.3	-13.0	-38.3	
	High Ch, 1907.5									
	3815.00	-20.5	V	3.0	35.8	1.0	-55.3	-13.0	-42.3	
	5722.50	-13.5	V	3.0	35.5	1.0	-48.0	-13.0	-35.0	
	7630.00	-17.3	V	3.0	35.8	1.0	-52.1	-13.0	-39.1	
	3815.00	-21.2	H	3.0	35.8	1.0	-56.0	-13.0	-43.0	
	5722.50	-16.7	H	3.0	35.5	1.0	-51.2	-13.0	-38.2	
	7630.00	-17.1	H	3.0	35.8	1.0	-51.9	-13.0	-38.9	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15119900 Date: 2/24/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber A Mode: LTE_16QAM Band 25 Harmonics, 10MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1855									
3710.00	-12.7	V	3.0	35.9	1.0	-47.5	-13.0	-34.5	
5565.00	-15.5	V	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7420.00	-15.3	V	3.0	35.7	1.0	-50.0	-13.0	-37.0	
3710.00	-10.3	H	3.0	35.9	1.0	-45.1	-13.0	-32.1	
5565.00	-15.2	H	3.0	35.5	1.0	-49.7	-13.0	-36.7	
7420.00	-13.2	H	3.0	35.7	1.0	-48.0	-13.0	-35.0	
Mid Ch, 1882.5									
3765.00	-13.3	V	3.0	35.8	1.0	-48.1	-13.0	-35.1	
5647.50	-15.3	V	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7530.00	-14.1	V	3.0	35.7	1.0	-48.8	-13.0	-35.8	
3765.00	-16.4	H	3.0	35.8	1.0	-51.2	-13.0	-38.2	
5647.50	-15.5	H	3.0	35.5	1.0	-50.0	-13.0	-37.0	
7530.00	-13.0	H	3.0	35.7	1.0	-47.7	-13.0	-34.7	
High Ch, 1910									
3820.00	-15.2	V	3.0	35.8	1.0	-50.0	-13.0	-37.0	
5730.00	-15.2	V	3.0	35.5	1.0	-49.7	-13.0	-36.7	
7640.00	-13.8	V	3.0	35.8	1.0	-48.6	-13.0	-35.6	
3820.00	-16.6	H	3.0	35.8	1.0	-51.4	-13.0	-38.4	
5730.00	-15.3	H	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7640.00	-12.5	H	3.0	35.8	1.0	-47.2	-13.0	-34.2	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/24/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT , AC Adapter, Headset								
Location:		Chamber A								
Mode:		LTE_QPSK Band 25 Harmonics, 10MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band LTE25 10MHz QPSK	Low Ch, 1855									
	3710.00	-11.5	V	3.0	35.9	1.0	-46.4	-13.0	-33.4	
	5565.00	-15.2	V	3.0	35.5	1.0	-49.7	-13.0	-36.7	
	7420.00	-14.2	V	3.0	35.7	1.0	-48.9	-13.0	-35.9	
	3710.00	-12.5	H	3.0	35.9	1.0	-47.3	-13.0	-34.3	
	5565.00	-13.9	H	3.0	35.5	1.0	-48.4	-13.0	-35.4	
	7420.00	-12.6	H	3.0	35.7	1.0	-47.4	-13.0	-34.4	
	Mid Ch, 1882.5									
	3765.00	-15.6	V	3.0	35.8	1.0	-50.4	-13.0	-37.4	
	5647.50	-15.4	V	3.0	35.5	1.0	-49.9	-13.0	-36.9	
	7530.00	-14.6	V	3.0	35.7	1.0	-49.4	-13.0	-36.4	
	3765.00	-14.4	H	3.0	35.8	1.0	-49.2	-13.0	-36.2	
	5647.50	-14.8	H	3.0	35.5	1.0	-49.3	-13.0	-36.3	
	7530.00	-12.9	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	
	High Ch, 1910									
	3820.00	-17.6	V	3.0	35.8	1.0	-52.3	-13.0	-39.3	
	5730.00	-14.6	V	3.0	35.5	1.0	-49.1	-13.0	-36.1	
	7640.00	-13.7	V	3.0	35.8	1.0	-48.5	-13.0	-35.5	
	3820.00	-16.4	H	3.0	35.8	1.0	-51.2	-13.0	-38.2	
	5730.00	-14.6	H	3.0	35.5	1.0	-49.1	-13.0	-36.1	
	7640.00	-12.7	H	3.0	35.8	1.0	-47.5	-13.0	-34.5	

Band	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_16QAM Band 25 Harmonics, 5MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1852.5									
LTE25	3705.00	-12.3	V	3.0	35.9	1.0	-47.2	-13.0	-34.2	
	5557.50	-18.6	V	3.0	35.5	1.0	-53.1	-13.0	-40.1	
5MHz	7410.00	-17.3	V	3.0	35.7	1.0	-52.0	-13.0	-39.0	
	3705.00	-16.8	H	3.0	35.9	1.0	-51.7	-13.0	-38.7	
16QAM	5557.50	-16.6	H	3.0	35.5	1.0	-51.0	-13.0	-38.0	
	7410.00	-16.0	H	3.0	35.7	1.0	-50.7	-13.0	-37.7	
	Mid Ch, 1882.5									
	3765.00	-18.5	V	3.0	35.8	1.0	-53.4	-13.0	-40.4	
	5647.50	-17.2	V	3.0	35.5	1.0	-51.7	-13.0	-38.7	
	7530.00	-18.1	V	3.0	35.7	1.0	-52.9	-13.0	-39.9	
	3765.00	-14.7	H	3.0	35.8	1.0	-49.5	-13.0	-36.5	
	5647.50	-16.6	H	3.0	35.5	1.0	-51.1	-13.0	-38.1	
	7530.00	-16.4	H	3.0	35.7	1.0	-51.2	-13.0	-38.2	
	High Ch, 1912.5									
	3825.00	-21.6	V	3.0	35.8	1.0	-56.4	-13.0	-43.4	
	5737.50	-14.9	V	3.0	35.5	1.0	-49.4	-13.0	-36.4	
	7650.00	-17.1	V	3.0	35.8	1.0	-51.8	-13.0	-38.8	
	3825.00	-20.7	H	3.0	35.8	1.0	-55.5	-13.0	-42.5	
	5737.50	-19.3	H	3.0	35.5	1.0	-53.8	-13.0	-40.8	
	7650.00	-16.5	H	3.0	35.8	1.0	-51.3	-13.0	-38.3	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/24/2015								
Test Engineer:		R.Z								
Configuration:		X-pos EUT , AC Adapter, Headset								
Location:		Chamber G								
Mode:		LTE_QPSK Band 25 Harmonics, 5MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band LTE25 5MHz QPSK	Low Ch, 1852.5									
	3705.00	-13.8	V	3.0	35.9	1.0	-48.6	-13.0	-35.6	
	5557.50	-18.6	V	3.0	35.5	1.0	-53.1	-13.0	-40.1	
	7410.00	-16.7	V	3.0	35.7	1.0	-51.4	-13.0	-38.4	
	3705.00	-17.2	H	3.0	35.9	1.0	-52.0	-13.0	-39.0	
	5557.50	-16.5	H	3.0	35.5	1.0	-51.0	-13.0	-38.0	
	7410.00	-16.5	H	3.0	35.7	1.0	-51.2	-13.0	-38.2	
	Mid Ch, 1882.5									
	3765.00	-18.6	V	3.0	35.8	1.0	-53.5	-13.0	-40.5	
	5647.50	-16.4	V	3.0	35.5	1.0	-50.9	-13.0	-37.9	
	7530.00	-17.1	V	3.0	35.7	1.0	-51.9	-13.0	-38.9	
	3765.00	-16.2	H	3.0	35.8	1.0	-51.0	-13.0	-38.0	
	5647.50	-16.5	H	3.0	35.5	1.0	-51.0	-13.0	-38.0	
	7530.00	-16.3	H	3.0	35.7	1.0	-51.1	-13.0	-38.1	
	High Ch, 1912.5									
	3825.00	-20.8	V	3.0	35.8	1.0	-55.6	-13.0	-42.6	
	5737.50	-14.0	V	3.0	35.5	1.0	-48.5	-13.0	-35.5	
	7650.00	-16.7	V	3.0	35.8	1.0	-51.4	-13.0	-38.4	
	3825.00	-19.8	H	3.0	35.8	1.0	-54.6	-13.0	-41.6	
	5737.50	-18.2	H	3.0	35.5	1.0	-52.7	-13.0	-39.7	
	7650.00	-14.9	H	3.0	35.8	1.0	-49.7	-13.0	-36.7	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber A Mode: LTE_16QAM Band 25 Harmonics, 3MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-13.5	V	3.0	35.9	1.0	-48.3	-13.0	-35.3	
5554.50	-15.1	V	3.0	35.5	1.0	-49.5	-13.0	-36.5	
7406.00	-14.6	V	3.0	35.7	1.0	-49.3	-13.0	-36.3	
3703.00	-14.2	H	3.0	35.9	1.0	-49.0	-13.0	-36.0	
5554.50	-14.6	H	3.0	35.5	1.0	-49.1	-13.0	-36.1	
7406.00	-13.8	H	3.0	35.7	1.0	-48.5	-13.0	-35.5	
Mid Ch, 1882.5									
3765.00	-11.8	V	3.0	35.8	1.0	-46.6	-13.0	-33.6	
5647.50	-14.9	V	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7530.00	-13.5	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
3765.00	-13.6	H	3.0	35.8	1.0	-48.5	-13.0	-35.5	
5647.50	-14.8	H	3.0	35.5	1.0	-49.3	-13.0	-36.3	
7530.00	-13.5	H	3.0	35.7	1.0	-48.2	-13.0	-35.2	
High Ch, 1913.5									
3827.00	-15.2	V	3.0	35.8	1.0	-50.0	-13.0	-37.0	
5740.50	-12.5	V	3.0	35.5	1.0	-47.0	-13.0	-34.0	
7654.00	-13.4	V	3.0	35.8	1.0	-48.1	-13.0	-35.1	
3827.00	-14.8	H	3.0	35.8	1.0	-49.5	-13.0	-36.5	
5740.50	-14.4	H	3.0	35.5	1.0	-48.9	-13.0	-35.9	
7654.00	-12.5	H	3.0	35.8	1.0	-47.3	-13.0	-34.3	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber A Mode: LTE_QPSK Band 25 Harmonics, 3MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.5									
3703.00	-12.2	V	3.0	35.9	1.0	-47.0	-13.0	-34.0	
5554.50	-15.3	V	3.0	35.5	1.0	-49.8	-13.0	-36.8	
7406.00	-15.1	V	3.0	35.7	1.0	-49.8	-13.0	-36.8	
3703.00	-17.3	H	3.0	35.9	1.0	-52.1	-13.0	-39.1	
5554.50	-14.9	H	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7406.00	-13.5	H	3.0	35.7	1.0	-48.3	-13.0	-35.3	
Mid Ch, 1882.5									
3765.00	-14.7	V	3.0	35.8	1.0	-49.5	-13.0	-36.5	
5647.50	-14.9	V	3.0	35.5	1.0	-49.4	-13.0	-36.4	
7530.00	-13.9	V	3.0	35.7	1.0	-48.6	-13.0	-35.6	
3765.00	-12.3	H	3.0	35.8	1.0	-47.1	-13.0	-34.1	
5647.50	-15.1	H	3.0	35.5	1.0	-49.6	-13.0	-36.6	
7530.00	-13.6	H	3.0	35.7	1.0	-48.4	-13.0	-35.4	
High Ch, 1913.5									
3827.00	-13.5	V	3.0	35.8	1.0	-48.3	-13.0	-35.3	
5740.50	-13.1	V	3.0	35.5	1.0	-47.6	-13.0	-34.6	
7654.00	-13.8	V	3.0	35.8	1.0	-48.6	-13.0	-35.6	
3827.00	-15.6	H	3.0	35.8	1.0	-50.4	-13.0	-37.4	
5740.50	-13.4	H	3.0	35.5	1.0	-47.9	-13.0	-34.9	
7654.00	-12.1	H	3.0	35.8	1.0	-46.8	-13.0	-33.8	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber A Mode: LTE_16QAM Band 25 Harmonics, 1.4MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-8.9	V	3.0	35.9	1.0	-43.8	-13.0	-30.8	
5552.10	-15.2	V	3.0	35.5	1.0	-49.6	-13.0	-36.6	
7402.80	-14.7	V	3.0	35.7	1.0	-49.4	-13.0	-36.4	
3701.40	-8.9	H	3.0	35.9	1.0	-43.7	-13.0	-30.7	
5552.10	-14.3	H	3.0	35.5	1.0	-48.8	-13.0	-35.8	
7402.80	-13.6	H	3.0	35.7	1.0	-48.3	-13.0	-35.3	
Mid Ch, 1882.5									
3765.00	-13.6	V	3.0	35.8	1.0	-44.7	-13.0	-31.7	
5647.50	-16.5	V	3.0	35.5	1.0	-51.0	-13.0	-38.0	
7530.00	-14.2	V	3.0	35.7	1.0	-48.9	-13.0	-35.9	
3765.00	-11.4	H	3.0	35.8	1.0	-46.2	-13.0	-33.2	
5647.50	-15.0	H	3.0	35.5	1.0	-49.5	-13.0	-36.5	
7530.00	-13.9	H	3.0	35.7	1.0	-48.6	-13.0	-35.6	
High Ch, 1914.3									
3828.60	-10.3	V	3.0	35.8	1.0	-45.0	-13.0	-32.0	
5742.90	-14.5	V	3.0	35.5	1.0	-49.0	-13.0	-36.0	
7657.20	-13.5	V	3.0	35.8	1.0	-48.3	-13.0	-35.3	
3828.60	-9.1	H	3.0	35.8	1.0	-43.9	-13.0	-30.9	
5742.90	-13.5	H	3.0	35.5	1.0	-48.0	-13.0	-35.0	
7657.20	-12.9	H	3.0	35.8	1.0	-47.6	-13.0	-34.6	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber A Mode: LTE_QPSK Band 25 Harmonics, 1.4MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-9.4	V	3.0	35.9	1.0	-44.2	-13.0	-31.2	
5552.10	-15.6	V	3.0	35.5	1.0	-50.0	-13.0	-37.0	
7402.80	-14.4	V	3.0	35.7	1.0	-49.2	-13.0	-36.2	
3701.40	-9.9	H	3.0	35.9	1.0	-44.7	-13.0	-31.7	
5552.10	-14.8	H	3.0	35.5	1.0	-49.2	-13.0	-36.2	
7402.80	-14.1	H	3.0	35.7	1.0	-48.9	-13.0	-35.9	
Mid Ch, 1882.5									
3765.00	-14.0	V	3.0	35.8	1.0	-48.8	-13.0	-35.8	
5647.50	-15.7	V	3.0	35.5	1.0	-50.2	-13.0	-37.2	
7530.00	-12.7	V	3.0	35.7	1.0	-47.5	-13.0	-34.5	
3765.00	-11.1	H	3.0	35.8	1.0	-45.9	-13.0	-32.9	
5647.50	-15.4	H	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7530.00	-13.1	H	3.0	35.7	1.0	-47.8	-13.0	-34.8	
High Ch, 1914.3									
3828.60	-11.8	V	3.0	35.8	1.0	-46.6	-13.0	-33.6	
5742.90	-13.3	V	3.0	35.5	1.0	-47.8	-13.0	-34.8	
7657.20	-13.8	V	3.0	35.8	1.0	-48.5	-13.0	-35.5	
3828.60	-9.2	H	3.0	35.8	1.0	-43.9	-13.0	-30.9	
5742.90	-13.4	H	3.0	35.5	1.0	-47.9	-13.0	-34.9	
7657.20	-13.2	H	3.0	35.8	1.0	-48.0	-13.0	-35.0	

