FCC

RF Test Report

Applicant	:	ATOP Technologies, INC.
Product Type	:	Industrial M2M Cellular Serial Gateway
Trade Name	:	atop
Model Number	:	SE5901B-WW-www-XXX-x-Y-yy-bb MB5901B-WW-www-XXX-x-Y-yy-ZZ-bb PG5901B-WW-www-XXX-x-Y-yy-zzaa-zzaa-bb
Test Specification	:	FCC 47 CFR PART 22H FCC 47 CFR PART 24E FCC 47 CFR PART 27 ANSI/TIA-603-D 2010
Receive Date	:	Oct. 04, 2016
Test Period	:	Oct. 20 ~ Oct. 26, 2016
Issue Date	:	Dec. 30, 2016

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade District,
Taoyuan City 33465, Taiwan (R.O.C)
Tel：+886-3-2710188 / Fax：+886-3-2710190

Taiwan Accreditation Foundation accreditation number: 1330

Revision History

Rev.	Issue Date	Revisions	Revised By
00	Dec. 30, 2016	Initial Issue	Snow Wang

Verification of Compliance

Issued Date: Dec. 30, 2016

Applicant	:	ATOP Technologies, INC.
Product Type	:	Industrial M2M Cellular Serial Gateway
Trade Name	:	atop
Model Number	:	SE5901B-WW-www-XXX-x-Y-yy-bb MB5901B-WW-www-XXX-x-Y-yy-ZZ-bb PG5901B-WW-www-XXX-x-Y-yy-zzaa-zzaa-bb
FCC ID	:	RPV-SE-MB-PG5901B
EUT Rated Voltage	:	DC 9V ~ 48V, 0.8A
Test Voltage	:	DC 9V, DC12V, DC48V
Applicable Standard	:	FCC 47 CFR PART 22H FCC 47 CFR PART 24E FCC 47 CFR PART 27 ANSI/TIA-603-D 2010
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade District, Taoyuan City 33465, Taiwan (R.O.C) Tel：+886-3-2710188 / Fax：+886-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

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

Approved By	:	Fly Lu	Reviewed By	: Eric Ou Yang
(Manager)		(Fly Lu)	(Testing Engineer)	(Eric Ou Yang)

TABLE OF CONTENTS

1 General Information

1.1. EUT Description

Applicant	ATOP Technologies, INC. 1F, 30, R&D Rd. II, Science-Based Industrial Park, Hsinchu, Taiwan 30076
Manufacturer	ATOP Technologies, INC. 1F, 30, R&D Rd. II, Science-Based Industrial Park, Hsinchu, Taiwan 30076
Product Type	Industrial M2M Cellular Serial Gateway
Trade Name	atop
Model Number	SE5901B-WW-www-XXX-x-Y-yy-bb MB5901B-WW-www-XXX-x-Y-yy-ZZ-bb PG5901B-WW-www-XXX-x-Y-yy-zzaa-zzaa-bb

Models different description	WW =IO or Blank
	www =D3G or 4G or Blank
	XXX=GPS or Blank
	x = B or Blank
	Y = S or Blank
	yy = US or EU or TW
	ZZ =CT or Blank ;
	zz =00-99 or AA-ZZ or Blank;
	aa = SS,SM,ES or EC or Blank;
	bb=00-99 or AA-ZZ or aa-zz or Blank; (Customer Code)
	- WW can be IO or Blank, for COM port type.
	Blank: D-sub connector
	IO: Terminal Block with COM, relay and DI/O function
	
	- www can be D3G or 4G
	D3G: support 3G
	4G: support 4G
	Blank: No 3G or 4G function
	
	- XXX can be GPS or Blank, for GPS function
	GPS: Support GPS function
	Blank: no GPS function
	
	- x can be B or Blank, for Internal battery
	B: support internal battery
	Blank: no internal battery
	
	- Y can be S or Blank, for SD card
	S: support SD card
	Blank: no SD card
	
	- yy can be US or EU or TW, for country
	US: North America
	EU: Europe
	TW: Taiwan
	
	- ZZ can be CT or Blank, for software function
	CT: concentrator
	Blank: No concentrator
	- zz can be 00-99 or AA-ZZ or Blank, for software function
	- aa can be SS,SM,ES,EC or Blank, for software function
	- bb can be 00-99,AA-ZZ,aa-zz or Blank, for Customer Code

FCC ID	RPV-SE-MB-PG5901B				
IMEI No.	868323020000003				
Operate Band	Frequency Range (MHz)		Modulation	Channel Bandwidth	
LTE Band 2	UL: 1850.7 ~ 1909.3		QPSK, 16QAM	1.4M, 3M, 5MHz, 10MHz, 15MHz, 20MHz	
	DL: 1930.7 ~ 1989.3		QPSK, 16QAM		
LTE Band 4	UL: 1710.7 ~ 1754.3		QPSK, 16QAM	1.4M, 3M, 5MHz, 10MHz, 15MHz, 20MHz	
	DL: 2110.7 ~ 2154.3		QPSK, 16QAM		
LTE Band 5	UL: 824.7 ~ 848.3		QPSK, 16QAM	1.4M, 3M, 5MHz, 10MHz	
	DL: 869.7 ~ 893.3		QPSK, 16QAM		
LTE Band 12	UL: 699 ~ 716		QPSK, 16QAM	1.4M, 3M, 5MHz, 10MHz	
	DL: 729 ~ 746		QPSK, 16QAM		
LTE Band 17	UL: 704.0 ~ 715.9		QPSK, 16QAM	5MHz, 10MHz	
	DL: 734.0 ~ 745.9		QPSK, 16QAM		
Module use	QUECTEL, EC20				
Antenna information	Ant No.	Model Number	Type	Frequency Band	Max. Gain (dBi)
	1	59908151G	Whip Antenna	LTE Band 2	1.76
				LTE Band 4	1.96
				LTE Band 5	2.16
				LTE Band 12	2.19
				LTE Band 17	1.18
	2	59908151G	Whip Antenna	LTE Band 2	2.74
				LTE Band 4	2.77
				LTE Band 5	1.65
				LTE Band 12	1.12
				LTE Band 17	1.56

Frequency Band	Max. RF Output Power (W)	E.R.P. /E.I.R.P. (W)	
LTE Band 2 (Channel Bandwidth 1.4MHz)	0.193	0.206	(E.I.R.P.)
LTE Band 2 (Channel Bandwidth 3MHz)	0.184	0.208	(E.I.R.P.)
LTE Band 2 (Channel Bandwidth 5MHz)	0.184	0.212	(E.I.R.P.)
LTE Band 2 (Channel Bandwidth 10MHz)	0.191	0.215	(E.I.R.P.)
LTE Band 2 (Channel Bandwidth 15MHz)	0.191	0.210	(E.I.R.P.)
LTE Band 2 (Channel Bandwidth 20MHz)	0.182	0.213	(E.I.R.P.)
LTE Band 4 (Channel Bandwidth 1.4MHz)	0.195	0.216	(E.I.R.P.)
LTE Band 4 (Channel Bandwidth 3MHz)	0.195	0.228	(E.I.R.P.)
LTE Band 4 (Channel Bandwidth 5MHz)	0.188	0.220	(E.I.R.P.)
LTE Band 4 (Channel Bandwidth 10MHz)	0.191	0.219	(E.I.R.P.)
LTE Band 4 (Channel Bandwidth 15MHz)	0.185	0.213	(E.I.R.P.)
LTE Band 4 (Channel Bandwidth 20MHz)	0.188	0.221	(E.I.R.P.)
LTE Band 5 (Channel Bandwidth 1.4MHz)	0.184	0.216	(E.R.P.)
LTE Band 5 (Channel Bandwidth 3MHz)	0.182	0.212	(E.R.P.)
LTE Band 5 (Channel Bandwidth 5MHz)	0.172	0.185	(E.R.P.)
LTE Band 5 (Channel Bandwidth 10MHz)	0.178	0.197	(E.R.P.)
LTE Band 12 (Channel Bandwidth 1.4MHz)	0.185	0.185	(E.R.P.)
LTE Band 12 (Channel Bandwidth 3MHz)	0.184	0.205	(E.R.P.)
LTE Band 12 (Channel Bandwidth 5MHz)	0.175	0.204	(E.R.P.)
LTE Band 12 (Channel Bandwidth 10MHz)	0.177	0.198	(E.R.P.)
LTE Band 17 (Channel Bandwidth 5MHz)	0.184	0.196	(E.R.P.)
LTE Band 17 (Channel Bandwidth 10MHz)	0.179	0.183	(E.R.P.)

Frequency Band	Emission Designator			
	QPSK		16QAM	
LTE Band 2 (Channel Bandwidth 1.4MHz)	1.08	1M08G7D	1.08	1M08W7D
LTE Band 2 (Channel Bandwidth 3MHz)	2.68	2M68G7D	2.68	2M68W7D
LTE Band 2 (Channel Bandwidth 5MHz)	4.48	4M48G7D	4.47	4M47W7D
LTE Band 2 (Channel Bandwidth 10MHz)	8.92	8M92G7D	8.94	8M94W7D
LTE Band 2 (Channel Bandwidth 15MHz)	13.40	13M4G7D	13.41	13M4W7D
LTE Band 2 (Channel Bandwidth 20MHz)	17.85	17M9G7D	17.86	17M9W7D
LTE Band 4 (Channel Bandwidth 1.4MHz)	1.08	1M08G7D	1.08	1M08W7D
LTE Band 4 (Channel Bandwidth 3MHz)	2.68	2M68G7D	2.68	2M68W7D
LTE Band 4 (Channel Bandwidth 5MHz)	4.48	4M48G7D	4.47	4M47W7D
LTE Band 4 (Channel Bandwidth 10MHz)	8.94	8M94G7D	8.95	8M95W7D
LTE Band 4 (Channel Bandwidth 15MHz)	13.41	13M4G7D	13.41	13M4W7D
LTE Band 4 (Channel Bandwidth 20MHz)	17.87	17M9G7D	17.89	17M9W7D
LTE Band 5 (Channel Bandwidth 1.4MHz)	1.08	1M08G7D	1.08	1M08W7D
LTE Band 5 (Channel Bandwidth 3MHz)	2.69	2M69G7D	2.68	2M68W7D
LTE Band 5 (Channel Bandwidth 5MHz)	4.47	4M47G7D	4.48	4M48W7D
LTE Band 5 (Channel Bandwidth 10MHz)	8.93	8M93G7D	8.95	8M95W7D
LTE Band 12 (Channel Bandwidth 1.4MHz)	1.08	1M08G7D	1.08	1M08W7D
LTE Band 12 (Channel Bandwidth 3MHz)	2.69	2M69G7D	2.68	2M68W7D
LTE Band 12 (Channel Bandwidth 5MHz)	4.48	4M48G7D	4.48	4M48W7D
LTE Band 12 (Channel Bandwidth 10MHz)	8.99	8M99G7D	8.97	8M97W7D
LTE Band 17 (Channel Bandwidth 5MHz)	4.48	4M48G7D	4.48	4M48W7D
LTE Band 17 (Channel Bandwidth 10MHz)	8.88	8M88G7D	8.89	8M89W7D

1.2. Mode of Operation

In the test report use EUT model: SE5901B-IO-4G-GPS-B-S-US to operate testing.

Three channels had been tested for each channel bandwidth.

LTE Band 2						
Channel Bandwidth	1.4MHz		3MHz		5MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	18607	1850.7	18615	1851.5	18625	1852.5
Middle CH	18900	1880.0	18900	1880.0	18900	1880.0
High CH	19193	1909.3	19185	1908.5	19175	1907.5
Channel Bandwidth	10MHz		15MHz		20MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	18650	1855.0	18675	1857.5	18700	1860.0
Middle CH	18900	1880.0	18900	1880.0	18900	1880.0
High CH	19150	1905.0	19125	1902.5	19100	1900.0

LTE Band 4						
Channel Bandwidth	1.4MHz		3MHz		5MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	19957	1710.7	19965	1711.5	19975	1712.5
Middle CH	20175	1732.5	20175	1732.5	20175	1732.5
High CH	20393	1754.3	20385	1753.5	20375	1752.5
Channel Bandwidth	10MHz		15MHz		20MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	20000	1715.0	20025	1717.5	20050	1720.0
Middle CH	20175	1732.5	20175	1732.5	20175	1732.5
High CH	20350	1750.0	20325	1747.5	20300	1745.0

LTE Band 5				
Channel Bandwidth	1.4MHz		3MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	20407	824.7	20415	825.5
Middle CH	20525	836.5	20525	836.5
High CH	20643	848.3	20635	847.5
Channel Bandwidth	5MHz		10MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	20425	826.5	20450	829.0
Middle CH	20525	836.5	20525	836.5
High CH	20625	846.5	20600	844.0

LTE Band 12				
Channel Bandwidth	1.4MHz		3MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23017	699.7	23025	700.5
Middle CH	23095	707.5	23095	707.5
High CH	23173	715.3	23165	714.5
Channel Bandwidth	5MHz		10MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23035	701.5	23060	704.0
Middle CH	23095	707.5	23095	707.5
High CH	23155	713.5	23130	711.0

LTE Band 17				
Channel Bandwidth	5MHz		10MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23755	706.5	23780	709.0
Middle CH	23790	710.0	23790	710.0
High CH	23825	713.5	23800	711.0

Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Frequency range investigated for radiated emission: 30MHz to 19000 MHz.

Band	Channel Bandwidth	Test Modes	
LTE Band 2	1.4 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 3) Link ☐ LTE(RB Size 1, RB Offset 5) Link ☐ LTE(RB Size 3, RB Offset 0) Link ☐ LTE(RB Size 3, RB Offset 2) Link ☐ LTE(RB Size 3, RB Offset 3) Link ☐ LTE(RB Size 6, RB Offset 0) Link	QPSK
	3 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 8) Link ☐ LTE(RB Size 1, RB Offset 14) Link ☐ LTE(RB Size 8, RB Offset 0) Link ☐ LTE(RB Size 8, RB Offset 4) Link ☐ LTE(RB Size 8, RB Offset 8) Link ☐ LTE(RB Size 15, RB Offset 0) Link	QPSK
	5 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 13) Link ☐ LTE(RB Size 1, RB Offset 24) Link ☐ LTE(RB Size 12, RB Offset 0) Link ☐ LTE(RB Size 12, RB Offset 6) Link ☐ LTE(RB Size 12, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 0) Link	QPSK
	10 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 25) Link ☐ LTE(RB Size 1, RB Offset 49) Link ☐ LTE(RB Size 25, RB Offset 0) Link ☐ LTE(RB Size 25, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 25) Link ☐ LTE(RB Size 50, RB Offset 0) Link	QPSK
	15 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 38) Link ☐ LTE(RB Size 1, RB Offset 74) Link ☐ LTE(RB Size 38, RB Offset 0) Link ☐ LTE(RB Size 38, RB Offset 18) Link ☐ LTE(RB Size 38, RB Offset 38) Link ☐ LTE(RB Size 75, RB Offset 0) Link	QPSK
	20 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 50) Link ☐ LTE(RB Size 1, RB Offset 99) Link ☐ LTE(RB Size 50, RB Offset 0) Link ☐ LTE(RB Size 50, RB Offset 25) Link ☐ LTE(RB Size 50, RB Offset 50) Link ☐ LTE(RB Size 100, RB Offset 0) Link	QPSK

Band	Channel Bandwidth	Test Modes	
LTE Band 4	1.4 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 3) Link ☐ LTE(RB Size 1, RB Offset 5) Link ☐ LTE(RB Size 3, RB Offset 0) Link ☐ LTE(RB Size 3, RB Offset 2) Link ☐ LTE(RB Size 3, RB Offset 3) Link ☐ LTE(RB Size 6, RB Offset 0) Link	QPSK
	3 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 8) Link ☐ LTE(RB Size 1, RB Offset 14) Link ☐ LTE(RB Size 8, RB Offset 0) Link ☐ LTE(RB Size 8, RB Offset 4) Link ☐ LTE(RB Size 8, RB Offset 8) Link ☐ LTE(RB Size 15, RB Offset 0) Link	QPSK
	5 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 13) Link ☐ LTE(RB Size 1, RB Offset 24) Link ☐ LTE(RB Size 12, RB Offset 0) Link ☐ LTE(RB Size 12, RB Offset 6) Link ☐ LTE(RB Size 12, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 0) Link	QPSK
	10 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 25) Link ☐ LTE(RB Size 1, RB Offset 49) Link ☐ LTE(RB Size 25, RB Offset 0) Link ☐ LTE(RB Size 25, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 25) Link ☐ LTE(RB Size 50, RB Offset 0) Link	QPSK
	15 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 38) Link ☐ LTE(RB Size 1, RB Offset 74) Link ☐ LTE(RB Size 38, RB Offset 0) Link ☐ LTE(RB Size 38, RB Offset 18) Link ☐ LTE(RB Size 38, RB Offset 38) Link ☐ LTE(RB Size 75, RB Offset 0) Link	QPSK
	20 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 50) Link ☐ LTE(RB Size 1, RB Offset 99) Link ☐ LTE(RB Size 50, RB Offset 0) Link ☐ LTE(RB Size 50, RB Offset 25) Link ☐ LTE(RB Size 50, RB Offset 50) Link ☐ LTE(RB Size 100, RB Offset 0) Link	QPSK

Band	Channel Bandwidth	Test Modes	
LTE Band 5	1.4 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 3) Link ☐ LTE(RB Size 1, RB Offset 5) Link ☐ LTE(RB Size 3, RB Offset 0) Link ☐ LTE(RB Size 3, RB Offset 2) Link ☐ LTE(RB Size 3, RB Offset 3) Link ☐ LTE(RB Size 6, RB Offset 0) Link	QPSK
	3 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 8) Link ☐ LTE(RB Size 1, RB Offset 14) Link ☐ LTE(RB Size 8, RB Offset 0) Link ☐ LTE(RB Size 8, RB Offset 4) Link ☐ LTE(RB Size 8, RB Offset 8) Link ☐ LTE(RB Size 15, RB Offset 0) Link	QPSK
	5 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 13) Link ☐ LTE(RB Size 1, RB Offset 24) Link ☐ LTE(RB Size 12, RB Offset 0) Link ☐ LTE(RB Size 12, RB Offset 6) Link ☐ LTE(RB Size 12, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 0) Link	QPSK
	10 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 25) Link ☐ LTE(RB Size 1, RB Offset 49) Link ☐ LTE(RB Size 25, RB Offset 0) Link ☐ LTE(RB Size 25, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 25) Link ☐ LTE(RB Size 50, RB Offset 0) Link	QPSK

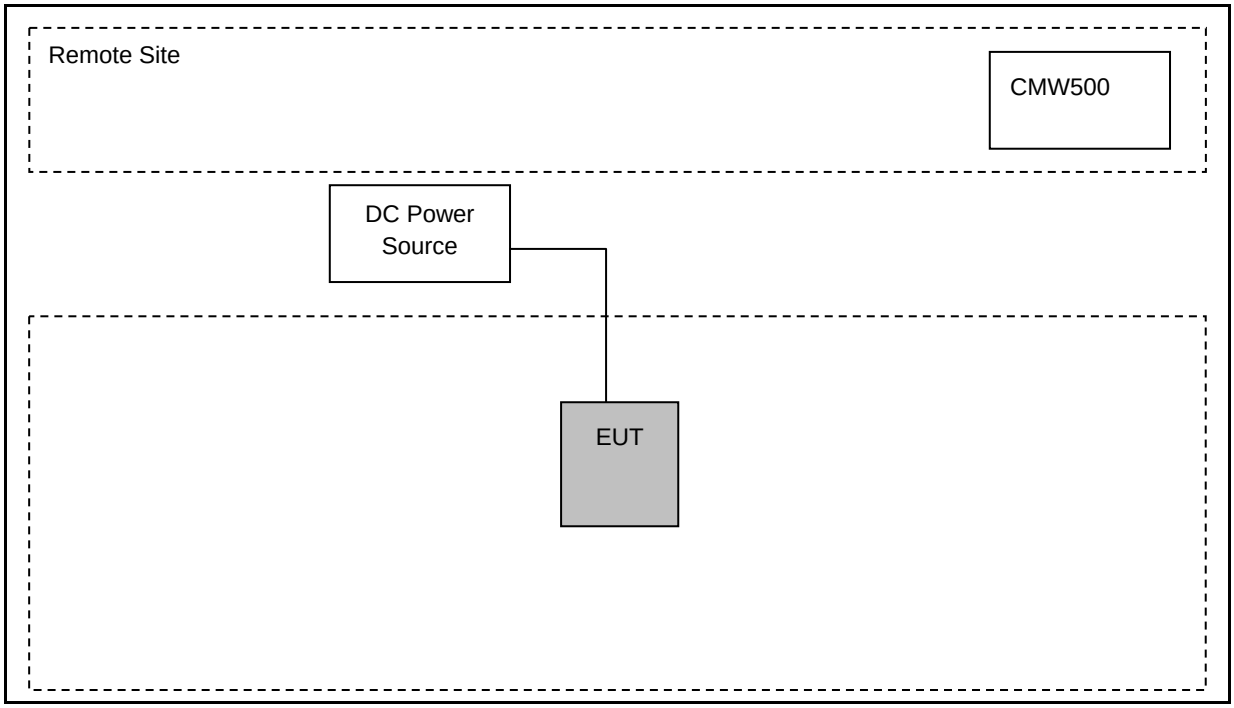
Band	Channel Bandwidth	Test Modes	
LTE Band 12	1.4 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 3) Link ☐ LTE(RB Size 1, RB Offset 5) Link ☐ LTE(RB Size 3, RB Offset 0) Link ☐ LTE(RB Size 3, RB Offset 2) Link ☐ LTE(RB Size 3, RB Offset 3) Link ☐ LTE(RB Size 6, RB Offset 0) Link	QPSK
	3 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 8) Link ☐ LTE(RB Size 1, RB Offset 14) Link ☐ LTE(RB Size 8, RB Offset 0) Link ☐ LTE(RB Size 8, RB Offset 4) Link ☐ LTE(RB Size 8, RB Offset 8) Link ☐ LTE(RB Size 15, RB Offset 0) Link	QPSK
	5 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 13) Link ☐ LTE(RB Size 1, RB Offset 24) Link ☐ LTE(RB Size 12, RB Offset 0) Link ☐ LTE(RB Size 12, RB Offset 6) Link ☐ LTE(RB Size 12, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 0) Link	QPSK
	10 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 25) Link ☐ LTE(RB Size 1, RB Offset 49) Link ☐ LTE(RB Size 25, RB Offset 0) Link ☐ LTE(RB Size 25, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 25) Link ☐ LTE(RB Size 50, RB Offset 0) Link	QPSK

Band	Channel Bandwidth	Test Modes	
LTE Band 17	5 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 13) Link ☐ LTE(RB Size 1, RB Offset 24) Link ☐ LTE(RB Size 12, RB Offset 0) Link ☐ LTE(RB Size 12, RB Offset 6) Link ☐ LTE(RB Size 12, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 0) Link	QPSK
	10 MHz	☑ LTE(RB Size 1, RB Offset 0) Link ☐ LTE(RB Size 1, RB Offset 25) Link ☐ LTE(RB Size 1, RB Offset 49) Link ☐ LTE(RB Size 25, RB Offset 0) Link ☐ LTE(RB Size 25, RB Offset 13) Link ☐ LTE(RB Size 25, RB Offset 25) Link ☐ LTE(RB Size 50, RB Offset 0) Link	QPSK

1.3. EUT Exercise Software

1	Setup the EUT and Base Station (CMW500) as shown on 1.4.
2	Turn on the power of all equipment.
3	EUT run test program test.

1.4. Configuration of Test System Details



1.5. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

1.6. Summary of Test Result

FCC Rule	Description	Result
§2.1046	Conducted Output Average Power	Pass
§22.913 §24.232 §27. 50	Equivalent Isotropic Radiated Power / Equivalent Radiated Power	Pass
§2.1055 §22.355 §24.235 §27. 54	Frequency Stability	Pass
§2.1049	Emission Bandwidth & Occupied Bandwidth	Pass
§24.232 §27.50	Peak to average ratio	Pass
§22.917 §24.238 §27.53	Band Edge	Pass
§2.1051 §22.917 §24.238 §27.53	Conducted Spurious Emissions	Pass
§2.1053 §22.917 §24.238 §27.53	Radiated Spurious Emissions	Pass

2 Conducted Output Average Power Test

■ Limit

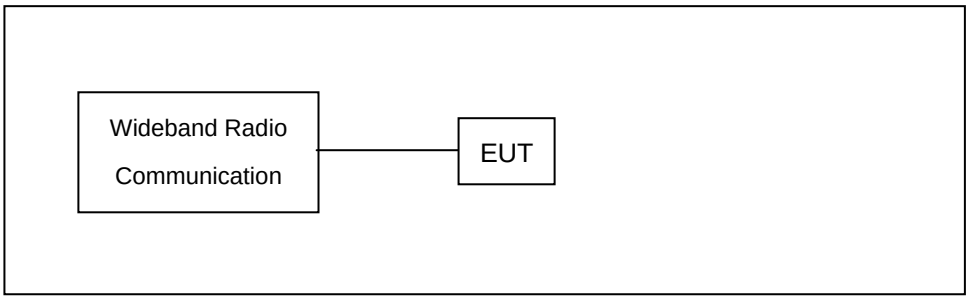
N/A

■ Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Remark
Wideband Radio Communication Tester	R & S	CMW500	103168	10/30/2015	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

■ Test Setup



■ Test Procedure

a. The EUT was set up for the maximum power with simulator.

b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

■ Uncertainty

The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.

■ **Test Result**

Date of Test	10/20/2016

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 2	1.4 MHz	QPSK	18607	1850.7	1	0	22.79	0.190
					1	2	22.74	0.188
					1	5	22.71	0.187
					3	0	22.68	0.185
					3	1	22.68	0.185
					3	3	22.64	0.184
					6	0	21.80	0.151
			18900	1880.0	1	0	22.82	0.191
					1	2	22.81	0.191
					1	5	22.79	0.190
					3	0	22.77	0.189
					3	1	22.76	0.189
					3	3	22.75	0.188
					6	0	21.77	0.150
			19193	1909.3	1	0	**22.86**	**0.193**
					1	2	22.85	0.193
					1	5	22.82	0.191
					3	0	22.82	0.191
					3	1	22.82	0.191
					3	3	22.80	0.191
					6	0	21.87	0.154
		16QAM	18607	1850.7	1	0	21.86	0.153
					1	2	21.75	0.150
					1	5	21.71	0.148
					3	0	21.68	0.147
					3	1	21.64	0.146
					3	3	21.53	0.142
					6	0	20.72	0.118
			18900	1880.0	1	0	21.81	0.152
					1	2	21.76	0.150
					1	5	21.69	0.148
					3	0	21.68	0.147
					3	1	21.68	0.147
					3	3	21.65	0.146
					6	0	20.86	0.122
			19193	1909.3	1	0	22.15	0.164
					1	2	22.12	0.163
					1	5	22.10	0.162
					3	0	21.85	0.153
					3	1	21.81	0.152
					3	3	21.81	0.152
					6	0	20.89	0.123

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 2	3 MHz	QPSK	18615	1851.5	1	0	**22.64**	**0.184**
					1	8	22.62	0.183
					1	14	22.43	0.175
					8	0	21.53	0.142
					8	4	21.49	0.141
					8	7	21.49	0.141
					15	0	21.48	0.141
			18900	1880.0	1	0	22.56	0.180
					1	8	22.53	0.179
					1	14	22.48	0.177
					8	0	21.64	0.146
					8	4	21.61	0.145
					8	7	21.6	0.145
					15	0	21.55	0.143
			19185	1908.5	1	0	22.64	0.184
					1	8	22.62	0.183
					1	14	22.6	0.182
					8	0	22.51	0.178
					8	4	21.64	0.146
					8	7	21.54	0.143
					15	0	21.48	0.141
		16QAM	18615	1851.5	1	0	21.58	0.144
					1	8	21.5	0.141
					1	14	21.37	0.137
					8	0	20.57	0.114
					8	4	20.56	0.114
					8	7	20.53	0.113
					15	0	20.52	0.113
			18900	1880.0	1	0	21.78	0.151
					1	8	21.54	0.143
					1	14	21.49	0.141
					8	0	20.58	0.114
					8	4	20.55	0.114
					8	7	20.54	0.113
					15	0	20.48	0.112
			19185	1908.5	1	0	21.99	0.158
					1	8	21.99	0.158
					1	14	21.86	0.153
					8	0	20.8	0.120
					8	4	20.68	0.117
					8	7	20.57	0.114
					15	0	20.57	0.114

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 2	5 MHz	QPSK	18625	1852.5	1	0	**22.65**	**0.184**
					1	12	22.44	0.175
					1	24	22.35	0.172
					12	0	21.61	0.145
					12	6	21.48	0.141
					12	13	21.43	0.139
					25	0	21.39	0.138
			18900	1880.0	1	0	22.47	0.177
					1	12	22.46	0.176
					1	24	22.44	0.175
					12	0	21.49	0.141
					12	6	21.43	0.139
					12	13	21.39	0.138
					25	0	21.37	0.137
			19175	1907.5	1	0	22.58	0.181
					1	12	22.55	0.180
					1	24	22.51	0.178
					12	0	21.58	0.144
					12	6	21.53	0.142
					12	13	21.51	0.142
					25	0	21.48	0.141
		16QAM	18625	1852.5	1	0	21.97	0.157
					1	12	21.75	0.150
					1	24	21.60	0.145
					12	0	20.59	0.115
					12	6	20.47	0.111
					12	13	20.47	0.111
					25	0	20.45	0.111
			18900	1880.0	1	0	21.73	0.149
					1	12	21.70	0.148
					1	24	21.67	0.147
					12	0	20.51	0.112
					12	6	20.48	0.112
					12	13	20.44	0.111
					25	0	20.36	0.109
			19175	1907.5	1	0	21.94	0.156
					1	12	21.81	0.152
					1	24	21.79	0.151
					12	0	20.69	0.117
					12	6	20.63	0.116
					12	11	20.56	0.114
					25	0	20.54	0.113

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 2	10 MHz	QPSK	18650	1855.0	1	0	**22.81**	**0.191**
					1	24	22.59	0.182
					1	49	22.30	0.170
					25	0	21.52	0.142
					25	12	21.5	0.141
					25	25	21.34	0.136
					50	0	21.30	0.135
			18900	1880.0	1	0	22.44	0.175
					1	24	22.37	0.173
					1	49	22.29	0.169
					25	0	21.29	0.135
					25	12	21.29	0.135
					25	25	21.28	0.134
					50	0	21.15	0.130
			19150	1905.0	1	0	22.69	0.186
					1	24	22.46	0.176
					1	49	22.38	0.173
					25	0	21.61	0.145
					25	12	21.48	0.141
					25	25	21.40	0.138
					50	0	21.32	0.136
		16QAM	18650	1855.0	1	0	22.00	0.158
					1	24	21.81	0.152
					1	49	21.57	0.144
					25	0	20.57	0.114
					25	12	20.55	0.114
					25	25	20.40	0.110
					50	0	20.36	0.109
			18900	1880.0	1	0	21.70	0.148
					1	24	21.55	0.143
					1	49	21.53	0.142
					25	0	20.36	0.109
					25	12	20.36	0.109
					25	25	20.32	0.108
					50	0	20.22	0.105
			19150	1905.0	1	0	21.92	0.156
					1	24	21.78	0.151
					1	49	21.49	0.141
					25	0	20.60	0.115
					25	12	20.50	0.112
					25	25	20.46	0.111
					50	0	20.41	0.110

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 2	15 MHz	QPSK	18675	1857.5	1	0	**22.80**	**0.191**
					1	38	22.57	0.181
					1	74	22.25	0.168
					36	0	21.60	0.145
					36	18	21.40	0.138
					36	39	21.33	0.136
					75	0	21.24	0.133
			18900	1880.0	1	0	22.33	0.171
					1	38	22.27	0.169
					1	74	22.23	0.167
					36	0	21.21	0.132
					36	18	21.17	0.131
					36	39	21.15	0.130
					75	0	21.12	0.129
			19125	1902.5	1	0	22.59	0.182
					1	38	22.52	0.179
					1	74	22.26	0.168
					36	0	21.65	0.146
					36	18	21.49	0.141
					36	39	21.30	0.135
					75	0	21.20	0.132
		16QAM	18675	1857.5	1	0	21.99	0.158
					1	38	21.9	0.155
					1	74	21.41	0.138
					36	0	20.67	0.117
					36	18	20.49	0.112
					36	39	20.47	0.111
					75	0	20.31	0.107
			18900	1880.0	1	0	21.66	0.147
					1	38	21.58	0.144
					1	74	21.5	0.141
					36	0	20.30	0.107
					36	18	20.24	0.106
					36	39	20.23	0.105
					75	0	20.21	0.105
			19125	1902.5	1	0	21.79	0.151
					1	38	21.78	0.151
					1	74	21.63	0.146
					36	0	20.65	0.116
					36	18	20.49	0.112
					36	39	20.38	0.109
					75	0	20.30	0.107

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 2	20 MHz	QPSK	18700	1860.0	1	0	**22.60**	**0.182**
					1	49	22.53	0.179
					1	99	22.24	0.167
					50	0	21.50	0.141
					50	25	21.42	0.139
					50	50	21.40	0.138
					100	0	21.20	0.132
			18900	1880.0	1	0	22.42	0.175
					1	49	22.37	0.173
					1	99	22.11	0.163
					50	0	21.18	0.131
					50	25	21.03	0.127
					50	50	21.03	0.127
					100	0	20.97	0.125
			19100	1900.0	1	0	22.52	0.179
					1	49	22.42	0.175
					1	99	22.19	0.166
					50	0	21.39	0.138
					50	25	21.37	0.137
					50	50	21.33	0.136
					100	0	21.13	0.130
		16QAM	18700	1860.0	1	0	21.98	0.158
					1	49	21.76	0.150
					1	99	21.55	0.143
					50	0	20.58	0.114
					50	25	20.49	0.112
					50	50	20.44	0.111
					100	0	20.21	0.105
			18900	1880.0	1	0	21.75	0.150
					1	49	21.74	0.149
					1	99	21.45	0.140
					50	0	20.13	0.103
					50	25	20.11	0.103
					50	50	20.07	0.102
					100	0	20.00	0.100
			19100	1900.0	1	0	21.89	0.155
					1	49	21.79	0.151
					1	99	21.48	0.141
					50	0	20.48	0.112
					50	25	20.47	0.111
					50	50	20.37	0.109
					100	0	20.17	0.104

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 4	1.4 MHz	QPSK	19957	1710.7	1	0	22.51	0.178
					1	2	22.19	0.166
					1	5	22.18	0.165
					3	0	22.17	0.165
					3	1	22.14	0.164
					3	3	22.14	0.164
					6	0	21.32	0.136
			20175	1732.5	1	0	**22.91**	**0.195**
					1	2	22.88	0.194
					1	5	22.82	0.191
					3	0	22.81	0.191
					3	1	22.78	0.190
					3	3	22.75	0.188
					6	0	21.80	0.151
			20393	1754.3	1	0	22.57	0.181
					1	2	22.54	0.179
					1	5	22.41	0.174
					3	0	22.39	0.173
					3	1	22.35	0.172
					3	3	22.35	0.172
					6	0	21.49	0.141
		16QAM	19957	1710.7	1	0	21.89	0.155
					1	2	21.87	0.154
					1	5	21.83	0.152
					3	0	21.17	0.131
					3	1	21.10	0.129
					3	3	21.09	0.129
					6	0	20.73	0.118
			20175	1732.5	1	0	21.87	0.154
					1	2	21.86	0.153
					1	5	21.84	0.153
					3	0	21.75	0.150
					3	1	21.73	0.149
					3	3	21.70	0.148
					6	0	20.81	0.121
			20393	1754.3	1	0	21.81	0.152
					1	2	21.77	0.150
					1	5	21.74	0.149
					3	0	21.36	0.137
					3	1	21.35	0.136
					3	3	21.34	0.136
					6	0	20.60	0.115

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 4	3 MHz	QPSK	19965	1711.5	1	0	22.25	0.168
					1	8	22.01	0.159
					1	14	21.93	0.156
					8	0	21.28	0.134
					8	4	21.27	0.134
					8	7	21.20	0.132
					15	0	21.16	0.131
			20175	1732.5	1	0	**22.90**	**0.195**
					1	8	22.73	0.187
					1	14	22.48	0.177
					8	0	21.91	0.155
					8	4	21.82	0.152
					8	7	21.81	0.152
					15	0	21.73	0.149
			20385	1753.5	1	0	22.47	0.177
					1	8	22.42	0.175
					1	14	22.11	0.163
					8	0	21.51	0.142
					8	4	21.42	0.139
					8	7	21.37	0.137
					15	0	21.33	0.136
		16QAM	19965	1711.5	1	0	21.11	0.129
					1	8	21.08	0.128
					1	14	21.03	0.127
					8	0	20.28	0.107
					8	4	20.24	0.106
					8	7	20.17	0.104
					15	0	20.10	0.102
			20175	1732.5	1	0	21.74	0.149
					1	8	21.61	0.145
					1	14	21.41	0.138
					8	0	20.82	0.121
					8	4	20.74	0.119
					8	7	20.69	0.117
					15	0	20.68	0.117
			20385	1753.5	1	0	21.36	0.137
					1	8	21.22	0.132
					1	14	21.19	0.132
					8	0	20.59	0.115
					8	4	20.43	0.110
					8	7	20.42	0.110
					15	0	20.34	0.108

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 4	5 MHz	QPSK	19975	1712.5	1	0	22.25	0.168
					1	12	22.18	0.165
					1	24	22.11	0.163
					12	0	21.19	0.132
					12	6	21.18	0.131
					12	13	21.16	0.131
					25	0	21.16	0.131
			20175	1732.5	1	0	**22.75**	**0.188**
					1	12	22.59	0.182
					1	24	22.53	0.179
					12	0	21.92	0.156
					12	6	21.90	0.155
					12	13	21.85	0.153
					25	0	21.74	0.149
			20375	1752.5	1	0	22.31	0.170
					1	12	22.12	0.163
					1	24	21.98	0.158
					12	0	21.32	0.136
					12	6	21.27	0.134
					12	13	21.23	0.133
					25	0	21.18	0.131
		16QAM	19975	1712.5	1	0	21.13	0.130
					1	12	20.97	0.125
					1	24	20.87	0.122
					12	0	20.13	0.103
					12	6	20.11	0.103
					12	13	20.11	0.103
					25	0	20.02	0.100
			20175	1732.5	1	0	21.70	0.148
					1	12	21.62	0.145
					1	24	21.51	0.142
					12	0	20.99	0.126
					12	6	20.91	0.123
					12	13	20.71	0.118
					25	0	20.59	0.115
			20375	1752.5	1	0	21.20	0.132
					1	12	21.04	0.127
					1	24	20.97	0.125
					12	0	20.49	0.112
					12	6	20.34	0.108
					12	11	20.29	0.107
					25	0	20.24	0.106

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 4	10 MHz	QPSK	2000	1715.0	1	0	22.43	0.175
					1	24	22.13	0.163
					1	49	22.10	0.162
					25	0	21.13	0.130
					25	12	21.05	0.127
					25	25	21.05	0.127
					50	0	20.93	0.124
			20175	1732.5	1	0	**22.80**	**0.191**
					1	24	22.74	0.188
					1	49	22.52	0.179
					25	0	21.90	0.155
					25	12	21.90	0.155
					25	25	21.56	0.143
					50	0	21.49	0.141
			20350	1750.0	1	0	22.38	0.173
					1	24	22.12	0.163
					1	49	21.81	0.152
					25	0	21.09	0.129
					25	12	21.07	0.128
					25	25	21.00	0.126
					50	0	20.98	0.125
		16QAM	2000	1715.0	1	0	21.32	0.136
					1	24	21.30	0.135
					1	49	21.13	0.130
					25	0	20.19	0.104
					25	12	20.05	0.101
					25	25	19.97	0.099
					50	0	19.95	0.099
			20175	1732.5	1	0	21.94	0.156
					1	24	21.89	0.155
					1	49	21.58	0.144
					25	0	20.91	0.123
					25	12	20.62	0.115
					25	25	20.53	0.113
					50	0	20.47	0.111
			20350	1750.0	1	0	21.50	0.141
					1	24	21.28	0.134
					1	49	21.03	0.127
					25	0	20.09	0.102
					25	12	19.99	0.100
					25	25	19.96	0.099
					50	0	19.87	0.097

