



FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART M

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA + BLUETOOTH, DTS/UNII a/b/g/n/ac, ANT+ and NFC

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**Prepared for
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Revision History

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-	2015-04-23	Initial Release.	Jeff Moser
1	2015-04-27	Revised LTE Band 5 fundamental data.	Jeff Moser

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SONY MOBILE COMMUNICATION, INC.

EUT DESCRIPTION: GSM/WCDMA + BLUETOOTH, DTS/UNII a/b/g/n/ac, ANT+ and NFC

SERIAL NUMBER: Serial Numbers: 00440245-427575-5, 00440245-395119-9, 00440245-427598-7

DATE TESTED: 2015-03-19 through 2015-04-24

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

UL LLC 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 LLC 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 LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC 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 12 Laboratory Dr., Research Triangle Park, NC 27709, USA.

12 Laboratory Dr., RTP, NC 27709	
☐	Chamber A
☒	Chamber C

The onsite chambers (A & C) are covered under Industry Canada company address code 2180C with site numbers 2180C -1 through 2180C-2, respectively.

UL LLC (RTP) is accredited by NVLAP, Laboratory Code 200246-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2002460.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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) +
Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

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

Test	Uncertainty
Conducted Emissions (0.150-30MHz)	+/- 2.37 dB
Radiated Emissions (30-1000 MHz)	+/- 6.04 dB (3m)
Radiated Emissions (1-40 GHz)	+/- 6.81 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 Device with WLAN/Bluetooth/NFC/ANT+ capability that is manufactured by Sony.

5.2. MAXIMUM OUTPUT POWER

FCC Part 22/24						
Band	Frequency Range(MHz)	Modulation Peak	Conducted		Radiated	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
GSM850	824~849	GMSK	32.3	1698.24		
	824~849	GPRS	32.3	1698.24	29.06	805.38
	824~849	EGPRS	26.8	478.63	22.43	174.98
GSM1900	1850~1910	GMSK	29.5	891.25		
	1850~1910	GPRS	29.5	891.25	28.76	751.62
	1850~1910	EGPRS	25.3	338.84	23.25	211.35
Band 5	824~849	REL99	24.0	251.19	20.88	122.46
	824~849	HSDPA	23.5	223.87	21.14	130.02
	824~849	HSUPA	22.9	194.98		
Band 2	1850~1910	REL99	23.8	239.88	21.77	150.31
	1850~1910	HSDPA	23.4	218.78	20.69	117.23
	1850~1910	HSUPA	22.6	181.97		

5.3. MAXIMUM OUTPUT POWER (LTE)

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE17	704~716	10MHz	QPSK	23.5	223.87	12.73	18.75
	704~716	10MHz	16QAM	22.6	181.97	12.86	19.32

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE17	704~716	5MHz	QPSK	23.3	213.80	13.64	23.12
	704~716	5MHz	16QAM	22.5	177.83	12.90	19.50

FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE5	824~849	10MHz	QPSK	23.2	208.93	19.20	83.18
	824~849	10MHz	16QAM	22.6	181.97	18.29	67.45

FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE5	824~849	5MHz	QPSK	23.4	218.78	19.32	85.51
	824~849	5MHz	16QAM	22.9	194.98	18.89	77.45

FCC Part 22 (3MHz Bandwidth)							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE5	824~849	3MHz	QPSK	23.5	223.87	19.59	90.99
	824~849	3MHz	16QAM	22.7	186.21	18.80	75.86

FCC Part 22							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation Peak	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE5	824~849	1.4MHz	QPSK	23.3	213.80	20.01	100.23
	824~849	1.4MHz	16QAM	22.5	177.83	18.60	72.44

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna for the GSM 850, GSM 1900, WCDMA Bands 2 and 5 and LTE Bands 5 and 17 with a maximum peak gain as follow:

Frequency (MHz)	Peak Gain (dBd/dBi)
GSM850, 824~849MHz	-2.9
GSM1900, 1850~1910MHz	-3.5
Band 5, 824~849MHz	-2.9
Band 2, 1850~1910MHz	-3.5
LTE5, 824~849MHz	-2.9
LTE17, 704~716MHz	-7.8

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Sony	EP-880	3514W 01 S08499	

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

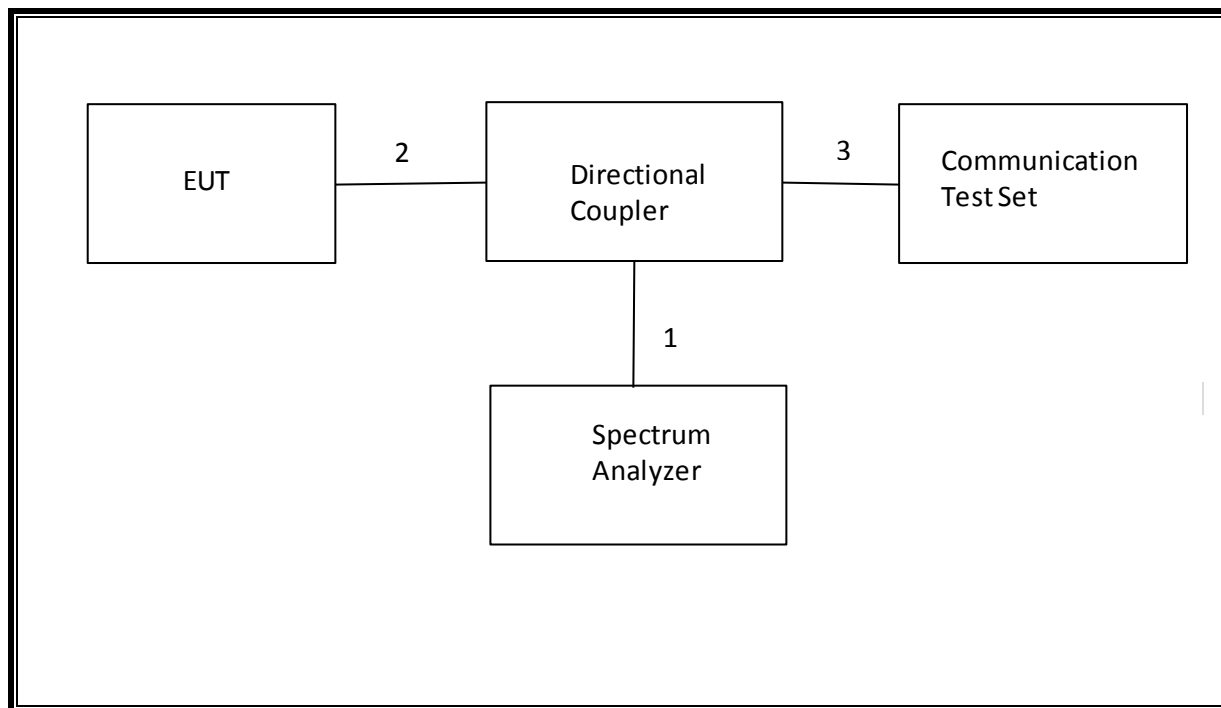
I/O CABLES (RADIATED SETUP)

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	No
2	RF In/out	1	Communication Test Set	Un-shielded	2m	Yes

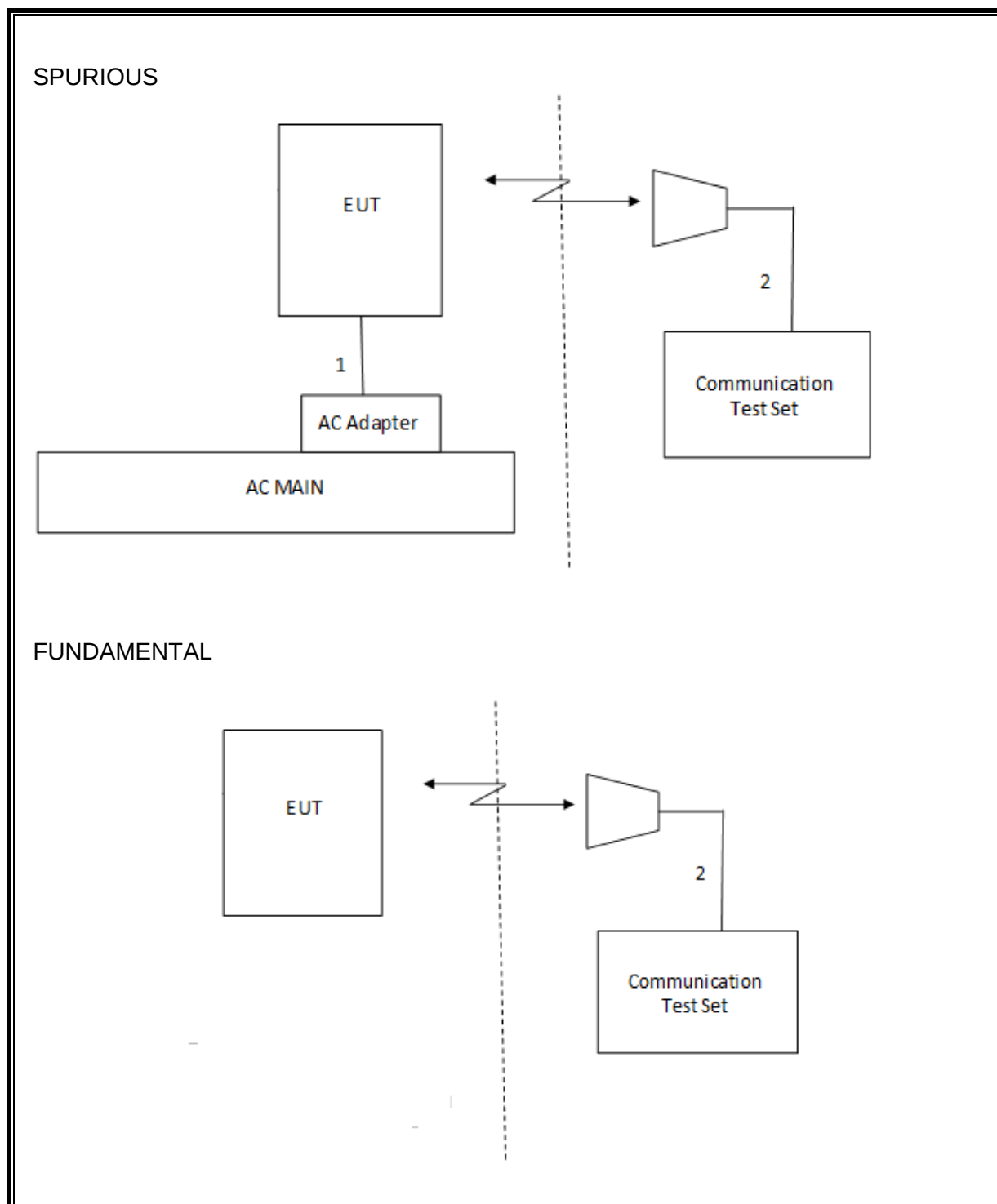
TEST SETUP

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:

Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	Common Equipment				
SA0020	Spectrum Analyzer	Agilent Technologies	E4446	2014-06-12	2015-06-30
SA0022	Network Analyzer	Agilent Technologies	8722ES	2015-03-19	2016-03-31
PAR038	RF Power Meter Sensor	HP	8481A	2015-01-07	2016-01-31
PAR037	Power Meter, 100kHz to 110 GHz	HP	437B	2015-01-07	2016-01-31
T374	Wideband Radio Communications Tester	Rohde and Schwartz	CMW500	2014-10-13	2015-10-31
MM0143	Digital Multimeter,	Fluke	175	2014-09-04	2016-09-30
HI0069	Temp/Humid/Pressure Meter	Cole-Parmer	99760-00	2014-06-27	2015-06-30
-	Directional Coupler	Mini Circuits	ZUDC10-183+	Cal on Demand	Cal on Demand

Radiated Disturbance Emissions (E-field) – Chamber C

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	30-1000 MHz Range				
AT0066	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB1	2014-07-10	2015-07-31
	1-18 GHz				
AT0062	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2014-07-22	2015-07-31
	Substitution Antenna				
AT0069 (Substitution Antenna)	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2015-02-17	2016-02-29
AT0016 (Substitution Antenna)	Dipole Antenna, 400-1000MHz	EMCO	3121C-DB4	2014-04-17	2015-04-30
	Tuned Dipole Set				
AT0013- AT0016	Four Dipole Antenna Set, 30 to 1000 MHz	EMCO	3121C-DB-1, -2, -3, -4	2014-04-17	2015-04-30
	Gain-Loss Chains				
SAC_G (Hybrid) 30-1000MHz	Gain-Loss string for Hybrid antenna at 3m	Various	Various	2015-01-26	2016-01-31
SAC_G (BOM) 1-18GHz	Gain-Loss string for Hybrid antenna at 3m	Various	Various	2015-01-26	2016-01-31
	Receiver & Software				
SA0018	Spectrum Analyzer	Agilent	N9030A	2014-06-24	2015-06-30
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
T918	Wideband Radio Communications Tester	Rohde and Schwartz	CMW500	2014-12-30	2015-12-31
	Additional Equipment used				
HI0069	Temp/Humid/Pressure Meter	Cole-Parmer	99760-00	2014-06-27	2015-06-30

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
SIG001 (Substitution Signal Generator)	Signal Generator, 100kHz-6GHz	Agilent	N5181A	2015-02-04	2016-02-04
HPF009	1GHz High-pass Filter	Micro-Tronics	HPM17672	2015-01-28	2016-01-31

7. Summary Table

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	8.98 MHz
22.917(a) 24.238(a) 27.53(g)	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Band Edge / Conducted Spurious Emission	-13dBm		Pass	-15.86 dBm, -16.92 dBm
2.1046	N/A	Conducted output power	N/A		Pass	32.3 dBm
22.355 24.235 27.54	RSS-132(4.3) RSS-133(6.3) RSS-139(6.3)	Frequency Stability	2.5PPM		Pass	-0.011 ppm
22.913(a)(2)	RSS-132(4.4)	Effective Radiated Power	38 dBm	Radiated	Pass	29.06 dBm
27.50(b)(10)	N/A		34.77 dBm		Pass	13.64 dBm
24.232(c) 27.50(h)(2)	RSS-133(6.4) RSS-199(4.4)	Equivalent Isotropic Radiated Power	33dBm		Pass	28.76 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	-36.4 dBm

8. RF POWER OUTPUT VERIFICATION

8.1. GSM/GPRS/EDGE

Function: Menu select > GSM Mobile Station > GSM 850/900/1800/1900

Press Connection control to choose the different menus

Press RESET > choose all to reset all settings

Connection Press Signal Off to turn off the signal and change settings

Network Support > GSM+GPRS or GSM+EGPRS

Main Service > Packet Data

Service selection > Test Mode A – Auto Slot Config. off

MS Signal Press Slot Config bottom on the right twice to select and change the number of time slots and power setting

> Slot configuration > Uplink/Gamma

> 33 dBm for GPRS 850/900

> 30 dBm for GPRS1800/1900

BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel

Frequency Offset > + 0 Hz

Mode > BCCH and TCH

BCCH Level > -85 dBm (May need to adjust if link is not stable)

BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off

P0> 4 dB

Slot Config > Unchanged (if already set under MS Signal)

TCH > choose desired test channel

Hopping > Off

Main Timeslot > 3 (Default)

Network Coding Scheme > CS4 (GPRS) and MCS5 ~ MCS9 (EGPRS)

Bit Stream > 2E9-1PSR Bit Pattern

AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input

Connection Press Signal On to turn on the signal and change settings

8.1.1. GSM OUTPUT POWER RESULT

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)
GSM (Voice)	CS1	1	128	824.2	32.2
			190	836.6	32.3
			251	848.8	32.2
GPRS (GMSK)	CS1	1	128	824.2	32.2
			190	836.6	32.3
			251	848.8	32.2
		2	128	824.2	31.4
			190	836.6	31.6
			251	848.8	31.5
		3	128	824.2	29.4
			190	836.6	29.6
			251	848.8	29.5
		4	128	824.2	28.2
			190	836.6	28.4
			251	848.8	28.3
EGPRS (8PSK)	MCS5	1	128	824.2	26.5
			190	836.6	26.8
			251	848.8	26.5
		2	128	824.2	25.5
			190	836.6	25.7
			251	848.8	25.7
		3	128	824.2	23.7
			190	836.6	23.7
			251	848.8	23.7
		4	128	824.2	22.6
			190	836.6	22.7
			251	848.8	22.5

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)
GSM (Voice)	CS1	1	512	1850.2	29.3
			661	1880.0	29.5
			810	1909.8	29.5
GPRS (GMSK)	CS1	1	512	1850.2	29.3
			661	1880.0	29.5
			810	1909.8	29.5
		2	512	1850.2	28.3
			661	1880.0	28.4
			810	1909.8	28.6
		3	512	1850.2	26.5
			661	1880.0	26.6
			810	1909.8	26.7
		4	512	1850.2	25.2
			661	1880.0	25.3
			810	1909.8	25.4
EGPRS (8PSK)	MCS5	1	512	1850.2	25.2
			661	1880.0	25.2
			810	1909.8	25.3
		2	512	1850.2	24.3
			661	1880.0	24.1
			810	1909.8	24.4
		3	512	1850.2	22.2
			661	1880.0	22.2
			810	1909.8	22.3
		4	512	1850.2	20.9
			661	1880.0	20.9
			810	1909.8	21.0

8.2. UMTS REL 99

TEST PROCEDURE

The following summary of these settings are illustrated below:

WCDMA General Settings	Mode	Rel99
	Subtest	-
	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	HSDPA FRC	Not Applicable
	HSUPA Test	Not Applicable
	Power Control Algorithm	Algorithm2
	β_c	Not Applicable
	β_d	Not Applicable
	β_{ec}	Not Applicable
	β_c/β_d	8/15
	β_{hs}	Not Applicable
	β_{ed}	Not Applicable

8.2.1. UMTS REL 99 OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Rel 99 (RMC, 12.2 kbps)	4132	826.4	0	24.0
		4183	836.6	0	23.8
		4233	846.6	0	23.8

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band II	Rel 99 (RMC, 12.2 kbps)	9262	1852.4	0	23.8
		9400	1880.0	0	23.6
		9538	1907.6	0	23.6

8.3. UMTS HSDPA

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	Rel5 HSDPA			
	Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm 2			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	β_c/β_d	2/15	12/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
	MPR (dB)	0	0	0.5	0.5
HSDPA Specific Settings	D _{ACK}	8			
	D _{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	A _{hs} = β_{hs}/β_c	30/15			

8.3.1. UMTS HSDPA OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Subtest 1	4132	826.4	0	22.9
		4183	836.6	0	22.7
		4233	846.6	0	22.8
	Subtest 2	4132	826.4	0	20.1
		4183	836.6	0	22.7
		4233	846.6	0	22.3
	Subtest 3	4132	826.4	0.5	22.4
		4183	836.6	0.5	22.6
		4233	846.6	0.5	22.7
	Subtest 4	4132	826.4	0.5	22.4
		4183	836.6	0.5	23.5
		4233	846.6	0.5	23.5

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band II	Subtest 1	9262	1852.4	0	22.7
		9400	1880.0	0	22.5
		9538	1907.6	0	22.6
	Subtest 2	9262	1852.4	0	22.7
		9400	1880.0	0	22.6
		9538	1907.6	0	22.7
	Subtest 3	9262	1852.4	0.5	22.2
		9400	1880.0	0.5	22.5
		9538	1907.6	0.5	22.6
	Subtest 4	9262	1852.4	0.5	22.2
		9400	1880.0	0.5	23.4
		9538	1907.6	0.5	23.4

8.3.2. UMTS HSUPA

TEST PROCEDURE

The following summary of these settings are illustrated below: (ETSI TS 134.121-1 Table C.11.1)

	Mode	Rel6 HSUPA	Rel6 HSUPA	Rel6 HSUPA	Rel6 HSUPA	Rel6 HSUPA
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	P-CPICH (dB)	-10				
	P-CCPCH (dB)	-12				
	SCH (dB)	-12				
	PICH(dB)	-15				
	DPCH (dB)	-9				
	HS-SCCH 1 (dB)	-8				
	HS-PDSCH (dB)	-3				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	Bc	11/15	6/15	15/15	2/15	15/15
	Bd	15/15	15/15	9/15	15/15	15/15
	Bec	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	15/15
	Bhs	22/15	12/15	30/15	4/15	30/15
HSDPA Specific Settings	β_{ed} (note1)	1309/225	94/75	47/15	56/75	134/15
	MPR	0	2	1	2	0
	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
HSUPA Specific Settings	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = β_{hs}/β_c	30/15				
	D E-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	Reference E-TFCIs	5	5	2	5	5
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_TFCIs	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO 4 E-TFCI 92 E-TFCI PO 18		E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO 23 E-TFCI 75 E-TFCI PO 26 E-TFCI 81 E-TFCI PO 27

Note1: β_{ed} cannot be set directly, it is set by Absolute Grant Value.

8.3.3. UMTS HSUPA OUTPUT POWER RESULT

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band V	Subtest 1	4132	826.4	0	22.3
		4183	836.6	0	22.8
		4233	846.6	0	22.9
	Subtest 2	4132	826.4	2	21.6
		4183	836.6	2	21.2
		4233	846.6	2	21.1
	Subtest 3	4132	826.4	1	21.5
		4183	836.6	1	21.7
		4233	846.6	1	21.7
	Subtest 4	4132	826.4	2	21.9
		4183	836.6	2	21.6
		4233	846.6	2	21.6
	Subtest 5	4132	826.4	0	22.9
		4183	836.6	0	22.9
		4233	846.6	0	22.7

Band	Mode	UL Ch No.	Freq. (MHz)	MPR	Avg Pwr (dBm)
W-CDMA Band II	Subtest 1	9262	1852.4	0	21.6
		9400	1880.0	0	22.6
		9538	1907.6	0	22.6
	Subtest 2	9262	1852.4	2	21.4
		9400	1880.0	2	21.0
		9538	1907.6	2	21.0
	Subtest 3	9262	1852.4	1	20.9
		9400	1880.0	1	21.4
		9538	1907.6	1	21.5
	Subtest 4	9262	1852.4	2	21.7
		9400	1880.0	2	21.4
		9538	1907.6	2	22.0
	Subtest 5	9262	1852.4	0	22.7
		9400	1880.0	0	22.5
		9538	1907.6	0	22.6

8.4. LTE OUTPUT VERIFICATION

8.4.1. LTE OUTPUT RESULT

Band	BW (MHz)	Mode	RB Allocation	RB offset	Target MPR	Avg Pwr (dBm)
						23790
						710 MHz
LTE Band 17	10	QPSK	1	0	0	23.3
			1	25	0	23.5
			1	49	0	23.0
			25	0	1	22.2
			25	12	1	22.1
			25	25	1	22.0
			50	0	1	22.0
		16QAM	1	0	1	22.6
			1	25	1	22.6
			1	49	1	22.4
			25	0	2	21.2
			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	23.3
			1	12	0	23.3
			1	24	0	23.2
			12	0	1	22.1
			12	7	1	22.1
			12	13	1	22.1
			25	0	1	22.0
		16QAM	1	0	1	22.5
			1	12	1	22.5
			1	24	1	22.4
			12	0	2	21.2
			12	7	2	21.2
			12	13	2	21.2
			25	0	2	21.0

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	23.1	23.1	23.2
			1	24	0	23.1	23.2	23.2
			1	49	0	23.0	23.0	23.1
			25	0	1	22.1	22.0	22.0
			25	12	1	22.1	22.0	22.1
			25	24	1	21.9	22.0	22.1
			50	0	1	22.1	22.0	22.1
		16QAM	1	0	1	22.2	22.4	22.4
			1	24	1	22.6	22.4	22.3
			1	49	1	22.1	22.4	22.3
			25	0	2	21.2	21.0	21.1
			25	12	2	21.1	21.0	21.2
			25	24	2	20.9	21.0	21.1
			50	0	2	21.0	21.0	21.1
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	23.1
			1	12	0	23.4	23.1	23.1
			1	24	0	23.3	23.2	23.1
			12	0	1	22.0	21.9	22.1
			12	6	1	22.0	21.8	22.1
			12	11	1	22.1	22.0	22.1
			25	0	1	22.0	21.9	22.1
		16QAM	1	0	1	22.1	22.4	22.9
			1	12	1	22.5	22.4	22.8
			1	24	1	22.3	22.4	22.9
			12	0	2	21.0	21.1	21.1
			12	6	2	21.0	21.0	21.1
			12	11	2	21.1	21.1	21.1
			25	0	2	21.1	20.9	21.1

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	23.1	23.1	23.3
			1	7	0	23.5	23.1	23.5
			1	14	0	23.2	23.1	23.1
			6	0	1	22.0	22.0	22.1
			6	3	1	22.0	22.0	22.0
			6	5	1	22.0	21.9	22.1
			15	0	1	22.1	22.1	22.1
		16QAM	1	0	1	22.0	22.7	22.4
			1	7	1	21.9	22.5	22.4
			1	14	1	22.1	22.7	22.2
			6	0	2	21.1	21.0	21.3
			6	3	2	21.1	21.0	21.2
			6	5	2	21.2	20.9	21.3
			15	0	2	21.1	21.1	21.1
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	23.0	22.9	23.3
			1	2	0	22.9	22.9	21.8
			1	5	0	22.9	23.0	23.0
			3	0	0	22.8	23.0	23.2
			3	1	0	22.8	22.8	23.2
			3	2	0	22.9	23.0	23.2
			6	0	1	21.8	21.8	22.2
		16QAM	1	0	1	22.2	22.5	22.3
			1	2	1	22.2	22.5	22.3
			1	5	1	22.2	22.4	22.1
			3	0	1	22.0	22.2	22.4
			3	1	1	22.0	22.1	22.5
			3	2	1	22.0	22.1	22.4
			6	0	2	21.0	20.8	21.4

9. PEAK TO AVERAGE RATIO

Test Procedure

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

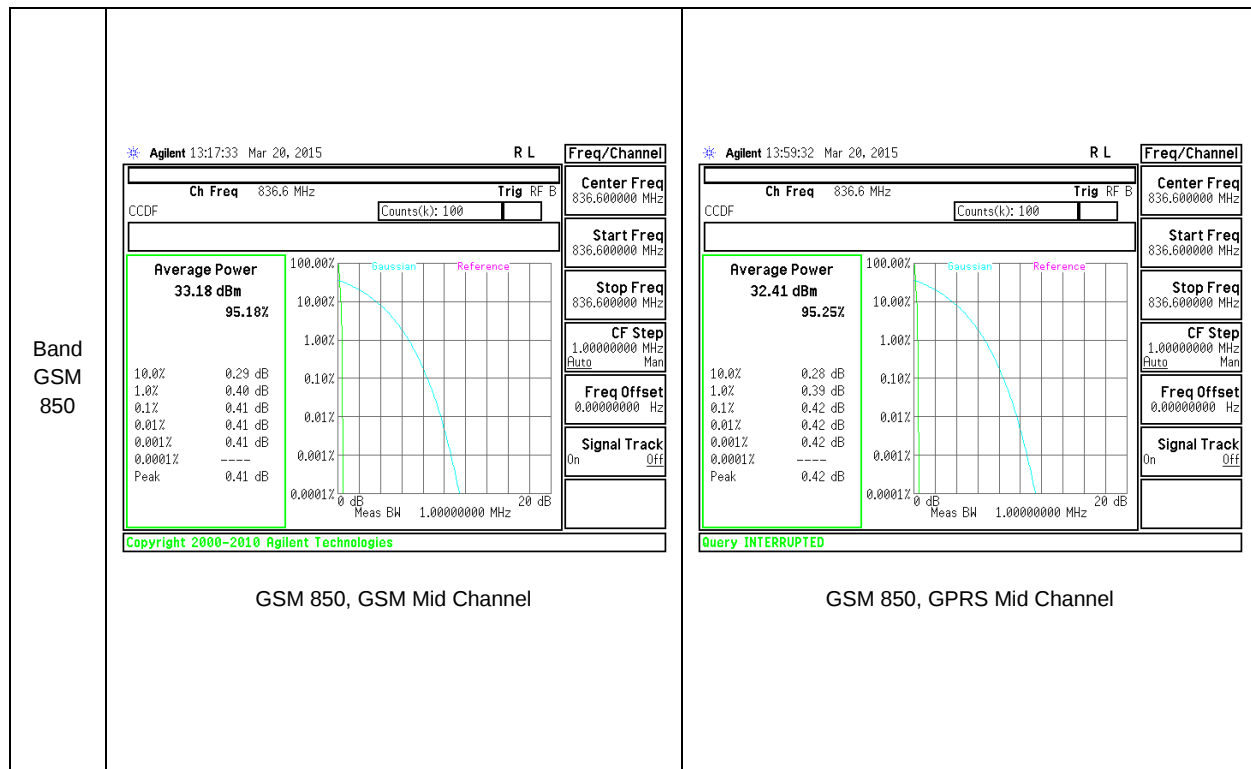
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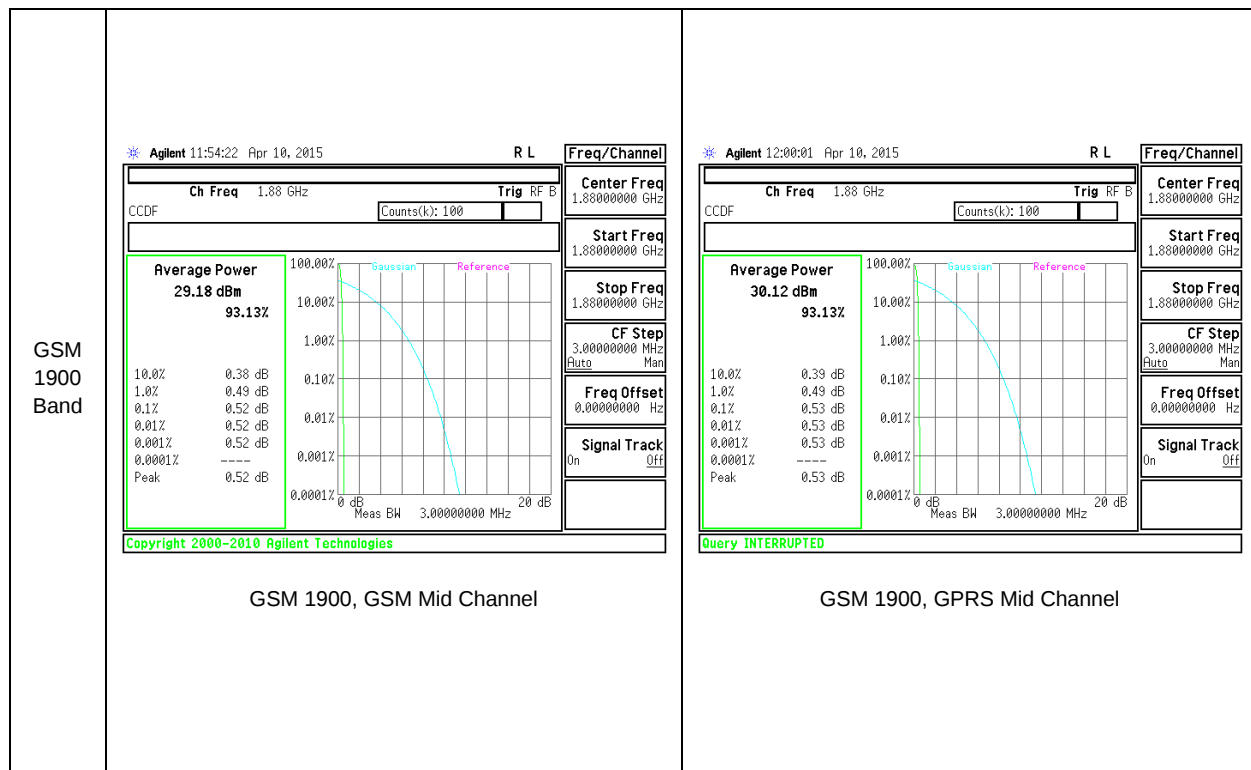
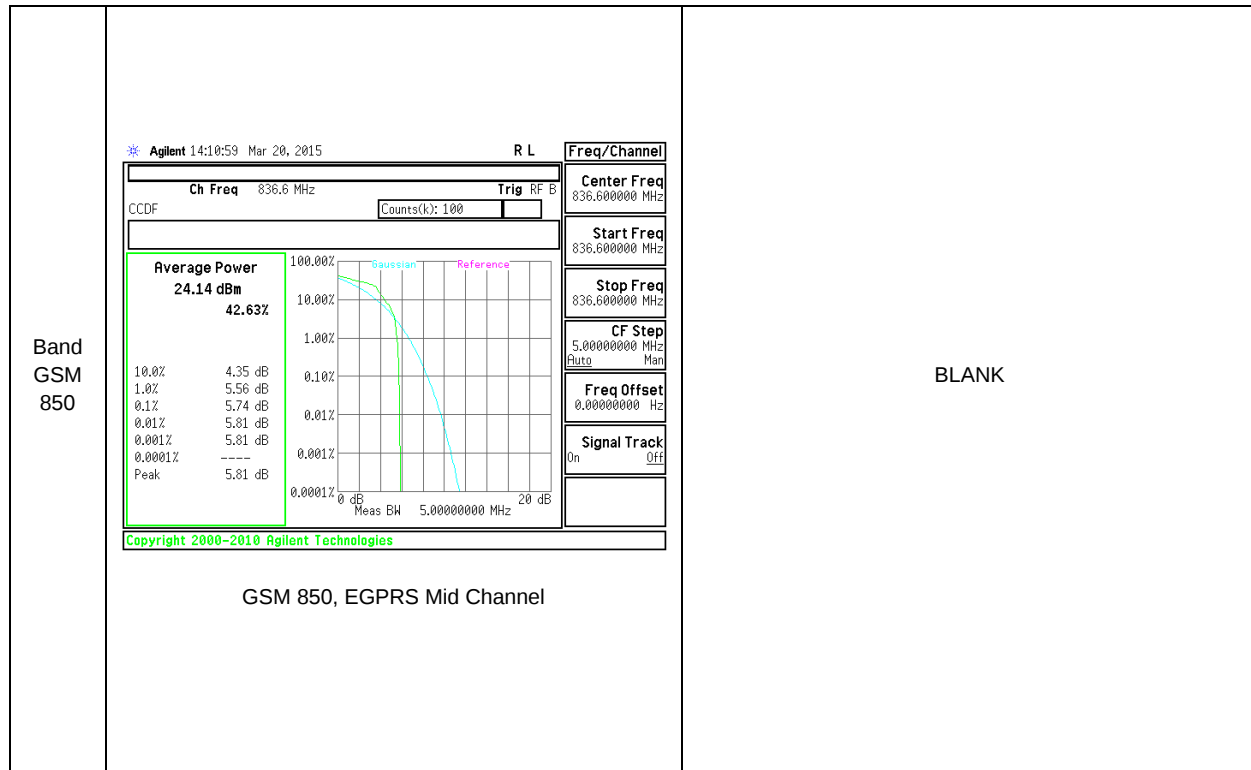
In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

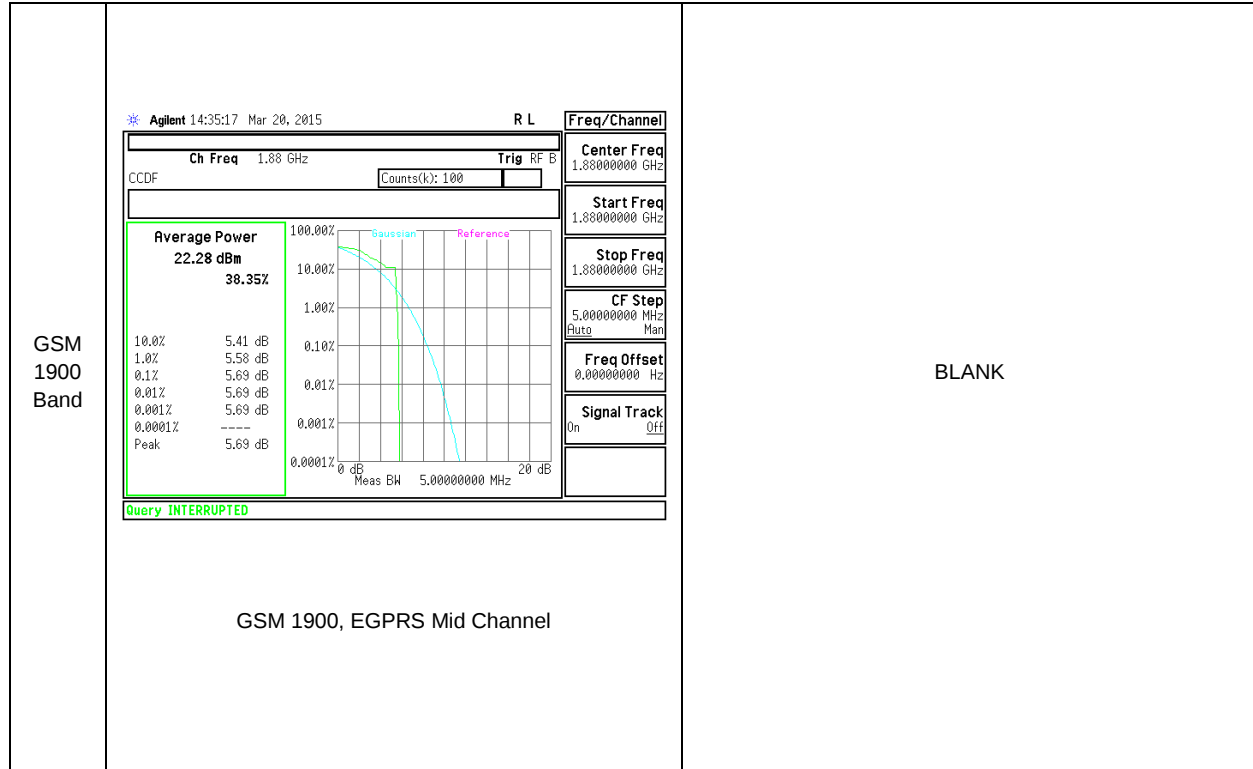
9.1. CONDUCTED PEAK TO AVERAGE RESULT

Modes Tested: GSM (850 and 1900), WCDMA (Bands 2 and 5), LTE (Bands 5 and 17).

