

Report No.SH16060006W08

FCC RF TEST REPORT

Issued to

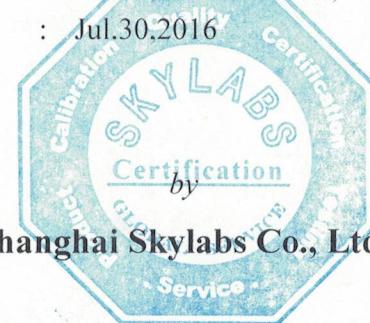
Shanghai Rising Digital Co.,Ltd.

For

SECD-5I7C-02 display screen

SECD-5I7A-02 display screen

Model Name : SECD-5I7C-02, SECD-5I7A-02
Trade Name : RISING
Brand Name : RISING
FCC ID : 2AJONSECD-3I5A-02
Standard : 47 CFR Part 2
47 CFR Part 22 Subpart H
47 CFR Part 24 Subpart E
47 CFR Part 27
Test date : Jul.20.2016 to Jul.28.2016
Issue date : Jul.30.2016



Shanghai Skylabs Co., Ltd.

Tested by Wu Hongfei

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**Change History**

Issue	Date	Reason for change
1.0	Jul.30,2016	First edition



General Information

1.1 Applicant

Shanghai Rising Digital Co.,Ltd.

No 318 ,Chuanda Road , Pudong New District, Shanghai,China

1.2 Manufacturer

Shanghai Rising Digital Co.,Ltd.

No 318 ,Chuanda Road , Pudong New District, Shanghai,China

1.3 Description of EUT

EUT Type : SECD-5I7C-02display screen, SECD-5I7A-02display screen

Brand Name..... : RISING

Trade Name : RISING

Model Name : SECD-5I7C-02, SECD-5I7A-02

Hardware Version : V109

Software Version : V1318

Antenna type..... : PCB

Antenna gain..... : PCB 1.5dBi

Frequency Range :
GSM 850MHz:
Tx: 824.20-848.80 MHz (at intervals of 200kHz);
Rx: 869.20-893.80 MHz (at intervals of 200kHz)

GSM 1900MHz
Tx: 1850.20-1909.80 MHz (at intervals of 200kHz);
Rx: 1930.20-1989.80 MHz (at intervals of 200kHz)

WCDMA Band II
Tx: 1852.4 - 1907.6MHz (at intervals of 200kHz);
Rx: 1932.4 - 1987.6MHz (at intervals of 200kHz)

WCDMA Band IV
Tx: 1712.4 - 1752.6 MHz (at intervals of 200kHz);
Rx: 2112.4 - 2152.6 MHz (at intervals of 200kHz)

WCDMA BandV
Tx: 826.4- 846.6MHz (at intervals of 200kHz);
Rx: 871.4 - 891.6MHz (at intervals of 200kHz)

LTE Band 2
TX:1852.5 ~ 1907.5 MHz
RX: 1932.5 ~ 1987.5 MHz
LTE Band 4



TX: 1712.5 ~ 1752.5 MHz
RX: 2112.5 ~ 2152.5 MHz
LTE Band 5
TX: 826.5 ~ 846.5 MHz
RX: 871.5 ~ 891.5 MHz
LTE Band 12
TX: 699.7 ~ 715.3 MHz
RX: 729.7 ~ 745.3 MHz
LTE Band 17
TX: 706.5 ~ 713.5 MHz;
RX: 736.5 ~ 743.5 MHz

Bandwidth: Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz
Band 4: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz
Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz
Band 12: 1.4MHz / 3MHz / 5MHz / 10MHz
Band 17: 5MHz / 10MHz

Modulation Type: QPSK, 16QAM

Power.....: DC 24V

NOTE:

(1) For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



Facilities and Accreditations

1.4 Test Facility

ShanghaiSkylabs Co., Ltd. is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. FCC listed: 196218, IC listed: 21609.

The accreditation certificate number is L6644. A 9*6*6(m) fully anechoic chamber was used for the radiated spurious emissions test.

1.5 Environmental Conditions

Ambient temperature: 20~25°C

Relative humidity: 40~60%

Atmosphere pressure: 86-102kPa

1.6 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

Uncertainty of Conducted Emission: $\pm 1.76\text{dB}$

Uncertainty of Radiated Emission: $\pm 3.16\text{dB}$



1.7 List of Equipments Used

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
System Simulator	R&S	CMW500	100830	2015.9.22	1year
Spectrum Analyzer	Rohde&Schwarz	FSU26	200880	2016.6.17	1year
Spectrum Analyzer	Agilent	N9020A	MY55320135	2016.2.25	1year
Power Splitter	Weinschel	1506A	NW521	(n.a.)	(n.a.)
Power Splitter	Mini-Circuits	ZFRSC-183-S+	765001016	(n.a.)	(n.a.)
Attenuator 1	Mini-Circuits	10dB	(n.a.)	(n.a.)	(n.a.)
Attenuator 2	Resnet	10dB	(n.a.)	(n.a.)	(n.a.)
Attenuator 3	Resnet	3dB	(n.a.)	(n.a.)	(n.a.)
DC/AC Power supplier	NF	ES2000S	9087735	2015.10.17	1year
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2015.9.20	1year
Full/Half-AnechoicChamber	CHENGYU	9.2×6.25×6.15m	SAR	2016.04.11	3year
Signal Generator	Rohde&Schwarz	SMF100A	101935	2015.9.22	1year
Broadband Trilog Antenna	Schwarzbeck	VULB 9163	9163-561	2016.07.25	2year
SubstitutionBroadband Trilog Antenna	Schwarzbeck	VULB 9163	9163-572	2016.07.25	2year
Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1033	2016.07.25	2year
Substitution Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1034	2016.07.25	2year
Broadband Horn Antenna	Schwarzbeck	BBHA 9170	BBHA91970171	2015.9.22	2year
Substitution Broadband Horn Antenna	Schwarzbeck	BBHA 9170	BBHA91970208	2015.9.22	2year
Test Antenna-Loop	Rohde&Schwarz	HFH2-Z2	860004/001	2015.9.22	2year
RF Cable	(n.a.)	0-25GHz	(n.a.)	(n.a.)	(n.a.)

NOTE:

Equipments listed above have been calibrated and are in the period of validation.



Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 22, Part 24 and Part 27 for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22	Public Mobile Services
3	47 CFR Part 24	Personal Communications Services
4	47 CFR Part 27	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

No.	FCC Rules	Description	Result
1	2.1046	Conducted Output Power	PASS
2	2.1049 22.917(b) 24.238(b) 27.53(h)(3) 27.53(m)(6)	Occupied Bandwidth	PASS
3	2.1055 22.355 24.235 27.54	Frequency Stability	PASS
4	24.232(d) 27.50(d)(5)	Peak-to-Average Ratio	PASS
5	2.1051 22.917(a) 24.238(a) 27.53(h)	Conducted Out of Band Emissions	PASS
6	2.1051 22.917(a) 24.238(a) 27.53(h) 27.53(m)	Band Edge	PASS
7	2.1046 22.913(a)(2) 24.232(c) 27.50(c)(10) 27.50(d)(4)	Transmitter Radiated Power (EIPR/ERP)	PASS
8	2.1053 22.917(a) 24.238(a) 27.53(h)	Radiated Out of Band Emissions	PASS



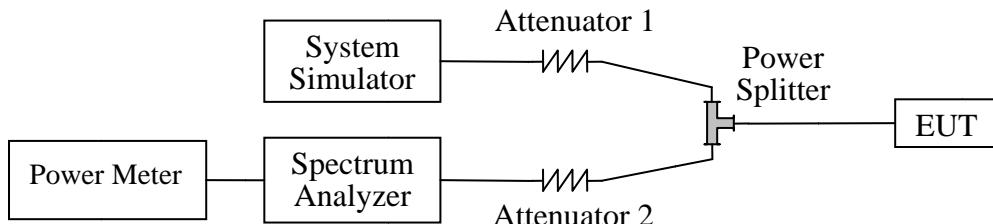
Test Result

1.8 Conducted Output Power

1.8.1 Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

1.8.2 Test Description



The EUT, which is powered by battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factory calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.



1.8.3 Test Result

LTE Band 2

BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
18700	1860.0	QPSK	1	0	0	21.98	22.5±1	
			1	49	0	22.00	22.5±1	
			1	99	0	22.05	22.5±1	
			50	0	1	20.91	21.5±1	
			50	24	1	20.94	21.5±1	
			50	49	1	20.93	21.5±1	
			100	0	1	20.88	21.5±1	
		16QAM	1	0	1	20.76	21.5±1	
			1	49	1	20.85	21.5±1	
			1	99	1	20.86	21.5±1	
			50	0	2	20.56	21.5±1	
			50	24	2	20.59	21.5±1	
			50	49	2	20.56	21.5±1	
			100	0	2	20.89	21.5±1	
20MHz	18900	QPSK	1	0	0	22.00	21.5±1	
			1	49	0	22.06	21.5±1	
			1	99	0	22.10	21.5±1	
			50	0	1	20.89	21.5±1	
			50	24	1	20.88	21.5±1	
			50	49	1	21.02	21.5±1	
			100	0	1	20.87	21.5±1	
		16QAM	1	0	1	21.46	21.5±1	
			1	49	1	21.45	21.5±1	
			1	99	1	21.52	21.5±1	
			50	0	2	20.69	21.5±1	
			50	24	2	20.86	21.5±1	
			50	49	2	20.87	21.5±1	
			100	0	2	21.91	21.5±1	
19100	1900.0	QPSK	1	0	0	22.06	21.5±1	
			1	49	0	22.00	21.5±1	
			1	99	0	21.75	21.5±1	
			50	0	1	20.86	21.5±1	
			50	24	1	20.85	21.5±1	
			50	49	1	20.88	21.5±1	
			100	0	1	20.85	21.5±1	
		16QAM	1	0	1	21.28	21.5±1	
			1	49	1	21.15	21.5±1	
			1	99	1	21.04	21.5±1	
			50	0	2	20.98	21.5±1	
			50	24	2	20.95	21.5±1	
			50	49	2	20.89	21.5±1	
			100	0	2	20.63	21.5±1	



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
15MHz	18675	1857.5	QPSK	1	0	0	21.75	22.5±1
				1	37	0	21.76	22.5±1
				1	74	0	21.79	22.5±1
				36	0	1	20.77	21.5±1
				36	16	1	20.75	21.5±1
				36	35	1	20.76	21.5±1
				75	0	1	20.64	21.5±1
	18900	1880.0	16QAM	1	0	1	21.42	21.3±1
				1	37	1	21.45	21.3±1
				1	74	1	21.50	21.3±1
				36	0	2	20.87	21.3±1
				36	16	2	20.86	21.3±1
				36	35	2	20.89	21.3±1
				75	0	2	20.68	21.3±1
19125	1902.5	1902.5	QPSK	1	0	0	21.64	21.3±1
				1	37	0	21.70	21.3±1
				1	74	0	21.73	21.3±1
				36	0	1	20.80	21.3±1
				36	16	1	20.79	21.3±1
				36	35	1	20.81	21.3±1
				75	0	1	20.65	21.3±1
	1902.5	1902.5	16QAM	1	0	1	21.36	21.3±1
				1	37	1	21.31	21.3±1
				1	74	1	21.27	21.3±1
				36	0	2	20.86	21.3±1
				36	16	2	20.89	21.3±1
				36	35	2	20.89	21.3±1
				75	0	2	20.77	21.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
10MHz	18650	1855	QPSK	1	0	0	21.95	22.5±1
				1	24	0	21.99	22.5±1
				1	49	0	22.02	22.5±1
				25	0	1	20.92	21.3±1
				25	12	1	20.95	21.3±1
				25	24	1	20.93	21.3±1
				50	0	1	20.81	21.3±1
	18900	1880.0	16QAM	1	0	1	20.54	21.3±1
				1	24	1	20.56	21.3±1
				1	49	1	20.66	21.3±1
				25	0	2	20.46	21.3±1
				25	12	2	20.43	21.3±1
				25	24	2	20.48	21.3±1
				50	0	2	20.88	21.3±1
	19150	1905	QPSK	1	0	0	21.79	21.3±1
				1	24	0	21.93	21.3±1
				1	49	0	21.93	21.3±1
				25	0	1	20.89	21.3±1
				25	12	1	20.88	21.3±1
				25	24	1	21.01	21.3±1
				50	0	1	20.81	21.3±1
			16QAM	1	0	1	20.58	20.3±1
				1	24	1	20.60	20.3±1
				1	49	1	20.64	20.3±1
				25	0	2	20.15	20.3±1
				25	12	2	20.19	20.3±1
				25	24	2	20.27	20.3±1
				50	0	2	20.86	20.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
18625	1852.5	1852.5	QPSK	1	0	0	21.98	22.5±1
				1	12	0	21.99	22.5±1
				1	24	0	22.10	22.5±1
				12	0	1	20.94	21.3±1
				12	6	1	20.95	21.3±1
				12	11	1	20.93	21.3±1
				25	0	1	20.93	21.3±1
			16QAM	1	0	1	20.98	21.3±1
				1	12	1	21.03	21.3±1
				1	24	1	21.06	21.3±1
				12	0	2	20.78	21.3±1
				12	6	2	20.76	21.3±1
				12	11	2	20.78	21.3±1
				25	0	2	20.82	21.3±1
5MHz	18900	1880.0	QPSK	1	0	0	21.64	21.3±1
				1	12	0	21.68	21.3±1
				1	24	0	21.80	21.3±1
				12	0	1	20.94	21.3±1
				12	6	1	20.96	21.3±1
				12	11	1	20.93	21.3±1
				25	0	1	20.88	21.3±1
			16QAM	1	0	1	20.91	21.3±1
				1	12	1	20.99	21.3±1
				1	24	1	21.00	21.3±1
				12	0	2	20.56	21.3±1
				12	6	2	20.59	21.3±1
				12	11	2	20.58	21.3±1
				25	0	2	20.94	21.3±1
19175	1907.5	1907.5	QPSK	1	0	0	21.91	21.3±1
				1	12	0	21.84	21.3±1
				1	24	0	21.66	21.3±1
				12	0	1	20.97	21.3±1
				12	6	1	20.96	21.3±1
				12	11	1	20.93	21.3±1
				25	0	1	20.88	21.3±1
			16QAM	1	0	1	20.52	21.3±1
				1	12	1	20.46	21.3±1
				1	24	1	20.44	21.3±1
				12	0	2	20.75	21.3±1
				12	6	2	20.56	21.3±1
				12	11	2	20.69	21.3±1
				25	0	2	20.40	21.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
3MHz	18625	1852.5	QPSK	1	0	0	21.93	22.5±1
				1	7	0	21.96	22.5±1
				1	14	0	21.90	22.5±1
				8	0	1	20.98	21.3±1
				8	4	1	20.95	21.3±1
				8	7	1	20.96	21.3±1
				15	0	1	20.91	21.3±1
			16QAM	1	0	1	20.51	21.3±1
				1	7	1	20.53	21.3±1
				1	14	1	20.56	21.3±1
				8	0	2	20.87	21.3±1
				8	4	2	20.53	21.3±1
				8	7	2	20.72	21.3±1
				15	0	2	20.93	21.3±1
3MHz	18900	1880.0	QPSK	1	0	0	21.88	21.3±1
				1	7	0	21.89	21.3±1
				1	14	0	21.88	21.3±1
				8	0	1	20.92	21.3±1
				8	4	1	20.96	21.3±1
				8	7	1	20.95	21.3±1
				15	0	1	21.01	21.3±1
			16QAM	1	0	1	20.60	21.3±1
				1	7	1	20.50	21.3±1
				1	14	1	20.40	21.3±1
				8	0	2	20.88	21.3±1
				8	4	2	20.98	21.3±1
				8	7	2	20.54	21.3±1
				15	0	2	20.47	21.3±1
3MHz	19175	1907.5	QPSK	1	0	0	21.78	21.3±1
				1	7	0	21.65	21.3±1
				1	14	0	21.55	21.3±1
				8	0	1	20.84	21.3±1
				8	4	1	20.83	21.3±1
				8	7	1	20.82	21.3±1
				15	0	1	20.87	21.3±1
			16QAM	1	0	1	21.18	21.3±1
				1	7	1	21.11	21.3±1
				1	14	1	21.16	21.3±1
				8	0	2	20.86	21.3±1
				8	4	2	20.88	21.3±1
				8	7	2	20.83	21.3±1
				15	0	2	20.48	21.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
1.4MHz	18607	1850.7	QPSK	1	0	0	21.85	22.5±1
				1	2	0	21.88	22.5±1
				1	5	0	21.89	22.5±1
				3	0	0	21.99	21.3±1
				3	1	0	21.95	21.3±1
				3	2	0	21.96	21.3±1
				6	0	1	20.89	21.3±1
	18900	1880.0	16QAM	1	0	1	20.35	21.3±1
				1	2	1	20.34	21.3±1
				1	5	1	20.36	21.3±1
				3	0	1	20.86	21.3±1
				3	1	1	20.58	21.3±1
				3	2	1	20.49	21.3±1
				6	0	2	20.89	21.3±1
	19193	1909.3	QPSK	1	0	0	21.97	21.3±1
				1	2	0	21.96	21.3±1
				1	5	0	21.91	21.3±1
				3	0	0	22.07	21.3±1
				3	1	0	22.03	21.3±1
				3	2	0	22.08	21.3±1
				6	0	1	21.00	21.3±1
	18607	1850.7	16QAM	1	0	1	20.57	21.3±1
				1	2	1	20.56	21.3±1
				1	5	1	20.59	21.3±1
				3	0	1	20.74	21.3±1
				3	1	1	20.88	21.3±1
				3	2	1	20.56	21.3±1
				6	0	2	20.85	21.3±1
	18900	1880.0	QPSK	1	0	0	21.76	21.3±1
				1	2	0	21.73	21.3±1
				1	5	0	21.78	21.3±1
				3	0	0	21.73	21.3±1
				3	1	0	21.76	21.3±1
				3	2	0	21.74	21.3±1
				6	0	1	20.86	21.3±1
	19193	1909.3	16QAM	1	0	1	20.58	21.3±1
				1	2	1	20.56	21.3±1
				1	5	1	20.54	21.3±1
				3	0	1	20.35	21.3±1
				3	1	1	20.39	21.3±1
				3	2	1	20.34	21.3±1
				6	0	2	20.81	21.3±1



LTE Band 4

BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
20050	1720.0	QPSK	1	0	0	21.55	21.3±1	
			1	49	0	21.68	21.3±1	
			1	99	0	21.89	21.3±1	
			50	0	1	20.68	21.3±1	
			50	24	1	20.79	21.3±1	
			50	49	1	20.56	21.3±1	
			100	0	1	20.31	21.3±1	
		16QAM	1	0	1	20.35	21.3±1	
			1	49	1	20.49	21.3±1	
			1	99	1	20.86	21.3±1	
			50	0	2	20.74	21.3±1	
			50	24	2	20.58	21.3±1	
			50	49	2	20.49	21.3±1	
			100	0	2	20.36	21.3±1	
20MHz	20175	QPSK	1	0	0	21.55	21.3±1	
			1	49	0	21.69	21.3±1	
			1	99	0	21.81	21.3±1	
			50	0	1	20.73	21.3±1	
			50	24	1	20.75	21.3±1	
			50	49	1	20.74	21.3±1	
			100	0	1	20.73	21.3±1	
		16QAM	1	0	1	20.88	21.3±1	
			1	49	1	20.96	21.3±1	
			1	99	1	21.09	21.3±1	
			50	0	2	20.68	21.3±1	
			50	24	2	20.86	21.3±1	
			50	49	2	20.87	21.3±1	
			100	0	2	20.76	21.3±1	
20300	1745.0	QPSK	1	0	0	21.94	21.3±1	
			1	49	0	21.88	21.3±1	
			1	99	0	21.62	21.3±1	
			50	0	1	20.33	21.3±1	
			50	24	1	20.43	21.3±1	
			50	49	1	20.36	21.3±1	
			100	0	1	20.39	21.3±1	
		16QAM	1	0	1	21.31	21.3±1	
			1	49	1	21.15	21.3±1	
			1	99	1	20.89	21.3±1	
			50	0	2	20.87	21.3±1	
			50	24	2	20.86	21.3±1	
			50	49	2	20.84	21.3±1	
			100	0	2	20.51	21.3±1	



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
20025	1717.5	QPSK	1	0	0	21.55	21.3±1	
			1	37	0	21.56	21.3±1	
			1	74	0	21.76	21.3±1	
			36	0	1	20.37	21.3±1	
			36	16	1	20.36	21.3±1	
			36	35	1	20.39	21.3±1	
			75	0	1	20.87	21.3±1	
		16QAM	1	0	1	20.76	21.3±1	
			1	37	1	20.55	21.3±1	
			1	74	1	20.42	21.3±1	
			36	0	2	20.56	21.3±1	
			36	16	2	20.78	21.3±1	
			36	35	2	20.59	21.3±1	
			75	0	2	20.45	21.3±1	
15MHz	20175	QPSK	1	0	0	21.68	21.3±1	
			1	37	0	21.78	21.3±1	
			1	74	0	21.95	21.3±1	
			36	0	1	20.67	21.3±1	
			36	16	1	20.65	21.3±1	
			36	35	1	20.68	21.3±1	
			75	0	1	20.75	21.3±1	
		16QAM	1	0	1	20.66	21.3±1	
			1	37	1	20.74	21.3±1	
			1	74	1	21.05	21.3±1	
			36	0	2	20.46	21.3±1	
			36	16	2	20.49	21.3±1	
			36	35	2	20.48	21.3±1	
			75	0	2	20.73	21.3±1	
20325	1747.5	QPSK	1	0	0	21.78	21.3±1	
			1	37	0	21.64	21.3±1	
			1	74	0	21.59	21.3±1	
			36	0	1	20.50	21.3±1	
			36	16	1	20.53	21.3±1	
			36	35	1	20.54	21.3±1	
			75	0	1	20.42	21.3±1	
		16QAM	1	0	1	21.44	21.3±1	
			1	37	1	21.36	21.3±1	
			1	74	1	21.15	21.3±1	
			36	0	2	20.98	21.3±1	
			36	16	2	20.92	21.3±1	
			36	35	2	20.95	21.3±1	
			75	0	2	20.48	21.3±1	



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
20000	20000	1715.0	QPSK	1	0	0	21.59	21.3±1
				1	24	0	21.50	21.3±1
				1	49	0	21.42	21.3±1
				25	0	1	20.42	21.3±1
				25	12	1	20.45	21.3±1
				25	24	1	20.43	21.3±1
				50	0	1	20.55	21.3±1
			16QAM	1	0	1	20.71	21.3±1
				1	24	1	20.46	21.3±1
				1	49	1	20.88	21.3±1
				25	0	2	20.66	21.3±1
				25	12	2	20.45	21.3±1
				25	24	2	20.63	21.3±1
				50	0	2	20.50	21.3±1
10MHz	10MHz	20175	QPSK	1	0	0	21.87	21.3±1
				1	24	0	21.94	21.3±1
				1	49	0	21.88	21.3±1
				25	0	1	20.95	21.3±1
				25	12	1	20.96	21.3±1
				25	24	1	20.93	21.3±1
				50	0	1	20.82	21.3±1
			16QAM	1	0	1	20.57	20.3±1
				1	24	1	20.66	20.3±1
				1	49	1	20.75	20.3±1
				25	0	2	20.16	20.3±1
				25	12	2	20.13	20.3±1
				25	24	2	20.11	20.3±1
				50	0	2	20.93	20.3±1
20350	20350	1750.0	QPSK	1	0	0	21.42	21.3±1
				1	24	0	21.55	21.3±1
				1	49	0	21.68	21.3±1
				25	0	1	20.55	21.3±1
				25	12	1	20.56	21.3±1
				25	24	1	20.58	21.3±1
				50	0	1	20.42	21.3±1
			16QAM	1	0	1	21.14	21.3±1
				1	24	1	21.16	21.3±1
				1	49	1	21.20	21.3±1
				25	0	2	20.98	21.3±1
				25	12	2	20.95	21.3±1
				25	24	2	20.93	21.3±1
				50	0	2	20.51	21.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
20000	20000	1715.0	QPSK	1	0	0	21.59	21.3±1
				1	24	0	21.50	21.3±1
				1	49	0	21.42	21.3±1
				25	0	1	20.42	21.3±1
				25	12	1	20.45	21.3±1
				25	24	1	20.43	21.3±1
				50	0	1	20.55	21.3±1
			16QAM	1	0	1	20.71	21.3±1
				1	24	1	20.46	21.3±1
				1	49	1	20.88	21.3±1
				25	0	2	20.66	21.3±1
				25	12	2	20.45	21.3±1
				25	24	2	20.63	21.3±1
				50	0	2	20.50	21.3±1
10MHz	10MHz	20175	QPSK	1	0	0	21.87	21.3±1
				1	24	0	21.94	21.3±1
				1	49	0	21.88	21.3±1
				25	0	1	20.95	21.3±1
				25	12	1	20.96	21.3±1
				25	24	1	20.93	21.3±1
				50	0	1	20.82	21.3±1
			16QAM	1	0	1	20.57	20.3±1
				1	24	1	20.66	20.3±1
				1	49	1	20.75	20.3±1
				25	0	2	20.16	20.3±1
				25	12	2	20.13	20.3±1
				25	24	2	20.11	20.3±1
				50	0	2	20.93	20.3±1
20350	20350	1750.0	QPSK	1	0	0	21.42	21.3±1
				1	24	0	21.55	21.3±1
				1	49	0	21.68	21.3±1
				25	0	1	20.55	21.3±1
				25	12	1	20.56	21.3±1
				25	24	1	20.58	21.3±1
				50	0	1	20.42	21.3±1
			16QAM	1	0	1	21.14	21.3±1
				1	24	1	21.16	21.3±1
				1	49	1	21.20	21.3±1
				25	0	2	20.98	21.3±1
				25	12	2	20.95	21.3±1
				25	24	2	20.93	21.3±1
				50	0	2	20.51	21.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
5MHz	20000	1715.0	QPSK	1	0	0	21.72	21.3±1
				1	12	0	21.68	21.3±1
				1	24	0	21.60	21.3±1
				12	0	1	20.60	21.3±1
				12	6	1	20.63	21.3±1
				12	11	1	20.65	21.3±1
				25	0	1	20.52	21.3±1
			16QAM	1	0	1	20.73	21.3±1
				1	12	1	20.64	21.3±1
				1	24	1	20.55	21.3±1
				12	0	2	20.35	21.3±1
				12	6	2	20.36	21.3±1
				12	11	2	20.38	21.3±1
				25	0	2	20.59	21.3±1
5MHz	20175	1732.5	QPSK	1	0	0	21.99	21.3±1
				1	12	0	21.99	21.3±1
				1	24	0	22.03	21.3±1
				12	0	1	21.07	21.3±1
				12	6	1	21.03	21.3±1
				12	11	1	20.55	21.3±1
				25	0	1	20.93	21.3±1
			16QAM	1	0	1	20.61	21.3±1
				1	12	1	20.70	21.3±1
				1	24	1	20.77	21.3±1
				12	0	2	20.45	21.3±1
				12	6	2	20.48	21.3±1
				12	11	2	20.43	21.3±1
				25	0	2	20.83	21.3±1
5MHz	20350	1750.0	QPSK	1	0	0	21.40	21.3±1
				1	12	0	21.56	21.3±1
				1	24	0	21.74	21.3±1
				12	0	1	20.57	21.3±1
				12	6	1	20.56	21.3±1
				12	11	1	20.58	21.3±1
				25	0	1	20.59	21.3±1
			16QAM	1	0	1	20.66	21.3±1
				1	12	1	20.78	21.3±1
				1	24	1	20.91	21.3±1
				12	0	2	20.76	21.3±1
				12	6	2	20.75	21.3±1
				12	11	2	20.77	21.3±1
				25	0	2	20.56	21.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
3MHz	19965	1711.5	QPSK	1	0	0	21.64	21.3±1
				1	7	0	21.53	21.3±1
				1	14	0	21.48	21.3±1
				8	0	1	20.57	21.3±1
				8	4	1	20.53	21.3±1
				8	7	1	20.58	21.3±1
				15	0	1	20.53	21.3±1
			16QAM	1	0	1	20.77	21.3±1
				1	7	1	20.56	21.3±1
				1	14	1	20.42	21.3±1
				8	0	2	20.48	21.3±1
				8	4	2	20.46	21.3±1
				8	7	2	20.44	21.3±1
				15	0	2	20.53	21.3±1
3MHz	20175	1732.5	QPSK	1	0	0	22.07	21.3±1
				1	7	0	22.05	21.3±1
				1	14	0	22.02	21.3±1
				8	0	1	21.03	21.3±1
				8	4	1	21.01	21.3±1
				8	7	1	20.98	21.3±1
				15	0	1	21.02	21.3±1
			16QAM	1	0	1	20.74	21.3±1
				1	7	1	20.73	21.3±1
				1	14	1	20.72	21.3±1
				8	0	2	20.93	21.3±1
				8	4	2	20.96	21.3±1
				8	7	2	20.95	21.3±1
				15	0	2	20.52	21.3±1
3MHz	20385	1753.5	QPSK	1	0	0	21.46	21.3±1
				1	7	0	21.55	21.3±1
				1	14	0	21.66	21.3±1
				8	0	1	20.60	21.3±1
				8	4	1	20.00	21.3±1
				8	7	1	20.63	21.3±1
				15	0	1	20.64	21.3±1
			16QAM	1	0	1	21.06	21.3±1
				1	7	1	21.11	21.3±1
				1	14	1	21.19	21.3±1
				8	0	2	20.60	21.3±1
				8	4	2	20.64	21.3±1
				8	7	2	20.63	21.3±1
				15	0	2	20.83	21.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
1.4MHz	19957	1710.7	QPSK	1	0	0	21.65	21.3±1
				1	2	0	21.63	21.3±1
				1	5	0	21.69	21.3±1
				3	0	0	21.65	21.3±1
				3	1	0	21.63	21.3±1
				3	2	0	20.69	21.3±1
				6	0	1	21.24	21.3±1
			16QAM	1	0	1	21.26	21.3±1
				1	2	1	21.28	21.3±1
				1	5	1	21.15	21.3±1
				3	0	1	20.46	21.3±1
				3	1	1	20.58	21.3±1
				3	2	1	20.62	21.3±1
				6	0	2	22.21	21.3±1
1.4MHz	20175	1732.5	QPSK	1	0	0	22.15	21.3±1
				1	2	0	22.02	21.3±1
				1	5	0	21.94	21.3±1
				3	0	0	21.93	21.3±1
				3	1	0	21.96	21.3±1
				3	2	0	21.12	21.3±1
				6	0	1	20.78	21.3±1
			16QAM	1	0	1	20.77	21.3±1
				1	2	1	20.74	21.3±1
				1	5	1	20.56	21.3±1
				3	0	1	20.59	21.3±1
				3	1	1	20.54	21.3±1
				3	2	1	20.68	21.3±1
				6	0	2	21.58	21.3±1
1.4MHz	20393	1754.3	QPSK	1	0	0	21.68	21.3±1
				1	2	0	21.80	21.3±1
				1	5	0	21.65	21.3±1
				3	0	0	21.62	21.3±1
				3	1	0	21.00	21.3±1
				3	2	0	21.65	21.3±1
				6	0	1	21.76	21.3±1
			16QAM	1	0	1	20.61	21.3±1
				1	2	1	20.76	21.3±1
				1	5	1	20.44	21.3±1
				3	0	1	20.75	21.3±1
				3	1	1	20.59	21.3±1
				3	2	1	20.89	21.3±1
				6	0	2	20.74	21.3±1



LTE Band 5:

BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
20450	829	QPSK	1	0	0	22.78	22±1	
			1	24	0	22.65	22±1	
			1	49	0	22.48	22±1	
			25	0	1	21.62	22±1	
			25	12	1	21.63	22±1	
			25	24	1	21.64	22±1	
			50	0	1	21.26	22±1	
		16QAM	1	0	1	21.34	21.3±1	
			1	24	1	21.25	21.3±1	
			1	49	1	21.02	21.3±1	
			25	0	2	20.76	21.3±1	
			25	12	2	20.72	21.3±1	
			25	24	2	20.73	21.3±1	
			50	0	2	20.35	21.3±1	
10MHz	20525	QPSK	1	0	0	22.36	22±1	
			1	24	0	22.46	22±1	
			1	49	0	22.71	22±1	
			25	0	1	21.29	22±1	
			25	12	1	21.25	22±1	
			25	24	1	21.26	22±1	
			50	0	1	21.30	22±1	
		16QAM	1	0	1	21.02	21.3±1	
			1	24	1	21.15	21.3±1	
			1	49	1	21.36	21.3±1	
			25	0	2	20.68	21.3±1	
			25	12	2	20.69	21.3±1	
			25	24	2	20.65	21.3±1	
			50	0	2	20.38	21.3±1	
20600	844	QPSK	1	0	0	22.47	22±1	
			1	24	0	22.36	22±1	
			1	49	0	22.27	22±1	
			25	0	1	21.53	22±1	
			25	12	1	21.56	22±1	
			25	24	1	21.54	22±1	
			50	0	1	21.39	22±1	
		16QAM	1	0	1	22.08	21.3±1	
			1	24	1	21.99	21.3±1	
			1	49	1	21.92	21.3±1	
			25	0	2	20.85	21.3±1	
			25	12	2	20.83	21.3±1	
			25	24	2	20.81	21.3±1	
			50	0	2	20.43	21.3±1	



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
20425	826.5	QPSK	1	0	0	22.91	22±1	
			1	12	0	22.85	22±1	
			1	24	0	22.70	22±1	
			12	0	1	21.74	22±1	
			12	6	1	21.76	22±1	
			12	11	1	21.72	22±1	
			25	0	1	21.68	22±1	
		16QAM	1	0	1	21.78	21.3±1	
			1	12	1	21.75	21.3±1	
			1	24	1	21.68	21.3±1	
			12	0	2	20.84	21.3±1	
			12	6	2	20.82	21.3±1	
			12	11	2	20.83	21.3±1	
			25	0	2	20.70	21.3±1	
5MHz	20525	QPSK	1	0	0	22.39	22±1	
			1	12	0	22.42	22±1	
			1	24	0	22.57	22±1	
			12	0	1	21.46	22±1	
			12	6	1	21.45	22±1	
			12	11	1	21.48	22±1	
			25	0	1	21.34	22±1	
		16QAM	1	0	1	21.59	21.3±1	
			1	12	1	21.65	21.3±1	
			1	24	1	21.70	21.3±1	
			12	0	2	20.76	21.3±1	
			12	6	2	20.72	21.3±1	
			12	11	2	20.75	21.3±1	
			25	0	2	20.38	21.3±1	
20625	846.5	QPSK	1	0	0	22.69	22±1	
			1	12	0	22.59	22±1	
			1	24	0	22.22	22±1	
			12	0	1	21.74	22±1	
			12	6	1	21.75	22±1	
			12	11	1	21.76	22±1	
			25	0	1	21.45	22±1	
		16QAM	1	0	1	21.38	21.3±1	
			1	12	1	21.25	21.3±1	
			1	24	1	21.18	21.3±1	
			12	0	2	20.78	21.3±1	
			12	6	2	20.85	21.3±1	
			12	11	2	20.83	21.3±1	
			25	0	2	20.62	21.3±1	



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
20415	825.5	20415	QPSK	1	0	0	22.79	22±1
				1	7	0	22.78	22±1
				1	14	0	22.70	22±1
				8	0	1	21.73	22±1
				8	4	1	21.74	22±1
				8	7	1	21.71	22±1
				15	0	1	21.70	22±1
			16QAM	1	0	1	21.36	21.3±1
				1	7	1	21.30	21.3±1
				1	14	1	20.98	21.3±1
				8	0	2	20.62	21.3±1
				8	4	2	20.65	21.3±1
				8	7	2	20.63	21.3±1
				15	0	2	20.71	21.3±1
3MHz	20525	3MHz	QPSK	1	0	0	22.39	22±1
				1	7	0	22.45	22±1
				1	14	0	22.45	22±1
				8	0	1	21.40	22±1
				8	4	1	21.43	22±1
				8	7	1	21.45	22±1
				15	0	1	21.33	22±1
			16QAM	1	0	1	21.09	21.3±1
				1	7	1	21.10	21.3±1
				1	14	1	21.14	21.3±1
				8	0	2	20.27	20.3±1
				8	4	2	20.23	20.3±1
				8	7	2	20.25	20.3±1
				15	0	2	20.39	20.3±1
20635	20635	20635	QPSK	1	0	0	22.32	22±1
				1	7	0	22.26	22±1
				1	14	0	22.16	22±1
				8	0	1	21.62	22±1
				8	4	1	21.65	22±1
				8	7	1	21.65	22±1
				15	0	1	21.49	22±1
			16QAM	1	0	1	22.07	21.3±1
				1	7	1	21.98	21.3±1
				1	14	1	21.82	21.3±1
				8	0	2	20.58	21.3±1
				8	4	2	20.56	21.3±1
				8	7	2	20.59	21.3±1
				15	0	2	20.63	21.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
20407	824.7	20407	QPSK	1	0	0	22.72	22±1
				1	2	0	22.70	22±1
				1	5	0	22.66	22±1
				3	0	0	22.85	22±1
				3	1	0	22.84	22±1
				3	2	0	22.82	22±1
				6	0	1	21.78	22±1
			16QAM	1	0	1	21.17	21.3±1
				1	2	1	21.16	21.3±1
				1	5	1	21.12	21.3±1
				3	0	1	20.88	21.3±1
				3	1	1	20.89	21.3±1
				3	2	1	20.86	21.3±1
				6	0	2	20.72	21.3±1
1.4MHz	20525	20525	QPSK	1	0	0	22.48	22±1
				1	2	0	22.49	22±1
				1	5	0	22.52	22±1
				3	0	0	22.54	22±1
				3	1	0	22.56	22±1
				3	2	0	22.53	22±1
				6	0	1	21.47	22±1
			16QAM	1	0	1	21.12	21.3±1
				1	2	1	21.11	21.3±1
				1	5	1	21.10	21.3±1
				3	0	1	20.88	21.3±1
				3	1	1	20.89	21.3±1
				3	2	1	20.85	21.3±1
				6	0	2	20.36	21.3±1
20643	20643	20643	QPSK	1	0	0	22.39	22±1
				1	2	0	22.30	22±1
				1	5	0	22.28	22±1
				3	0	0	22.41	22±1
				3	1	0	22.45	22±1
				3	2	0	22.43	22±1
				6	0	1	21.38	22±1
			16QAM	1	0	1	21.05	21.3±1
				1	2	1	21.04	21.3±1
				1	5	1	21.03	21.3±1
				3	0	1	20.87	21.3±1
				3	1	1	20.84	21.3±1
				3	2	1	20.82	21.3±1
				6	0	2	20.33	21.3±1