LTE Band 17

UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/25/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT AC charger and HS								
Location:		Chamber G								
Mode:		LTE_16QAM Band 17 Harmonics, 10MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch,704									
LTE17 10MHz 16QAM	1408.00	-16.6	V	3.0	37.4	1.0	-53.0	-13.0	-40.0	
	2112.00	-15.1	V	3.0	36.6	1.0	-50.7	-13.0	-37.7	
	2816.00	-22.5	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
	1408.00	-16.6	H	3.0	37.4	1.0	-53.0	-13.0	-40.0	
	2112.00	-15.2	H	3.0	36.6	1.0	-50.8	-13.0	-37.8	
	2816.00	-23.2	H	3.0	36.4	1.0	-58.5	-13.0	-45.5	
	Mid Ch,707.5									
	1415.00	-5.5	V	3.0	37.3	1.0	-41.9	-13.0	-28.9	
	2122.50	-18.3	V	3.0	36.6	1.0	-53.9	-13.0	-40.9	
	2830.00	-21.3	V	3.0	36.4	1.0	-56.7	-13.0	-43.7	
	1415.00	-16.6	H	3.0	37.3	1.0	-53.0	-13.0	-40.0	
	2122.50	-14.7	H	3.0	36.6	1.0	-50.2	-13.0	-37.2	
	2830.00	-23.1	H	3.0	36.4	1.0	-58.5	-13.0	-45.5	
	High Ch,711									
	1422.00	-7.3	V	3.0	37.3	1.0	-43.6	-13.0	-30.6	
	2133.00	-14.6	V	3.0	36.6	1.0	-50.2	-13.0	-37.2	
	2844.00	-20.6	V	3.0	36.4	1.0	-56.0	-13.0	-43.0	
	1422.00	-8.2	H	3.0	37.3	1.0	-44.5	-13.0	-31.5	
	2133.00	-13.0	H	3.0	36.6	1.0	-48.6	-13.0	-35.6	
	2844.00	-22.5	H	3.0	36.4	1.0	-57.8	-13.0	-44.8	

Band LTE17 10MHz QPSK	UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement									
	Company:		LG Electronics							
	Project #:		15I19900							
	Date:		2/25/2015							
	Test Engineer:		O. Stoelting							
	Configuration:		X-pos EUT AC charger and HS							
	Location:		Chamber G							
	Mode:		LTE_QPSK Band 17 Harmonics, 10MHz Bandwidth							

UL Verification Services Chamber										
Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/25/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT AC charger and HS								
Location:		Chamber G								
Mode:		LTE_16QAM Band 17 Harmonics, 5MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band LTE17 5MHz 16QAM	Low Ch, 706.5									
	1413.00	-15.6	V	3.0	37.4	1.0	-52.0	-13.0	-39.0	
	2119.50	-19.1	V	3.0	36.6	1.0	-54.7	-13.0	-41.7	
	2826.00	-22.5	V	3.0	36.4	1.0	-57.9	-13.0	-44.9	
	1413.00	-14.4	H	3.0	37.4	1.0	-50.8	-13.0	-37.8	
	2119.50	-15.8	H	3.0	36.6	1.0	-51.3	-13.0	-38.3	
	2826.00	-23.2	H	3.0	36.4	1.0	-58.6	-13.0	-45.6	
	Mid Ch, 710									
	1420.00	-7.8	V	3.0	37.3	1.0	-44.1	-13.0	-31.1	
	2130.00	-14.8	V	3.0	36.6	1.0	-50.4	-13.0	-37.4	
	2840.00	-20.5	V	3.0	36.4	1.0	-55.9	-13.0	-42.9	
	1420.00	-11.6	H	3.0	37.3	1.0	-48.0	-13.0	-35.0	
	2130.00	-13.9	H	3.0	36.6	1.0	-49.5	-13.0	-36.5	
	2840.00	-22.9	H	3.0	36.4	1.0	-58.3	-13.0	-45.3	
	High Ch, 713.5									
	1427.00	-5.8	V	3.0	37.3	1.0	-42.1	-13.0	-29.1	
	2140.50	-15.4	V	3.0	36.6	1.0	-50.9	-13.0	-37.9	
	2854.00	-22.0	V	3.0	36.4	1.0	-57.4	-13.0	-44.4	
	1427.00	-14.8	H	3.0	37.3	1.0	-51.2	-13.0	-38.2	
	2140.50	-17.8	H	3.0	36.6	1.0	-53.3	-13.0	-40.3	
	2854.00	-23.2	H	3.0	36.4	1.0	-58.6	-13.0	-45.6	

UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/25/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT AC charger and HS								
Location:		Chamber G								
Mode:		LTE_QPSK Band 17 Harmonics, 5MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 706.5									
LTE17	1413.00	-18.3	V	3.0	37.4	1.0	-54.7	-13.0	-41.7	
	2119.50	-17.0	V	3.0	36.6	1.0	-52.6	-13.0	-39.6	
	2826.00	-21.4	V	3.0	36.4	1.0	-56.8	-13.0	-43.8	
5MHz	1413.00	-15.7	H	3.0	37.4	1.0	-52.0	-13.0	-39.0	
	2119.50	-15.5	H	3.0	36.6	1.0	-51.0	-13.0	-38.0	
	2826.00	-23.1	H	3.0	36.4	1.0	-58.4	-13.0	-45.4	
QPSK	Mid Ch, 710									
	1420.00	-8.1	V	3.0	37.3	1.0	-44.5	-13.0	-31.5	
	2130.00	-15.9	V	3.0	36.6	1.0	-51.4	-13.0	-38.4	
	2840.00	-20.9	V	3.0	36.4	1.0	-56.3	-13.0	-43.3	
	1420.00	-12.0	H	3.0	37.3	1.0	-48.4	-13.0	-35.4	
	2130.00	-14.6	H	3.0	36.6	1.0	-50.1	-13.0	-37.1	
	2840.00	-22.1	H	3.0	36.4	1.0	-57.5	-13.0	-44.5	
	High Ch, 713.5									
	1427.00	-5.6	V	3.0	37.3	1.0	-42.0	-13.0	-29.0	
	2140.50	-15.5	V	3.0	36.6	1.0	-51.1	-13.0	-38.1	
	2854.00	-21.2	V	3.0	36.4	1.0	-56.6	-13.0	-43.6	
	1427.00	-15.1	H	3.0	37.3	1.0	-51.5	-13.0	-38.5	
	2140.50	-16.6	H	3.0	36.6	1.0	-52.2	-13.0	-39.2	
	2854.00	-22.3	H	3.0	36.4	1.0	-57.7	-13.0	-44.7	

LTE Band 12

UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement									
Company:		LG Electronics							
Project #:		15I19900							
Date:		2/25/2015							
Test Engineer:		O. Stoelting							
Configuration:		X-pos EUT AC charger and HS							
Location:		Chamber G							
Mode:		LTE_16QAM Band 12 Harmonics, 10MHz Bandwidth							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 704									
1408.00	-16.6	V	3.0	37.4	1.0	-53.0	-13.0	-40.0	
2112.00	-15.1	V	3.0	36.6	1.0	-50.7	-13.0	-37.7	
2816.00	-22.5	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
1408.00	-16.6	H	3.0	37.4	1.0	-53.0	-13.0	-40.0	
2112.00	-15.2	H	3.0	36.6	1.0	-50.8	-13.0	-37.8	
2816.00	-23.2	H	3.0	36.4	1.0	-58.5	-13.0	-45.5	
Mid Ch, 707.5									
1415.00	-5.5	V	3.0	37.3	1.0	-41.9	-13.0	-28.9	
2122.50	-18.3	V	3.0	36.6	1.0	-53.9	-13.0	-40.9	
2830.00	-21.3	V	3.0	36.4	1.0	-56.7	-13.0	-43.7	
1415.00	-16.6	H	3.0	37.3	1.0	-53.0	-13.0	-40.0	
2122.50	-14.7	H	3.0	36.6	1.0	-50.2	-13.0	-37.2	
2830.00	-23.1	H	3.0	36.4	1.0	-58.5	-13.0	-45.5	
High Ch, 711									
1422.00	-7.3	V	3.0	37.3	1.0	-43.6	-13.0	-30.6	
2133.00	-14.6	V	3.0	36.6	1.0	-50.2	-13.0	-37.2	
2844.00	-20.6	V	3.0	36.4	1.0	-56.0	-13.0	-43.0	
1422.00	-8.2	H	3.0	37.3	1.0	-44.5	-13.0	-31.5	
2133.00	-13.0	H	3.0	36.6	1.0	-48.6	-13.0	-35.6	
2844.00	-22.5	H	3.0	36.4	1.0	-57.8	-13.0	-44.8	