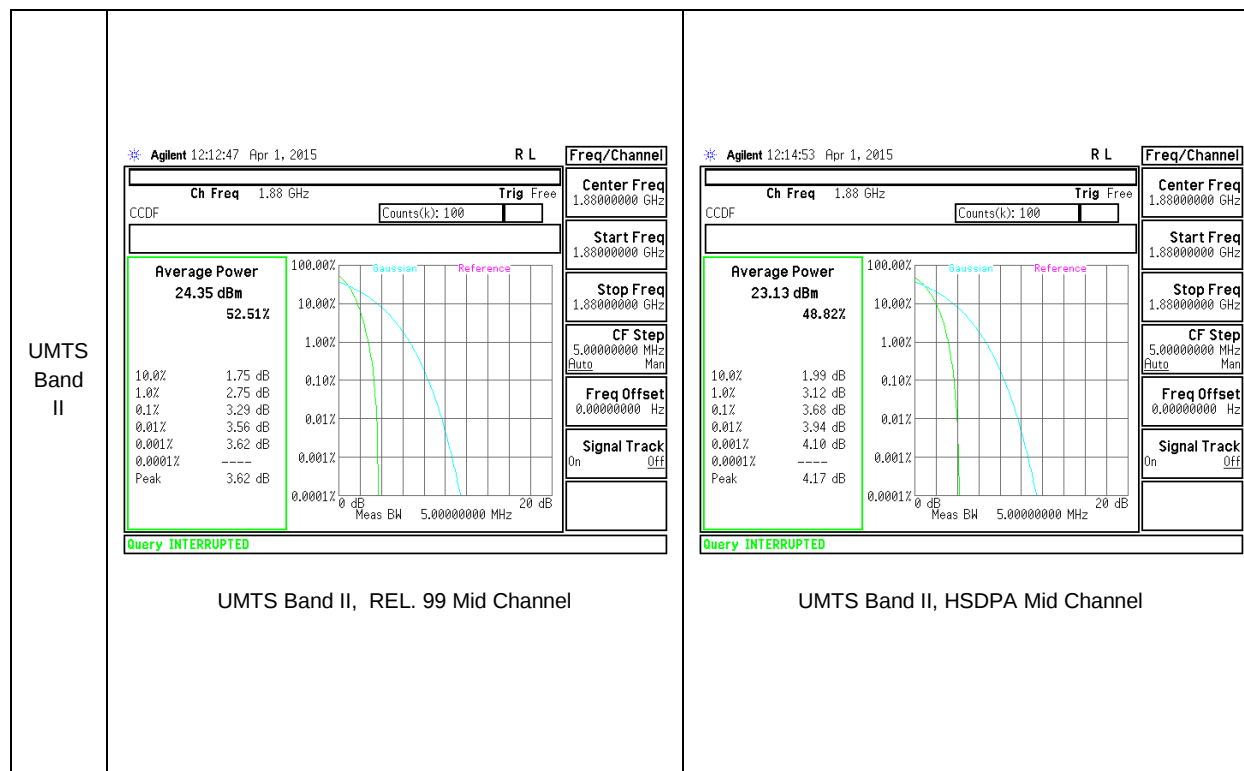
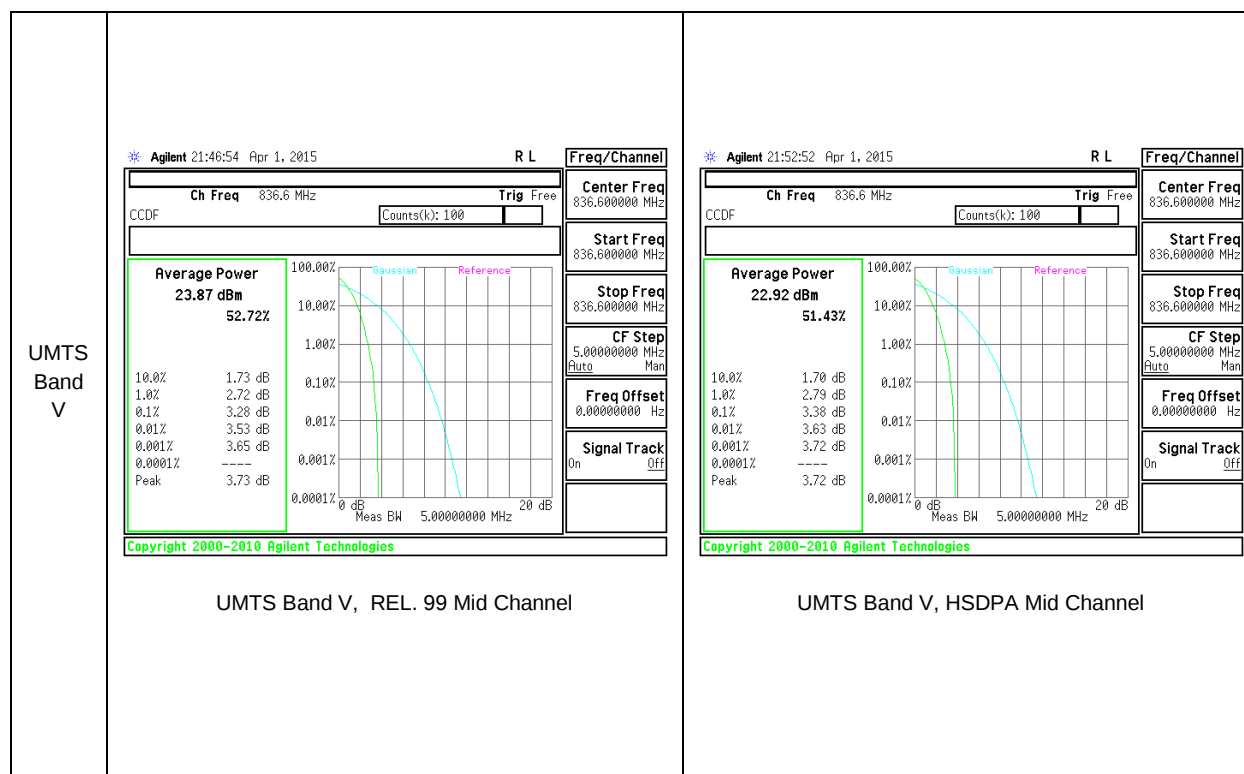
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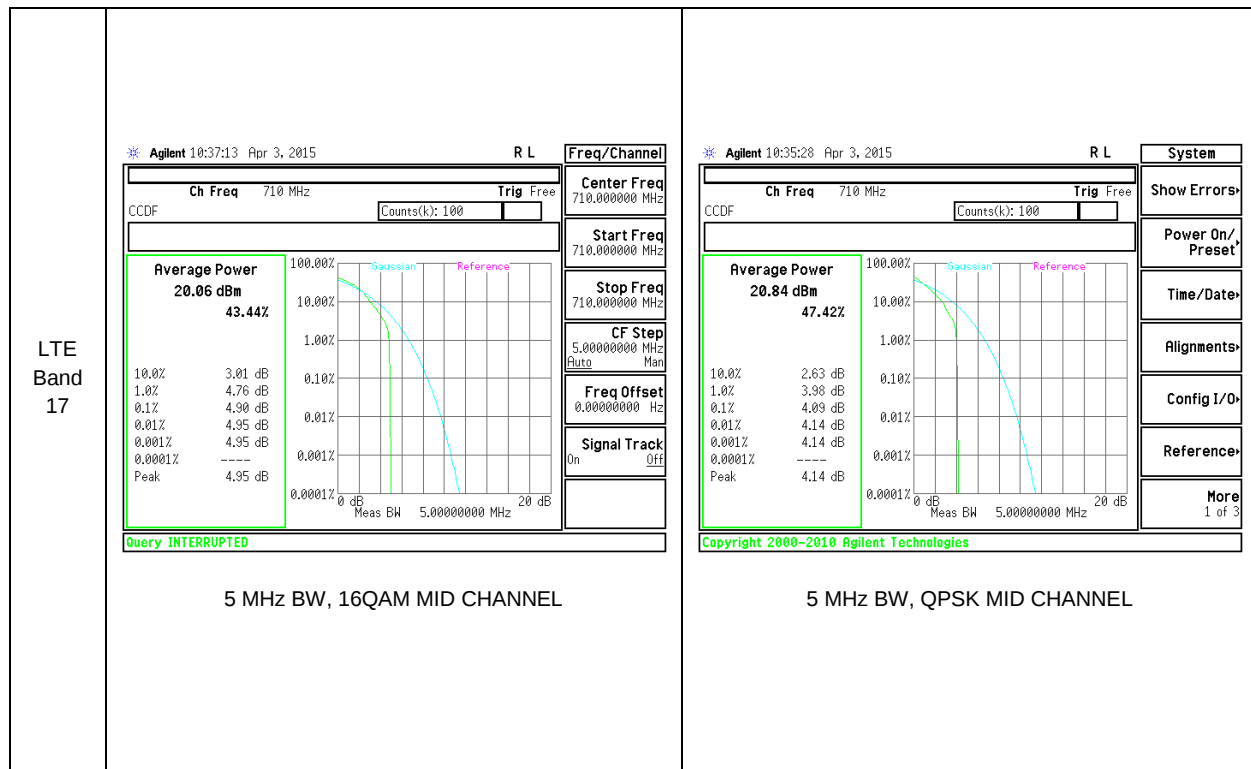
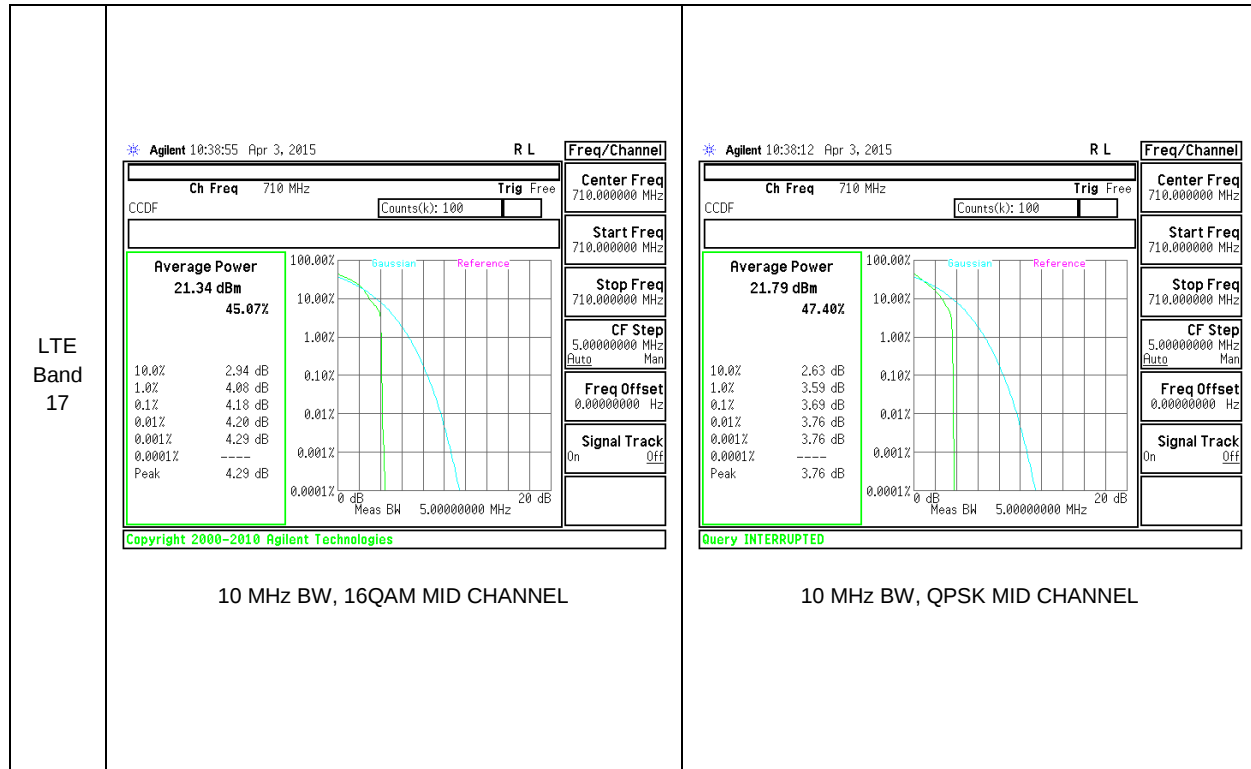


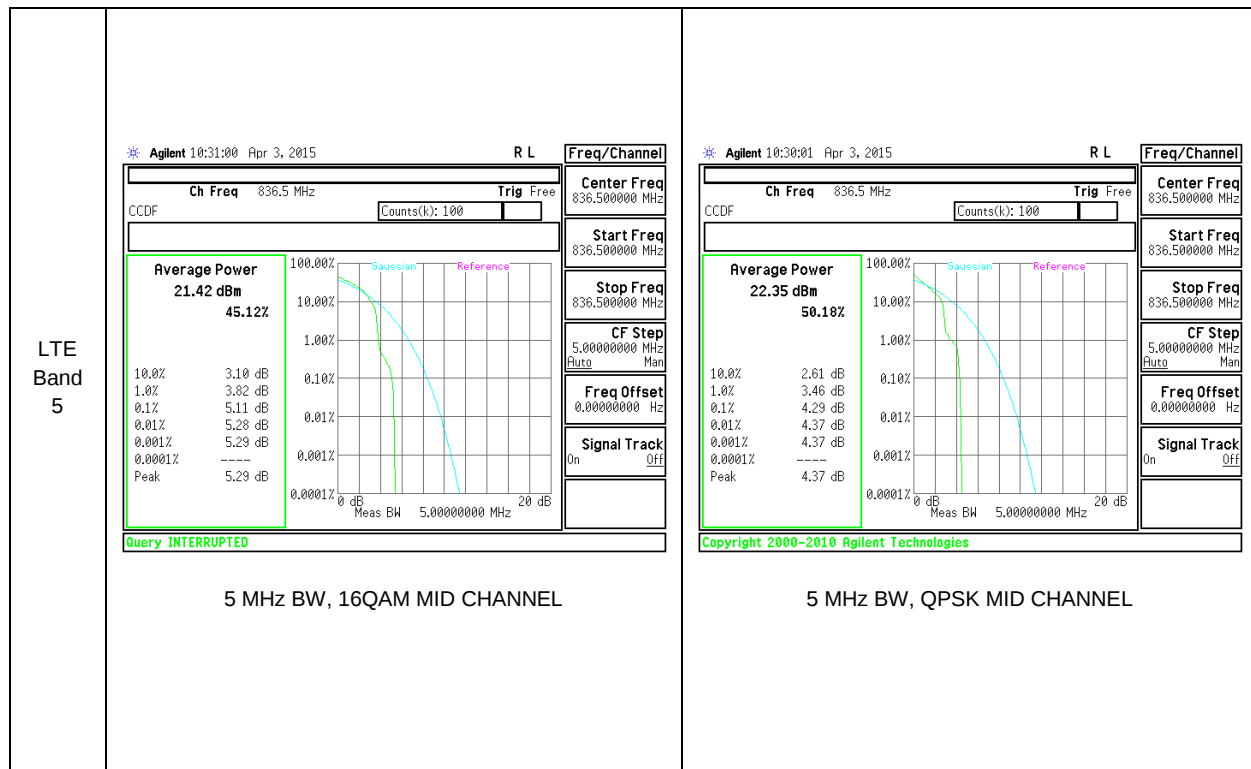
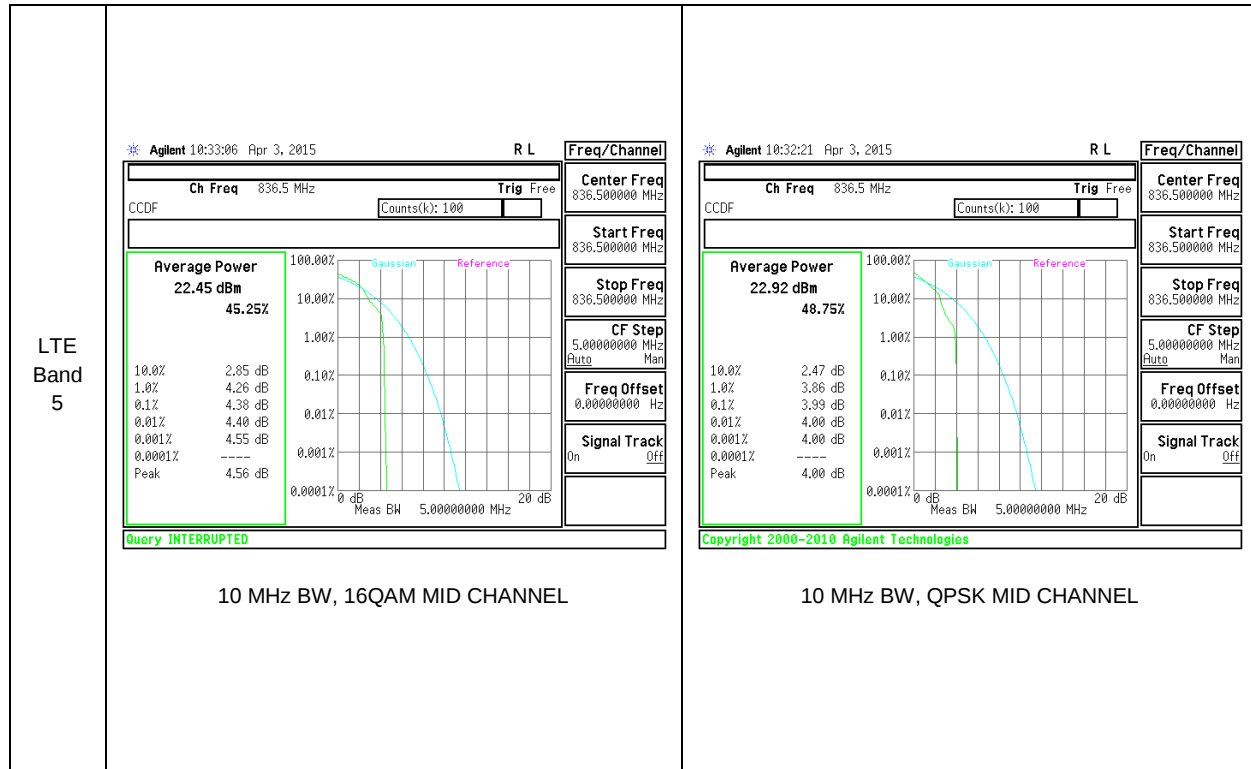


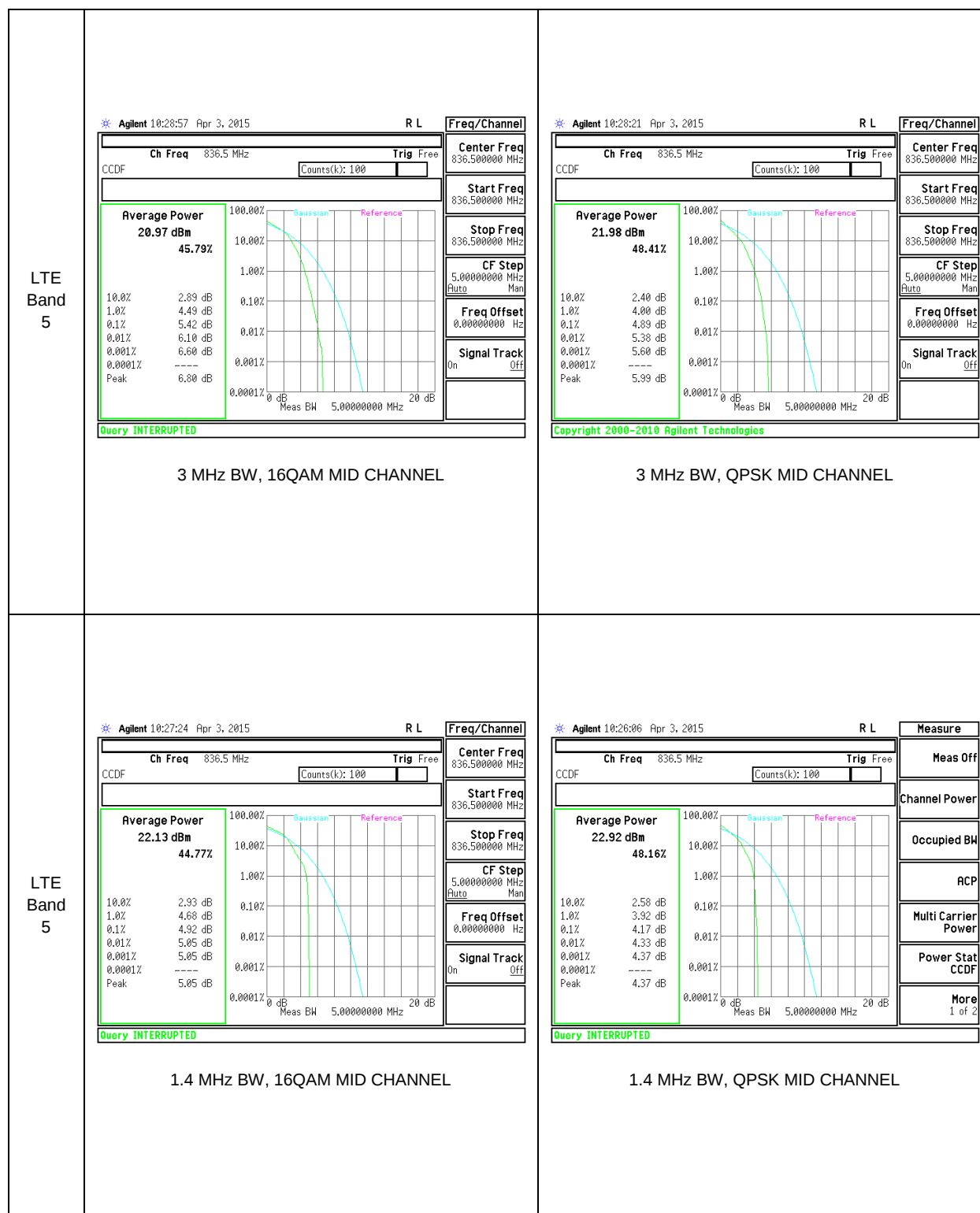
WCDMA



LTE







10. LIMITS AND CONDUCTED RESULTS

10.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

IC: RSS-132, 4.5; RSS-133, 6.5

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

GSM (850, 1900), WCDMA (Bands V and II), LTE (Bands 5 and 17).

10.1.1. OCCUPIED BANDWIDTH RESULTS

Band	Mode	Channel	f (MHz)	99% BW (KHz)	-26dB BW (KHz)
GSM850	GPRS	128	824.2	239.3	313.4
		190	836.6	248.4	321.4
		251	848.8	243.6	319.3
	EGPRS	128	824.2	233.1	305.1
		190	836.6	234.4	299.2
		251	848.8	234.5	298.0
GSM1900	GPRS	512	1850.2	247.2	322.5
		661	1880	244.5	321.5
		810	1909.8	243.9	308.0
	EGPRS	512	1850.2	246.5	316.6
		661	1880	232.3	308.7
		810	1909.8	235.4	304.0

Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
Band 5	REL99	4132	826.4	4.1333	4.656
		4183	836.6	4.1412	4.710
		4233	846.6	4.1142	4.694
	HSDPA	4132	826.4	4.1264	4.691
		4183	836.6	4.1366	4.696
		4233	846.6	4.1418	4.700
Band 2	REL99	9262	1852.4	4.1472	4.712
		9400	1880	4.1452	4.692
		9538	1907.6	4.1426	4.699
	HSDPA	9262	1852.4	4.1442	4.702
		9400	1880	4.1205	4.709
		9538	1907.6	4.1394	4.706

10.1.2. LTE OCCUPIED BANDWIDTH RESULTS

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE17	10	QPSK	50/0	709	8.9699	9.757
			50/0	710	8.9533	9.608
			50/0	711	8.9460	9.720
		16QAM	50/0	709	8.9528	9.697
			50/0	710	8.9444	9.658
			50/0	711	8.9636	9.749

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE17	5	QPSK	25/0	706.5	4.4980	4.903
			25/0	710	4.5028	4.933
			25/0	713.5	4.5071	4.923
		16QAM	25/0	706.5	4.5104	4.963
			25/0	710	4.5029	4.952
			25/0	713.5	4.5066	4.928

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE5	10	QPSK	50/0	829	8.9482	9.685
			50/0	836.5	8.9770	9.624
			50/0	844	8.9464	9.833
		16QAM	50/0	829	8.9481	9.728
			50/0	836.5	8.9452	9.615
			50/0	844	8.9542	9.731

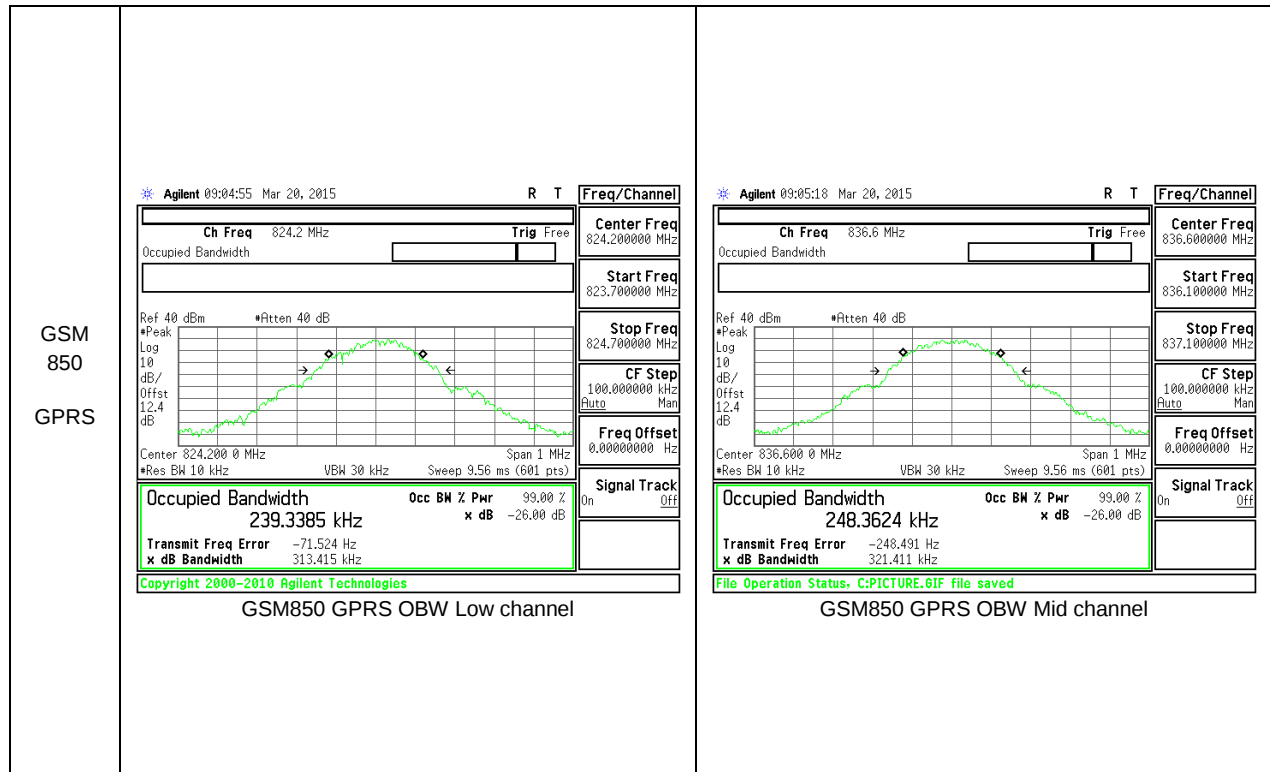
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE5	5	QPSK	25/0	826.5	4.4924	4.932
			25/0	836.5	4.4978	4.960
			25/0	846.5	4.4994	4.906
		16QAM	25/0	826.5	4.4877	4.900
			25/0	836.5	4.5045	4.941
			25/0	846.5	4.5026	4.967

Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE5	3	QPSK	15/0	825.5	2.6914	2.953
			15/0	836.5	2.6919	3.014
			15/0	847.5	2.6928	3.003
		16QAM	15/0	825.5	2.6920	3.027
			15/0	836.5	2.6830	3.000
			15/0	847.5	2.6925	2.993

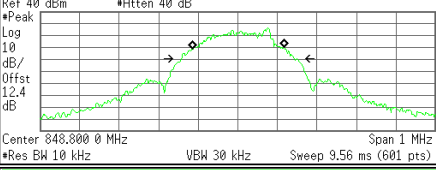
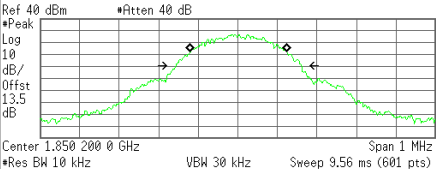
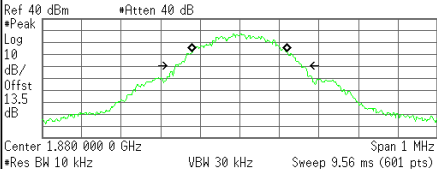
Band	BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
LTE5	1.4	QPSK	6/0	824.7	1.0811	1.224
			6/0	836.5	1.0809	1.223
			6/0	848.3	1.0786	1.232
		16QAM	6/0	824.7	1.0854	1.231
			6/0	836.5	1.0801	1.235
			6/0	848.3	1.0871	1.232

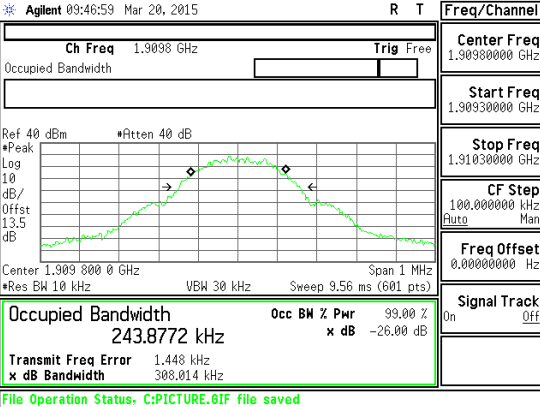
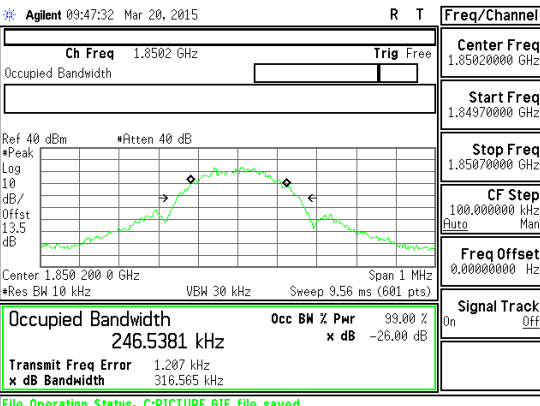
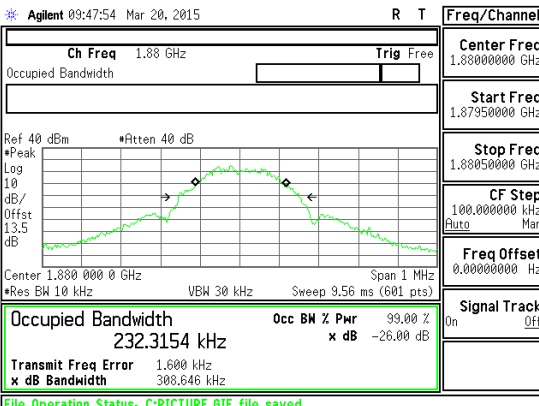
10.1.1. OCCUPIED BANDWIDTH PLOTS

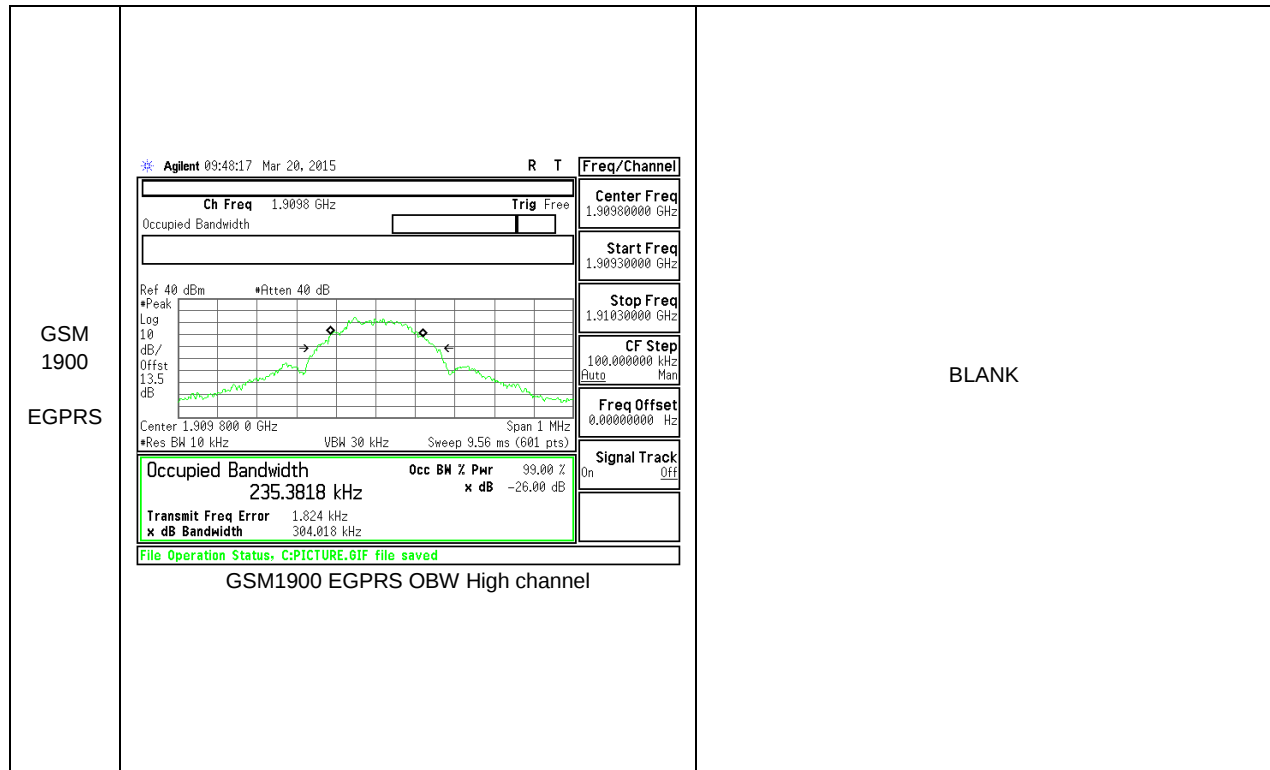
GSM



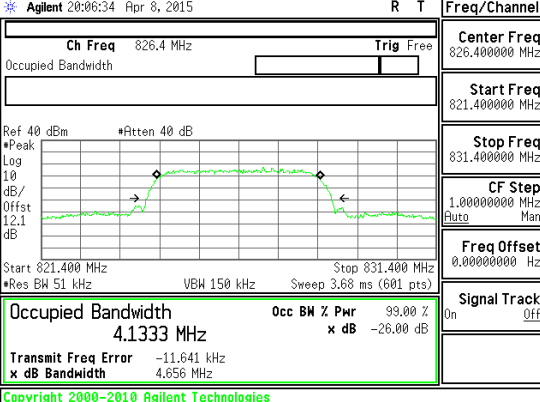
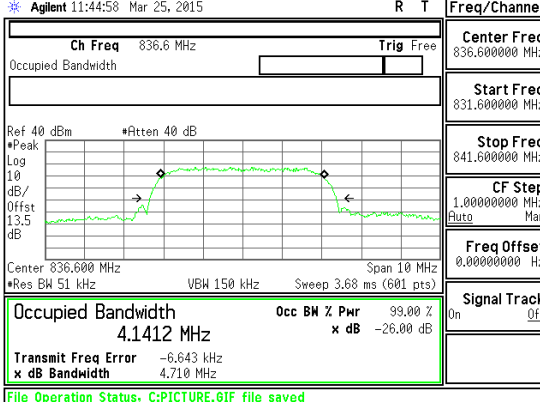
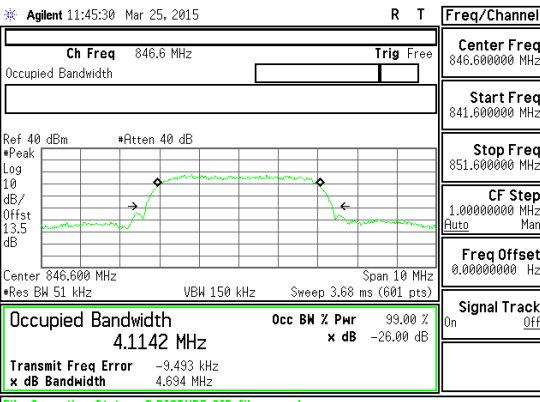
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GSM 850 EGPRS	Agilent 09:06:13 Mar 20, 2015 R T Ch Freq 824.2 MHz Trig Free Center Freq 824.200000 MHz Start Freq 823.700000 MHz Stop Freq 824.700000 MHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 40 dBm *Peak Log 10 dB/Offst 12.4 dB Center 824.200 0 MHz Span 1 MHz *Res BW 10 kHz VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 233.1403 kHz Transmit Freq Error -1.611 kHz x dB Bandwidth 305.071 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB File Operation Status, C:PICTURE.01F file saved GSM850 EGPRS OBW Low channel	Agilent 09:06:35 Mar 20, 2015 R T Ch Freq 836.6 MHz Trig Free Center Freq 836.600000 MHz Start Freq 836.100000 MHz Stop Freq 837.100000 MHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 40 dBm *Peak Log 10 dB/Offst 12.4 dB Center 836.600 0 MHz Span 1 MHz *Res BW 10 kHz VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 234.3619 kHz Transmit Freq Error -964.779 Hz x dB Bandwidth 299.153 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB File Operation Status, C:PICTURE.01F file saved GSM850 EGPRS OBW Mid channel

