FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 24 SUBPART E
FCC CFR47 PART 27 SUBPART F,H, and M

CERTIFICATION TEST REPORT

GSM/WCDMA/LTE PHONE with BT, DTS/UNII a/b/g/n/ac & NFC

FCC ID: PY7-PM0941

REPORT NUMBER: 16J22997-E1V3

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Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	3/18/2016	Initial Issue	C.S.OOI
V2	3/30/2016	Updated Front Page	C.S.OOI
V3	4/1/2016	Updated Pg 8, 9, 123, 124, 130, 134 and section 12	C.S.OOI

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SONY MOBILE COMMUNICATIONS, INC.

EUT DESCRIPTION: GSM/WCDMA/LTE PHONE with BT, DTS/UNII a/b/g/n/ac & NFC

SERIAL NUMBER: CB5129YP0Q, CB5129YNNJ (conducted), CB5129YWHH, CB5129YWGZ, CB5129YWGN(Radiated)

DATE TESTED: March 7-17, 2016

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

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

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

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-D, FCC CFR 47 Part 22/24, FCC CFR Part 2 and FCC CFR 47 Part 27.

3. FACILITIES AND ACCREDITATION

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

47173 Benicia Street	47266 Benicia Street
☐ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☒ Chamber C	☐ Chamber F
	☐ Chamber G
	☐ Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

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. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 9KHz to 30 MHz	2.14 dB
Radiated Disturbance, 30 to 1000 MHz	4.98 dB
Radiated Disturbance,1000 to 6000 MHz	3.86 dB
Radiated Disturbance,6000 to 18000 MHz	4.23 dB
Radiated Disturbance,18000 to 26000 MHz	5.30 dB
Radiated Disturbance,26000 to 40000 MHz	5.23 dB

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

5. EQUIPMENT UNDER TEST

5.1. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

ERP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna)

(Path loss = Signal generator output – PSA reading with substitution antenna)

5.2. DESCRIPTION OF EUT

This EUT is a GSM/WCDMA/LTE PHONE with BT, DTS/UNII a/b/g/n/ac & NFC.

5.3. MAXIMUM OUTPUT POWER (GSM/EGPRS)

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

FCC Part 22/24						
Band	Frequency Range(MHz)	Modulation	Conducted		Radiated	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
GSM850	824~849	GMSK	32.6	1819.70		
	824~849	GPRS	32.6	1819.70	28.31	677.64
	824~849	EGPRS	27.4	549.54	23.36	216.77
GSM1900	1850~1910	GMSK	30.4	1096.48		
	1850~1910	GPRS	30.4	1096.48	28.06	639.73
	1850~1910	EGPRS	26.8	478.63	22.94	196.79

5.4. MAXIMUM OUTPUT POWER (WCDMA)

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

FCC Part 22/24/27						
Band	Frequency Range(MHz)	Modulation	Conducted		Radiated	
			AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
Band 5	824~849	REL99	24.3	269.15	20.47	111.43
	824~849	HSDPA	23.2	208.93	19.92	98.17
	824~849	HSUPA	23.1	204.17		

5.5. MAXIMUM OUTPUT POWER (LTE)

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

LTE Band 7

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	PEAKdBm)	PEAK(mW)
LTE7	2500~2570	5MHz	QPSK	23.3	213.80	13.89	24.49
			16QAM	22.8	190.55	13.53	22.54
		10MHz	QPSK	23.9	245.47	13.82	24.10
			16QAM	23.3	213.80	13.49	22.34
		15MHz	QPSK	23.9	245.47	13.79	23.93
			16QAM	23.1	204.17	13.56	22.70
		20MHz	QPSK	23.7	234.42	13.77	23.82
			16QAM	23.2	208.93	13.48	22.28

LTE Band 12

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE12	699~716	1.4MHz	QPSK	23.4	218.78	15.58	36.14
			16QAM	22.5	177.83	14.60	28.84
		3MHz	QPSK	23.4	218.78	15.20	33.11
			16QAM	22.7	186.21	14.20	26.30
		5MHz	QPSK	23.3	213.80	15.22	33.27
			16QAM	22.8	190.55	14.30	26.92
		10MHz	QPSK	23.5	223.87	15.80	38.02
			16QAM	22.9	194.98	14.88	30.76

LTE Band 13

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE13	777~787	5MHz	QPSK	23.0	199.53	18.28	67.30
			16QAM	22.2	165.96	17.30	53.70
		10MHz	QPSK	23.4	218.78	18.27	67.14
			16QAM	22.0	158.49	17.25	53.09

LTE Band 17

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	AVG(dBm)	AVG(mW)
LTE17	704~716	5MHz	QPSK	23.3	213.80	15.20	33.11
			16QAM	22.6	181.97	14.30	26.92
		10MHz	QPSK	23.4	218.78	15.37	34.43
			16QAM	22.5	177.83	14.65	29.17

LTE Band 41

FCC Part 27							
Band	Frequency Range(MHz)	BandWidth (MHz)	Modulation	Conducted		Radiated	
				AVG(dBm)	AVG(mW)	PEAK(dBm)	PEAK(mW)
LTE41	2496~2690	5MHz	QPSK	23.7	234.42	11.37	13.71
			16QAM	23.0	199.53	11.03	12.68
		10MHz	QPSK	23.9	245.47	11.33	13.58
			16QAM	23.0	199.53	11.03	12.68
		15MHz	QPSK	24.2	263.03	11.33	13.58
			16QAM	23.0	199.53	11.02	12.65
		20MHz	QPSK	23.8	239.88	11.37	13.71
			16QAM	23.2	208.93	11.19	13.15

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

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

Frequency (MHz)	Peak Gain (dBi)
GSM850, 824~849MHz	-4.0
GSM1900, 1850~1910MHz	-2.9
WCDMA Band 5, 824~849	-4.0
LTE Band 7, 2500~2570MHz	-11.3
LTE Band 12, 699~716MHz	-8.5
LTE Band 13, 777~787MHz	-7.0
LTE Band 17, 704~716MHz	-8.5
LTE Band 41, 2496~2690MHz	-14.8

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	SONY	UCH 20 1295-70821	N/A	N/A
Earphone	SONY	N/A	N/A	N/A

I/O CABLES (CONDUCTED SETUP)

I/O Cable List						
Cable No	**Port**	**# of Identical ports**	**Connector Type**	**Serial 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

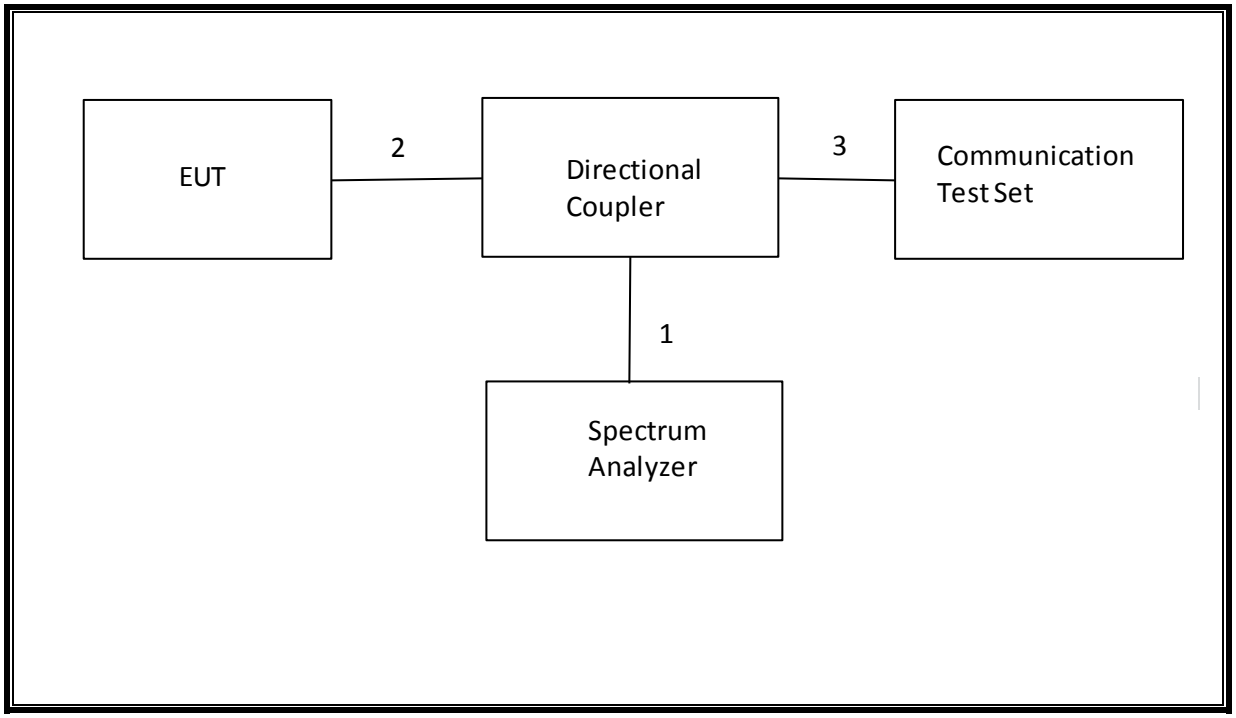
I/O CABLES (RADIATED SETUP)

I/O Cable List						
Cable No	**Port**	**# of Identical ports**	**Connector Type**	**Serial Type**	**Cable Length (m)**	**Remarks**
1	USB	1	AC Adapter	Un-shielded	1.2m	No
2	Jack	1	Headset	Shielded	1m	No
3	RF In/out	1	Communication Test Set	Un-shielded	2m	Yes

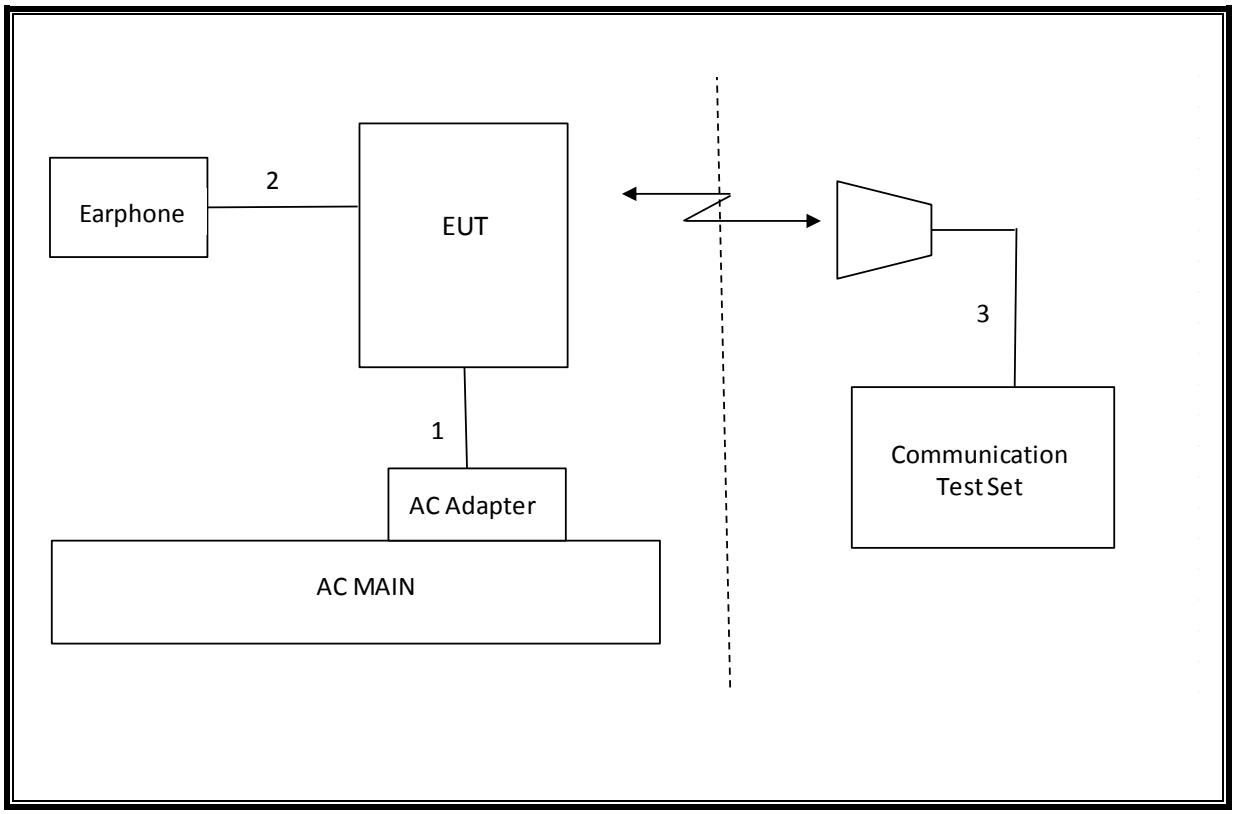
TEST SETUP

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:

Test Software List				
Description	**Manufacturer**	**Model**	**T Number**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	123	10/22/16
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	130	06/10/16
Antenna, Horn, 18 GHz	EMCO	3115	59	11/18/16
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	151	CNR
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	153	CNR
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	80	05/15/16
Communications Test Set	R&S	CMW500	159	07/10/16
DC power supply, 8 V @ 3 A or 15 V @ 2 A	Agilent / HP	E3610A	None	CNR
Vector signal generator, 6 GHz	Agilent / HP	E4438C	None	06/16/16
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121C DB4	273	05/05/16
Directional Coupler	RF-Lambda	RFDC5M06G15	None	CNR
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	447	05/12/16

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015
CLT Software	UL	UL RF	Ver 1.0, Feb 2, 2015
Antenna Port Software	UL	UL RF	Ver 3.7, Nov 12, 2015

7. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
2.1049	N/A	Occupied Bandwidth (99%)	N/A	Conducted	Pass
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
27.53(m)	RSS-199(4.5)		-25dBm		
2.1046	N/A	Conducted output power	N/A		Pass
27.53(m) 90.691	RSS-199(4.5)	Emission Mask			Pass
22.355 24.235 27.54 90.213	RSS-132(4.3) RSS-133(6.3) RSS-139(6.3) RSS-199(4.3)	Frequency Stability	2.5PPM		Pass
22.913(a)(2)	RSS-132(4.4)	Effective Radiated Power	38dBm	Radiated	Pass
27.50 (c) (10)	N/A		34.77dBm		Pass
24.232(c) 27.50(h)(2)	RSS-133(6.4) RSS-199(4.4)	Equivalent Isotropic Radiated Power	33dBm		Pass
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
27.53(m)	RSS-199(4.5)		-25dBm		Pass

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

8.2. GSM OUTPUT POWER RESULT

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)	Frame Pwr (dBm)
GSM (Voice)	CS1	1	128	824.4	32.6	23.6
			190	836.6	32.5	23.5
			251	848.8	32.5	23.5
GPRS (GMSK)	CS1	1	128	824.4	32.6	23.6
			190	836.6	32.5	23.5
			251	848.8	32.5	23.5
		2	128	824.4	32.0	26.0
			190	836.6	31.9	25.9
			251	848.8	31.8	25.8
		3	128	824.4	30.0	25.7
			190	836.6	30.0	25.7
			251	848.8	30.0	25.7
		4	128	824.4	28.8	25.8
			190	836.6	28.6	25.6
			251	848.8	28.6	25.6