LTE Band 12:

BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
23060	704	704	QPSK	1	0	0	22.57	22±1
				1	24	0	22.46	22±1
				1	49	0	22.29	22±1
				25	0	1	21.35	22±1
				25	12	1	21.34	22±1
				25	24	1	21.39	22±1
				50	0	1	21.22	22±1
		16QAM	16QAM	1	0	1	21.05	20.3±1
				1	24	1	20.98	20.3±1
				1	49	1	20.88	20.3±1
				25	0	2	20.65	20.3±1
				25	12	2	20.64	20.3±1
				25	24	2	20.63	20.3±1
				50	0	2	20.27	20.3±1
10MHz	23095	707.5	QPSK	1	0	0	22.29	22±1
				1	24	0	22.30	22±1
				1	49	0	22.38	22±1
				25	0	1	21.21	22±1
				25	12	1	21.19	22±1
				25	24	1	21.10	22±1
				50	0	1	21.07	22±1
		16QAM	16QAM	1	0	1	20.93	21.3±1
				1	24	1	21.02	21.3±1
				1	49	1	21.09	21.3±1
				25	0	2	20.65	21.3±1
				25	12	2	20.63	21.3±1
				25	24	2	20.68	21.3±1
				50	0	2	20.42	21.3±1
23130	23130	711	QPSK	1	0	0	22.04	21.3±1
				1	24	0	21.85	21.3±1
				1	49	0	21.65	21.3±1
				25	0	1	21.30	21.3±1
				25	12	1	21.36	21.3±1
				25	24	1	21.42	21.3±1
				50	0	1	21.01	21.3±1
		16QAM	16QAM	1	0	1	21.65	21.3±1
				1	24	1	21.47	21.3±1
				1	49	1	21.25	21.3±1
				25	0	2	20.77	21.3±1
				25	12	2	20.74	21.3±1
				25	24	2	20.73	21.3±1
				50	0	2	20.82	21.3±1



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
23035	701.5	QPSK	1	0	0	22.47	22±1	
			1	12	0	22.45	22±1	
			1	24	0	22.41	22±1	
			12	0	1	21.61	22±1	
			12	6	1	21.53	22±1	
			12	11	1	21.64	22±1	
			25	0	1	21.32	22±1	
		16QAM	1	0	1	21.41	21.3±1	
			1	12	1	21.35	21.3±1	
			1	24	1	21.30	21.3±1	
			12	0	2	20.76	21.3±1	
			12	6	2	20.75	21.3±1	
			12	11	2	20.74	21.3±1	
			25	0	2	20.34	21.3±1	
5MHz	23095	QPSK	1	0	0	22.21	22±1	
			1	12	0	22.26	22±1	
			1	24	0	22.31	22±1	
			12	0	1	21.16	22±1	
			12	6	1	21.19	22±1	
			12	11	1	21.15	22±1	
			25	0	1	21.23	22±1	
		16QAM	1	0	1	21.39	21.3±1	
			1	12	1	21.46	21.3±1	
			1	24	1	21.50	21.3±1	
			12	0	2	20.85	21.3±1	
			12	6	2	20.83	21.3±1	
			12	11	2	20.81	21.3±1	
			25	0	2	20.67	21.3±1	
23155	713.5	QPSK	1	0	0	22.43	22±1	
			1	12	0	22.06	22±1	
			1	24	0	21.81	22±1	
			12	0	1	21.37	22±1	
			12	6	1	21.56	22±1	
			12	11	1	21.39	22±1	
			25	0	1	21.13	22±1	
		16QAM	1	0	1	21.03	21.3±1	
			1	12	1	20.88	21.3±1	
			1	24	1	20.51	21.3±1	
			12	0	2	20.53	21.3±1	
			12	6	2	20.62	21.3±1	
			12	11	2	20.64	21.3±1	
			25	0	2	20.56	21.3±1	



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
23025	700.5	QPSK	1	0	0	22.46	22±1	
			1	7	0	22.50	22±1	
			1	14	0	22.51	22±1	
			8	0	1	21.57	22±1	
			8	4	1	21.56	22±1	
			8	7	1	21.53	22±1	
			15	0	1	21.47	22±1	
		16QAM	1	0	1	21.12	21.3±1	
			1	7	1	21.06	21.3±1	
			1	14	1	21.06	21.3±1	
			8	0	2	20.46	21.3±1	
			8	4	2	20.45	21.3±1	
			8	7	2	20.43	21.3±1	
			15	0	2	20.54	21.3±1	
3MHz	23095	QPSK	1	0	0	22.19	22±1	
			1	7	0	22.20	22±1	
			1	14	0	22.30	22±1	
			8	0	1	21.31	22±1	
			8	4	1	21.35	22±1	
			8	7	1	21.36	22±1	
			15	0	1	21.26	22±1	
		16QAM	1	0	1	20.84	20.3±1	
			1	7	1	20.88	20.3±1	
			1	14	1	20.95	20.3±1	
			8	0	2	20.24	20.3±1	
			8	4	2	20.23	20.3±1	
			8	7	2	20.25	20.3±1	
			15	0	2	20.29	20.3±1	
23025	714.5	QPSK	1	0	0	22.06	21.3±1	
			1	7	0	22.00	21.3±1	
			1	14	0	21.60	21.3±1	
			8	0	1	20.98	21.3±1	
			8	4	1	20.95	21.3±1	
			8	7	1	20.93	21.3±1	
			15	0	1	20.98	21.3±1	
		16QAM	1	0	1	21.72	21.3±1	
			1	7	1	21.70	21.3±1	
			1	14	1	21.26	21.3±1	
			8	0	2	20.92	21.3±1	
			8	4	2	20.96	21.3±1	
			8	7	2	20.95	21.3±1	
			15	0	2	20.79	21.3±1	



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
23017	699.7	QPSK	1	0	0	22.47	22±1	
			1	2	0	22.46	22±1	
			1	5	0	22.00	22±1	
			3	0	0	22.54	22±1	
			3	1	0	22.59	22±1	
			3	2	0	22.53	22±1	
			6	0	1	21.65	22±1	
		16QAM	1	0	1	20.98	21.3±1	
			1	2	1	21.16	21.3±1	
			1	5	1	21.12	21.3±1	
			3	0	1	20.75	21.3±1	
			3	1	1	20.73	21.3±1	
			3	2	1	20.78	21.3±1	
			6	0	2	20.46	21.3±1	
1.4MHz	23095	QPSK	1	0	0	22.10	21.3±1	
			1	2	0	22.05	21.3±1	
			1	5	0	22.03	21.3±1	
			3	0	0	22.11	21.3±1	
			3	1	0	22.15	21.3±1	
			3	2	0	22.13	21.3±1	
			6	0	1	21.18	21.3±1	
		16QAM	1	0	1	20.79	21.3±1	
			1	2	1	20.76	21.3±1	
			1	5	1	20.78	21.3±1	
			3	0	1	20.78	21.3±1	
			3	1	1	20.79	21.3±1	
			3	2	1	20.76	21.3±1	
			6	0	2	20.57	21.3±1	
23173	715.3	QPSK	1	0	0	21.84	21.3±1	
			1	2	0	21.79	21.3±1	
			1	5	0	21.74	21.3±1	
			3	0	0	21.91	21.3±1	
			3	1	0	21.93	21.3±1	
			3	2	0	21.86	21.3±1	
			6	0	1	20.91	21.3±1	
		16QAM	1	0	1	20.32	21.3±1	
			1	2	1	21.24	21.3±1	
			1	5	1	21.19	21.3±1	
			3	0	1	20.52	21.3±1	
			3	1	1	21.13	21.3±1	
			3	2	1	21.13	21.3±1	
			6	0	2	20.92	21.3±1	



LTE Band 17:

BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
23780	709.0	QPSK	1	0	0	22.27	22±1	
			1	24	0	22.25	22±1	
			1	49	0	22.25	22±1	
			25	0	1	21.06	22±1	
			25	12	1	21.05	22±1	
			25	24	1	21.03	22±1	
			50	0	1	21.05	22±1	
		16QAM	1	0	1	20.77	21.3±1	
			1	24	1	20.77	21.3±1	
			1	49	1	20.78	21.3±1	
			25	0	2	20.46	21.3±1	
			25	12	2	20.48	21.3±1	
			25	24	2	20.43	21.3±1	
			50	0	2	21.07	21.3±1	
10MHz	23790	QPSK	1	0	0	22.05	21.3±1	
			1	24	0	22.09	21.3±1	
			1	49	0	22.11	21.3±1	
			25	0	1	21.21	21.3±1	
			25	12	1	21.22	21.3±1	
			25	24	1	21.23	21.3±1	
			50	0	1	21.10	21.3±1	
		16QAM	1	0	1	20.64	21.3±1	
			1	24	1	20.66	21.3±1	
			1	49	1	20.73	21.3±1	
			25	0	2	20.48	21.3±1	
			25	12	2	20.48	21.3±1	
			25	24	2	20.41	21.3±1	
			50	0	2	21.19	21.3±1	
23800	711.0	QPSK	1	0	0	22.10	21.3±1	
			1	24	0	21.96	21.3±1	
			1	49	0	21.68	21.3±1	
			25	0	1	21.10	21.3±1	
			25	12	1	21.14	21.3±1	
			25	24	1	21.45	21.3±1	
			50	0	1	20.98	21.3±1	
		16QAM	1	0	1	21.71	21.3±1	
			1	24	1	21.56	21.3±1	
			1	49	1	21.30	21.3±1	
			25	0	2	20.59	21.3±1	
			25	12	2	20.56	21.3±1	
			25	24	2	20.51	21.3±1	
			50	0	2	21.14	21.3±1	



BW (MHz)	Ch	Freq. (MHz)	Mode	ULRB Allocation	ULRB Offset	MPR	Average power (dBm)	Tuneup Power tolerant
23755	706.5	QPSK	1	0	0	22.36	22±1	
			1	12	0	22.35	22±1	
			1	24	0	22.35	22±1	
			12	0	1	21.13	22±1	
			12	6	1	21.15	22±1	
			12	11	1	21.14	22±1	
			25	0	1	21.06	22±1	
		16QAM	1	0	1	21.28	21.3±1	
			1	12	1	21.26	21.3±1	
			1	24	1	21.27	21.3±1	
			12	0	2	20.58	21.3±1	
			12	6	2	20.56	21.3±1	
			12	11	2	20.57	21.3±1	
			25	0	2	21.11	21.3±1	
5MHz	23790	QPSK	1	0	0	22.11	21.3±1	
			1	12	0	22.16	21.3±1	
			1	24	0	22.30	21.3±1	
			12	0	1	21.21	21.3±1	
			12	6	1	21.23	21.3±1	
			12	11	1	21.24	21.3±1	
			25	0	1	21.32	21.3±1	
		16QAM	1	0	1	21.76	21.3±1	
			1	12	1	21.65	21.3±1	
			1	24	1	21.55	21.3±1	
			12	0	2	20.56	21.3±1	
			12	6	2	20.53	21.3±1	
			12	11	2	20.54	21.3±1	
			25	0	2	21.31	21.3±1	
23825	713.5	QPSK	1	0	0	22.46	21.3±1	
			1	12	0	22.26	21.3±1	
			1	24	0	21.73	21.3±1	
			12	0	1	21.32	21.3±1	
			12	6	1	21.35	21.3±1	
			12	11	1	21.36	21.3±1	
			25	0	1	21.07	21.3±1	
		16QAM	1	0	1	21.03	21.3±1	
			1	12	1	20.78	21.3±1	
			1	24	1	20.49	21.3±1	
			12	0	2	20.45	21.3±1	
			12	6	2	20.48	21.3±1	
			12	11	2	20.43	21.3±1	
			25	0	2	21.20	21.3±1	



1.9 Occupied Bandwidth

1.9.1 Definition

According to FCC section 2.1049, 22.917(b), 24.238(b), 27.53(h)(3) and 27.53(m)(6), the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Occupied bandwidth is also known as the 99% emission bandwidth, or 26dB bandwidth taking the total RF output power as reference.

1.9.2 Test Description

See section 4.2.1 of this report.



1.9.3 Test Results

LTE Band 2:

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	18607	1850.7	16QAM	1.1067	1.327
			QPSK	1.1045	1.335
1.4	18900	1880	16QAM	1.1036	1.321
			QPSK	1.1018	1.318
1.4	19193	1909.3	16QAM	1.1077	1.342
			QPSK	1.1011	1.353
3	18615	1851.5	16QAM	2.7400	3.141
			QPSK	2.7424	3.114
3	18900	1880	16QAM	2.7308	3.113
			QPSK	2.7349	3.123
3	19185	1908.5	16QAM	2.7560	3.183
			QPSK	2.7502	3.140
5	18625	1852.5	16QAM	4.5083	5.073
			QPSK	4.5012	5.056
5	18900	1880	16QAM	4.4945	5.079
			QPSK	4.5059	5.060
5	19175	1907.5	16QAM	4.5078	5.081
			QPSK	4.5010	5.023
10	18650	1855	16QAM	9.0460	10.084
			QPSK	9.0257	9.980
10	18900	1880	16QAM	9.0542	10.121
			QPSK	9.0054	10.134
10	19150	1905	16QAM	9.0465	10.240
			QPSK	9.0936	10.227
15	18675	1857.5	16QAM	13.4096	14.830
			QPSK	13.4439	14.852
15	18900	1880	16QAM	13.4171	14.903
			QPSK	13.4114	14.890
15	19125	1902.5	16QAM	13.4732	14.914
			QPSK	13.4590	14.904
20	18700	1860	16QAM	17.8284	19.505
			QPSK	17.8631	19.350
20	18900	1880	16QAM	17.8888	19.486
			QPSK	17.8471	19.587
20	19100	1900	16QAM	17.8447	19.271
			QPSK	17.8308	19.370



LTE Band 4

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	19957	1710.7	16QAM	1.0971	1.315
			QPSK	1.0921	1.296
1.4	20175	1732.5	16QAM	1.0955	1.347
			QPSK	1.0968	1.308
1.4	20393	1754.3	16QAM	1.1021	1.301
			QPSK	1.1045	1.313
3	19965	1711.5	16QAM	2.7400	3.127
			QPSK	2.7312	3.154
3	20175	1732.5	16QAM	2.7545	3.171
			QPSK	2.7438	3.164
3	20385	1753.5	16QAM	2.7620	3.140
			QPSK	2.7740	3.144
5	19975	1712.5	16QAM	4.5011	5.105
			QPSK	4.5142	5.063
5	20175	1732.5	16QAM	4.5034	4.994
			QPSK	4.5060	5.129
5	20375	1752.5	16QAM	4.5091	5.077
			QPSK	4.5101	5.061
10	20000	1715	16QAM	9.0387	10.156
			QPSK	9.0401	10.227
10	20175	1732.5	16QAM	9.0716	10.179
			QPSK	9.0657	9.995
10	20350	1750	16QAM	9.0534	10.135
			QPSK	9.0569	10.036
15	20025	1717.5	16QAM	13.4216	14.757
			QPSK	13.4175	14.837
15	20175	1732.5	16QAM	13.4854	14.808
			QPSK	13.4634	14.958
15	20325	1747.5	16QAM	13.4535	14.886
			QPSK	13.4296	14.631
20	20050	1720	16QAM	17.8573	19.273
			QPSK	17.8518	19.389
20	20175	1732.5	16QAM	17.9143	19.561
			QPSK	17.8965	19.278
20	20300	1745	16QAM	17.8461	19.219
			QPSK	17.8308	19.209



LTE Band 5

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	20407	824.7	16QAM	1.1094	1.312
			QPSK	1.0936	1.322
1.4	20525	936.5	16QAM	1.0962	1.326
			QPSK	1.1000	1.341
1.4	20643	949.3	16QAM	1.0950	1.311
			QPSK	1.0933	1.320
3	20415	825.5	16QAM	2.7339	3.170
			QPSK	2.7412	3.128
3	20525	936.5	16QAM	2.7356	3.176
			QPSK	2.7369	3.150
3	20635	847.5	16QAM	2.7398	3.152
			QPSK	2.7323	3.104
5	20425	826.5	16QAM	4.5002	5.019
			QPSK	4.4968	5.032
5	20525	936.5	16QAM	4.4929	5.100
			QPSK	4.4990	5.064
5	20625	846.5	16QAM	4.5106	5.034
			QPSK	4.5021	4.987
10	20450	829	16QAM	9.0440	9.998
			QPSK	9.0553	10.192
10	20525	936.5	16QAM	9.0572	10.054
			QPSK	9.0476	10.058
10	20800	844	16QAM	9.0381	9.977
			QPSK	8.9961	10.030



LTE Band 12

BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
1.4	23017	699.7	16QAM	1.0959	1.296
			QPSK	1.1059	1.318
1.4	23095	707.5	16QAM	1.1036	1.325
			QPSK	1.1044	1.342
1.4	23173	715.3	16QAM	1.0905	1.316
			QPSK	1.0912	1.311
3	23025	700.5	16QAM	2.7581	3.155
			QPSK	2.7488	3.154
3	23095	707.5	16QAM	2.7409	3.150
			QPSK	2.7515	3.126
3	23165	714.5	16QAM	2.7354	3.144
			QPSK	2.7332	3.126
5	23035	701.5	16QAM	4.5286	4.992
			QPSK	4.5383	5.157
5	23095	707.5	16QAM	4.4922	4.972
			QPSK	4.4786	5.039
5	23055	713.5	16QAM	4.5311	5.071
			QPSK	4.5075	5.048
10	23060	704	16QAM	8.9806	10.109
			QPSK	9.0203	10.104
10	23095	707.5	16QAM	9.0303	10.199
			QPSK	9.0150	9.934
10	23130	711	16QAM	9.1300	10.291
			QPSK	9.1449	10.078

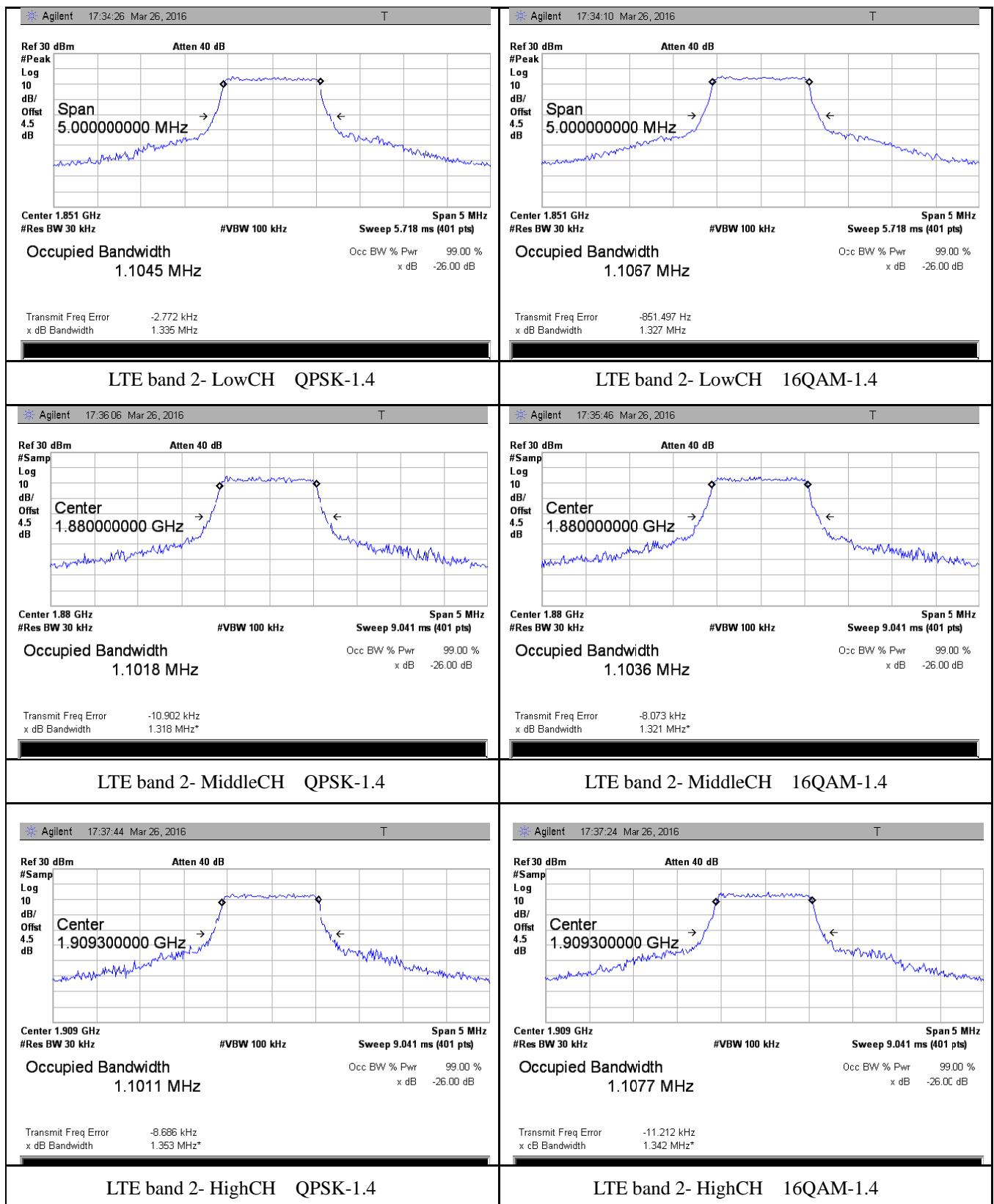


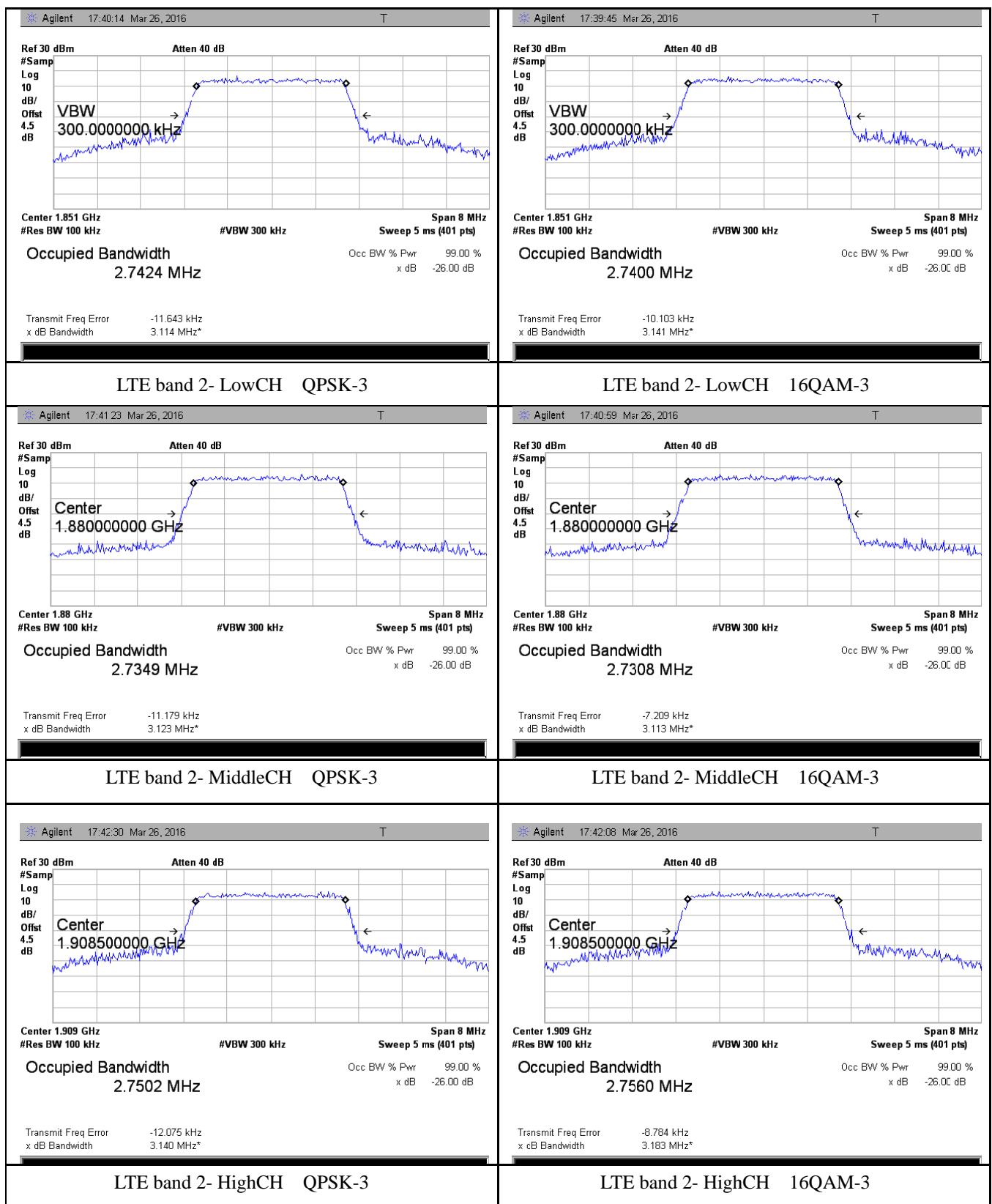
LTE Band 17

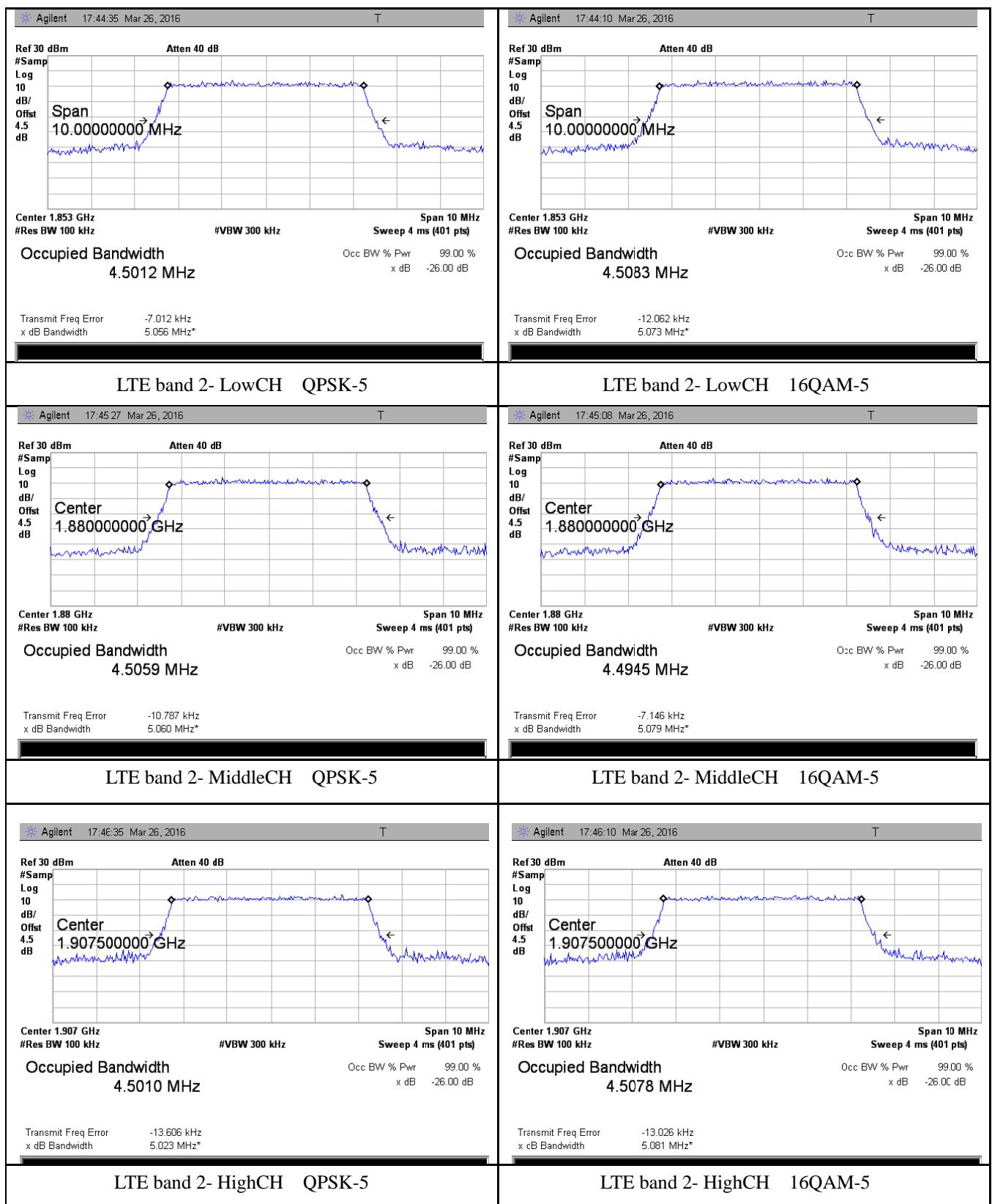
BW(MHz)	Channel	Frequency (MHz)	Modulation	99% Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
5	23755	706.5	16QAM	4.4856	5.034
			QPSK	4.4902	4.980
5	23790	710	16QAM	4.5115	5.001
			QPSK	4.5241	5.143
5	23825	713.5	16QAM	4.5188	5.099
			QPSK	4.5245	5.085
10	23780	709	16QAM	9.0279	9.957
			QPSK	9.0642	10.047
10	23790	710	16QAM	9.0662	10.053
			QPSK	9.1003	10.145
10	23800	711	16QAM	9.1217	10.106
			QPSK	9.1435	9.977

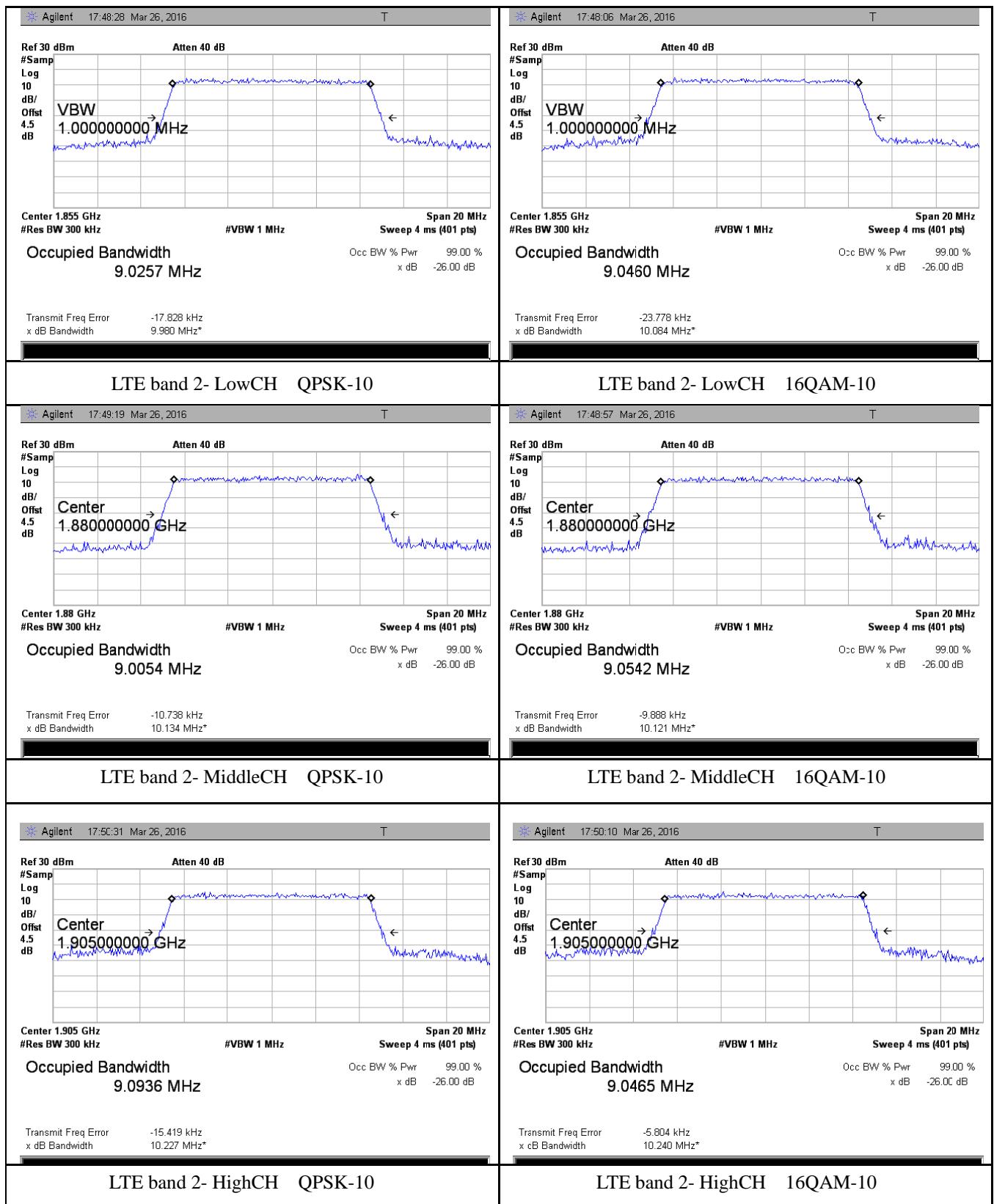


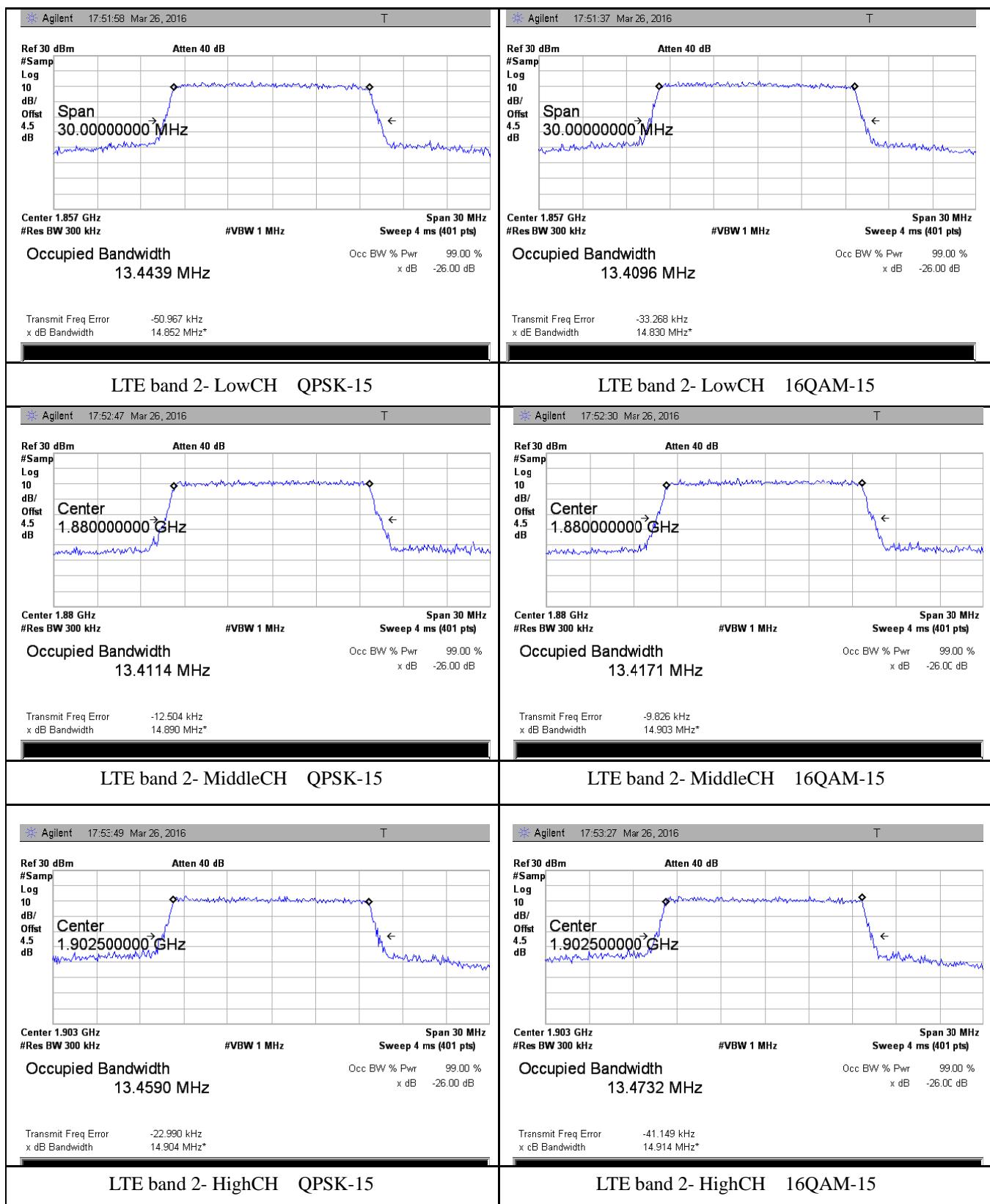
Test Plots:

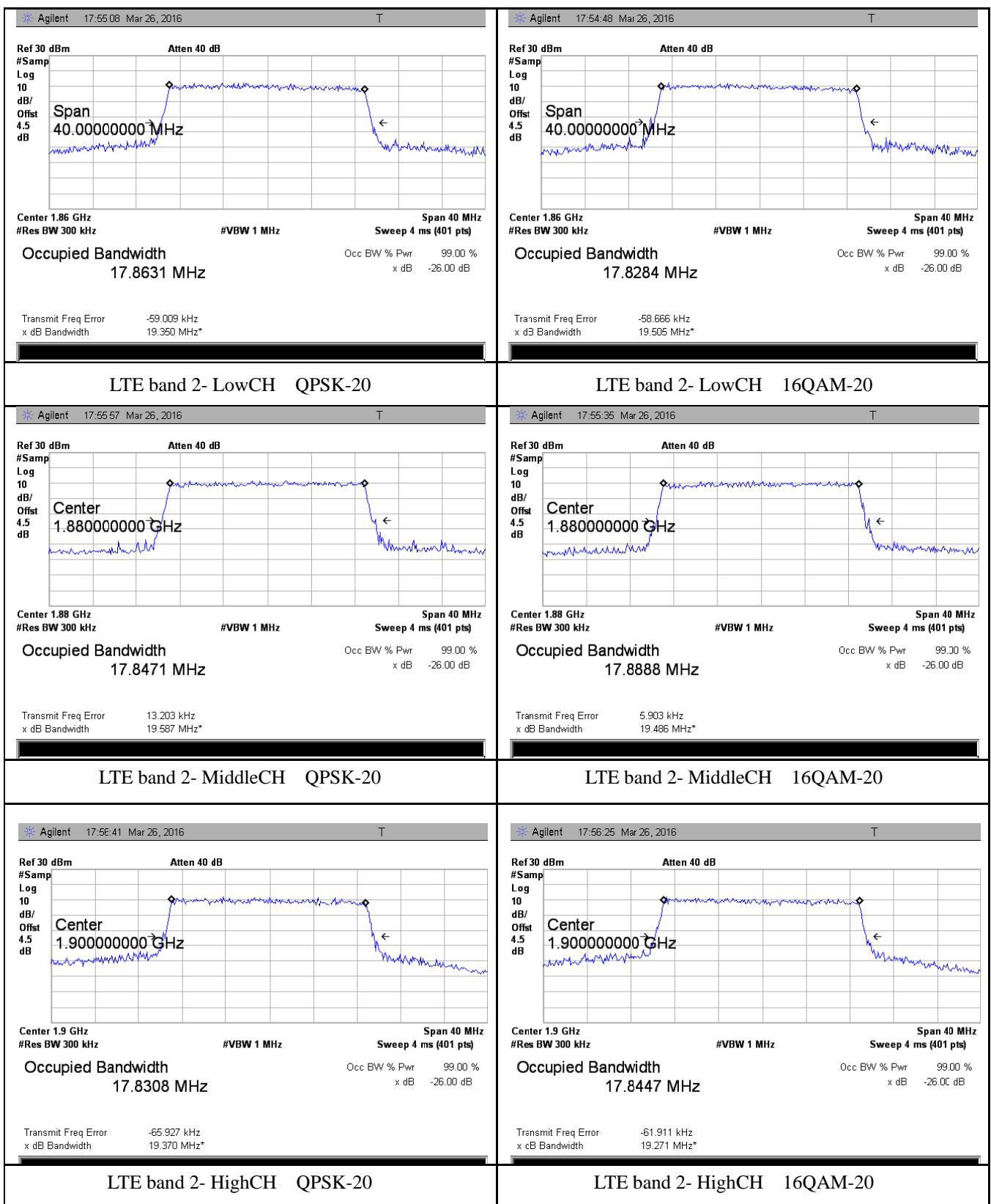






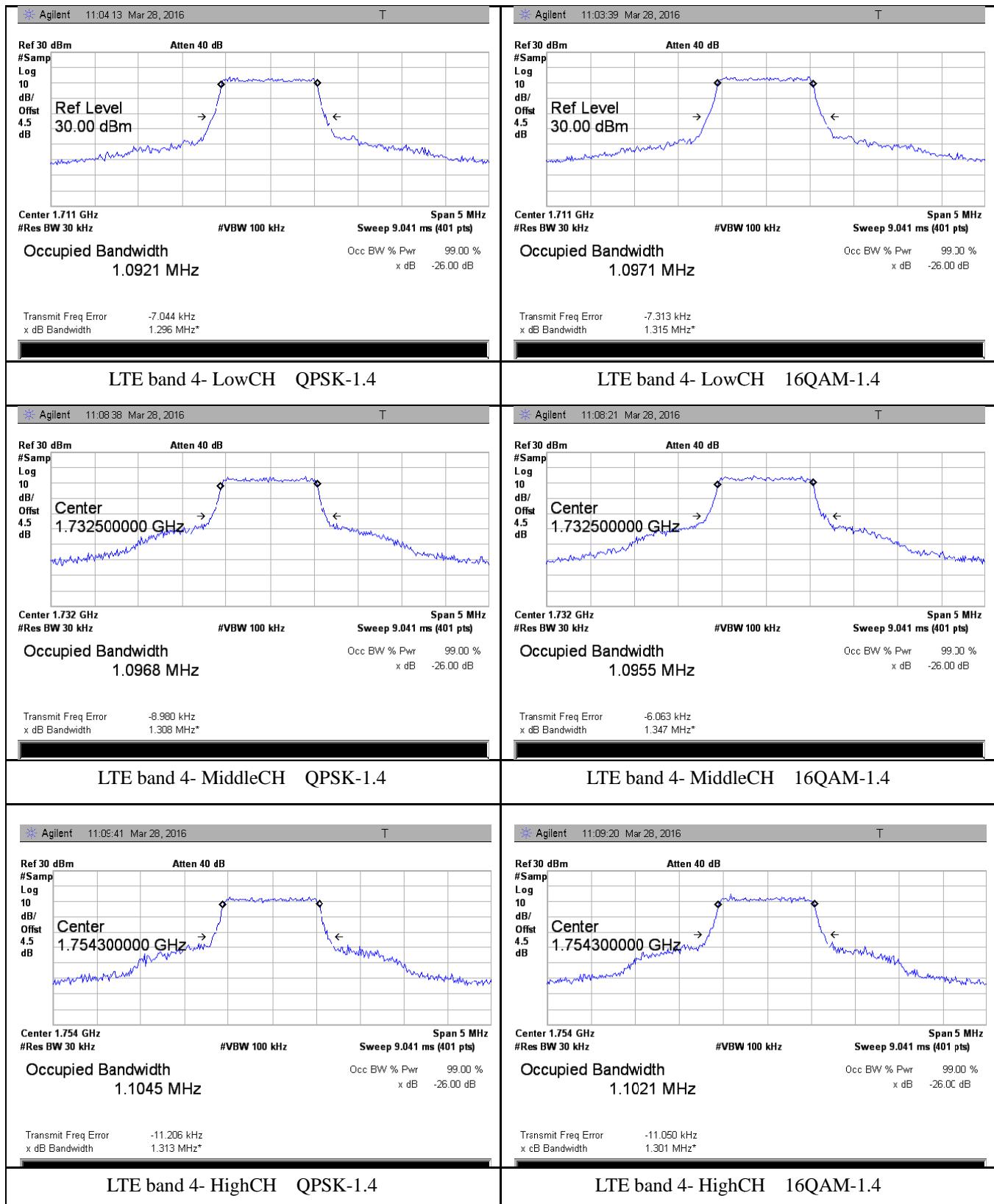


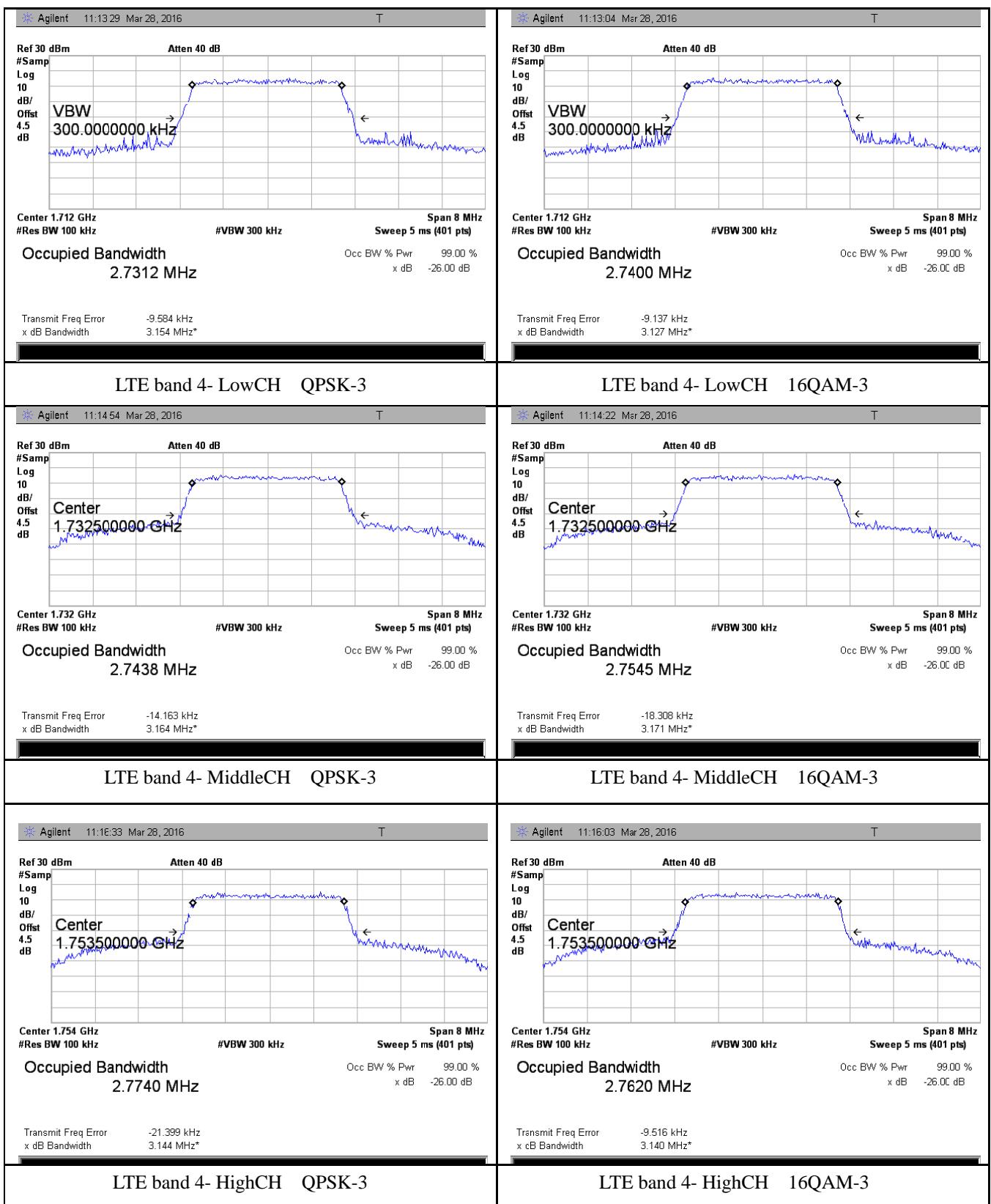


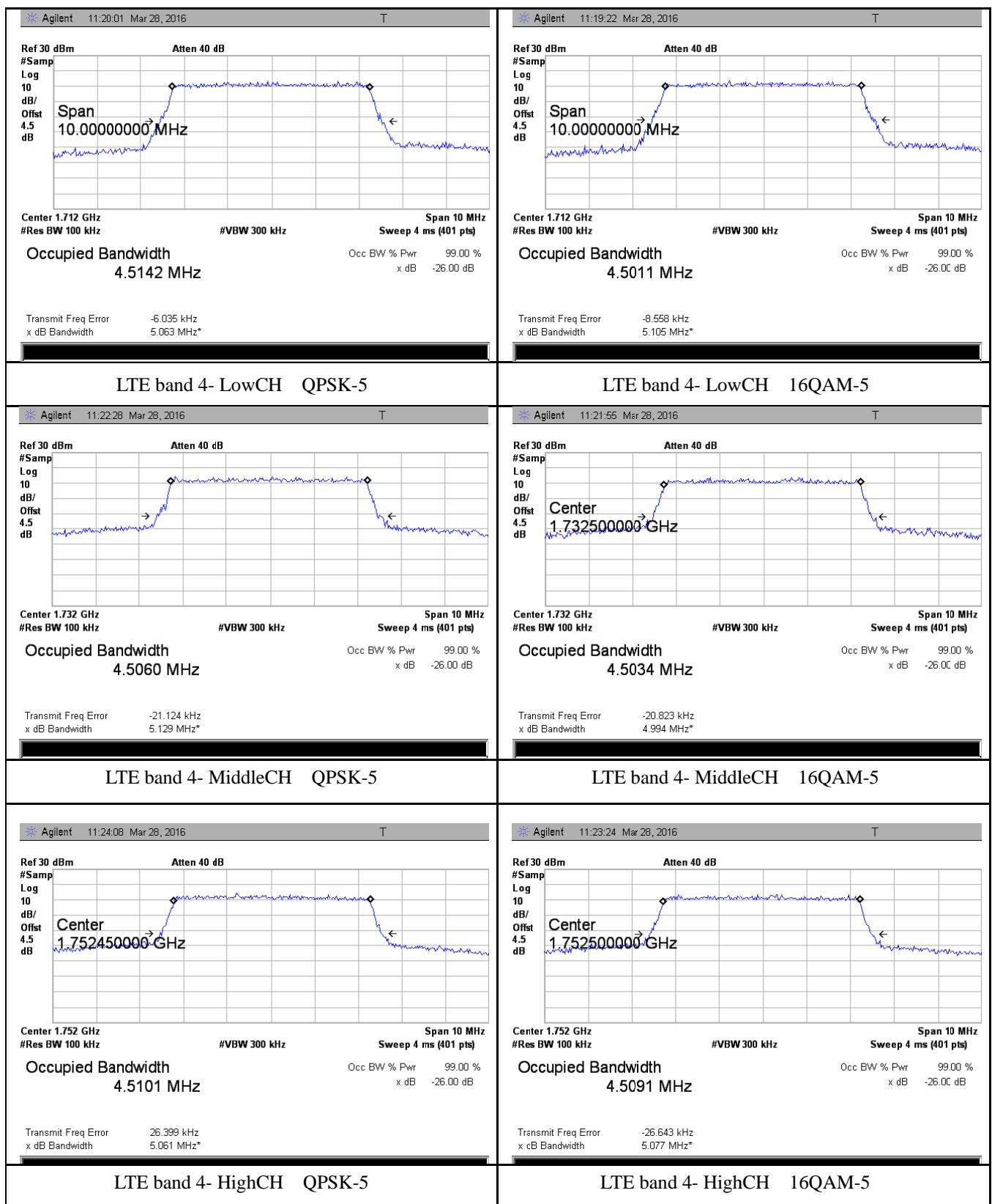


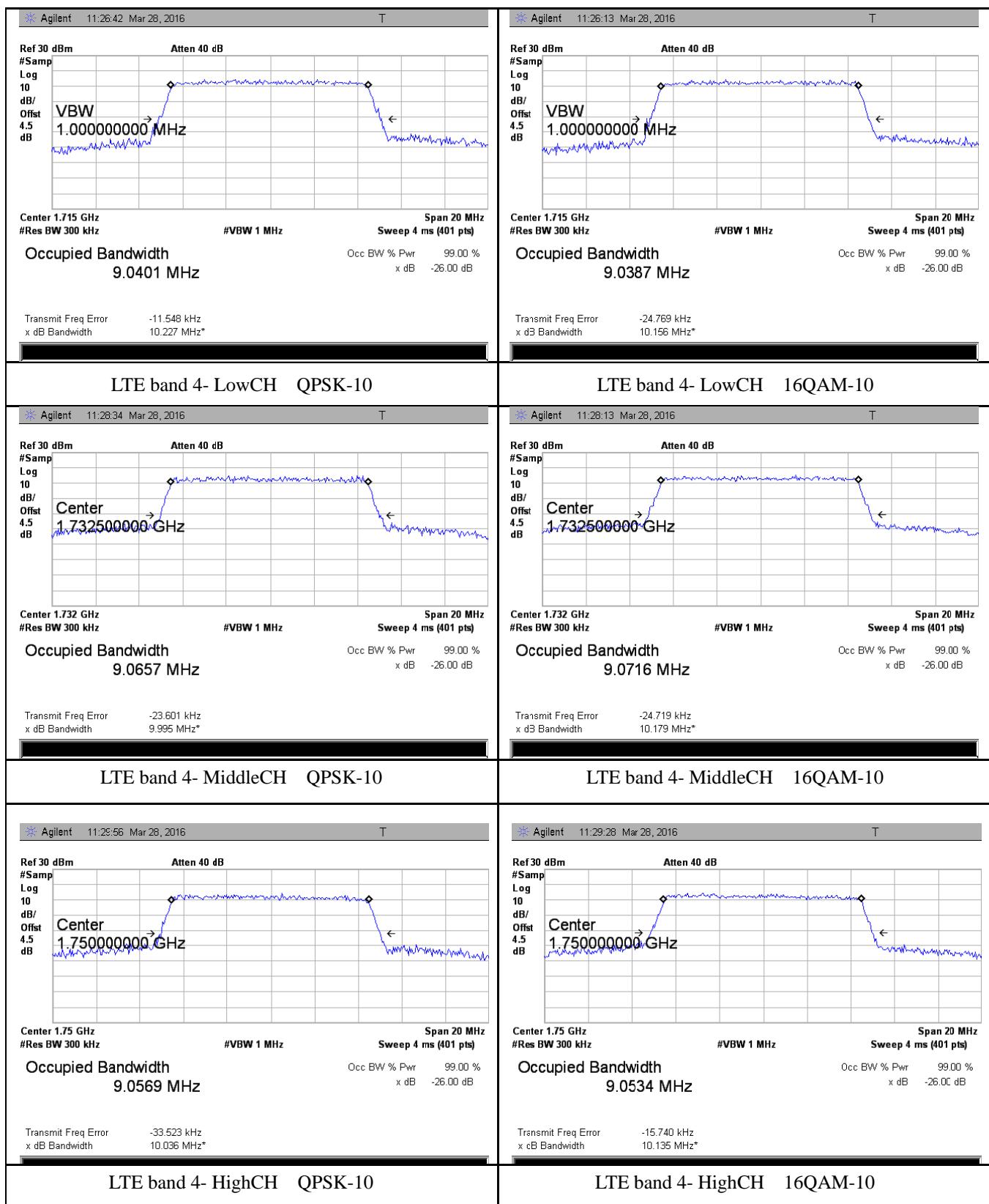


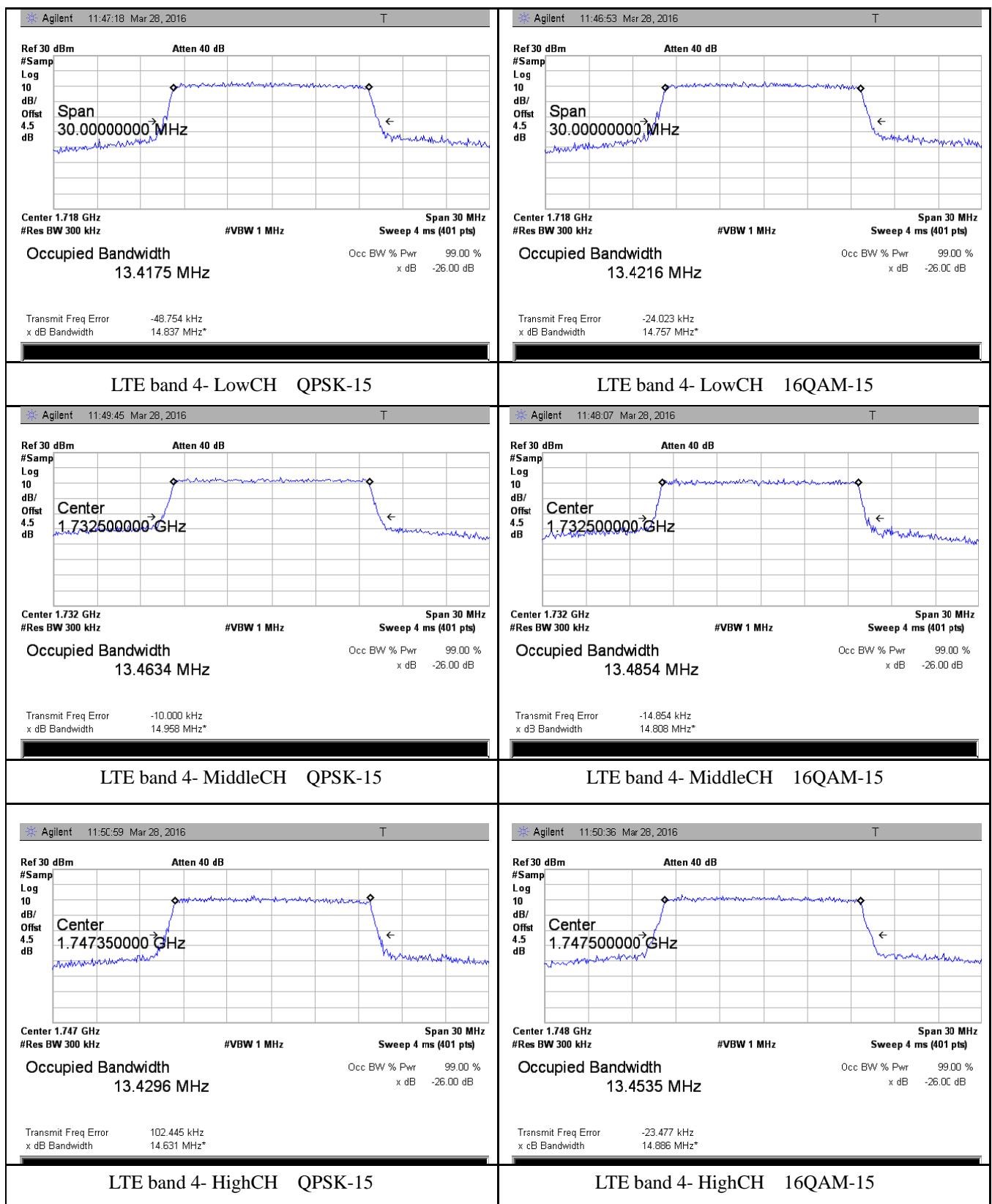
LTE Band 4:

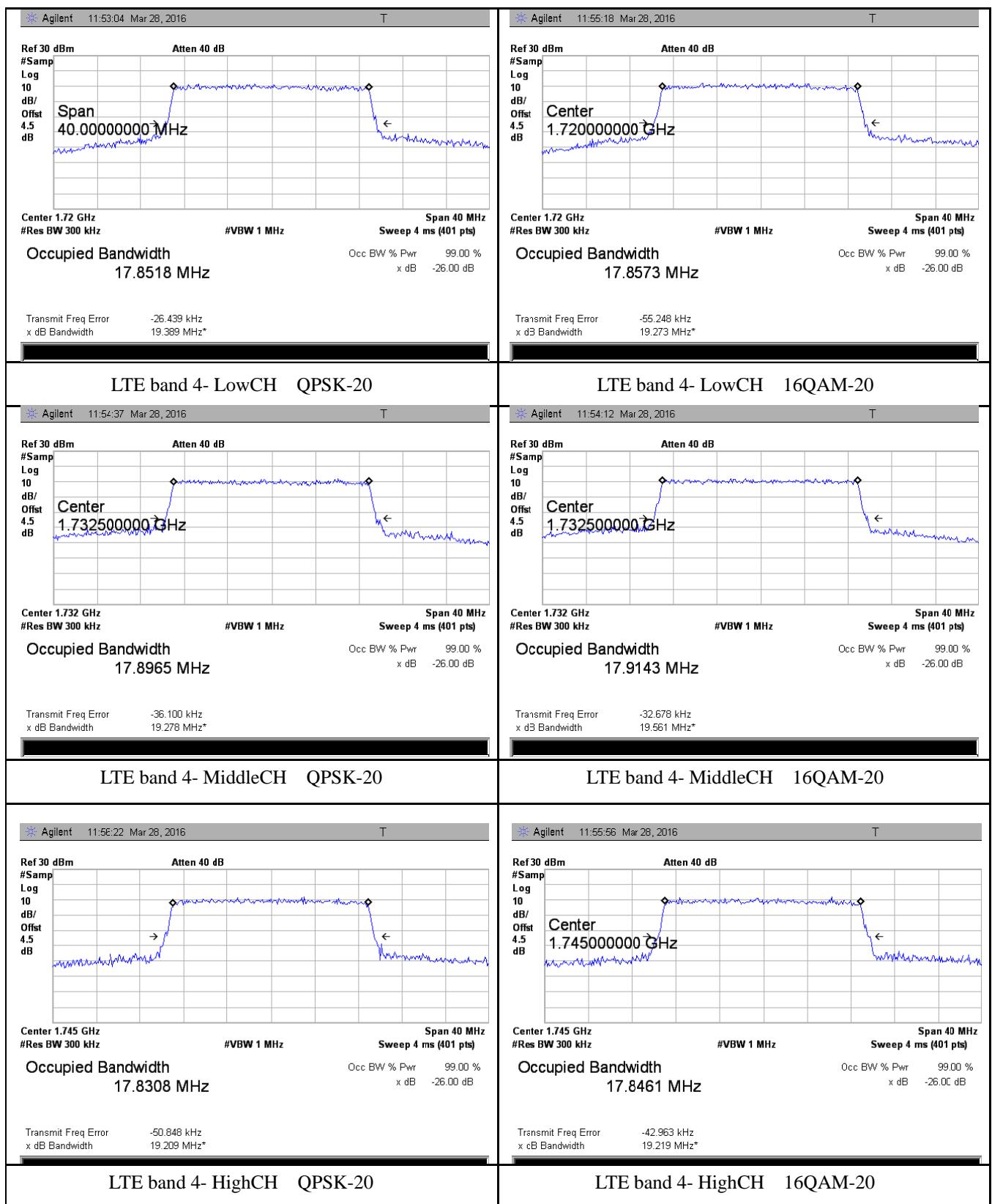






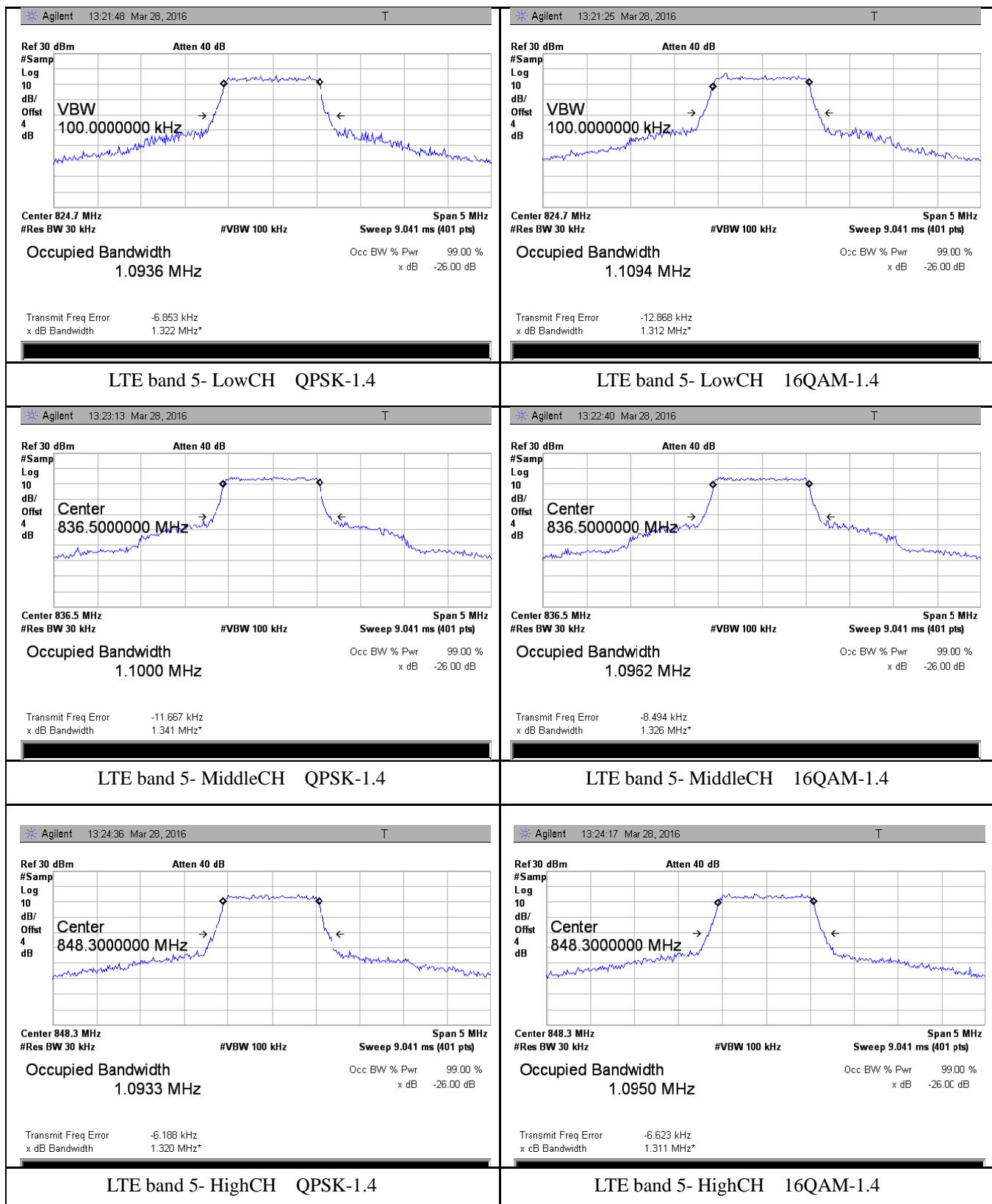


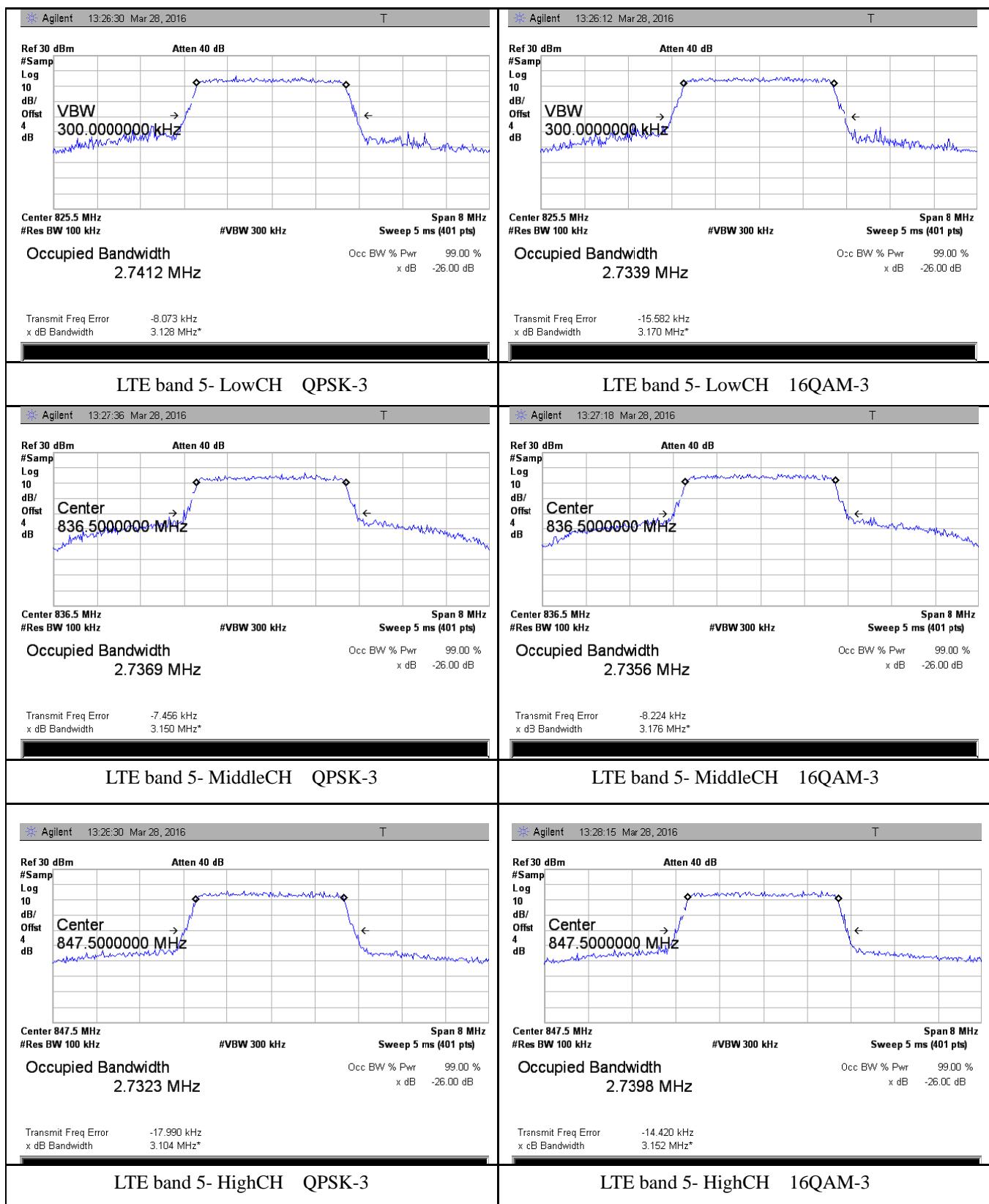


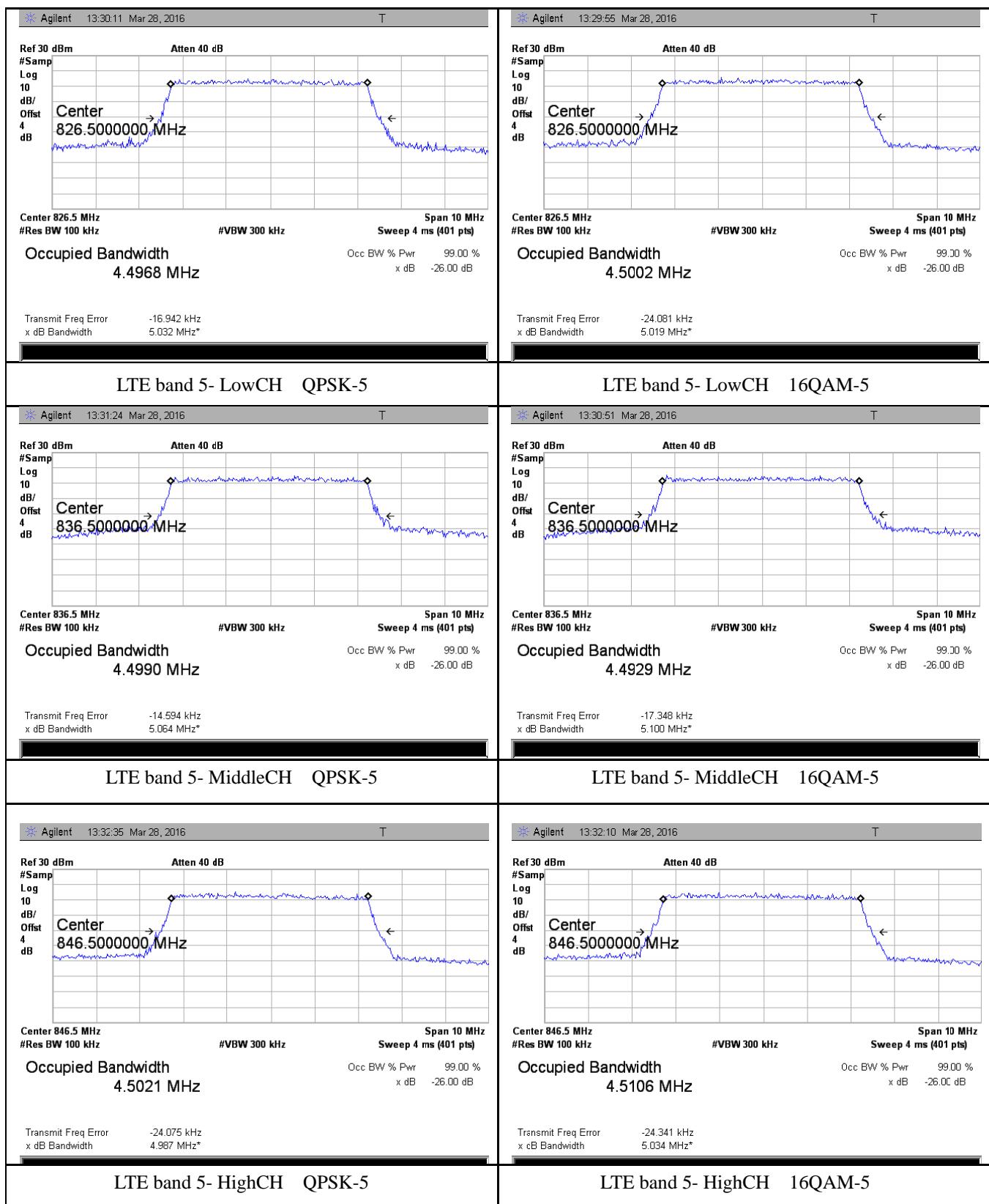


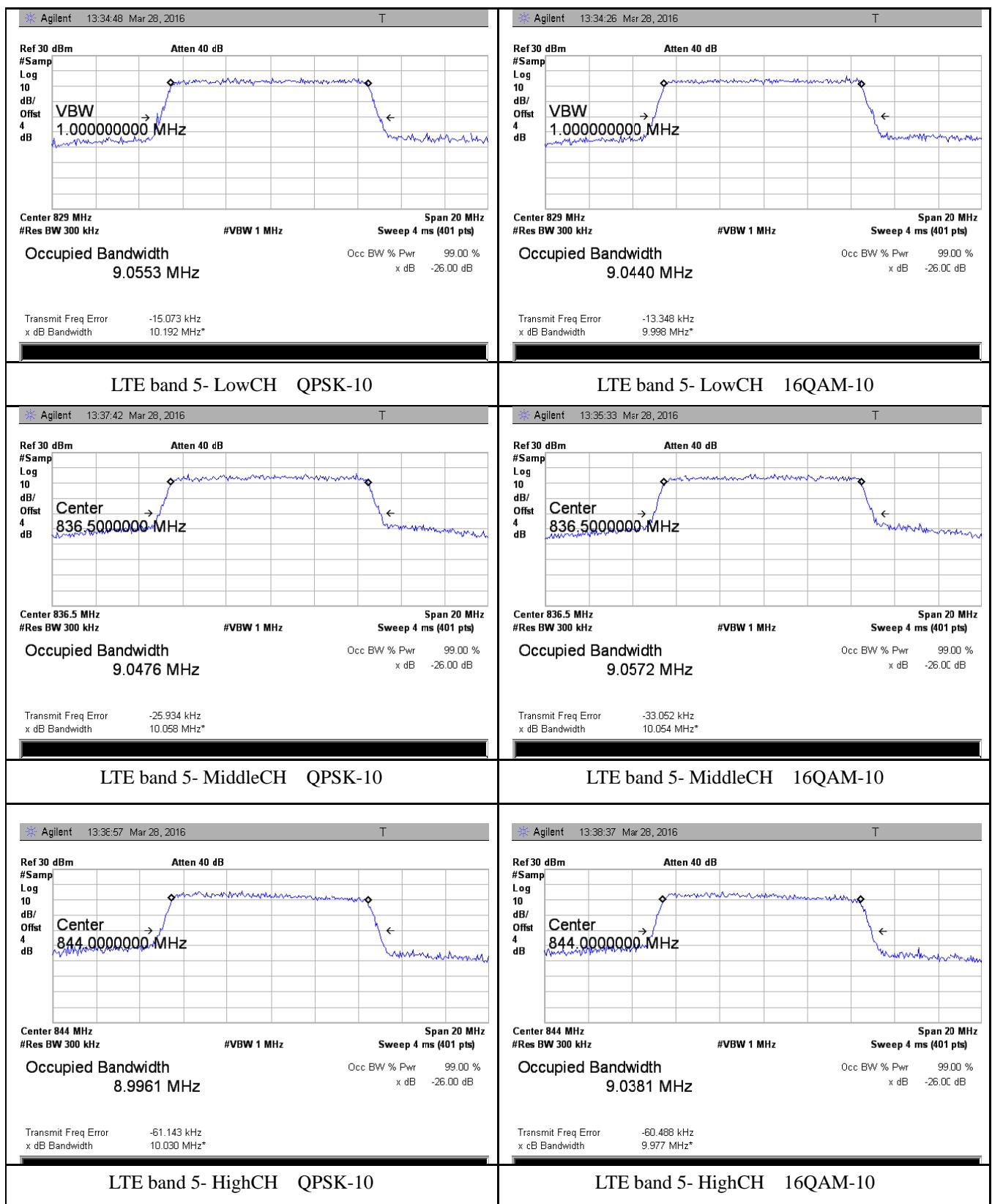


LTE Band 5:



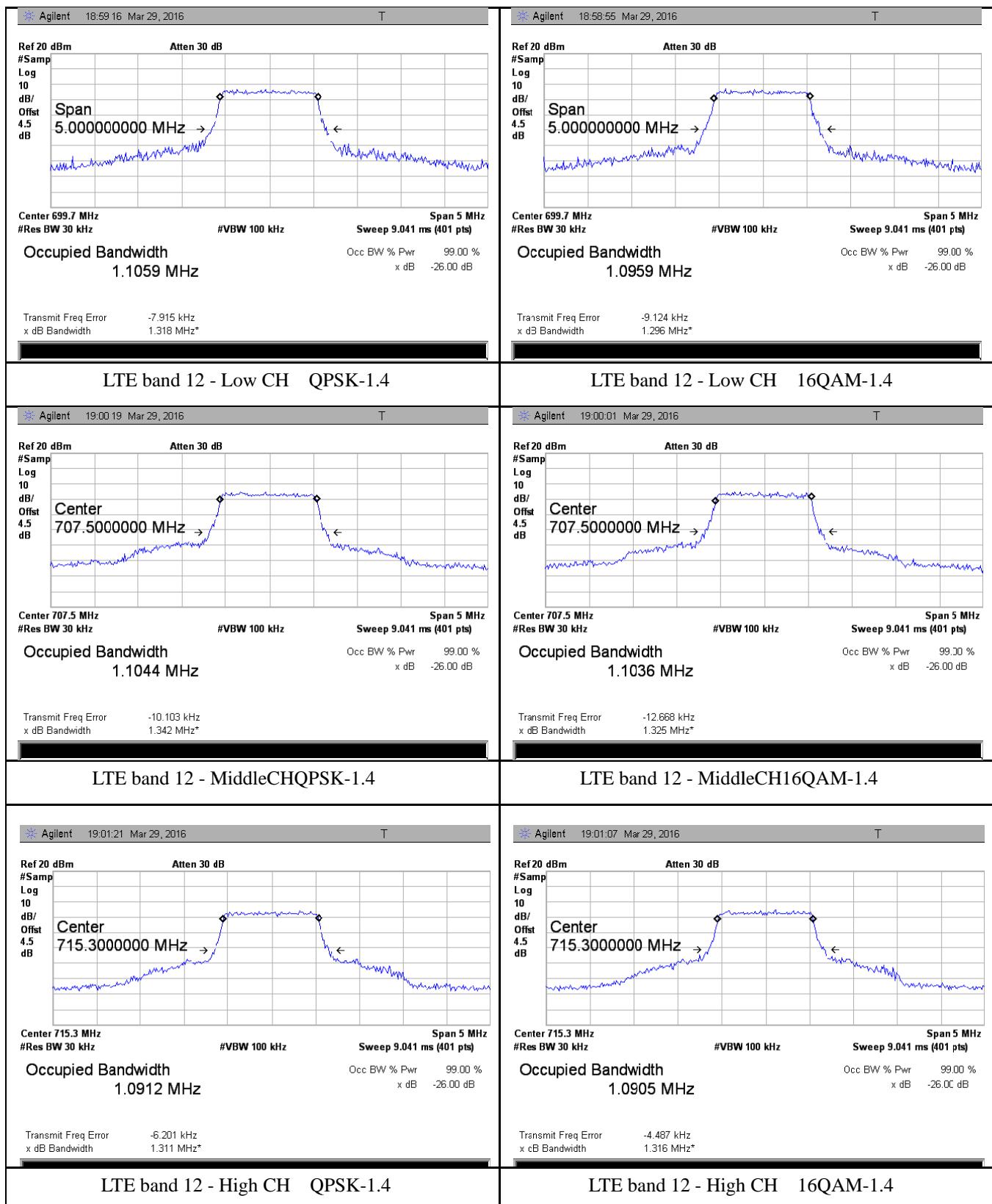


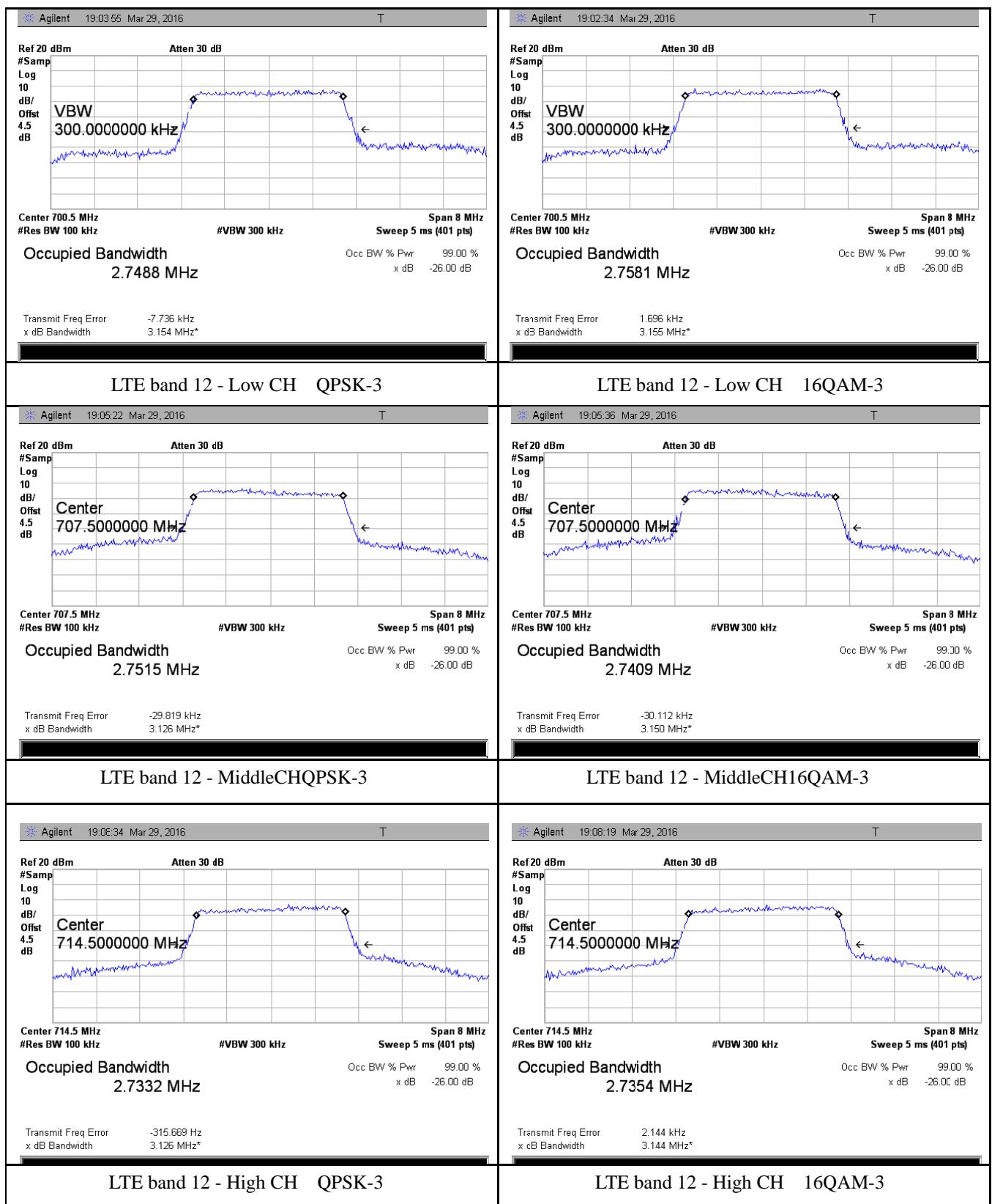


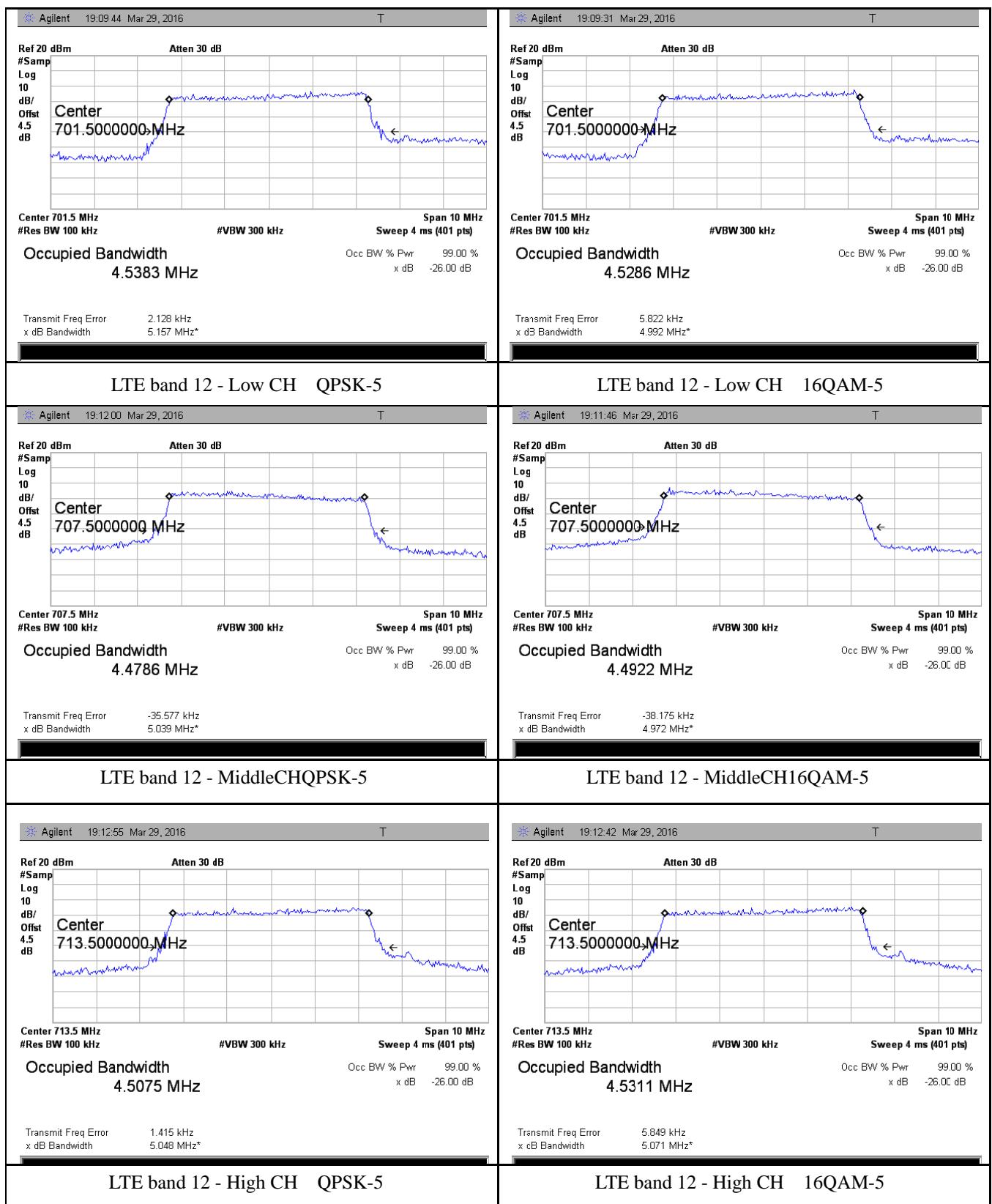


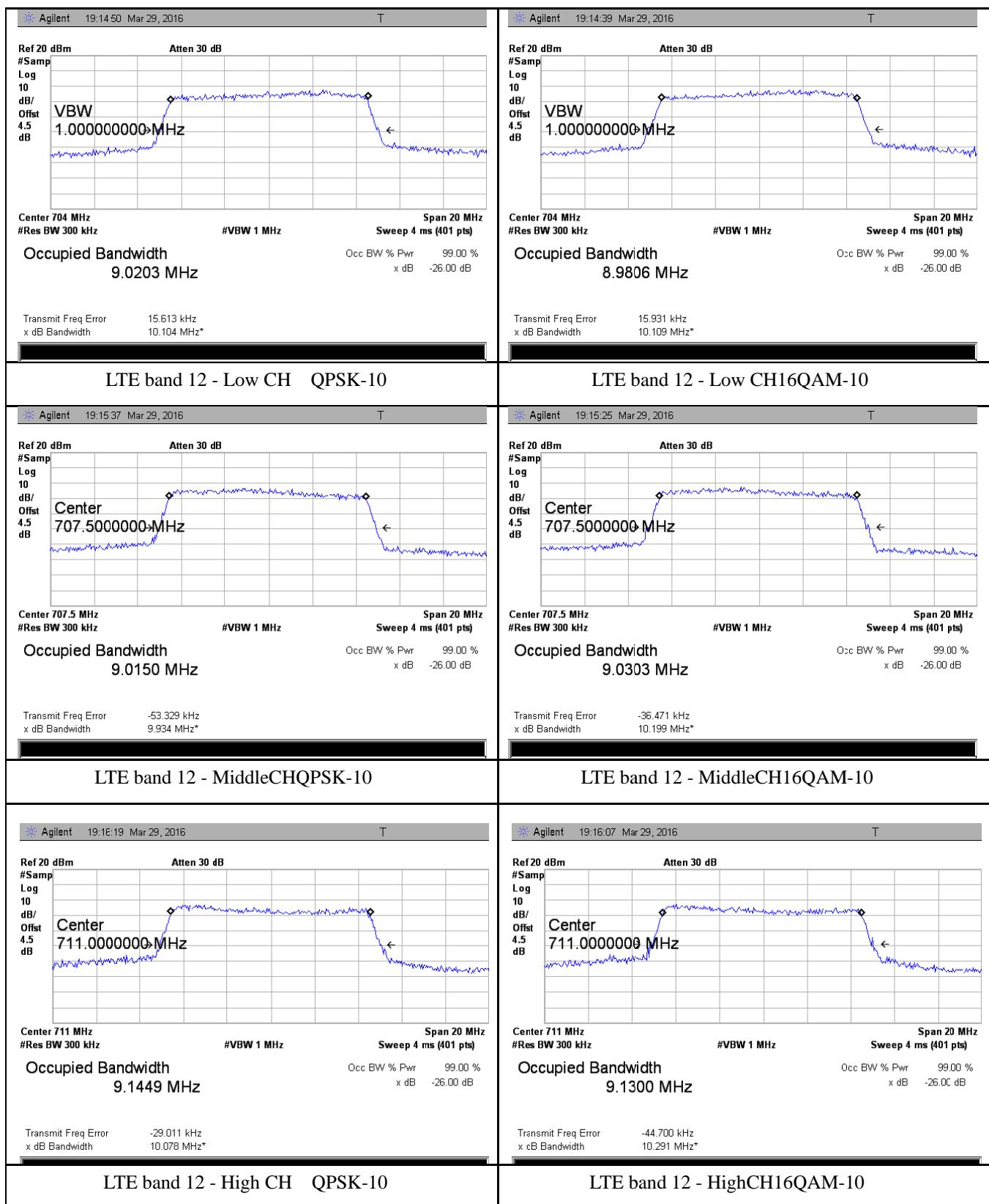


LTE Band 12:



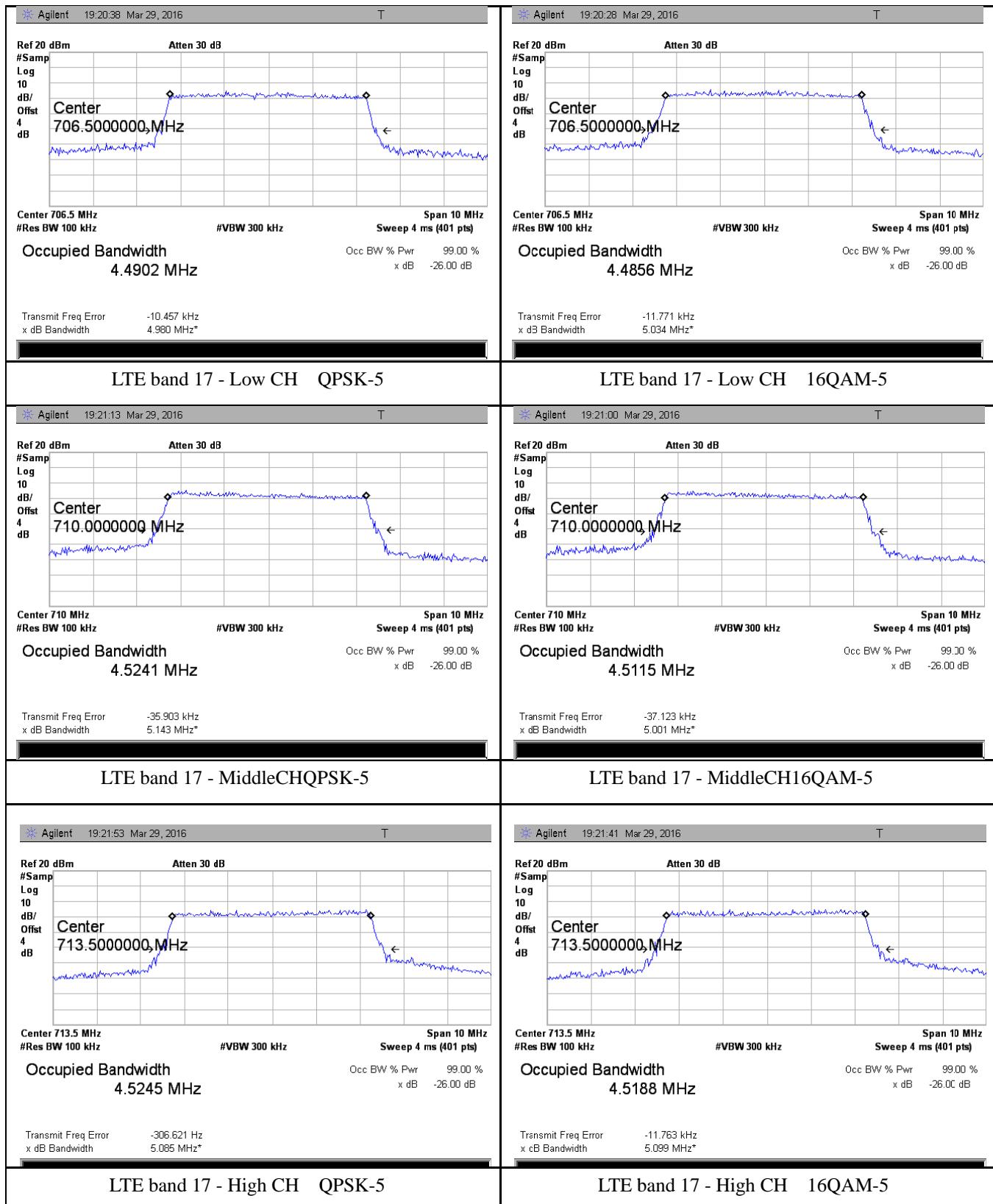


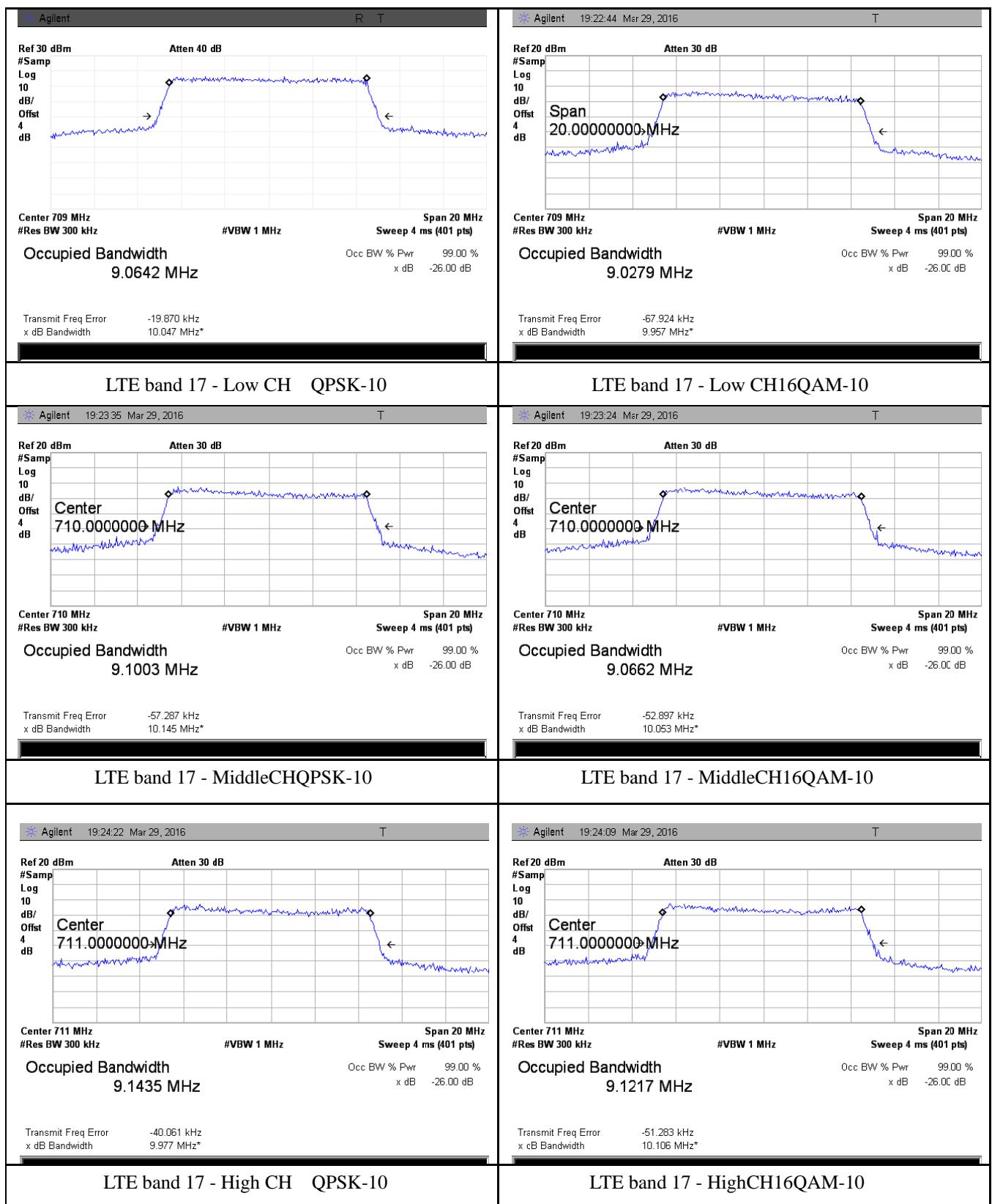






LTE Band 17





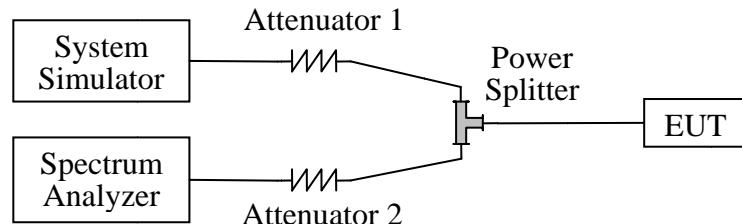


1.10 Peak-to-Average Ratio

1.10.1 Requirement

According to FCC section 24.232(d) and 27.50(d)(5), the peak to average ratio (PAR) of the transmission maynot exceed 13dB.

1.10.2 Test Description



1.10.3 Test Result

LTE Band 2

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1880	RB 1/0	QPSK	25.43	21.97	2.30
			16QAM	25.53	20.57	2.31
3	1880	RB 1/0	QPSK	25.34	21.88	1.77
			16QAM	25.24	20.6	3.03
5	1880	RB 1/0	QPSK	25	21.64	2.01
			16QAM	47	20.91	2.71
10	1880	RB 1/0	QPSK	25.43	21.79	2.22
			16QAM	25.36	20.58	3.52
15	1880	RB 1/0	QPSK	25.36	21.64	2.37
			16QAM	25.39	21.36	3.37
20	1880	RB 1/0	QPSK	25.43	22.00	2.03
			16QAM	25.46	21.46	3.17



LTE Band 4

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	1732.5	RB 1/0	QPSK	25.63	22.21	2.96
			16QAM	25.34	20.78	3.44
3	1732.5	RB 1/0	QPSK	25.46	22.07	3.06
			16QAM	25.42	20.74	3.37
5	1732.5	RB 1/0	QPSK	25.39	21.72	3.23
			16QAM	25.38	20.73	2.75
10	1732.5	RB 1/0	QPSK	25.48	21.87	3.85
			16QAM	25.47	20.57	3.22
15	1732.5	RB 1/0	QPSK	25.41	21.68	2.9
			16QAM	25.39	20.66	3.17
20	1732.5	RB 1/0	QPSK	25.46	21.55	3.86
			16QAM	25.43	20.88	3.98

LTE Band 5

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	836.5	RB 1/0	QPSK	25.36	22.48	1.89
			16QAM	25.46	21.12	2.78
3	836.5	RB 1/0	QPSK	25.44	22.39	1.91
			16QAM	25.42	21.09	2.97
5	836.5	RB 1/0	QPSK	25.42	22.39	1.74
			16QAM	25.48	21.59	2.32
10	836.5	RB 1/0	QPSK	25.44	22.36	1.74
			16QAM	25.35	21.02	2.39



LTE Band 12

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
1.4	707.5	RB 1/0	QPSK	25.63	22.1	1.89
			16QAM	25.46	20.79	2.78
3	707.5	RB 1/0	QPSK	25.62	22.19	1.91
			16QAM	25.53	20.87	2.97
5	707.5	RB 1/0	QPSK	25.13	22.21	1.74
			16QAM	25.47	21.39	2.32
10	707.5	RB 1/0	QPSK	25.64	22.29	1.74
			16QAM	25.39	20.93	2.39

LTE Band 17

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power (dBm)		Peak-Average Ratio (PAR)
				Peak	Average	
5	710	RB 1/0	QPSK	25.45	22.11	1.63
			16QAM	25.48	21.76	2.85
10	710	RB 1/0	QPSK	25.35	22.05	2.14
			16QAM	25.47	20.64	2.95



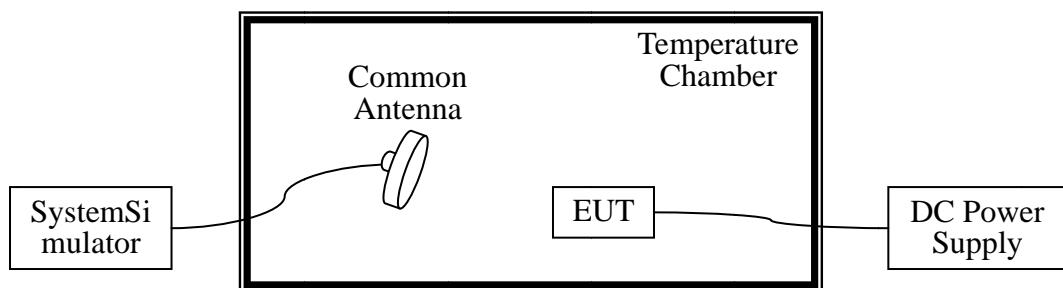
1.11 Frequency Stability

1.11.1 Requirement

According to FCC section 2.1055, 22.355, 24.235 and 27.54, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.
- (b) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

1.11.2 Test Description



1.11.3 Test Setup

The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.



1.11.4 Test Results

For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer; the normal temperature here used is 20°C. The frequency deviation limit is $\pm 2.5\text{ppm}$.

LTE Band 2

Middle Channel, $f_0 = 1880\text{MHz}$				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	-6	0.0027	2.5
0		-12	0.0059	2.5
10		-8	0.0037	2.5
20		-11	0.0053	2.5
30		-11	0.0064	2.5
40		-10	0.0048	2.5
50		-11	0.0064	2.5
55		-7	0.0032	2.5
25		-10	0.0059	2.5
	4.2	-9	0.0053	2.5
	3.5			

LTE Band 4

Middle Channel, $f_0 = 1732.5\text{MHz}$				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	-13	0.0087	2.5
0		-14	0.0092	2.5
10		-10	0.0063	2.5
20		-10	0.0063	2.5
30		-11	0.0058	2.5
40		-11	0.0069	2.5
50		-12	0.0075	2.5
55		-12	0.0069	2.5
25		-14	0.0087	2.5
	4.2	-15	0.0092	2.5
	3.5			



LTE Band 5

Middle Channel, $f_0 = 836.5$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	8	0.0084	2.5
0		7	0.0072	2.5
10		6	0.0084	2.5
20		8	0.0108	2.5
30		11	0.0120	2.5
40		12	0.0155	2.5
50		10	0.0108	2.5
55		11	0.0120	2.5
25	4.2	9	0.0096	2.5
	3.5	12	0.0132	2.5

LTE Band 12

Middle Channel, $f_0 = 1880$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	-8	0.0027	2.5
0		-11	0.0059	2.5
10		-10	0.0037	2.5
20		-12	0.0053	2.5
30		-10	0.0064	2.5
40		-9	0.0048	2.5
50		-10	0.0064	2.5
55		-8	0.0032	2.5
25	4.2	-11	0.0059	2.5
	3.5	-10	0.0053	2.5



LTE Band 17

Middle Channel, $f_0 = 710$ MHz				
Temperature (°C)	Power Supplied (V _{DC})	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
-10	3.7	8	0.0099	2.5
0		8	0.0099	2.5
10		4	0.0042	2.5
20		5	0.0085	2.5
30		5	0.0056	2.5
40		6	0.0070	2.5
50		10	0.0155	2.5
55		9	0.0113	2.5
25	4.2	9	0.0127	2.5
	3.5	12	0.0155	2.5

NOTE:

- (1) The EUT stops transmitting at temperatures -10°C, 55°C
- (2) The manufacturer declared that the EUT could work properly between temperatures -20°C~60°C.
- (3) Normal Voltage = 3.7V; Max Voltage= 4.2V; Min Voltage=3.5V.
- (4) The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.



1.12 Conducted Out of Band Emissions

1.12.1 Requirement

According to FCC section 2.1051, 22.917(a), 24.238(a), 27.53(h), the power of any emission outside of the unauthorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. This calculated to be -13dBm.

1.12.2 Test Description

See section 4.2.1 of this report.

1.12.3 Test Results

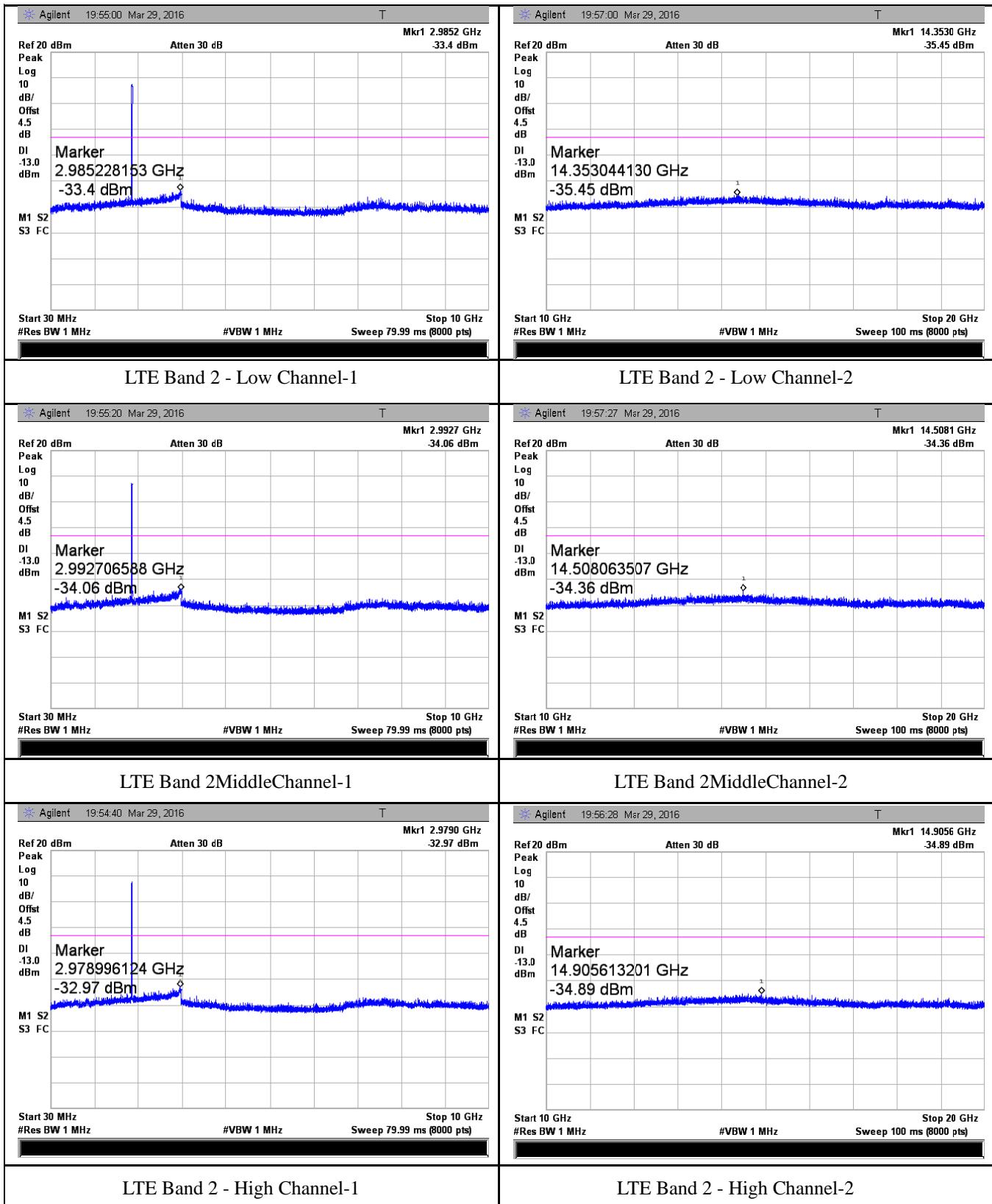
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions. Only the worst RB size/offset presented.

Compliant. See attached plots.