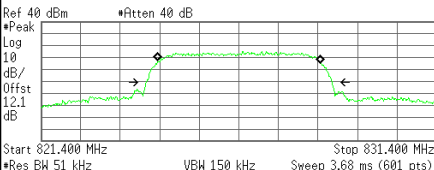
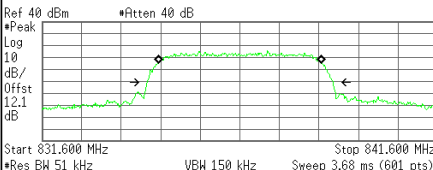
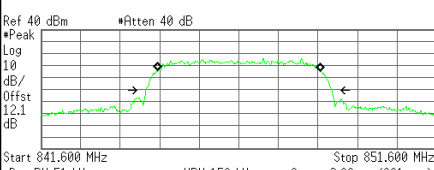
GSM 850 EGPRS	Agilent 09:06:57 Mar 20, 2015 R T Ch Freq 848.8 MHz Trig Free Occupied Bandwidth  Ref 40 dBm *Aatten 40 dB *Peak Log 10 dB/Offst 12.4 dB Center 848.800 0 MHz Span 1 MHz *Res BW 10 kHz VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 234.5010 kHz Transmit Freq Error 1.091 kHz x dB Bandwidth 297.978 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB File Operation Status, C:PICTURE.01F file saved GSM850 EGPRS OBW High channel Freq/Channel Center Freq 848.800000 MHz Start Freq 848.300000 MHz Stop Freq 849.300000 MHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off	BLANK
GSM 1900 GPRS	Agilent 09:46:14 Mar 20, 2015 R T Ch Freq 1.8502 GHz Trig Free Occupied Bandwidth  Ref 40 dBm *Aatten 40 dB *Peak Log 10 dB/Offst 13.5 dB Center 1.850 200 0 GHz Span 1 MHz *Res BW 10 kHz VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 247.2116 kHz Transmit Freq Error 1.082 kHz x dB Bandwidth 322.478 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB Copyright 2000-2010 Agilent Technologies GSM1900 GPRS OBW Low channel Freq/Channel Center Freq 1.85020000 GHz Start Freq 1.84970000 GHz Stop Freq 1.85070000 GHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off	Agilent 09:46:37 Mar 20, 2015 R T Ch Freq 1.88 GHz Trig Free Occupied Bandwidth  Ref 40 dBm *Aatten 40 dB *Peak Log 10 dB/Offst 13.5 dB Center 1.880 000 0 GHz Span 1 MHz *Res BW 10 kHz VBW 30 kHz Sweep 9.56 ms (601 pts) Occupied Bandwidth 244.4657 kHz Transmit Freq Error -313.372 Hz x dB Bandwidth 321.451 kHz Occ BW % Pwr 99.00 % x dB -26.00 dB File Operation Status, C:PICTURE.01F file saved GSM1900 GPRS OBW Mid channel Freq/Channel Center Freq 1.88000000 GHz Start Freq 1.87950000 GHz Stop Freq 1.88050000 GHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

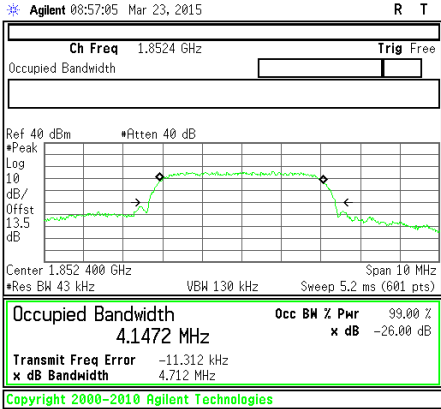
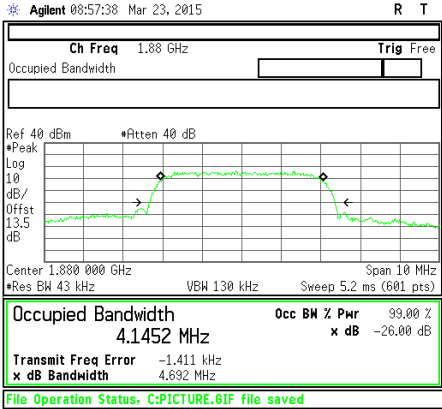
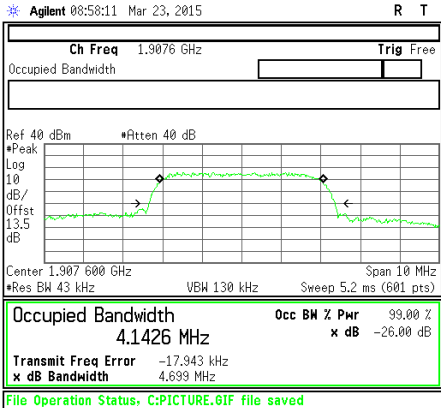
GSM 1900 GPRS	 Agilent 09:46:59 Mar 20, 2015 Ch Freq 1.9098 GHz Trig Free Center Freq 1.90980000 GHz Start Freq 1.90930000 GHz Stop Freq 1.91030000 GHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 243.8772 kHz Transmit Freq Error 1.448 kHz x dB Bandwidth 308.014 kHz File Operation Status, C:PICTURE.01F file saved GSM1900 GPRS OBW High channel	BLANK
GSM 1900 EGPRS	 Agilent 09:47:32 Mar 20, 2015 Ch Freq 1.8502 GHz Trig Free Center Freq 1.85020000 GHz Start Freq 1.84970000 GHz Stop Freq 1.85070000 GHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 246.5381 kHz Transmit Freq Error 1.207 kHz x dB Bandwidth 316.565 kHz File Operation Status, C:PICTURE.01F file saved GSM1900 EGPRS OBW Low channel	 Agilent 09:47:54 Mar 20, 2015 Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.87950000 GHz Stop Freq 1.88050000 GHz CF Step 100.000000 kHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 232.3154 kHz Transmit Freq Error 1.600 kHz x dB Bandwidth 308.646 kHz File Operation Status, C:PICTURE.01F file saved GSM1900 EGPRS OBW Mid channel

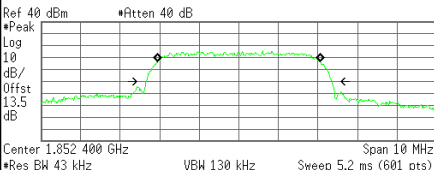
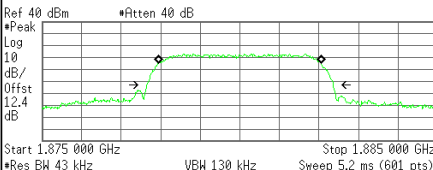
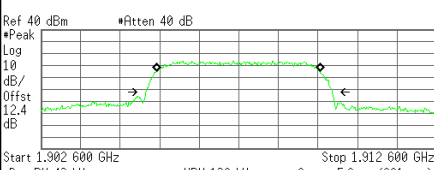


WCDMA

WCDMA Band 5 REL 99	 Agilent 20:06:34 Apr 8, 2015 Ch Freq 826.4 MHz Trig Free Center Freq 826.400000 MHz Start Freq 821.400000 MHz Stop Freq 831.400000 MHz CF Step 1.000000000 MHz Freq Offset 0.000000000 Hz Signal Track On Occupied Bandwidth 4.1333 MHz Transmit Freq Error -11.641 kHz x dB Bandwidth 4.656 MHz Copyright 2000-2010 Agilent Technologies Band 5 REL 99 OBW Low channel	 Agilent 11:44:58 Mar 25, 2015 Ch Freq 836.6 MHz Trig Free Center Freq 836.600000 MHz Start Freq 831.600000 MHz Stop Freq 841.600000 MHz CF Step 1.000000000 MHz Freq Offset 0.000000000 Hz Signal Track On Occupied Bandwidth 4.1412 MHz Transmit Freq Error -6.643 kHz x dB Bandwidth 4.710 MHz File Operation Status, C:PICTURE.8IF file saved Band 5 REL 99 OBW Mid channel
WCDMA Band 5 REL 99	 Agilent 11:45:30 Mar 25, 2015 Ch Freq 846.6 MHz Trig Free Center Freq 846.600000 MHz Start Freq 841.600000 MHz Stop Freq 851.600000 MHz CF Step 1.000000000 MHz Freq Offset 0.000000000 Hz Signal Track On Occupied Bandwidth 4.1142 MHz Transmit Freq Error -9.493 kHz x dB Bandwidth 4.694 MHz File Operation Status, C:PICTURE.8IF file saved Band 5 REL 99 OBW High channel	BLANK

WCDMA Band 5 HSDPA	Agilent 20:07:18 Apr 8, 2015 R T Ch Freq 826.4 MHz Trig Free Occupied Bandwidth  Ref 40 dBm *Atten 40 dB Start 821.400 MHz VBW 150 kHz Sweep 3.68 ms (601 pts) Stop 831.400 MHz Center Freq 826.400000 MHz Start Freq 821.400000 MHz Stop Freq 831.400000 MHz CF Step 1.00000000 MHz Auto Mani Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 4.1264 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -1.104 kHz x dB Bandwidth 4.691 MHz File Operation Status, C:PICTURE.GIF file saved Band 5 HSDPA OBW Low channel	Agilent 19:27:26 Apr 1, 2015 R T Ch Freq 836.6 MHz Trig Free Occupied Bandwidth  Ref 40 dBm *Atten 40 dB Start 831.600 MHz VBW 150 kHz Sweep 3.68 ms (601 pts) Stop 841.600 MHz Center Freq 836.600000 MHz Start Freq 831.600000 MHz Stop Freq 841.600000 MHz CF Step 1.00000000 MHz Auto Mani Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 4.1366 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -5.716 kHz x dB Bandwidth 4.696 MHz File Operation Status, C:PICTURE.GIF file saved Band 5 HSDPA OBW Mid channel
WCDMA Band 5 HSDPA	Agilent 20:34:29 Apr 1, 2015 R T Ch Freq 846.6 MHz Trig Free Occupied Bandwidth  Ref 40 dBm *Atten 40 dB Start 841.600 MHz VBW 150 kHz Sweep 3.68 ms (601 pts) Stop 851.600 MHz Center Freq 846.600000 MHz Start Freq 841.600000 MHz Stop Freq 851.600000 MHz CF Step 1.00000000 MHz Auto Mani Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 4.1418 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -2.831 kHz x dB Bandwidth 4.700 MHz File Operation Status, C:PICTURE.GIF file saved Band 5 HSDPA OBW High channel	BLANK

WCDMA Band 2 REL 99	 Agilent 08:57:05 Mar 23, 2015 R T Ch Freq 1.8524 GHz Trig Free Center Freq 1.85240000 GHz Start Freq 1.84740000 GHz Stop Freq 1.85740000 GHz CF Step 1.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 4.1472 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -11.312 kHz x dB Bandwidth 4.712 MHz Copyright 2000-2010 Agilent Technologies Band 2 REL 99 OBW Low channel	 Agilent 08:57:38 Mar 23, 2015 R T Ch Freq 1.88 GHz Trig Free Center Freq 1.88000000 GHz Start Freq 1.87500000 GHz Stop Freq 1.88500000 GHz CF Step 1.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 4.1452 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -1.411 kHz x dB Bandwidth 4.692 MHz File Operation Status, C:PICTURE.GIF file saved Band 2 REL 99 OBW Mid channel
WCDMA Band 2 REL 99	 Agilent 08:58:11 Mar 23, 2015 R T Ch Freq 1.9076 GHz Trig Free Center Freq 1.90760000 GHz Start Freq 1.90260000 GHz Stop Freq 1.91260000 GHz CF Step 1.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 4.1426 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -17.943 kHz x dB Bandwidth 4.699 MHz File Operation Status, C:PICTURE.GIF file saved Band 2 REL 99 OBW High channel	BLANK

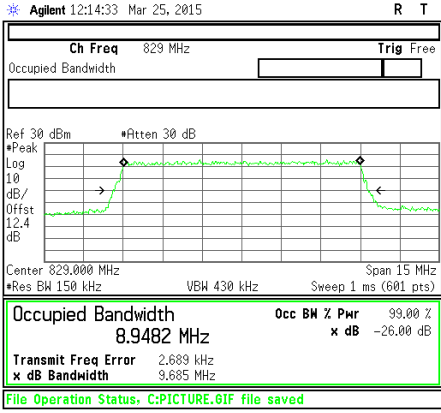
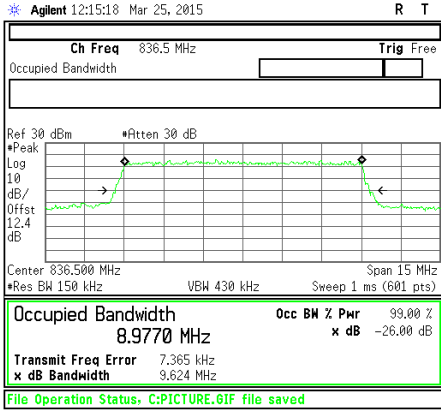
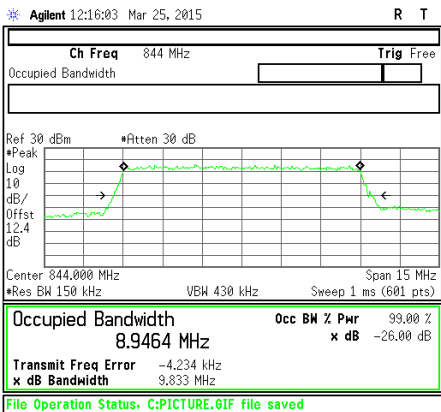
WCDMA Band 2 HSDPA	Agilent 08:59:07 Mar 23, 2015 R T Ch Freq 1.8524 GHz Trig Free Occupied Bandwidth  Center Freq 1.85240000 GHz Start Freq 1.84740000 GHz Stop Freq 1.85740000 GHz CF Step 1.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 4.1442 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -2.911 kHz x dB Bandwidth 4.702 MHz File Operation Status, C:PICTURE.GIF file saved Band 2 HSDPA OBW Low channel	Agilent 21:05:01 Apr 1, 2015 R T Ch Freq 1.88 GHz Trig Free Occupied Bandwidth  Center Freq 1.88000000 GHz Start Freq 1.87500000 GHz Stop Freq 1.88500000 GHz CF Step 1.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 4.1205 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -6.142 kHz x dB Bandwidth 4.709 MHz File Operation Status, C:PICTURE.GIF file saved Band 2 HSDPA OBW Mid channel
WCDMA Band 2 HSDPA	Agilent 21:06:04 Apr 1, 2015 R T Ch Freq 1.9076 GHz Trig Free Occupied Bandwidth  Center Freq 1.90760000 GHz Start Freq 1.90260000 GHz Stop Freq 1.91260000 GHz CF Step 1.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 4.1394 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -16.911 kHz x dB Bandwidth 4.706 MHz File Operation Status, C:PICTURE.GIF file saved Band 2 HSDPA OBW High channel	BLANK

LTE

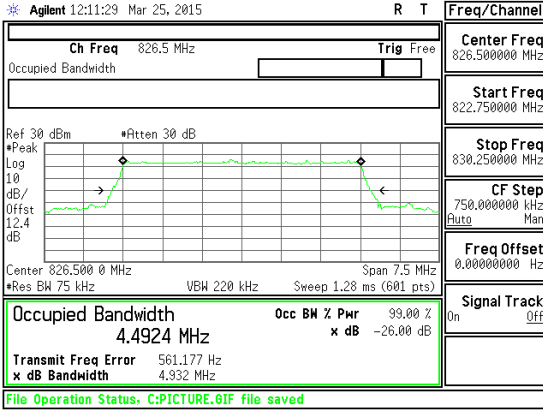
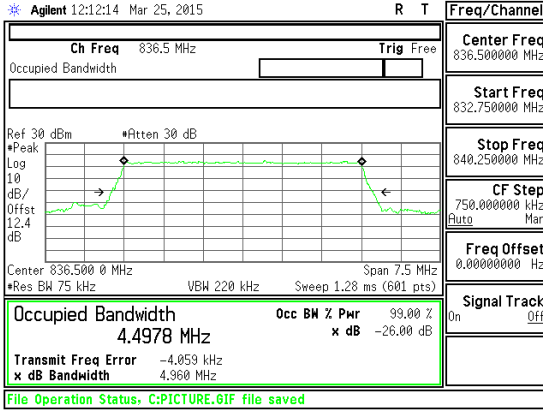
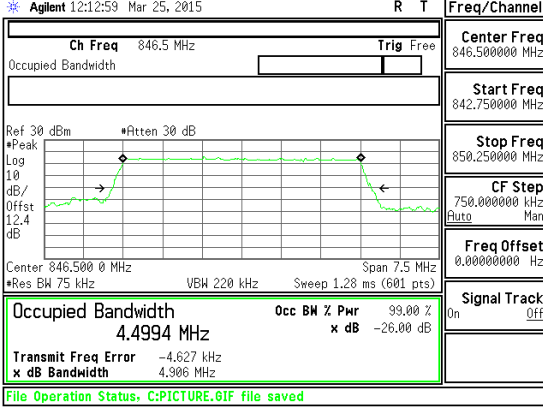
Band LTE17 10 MHz QPSK	Agilent 00:04:59 Mar 26, 2015 R T Ch Freq 709 MHz Trig Free Center Freq 709.000000 MHz Start Freq 701.500000 MHz Stop Freq 716.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 30 dBm *Atten 30 dB Log 10 dB/Offst 12.1 dB Start 701.500 MHz VBW 430 kHz Sweep 1 ms (601 pts) Stop 716.500 MHz Occupied Bandwidth 8.9699 MHz Occ BW X Pwr 99.00 x dB -26.00 dB Transmit Freq Error 10.924 kHz x dB Bandwidth 9.757 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE17 - 10 MHz QPSK OBW Low channel	Agilent 00:05:44 Mar 26, 2015 R T Ch Freq 710 MHz Trig Free Center Freq 710.000000 MHz Start Freq 702.500000 MHz Stop Freq 717.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 30 dBm *Atten 30 dB Log 10 dB/Offst 12.1 dB Start 702.500 MHz VBW 430 kHz Sweep 1 ms (601 pts) Stop 717.500 MHz Occupied Bandwidth 8.9533 MHz Occ BW X Pwr 99.00 x dB -26.00 dB Transmit Freq Error 5.594 kHz x dB Bandwidth 9.608 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE17 - 10 MHz QPSK OBW Mid channel
Band LTE17 10 MHz QPSK	Agilent 00:06:29 Mar 26, 2015 R T Ch Freq 711 MHz Trig Free Center Freq 711.000000 MHz Start Freq 703.500000 MHz Stop Freq 718.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 30 dBm *Atten 30 dB Log 10 dB/Offst 12.1 dB Start 703.500 MHz VBW 430 kHz Sweep 1 ms (601 pts) Stop 718.500 MHz Occupied Bandwidth 8.9460 MHz Occ BW X Pwr 99.00 x dB -26.00 dB Transmit Freq Error 2.076 kHz x dB Bandwidth 9.720 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE17 - 10 MHz QPSK OBW High channel	BLANK

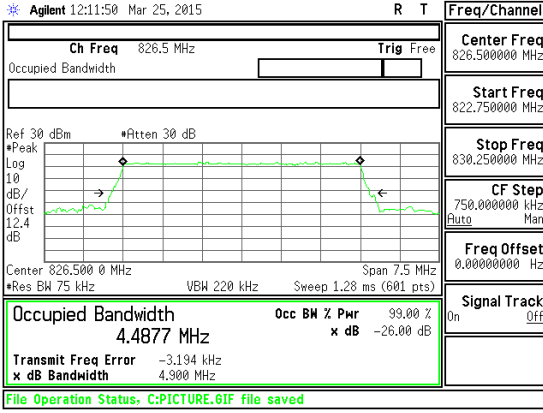
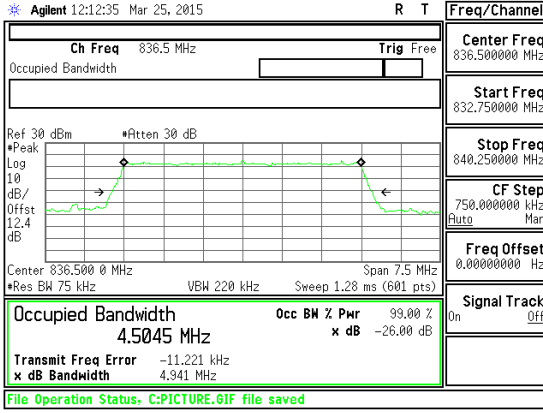
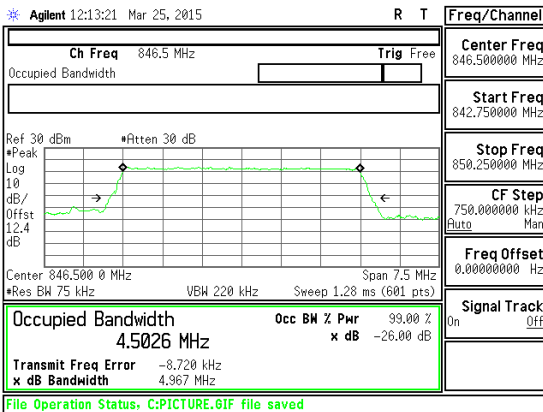
Band LTE17 10 MHz 16QAM	Agilent 00:05:20 Mar 26, 2015 R T Ch Freq 709 MHz Trig Free Center Freq 709.000000 MHz Start Freq 701.500000 MHz Stop Freq 716.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 30 dBm *Atten 30 dB Log Peak 10 dB/Offst 12.1 dB Start 701.500 MHz VBW 430 kHz Stop 716.500 MHz Sweep 1 ms (601 pts) Res BW 150 kHz Occupied Bandwidth 8.9528 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error 6.468 kHz x dB Bandwidth 9.697 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 10 MHz 16QAM OBW Low channel	Agilent 00:06:05 Mar 26, 2015 R T Ch Freq 710 MHz Trig Free Center Freq 710.000000 MHz Start Freq 702.500000 MHz Stop Freq 717.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 30 dBm *Atten 30 dB Log Peak 10 dB/Offst 12.1 dB Start 702.500 MHz VBW 430 kHz Stop 717.500 MHz Sweep 1 ms (601 pts) Res BW 150 kHz Occupied Bandwidth 8.9444 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -4.711 kHz x dB Bandwidth 9.658 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 10 MHz 16QAM OBW Mid channel
Band LTE17 10 MHz 16QAM	Agilent 00:06:50 Mar 26, 2015 R T Ch Freq 711 MHz Trig Free Center Freq 711.000000 MHz Start Freq 703.500000 MHz Stop Freq 718.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 30 dBm *Atten 30 dB Log Peak 10 dB/Offst 12.1 dB Start 703.500 MHz VBW 430 kHz Stop 718.500 MHz Sweep 1 ms (601 pts) Res BW 150 kHz Occupied Bandwidth 8.9636 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -5.136 kHz x dB Bandwidth 9.749 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 10 MHz 16QAM OBW High channel	BLANK

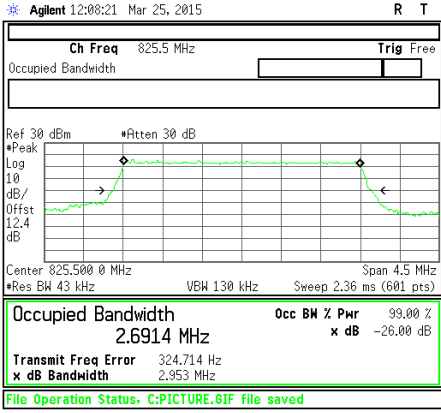
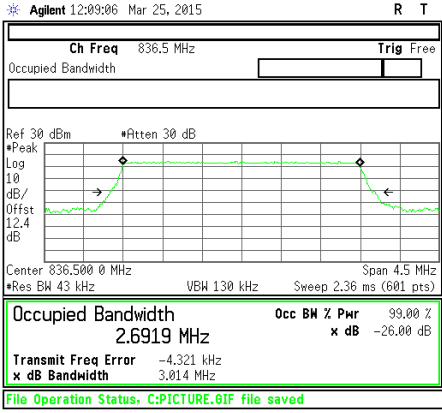
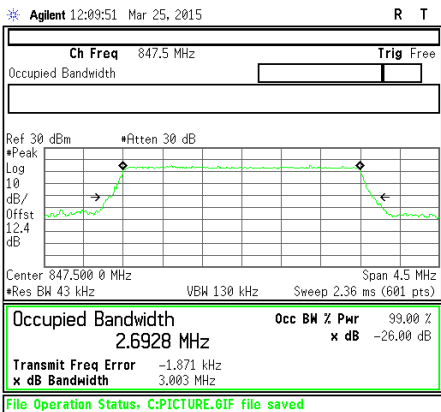
Band LTE17 5 MHz QPSK	Agilent 00:01:30 Mar 26, 2015 R T Ch Freq 706.5 MHz Trig Free Center Freq 706.500000 MHz Start Freq 702.750000 MHz Stop Freq 710.250000 MHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Ref 30 dBm *Atten 30 dB Log Peak 10 dB/Offst 12.1 dB Start 702.750 0 MHz Stop 710.250 0 MHz *Res BW 75 kHz VBW 220 kHz Sweep 1.28 ms (601 pts) Occupied Bandwidth 4.4980 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error 1.737 kHz x dB Bandwidth 4.903 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 5 MHz QPSK OBW Low channel	Agilent 00:02:16 Mar 26, 2015 R T Ch Freq 710 MHz Trig Free Center Freq 710.000000 MHz Start Freq 706.250000 MHz Stop Freq 713.750000 MHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Ref 30 dBm *Atten 30 dB Log Peak 10 dB/Offst 12.1 dB Start 706.250 0 MHz Stop 713.750 0 MHz *Res BW 75 kHz VBW 220 kHz Sweep 1.28 ms (601 pts) Occupied Bandwidth 4.5028 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -2.860 kHz x dB Bandwidth 4.933 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 5 MHz QPSK OBW Mid channel
Band LTE17 5 MHz QPSK	Agilent 00:03:01 Mar 26, 2015 R T Ch Freq 713.5 MHz Trig Free Center Freq 713.500000 MHz Start Freq 709.750000 MHz Stop Freq 717.250000 MHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Ref 30 dBm *Atten 30 dB Log Peak 10 dB/Offst 12.1 dB Start 709.750 0 MHz Stop 717.250 0 MHz *Res BW 75 kHz VBW 220 kHz Sweep 1.28 ms (601 pts) Occupied Bandwidth 4.5071 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -10.566 kHz x dB Bandwidth 4.923 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 5 MHz QPSK OBW High channel	BLANK

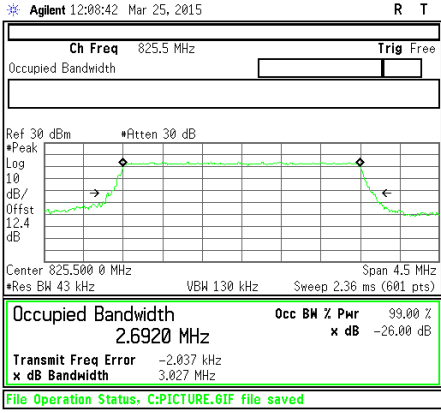
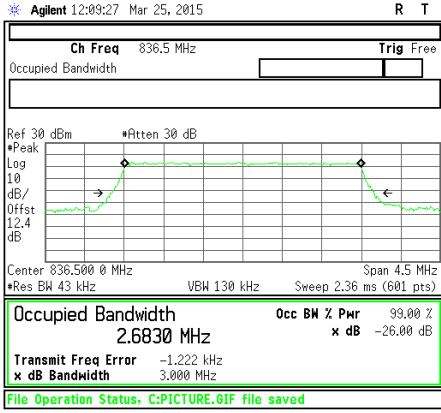
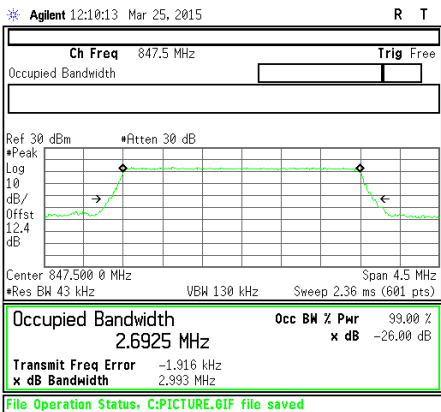
Band LTE5 10 MHz QPSK	 Agilent 12:14:33 Mar 25, 2015 R T Ch Freq 829 MHz Trig Free Center Freq 829.000000 MHz Start Freq 821.500000 MHz Stop Freq 836.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 8.9482 MHz Transmit Freq Error 2.689 kHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz QPSK OBW Low channel	 Agilent 12:15:18 Mar 25, 2015 R T Ch Freq 836.5 MHz Trig Free Center Freq 836.500000 MHz Start Freq 829.000000 MHz Stop Freq 844.000000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 8.9770 MHz Transmit Freq Error 7.365 kHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz QPSK OBW Mid channel
Band LTE5 10 MHz QPSK	 Agilent 12:16:03 Mar 25, 2015 R T Ch Freq 844 MHz Trig Free Center Freq 844.000000 MHz Start Freq 836.500000 MHz Stop Freq 851.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Occupied Bandwidth 8.9464 MHz Transmit Freq Error -4.234 kHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz QPSK OBW High channel	BLANK

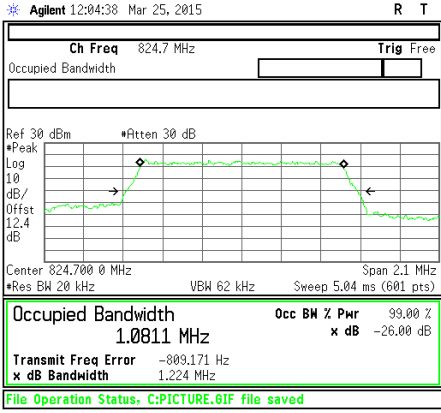
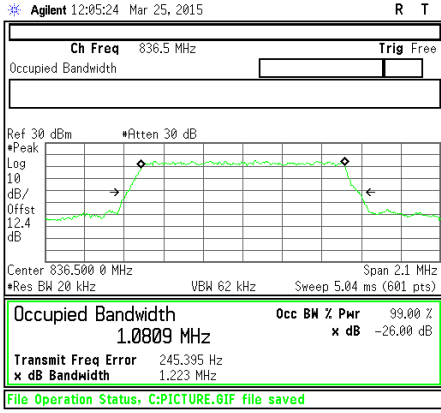
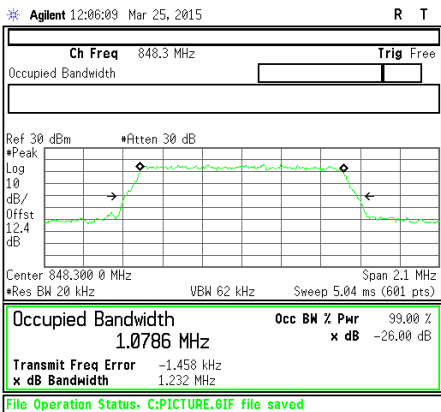
Band LTE5 10 MHz 16QAM	Agilent 12:14:54 Mar 25, 2015 R T Ch Freq 829 MHz Trig Free Center Freq 829.000000 MHz Start Freq 821.500000 MHz Stop Freq 836.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 30 dBm *Atten 30 dB Log Peak 10 dB/ Offset 12.4 dB Center 829.000 MHz *Res BW 150 kHz VBW 430 kHz Sweep 1 ms (601 pts) Span 15 MHz Occupied Bandwidth 8.9481 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -447.949 Hz x dB Bandwidth 9.728 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz 16QAM OBW Low channel	Agilent 12:15:39 Mar 25, 2015 R T Ch Freq 836.5 MHz Trig Free Center Freq 836.500000 MHz Start Freq 829.000000 MHz Stop Freq 844.000000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 30 dBm *Atten 30 dB Log Peak 10 dB/ Offset 12.4 dB Center 836.500 MHz *Res BW 150 kHz VBW 430 kHz Sweep 1 ms (601 pts) Span 15 MHz Occupied Bandwidth 8.9452 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -2.913 kHz x dB Bandwidth 9.615 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz 16QAM OBW Mid channel
Band LTE5 10 MHz 16QAM	Agilent 12:16:24 Mar 25, 2015 R T Ch Freq 844 MHz Trig Free Center Freq 844.000000 MHz Start Freq 836.500000 MHz Stop Freq 851.500000 MHz CF Step 1.50000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off Ref 30 dBm *Atten 30 dB Log Peak 10 dB/ Offset 12.4 dB Center 844.000 MHz *Res BW 150 kHz VBW 430 kHz Sweep 1 ms (601 pts) Span 15 MHz Occupied Bandwidth 8.9542 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -13.026 kHz x dB Bandwidth 9.731 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz 16QAM OBW High channel	BLANK