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 4	15 MHz	QPSK	20025	1717.5	1	0	22.62	0.183
					1	38	22.43	0.175
					1	74	22.35	0.172
					36	0	21.32	0.136
					36	18	21.30	0.135
					36	39	21.13	0.130
					75	0	21.04	0.127
			20175	1732.5	1	0	**22.67**	**0.185**
					1	38	22.59	0.182
					1	74	22.23	0.167
					36	0	21.72	0.149
					36	18	21.69	0.148
					36	39	21.31	0.135
					75	0	21.19	0.132
			20325	1747.5	1	0	22.35	0.172
					1	38	22.13	0.163
					1	74	21.99	0.158
					36	0	21.16	0.131
					36	18	20.85	0.122
					36	39	20.85	0.122
					75	0	20.85	0.122
		16QAM	20025	1717.5	1	0	21.72	0.149
					1	38	21.44	0.139
					1	74	21.24	0.133
					36	0	20.39	0.109
					36	18	20.17	0.104
					36	39	20.00	0.100
					75	0	19.95	0.099
			20175	1732.5	1	0	21.88	0.154
					1	38	21.82	0.152
					1	74	21.53	0.142
					36	0	20.74	0.119
					36	18	20.73	0.118
					36	39	20.51	0.112
					75	0	20.32	0.108
			20325	1747.5	1	0	21.26	0.134
					1	38	21.13	0.130
					1	74	21.12	0.129
					36	0	20.16	0.104
					36	18	19.88	0.097
					36	39	19.84	0.096
					75	0	19.82	0.096

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 4	20 MHz	QPSK	20050	1720.0	1	0	22.57	0.181
					1	49	22.08	0.161
					1	99	21.94	0.156
					50	0	21.39	0.138
					50	25	21.23	0.133
					50	50	21.12	0.129
					100	0	20.96	0.125
			20175	1732.5	1	0	**22.75**	**0.188**
					1	49	22.34	0.171
					1	99	21.89	0.155
					50	0	21.56	0.143
					50	25	21.45	0.140
					50	50	21.41	0.138
					100	0	21.13	0.130
			20300	1745.0	1	0	22.29	0.169
					1	49	22.11	0.163
					1	99	21.66	0.147
					50	0	20.89	0.123
					50	25	20.87	0.122
					50	50	20.82	0.121
					100	0	20.51	0.112
		16QAM	20050	1720.0	1	0	21.79	0.151
					1	49	21.36	0.137
					1	99	21.05	0.127
					50	0	20.43	0.110
					50	25	20.26	0.106
					50	50	20.21	0.105
					100	0	19.91	0.098
			20175	1732.5	1	0	21.71	0.148
					1	49	21.43	0.139
					1	99	20.91	0.123
					50	0	20.62	0.115
					50	25	20.44	0.111
					50	50	20.40	0.110
					100	0	20.18	0.104
			20300	1745.0	1	0	21.18	0.131
					1	49	21.15	0.130
					1	99	20.74	0.119
					50	0	19.93	0.098
					50	25	19.91	0.098
					50	50	19.82	0.096
					100	0	19.77	0.095

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 5	1.4 MHz	QPSK	20407	824.7	1	0	**22.64**	**0.184**
					1	2	22.62	0.183
					1	5	22.62	0.183
					3	0	22.59	0.182
					3	1	22.58	0.181
					3	3	22.56	0.180
					6	0	21.70	0.148
			20525	836.5	1	0	22.40	0.174
					1	2	22.39	0.173
					1	5	22.36	0.172
					3	0	22.35	0.172
					3	1	22.22	0.167
					3	3	22.19	0.166
					6	0	21.33	0.136
			20643	848.3	1	0	21.89	0.155
					1	2	21.86	0.153
					1	5	21.82	0.152
					3	0	21.79	0.151
					3	1	21.71	0.148
					3	3	21.70	0.148
					6	0	20.86	0.122
		16QAM	20407	824.7	1	0	21.73	0.149
					1	2	21.66	0.147
					1	5	21.66	0.147
					3	0	21.55	0.143
					3	1	21.53	0.142
					3	3	21.47	0.140
					6	0	20.65	0.116
			20525	836.5	1	0	21.42	0.139
					1	2	21.41	0.138
					1	5	21.26	0.134
					3	0	21.22	0.132
					3	1	21.15	0.130
					3	3	21.13	0.130
					6	0	20.41	0.110
			20643	848.3	1	0	21.67	0.147
					1	2	21.63	0.146
					1	5	21.59	0.144
					3	0	20.72	0.118
					3	1	20.70	0.117
					3	3	20.64	0.116
					6	0	20.68	0.117

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 5	3 MHz	QPSK	20415	825.5	1	0	**22.61**	**0.182**
					1	8	22.46	0.176
					1	14	22.41	0.174
					8	0	21.68	0.147
					8	4	21.59	0.144
					8	7	21.53	0.142
					15	0	21.50	0.141
			20525	836.5	1	0	22.47	0.177
					1	8	22.29	0.169
					1	14	22.15	0.164
					8	0	21.44	0.139
					8	4	21.35	0.136
					8	7	21.33	0.136
					15	0	21.15	0.130
			20635	847.5	1	0	22.01	0.159
					1	8	21.93	0.156
					1	14	21.80	0.151
					8	0	21.01	0.126
					8	4	21.01	0.126
					8	7	20.87	0.122
					15	0	20.85	0.122
		16QAM	20415	825.5	1	0	21.59	0.144
					1	8	21.46	0.140
					1	14	21.32	0.136
					8	0	20.70	0.117
					8	4	20.54	0.113
					8	7	20.54	0.113
					15	0	20.51	0.112
			20525	836.5	1	0	22.46	0.176
					1	8	22.26	0.168
					1	14	22.23	0.167
					8	0	21.21	0.132
					8	4	20.42	0.110
					8	7	20.42	0.110
					15	0	20.33	0.108
			20635	847.5	1	0	20.91	0.123
					1	8	20.85	0.122
					1	14	20.68	0.117
					8	0	20.03	0.101
					8	4	19.93	0.098
					8	7	19.87	0.097
					15	0	19.81	0.096

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 5	5 MHz	QPSK	20425	826.5	1	0	**22.36**	**0.172**
					1	12	22.21	0.166
					1	24	22.05	0.160
					12	0	21.48	0.141
					12	6	21.47	0.140
					12	13	21.27	0.134
					25	0	21.26	0.134
			20525	836.5	1	0	22.26	0.168
					1	12	22.15	0.164
					1	24	22.03	0.160
					12	0	21.38	0.137
					12	6	21.27	0.134
					12	13	21.17	0.131
					25	0	21.14	0.130
			20625	846.5	1	0	22.08	0.161
					1	12	21.86	0.153
					1	24	21.76	0.150
					12	0	21.06	0.128
					12	6	21.01	0.126
					12	13	20.98	0.125
					25	0	20.86	0.122
		16QAM	20425	826.5	1	0	21.40	0.138
					1	12	21.21	0.132
					1	24	21.00	0.126
					12	0	20.50	0.112
					12	6	20.49	0.112
					12	13	20.31	0.107
					25	0	20.28	0.107
			20525	836.5	1	0	21.28	0.134
					1	12	21.18	0.131
					1	24	21.13	0.130
					12	0	21.06	0.128
					12	6	20.41	0.110
					12	13	20.30	0.107
					25	0	20.18	0.104
			20625	846.5	1	0	21.03	0.127
					1	12	20.91	0.123
					1	24	20.87	0.122
					12	0	20.26	0.106
					12	6	20.03	0.101
					12	11	20.02	0.100
					25	0	19.96	0.099

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 5	10 MHz	QPSK	20450	829.0	1	0	**22.50**	**0.178**
					1	24	22.14	0.164
					1	49	22.12	0.163
					25	0	21.33	0.136
					25	12	21.16	0.131
					25	25	20.97	0.125
					50	0	20.96	0.125
			20525	836.5	1	0	22.25	0.168
					1	24	22.14	0.164
					1	49	21.78	0.151
					25	0	21.27	0.134
					25	12	21.18	0.131
					25	25	21.09	0.129
					50	0	21.09	0.129
			20600	844.0	1	0	22.36	0.172
					1	24	21.46	0.140
					1	49	21.29	0.135
					25	0	21.17	0.131
					25	12	21.02	0.126
					25	25	20.97	0.125
					50	0	20.88	0.122
		16QAM	20450	829.0	1	0	21.71	0.148
					1	24	21.38	0.137
					1	49	21.35	0.136
					25	0	20.37	0.109
					25	12	20.09	0.102
					25	25	20.02	0.100
					50	0	20.00	0.100
			20525	836.5	1	0	21.63	0.146
					1	24	21.47	0.140
					1	49	20.86	0.122
					25	0	20.34	0.108
					25	12	20.14	0.103
					25	25	20.13	0.103
					50	0	20.03	0.101
			20600	844.0	1	0	21.61	0.145
					1	24	21.44	0.139
					1	49	20.92	0.124
					25	0	20.39	0.109
					25	12	20.27	0.106
					25	25	20.09	0.102
					50	0	20.03	0.101

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 12	1.4 MHz	QPSK	23017	699.7	1	0	**22.66**	**0.185**
					1	2	22.64	0.184
					1	5	22.61	0.182
					3	0	22.54	0.179
					3	1	22.47	0.177
					3	3	22.47	0.177
					6	0	21.64	0.146
			23095	707.5	1	0	22.38	0.173
					1	2	22.34	0.171
					1	5	22.31	0.170
					3	0	22.28	0.169
					3	1	22.28	0.169
					3	3	22.28	0.169
					6	0	21.35	0.136
			23173	715.3	1	0	22.06	0.161
					1	2	22.00	0.158
					1	5	21.87	0.154
					3	0	21.80	0.151
					3	1	21.71	0.148
					3	3	21.65	0.146
					6	0	20.92	0.124
		16QAM	23017	699.7	1	0	21.66	0.147
					1	2	21.61	0.145
					1	5	21.59	0.144
					3	0	21.50	0.141
					3	1	21.49	0.141
					3	3	21.17	0.131
					6	0	20.67	0.117
			23095	707.5	1	0	21.61	0.145
					1	2	21.50	0.141
					1	5	21.34	0.136
					3	0	21.34	0.136
					3	1	21.28	0.134
					3	3	21.27	0.134
					6	0	20.32	0.108
			23173	715.3	1	0	21.63	0.146
					1	2	21.58	0.144
					1	5	21.55	0.143
					3	0	20.90	0.123
					3	1	20.71	0.118
					3	3	20.65	0.116
					6	0	20.57	0.114

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 12	3 MHz	QPSK	23025	700.5	1	0	**22.65**	**0.184**
					1	8	22.54	0.179
					1	14	22.42	0.175
					8	0	21.63	0.146
					8	4	21.63	0.146
					8	7	21.56	0.143
					15	0	21.45	0.140
			23095	707.5	1	0	22.34	0.171
					1	8	22.32	0.171
					1	14	22.31	0.170
					8	0	21.36	0.137
					8	4	21.36	0.137
					8	7	21.33	0.136
					15	0	21.28	0.134
			23165	714.5	1	0	22.37	0.173
					1	8	22.17	0.165
					1	14	21.85	0.153
					8	0	21.27	0.134
					8	4	21.23	0.133
					8	7	21.20	0.132
					15	0	21.04	0.127
		16QAM	23025	700.5	1	0	21.87	0.154
					1	8	21.74	0.149
					1	14	21.35	0.136
					8	0	20.61	0.115
					8	4	20.53	0.113
					8	7	20.44	0.111
					15	0	20.42	0.110
			23095	707.5	1	0	21.54	0.143
					1	8	21.49	0.141
					1	14	21.40	0.138
					8	0	20.38	0.109
					8	4	20.35	0.108
					8	7	20.29	0.107
					15	0	20.23	0.105
			23165	714.5	1	0	21.50	0.141
					1	8	21.28	0.134
					1	14	21.22	0.132
					8	0	20.20	0.105
					8	4	20.15	0.104
					8	7	20.10	0.102
					15	0	20.04	0.101

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 12	5 MHz	QPSK	23035	701.5	1	0	**22.43**	**0.175**
					1	12	22.35	0.172
					1	24	22.30	0.170
					12	0	21.48	0.141
					12	6	21.45	0.140
					12	13	21.37	0.137
					25	0	21.34	0.136
			23095	707.5	1	0	22.39	0.173
					1	12	22.31	0.170
					1	24	22.24	0.167
					12	0	21.42	0.139
					12	6	21.32	0.136
					12	13	21.31	0.135
					25	0	21.31	0.135
			23155	713.5	1	0	22.39	0.173
					1	12	22.22	0.167
					1	24	21.91	0.155
					12	0	21.36	0.137
					12	6	21.27	0.134
					12	13	21.11	0.129
					25	0	21.08	0.128
		16QAM	23035	701.5	1	0	21.62	0.145
					1	12	21.53	0.142
					1	24	21.52	0.142
					12	0	20.60	0.115
					12	6	20.43	0.110
					12	13	20.40	0.110
					25	0	20.32	0.108
			23095	707.5	1	0	21.61	0.145
					1	12	21.53	0.142
					1	24	21.42	0.139
					12	0	20.45	0.111
					12	6	20.44	0.111
					12	13	20.41	0.110
					25	0	20.31	0.107
			23155	713.5	1	0	21.62	0.145
					1	12	21.50	0.141
					1	24	21.16	0.131
					12	0	20.38	0.109
					12	6	20.27	0.106
					12	11	20.20	0.105
					25	0	20.09	0.102

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 12	10 MHz	QPSK	23060	704.0	1	0	**22.47**	**0.177**
					1	24	22.39	0.173
					1	49	22.36	0.172
					25	0	21.41	0.138
					25	12	21.29	0.135
					25	25	21.28	0.134
					50	0	21.24	0.133
			23095	707.5	1	0	22.37	0.173
					1	24	22.26	0.168
					1	49	22.24	0.167
					25	0	21.30	0.135
					25	12	21.30	0.135
					25	25	21.23	0.133
					50	0	21.18	0.131
			23130	711.0	1	0	22.41	0.174
					1	24	22.21	0.166
					1	49	21.87	0.154
					25	0	21.41	0.138
					25	12	21.32	0.136
					25	25	21.28	0.134
					50	0	21.15	0.130
		16QAM	23060	704.0	1	0	22.42	0.175
					1	24	21.67	0.147
					1	49	21.52	0.142
					25	0	21.51	0.142
					25	12	20.36	0.109
					25	25	20.34	0.108
					50	0	20.30	0.107
			23095	707.5	1	0	21.69	0.148
					1	24	21.54	0.143
					1	49	21.53	0.142
					25	0	20.29	0.107
					25	12	20.29	0.107
					25	25	20.25	0.106
					50	0	20.04	0.101
			23130	711.0	1	0	21.64	0.146
					1	24	21.43	0.139
					1	49	21.12	0.129
					25	0	20.23	0.105
					25	12	20.23	0.105
					25	25	20.08	0.102
					50	0	20.00	0.100

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 17	5 MHz	QPSK	23755	706.5	1	0	**22.65**	**0.184**
					1	12	22.60	0.182
					1	24	22.52	0.179
					12	0	22.47	0.177
					12	6	22.45	0.176
					12	13	22.41	0.174
					25	0	21.42	0.139
			23790	710.0	1	0	22.47	0.177
					1	12	22.46	0.176
					1	24	22.42	0.175
					12	0	21.60	0.145
					12	6	21.59	0.144
					12	13	21.52	0.142
					25	0	21.50	0.141
			23825	713.5	1	0	22.52	0.179
					1	12	22.36	0.172
					1	24	22.25	0.168
					12	0	21.45	0.140
					12	6	21.44	0.139
					12	13	21.33	0.136
					25	0	21.27	0.134
		16QAM	23755	706.5	1	0	21.62	0.145
					1	12	21.51	0.142
					1	24	21.50	0.141
					12	0	21.47	0.140
					12	6	21.39	0.138
					12	13	21.33	0.136
					25	0	20.35	0.108
			23790	710.0	1	0	21.48	0.141
					1	12	21.42	0.139
					1	24	21.26	0.134
					12	0	20.60	0.115
					12	6	20.54	0.113
					12	13	20.54	0.113
					25	0	20.43	0.110
			23825	713.5	1	0	21.45	0.140
					1	12	21.38	0.137
					1	24	21.27	0.134
					12	0	20.44	0.111
					12	6	20.44	0.111
					12	13	20.32	0.108
					25	0	20.10	0.102

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band 17	10 MHz	QPSK	23780	709.0	1	0	22.48	0.177
					1	24	22.42	0.175
					1	49	22.41	0.174
					25	0	21.47	0.140
					25	12	21.46	0.140
					25	25	21.44	0.139
					50	0	21.37	0.137
			23790	710.0	1	0	22.41	0.174
					1	24	22.37	0.173
					1	49	22.37	0.173
					25	0	21.48	0.141
					25	12	21.40	0.138
					25	25	21.39	0.138
					50	0	21.36	0.137
			23800	711.0	1	0	**22.54**	**0.179**
					1	24	22.39	0.173
					1	49	22.20	0.166
					25	0	21.46	0.140
					25	12	21.44	0.139
					25	25	21.36	0.137
					50	0	21.30	0.135
		16QAM	23780	709.0	1	0	21.38	0.137
					1	24	21.34	0.136
					1	49	21.28	0.134
					25	0	20.48	0.112
					25	12	20.42	0.110
					25	25	20.40	0.110
					50	0	20.29	0.107
			23790	710.0	1	0	21.32	0.136
					1	24	21.23	0.133
					1	49	21.22	0.132
					25	0	20.41	0.110
					25	12	20.34	0.108
					25	25	20.33	0.108
					50	0	20.31	0.107
			23800	711.0	1	0	21.55	0.143
					1	24	21.39	0.138
					1	49	21.03	0.127
					25	0	20.40	0.110
					25	12	20.38	0.109
					25	25	20.23	0.105
					50	0	20.23	0.105

3 Effective Radiated Power / Equivalent Isotropic Radiated Power Test

■ Limit

For FCC Part 27: The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 1 Watts.

For FCC Part 27.50(c)(9): Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.

For FCC Part 22.913(a)(2): The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(b): The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

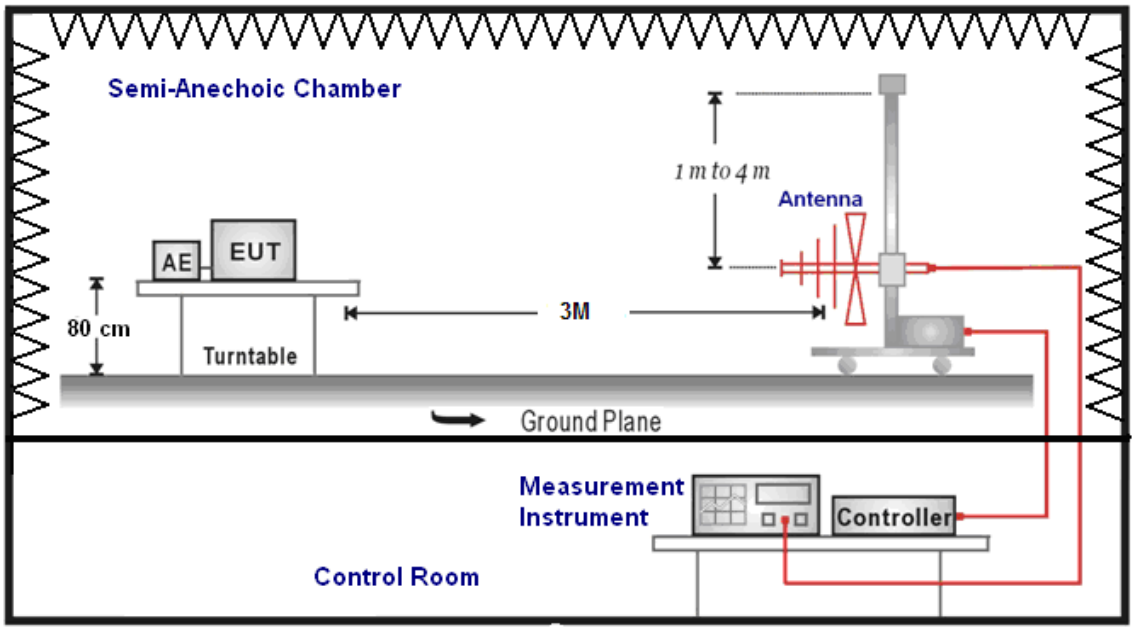
■ Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/08/2016	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/08/2016	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/11/2016	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/11/2016	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	416	10/13/2016	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	419	10/28/2015	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/06/2016	1 year
Horn Antenna (18~40GHz)	ETS	3116	00086467	09/05/2016	1 year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/18/2016	1 year
Microwave Cable	EMCI	EMC102-KM-KM-14000	151001	02/23/2016	1 year
Microwave Cable	EMCI	EMC-104-SM-SM-14000	140202	02/23/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-600	140301	02/23/2016	1 year
Signal Generator	Agilent	E8257D	MY44320425	02/25/2016	1 year
Test Site	ATL	TE01	888001	08/29/2016	1 year

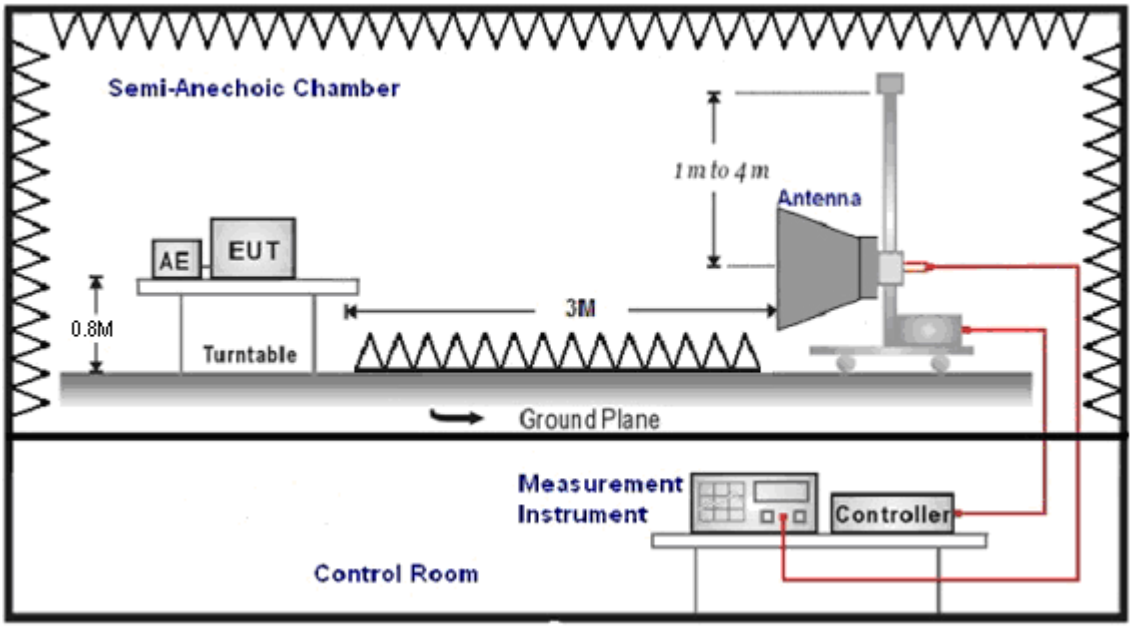
Note: N.C.R. = No Calibration Request.

■ **Test Setup**

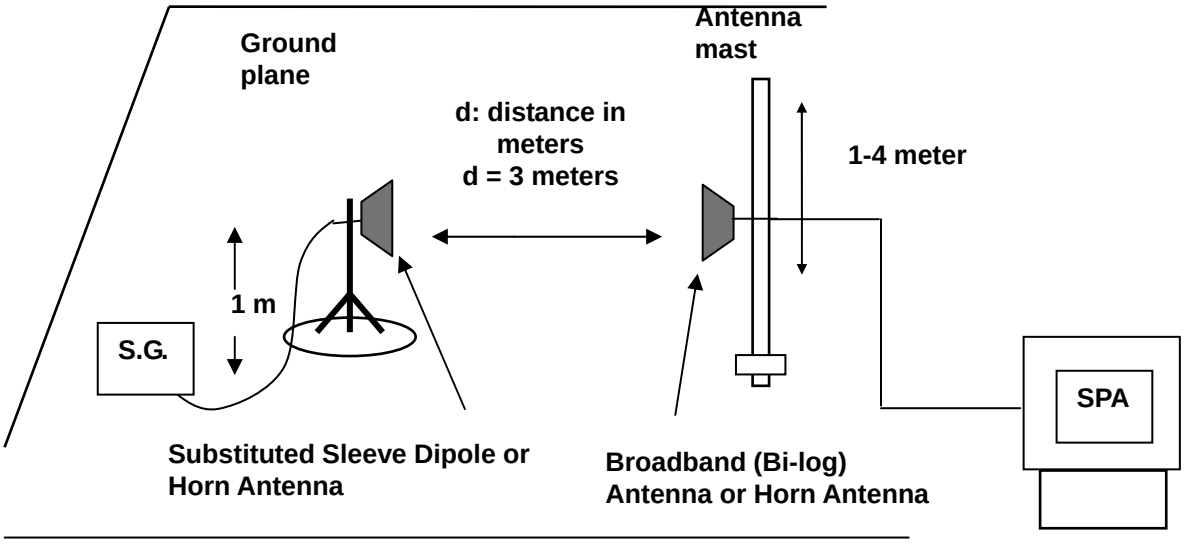
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



■ Test Procedure

a. The EUT was set up for the maximum power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RWB and VBW is 5MHz for LTE mode.

b. E.I.R.P power measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

c. The substitution antenna (Note:1 & 2) is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G.

d. E.I.R.P. = Output power level of S.G - TX cable loss + Antenna gain of substitution horn

e. E.R.P. = E.I.R.P- 2.15 dB

Note: 1. Below 1 GHz Substituted Method Test：Sleeve dipole antenna to Bi-Log Antenna

2. Above 1 GHz Substituted Method Test：Horn antenna to Horn Antenna

■ Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is ± 3.072 dB.

■ **Test Result**

Date of Test	10/20/2016~10/22/2016

LTE Band 2								
Channel Bandwidth	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.I.R.P.		Limit (W)
						(dBm)	(W)	
1.4 M	QPSK	1850.7	H	11.02	9.56	20.58	0.114	< 2
			V	13.29	9.56	22.85	0.193	< 2
		1880.0	H	10.98	9.67	20.65	0.116	< 2
			V	13.35	9.67	23.02	0.200	< 2
		1909.3	H	10.71	9.79	20.50	0.112	< 2
			V	13.35	9.79	**23.14**	**0.206**	< 2
	16QAM	1880.0	H	9.5	9.67	19.17	0.083	< 2
			V	12.29	9.68	21.97	0.157	< 2
3 MHz	QPSK	1851.5	H	10.8	9.55	20.35	0.108	< 2
			V	13.64	9.55	**23.19**	**0.208**	< 2
		1880.0	H	11.07	9.67	20.74	0.119	< 2
			V	13.42	9.67	23.09	0.204	< 2
		1908.5	H	10.51	9.77	20.28	0.107	< 2
			V	13.41	9.78	23.19	0.208	< 2
	16QAM	1880.0	H	9.68	9.67	19.35	0.086	< 2
			V	12.37	9.67	22.04	0.160	< 2
5 MHz	QPSK	1852.5	H	10.73	9.56	20.29	0.107	< 2
			V	13.59	9.56	23.15	0.207	< 2
		1880.0	H	10.85	9.66	20.51	0.112	< 2
			V	13.4	9.67	23.07	0.203	< 2
		1907.5	H	10.83	9.77	20.60	0.115	< 2
			V	13.49	9.77	23.26	0.212	< 2
	16QAM	1880.0	H	9.48	9.67	19.15	0.082	< 2
			V	12.45	9.67	22.12	0.163	< 2

LTE Band 2								
Channel Bandwidth	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.I.R.P.		Limit (W)
						(dBm)	(W)	
10 M	QPSK	1855.0	H	11.39	9.56	20.95	0.124	< 2
			V	13.77	9.56	**23.33**	**0.215**	< 2
		1880.0	H	11.12	9.66	20.78	0.120	< 2
			V	13.64	9.66	23.30	0.214	< 2
		1905.0	H	10.91	9.76	20.67	0.117	< 2
			V	13.39	9.76	23.15	0.207	< 2
	16QAM	1880.0	H	10.02	9.66	19.68	0.093	< 2
			V	12.72	9.66	22.38	0.173	< 2
15 MHz	QPSK	1857.5	H	10.83	9.56	20.39	0.109	< 2
			V	13.67	9.56	**23.23**	**0.210**	< 2
		1880.0	H	10.81	9.65	20.46	0.111	< 2
			V	13.49	9.64	23.13	0.206	< 2
		1902.5	H	10.83	9.73	20.56	0.114	< 2
			V	13.43	9.74	23.17	0.207	< 2
	16QAM	1880.0	H	9.45	9.65	19.10	0.081	< 2
			V	12.29	9.65	21.94	0.156	< 2
20 MHz	QPSK	1860.0	H	10.77	9.56	20.33	0.108	< 2
			V	13.65	9.57	23.22	0.210	< 2
		1880.0	H	10.54	9.64	20.18	0.104	< 2
			V	13.66	9.63	**23.29**	**0.213**	< 2
		1900.0	H	10.49	9.71	20.20	0.105	< 2
			V	13.54	9.71	23.25	0.211	< 2
	16QAM	1880.0	H	9.48	9.64	19.12	0.082	< 2
			V	12.16	9.63	21.79	0.151	< 2

LTE Band 4								
Channel Bandwidth	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.I.R.P.		Limit (W)
						(dBm)	(W)	
1.4 M	QPSK	1710.7	H	11.59	9.00	20.59	0.115	< 1
			V	14.27	9.00	23.27	0.212	< 1
		1732.5	H	11.32	9.09	20.41	0.110	< 1
			V	14.25	9.09	**23.34**	**0.216**	< 1
		1754.3	H	11.47	9.16	20.63	0.116	< 1
			V	14.13	9.18	23.31	0.214	< 1
	16QAM	1732.5	H	10.16	9.09	19.25	0.084	< 1
			V	12.08	9.09	21.17	0.131	< 1
3 MHz	QPSK	1711.5	H	11.86	9.00	20.86	0.122	< 1
			V	14.57	9.00	**23.57**	**0.228**	< 1
		1732.5	H	11.26	9.08	20.34	0.108	< 1
			V	14.08	9.08	23.16	0.207	< 1
		1753.5	H	11.24	9.16	20.40	0.110	< 1
			V	14.1	9.17	23.27	0.212	< 1
	16QAM	1732.5	H	10.18	9.09	19.27	0.085	< 1
			V	12.88	9.08	21.96	0.157	< 1
5 MHz	QPSK	1712.5	H	11.5	9.00	20.50	0.112	< 1
			V	14.43	9.00	**23.43**	**0.220**	< 1
		1732.5	H	11.29	9.09	20.38	0.109	< 1
			V	14.27	9.09	23.36	0.217	< 1
		1752.5	H	10.91	9.15	20.06	0.101	< 1
			V	13.98	9.15	23.13	0.206	< 1
	16QAM	1732.5	H	10.13	9.08	19.21	0.083	< 1
			V	13.06	9.08	22.14	0.164	< 1
10 M	QPSK	1715.0	H	11.21	9.00	20.21	0.105	< 1
			V	14.13	9.00	23.13	0.206	< 1
		1732.5	H	11.06	9.06	20.12	0.103	< 1
			V	14.24	9.06	23.30	0.214	< 1
		1750.0	H	11.34	9.14	20.48	0.112	< 1
			V	14.25	9.15	**23.40**	**0.219**	< 1
	16QAM	1732.5	H	10	9.07	19.07	0.081	< 1
			V	13.12	9.06	22.18	0.165	< 1
15 MHz	QPSK	1717.5	H	11.41	9.00	20.41	0.110	< 1
			V	14.29	9.00	**23.29**	**0.213**	< 1
		1732.5	H	11.31	9.05	20.36	0.109	< 1
			V	14.03	9.06	23.09	0.204	< 1
		1747.5	H	11.22	9.11	20.33	0.108	< 1
			V	14.07	9.11	23.18	0.208	< 1
	16QAM	1732.5	H	10.08	9.06	19.14	0.082	< 1
			V	12.96	9.06	22.02	0.159	< 1
20 MHz	QPSK	1720.0	H	11.21	9.00	20.21	0.105	< 1
			V	14.44	9.00	**23.44**	**0.221**	< 1
		1732.5	H	11.27	9.05	20.32	0.108	< 1
			V	14.08	9.06	23.14	0.206	< 1
		1745.0	H	11.42	9.10	20.52	0.113	< 1
			V	14.2	9.11	23.31	0.214	< 1
	16QAM	1732.5	H	10.21	9.05	19.26	0.084	< 1
			V	12.99	9.06	22.05	0.160	< 1

LTE Band 5								
Channel Bandwidth	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit (W)
						(dBm)	(W)	
1.4 M	QPSK	824.7	H	8.65	11.25	19.90	0.098	< 7
			V	11.92	11.24	23.16	0.207	< 7
		836.5	H	8.65	11.4	20.05	0.101	< 7
			V	11.95	11.4	**23.35**	**0.216**	< 7
		848.3	H	9.03	11.57	20.60	0.115	< 7
			V	11.49	11.57	23.06	0.202	< 7
	16QAM	836.5	H	7.52	11.4	18.92	0.078	< 7
			V	10.69	11.42	22.11	0.163	< 7
3 MHz	QPSK	825.5	H	9.25	11.24	20.49	0.112	< 7
			V	12.01	11.25	**23.26**	**0.212**	< 7
		836.5	H	8.22	11.4	19.62	0.092	< 7
			V	11.28	11.4	22.68	0.185	< 7
		847.5	H	8.16	11.55	19.71	0.094	< 7
			V	11.53	11.55	23.08	0.203	< 7
	16QAM	836.5	H	6.94	11.4	18.34	0.068	< 7
			V	9.95	11.4	21.35	0.136	< 7
5 MHz	QPSK	826.5	H	8.29	11.25	19.54	0.090	< 7
			V	11.44	11.23	**22.67**	**0.185**	< 7
		836.5	H	8.42	11.39	19.81	0.096	< 7
			V	11.25	11.38	22.63	0.183	< 7
		846.5	H	8.54	11.52	20.06	0.101	< 7
			V	10.99	11.53	22.52	0.179	< 7
	16QAM	836.5	H	7.13	11.4	18.53	0.071	< 7
			V	9.89	11.39	21.28	0.134	< 7
10 M	QPSK	829.0	H	8.6	11.24	19.84	0.096	< 7
			V	11.48	11.25	22.73	0.187	< 7
		836.5	H	9.07	11.35	20.42	0.110	< 7
			V	11.6	11.35	**22.95**	**0.197**	< 7
		844.0	H	8.68	11.45	20.13	0.103	< 7
			V	11.26	11.45	22.71	0.187	< 7
	16QAM	836.5	H	7.89	11.35	19.24	0.084	< 7
			V	10.39	11.35	21.74	0.149	< 7

LTE Band 12								
Channel Bandwidth	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit (W)
						(dBm)	(W)	
1.4 M	QPSK	699.7	H	10.45	9.29	19.74	0.094	< 30
			V	12.38	9.29	21.67	0.147	< 30
		707.5	H	9.83	9.43	19.26	0.084	< 30
			V	13.23	9.43	**22.66**	**0.185**	< 30
		715.3	H	10.12	9.59	19.71	0.094	< 30
			V	12.76	9.59	22.35	0.172	< 30
	16QAM	707.5	H	8.59	9.45	18.04	0.064	< 30
			V	11.94	9.43	21.37	0.137	< 30
3 MHz	QPSK	699.7	H	10.23	9.29	19.52	0.090	< 30
			V	13.14	9.29	22.43	0.175	< 30
		707.5	H	10.67	9.41	20.08	0.102	< 30
			V	13.06	9.43	22.49	0.177	< 30
		715.3	H	10.66	9.56	20.22	0.105	< 30
			V	13.58	9.54	**23.12**	**0.205**	< 30
	16QAM	707.5	H	9.5	9.43	18.93	0.078	< 30
			V	11.78	9.42	21.20	0.132	< 30
5 MHz	QPSK	699.7	H	10.44	9.29	19.73	0.094	< 30
			V	13.36	9.29	22.65	0.184	< 30
		707.5	H	10.57	9.39	19.96	0.099	< 30
			V	13.03	9.41	22.44	0.175	< 30
		715.3	H	10.68	9.51	20.19	0.104	< 30
			V	13.58	9.51	**23.09**	**0.204**	< 30
	16QAM	707.5	H	9.49	9.42	18.91	0.078	< 30
			V	11.7	9.42	21.12	0.129	< 30
10 M	QPSK	699.7	H	10.95	9.3	20.25	0.106	< 30
			V	13.68	9.29	**22.97**	**0.198**	< 30
		707.5	H	11.12	9.36	20.48	0.112	< 30
			V	13.53	9.36	22.89	0.195	< 30
		715.3	H	10.64	9.42	20.06	0.101	< 30
			V	12.87	9.43	22.30	0.170	< 30
	16QAM	707.5	H	9.92	9.37	19.29	0.085	< 30
			V	12.42	9.36	21.78	0.151	< 30

LTE Band 17								
Channel Bandwidth	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit (W)
						(dBm)	(W)	
5 M	QPSK	706.5	H	10.92	9.37	20.29	0.107	< 30
			V	12.96	9.37	22.33	0.171	< 30
		710.0	H	10.9	9.43	20.33	0.108	< 30
			V	13.18	9.43	22.61	0.182	< 30
		713.5	H	11.25	9.52	20.77	0.119	< 30
			V	13.41	9.52	**22.93**	**0.196**	< 30
	16QAM	710.0	H	9.62	9.48	19.10	0.081	< 30
			V	12.02	9.47	21.49	0.141	< 30
10 MHz	QPSK	706.5	H	10.87	9.37	20.24	0.106	< 30
			V	13.24	9.38	**22.62**	**0.183**	< 30
		710.0	H	10.66	9.41	20.07	0.102	< 30
			V	13.11	9.41	22.52	0.179	< 30
		713.5	H	10.77	9.43	20.20	0.105	< 30
			V	13.02	9.43	22.45	0.176	< 30
	16QAM	710.0	H	9.78	9.41	19.19	0.083	< 30
			V	11.65	9.42	21.07	0.128	< 30

4 Frequency Stability Test

Limit

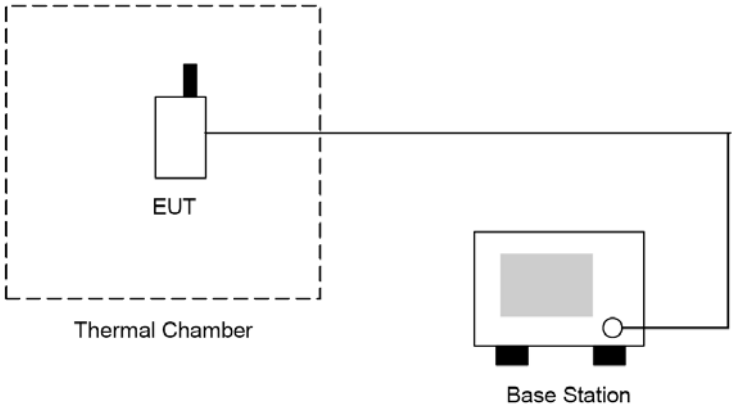
According to the FCC rule shall be tested the frequency stability. The rule is defined that" The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation. The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with the 2.1055(a)(1) -30℃ ~ 50℃.

Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Remark
Wideband Radio Communication Test	R & S	CMW500	103168	10/30/2015	1 year
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/18/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

Setup



Test Procedure

The measurement is made according to FCC rules:

1. The EUT and test equipment were set up as shown on the following section.
2. With all power removed, the temperature was decreased to -30℃ and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was note within one minute.
3. With power OFF, the temperature was raised in 10℃ steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
4. The EUT was placed in a temperature chamber at 25±5 ℃ and connected as the following section.
5. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
6. The temperature tests were performed for the worst case.
7. Test data was recorded.