UL Verification Services Chamber										
Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/25/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT AC charger and HS								
Location:		Chamber G								
Mode:		LTE_QPSK Band 12 Harmonics, 10MHz Bandwidth								

UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement										
Band LTE12 5MHz 16QAM	Company: LG Electronics Project #: 15I19900 Date: 2/25/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT AC charger and HS Location: Chamber G Mode: LTE_16QAM Band 12 Harmonics, 5MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 701.50									
	1403.00	-15.6	V	3.0	37.4	1.0	-52.0	-13.0	-39.0	
	2104.50	-19.1	V	3.0	36.6	1.0	-54.7	-13.0	-41.7	
	2806.00	-22.5	V	3.0	36.4	1.0	-57.9	-13.0	-44.9	
	1403.00	-14.4	H	3.0	37.4	1.0	-50.8	-13.0	-37.8	
	2104.50	-15.8	H	3.0	36.6	1.0	-51.3	-13.0	-38.3	
	2806.00	-23.2	H	3.0	36.4	1.0	-58.6	-13.0	-45.6	
	Mid Ch, 707.50									
	1415.00	-7.8	V	3.0	37.3	1.0	-44.1	-13.0	-31.1	
	2122.50	-14.8	V	3.0	36.6	1.0	-50.4	-13.0	-37.4	
	2830.00	-20.5	V	3.0	36.4	1.0	-55.9	-13.0	-42.9	
	1415.00	-11.6	H	3.0	37.3	1.0	-48.0	-13.0	-35.0	
	2122.50	-13.9	H	3.0	36.6	1.0	-49.5	-13.0	-36.5	
	2830.00	-22.9	H	3.0	36.4	1.0	-58.3	-13.0	-45.3	
	High Ch, 713.50									
	1427.00	-5.8	V	3.0	37.3	1.0	-42.1	-13.0	-29.1	
	2140.50	-15.4	V	3.0	36.6	1.0	-50.9	-13.0	-37.9	
	2854.00	-22.0	V	3.0	36.4	1.0	-57.4	-13.0	-44.4	
	1427.00	-14.8	H	3.0	37.3	1.0	-51.2	-13.0	-38.2	
	2140.50	-17.8	H	3.0	36.6	1.0	-53.3	-13.0	-40.3	
	2854.00	-23.2	H	3.0	36.4	1.0	-58.6	-13.0	-45.6	

UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/25/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT AC charger and HS								
Location:		Chamber G								
Mode:		LTE_QPSK Band 12 Harmonics, 5MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 701.50									
LTE12	1403.00	-18.3	V	3.0	37.4	1.0	-54.7	-13.0	-41.7	
	2104.50	-17.0	V	3.0	36.6	1.0	-52.6	-13.0	-39.6	
	2806.00	-21.4	V	3.0	36.4	1.0	-56.8	-13.0	-43.8	
5MHz	1403.00	-15.7	H	3.0	37.4	1.0	-52.0	-13.0	-39.0	
	2104.50	-15.5	H	3.0	36.6	1.0	-51.0	-13.0	-38.0	
	2806.00	-23.1	H	3.0	36.4	1.0	-58.4	-13.0	-45.4	
QPSK	Mid Ch, 707.50									
	1415.00	-8.1	V	3.0	37.3	1.0	-44.5	-13.0	-31.5	
	2122.50	-15.9	V	3.0	36.6	1.0	-51.4	-13.0	-38.4	
	2830.00	-20.9	V	3.0	36.4	1.0	-56.3	-13.0	-43.3	
	1415.00	-12.0	H	3.0	37.3	1.0	-48.4	-13.0	-35.4	
	2122.50	-14.6	H	3.0	36.6	1.0	-50.1	-13.0	-37.1	
	2830.00	-22.1	H	3.0	36.4	1.0	-57.5	-13.0	-44.5	
	High Ch, 713.50									
	1427.00	-5.6	V	3.0	37.3	1.0	-42.0	-13.0	-29.0	
	2140.50	-15.5	V	3.0	36.6	1.0	-51.1	-13.0	-38.1	
	2854.00	-21.2	V	3.0	36.4	1.0	-56.6	-13.0	-43.6	
	1427.00	-15.1	H	3.0	37.3	1.0	-51.5	-13.0	-38.5	
	2140.50	-16.6	H	3.0	36.6	1.0	-52.2	-13.0	-39.2	
	2854.00	-22.3	H	3.0	36.4	1.0	-57.7	-13.0	-44.7	

UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement										
Band LTE12 3MHz 16QAM	Company: LG Electronics Project #: 15I19900 Date: 2/25/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT AC charger and HS Location: Chamber G Mode: LTE_16QAM Band 12 Harmonics, 3MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 700.5									
	1401.00	-15.6	V	3.0	37.4	1.0	-52.0	-13.0	-39.0	
	2101.50	-17.6	V	3.0	36.6	1.0	-53.1	-13.0	-40.1	
	2802.00	-21.7	V	3.0	36.4	1.0	-57.1	-13.0	-44.1	
	1401.00	-14.9	H	3.0	37.4	1.0	-51.3	-13.0	-38.3	
	2101.50	-15.5	H	3.0	36.6	1.0	-51.0	-13.0	-38.0	
	2802.00	-23.2	H	3.0	36.4	1.0	-58.6	-13.0	-45.6	
	Mid Ch, 707.50									
	1415.00	-5.6	V	3.0	37.3	1.0	-42.0	-13.0	-29.0	
	2122.00	-11.5	V	3.0	36.6	1.0	-47.1	-13.0	-34.1	
	2830.00	-18.8	V	3.0	36.4	1.0	-54.2	-13.0	-41.2	
	1415.00	-8.1	H	3.0	37.3	1.0	-44.5	-13.0	-31.5	
	2122.00	-11.7	H	3.0	36.6	1.0	-47.2	-13.0	-34.2	
	2830.00	-22.9	H	3.0	36.4	1.0	-58.3	-13.0	-45.3	
	High Ch, 714.5									
	1429.00	-8.3	V	3.0	37.3	1.0	-44.6	-13.0	-31.6	
	2143.50	-17.9	V	3.0	36.6	1.0	-53.4	-13.0	-40.4	
	2858.00	-21.6	V	3.0	36.4	1.0	-57.0	-13.0	-44.0	
	1429.00	-13.0	H	3.0	37.3	1.0	-49.3	-13.0	-36.3	
	2143.50	-14.5	H	3.0	36.6	1.0	-50.0	-13.0	-37.0	
	2858.00	-23.0	H	3.0	36.4	1.0	-58.4	-13.0	-45.4	

UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/25/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT AC charger and HS								
Location:		Chamber G								
Mode:		LTE_QPSK Band 12 Harmonics, 3MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 700.5									
LTE12 3MHz QPSK	1401.00	-15.7	V	3.0	37.4	1.0	-52.1	-13.0	-39.1	
	2101.50	-18.4	V	3.0	36.6	1.0	-53.9	-13.0	-40.9	
	2802.00	-21.5	V	3.0	36.4	1.0	-56.9	-13.0	-43.9	
	1401.00	-14.9	H	3.0	37.4	1.0	-51.3	-13.0	-38.3	
	2101.50	-15.1	H	3.0	36.6	1.0	-50.6	-13.0	-37.6	
	2802.00	-23.3	H	3.0	36.4	1.0	-58.7	-13.0	-45.7	
	Mid Ch, 707.50									
	1415.00	-5.6	V	3.0	37.3	1.0	-41.9	-13.0	-28.9	
	2122.00	-12.0	V	3.0	36.6	1.0	-47.6	-13.0	-34.6	
	2830.00	-18.4	V	3.0	36.4	1.0	-53.8	-13.0	-40.8	
	1415.00	-8.5	H	3.0	37.3	1.0	-44.9	-13.0	-31.9	
	2122.00	-11.5	H	3.0	36.6	1.0	-47.1	-13.0	-34.1	
	2830.00	-23.1	H	3.0	36.4	1.0	-58.5	-13.0	-45.5	
	High Ch, 714.5									
	1429.00	-8.3	V	3.0	37.3	1.0	-44.6	-13.0	-31.6	
	2143.50	-17.0	V	3.0	36.6	1.0	-52.5	-13.0	-39.5	
	2858.00	-21.8	V	3.0	36.4	1.0	-57.2	-13.0	-44.2	
	1429.00	-13.4	H	3.0	37.3	1.0	-49.7	-13.0	-36.7	
	2143.50	-14.5	H	3.0	36.6	1.0	-50.1	-13.0	-37.1	
	2858.00	-22.5	H	3.0	36.4	1.0	-57.9	-13.0	-44.9	

UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement										
Band LTE12 1.4MHz 16QAM	Company: LG Electronics Project #: 15I19900 Date: 2/25/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT AC charger and HS Location: Chamber G Mode: LTE_16QAM Band 12 Harmonics, 1.4MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 699.7									
	1399.40	-15.2	V	3.0	37.4	1.0	-51.5	-13.0	-38.5	
	2099.10	-17.0	V	3.0	36.6	1.0	-52.6	-13.0	-39.6	
	2798.80	-21.9	V	3.0	36.4	1.0	-57.3	-13.0	-44.3	
	1399.40	-15.4	H	3.0	37.4	1.0	-51.8	-13.0	-38.8	
	2099.10	-14.5	H	3.0	36.6	1.0	-50.1	-13.0	-37.1	
	2798.80	-22.8	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	
	Mid Ch, 707.50									
	1415.00	-10.1	V	3.0	37.3	1.0	-46.5	-13.0	-33.5	
	2122.00	-12.9	V	3.0	36.6	1.0	-48.5	-13.0	-35.5	
	2830.00	-21.6	V	3.0	36.4	1.0	-57.0	-13.0	-44.0	
	1415.00	-7.2	H	3.0	37.3	1.0	-43.6	-13.0	-30.6	
	2122.00	-14.4	H	3.0	36.6	1.0	-49.9	-13.0	-36.9	
	2830.00	-22.2	H	3.0	36.4	1.0	-57.6	-13.0	-44.6	
	High Ch, 715.3									
	1430.60	-5.2	V	3.0	37.3	1.0	-41.6	-13.0	-28.6	
	2145.90	-13.1	V	3.0	36.6	1.0	-48.7	-13.0	-35.7	
	2861.20	-21.1	V	3.0	36.4	1.0	-56.5	-13.0	-43.5	
	1430.60	-9.9	H	3.0	37.3	1.0	-46.2	-13.0	-33.2	
	2145.90	-15.4	H	3.0	36.6	1.0	-50.9	-13.0	-37.9	
	2861.20	-22.8	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	

UL Verification Services Chamber Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/25/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT AC charger and HS								
Location:		Chamber G								
Mode:		LTE_QPSK Band 12 Harmonics, 1.4MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 699.7									
LTE12	1399.40	-18.2	V	3.0	37.4	1.0	-54.6	-13.0	-41.6	
	2099.10	-17.6	V	3.0	36.6	1.0	-53.2	-13.0	-40.2	
1.4MHz	2798.80	-21.2	V	3.0	36.4	1.0	-56.6	-13.0	-43.6	
	1399.40	-14.8	H	3.0	37.4	1.0	-51.1	-13.0	-38.1	
QPSK	2099.10	-15.0	H	3.0	36.6	1.0	-50.6	-13.0	-37.6	
	2798.80	-22.8	H	3.0	36.4	1.0	-58.1	-13.0	-45.1	
Mid Ch, 707.50										
	1415.00	-10.9	V	3.0	37.3	1.0	-47.3	-13.0	-34.3	
	2122.00	-15.4	V	3.0	36.6	1.0	-50.9	-13.0	-37.9	
	2830.00	-21.1	V	3.0	36.4	1.0	-56.4	-13.0	-43.4	
	1415.00	-6.9	H	3.0	37.3	1.0	-43.3	-13.0	-30.3	
	2122.00	-15.3	H	3.0	36.6	1.0	-50.9	-13.0	-37.9	
	2830.00	-22.6	H	3.0	36.4	1.0	-58.0	-13.0	-45.0	
High Ch, 715.3										
	1430.60	-5.7	V	3.0	37.3	1.0	-42.0	-13.0	-29.0	
	2145.90	-14.2	V	3.0	36.6	1.0	-49.8	-13.0	-36.8	
	2861.20	-21.9	V	3.0	36.4	1.0	-57.3	-13.0	-44.3	
	1430.60	-10.8	H	3.0	37.3	1.0	-47.1	-13.0	-34.1	
	2145.90	-15.4	H	3.0	36.6	1.0	-50.9	-13.0	-37.9	
	2861.20	-22.2	H	3.0	36.4	1.0	-57.6	-13.0	-44.6	