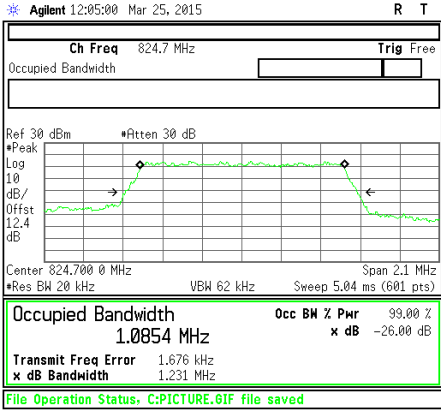
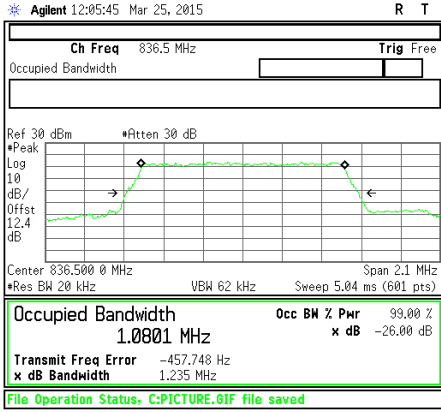
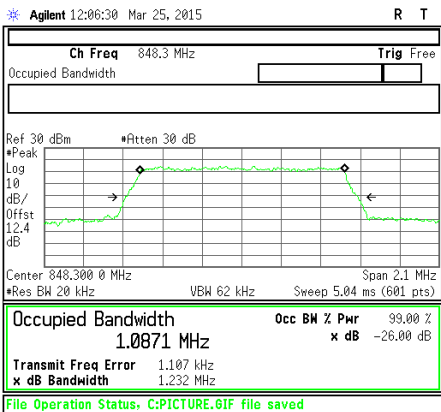
Band LTE5 5 MHz QPSK		
Band LTE5 5 MHz QPSK		BLANK

Band LTE5 5 MHz 16 QAM	 Agilent 12:11:50 Mar 25, 2015 R T Freq/Channel Ch Freq 826.5 MHz Trig Free Center Freq 826.500000 MHz Start Freq 822.750000 MHz Stop Freq 830.250000 MHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 4.4877 MHz Transmit Freq Error -3.194 kHz x dB Bandwidth 4.900 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 5 MHz 16 QAM OBW Low channel	 Agilent 12:12:35 Mar 25, 2015 R T Freq/Channel Ch Freq 836.5 MHz Trig Free Center Freq 836.500000 MHz Start Freq 832.750000 MHz Stop Freq 840.250000 MHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 4.5045 MHz Transmit Freq Error -11.221 kHz x dB Bandwidth 4.941 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 5 MHz 16 QAM OBW Mid channel
Band LTE5 5 MHz 16 QAM	 Agilent 12:13:21 Mar 25, 2015 R T Freq/Channel Ch Freq 846.5 MHz Trig Free Center Freq 846.500000 MHz Start Freq 842.750000 MHz Stop Freq 850.250000 MHz CF Step 750.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 4.5026 MHz Transmit Freq Error -8.720 kHz x dB Bandwidth 4.967 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 5 MHz 16 QAM OBW High channel	BLANK

Band LTE5 3 MHz QPSK	 Agilent 12:08:21 Mar 25, 2015 Ch Freq 825.5 MHz Trig Free Center Freq 825.500000 MHz Start Freq 823.250000 MHz Stop Freq 827.750000 MHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 2.6914 MHz Transmit Freq Error 324.714 Hz dB Bandwidth 2.953 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 3 MHz QPSK OBW Low channel	 Agilent 12:09:06 Mar 25, 2015 Ch Freq 836.5 MHz Trig Free Center Freq 836.500000 MHz Start Freq 834.250000 MHz Stop Freq 838.750000 MHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 2.6919 MHz Transmit Freq Error -4.321 kHz dB Bandwidth 3.014 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 3 MHz QPSK OBW Mid channel
Band LTE5 3 MHz QPSK	 Agilent 12:09:51 Mar 25, 2015 Ch Freq 847.5 MHz Trig Free Center Freq 847.500000 MHz Start Freq 845.250000 MHz Stop Freq 849.750000 MHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 2.6928 MHz Transmit Freq Error -1.871 kHz dB Bandwidth 3.003 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 3 MHz QPSK OBW High channel	BLANK

Band LTE5 3 MHz 16QAM	 Agilent 12:08:42 Mar 25, 2015 R T Ch Freq 825.5 MHz Trig Free Center Freq 825.500000 MHz Start Freq 823.250000 MHz Stop Freq 827.750000 MHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 2.6920 MHz Transmit Freq Error -2.037 kHz x dB Bandwidth 3.027 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 3 MHz 16QAM OBW Low channel	 Agilent 12:09:27 Mar 25, 2015 R T Ch Freq 836.5 MHz Trig Free Center Freq 836.500000 MHz Start Freq 834.250000 MHz Stop Freq 838.750000 MHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 2.6830 MHz Transmit Freq Error -1.222 kHz x dB Bandwidth 3.000 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 3 MHz 16QAM OBW Mid channel
Band LTE5 3 MHz 16QAM	 Agilent 12:10:13 Mar 25, 2015 R T Ch Freq 847.5 MHz Trig Free Center Freq 847.500000 MHz Start Freq 845.250000 MHz Stop Freq 849.750000 MHz CF Step 450.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 2.6925 MHz Transmit Freq Error -1.916 kHz x dB Bandwidth 2.993 MHz File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 3 MHz 16QAM OBW High channel	BLANK

Band LTE5 1.4 MHz QPSK	 Agilent 12:04:30 Mar 25, 2015 R T Ch Freq 824.7 MHz Trig Free Center Freq 824.700000 MHz Start Freq 823.650000 MHz Stop Freq 825.750000 MHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 1.0811 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -809.171 Hz x dB Bandwidth 1.224 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 1.4 MHz QPSK OBW Low channel	 Agilent 12:05:24 Mar 25, 2015 R T Ch Freq 836.5 MHz Trig Free Center Freq 836.500000 MHz Start Freq 835.450000 MHz Stop Freq 837.550000 MHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 1.0809 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error 245.395 Hz x dB Bandwidth 1.223 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 1.4 MHz QPSK OBW Mid channel
Band LTE5 1.4 MHz QPSK	 Agilent 12:06:09 Mar 25, 2015 R T Ch Freq 848.3 MHz Trig Free Center Freq 848.300000 MHz Start Freq 847.250000 MHz Stop Freq 849.350000 MHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 1.0786 MHz Occ BW Z Pwr 99.00 Z x dB -26.00 dB Transmit Freq Error -1.458 kHz x dB Bandwidth 1.232 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 1.4 MHz QPSK OBW High channel	BLANK

Band LTE5 1.4 MHz 16 QAM	 Agilent 12:05:00 Mar 25, 2015 R T Ch Freq 824.7 MHz Trig Free Center Freq 824.700000 MHz Start Freq 823.650000 MHz Stop Freq 825.750000 MHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 1.0854 MHz Transmit Freq Error 1.676 kHz x dB Bandwidth 1.231 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 1.4 MHz 16 QAM OBW Low channel	 Agilent 12:05:45 Mar 25, 2015 R T Ch Freq 836.5 MHz Trig Free Center Freq 836.500000 MHz Start Freq 835.450000 MHz Stop Freq 837.550000 MHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 1.0801 MHz Transmit Freq Error -457.748 Hz x dB Bandwidth 1.235 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 1.4 MHz 16 QAM OBW Mid channel
Band LTE5 1.4 MHz 16 QAM	 Agilent 12:06:30 Mar 25, 2015 R T Ch Freq 848.3 MHz Trig Free Center Freq 848.300000 MHz Start Freq 847.250000 MHz Stop Freq 849.350000 MHz CF Step 210.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Occupied Bandwidth 1.0871 MHz Transmit Freq Error 1.107 kHz x dB Bandwidth 1.232 MHz File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 1.4 MHz 16 QAM OBW High channel	BLANK

10.2. BAND EDGE EMISSIONS

RULE PART(S)

§22.917(a), §24.238 (a), §27.53 (g)

LIMITS

Part 22.917(a) & Part 24.238(a) 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 27.53(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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

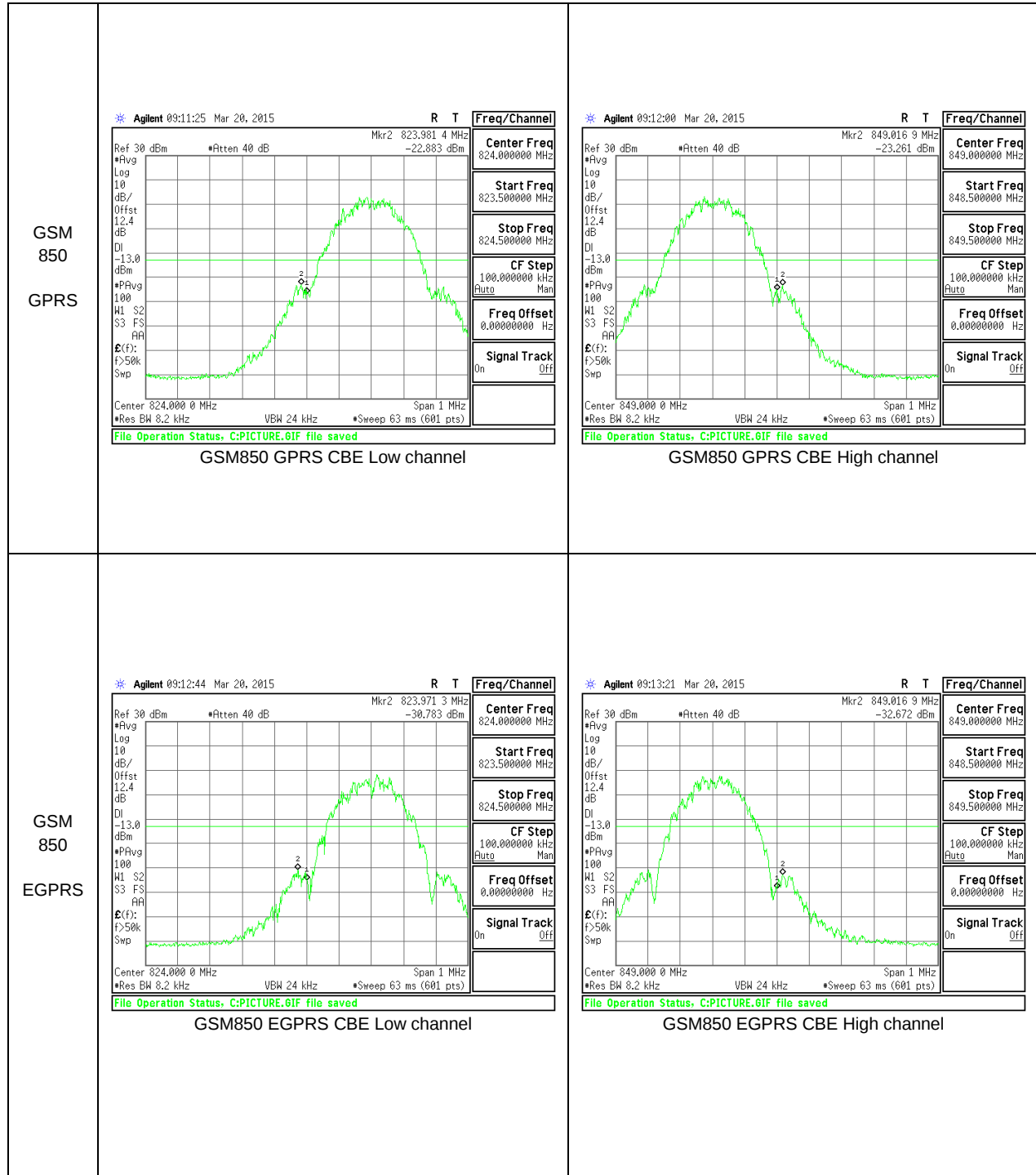
GSM (850, 1900), WCDMA (Bands V and II), LTE (Bands 5 and 17).

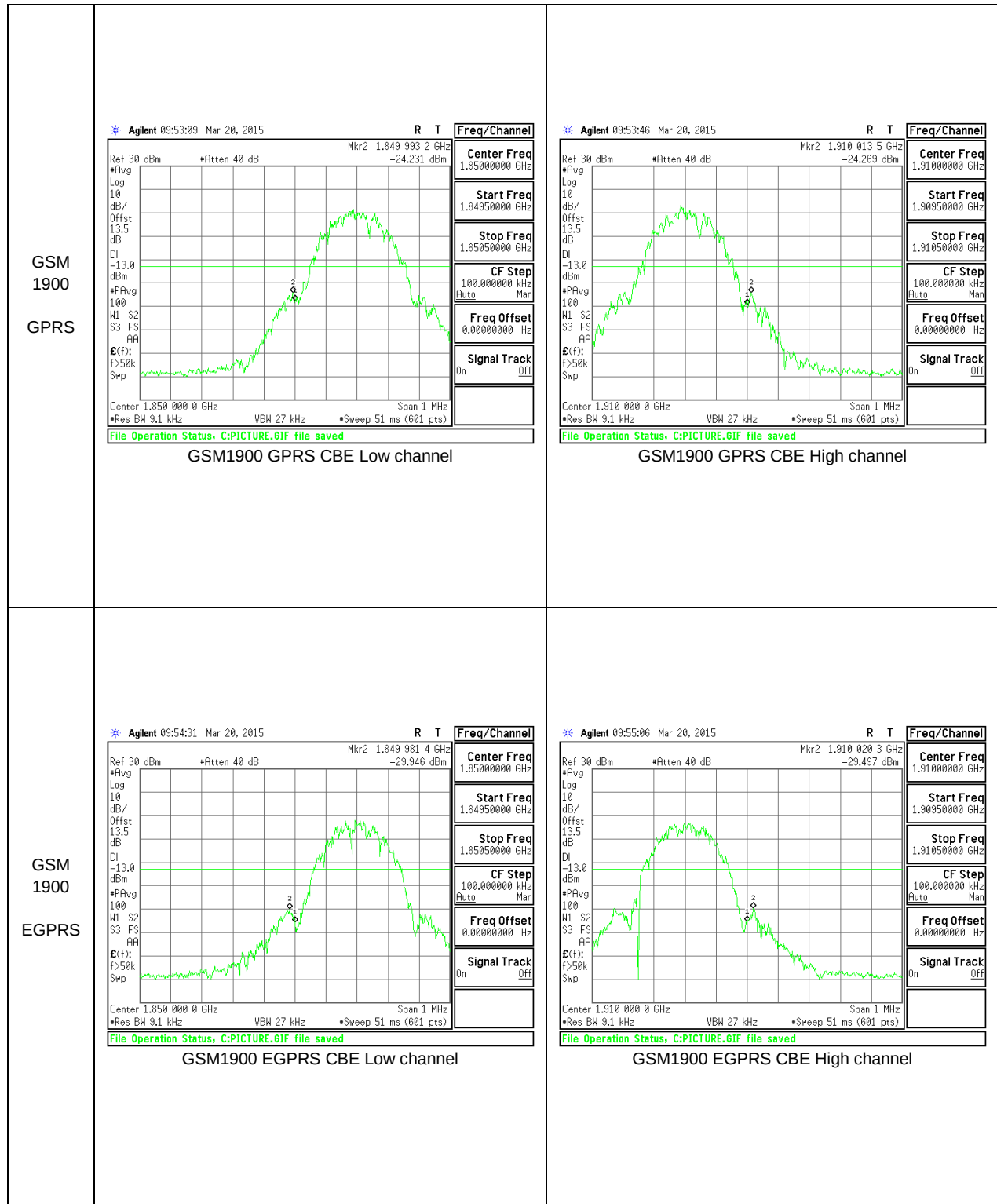
RESULTS

10.2.1. BAND EDGE PLOTS

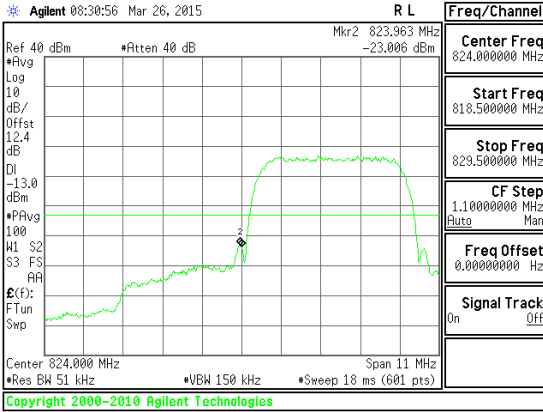
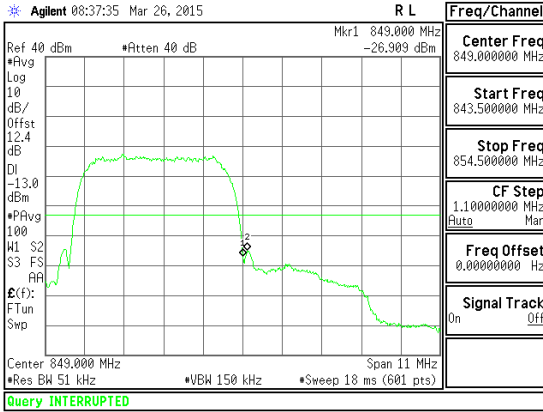
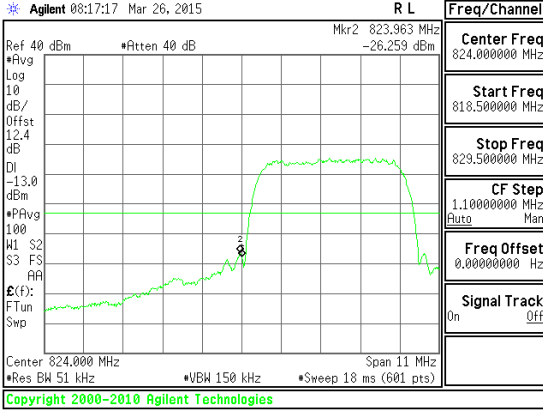
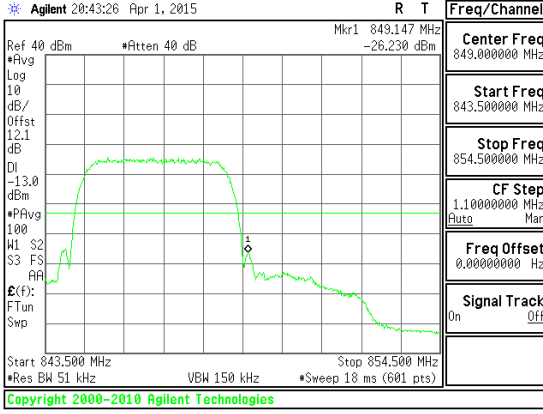
GSM

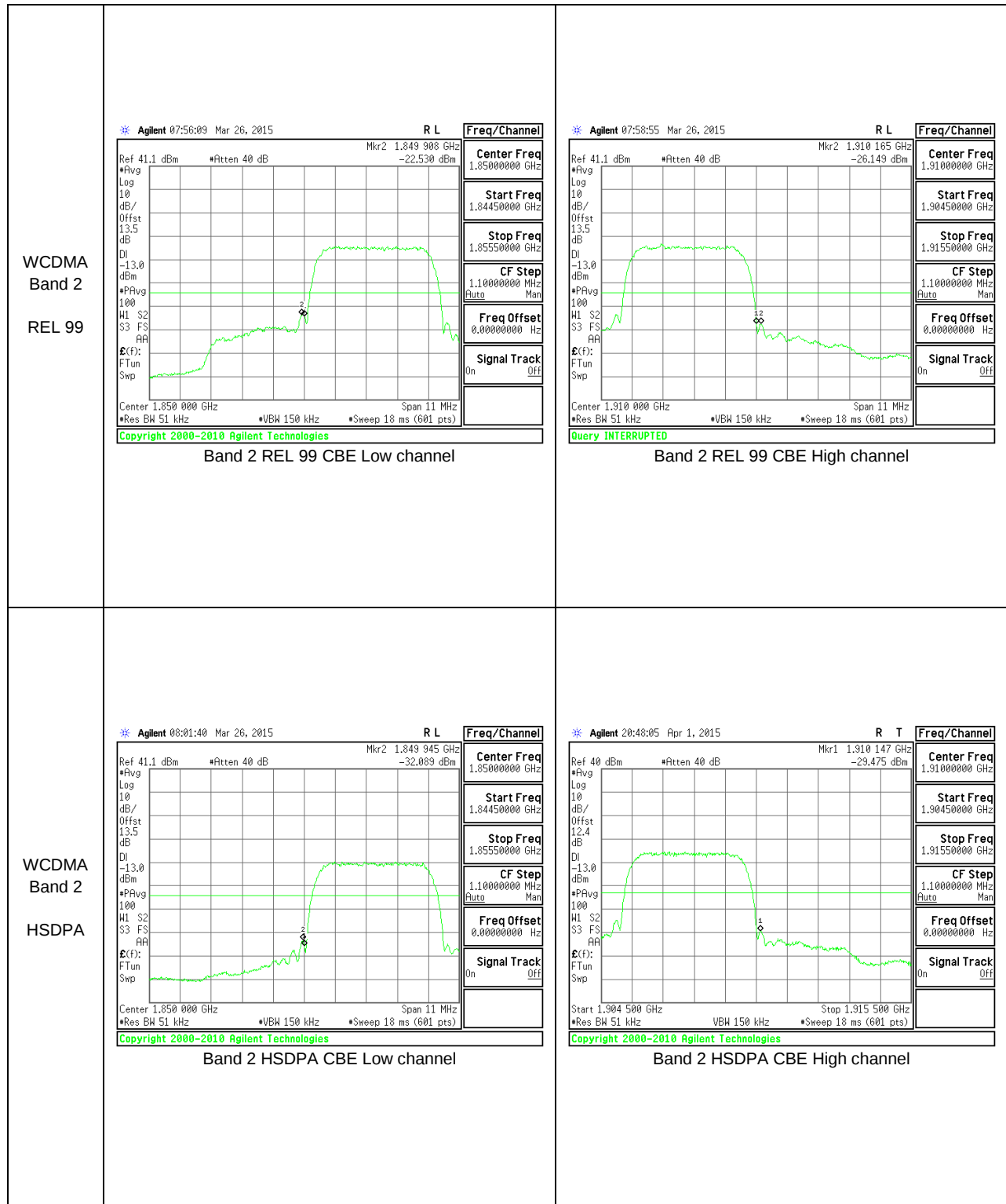
Note: GSM reading need add 9dB DCCF factor due to duty cycle is 12.5% during test.



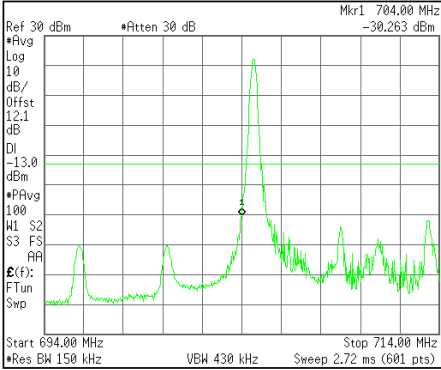
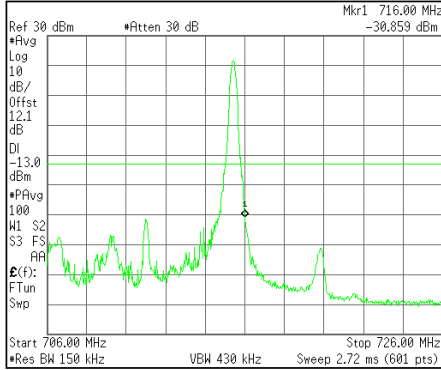
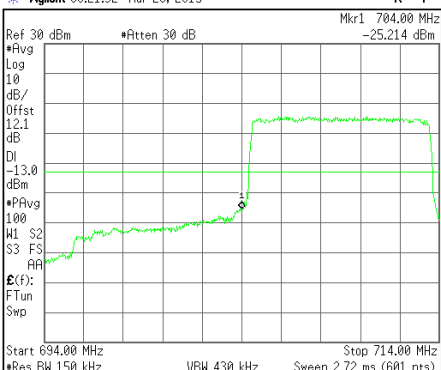
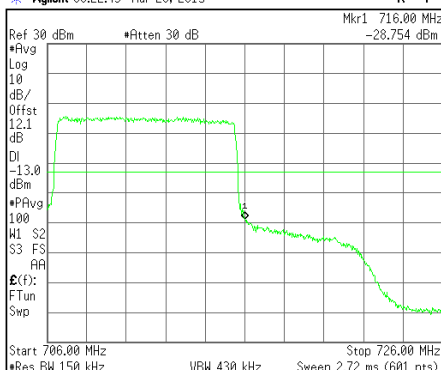


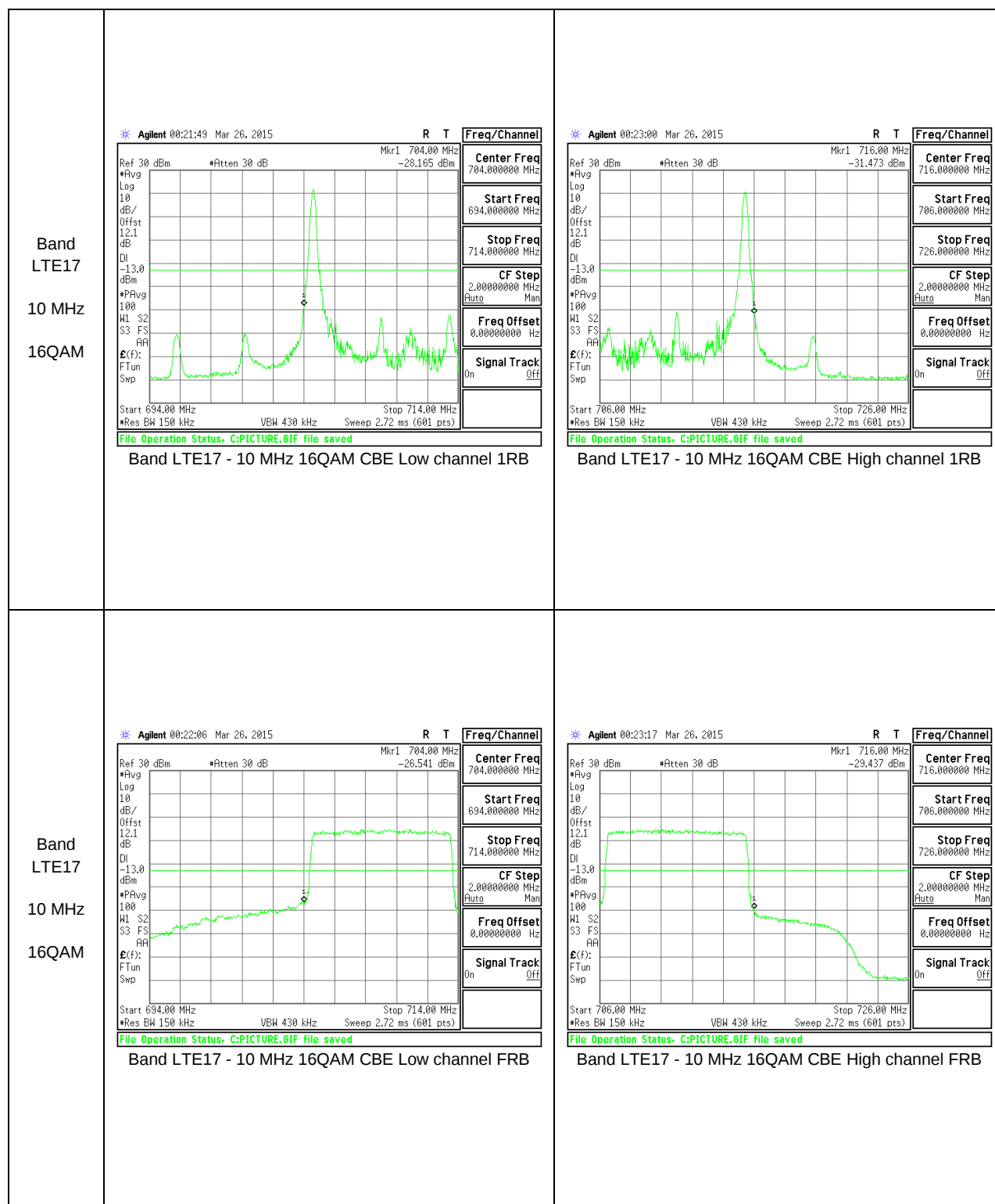
WCDMA

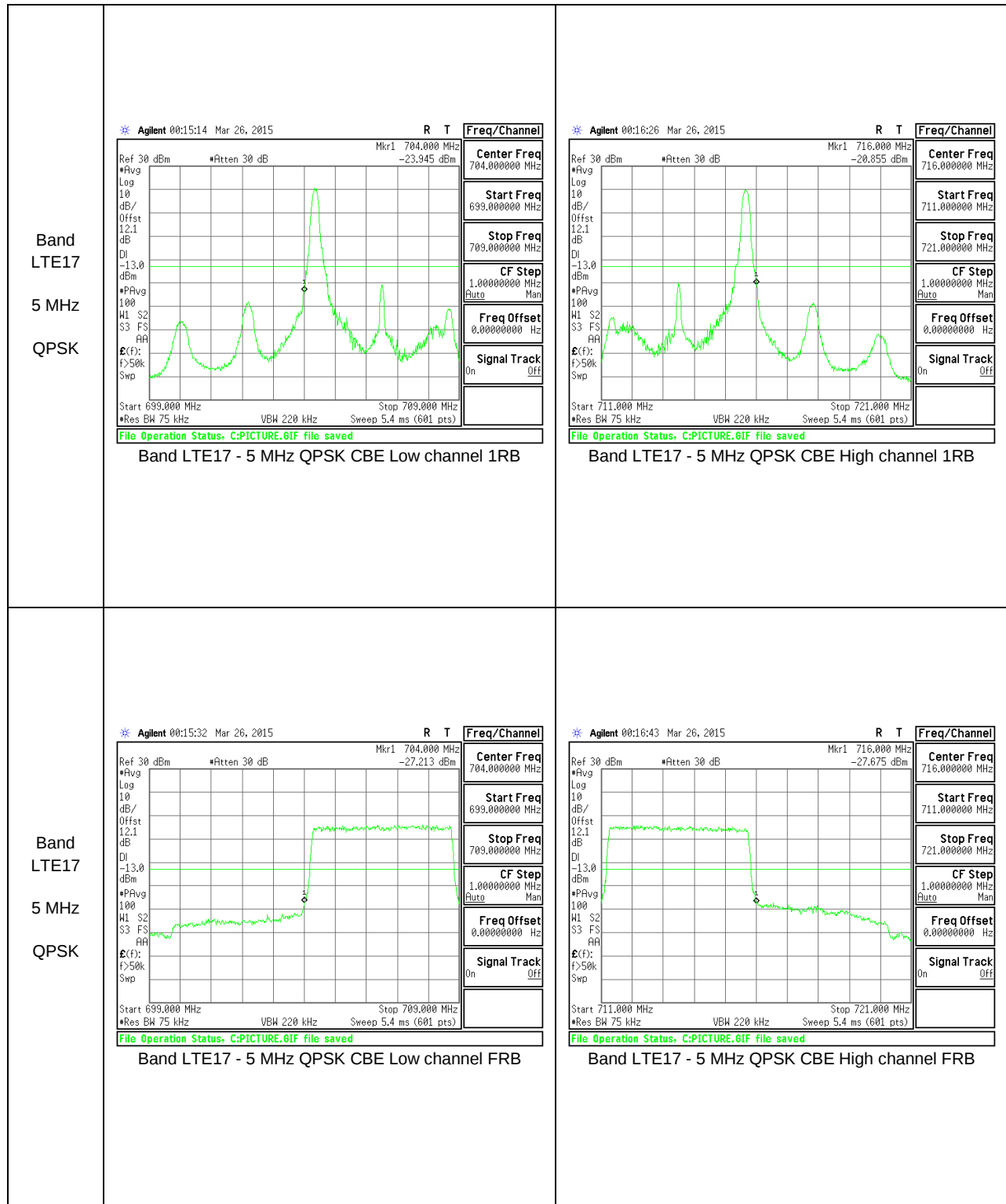
WCDMA Band 5 REL 99	 Agilent 08:30:56 Mar 26, 2015 R L Freq/Channel Center Freq 824.000000 MHz Start Freq 818.500000 MHz Stop Freq 829.500000 MHz CF Step 1.10000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 824.000 MHz Res BW 51 kHz VBW 150 kHz Sweep 18 ms (601 pts) Copyright 2000-2010 Agilent Technologies Band 5 REL 99 CBE Low channel	 Agilent 08:37:35 Mar 26, 2015 R L Freq/Channel Center Freq 849.000000 MHz Start Freq 843.500000 MHz Stop Freq 854.500000 MHz CF Step 1.10000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 849.000 MHz Res BW 51 kHz VBW 150 kHz Sweep 18 ms (601 pts) Query INTERRUPTED Band 5 REL 99 CBE High channel
WCDMA Band 5 HSDPA	 Agilent 08:17:17 Mar 26, 2015 R L Freq/Channel Center Freq 824.000000 MHz Start Freq 818.500000 MHz Stop Freq 829.500000 MHz CF Step 1.10000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 824.000 MHz Res BW 51 kHz VBW 150 kHz Sweep 18 ms (601 pts) Copyright 2000-2010 Agilent Technologies Band 5 HSDPA CBE Low channel	 Agilent 20:43:26 Apr 1, 2015 R T Freq/Channel Center Freq 849.000000 MHz Start Freq 843.500000 MHz Stop Freq 854.500000 MHz CF Step 1.10000000 MHz Freq Offset 0.00000000 Hz Signal Track On Start 843.500 MHz Stop 854.500 MHz Res BW 51 kHz VBW 150 kHz Sweep 18 ms (601 pts) Copyright 2000-2010 Agilent Technologies Band 5 HSDPA CBE High channel

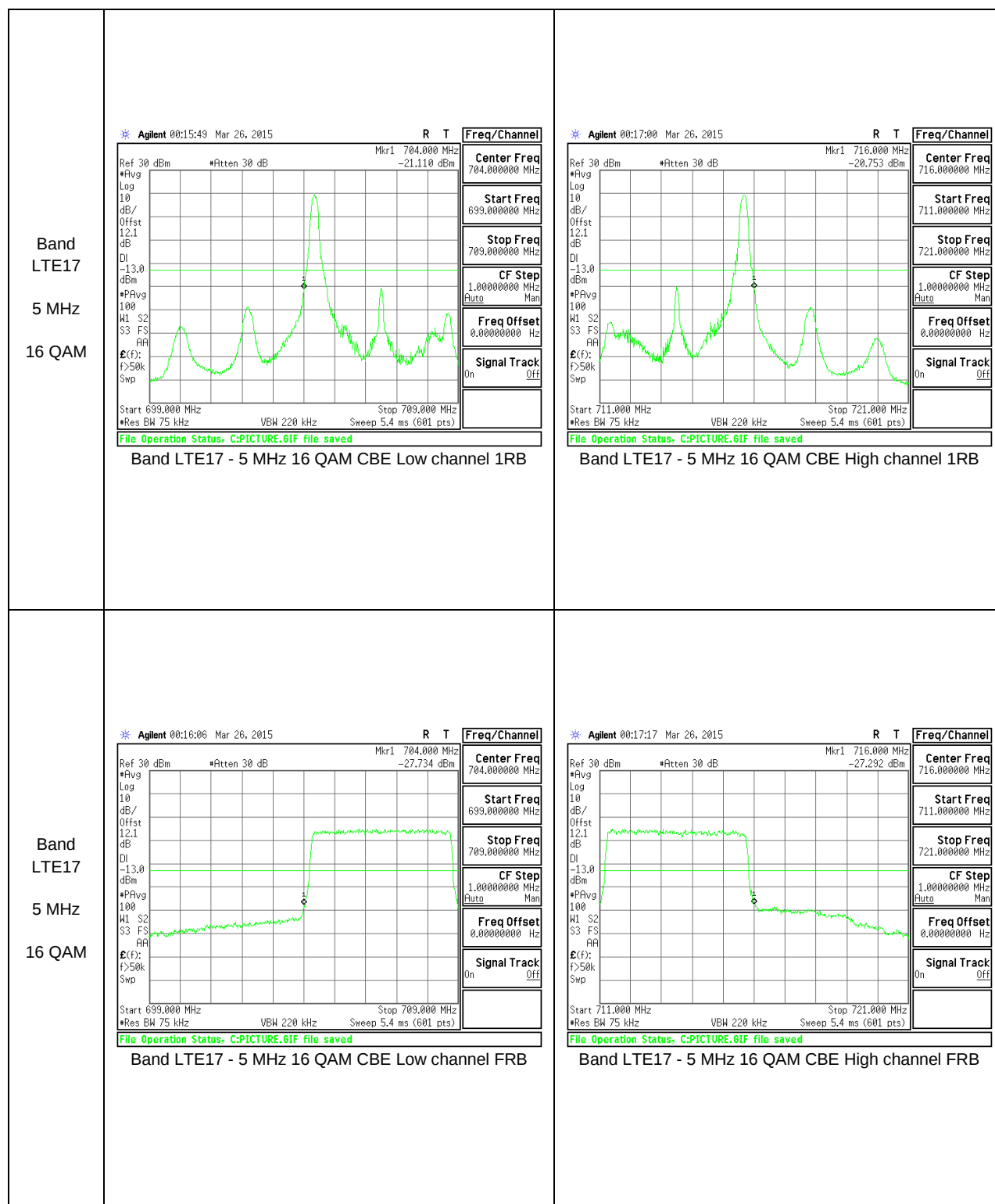


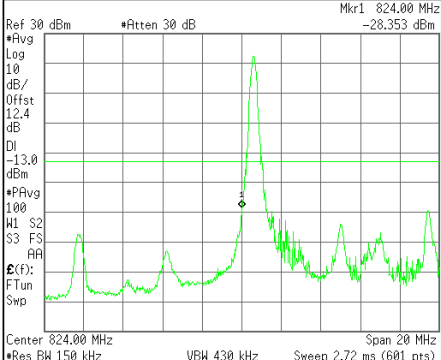
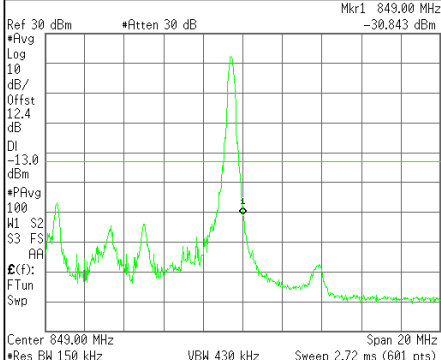
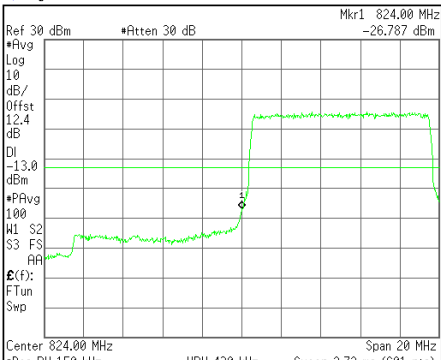
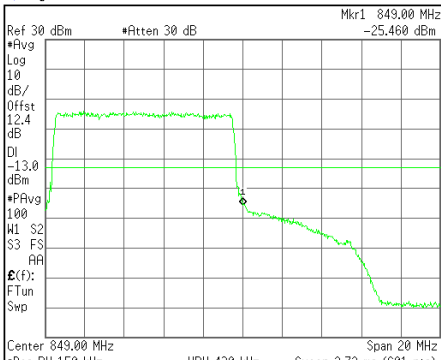
LTE