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)	Frame Pwr (dBm)
EGPRS (8PSK)	MCS5	1	128	824.4	27.4	18.4
			190	836.6	27.3	18.3
			251	848.8	27.2	18.2
		2	128	824.4	26.0	20.0
			190	836.6	25.9	19.9
			251	848.8	25.8	19.8
		3	128	824.4	24.0	19.7
			190	836.6	24.0	19.7
			251	848.8	23.9	19.6
		4	128	824.4	23.2	20.2
			190	836.6	23.0	20.0
			251	848.8	23.0	20.0

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)	Frame Pwr (dBm)
GSM (Voice)	CS1	1	512	1850.2	30.4	21.4
			661	1880.0	30.3	21.3
			810	1909.8	30.3	21.3
GPRS (GMSK)	CS1	1	512	1850.2	30.4	21.4
			661	1880.0	30.3	21.3
			810	1909.8	30.3	21.3
		2	512	1850.2	28.9	22.9
			661	1880.0	28.8	22.8
			810	1909.8	28.9	22.9
		3	512	1850.2	27.0	22.7
			661	1880.0	26.8	22.5
			810	1909.8	27.0	22.7
		4	512	1850.2	25.9	22.9
			661	1880.0	25.7	22.7
			810	1909.8	25.9	22.9

Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)	Frame Pwr (dBm)
EGPRS (8PSK)	MCS5	1	512	1850.2	26.8	17.8
			661	1880.0	26.6	17.6
			810	1909.8	26.8	17.8
		2	512	1850.2	25.2	19.2
			661	1880.0	25.0	19.0
			810	1909.8	25.4	19.4
		3	512	1850.2	22.7	18.4
			661	1880.0	22.9	18.6
			810	1909.8	22.8	18.5
		4	512	1850.2	21.7	18.7
			661	1880.0	21.6	18.6
			810	1909.8	22.0	19.0

8.3. UMTS REL 99

TEST PROCEDURE

The following summary of these settings are illustrated below:

	Mode	Rel99
	Subtest	-
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	HSDPA FRC	Not Applicable
	HSUPA Test	Not Applicable
	Power Control Algorithm	Algorithm2
	βc	Not Applicable
	βd	Not Applicable
	βec	Not Applicable
	βc/βd	8/15
	βhs	Not Applicable
	βed	Not Applicable

8.4. 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	24.3
		4183	836.6	0	24.3
		4233	846.6	0	24.2

8.5. 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			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	12/15	15/8	15/4
	βhs	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			
	Ahs =βhs/βc	30/15			

8.6. 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	23.2
		4183	836.6	0	23.2
		4233	846.6	0	23.2
	Subtest 2	4132	826.4	0	23.2
		4183	836.6	0	23.2
		4233	846.6	0	23.2
	Subtest 3	4132	826.4	0.5	22.7
		4183	836.6	0.5	22.7
		4233	846.6	0.5	22.7
	Subtest 4	4132	826.4	0.5	22.7
		4183	836.6	0.5	22.7
		4233	846.6	0.5	22.7

8.7. 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
	βc/βd	11/15	6/15	15/9	2/15	15/15
	Bhs	22/15	12/15	30/15	4/15	30/15
	βed (note1)	1309/225	94/75	47/15 47/15	56/75	134/15
	MPR	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	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: βed cannot be set directly, it is set by Absolute Grant Value.

8.8. 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	23.0
		4183	836.6	0	23.1
		4233	846.6	0	23.0
	Subtest 2	4132	826.4	2	21.0
		4183	836.6	2	21.2
		4233	846.6	2	21.2
	Subtest 3	4132	826.4	1	22.0
		4183	836.6	1	22.0
		4233	846.6	1	22.0
	Subtest 4	4132	826.4	2	21.2
		4183	836.6	2	21.2
		4233	846.6	2	21.2
	Subtest 5	4132	826.4	0	23.0
		4183	836.6	0	23.1
		4233	846.6	0	23.0

8.9. LTE OUTPUT POWER RESULT

LTE Band 7

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)		
						20775	21100	21425
						2502.5 MHz	2535 MHz	2567.5 MHz
LTE Band 7	5	QPSK	1	0	0	23.3	23.1	23.3
			1	12	0	23.2	23.2	23.3
			1	24	0	23.2	23.3	23.4
			12	0	1	22.0	22.1	22.2
			12	7	1	22.1	22.2	22.3
			12	13	1	22.0	22.1	22.3
			25	0	1	22.0	22.1	22.3
		16QAM	1	0	1	22.3	22.5	22.3
			1	12	1	22.3	22.7	22.4
			1	24	1	22.4	22.8	22.5
			12	0	2	21.1	21.2	21.3
			12	7	2	21.2	21.3	21.3
			12	13	2	21.1	21.3	21.4
			25	0	2	21.0	21.2	21.2
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)		
						20800	21100	21400
						2505 MHz	2535 MHz	2565 MHz
LTE Band 7	10	QPSK	1	0	0	23.3	23.4	23.5
			1	25	0	23.1	23.1	23.3
			1	49	0	23.7	23.7	23.9
			25	0	1	22.1	22.1	22.3
			25	12	1	22.2	22.2	22.3
			25	25	1	22.3	22.2	22.5
			50	0	1	22.3	22.3	22.4
		16QAM	1	0	1	22.3	22.3	22.7
			1	25	1	22.1	22.1	22.6
			1	49	1	22.7	22.6	23.3
			25	0	2	21.2	21.1	21.3
			25	12	2	21.3	21.2	21.3
			25	25	2	21.3	21.2	21.4
			50	0	2	21.2	21.3	21.3

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)		
						20825	21100	21375
						2507.5 MHz	2535 MHz	2562.5 MHz
LTE Band 7	15	QPSK	1	0	0	23.6	23.2	23.2
			1	37	0	23.9	23.5	23.7
			1	74	0	23.3	23.1	23.2
			36	0	1	22.8	22.4	22.5
			36	20	1	22.7	22.6	22.6
			36	39	1	22.6	22.4	22.4
			75	0	1	22.7	22.5	22.5
		16QAM	1	0	1	22.9	22.2	22.6
			1	37	1	23.1	22.5	22.9
			1	74	1	22.6	22.1	22.6
			36	0	2	21.7	21.4	21.5
			36	20	2	21.7	21.5	21.5
			36	39	2	21.6	21.4	21.4
			75	0	2	21.7	21.4	21.5

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)		
						20850	21100	21350
						2510 MHz	2535 MHz	2560 MHz
LTE Band 7	20	QPSK	1	0	0	23.3	23.1	23.1
			1	49	0	23.7	23.5	23.5
			1	99	0	23.4	23.4	23.4
			50	0	1	22.6	22.4	22.4
			50	24	1	22.7	22.5	22.5
			50	50	1	22.4	22.4	22.5
			100	0	1	22.5	22.4	22.5
		16QAM	1	0	1	22.9	22.6	22.6
			1	49	1	23.2	22.9	23.0
			1	99	1	23.0	22.9	22.8
			50	0	2	21.6	21.4	21.3
			50	24	2	21.7	21.5	21.5
			50	50	2	21.5	21.4	21.4
			100	0	2	21.6	21.4	21.4

LTE Band 12

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)		
						23017	23095	23173
						699.7 MHz	707.5 MHz	715.3 MHz
LTE Band 12	1.4	QPSK	1	0	0	23.1	23.1	23.1
			1	3	0	23.2	23.1	23.3
			1	5	0	23.1	23.0	23.2
			3	0	0	23.2	23.1	23.3
			3	1	0	23.2	23.2	23.4
			3	3	0	23.2	23.1	23.4
			6	0	1	22.1	22.1	22.3
		16QAM	1	0	1	22.2	22.5	22.2
			1	3	1	22.2	22.5	22.4
			1	5	1	22.2	22.4	22.3
			3	0	1	22.2	22.4	22.5
			3	1	1	22.2	22.3	22.5
			3	3	1	22.3	22.3	22.5
			6	0	2	21.3	21.1	21.4
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)		
						23025	23095	23165
						700.5 MHz	707.5 MHz	714.5 MHz
LTE Band 12	3	QPSK	1	0	0	23.2	23.1	23.2
			1	8	0	23.2	23.3	23.4
			1	14	0	23.0	23.1	23.2
			8	0	1	22.2	22.3	22.4
			8	4	1	22.2	22.3	22.3
			8	7	1	22.2	22.2	22.4
			15	0	1	22.1	22.2	22.3
		16QAM	1	0	1	22.0	22.5	22.3
			1	8	1	22.1	22.7	22.5
			1	14	1	22.0	22.5	22.3
			8	0	2	21.4	21.2	21.6
			8	4	2	21.3	21.1	21.5
			8	7	2	21.3	21.1	21.6
			15	0	2	21.2	21.3	21.2

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)		
						23035	23095	23155
						701.5 MHz	707.5 MHz	713.5 MHz
LTE Band 12	5	QPSK	1	0	0	23.3	23.3	23.3
			1	12	0	23.2	23.2	23.3
			1	24	0	23.2	23.3	23.3
			12	0	1	22.3	22.2	22.1
			12	7	1	22.2	22.2	22.2
			12	13	1	22.2	22.2	22.2
			25	0	1	22.2	22.2	22.2
		16QAM	1	0	1	22.5	22.8	22.4
			1	12	1	22.4	22.7	22.4
			1	24	1	22.4	22.8	22.3
			12	0	2	21.4	21.4	21.2
			12	7	2	21.3	21.4	21.2
			12	13	2	21.3	21.4	21.3
			25	0	2	21.2	21.3	21.1
Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)		
						23060	23095	23130
						704 MHz	707.5 MHz	711 MHz
LTE Band 12	10	QPSK	1	0	0	23.3	23.4	23.5
			1	25	0	23.2	23.2	23.2
			1	49	0	23.2	23.2	23.3
			25	0	1	22.3	22.3	22.3
			25	12	1	22.3	22.3	22.3
			25	25	1	22.2	22.2	22.2
			50	0	1	22.3	22.3	22.3
		16QAM	1	0	1	22.4	22.5	22.9
			1	25	1	22.1	22.3	22.6
			1	49	1	22.1	22.1	22.7
			25	0	2	21.3	21.4	21.3
			25	12	2	21.3	21.4	21.3
			25	25	2	21.2	21.3	21.2
			50	0	2	21.3	21.3	21.3

LTE Band 13

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm) 23230 782 MHz
LTE Band 13	5	QPSK	1	0	0	22.9
			1	12	0	22.9
			1	24	0	23.0
			12	0	1	21.9
			12	7	1	22.0
			12	13	1	22.1
			25	0	1	22.0
		16QAM	1	0	1	22.1
			1	12	1	22.1
			1	24	1	22.2
			12	0	2	21.0
			12	7	2	21.1
			12	13	2	21.1
			25	0	2	21.0

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm) 23230 782 MHz
LTE Band 13	10	QPSK	1	0	0	23.2
			1	24	0	23.0
			1	49	0	23.4
			25	0	1	22.0
			25	12	1	22.1
			25	24	1	22.2
			50	0	1	22.0
		16QAM	1	0	1	22.0
			1	24	1	21.8
			1	49	1	22.0
			25	0	2	21.0
			25	12	2	21.1
			25	24	2	21.2
			50	0	2	21.0

LTE Band 17

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm) 23790 710 MHz
LTE Band 17	5	QPSK	1	0	0	23.2
			1	12	0	23.3
			1	24	0	23.2
			12	0	1	22.2
			12	7	1	22.3
			12	13	1	22.3
			25	0	1	22.2
		16QAM	1	0	1	22.4
			1	12	1	22.6
			1	24	1	22.5
			12	0	2	21.3
			12	7	2	21.4
			12	13	2	21.4
			25	0	2	21.3

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm) 23790 710 MHz
LTE Band 17	10	QPSK	1	0	0	23.4
			1	24	0	23.2
			1	49	0	23.3
			25	0	1	22.3
			25	12	1	22.3
			25	24	1	22.2
			50	0	1	22.4
		16QAM	1	0	1	22.5
			1	24	1	22.3
			1	49	1	22.3
			25	0	2	21.4
			25	12	2	21.4
			25	24	2	21.3
			50	0	2	21.4

LTE Band 41

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)				
						39750	40185	40620	41055	41490
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	5	QPSK	1	0	0	23.6	23.7	23.0	23.2	23.3
			1	12	0	23.6	23.6	23.1	23.2	23.1
			1	24	0	23.6	23.7	23.2	23.3	23.2
			12	0	1	22.6	22.7	22.1	23.3	22.1
			12	7	1	22.6	22.7	22.1	22.3	22.2
			12	13	1	22.7	22.7	22.2	22.3	22.2
			25	0	1	22.6	22.6	22.2	22.3	22.1
		16QAM	1	0	1	22.9	23.0	22.4	22.5	22.5
			1	12	1	22.8	22.9	22.4	22.5	22.5
			1	24	1	22.9	23.0	22.5	22.6	22.5
			12	0	2	21.7	21.7	21.1	21.3	21.1
			12	7	2	21.7	21.7	21.2	21.3	21.1
			12	13	2	21.7	21.8	21.2	21.3	21.2
			25	0	2	21.6	21.7	21.2	21.3	21.2

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)				
						39750	40185	40620	41055	41490
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	10	QPSK	1	0	0	23.6	23.9	23.2	23.3	23.3
			1	25	0	23.5	23.6	23.2	23.2	23.1
			1	49	0	23.5	23.8	23.3	23.4	23.2
			25	0	1	22.6	22.8	22.1	22.3	22.3
			25	12	1	22.6	22.7	22.2	22.3	22.2
			25	25	1	22.6	22.8	22.2	22.4	22.2
			50	0	1	22.6	22.7	22.2	22.4	22.2
		16QAM	1	0	1	22.9	23.0	22.6	22.6	22.5
			1	25	1	22.9	22.9	22.6	22.6	22.4
			1	49	1	22.9	23.0	22.7	22.6	22.4
			25	0	2	21.7	21.8	21.1	21.3	21.3
			25	12	2	21.7	21.8	21.2	21.3	21.2
			25	25	2	21.7	21.8	21.2	21.3	21.3
			50	0	2	21.7	21.7	21.2	21.3	21.2