LTE Band 5

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/25/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT AC charger and HS Location: Chamber G Mode: LTE_16QAM Band 5 Harmonics, 10MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 829									
1658.00	-6.2	V	3.0	37.0	1.0	-42.3	-13.0	-29.3	
2487.00	-22.0	V	3.0	36.4	1.0	-57.4	-13.0	-44.4	
3316.00	-21.0	V	3.0	36.1	1.0	-56.2	-13.0	-43.2	
1658.00	-7.3	H	3.0	37.0	1.0	-43.3	-13.0	-30.3	
2487.00	-23.4	H	3.0	36.4	1.0	-58.8	-13.0	-45.8	
3316.00	-21.6	H	3.0	36.1	1.0	-56.8	-13.0	-43.8	
Mid Ch, 836.5									
1673.00	3.3	V	3.0	37.0	1.0	-32.7	-13.0	-19.7	
2509.50	-12.5	V	3.0	36.4	1.0	-47.9	-13.0	-34.9	
3346.00	-16.9	V	3.0	36.1	1.0	-52.0	-13.0	-39.0	
1673.00	-1.6	H	3.0	37.0	1.0	-37.6	-13.0	-24.6	
2509.50	-21.9	H	3.0	36.4	1.0	-57.3	-13.0	-44.3	
3346.00	-19.2	H	3.0	36.1	1.0	-54.3	-13.0	-41.3	
High Ch, 844									
1688.00	1.8	V	3.0	37.0	1.0	-34.2	-13.0	-21.2	
2532.00	-17.8	V	3.0	36.4	1.0	-53.2	-13.0	-40.2	
3376.00	-20.5	V	3.0	36.1	1.0	-55.6	-13.0	-42.6	
1688.00	-4.8	H	3.0	37.0	1.0	-40.8	-13.0	-27.8	
2532.00	-25.5	H	3.0	36.4	1.0	-60.9	-13.0	-47.9	
3376.00	-20.8	H	3.0	36.1	1.0	-55.9	-13.0	-42.9	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/25/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT AC charger and HS								
Location:		Chamber G								
Mode:		LTE_QPSK Band 5 Harmonics, 10MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 829									
LTE5	1658.00	-7.1	V	3.0	37.0	1.0	-43.1	-13.0	-30.1	
	2487.00	-21.4	V	3.0	36.4	1.0	-56.8	-13.0	-43.8	
10MHz	3316.00	-21.2	V	3.0	36.1	1.0	-56.3	-13.0	-43.3	
	1658.00	-7.3	H	3.0	37.0	1.0	-43.3	-13.0	-30.3	
QPSK	2487.00	-24.1	H	3.0	36.4	1.0	-59.5	-13.0	-46.5	
	3316.00	-21.6	H	3.0	36.1	1.0	-56.7	-13.0	-43.7	
	Mid Ch, 836.5									
	1673.00	2.4	V	3.0	37.0	1.0	-33.6	-13.0	-20.6	
	2509.50	-12.2	V	3.0	36.4	1.0	-47.6	-13.0	-34.6	
	3346.00	-18.6	V	3.0	36.1	1.0	-53.7	-13.0	-40.7	
	1673.00	-1.7	H	3.0	37.0	1.0	-37.7	-13.0	-24.7	
	2509.50	-22.4	H	3.0	36.4	1.0	-57.8	-13.0	-44.8	
	3346.00	-20.8	H	3.0	36.1	1.0	-56.0	-13.0	-43.0	
	High Ch, 844									
	1688.00	1.7	V	3.0	37.0	1.0	-34.3	-13.0	-21.3	
	2532.00	-17.5	V	3.0	36.4	1.0	-52.9	-13.0	-39.9	
	3376.00	-21.4	V	3.0	36.1	1.0	-56.5	-13.0	-43.5	
	1688.00	-4.7	H	3.0	37.0	1.0	-40.7	-13.0	-27.7	
	2532.00	-24.3	H	3.0	36.4	1.0	-59.7	-13.0	-46.7	
	3376.00	-21.3	H	3.0	36.1	1.0	-56.4	-13.0	-43.4	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/25/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT AC charger and HS Location: Chamber G Mode: LTE_16QAM Band 5 Harmonics, 5MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5									
1653.00	0.0	V	3.0	37.0	1.0	-36.0	-13.0	-23.0	
2479.50	-22.4	V	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3306.00	-20.0	V	3.0	36.1	1.0	-55.2	-13.0	-42.2	
1653.00	-4.0	H	3.0	37.0	1.0	-40.0	-13.0	-27.0	
2479.50	-21.2	H	3.0	36.4	1.0	-56.7	-13.0	-43.7	
3306.00	-19.1	H	3.0	36.1	1.0	-54.2	-13.0	-41.2	
Mid Ch, 836.5									
1673.00	4.1	V	3.0	37.0	1.0	-31.9	-13.0	-18.9	
2509.50	-18.2	V	3.0	36.4	1.0	-53.6	-13.0	-40.6	
3346.00	-20.5	V	3.0	36.1	1.0	-55.6	-13.0	-42.6	
1673.00	-3.7	H	3.0	37.0	1.0	-39.7	-13.0	-26.7	
2509.50	-24.0	H	3.0	36.4	1.0	-59.5	-13.0	-46.5	
3346.00	-21.3	H	3.0	36.1	1.0	-56.4	-13.0	-43.4	
High Ch, 846.5									
1693.00	0.1	V	3.0	37.0	1.0	-35.9	-13.0	-22.9	
2539.50	-14.6	V	3.0	36.4	1.0	-50.0	-13.0	-37.0	
3386.00	-20.0	V	3.0	36.1	1.0	-55.1	-13.0	-42.1	
1693.00	-3.7	H	3.0	37.0	1.0	-39.7	-13.0	-26.7	
2539.50	-23.2	H	3.0	36.4	1.0	-58.6	-13.0	-45.6	
3386.00	-20.5	H	3.0	36.1	1.0	-55.6	-13.0	-42.6	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/25/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT AC charger and HS Location: Chamber G Mode: LTE_QPSK Band 5 Harmonics, 5MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5									
1653.00	0.3	V	3.0	37.0	1.0	-35.8	-13.0	-22.8	
2479.50	-22.0	V	3.0	36.4	1.0	-57.5	-13.0	-44.5	
3306.00	-20.8	V	3.0	36.1	1.0	-55.9	-13.0	-42.9	
1653.00	-4.8	H	3.0	37.0	1.0	-40.8	-13.0	-27.8	
2479.50	-21.1	H	3.0	36.4	1.0	-56.6	-13.0	-43.6	
3306.00	-20.4	H	3.0	36.1	1.0	-55.6	-13.0	-42.6	
Mid Ch, 836.5									
1673.00	3.3	V	3.0	37.0	1.0	-32.7	-13.0	-19.7	
2509.50	-16.8	V	3.0	36.4	1.0	-52.2	-13.0	-39.2	
3346.00	-20.5	V	3.0	36.1	1.0	-55.6	-13.0	-42.6	
1673.00	-3.8	H	3.0	37.0	1.0	-39.8	-13.0	-26.8	
2509.50	-25.3	H	3.0	36.4	1.0	-60.7	-13.0	-47.7	
3346.00	-21.1	H	3.0	36.1	1.0	-56.2	-13.0	-43.2	
High Ch, 846.5									
1693.00	-0.1	V	3.0	37.0	1.0	-36.0	-13.0	-23.0	
2539.50	-13.9	V	3.0	36.4	1.0	-49.3	-13.0	-36.3	
3386.00	-19.9	V	3.0	36.1	1.0	-55.0	-13.0	-42.0	
1693.00	-3.3	H	3.0	37.0	1.0	-39.2	-13.0	-26.2	
2539.50	-24.1	H	3.0	36.4	1.0	-59.5	-13.0	-46.5	
3386.00	-20.3	H	3.0	36.1	1.0	-55.4	-13.0	-42.4	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/25/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT AC charger and HS Location: Chamber G Mode: LTE_16QAM Band 5 Harmonics, 3MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5									
1651.00	0.3	V	3.0	37.0	1.0	-35.7	-13.0	-22.7	
2476.50	-18.9	V	3.0	36.4	1.0	-54.4	-13.0	-41.4	
3302.00	-18.7	V	3.0	36.2	1.0	-53.9	-13.0	-40.9	
1651.00	-5.7	H	3.0	37.0	1.0	-41.7	-13.0	-28.7	
2476.50	-22.1	H	3.0	36.4	1.0	-57.6	-13.0	-44.6	
3302.00	-19.5	H	3.0	36.2	1.0	-54.7	-13.0	-41.7	
Mid Ch, 836.5									
1673.00	2.8	V	3.0	37.0	1.0	-33.2	-13.0	-20.2	
2509.50	-16.3	V	3.0	36.4	1.0	-51.8	-13.0	-38.8	
3346.00	-19.2	V	3.0	36.1	1.0	-54.3	-13.0	-41.3	
1673.00	-2.1	H	3.0	37.0	1.0	-38.1	-13.0	-25.1	
2509.50	-22.9	H	3.0	36.4	1.0	-58.3	-13.0	-45.3	
3346.00	-20.6	H	3.0	36.1	1.0	-55.7	-13.0	-42.7	
High Ch, 847.5									
1695.00	4.8	V	3.0	37.0	1.0	-31.2	-13.0	-18.2	
2542.50	-18.2	V	3.0	36.4	1.0	-53.6	-13.0	-40.6	
3390.00	-20.5	V	3.0	36.1	1.0	-55.6	-13.0	-42.6	
1695.00	-1.8	H	3.0	37.0	1.0	-37.7	-13.0	-24.7	
2542.50	-25.0	H	3.0	36.4	1.0	-60.4	-13.0	-47.4	
3390.00	-20.7	H	3.0	36.1	1.0	-55.8	-13.0	-42.8	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/25/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT AC charger and HS								
Location:		Chamber G								
Mode:		LTE_QPSK Band 5 Harmonics, 3MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band LTE5 3MHz QPSK	Low Ch, 825.5									
	1651.00	0.0	V	3.0	37.0	1.0	-36.0	-13.0	-23.0	
	2476.50	-19.7	V	3.0	36.4	1.0	-55.1	-13.0	-42.1	
	3302.00	-19.0	V	3.0	36.2	1.0	-54.1	-13.0	-41.1	
	1651.00	-6.2	H	3.0	37.0	1.0	-42.3	-13.0	-29.3	
	2476.50	-21.5	H	3.0	36.4	1.0	-56.9	-13.0	-43.9	
	3302.00	-19.8	H	3.0	36.2	1.0	-54.9	-13.0	-41.9	
	Mid Ch, 836.5									
	1673.00	2.3	V	3.0	37.0	1.0	-33.7	-13.0	-20.7	
	2509.50	-15.9	V	3.0	36.4	1.0	-51.3	-13.0	-38.3	
	3346.00	-20.2	V	3.0	36.1	1.0	-55.4	-13.0	-42.4	
	1673.00	-2.7	H	3.0	37.0	1.0	-38.7	-13.0	-25.7	
	2509.50	-22.5	H	3.0	36.4	1.0	-57.9	-13.0	-44.9	
	3346.00	-20.6	H	3.0	36.1	1.0	-55.7	-13.0	-42.7	
	High Ch, 847.5									
	1695.00	3.7	V	3.0	37.0	1.0	-32.3	-13.0	-19.3	
	2542.50	-17.8	V	3.0	36.4	1.0	-53.2	-13.0	-40.2	
	3390.00	-20.5	V	3.0	36.1	1.0	-55.6	-13.0	-42.6	
	1695.00	-2.7	H	3.0	37.0	1.0	-38.7	-13.0	-25.7	
	2542.50	-24.7	H	3.0	36.4	1.0	-60.1	-13.0	-47.1	
	3390.00	-20.8	H	3.0	36.1	1.0	-55.8	-13.0	-42.8	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15119900 Date: 2/25/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT AC charger and HS Location: Chamber G Mode: LTE_16QAM Band 5 Harmonics, 1.4MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-1.1	V	3.0	37.0	1.0	-37.1	-13.0	-24.1	
2474.10	-22.3	V	3.0	36.4	1.0	-57.7	-13.0	-44.7	
3298.80	-21.4	V	3.0	36.2	1.0	-56.6	-13.0	-43.6	
1649.40	-7.8	H	3.0	37.0	1.0	-43.8	-13.0	-30.8	
2474.10	-22.3	H	3.0	36.4	1.0	-57.8	-13.0	-44.8	
3298.80	-22.2	H	3.0	36.2	1.0	-57.3	-13.0	-44.3	
Mid Ch, 836.5									
1673.00	-0.7	V	3.0	37.0	1.0	-36.7	-13.0	-23.7	
2509.50	-20.8	V	3.0	36.4	1.0	-56.2	-13.0	-43.2	
3346.00	-20.2	V	3.0	36.1	1.0	-55.3	-13.0	-42.3	
1673.00	-6.3	H	3.0	37.0	1.0	-42.3	-13.0	-29.3	
2509.50	-23.2	H	3.0	36.4	1.0	-58.6	-13.0	-45.6	
3346.00	-21.1	H	3.0	36.1	1.0	-56.2	-13.0	-43.2	
High Ch, 848.3									
1696.60	0.5	V	3.0	37.0	1.0	-35.5	-13.0	-22.5	
2544.90	-19.1	V	3.0	36.4	1.0	-54.5	-13.0	-41.5	
3393.20	-20.2	V	3.0	36.1	1.0	-55.3	-13.0	-42.3	
1696.60	-6.6	H	3.0	37.0	1.0	-42.6	-13.0	-29.6	
2544.90	-24.8	H	3.0	36.4	1.0	-60.2	-13.0	-47.2	
3393.20	-21.4	H	3.0	36.1	1.0	-56.4	-13.0	-43.4	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/25/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT AC charger and HS Location: Chamber G Mode: LTE_QPSK Band 5 Harmonics, 1.4MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-1.4	V	3.0	37.0	1.0	-37.4	-13.0	-24.4	
2474.10	-22.0	V	3.0	36.4	1.0	-57.4	-13.0	-44.4	
3298.80	-21.0	V	3.0	36.2	1.0	-56.2	-13.0	-43.2	
1649.40	-9.5	H	3.0	37.0	1.0	-45.6	-13.0	-32.6	
2474.10	-22.8	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3298.80	-22.3	H	3.0	36.2	1.0	-57.5	-13.0	-44.5	
Mid Ch, 836.5									
1673.00	-1.9	V	3.0	37.0	1.0	-37.9	-13.0	-24.9	
2509.50	-19.3	V	3.0	36.4	1.0	-54.7	-13.0	-41.7	
3346.00	-19.9	V	3.0	36.1	1.0	-55.0	-13.0	-42.0	
1673.00	-6.3	H	3.0	37.0	1.0	-42.3	-13.0	-29.3	
2509.50	-22.7	H	3.0	36.4	1.0	-58.2	-13.0	-45.2	
3346.00	-20.9	H	3.0	36.1	1.0	-56.0	-13.0	-43.0	
High Ch, 848.3									
1696.60	0.2	V	3.0	37.0	1.0	-35.8	-13.0	-22.8	
2544.90	-18.7	V	3.0	36.4	1.0	-54.1	-13.0	-41.1	
3393.20	-20.9	V	3.0	36.1	1.0	-56.0	-13.0	-43.0	
1696.60	-7.5	H	3.0	37.0	1.0	-43.5	-13.0	-30.5	
2544.90	-24.5	H	3.0	36.4	1.0	-59.9	-13.0	-46.9	
3393.20	-21.3	H	3.0	36.1	1.0	-56.4	-13.0	-43.4	