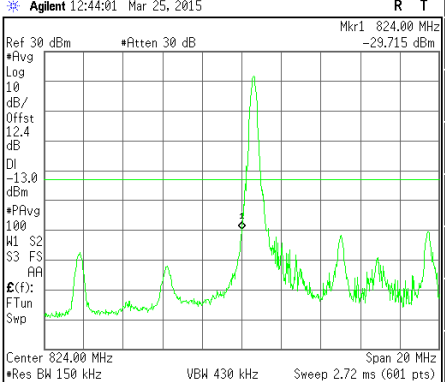
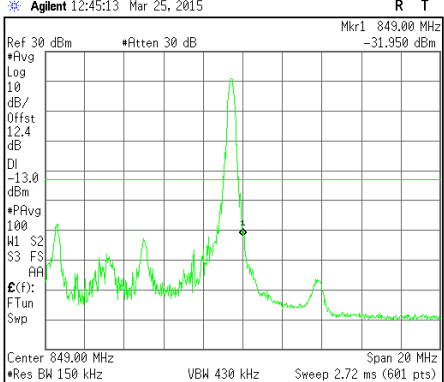
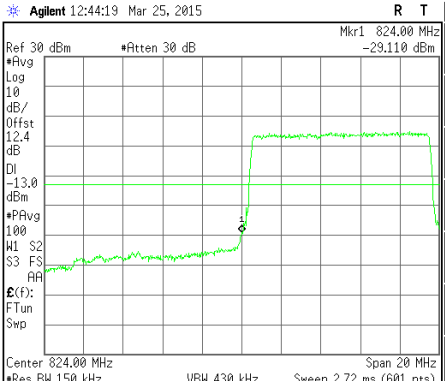
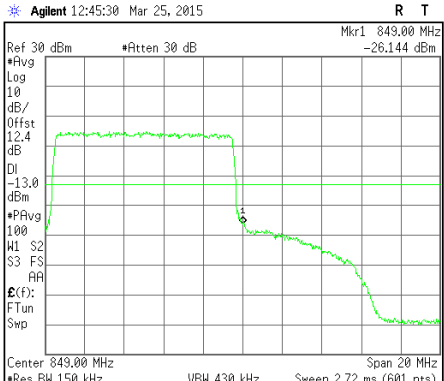
Band LTE17 10 MHz QPSK	Agilent 00:21:15 Mar 26, 2015 R T  Center Freq 704.000000 MHz Start Freq 694.000000 MHz Stop Freq 714.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track Off Start 694.00 MHz Stop 714.00 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status: C:PICTURE.0IF file saved Band LTE17 - 10 MHz QPSK CBE Low channel 1RB	Agilent 00:22:26 Mar 26, 2015 R T  Center Freq 716.000000 MHz Start Freq 706.000000 MHz Stop Freq 726.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track Off Start 706.00 MHz Stop 726.00 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status: C:PICTURE.0IF file saved Band LTE17 - 10 MHz QPSK CBE High channel 1RB
Band LTE17 10 MHz QPSK	Agilent 00:21:32 Mar 26, 2015 R T  Center Freq 704.000000 MHz Start Freq 694.000000 MHz Stop Freq 714.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track Off Start 694.00 MHz Stop 714.00 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status: C:PICTURE.0IF file saved Band LTE17 - 10 MHz QPSK CBE Low channel FRB	Agilent 00:22:43 Mar 26, 2015 R T  Center Freq 716.000000 MHz Start Freq 706.000000 MHz Stop Freq 726.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track Off Start 706.00 MHz Stop 726.00 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status: C:PICTURE.0IF file saved Band LTE17 - 10 MHz QPSK CBE High channel FRB

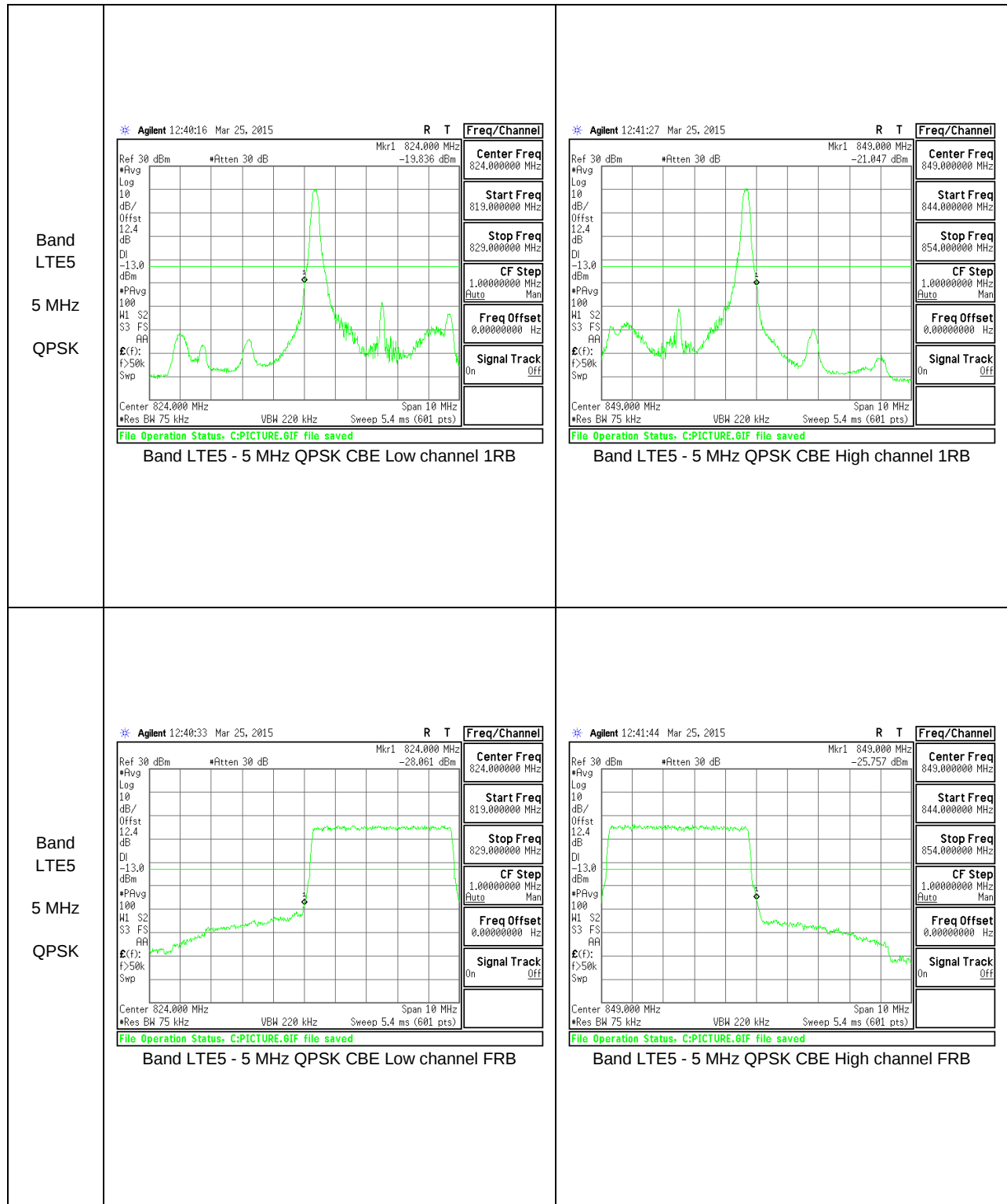


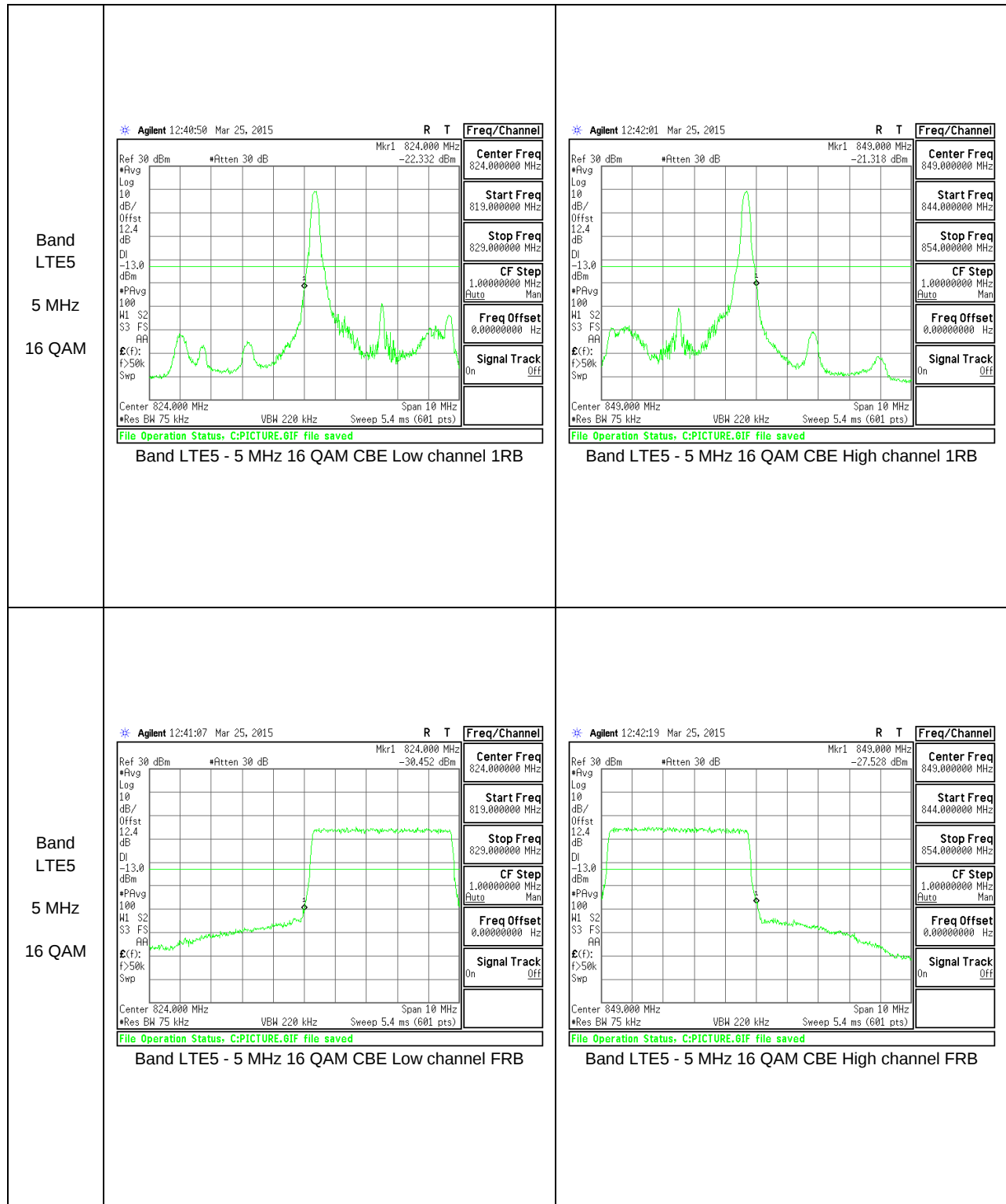


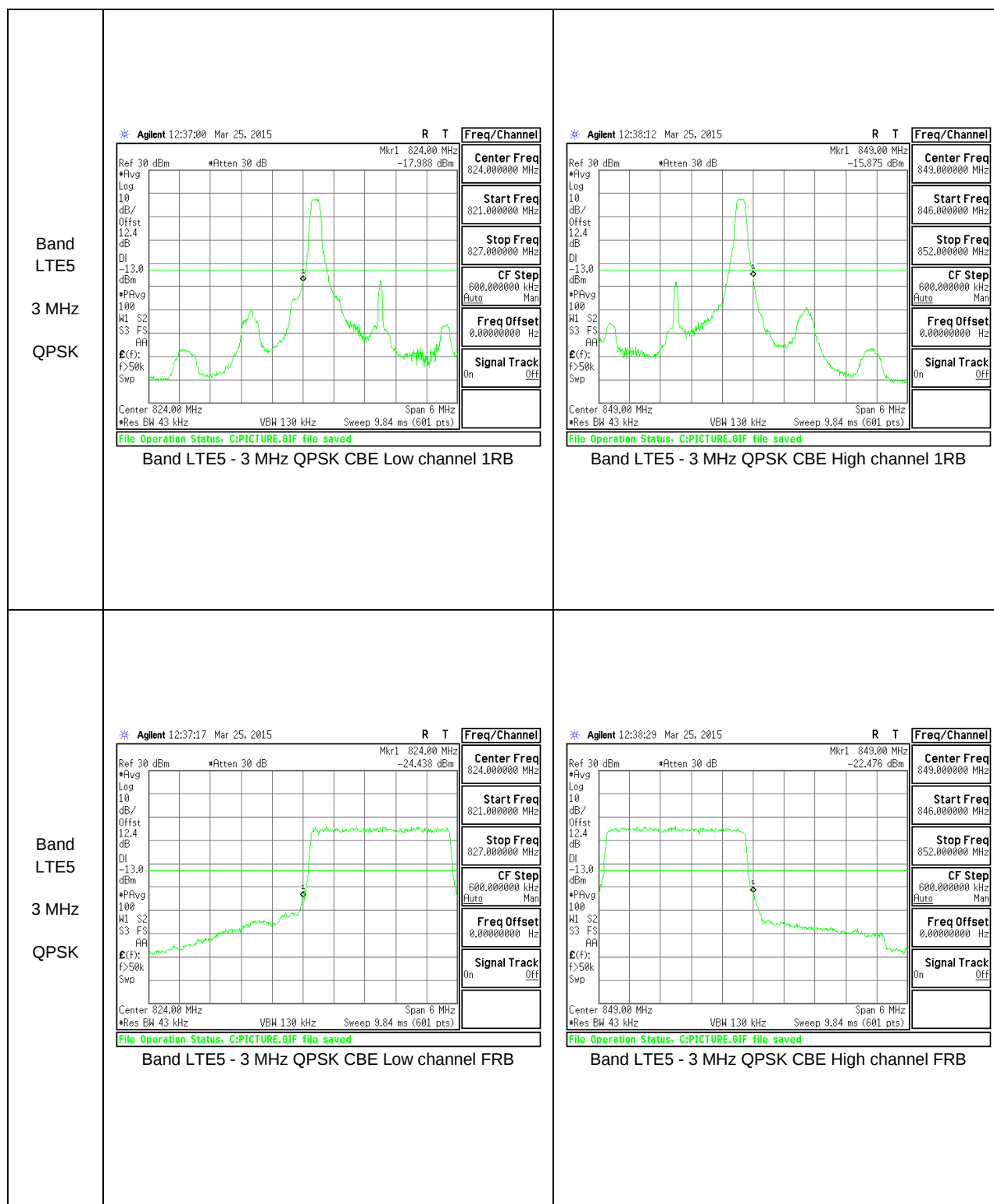


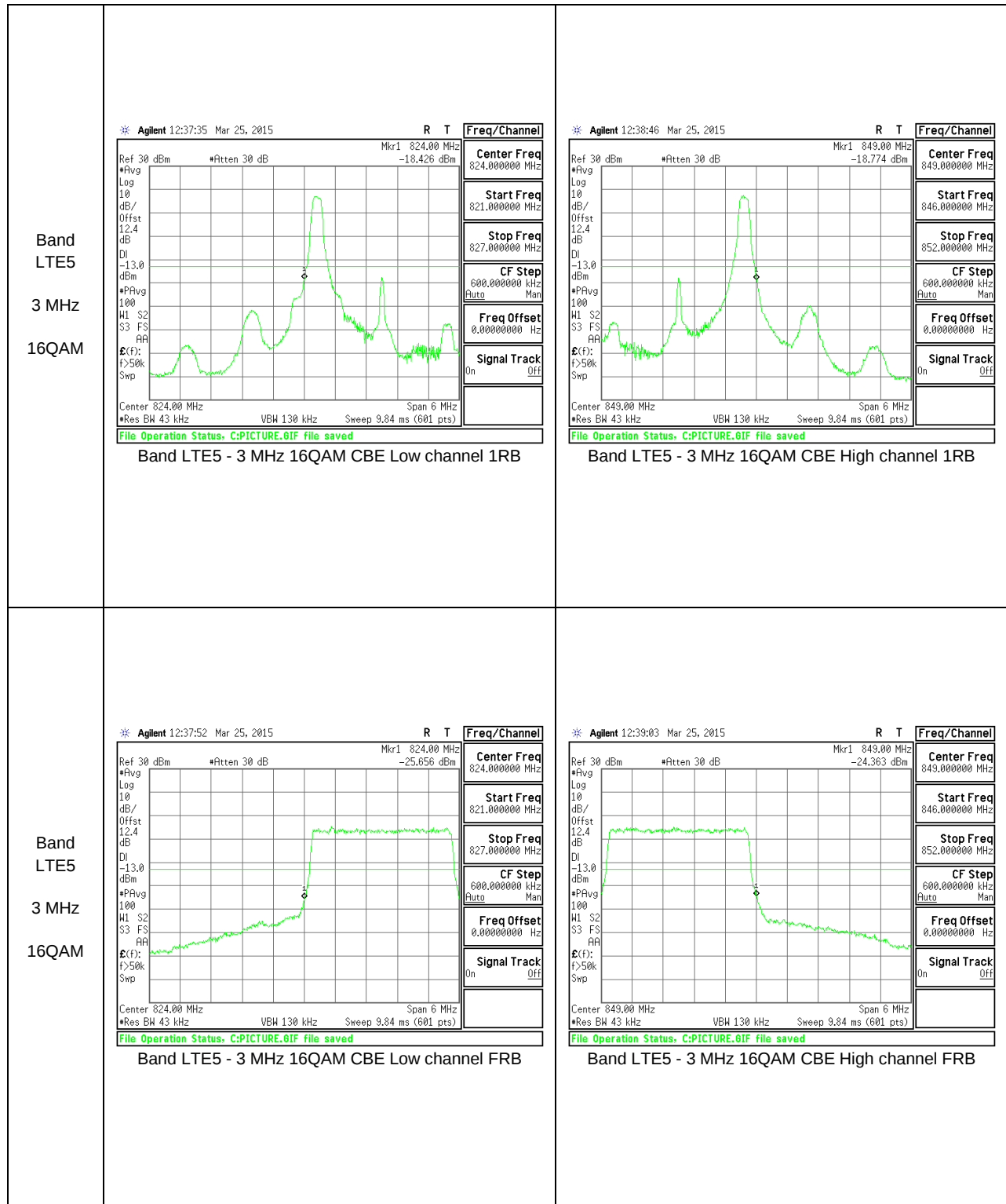
Band LTE5 10 MHz QPSK	Agilent 12:43:27 Mar 25, 2015 R T  Center Freq 824.000000 MHz Start Freq 814.000000 MHz Stop Freq 834.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 824.00 MHz Span 20 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 10 MHz QPSK CBE Low channel 1RB	Agilent 12:44:39 Mar 25, 2015 R T  Center Freq 849.000000 MHz Start Freq 839.000000 MHz Stop Freq 859.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 849.00 MHz Span 20 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 10 MHz QPSK CBE High channel 1RB
Band LTE5 10 MHz QPSK	Agilent 12:43:44 Mar 25, 2015 R T  Center Freq 824.000000 MHz Start Freq 814.000000 MHz Stop Freq 834.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 824.00 MHz Span 20 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 10 MHz QPSK CBE Low channel FRB	Agilent 12:44:56 Mar 25, 2015 R T  Center Freq 849.000000 MHz Start Freq 839.000000 MHz Stop Freq 859.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 849.00 MHz Span 20 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 10 MHz QPSK CBE High channel FRB

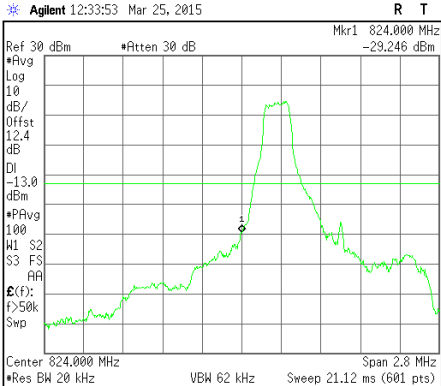
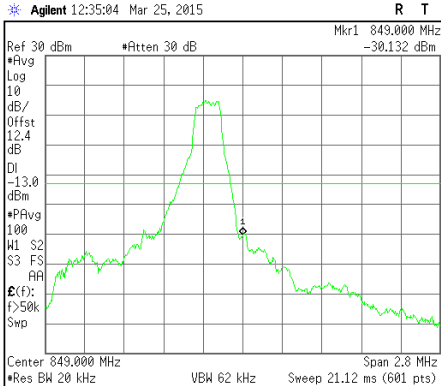
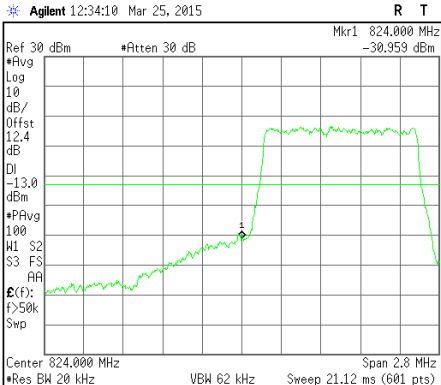
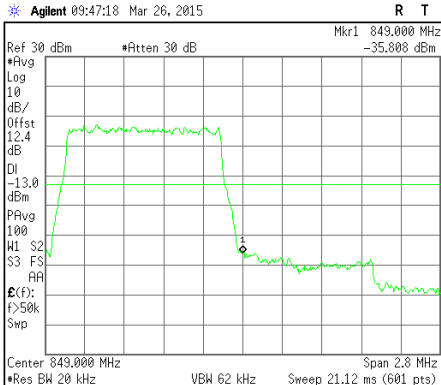
Band LTE5 10 MHz 16QAM	Agilent 12:44:01 Mar 25, 2015 R T  Center Freq 824.000000 MHz Start Freq 814.000000 MHz Stop Freq 834.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 824.00 MHz Span 20 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 10 MHz 16QAM CBE Low channel 1RB	Agilent 12:45:13 Mar 25, 2015 R T  Center Freq 849.000000 MHz Start Freq 839.000000 MHz Stop Freq 859.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 849.00 MHz Span 20 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 10 MHz 16QAM CBE High channel 1RB
Band LTE5 10 MHz 16QAM	Agilent 12:44:19 Mar 25, 2015 R T  Center Freq 824.000000 MHz Start Freq 814.000000 MHz Stop Freq 834.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 824.00 MHz Span 20 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 10 MHz 16QAM CBE Low channel FRB	Agilent 12:45:30 Mar 25, 2015 R T  Center Freq 849.000000 MHz Start Freq 839.000000 MHz Stop Freq 859.000000 MHz CF Step 2.00000000 MHz Freq Offset 0.00000000 Hz Signal Track On Center 849.00 MHz Span 20 MHz Res BW 150 kHz VBW 430 kHz Sweep 2.72 ms (601 pts) File Operation Status, C:PICTURE.0IF file saved Band LTE5 - 10 MHz 16QAM CBE High channel FRB

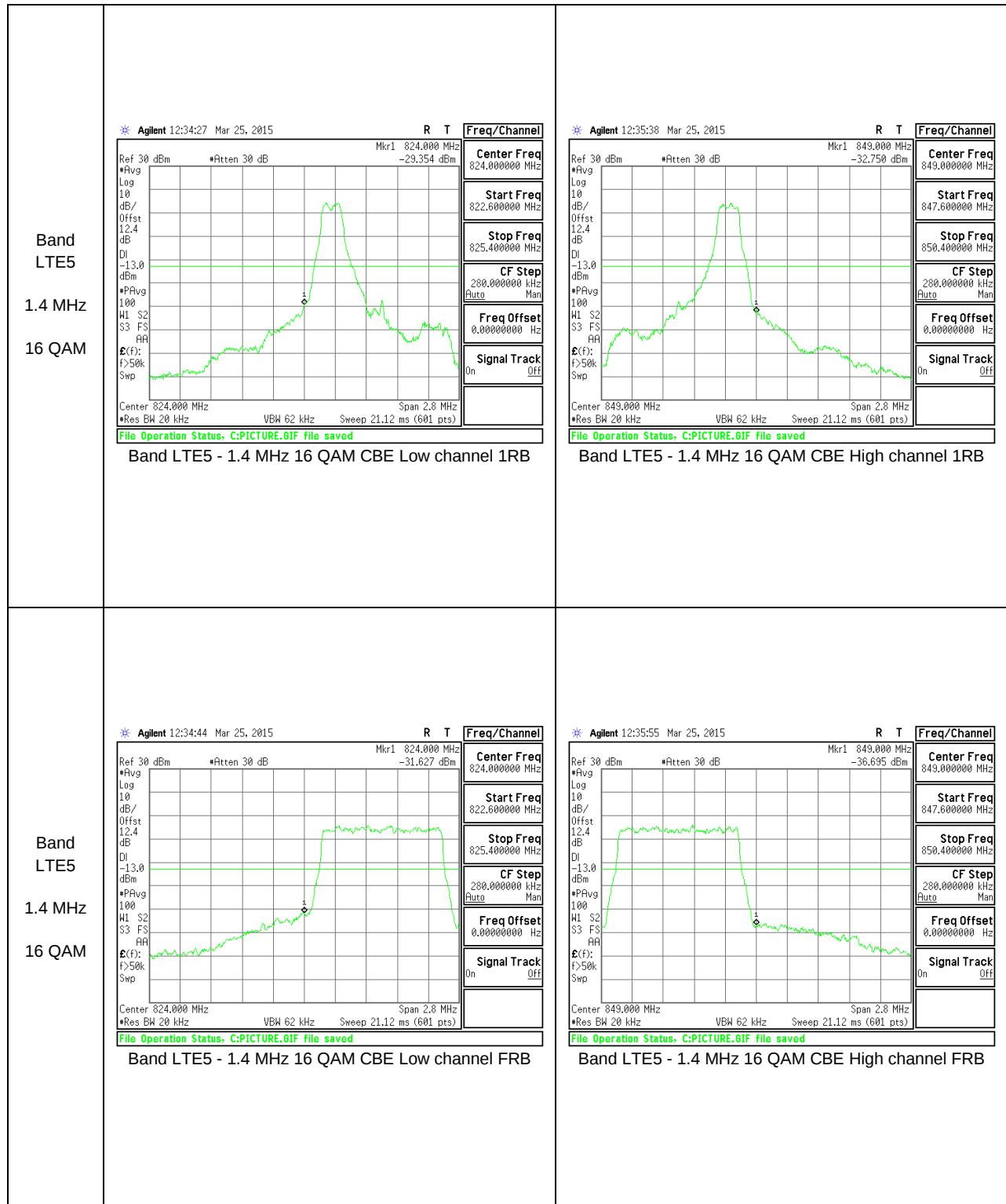








Band LTE5 1.4 MHz QPSK	Agilent 12:33:53 Mar 25, 2015 R T  Center Freq 824.000000 MHz Start Freq 822.600000 MHz Stop Freq 825.400000 MHz CF Step 280.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Center 824.000 MHz Span 2.8 MHz Res BW 20 kHz VBW 62 kHz Sweep 21.12 ms (601 pts) File Operation Status: C:PICTURE.01F file saved Band LTE5 - 1.4 MHz QPSK CBE Low channel 1RB	Agilent 12:35:04 Mar 25, 2015 R T  Center Freq 849.000000 MHz Start Freq 847.600000 MHz Stop Freq 850.400000 MHz CF Step 280.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Center 849.000 MHz Span 2.8 MHz Res BW 20 kHz VBW 62 kHz Sweep 21.12 ms (601 pts) File Operation Status: C:PICTURE.01F file saved Band LTE5 - 1.4 MHz QPSK CBE High channel 1RB
Band LTE5 1.4 MHz QPSK	Agilent 12:34:10 Mar 25, 2015 R T  Center Freq 824.000000 MHz Start Freq 822.600000 MHz Stop Freq 825.400000 MHz CF Step 280.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Center 824.000 MHz Span 2.8 MHz Res BW 20 kHz VBW 62 kHz Sweep 21.12 ms (601 pts) File Operation Status: C:PICTURE.01F file saved Band LTE5 - 1.4 MHz QPSK CBE Low channel FRB	Agilent 09:47:18 Mar 26, 2015 R T  Center Freq 849.000000 MHz Start Freq 847.600000 MHz Stop Freq 850.400000 MHz CF Step 280.000000 kHz Freq Offset 0.00000000 Hz Signal Track On Center 849.000 MHz Span 2.8 MHz Res BW 20 kHz VBW 62 kHz Sweep 21.12 ms (601 pts) File Operation Status: C:PICTURE.01F file saved Band LTE5 - 1.4 MHz QPSK CBE High channel FRB



10.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.917(a), §24.238 (a), §27.53 (g)

LIMITS

Part 22.917(a) & Part 24.238(a) 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 27.53(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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

GSM (850, 1900), WCDMA (Bands V and II), LTE (Bands 5 and 17).