Uncertainty

The measurement uncertainty is defined as for Frequency Stability measurement is ± 10Hz.

■ **Test Result**

Date of Test	10/26/2016

LTE Band 2 _ QPSK						
Voltage						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
20 MHz	1880.0	48.00	20	-3.75	-0.002	± 2.5
		12.00	20	6.81	0.004	± 2.5
		9.00	20	-1.85	-0.001	± 2.5
Temperature						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
20 MHz	1880.0	12.00	0	-4.39	-0.002	± 2.5
		12.00	10	-1.46	-0.001	± 2.5
		12.00	20	-5.51	-0.003	± 2.5
		12.00	30	-2.8	-0.001	± 2.5
		12.00	40	-15.9	-0.008	± 2.5
		12.00	50	-7.71	-0.004	± 2.5

LTE Band 4 _ QPSK						
Voltage						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
20 MHz	1732.5	48.00	20	-1.16	-0.001	± 2.5
		12.00	20	3.24	0.002	± 2.5
		9.00	20	-14.54	-0.008	± 2.5
Temperature						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
20 MHz	1732.5	12.00	0	2.03	0.001	± 2.5
		12.00	10	-1.43	-0.001	± 2.5
		12.00	20	-5.88	-0.003	± 2.5
		12.00	30	-1.67	-0.001	± 2.5
		12.00	40	-3.67	-0.002	± 2.5
		12.00	50	-9.82	-0.006	± 2.5

LTE Band 5 _ QPSK						
Voltage						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
10 MHz	836.5	48.00	20	-6.83	-0.008	± 2.5
		12.00	20	-1.09	-0.001	± 2.5
		9.00	20	-8.6	-0.010	± 2.5
Temperature						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
10 MHz	836.5	12.00	0	-9.99	-0.012	± 2.5
		12.00	10	-17.37	-0.021	± 2.5
		12.00	20	-7.4	-0.009	± 2.5
		12.00	30	2.94	0.004	± 2.5
		12.00	40	-15.12	-0.018	± 2.5
		12.00	50	-3.77	-0.005	± 2.5

LTE Band 12 _ QPSK						
Voltage						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
10 MHz	707.5	48.00	20	-9.7	-0.014	± 2.5
		12.00	20	8.99	0.013	± 2.5
		9.00	20	-4.03	-0.006	± 2.5
Temperature						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
10 MHz	707.5	12.00	0	-6.23	-0.009	± 2.5
		12.00	10	-3.81	-0.005	± 2.5
		12.00	20	-11.58	-0.016	± 2.5
		12.00	30	-7.38	-0.010	± 2.5
		12.00	40	-8.44	-0.012	± 2.5
		12.00	50	-6.53	-0.009	± 2.5

LTE Band 17 _ QPSK						
Voltage						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
10 MHz	710.0	48.00	20	-11.48	-0.016	± 2.5
		12.00	20	16.3	0.023	± 2.5
		9.00	20	-9.1	-0.013	± 2.5
Temperature						
Channel Bandwidth	Frequency (MHz)	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)
10 MHz	710.0	12.00	0	-13.41	-0.019	± 2.5
		12.00	10	-2.53	-0.004	± 2.5
		12.00	20	-19.99	-0.028	± 2.5
		12.00	30	-7.99	-0.011	± 2.5
		12.00	40	-17.18	-0.024	± 2.5
		12.00	50	-19.18	-0.027	± 2.5

5 Emission Bandwidth & Occupied Bandwidth Test

■ Limit

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

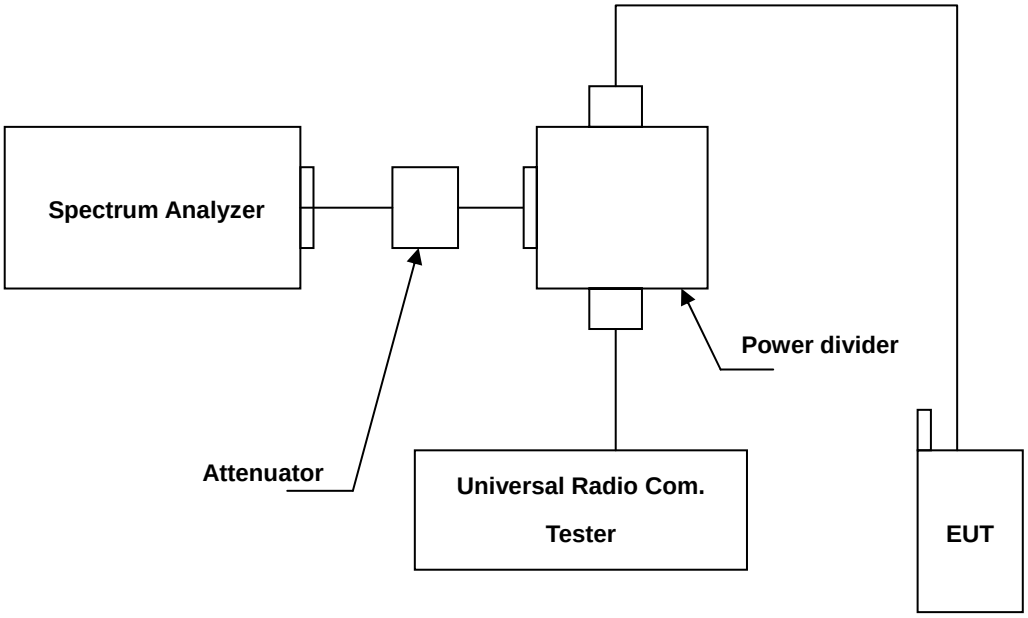
The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

■ Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Wideband Radio Communication Test	R & S	CMW500	103168	10/30/2015	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

■ Setup



Test Procedure

The measurement is made according to FCC rules:

a. The EUT makes a phone call to the communication simulator. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels. (low, middle and high operational frequency range.)

b. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

c. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

Uncertainty

The measurement uncertainty is defined as ± 10Hz

■ **Test Result**

Date of Test	10/20/2016

LTE Band 2				
Modulation	Channel Bandwidth	Frequency (MHz)	26dB Bandwidth (MHz)	Occupied Bandwidth (MHz)
QPSK	1.4 MHz	1850.7	1.222	1.0793
		1880.0	1.188	1.0754
		1909.3	1.249	1.0798
	3 MHz	1851.5	2.935	2.6796
		1880.0	2.958	2.6832
		1908.5	2.930	2.6818
	5 MHz	1852.5	4.891	4.4762
		1880.0	4.880	4.4715
		1907.5	4.852	4.4668
	10 MHz	1855.0	9.716	8.8309
		1880.0	9.774	8.9219
		1905.0	9.654	8.9034
	15 MHz	1857.5	14.497	13.4023
		1880.0	14.451	13.3889
		1902.5	14.466	13.4012
	20 MHz	1860.0	19.150	17.8493
		1880.0	19.141	17.8226
		1900.0	19.391	17.8317
16QAM	1.4 MHz	1850.7	1.223	1.0814
		1880.0	1.225	1.0770
		1909.3	1.221	1.0779
	3 MHz	1851.5	2.960	2.6833
		1880.0	2.952	2.6822
		1908.5	2.975	2.6798
	5 MHz	1852.5	4.880	4.4745
		1880.0	4.856	4.4613
		1907.5	4.894	4.4712
	10 MHz	1855.0	9.730	8.9416
		1880.0	9.646	8.9264
		1905.0	9.656	8.9226
	15 MHz	1857.5	14.400	13.4054
		1880.0	14.391	13.3916
		1902.5	14.396	13.3954
	20 MHz	1860.0	19.190	17.8491
		1880.0	19.102	17.8290
		1900.0	19.310	17.8622

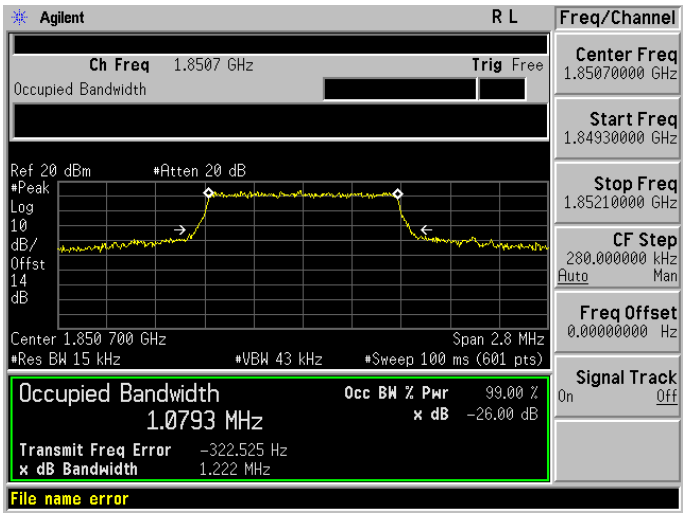
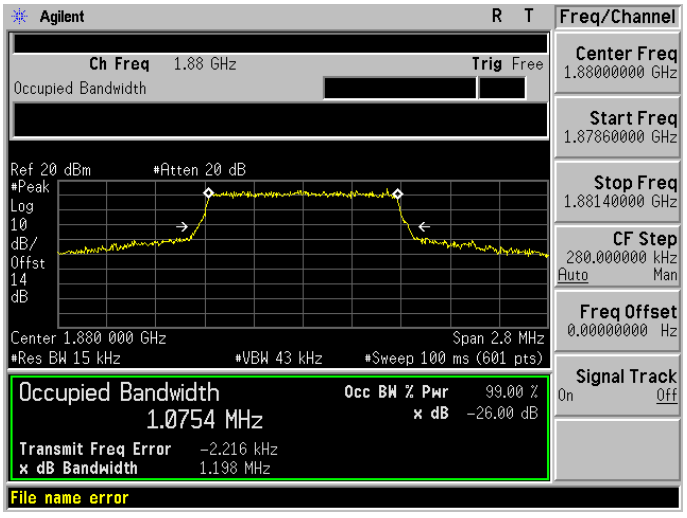
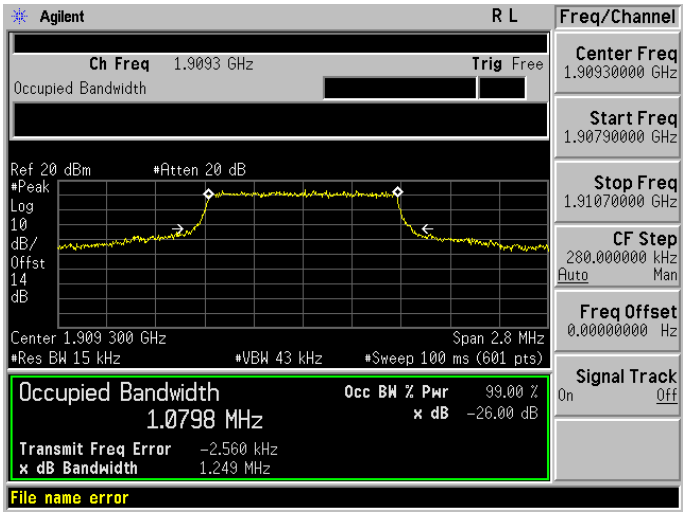
LTE Band 4				
Modulation	Channel Bandwidth	Frequency (MHz)	26dB Bandwidth (MHz)	Occupied Bandwidth (MHz)
QPSK	1.4 MHz	1710.7	1.222	1.0789
		1732.5	1.227	1.0792
		1754.3	1.208	1.0745
	3 MHz	1711.5	2.936	2.6756
		1732.5	2.955	2.6825
		1753.5	2.939	2.6780
	5 MHz	1712.5	4.889	4.4761
		1732.5	4.873	4.4742
		1752.5	4.857	4.4656
	10 MHz	1715.0	9.729	8.9290
		1732.5	9.645	8.9264
		1750.0	9.709	8.9401
	15 MHz	1717.5	14.559	13.3939
		1732.5	14.501	13.3816
		1747.5	14.455	13.4103
	20 MHz	1720.0	19.262	17.8660
		1732.5	19.090	17.8147
		1745.0	19.417	17.8737
16QAM	1.4 MHz	1710.7	1.222	1.0817
		1732.5	1.219	1.0797
		1754.3	1.216	1.0774
	3 MHz	1711.5	2.957	2.6790
		1732.5	2.978	2.6792
		1753.5	2.946	2.6759
	5 MHz	1712.5	4.885	4.4697
		1732.5	4.881	4.4657
		1752.5	4.927	4.4725
	10 MHz	1715.0	9.673	8.9485
		1732.5	9.697	8.9343
		1750.0	9.685	8.9512
	15 MHz	1717.5	14.479	13.4078
		1732.5	14.357	13.4027
		1747.5	14.417	13.4131
	20 MHz	1720.0	19.202	17.8911
		1732.5	19.195	17.8294
		1745.0	17299	17.8355

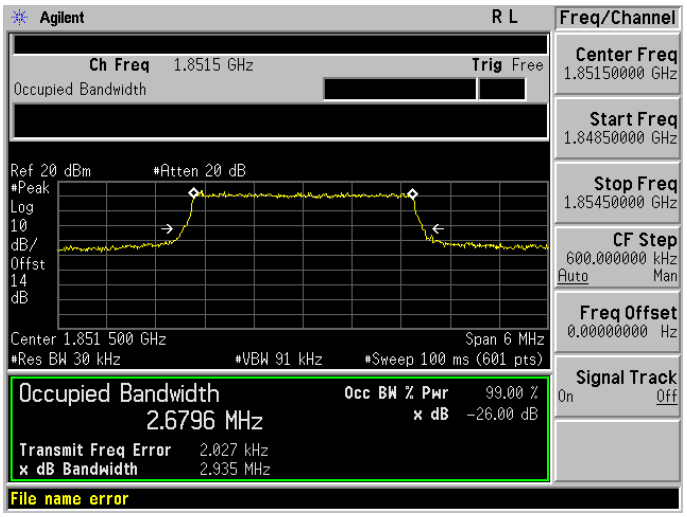
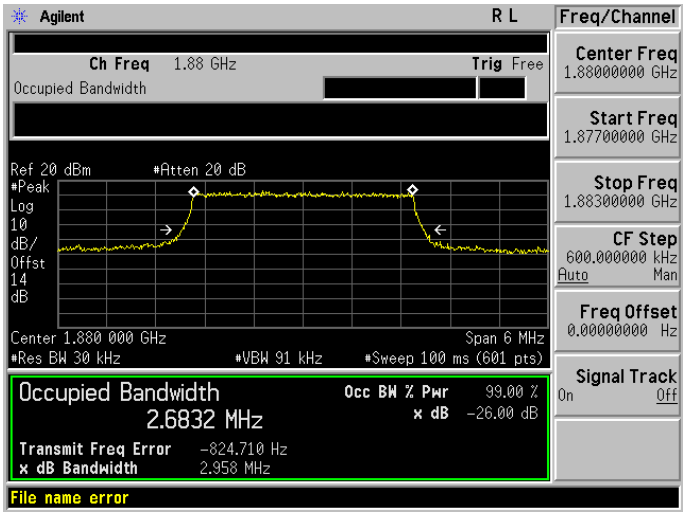
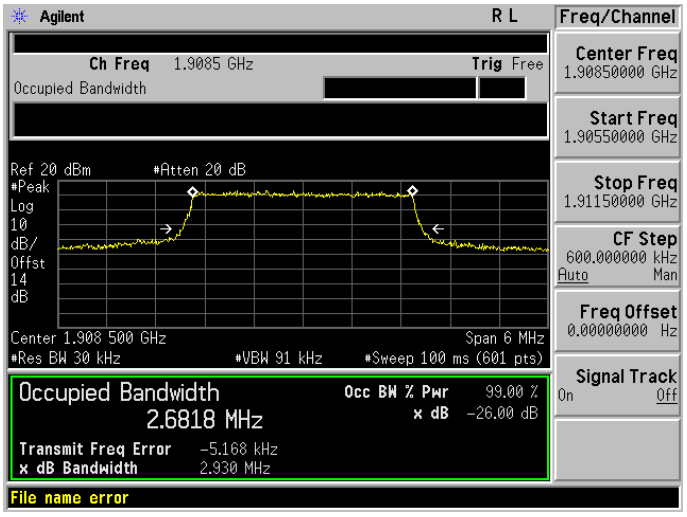
LTE Band 5				
Modulation	Channel Bandwidth	Frequency (MHz)	26dB Bandwidth (MHz)	Occupied Bandwidth (MHz)
QPSK	1.4 MHz	824.7	1.219	1.0773
		836.5	1.202	1.0740
		848.3	1.208	1.0764
	3 MHz	825.5	2.921	2.6811
		836.5	2.943	2.6875
		847.5	2.940	2.6797
	5 MHz	826.5	4.876	4.4631
		836.5	4.846	4.4629
		846.5	4.927	4.4660
	10 MHz	829.0	9.665	8.9302
		836.5	9.680	8.9283
		844.0	9.606	8.9256
16QAM	1.4 MHz	824.7	1.215	1.0791
		836.5	1.214	1.0789
		848.3	1.208	1.0768
	3 MHz	825.5	2.938	2.6818
		836.5	2.960	2.6787
		847.5	2.939	2.6804
	5 MHz	826.5	4.865	4.4673
		836.5	4.892	4.4757
		846.5	4.900	4.4780
	10 MHz	829.0	9.687	8.9404
		836.5	9.708	8.9488
		844.0	9.581	8.9008

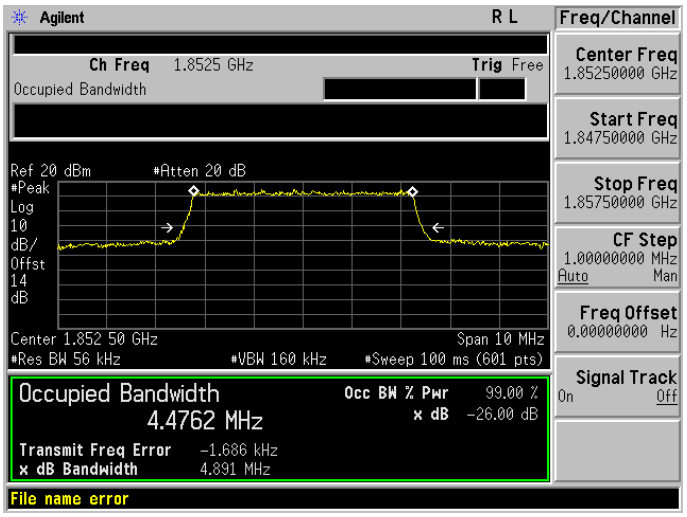
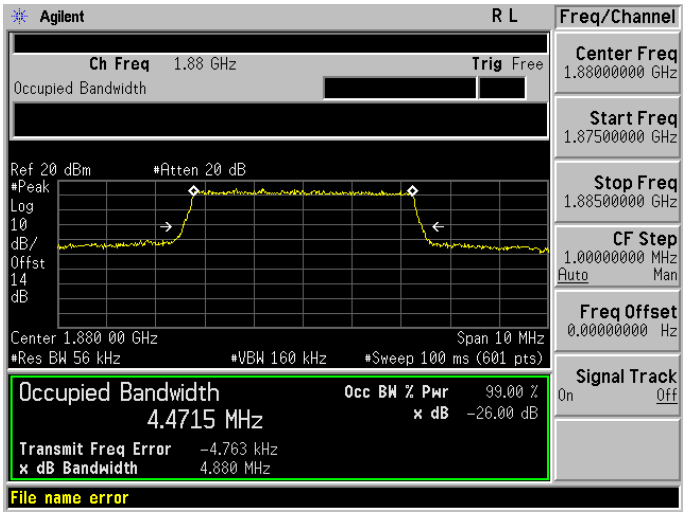
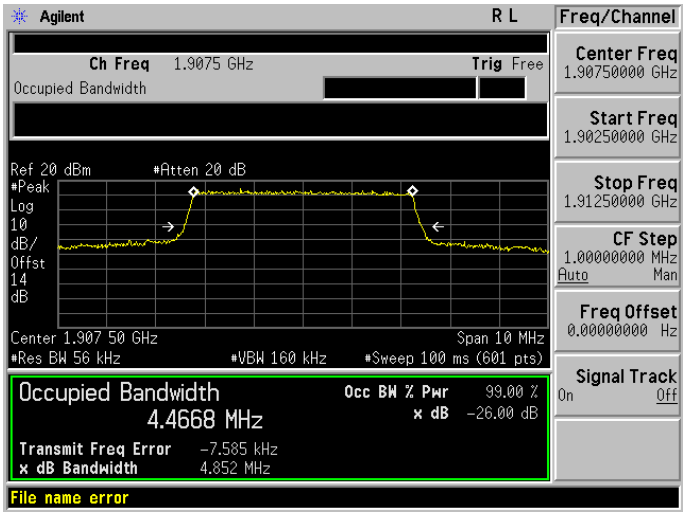
LTE Band 12				
Modulation	Channel Bandwidth	Frequency (MHz)	26dB Bandwidth (MHz)	Occupied Bandwidth (MHz)
QPSK	1.4 MHz	699.7	1.217	1.0768
		707.5	1.205	1.0746
		715.3	1.223	1.0770
	3 MHz	700.5	2.822	2.6716
		707.5	2.924	2.6757
		714.5	2.985	2.6874
	5 MHz	701.5	4.854	4.4764
		707.5	4.828	4.4707
		713.5	4.883	4.4787
	10 MHz	704.0	9.829	8.9911
		707.5	9.702	8.9203
		711.0	9.487	8.8783
16QAM	1.4 MHz	699.7	1.213	1.0782
		707.5	1.209	1.0778
		715.3	1.222	1.0777
	3 MHz	700.5	2.966	2.6839
		707.5	2.953	2.6777
		714.5	2.959	2.6847
	5 MHz	701.5	4.881	4.4690
		707.5	4.863	4.4677
		713.5	4.921	4.4806
	10 MHz	704.0	9.584	8.9723
		707.5	9.596	8.9241
		711.0	9.611	8.8870

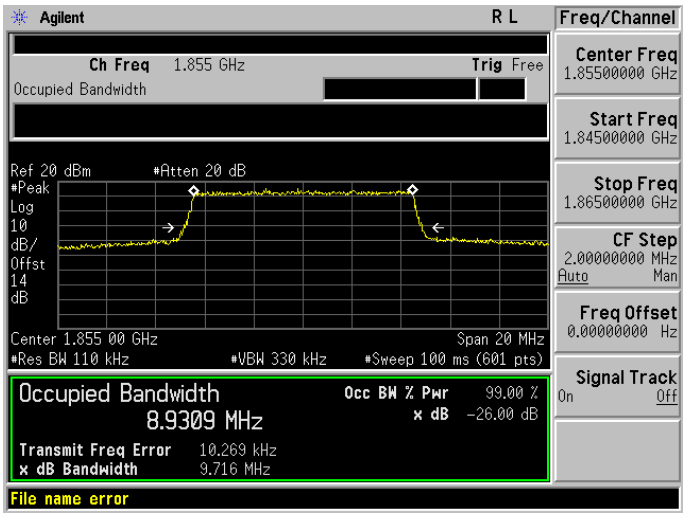
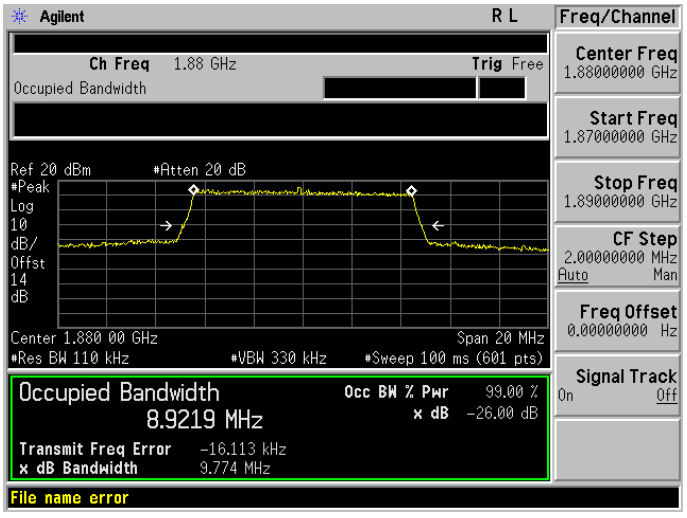
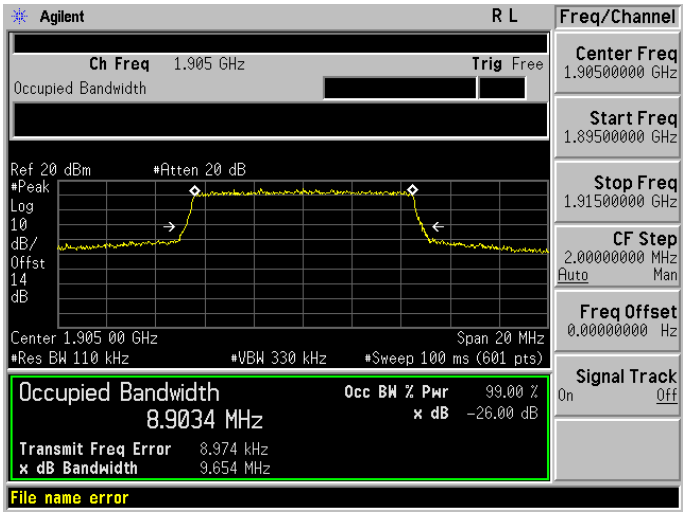
LTE Band 17				
Modulation	Channel Bandwidth	Frequency (MHz)	-26dB Bandwidth (MHz)	Occupied Bandwidth (MHz)
QPSK	5 MHz	706.5	4.847	4.4785
		710.0	4.857	4.4505
		713.5	4.910	4.4844
	10 MHz	709.0	9.583	8.8769
		710.0	9.546	8.8644
		711.0	9.556	8.8823
16QAM	5 MHz	706.5	4.878	4.4726
		710.0	4.896	4.4680
		713.5	4.899	4.4839
	10 MHz	709.0	9.548	8.8865
		710.0	9.534	8.8930
		711.0	9.597	8.8830

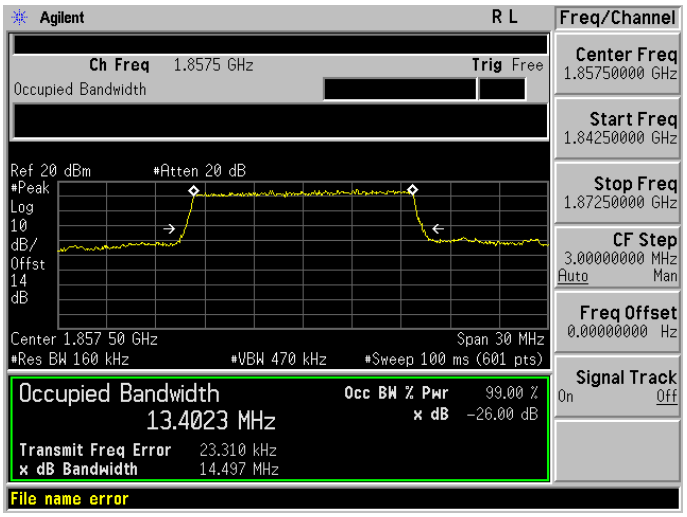
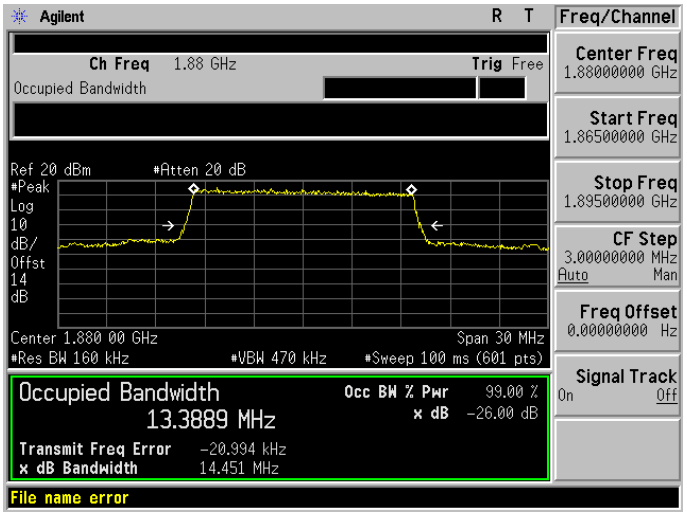
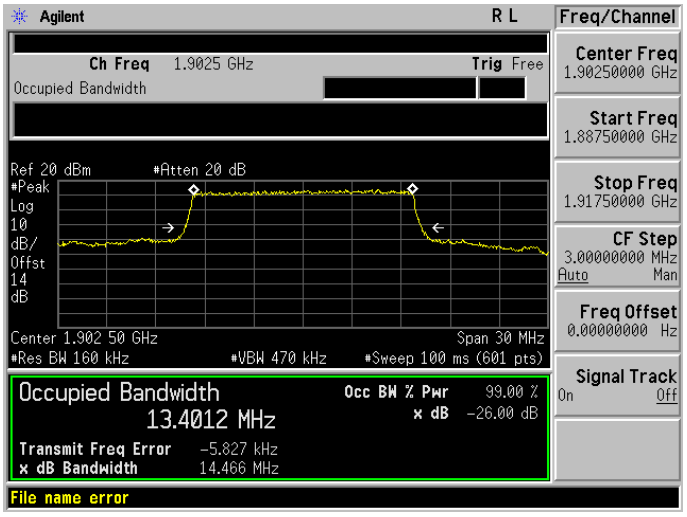
■ **Test Graphs**

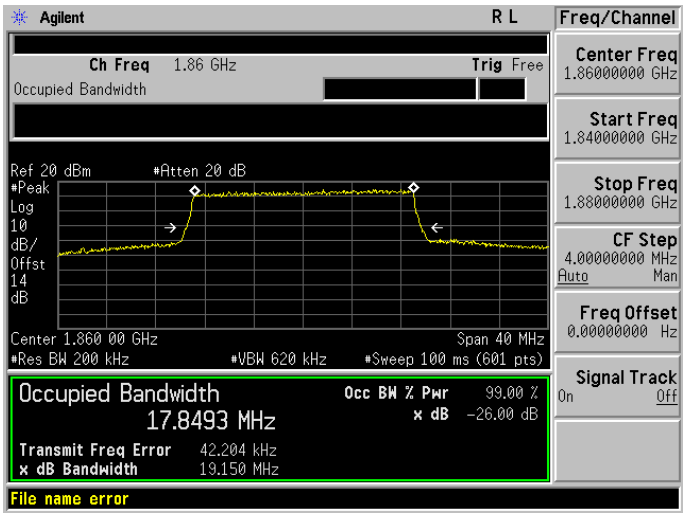
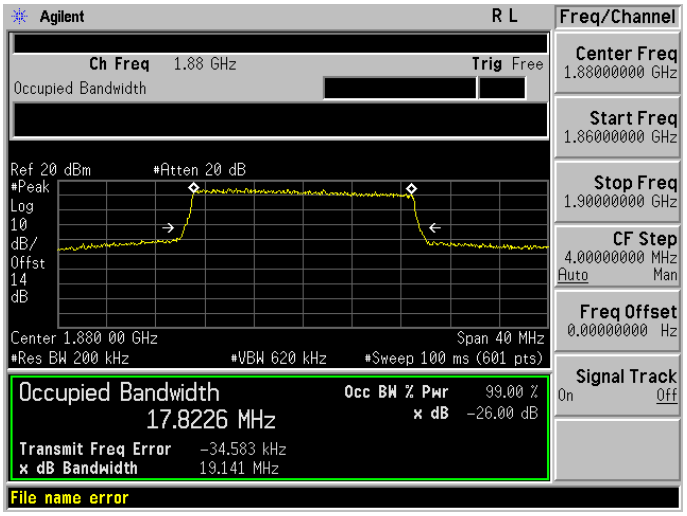
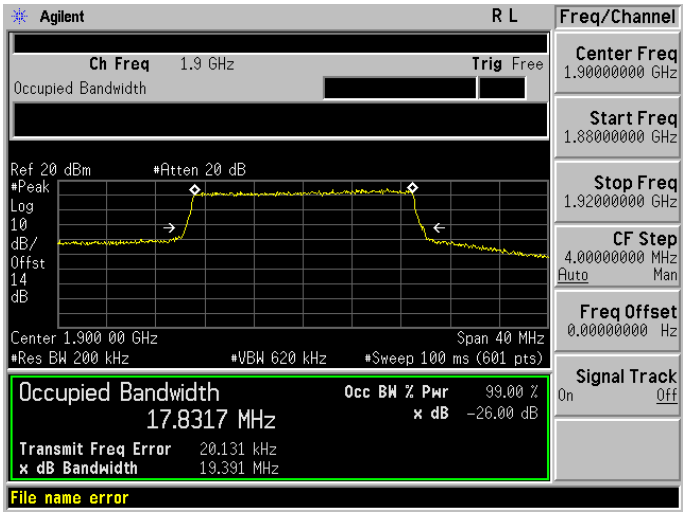
LTE Band 2 (Channel Bandwidth: 1.4 MHz) _ QPSK	
1850.7 MHz	
1880.0 MHz	
1909.3 MHz	

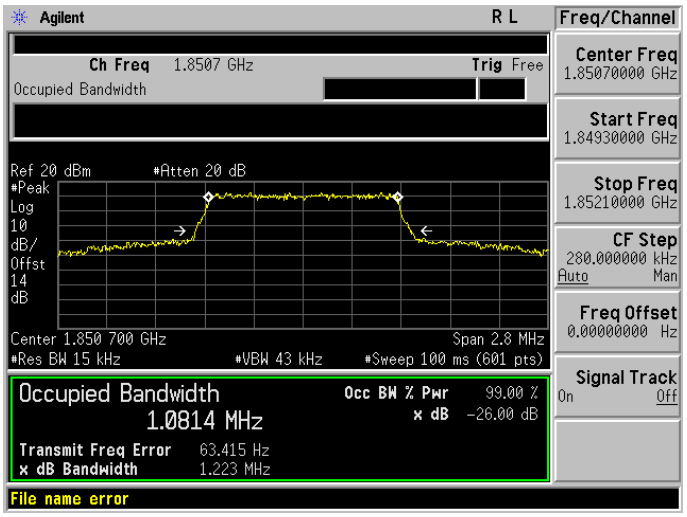
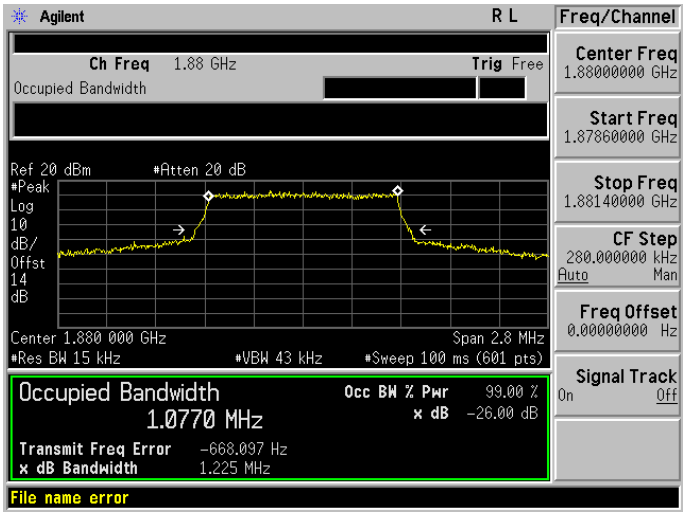
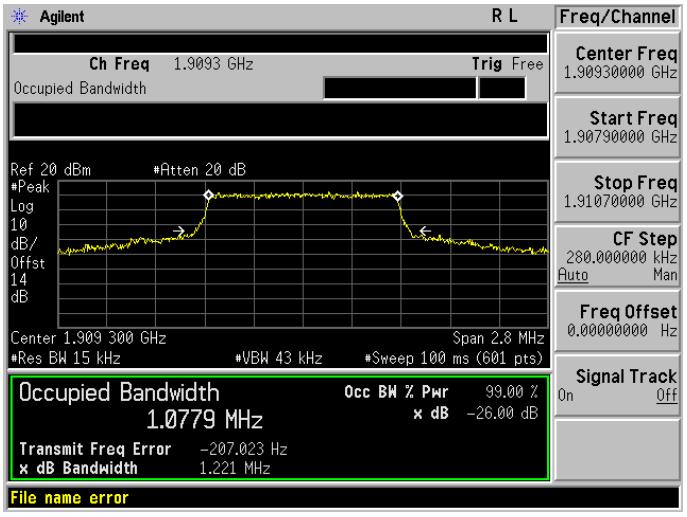
LTE Band 2 (Channel Bandwidth: 3 MHz) _ QPSK	
1851.5 MHz	
1880.0 MHz	
1908.5 MHz	

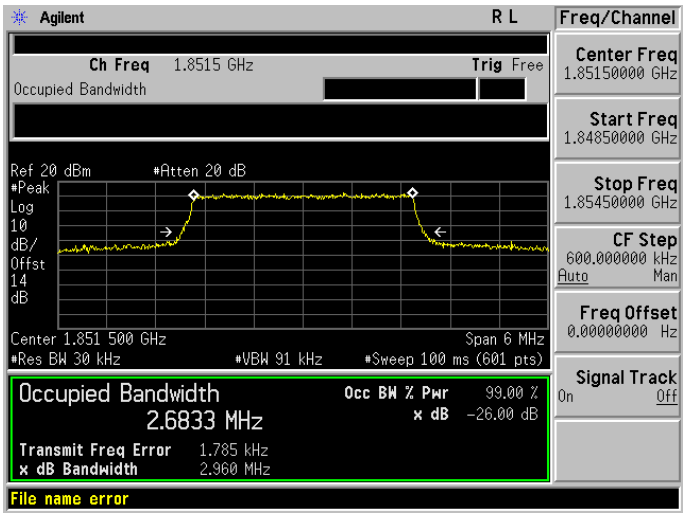
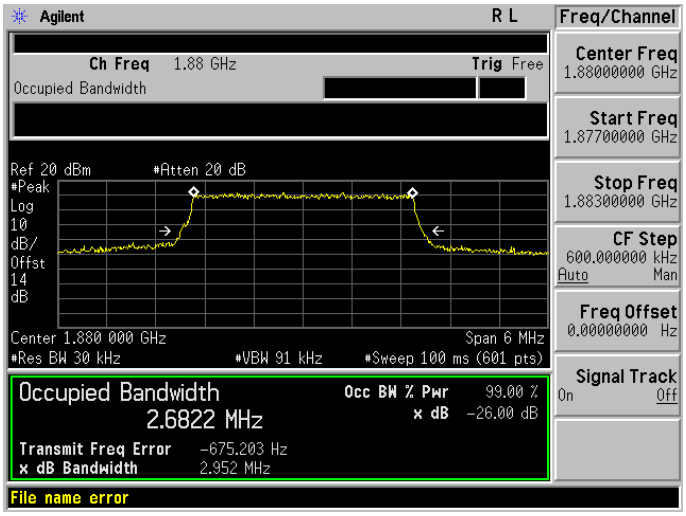
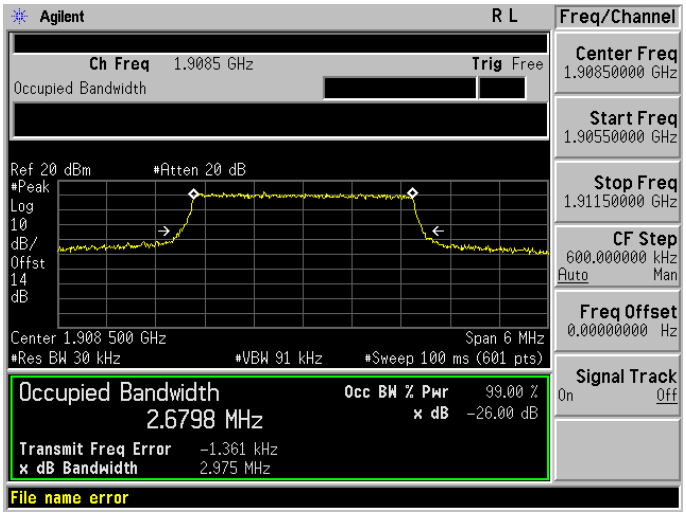
LTE Band 2 (Channel Bandwidth: 5 MHz) _ QPSK	
1852.5 MHz	
1880.0 MHz	
1907.5 MHz	