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)				
						39750	40185	40620	41055	41490
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	15	QPSK	1	0	0	23.6	23.5	22.9	22.5	23.1
			1	37	0	24.2	23.8	23.2	23.0	22.9
			1	74	0	23.4	23.4	22.9	22.5	23.1
			36	0	1	22.8	22.8	22.2	21.7	22.5
			36	20	1	23.0	22.9	22.4	21.8	22.5
			36	39	1	22.9	22.8	22.3	21.8	22.4
			75	0	1	22.8	22.7	22.3	21.8	22.4
		16QAM	1	0	1	23.0	23.0	22.4	21.9	22.5
			1	37	1	23.0	23.0	22.9	21.9	22.7
			1	74	1	23.0	22.9	22.4	21.8	22.4
			36	0	2	21.9	21.8	21.2	20.6	21.4
			36	20	2	22.0	21.8	21.4	20.8	21.5
			36	39	2	21.9	21.8	21.3	20.7	21.3
			75	0	2	21.8	21.7	21.3	20.7	21.3

Band	BW (MHz)	Mode	RB Allocation	RB offset	MPR	Avg Pwr (dBm)				
						39750	40185	40620	41055	41490
						2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz	2680 MHz
LTE Band 41	20	QPSK	1	0	0	23.4	23.3	22.8	22.5	23.0
			1	49	0	23.8	23.8	23.3	22.8	23.5
			1	99	0	23.3	23.3	22.8	22.5	22.9
			50	0	1	22.8	22.7	22.2	21.6	22.5
			50	24	1	22.9	22.8	22.4	21.8	22.5
			50	50	1	22.7	22.7	22.2	21.7	22.3
			100	0	1	22.7	22.6	22.3	21.6	22.4
		16QAM	1	0	1	22.8	22.7	22.1	21.7	22.3
			1	49	1	23.2	23.2	22.7	22.0	22.8
			1	99	1	22.7	22.8	22.1	21.6	22.3
			50	0	2	21.8	21.6	21.1	20.6	21.3
			50	24	2	22.0	21.9	21.4	20.8	21.5
			50	50	2	21.7	21.7	21.3	20.6	21.3
			100	0	2	21.8	21.7	21.3	20.6	21.3

9. PEAK TO AVERAGE RATIO

TEST PROCEDURE

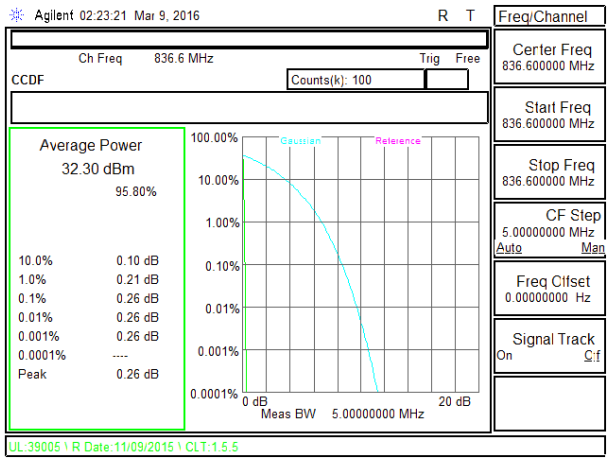
Per KDB 971168 D01 Power Meas License Digital Systems v02r02

TEST SPEC

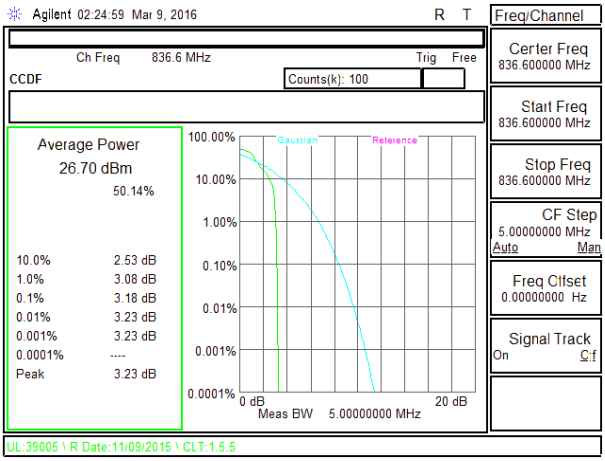
In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