LTE Band 4

Band	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_16QAM Band 4 Harmonics, 20MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE4	Low Ch, 1720									
	3440.00	-4.6	V	3.0	36.0	1.0	-39.6	-13.0	-26.6	
20MHz	5160.00	-18.8	V	3.0	35.4	1.0	-53.3	-13.0	-40.3	
	6880.00	-18.0	V	3.0	35.7	1.0	-52.6	-13.0	-39.6	
16QAM	3440.00	-5.6	H	3.0	36.0	1.0	-40.7	-13.0	-27.7	
	5160.00	-19.5	H	3.0	35.4	1.0	-53.9	-13.0	-40.9	
	6880.00	-16.4	H	3.0	35.7	1.0	-51.0	-13.0	-38.0	
	Mid Ch, 1732.5									
	3465.00	-7.2	V	3.0	36.0	1.0	-42.2	-13.0	-29.2	
	5197.50	-17.9	V	3.0	35.4	1.0	-52.3	-13.0	-39.3	
	6930.00	-18.3	V	3.0	35.7	1.0	-53.0	-13.0	-40.0	
	3465.00	-14.0	H	3.0	36.0	1.0	-49.0	-13.0	-36.0	
	5197.50	-17.7	H	3.0	35.4	1.0	-52.1	-13.0	-39.1	
	6930.00	-16.7	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
	High Ch, 1745									
	3490.00	-9.3	V	3.0	36.0	1.0	-44.3	-13.0	-31.3	
	5235.00	-16.1	V	3.0	35.4	1.0	-50.5	-13.0	-37.5	
	6980.00	-17.4	V	3.0	35.7	1.0	-52.1	-13.0	-39.1	
	3490.00	-11.5	H	3.0	36.0	1.0	-46.5	-13.0	-33.5	
	5235.00	-18.8	H	3.0	35.4	1.0	-53.2	-13.0	-40.2	
	6980.00	-16.9	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	

Band	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_QPSK Band 4 Harmonics, 20MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE4	Low Ch, 1720									
	3440.00	-4.8	V	3.0	36.0	1.0	-39.8	-13.0	-26.8	
20MHz	5160.00	-18.5	V	3.0	35.4	1.0	-53.0	-13.0	-40.0	
	6880.00	-16.9	V	3.0	35.7	1.0	-51.5	-13.0	-38.5	
QPSK	3440.00	-6.0	H	3.0	36.0	1.0	-41.1	-13.0	-28.1	
	5160.00	-19.1	H	3.0	35.4	1.0	-53.5	-13.0	-40.5	
	6880.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
	Mid Ch, 1732.5									
	3465.00	-6.0	V	3.0	36.0	1.0	-41.1	-13.0	-28.1	
	5197.50	-18.5	V	3.0	35.4	1.0	-52.9	-13.0	-39.9	
	6930.00	-17.6	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
	3465.00	-12.9	H	3.0	36.0	1.0	-47.9	-13.0	-34.9	
	5197.50	-17.5	H	3.0	35.4	1.0	-51.9	-13.0	-38.9	
	6930.00	-17.2	H	3.0	35.7	1.0	-51.9	-13.0	-38.9	
	High Ch, 1745									
	3490.00	-5.4	V	3.0	36.0	1.0	-40.4	-13.0	-27.4	
	5235.00	-16.3	V	3.0	35.4	1.0	-50.7	-13.0	-37.7	
	6980.00	-17.6	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
	3490.00	-9.7	H	3.0	36.0	1.0	-44.7	-13.0	-31.7	
	5235.00	-18.4	H	3.0	35.4	1.0	-52.8	-13.0	-39.8	
	6980.00	-16.4	H	3.0	35.7	1.0	-51.1	-13.0	-38.1	

	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: Project #: Date: Test Engineer: Configuration: Location: Mode: LG Electronics 15I19900 2/24/2015 R.Z X-pos EUT , AC Adapter, Headset Chamber G LTE_16QAM Band 4 Harmonics, 15MHz Bandwidth									
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE4	Low Ch, 1717.5									
	3435.00	-5.5	V	3.0	36.1	1.0	-40.5	-13.0	-27.5	
	5152.50	-18.7	V	3.0	35.4	1.0	-53.2	-13.0	-40.2	
15MHz	6870.00	-18.1	V	3.0	35.7	1.0	-52.7	-13.0	-39.7	
	3435.00	-2.6	H	3.0	36.1	1.0	-37.7	-13.0	-24.7	
	5152.50	-17.2	H	3.0	35.4	1.0	-51.7	-13.0	-38.7	
16QAM	6870.00	-16.8	H	3.0	35.7	1.0	-51.5	-13.0	-38.5	
	Mid Ch, 1732.5									
	3465.00	-3.8	V	3.0	36.0	1.0	-38.9	-13.0	-25.9	
	5197.50	-14.7	V	3.0	35.4	1.0	-49.1	-13.0	-36.1	
	6930.00	-17.3	V	3.0	35.7	1.0	-52.0	-13.0	-39.0	
	3465.00	-3.2	H	3.0	36.0	1.0	-38.2	-13.0	-25.2	
	5197.50	-18.3	H	3.0	35.4	1.0	-52.7	-13.0	-39.7	
	6930.00	-17.5	H	3.0	35.7	1.0	-52.2	-13.0	-39.2	
	High Ch, 1747.5									
	3495.00	-12.4	V	3.0	36.0	1.0	-47.4	-13.0	-34.4	
	5242.50	-16.8	V	3.0	35.4	1.0	-51.2	-13.0	-38.2	
	6990.00	-18.4	V	3.0	35.7	1.0	-53.1	-13.0	-40.1	
	3495.00	-5.3	H	3.0	36.0	1.0	-40.3	-13.0	-27.3	
	5242.50	-15.0	H	3.0	35.4	1.0	-49.4	-13.0	-36.4	
	6990.00	-17.0	H	3.0	35.7	1.0	-51.7	-13.0	-38.7	

Band	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_QPSK Band 4 Harmonics, 15MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1717.5									
LTE4	3435.00	-4.6	V	3.0	36.1	1.0	-39.6	-13.0	-26.6	
	5152.50	-18.9	V	3.0	35.4	1.0	-53.4	-13.0	-40.4	
15MHz	6870.00	-18.2	V	3.0	35.7	1.0	-52.8	-13.0	-39.8	
	3435.00	-2.9	H	3.0	36.1	1.0	-37.9	-13.0	-24.9	
QPSK	5152.50	-16.5	H	3.0	35.4	1.0	-50.9	-13.0	-37.9	
	6870.00	-15.8	H	3.0	35.7	1.0	-50.5	-13.0	-37.5	
	Mid Ch, 1732.5									
	3465.00	-4.0	V	3.0	36.0	1.0	-39.1	-13.0	-26.1	
	5197.50	-14.8	V	3.0	35.4	1.0	-49.2	-13.0	-36.2	
	6930.00	-17.9	V	3.0	35.7	1.0	-52.6	-13.0	-39.6	
	3465.00	-4.3	H	3.0	36.0	1.0	-39.3	-13.0	-26.3	
	5197.50	-18.4	H	3.0	35.4	1.0	-52.8	-13.0	-39.8	
	6930.00	-16.1	H	3.0	35.7	1.0	-50.8	-13.0	-37.8	
	High Ch, 1747.5									
	3495.00	-8.3	V	3.0	36.0	1.0	-43.3	-13.0	-30.3	
	5242.50	-16.2	V	3.0	35.4	1.0	-50.7	-13.0	-37.7	
	6990.00	-17.2	V	3.0	35.7	1.0	-51.9	-13.0	-38.9	
	3495.00	-6.9	H	3.0	36.0	1.0	-41.9	-13.0	-28.9	
	5242.50	-13.9	H	3.0	35.4	1.0	-48.4	-13.0	-35.4	
	6990.00	-17.2	H	3.0	35.7	1.0	-51.9	-13.0	-38.9	