RESULTS

10.3.1. OUT OF BAND EMISSIONS RESULT

Band	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
GSM850	GPRS	824.2	-18.66	-13	-5.66
		836.6	-19.18	-13	-6.18
		848.8	-19.93	-13	-6.93
	EGPRS	824.2	-19.60	-13	-6.60
		836.6	-18.75	-13	-5.75
		848.8	-19.01	-13	-6.01
GSM1900	GPRS	1850.2	-17.57	-13	-4.57
		1880	-18.00	-13	-5.00
		1909.8	-18.47	-13	-5.47
	EGPRS	1850.2	-16.92	-13	-3.92
		1880	-17.88	-13	-4.88
		1909.8	-18.35	-13	-5.35
Band 5	REL99	826.4	-18.94	-13	-5.94
		836.6	-18.01	-13	-5.01
		846.6	-19.38	-13	-6.38
Band 5	HSDPA	826.4	-18.46	-13	-5.46
		836.6	-19.74	-13	-6.74
		846.6	-19.16	-13	-6.16
Band 2	REL99	1852.4	-18.56	-13	-5.56
		1880	-17.83	-13	-4.83
		1907.6	-18.30	-13	-5.30
Band 2	HSDPA	1852.4	-18.69	-13	-5.69
		1880	-19.40	-13	-6.40
		1907.6	-19.64	-13	-6.64

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE17	10	QPSK	709	-28.65	-13	-15.65
			710	-28.70	-13	-15.70
			711	-28.74	-13	-15.74
		16QAM	709	-28.62	-13	-15.62
			710	-28.47	-13	-15.47
			711	-27.84	-13	-14.84

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE17	5	QPSK	706.5	-29.08	-13	-16.08
			710	-28.65	-13	-15.65
			713.5	-29.00	-13	-16.00
		16QAM	706.5	-28.08	-13	-15.08
			710	-28.71	-13	-15.71
			713.5	-28.31	-13	-15.31

Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE5	10	QPSK	829	-28.21	-13	-15.21
			836.5	-28.53	-13	-15.53
			844	-28.16	-13	-15.16
		16QAM	829	-28.13	-13	-15.13
			836.5	-28.63	-13	-15.63
			844	-28.11	-13	-15.11

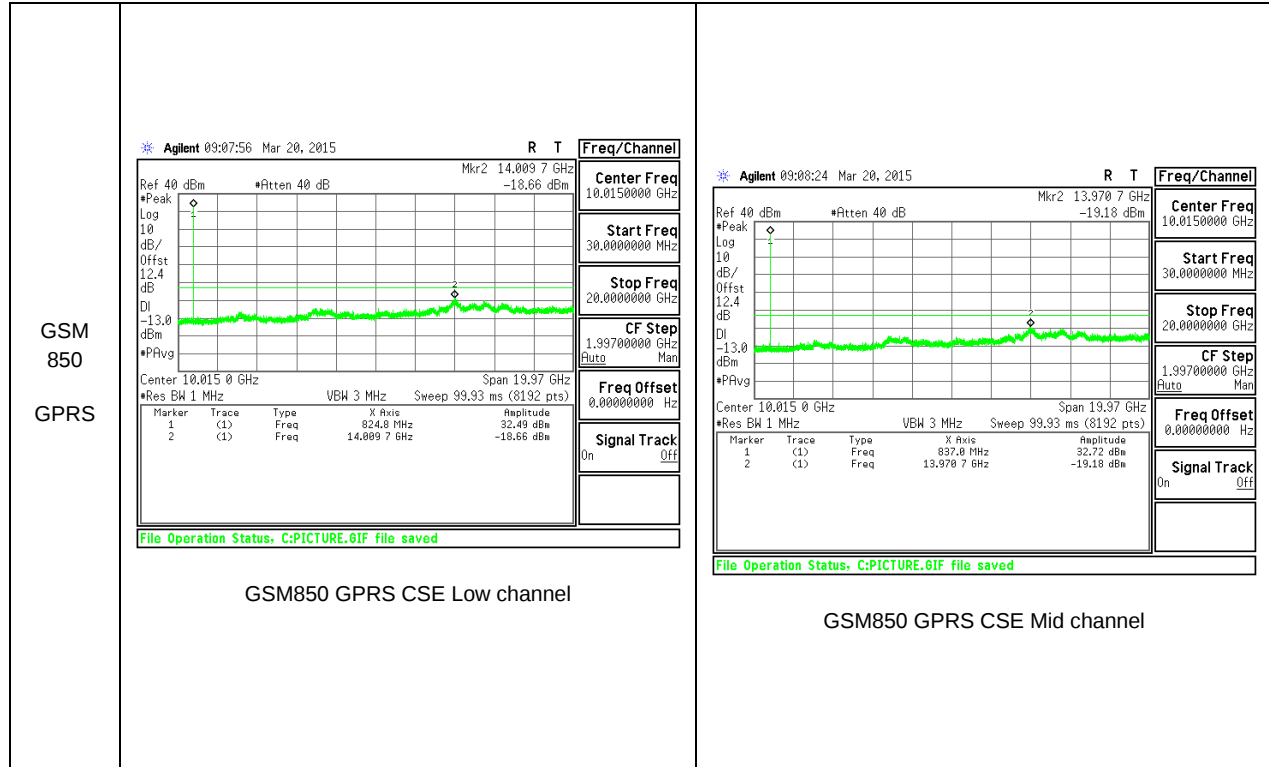
Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE5	5	QPSK	826.5	-27.75	-13	-14.75
			836.5	-28.83	-13	-15.83
			846.5	-27.87	-13	-14.87
		16QAM	826.5	-28.51	-13	-15.51
			836.5	-27.90	-13	-14.90
			846.5	-28.60	-13	-15.60

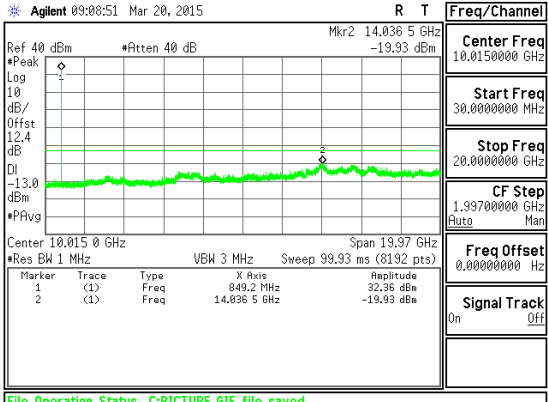
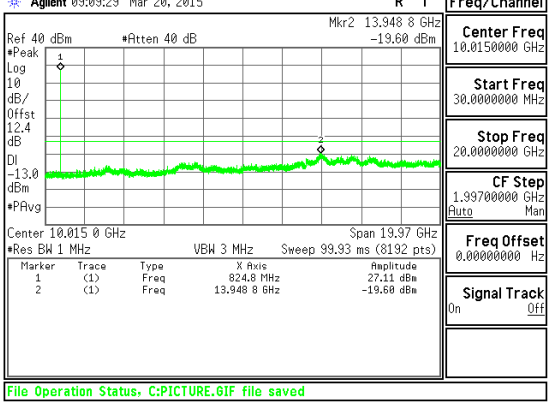
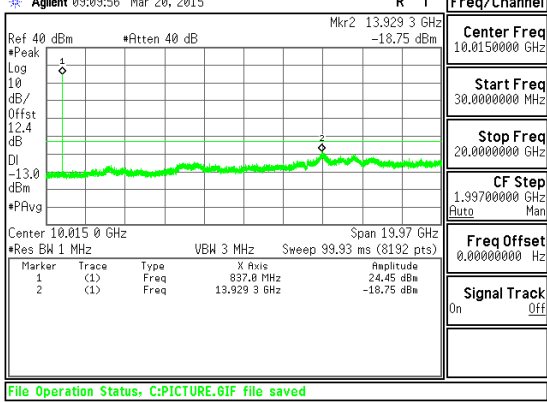
Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE5	3	QPSK	825.5	-27.94	-13	-14.94
			836.5	-26.74	-13	-13.74
			847.5	-28.17	-13	-15.17
		16QAM	825.5	-27.72	-13	-14.72
			836.5	-28.02	-13	-15.02
			847.5	-27.95	-13	-14.95

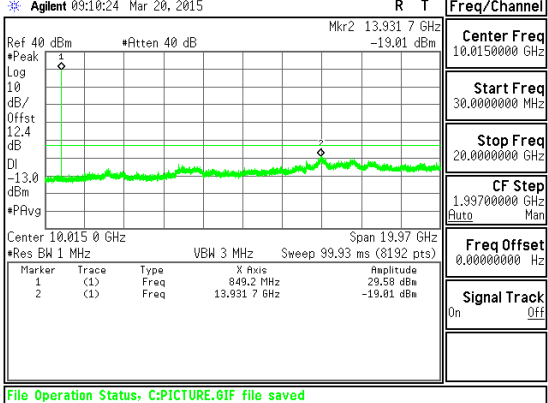
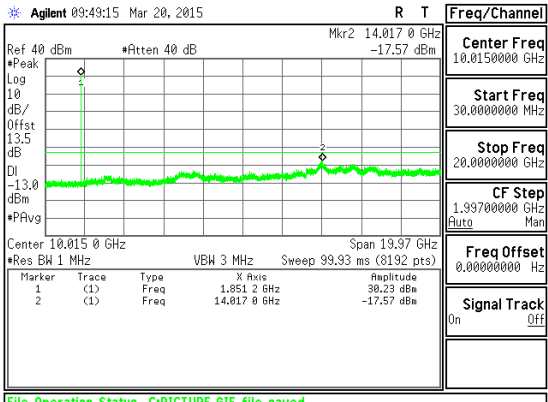
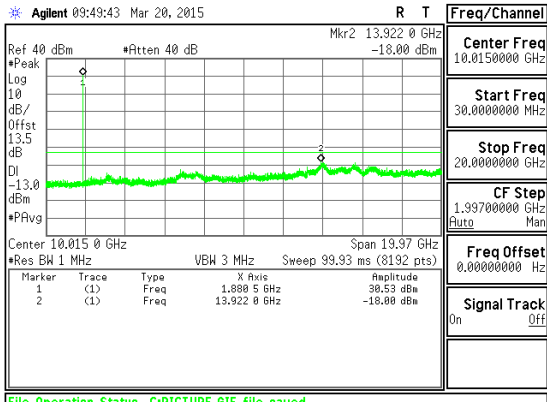
Band	BW (MHz)	Mode	f (MHz)	Spur (dBm)	Spec (dBm)	Delta (dB)
LTE5	1.4	QPSK	824.7	-28.48	-13	-15.48
			836.5	-28.02	-13	-15.02
			848.3	-27.92	-13	-14.92
		16QAM	824.7	-27.26	-13	-14.26
			836.5	-28.41	-13	-15.41
			848.3	-28.67	-13	-15.67

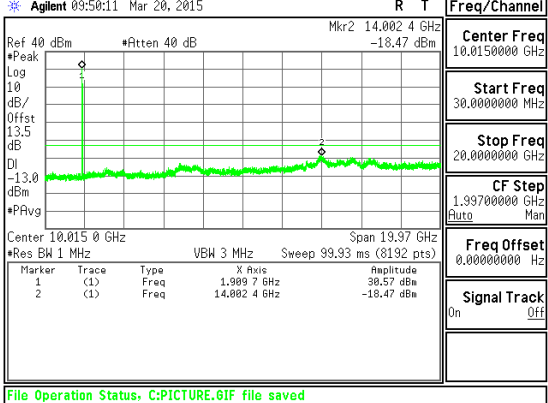
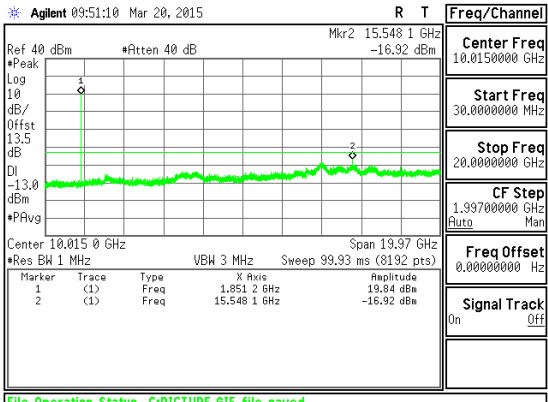
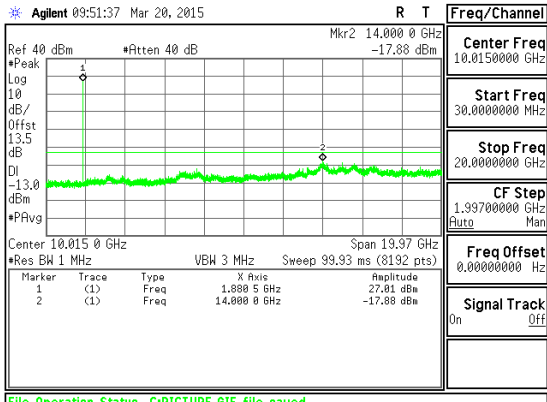
10.3.2. OUT OF BAND EMISSIONS PLOTS

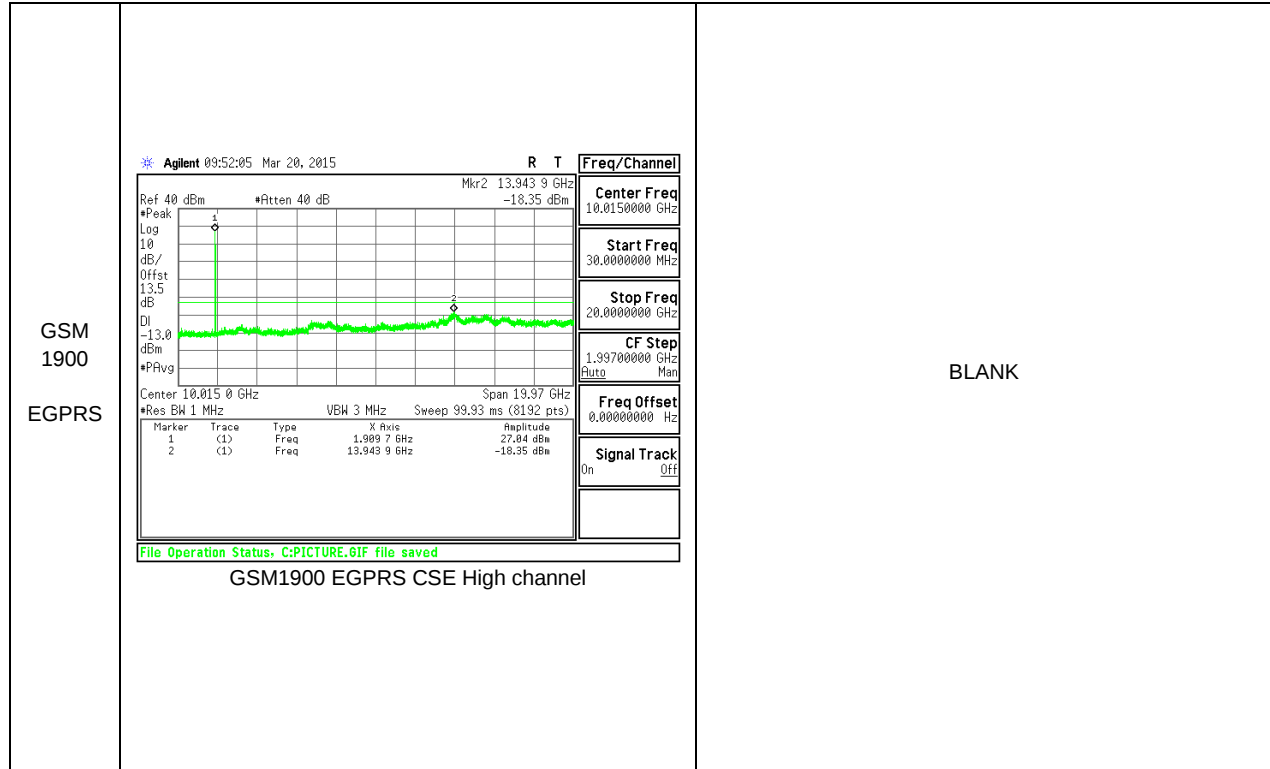
GSM



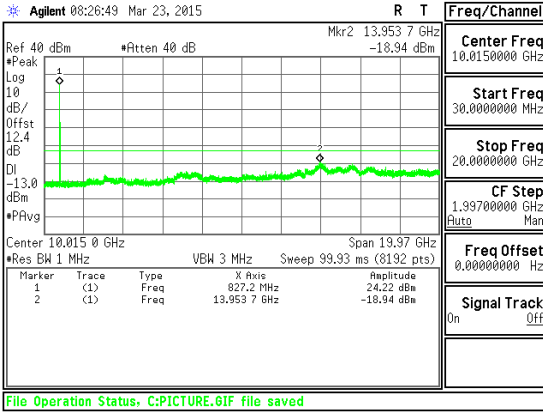
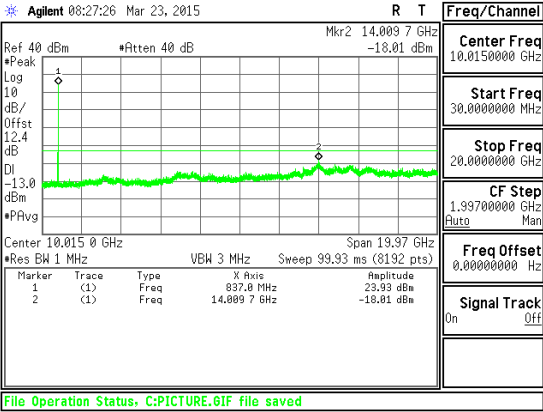
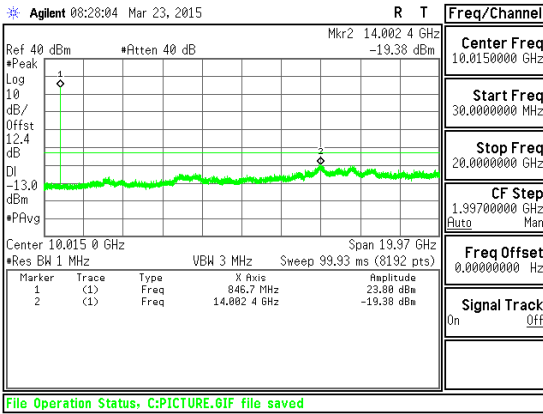
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GSM 850 EGPRS	 File Operation Status, C:PICTURE.01F file saved GSM850 EGPRS CSE Low channel	 File Operation Status, C:PICTURE.01F file saved GSM850 EGPRS CSE Mid channel

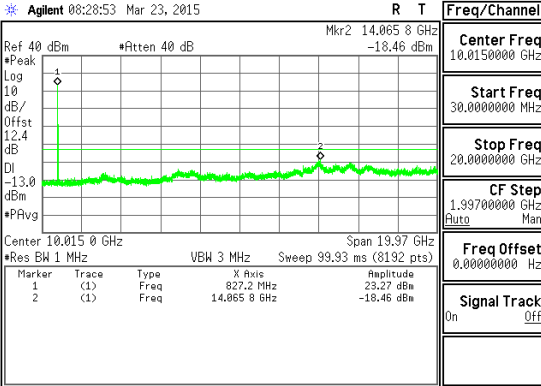
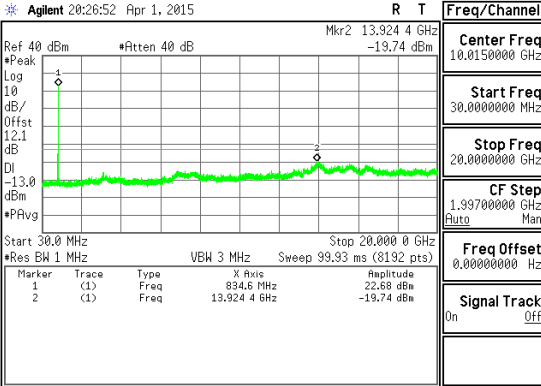
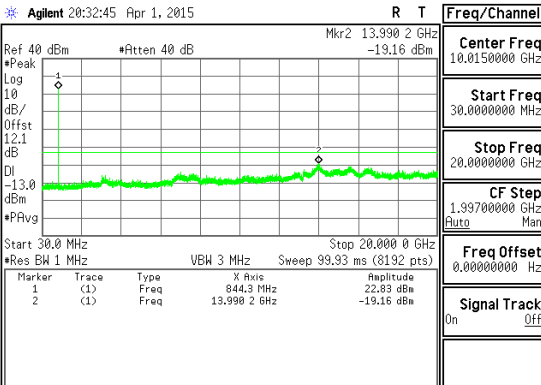
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GSM 1900 GPRS	 File Operation Status, C:PICTURE.01F file saved GSM1900 GPRS CSE Low channel	 File Operation Status, C:PICTURE.01F file saved GSM1900 GPRS CSE Mid channel

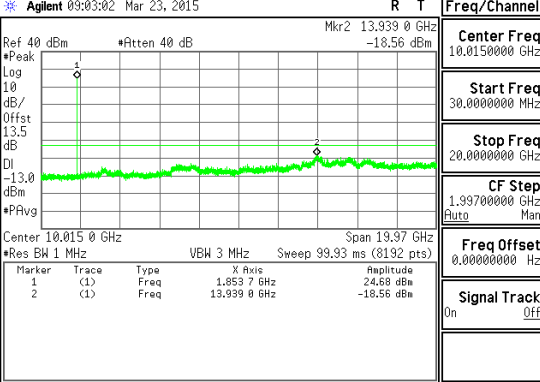
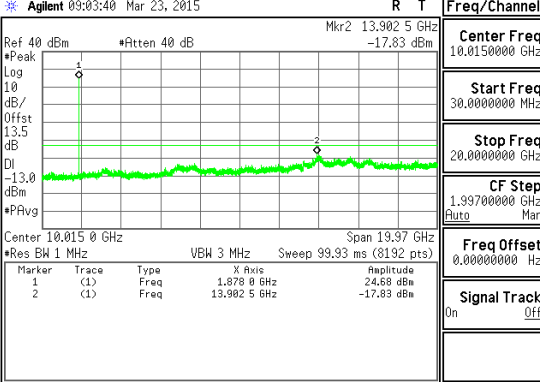
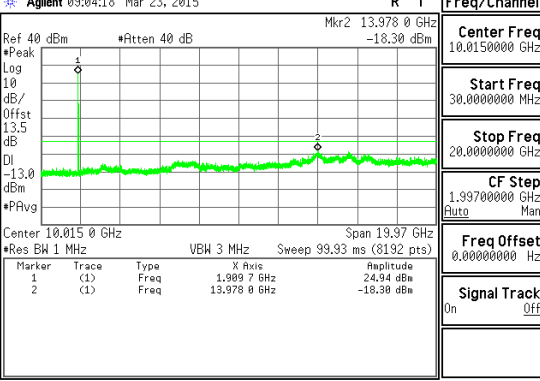
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GSM 1900 EGPRS	 File Operation Status, C:PICTURE.01F file saved GSM1900 EGPRS CSE Low channel	 File Operation Status, C:PICTURE.01F file saved GSM1900 EGPRS CSE Mid channel

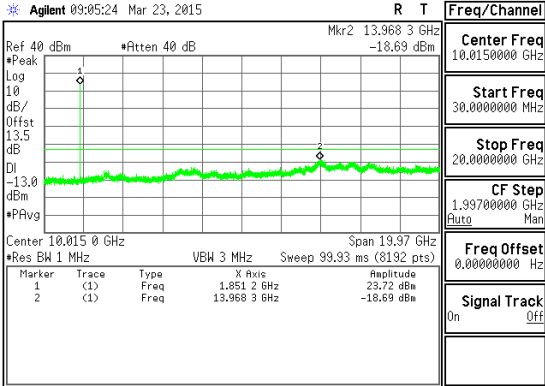
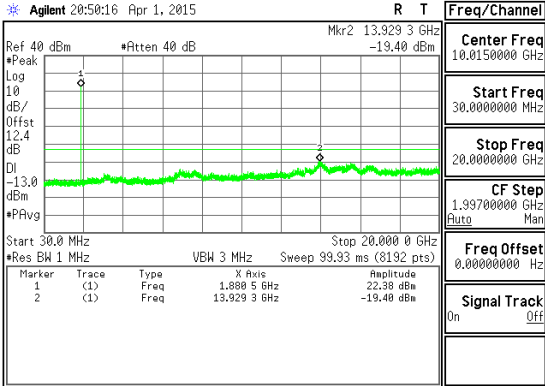
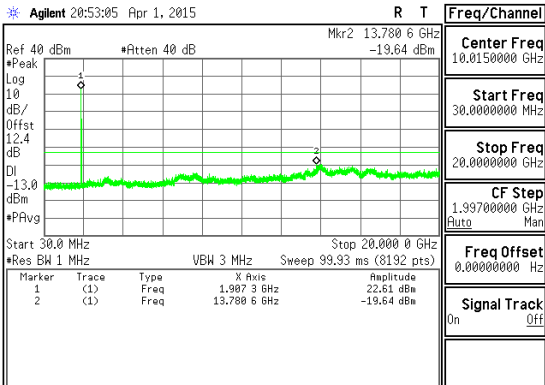


WCDMA

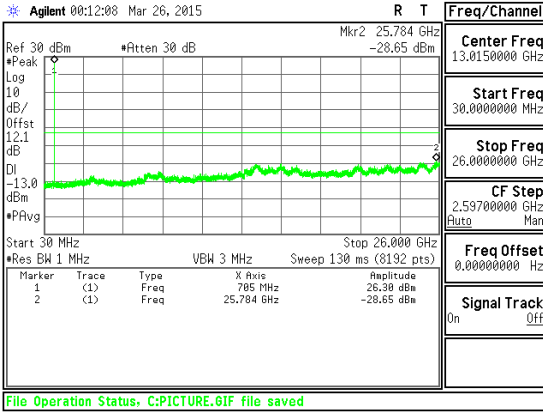
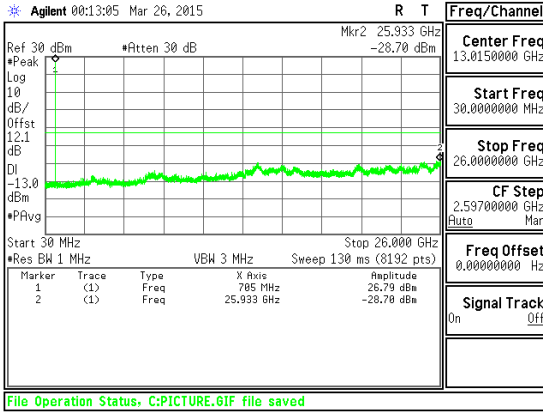
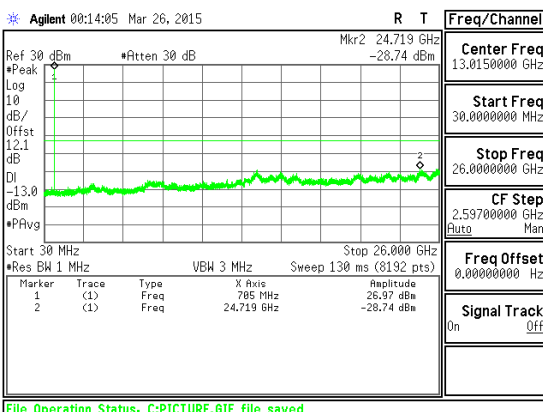
WCDMA Band 5 REL 99	 Agilent 08:26:49 Mar 23, 2015 R T Center Freq 10.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 20.0000000 GHz CF Step 1.99700000 GHz Freq Offset 0.00000000 Hz Signal Track On Off File Operation Status, C:PICTURE.GIF file saved	 Agilent 08:27:26 Mar 23, 2015 R T Center Freq 10.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 20.0000000 GHz CF Step 1.99700000 GHz Freq Offset 0.00000000 Hz Signal Track On Off File Operation Status, C:PICTURE.GIF file saved
WCDMA Band 5 REL 99	 Agilent 08:28:04 Mar 23, 2015 R T Center Freq 10.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 20.0000000 GHz CF Step 1.99700000 GHz Freq Offset 0.00000000 Hz Signal Track On Off File Operation Status, C:PICTURE.GIF file saved	BLANK

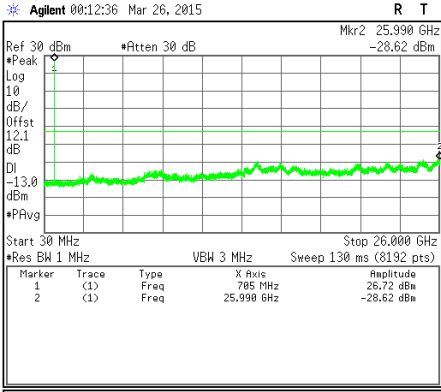
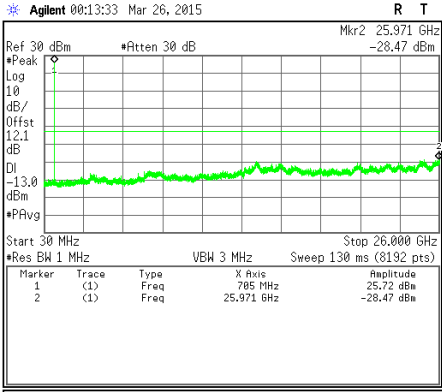
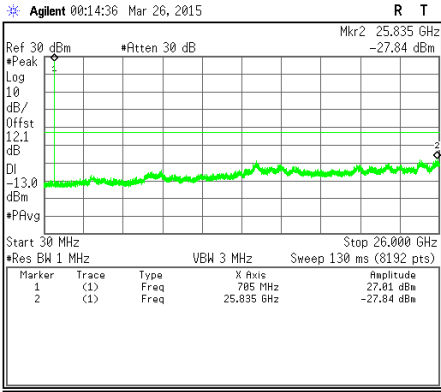
WCDMA Band 5 HSDPA	 File Operation Status: C:PICTURE.GIF file saved Band 5 HSDPA CSE Low channel	 File Operation Status: C:PICTURE.GIF file saved Band 5 HSDPA CSE Mid channel
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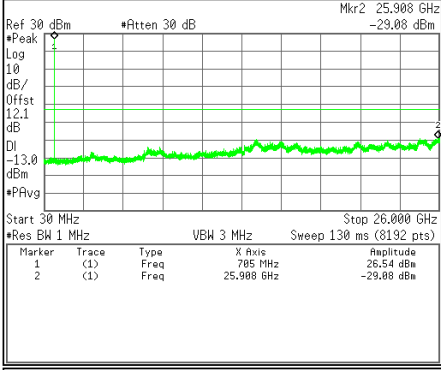
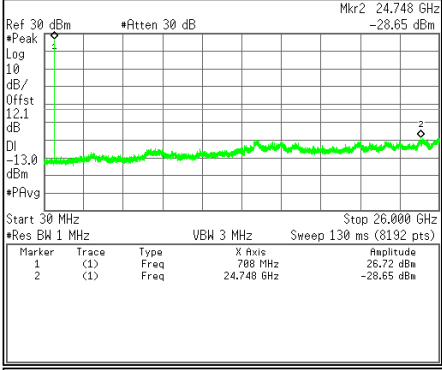
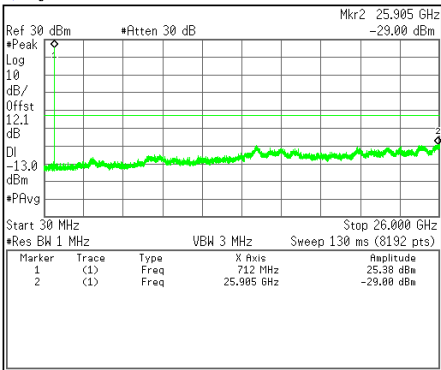
WCDMA Band 2 REL 99	 Agilent 09:03:02 Mar 23, 2015 R T Center Freq 10.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 20.0000000 GHz CF Step 1.99700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band 2 REL 99 CSE Low channel	 Agilent 09:03:40 Mar 23, 2015 R T Center Freq 10.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 20.0000000 GHz CF Step 1.99700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band 2 REL 99 CSE Mid channel
WCDMA Band 2 REL 99	 Agilent 09:04:18 Mar 23, 2015 R T Center Freq 10.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 20.0000000 GHz CF Step 1.99700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band 2 REL 99 CSE High channel	BLANK

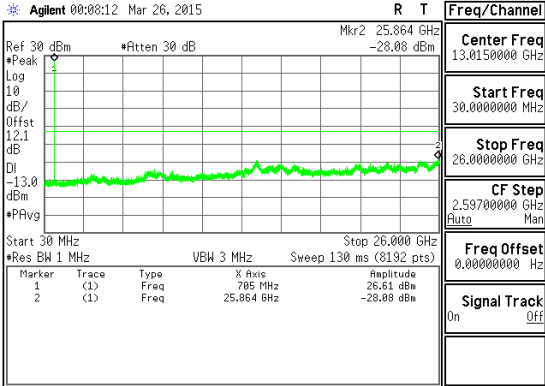
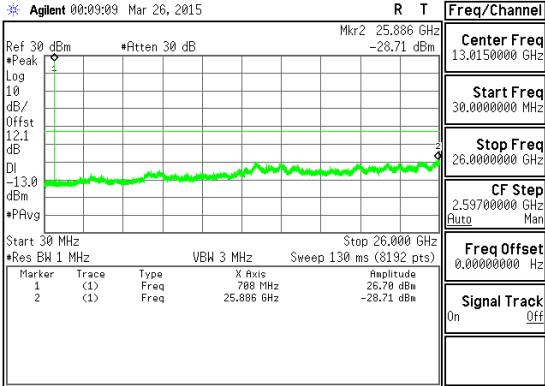
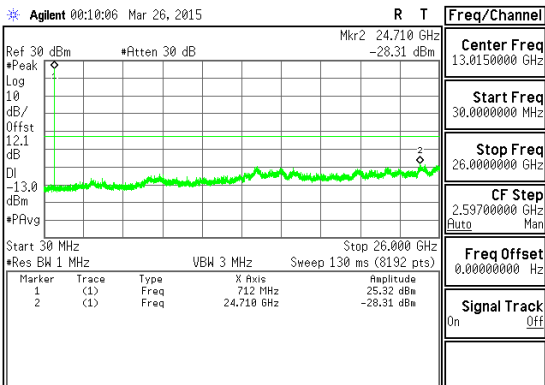
WCDMA Band 2 HSDPA	 File Operation Status, C:PICTURE.GIF file saved Band 2 HSDPA CSE Low channel	 File Operation Status, C:PICTURE.GIF file saved Band 2 HSDPA CSE Mid channel
WCDMA Band 2 HSDPA	 File Operation Status, C:PICTURE.GIF file saved Band 2 HSDPA CSE High channel	BLANK

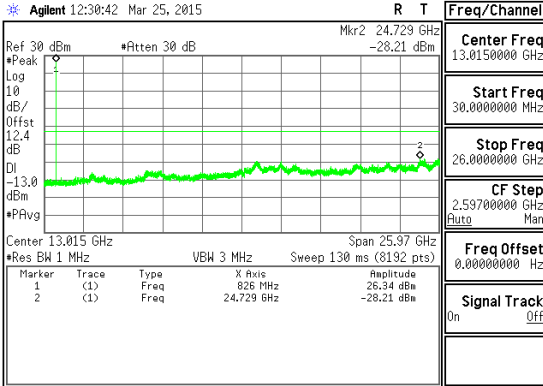
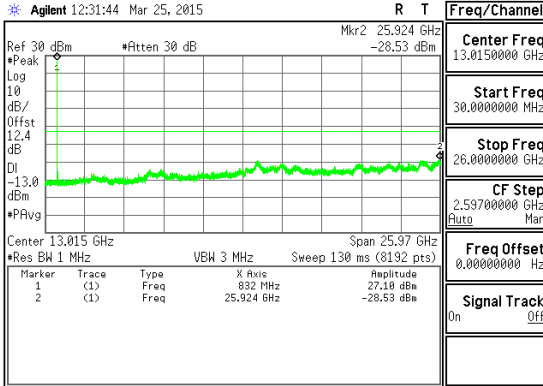
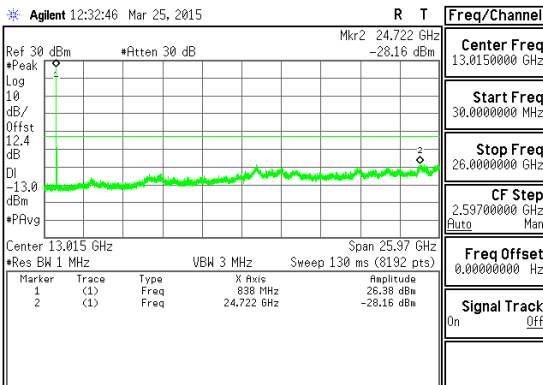
LTE

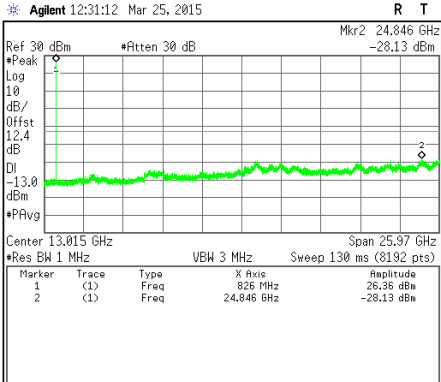
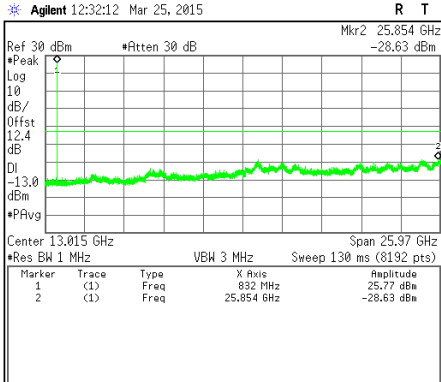
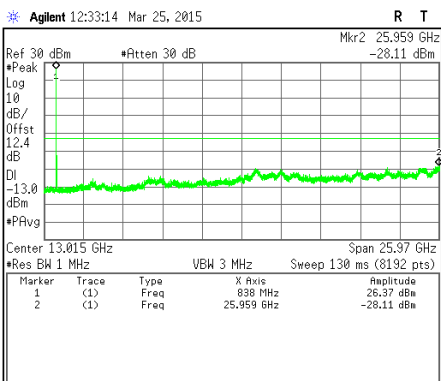
Band LTE17 10 MHz QPSK	 File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 10 MHz QPSK CSE Low channel	 File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 10 MHz QPSK CSE Mid channel
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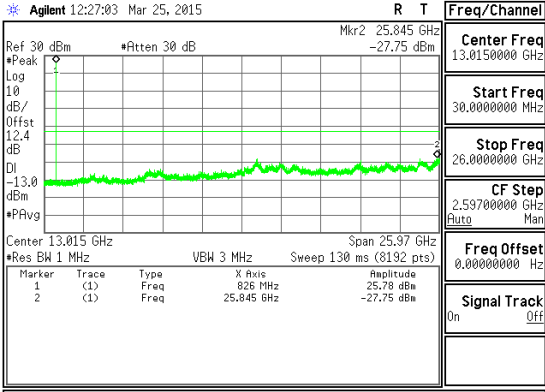
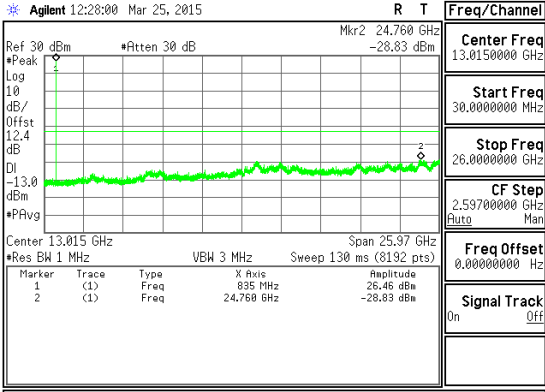
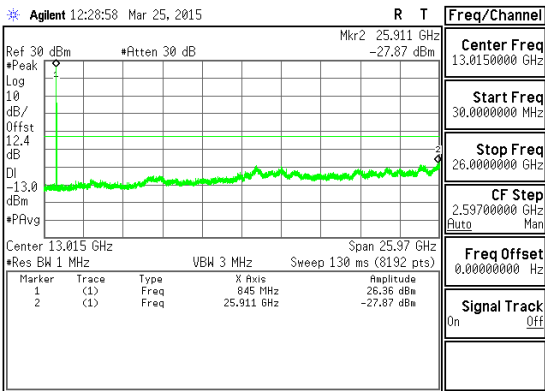
Band LTE17 10 MHz 16QAM	 Agilent 00:12:36 Mar 26, 2015 Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 10 MHz 16QAM CSE Low channel	 Agilent 00:13:33 Mar 26, 2015 Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 10 MHz 16QAM CSE Mid channel
Band LTE17 10 MHz 16QAM	 Agilent 00:14:36 Mar 26, 2015 Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 10 MHz 16QAM CSE High channel	BLANK