9.1. CONDUCTED PEAK TO AVERAGE RESULT

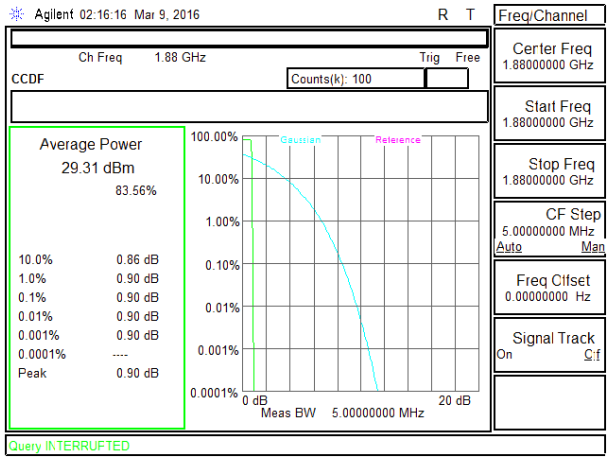
GSM



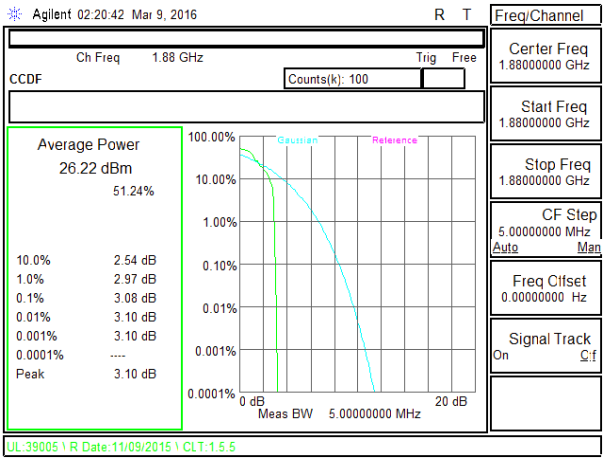
GSM850 GPRS Middle Channel



GSM850 EGPRS Middle Channel

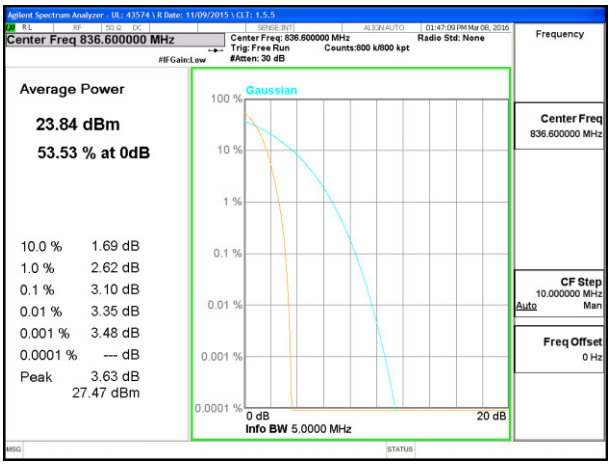


GSM1900 GPRS Middle Channel

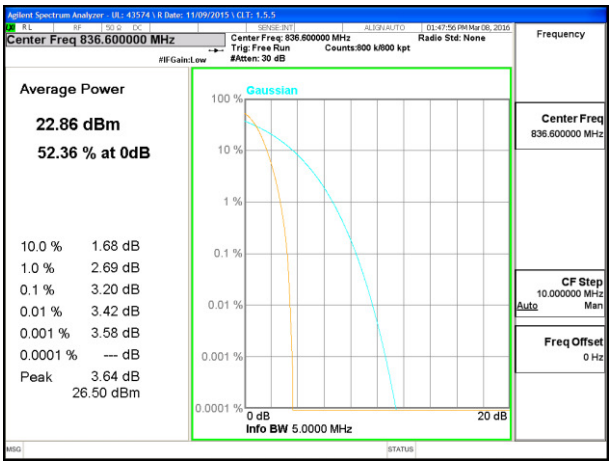


GSM1900 EGPRS Middle Channel

WCDMA

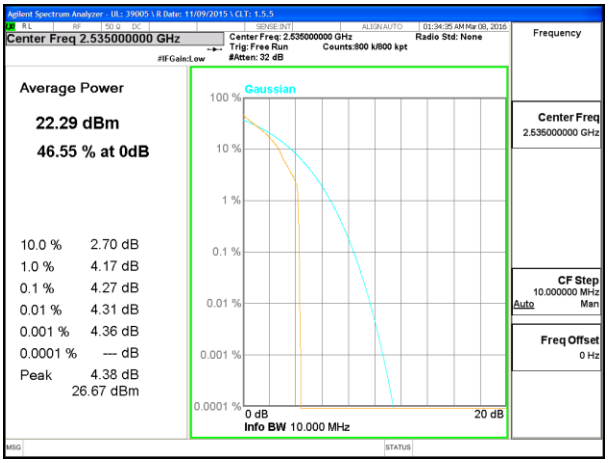


B5 REL99

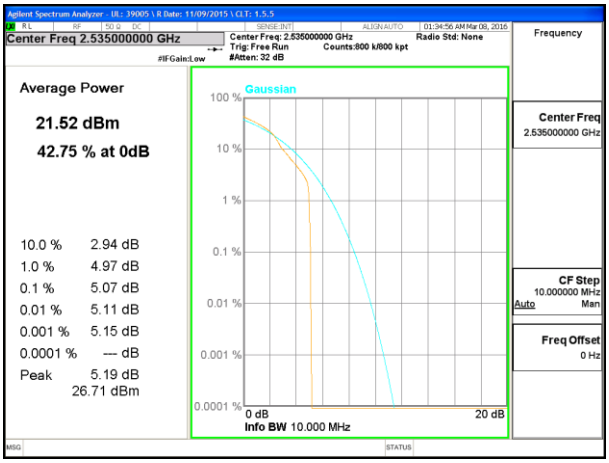


B5 HSDPA

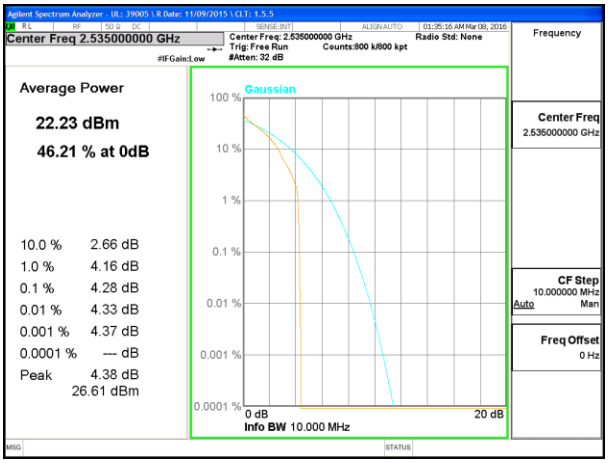
LTE Band 7



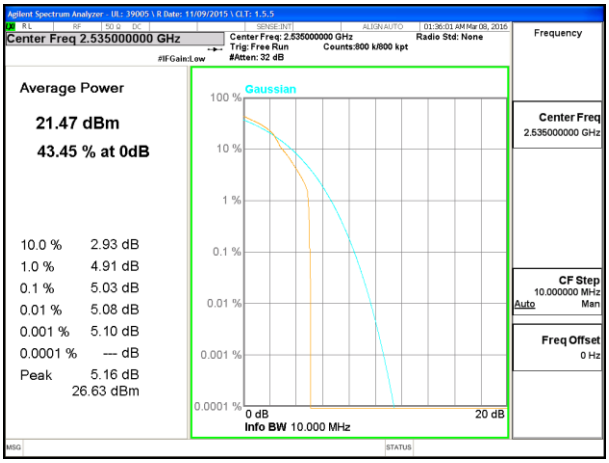
LTE B7 5MHz QPSK Middle Channel



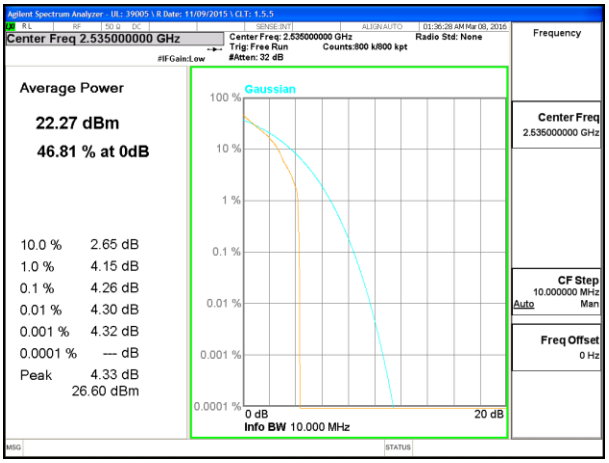
LTE B7 5MHz 16QAM Middle Channel



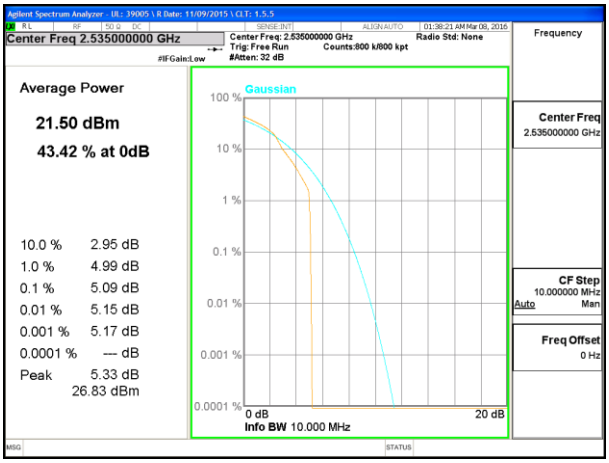
LTE B7 10MHz QPSK Middle Channel



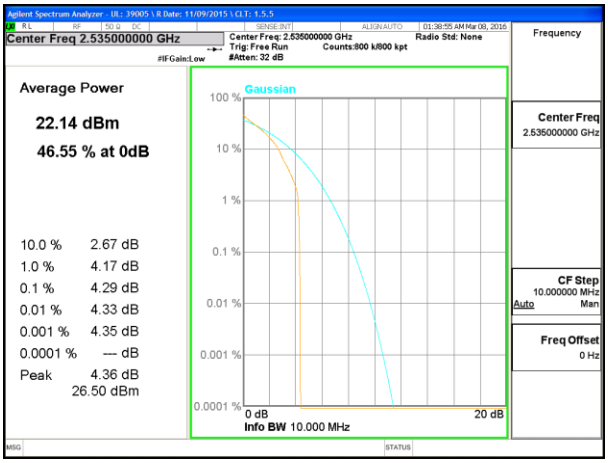
LTE B7 10MHz 16QAM Middle Channel



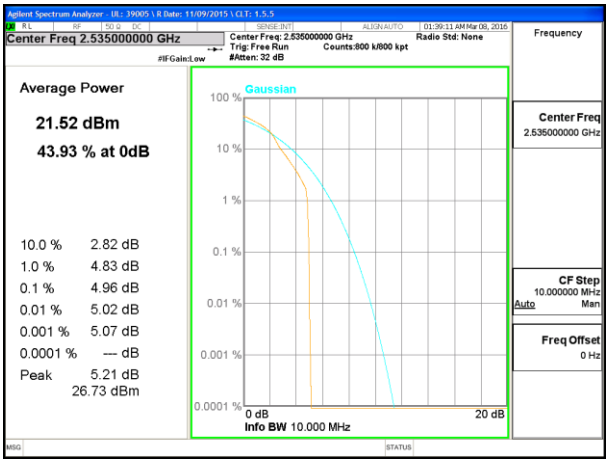
LTE B7 15MHz QPSK Middle Channel



LTE B7 15MHz 16QAM Middle Channel

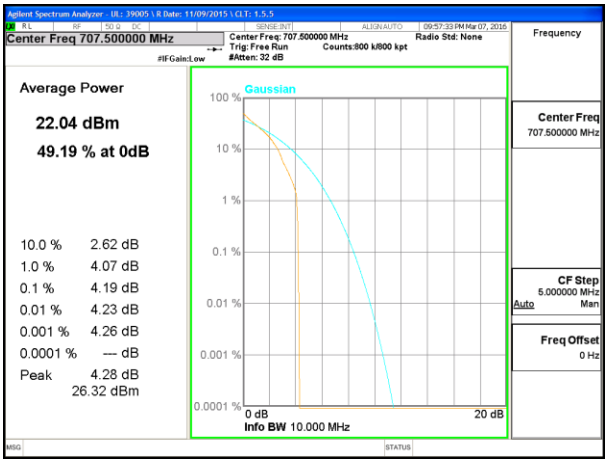


LTE B7 20MHz QPSK Middle Channel

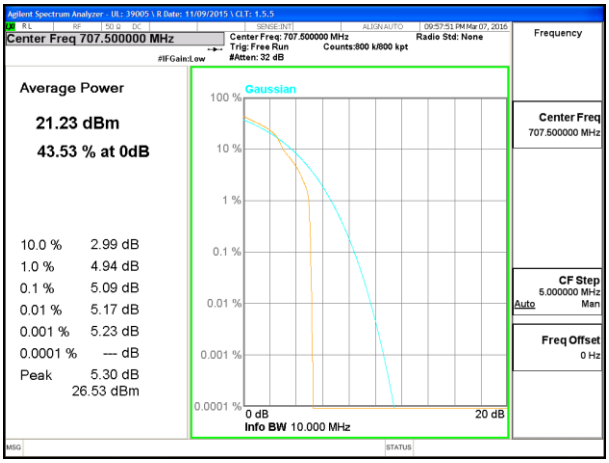


LTE B7 20MHz 16QAM Middle Channel

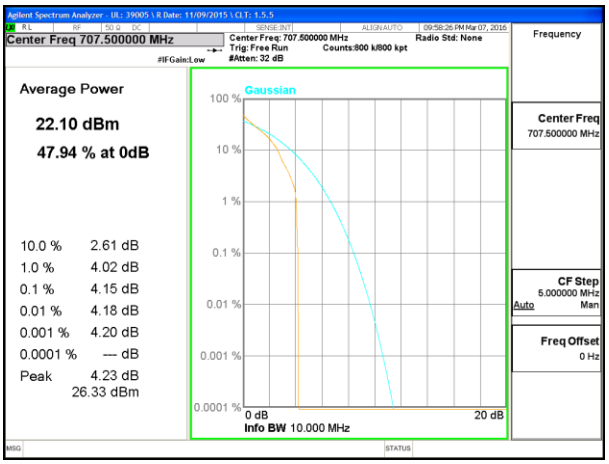
LTE Band 12



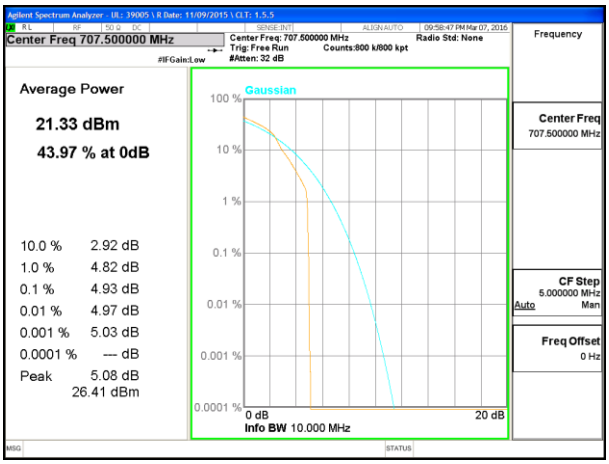
LTE B12 1.4MHz QPSK Middle Channel



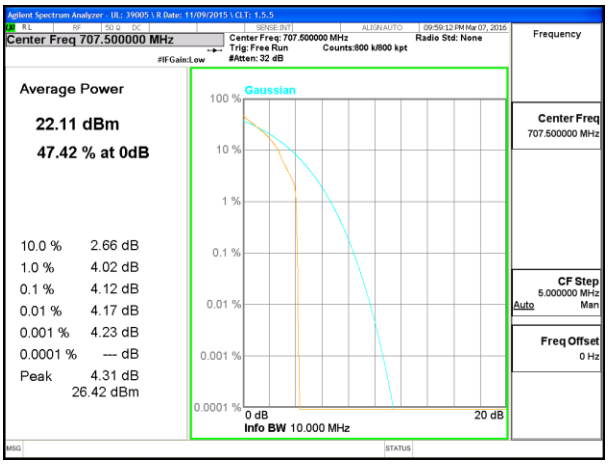
LTE B12 1.4MHz 16QAM Middle Channel



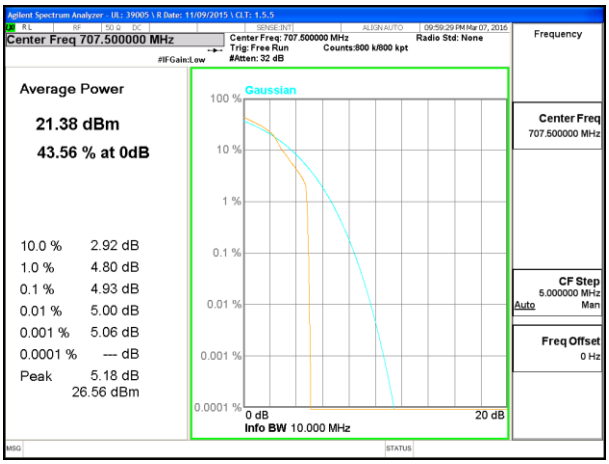
LTE B12 3MHz QPSK Middle Channel



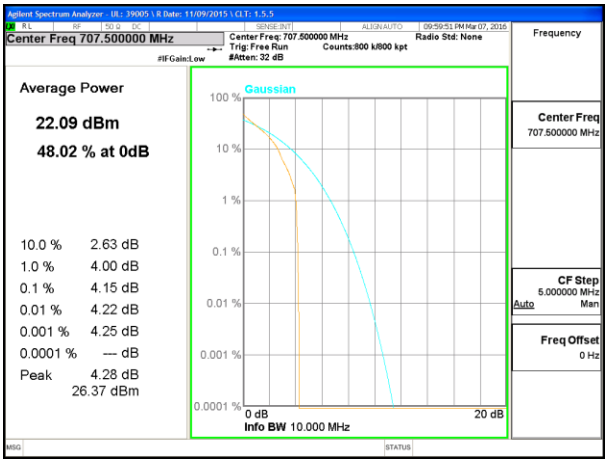
LTE B12 3MHz 16QAM Middle Channel



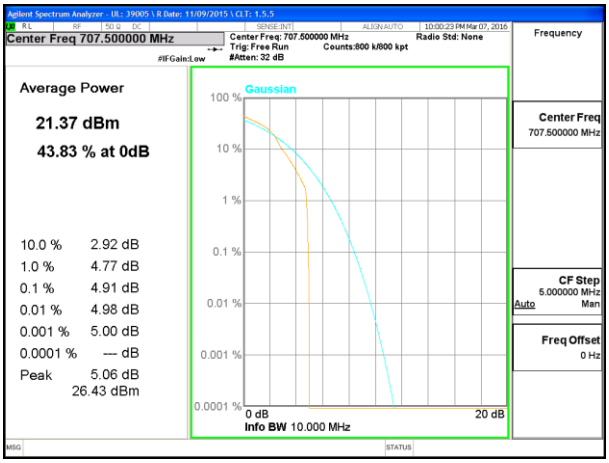
LTE B12 5MHz QPSK Middle Channel



LTE B12 5MHz 16QAM Middle Channel

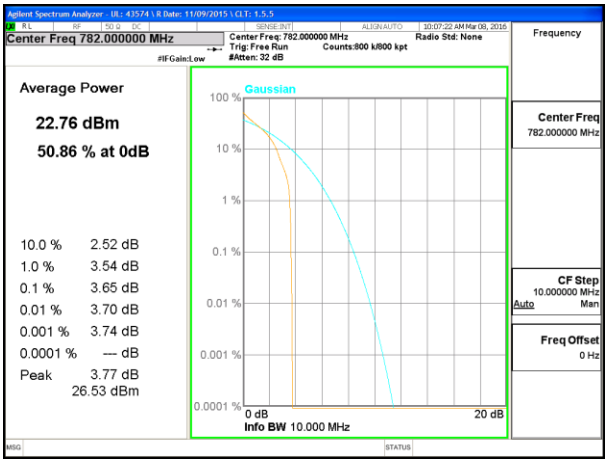


LTE B12 10MHz QPSK Middle Channel

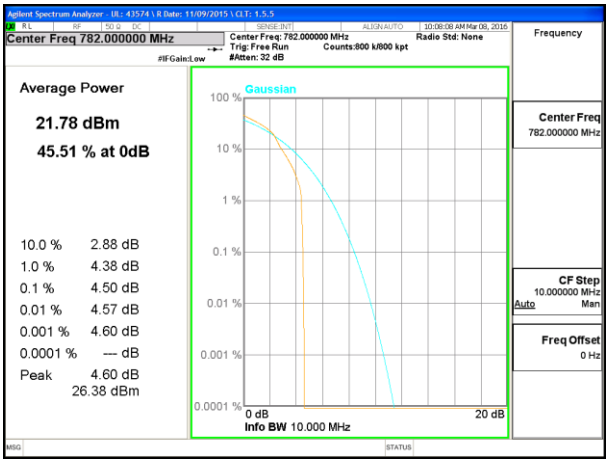


LTE B12 10MHz 16QAM Middle Channel

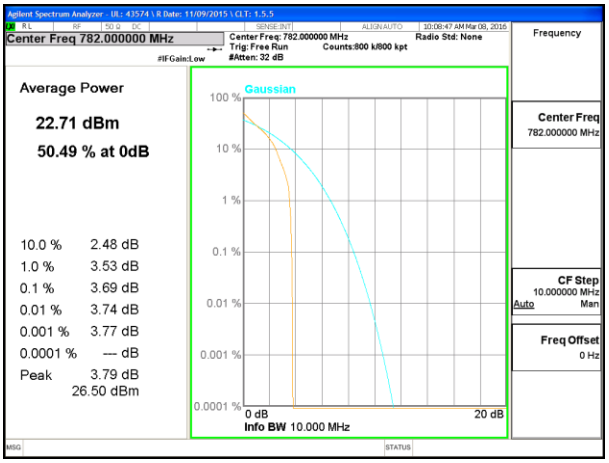
LTE Band 13



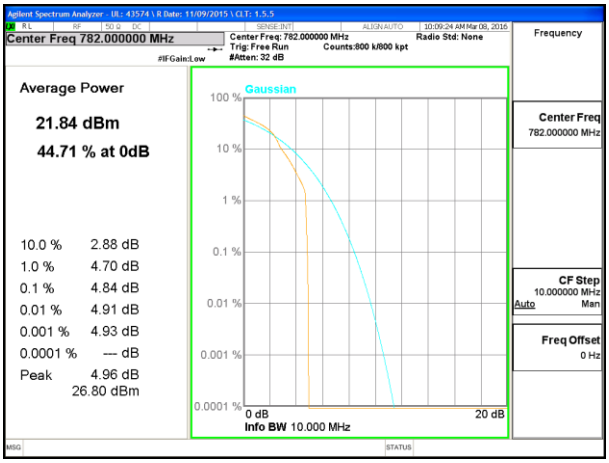
LTE B13 5MHz QPSK Middle Channel



LTE B13 5MHz 16QAM Middle Channel

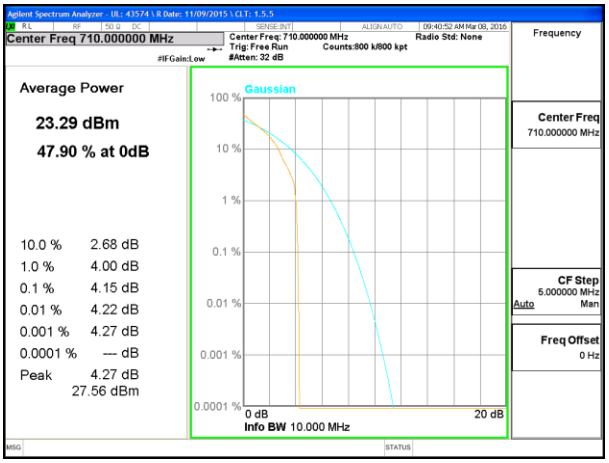


LTE B13 10MHz QPSK Middle Channel

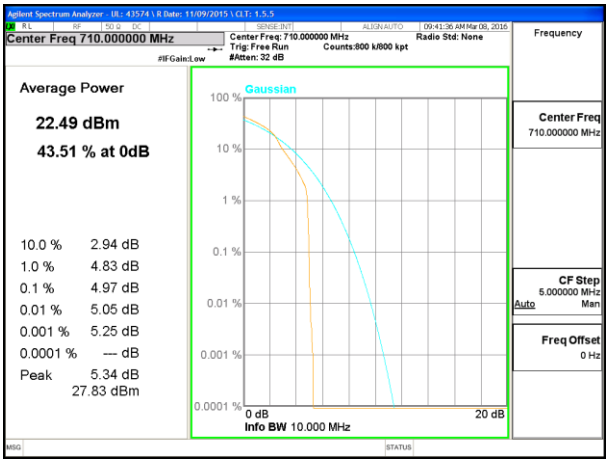


LTE B13 10MHz 16QAM Middle Channel