Band	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_16QAM Band 4 Harmonics, 10MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE4	Low Ch, 1715									
	3430.00	-8.9	V	3.0	36.1	1.0	-43.9	-13.0	-30.9	
10MHz	5145.00	-14.6	V	3.0	35.4	1.0	-49.0	-13.0	-36.0	
	6860.00	-17.9	V	3.0	35.7	1.0	-52.6	-13.0	-39.6	
16QAM	3430.00	-7.3	H	3.0	36.1	1.0	-42.4	-13.0	-29.4	
	5145.00	-19.0	H	3.0	35.4	1.0	-53.4	-13.0	-40.4	
	6860.00	-16.0	H	3.0	35.7	1.0	-50.6	-13.0	-37.6	
	Mid Ch, 1732.5									
	3465.00	-6.6	V	3.0	36.0	1.0	-41.7	-13.0	-28.7	
	5197.50	-13.8	V	3.0	35.4	1.0	-48.2	-13.0	-35.2	
	6930.00	-17.6	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
	3465.00	-5.5	H	3.0	36.0	1.0	-40.6	-13.0	-27.6	
	5197.50	-18.3	H	3.0	35.4	1.0	-52.7	-13.0	-39.7	
	6930.00	-16.5	H	3.0	35.7	1.0	-51.2	-13.0	-38.2	
	High Ch, 1750									
	3500.00	-9.8	V	3.0	36.0	1.0	-44.8	-13.0	-31.8	
	5250.00	-15.0	V	3.0	35.4	1.0	-49.5	-13.0	-36.5	
	7000.00	-17.1	V	3.0	35.7	1.0	-51.8	-13.0	-38.8	
	3500.00	-8.4	H	3.0	36.0	1.0	-43.4	-13.0	-30.4	
	5250.00	-18.2	H	3.0	35.4	1.0	-52.6	-13.0	-39.6	
	7000.00	-15.3	H	3.0	35.7	1.0	-50.0	-13.0	-37.0	

Band	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_QPSK Band 4 Harmonics, 10MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE4	Low Ch, 1715									
	3430.00	-6.6	V	3.0	36.1	1.0	-41.7	-13.0	-28.7	
10MHz	5145.00	-14.1	V	3.0	35.4	1.0	-48.5	-13.0	-35.5	
	6860.00	-17.6	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
QPSK	3430.00	-6.6	H	3.0	36.1	1.0	-41.6	-13.0	-28.6	
	5145.00	-20.4	H	3.0	35.4	1.0	-54.9	-13.0	-41.9	
	6860.00	-15.9	H	3.0	35.7	1.0	-50.6	-13.0	-37.6	
	Mid Ch, 1732.5									
	3465.00	-6.3	V	3.0	36.0	1.0	-41.4	-13.0	-28.4	
	5197.50	-14.3	V	3.0	35.4	1.0	-48.7	-13.0	-35.7	
	6930.00	-17.4	V	3.0	35.7	1.0	-52.1	-13.0	-39.1	
	3465.00	-7.3	H	3.0	36.0	1.0	-42.4	-13.0	-29.4	
	5197.50	-18.7	H	3.0	35.4	1.0	-53.1	-13.0	-40.1	
	6930.00	-16.5	H	3.0	35.7	1.0	-51.2	-13.0	-38.2	
	High Ch, 1750									
	3500.00	-8.2	V	3.0	36.0	1.0	-43.2	-13.0	-30.2	
	5250.00	-15.4	V	3.0	35.4	1.0	-49.8	-13.0	-36.8	
	7000.00	-16.6	V	3.0	35.7	1.0	-51.3	-13.0	-38.3	
	3500.00	-9.3	H	3.0	36.0	1.0	-44.3	-13.0	-31.3	
	5250.00	-17.7	H	3.0	35.4	1.0	-52.1	-13.0	-39.1	
	7000.00	-16.0	H	3.0	35.7	1.0	-50.7	-13.0	-37.7	

Band	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_16QAM Band 4 Harmonics, 5MHz Bandwidth									
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE4	Low Ch, 1712.5									
	3425.00	-10.4	V	3.0	36.1	1.0	-45.4	-13.0	-32.4	
5MHz	5137.50	-14.4	V	3.0	35.4	1.0	-48.8	-13.0	-35.8	
	6850.00	-16.4	V	3.0	35.7	1.0	-51.1	-13.0	-38.1	
16QAM	3425.00	-10.3	H	3.0	36.1	1.0	-45.4	-13.0	-32.4	
	5137.50	-12.7	H	3.0	35.4	1.0	-47.2	-13.0	-34.2	
	6850.00	-15.9	H	3.0	35.7	1.0	-50.5	-13.0	-37.5	
	Mid Ch, 1732.5									
	3465.00	-7.8	V	3.0	36.0	1.0	-42.8	-13.0	-29.8	
	5197.50	-11.9	V	3.0	35.4	1.0	-46.3	-13.0	-33.3	
	6930.00	-17.8	V	3.0	35.7	1.0	-52.5	-13.0	-39.5	
	3465.00	-4.6	H	3.0	36.0	1.0	-39.7	-13.0	-26.7	
	5197.50	-13.7	H	3.0	35.4	1.0	-48.1	-13.0	-35.1	
	6930.00	-15.7	H	3.0	35.7	1.0	-50.4	-13.0	-37.4	
	High Ch, 1752.5									
	3505.00	-8.1	V	3.0	36.0	1.0	-43.1	-13.0	-30.1	
	5257.50	-14.8	V	3.0	35.4	1.0	-49.3	-13.0	-36.3	
	7010.00	-17.3	V	3.0	35.7	1.0	-52.0	-13.0	-39.0	
	3505.00	-7.8	H	3.0	36.0	1.0	-42.8	-13.0	-29.8	
	5257.50	-17.8	H	3.0	35.4	1.0	-52.2	-13.0	-39.2	
	7010.00	-16.1	H	3.0	35.7	1.0	-50.8	-13.0	-37.8	

Band LTE4 5MHz QPSK	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_QPSK Band 4 Harmonics, 5MHz Bandwidth									
	f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
	MHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
	Low Ch, 1712.5									
	3425.00	-10.1	V	3.0	36.1	1.0	-45.2	-13.0	-32.2	
	5137.50	-13.2	V	3.0	35.4	1.0	-47.7	-13.0	-34.7	
	6850.00	-16.8	V	3.0	35.7	1.0	-51.5	-13.0	-38.5	
	3425.00	-10.8	H	3.0	36.1	1.0	-45.8	-13.0	-32.8	
	5137.50	-13.0	H	3.0	35.4	1.0	-47.4	-13.0	-34.4	
	6850.00	-17.0	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
	Mid Ch, 1732.5									
	3465.00	-8.9	V	3.0	36.0	1.0	-43.9	-13.0	-30.9	
	5197.50	-13.8	V	3.0	35.4	1.0	-48.2	-13.0	-35.2	
	8655.00	-5.1	V	3.0	35.7	1.0	-39.8	-13.0	-26.8	
	3457.50	-9.3	H	3.0	36.0	1.0	-44.3	-13.0	-31.3	
	5197.50	-15.3	H	3.0	35.4	1.0	-49.7	-13.0	-36.7	
	6930.00	-16.5	H	3.0	35.7	1.0	-51.2	-13.0	-38.2	
	High Ch, 1752.5									
	3505.00	-10.7	V	3.0	36.0	1.0	-45.7	-13.0	-32.7	
	5257.50	-14.4	V	3.0	35.4	1.0	-48.8	-13.0	-35.8	
	7010.00	-18.2	V	3.0	35.7	1.0	-52.9	-13.0	-39.9	
	3505.00	-11.5	H	3.0	36.0	1.0	-46.5	-13.0	-33.5	
	5257.50	-15.2	H	3.0	35.4	1.0	-49.6	-13.0	-36.6	
	7010.00	-16.4	H	3.0	35.7	1.0	-51.1	-13.0	-38.1	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/24/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT , AC Adapter, Headset								
Location:		Chamber A								
Mode:		LTE_16QAM Band 4 Harmonics, 3MHz Bandwidth								
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band LTE4 3MHz 16QAM	Low Ch, 1711.5									
	3423.00	-8.7	V	3.0	36.1	1.0	-43.7	-13.0	-30.7	
	5134.50	-15.4	V	3.0	35.4	1.0	-49.8	-13.0	-36.8	
	6846.00	-14.6	V	3.0	35.7	1.0	-49.3	-13.0	-36.3	
	3423.00	-6.2	H	3.0	36.1	1.0	-41.2	-13.0	-28.2	
	5134.50	-15.1	H	3.0	35.4	1.0	-49.5	-13.0	-36.5	
	6846.00	-13.5	H	3.0	35.7	1.0	-48.1	-13.0	-35.1	
	Mid Ch, 1732.5									
	3465.00	-6.5	V	3.0	36.0	1.0	-41.5	-13.0	-28.5	
	5197.50	-16.1	V	3.0	35.4	1.0	-50.5	-13.0	-37.5	
	6930.00	-14.0	V	3.0	35.7	1.0	-48.7	-13.0	-35.7	
	3465.00	-10.8	H	3.0	36.0	1.0	-45.8	-13.0	-32.8	
	5197.50	-15.5	H	3.0	35.4	1.0	-49.9	-13.0	-36.9	
	6930.00	-13.9	H	3.0	35.7	1.0	-48.5	-13.0	-35.5	
	High Ch, 1753.5									
	3507.00	-6.7	V	3.0	36.0	1.0	-41.7	-13.0	-28.7	
	5260.50	-15.5	V	3.0	35.4	1.0	-50.0	-13.0	-37.0	
	7014.00	-14.0	V	3.0	35.7	1.0	-48.6	-13.0	-35.6	
	3507.00	-4.1	H	3.0	36.0	1.0	-39.1	-13.0	-26.1	
	5260.50	-16.3	H	3.0	35.4	1.0	-50.7	-13.0	-37.7	
	7014.00	-13.5	H	3.0	35.7	1.0	-48.2	-13.0	-35.2	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber A Mode: LTE_QPSK Band 4 Harmonics, 3MHz Bandwidth										
	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Band LTE4 3MHz QPSK	Low Ch, 1711.5									
	3423.00	-9.5	V	3.0	36.1	1.0	-44.6	-13.0	-31.6	
	5134.50	-15.2	V	3.0	35.4	1.0	-49.7	-13.0	-36.7	
	6846.00	-15.1	V	3.0	35.7	1.0	-49.7	-13.0	-36.7	
	3423.00	-7.8	H	3.0	36.1	1.0	-42.9	-13.0	-29.9	
	5134.50	-13.1	H	3.0	35.4	1.0	-47.5	-13.0	-34.5	
	6846.00	-13.5	H	3.0	35.7	1.0	-48.2	-13.0	-35.2	
	Mid Ch, 1732.5									
	3465.00	-7.8	V	3.0	36.0	1.0	-42.9	-13.0	-29.9	
	5197.50	-16.3	V	3.0	35.4	1.0	-50.7	-13.0	-37.7	
	6930.00	-14.7	V	3.0	35.7	1.0	-49.4	-13.0	-36.4	
	3465.00	-10.3	H	3.0	36.0	1.0	-45.3	-13.0	-32.3	
	5197.50	-14.2	H	3.0	35.4	1.0	-48.6	-13.0	-35.6	
	6930.00	-13.3	H	3.0	35.7	1.0	-48.0	-13.0	-35.0	
	High Ch, 1753.5									
	3507.00	-8.3	V	3.0	36.0	1.0	-43.3	-13.0	-30.3	
	5260.50	-17.0	V	3.0	35.4	1.0	-51.5	-13.0	-38.5	
	7014.00	-14.1	V	3.0	35.7	1.0	-48.8	-13.0	-35.8	
	3507.00	-4.3	H	3.0	36.0	1.0	-39.3	-13.0	-26.3	
	5260.50	-14.1	H	3.0	35.4	1.0	-48.6	-13.0	-35.6	
	7014.00	-14.1	H	3.0	35.7	1.0	-48.8	-13.0	-35.8	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/24/2015								
Test Engineer:		O. Stoelting								
Configuration:		X-pos EUT , AC Adapter, Headset								
Location:		Chamber A								
Mode:		LTE_16QAM Band 4 Harmonics, 1.4MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
LTE4	Low Ch, 1710.7									
	3421.40	-10.3	V	3.0	36.1	1.0	-45.4	-13.0	-32.4	
	5132.10	-15.1	V	3.0	35.4	1.0	-49.5	-13.0	-36.5	
	6842.80	-13.9	V	3.0	35.7	1.0	-48.6	-13.0	-35.6	
	3421.40	-10.1	H	3.0	36.1	1.0	-45.1	-13.0	-32.1	
	5132.10	-14.9	H	3.0	35.4	1.0	-49.3	-13.0	-36.3	
	6842.80	-13.7	H	3.0	35.7	1.0	-48.4	-13.0	-35.4	
	Mid Ch, 1732.5									
	3465.00	-6.6	V	3.0	36.0	1.0	-41.6	-13.0	-28.6	
	5197.50	-15.9	V	3.0	35.4	1.0	-50.3	-13.0	-37.3	
1.4MHz	6930.00	-13.6	V	3.0	35.7	1.0	-48.3	-13.0	-35.3	
	3465.00	-11.4	H	3.0	36.0	1.0	-46.4	-13.0	-33.4	
	5197.50	-15.8	H	3.0	35.4	1.0	-50.3	-13.0	-37.3	
	6930.00	-12.9	H	3.0	35.7	1.0	-47.6	-13.0	-34.6	
	High Ch, 1754.3									
	3508.60	-6.7	V	3.0	36.0	1.0	-41.7	-13.0	-28.7	
	5262.90	-16.6	V	3.0	35.4	1.0	-51.0	-13.0	-38.0	
	7017.20	-14.1	V	3.0	35.7	1.0	-48.8	-13.0	-35.8	
	3508.60	-2.3	H	3.0	36.0	1.0	-37.3	-13.0	-24.3	
	5262.90	-16.5	H	3.0	35.4	1.0	-50.9	-13.0	-37.9	
16QAM	7017.20	-13.2	H	3.0	35.7	1.0	-47.8	-13.0	-34.8	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber A Mode: LTE_QPSK Band 4 Harmonics, 1.4MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1710.7									
3421.40	-10.1	V	3.0	36.1	1.0	-45.2	-13.0	-32.2	
5132.10	-13.8	V	3.0	35.4	1.0	-48.2	-13.0	-35.2	
6842.80	-14.6	V	3.0	35.7	1.0	-49.3	-13.0	-36.3	
3421.40	-11.8	H	3.0	36.1	1.0	-46.9	-13.0	-33.9	
5132.10	-15.0	H	3.0	35.4	1.0	-49.4	-13.0	-36.4	
6842.80	-13.5	H	3.0	35.7	1.0	-48.1	-13.0	-35.1	
Mid Ch, 1732.5									
3465.00	-9.1	V	3.0	36.0	1.0	-44.2	-13.0	-31.2	
5197.50	-17.3	V	3.0	35.4	1.0	-51.7	-13.0	-38.7	
6930.00	-14.8	V	3.0	35.7	1.0	-49.5	-13.0	-36.5	
3465.00	-13.8	H	3.0	36.0	1.0	-48.9	-13.0	-35.9	
5197.50	-16.1	H	3.0	35.4	1.0	-50.5	-13.0	-37.5	
6930.00	-12.2	H	3.0	35.7	1.0	-46.9	-13.0	-33.9	
High Ch, 1754.3									
3508.60	-8.4	V	3.0	36.0	1.0	-43.4	-13.0	-30.4	
5262.90	-16.7	V	3.0	35.4	1.0	-51.2	-13.0	-38.2	
7017.20	-14.9	V	3.0	35.7	1.0	-49.6	-13.0	-36.6	
3508.60	-3.1	H	3.0	36.0	1.0	-38.1	-13.0	-25.1	
5262.90	-16.3	H	3.0	35.4	1.0	-50.7	-13.0	-37.7	
7017.20	-13.8	H	3.0	35.7	1.0	-48.5	-13.0	-35.5	