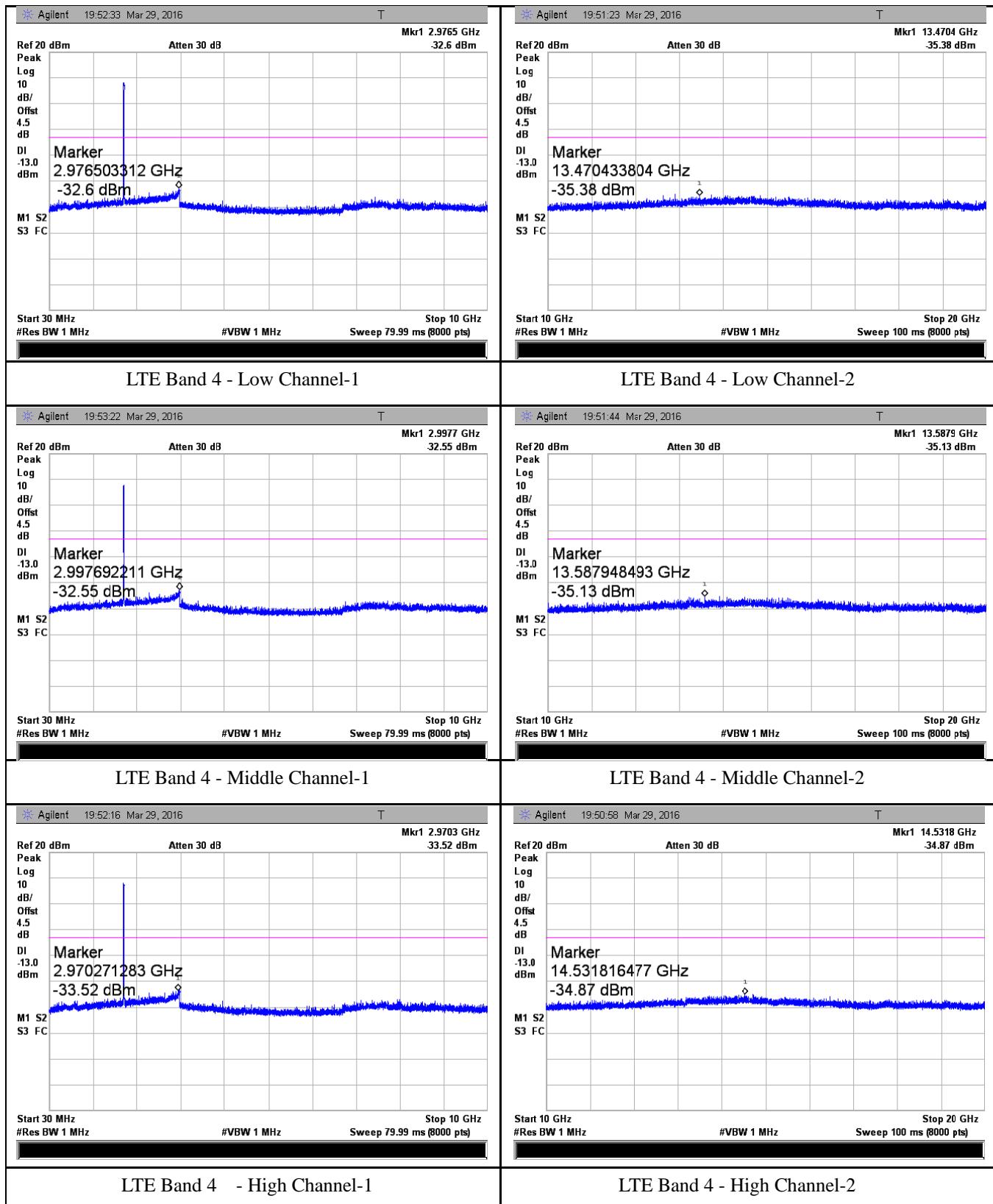
Test Plots:

LTE Band 2



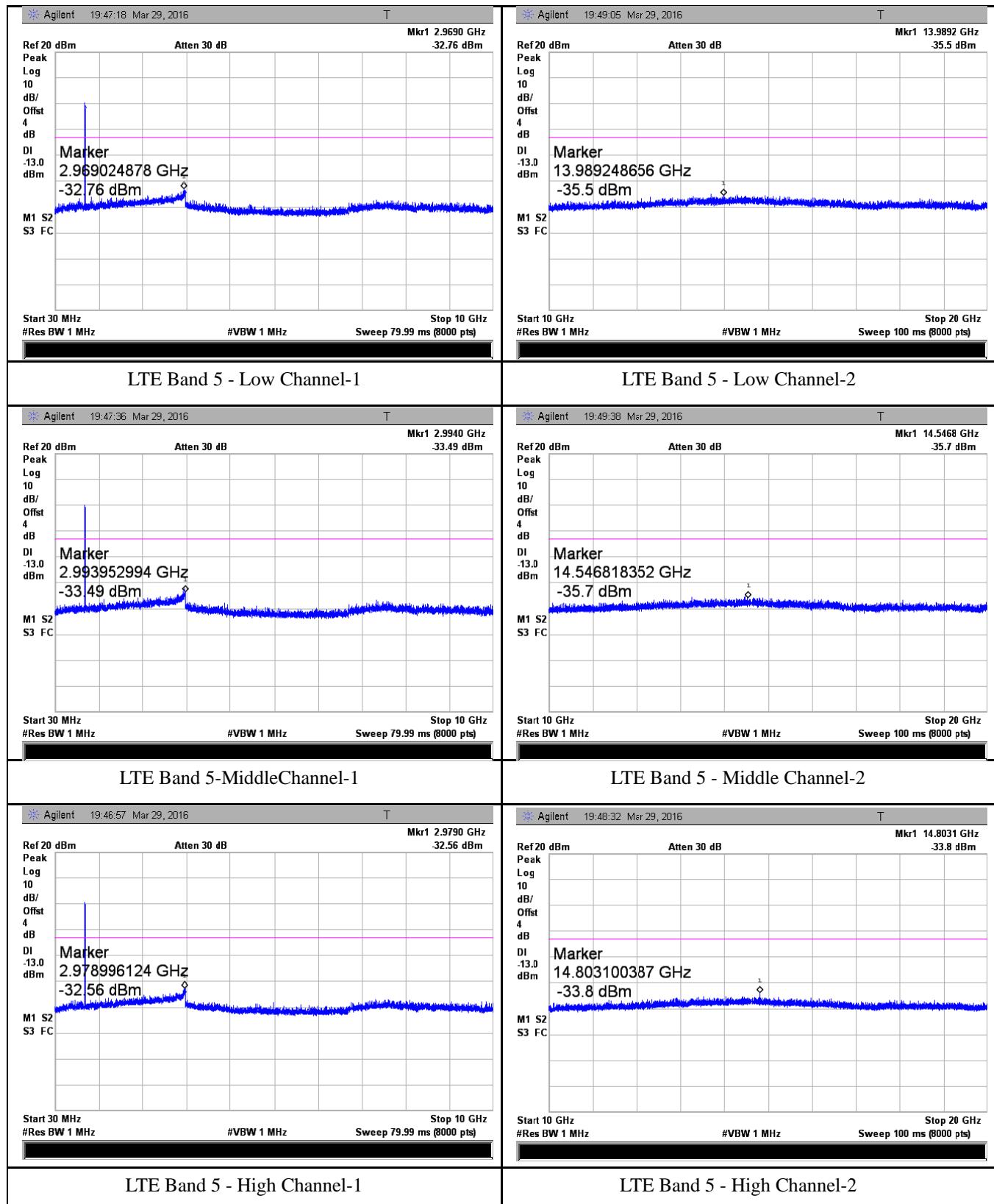


LTE Band 4



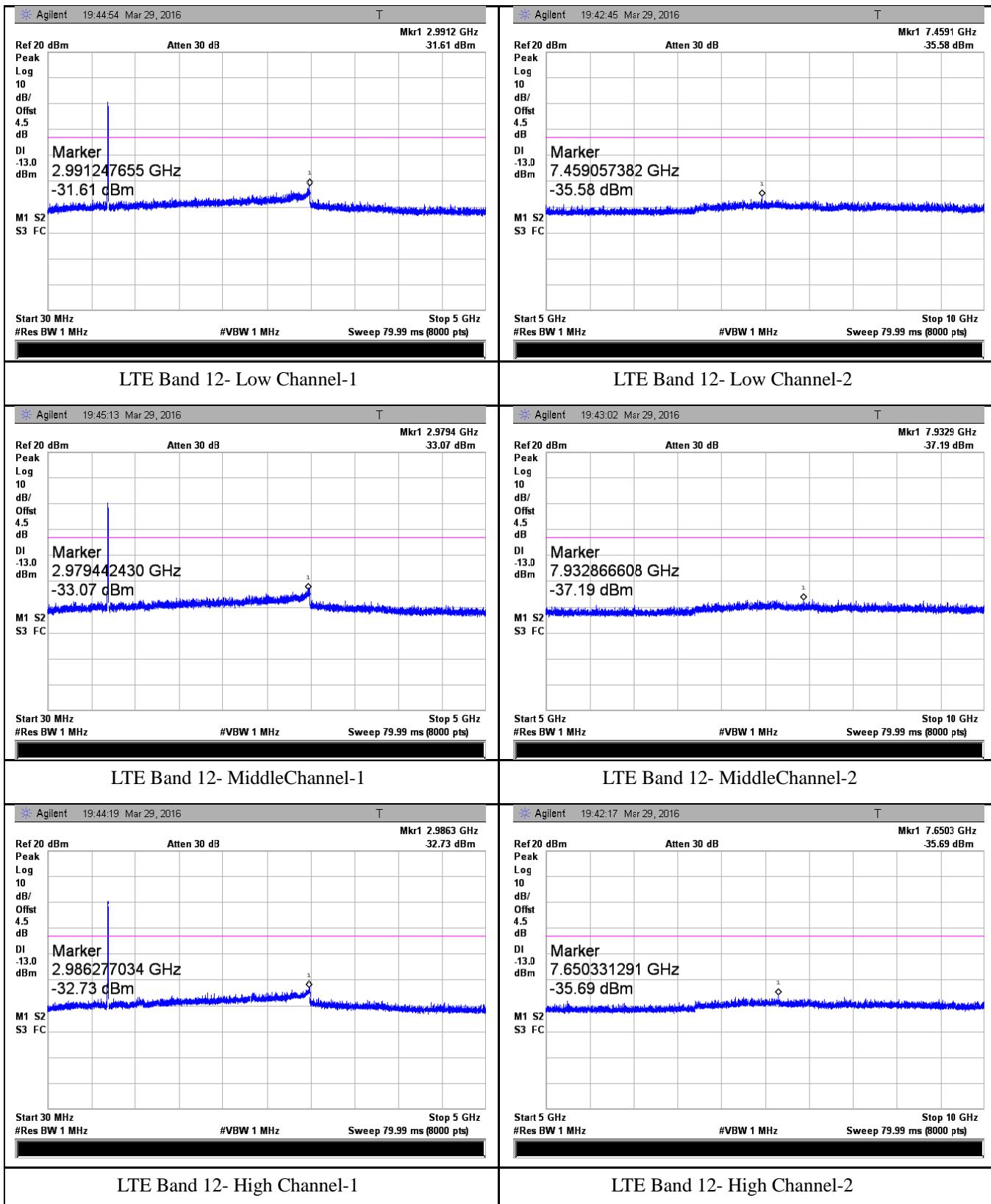


LTE Band 5



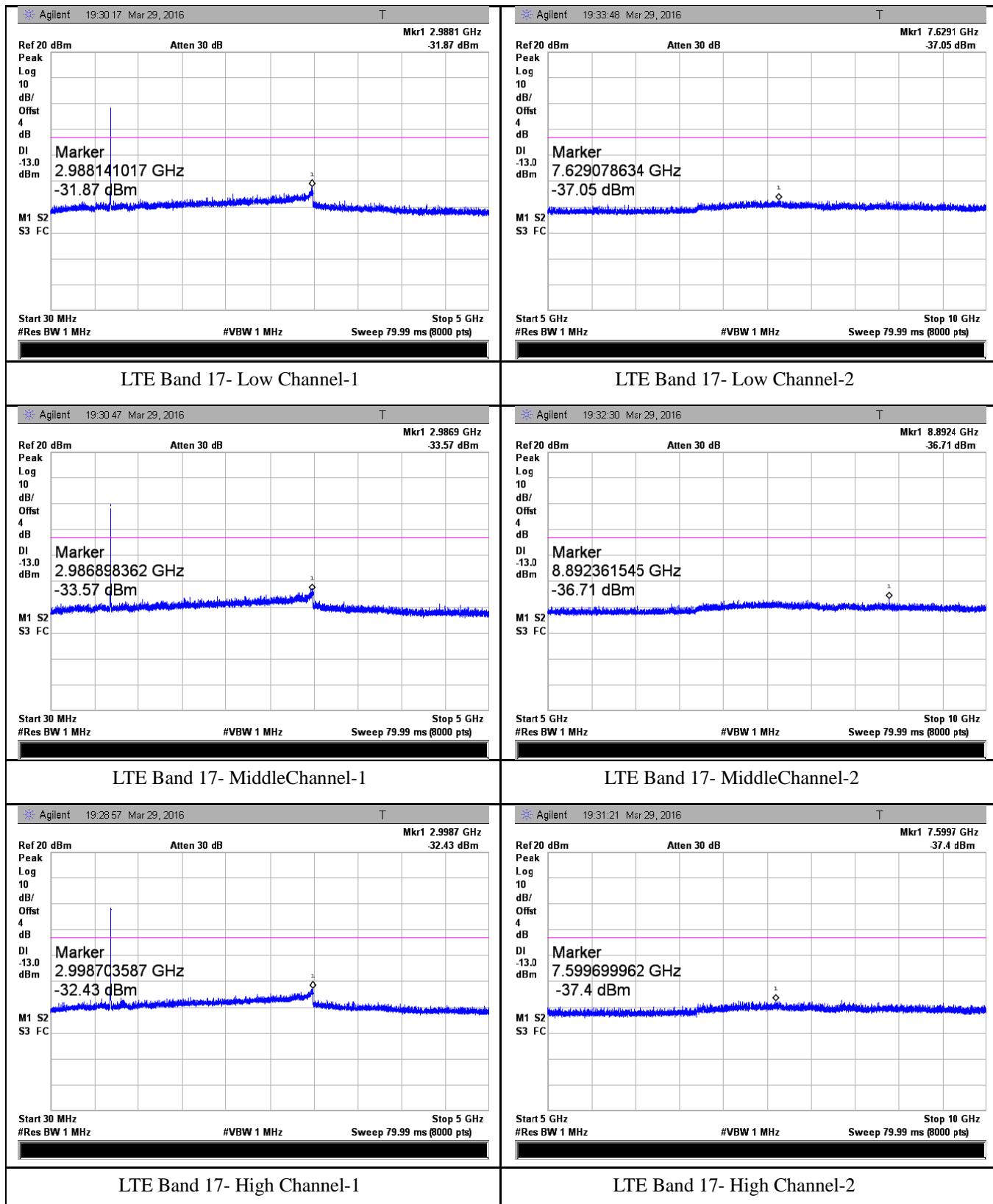


LTE Band 12





LTE Band 17



NOTE :

The power of the EUT transmitting frequency should be ignored.



1.13 Band Edge

1.13.1 Requirement

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power P(Watts) in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power P(Watts) in a 1MHz bandwidth. 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.

27.53 (g)

For operations in the 698 -746 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz maybe employed.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

1.13.2 Test Description

See section 4.2.1 of this report.



1.13.3 Test Results

The lowest and highest channels are tested to verify the band edge emissions.

LTE Band 2

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	18607	1850.7	QPSK	-20.00	-13
			16QAM	-27.13	-13
1.4	18900	1909.3	QPSK	-19.92	-13
			16QAM	-20.19	-13
3	18615	1851.5	QPSK	-15.60	-13
			16QAM	-14.42	-13
3	19185	1908.5	QPSK	-14.41	-13
			16QAM	-16.92	-13
5	18625	1852.5	QPSK	-15.69	-13
			16QAM	-16.40	-13
5	19175	1907.5	QPSK	-18.29	-13
			16QAM	-18.62	-13
10	18650	1855	QPSK	-30.08	-13
			16QAM	-29.00	-13
10	19150	1905	QPSK	-31.28	-13
			16QAM	-28.75	-13
15	18675	1857.5	QPSK	-22.06	-13
			16QAM	-22.43	-13
15	19125	1902.5	QPSK	-22.59	-13
			16QAM	-21.91	-13
20	18700	1860	QPSK	-23.14	-13
			16QAM	-23.89	-13
20	19100	1900	QPSK	-23.81	-13
			16QAM	-24.52	-13



LTE Band 4

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	19957	1710.7	QPSK	-24.99	-13
			16QAM	-26.45	-13
1.4	20393	1754.3	QPSK	-20.90	-13
			16QAM	-21.69	-13
3	19965	1711.5	QPSK	-16.30	-13
			16QAM	-20.11	-13
3	20385	1753.5	QPSK	-16.97	-13
			16QAM	-16.52	-13
5	19975	1712.5	QPSK	-17.87	-13
			16QAM	-18.52	-13
5	20375	1752.5	QPSK	-18.38	-13
			16QAM	-18.63	-13
10	20000	1715	QPSK	-20.71	-13
			16QAM	-18.00	-13
10	20350	1750	QPSK	-20.62	-13
			16QAM	-20.62	-13
15	20025	1717.5	QPSK	-18.34	-13
			16QAM	-22.03	-13
15	20325	1747.5	QPSK	-25.30	-13
			16QAM	-24.41	-13
20	20050	1720	QPSK	-24.50	-13
			16QAM	-19.58	-13
20	20300	1745	QPSK	-29.67	-13
			16QAM	-26.46	-13



LTE Band 5

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	20407	824.7	QPSK	-19.95	-13
			16QAM	-20.37	-13
1.4	20643	848.3	QPSK	-21.75	-13
			16QAM	-25.33	-13
3	20415	825.5	QPSK	-13.77	-13
			16QAM	-14.85	-13
3	20635	847.5	QPSK	-16.83	-13
			16QAM	-15.16	-13
5	20425	826.5	QPSK	-16.68	-13
			16QAM	-15.76	-13
5	20625	846.5	QPSK	-22.74	-13
			16QAM	-21.02	-13
10	20450	829	QPSK	-14.48	-13
			16QAM	-17.00	-13
10	20800	844	QPSK	-21.74	-13
			16QAM	-21.68	-13

LTE Band 12

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
1.4	23017	699.7	QPSK	-22.16	-13
			16QAM	-22.44	-13
1.4	23173	715.3	QPSK	-24.39	-13
			16QAM	-24.85	-13
3	23025	700.5	QPSK	-13.79	-13
			16QAM	-14.23	-13
3	23165	714.5	QPSK	-16.62	-13
			16QAM	-16.50	-13
5	23035	701.5	QPSK	-16.35	-13
			16QAM	-18.03	-13
5	23155	713.5	QPSK	-17.19	-13
			16QAM	-16.77	-13
10	23060	704	QPSK	-17.62	-13
			16QAM	-19.09	-13
10	23130	711	QPSK	-21.19	-13
			16QAM	-21.05	-13



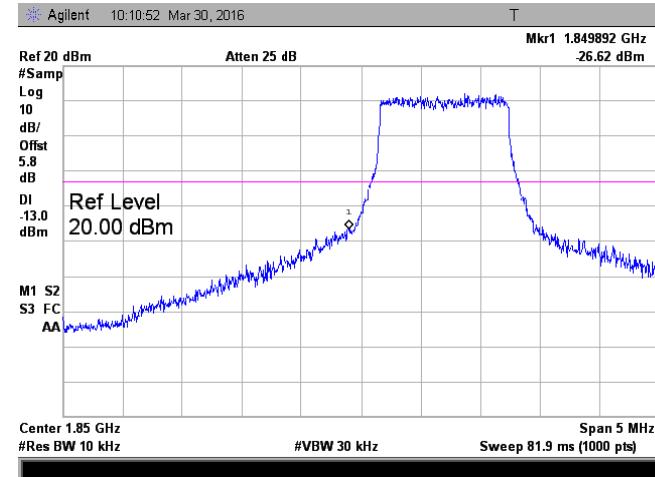
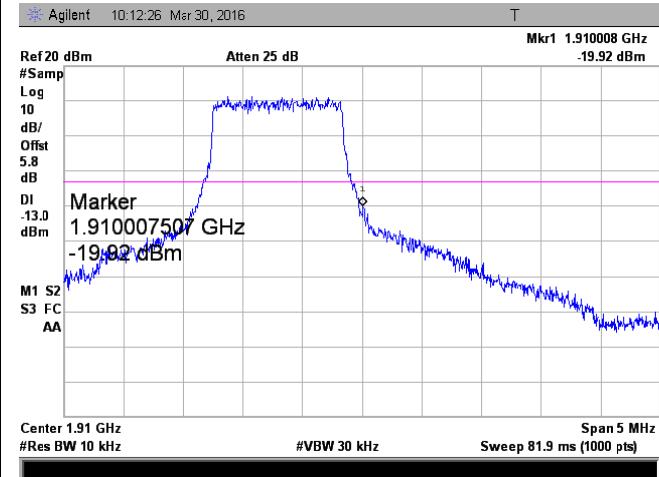
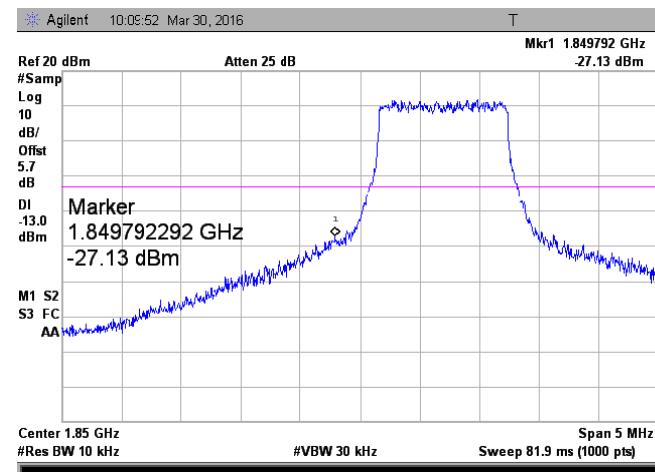
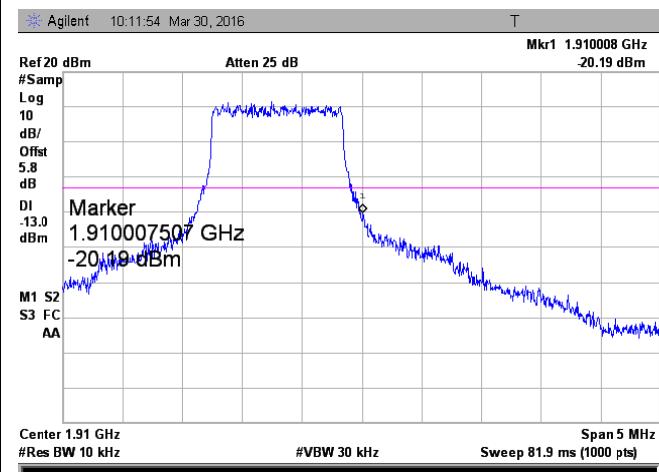
LTE Band 17

BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
5	23755	706.5	QPSK	-17.65	-13
			16QAM	-19.35	-13
5	23825	713.5	QPSK	-18.86	-13
			16QAM	-18.03	-13
10	23780	709	QPSK	-19.04	-13
			16QAM	-18.89	-13
10	23800	711	QPSK	-20.00	-13
			16QAM	-19.66	-13



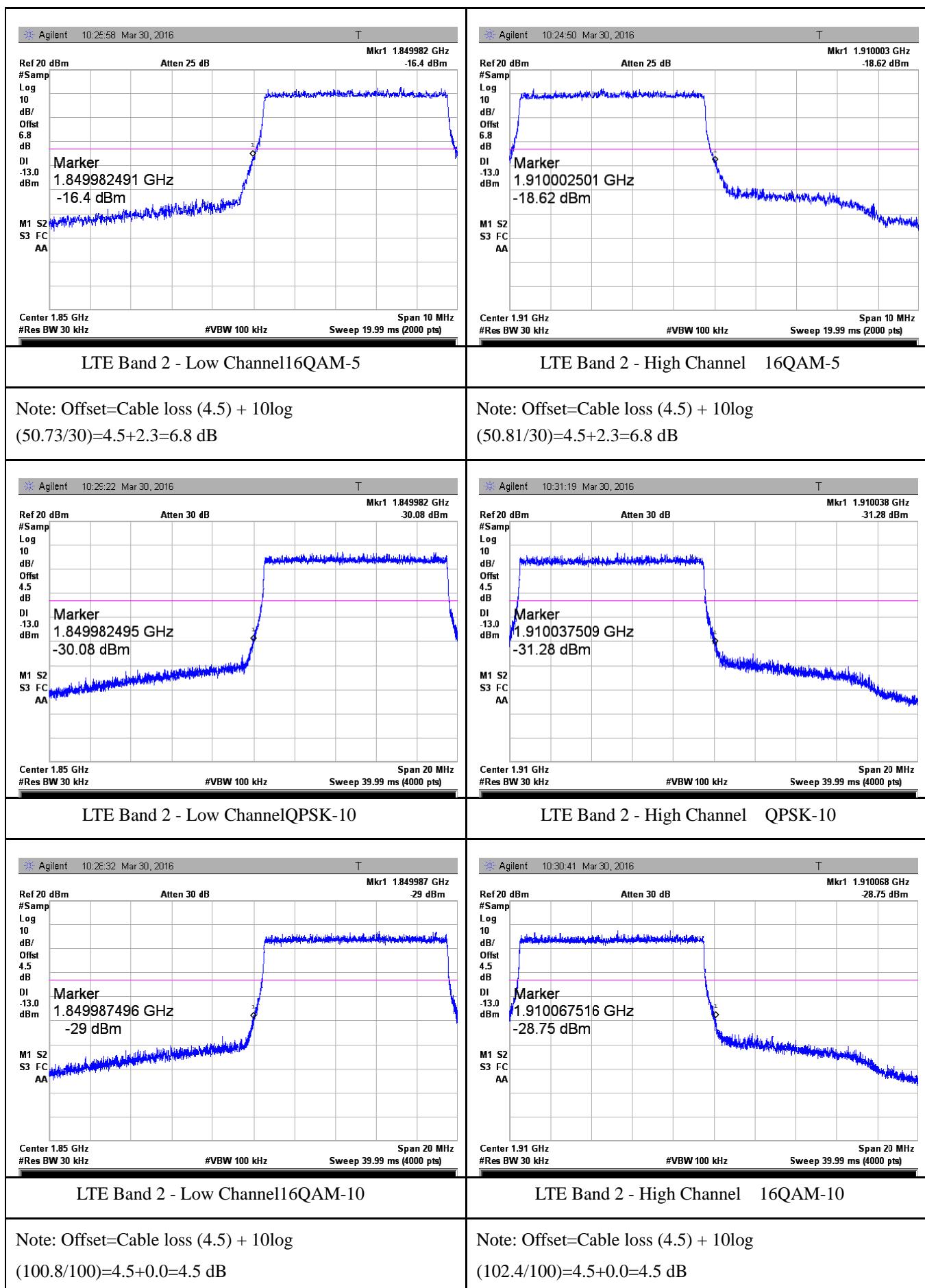
Test Plots:

LTE Band 2

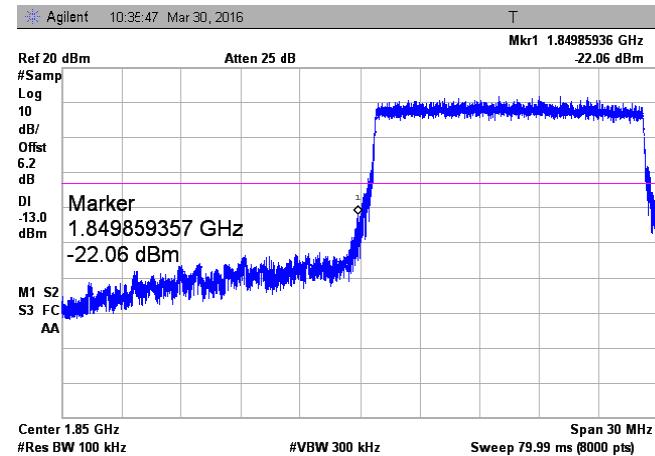
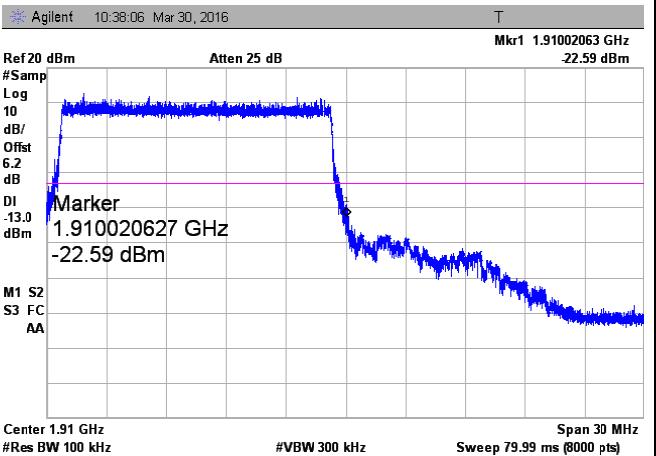
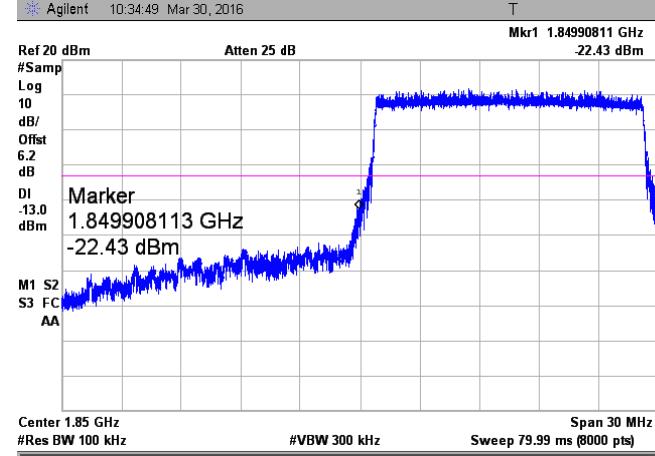
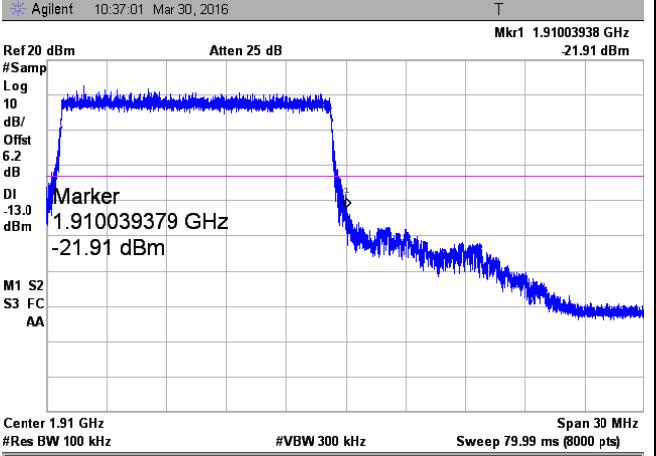
	
LTE Band 2 - Low ChannelQPSK-1.4	LTE Band 2 - High Channel QPSK-1.4
Note: Offset=Cable loss (4.5) + 10log (13.35/10)=4.5+1.3=5.8dB	Note: Offset=Cable loss (4.5) + 10log (13.53/10)=4.5+1.3=5.8dB
	
LTE Band 2 - Low Channel16QAM-1.4	LTE Band 2 - High Channel16QAM-1.4
Note: Offset=Cable loss (4.5) + 10log (13.27/10)=4.5+1.2=5.7 dB	Note: Offset=Cable loss (4.5) + 10log (13.42/10)=4.5+1.3=5.8 dB

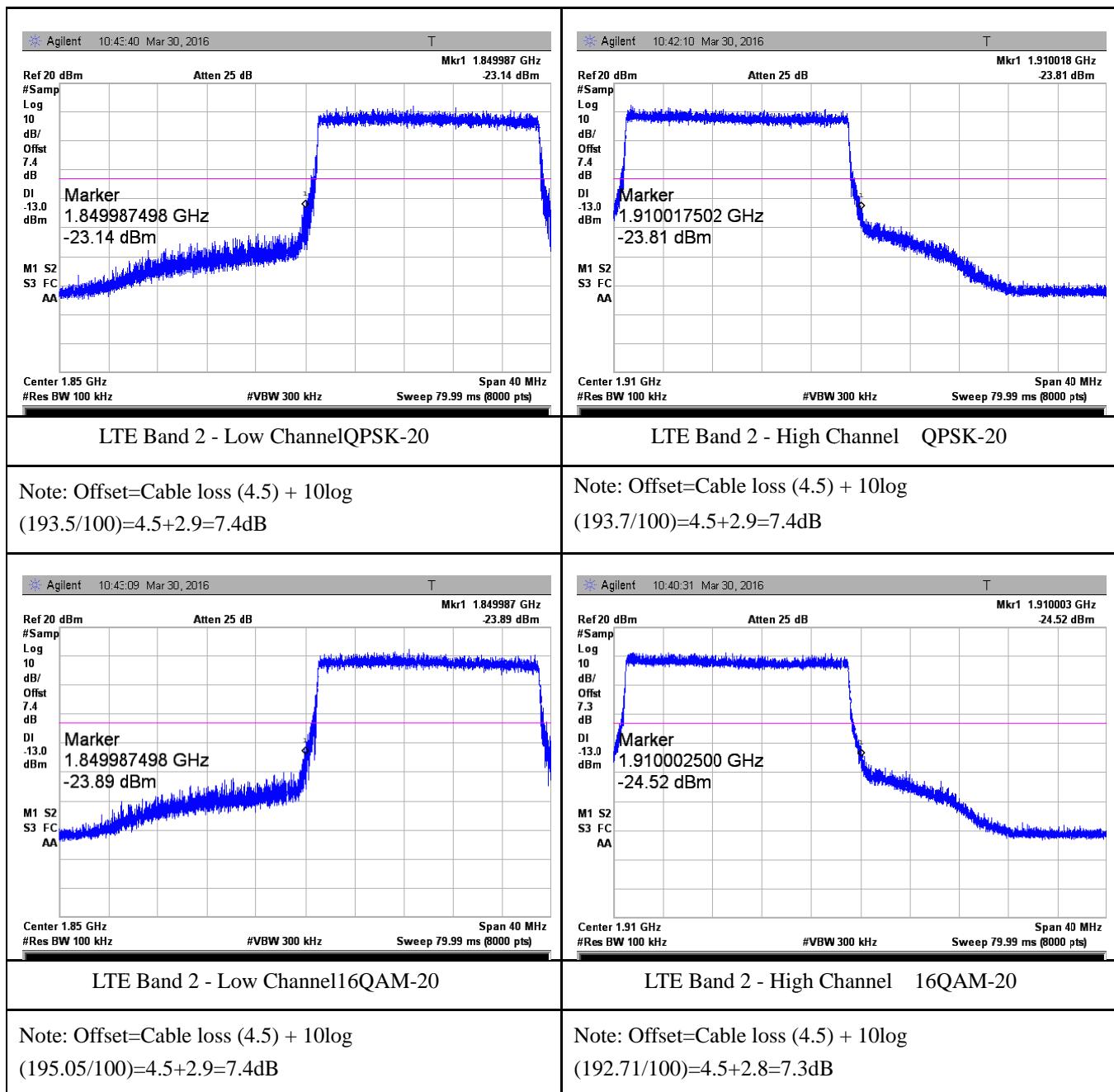


LTE Band 2 - Low ChannelQPSK-3 Note: Offset=Cable loss (4.5) + 10log (31.14/30)=4.5+0.2=4.7 dB	LTE Band 2 - High ChannelQPSK-3 Note: Offset=Cable loss (4.5) + 10log (31.40/30)=4.5+0.2=4.7 dB
LTE Band 2 - Low Channel16QAM-3 Note: Offset=Cable loss (4.5) + 10log (31.41/30)=4.5+0.2=4.7 dB	LTE Band 2 - High Channel 16QAM-3 Note: Offset=Cable loss (4.5) + 10log (31.83/30)=4.5+0.3=4.8 dB
LTE Band 2 - Low ChannelQPSK-5 Note: Offset=Cable loss (4.5) + 10log (50.56/30)=4.5+2.3=6.8 dB	LTE Band 2 - High ChannelQPSK-5 Note: Offset=Cable loss (4.5) + 10log (50.23/30)=4.5+2.2=6.7dB





 <p>Agilent 10:35:47 Mar 30, 2016 T Ref 20 dBm Atten 25 dB Mkr1 1.84985936 GHz -22.06 dBm #Samp Log 10 dB/ Offst 6.2 dB DI -13.0 dBm Marker 1.849859357 GHz -22.06 dBm M1 S2 S3 FC AA Center 1.85 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 30 MHz</p>	 <p>Agilent 10:38:06 Mar 30, 2016 T Ref 20 dBm Atten 25 dB Mkr1 1.91002063 GHz -22.59 dBm #Samp Log 10 dB/ Offst 6.2 dB DI -13.0 dBm Marker 1.910020627 GHz -22.59 dBm M1 S2 S3 FC AA Center 1.91 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 30 MHz</p>
LTE Band 2 - Low Channel QPSK-15	LTE Band 2 - High Channel QPSK-15
Note: Offset=Cable loss (4.5) + 10log (148.52/100)=4.5+1.7=6.2dB	Note: Offset=Cable loss (4.5) + 10log (149.04/100)=4.5+1.7=6.2dB
 <p>Agilent 10:34:49 Mar 30, 2016 T Ref 20 dBm Atten 25 dB Mkr1 1.84990811 GHz -22.43 dBm #Samp Log 10 dB/ Offst 6.2 dB DI -13.0 dBm Marker 1.849908113 GHz -22.43 dBm M1 S2 S3 FC AA Center 1.85 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 30 MHz</p>	 <p>Agilent 10:37:01 Mar 30, 2016 T Ref 20 dBm Atten 25 dB Mkr1 1.91003938 GHz -21.91 dBm #Samp Log 10 dB/ Offst 6.2 dB DI -13.0 dBm Marker 1.910039379 GHz -21.91 dBm M1 S2 S3 FC AA Center 1.91 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 30 MHz</p>
LTE Band 2 - Low Channel 16QAM-15	LTE Band 2 - High Channel 16QAM-15
Note: Offset=Cable loss (4.5) + 10log (148.3/100)=4.5+1.7=6.2dB	Note: Offset=Cable loss (4.5) + 10log (149.14/100)=4.5+1.7=6.2dB