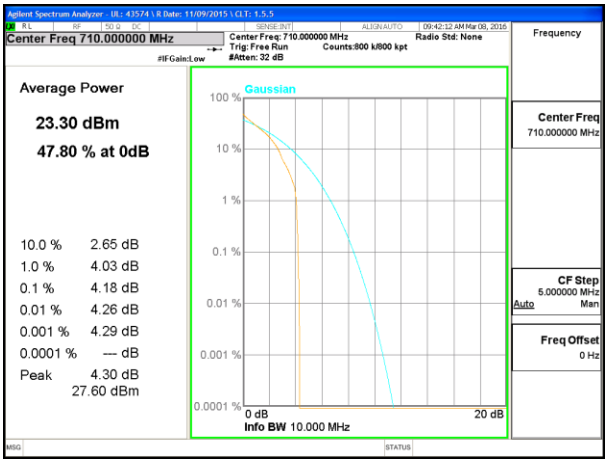
LTE Band 17



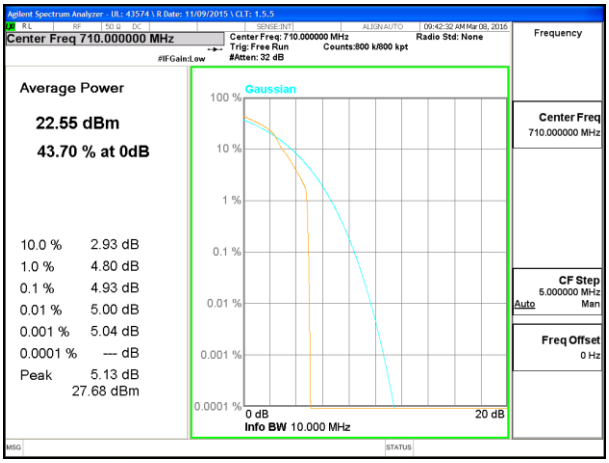
LTE B17 5MHz QPSK Middle Channel



LTE B17 5MHz 16QAM Middle Channel

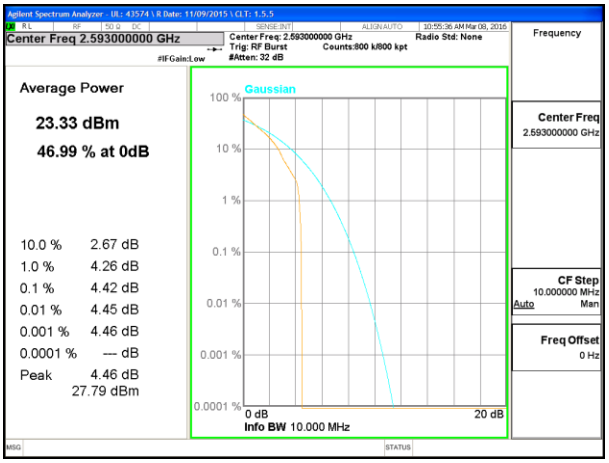


LTE B17 10MHz QPSK Middle Channel

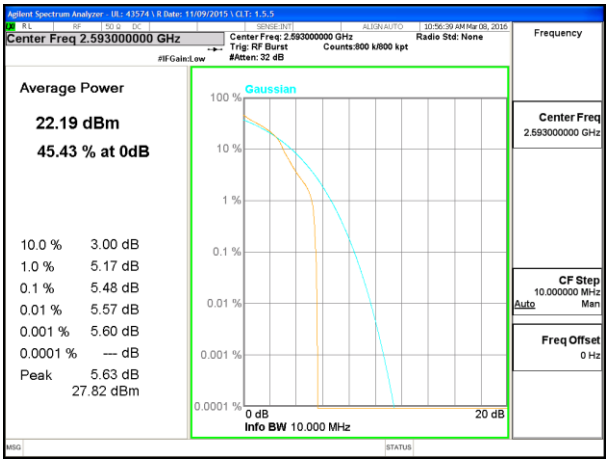


LTE B17 10MHz 16QAM Middle Channel

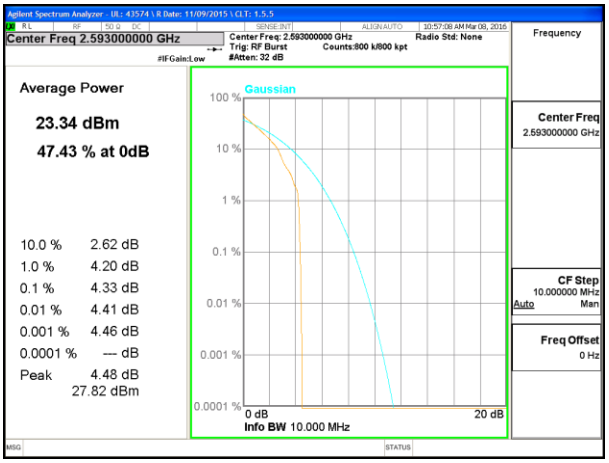
LTE Band 41



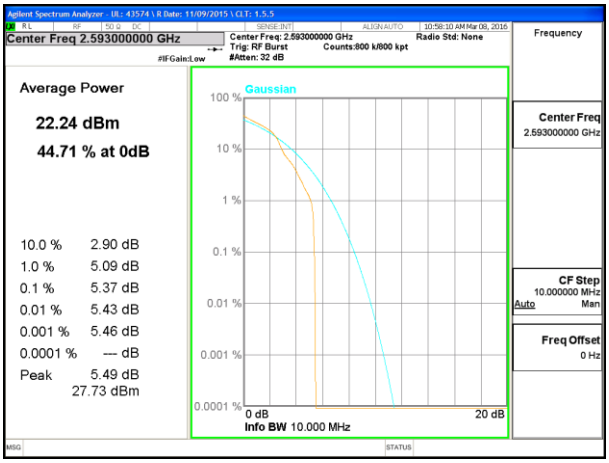
LTE B41 5MHz QPSK Middle Channel



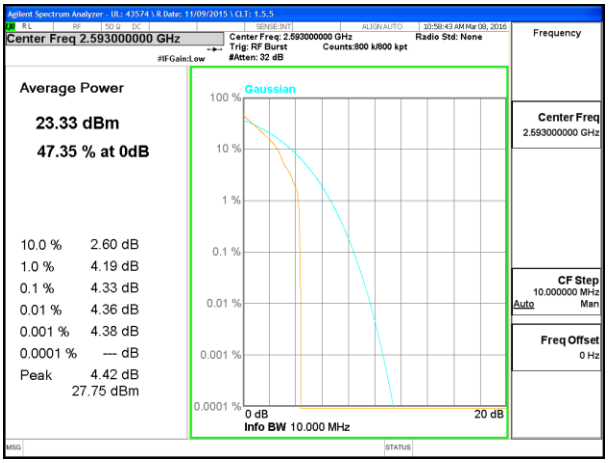
LTE B41 5MHz 16QAM Middle Channel



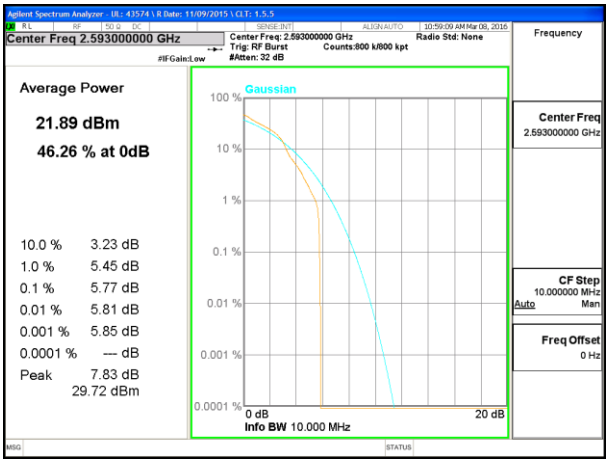
LTE B41 10MHz QPSK Middle Channel



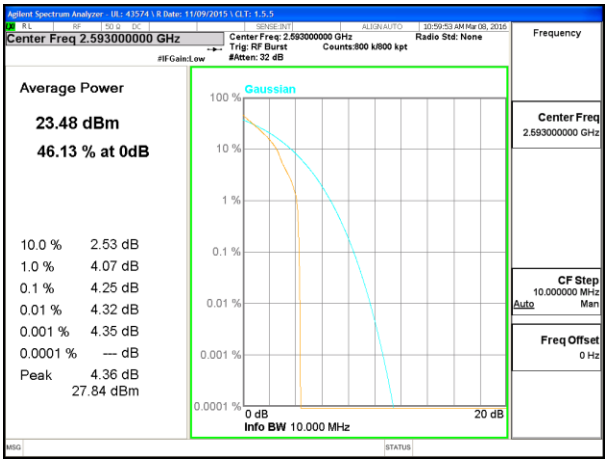
LTE B41 10MHz 16QAM Middle Channel



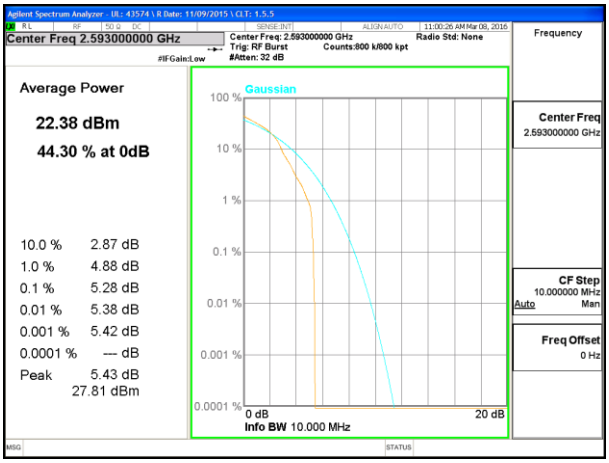
LTE B41 15MHz QPSK Middle Channel



LTE B41 15MHz 16QAM Middle Channel



LTE B41 20MHz QPSK Middle Channel



LTE B41 20MHz 16QAM Middle Channel

10. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

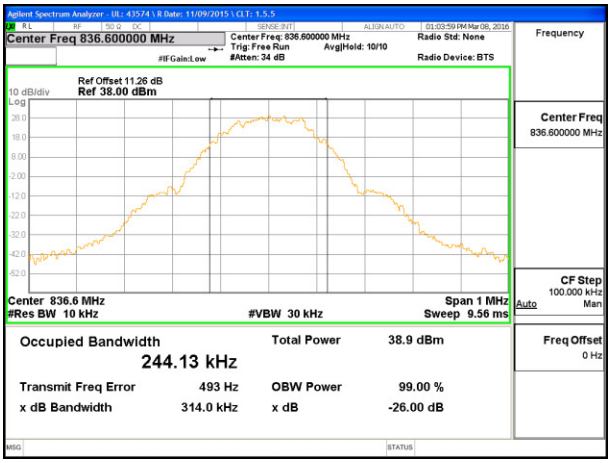
The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

(KDB 971168 D01 Power Meas License Digital Systems v02r02)

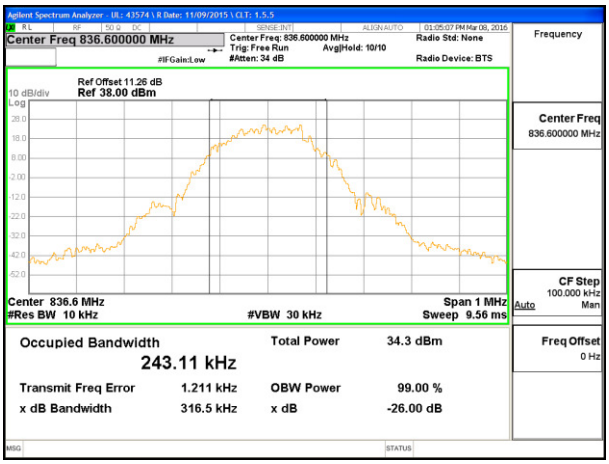
10.1. OCCUPIED BANDWIDTH RESULTS AND PLOTS

GSM

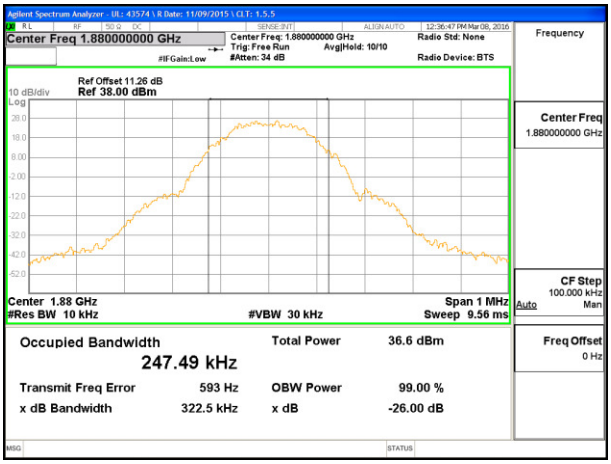
Band	Mode	Channel	f (MHz)	99% BW (kHz)	-26dB (kHz)
GSM850	GPRS	128	824.2	248.4	314.1
		190	836.6	244.1	314.0
		251	848.8	246.6	314.1
	EGPRS	128	824.2	247.4	316.0
		190	836.6	243.1	316.5
		251	848.8	253.6	318.1
GSM1900	GPRS	512	1850.2	242.4	317.8
		661	1880	247.5	322.5
		810	1909.8	244.9	316.4
	EGPRS	512	1850.2	245.4	316.3
		661	1880	244.6	303.5
		810	1909.8	244.4	318.8



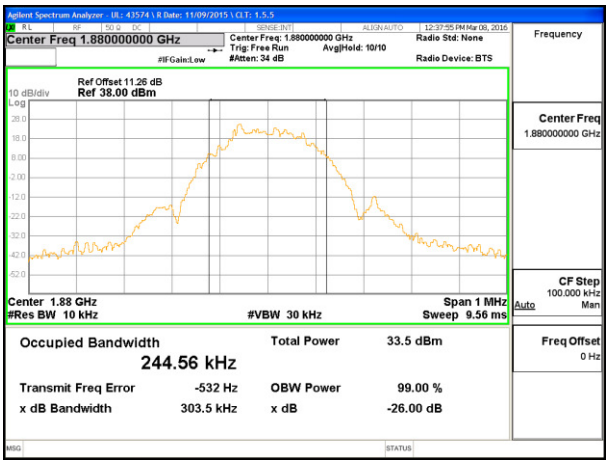
GSM850 GPRS Middle Channel



GSM850 EGPRS Middle Channel



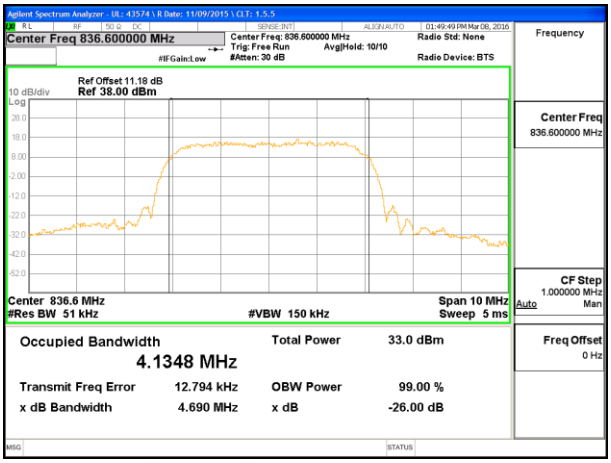
GSM1900 GPRS Middle Channel



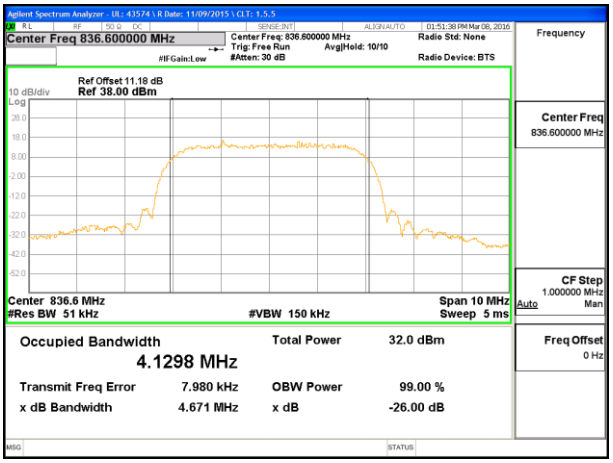
GSM1900 EGPRS Middle Channel

WCDMA

Band	Mode	Channel	f (MHz)	99% BW (MHz)	-26dB (MHz)
Band 5	REL99	4132	826.4	4.11	4.69
		4183	836.6	4.13	4.69
		4233	846.6	4.13	4.70
	HSDPA	4132	826.4	4.11	4.66
		4183	836.6	4.13	4.67
		4233	846.6	4.14	4.70