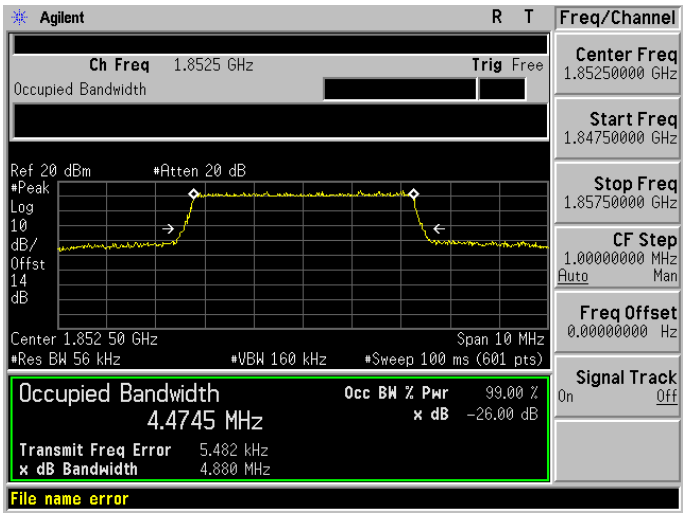
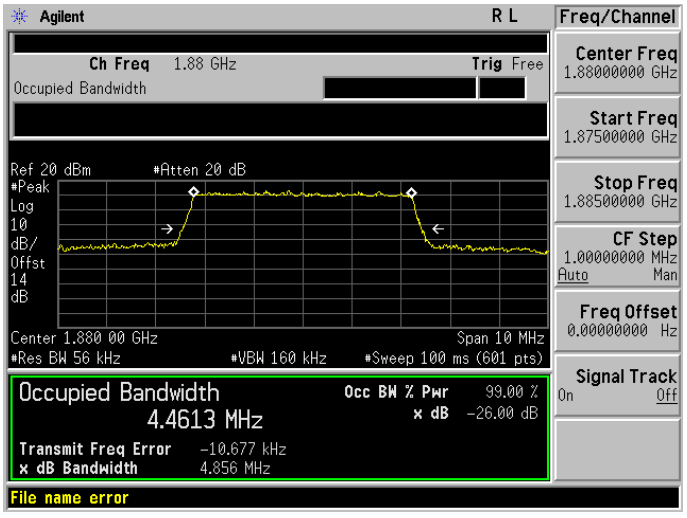
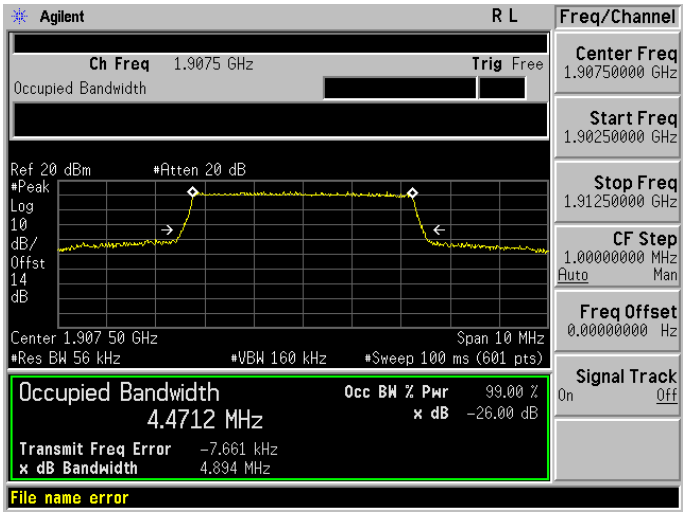
LTE Band 2 (Channel Bandwidth: 10 MHz) _ QPSK	
1855.0 MHz	
1880.0 MHz	
1905.0 MHz	

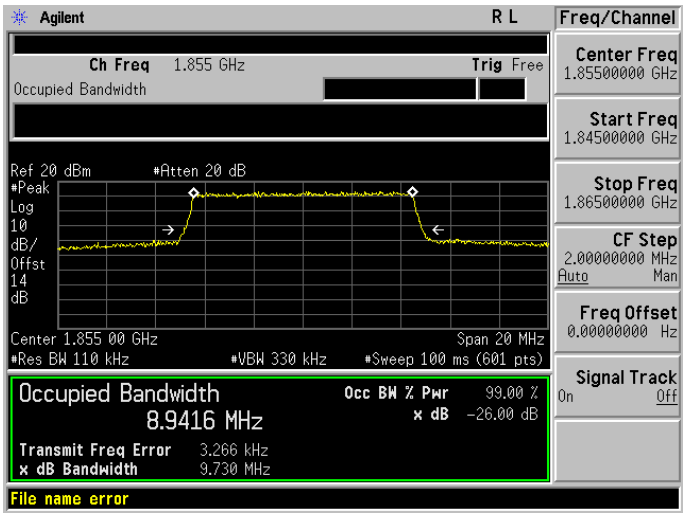
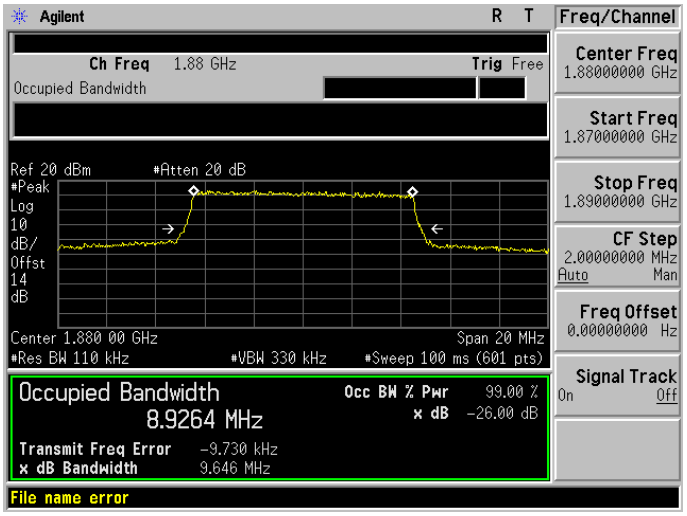
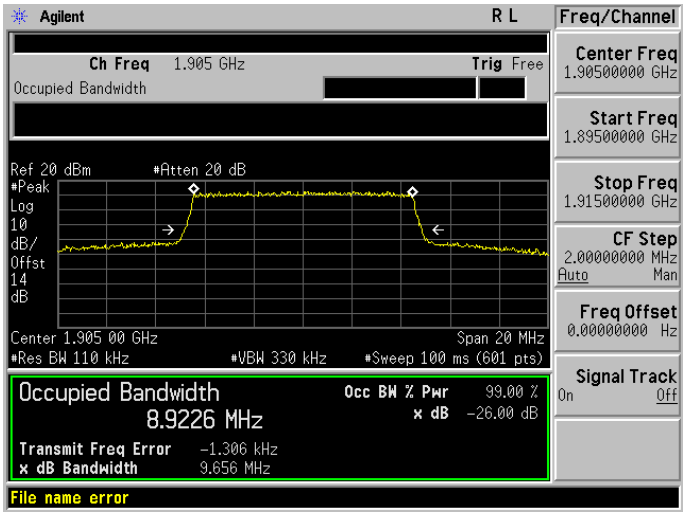
LTE Band 2 (Channel Bandwidth: 15 MHz) _ QPSK	
1857.5 MHz	
1880.0 MHz	
1902.5 MHz	

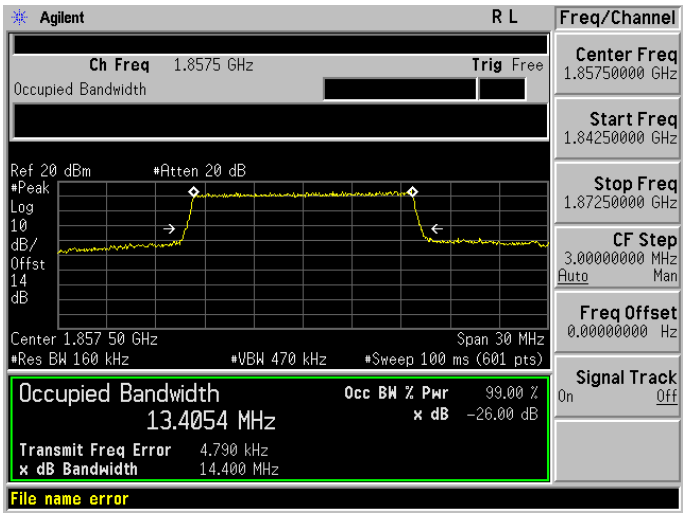
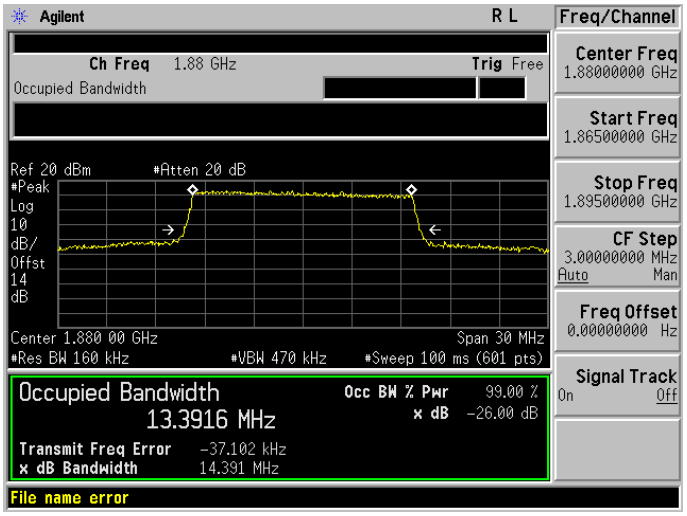
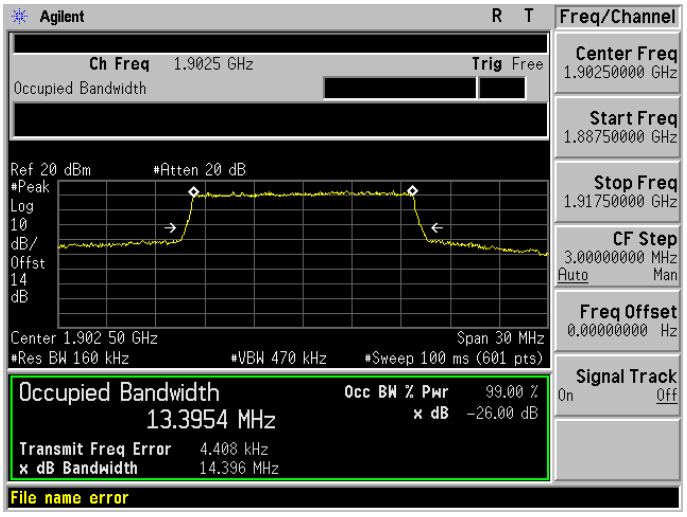
LTE Band 2 (Channel Bandwidth: 20 MHz) _ QPSK	
1860.0 MHz	
1880.0 MHz	
1900.0 MHz	

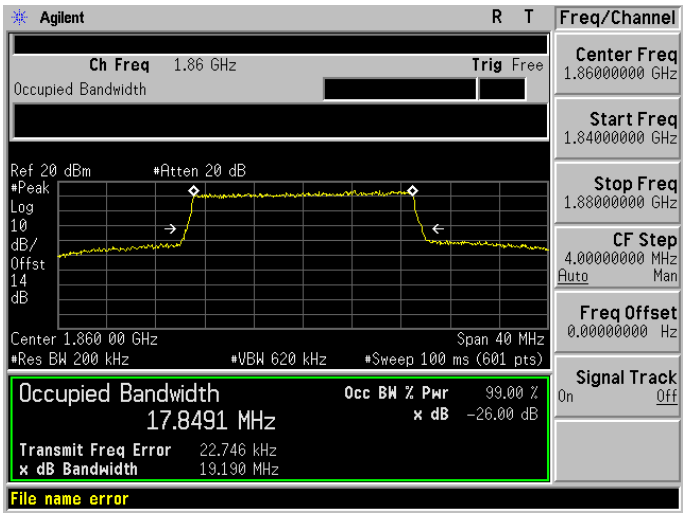
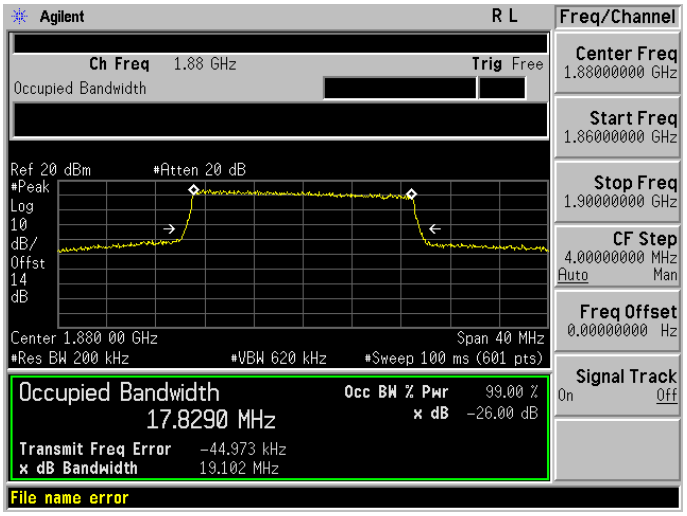
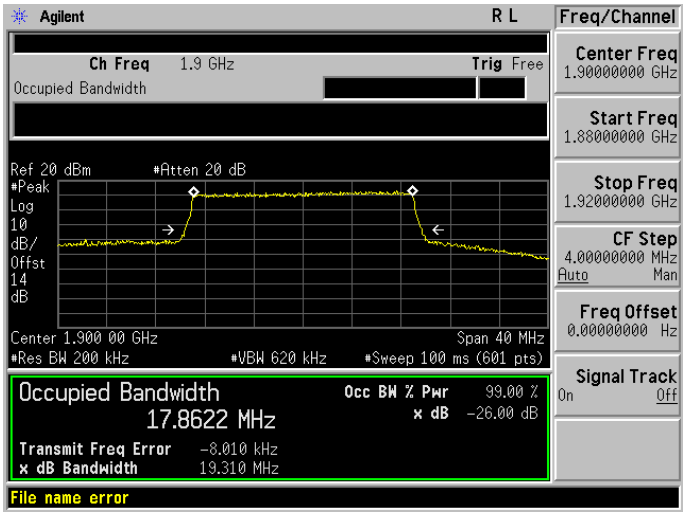
LTE Band 2 (Channel Bandwidth: 1.4 MHz) _ 16QAM	
1850.7 MHz	
1880.0 MHz	
1909.3 MHz	

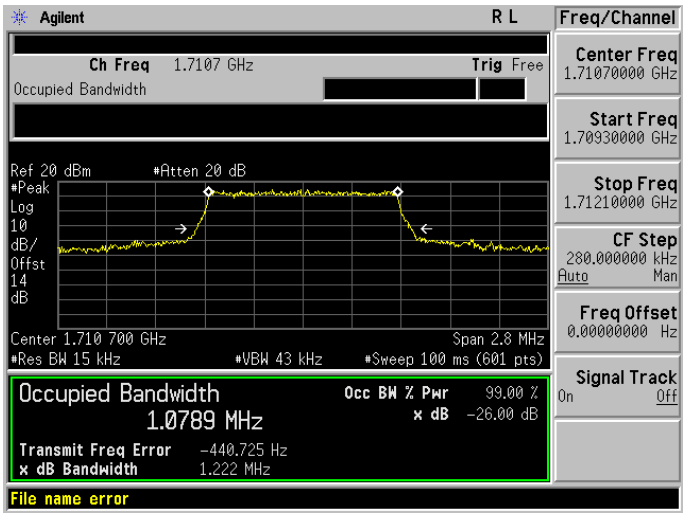
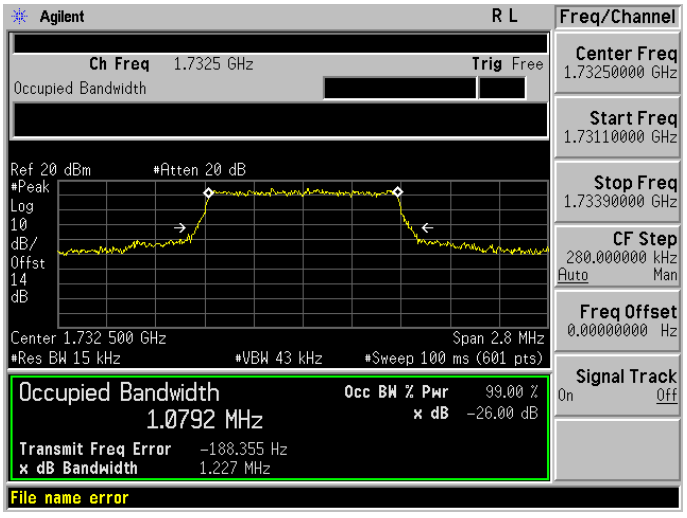
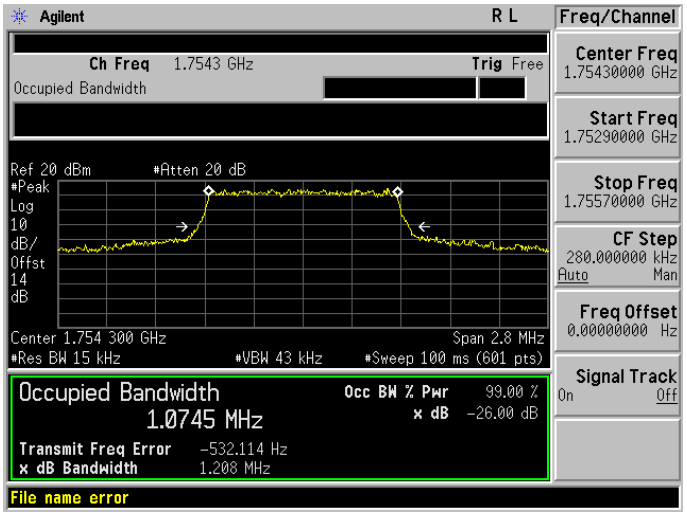
LTE Band 2 (Channel Bandwidth: 3 MHz) _ 16QAM	
1851.5 MHz	
1880.0 MHz	
1908.5 MHz	

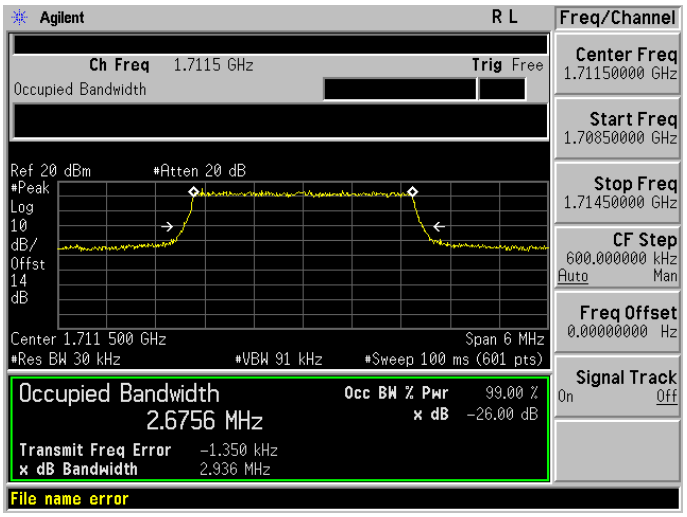
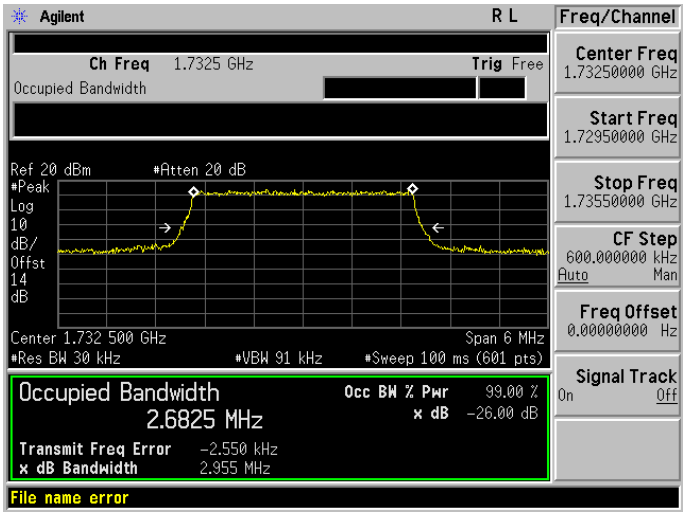
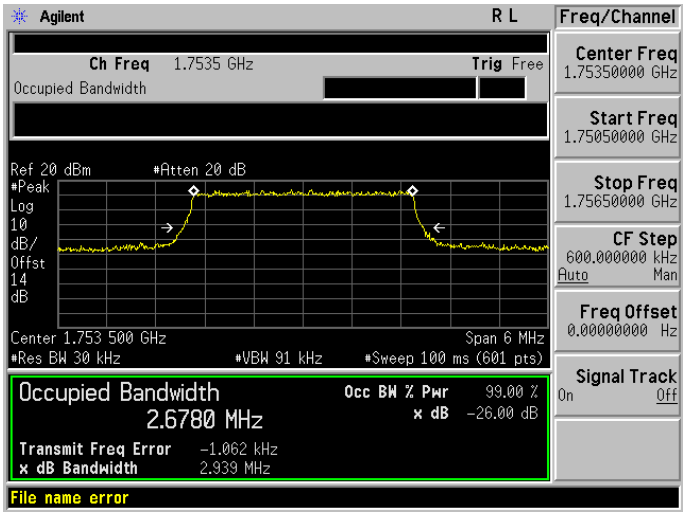
LTE Band 2 (Channel Bandwidth: 5 MHz) _ 16QAM	
1852.5 MHz	
1880.0 MHz	
1907.5 MHz	

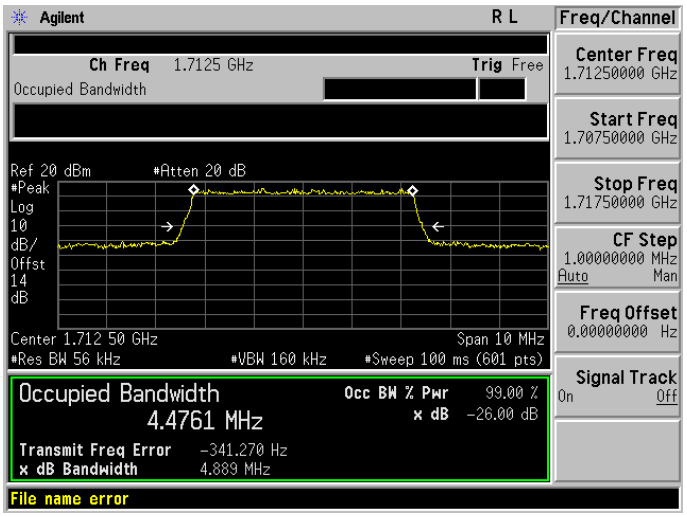
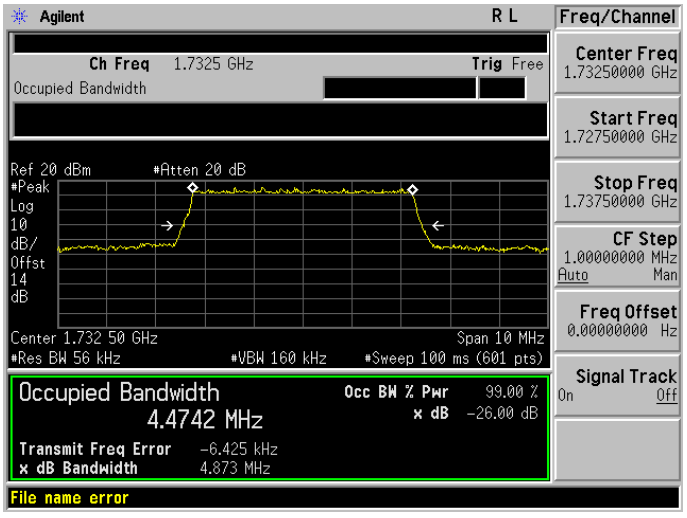
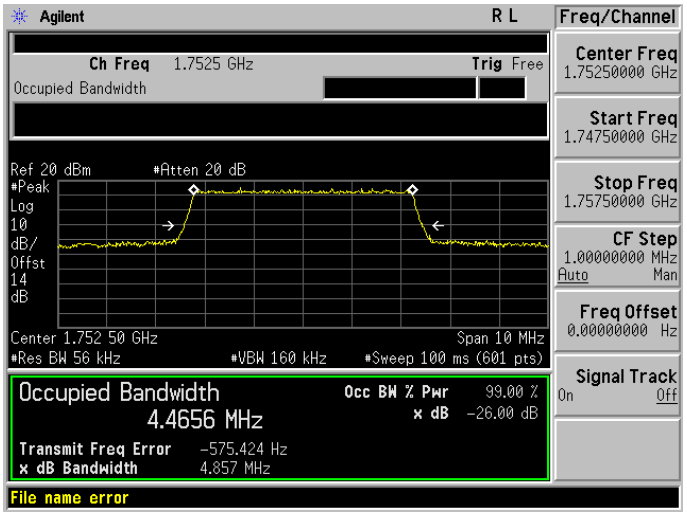
LTE Band 2 (Channel Bandwidth: 10 MHz) _ 16QAM	
1855.0 MHz	
1880.0 MHz	
1905.0 MHz	

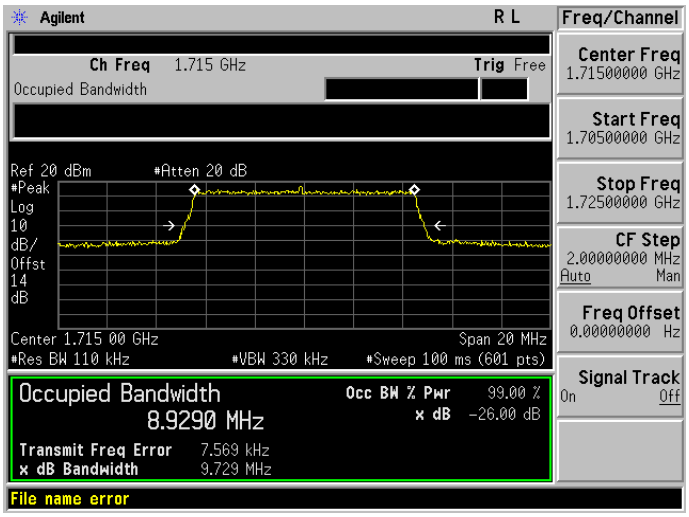
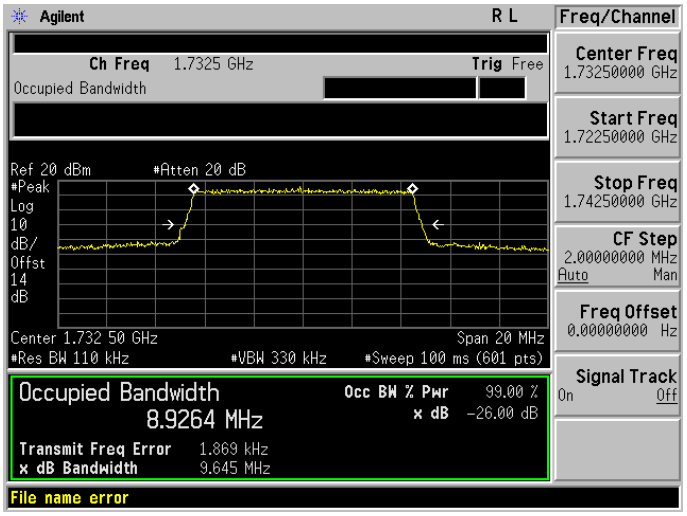
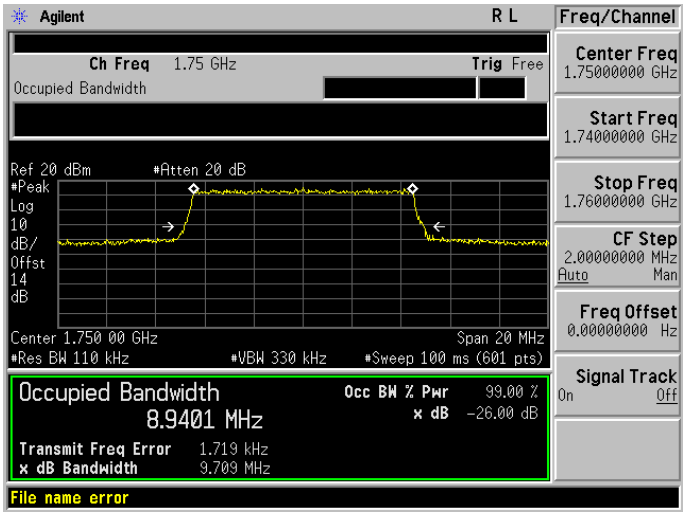
LTE Band 2 (Channel Bandwidth: 15 MHz) _ 16QAM	
1857.5 MHz	
1880.0 MHz	
1902.5 MHz	

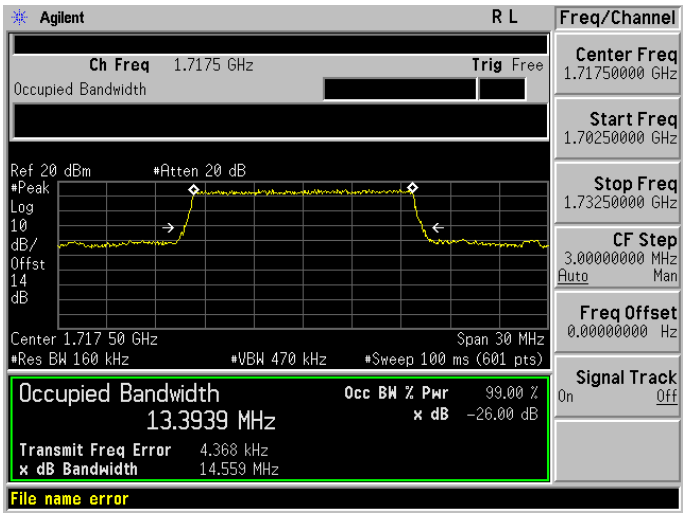
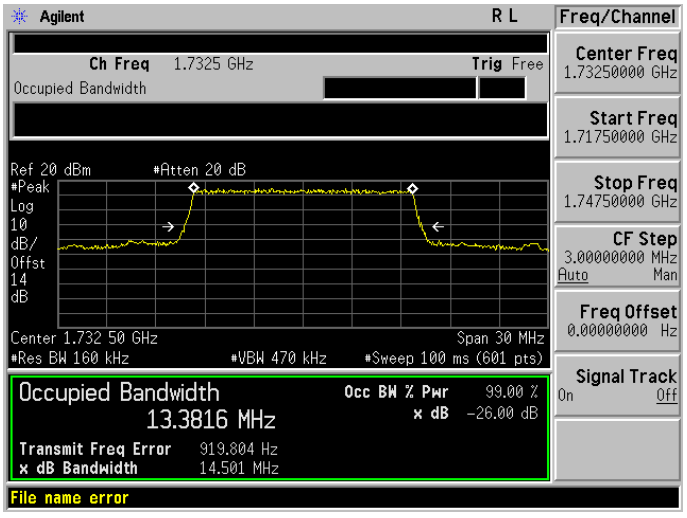
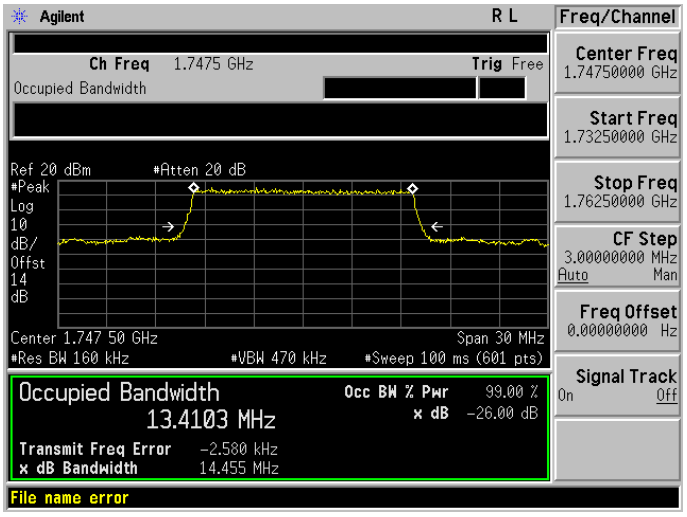
LTE Band 2 (Channel Bandwidth: 20 MHz) _ 16QAM	
1860.0 MHz	
1880.0 MHz	
1900.0 MHz	

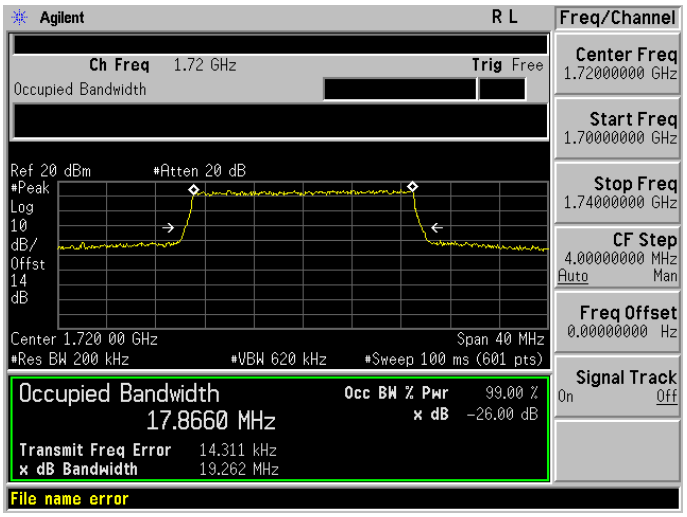
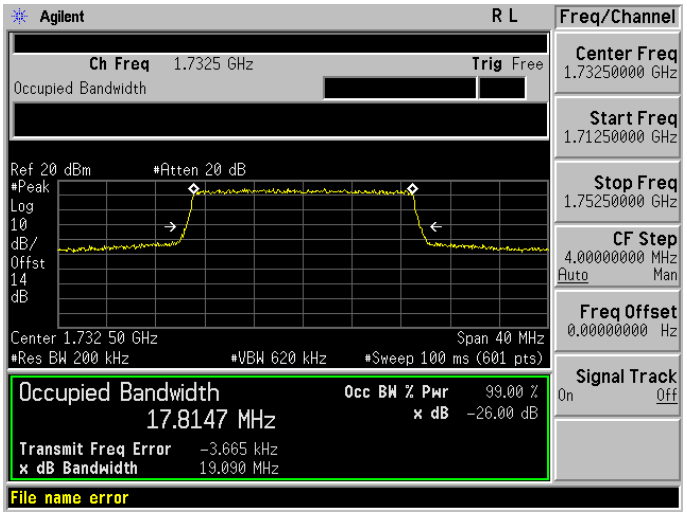
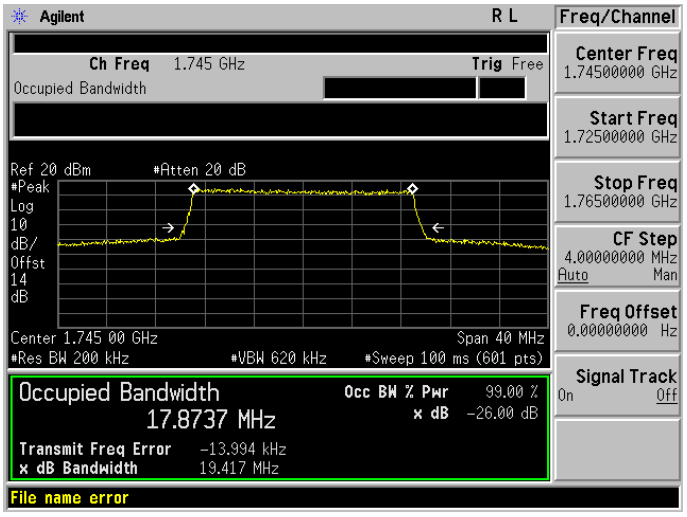
LTE Band 4 (Channel Bandwidth: 1.4 MHz) _ QPSK	
1710.7 MHz	
1732.5 MHz	
1754.3 MHz	

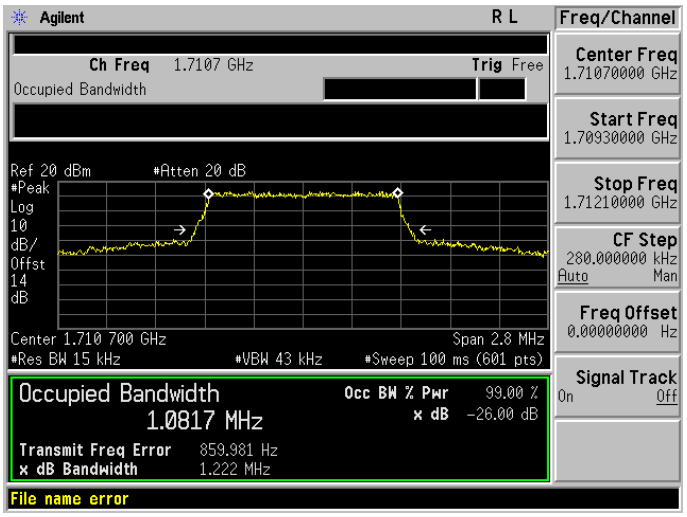
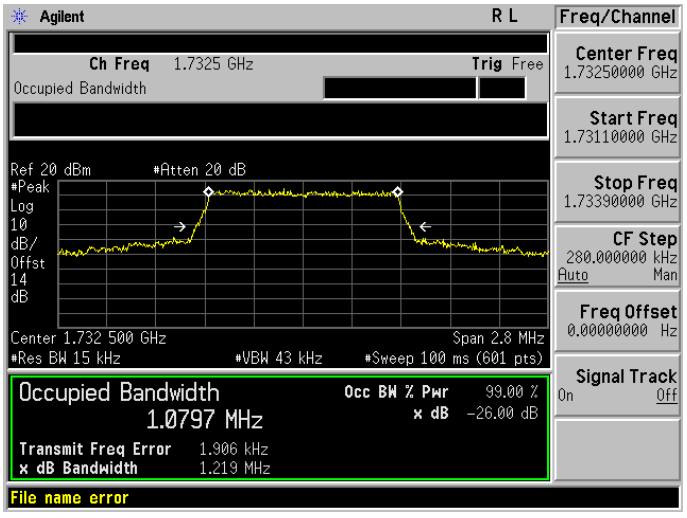
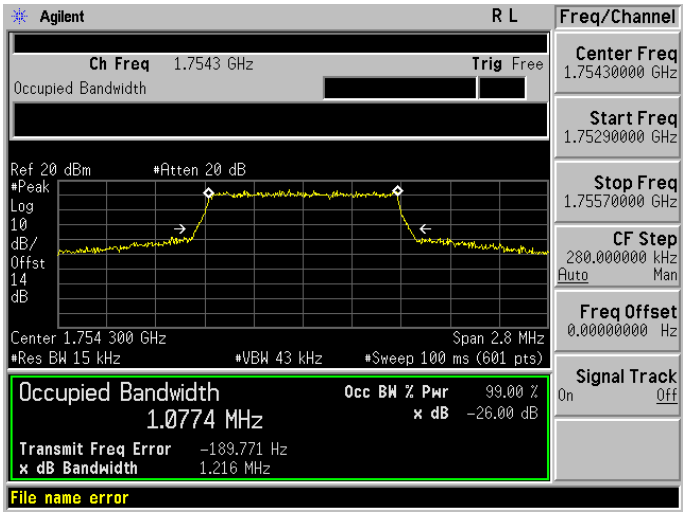
LTE Band 4 (Channel Bandwidth: 3 MHz) _ QPSK	
1711.5 MHz	
1732.5 MHz	
1753.5 MHz	