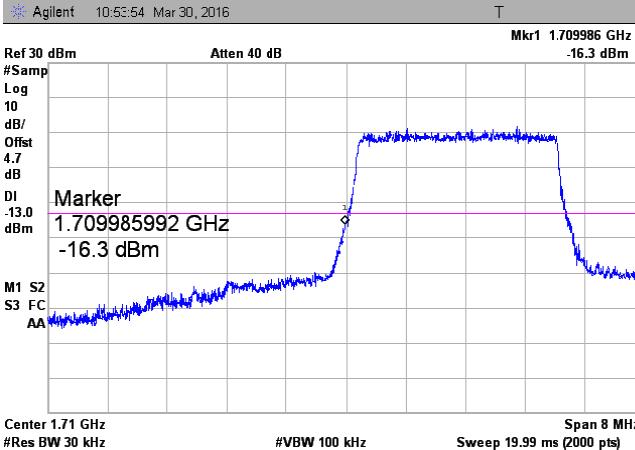
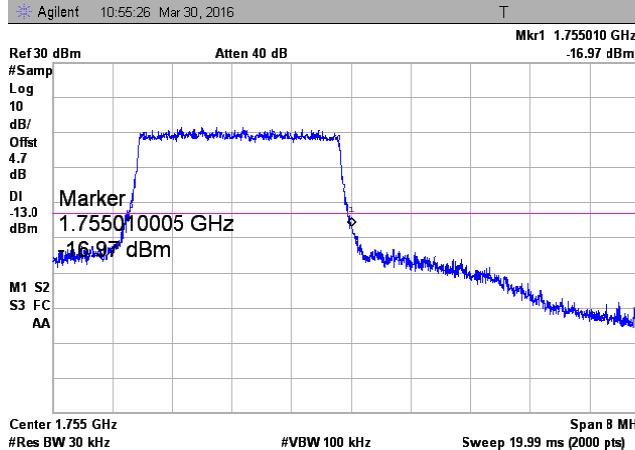
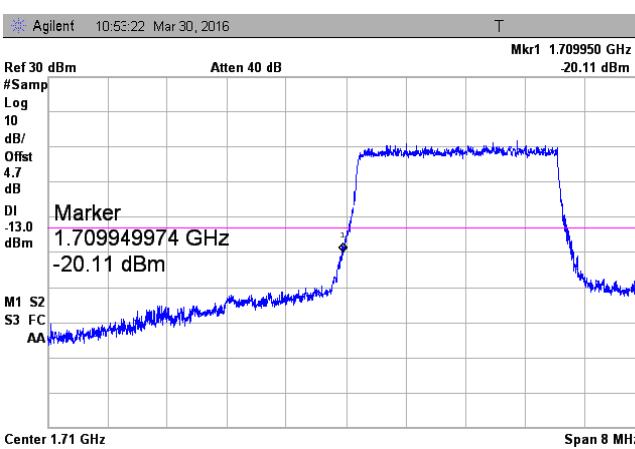
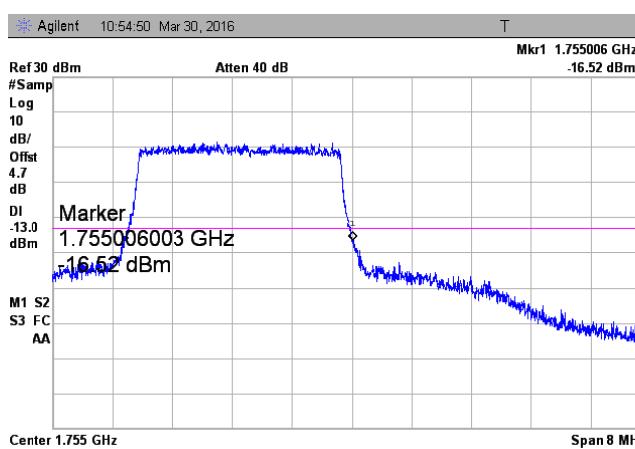
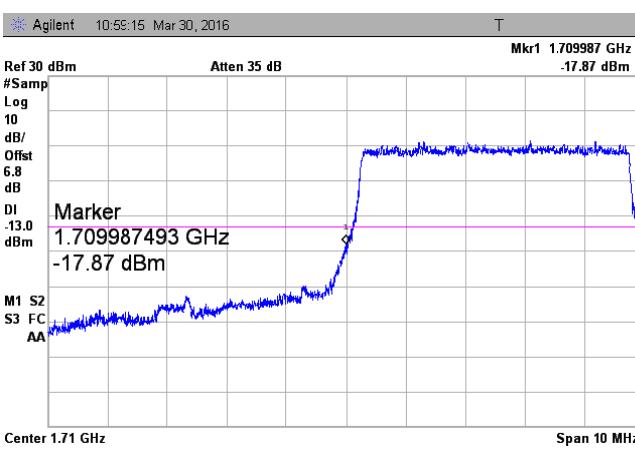
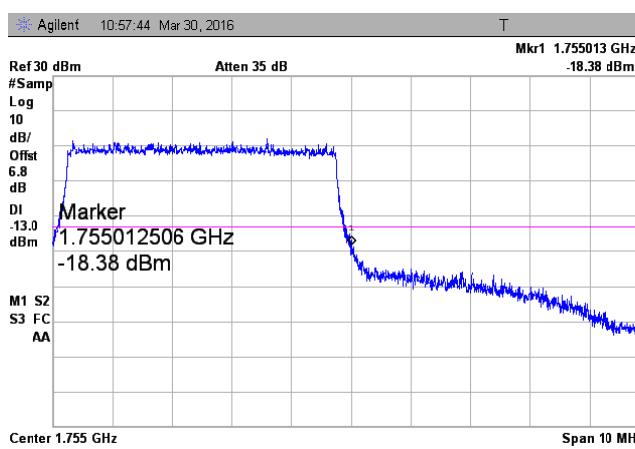


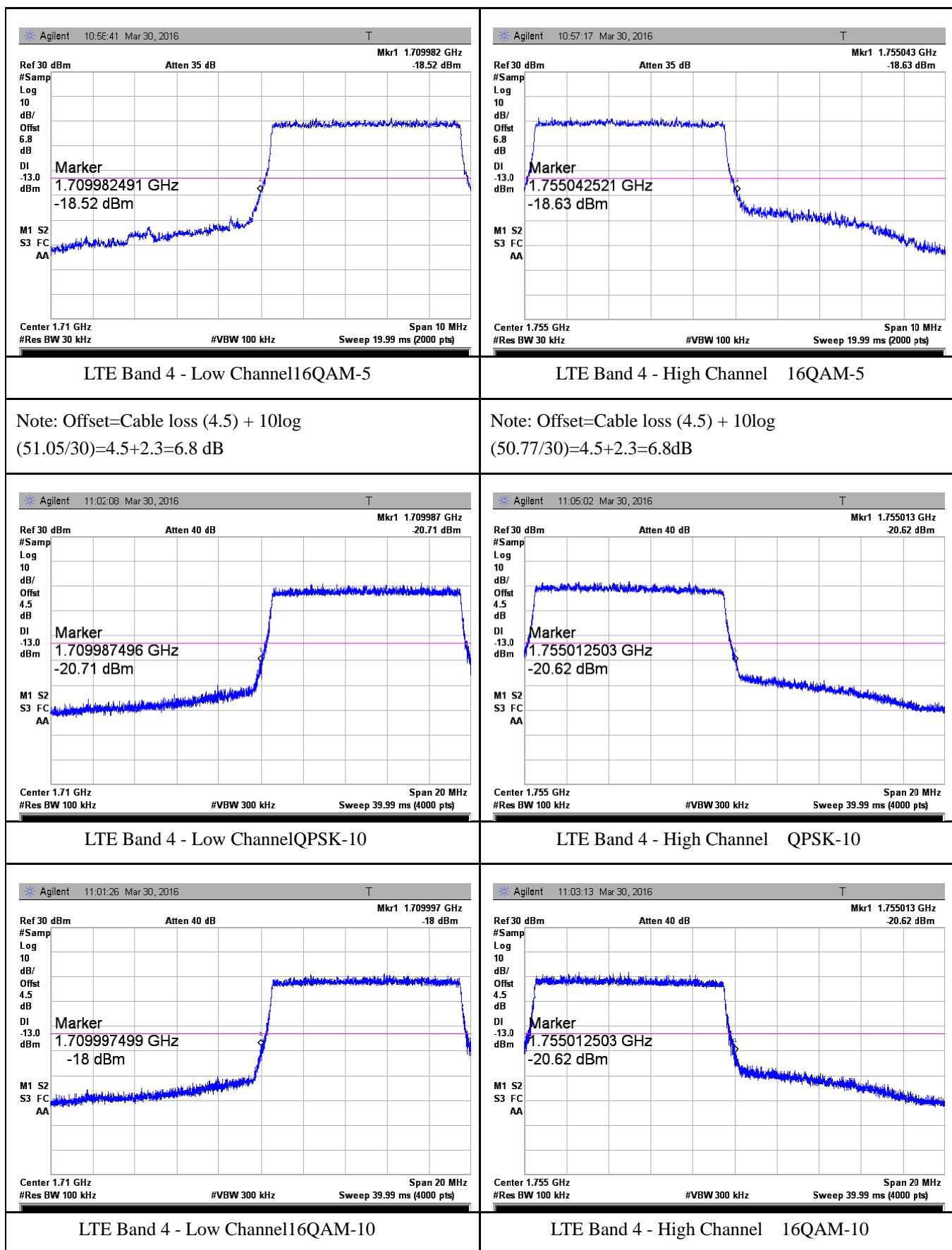


LTE Band 4

LTE Band 4 - Low ChannelQPSK-1.4	LTE Band 4 - HighChannel QPSK-1.4
Note: Offset=Cable loss (4.5) + 10log $(12.96/10)=4.5+1.1=5.6\text{dB}$	Note: Offset=Cable loss (4.5) + 10log $(13.13/10)=4.5+1.2=5.7\text{dB}$
LTE Band 4 - Low Channel16QAM-1.4	LTE Band 4 - High Channel16QAM-1.4
Note: Offset=Cable loss (4.5) + 10log $(13.15/10)=4.5+1.2=5.7\text{dB}$	Note: Offset=Cable loss (4.5) + 10log $(13.01/10)=4.5+1.1=5.6\text{ dB}$

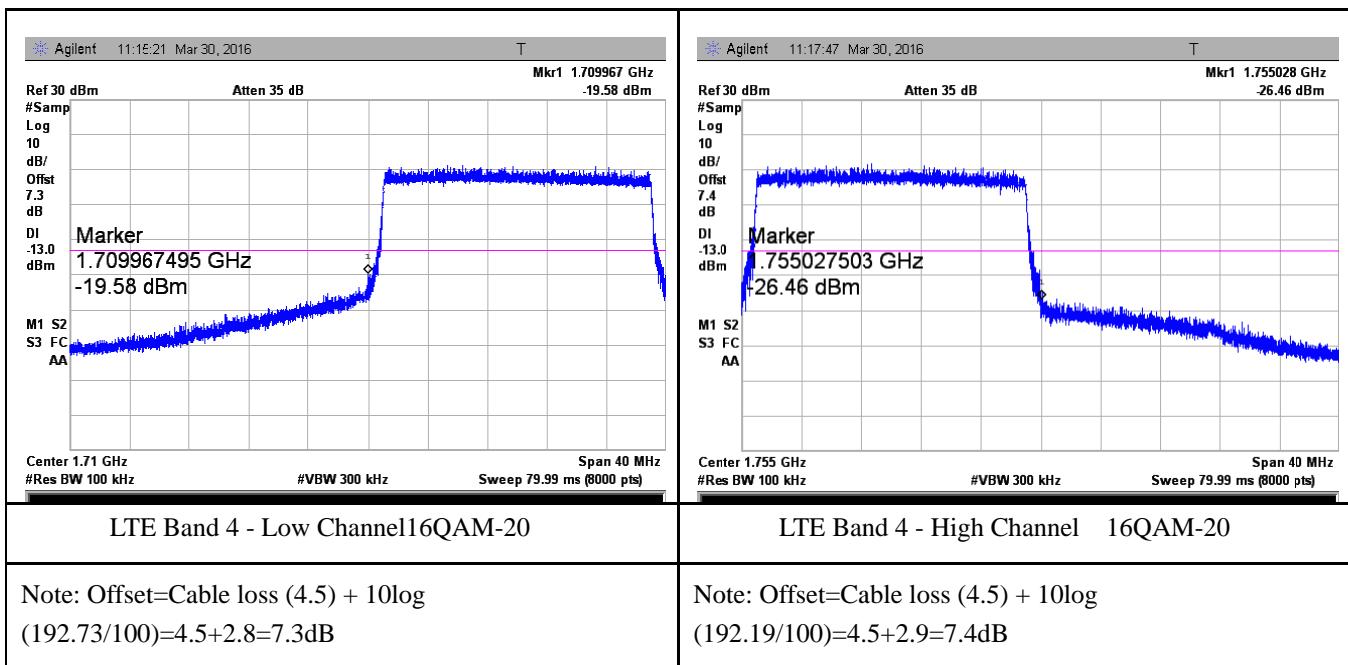


 <p>Agilent 10:53:54 Mar 30, 2016 T Ref 30 dBm Atten 40 dB Mkr1 1.709986 GHz -16.3 dBm #Samp Log 10 dB/ Offst 4.7 dB DI -13.0 dBm Marker 1.709985992 GHz -16.3 dBm M1 S2 S3 FC AA Center 1.71 GHz #Res BW 30 kHz Span 8 MHz #VBW 100 kHz Sweep 19.99 ms (2000 pts)</p>	 <p>Agilent 10:55:26 Mar 30, 2016 T Ref 30 dBm Atten 40 dB Mkr1 1.755010 GHz -16.97 dBm #Samp Log 10 dB/ Offst 4.7 dB DI -13.0 dBm Marker 1.755010005 GHz -16.97 dBm M1 S2 S3 FC AA Center 1.755 GHz #Res BW 30 kHz Span 8 MHz #VBW 100 kHz Sweep 19.99 ms (2000 pts)</p>
<p>LTE Band 4 - Low ChannelQPSK-3</p> <p>Note: Offset=Cable loss (4.5) + 10log (31.54/30)=4.5+0.2=4.7 dB</p>	<p>LTE Band 4 - High ChannelQPSK-3</p> <p>Note: Offset=Cable loss (4.5) + 10log (31.44/30)=4.5+0.2=4.7dB</p>
 <p>Agilent 10:53:22 Mar 30, 2016 T Ref 30 dBm Atten 40 dB Mkr1 1.709950 GHz -20.11 dBm #Samp Log 10 dB/ Offst 4.7 dB DI -13.0 dBm Marker 1.709949974 GHz -20.11 dBm M1 S2 S3 FC AA Center 1.71 GHz #Res BW 30 kHz Span 8 MHz #VBW 100 kHz Sweep 19.99 ms (2000 pts)</p>	 <p>Agilent 10:54:50 Mar 30, 2016 T Ref 30 dBm Atten 40 dB Mkr1 1.755006 GHz -16.52 dBm #Samp Log 10 dB/ Offst 4.7 dB DI -13.0 dBm Marker 1.755006003 GHz -16.52 dBm M1 S2 S3 FC AA Center 1.755 GHz #Res BW 30 kHz Span 8 MHz #VBW 100 kHz Sweep 19.99 ms (2000 pts)</p>
<p>LTE Band 4 - Low Channel16QAM-3</p> <p>Note: Offset=Cable loss (4.5) + 10log (31.27/30)=4.5+0.2=4.7 dB</p>	<p>LTE Band 4 - High Channel 16QAM-3</p> <p>Note: Offset=Cable loss (4.5) + 10log (31.4/30)=4.5+0.2=4.7 dB</p>
 <p>Agilent 10:58:15 Mar 30, 2016 T Ref 30 dBm Atten 35 dB Mkr1 1.709987 GHz -17.87 dBm #Samp Log 10 dB/ Offst 6.8 dB DI -13.0 dBm Marker 1.709987493 GHz -17.87 dBm M1 S2 S3 FC AA Center 1.71 GHz #Res BW 30 kHz Span 10 MHz #VBW 100 kHz Sweep 19.99 ms (2000 pts)</p>	 <p>Agilent 10:57:44 Mar 30, 2016 T Ref 30 dBm Atten 35 dB Mkr1 1.755013 GHz -18.38 dBm #Samp Log 10 dB/ Offst 6.8 dB DI -13.0 dBm Marker 1.755012506 GHz -18.38 dBm M1 S2 S3 FC AA Center 1.755 GHz #Res BW 30 kHz Span 10 MHz #VBW 100 kHz Sweep 19.99 ms (2000 pts)</p>
<p>LTE Band 4 - Low ChannelQPSK-5</p> <p>Note: Offset=Cable loss (4.5) + 10log (50.63/30)=4.5+2.3=6.8dB</p>	<p>LTE Band 4 - High ChannelQPSK-5</p> <p>Note: Offset=Cable loss (4.5) + 10log (50.61/30)=4.5+2.3=6.8 dB</p>





<p>Agilent 11:13:14 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB Mkr1 1.70997562 GHz -18.34 dBm</p> <p>#Samp Log 10 dB/ Offst 6.2 dB DI -13.0 dBm Marker 1.709975621 GHz -18.34 dBm</p> <p>M1 S2 S3 FC AA</p> <p>Center 1.71 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 30 MHz</p>	<p>Agilent 11:10:51 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB Mkr1 1.75508814 GHz -25.3 dBm</p> <p>#Samp Log 10 dB/ Offst 6.2 dB DI -13.0 dBm Marker 1.755088136 GHz -25.3 dBm</p> <p>M1 S2 S3 FC AA</p> <p>Center 1.755 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 30 MHz</p>
<p>LTE Band 4 - Low Channel QPSK-15</p> <p>Note: Offset=Cable loss (4.5) + 10log (148.37/100)=4.5+1.7=6.2dB</p>	<p>LTE Band 4 - High Channel QPSK-15</p> <p>Note: Offset=Cable loss (4.5) + 10log (146.31/100)=4.5+1.7=6.2dB</p>
<p>Agilent 11:12:39 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB Mkr1 1.70997562 GHz -22.03 dBm</p> <p>#Samp Log 10 dB/ Offst 6.2 dB DI -13.0 dBm Marker 1.709975621 GHz -22.03 dBm</p> <p>M1 S2 S3 FC AA</p> <p>Center 1.71 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 30 MHz</p>	<p>Agilent 11:09:27 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB Mkr1 1.75511064 GHz -24.41 dBm</p> <p>#Samp Log 10 dB/ Offst 6.2 dB DI -13.0 dBm Marker 1.755110638 GHz -24.41 dBm</p> <p>M1 S2 S3 FC AA</p> <p>Center 1.755 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 30 MHz</p>
<p>LTE Band 4 - Low Channel 16QAM-15</p> <p>Note: Offset=Cable loss (4.5) + 10log (147.57/100)=4.5+1.7=6.2dB</p>	<p>LTE Band 4 - High Channel 16QAM-15</p> <p>Note: Offset=Cable loss (4.5) + 10log (148.86/100)=4.5+1.7=6.2dB</p>
<p>Agilent 11:16:37 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB Mkr1 1.709992 GHz -24.5 dBm</p> <p>#Samp Log 10 dB/ Offst 7.4 dB DI -13.0 dBm Marker 1.709992499 GHz -24.5 dBm</p> <p>M1 S2 S3 FC AA</p> <p>Center 1.71 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 40 MHz</p>	<p>Agilent 11:18:32 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB Mkr1 1.755022502 GHz -29.67 dBm</p> <p>#Samp Log 10 dB/ Offst 7.4 dB DI -13.0 dBm Marker 1.755022502 GHz -29.67 dBm</p> <p>M1 S2 S3 FC AA</p> <p>Center 1.755 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 79.99 ms (8000 pts) Span 40 MHz</p>
<p>LTE Band 4 - Low Channel QPSK-20</p> <p>Note: Offset=Cable loss (4.5) + 10log (193.89/100)=4.5+2.9=7.4 dB</p>	<p>LTE Band 4 - High Channel QPSK-20</p> <p>Note: Offset=Cable loss (4.5) + 10log (192.09/100)=4.5+2.9=7.4 dB</p>



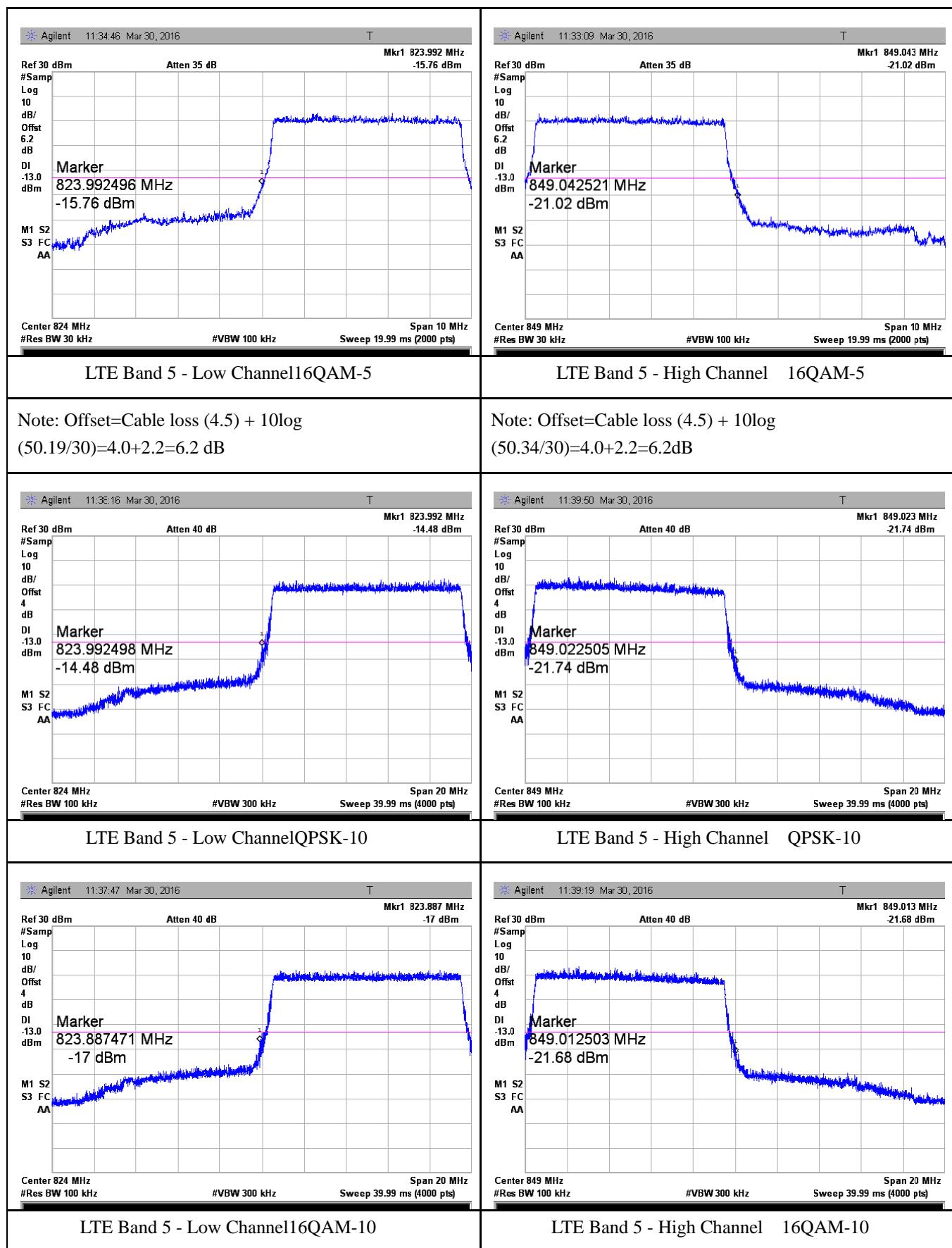


LTE Band 5

LTE Band 5 - Low ChannelQPSK-1.4	LTE Band 5 - HighChannel QPSK-1.4
Note: Offset=Cable loss (4.5) + 10log (13.22/10)=4.0+1.2=5.2dB	Note: Offset=Cable loss (4.5) + 10log (13.20/10)=4.0+1.2=5.2 dB
LTE Band 5 - Low Channel16QAM-1.4	LTE Band 5 - High Channel16QAM-1.4
Note: Offset=Cable loss (4.5) + 10log (13.12/10)=4.0+1.2=5.2 dB	Note: Offset=Cable loss (4.5) + 10log (13.11/10)=4.0+1.2=5.2 dB



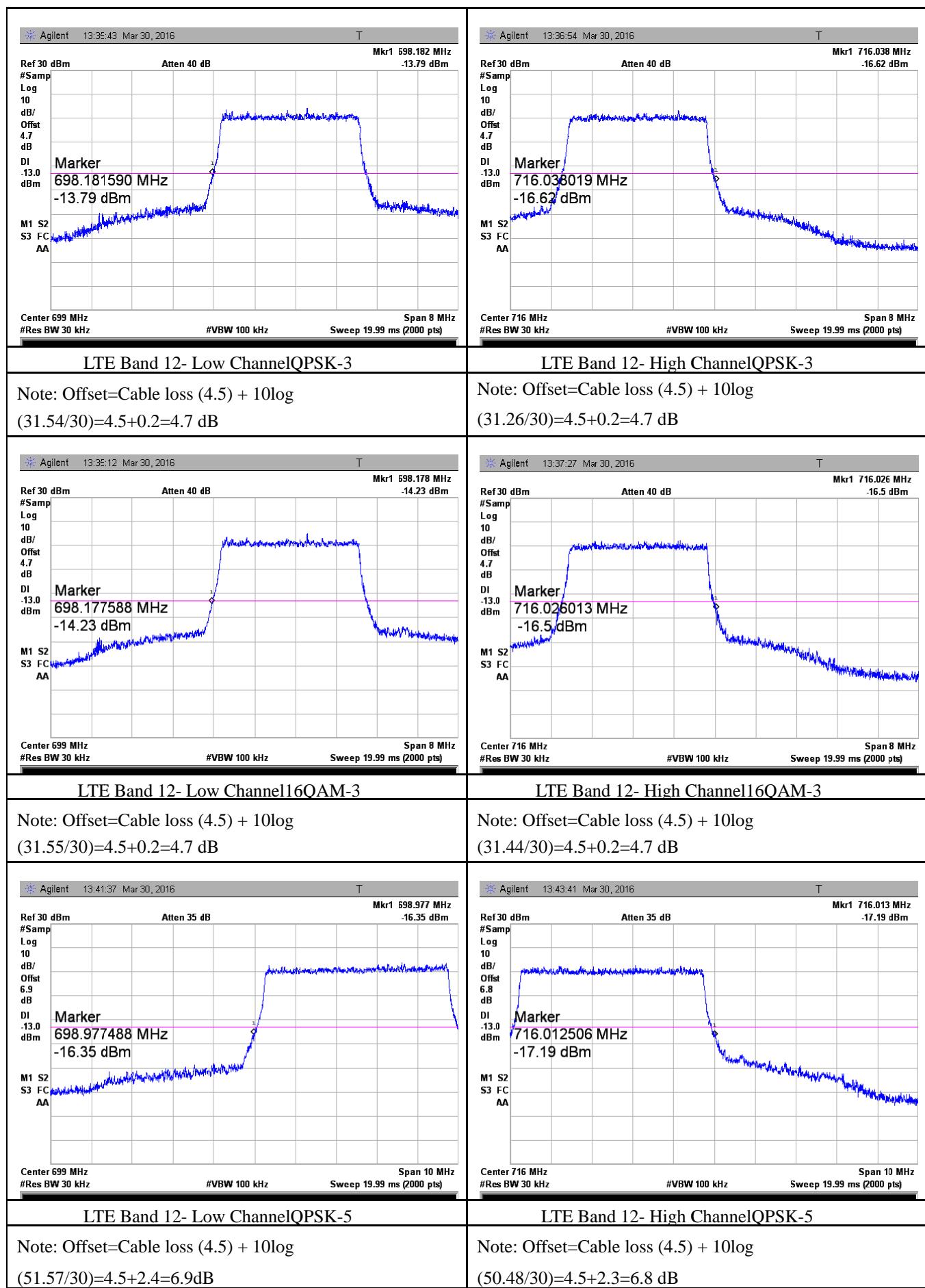
<p>LTE Band 5 - Low ChannelQPSK-3</p> <p>Note: Offset=Cable loss (4.5) + 10log (31.28/30)=4.0+0.2=4.2dB</p>	<p>LTE Band 5 - High ChannelQPSK-3</p> <p>Note: Offset=Cable loss (4.5) + 10log (31.04/30)=4.0+0.1=4.1dB</p>
<p>LTE Band 5 - Low Channel16QAM-3</p> <p>Note: Offset=Cable loss (4.5) + 10log (31.7/30)=4.0+0.2=4.2 dB</p>	<p>LTE Band 5 - High Channel 16QAM-3</p> <p>Note: Offset=Cable loss (4.5) + 10log (31.52/30)=4.0+0.2=4.2 dB</p>
<p>LTE Band 5 - Low ChannelQPSK-5</p> <p>Note: Offset=Cable loss (4.5) + 10log (50.32/30)=4.0+2.2=6.2 dB</p>	<p>LTE Band 5 - High ChannelQPSK-5</p> <p>Note: Offset=Cable loss (4.5) + 10log (49.87/30)=4.0+2.2=6.2 dB</p>

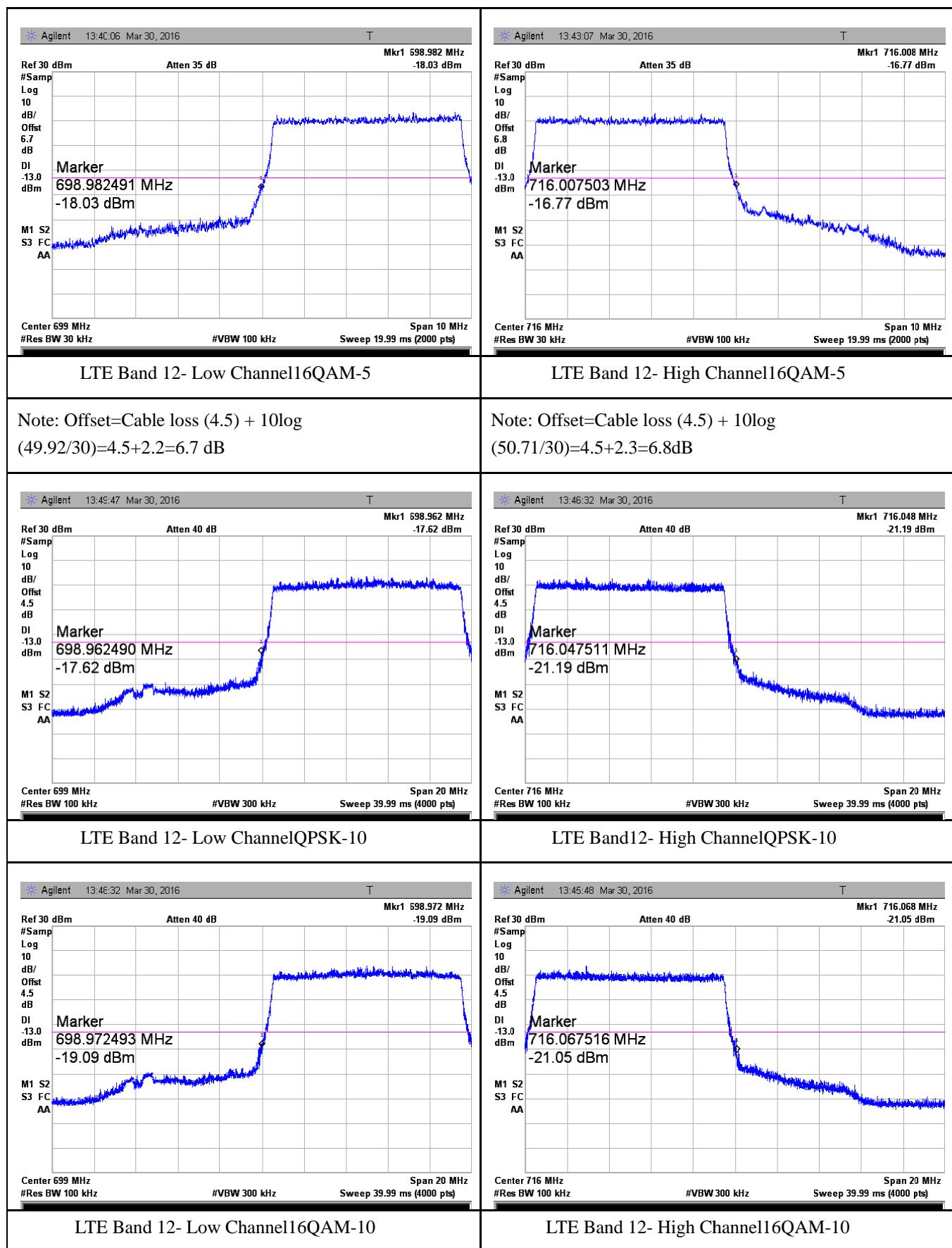




LTE Band 12

<p>Agilent 13:28:32 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB</p> <p>Mkr1 698.987 MHz -22.16 dBm</p> <p>#Samp Log 10 dB/ Offst 5.7 dB DI -13.0 dBm Marker 698.987487 MHz -22.16 dBm M1 S2 S3 FC AA</p> <p>Center 699 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 81.9 ms (1000 pts) Span 5 MHz</p>	<p>Agilent 13:27:37 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB</p> <p>Mkr1 716.003 MHz -24.39 dBm</p> <p>#Samp Log 10 dB/ Offst 5.7 dB DI -13.0 dBm Marker 716.002502 MHz -24.39 dBm M1 S2 S3 FC AA</p> <p>Center 716 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 81.9 ms (1000 pts) Span 5 MHz</p>
LTE Band 12- LowChannelQPSK-1.4	LTE Band 12- High ChannelQPSK-1.4
Note: Offset=Cable loss (4.5) + 10log (13.18/10)=4.5+1.2=5.7 dB	Note: Offset=Cable loss (4.5) + 10log (13.11/10)=4.5+1.2=5.7 dB
<p>Agilent 13:29:09 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB</p> <p>Mkr1 698.997 MHz -22.44 dBm</p> <p>#Samp Log 10 dB/ Offst 5.6 dB DI -13.0 dBm Marker 698.997497 MHz -22.44 dBm M1 S2 S3 FC AA</p> <p>Center 699 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 81.9 ms (1000 pts) Span 5 MHz</p>	<p>Agilent 13:27:02 Mar 30, 2016</p> <p>Ref 30 dBm Atten 35 dB</p> <p>Mkr1 716.013 MHz -24.85 dBm</p> <p>#Samp Log 10 dB/ Offst 5.7 dB DI -13.0 dBm Marker 716.012512 MHz -24.85 dBm M1 S2 S3 FC AA</p> <p>Center 716 MHz #Res BW 10 kHz #VBW 30 kHz Sweep 81.9 ms (1000 pts) Span 5 MHz</p>
LTE Band 12- Low Channel16QAM-1.4	LTE Band 12- High Channel16QAM-1.4
Note: Offset=Cable loss (4.5) + 10log (12.96/10)=4.5+1.1=5.6 dB	Note: Offset=Cable loss (4.5) + 10log (13.16/10)=4.5+1.2=5.7dB

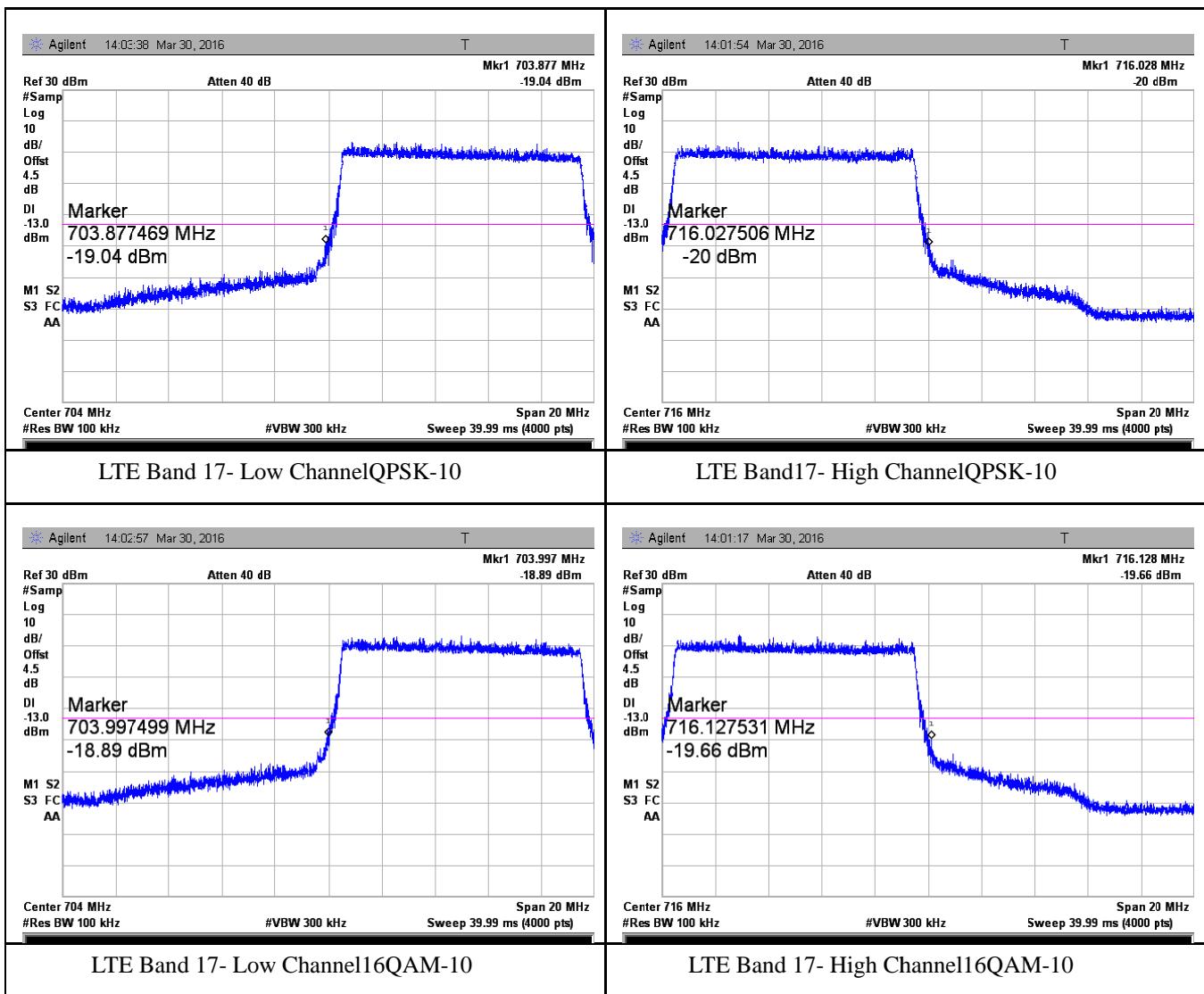






LTE Band 17

LTE Band 17- Low ChannelQPSK-5	LTE Band 17- High ChannelQPSK-5
Note: Offset=Cable loss (4.0) + 10log (49.8/30)=4.5+2.2=6.7 dB	Note: Offset=Cable loss (4.0) + 10log (50.85/30)=4.5+2.3=6.8 dB
LTE Band 17- Low Channel16QAM-5	LTE Band 17- High Channel16QAM-5
Note: Offset=Cable loss (4.0) + 10log (50.34/30)=4.5+2.2=6.7 dB	Note: Offset=Cable loss (4.0) + 10log (50.99/30)=4.5+2.3=6.8 dB



NOTE:

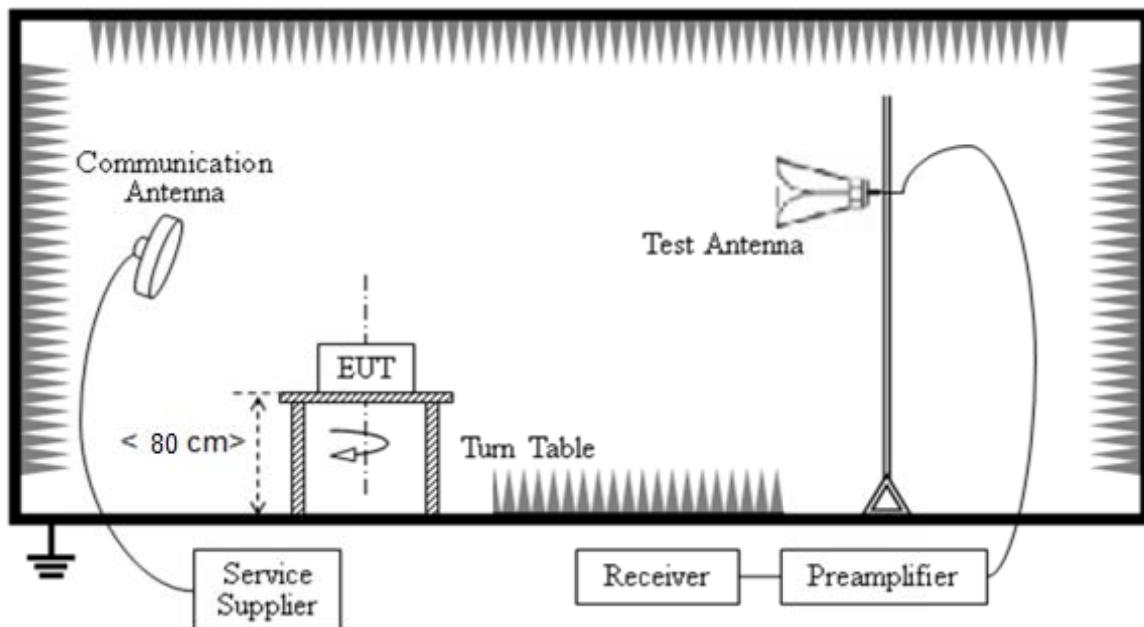
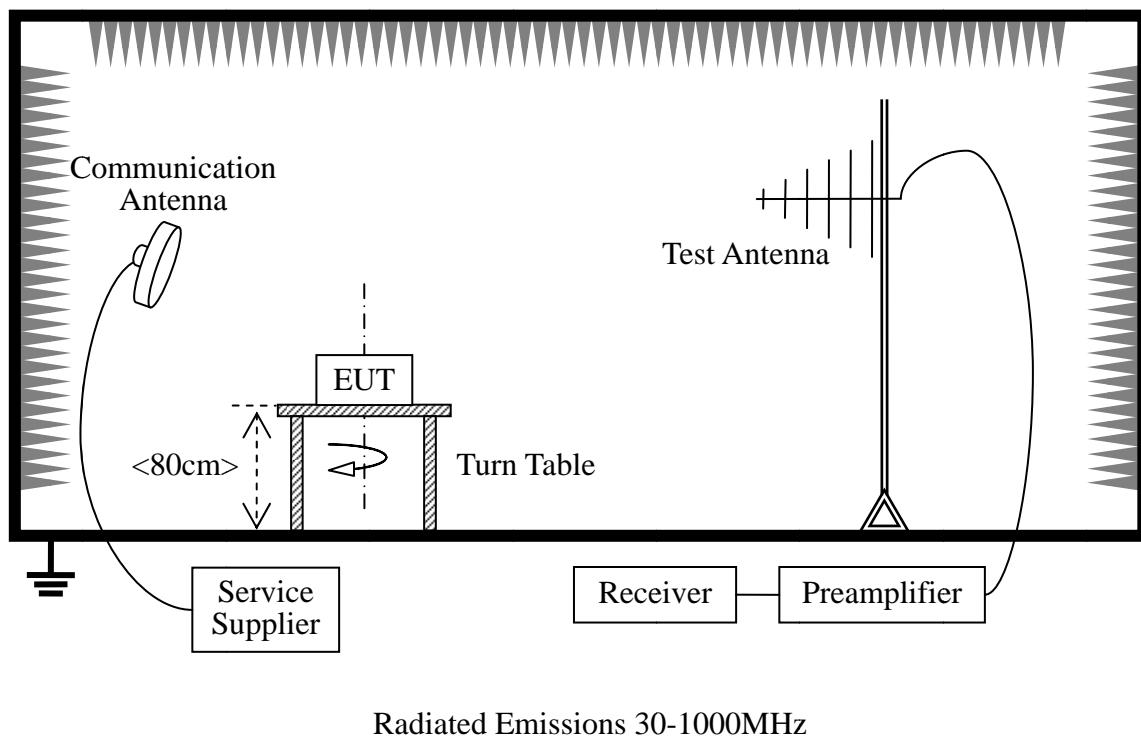
The power of the EUT transmitting frequency should be ignored.