LTE Band 2

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_16QAM Band 2 Harmonics, 20MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1860									
3720.00	-13.3	V	3.0	35.9	1.0	-48.1	-13.0	-35.1	
5580.00	-13.8	V	3.0	35.5	1.0	-48.3	-13.0	-35.3	
7440.00	-17.1	V	3.0	35.7	1.0	-51.8	-13.0	-38.8	
3720.00	-14.9	H	3.0	35.9	1.0	-49.7	-13.0	-36.7	
5580.00	-18.1	H	3.0	35.5	1.0	-52.6	-13.0	-39.6	
7440.00	-15.6	H	3.0	35.7	1.0	-50.3	-13.0	-37.3	
Mid Ch, 1880									
3760.00	-19.9	V	3.0	35.8	1.0	-54.8	-13.0	-41.8	
5640.00	-19.6	V	3.0	35.5	1.0	-54.1	-13.0	-41.1	
7520.00	-17.1	V	3.0	35.7	1.0	-51.9	-13.0	-38.9	
3760.00	-19.7	H	3.0	35.8	1.0	-54.5	-13.0	-41.5	
5640.00	-19.1	H	3.0	35.5	1.0	-53.6	-13.0	-40.6	
7520.00	-16.6	H	3.0	35.7	1.0	-51.4	-13.0	-38.4	
High Ch, 1900									
3800.00	-18.3	V	3.0	35.8	1.0	-53.1	-13.0	-40.1	
5700.00	-19.4	V	3.0	35.5	1.0	-53.9	-13.0	-40.9	
7600.00	-16.9	V	3.0	35.8	1.0	-51.6	-13.0	-38.6	
3800.00	-18.2	H	3.0	35.8	1.0	-53.0	-13.0	-40.0	
5700.00	-18.3	H	3.0	35.5	1.0	-52.8	-13.0	-39.8	
7600.00	-16.0	H	3.0	35.8	1.0	-50.8	-13.0	-37.8	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/24/2015								
Test Engineer:		R.Z								
Configuration:		X-pos EUT , AC Adapter, Headset								
Location:		Chamber G								
Mode:		LTE_QPSK Band 2 Harmonics, 20MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1860									
LTE2	3720.00	-13.8	V	3.0	35.9	1.0	-48.6	-13.0	-35.6	
	5580.00	-14.9	V	3.0	35.5	1.0	-49.4	-13.0	-36.4	
20MHz	7440.00	-17.4	V	3.0	35.7	1.0	-52.1	-13.0	-39.1	
	3720.00	-13.6	H	3.0	35.9	1.0	-48.4	-13.0	-35.4	
QPSK	5580.00	-17.4	H	3.0	35.5	1.0	-51.9	-13.0	-38.9	
	7440.00	-17.1	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
	Mid Ch, 1880									
	3760.00	-18.1	V	3.0	35.8	1.0	-53.0	-13.0	-40.0	
	5640.00	-19.0	V	3.0	35.5	1.0	-53.5	-13.0	-40.5	
	7520.00	-16.6	V	3.0	35.7	1.0	-51.4	-13.0	-38.4	
	3760.00	-18.5	H	3.0	35.8	1.0	-53.3	-13.0	-40.3	
	5640.00	-19.1	H	3.0	35.5	1.0	-53.6	-13.0	-40.6	
	7520.00	-17.0	H	3.0	35.7	1.0	-51.8	-13.0	-38.8	
	High Ch, 1900									
	3800.00	-17.0	V	3.0	35.8	1.0	-51.8	-13.0	-38.8	
	5700.00	-19.6	V	3.0	35.5	1.0	-54.1	-13.0	-41.1	
	7600.00	-16.7	V	3.0	35.8	1.0	-51.4	-13.0	-38.4	
	3800.00	-17.8	H	3.0	35.8	1.0	-52.6	-13.0	-39.6	
	5700.00	-17.8	H	3.0	35.5	1.0	-52.3	-13.0	-39.3	
	7600.00	-15.8	H	3.0	35.8	1.0	-50.6	-13.0	-37.6	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: LTE_16QAM Band 2 Harmonics, 15MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1857.5									
3715.00	-14.7	V	3.0	35.9	1.0	-49.5	-13.0	-36.5	
5572.50	-18.2	V	3.0	35.5	1.0	-52.7	-13.0	-39.7	
7430.00	-17.6	V	3.0	35.7	1.0	-52.3	-13.0	-39.3	
3715.00	-15.2	H	3.0	35.9	1.0	-50.0	-13.0	-37.0	
5572.50	-18.7	H	3.0	35.5	1.0	-53.2	-13.0	-40.2	
7430.00	-15.7	H	3.0	35.7	1.0	-50.4	-13.0	-37.4	
Mid Ch, 1880									
3760.00	-20.2	V	3.0	35.8	1.0	-55.1	-13.0	-42.1	
5640.00	-16.1	V	3.0	35.5	1.0	-50.6	-13.0	-37.6	
7520.00	-16.8	V	3.0	35.7	1.0	-51.6	-13.0	-38.6	
3760.00	-18.0	H	3.0	35.8	1.0	-52.8	-13.0	-39.8	
5640.00	-18.1	H	3.0	35.5	1.0	-52.6	-13.0	-39.6	
7520.00	-16.8	H	3.0	35.7	1.0	-51.6	-13.0	-38.6	
High Ch, 1902.5									
3805.00	-19.5	V	3.0	35.8	1.0	-54.3	-13.0	-41.3	
5707.50	-14.0	V	3.0	35.5	1.0	-48.5	-13.0	-35.5	
7610.00	-17.4	V	3.0	35.8	1.0	-52.1	-13.0	-39.1	
3805.00	-22.2	H	3.0	35.8	1.0	-57.0	-13.0	-44.0	
5707.50	-17.6	H	3.0	35.5	1.0	-52.1	-13.0	-39.1	
7610.00	-17.1	H	3.0	35.8	1.0	-51.8	-13.0	-38.8	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement										
Company:		LG Electronics								
Project #:		15I19900								
Date:		2/24/2015								
Test Engineer:		R.Z								
Configuration:		X-pos EUT , AC Adapter, Headset								
Location:		Chamber G								
Mode:		LTE_QPSK Band 2 Harmonics, 15MHz Bandwidth								
Band	f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 1857.5									
LTE2	3715.00	-14.5	V	3.0	35.9	1.0	-49.3	-13.0	-36.3	
	5572.50	-18.0	V	3.0	35.5	1.0	-52.5	-13.0	-39.5	
15MHz	7430.00	-15.9	V	3.0	35.7	1.0	-50.6	-13.0	-37.6	
	3715.00	-14.1	H	3.0	35.9	1.0	-48.9	-13.0	-35.9	
QPSK	5572.50	-18.7	H	3.0	35.5	1.0	-53.2	-13.0	-40.2	
	7430.00	-15.1	H	3.0	35.7	1.0	-49.8	-13.0	-36.8	
	Mid Ch, 1880									
	3760.00	-20.6	V	3.0	35.8	1.0	-55.5	-13.0	-42.5	
	5640.00	-15.1	V	3.0	35.5	1.0	-49.6	-13.0	-36.6	
	7520.00	-17.3	V	3.0	35.7	1.0	-52.1	-13.0	-39.1	
	3760.00	-18.8	H	3.0	35.8	1.0	-53.6	-13.0	-40.6	
	5640.00	-18.9	H	3.0	35.5	1.0	-53.4	-13.0	-40.4	
	7520.00	-16.5	H	3.0	35.7	1.0	-51.3	-13.0	-38.3	
	High Ch, 1902.5									
	3805.00	-20.5	V	3.0	35.8	1.0	-55.3	-13.0	-42.3	
	5707.50	-13.5	V	3.0	35.5	1.0	-48.0	-13.0	-35.0	
	7610.00	-17.3	V	3.0	35.8	1.0	-52.1	-13.0	-39.1	
	3805.00	-21.2	H	3.0	35.8	1.0	-56.0	-13.0	-43.0	
	5707.50	-16.7	H	3.0	35.5	1.0	-51.2	-13.0	-38.2	
	7610.00	-17.1	H	3.0	35.8	1.0	-51.9	-13.0	-38.9	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber A Mode: LTE_16QAM Band 2 Harmonics, 1.4MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-8.9	V	3.0	35.9	1.0	-43.8	-13.0	-30.8	
5552.10	-15.2	V	3.0	35.5	1.0	-49.6	-13.0	-36.6	
7402.80	-14.7	V	3.0	35.7	1.0	-49.4	-13.0	-36.4	
3701.40	-8.9	H	3.0	35.9	1.0	-43.7	-13.0	-30.7	
5552.10	-14.3	H	3.0	35.5	1.0	-48.8	-13.0	-35.8	
7402.80	-13.6	H	3.0	35.7	1.0	-48.3	-13.0	-35.3	
Mid Ch, 1880									
3760.00	-13.6	V	3.0	35.8	1.0	-44.7	-13.0	-31.7	
5640.00	-16.5	V	3.0	35.5	1.0	-51.0	-13.0	-38.0	
7520.00	-14.2	V	3.0	35.7	1.0	-48.9	-13.0	-35.9	
3760.00	-11.4	H	3.0	35.8	1.0	-46.2	-13.0	-33.2	
5640.00	-15.0	H	3.0	35.5	1.0	-49.5	-13.0	-36.5	
7520.00	-13.9	H	3.0	35.7	1.0	-48.6	-13.0	-35.6	
High Ch, 1909.3									
3818.60	-10.3	V	3.0	35.8	1.0	-45.0	-13.0	-32.0	
5727.90	-14.5	V	3.0	35.5	1.0	-49.0	-13.0	-36.0	
7637.20	-13.5	V	3.0	35.8	1.0	-48.3	-13.0	-35.3	
3818.60	-9.1	H	3.0	35.8	1.0	-43.9	-13.0	-30.9	
5727.90	-13.5	H	3.0	35.5	1.0	-48.0	-13.0	-35.0	
7637.20	-12.9	H	3.0	35.8	1.0	-47.6	-13.0	-34.6	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 2/24/2015 Test Engineer: O. Stoelting Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber A Mode: LTE_QPSK Band 2 Harmonics, 1.4MHz Bandwidth									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamplifier (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.7									
3701.40	-9.4	V	3.0	35.9	1.0	-44.2	-13.0	-31.2	
5552.10	-15.6	V	3.0	35.5	1.0	-50.0	-13.0	-37.0	
7402.80	-14.4	V	3.0	35.7	1.0	-49.2	-13.0	-36.2	
3701.40	-9.9	H	3.0	35.9	1.0	-44.7	-13.0	-31.7	
5552.10	-14.8	H	3.0	35.5	1.0	-49.2	-13.0	-36.2	
7402.80	-14.1	H	3.0	35.7	1.0	-48.9	-13.0	-35.9	
Mid Ch, 1880									
3760.00	-14.0	V	3.0	35.8	1.0	-48.8	-13.0	-35.8	
5640.00	-15.7	V	3.0	35.5	1.0	-50.2	-13.0	-37.2	
7520.00	-12.7	V	3.0	35.7	1.0	-47.5	-13.0	-34.5	
3760.00	-11.1	H	3.0	35.8	1.0	-45.9	-13.0	-32.9	
5640.00	-15.4	H	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7520.00	-13.1	H	3.0	35.7	1.0	-47.8	-13.0	-34.8	
High Ch, 1909.3									
3818.60	-11.8	V	3.0	35.8	1.0	-46.6	-13.0	-33.6	
5727.90	-13.3	V	3.0	35.5	1.0	-47.8	-13.0	-34.8	
7637.20	-13.8	V	3.0	35.8	1.0	-48.5	-13.0	-35.5	
3818.60	-9.2	H	3.0	35.8	1.0	-43.9	-13.0	-30.9	
5727.90	-13.4	H	3.0	35.5	1.0	-47.9	-13.0	-34.9	
7637.20	-13.2	H	3.0	35.8	1.0	-48.0	-13.0	-35.0	