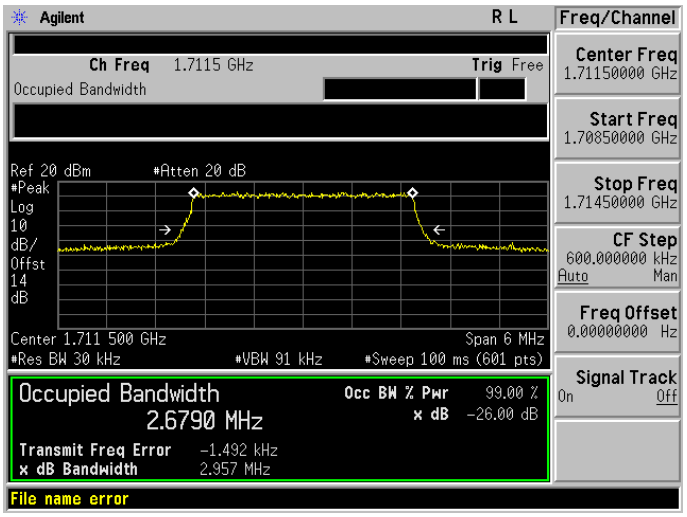
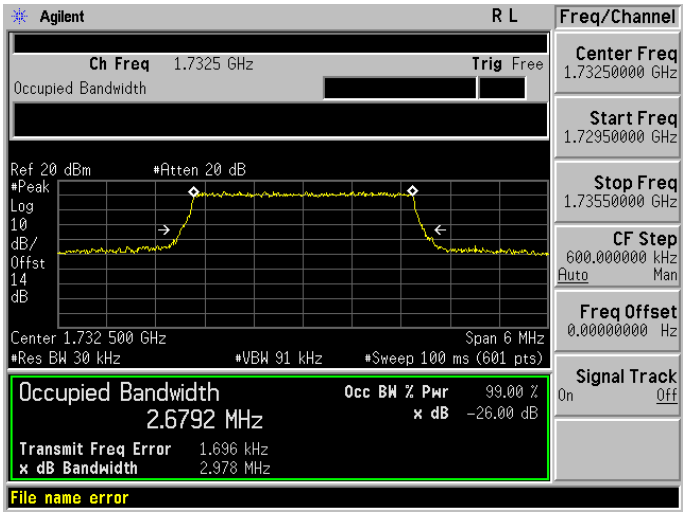
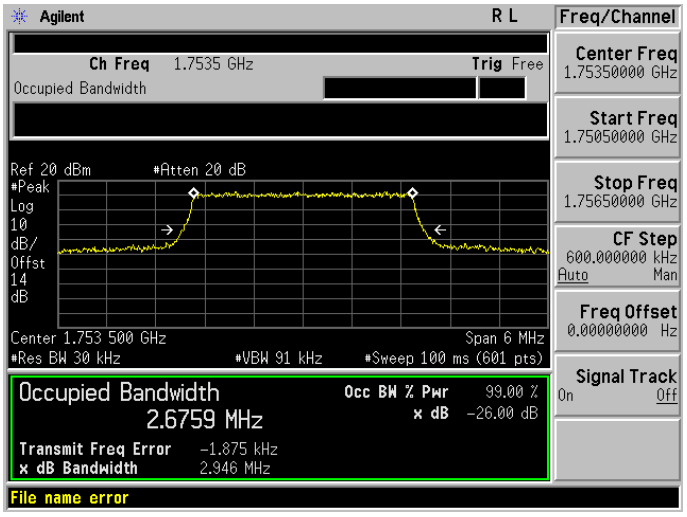
LTE Band 4 (Channel Bandwidth: 5 MHz) _ QPSK	
1712.5 MHz	
1732.5 MHz	
1752.5 MHz	

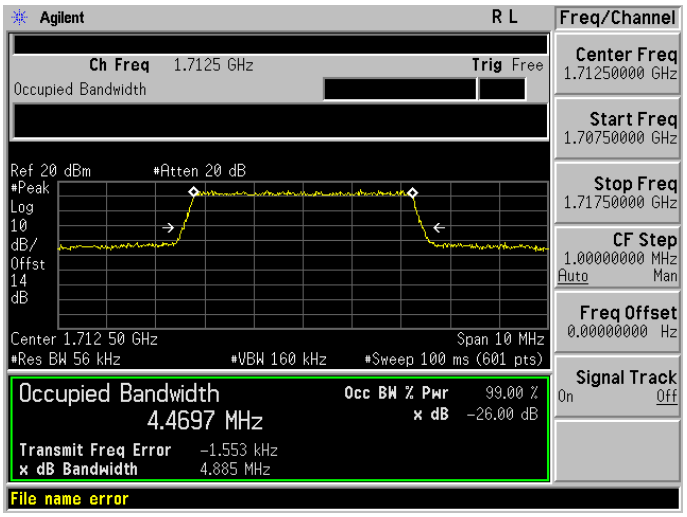
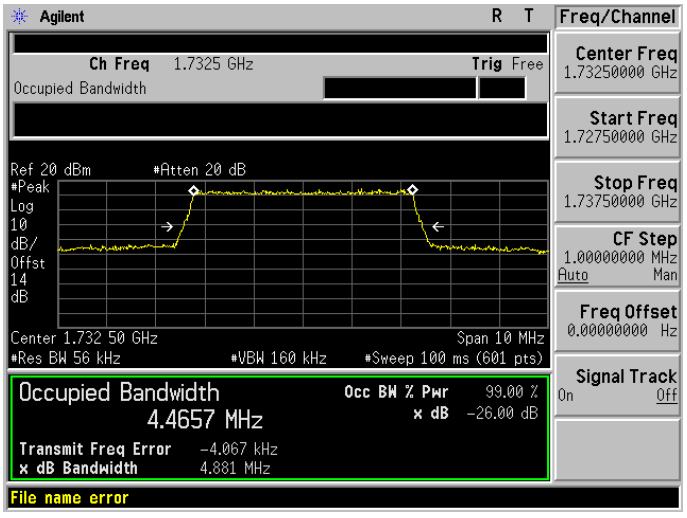
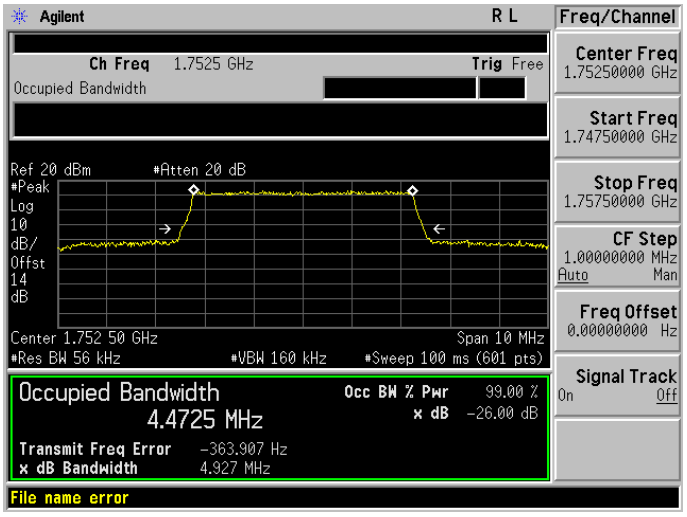
LTE Band 4 (Channel Bandwidth: 10 MHz) _ QPSK	
1715.0 MHz	
1732.5 MHz	
1750.0 MHz	

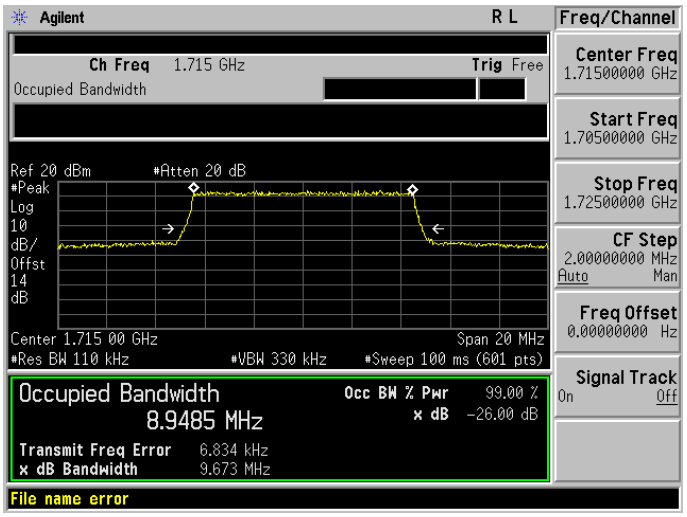
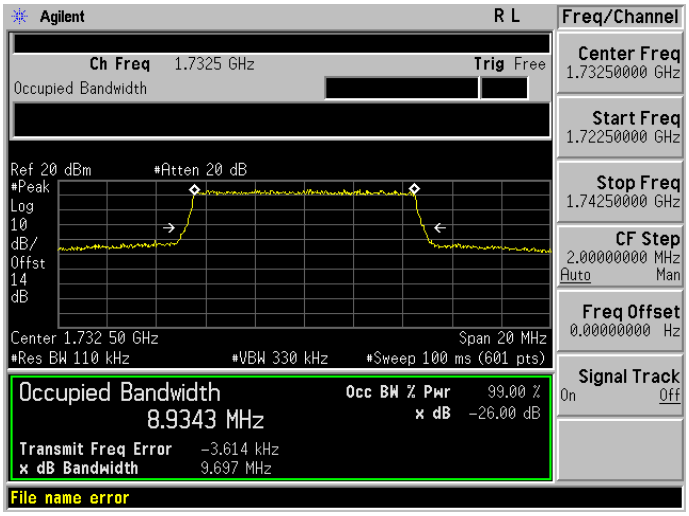
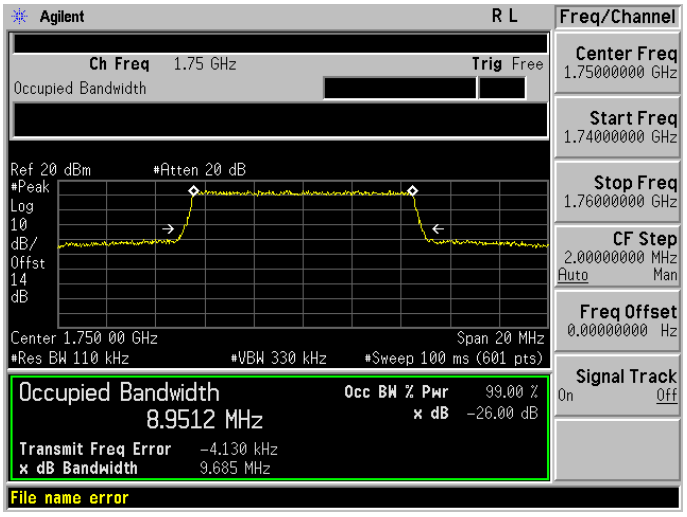
LTE Band 4 (Channel Bandwidth: 15 MHz) _ QPSK	
1717.5 MHz	
1732.5 MHz	
1747.5 MHz	

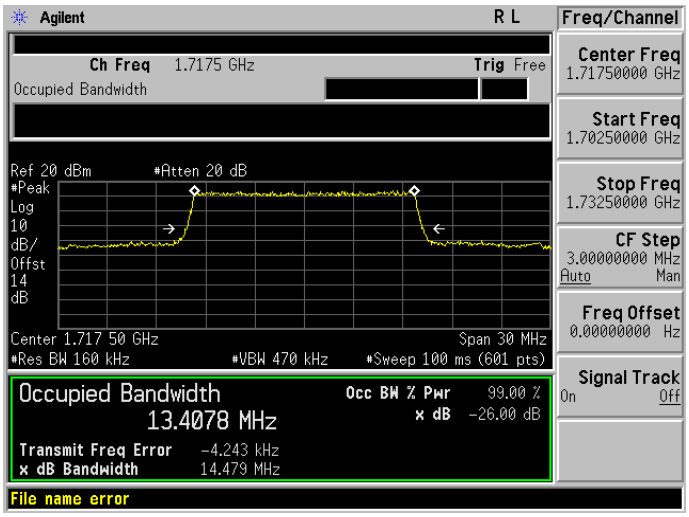
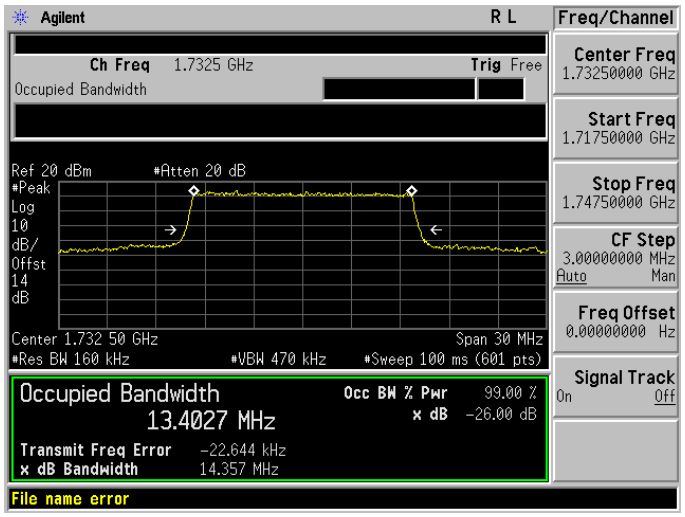
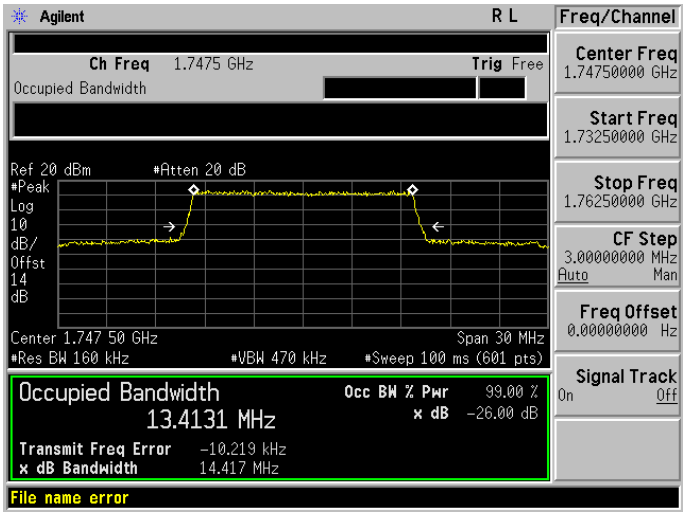
LTE Band 4 (Channel Bandwidth: 20 MHz) _ QPSK	
1720.0 MHz	
1732.5 MHz	
1745.0 MHz	

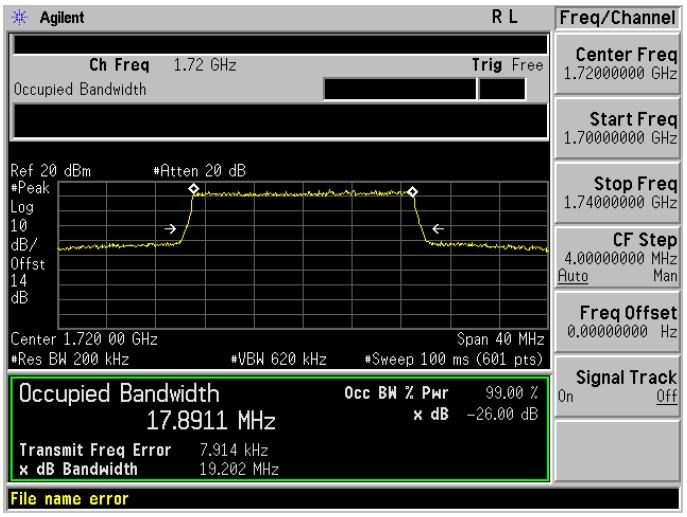
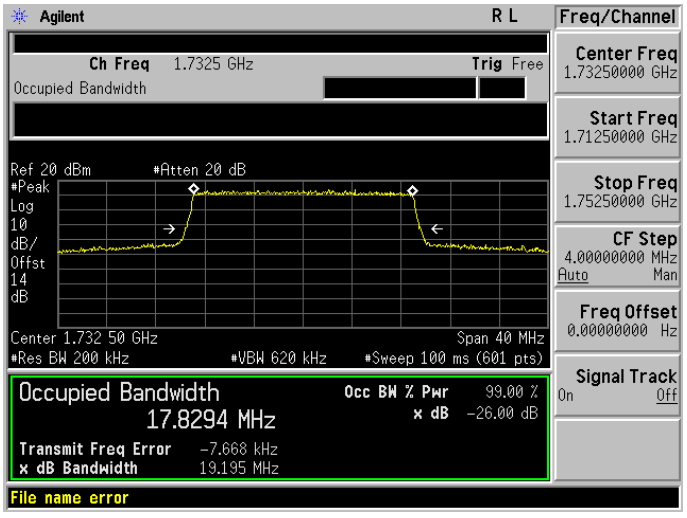
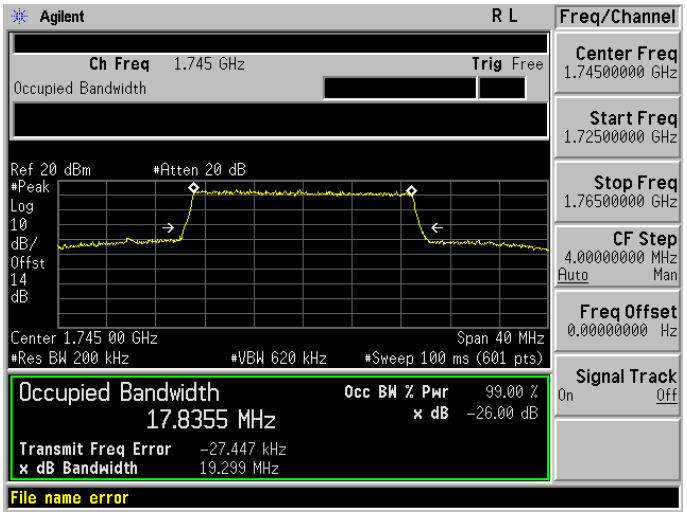
LTE Band 4 (Channel Bandwidth: 1.4 MHz) _ 16QAM	
1710.7 MHz	
1732.5 MHz	
1754.3 MHz	

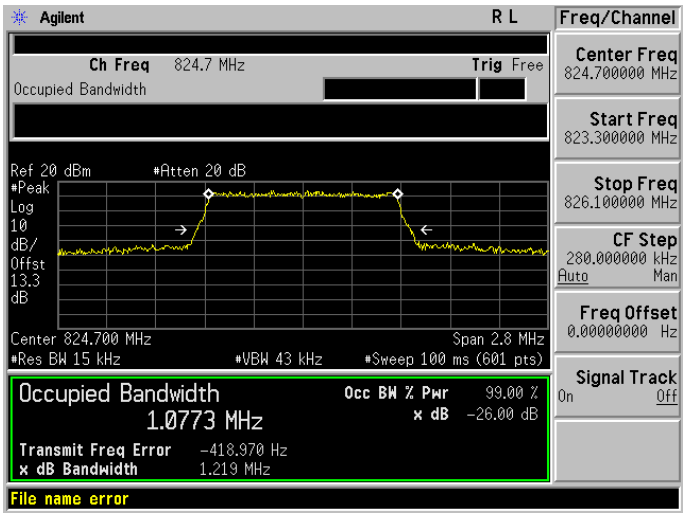
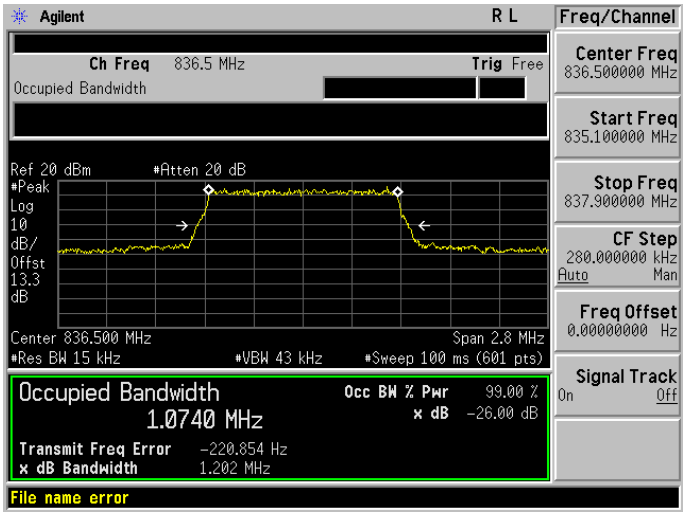
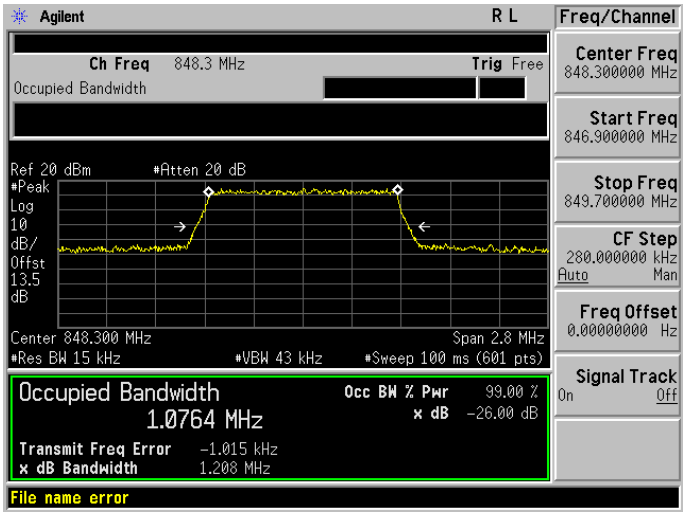
LTE Band 4 (Channel Bandwidth: 3 MHz) _ 16QAM	
1711.5 MHz	
1732.5 MHz	
1753.5 MHz	

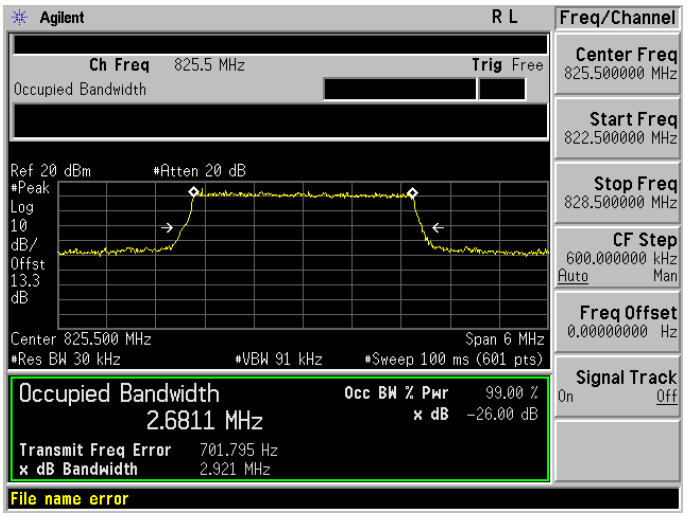
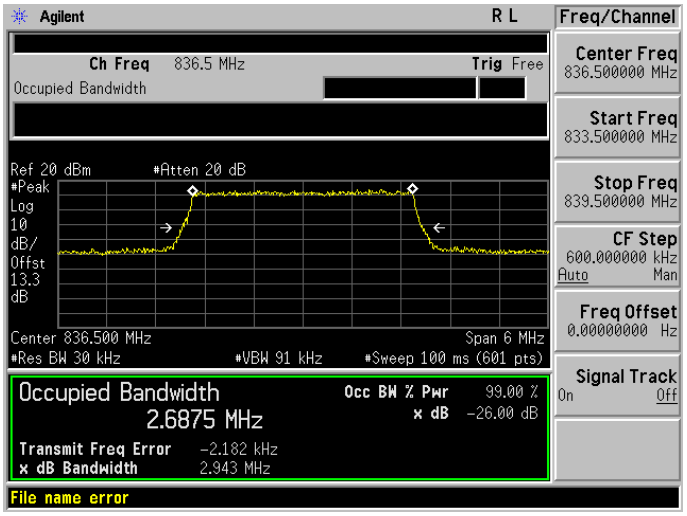
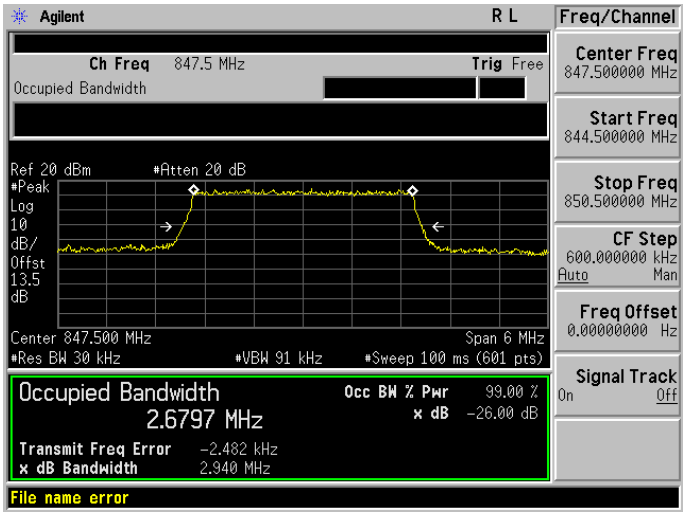
LTE Band 4 (Channel Bandwidth: 5 MHz) _ 16QAM	
1712.5 MHz	
1732.5 MHz	
1752.5 MHz	

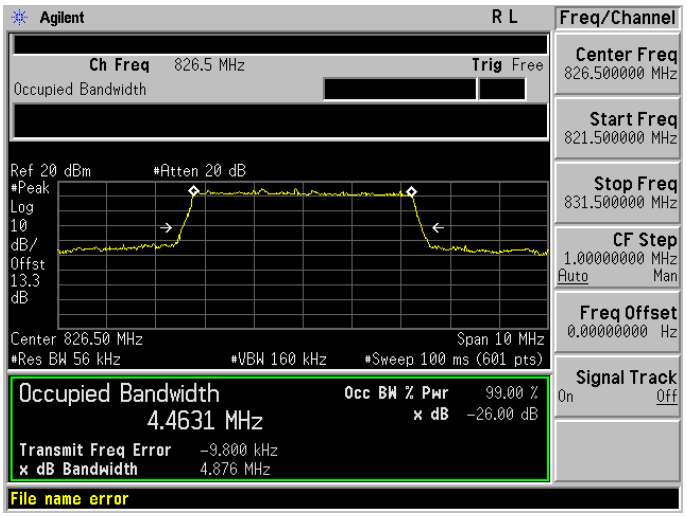
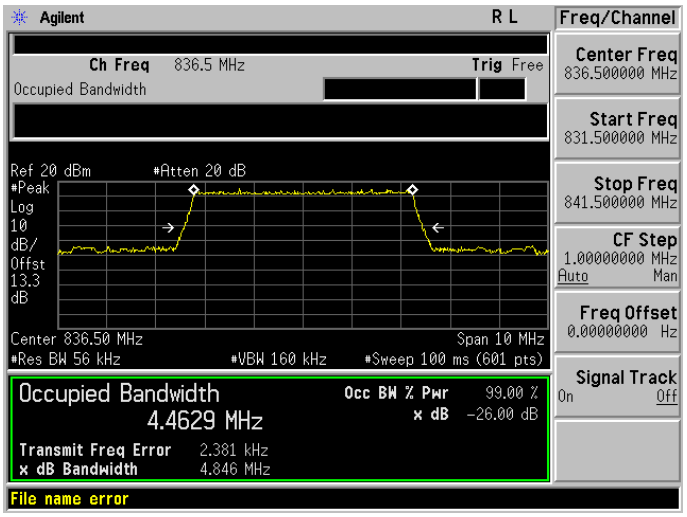
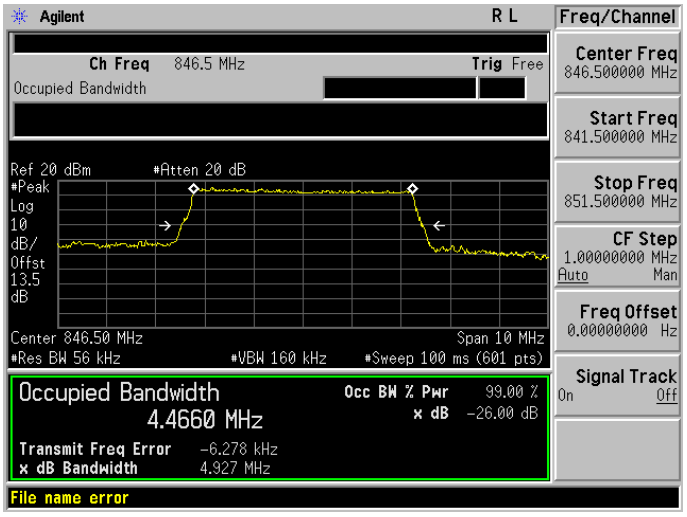
LTE Band 4 (Channel Bandwidth: 10 MHz) _ 16QAM	
1715.0 MHz	
1732.5 MHz	
1750.0 MHz	

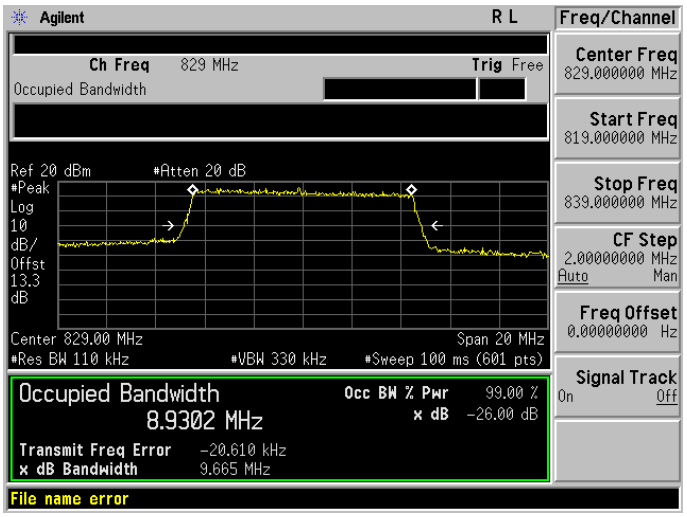
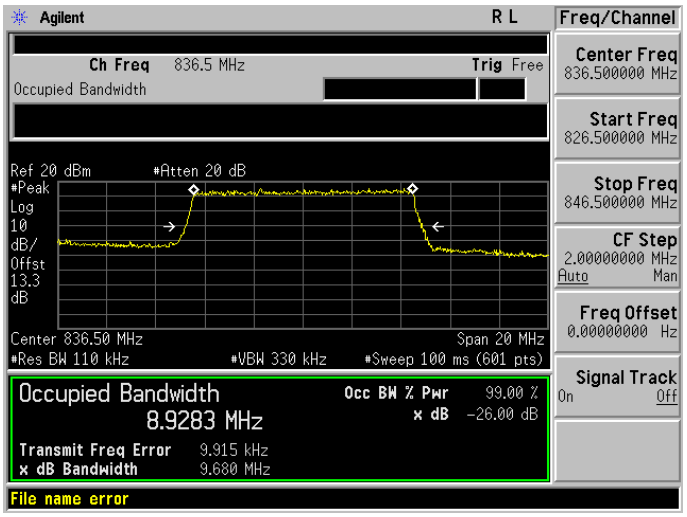
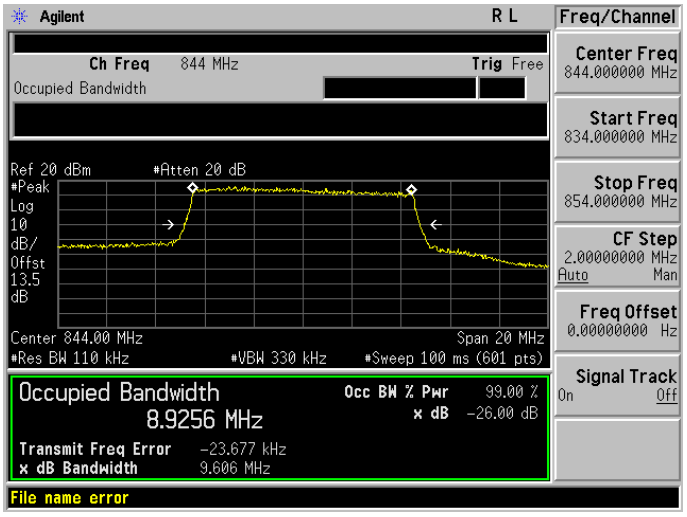
LTE Band 4 (Channel Bandwidth: 15 MHz) _ 16QAM	
1717.5 MHz	
1732.5 MHz	
1747.5 MHz	

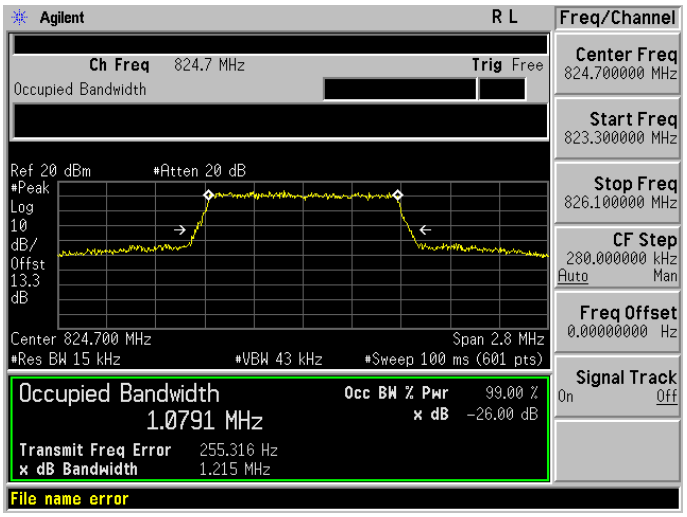
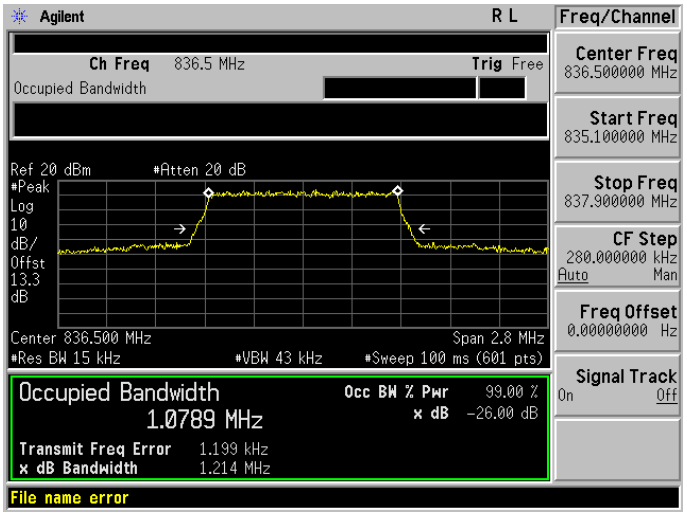
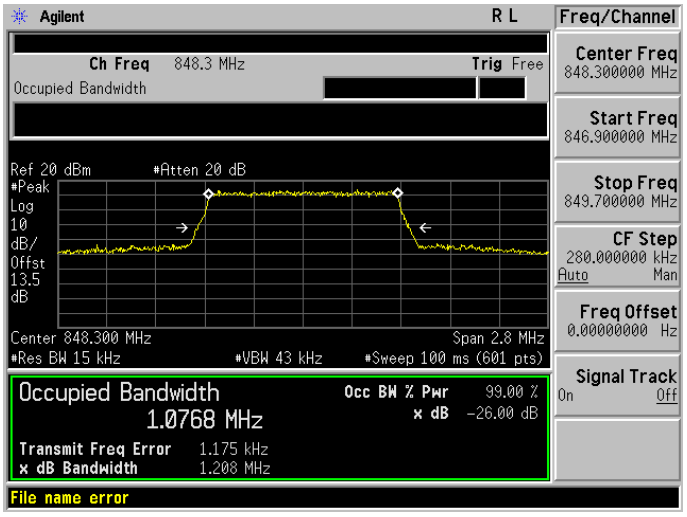
LTE Band 4 (Channel Bandwidth: 20 MHz) _ 16QAM	
1720.0 MHz	
1732.5 MHz	
1745.0 MHz	

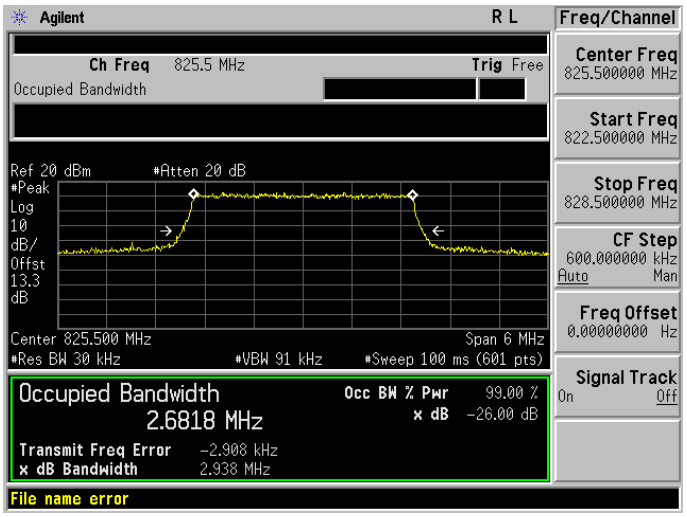
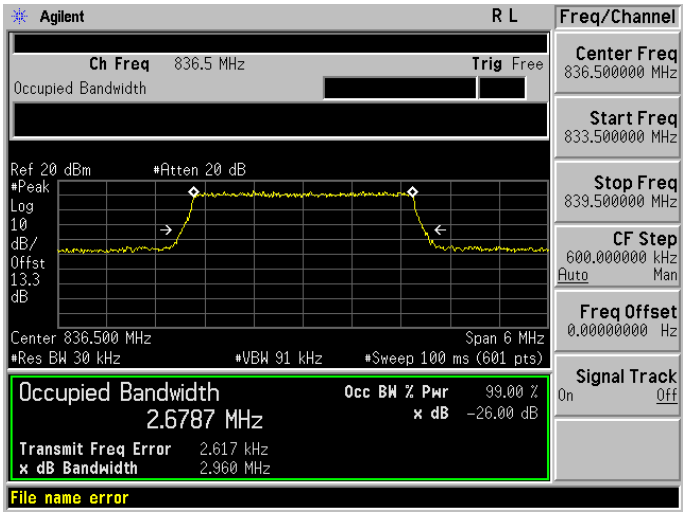
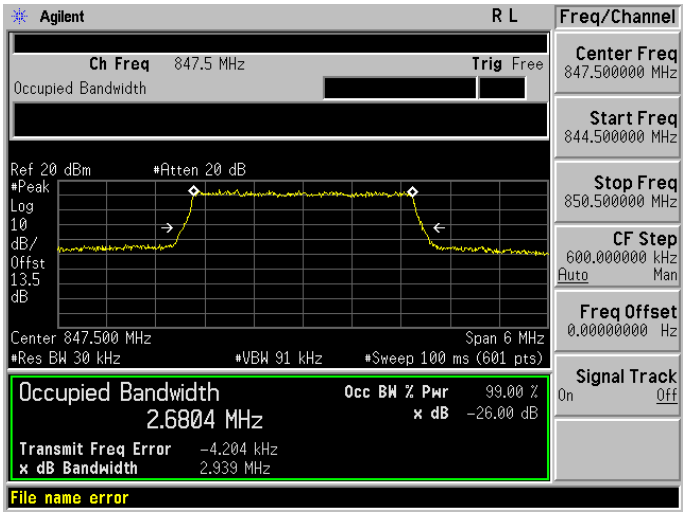
LTE Band 5 (Channel Bandwidth: 1.4 MHz) _ QPSK	
824.7 MHz	
836.5 MHz	
848.3 MHz	