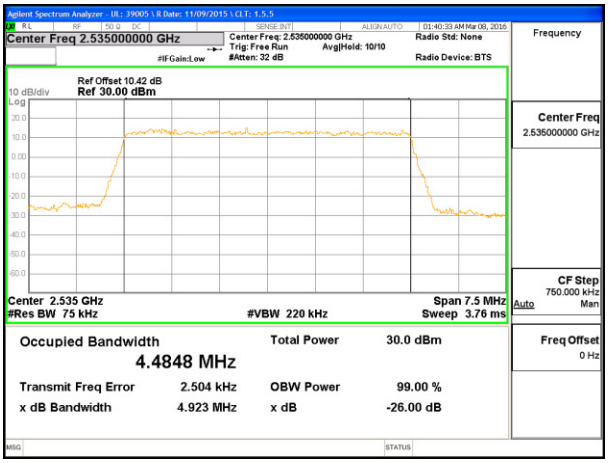
B5 REL99 Middle Channel



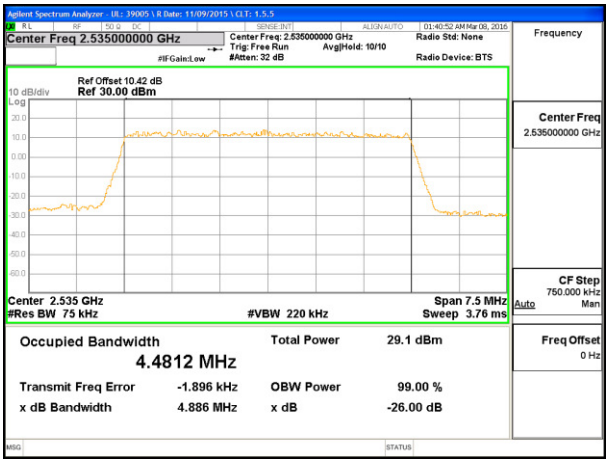
B5 HSDPA Middle Channel

LTE Band 7

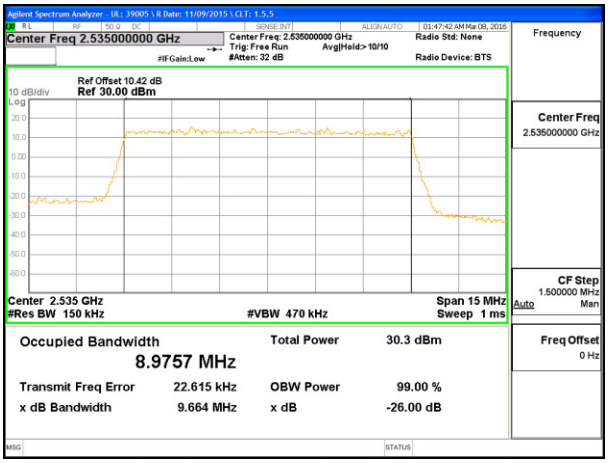
BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
5	QPSK	25/0	2502.5	4.500	4.926
		25/0	2535	4.485	4.923
		25/0	2567.5	4.504	4.947
	16QAM	25/0	2502.5	4.493	4.940
		25/0	2535	4.481	4.886
		25/0	2567.5	4.498	4.953
10	QPSK	50/0	2505	8.966	9.757
		50/0	2535	8.976	9.664
		50/0	2565	8.943	9.698
	16QAM	50/0	2505	8.968	9.734
		50/0	2535	8.958	9.721
		50/0	2565	8.978	9.726
15	QPSK	75/0	2507.5	13.449	14.627
		75/0	2535	13.442	14.599
		75/0	2562.5	13.410	14.523
	16QAM	75/0	2507.5	13.446	14.587
		75/0	2535	13.470	14.588
		75/0	2562.5	13.385	14.501
20	QPSK	100/0	2510	17.904	19.189
		100/0	2535	17.938	19.355
		100/0	2560	17.92	19.380
	16QAM	100/0	2510	17.876	19.358
		100/0	2535	17.911	19.293
		100/0	2560	17.849	19.303



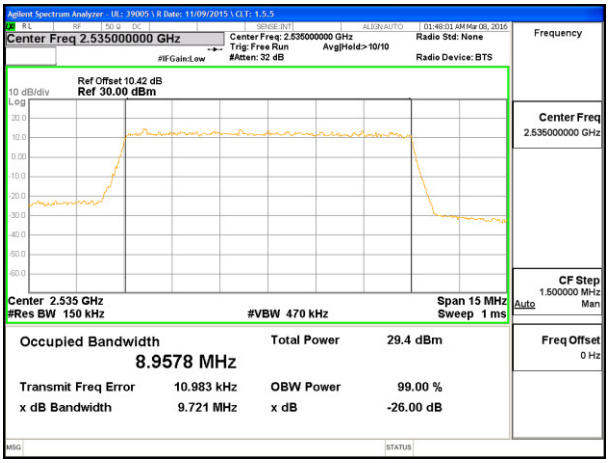
LTE B7 5MHz QPSK Middle Channel



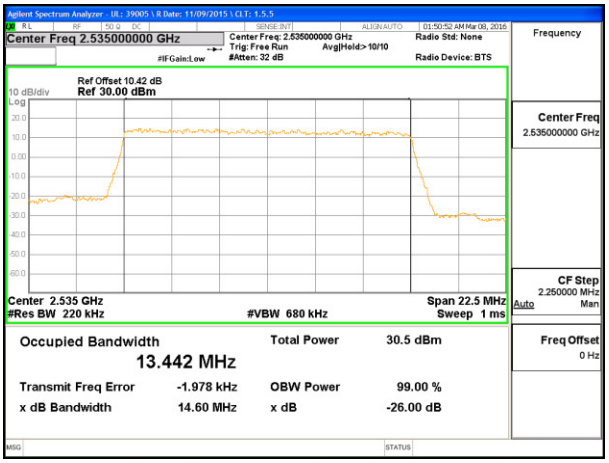
LTE B7 5MHz 16QAM Middle Channel



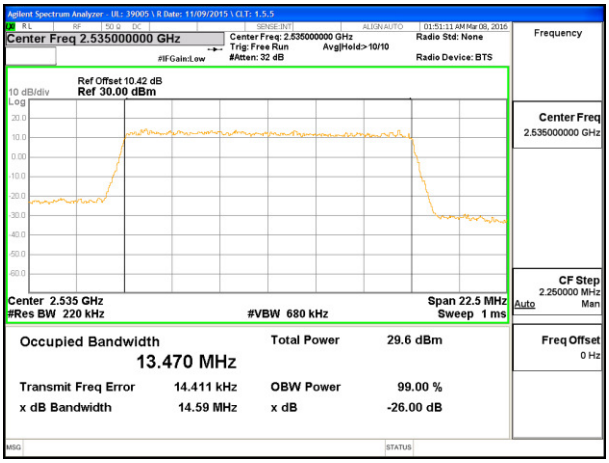
LTE B7 10MHz QPSK Middle Channel



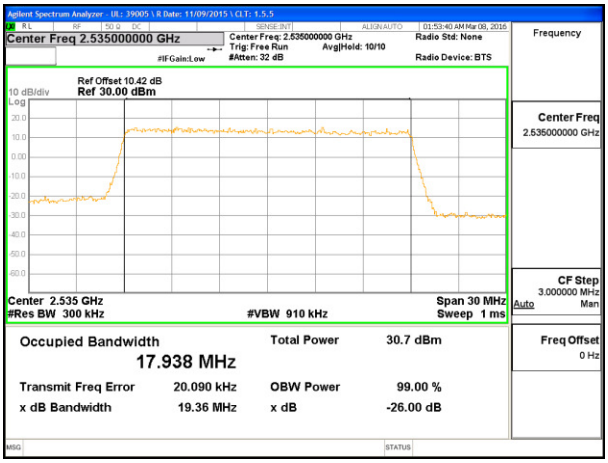
LTE B7 10MHz 16QAM Middle Channel



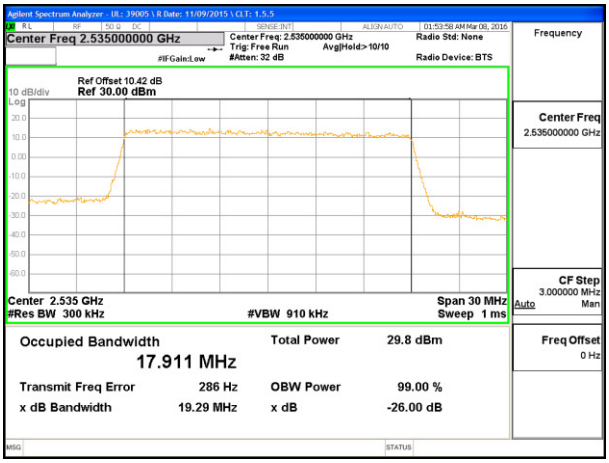
LTE B7 15MHz QPSK Middle Channel



LTE B7 15MHz 16QAM Middle Channel



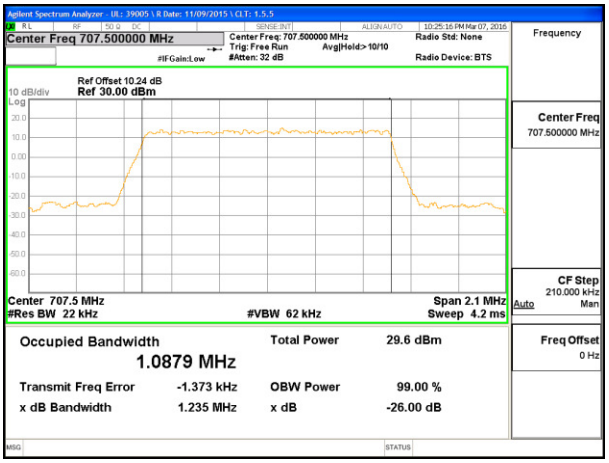
LTE B7 20MHz QPSK Middle Channel



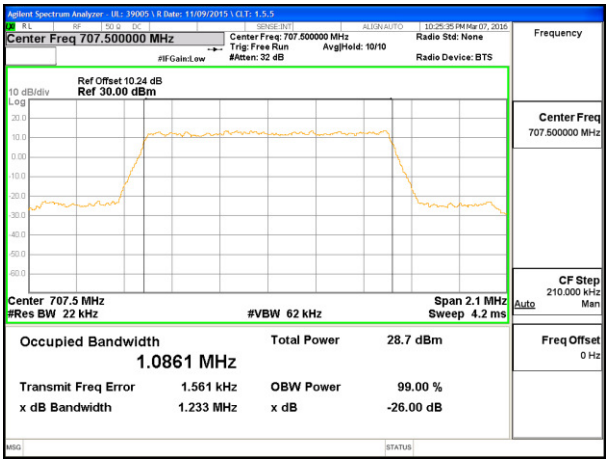
LTE B7 20MHz 16QAM Middle Channel

LTE Band 12

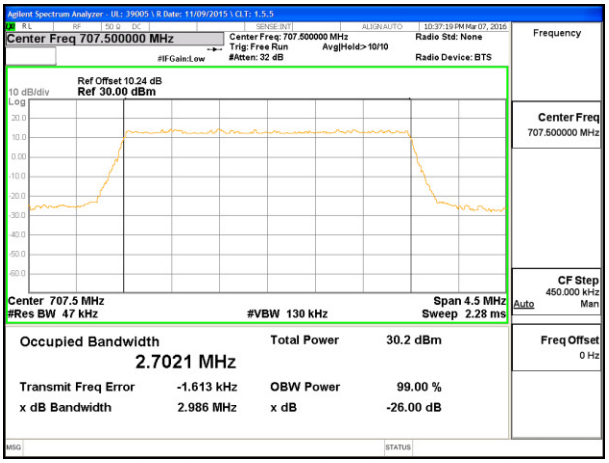
BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
1.4	QPSK	6/0	699.7	1.085	1.226
		6/0	707.5	1.088	1.235
		6/0	715.3	1.081	1.228
	16QAM	6/0	699.7	1.097	1.239
		6/0	707.5	1.086	1.233
		6/0	715.3	1.087	1.235
3	QPSK	15/0	700.5	2.698	2.992
		15/0	707.5	2.702	2.986
		15/0	714.5	2.694	2.997
	16QAM	15/0	700.5	2.697	3.006
		15/0	707.5	2.696	3.002
		15/0	714.5	2.700	2.999
5	QPSK	25/0	701.5	4.504	4.953
		25/0	707.5	4.498	4.961
		25/0	713.5	4.484	4.924
	16QAM	25/0	701.5	4.499	4.954
		25/0	707.5	4.493	4.929
		25/0	713.5	4.482	4.904
10	QPSK	50/0	704	8.955	9.782
		50/0	707.5	8.973	9.785
		50/0	711	8.974	9.764
	16QAM	50/0	704	8.975	9.754
		50/0	707.5	8.980	9.754
		50/0	711	8.974	9.750