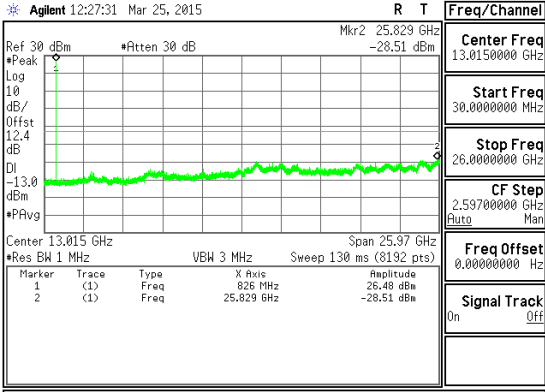
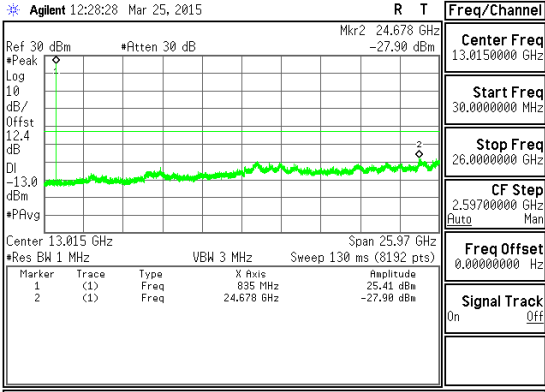
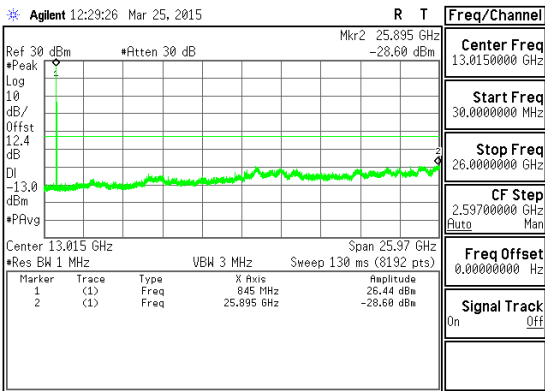
Band LTE17 5 MHz QPSK	Agilent 00:07:44 Mar 26, 2015 R T  Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 5 MHz QPSK CSE Low channel	Agilent 00:08:41 Mar 26, 2015 R T  Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 5 MHz QPSK CSE Mid channel
Band LTE17 5 MHz QPSK	Agilent 00:09:39 Mar 26, 2015 R T  Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 5 MHz QPSK CSE High channel	BLANK

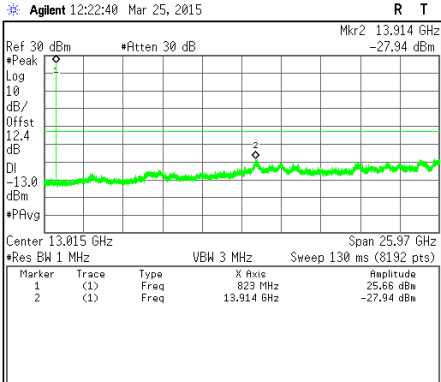
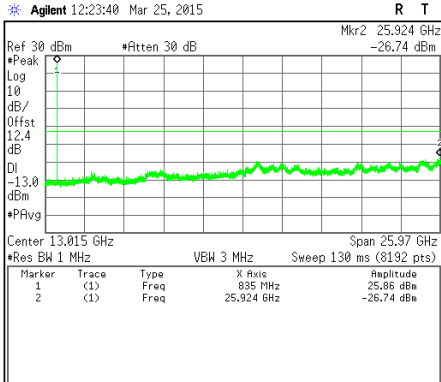
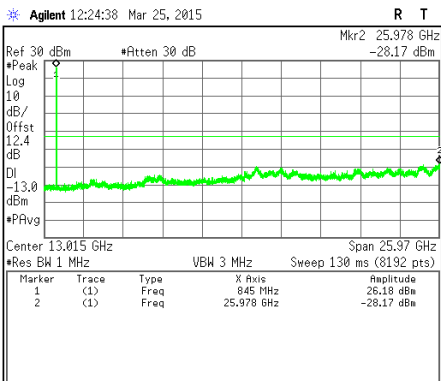
Band LTE17 5 MHz 16 QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 5 MHz 16 QAM CSE Low channel	 File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 5 MHz 16 QAM CSE Mid channel
Band LTE17 5 MHz 16 QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE17 - 5 MHz 16 QAM CSE High channel	BLANK

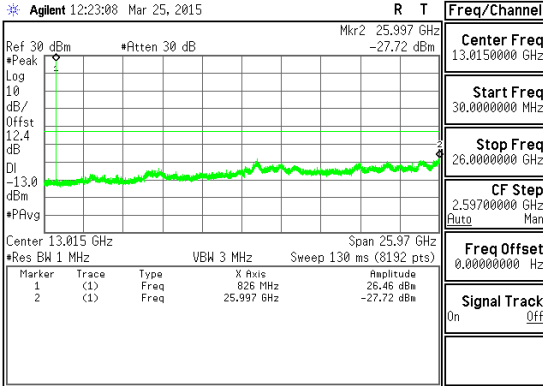
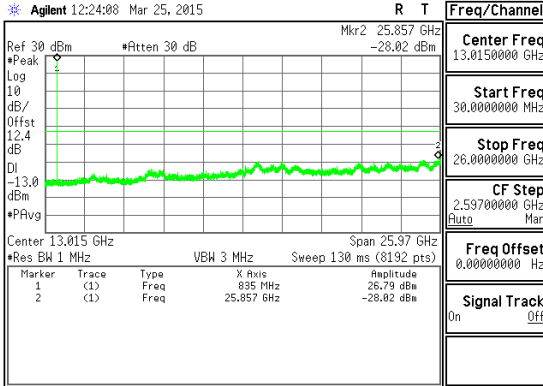
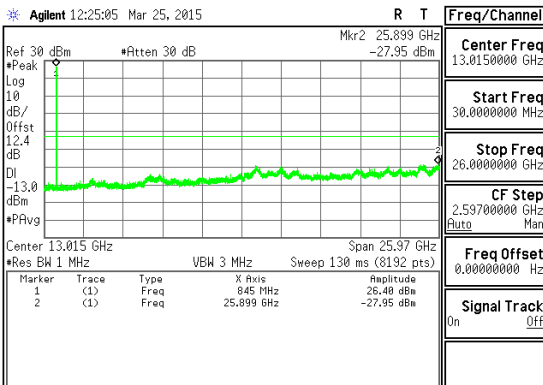
Band LTE5 10 MHz QPSK	 File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz QPSK CSE Low channel	 File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz QPSK CSE Mid channel
Band LTE5 10 MHz QPSK	 File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz QPSK CSE High channel	BLANK

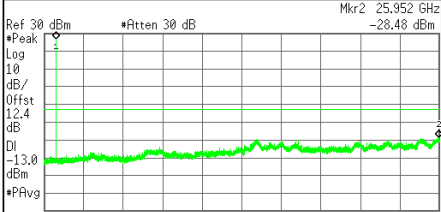
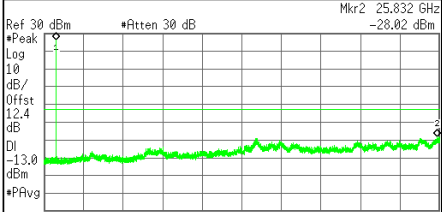
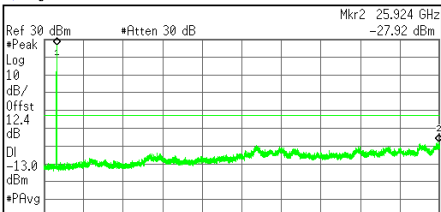
Band LTE5 10 MHz 16QAM	 Agilent 12:31:12 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz 16QAM CSE Low channel	 Agilent 12:32:12 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz 16QAM CSE Mid channel
Band LTE5 10 MHz 16QAM	 Agilent 12:33:14 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 10 MHz 16QAM CSE High channel	BLANK

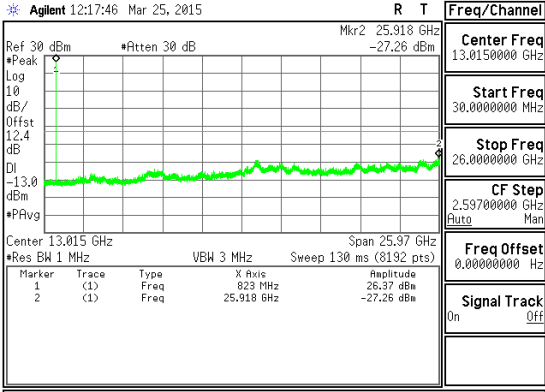
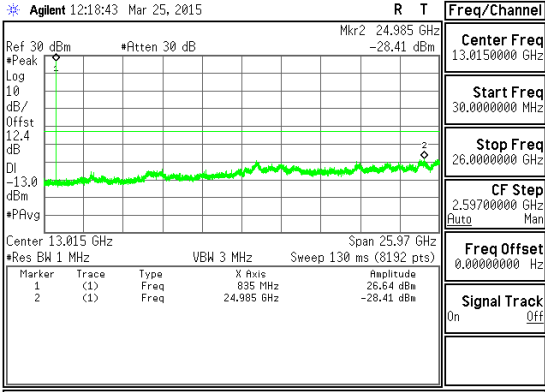
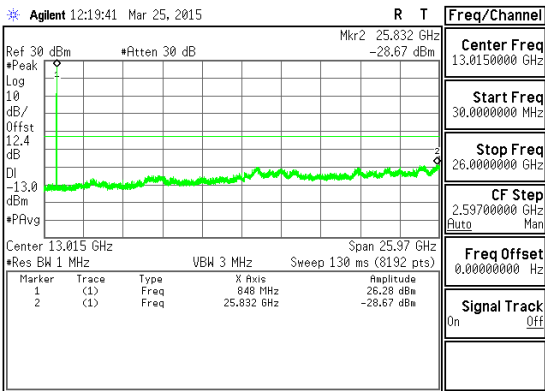
Band LTE5 5 MHz QPSK	 File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 5 MHz QPSK CSE Low channel	 File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 5 MHz QPSK CSE Mid channel
Band LTE5 5 MHz QPSK	 File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 5 MHz QPSK CSE High channel	BLANK

Band LTE5 5 MHz 16 QAM	 Agilent 12:27:31 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 5 MHz 16 QAM CSE Low channel	 Agilent 12:28:28 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track Off File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 5 MHz 16 QAM CSE Mid channel
Band LTE5 5 MHz 16 QAM	 Agilent 12:29:26 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 5 MHz 16 QAM CSE High channel	BLANK

Band LTE5 3 MHz QPSK	 Agilent 12:22:40 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 3 MHz QPSK CSE Low channel	 Agilent 12:23:40 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 3 MHz QPSK CSE Mid channel
Band LTE5 3 MHz QPSK	 Agilent 12:24:38 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 3 MHz QPSK CSE High channel	BLANK

Band LTE5 3 MHz 16QAM	 Agilent 12:23:00 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 3 MHz 16QAM CSE Low channel	 Agilent 12:24:00 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 3 MHz 16QAM CSE Mid channel
Band LTE5 3 MHz 16QAM	 Agilent 12:25:05 Mar 25, 2015 R T Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 3 MHz 16QAM CSE High channel	BLANK

Band LTE5 1.4 MHz QPSK	Agilent 12:17:18 Mar 25, 2015 R T  Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 1.4 MHz QPSK CSE Low channel	Agilent 12:18:15 Mar 25, 2015 R T  Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 1.4 MHz QPSK CSE Mid channel
Band LTE5 1.4 MHz QPSK	Agilent 12:19:13 Mar 25, 2015 R T  Center Freq 13.0150000 GHz Start Freq 30.0000000 MHz Stop Freq 26.0000000 GHz CF Step 2.59700000 GHz Freq Offset 0.00000000 Hz Signal Track On File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 1.4 MHz QPSK CSE High channel	BLANK

Band LTE5 1.4 MHz 16 QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 1.4 MHz 16 QAM CSE Low channel	 File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 1.4 MHz 16 QAM CSE Mid channel
Band LTE5 1.4 MHz 16 QAM	 File Operation Status, C:PICTURE.GIF file saved Band LTE5 - 1.4 MHz 16 QAM CSE High channel	BLANK

10.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, and §27.54

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

§24.235 - The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

§27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v02r02

MODES TESTED

GSM 850 (covers WCDMA Band 5 and LTE Band 5), GSM 1900 (covers WCDMA Band 2) and LTE Band 17.

RESULTS

See the following pages.

10.4.1. FREQUENCY STABILITY RESULTS

GSM850, Freq: 836.6 MHz– MID CHANNEL

Reference Frequency: PCS Mid Channel Limit: to stay +/- 2.5 ppm =			836.6 2091.500	MHz @ 20°C Hz
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	836.600018	-0.010	2.5
3.80	40	836.600025	-0.018	2.5
3.80	30	836.600021	-0.013	2.5
3.80	20	836.600010	0	2.5
3.80	10	836.600007	0.004	2.5
3.80	0	836.600006	0.004	2.5
3.80	-10	836.600011	-0.002	2.5
3.80	-20	836.600011	-0.002	2.5
3.80	-30	836.600015	-0.006	2.5

Reference Frequency: PCS Mid Channel			836.6	MHz @ 20°C
Limit: to stay +/- 2.5 ppm =			2091.500	Hz
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	836.600010	0	2.5
4.37	20	836.6000194	-0.011	2.5
3.23	20	836.6000195	-0.011	2.5

GSM1900, Freq: 1880 MHz– MID CHANNEL

Reference Frequency: PCS Mid Channel Limit: to stay +/- 2.5 ppm =			1880 4700.000	MHz @ 20°C Hz
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	1880.000040	-0.005	2.5
3.80	40	1880.000036	-0.003	2.5
3.80	30	1880.000031	0.000	2.5
3.80	20	1880.000031	0	2.5
3.80	10	1880.000024	0.004	2.5
3.80	0	1880.000014	0.009	2.5
3.80	-10	1880.000018	0.007	2.5
3.80	-20	1880.000030	0.001	2.5
3.80	-30	1880.000024	0.004	2.5

Reference Frequency: PCS Mid Channel			1880	MHz @ 20°C
Limit: to stay +/- 2.5 ppm =			4700.000	Hz
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	1880.000031	0	2.5
4.37	20	1880.000032	-0.001	2.5
3.23	20	1880.000004	-0.005	2.5

LTE17, Freq: 710.0 MHz– MID CHANNEL

Reference Frequency: PCS Mid Channel 710 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 1775.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	50	710.000003	0.000	2.5
3.80	40	709.999997	0.009	2.5
3.80	30	709.999997	0.009	2.5
3.80	20	710.000003	0	2.5
3.80	10	710.000003	0.000	2.5
3.80	0	710.000004	0.000	2.5
3.80	-10	709.999997	0.009	2.5
3.80	-20	710.000004	0.000	2.5
3.80	-30	710.000003	0.000	2.5

Reference Frequency: PCS Mid Channel 710 MHz @ 20°C Limit: to stay +/- 2.5 ppm = 1775.000 Hz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
3.80	20	710.000003	0	2.5
4.37	20	710.0000039	-0.001	2.5
3.23	20	710.0000039	-0.001	2.5

11. RADIATED TEST RESULTS

11.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, and 27.50(c)

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

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17, PXA setting reference to 971168 D01 v02r02

MODES TESTED

GSM (850, 1900), WCDMA (Bands V and II), LTE (Bands 5 and 17).

TEST RESULTS

11.1.1. ERP/EIRP Results

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
GSM850	GPRS	128	824.2	28.48	704.69
		190	836.6	29.06	805.38
		251	848.8	28.47	703.07
	EGPRS	128	824.2	21.47	140.28
		190	836.6	22.13	163.31
		251	848.8	22.43	174.98

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
GSM1900	GPRS	512	1850.2	27.47	558.47
		661	1880	27.57	571.48
		810	1909.8	28.76	751.62
	EGPRS	512	1850.2	21.95	156.68
		661	1880	22.32	170.61
		810	1909.8	23.25	211.35

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
Band 5	REL99	4132	826.4	20.88	122.46
		4183	836.6	20.11	102.57
		4233	846.6	19.30	85.11
	HSDPA	4132	826.4	20.30	107.15
		4183	836.6	21.14	130.02
		4233	846.6	18.75	74.99

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
Band 2	REL99	9262	1852.4	21.65	146.22
		9400	1880	21.27	133.97
		9538	1907.6	21.77	150.31
	HSDPA	9262	1852.4	20.38	109.14
		9400	1880	20.10	102.33
		9538	1907.6	20.69	117.22

11.1.2. LTE ERP/EIRP Results

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE17	10	QPSK	1/0	709	12.73	18.75
			1/0	710	12.49	17.74
			1/0	711	12.32	17.06
		16QAM	1/0	709	12.86	19.32
			1/0	710	11.98	15.78
			1/0	711	11.78	15.07

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE17	5	QPSK	1/0	706.5	13.43	22.03
			1/0	710	13.11	20.46
			1/0	713.5	13.64	23.12
		16QAM	1/0	706.5	12.69	18.58
			1/0	710	12.40	17.38
			1/0	713.5	12.90	19.50

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	10	QPSK	1/0	829	19.20	83.18
			1/0	836.5	18.41	69.34
			1/0	844	17.76	59.70
		16QAM	1/0	829	18.29	67.45
			1/0	836.5	17.81	60.39
			1/0	844	16.96	49.66

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	5	QPSK	1/0	826.5	19.32	85.51
			1/0	836.5	18.97	78.89
			1/0	846.5	18.32	67.92
		16QAM	1/0	826.5	18.89	77.45
			1/0	836.5	18.49	70.63
			1/0	846.5	17.88	61.38

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	3	QPSK	1/0	825.5	19.59	90.99
			1/0	836.5	19.21	83.37
			1/0	847.5	17.49	56.10
		16QAM	1/0	825.5	18.80	75.86
			1/0	836.5	18.27	67.14
			1/0	847.5	16.93	49.32

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP	
					dBm	mW
LTE5	1.4	QPSK	1/0	824.7	19.98	99.54
			1/0	836.5	20.01	100.23
			1/0	848.3	17.59	57.41
		16QAM	1/0	824.7	18.60	72.44
			1/0	836.5	18.20	66.07
			1/0	848.3	16.69	46.67

11.1.3. ERP/EIRP PLOTS

GSM 850 GPRS

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C								
Company: Sony Project #: 10701108 Date: 4/4/2015 Test Engineer: M. Nolting Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427575-5 (LTE2) Mode: GPRS 850 Test Equipment: Receiving: Hybrid AT0066 & SMA cables Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.20	22.07	V	0.6	-1.0	20.55	38.5	-18.0	
824.20	30.01	H	0.6	-1.0	28.48	38.5	-10.0	
Mid Ch								
836.60	23.49	V	0.6	-0.9	22.02	38.5	-16.5	
836.60	30.53	H	0.6	-0.9	29.06	38.5	-9.4	
High Ch								
848.80	22.52	V	0.6	-0.9	21.09	38.5	-17.4	
848.80	29.91	H	0.6	-0.9	28.47	38.5	-10.0	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm								

GSM 850 EGPRS

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C								
Company: Sony Project #: 10701108 Date: 4/4/2015 Test Engineer: M. Nolting Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427575-5 (LTE2) Mode: EGPRS 850								
Test Equipment: Receiving: Hybrid AT0066 & SMA cables Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.20	15.36	V	0.6	-1.0	13.84	38.5	-24.7	
824.20	23.00	H	0.6	-1.0	21.47	38.5	-17.0	
Mid Ch								
836.60	16.72	V	0.6	-0.9	15.25	38.5	-23.3	
836.60	23.61	H	0.6	-0.9	22.13	38.5	-16.4	
High Ch								
848.80	15.82	V	0.6	-0.9	14.38	38.5	-24.1	
848.80	23.87	H	0.6	-0.9	22.43	38.5	-16.1	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm								

GSM 1900 GPRS

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C								
Company: Sony Project #: 10701108 Date: 4/3/2015 Test Engineer: B. Kiewra/M. Nolting Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427578-5 Mode: GPRS 1900								
Test Equipment: Receiving: Horn AT0067 & SMA cables Substitution: Horn AT0069, sig-gen SIG001, & cable CBL010								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1850.20	21.80	V	0.9	5.4	26.31	33.0	-6.7	
1850.20	22.96	H	0.9	5.4	27.47	33.0	-5.5	
Mid Ch								
1880.00	22.99	V	0.9	5.3	27.40	33.0	-5.6	
1880.00	23.17	H	0.9	5.3	27.57	33.0	-5.4	
High Ch								
1909.80	24.47	V	0.9	5.2	28.76	33.0	-4.2	
1909.80	24.25	H	0.9	5.2	28.55	33.0	-4.5	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm								

GSM 1900 EGPRS

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C								
Company: Sony Project #: 10701108 Date: 4/3/2015 Test Engineer: B. Kiewra/M. Nolting Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427575-5 (LTE2) Mode: EGPRS 1900								
Test Equipment:								
Receiving: Horn AT0067 & SMA cables								
Substitution: Horn AT0069, sig-gen SIG001, & cable CBL010								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
1850.20	16.75	V	0.9	5.4	21.26	33.0	-11.7	
1850.20	17.44	H	0.9	5.4	21.95	33.0	-11.1	
Mid Ch								
1880.00	17.40	V	0.9	5.3	21.81	33.0	-11.2	
1880.00	17.91	H	0.9	5.3	22.32	33.0	-10.7	
High Ch								
1909.80	17.89	V	0.9	5.2	22.18	33.0	-10.8	
1909.80	18.96	H	0.9	5.2	23.25	33.0	-9.7	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm								

WCDMA BAND 5 REL 99

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
High Frequency Substitution Measurement								
UL Verification Services, Inc. Chamber C								
Company: Sony								
Project #: 10701108								
Date: 4/17/2015								
Test Engineer: B. Kievra								
Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427578-5								
Mode: WCDMA Band 5 Rel99								
Test Equipment:								
Receiving: Hybrid AT0066 & SMA cables								
Substitution: Dipole AT0016, sig-gen SIG002, & cable CBL010								
Low Ch								
826.40	13.00	V	0.6	-0.9	11.48	33.0	-21.5	
826.40	22.39	H	0.6	-0.9	20.88	33.0	-12.1	
Mid Ch								
836.60	13.13	V	0.6	-0.9	11.65	33.0	-21.4	
836.60	21.58	H	0.6	-0.9	20.11	33.0	-12.9	
High Ch								
846.60	12.97	V	0.6	-0.9	11.52	33.0	-21.5	
846.60	20.74	H	0.6	-0.9	19.30	33.0	-13.7	

Rev. 3.17.11
Note: For Band 4 EIRP limit is 30dBm

WCDMA BAND 5 HSDPA

**High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C**

Company: Sony

Project #: 10701108

Date: 3/27/2015

Test Engineer: B. Kievra

Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427598-7

Mode: WCDMA Band 5 HSDPA

Test Equipment:

Receiving: Hybrid AT0066 & SMA cables

Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
826.40	14.72	V	0.6	-0.9	13.21	38.5	-25.3	
826.40	21.81	H	0.6	-0.9	20.30	38.5	-18.2	
Mid Ch								
836.60	15.34	V	0.6	-0.9	13.86	38.5	-24.6	
836.60	22.62	H	0.6	-0.9	21.14	38.5	-17.4	
High Ch								
846.60	13.49	V	0.6	-0.9	12.05	38.5	-26.5	
846.60	20.19	H	0.6	-0.9	18.75	38.5	-19.8	

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

WCDMA BAND 2 REL 99

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
High Frequency Substitution Measurement								
UL Verification Services, Inc. Chamber C								
Company: Sony								
Project #: 10701108								
Date: 3/25/2015								
Test Engineer: B. Kiewra/M. Nolting								
Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427598-7								
Mode: WCDMA Band 2 Rel99								
Test Equipment:								
Receiving: Horn AT0067 & SMA cables								
Substitution: Horn AT0069, sig-gen SIG001, & cable CBL010								
Low Ch								
1852.40	15.16	V	0.9	5.4	19.66	33.0	-13.3	
1852.40	17.15	H	0.9	5.4	21.65	33.0	-11.3	
Mid Ch								
1880.00	16.46	V	0.9	5.3	20.86	33.0	-12.1	
1880.00	16.87	H	0.9	5.3	21.27	33.0	-11.7	
High Ch								
1907.60	17.47	V	0.9	5.2	21.77	33.0	-11.2	
1907.60	17.20	H	0.9	5.2	21.50	33.0	-11.5	
Rev. 3.17.11								
Note: For Band 4 EIRP limit is 30dBm								

WCDMA BAND 2 HSDPA

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
High Frequency Substitution Measurement								
UL Verification Services, Inc. Chamber C								
Company: Sony								
Project #: 10701108								
Date: 3/25/2015								
Test Engineer: B. Kiewra/M. Nolting								
Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427598-7								
Mode: WCDMA Band 2 HSDPA								
Test Equipment:								
Receiving: Horn AT0067 & SMA cables								
Substitution: Horn AT0069, sig-gen SIG001, & cable CBL010								
Low Ch								
1852.40	14.21	V	0.9	5.4	18.71	33.0	-14.3	
1852.40	15.88	H	0.9	5.4	20.38	33.0	-12.6	
Mid Ch								
1880.00	15.31	V	0.9	5.3	19.71	33.0	-13.3	
1880.00	15.70	H	0.9	5.3	20.10	33.0	-12.9	
High Ch								
1907.60	16.39	V	0.9	5.2	20.69	33.0	-12.3	
1907.60	16.11	H	0.9	5.2	20.41	33.0	-12.6	
Rev. 3.17.11								
Note: For Band 4 EIRP limit is 30dBm								

LTE17, 10 MHz QPSK

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C								
Company: Sony Project #: 10701108 Date: 3/27/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427578-5 Mode: LTE 17 10MHz BW QPSK								
Test Equipment: Receiving: Horn AT0067 & SMA cables Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
709.00	5.74	V	0.5	-0.4	4.80	34.8	-30.0	
709.00	13.67	H	0.5	-0.4	12.73	34.8	-22.1	
Mid Ch								
710.00	6.46	V	0.5	-0.4	5.51	34.8	-29.3	
710.00	13.44	H	0.5	-0.4	12.49	34.8	-22.3	
High Ch								
711.00	6.25	V	0.5	-0.4	5.29	34.8	-29.5	
711.00	13.28	H	0.5	-0.4	12.32	34.8	-22.5	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm								

LTE17, 10 MHz 16QAM

**High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C**

Company: Sony

Project #: 10701108

Date: 3/27/2015

Test Engineer: B. Kiewra

Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427578-5

Mode: LTE 17 10MHz BW 16-QAM

Test Equipment:

Receiving: Horn AT0067 & SMA cables

Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
709.00	6.57	V	0.5	-0.4	5.63	34.8	-29.2	
709.00	13.80	H	0.5	-0.4	12.86	34.8	-21.9	
Mid Ch								
710.00	5.41	V	0.5	-0.4	4.46	34.8	-30.3	
710.00	12.93	H	0.5	-0.4	11.98	34.8	-22.8	
High Ch								
711.00	5.17	V	0.5	-0.4	4.21	34.8	-30.6	
711.00	12.74	H	0.5	-0.4	11.78	34.8	-23.0	

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE17, 5MHz QPSK

**High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C**

Company: Sony

Project #: 10701108

Date: 3/26/2015

Test Engineer: B. Kiewra

Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427578-5

Mode: LTE 17 5MHz BW QPSK

Test Equipment:

Receiving: Hybrid AT0066 & SMA cables

Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
706.50	6.12	V	0.5	-0.4	5.20	34.8	-29.6	
706.50	14.35	H	0.5	-0.4	13.43	34.8	-21.4	
Mid Ch								
710.00	4.57	V	0.5	-0.4	3.62	34.8	-31.2	
710.00	14.06	H	0.5	-0.4	13.11	34.8	-21.7	
High Ch								
713.50	6.11	V	0.5	-0.5	5.12	34.8	-29.7	
713.50	14.63	H	0.5	-0.5	13.64	34.8	-21.2	

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE17, 5 MHz 16QAM

**High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C**

Company: Sony

Project #: 10701108

Date: 3/26/2015

Test Engineer: B. Kiewra

Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427578-5

Mode: LTE 17 5MHz BW 16-QAM

Test Equipment:

Receiving: Hybrid AT0066 & SMA cables

Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
706.50	6.88	V	0.5	-0.4	5.96	34.8	-28.8	
706.50	13.61	H	0.5	-0.4	12.69	34.8	-22.1	
Mid Ch								
710.00	4.84	V	0.5	-0.4	3.89	34.8	-30.9	
710.00	13.35	H	0.5	-0.4	12.40	34.8	-22.4	
High Ch								
713.50	5.47	V	0.5	-0.5	4.49	34.8	-30.3	
713.50	13.88	H	0.5	-0.5	12.90	34.8	-21.9	

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE5, 10 MHz QPSK

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C								
Company: Sony Project #: 10701108 Date: 4/24/2015 Test Engineer: B. Kiewra/M. Nolting Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427575-5 Mode: LTE 5 10MHz BW QPSK								
Test Equipment: Receiving: Hybrid AT0066 & SMA cables Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
829.00	7.38	V	0.6	3.7	10.46	38.45	-28.0	
829.00	16.12	H	0.6	3.7	19.20	38.45	-19.3	
Mid Ch								
836.50	7.59	V	0.6	3.8	10.79	38.45	-27.7	
836.50	15.20	H	0.6	3.8	18.41	38.45	-20.0	
High Ch								
844.00	7.43	V	0.6	3.7	10.54	38.45	-27.9	
844.00	14.65	H	0.6	3.7	17.76	38.45	-20.7	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm								

LTE 5, 10 MHz 16QAM

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C								
Company: Sony Project #: 10701108 Date: 4/24/2015 Test Engineer: B. Kiewra/M. Nolting Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427575-5 Mode: LTE 5 10MHz BW 16-QAM								
Test Equipment: Receiving: Hybrid AT0066 & SMA cables Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
829.00	6.48	V	0.6	3.7	9.56	38.45	-28.9	
829.00	15.21	H	0.6	3.7	18.29	38.45	-20.2	
Mid Ch								
836.50	6.91	V	0.6	3.8	10.12	38.45	-28.3	
836.50	14.60	H	0.6	3.8	17.81	38.45	-20.6	
High Ch								
844.00	6.77	V	0.6	3.7	9.88	38.45	-28.6	
844.00	13.85	H	0.6	3.7	16.96	38.45	-21.5	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm								

LTE5, 5 MHz QPSK

High Frequency Substitution Measurement UL Verification Services, Inc. Chamber C								
Company: Sony Project #: 10701108 Date: 3/26/2015 Test Engineer: B. Kiewra/M. Nolting Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427575-5 (LTE2) Mode: LTE 5 5000kHz BW QPSK								
Test Equipment: Receiving: Hybrid AT0066 & SMA cables Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010								
f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
826.50	12.48	V	0.6	-0.9	10.96	38.5	-27.5	
826.50	20.84	H	0.6	-0.9	19.32	38.5	-19.2	
Mid Ch								
836.50	12.52	V	0.6	-0.9	11.04	38.5	-27.5	
836.50	20.45	H	0.6	-0.9	18.97	38.5	-19.5	
High Ch								
846.50	12.60	V	0.6	-0.9	11.16	38.5	-27.3	
846.50	19.76	H	0.6	-0.9	18.32	38.5	-20.2	
Rev. 3.17.11 Note: For Band 4 EIRP limit is 30dBm								

LTE5, 5 MHz 16QAM

**High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C**

Company: Sony

Project #: 10701108

Date: 3/26/2015

Test Engineer: B. Kiewra/M. Nolting

Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427575-5 (LTE2)

Mode: LTE 5 5000kHz BW 16-QAM

Test Equipment:

Receiving: Hybrid AT0066 & SMA cables

Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
826.50	11.59	V	0.6	-0.9	10.07	38.5	-28.4	
826.50	20.41	H	0.6	-0.9	18.89	38.5	-19.6	
Mid Ch								
836.50	12.15	V	0.6	-0.9	10.67	38.5	-27.8	
836.50	19.97	H	0.6	-0.9	18.49	38.5	-20.0	
High Ch								
846.50	11.36	V	0.6	-0.9	9.92	38.5	-28.6	
846.50	19.32	H	0.6	-0.9	17.88	38.5	-20.6	

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE5, 3 MHz QPSK

**High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C**

Company: Sony

Project #: 10701108

Date: 3/26/2015

Test Engineer: B. Kiewra

Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427578-5

Mode: LTE 5 3000kHz BW QPSK

Test Equipment:

Receiving: Hybrid AT0066 & SMA cables

Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
825.50	12.37	V	0.6	-0.9	10.85	38.5	-27.7	
825.50	21.11	H	0.6	-0.9	19.59	38.5	-18.9	
Mid Ch								
836.50	12.86	V	0.6	-0.9	11.38	38.5	-27.1	
836.50	20.68	H	0.6	-0.9	19.21	38.5	-19.3	
High Ch								
847.50	12.08	V	0.6	-0.9	10.64	38.5	-27.9	
847.50	18.93	H	0.6	-0.9	17.49	38.5	-21.0	

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE5, 3 MHz 16QAM

**High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C**

Company: Sony

Project #: 10701108

Date: 3/26/2015

Test Engineer: B. Kiewra

Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427578-5

Mode: LTE 5 3000kHz BW 16-QAM

Test Equipment:

Receiving: Hybrid AT0066 & SMA cables

Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
825.50	11.52	V	0.6	-0.9	10.01	38.5	-28.5	
825.50	20.31	H	0.6	-0.9	18.80	38.5	-19.7	
Mid Ch								
836.50	12.02	V	0.6	-0.9	10.54	38.5	-28.0	
836.50	19.74	H	0.6	-0.9	18.27	38.5	-20.2	
High Ch								
847.50	11.37	V	0.6	-0.9	9.93	38.5	-28.6	
847.50	18.37	H	0.6	-0.9	16.93	38.5	-21.6	

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE5, 1.4 MHz QPSK

**High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C**

Company: Sony

Project #: 10701108

Date: 3/26/2015

Test Engineer: B. Kiewra

Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427598-7

Mode: LTE 5 1400kHz BW QPSK

Test Equipment:

Receiving: Hybrid AT0066 & SMA cables

Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.70	13.23	V	0.6	-1.0	11.71	38.5	-26.8	
824.70	21.51	H	0.6	-1.0	19.98	38.5	-18.5	
Mid Ch								
836.50	13.03	V	0.6	-0.9	11.55	38.5	-26.9	
836.50	21.49	H	0.6	-0.9	20.01	38.5	-18.5	
High Ch								
848.30	11.58	V	0.6	-0.9	10.15	38.5	-28.4	
848.30	19.03	H	0.6	-0.9	17.59	38.5	-20.9	

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

LTE5, 1.4 MHz 16QAM

**High Frequency Substitution Measurement
UL Verification Services, Inc. Chamber C**

Company: Sony

Project #: 10701108

Date: 3/26/2015

Test Engineer: B. Kiewra

Configuration: FCC ID: PY7-PM0792; Stand-alone (X (Flat) orientation); s/n 00440245-427578-5

Mode: LTE 5 1400kHz BW 16-QAM

Test Equipment:

Receiving: Hybrid AT0066 & SMA cables

Substitution: Dipole AT0016, sig-gen SIG001, & cable CBL010

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Notes
Low Ch								
824.70	11.64	V	0.6	-1.0	10.12	38.5	-28.4	
824.70	20.13	H	0.6	-1.0	18.60	38.5	-19.9	
Mid Ch								
836.50	11.68	V	0.6	-0.9	10.20	38.5	-28.3	
836.50	19.68	H	0.6	-0.9	18.20	38.5	-20.3	
High Ch								
848.30	10.48	V	0.6	-0.9	9.04	38.5	-29.5	
848.30	18.13	H	0.6	-0.9	16.69	38.5	-21.8	

Rev. 3.17.11

Note: For Band 4 EIRP limit is 30dBm

11.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917(a), §24.238 (a), §27.53 (g)

LIMITS

Part 22.917(a) & Part 24.238(a) 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 27.53(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

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

GSM (850, 1900), WCDMA (Bands V and II), LTE (Bands 5 and 17).