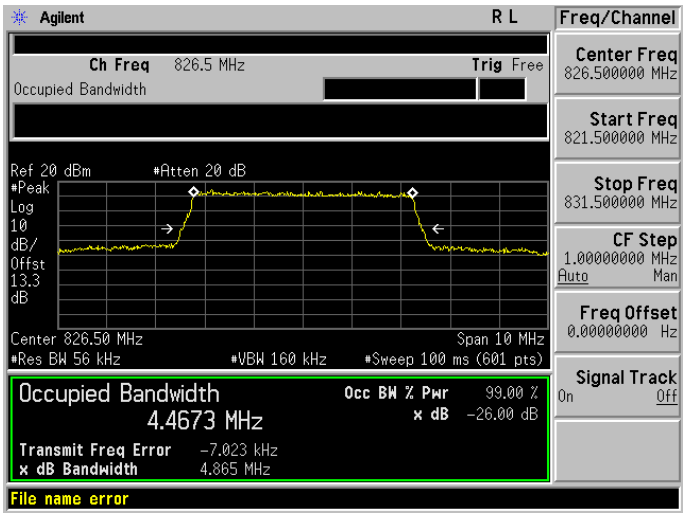
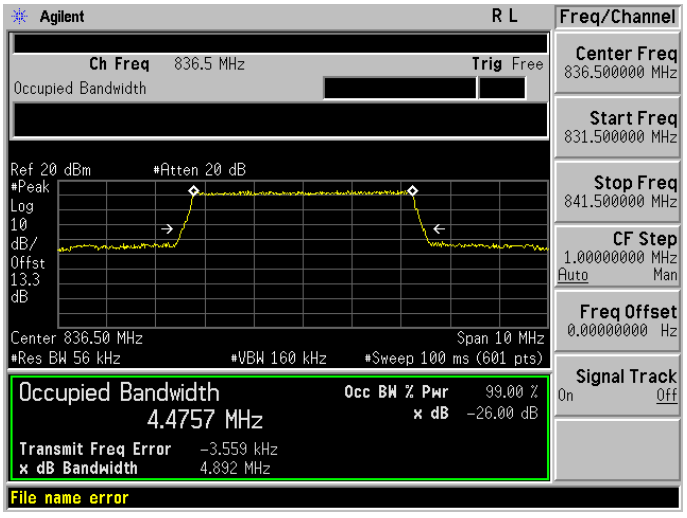
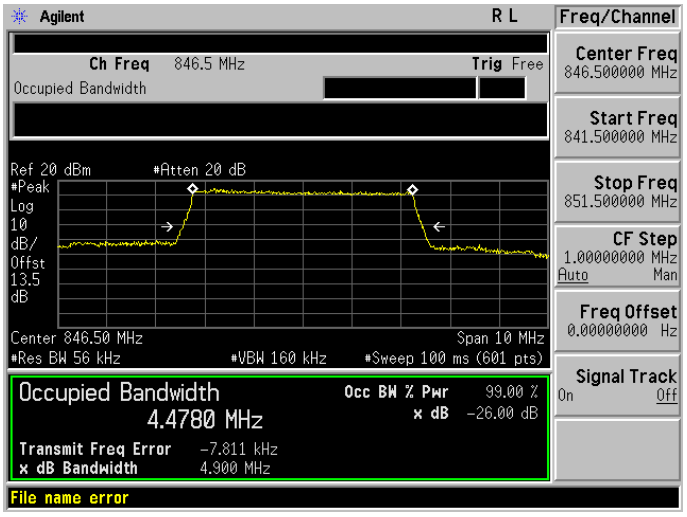
LTE Band 5 (Channel Bandwidth: 3 MHz) _ QPSK	
825.5 MHz	
836.5 MHz	
847.5 MHz	

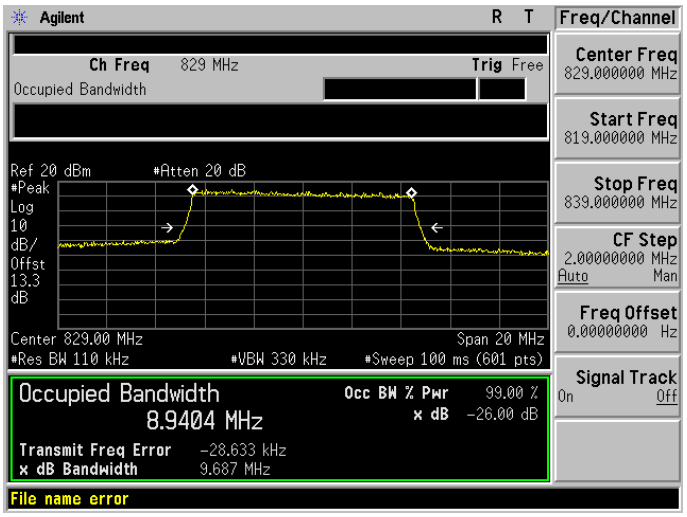
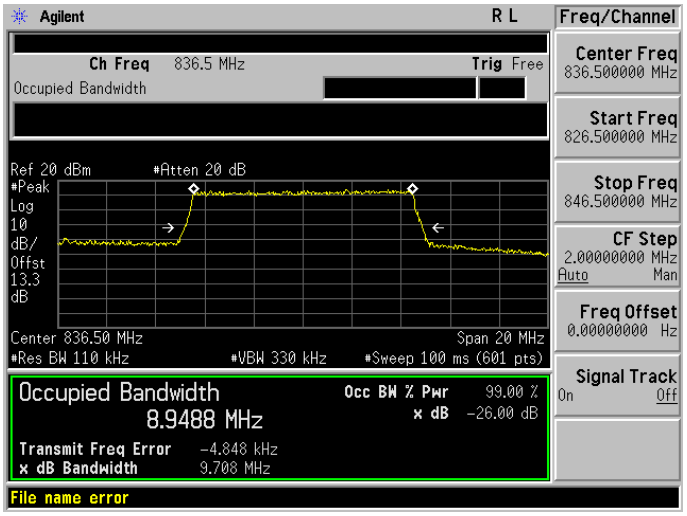
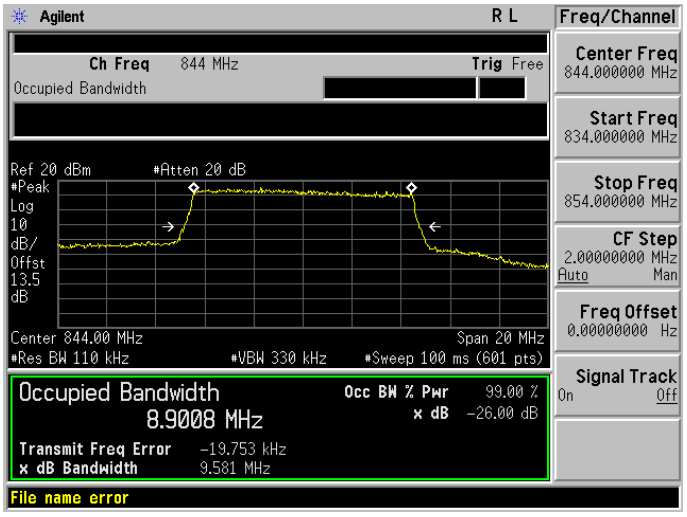
LTE Band 5 (Channel Bandwidth: 5 MHz) _ QPSK	
826.5 MHz	
836.5 MHz	
846.5 MHz	

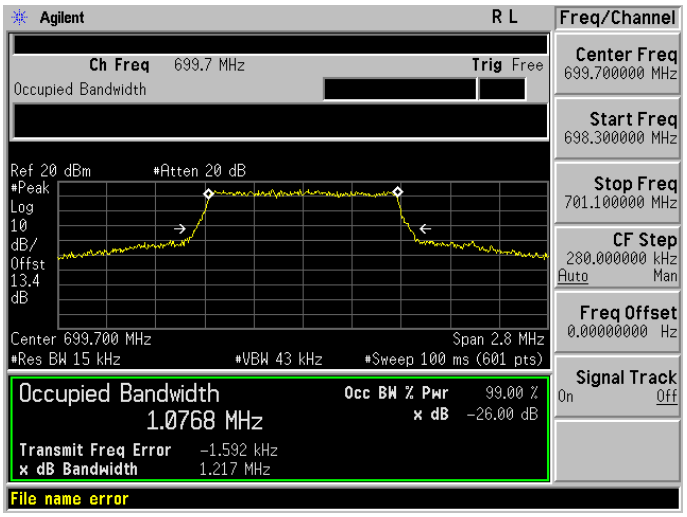
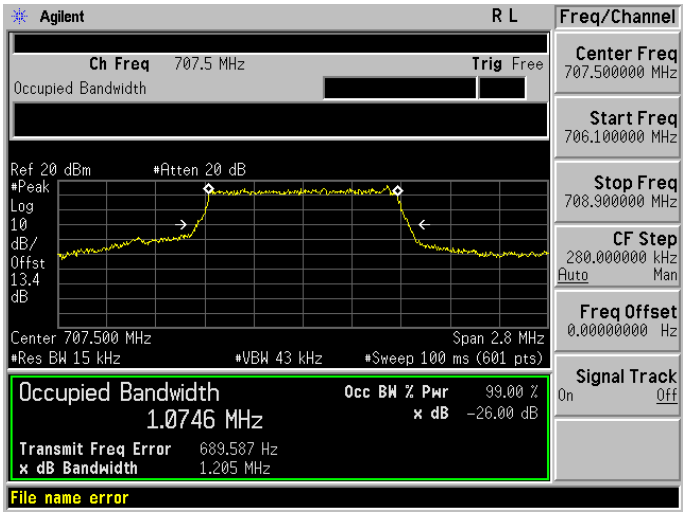
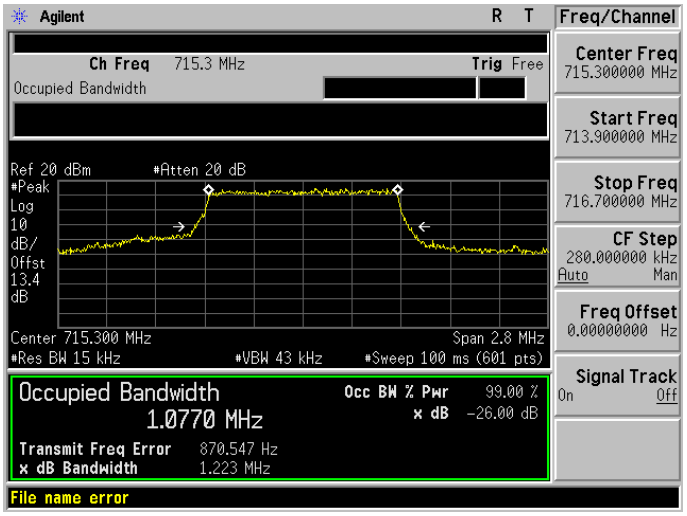
LTE Band 5 (Channel Bandwidth: 10 MHz) _ QPSK	
829.0 MHz	
836.5 MHz	
844.0 MHz	

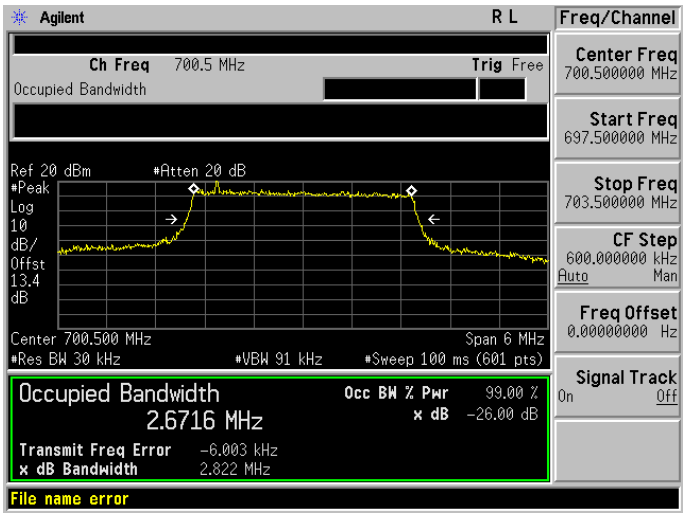
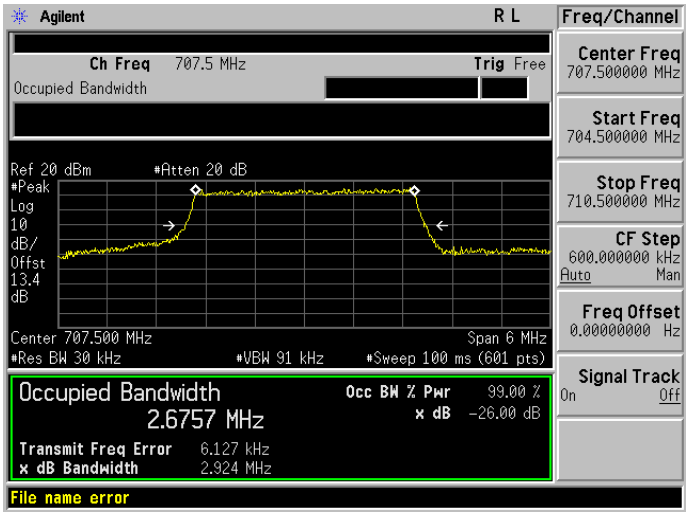
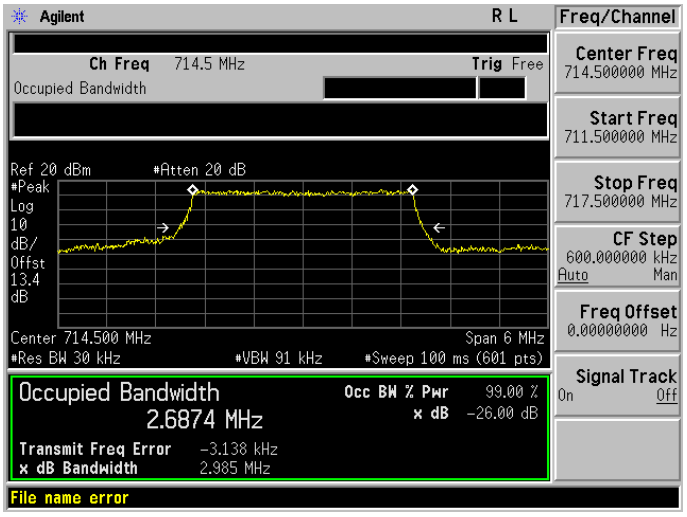
LTE Band 5 (Channel Bandwidth: 1.4 MHz) _ 16QAM	
824.7 MHz	
836.5 MHz	
848.3 MHz	

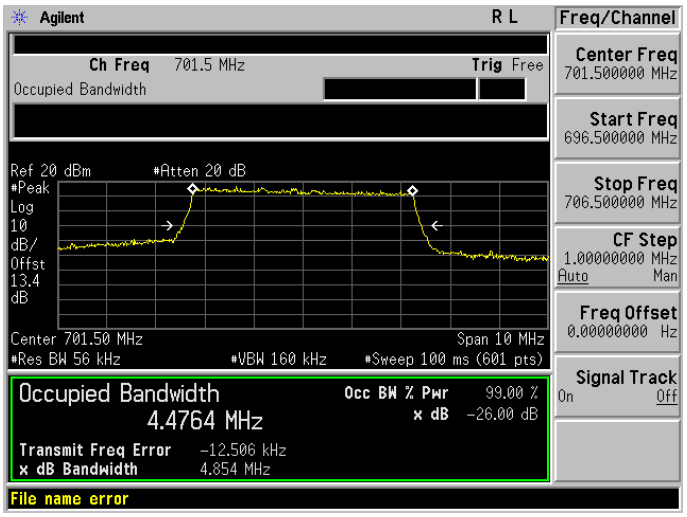
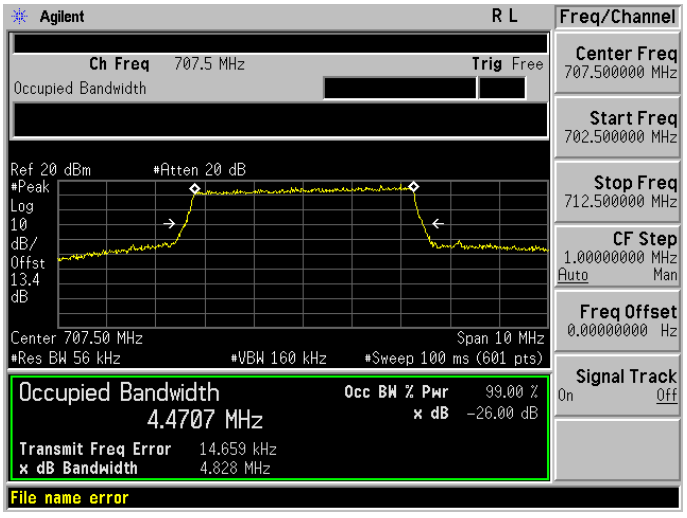
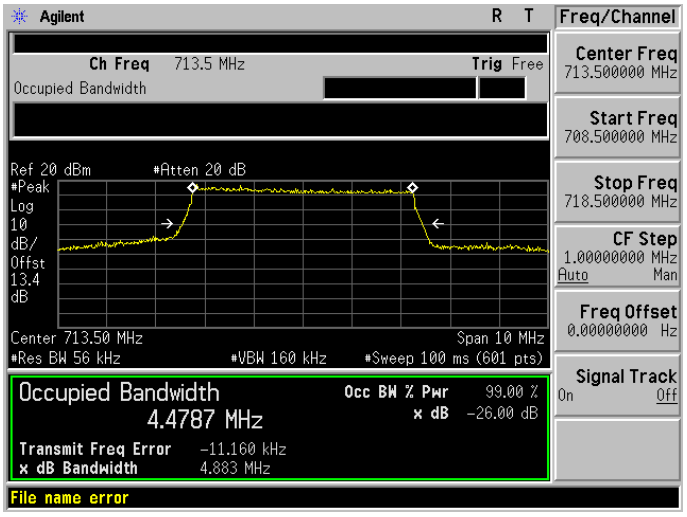
LTE Band 5 (Channel Bandwidth: 3 MHz) _ 16QAM	
825.5 MHz	
836.5 MHz	
847.5 MHz	

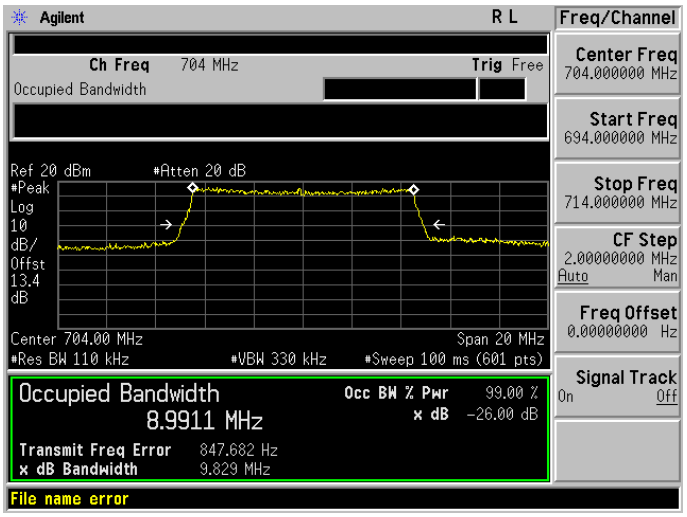
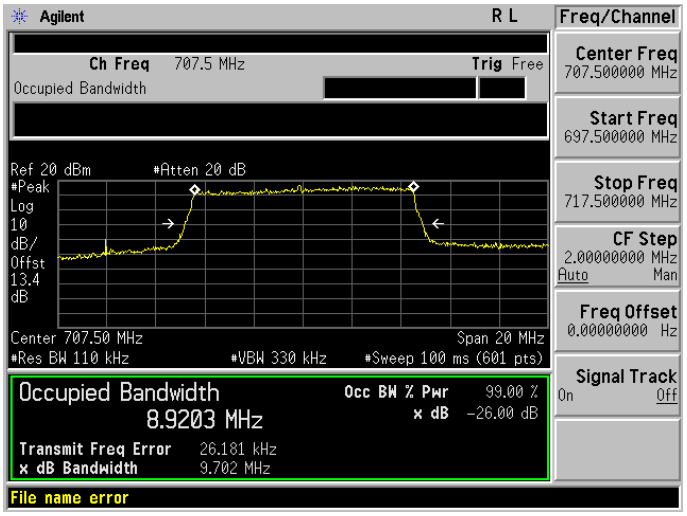
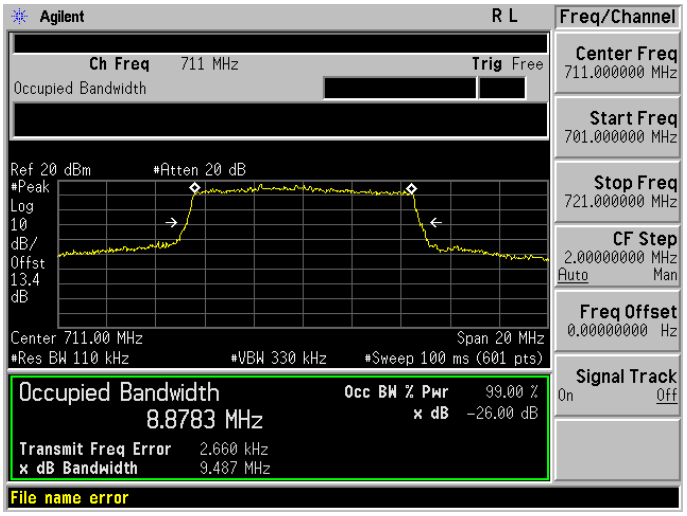
LTE Band 5 (Channel Bandwidth: 5 MHz) _ 16QAM	
826.5 MHz	
836.5 MHz	
846.5 MHz	

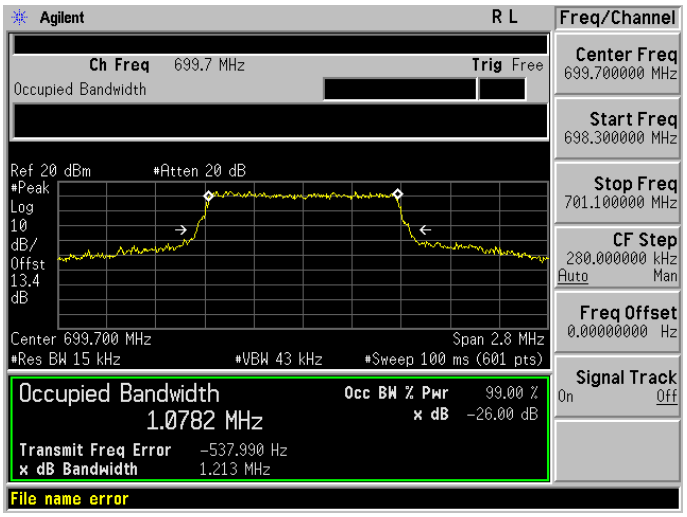
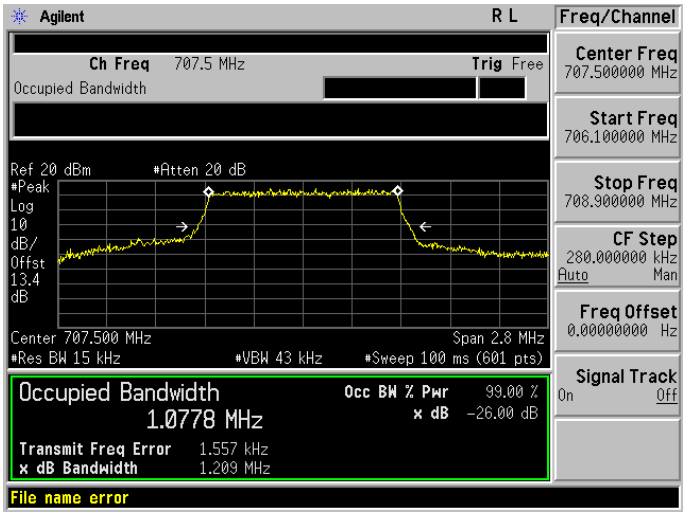
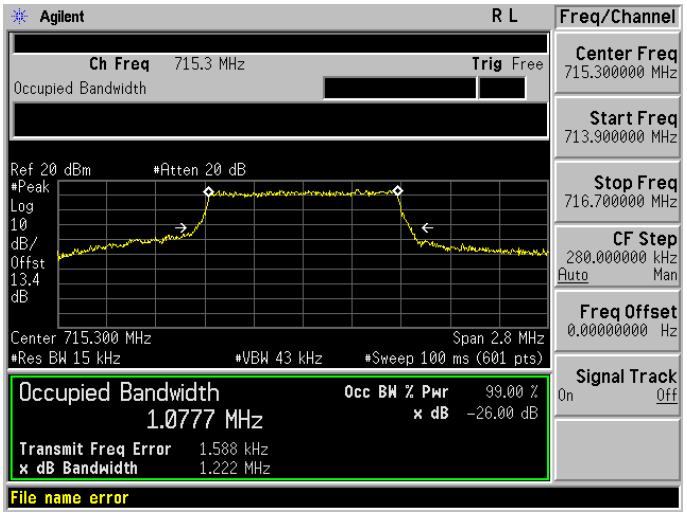
LTE Band 5 (Channel Bandwidth: 10 MHz) _ 16QAM	
829.0 MHz	
836.5 MHz	
844.0 MHz	

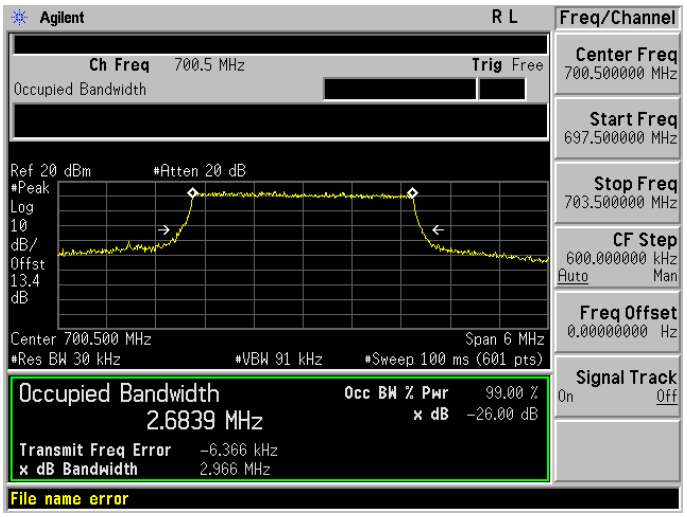
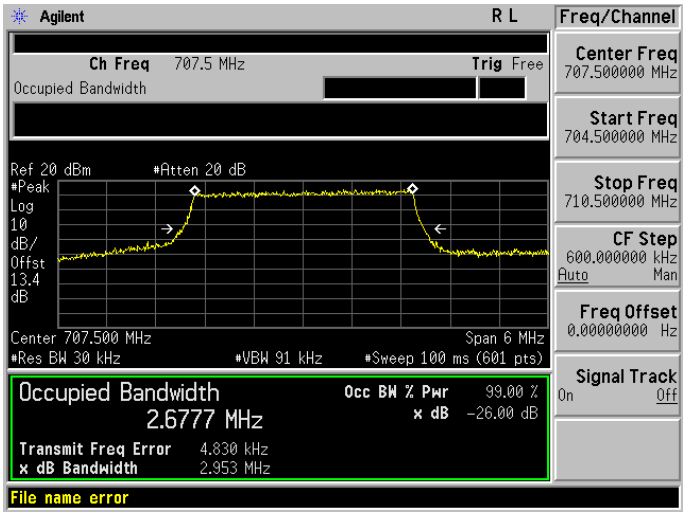
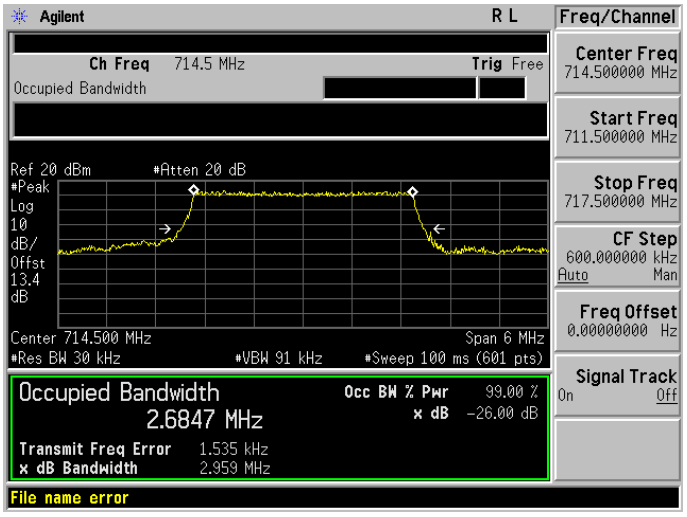
LTE Band 12 (Channel Bandwidth: 1.4 MHz) _ QPSK	
699.7 MHz	
707.5 MHz	
715.3 MHz	

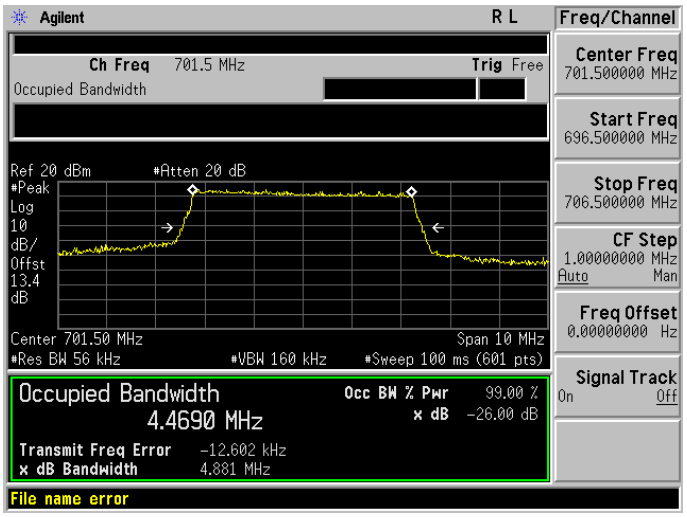
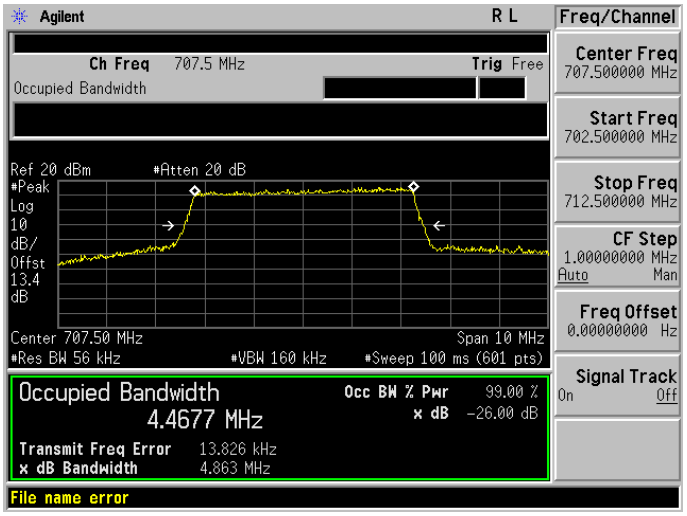
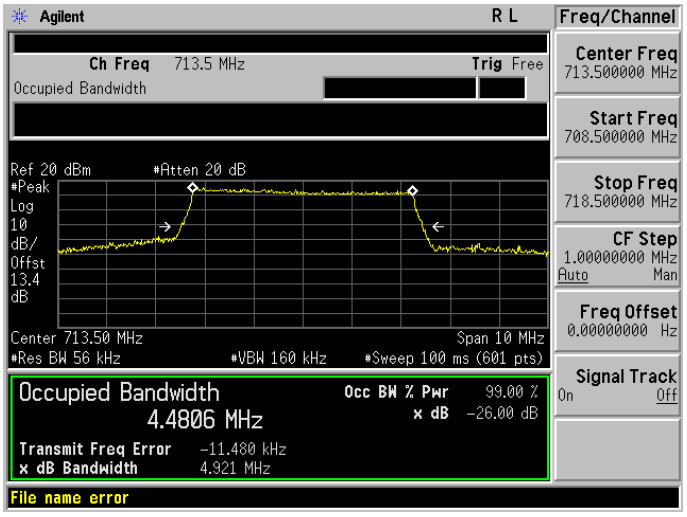
LTE Band 12 (Channel Bandwidth: 3 MHz) _ QPSK	
700.5 MHz	
707.5 MHz	
714.5 MHz	

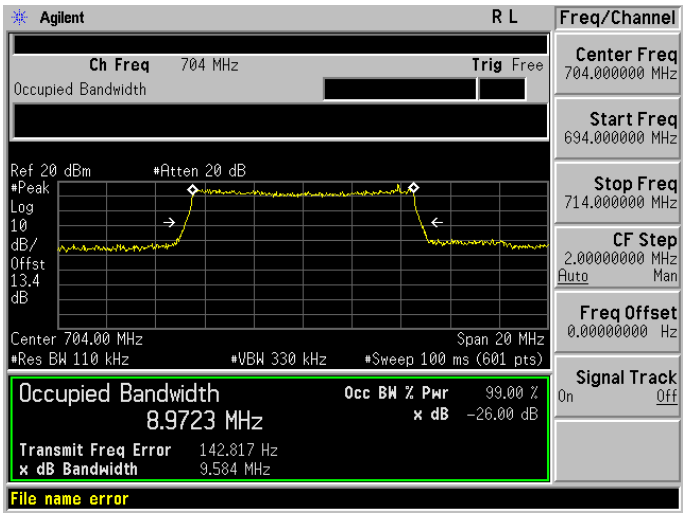
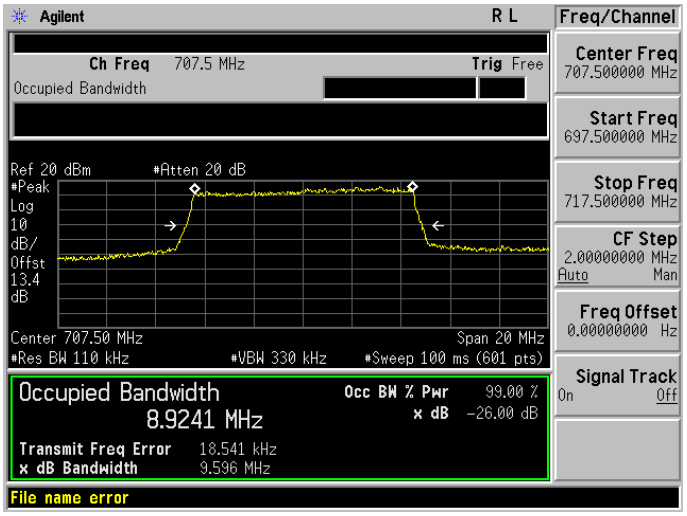
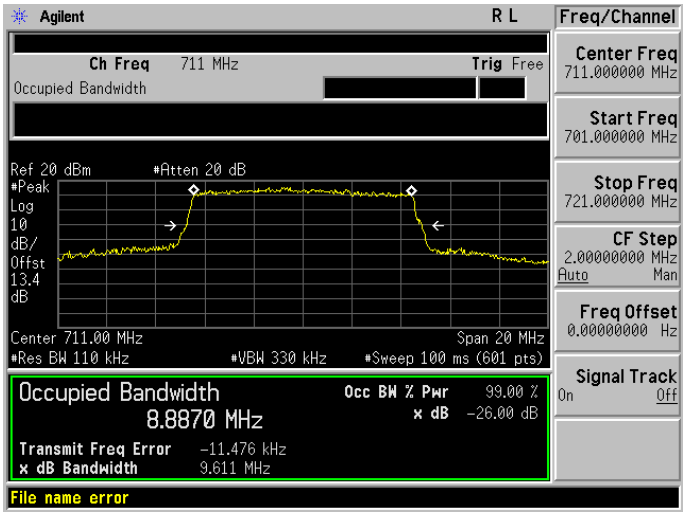
LTE Band 12 (Channel Bandwidth: 5 MHz) _ QPSK	
701.5 MHz	
707.5 MHz	
713.5 MHz	

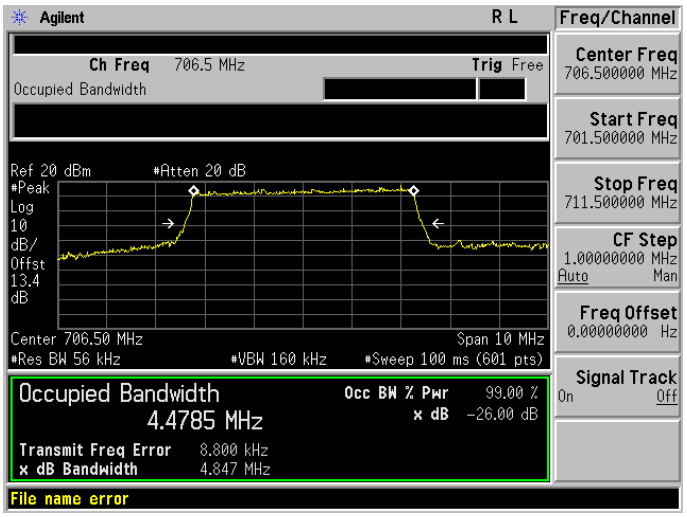
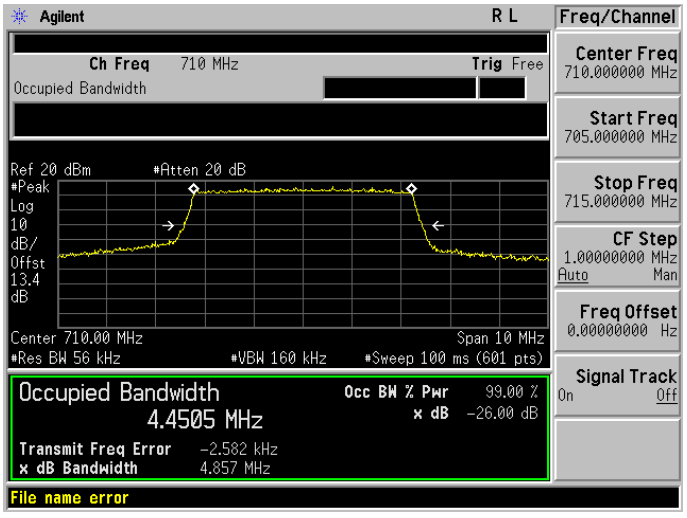
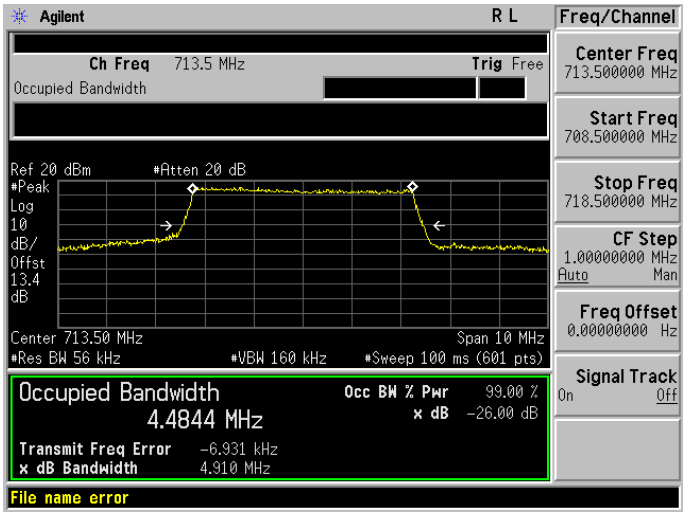
LTE Band 12 (Channel Bandwidth: 10 MHz) _ QPSK	
704.0 MHz	
707.5 MHz	
711.0 MHz	