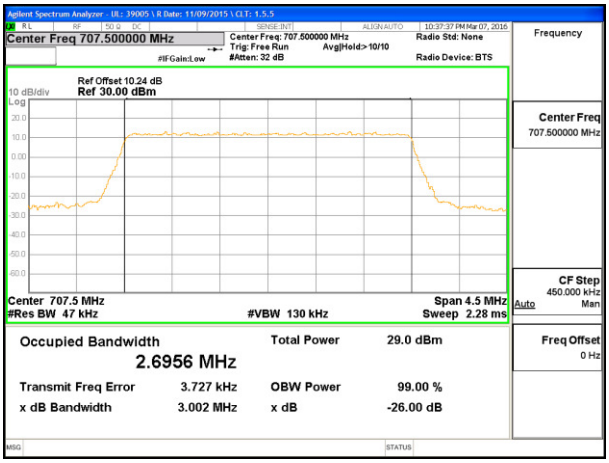
LTE B12 1.4MHz QPSK Middle Channel



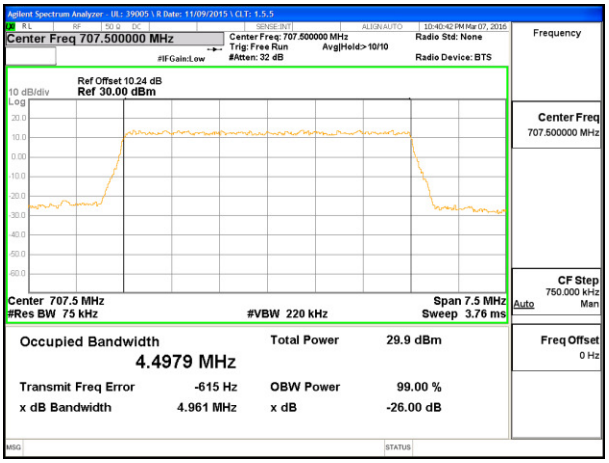
LTE B12 1.4MHz 16QAM Middle Channel



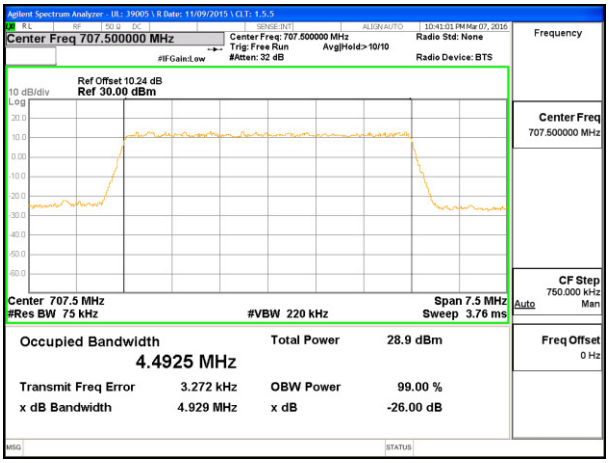
LTE B12 3MHz QPSK Middle Channel



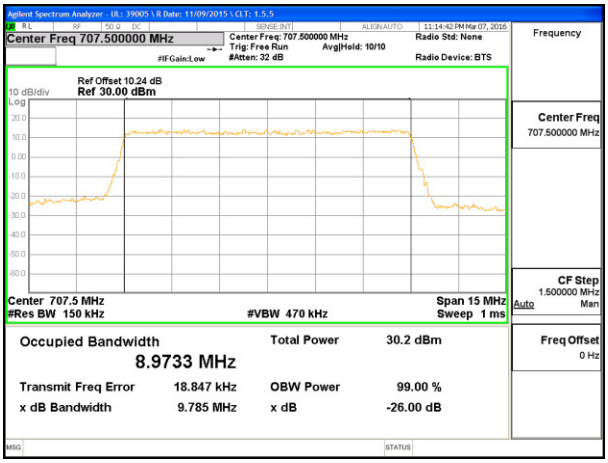
LTE B12 3MHz 16QAM Middle Channel



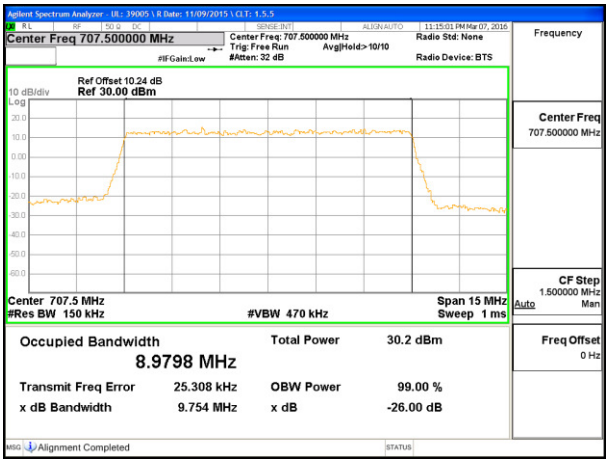
LTE B12 5MHz QPSK Middle Channel



LTE B12 5MHz 16QAM Middle Channel



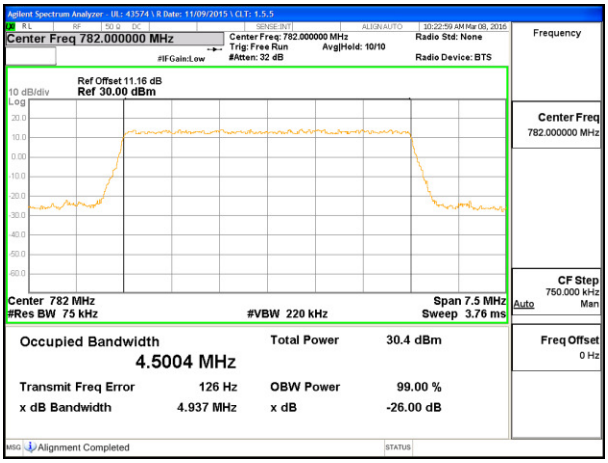
LTE B12 10MHz QPSK Middle Channel



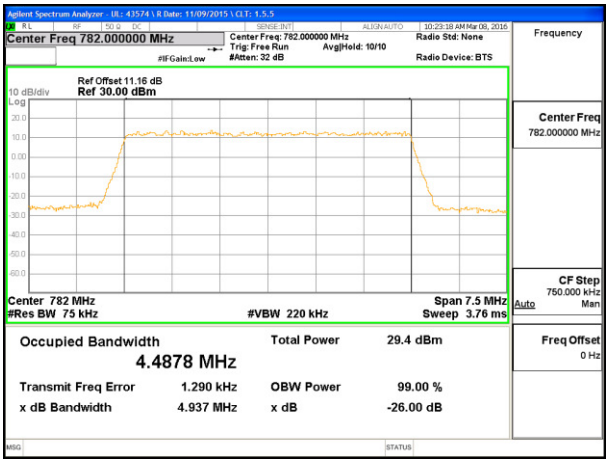
LTE B12 10MHz 16QAM Middle Channel

LTE Band 13

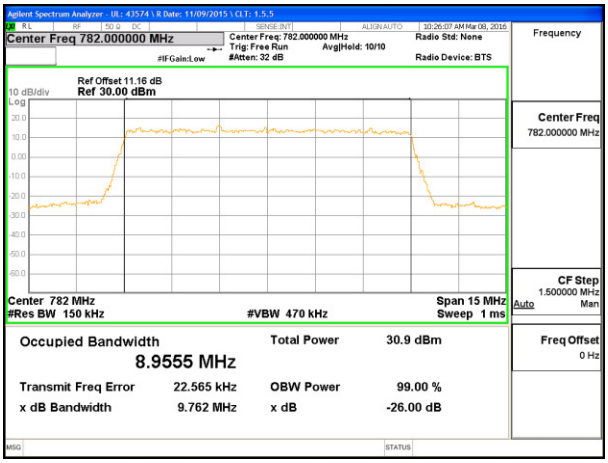
BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
5	QPSK	25/0	779.5	4.509	4.948
		25/0	782.0	4.500	4.937
		25/0	784.5	4.481	4.930
	16QAM	25/0	779.5	4.496	4.975
		25/0	782.0	4.488	4.937
		25/0	784.5	4.479	4.928
10	QPSK				
		50/0	782.0	8.956	9.762
	16QAM				
		50/0	782.0	8.956	9.768



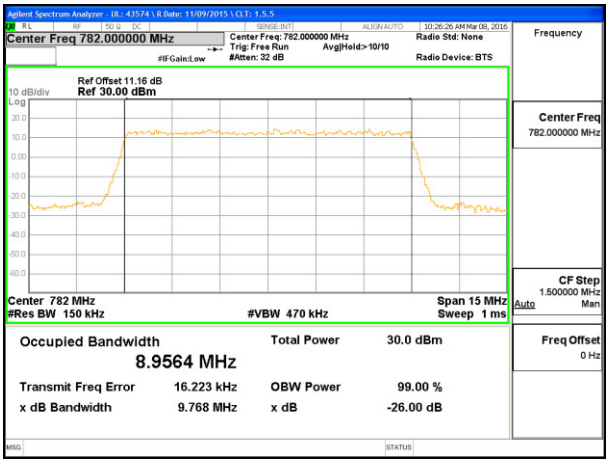
LTE B13 5MHz QPSK Middle Channel



LTE B13 5MHz 16QAM Middle Channel



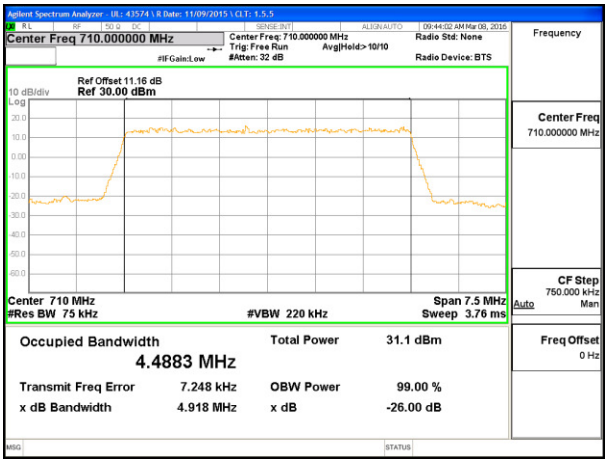
LTE B13 10MHz QPSK Middle Channel



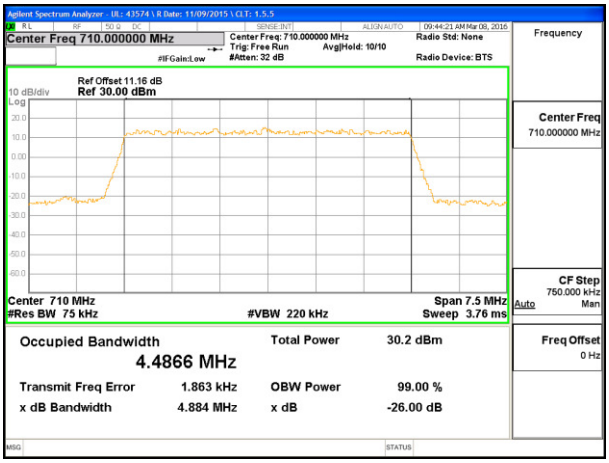
LTE B13 10MHz 16QAM Middle Channel

LTE Band 17

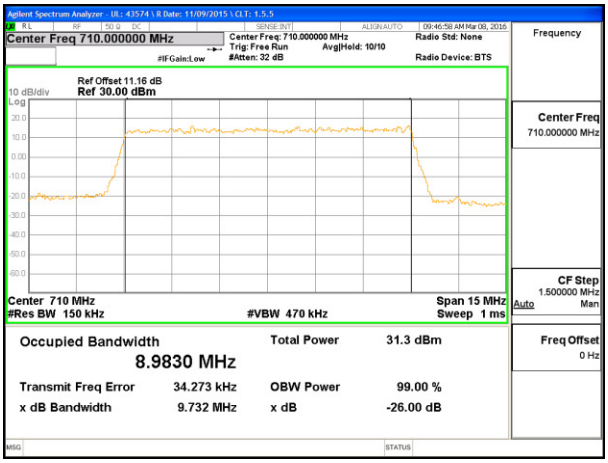
BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
5	QPSK	25/0	706.5	4.498	4.938
		25/0	710.0	4.488	4.918
		25/0	713.5	4.504	4.961
	16QAM	25/0	706.5	4.491	4.923
		25/0	710.0	4.487	4.884
		25/0	713.5	4.502	4.955
10	QPSK	50/0	709.0	8.991	9.803
		50/0	710.0	8.983	9.732
		50/0	711.0	8.963	9.768
	16QAM	50/0	709.0	8.995	9.828
		50/0	710.0	8.959	9.736
		50/0	711.0	8.991	9.777



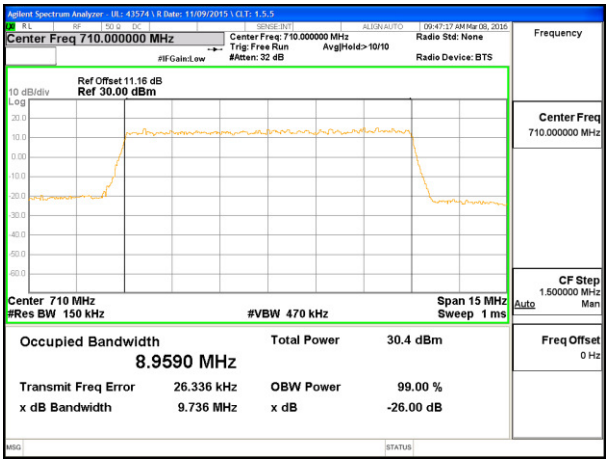
LTE B17 5MHz QPSK Middle Channel



LTE B17 5MHz 16QAM Middle Channel



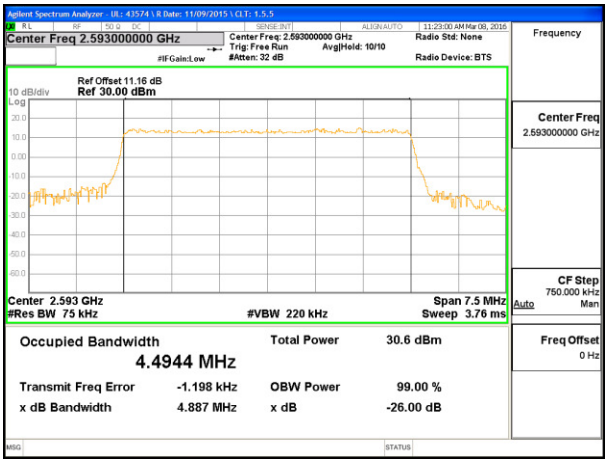
LTE B17 10MHz QPSK Middle Channel



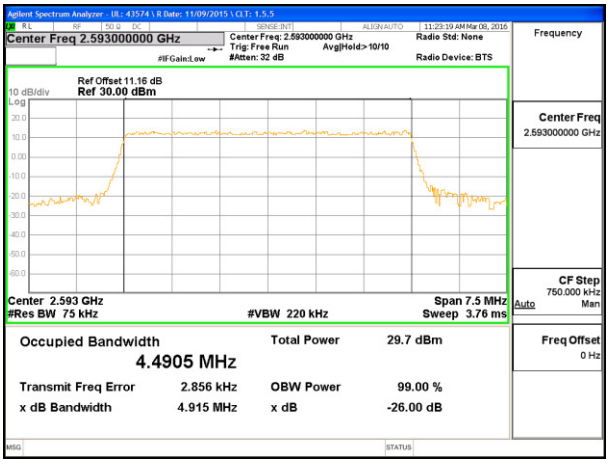
LTE B17 10MHz 16QAM Middle Channel

LTE Band 41

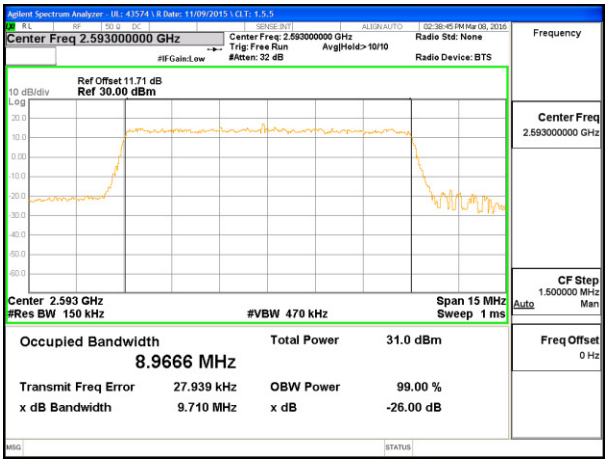
BW(MHz)	Mode	RB/RB Size	f (MHz)	99% BW (MHz)	-26dB BW (MHz)
5	QPSK	25/0	2498.5	4.495	5.036
		25/0	2593.0	4.494	4.887
		25/0	2687.5	4.495	4.959
	16QAM	25/0	2498.5	4.493	4.975
		25/0	2593.0	4.490	4.915
		25/0	2687.5	4.494	4.963
10	QPSK	50/0	2501.0	8.960	9.702
		50/0	2593.0	8.967	9.710
		50/0	2685.0	8.955	9.685
	16QAM	50/0	2501.0	8.964	9.760
		50/0	2593.0	8.987	9.716
		50/0	2685.0	8.965	9.729
15	QPSK	75/0	2503.5	13.427	14.725
		75/0	2593.0	13.437	14.551
		75/0	2682.5	13.449	14.578
	16QAM	75/0	2503.5	13.459	14.567
		75/0	2593.0	13.466	14.504
		75/0	2682.5	13.465	15.106
20	QPSK	100/0	2506.0	17.94	19.886
		100/0	2593.0	17.937	19.899
		100/0	2680.0	17.924	19.523
	16QAM	100/0	2506.0	17.894	19.312
		100/0	2593.0	17.917	19.446
		100/0	2680.0	17.915	19.784