RESULTS

11.2.1. SPURIOUS RADIATION PLOTS

GSM 850 GPRS

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10707861 Date: 3/27/2015 Test Engineer: M. Nolting Configuration: FCC ID: PY7-PM0792 with charger (X (flat) orientation); s/n 00440245-427598-7 Mode: GPRS 850								
Chamber		Pre-amplifier		Filter		Limit		
3m Chamber				Filter 1		Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.2MHz								
1.648	-52.0	V	3.0	1.0	-50.9	-13.0	-37.9	
2.473	-50.8	V	3.0	1.0	-49.8	-13.0	-36.8	
3.297	-52.8	V	3.0	1.0	-51.8	-13.0	-38.8	
1.648	-51.8	H	3.0	1.0	-50.7	-13.0	-37.7	
2.473	-49.5	H	3.0	1.0	-48.5	-13.0	-35.5	
3.297	-53.3	H	3.0	1.0	-52.2	-13.0	-39.2	
Mid Ch, 836.6MHz								
1.673	-54.2	V	3.0	1.0	-53.2	-13.0	-40.2	
2.510	-49.8	V	3.0	1.0	-48.7	-13.0	-35.7	
3.346	-52.8	V	3.0	1.0	-51.8	-13.0	-38.8	
1.673	-55.2	H	3.0	1.0	-54.2	-13.0	-41.2	
2.510	-48.4	H	3.0	1.0	-47.4	-13.0	-34.4	
3.346	-53.9	H	3.0	1.0	-52.9	-13.0	-39.9	
High Ch, 848.8MHz								
1.698	-55.0	V	3.0	1.0	-54.0	-13.0	-41.0	
2.546	-50.2	V	3.0	1.0	-49.1	-13.0	-36.1	
3.395	-52.7	V	3.0	1.0	-51.7	-13.0	-38.7	
1.698	-54.6	H	3.0	1.0	-53.6	-13.0	-40.6	
2.546	-49.5	H	3.0	1.0	-48.5	-13.0	-35.5	
3.395	-53.3	H	3.0	1.0	-52.2	-13.0	-39.2	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

GSM 850 EGPRS

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10707861 Date: 3/27/2015 Test Engineer: M. Nolting Configuration: FCC ID: PY7-PM0792 with charger (X (flat) orientation); s/n 00440245-427598-7 Mode: EGPRS 850								
Chamber 3m Chamber Pre-amplifier Filter Filter 1 Limit Part 22								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.2MHz								
1.648	-52.9	V	3.0	1.0	-51.8	-13.0	-38.8	
2.473	-52.1	V	3.0	1.0	-51.1	-13.0	-38.1	
3.297	-52.5	V	3.0	1.0	-51.4	-13.0	-38.4	
1.648	-52.1	H	3.0	1.0	-51.0	-13.0	-38.0	
2.473	-52.3	H	3.0	1.0	-51.3	-13.0	-38.3	
3.297	-52.8	H	3.0	1.0	-51.8	-13.0	-38.8	
Mid Ch, 836.6MHz								
1.673	-55.2	V	3.0	1.0	-54.2	-13.0	-41.2	
2.510	-51.4	V	3.0	1.0	-50.4	-13.0	-37.4	
3.346	-52.2	V	3.0	1.0	-51.1	-13.0	-38.1	
1.673	-55.8	H	3.0	1.0	-54.8	-13.0	-41.8	
2.510	-50.1	H	3.0	1.0	-49.1	-13.0	-36.1	
3.346	-52.1	H	3.0	1.0	-51.0	-13.0	-38.0	
High Ch, 848.8MHz								
1.698	-55.5	V	3.0	1.0	-54.5	-13.0	-41.5	
2.546	-51.5	V	3.0	1.0	-50.4	-13.0	-37.4	
3.395	-52.7	V	3.0	1.0	-51.6	-13.0	-38.6	
1.698	-54.7	H	3.0	1.0	-53.6	-13.0	-40.6	
2.546	-50.6	H	3.0	1.0	-49.5	-13.0	-36.5	
3.395	-52.4	H	3.0	1.0	-51.4	-13.0	-38.4	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

GSM 1900 GPRS

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10707861 Date: 3/27/2015 Test Engineer: M. Nolting Configuration: FCC ID: PY7-PM0792 with charger (X (flat) orientation); s/n 00440245-427598-7 Mode: GPRS 1900								
Chamber 3m Chamber Pre-amplifier Filter Filter 1 Limit Part 24								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz								
3.700	-41.4	V	3.0	1.2	-40.2	-13.0	-27.2	
5.551	-45.9	V	3.0	1.2	-44.7	-13.0	-31.7	
7.401	-44.9	V	3.0	1.2	-43.7	-13.0	-30.7	
3.700	-39.1	H	3.0	1.2	-37.9	-13.0	-24.9	
5.551	-47.3	H	3.0	1.2	-46.1	-13.0	-33.1	
7.401	-45.7	H	3.0	1.2	-44.4	-13.0	-31.4	
Mid Ch, 1880MHz								
3.760	-38.4	V	3.0	1.2	-37.2	-13.0	-24.2	
5.640	-45.3	V	3.0	1.2	-44.1	-13.0	-31.1	
7.520	-44.1	V	3.0	1.2	-42.9	-13.0	-29.9	
3.760	-37.6	H	3.0	1.2	-36.4	-13.0	-23.4	
5.640	-45.3	H	3.0	1.2	-44.1	-13.0	-31.1	
7.520	-45.4	H	3.0	1.2	-44.2	-13.0	-31.2	
High Ch, 1909.8MHz								
3.820	-39.5	V	3.0	1.2	-38.3	-13.0	-25.3	
5.729	-46.2	V	3.0	1.2	-45.0	-13.0	-32.0	
7.639	-45.1	V	3.0	1.2	-43.9	-13.0	-30.9	
3.820	-38.5	H	3.0	1.2	-37.3	-13.0	-24.3	
5.729	-46.8	H	3.0	1.2	-45.6	-13.0	-32.6	
7.639	-44.7	H	3.0	1.2	-43.5	-13.0	-30.5	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

GSM 1900 EGPRS

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10707861 Date: 3/27/2015 Test Engineer: M. Nolting Configuration: FCC ID: PY7-PM0792 with charger (X (flat) orientation); s/n 00440245-427598-7 Mode: EGPRS 1900								
Chamber		Pre-amplifier		Filter		Limit		
3m Chamber				Filter 1		Part 24		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1850.2MHz								
3.700	-41.6	V	3.0	1.2	-40.4	-13.0	-27.4	
5.551	-46.3	V	3.0	1.2	-45.1	-13.0	-32.1	
7.401	-44.7	V	3.0	1.2	-43.5	-13.0	-30.5	
3.700	-39.2	H	3.0	1.2	-38.0	-13.0	-25.0	
5.551	-47.3	H	3.0	1.2	-46.1	-13.0	-33.1	
7.401	-45.3	H	3.0	1.2	-44.1	-13.0	-31.1	
Mid Ch, 1880MHz								
3.760	-38.6	V	3.0	1.2	-37.4	-13.0	-24.4	
5.640	-45.4	V	3.0	1.2	-44.2	-13.0	-31.2	
7.520	-45.1	V	3.0	1.2	-43.9	-13.0	-30.9	
3.760	-37.6	H	3.0	1.2	-36.4	-13.0	-23.4	
5.640	-46.3	H	3.0	1.2	-45.1	-13.0	-32.1	
7.520	-45.0	H	3.0	1.2	-43.8	-13.0	-30.8	
High Ch, 1909.8MHz								
3.820	-39.4	V	3.0	1.2	-38.2	-13.0	-25.2	
5.729	-46.5	V	3.0	1.2	-45.3	-13.0	-32.3	
7.639	-45.2	V	3.0	1.2	-44.0	-13.0	-31.0	
3.820	-38.5	H	3.0	1.2	-37.3	-13.0	-24.3	
5.729	-46.5	H	3.0	1.2	-45.3	-13.0	-32.3	
7.639	-45.5	H	3.0	1.2	-44.3	-13.0	-31.3	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

WCDMA BAND 5 REL 99

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: F. Lewis Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: WCDMA BD 5 Rel 99								
Chamber 3m Chamber Pre-amplifier Filter Filter 1 Limit Part 22								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.4 MHz								
1.653	-66.8	V	3.0	1.2	-65.6	-13.0	-52.6	
2.480	-61.7	V	3.0	1.2	-60.5	-13.0	-47.5	
3.306	-60.9	V	3.0	1.2	-59.7	-13.0	-46.7	
1.653	-67.4	H	3.0	1.2	-66.2	-13.0	-53.2	
2.480	-59.8	H	3.0	1.2	-58.6	-13.0	-45.6	
3.306	-61.1	H	3.0	1.2	-59.9	-13.0	-46.9	
Mid Ch, 836.6 MHz								
1.673	-63.2	V	3.0	1.2	-62.0	-13.0	-49.0	
2.510	-57.8	V	3.0	1.2	-56.6	-13.0	-43.6	
3.346	-56.8	V	3.0	1.2	-55.6	-13.0	-42.6	
1.673	-63.2	H	3.0	1.2	-62.0	-13.0	-49.0	
2.510	-55.7	H	3.0	1.2	-54.5	-13.0	-41.5	
3.346	-57.1	H	3.0	1.2	-55.9	-13.0	-42.9	
High Ch, 846.6 MHz								
1.693	-68.2	V	3.0	1.2	-67.0	-13.0	-54.0	
2.540	-62.4	V	3.0	1.2	-61.2	-13.0	-48.2	
3.386	-62.0	V	3.0	1.2	-60.8	-13.0	-47.8	
1.693	-68.1	H	3.0	1.2	-66.9	-13.0	-53.9	
2.540	-63.3	H	3.0	1.2	-62.1	-13.0	-49.1	
3.386	-61.9	H	3.0	1.2	-60.7	-13.0	-47.7	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

WCDMA BAND 5 HSDPA

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: F. Lewis Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: WCDMA BD 5 HSDPA								
Chamber 3m Chamber			Pre-amplifier		Filter Filter 1		Limit Part 22	
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.4 MHz								
1.653	-68.4	V	3.0	1.2	-67.2	-13.0	-54.2	
2.480	-63.4	V	3.0	1.2	-62.2	-13.0	-49.2	
3.306	-62.4	V	3.0	1.2	-61.2	-13.0	-48.2	
1.653	-68.2	H	3.0	1.2	-67.0	-13.0	-54.0	
2.480	-61.2	H	3.0	1.2	-60.0	-13.0	-47.0	
3.306	-63.0	H	3.0	1.2	-61.8	-13.0	-48.8	
Mid Ch, 836.6 MHz								
1.673	-68.4	V	3.0	1.2	-67.2	-13.0	-54.2	
2.510	-62.2	V	3.0	1.2	-61.0	-13.0	-48.0	
3.346	-63.8	V	3.0	1.2	-62.6	-13.0	-49.6	
1.673	72.6	H	3.0	1.2	73.8	-13.0	86.8	
2.510	-62.4	H	3.0	1.2	-61.2	-13.0	-48.2	
3.346	-64.1	H	3.0	1.2	-62.9	-13.0	-49.9	
High Ch, 846.6 MHz								
1.693	-70.6	V	3.0	1.2	-69.4	-13.0	-56.4	
2.540	-64.2	V	3.0	1.2	-63.0	-13.0	-50.0	
3.386	-64.0	V	3.0	1.2	-62.8	-13.0	-49.8	
1.693	-70.2	H	3.0	1.2	-69.0	-13.0	-56.0	
2.540	-64.6	H	3.0	1.2	-63.4	-13.0	-50.4	
3.386	-64.4	H	3.0	1.2	-63.2	-13.0	-50.2	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

WCDMA BAND 2 REL 99

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/31/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: WCDMA BD 2 REL99								
Chamber 3m Chamber		Pre-amplifier		Filter Filter 1		Limit Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4 MHz								
3.705	-56.0	V	3.0	1.2	-54.8	-13.0	-41.8	
5.558	-55.1	V	3.0	1.2	-53.9	-13.0	-40.9	
7.410	-51.5	V	3.0	1.2	-50.3	-13.0	-37.3	
3.705	-53.6	H	3.0	1.2	-52.4	-13.0	-39.4	
5.558	-55.4	H	3.0	1.2	-54.2	-13.0	-41.2	
7.410	-51.9	H	3.0	1.2	-50.7	-13.0	-37.7	
Mid Ch, 1880 MHz								
3.760	-53.8	V	3.0	1.2	-52.5	-13.0	-39.5	
5.640	-55.0	V	3.0	1.2	-53.8	-13.0	-40.8	
7.520	-51.6	V	3.0	1.2	-50.3	-13.0	-37.3	
3.760	-52.1	H	3.0	1.2	-50.9	-13.0	-37.9	
5.640	-55.1	H	3.0	1.2	-53.9	-13.0	-40.9	
7.520	-51.9	H	3.0	1.2	-50.6	-13.0	-37.6	
High Ch, 1907.6 MHz								
3.815	-56.3	V	3.0	1.2	-55.1	-13.0	-42.1	
5.723	-54.4	V	3.0	1.2	-53.2	-13.0	-40.2	
7.630	-51.9	V	3.0	1.2	-50.7	-13.0	-37.7	
3.815	-54.0	H	3.0	1.2	-52.8	-13.0	-39.8	
5.723	-54.5	H	3.0	1.2	-53.3	-13.0	-40.3	
7.630	-52.1	H	3.0	1.2	-50.9	-13.0	-37.9	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

WCDMA BAND 2 HSDPA

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/31/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: WCDMA BD 2 HSDPA								
Chamber 3m Chamber		Pre-amplifier		Filter Filter 1		Limit Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 1852.4 MHz								
3.705	-58.8	V	3.0	1.2	-57.6	-13.0	-44.6	
5.558	-57.1	V	3.0	1.2	-55.9	-13.0	-42.9	
7.410	-53.3	V	3.0	1.2	-52.1	-13.0	-39.1	
3.705	-58.8	H	3.0	1.2	-57.6	-13.0	-44.6	
5.558	-57.3	H	3.0	1.2	-56.0	-13.0	-43.0	
7.410	-53.9	H	3.0	1.2	-52.7	-13.0	-39.7	
Mid Ch, 1880 MHz								
3.760	-53.4	V	3.0	1.2	-52.1	-13.0	-39.1	
5.640	-55.0	V	3.0	1.2	-53.7	-13.0	-40.7	
7.520	-51.4	V	3.0	1.2	-50.2	-13.0	-37.2	
3.760	-53.2	H	3.0	1.2	-52.0	-13.0	-39.0	
5.640	-55.2	H	3.0	1.2	-54.0	-13.0	-41.0	
7.520	-51.8	H	3.0	1.2	-50.6	-13.0	-37.6	
High Ch, 1907.6 MHz								
3.815	-53.1	V	3.0	1.2	-51.9	-13.0	-38.9	
5.723	-54.1	V	3.0	1.2	-52.9	-13.0	-39.9	
7.630	-51.8	V	3.0	1.2	-50.6	-13.0	-37.6	
3.815	-53.8	H	3.0	1.2	-52.6	-13.0	-39.6	
5.723	-54.5	H	3.0	1.2	-53.3	-13.0	-40.3	
7.630	-52.1	H	3.0	1.2	-50.9	-13.0	-37.9	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

LTE17, 10 MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/31/2015 Test Engineer: M. Nolting Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE17 10BW QPSK								
Chamber		Pre-amplifier		Filter		Limit		
3m Chamber				Filter 1		Part 27		

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 709MHz								
1.418	-56.9	V	3.0	1.2	-55.7	-13.0	-42.7	
2.127	-54.9	V	3.0	1.2	-53.7	-13.0	-40.7	
2.836	-53.5	V	3.0	1.2	-52.3	-13.0	-39.3	
1.418	-52.3	H	3.0	1.2	-51.1	-13.0	-38.1	
2.127	-54.9	H	3.0	1.2	-53.7	-13.0	-40.7	
2.836	-53.3	H	3.0	1.2	-52.1	-13.0	-39.1	
Mid Ch, 710 MHz								
1.420	-56.0	V	3.0	1.2	-54.8	-13.0	-41.8	
2.130	-54.3	V	3.0	1.2	-53.1	-13.0	-40.1	
2.840	-53.2	V	3.0	1.2	-52.0	-13.0	-39.0	
1.420	-51.7	H	3.0	1.2	-50.5	-13.0	-37.5	
2.130	-54.3	H	3.0	1.2	-53.1	-13.0	-40.1	
2.840	-54.0	H	3.0	1.2	-52.8	-13.0	-39.8	
High Ch, 711MHz								
1.422	-55.2	V	3.0	1.2	-54.0	-13.0	-41.0	
2.133	-52.5	V	3.0	1.2	-51.3	-13.0	-38.3	
2.844	-52.6	V	3.0	1.2	-51.4	-13.0	-38.4	
1.422	-51.3	H	3.0	1.2	-50.1	-13.0	-37.1	
2.133	-53.3	H	3.0	1.2	-52.1	-13.0	-39.1	
2.844	-53.6	H	3.0	1.2	-52.4	-13.0	-39.4	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Note – Pre-amp is part of substitution measurement.

LTE17, 10 MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/31/2015 Test Engineer: M. Nolting Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE17 10BW 16-QAM								
Chamber		Pre-amplifier		Filter		Limit		
3m Chamber				Filter 1		Part 27		

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 709MHz								
1.418	-55.7	V	3.0	1.2	-54.5	-13.0	-41.5	
2.127	-54.4	V	3.0	1.2	-53.2	-13.0	-40.2	
2.836	-52.6	V	3.0	1.2	-51.4	-13.0	-38.4	
1.418	-52.6	H	3.0	1.2	-51.4	-13.0	-38.4	
2.127	-55.4	H	3.0	1.2	-54.2	-13.0	-41.2	
2.836	-53.5	H	3.0	1.2	-52.3	-13.0	-39.3	
Mid Ch, 710 MHz								
1.420	-56.1	V	3.0	1.2	-54.9	-13.0	-41.9	
2.130	-54.7	V	3.0	1.2	-53.5	-13.0	-40.5	
2.840	-53.2	V	3.0	1.2	-52.0	-13.0	-39.0	
1.420	-51.6	H	3.0	1.2	-50.4	-13.0	-37.4	
2.130	-54.5	H	3.0	1.2	-53.3	-13.0	-40.3	
2.840	-54.0	H	3.0	1.2	-52.8	-13.0	-39.8	
High Ch, 711MHz								
1.422	-54.9	V	3.0	1.2	-53.7	-13.0	-40.7	
2.133	-54.0	V	3.0	1.2	-52.8	-13.0	-39.8	
2.844	-52.9	V	3.0	1.2	-51.7	-13.0	-38.7	
1.422	-51.3	H	3.0	1.2	-50.1	-13.0	-37.1	
2.133	-53.8	H	3.0	1.2	-52.6	-13.0	-39.6	
2.844	-53.9	H	3.0	1.2	-52.7	-13.0	-39.7	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Note – Pre-amp is part of substitution measurement.

LTE17, 5MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE17 5BW QPSK								
Chamber		Pre-amplifier		Filter		Limit		
3m Chamber				Filter 1		Part 22		

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 706.5MHz								
1.413	-65.0	V	3.0	1.2	-63.8	-13.0	-50.8	
2.120	-64.0	V	3.0	1.2	-62.8	-13.0	-49.8	
2.826	-61.9	V	3.0	1.2	-60.7	-13.0	-47.7	
1.413	-62.1	H	3.0	1.2	-60.9	-13.0	-47.9	
2.120	-62.0	H	3.0	1.2	-60.8	-13.0	-47.8	
2.826	-62.7	H	3.0	1.2	-61.5	-13.0	-48.5	
Mid Ch, 710 MHz								
1.420	-65.1	V	3.0	1.2	-63.9	-13.0	-50.9	
2.130	-64.3	V	3.0	1.2	-63.1	-13.0	-50.1	
2.840	-62.4	V	3.0	1.2	-61.2	-13.0	-48.2	
1.420	-64.3	H	3.0	1.2	-63.1	-13.0	-50.1	
2.130	-64.7	H	3.0	1.2	-63.5	-13.0	-50.5	
2.840	-62.7	H	3.0	1.2	-61.5	-13.0	-48.5	
High Ch, 713.5MHz								
1.427	-63.7	V	3.0	1.2	-62.5	-13.0	-49.5	
2.141	-64.4	V	3.0	1.2	-63.2	-13.0	-50.2	
2.854	-62.9	V	3.0	1.2	-61.7	-13.0	-48.7	
1.427	-59.3	H	3.0	1.2	-58.1	-13.0	-45.1	
2.141	-61.5	H	3.0	1.2	-60.3	-13.0	-47.3	
2.854	-63.0	H	3.0	1.2	-61.8	-13.0	-48.8	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Note – Pre-amp is part of substitution measurement.

LTE17, 5 MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE17 5BW 16-QAM								
Chamber		Pre-amplifier		Filter		Limit		
3m Chamber				Filter 1		Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 706.5MHz								
1.413	-66.0	V	3.0	1.2	-64.8	-13.0	-51.8	
2.120	-64.0	V	3.0	1.2	-62.8	-13.0	-49.8	
2.826	-62.3	V	3.0	1.2	-61.1	-13.0	-48.1	
1.413	-62.4	H	3.0	1.2	-61.2	-13.0	-48.2	
2.120	-63.4	H	3.0	1.2	-62.2	-13.0	-49.2	
2.826	-62.6	H	3.0	1.2	-61.4	-13.0	-48.4	
Mid Ch, 710 MHz								
1.420	-66.0	V	3.0	1.2	-64.8	-13.0	-51.8	
2.130	-64.3	V	3.0	1.2	-63.1	-13.0	-50.1	
2.840	-62.4	V	3.0	1.2	-61.2	-13.0	-48.2	
1.420	-63.9	H	3.0	1.2	-62.7	-13.0	-49.7	
2.130	-64.6	H	3.0	1.2	-63.4	-13.0	-50.4	
2.840	-62.7	H	3.0	1.2	-61.5	-13.0	-48.5	
High Ch, 713.5MHz								
1.427	-65.2	V	3.0	1.2	-64.0	-13.0	-51.0	
2.141	-64.7	V	3.0	1.2	-63.5	-13.0	-50.5	
2.854	-62.6	V	3.0	1.2	-61.4	-13.0	-48.4	
1.427	-61.1	H	3.0	1.2	-59.9	-13.0	-46.9	
2.141	-62.1	H	3.0	1.2	-60.9	-13.0	-47.9	
2.854	-63.0	H	3.0	1.2	-61.8	-13.0	-48.8	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

LTE5, 10 MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE5 10BW QPSK								
Chamber 3m Chamber Pre-amplifier Filter Filter 1 Limit Part 22								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 829MHz								
1.658	-67.3	V	3.0	1.2	-66.1	-13.0	-53.1	
2.487	-63.1	V	3.0	1.2	-61.9	-13.0	-48.9	
3.316	-61.1	V	3.0	1.2	-59.9	-13.0	-46.9	
1.658	-67.5	H	3.0	1.2	-66.3	-13.0	-53.3	
2.487	-63.3	H	3.0	1.2	-62.1	-13.0	-49.1	
3.316	-61.5	H	3.0	1.2	-60.3	-13.0	-47.3	
Mid Ch, 836.5MHz								
1.673	-67.2	V	3.0	1.2	-66.0	-13.0	-53.0	
2.510	-62.5	V	3.0	1.2	-61.3	-13.0	-48.3	
3.346	-60.8	V	3.0	1.2	-59.6	-13.0	-46.6	
1.673	-67.4	H	3.0	1.2	-66.2	-13.0	-53.2	
2.510	-62.8	H	3.0	1.2	-61.6	-13.0	-48.6	
3.346	-61.3	H	3.0	1.2	-60.1	-13.0	-47.1	
High Ch, 844MHz								
1.688	-66.9	V	3.0	1.2	-65.7	-13.0	-52.7	
2.532	-62.1	V	3.0	1.2	-60.9	-13.0	-47.9	
3.376	-61.1	V	3.0	1.2	-59.9	-13.0	-46.9	
1.688	-67.1	H	3.0	1.2	-65.9	-13.0	-52.9	
2.532	-62.5	H	3.0	1.2	-61.3	-13.0	-48.3	
3.376	-61.1	H	3.0	1.2	-59.9	-13.0	-46.9	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

LTE 5, 10 MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE5 10BW 16-QAM								
Chamber		Pre-amplifier		Filter		Limit		
3m Chamber				Filter 1		Part 22		

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 829MHz								
1.658	-67.3	V	3.0	1.2	-66.1	-13.0	-53.1	
2.487	-62.6	V	3.0	1.2	-61.4	-13.0	-48.4	
3.316	-61.3	V	3.0	1.2	-60.1	-13.0	-47.1	
1.658	-67.4	H	3.0	1.2	-66.2	-13.0	-53.2	
2.487	-63.1	H	3.0	1.2	-61.9	-13.0	-48.9	
3.316	-61.5	H	3.0	1.2	-60.3	-13.0	-47.3	
Mid Ch, 836.5MHz								
1.673	-67.3	V	3.0	1.2	-66.1	-13.0	-53.1	
2.510	-62.4	V	3.0	1.2	-61.2	-13.0	-48.2	
3.346	-60.8	V	3.0	1.2	-59.6	-13.0	-46.6	
1.673	-67.3	H	3.0	1.2	-66.1	-13.0	-53.1	
2.510	-63.0	H	3.0	1.2	-61.8	-13.0	-48.8	
3.346	-61.3	H	3.0	1.2	-60.1	-13.0	-47.1	
High Ch, 844MHz								
1.688	-67.1	V	3.0	1.2	-65.9	-13.0	-52.9	
2.532	-62.4	V	3.0	1.2	-61.2	-13.0	-48.2	
3.376	-61.2	V	3.0	1.2	-60.0	-13.0	-47.0	
1.688	-67.3	H	3.0	1.2	-66.1	-13.0	-53.1	
2.532	-62.8	H	3.0	1.2	-61.6	-13.0	-48.6	
3.376	-61.2	H	3.0	1.2	-60.0	-13.0	-47.0	

Rev. 03.03.09
Note: No other emissions were detected above the system noise floor.

Note – Pre-amp is part of substitution measurement.

LTE5, 5 MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE5 5BW QPSK								
Chamber 3m Chamber Pre-amplifier Filter Filter 1 Limit Part 22								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5MHz								
1.653	-65.4	V	3.0	1.2	-64.2	-13.0	-51.2	
2.480	-61.0	V	3.0	1.2	-59.8	-13.0	-46.8	
3.306	-59.7	V	3.0	1.2	-58.5	-13.0	-45.5	
1.653	-65.4	H	3.0	1.2	-64.2	-13.0	-51.2	
2.480	-61.3	H	3.0	1.2	-60.1	-13.0	-47.1	
3.306	-59.8	H	3.0	1.2	-58.6	-13.0	-45.6	
Mid Ch, 836.5MHz								
1.673	-65.4	V	3.0	1.2	-64.2	-13.0	-51.2	
2.510	-60.4	V	3.0	1.2	-59.2	-13.0	-46.2	
3.346	-59.1	V	3.0	1.2	-57.9	-13.0	-44.9	
1.673	-65.5	H	3.0	1.2	-64.3	-13.0	-51.3	
2.510	-61.0	H	3.0	1.2	-59.8	-13.0	-46.8	
3.346	-59.3	H	3.0	1.2	-58.1	-13.0	-45.1	
High Ch, 846.5MHz								
1.693	-65.5	V	3.0	1.2	-64.3	-13.0	-51.3	
2.540	-60.4	V	3.0	1.2	-59.2	-13.0	-46.2	
3.386	-59.5	V	3.0	1.2	-58.3	-13.0	-45.3	
1.693	-65.4	H	3.0	1.2	-64.2	-13.0	-51.2	
2.540	-60.8	H	3.0	1.2	-59.6	-13.0	-46.6	
3.386	-59.4	H	3.0	1.2	-58.2	-13.0	-45.2	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

LTE5, 5 MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE5 5BW 16-QAM								
Chamber		Pre-amplifier		Filter		Limit		
3m Chamber				Filter 1		Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5MHz								
1.653	-65.3	V	3.0	1.2	-64.1	-13.0	-51.1	
2.480	-61.0	V	3.0	1.2	-59.8	-13.0	-46.8	
3.306	-59.6	V	3.0	1.2	-58.4	-13.0	-45.4	
1.653	-65.5	H	3.0	1.2	-64.3	-13.0	-51.3	
2.480	-61.4	H	3.0	1.2	-60.2	-13.0	-47.2	
3.306	-59.8	H	3.0	1.2	-58.6	-13.0	-45.6	
Mid Ch, 836.5MHz								
1.673	-65.4	V	3.0	1.2	-64.2	-13.0	-51.2	
2.510	-60.4	V	3.0	1.2	-59.2	-13.0	-46.2	
3.346	-59.1	V	3.0	1.2	-57.9	-13.0	-44.9	
1.673	-65.3	H	3.0	1.2	-64.1	-13.0	-51.1	
2.510	-61.0	H	3.0	1.2	-59.8	-13.0	-46.8	
3.346	-59.2	H	3.0	1.2	-58.0	-13.0	-45.0	
High Ch, 846.5MHz								
1.693	-65.2	V	3.0	1.2	-64.0	-13.0	-51.0	
2.540	-60.4	V	3.0	1.2	-59.2	-13.0	-46.2	
3.386	-59.3	V	3.0	1.2	-58.1	-13.0	-45.1	
1.693	-65.4	H	3.0	1.2	-64.2	-13.0	-51.2	
2.540	-60.8	H	3.0	1.2	-59.6	-13.0	-46.6	
3.386	-59.5	H	3.0	1.2	-58.3	-13.0	-45.3	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

LTE5, 3 MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE5 3BW QPSK								
Chamber 3m Chamber Pre-amplifier Filter Filter 1 Limit Part 22								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5MHz								
1.651	-64.4	V	3.0	1.2	-63.2	-13.0	-50.2	
2.477	-58.6	V	3.0	1.2	-57.4	-13.0	-44.4	
3.302	-57.3	V	3.0	1.2	-56.1	-13.0	-43.1	
1.651	-65.7	H	3.0	1.2	-64.5	-13.0	-51.5	
2.477	-61.6	H	3.0	1.2	-60.4	-13.0	-47.4	
3.302	-60.2	H	3.0	1.2	-59.0	-13.0	-46.0	
Mid Ch, 836.5MHz								
1.673	-65.0	V	3.0	1.2	-63.8	-13.0	-50.8	
2.510	-60.1	V	3.0	1.2	-58.9	-13.0	-45.9	
3.346	-58.8	V	3.0	1.2	-57.6	-13.0	-44.6	
1.673	-67.6	H	3.0	1.2	-66.4	-13.0	-53.4	
2.510	-59.2	H	3.0	1.2	-58.0	-13.0	-45.0	
3.346	-59.0	H	3.0	1.2	-57.8	-13.0	-44.8	
High Ch, 847.5MHz								
1.695	-65.5	V	3.0	1.2	-64.3	-13.0	-51.3	
2.543	-60.4	V	3.0	1.2	-59.2	-13.0	-46.2	
3.390	-59.4	V	3.0	1.2	-58.2	-13.0	-45.2	
1.695	-65.3	H	3.0	1.2	-64.1	-13.0	-51.1	
2.543	-60.8	H	3.0	1.2	-59.6	-13.0	-46.6	
3.390	-59.7	H	3.0	1.2	-58.5	-13.0	-45.5	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

LTE5, 3 MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE5 3BW 16-QAM								
Chamber 3m Chamber Pre-amplifier Filter Filter 1 Limit Part 22								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 825.5MHz								
1.651	-64.8	V	3.0	1.2	-63.6	-13.0	-50.6	
2.477	-60.7	V	3.0	1.2	-59.5	-13.0	-46.5	
3.302	-57.3	V	3.0	1.2	-56.1	-13.0	-43.1	
1.651	-65.6	H	3.0	1.2	-64.4	-13.0	-51.4	
2.477	-61.6	H	3.0	1.2	-60.4	-13.0	-47.4	
3.302	-59.8	H	3.0	1.2	-58.6	-13.0	-45.6	
Mid Ch, 836.5MHz								
1.673	-65.2	V	3.0	1.2	-64.0	-13.0	-51.0	
2.510	-60.0	V	3.0	1.2	-58.8	-13.0	-45.8	
3.346	-58.7	V	3.0	1.2	-57.5	-13.0	-44.5	
1.673	-65.4	H	3.0	1.2	-64.2	-13.0	-51.2	
2.510	-59.7	H	3.0	1.2	-58.5	-13.0	-45.5	
3.346	-59.0	H	3.0	1.2	-57.8	-13.0	-44.8	
High Ch, 847.5MHz								
1.695	-65.4	V	3.0	1.2	-64.2	-13.0	-51.2	
2.543	-59.9	V	3.0	1.2	-58.7	-13.0	-45.7	
3.390	-59.4	V	3.0	1.2	-58.2	-13.0	-45.2	
1.695	-65.5	H	3.0	1.2	-64.3	-13.0	-51.3	
2.543	-59.7	H	3.0	1.2	-58.5	-13.0	-45.5	
3.390	-59.7	H	3.0	1.2	-58.5	-13.0	-45.5	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

LTE5, 1.4 MHz QPSK

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE5 1.4BW QPSK								
Chamber 3m Chamber Pre-amplifier Filter Filter 1 Limit Part 22								
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7MHz								
1.649	-64.2	V	3.0	1.2	-63.0	-13.0	-50.0	
2.474	-52.3	V	3.0	1.2	-51.1	-13.0	-38.1	
3.299	-53.3	V	3.0	1.2	-52.1	-13.0	-39.1	
1.649	-62.0	H	3.0	1.2	-60.8	-13.0	-47.8	
2.474	-46.0	H	3.0	1.2	-44.8	-13.0	-31.8	
3.299	-57.7	H	3.0	1.2	-56.5	-13.0	-43.5	
Mid Ch, 836.5MHz								
1.673	-63.7	V	3.0	1.2	-62.5	-13.0	-49.5	
2.510	-58.9	V	3.0	1.2	-57.7	-13.0	-44.7	
3.346	-56.7	V	3.0	1.2	-55.5	-13.0	-42.5	
1.673	-63.1	H	3.0	1.2	-61.9	-13.0	-48.9	
2.510	-53.7	H	3.0	1.2	-52.5	-13.0	-39.5	
3.346	-57.2	H	3.0	1.2	-56.0	-13.0	-43.0	
High Ch, 848.3MHz								
1.697	-65.4	V	3.0	1.2	-64.2	-13.0	-51.2	
2.545	-58.0	V	3.0	1.2	-56.8	-13.0	-43.8	
3.393	-57.2	V	3.0	1.2	-56.0	-13.0	-43.0	
1.697	-63.2	H	3.0	1.2	-62.0	-13.0	-49.0	
2.545	-58.5	H	3.0	1.2	-57.3	-13.0	-44.3	
3.393	-57.4	H	3.0	1.2	-56.2	-13.0	-43.2	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.

LTE5, 1.4 MHz 16QAM

UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement								
Company: Sony Project #: 10701108 Date: 3/30/2015 Test Engineer: B. Kiewra Configuration: FCC ID: PY7-PM0792 with charger (X (Flat) orientation); s/n 00440245-427598-7 Mode: LTE5 1.4BW 16-QAM								
Chamber		Pre-amplifier		Filter		Limit		
3m Chamber				Filter 1		Part 22		
f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Filter (dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 824.7MHz								
1.649	-65.3	V	3.0	1.2	-64.1	-13.0	-51.1	
2.474	-60.8	V	3.0	1.2	-59.6	-13.0	-46.6	
3.299	-59.6	V	3.0	1.2	-58.4	-13.0	-45.4	
1.649	-65.2	H	3.0	1.2	-64.0	-13.0	-51.0	
2.474	-60.1	H	3.0	1.2	-58.9	-13.0	-45.9	
3.299	-59.8	H	3.0	1.2	-58.6	-13.0	-45.6	
Mid Ch, 836.5MHz								
1.673	-65.2	V	3.0	1.2	-64.0	-13.0	-51.0	
2.510	-60.1	V	3.0	1.2	-58.9	-13.0	-45.9	
3.346	-58.8	V	3.0	1.2	-57.6	-13.0	-44.6	
1.673	-65.1	H	3.0	1.2	-63.9	-13.0	-50.9	
2.510	-58.4	H	3.0	1.2	-57.2	-13.0	-44.2	
3.346	-59.0	H	3.0	1.2	-57.8	-13.0	-44.8	
High Ch, 848.3MHz								
1.697	-65.4	V	3.0	1.2	-64.2	-13.0	-51.2	
2.545	-60.3	V	3.0	1.2	-59.1	-13.0	-46.1	
3.393	-59.3	V	3.0	1.2	-58.1	-13.0	-45.1	
1.697	-65.2	H	3.0	1.2	-64.0	-13.0	-51.0	
2.545	-57.2	H	3.0	1.2	-56.0	-13.0	-43.0	
3.393	-59.3	H	3.0	1.2	-58.1	-13.0	-45.1	
Rev. 03.03.09 Note: No other emissions were detected above the system noise floor.								

Note – Pre-amp is part of substitution measurement.