CDMA

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 3/2/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: CDMA EVDO BC1 Harmonics									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25									
3702.50	-10.8	V	3.0	35.9	1.0	-45.7	-13.0	-32.7	
5553.75	-14.8	V	3.0	35.5	1.0	-49.3	-13.0	-36.3	
7405.00	-12.4	V	3.0	35.7	1.0	-47.2	-13.0	-34.2	
3702.50	-7.8	H	3.0	35.9	1.0	-42.6	-13.0	-29.6	
5553.75	-13.5	H	3.0	35.5	1.0	-47.9	-13.0	-34.9	
7405.00	-11.3	H	3.0	35.7	1.0	-46.0	-13.0	-33.0	
Mid Ch, 1880									
3760.00	-14.9	V	3.0	35.8	1.0	-49.7	-13.0	-36.7	
5640.00	-14.8	V	3.0	35.5	1.0	-49.3	-13.0	-36.3	
7520.00	-12.6	V	3.0	35.7	1.0	-47.4	-13.0	-34.4	
3760.00	-11.0	H	3.0	35.8	1.0	-45.8	-13.0	-32.8	
5640.00	-14.6	H	3.0	35.5	1.0	-49.1	-13.0	-36.1	
7520.00	-11.4	H	3.0	35.7	1.0	-46.2	-13.0	-33.2	
High Ch, 1908.75									
3817.50	-16.2	V	3.0	35.8	1.0	-51.0	-13.0	-38.0	
5726.25	-14.1	V	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7635.00	-11.9	V	3.0	35.8	1.0	-46.6	-13.0	-33.6	
3817.50	-14.6	H	3.0	35.8	1.0	-49.4	-13.0	-36.4	
5726.25	-14.1	H	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7635.00	-11.2	H	3.0	35.8	1.0	-46.0	-13.0	-33.0	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 3/2/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: CDMA 1xRTT BC1 Harmonics									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1851.25									
3702.50	-10.5	V	3.0	35.9	1.0	-45.3	-13.0	-32.3	
5553.75	-13.0	V	3.0	35.5	1.0	-47.5	-13.0	-34.5	
7405.00	-12.7	V	3.0	35.7	1.0	-47.4	-13.0	-34.4	
3702.50	-8.8	H	3.0	35.9	1.0	-43.6	-13.0	-30.6	
5553.75	-14.2	H	3.0	35.5	1.0	-48.6	-13.0	-35.6	
7405.00	-10.2	H	3.0	35.7	1.0	-45.0	-13.0	-32.0	
Mid Ch, 1880									
3760.00	-15.5	V	3.0	35.8	1.0	-50.3	-13.0	-37.3	
5640.00	-15.5	V	3.0	35.5	1.0	-49.9	-13.0	-36.9	
7520.00	-14.8	V	3.0	35.7	1.0	-49.6	-13.0	-36.6	
3760.00	-12.5	H	3.0	35.8	1.0	-47.3	-13.0	-34.3	
5640.00	-12.6	H	3.0	35.5	1.0	-47.1	-13.0	-34.1	
7520.00	-13.1	H	3.0	35.7	1.0	-47.8	-13.0	-34.8	
High Ch, 1908.75									
3817.50	-16.6	V	3.0	35.8	1.0	-51.4	-13.0	-38.4	
5726.25	-11.9	V	3.0	35.5	1.0	-46.4	-13.0	-33.4	
7635.00	-12.5	V	3.0	35.8	1.0	-47.2	-13.0	-34.2	
3817.50	-15.5	H	3.0	35.8	1.0	-50.3	-13.0	-37.3	
5726.25	-15.1	H	3.0	35.5	1.0	-49.6	-13.0	-36.6	
7635.00	-11.4	H	3.0	35.8	1.0	-46.2	-13.0	-33.2	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement Company: LG Electronics Project #: 15I19900 Date: 3/2/2015 Test Engineer: R.Z Configuration: X-pos EUT , AC Adapter, Headset Location: Chamber G Mode: CDMA EVDO BC0 Harmonics									
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-6.4	V	3.0	37.4	1.0	-42.8	-13.0	-29.8	
2474.10	-23.7	V	3.0	36.4	1.0	-59.1	-13.0	-46.1	
3298.80	-19.7	V	3.0	35.8	1.0	-54.5	-13.0	-41.5	
1649.40	-11.8	H	3.0	37.4	1.0	-48.2	-13.0	-35.2	
2474.10	-20.6	H	3.0	36.4	1.0	-56.0	-13.0	-43.0	
3298.80	-18.3	H	3.0	35.8	1.0	-53.1	-13.0	-40.1	
Mid Ch, 836.52									
1673.04	-7.8	V	3.0	37.3	1.0	-44.1	-13.0	-31.1	
2509.56	-24.0	V	3.0	36.4	1.0	-59.4	-13.0	-46.4	
3346.08	-20.1	V	3.0	35.8	1.0	-54.9	-13.0	-41.9	
1673.04	-9.7	H	3.0	37.3	1.0	-46.0	-13.0	-33.0	
2509.56	-21.7	H	3.0	36.4	1.0	-57.1	-13.0	-44.1	
3346.08	-19.3	H	3.0	35.8	1.0	-54.1	-13.0	-41.1	
High Ch, 848.31									
1696.62	-7.9	V	3.0	37.3	1.0	-44.2	-13.0	-31.2	
2544.93	-23.8	V	3.0	36.3	1.0	-59.1	-13.0	-46.1	
3393.24	-20.1	V	3.0	35.7	1.0	-54.8	-13.0	-41.8	
1696.62	-9.2	H	3.0	37.3	1.0	-45.5	-13.0	-32.5	
2544.93	-21.9	H	3.0	36.3	1.0	-57.2	-13.0	-44.2	
3393.24	-19.2	H	3.0	35.7	1.0	-53.9	-13.0	-40.9	

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
Company:		LG Electronics							
Project #:		15I19900							
Date:		3/2/2015							
Test Engineer:		R.Z							
Configuration:		X-pos EUT , AC Adapter, Headset							
Location:		Chamber G							
Mode:		CDMA 1xRTT BC0 Harmonics							
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7									
1649.40	-5.6	V	3.0	37.4	1.0	-42.0	-13.0	-29.0	
2474.10	-21.3	V	3.0	36.4	1.0	-56.7	-13.0	-43.7	
3298.80	-20.0	V	3.0	35.8	1.0	-54.8	-13.0	-41.8	
1649.40	-13.3	H	3.0	37.4	1.0	-49.7	-13.0	-36.7	
2474.10	-22.0	H	3.0	36.4	1.0	-57.4	-13.0	-44.4	
3298.80	-18.1	H	3.0	35.8	1.0	-52.9	-13.0	-39.9	
Mid Ch, 836.52									
1673.04	-7.5	V	3.0	37.3	1.0	-43.8	-13.0	-30.8	
2509.56	-23.5	V	3.0	36.4	1.0	-58.9	-13.0	-45.9	
3346.08	-20.3	V	3.0	35.8	1.0	-55.1	-13.0	-42.1	
1673.04	-10.6	H	3.0	37.3	1.0	-46.9	-13.0	-33.9	
2509.56	-21.8	H	3.0	36.4	1.0	-57.2	-13.0	-44.2	
3346.08	-19.8	H	3.0	35.8	1.0	-54.6	-13.0	-41.6	
High Ch, 848.31									
1696.62	-6.8	V	3.0	37.3	1.0	-43.1	-13.0	-30.1	
2544.93	-24.1	V	3.0	36.3	1.0	-59.4	-13.0	-46.4	
3393.24	-20.2	V	3.0	35.7	1.0	-54.9	-13.0	-41.9	
1696.62	-9.7	H	3.0	37.3	1.0	-46.0	-13.0	-33.0	
2544.93	-22.6	H	3.0	36.3	1.0	-57.9	-13.0	-44.9	
3393.24	-18.9	H	3.0	35.7	1.0	-53.6	-13.0	-40.6	