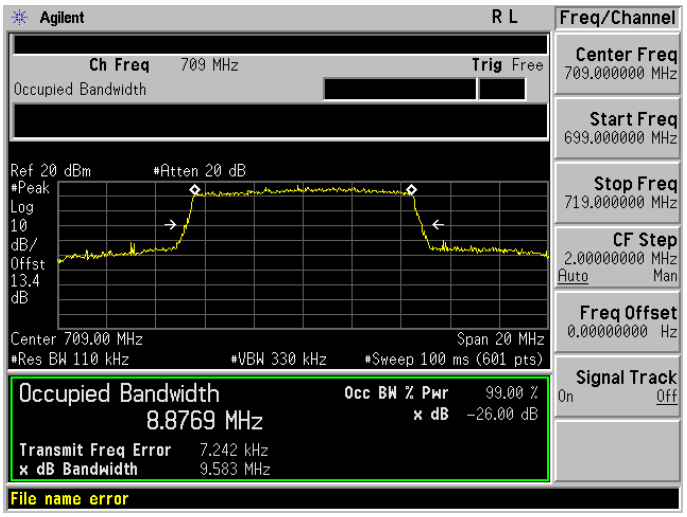
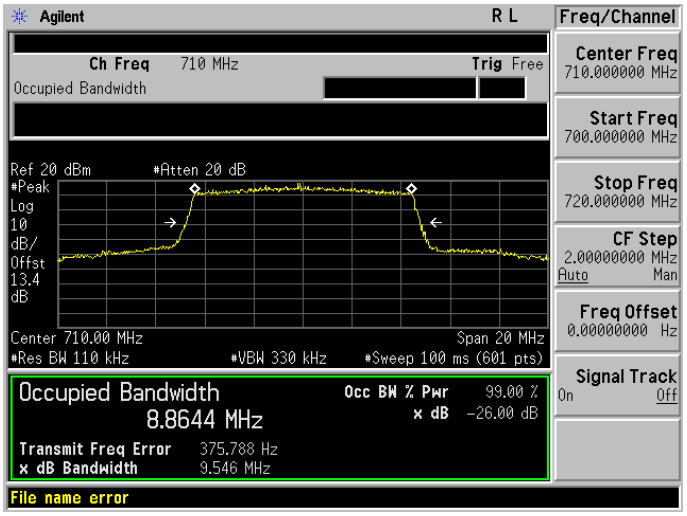
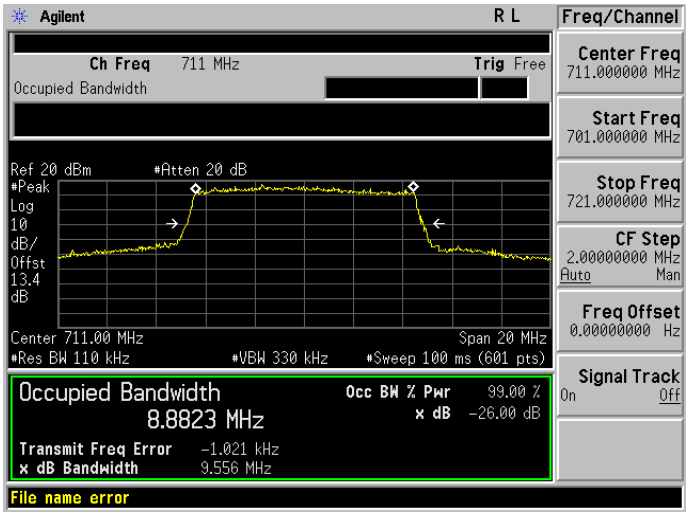
LTE Band 12 (Channel Bandwidth: 1.4 MHz) _ 16QAM	
669.7 MHz	
707.5 MHz	
715.3 MHz	

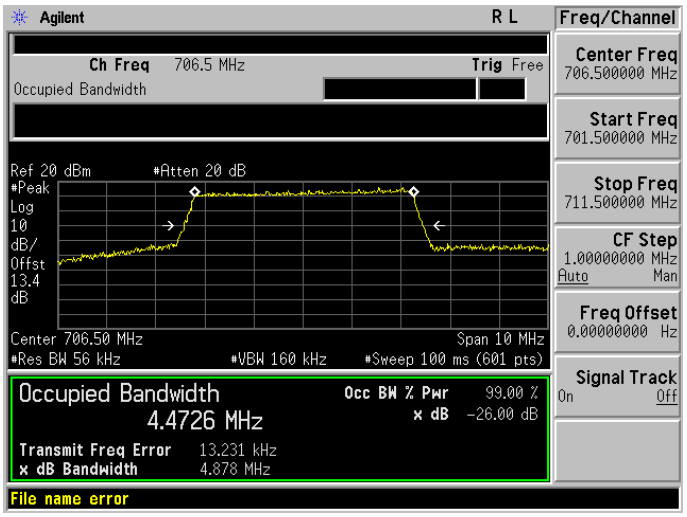
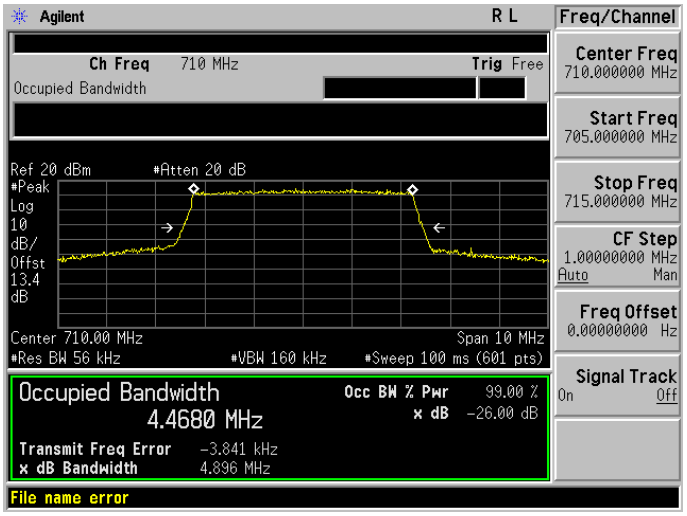
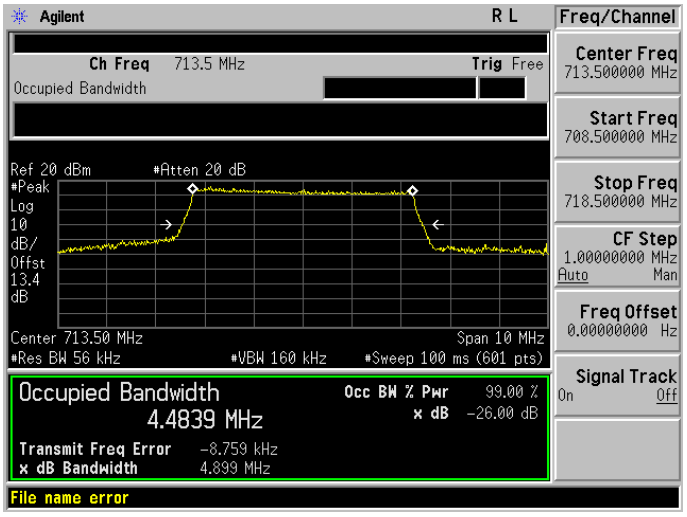
LTE Band 12 (Channel Bandwidth: 3 MHz) _ 16QAM	
700.5 MHz	
707.5 MHz	
714.5 MHz	

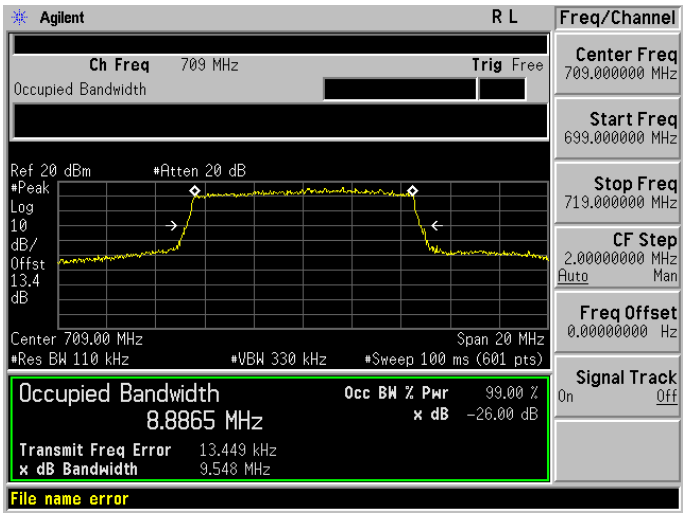
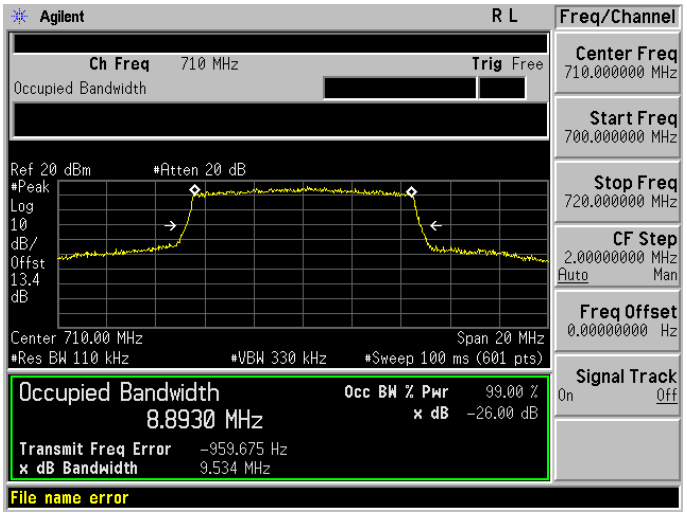
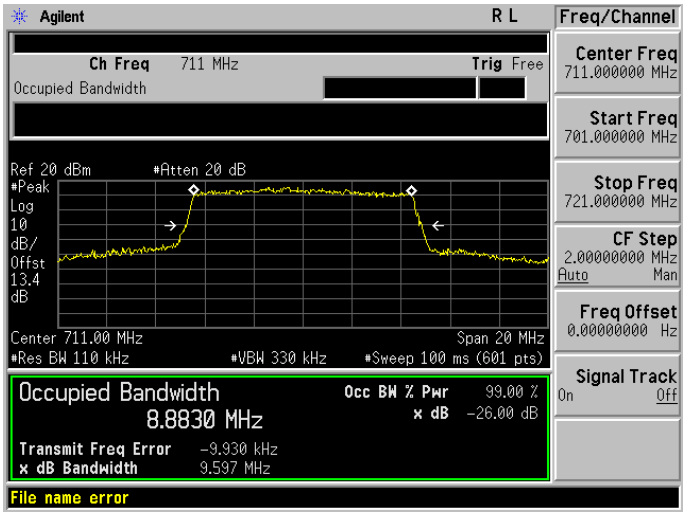
LTE Band 12 (Channel Bandwidth: 5 MHz) _ 16QAM	
701.5 MHz	
707.5 MHz	
713.5 MHz	

LTE Band 12 (Channel Bandwidth: 10 MHz) _ 16QAM	
704.0 MHz	
707.5 MHz	
711.0 MHz	

LTE Band 17 (Channel Bandwidth: 5 MHz) _ QPSK	
706.5 MHz	
710.0 MHz	
713.5 MHz	

LTE Band 17 (Channel Bandwidth: 10 MHz) _ QPSK	
709.0 MHz	
710.0 MHz	
711.0 MHz	

LTE Band 17 (Channel Bandwidth: 5 MHz) _ 16QAM	
706.5 MHz	
710.0 MHz	
713.5 MHz	

LTE Band 17 (Channel Bandwidth: 10 MHz) _ 16QAM	
709.0 MHz	
710.0 MHz	
711.0 MHz	

6 Peak to Average Ratio Test

Limit

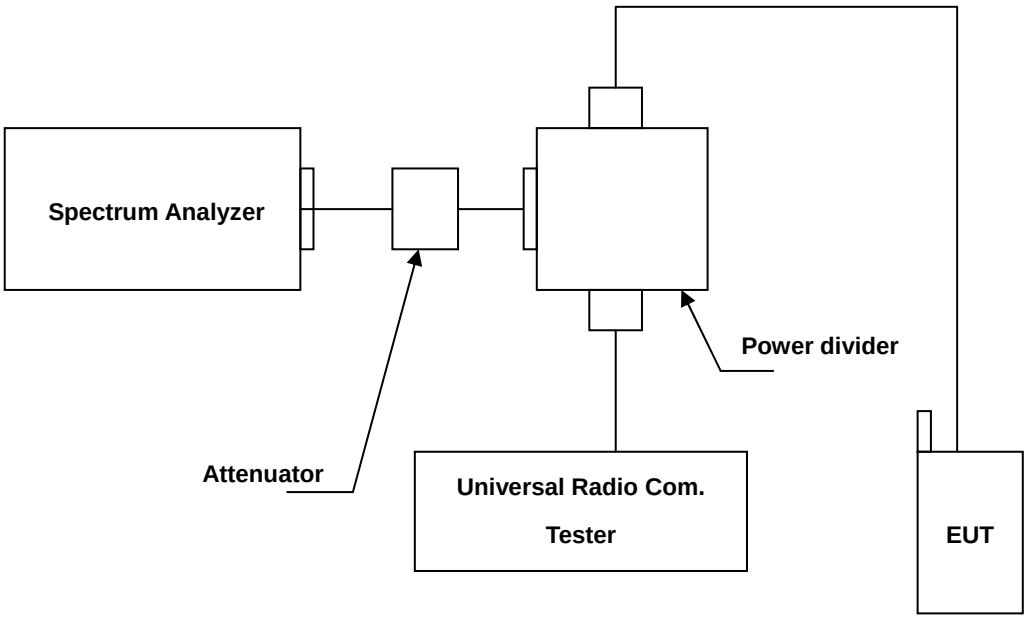
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Wideband Radio Communication Test	R & S	CMW500	103168	10/30/2015	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

Setup



- **Test Procedure**

  The measurement is made according to FCC rules:

  a. Set resolution/measurement bandwidth signal's occupied bandwidth;

  b. Set the number of counts to a value that stabilizes the measured CCDF curve;

  c. Record the maximum PAPR level associated with a probability of 0.1%.

- **Uncertainty**

  The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.

■ **Test Result**

Date of Test	10/21/2016

LTE Band 2				
Modulation	Channel Bandwidth	Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
QPSK	1.4 MHz	1880.0	5.41	< 13
	3 MHz	1880.0	5.43	< 13
	5 MHz	1880.0	5.14	< 13
	10 MHz	1880.0	5.38	< 13
	15 MHz	1880.0	5.36	< 13
	20 MHz	1880.0	5.16	< 13
16QAM	1.4 MHz	1880.0	6.24	< 13
	3 MHz	1880.0	6.24	< 13
	5 MHz	1880.0	5.81	< 13
	10 MHz	1880.0	6.25	< 13
	15 MHz	1880.0	6.17	< 13
	20 MHz	1880.0	5.76	< 13

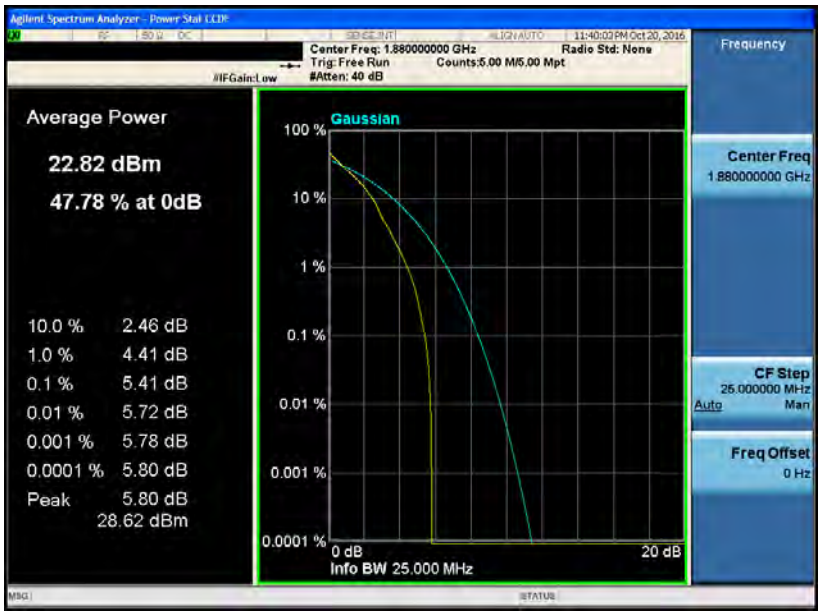
LTE Band 4				
Modulation	Channel Bandwidth	Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
QPSK	1.4 MHz	1732.5	4.81	< 13
	3 MHz	1732.5	4.65	< 13
	5 MHz	1732.5	4.46	< 13
	10 MHz	1732.5	5.25	< 13
	15 MHz	1732.5	4.33	< 13
	20 MHz	1732.5	4.38	< 13
16QAM	1.4 MHz	1732.5	5.77	< 13
	3 MHz	1732.5	5.47	< 13
	5 MHz	1732.5	5.26	< 13
	10 MHz	1732.5	4.39	< 13
	15 MHz	1732.5	5.19	< 13
	20 MHz	1732.5	4.97	< 13

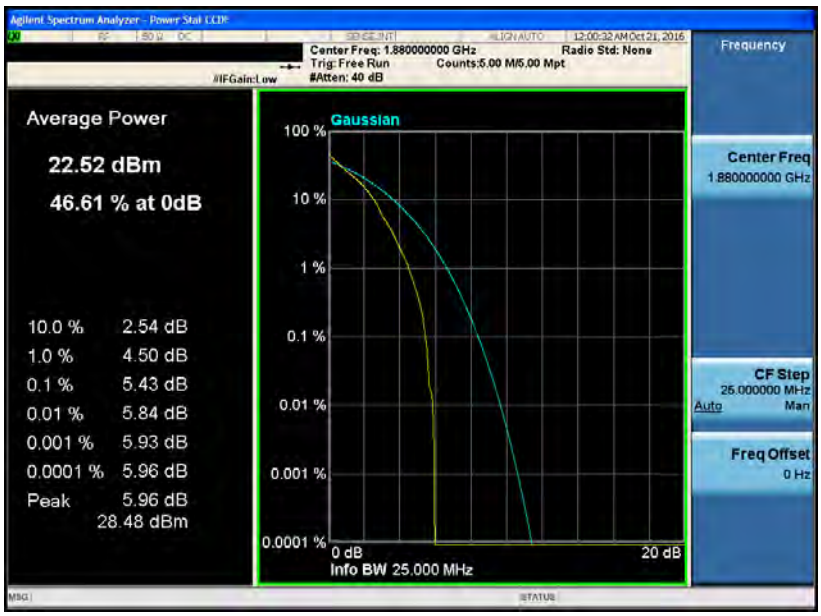
LTE Band 5				
Modulation	Channel Bandwidth	Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
QPSK	1.4 MHz	836.5	4.91	< 13
	3 MHz	836.5	5.05	< 13
	5 MHz	836.5	4.91	< 13
	10 MHz	836.5	5.38	< 13
16QAM	1.4 MHz	836.5	5.84	< 13
	3 MHz	836.5	5.79	< 13
	5 MHz	836.5	5.69	< 13
	10 MHz	836.5	6.22	< 13

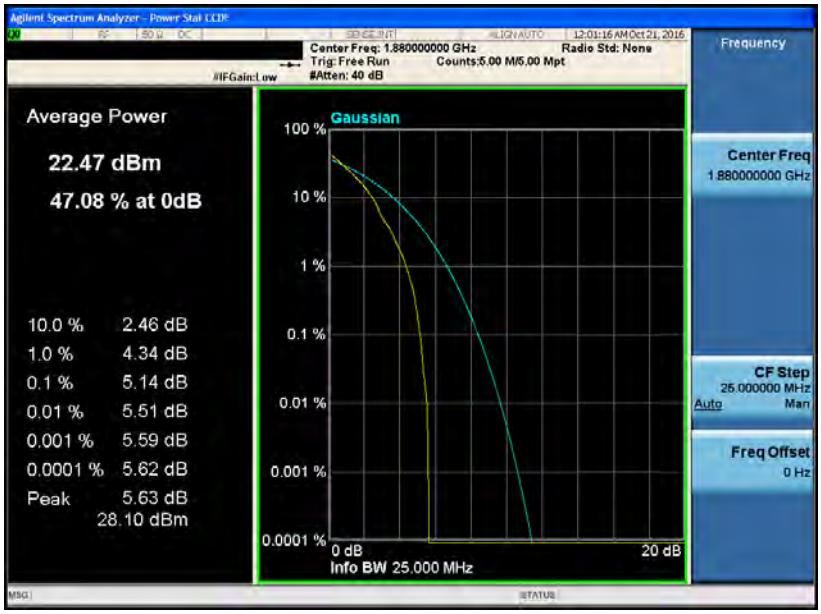
LTE Band 12				
Modulation	Channel Bandwidth	Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
QPSK	1.4 MHz	707.5	4.20	< 13
	3 MHz	707.5	4.31	< 13
	5 MHz	707.5	4.16	< 13
	10 MHz	707.5	4.42	< 13
16QAM	1.4 MHz	707.5	5.26	< 13
	3 MHz	707.5	5.07	< 13
	5 MHz	707.5	5.05	< 13
	10 MHz	707.5	5.33	< 13

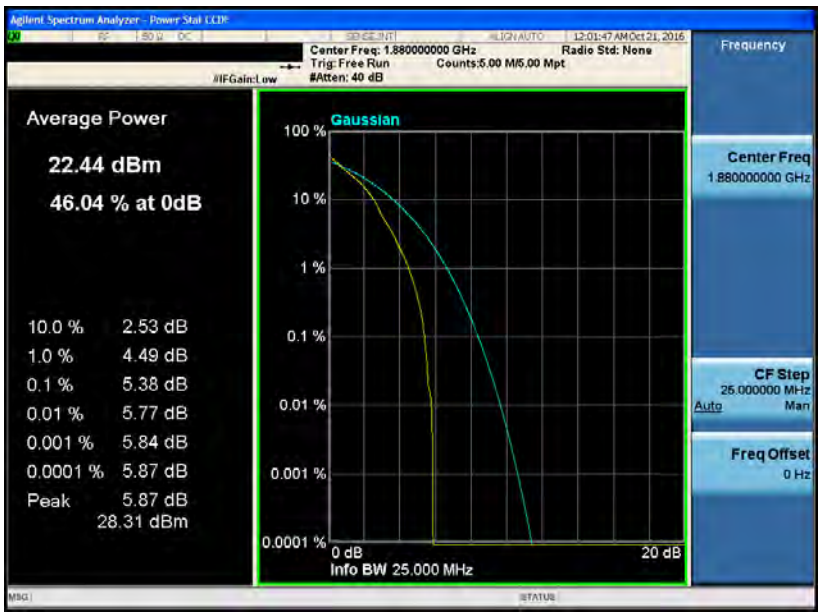
LTE Band 17				
Modulation	Channel Bandwidth	Frequency (MHz)	Peak to Average Ratio (dB)	Limit (dB)
QPSK	5 MHz	710.0	4.14	< 13
	10 MHz	710.0	4.24	< 13
16QAM	5 MHz	710.0	5.10	< 13
	10 MHz	710.0	5.05	< 13

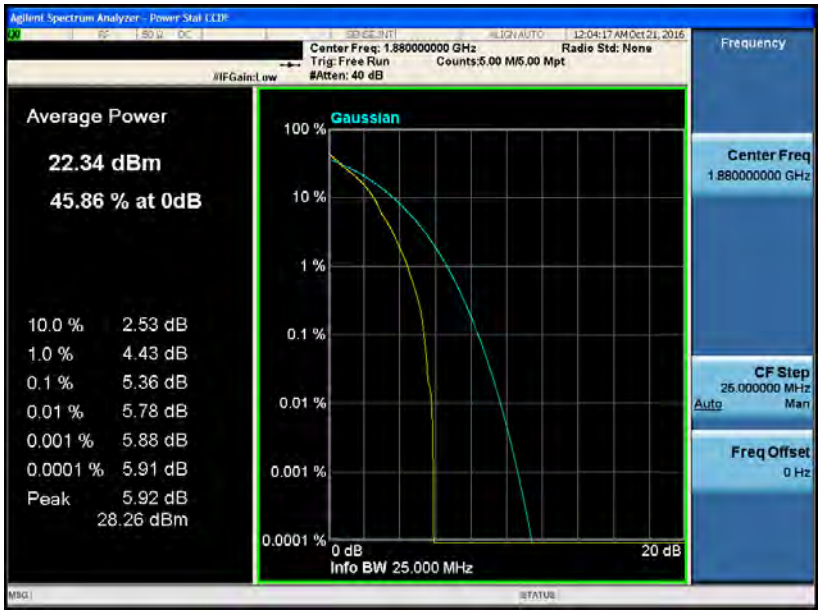
■ **Test Graphs**

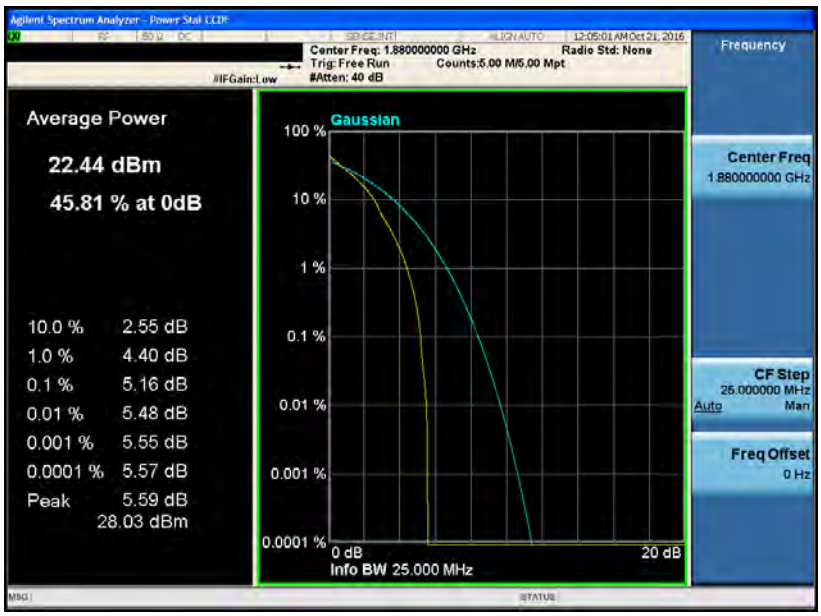
LTE Band 2 (Channel Bandwidth: 1.4 MHz) _ QPSK	
1880.0 MHz	

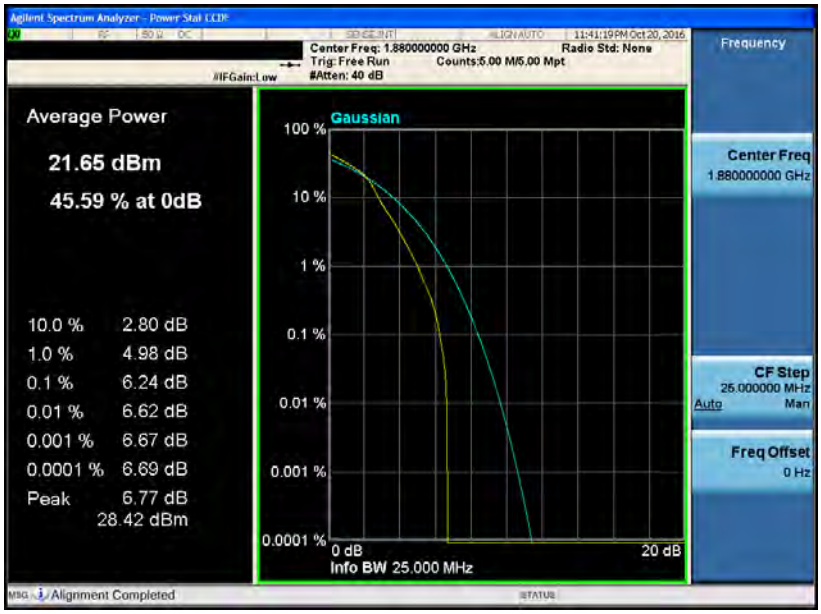
LTE Band 2 (Channel Bandwidth: 3 MHz) _ QPSK	
1880.0 MHz	

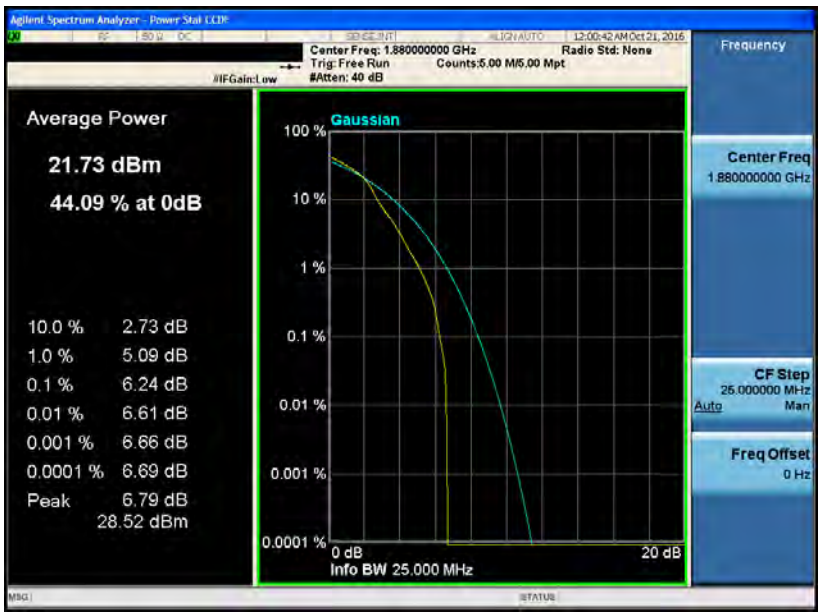
LTE Band 2 (Channel Bandwidth: 5 MHz) _ QPSK	
1880.0 MHz	

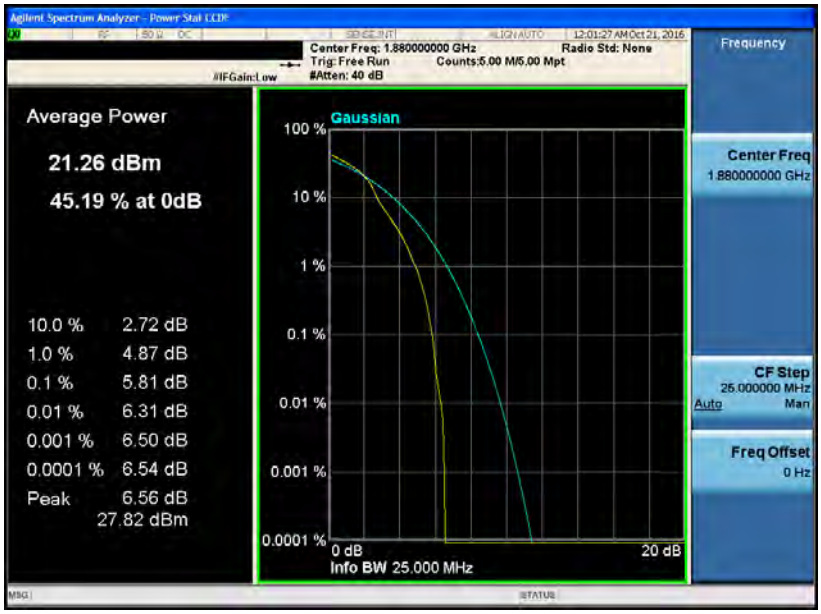
LTE Band 2 (Channel Bandwidth: 10 MHz) _ QPSK	
1880.0 MHz	

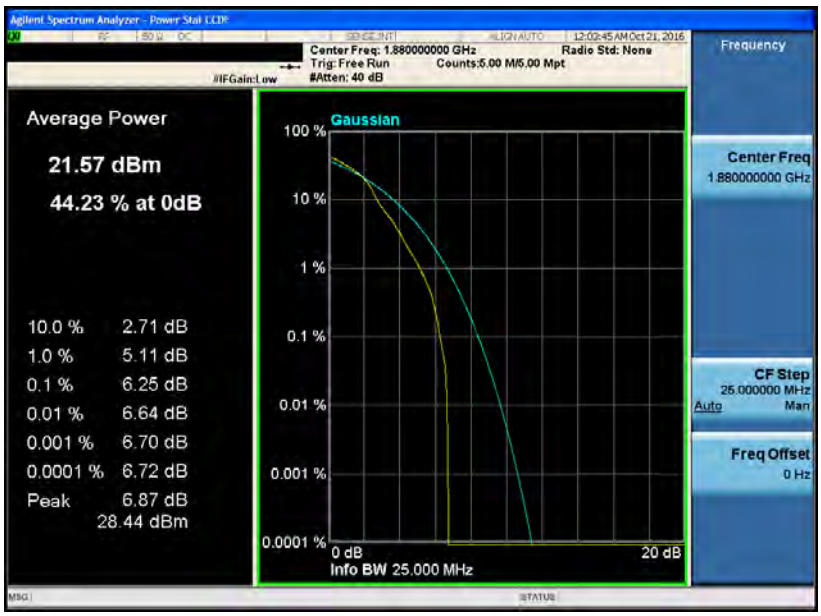
LTE Band 2 (Channel Bandwidth: 15 MHz) _ QPSK	
1880.0 MHz	

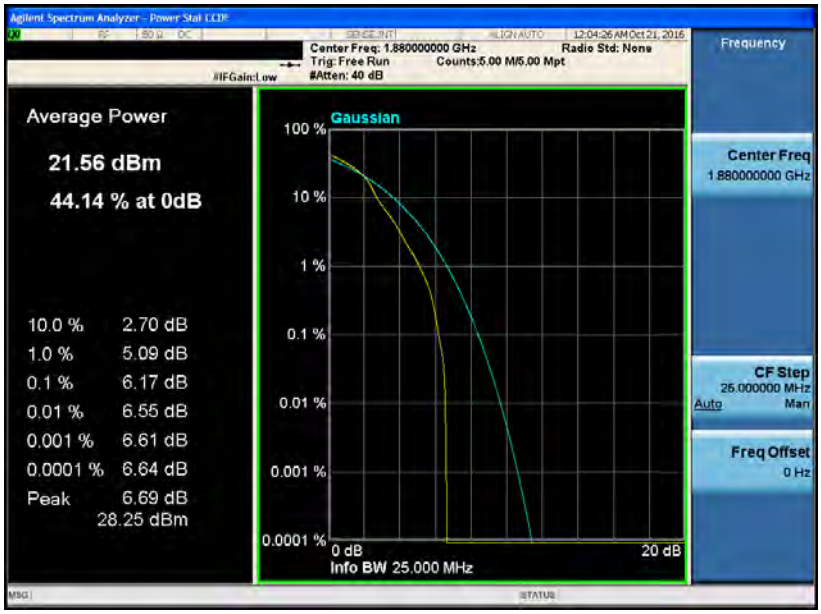
LTE Band 2 (Channel Bandwidth: 20 MHz) _ QPSK	
1880.0 MHz	

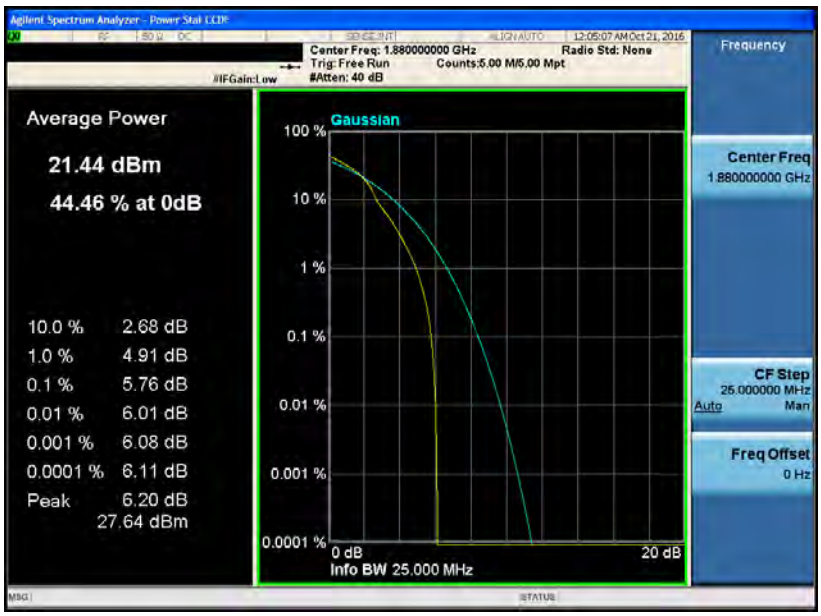
LTE Band 2 (Channel Bandwidth: 1.4 MHz) _ 16QAM	
1880.0 MHz	

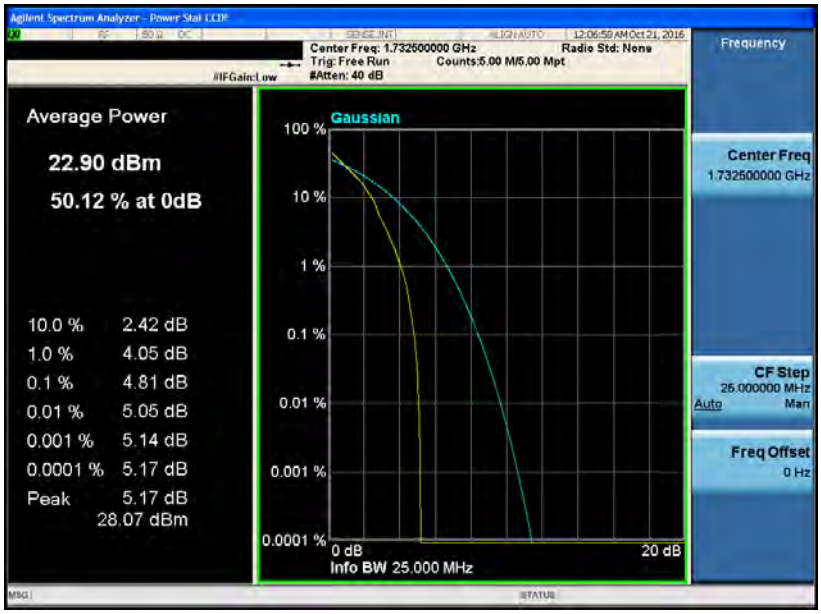
LTE Band 2 (Channel Bandwidth: 3 MHz) _ 16QAM	
1880.0 MHz	

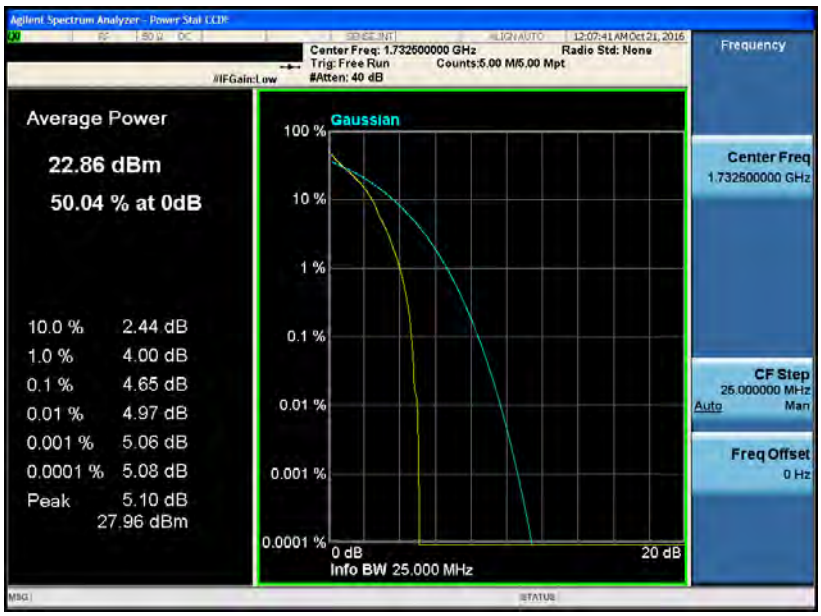
LTE Band 2 (Channel Bandwidth: 5 MHz) _ 16QAM	
1880.0 MHz	

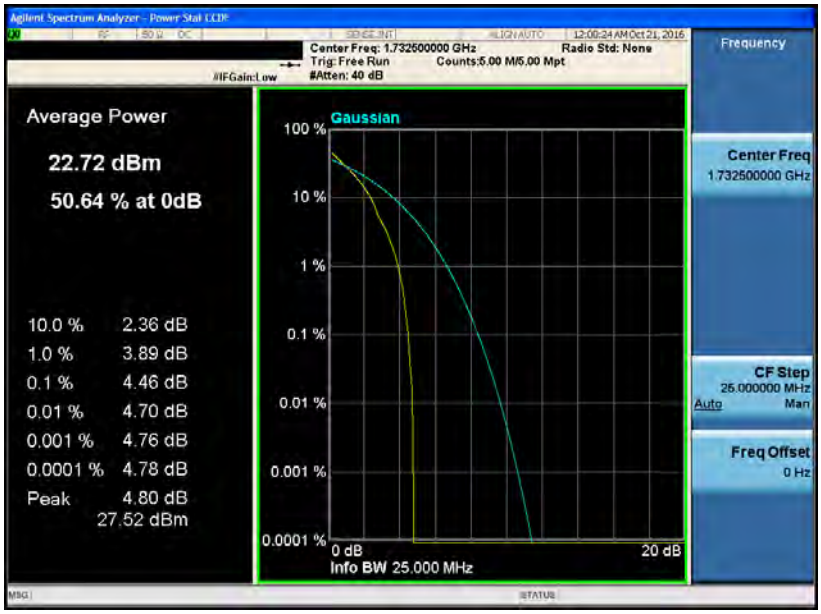
LTE Band 2 (Channel Bandwidth: 10 MHz) _ 16QAM	
1880.0 MHz	