1.14 Transmitter Radiated Power (EIRP/ERP)

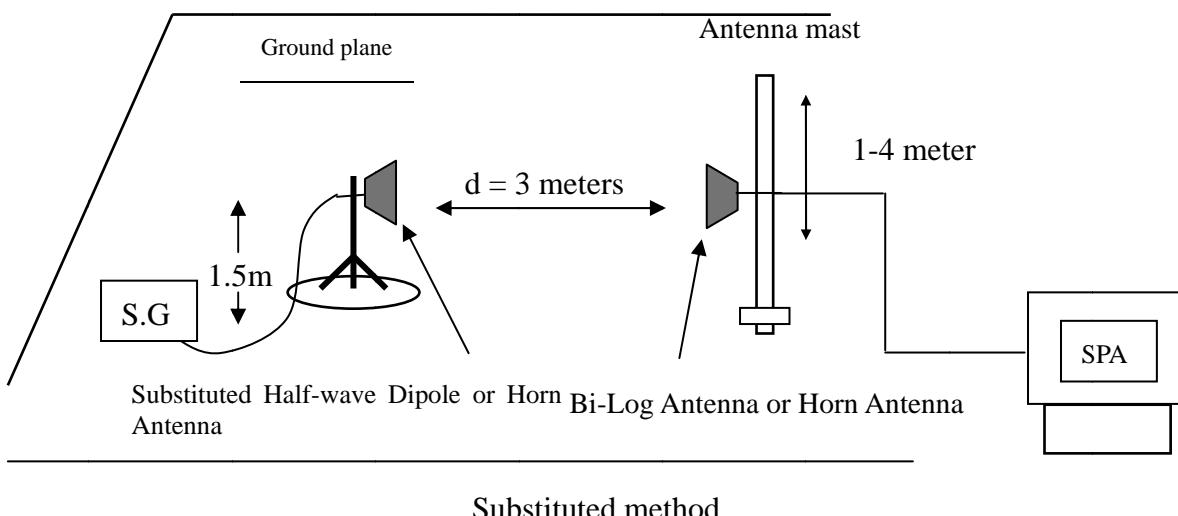
1.14.1 Requirement

According to FCC section 2.1046, 22.913(a)(2), 24.232(c), 27.50(c)(10) and 27.50(d)(4) Mobile and portable (hand-held) stations operating are limited to average ERP of 7 watts with LTE band 5 and 3 watts with LTE band 12 / 17. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2 and 1 watt with LTE band 4.

1.14.2 Test Description



Radiated Emissions above 1000MHz



1.14.3 Test Procedure

The measurements procedures in TIA-603D-2010 are used.

1. EUT was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1-4m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (P_r).
3. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
4. The cable loss (P_{cl}) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (G_a) should be recorded after test. The measurement results are obtained as described below:
$$\text{Power(EIRP)} = P_{Mea} + P_{cl} + G_a$$
5. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, $\text{ERP} = \text{EIRP} - 2.15\text{dBi}$.



1.14.4 Test Results

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested. All modes are tested.

Measurement Result for SECD-5I7C-02

LTE Band 2:

LTE Band 2 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	19.99	0.0998	18.16	0.0655
Middle		1	0	19.67	0.0927	17.50	0.0562
Highest		1	0	18.57	0.0720	17.48	0.0560
Lowest	16QAM	1	0	18.97	0.0788	17.98	0.0627
Middle		1	0	17.54	0.0568	17.45	0.0556
Highest		1	0	17.70	0.0589	16.59	0.0456
Limit	EIRP <2W			Result		Pass	

LTE Band 2 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	19.57	0.0906	18.20	0.0661
Middle		1	0	19.04	0.0802	17.60	0.0575
Highest		1	0	18.64	0.0731	16.73	0.0471
Lowest	16QAM	1	0	19.54	0.0900	17.77	0.0598
Middle		1	0	17.74	0.0595	17.56	0.0570
Highest		1	0	18.39	0.0690	17.14	0.0517
Limit	EIRP <2W			Result		Pass	

LTE Band 2 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	19.32	0.0856	18.03	0.0635
Middle		1	0	19.89	0.0975	18.26	0.0670
Highest		1	0	18.46	0.0701	17.12	0.0515
Lowest	16QAM	1	0	18.34	0.0682	17.88	0.0614
Middle		1	0	18.30	0.0676	17.52	0.0565
Highest		1	0	18.25	0.0669	17.25	0.0530
Limit	EIRP <2W			Result		Pass	



LTE Band 2 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	20.06	0.1014	18.20	0.0661
Middle		1	0	20.15	0.1036	18.14	0.0651
Highest		1	0	19.34	0.0859	16.89	0.0489
Lowest	16QAM	1	0	19.28	0.0847	17.38	0.0547
Middle		1	0	18.66	0.0734	17.79	0.0601
Highest		1	0	18.58	0.0722	17.09	0.0512
Limit	EIRP <2W			Result		Pass	

LTE Band 2 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	19.18	0.0828	18.45	0.0700
Middle		1	0	19.76	0.0946	18.07	0.0641
Highest		1	0	18.92	0.0780	17.57	0.0572
Lowest	16QAM	1	0	18.80	0.0758	17.24	0.0530
Middle		1	0	18.74	0.0748	17.99	0.0629
Highest		1	0	18.38	0.0688	16.69	0.0467
Limit	EIRP <2W			Result		Pass	

LTE Band 2 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	20.10	0.1024	18.34	0.0682
Middle		1	0	20.59	0.1145	18.49	0.0706
Highest		1	0	18.85	0.0767	18.08	0.0642
Lowest	16QAM	1	0	18.66	0.0734	16.73	0.0471
Middle		1	0	17.89	0.0615	17.39	0.0548
Highest		1	0	18.17	0.0656	17.20	0.0525
Limit	EIRP <2W			Result		Pass	



LTE Band4

LTE Band 4 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.53	0.1791	19.33	0.0858
Middle		1	0	22.01	0.1587	19.44	0.0878
Highest		1	0	21.45	0.1397	19.32	0.0854
Lowest	16QAM	1	0	21.67	0.1469	19.64	0.0920
Middle		1	0	21.76	0.1498	19.25	0.0841
Highest		1	0	21.98	0.1578	19.67	0.0928
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.47	0.1765	19.95	0.0989
Middle		1	0	21.67	0.1469	19.29	0.0849
Highest		1	0	21.85	0.1533	18.97	0.0788
Lowest	16QAM	1	0	21.96	0.1570	18.90	0.0776
Middle		1	0	21.88	0.1543	20.09	0.1022
Highest		1	0	22.28	0.1691	19.73	0.0940
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.55	0.1799	20.00	0.0999
Middle		1	0	22.43	0.1751	18.82	0.0763
Highest		1	0	21.11	0.1292	20.13	0.1030
Lowest	16QAM	1	0	21.94	0.1565	19.65	0.0923
Middle		1	0	22.12	0.1630	19.58	0.0908
Highest		1	0	20.93	0.1239	18.62	0.0728
Limit	EIRP < 1W			Result		Pass	



LTE Band 4 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.46	0.1401	19.23	0.0837
Middle		1	0	21.81	0.1515	20.14	0.1033
Highest		1	0	22.27	0.1687	18.71	0.0743
Lowest	16QAM	1	0	21.42	0.1386	19.15	0.0822
Middle		1	0	22.64	0.1837	19.18	0.0828
Highest		1	0	22.72	0.1871	19.46	0.0883
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.35	0.172	19.29	0.085
Middle		1	0	21.61	0.145	20.45	0.111
Highest		1	0	22.68	0.185	20.07	0.102
Lowest	16QAM	1	0	21.94	0.156	20.46	0.111
Middle		1	0	21.97	0.157	19.54	0.090
Highest		1	0	22.00	0.158	19.23	0.084
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.02	0.1591	19.29	0.0849
Middle		1	0	21.60	0.1444	19.87	0.0970
Highest		1	0	22.32	0.1705	19.37	0.0864
Lowest	16QAM	1	0	21.66	0.1467	19.84	0.0964
Middle		1	0	21.90	0.1547	19.03	0.0800
Highest		1	0	21.63	0.1457	18.85	0.0768
Limit	EIRP < 1W			Result		Pass	



LTE Band 5

LTE Band 5 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	16.12	0.0409	7.14	0.0052
Middle		1	0	16.25	0.0422	7.30	0.0054
Highest		1	0	16.20	0.0417	7.46	0.0056
Lowest	16QAM	1	0	15.23	0.0333	6.24	0.0042
Middle		1	0	15.58	0.0361	6.63	0.0046
Highest		1	0	15.53	0.0357	6.79	0.0048
Limit	ERP <7W			Result		Pass	

LTE Band 5 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	15.39	0.0346	6.74	0.0047
Middle		1	0	15.89	0.0388	7.27	0.0053
Highest		1	0	15.25	0.0335	7.12	0.0051
Lowest	16QAM	1	0	14.69	0.0294	5.38	0.0035
Middle		1	0	15.26	0.0336	6.33	0.0043
Highest		1	0	15.12	0.0325	6.01	0.0040
Limit	ERP <7W			Result		Pass	

LTE Band 5 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	14.75	0.0299	6.13	0.0041
Middle		1	0	15.45	0.0351	6.85	0.0048
Highest		1	0	15.64	0.0367	7.28	0.0053
Lowest	16QAM	1	0	14.50	0.0282	5.38	0.0035
Middle		1	0	15.59	0.0362	6.36	0.0043
Highest		1	0	14.71	0.0296	6.19	0.0042
Limit	ERP <7W			Result		Pass	



LTE Band 5 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	14.89	0.0308	5.82	0.0038
Middle		1	0	15.72	0.0374	6.64	0.0046
Highest		1	0	14.94	0.0312	6.40	0.0044
Lowest	16QAM	1	0	15.89	0.0388	4.60	0.0029
Middle		1	0	14.97	0.0314	5.90	0.0039
Highest		1	0	14.95	0.0313	5.94	0.0039
Limit	ERP <7W			Result		Pass	

LTE Band 12

LTE Band 12 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	13.84	0.0242	-2.82	0.0005
Middle		1	0	13.08	0.0203	-2.86	0.0005
Highest		1	0	13.19	0.0208	-2.85	0.0005
Lowest	16QAM	1	0	12.56	0.0180	-3.84	0.0004
Middle		1	0	12.29	0.0169	-3.95	0.0004
Highest		1	0	12.59	0.0182	-3.79	0.0004
Limit	ERP <3W			Result		Pass	

LTE Band 12 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	13.75	0.0237	-3.63	0.0004
Middle		1	0	12.78	0.0190	-3.18	0.0005
Highest		1	0	13.47	0.0222	-4.19	0.0004
Lowest	16QAM	1	0	12.67	0.0185	-4.21	0.0004
Middle		1	0	12.47	0.0176	-3.88	0.0004
Highest		1	0	12.43	0.0175	-4.49	0.0004
Limit	ERP <3W			Result		Pass	



LTE Band 12 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	14.18	0.0262	-2.72	0.0005
Middle		1	0	13.24	0.0211	-3.94	0.0004
Highest		1	0	14.07	0.0255	-3.65	0.0004
Lowest	16QAM	1	0	13.29	0.0213	-3.82	0.0004
Middle		1	0	12.40	0.0174	-4.54	0.0004
Highest		1	0	12.56	0.0180	-4.76	0.0003
Limit	ERP <3W			Result		Pass	

LTE Band 12 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	14.21	0.0263	-2.94	0.0005
Middle		1	0	13.36	0.0217	-3.54	0.0004
Highest		1	0	13.24	0.0211	-2.83	0.0005
Lowest	16QAM	1	0	13.15	0.0207	-3.48	0.0004
Middle		1	0	12.10	0.0162	-4.26	0.0004
Highest		1	0	12.77	0.0189	-4.07	0.0004
Limit	ERP <3W			Result		Pass	

LTE Band 17

LTE Band 17 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	13.63	0.0230	-4.10	0.0004
Middle		1	0	13.51	0.0224	-2.58	0.0006
Highest		1	0	13.62	0.0230	-4.11	0.0004
Lowest	16QAM	1	0	12.48	0.0177	-4.89	0.0003
Middle		1	0	12.63	0.0183	-3.77	0.0004
Highest		1	0	12.57	0.0181	-4.48	0.0004
Limit	ERP <3W			Result		Pass	



LTE Band 17 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	13.11	0.0205	-3.01	0.0005
Middle		1	0	13.48	0.0223	-3.26	0.0005
Highest		1	0	13.76	0.0238	-2.95	0.0005
Lowest	16QAM	1	0	12.89	0.0195	-3.45	0.0005
Middle		1	0	12.93	0.0197	-3.50	0.0004
Highest		1	0	12.30	0.0170	-3.47	0.0004
Limit	ERP <3W			Result		Pass	

Measurement Result for SECD-5I7A-02

LTE Band 2:

LTE Band 2 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	20.41	0.1099	18.22	0.0664
Middle		1	0	19.23	0.0837	17.77	0.0599
Highest		1	0	18.80	0.0759	16.74	0.0472
Lowest	16QAM	1	0	19.61	0.0915	18.39	0.0690
Middle		1	0	18.39	0.0690	17.59	0.0573
Highest		1	0	17.66	0.0583	17.25	0.0531
Limit	EIRP <2W			Result		Pass	

LTE Band 2 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	20.32	0.1077	18.42	0.0695
Middle		1	0	19.38	0.0867	18.22	0.0664
Highest		1	0	19.13	0.0819	17.21	0.0526
Lowest	16QAM	1	0	19.26	0.0844	17.70	0.0589
Middle		1	0	17.65	0.0583	17.21	0.0526
Highest		1	0	18.20	0.0660	16.60	0.0457
Limit	EIRP <2W			Result		Pass	



LTE Band 2 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	19.27	0.0846	18.74	0.0748
Middle		1	0	19.39	0.0869	17.44	0.0554
Highest		1	0	18.42	0.0696	17.67	0.0584
Lowest	16QAM	1	0	18.40	0.0692	17.10	0.0513
Middle		1	0	18.25	0.0668	17.44	0.0554
Highest		1	0	18.28	0.0673	17.25	0.0530
Limit	EIRP <2W			Result		Pass	
LTE Band 2 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	19.65	0.0922	17.92	0.0619
Middle		1	0	19.92	0.0983	18.63	0.0729
Highest		1	0	18.67	0.0735	16.91	0.0491
Lowest	16QAM	1	0	19.15	0.0822	17.08	0.0511
Middle		1	0	19.05	0.0804	17.07	0.0510
Highest		1	0	18.71	0.0743	16.20	0.0417
Limit	EIRP <2W			Result		Pass	

LTE Band 2 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	19.82	0.0959	17.51	0.0564
Middle		1	0	20.22	0.1052	17.80	0.0603
Highest		1	0	18.94	0.0783	17.78	0.0599
Lowest	16QAM	1	0	18.86	0.0769	16.95	0.0496
Middle		1	0	18.46	0.0701	17.60	0.0575
Highest		1	0	18.12	0.0648	16.61	0.0458
Limit	EIRP <2W			Result		Pass	



LTE Band 2 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	19.85	0.0966	18.26	0.0670
Middle		1	0	20.15	0.1035	17.87	0.0612
Highest		1	0	18.99	0.0793	17.64	0.0580
Lowest	16QAM	1	0	19.15	0.0822	17.32	0.0540
Middle		1	0	17.73	0.0594	17.42	0.0552
Highest		1	0	18.68	0.0738	16.68	0.0466
Limit	EIRP <2W			Result		Pass	

LTE Band4

LTE Band 4 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.40	0.1737	18.98	0.0791
Middle		1	0	21.92	0.1556	19.57	0.0906
Highest		1	0	22.10	0.1621	18.98	0.0790
Lowest	16QAM	1	0	22.16	0.1644	20.09	0.1021
Middle		1	0	21.10	0.1289	18.60	0.0724
Highest		1	0	22.53	0.1791	20.01	0.1002
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.55	0.1800	19.16	0.0824
Middle		1	0	22.38	0.1730	19.61	0.0915
Highest		1	0	22.05	0.1603	19.09	0.0811
Lowest	16QAM	1	0	21.02	0.1265	19.07	0.0807
Middle		1	0	21.88	0.1540	19.22	0.0835
Highest		1	0	22.50	0.1779	19.13	0.0818
Limit	EIRP < 1W			Result		Pass	



LTE Band 4 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.43	0.1752	19.71	0.0935
Middle		1	0	22.28	0.1689	18.81	0.0760
Highest		1	0	21.45	0.1397	19.94	0.0987
Lowest	16QAM	1	0	22.16	0.1643	19.81	0.0958
Middle		1	0	21.42	0.1387	19.16	0.0825
Highest		1	0	21.11	0.1290	18.47	0.0703
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.34	0.1361	20.17	0.1041
Middle		1	0	21.91	0.1554	19.39	0.0869
Highest		1	0	21.46	0.1400	19.09	0.0811
Lowest	16QAM	1	0	21.27	0.1341	18.67	0.0736
Middle		1	0	22.48	0.1769	19.42	0.0874
Highest		1	0	22.48	0.1770	19.14	0.0819
Limit	EIRP < 1W			Result		Pass	

LTE Band 4 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.97	0.1575	19.08	0.0810
Middle		1	0	20.73	0.1182	19.99	0.0998
Highest		1	0	22.65	0.1841	19.83	0.0962
Lowest	16QAM	1	0	21.52	0.1420	19.90	0.0977
Middle		1	0	21.70	0.1477	19.14	0.0821
Highest		1	0	21.83	0.1523	18.30	0.0676
Limit	EIRP < 1W			Result		Pass	



LTE Band 4 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	21.56	0.1431	19.30	0.0851
Middle		1	0	22.20	0.1660	18.97	0.0789
Highest		1	0	21.10	0.1288	20.05	0.1011
Lowest	16QAM	1	0	21.85	0.1530	20.19	0.1044
Middle		1	0	21.66	0.1464	18.91	0.0779
Highest		1	0	22.58	0.1812	18.24	0.0666
Limit	EIRP < 1W			Result		Pass	

LTE Band 5

LTE Band 5 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	15.61	0.0364	6.17	0.0041
Middle		1	0	16.20	0.0417	7.09	0.0051
Highest		1	0	15.33	0.0341	7.01	0.0050
Lowest	16QAM	1	0	14.79	0.0301	5.63	0.0037
Middle		1	0	14.61	0.0289	6.39	0.0044
Highest		1	0	14.88	0.0308	6.24	0.0042
Limit	ERP < 7W			Result		Pass	

LTE Band 5 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	14.97	0.0314	6.87	0.0049
Middle		1	0	15.62	0.0365	6.94	0.0049
Highest		1	0	15.35	0.0343	6.57	0.0045
Lowest	16QAM	1	0	14.31	0.0270	5.66	0.0037
Middle		1	0	14.31	0.0270	6.26	0.0042
Highest		1	0	14.52	0.0283	5.83	0.0038
Limit	ERP < 7W			Result		Pass	



LTE Band 5 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	15.34	0.0342	5.82	0.0038
Middle		1	0	15.88	0.0387	6.55	0.0045
Highest		1	0	15.60	0.0363	7.07	0.0051
Lowest	16QAM	1	0	14.35	0.0273	6.16	0.0041
Middle		1	0	14.91	0.0310	5.80	0.0038
Highest		1	0	14.85	0.0305	6.32	0.0043
Limit	ERP <7W			Result		Pass	

LTE Band 5 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	15.10	0.0324	6.21	0.0042
Middle		1	0	15.62	0.0364	6.19	0.0042
Highest		1	0	15.92	0.0391	6.14	0.0041
Lowest	16QAM	1	0	16.21	0.0418	5.12	0.0033
Middle		1	0	14.57	0.0287	6.22	0.0042
Highest		1	0	15.00	0.0316	5.27	0.0034
Limit	ERP <7W			Result		Pass	

LTE Band 12

LTE Band 12 / 1.4MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	13.93	0.0247	-3.65	0.0004
Middle		1	0	12.98	0.0198	-3.28	0.0005
Highest		1	0	13.67	0.0233	-2.70	0.0005
Lowest	16QAM	1	0	12.86	0.0193	-4.23	0.0004
Middle		1	0	12.43	0.0175	-3.87	0.0004
Highest		1	0	13.01	0.0200	-4.01	0.0004
Limit	ERP <3W			Result		Pass	



LTE Band 12 / 3MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	13.08	0.0203	-3.49	0.0004
Middle		1	0	12.99	0.0199	-3.98	0.0004
Highest		1	0	12.99	0.0199	-4.20	0.0004
Lowest	16QAM	1	0	12.55	0.0180	-4.06	0.0004
Middle		1	0	12.55	0.0180	-4.04	0.0004
Highest		1	0	12.52	0.0179	-4.47	0.0004
Limit	ERP <3W			Result		Pass	

LTE Band 12 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	14.07	0.0255	-3.01	0.0005
Middle		1	0	13.14	0.0206	-3.73	0.0004
Highest		1	0	13.53	0.0226	-3.67	0.0004
Lowest	16QAM	1	0	12.84	0.0193	-4.22	0.0004
Middle		1	0	12.28	0.0169	-4.96	0.0003
Highest		1	0	13.24	0.0211	-4.31	0.0004
Limit	ERP <3W			Result		Pass	

LTE Band 12 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	13.63	0.0231	-3.48	0.0004
Middle		1	0	13.63	0.0231	-4.15	0.0004
Highest		1	0	13.55	0.0226	-3.01	0.0005
Lowest	16QAM	1	0	12.95	0.0197	-3.58	0.0004
Middle		1	0	12.19	0.0166	-4.73	0.0003
Highest		1	0	12.40	0.0174	-3.78	0.0004
Limit	ERP <3W			Result		Pass	



LTE Band 17

LTE Band 17 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	12.76	0.0189	-4.20	0.0004
Middle		1	0	12.81	0.0191	-3.16	0.0005
Highest		1	0	13.79	0.0239	-4.53	0.0004
Lowest	16QAM	1	0	12.42	0.0174	-5.18	0.0003
Middle		1	0	12.98	0.0199	-3.44	0.0005
Highest		1	0	12.81	0.0191	-4.59	0.0003
Limit	ERP <3W			Result		Pass	

LTE Band 17 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	EIRP(W)	ERP(dBm)	EIRP(W)
Lowest	QPSK	1	0	13.25	0.0211	-2.74	0.0005
Middle		1	0	13.65	0.0232	-2.81	0.0005
Highest		1	0	13.29	0.0213	-3.19	0.0005
Lowest	16QAM	1	0	12.66	0.0184	-3.57	0.0004
Middle		1	0	12.93	0.0197	-4.04	0.0004
Highest		1	0	13.11	0.0205	-3.54	0.0004
Limit	ERP <3W			Result		Pass	



1.15 Radiated Out of Band Emissions

1.15.1 Requirement

According to FCC section 2.1053, 22.917(a), 24.238(a) and 27.53(h), 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. This calculated to be -13dBm.

1.15.2 Test Description

See section 4.7.2 of this report.

1.15.3 Test Procedure

1. The lowest, middle and the highest channel were selected to perform tests respectively.
2. The EUT was placed on a rotatable non-conductive table 0.8 meters above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antennatower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A substituted antenna was in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
12. $ERP \text{ (dBm)} = EIRP - 2.15$
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
$$\begin{aligned} &= P(W) - [43 + 10\log(P)] \text{ (dB)} \\ &= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)} \\ &= -13 \text{ dBm.} \end{aligned}$$



1.15.4 Test Results

Measurement Result for SECD-5I7C-02

LTE Band 2

LTE Band 2 / 1.4MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-56.51	-13	Pass
	H	5556	-50.20	-13	Pass
	H	7404	-51.29	-13	Pass
	H	9256	-50.40	-13	Pass
	H	12956	-40.20	-13	Pass
	V	3704	-61.36	-13	Pass
	V	5556	-51.67	-13	Pass
	V	7404	-52.67	-13	Pass
	V	9256	-49.91	-13	Pass
	V	12956	-47.61	-13	Pass
Middle	H	3764	-58.82	-13	Pass
	H	5644	-47.68	-13	Pass
	H	7524	-52.68	-13	Pass
	H	9400	-51.47	-13	Pass
	H	13160	-39.16	-13	Pass
	V	3764	-59.87	-13	Pass
	V	5644	-53.57	-13	Pass
	V	7524	-55.40	-13	Pass
	V	9400	-54.08	-13	Pass
	V	13160	-46.87	-13	Pass
Highest	H	3820	-61.46	-13	Pass
	H	5732	-48.96	-13	Pass
	H	7640	-54.01	-13	Pass
	H	9548	-50.92	-13	Pass
	V	3820	-62.66	-13	Pass
	V	5732	-52.85	-13	Pass
	V	7640	-54.28	-13	Pass
	V	9548	-51.47	-13	Pass



LTE Band 2 / 3MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-56.72	-13	Pass
	H	5556	-48.45	-13	Pass
	H	7404	-49.58	-13	Pass
	H	9256	-48.34	-13	Pass
	V	12956	-38.37	-13	Pass
	V	3704	-60.51	-13	Pass
	V	5556	-52.47	-13	Pass
	V	7404	-54.00	-13	Pass
	V	9256	-52.97	-13	Pass
	V	12956	-45.32	-13	Pass
Middle	H	3760	-59.70	-13	Pass
	H	5640	-47.43	-13	Pass
	H	7520	-52.70	-13	Pass
	H	9396	-49.15	-13	Pass
	V	13156	-39.02	-13	Pass
	V	3760	-61.06	-13	Pass
	V	5640	-53.63	-13	Pass
	V	7520	-53.81	-13	Pass
	V	9396	-53.86	-13	Pass
	V	13156	-44.97	-13	Pass
Highest	H	3820	-57.65	-13	Pass
	H	5724	-50.56	-13	Pass
	H	7632	-40.87	-13	Pass
	H	9540	-50.82	-13	Pass
	V	13356	-40.08	-13	Pass
	V	3820	-61.12	-13	Pass
	V	5724	-56.43	-13	Pass
	V	7632	-54.65	-13	Pass
	V	9540	-54.75	-13	Pass
	V	13356	-46.46	-13	Pass



LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-58.00	-13	Pass
	H	5556	-49.00	-13	Pass
	H	7404	-52.85	-13	Pass
	H	9256	-48.82	-13	Pass
	V	12956	-38.01	-13	Pass
	V	3704	-60.95	-13	Pass
	V	5556	-52.77	-13	Pass
	V	7404	-53.08	-13	Pass
	V	9256	-53.57	-13	Pass
	V	12956	-45.55	-13	Pass
Middle	H	3760	-59.53	-13	Pass
	H	5636	-49.95	-13	Pass
	H	7516	-52.04	-13	Pass
	H	9392	-51.68	-13	Pass
	V	13148	-40.91	-13	Pass
	V	3760	-61.19	-13	Pass
	V	5636	-54.84	-13	Pass
	V	7516	-55.17	-13	Pass
	V	9392	-53.43	-13	Pass
	V	13148	-44.03	-13	Pass
Highest	H	3816	-57.56	-13	Pass
	H	5720	-49.12	-13	Pass
	H	7624	-51.17	-13	Pass
	V	3816	-63.54	-13	Pass
	V	5720	-56.30	-13	Pass
	V	7624	-57.71	-13	Pass



LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-55.12	-13	Pass
	H	5556	-51.14	-13	Pass
	H	7408	-49.13	-13	Pass
	H	9256	-47.33	-13	Pass
	H	11108	-50.53	-13	Pass
	H	12960	-41.21	-13	Pass
	V	3704	-48.60	-13	Pass
	V	5556	-52.52	-13	Pass
	V	7408	-55.82	-13	Pass
	V	9256	-50.48	-13	Pass
	V	11108	-52.65	-13	Pass
	V	12960	-45.97	-13	Pass
Middle	H	3756	-59.80	-13	Pass
	H	5632	-51.65	-13	Pass
	H	13132	-39.91	-13	Pass
	V	3756	-60.48	-13	Pass
	V	5632	-54.86	-13	Pass
	V	13132	-43.42	-13	Pass
Highest	H	3804	-58.08	-13	Pass
	H	5704	-53.85	-13	Pass
	H	7608	-51.77	-13	Pass
	H	9508	-49.25	-13	Pass
	H	11412	-48.19	-13	Pass
	H	13308	-40.14	-13	Pass
	V	3804	-58.83	-13	Pass
	V	5704	-58.83	-13	Pass
	V	7608	-56.58	-13	Pass
	V	9508	-52.71	-13	Pass
	V	11412	-50.11	-13	Pass
	V	13308	-46.01	-13	Pass



LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-56.79	-13	Pass
	H	5556	-48.42	-13	Pass
	H	7408	-52.43	-13	Pass
	H	9260	-50.88	-13	Pass
	H	12960	-39.99	-13	Pass
	V	3704	-61.59	-13	Pass
	V	5556	-53.42	-13	Pass
	V	7408	-53.66	-13	Pass
	V	9260	-40.02	-13	Pass
	V	12960	-47.07	-13	Pass
Middle	H	3752	-59.77	-13	Pass
	H	5624	-49.85	-13	Pass
	H	7496	-53.69	-13	Pass
	H	9372	-51.50	-13	Pass
	V	13116	-42.48	-13	Pass
	V	3752	-62.61	-13	Pass
	V	5624	-56.44	-13	Pass
	V	7496	-53.89	-13	Pass
	V	9372	-54.39	-13	Pass
	V	13116	-46.58	-13	Pass
Highest	H	3796	-56.05	-13	Pass
	H	5692	-46.58	-13	Pass
	H	7588	-50.81	-13	Pass
	H	9484	-48.03	-13	Pass
	H	13276	-38.32	-13	Pass
	V	3796	-60.77	-13	Pass
	V	5692	-53.47	-13	Pass
	V	7588	-53.84	-13	Pass
	V	9484	-54.00	-13	Pass
	V	13276	-44.23	-13	Pass



LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3708	-57.71	-13	Pass
	H	5556	-50.61	-13	Pass
	H	7408	-48.62	-13	Pass
	H	9260	-49.93	-13	Pass
	H	12960	-38.34	-13	Pass
	V	3708	-62.25	-13	Pass
	V	5556	-53.62	-13	Pass
	V	7408	-54.66	-13	Pass
	V	9260	-50.38	-13	Pass
	V	12960	-45.78	-13	Pass
Middle	H	3748	-58.38	-13	Pass
	H	5616	-50.22	-13	Pass
	H	7488	-40.57	-13	Pass
	H	9360	-51.59	-13	Pass
	H	13100	-40.93	-13	Pass
	V	3748	-64.09	-13	Pass
	V	5616	-55.18	-13	Pass
	V	7488	-54.16	-13	Pass
	V	9360	-54.93	-13	Pass
	V	13100	-44.75	-13	Pass
Highest	H	3788	-58.36	-13	Pass
	H	5676	-49.90	-13	Pass
	H	7568	-50.45	-13	Pass
	H	9460	-49.72	-13	Pass
	H	13240	-42.85	-13	Pass
	V	3788	-60.64	-13	Pass
	V	5676	-53.07	-13	Pass
	V	7568	-53.60	-13	Pass
	V	9460	-52.50	-13	Pass
	V	13240	-42.93	-13	Pass



LTE Band 4

LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-58.13	-13	Pass
	H	5128	-47.85	-13	Pass
	H	6843	-33.48	-13	Pass
	H	8551	-49.28	-13	Pass
	V	3420	-63.24	-13	Pass
	V	5128	-55.91	-13	Pass
	V	6843	-42.05	-13	Pass
	V	8551	-53.79	-13	Pass
Middle	H	3462	-57.00	-13	Pass
	H	5198	-43.24	-13	Pass
	H	6927	-35.08	-13	Pass
	H	8663	-44.45	-13	Pass
	V	3462	-60.15	-13	Pass
	V	5198	-50.11	-13	Pass
	V	6927	-41.14	-13	Pass
	V	8663	-48.85	-13	Pass
Highest	H	3511	-57.77	-13	Pass
	H	5261	-47.67	-13	Pass
	H	7018	-37.76	-13	Pass
	H	8768	-48.17	-13	Pass
	V	3511	-60.93	-13	Pass
	V	5261	-52.02	-13	Pass
	V	7018	-43.69	-13	Pass
	V	8768	-50.23	-13	Pass



LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-56.19	-13	Pass
	H	5128	-45.93	-13	Pass
	H	6843	-33.00	-13	Pass
	H	8551	-44.04	-13	Pass
	V	3420	-62.52	-13	Pass
	V	5128	-56.15	-13	Pass
	V	6843	-42.87	-13	Pass
	V	8551	-50.05	-13	Pass
Middle	H	3462	-54.54	-13	Pass
	H	5191	-43.00	-13	Pass
	H	6927	-38.97	-13	Pass
	H	8656	-45.96	-13	Pass
	V	3462	-61.77	-13	Pass
	V	5191	-46.85	-13	Pass
	V	6927	-40.59	-13	Pass
	V	8656	-49.26	-13	Pass
Highest	H	3504	-57.22	-13	Pass
	H	5254	-45.02	-13	Pass
	H	7011	-39.42	-13	Pass
	H	8761	-46.76	-13	Pass
	V	3504	-63.84	-13	Pass
	V	5254	-48.44	-13	Pass
	V	7011	-44.34	-13	Pass
	V	8761	-51.37	-13	Pass



LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-56.26	-13	Pass
	H	5128	-49.60	-13	Pass
	H	6843	-35.44	-13	Pass
	H	8551	-48.14	-13	Pass
	V	3420	-61.60	-13	Pass
	V	5128	-56.14	-13	Pass
	V	6843	-42.09	-13	Pass
	V	8551	-51.44	-13	Pass
Middle	H	3462	-54.51	-13	Pass
	H	5191	-45.26	-13	Pass
	H	6920	-35.14	-13	Pass
	H	8649	-47.53	-13	Pass
	V	3462	-61.07	-13	Pass
	V	5191	-49.37	-13	Pass
	V	6920	-37.09	-13	Pass
	V	8649	-47.87	-13	Pass
Highest	H	3504	-58.37	-13	Pass
	H	5254	-50.98	-13	Pass
	H	7004	-40.65	-13	Pass
	H	8754	-47.91	-13	Pass
	V	3504	-62.22	-13	Pass
	V	5254	-50.39	-13	Pass
	V	7004	-43.43	-13	Pass
	V	8754	-50.99	-13	Pass



LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-56.45	-13	Pass
	H	5132	-47.51	-13	Pass
	H	6843	-35.55	-13	Pass
	V	3420	-60.71	-13	Pass
	V	5132	-52.71	-13	Pass
	V	6843	-38.21	-13	Pass
Middle	H	3455	-54.15	-13	Pass
	H	5184	-48.20	-13	Pass
	H	6913	-35.80	-13	Pass
	H	8642	-46.72	-13	Pass
	V	3455	-59.48	-13	Pass
	V	5184	-51.78	-13	Pass
	V	6913	-38.70	-13	Pass
	V	8642	-51.05	-13	Pass
Highest	H	3490	-59.53	-13	Pass
	H	5240	-49.55	-13	Pass
	H	6983	-38.32	-13	Pass
	H	8726	-47.25	-13	Pass
	V	3490	-63.09	-13	Pass
	V	5240	-52.23	-13	Pass
	V	6983	-41.42	-13	Pass
	V	8726	-49.19	-13	Pass



LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-55.53	-13	Pass
	H	5135	-47.40	-13	Pass
	H	6843	-36.37	-13	Pass
	V	3420	-60.60	-13	Pass
	V	5135	-54.01	-13	Pass
	V	6843	-42.98	-13	Pass
Middle	H	3455	-53.20	-13	Pass
	H	5177	-47.09	-13	Pass
	H	6906	-36.58	-13	Pass
	H	8628	-45.19	-13	Pass
	V	3455	-62.21	-13	Pass
	V	5177	-50.61	-13	Pass
	V	6906	-38.20	-13	Pass
	V	8628	-49.47	-13	Pass
Highest	H	3483	-56.17	-13	Pass
	H	5226	-47.13	-13	Pass
	H	6962	-36.89	-13	Pass
	H	8705	-46.90	-13	Pass
	V	3483	-62.58	-13	Pass
	V	5226	-48.95	-13	Pass
	V	6962	-40.95	-13	Pass
	V	8705	-51.67	-13	Pass



LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-57.07	-13	Pass
	H	5135	-47.83	-13	Pass
	H	6843	-35.00	-13	Pass
	H	8558	-51.49	-13	Pass
	V	3420	-63.22	-13	Pass
	V	5135	-51.56	-13	Pass
	V	6843	-41.16	-13	Pass
	V	8558	-51.93	-13	Pass
Middle	H	3448	-55.88	-13	Pass
	H	5170	-48.25	-13	Pass
	H	6892	-38.82	-13	Pass
	H	8621	-48.44	-13	Pass
	V	3448	-60.97	-13	Pass
	V	5170	-49.38	-13	Pass
	V	6892	-42.29	-13	Pass
	V	8621	-49.99	-13	Pass
Highest	H	3476	-54.92	-13	Pass
	H	5212	-47.70	-13	Pass
	H	6948	-34.47	-13	Pass
	H	8684	-47.97	-13	Pass
	V	3476	-62.56	-13	Pass
	V	5212	-46.27	-13	Pass
	V	6948	-39.56	-13	Pass
	V	8684	-47.84	-13	Pass



LTE Band 5

LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1651	-63.36	-13	Pass
	H	2476	-66.75	-13	Pass
	H	3302	-67.22	-13	Pass
	V	1651	-65.90	-13	Pass
	V	2476	-64.58	-13	Pass
	V	3302	-65.99	-13	Pass
Middle	H	1675	-61.54	-13	Pass
	H	2512	-61.96	-13	Pass
	H	3346	-66.29	-13	Pass
	V	1675	-65.19	-13	Pass
	V	2512	-62.29	-13	Pass
	V	3346	-68.05	-13	Pass
Highest	H	1699	-61.19	-13	Pass
	H	2545	-66.27	-13	Pass
	H	3394	-65.69	-13	Pass
	V	1699	-66.03	-13	Pass
	V	2545	-65.66	-13	Pass
	V	3394	-67.34	-13	Pass



LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1651	-61.66	-13	Pass
	H	2476	-63.35	-13	Pass
	H	3301	-64.13	-13	Pass
	V	1651	-66.25	-13	Pass
	V	2476	-65.78	-13	Pass
	V	3301	-66.03	-13	Pass
Middle	H	1672	-67.44	-13	Pass
	H	2509	-62.93	-13	Pass
	H	3343	-65.92	-13	Pass
	V	1672	-71.71	-13	Pass
	V	2509	-66.07	-13	Pass
	V	3343	-68.14	-13	Pass
Highest	H	1696	-62.79	-13	Pass
	H	2542	-66.02	-13	Pass
	H	3388	-63.35	-13	Pass
	V	1696	-67.71	-13	Pass
	V	2542	-64.03	-13	Pass
	V	3388	-63.72	-13	Pass



LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1651	-61.87	-13	Pass
	H	2476	-65.59	-13	Pass
	H	3302	-64.37	-13	Pass
	V	1651	-68.07	-13	Pass
	V	2476	-64.69	-13	Pass
	V	3302	-67.71	-13	Pass
Middle	H	1672	-62.51	-13	Pass
	H	2506	-64.13	-13	Pass
	H	3340	-64.57	-13	Pass
	V	1672	-68.95	-13	Pass
	V	2506	-63.56	-13	Pass
	V	3340	-65.53	-13	Pass
Highest	H	1693	-68.64	-13	Pass
	H	2536	-66.88	-13	Pass
	H	3385	-63.54	-13	Pass
	V	1693	-66.90	-13	Pass
	V	2536	-62.29	-13	Pass
	V	3385	-64.21	-13	Pass



LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1651	-62.96	-13	Pass
	H	2476	-65.28	-13	Pass
	H	3301	-66.12	-13	Pass
	V	1651	-67.30	-13	Pass
	V	2476	-64.82	-13	Pass
	V	3301	-68.18	-13	Pass
Middle	H	1666	-66.99	-13	Pass
	H	2500	-65.11	-13	Pass
	H	3331	-64.09	-13	Pass
	V	1666	-72.61	-13	Pass
	V	2500	-63.33	-13	Pass
	V	3331	-65.05	-13	Pass
Highest	H	1688	-63.59	-13	Pass
	H	2532	-63.59	-13	Pass
	H	3376	-63.79	-13	Pass
	V	1688	-69.15	-13	Pass
	V	2532	-62.97	-13	Pass
	V	3376	-66.77	-13	Pass



LTE Band 12

LTE Band 12 / 1.4MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1402	-66.92	-13	Pass
	H	2101	-61.80	-13	Pass
	H	2800	-65.22	-13	Pass
	V	1402	-71.26	-13	Pass
	V	2101	-61.38	-13	Pass
	V	2800	-63.49	-13	Pass
Middle	H	1417	-67.94	-13	Pass
	H	2125	-65.09	-13	Pass
	H	2830	-64.60	-13	Pass
	V	1417	-69.05	-13	Pass
	V	2125	-63.67	-13	Pass
	V	2830	-66.90	-13	Pass
Highest	H	1432	-64.26	-13	Pass
	H	2149	-64.52	-13	Pass
	H	2863	-66.33	-13	Pass
	V	1432	-65.34	-13	Pass
	V	2149	-66.11	-13	Pass
	V	2863	-64.86	-13	Pass



LTE Band 12 / 3MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1398	-65.65	-13	Pass
	H	2097	-57.17	-13	Pass
	H	2796	-62.71	-13	Pass
	V	1398	-68.46	-13	Pass
	V	2097	-61.53	-13	Pass
	V	2796	-64.33	-13	Pass
Middle	H	1412	-67.28	-13	Pass
	H	2118	-64.70	-13	Pass
	H	2824	-63.11	-13	Pass
	V	1412	-71.64	-13	Pass
	V	2118	-65.84	-13	Pass
	V	2824	-64.56	-13	Pass
Highest	H	1424	-62.93	-13	Pass
	H	2144	-59.03	-13	Pass
	H	2856	-62.74	-13	Pass
	V	1424	-69.66	-13	Pass
	V	2144	-63.13	-13	Pass
	V	2856	-62.31	-13	Pass



LTE Band 12 / 5MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1400	-67.94	-13	Pass
	H	2096	-54.58	-13	Pass
	H	2800	-61.06	-13	Pass
	V	1400	-70.78	-13	Pass
	V	2096	-59.01	-13	Pass
	V	2800	-64.36	-13	Pass
Middle	H	1408	-63.83	-13	Pass
	H	2120	-62.51	-13	Pass
	H	2820	-67.01	-13	Pass
	V	1408	-69.00	-13	Pass
	V	2120	-63.12	-13	Pass
	V	2820	-65.73	-13	Pass
Highest	H	1424	-65.83	-13	Pass
	H	2136	-56.00	-13	Pass
	H	2848	-61.87	-13	Pass
	V	1424	-71.39	-13	Pass
	V	2136	-59.33	-13	Pass
	V	2848	-61.76	-13	Pass



LTE Band 12 / 10MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1400	-64.91	-13	Pass
	H	2096	-57.38	-13	Pass
	H	2800	-60.86	-13	Pass
	V	1400	-70.76	-13	Pass
	V	2096	-57.98	-13	Pass
	V	2800	-63.20	-13	Pass
Middle	H	1408	-61.89	-13	Pass
	H	2112	-58.24	-13	Pass
	H	2816	-62.49	-13	Pass
	V	1408	-67.03	-13	Pass
	V	2112	-60.47	-13	Pass
	V	2816	-65.55	-13	Pass
Highest	H	1416	-64.48	-13	Pass
	H	2120	-63.23	-13	Pass
	H	2824	-67.21	-13	Pass
	V	1416	-68.64	-13	Pass
	V	2120	-63.49	-13	Pass
	V	2824	-67.07	-13	Pass



LTE Band 17

LTE Band 17 / 5MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1408	-69.41	-13	Pass
	H	2112	-63.25	-13	Pass
	H	2816	-65.38	-13	Pass
	V	1408	-70.13	-13	Pass
	V	2112	-63.77	-13	Pass
	V	2816	-64.07	-13	Pass
Middle	H	1416	-66.05	-13	Pass
	H	2122	-64.18	-13	Pass
	H	2830	-63.75	-13	Pass
	V	1416	-70.71	-13	Pass
	V	2122	-61.57	-13	Pass
	V	2830	-64.66	-13	Pass
Highest	H	1422	-66.03	-13	Pass
	H	2136	-58.16	-13	Pass
	H	2848	-63.17	-13	Pass
	V	1422	-68.55	-13	Pass
	V	2136	-57.08	-13	Pass
	V	2848	-61.05	-13	Pass



LTE Band 17 / 10MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1408	-63.76	-13	Pass
	H	2112	-61.61	-13	Pass
	H	2816	-65.33	-13	Pass
	V	1408	-70.55	-13	Pass
	V	2112	-61.59	-13	Pass
	V	2816	-66.49	-13	Pass
Middle	H	1408	-65.43	-13	Pass
	H	2120	-60.58	-13	Pass
	H	2820	-66.27	-13	Pass
	V	1408	-69.72	-13	Pass
	V	2120	-60.05	-13	Pass
	V	2820	-66.35	-13	Pass
Highest	H	1416	-66.03	-13	Pass
	H	2118	-62.72	-13	Pass
	H	2824	-65.91	-13	Pass
	V	1416	-68.72	-13	Pass
	V	2118	-62.62	-13	Pass
	V	2824	-66.86	-13	Pass



Measurement Result for SECD-5I7A-02

LTE Band 2

LTE Band 2 / 1.4MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-57.78	-13	Pass
	H	5556	-48.74	-13	Pass
	H	7404	-48.65	-13	Pass
	H	9256	-50.25	-13	Pass
	H	12956	-38.69	-13	Pass
	V	3704	-59.74	-13	Pass
	V	5556	-53.97	-13	Pass
	V	7404	-52.60	-13	Pass
	V	9256	-50.45	-13	Pass
	V	12956	-44.43	-13	Pass
Middle	H	3764	-60.46	-13	Pass
	H	5644	-51.23	-13	Pass
	H	7524	-54.57	-13	Pass
	H	9400	-50.15	-13	Pass
	H	13160	-39.33	-13	Pass
	V	3764	-61.52	-13	Pass
	V	5644	-55.68	-13	Pass
	V	7524	-55.40	-13	Pass
	V	9400	-54.06	-13	Pass
	V	13160	-43.16	-13	Pass
Highest	H	3820	-61.36	-13	Pass
	H	5732	-48.28	-13	Pass
	H	7640	-54.46	-13	Pass
	H	9548	-52.14	-13	Pass
	V	3820	-64.69	-13	Pass
	V	5732	-53.79	-13	Pass
	V	7640	-56.54	-13	Pass
	V	9548	-53.12	-13	Pass



LTE Band 2 / 3MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-57.43	-13	Pass
	H	5556	-51.04	-13	Pass
	H	7404	-50.59	-13	Pass
	H	9256	-50.77	-13	Pass
	V	12956	-40.45	-13	Pass
	V	3704	-62.19	-13	Pass
	V	5556	-51.81	-13	Pass
	V	7404	-53.46	-13	Pass
	V	9256	-52.94	-13	Pass
	V	12956	-44.54	-13	Pass
Middle	H	3760	-58.66	-13	Pass
	H	5640	-47.27	-13	Pass
	H	7520	-55.48	-13	Pass
	H	9396	-49.21	-13	Pass
	V	13156	-40.33	-13	Pass
	V	3760	-63.40	-13	Pass
	V	5640	-55.43	-13	Pass
	V	7520	-56.33	-13	Pass
	V	9396	-53.66	-13	Pass
	V	13156	-45.94	-13	Pass
Highest	H	3820	-59.19	-13	Pass
	H	5724	-49.70	-13	Pass
	H	7632	-39.30	-13	Pass
	H	9540	-52.70	-13	Pass
	V	13356	-42.77	-13	Pass
	V	3820	-64.12	-13	Pass
	V	5724	-53.63	-13	Pass
	V	7632	-56.74	-13	Pass
	V	9540	-54.92	-13	Pass
	V	13356	-45.03	-13	Pass



LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-55.11	-13	Pass
	H	5556	-49.86	-13	Pass
	H	7404	-49.34	-13	Pass
	H	9256	-51.43	-13	Pass
	V	12956	-38.62	-13	Pass
	V	3704	-60.37	-13	Pass
	V	5556	-54.07	-13	Pass
	V	7404	-54.66	-13	Pass
	V	9256	-51.22	-13	Pass
	V	12956	-45.19	-13	Pass
Middle	H	3760	-59.23	-13	Pass
	H	5636	-48.21	-13	Pass
	H	7516	-52.48	-13	Pass
	H	9392	-51.03	-13	Pass
	V	13148	-40.08	-13	Pass
	V	3760	-63.77	-13	Pass
	V	5636	-57.08	-13	Pass
	V	7516	-54.06	-13	Pass
	V	9392	-52.43	-13	Pass
	V	13148	-43.55	-13	Pass
Highest	H	3816	-57.81	-13	Pass
	H	5720	-49.17	-13	Pass
	H	7624	-53.45	-13	Pass
	V	3816	-60.21	-13	Pass
	V	5720	-52.72	-13	Pass
	V	7624	-53.79	-13	Pass



LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-58.51	-13	Pass
	H	5556	-48.84	-13	Pass
	H	7408	-49.15	-13	Pass
	H	9256	-49.72	-13	Pass
	H	11108	-48.91	-13	Pass
	H	12960	-41.28	-13	Pass
	V	3704	-47.60	-13	Pass
	V	5556	-53.87	-13	Pass
	V	7408	-52.69	-13	Pass
	V	9256	-52.69	-13	Pass
	V	11108	-50.60	-13	Pass
	V	12960	-46.76	-13	Pass
Middle	H	3756	-59.16	-13	Pass
	H	5632	-49.35	-13	Pass
	H	13132	-42.10	-13	Pass
	V	3756	-61.99	-13	Pass
	V	5632	-55.20	-13	Pass
	V	13132	-44.52	-13	Pass
Highest	H	3804	-55.88	-13	Pass
	H	5704	-53.35	-13	Pass
	H	7608	-51.26	-13	Pass
	H	9508	-52.86	-13	Pass
	H	11412	-51.03	-13	Pass
	H	13308	-40.77	-13	Pass
	V	3804	-61.36	-13	Pass
	V	5704	-58.88	-13	Pass
	V	7608	-54.73	-13	Pass
	V	9508	-53.48	-13	Pass
	V	11412	-50.88	-13	Pass
	V	13308	-44.41	-13	Pass



LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3704	-58.15	-13	Pass
	H	5556	-48.29	-13	Pass
	H	7408	-50.66	-13	Pass
	H	9260	-50.32	-13	Pass
	H	12960	-41.12	-13	Pass
	V	3704	-63.71	-13	Pass
	V	5556	-52.87	-13	Pass
	V	7408	-55.75	-13	Pass
	V	9260	-40.35	-13	Pass
	V	12960	-46.48	-13	Pass
Middle	H	3752	-59.93	-13	Pass
	H	5624	-49.81	-13	Pass
	H	7496	-51.25	-13	Pass
	H	9372	-48.30	-13	Pass
	V	13116	-40.46	-13	Pass
	V	3752	-61.11	-13	Pass
	V	5624	-54.19	-13	Pass
	V	7496	-53.43	-13	Pass
	V	9372	-52.53	-13	Pass
	V	13116	-47.41	-13	Pass
Highest	H	3796	-53.39	-13	Pass
	H	5692	-48.92	-13	Pass
	H	7588	-49.80	-13	Pass
	H	9484	-48.87	-13	Pass
	H	13276	-41.75	-13	Pass
	V	3796	-59.74	-13	Pass
	V	5692	-52.01	-13	Pass
	V	7588	-55.31	-13	Pass
	V	9484	-51.39	-13	Pass
	V	13276	-44.64	-13	Pass



LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3708	-58.08	-13	Pass
	H	5556	-49.96	-13	Pass
	H	7408	-48.61	-13	Pass
	H	9260	-49.19	-13	Pass
	H	12960	-41.26	-13	Pass
	V	3708	-62.35	-13	Pass
	V	5556	-54.08	-13	Pass
	V	7408	-52.20	-13	Pass
	V	9260	-54.04	-13	Pass
	V	12960	-47.37	-13	Pass
Middle	H	3748	-61.23	-13	Pass
	H	5616	-49.18	-13	Pass
	H	7488	-38.16	-13	Pass
	H	9360	-51.93	-13	Pass
	H	13100	-42.07	-13	Pass
	V	3748	-60.60	-13	Pass
	V	5616	-55.47	-13	Pass
	V	7488	-55.75	-13	Pass
	V	9360	-52.52	-13	Pass
	V	13100	-47.17	-13	Pass
Highest	H	3788	-57.37	-13	Pass
	H	5676	-47.10	-13	Pass
	H	7568	-51.98	-13	Pass
	H	9460	-51.02	-13	Pass
	H	13240	-42.51	-13	Pass
	V	3788	-63.69	-13	Pass
	V	5676	-54.16	-13	Pass
	V	7568	-56.42	-13	Pass
	V	9460	-52.29	-13	Pass
	V	13240	-43.20	-13	Pass



LTE Band 4

LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-57.78	-13	Pass
	H	5128	-49.79	-13	Pass
	H	6843	-34.44	-13	Pass
	H	8551	-50.65	-13	Pass
	V	3420	-63.45	-13	Pass
	V	5128	-56.02	-13	Pass
	V	6843	-39.47	-13	Pass
	V	8551	-50.36	-13	Pass
Middle	H	3462	-56.32	-13	Pass
	H	5198	-44.41	-13	Pass
	H	6927	-37.36	-13	Pass
	H	8663	-47.64	-13	Pass
	V	3462	-60.22	-13	Pass
	V	5198	-49.01	-13	Pass
	V	6927	-42.54	-13	Pass
	V	8663	-48.41	-13	Pass
Highest	H	3511	-57.87	-13	Pass
	H	5261	-46.87	-13	Pass
	H	7018	-39.36	-13	Pass
	H	8768	-46.58	-13	Pass
	V	3511	-59.93	-13	Pass
	V	5261	-51.06	-13	Pass
	V	7018	-45.15	-13	Pass
	V	8768	-52.16	-13	Pass



LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-58.03	-13	Pass
	H	5128	-45.99	-13	Pass
	H	6843	-35.28	-13	Pass
	H	8551	-46.79	-13	Pass
	V	3420	-63.08	-13	Pass
	V	5128	-54.64	-13	Pass
	V	6843	-42.77	-13	Pass
	V	8551	-48.16	-13	Pass
Middle	H	3462	-52.21	-13	Pass
	H	5191	-44.73	-13	Pass
	H	6927	-36.20	-13	Pass
	H	8656	-45.91	-13	Pass
	V	3462	-62.49	-13	Pass
	V	5191	-48.21	-13	Pass
	V	6927	-39.64	-13	Pass
	V	8656	-50.49	-13	Pass
Highest	H	3504	-61.00	-13	Pass
	H	5254	-43.50	-13	Pass
	H	7011	-41.01	-13	Pass
	H	8761	-46.25	-13	Pass
	V	3504	-63.34	-13	Pass
	V	5254	-50.84	-13	Pass
	V	7011	-43.37	-13	Pass
	V	8761	-52.78	-13	Pass



LTE Band 4 / 5MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-57.98	-13	Pass
	H	5128	-51.24	-13	Pass
	H	6843	-34.61	-13	Pass
	H	8551	-51.43	-13	Pass
	V	3420	-62.38	-13	Pass
	V	5128	-54.61	-13	Pass
	V	6843	-40.05	-13	Pass
	V	8551	-52.50	-13	Pass
Middle	H	3462	-56.11	-13	Pass
	H	5191	-46.25	-13	Pass
	H	6920	-36.32	-13	Pass
	H	8649	-46.18	-13	Pass
	V	3462	-60.38	-13	Pass
	V	5191	-51.41	-13	Pass
	V	6920	-38.72	-13	Pass
	V	8649	-46.97	-13	Pass
Highest	H	3504	-57.46	-13	Pass
	H	5254	-50.91	-13	Pass
	H	7004	-40.76	-13	Pass
	H	8754	-46.56	-13	Pass
	V	3504	-63.55	-13	Pass
	V	5254	-51.63	-13	Pass
	V	7004	-42.89	-13	Pass
	V	8754	-48.90	-13	Pass



LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-58.19	-13	Pass
	H	5132	-47.37	-13	Pass
	H	6843	-35.12	-13	Pass
	V	3420	-61.51	-13	Pass
	V	5132	-54.40	-13	Pass
	V	6843	-38.18	-13	Pass
Middle	H	3455	-54.59	-13	Pass
	H	5184	-49.13	-13	Pass
	H	6913	-37.87	-13	Pass
	H	8642	-47.06	-13	Pass
	V	3455	-60.67	-13	Pass
	V	5184	-53.23	-13	Pass
	V	6913	-39.21	-13	Pass
	V	8642	-50.00	-13	Pass
Highest	H	3490	-57.59	-13	Pass
	H	5240	-49.67	-13	Pass
	H	6983	-38.19	-13	Pass
	H	8726	-47.19	-13	Pass
	V	3490	-62.13	-13	Pass
	V	5240	-49.61	-13	Pass
	V	6983	-41.87	-13	Pass
	V	8726	-49.90	-13	Pass



LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-58.03	-13	Pass
	H	5135	-48.63	-13	Pass
	H	6843	-34.90	-13	Pass
	V	3420	-62.95	-13	Pass
	V	5135	-52.32	-13	Pass
	V	6843	-43.87	-13	Pass
Middle	H	3455	-55.53	-13	Pass
	H	5177	-48.06	-13	Pass
	H	6906	-36.50	-13	Pass
	H	8628	-47.60	-13	Pass
	V	3455	-59.37	-13	Pass
	V	5177	-51.58	-13	Pass
	V	6906	-40.20	-13	Pass
	V	8628	-47.12	-13	Pass
Highest	H	3483	-57.45	-13	Pass
	H	5226	-45.60	-13	Pass
	H	6962	-38.30	-13	Pass
	H	8705	-45.88	-13	Pass
	V	3483	-61.15	-13	Pass
	V	5226	-50.02	-13	Pass
	V	6962	-40.90	-13	Pass
	V	8705	-51.20	-13	Pass



LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	3420	-59.60	-13	Pass
	H	5135	-48.74	-13	Pass
	H	6843	-34.89	-13	Pass
	H	8558	-49.11	-13	Pass
	V	3420	-61.27	-13	Pass
	V	5135	-54.15	-13	Pass
	V	6843	-42.91	-13	Pass
	V	8558	-53.30	-13	Pass
Middle	H	3448	-54.78	-13	Pass
	H	5170	-47.02	-13	Pass
	H	6892	-36.12	-13	Pass
	H	8621	-48.58	-13	Pass
	V	3448	-60.78	-13	Pass
	V	5170	-50.00	-13	Pass
	V	6892	-41.03	-13	Pass
	V	8621	-51.82	-13	Pass
Highest	H	3476	-55.01	-13	Pass
	H	5212	-46.98	-13	Pass
	H	6948	-35.03	-13	Pass
	H	8684	-45.97	-13	Pass
	V	3476	-61.23	-13	Pass
	V	5212	-48.06	-13	Pass
	V	6948	-37.66	-13	Pass
	V	8684	-50.48	-13	Pass



LTE Band 5

LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1651	-59.95	-13	Pass
	H	2476	-63.66	-13	Pass
	H	3302	-66.21	-13	Pass
	V	1651	-66.34	-13	Pass
	V	2476	-64.29	-13	Pass
	V	3302	-65.09	-13	Pass
Middle	H	1675	-61.23	-13	Pass
	H	2512	-63.50	-13	Pass
	H	3346	-64.30	-13	Pass
	V	1675	-65.70	-13	Pass
	V	2512	-65.92	-13	Pass
	V	3346	-66.55	-13	Pass
Highest	H	1699	-60.80	-13	Pass
	H	2545	-66.26	-13	Pass
	H	3394	-63.71	-13	Pass
	V	1699	-64.31	-13	Pass
	V	2545	-66.41	-13	Pass
	V	3394	-65.20	-13	Pass



LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1651	-62.24	-13	Pass
	H	2476	-65.65	-13	Pass
	H	3301	-64.42	-13	Pass
	V	1651	-66.42	-13	Pass
	V	2476	-62.74	-13	Pass
	V	3301	-64.30	-13	Pass
Middle	H	1672	-64.95	-13	Pass
	H	2509	-63.58	-13	Pass
	H	3343	-62.91	-13	Pass
	V	1672	-69.61	-13	Pass
	V	2509	-62.39	-13	Pass
	V	3343	-64.39	-13	Pass
Highest	H	1696	-61.63	-13	Pass
	H	2542	-63.87	-13	Pass
	H	3388	-64.85	-13	Pass
	V	1696	-65.02	-13	Pass
	V	2542	-66.83	-13	Pass
	V	3388	-65.79	-13	Pass



LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1651	-62.52	-13	Pass
	H	2476	-64.75	-13	Pass
	H	3302	-64.24	-13	Pass
	V	1651	-65.42	-13	Pass
	V	2476	-66.36	-13	Pass
	V	3302	-66.00	-13	Pass
Middle	H	1672	-61.79	-13	Pass
	H	2506	-62.05	-13	Pass
	H	3340	-65.98	-13	Pass
	V	1672	-68.63	-13	Pass
	V	2506	-64.67	-13	Pass
	V	3340	-66.06	-13	Pass
Highest	H	1693	-67.27	-13	Pass
	H	2536	-66.56	-13	Pass
	H	3385	-66.85	-13	Pass
	V	1693	-69.05	-13	Pass
	V	2536	-64.00	-13	Pass
	V	3385	-65.64	-13	Pass



LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1651	-63.16	-13	Pass
	H	2476	-64.81	-13	Pass
	H	3301	-63.86	-13	Pass
	V	1651	-67.88	-13	Pass
	V	2476	-64.03	-13	Pass
	V	3301	-65.89	-13	Pass
Middle	H	1666	-65.89	-13	Pass
	H	2500	-65.25	-13	Pass
	H	3331	-63.05	-13	Pass
	V	1666	-72.31	-13	Pass
	V	2500	-64.42	-13	Pass
	V	3331	-66.87	-13	Pass
Highest	H	1688	-61.35	-13	Pass
	H	2532	-66.44	-13	Pass
	H	3376	-64.42	-13	Pass
	V	1688	-67.17	-13	Pass
	V	2532	-63.96	-13	Pass
	V	3376	-66.82	-13	Pass



LTE Band 12

LTE Band 12 / 1.4MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1402	-70.05	-13	Pass
	H	2101	-61.74	-13	Pass
	H	2800	-63.91	-13	Pass
	V	1402	-70.01	-13	Pass
	V	2101	-62.70	-13	Pass
	V	2800	-64.96	-13	Pass
Middle	H	1417	-69.57	-13	Pass
	H	2125	-62.46	-13	Pass
	H	2830	-66.70	-13	Pass
	V	1417	-71.82	-13	Pass
	V	2125	-63.19	-13	Pass
	V	2830	-63.61	-13	Pass
Highest	H	1432	-65.04	-13	Pass
	H	2149	-64.98	-13	Pass
	H	2863	-64.40	-13	Pass
	V	1432	-65.09	-13	Pass
	V	2149	-64.63	-13	Pass
	V	2863	-63.46	-13	Pass



LTE Band 12 / 3MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1398	-64.77	-13	Pass
	H	2097	-60.11	-13	Pass
	H	2796	-61.06	-13	Pass
	V	1398	-68.56	-13	Pass
	V	2097	-60.83	-13	Pass
	V	2796	-65.15	-13	Pass
Middle	H	1412	-67.18	-13	Pass
	H	2118	-65.67	-13	Pass
	H	2824	-64.49	-13	Pass
	V	1412	-68.74	-13	Pass
	V	2118	-64.29	-13	Pass
	V	2824	-65.67	-13	Pass
Highest	H	1424	-62.89	-13	Pass
	H	2144	-61.99	-13	Pass
	H	2856	-64.74	-13	Pass
	V	1424	-69.01	-13	Pass
	V	2144	-60.22	-13	Pass
	V	2856	-65.35	-13	Pass



LTE Band 12 / 5MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1400	-66.54	-13	Pass
	H	2096	-56.70	-13	Pass
	H	2800	-60.25	-13	Pass
	V	1400	-70.56	-13	Pass
	V	2096	-57.43	-13	Pass
	V	2800	-62.98	-13	Pass
Middle	H	1408	-65.21	-13	Pass
	H	2120	-63.83	-13	Pass
	H	2820	-67.80	-13	Pass
	V	1408	-70.44	-13	Pass
	V	2120	-62.22	-13	Pass
	V	2820	-66.92	-13	Pass
Highest	H	1424	-66.30	-13	Pass
	H	2136	-57.87	-13	Pass
	H	2848	-64.85	-13	Pass
	V	1424	-70.97	-13	Pass
	V	2136	-59.13	-13	Pass
	V	2848	-64.64	-13	Pass



LTE Band 12 / 10MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1400	-67.54	-13	Pass
	H	2096	-58.64	-13	Pass
	H	2800	-63.39	-13	Pass
	V	1400	-68.40	-13	Pass
	V	2096	-59.31	-13	Pass
	V	2800	-63.38	-13	Pass
Middle	H	1408	-62.69	-13	Pass
	H	2112	-59.94	-13	Pass
	H	2816	-64.43	-13	Pass
	V	1408	-69.00	-13	Pass
	V	2112	-61.47	-13	Pass
	V	2816	-64.10	-13	Pass
Highest	H	1416	-67.20	-13	Pass
	H	2120	-61.54	-13	Pass
	H	2824	-67.39	-13	Pass
	V	1416	-70.66	-13	Pass
	V	2120	-63.22	-13	Pass
	V	2824	-63.41	-13	Pass



LTE Band 17

LTE Band 17 / 5MHz / QPSK / RB Size 1 Offset 0					
Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1408	-70.51	-13	Pass
	H	2112	-62.74	-13	Pass
	H	2816	-65.06	-13	Pass
	V	1408	-70.88	-13	Pass
	V	2112	-63.91	-13	Pass
	V	2816	-64.34	-13	Pass
Middle	H	1416	-66.37	-13	Pass
	H	2122	-61.52	-13	Pass
	H	2830	-65.41	-13	Pass
	V	1416	-72.63	-13	Pass
	V	2122	-60.17	-13	Pass
	V	2830	-64.26	-13	Pass
Highest	H	1422	-66.36	-13	Pass
	H	2136	-57.50	-13	Pass
	H	2848	-60.93	-13	Pass
	V	1422	-68.58	-13	Pass
	V	2136	-54.87	-13	Pass
	V	2848	-63.29	-13	Pass



LTE Band 17 / 10MHz / QPSK / RB Size 1 Offset 0 Measured Max. Spurious Emission(dBm)					
Channel	Polarization	Frequency	Level(dBm)	Limit(dBm)	Verdict
Lowest	H	1408	-64.47	-13	Pass
	H	2112	-62.21	-13	Pass
	H	2816	-64.85	-13	Pass
	V	1408	-67.94	-13	Pass
	V	2112	-62.60	-13	Pass
	V	2816	-64.42	-13	Pass
Middle	H	1408	-67.39	-13	Pass
	H	2120	-62.57	-13	Pass
	H	2820	-66.35	-13	Pass
	V	1408	-70.07	-13	Pass
	V	2120	-63.50	-13	Pass
	V	2820	-66.79	-13	Pass
Highest	H	1416	-66.74	-13	Pass
	H	2118	-60.75	-13	Pass
	H	2824	-67.12	-13	Pass
	V	1416	-69.46	-13	Pass
	V	2118	-62.80	-13	Pass
	V	2824	-66.08	-13	Pass

NOTE:

- 1) The power of the EUT transmitting frequency should be ignored.
- 2) All spurious emission tests were performed in X,Y,Z axis direction. Only the worst axis test condition was recorded in this test report.
- 3) The emission levels of below 1 GHz are very lower than the limit(<-40dBm) and not show in this report.

Annex Photos of the EUT

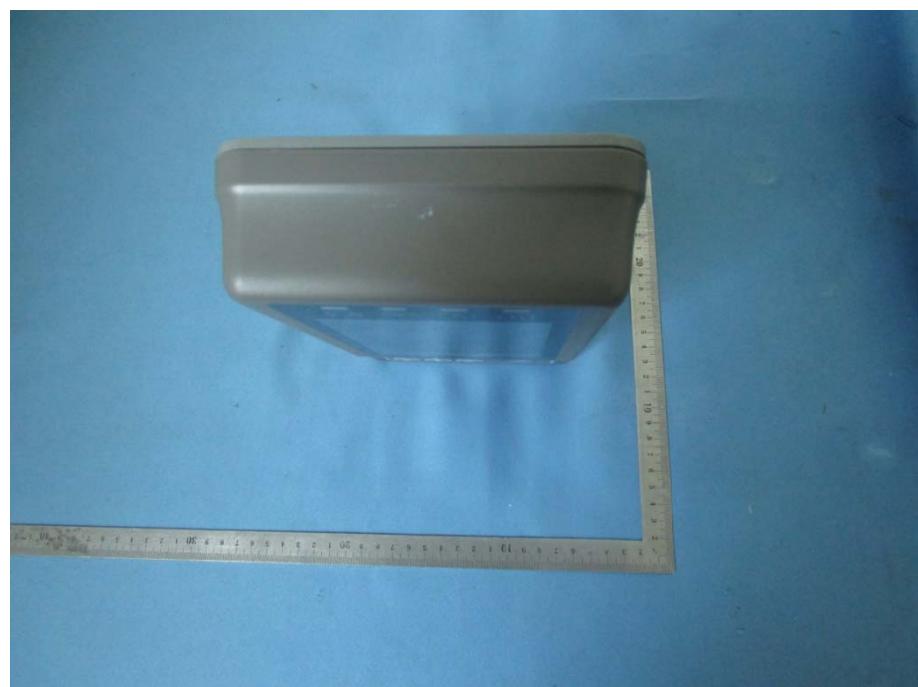
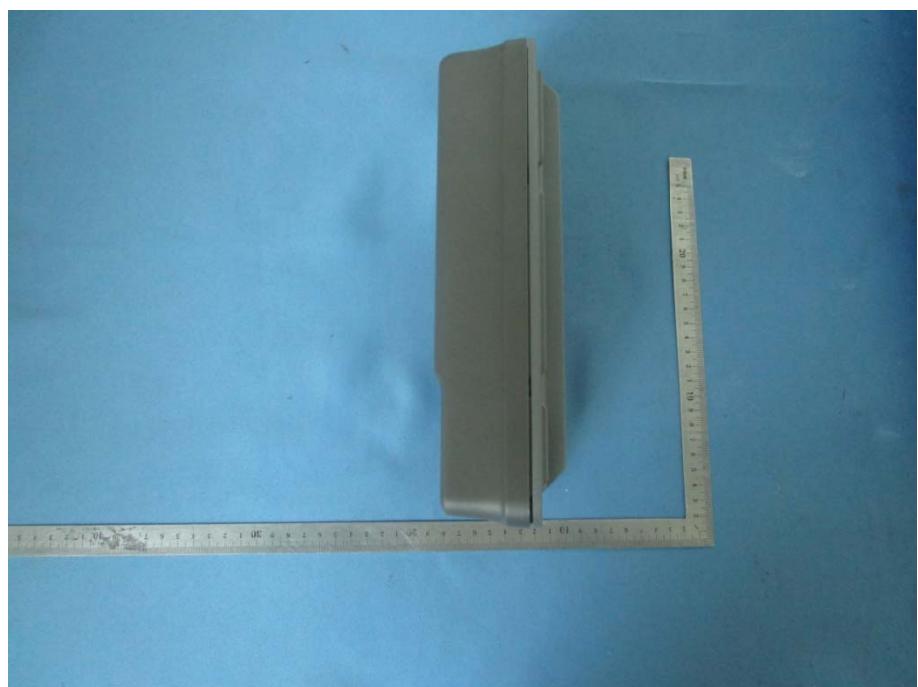




model: SECD-5I7C-02



model: SECD-5I7A-02





** END OF REPORT **