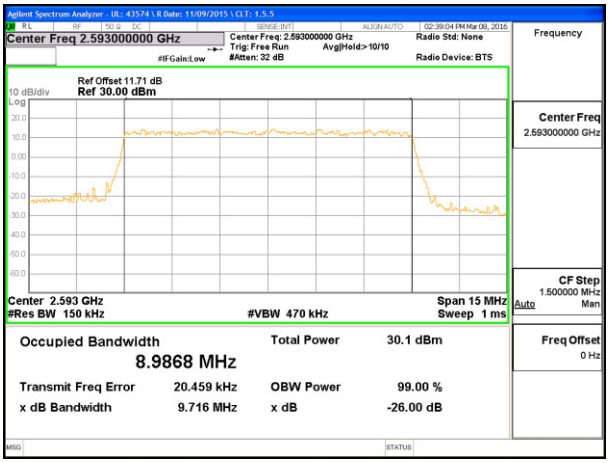
LTE B41 5MHz QPSK Middle Channel



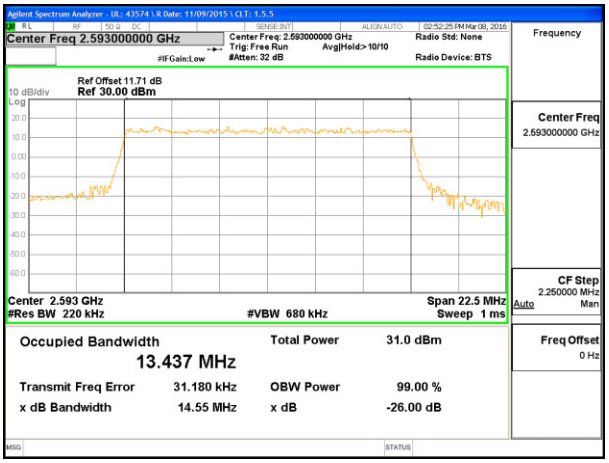
LTE B41 5MHz 16QAM Middle Channel



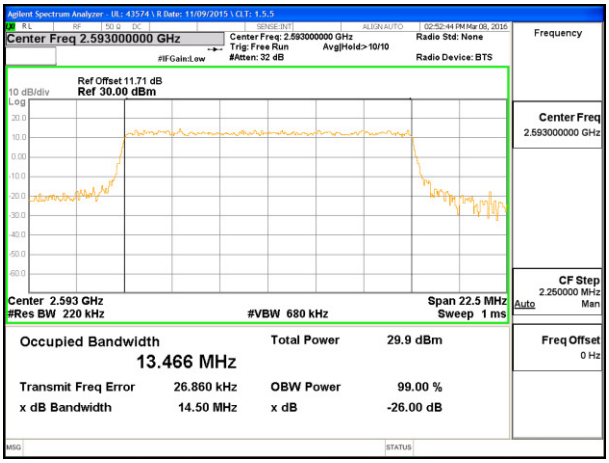
LTE B41 10MHz QPSK Middle Channel



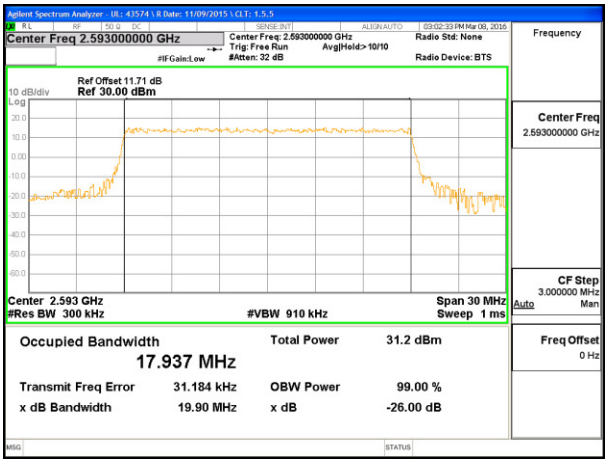
LTE B41 10MHz 16QAM Middle Channel



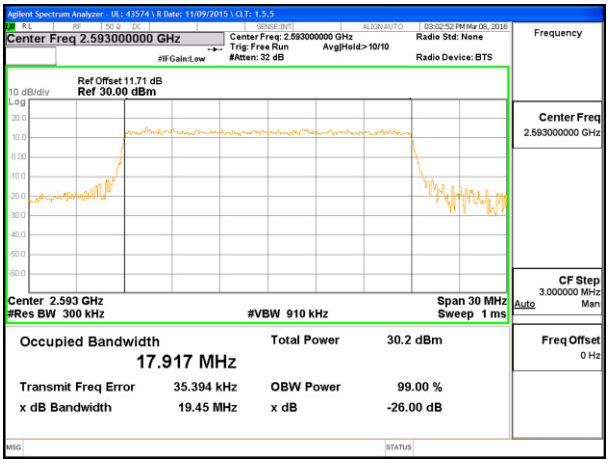
LTE B41 15MHz QPSK Middle Channel



LTE B41 15MHz 16QAM Middle Channel



LTE B41 20MHz QPSK Middle Channel



LTE B41 20MHz 16QAM Middle Channel

11. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §22.359, §24.238 and §27. 53

LIMITS

Part 24.238(a) & Part 22.917(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.

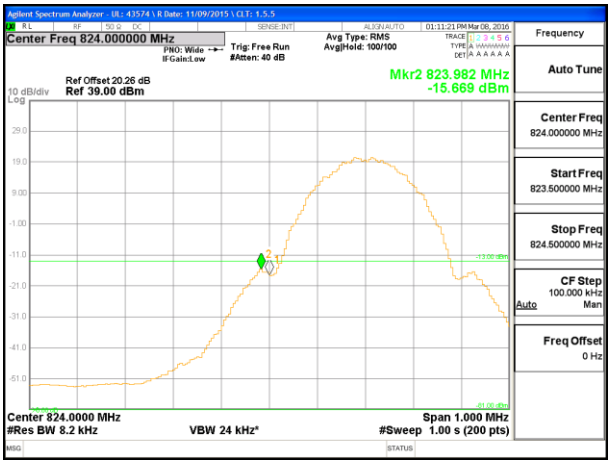
Part 27: (m)(4) (4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST PROCEDURE

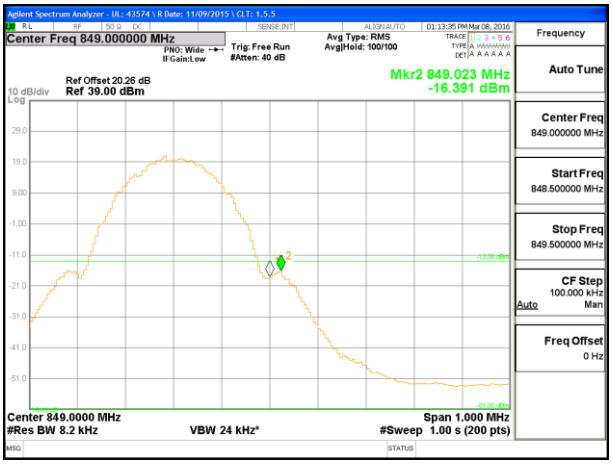
Per KDB 971168 D01 Power Meas License Digital Systems v02r02
The transmitter output was connected to an Agilent 8960 or a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

11.1. BAND EDGE PLOTS

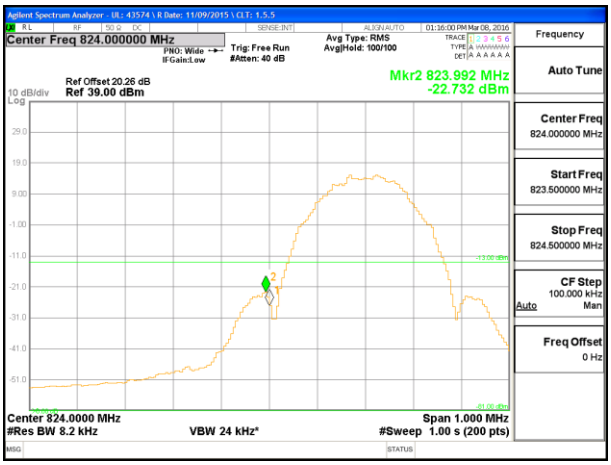
GSM



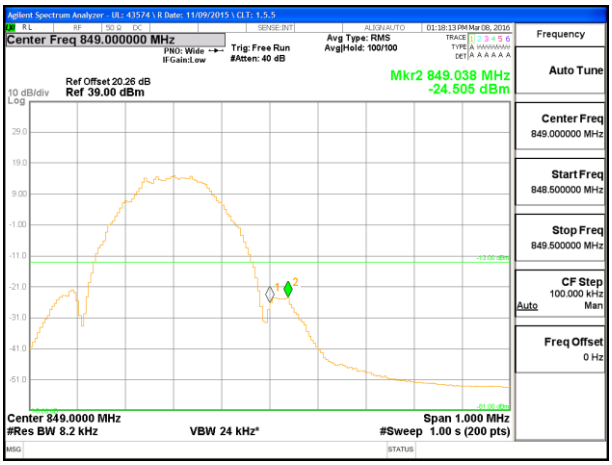
GSM850 GPRS Low Channel



GSM850 GPRS High Channel



GSM850 EGPRS Low Channel



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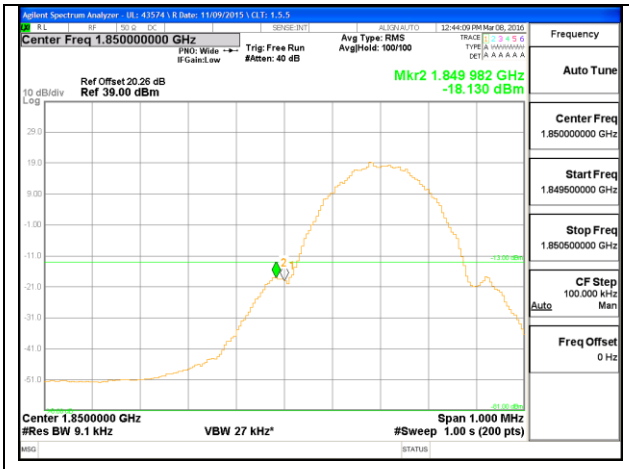
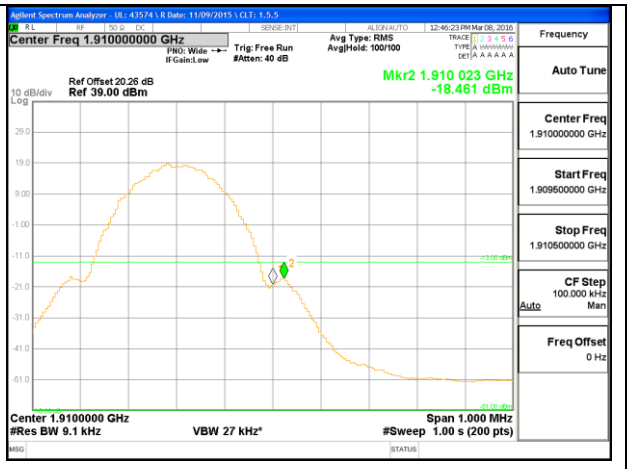
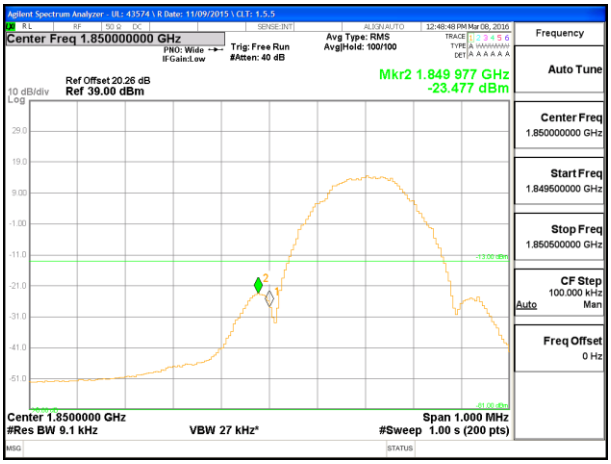


GSM1900 GPRS Low Channel



GSM1900 GPRS High Channel



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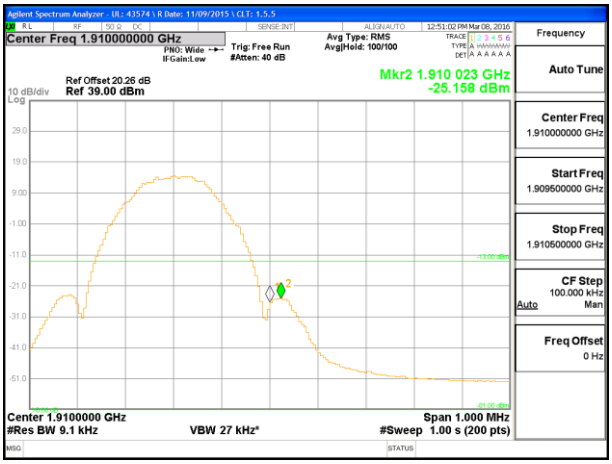

GSM1900 EGPRS High Channel