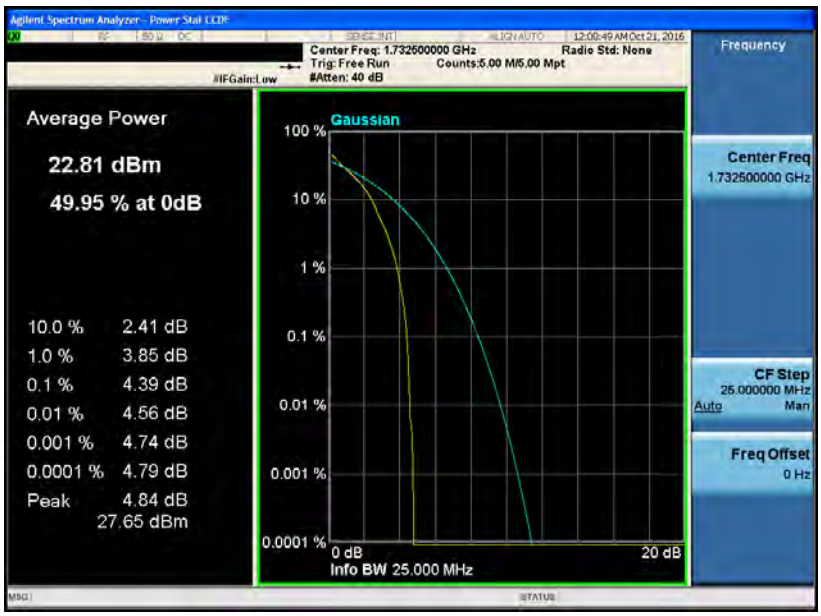
LTE Band 2 (Channel Bandwidth: 15 MHz) _ 16QAM	
1880.0 MHz	

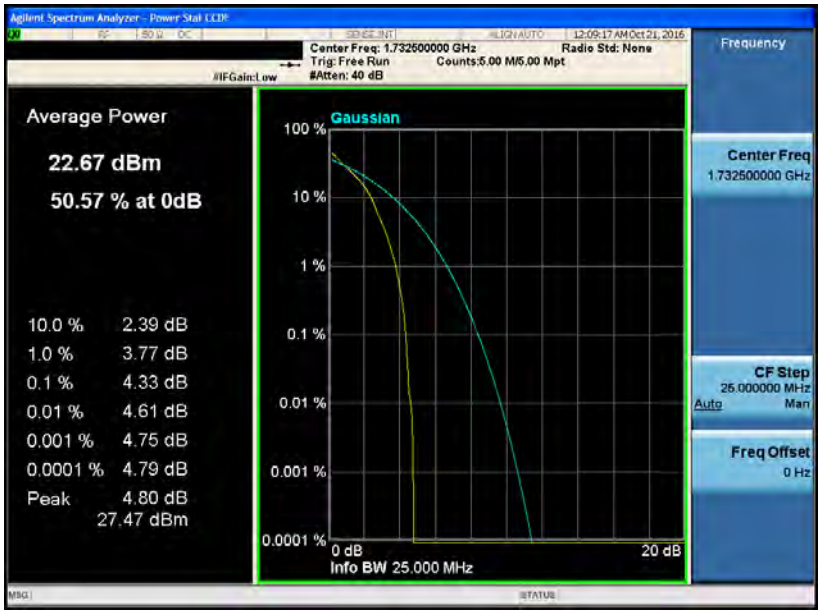
LTE Band 2 (Channel Bandwidth: 20 MHz) _ 16QAM	
1880.0 MHz	

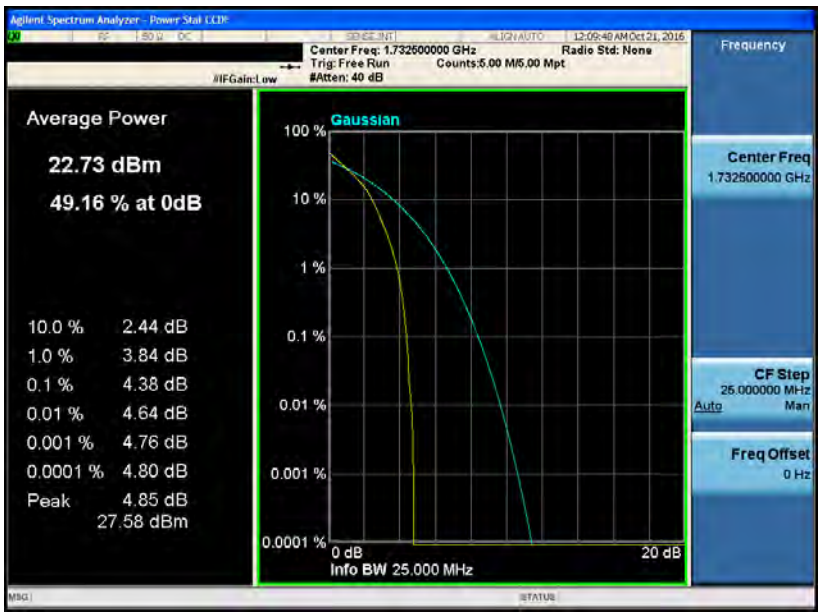
LTE Band 4 (Channel Bandwidth: 1.4 MHz) _ QPSK	
1732.5 MHz	

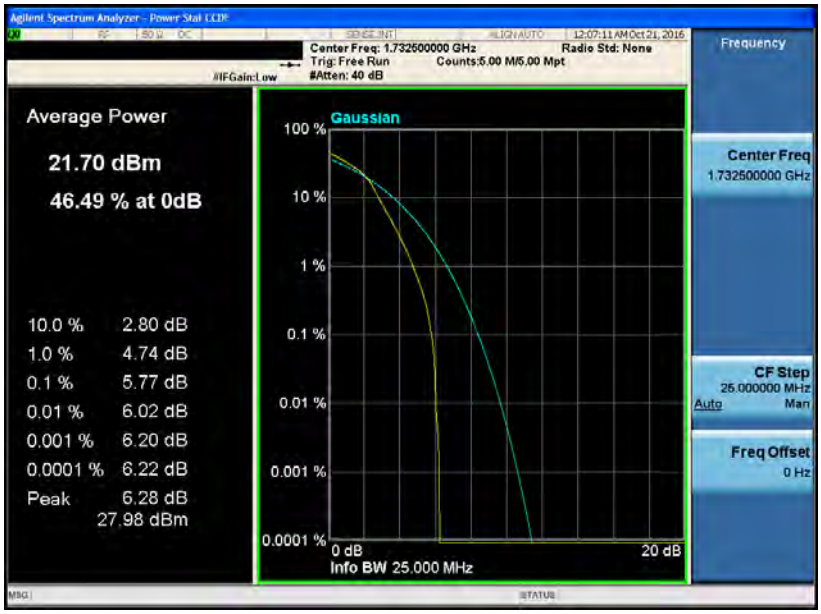
LTE Band 4 (Channel Bandwidth: 3 MHz) _ QPSK	
1732.5 MHz	

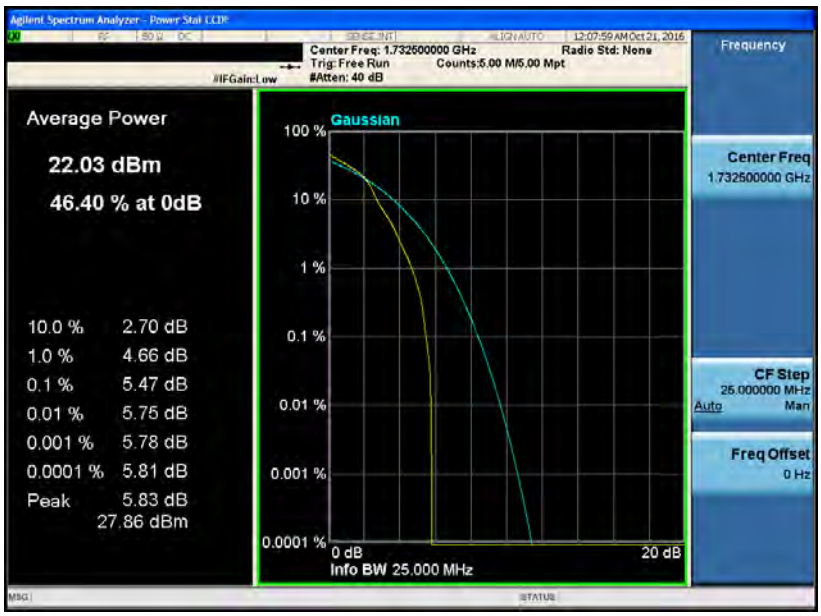
LTE Band 4 (Channel Bandwidth: 5 MHz) _ QPSK	
1732.5 MHz	

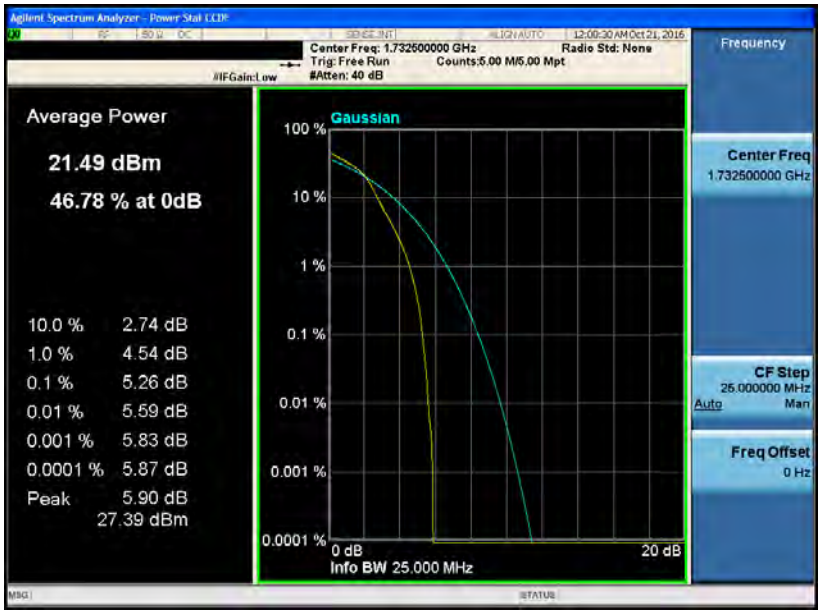
LTE Band 4 (Channel Bandwidth: 10 MHz) _ QPSK	
1732.5 MHz	

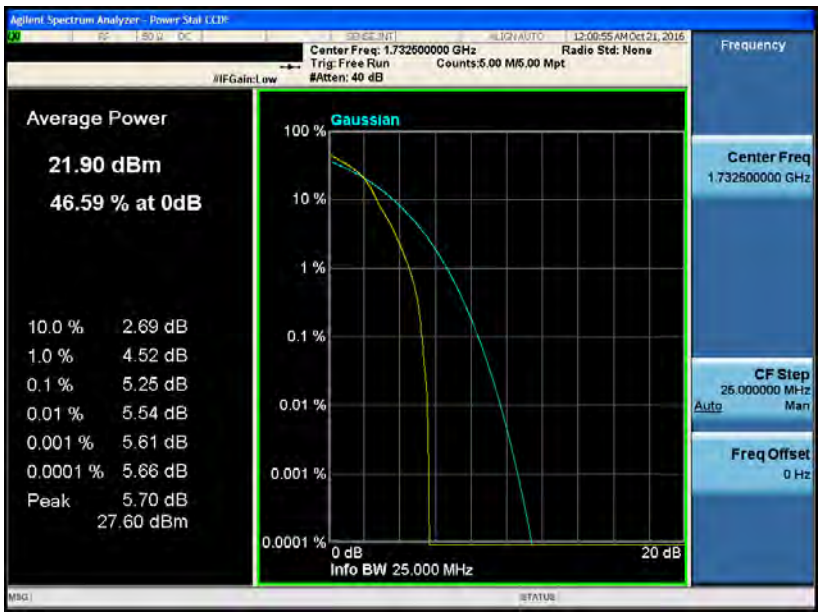
LTE Band 4 (Channel Bandwidth: 15 MHz) _ QPSK	
1732.5 MHz	

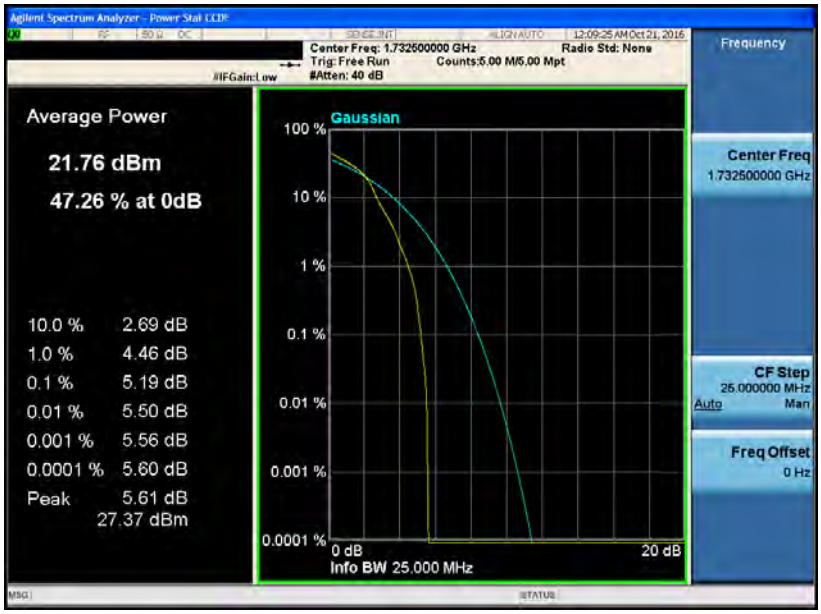
LTE Band 4 (Channel Bandwidth: 20 MHz) _ QPSK	
1732.5 MHz	

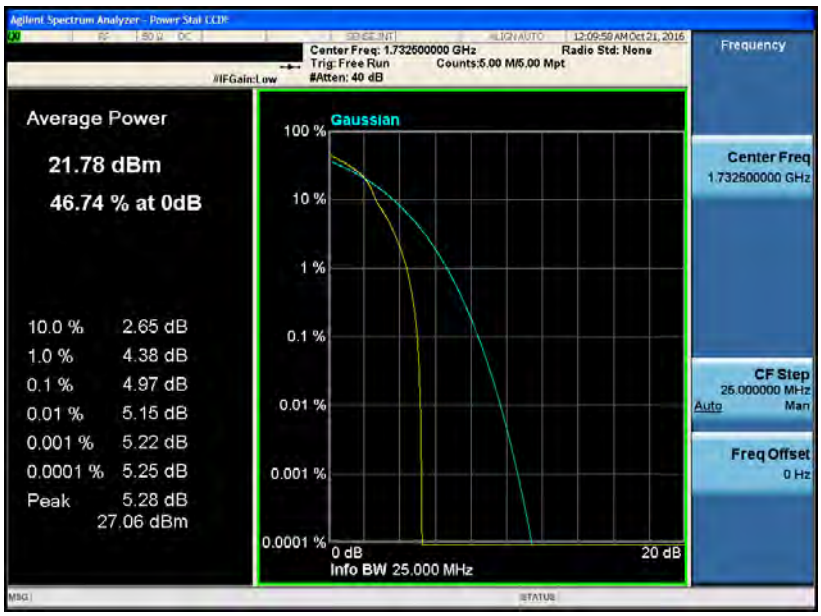
LTE Band 4 (Channel Bandwidth: 1.4 MHz) _ 16QAM	
1732.5 MHz	

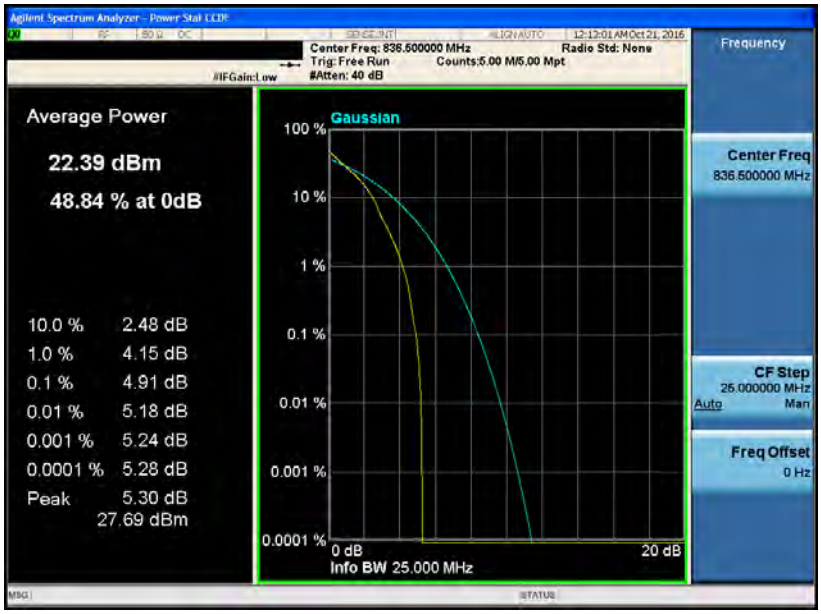
LTE Band 4 (Channel Bandwidth: 3 MHz) _ 16QAM	
1732.5 MHz	

LTE Band 4 (Channel Bandwidth: 5 MHz) _ 16QAM	
1732.5 MHz	

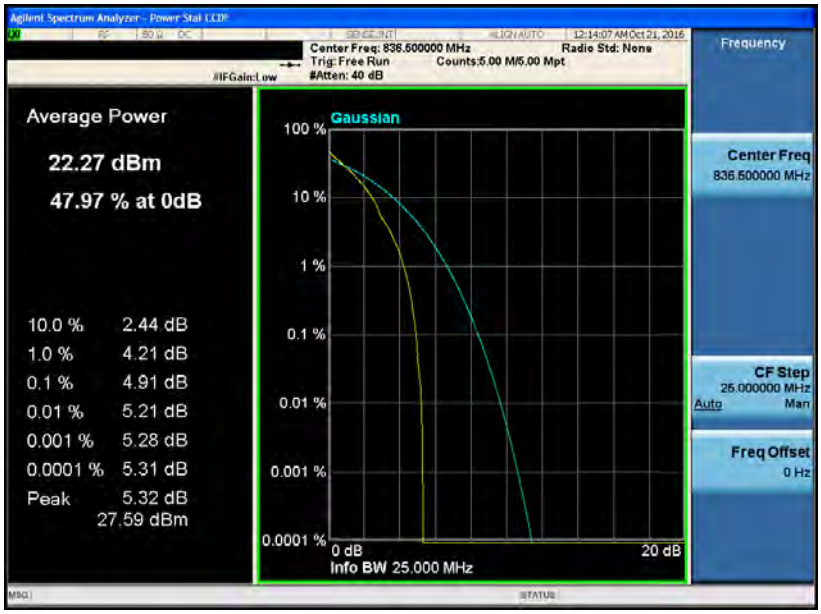
LTE Band 4 (Channel Bandwidth: 10 MHz) _ 16QAM	
1732.5 MHz	

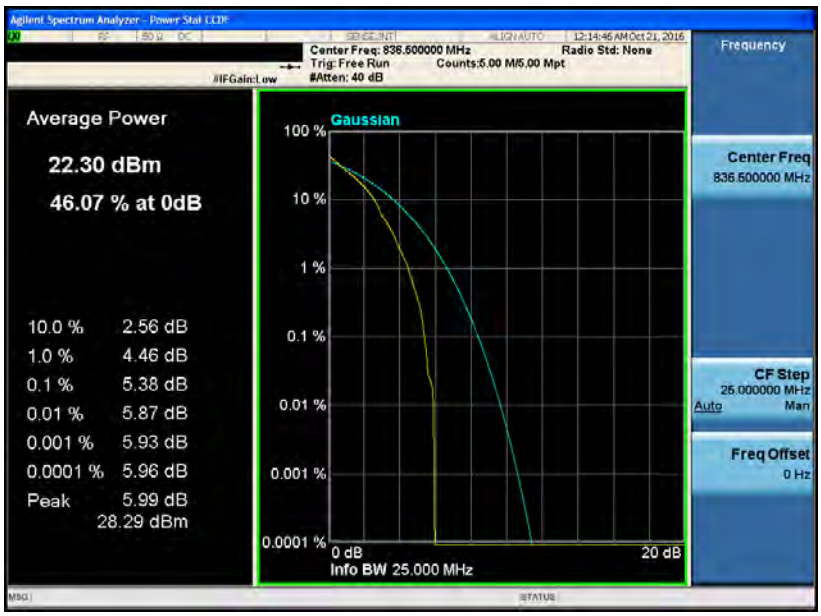
LTE Band 4 (Channel Bandwidth: 15 MHz) _ 16QAM	
1732.5 MHz	

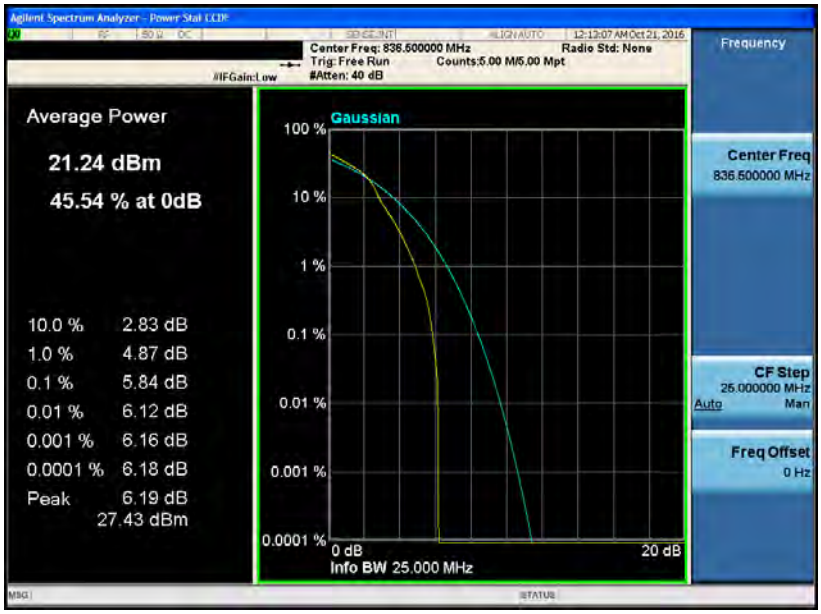
LTE Band 4 (Channel Bandwidth: 20 MHz) _ 16QAM	
1732.5 MHz	

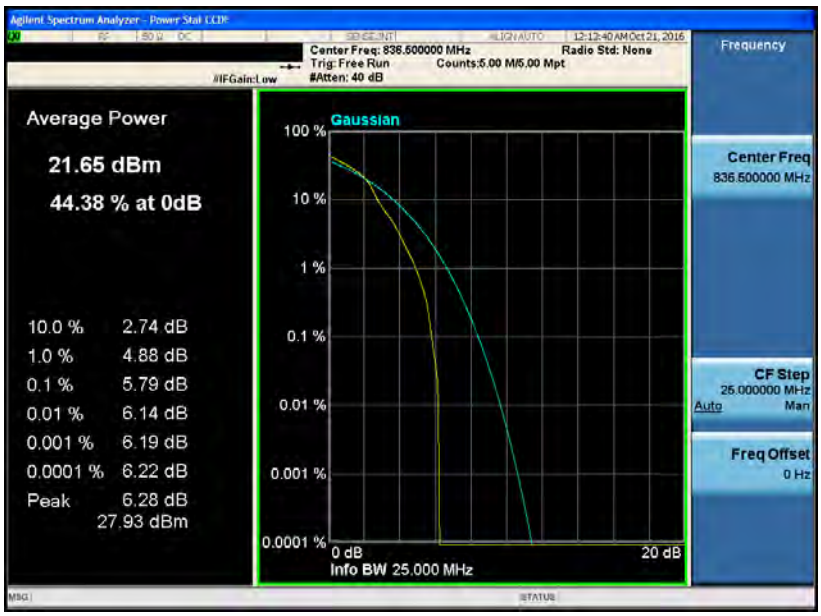
LTE Band 5 (Channel Bandwidth: 1.4 MHz) _ QPSK	
836.5 MHz	

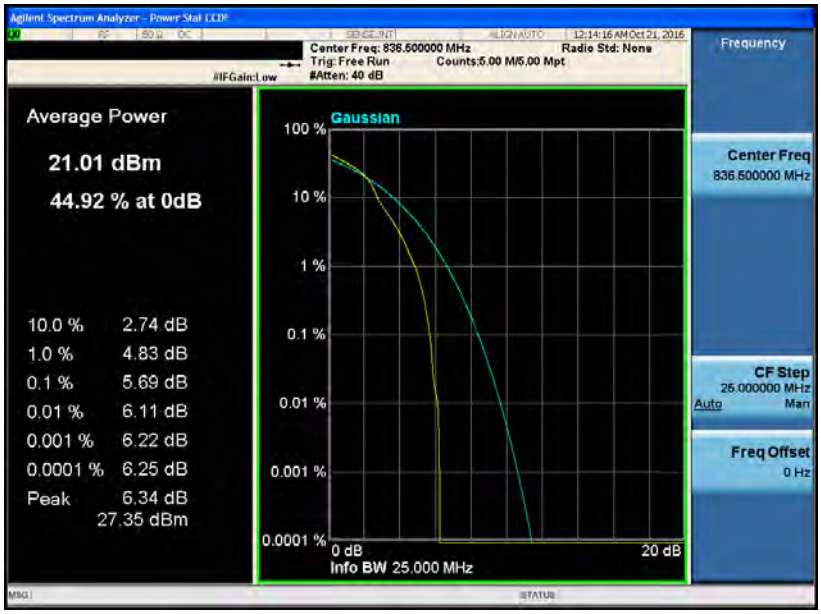
LTE Band 5 (Channel Bandwidth: 3 MHz) _ QPSK	
836.5 MHz	

LTE Band 5 (Channel Bandwidth: 5 MHz) _ QPSK	
836.5 MHz	

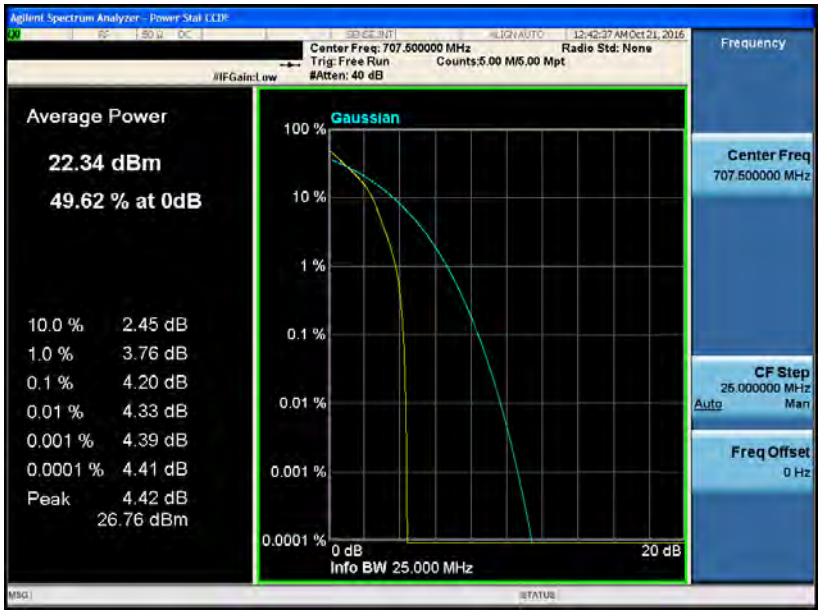
LTE Band 5 (Channel Bandwidth: 10 MHz) _ QPSK	
836.5 MHz	

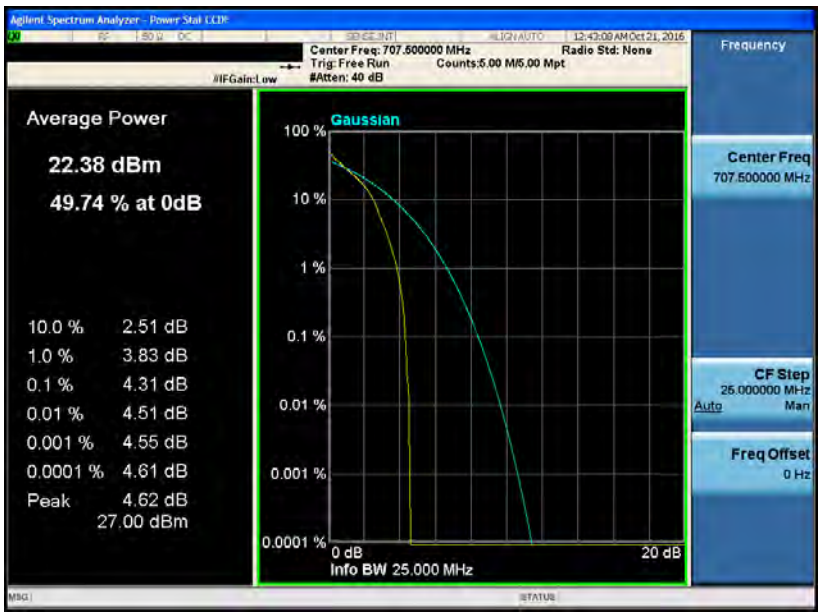
LTE Band 5 (Channel Bandwidth: 1.4 MHz) _ 16QAM	
836.5 MHz	

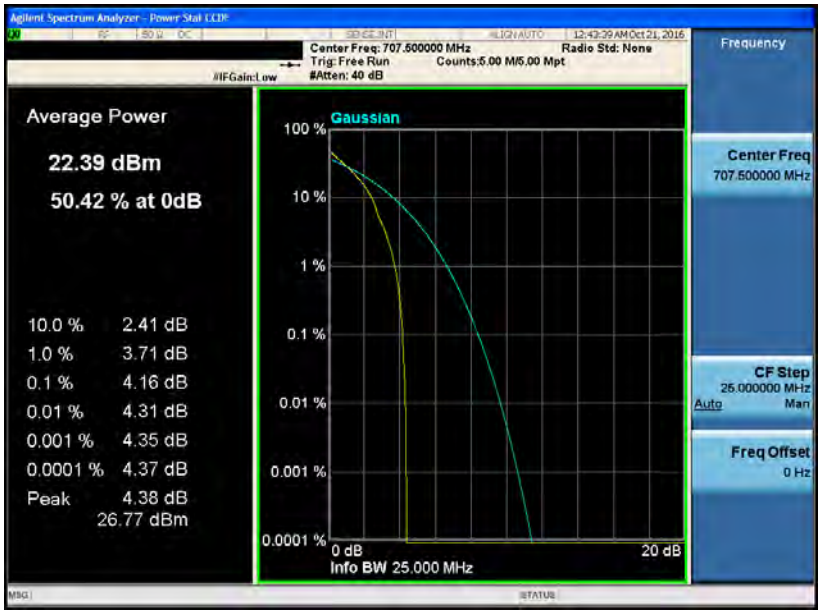
LTE Band 5 (Channel Bandwidth: 3 MHz) _ 16QAM	
836.5 MHz	

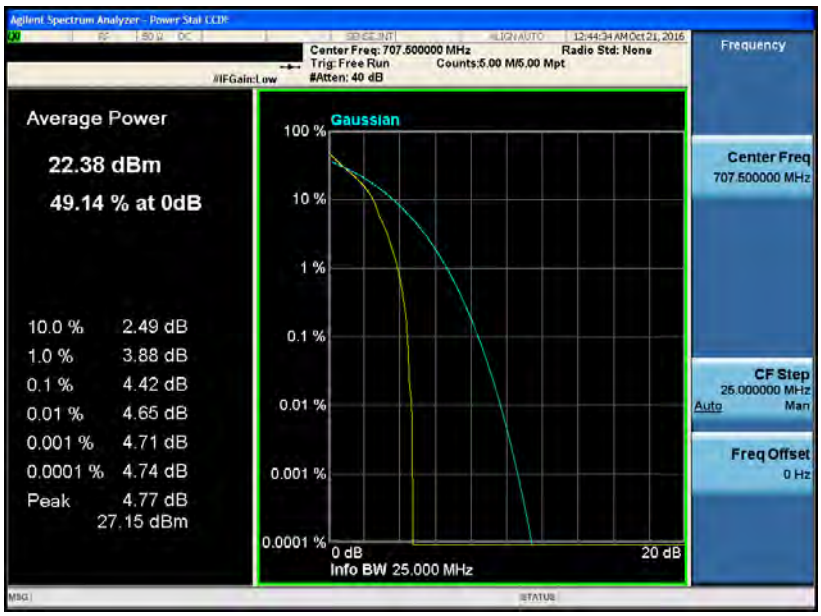
LTE Band 5 (Channel Bandwidth: 5 MHz) _ 16QAM	
836.5 MHz	

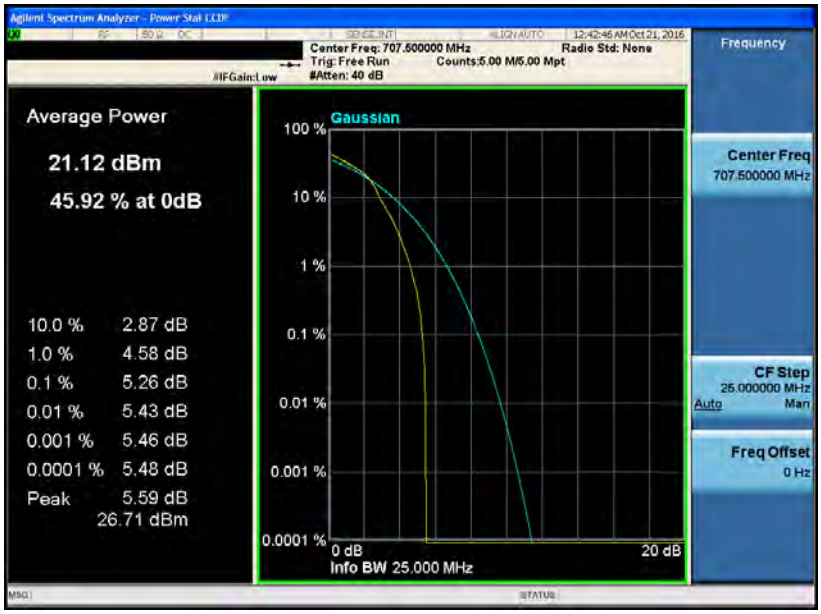
LTE Band 5 (Channel Bandwidth: 10 MHz) _ 16QAM	
836.5 MHz	

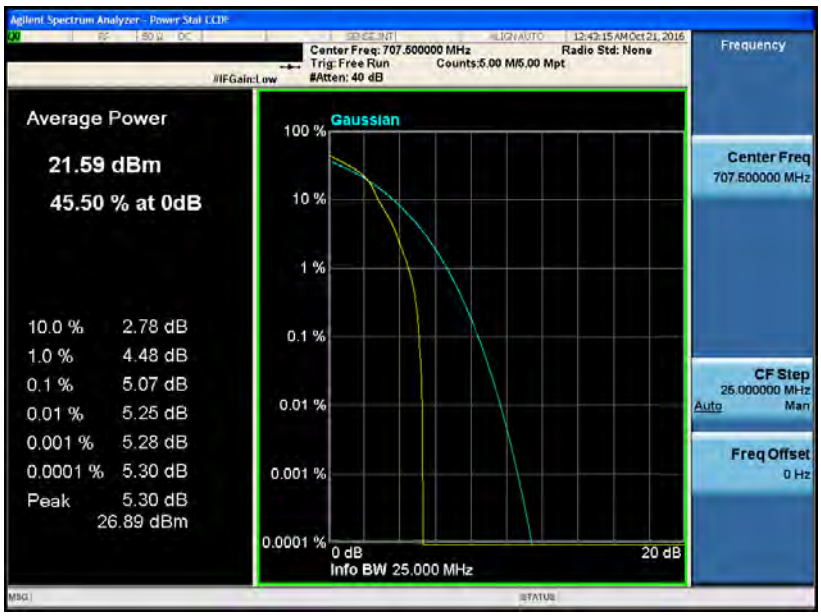
LTE Band 12 (Channel Bandwidth: 1.4 MHz) _ QPSK	
707.5 MHz	

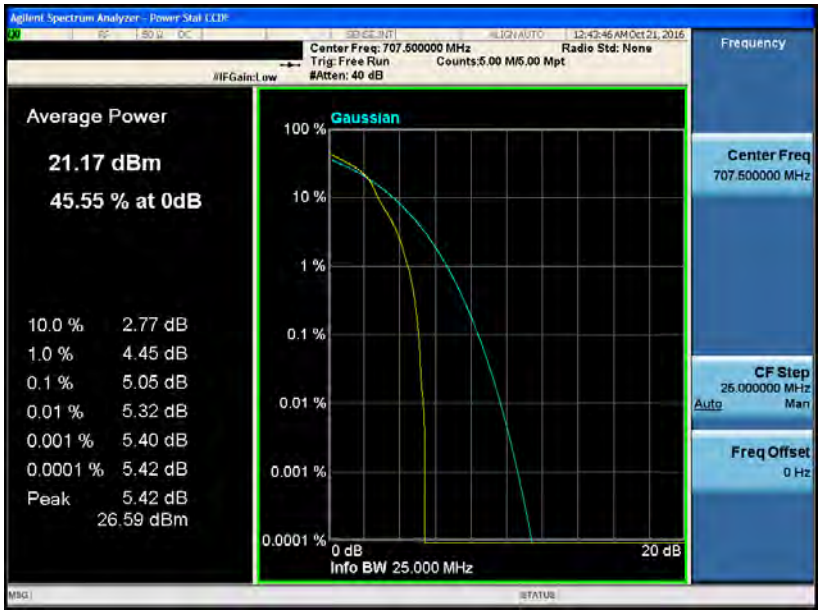
LTE Band 12 (Channel Bandwidth: 3 MHz) _ QPSK	
707.5 MHz	

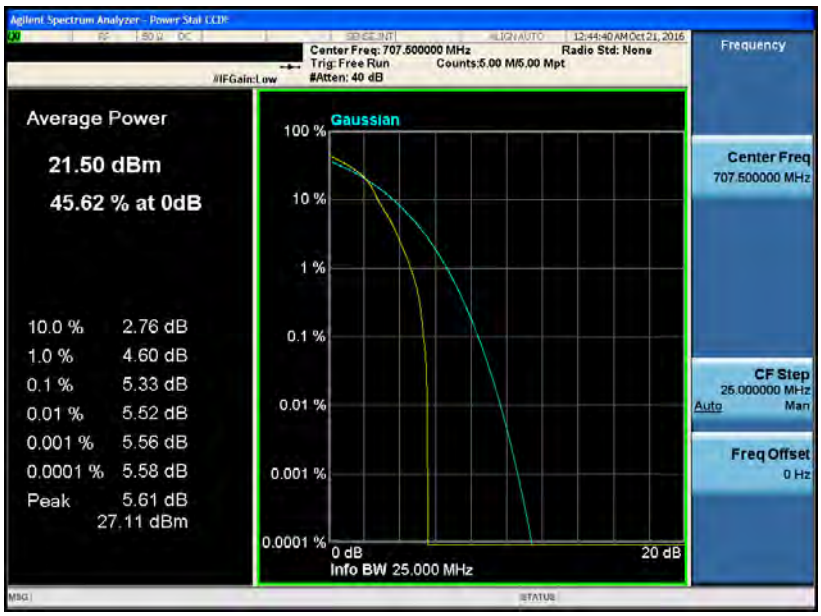
LTE Band 12 (Channel Bandwidth: 5 MHz) _ QPSK	
707.5 MHz	

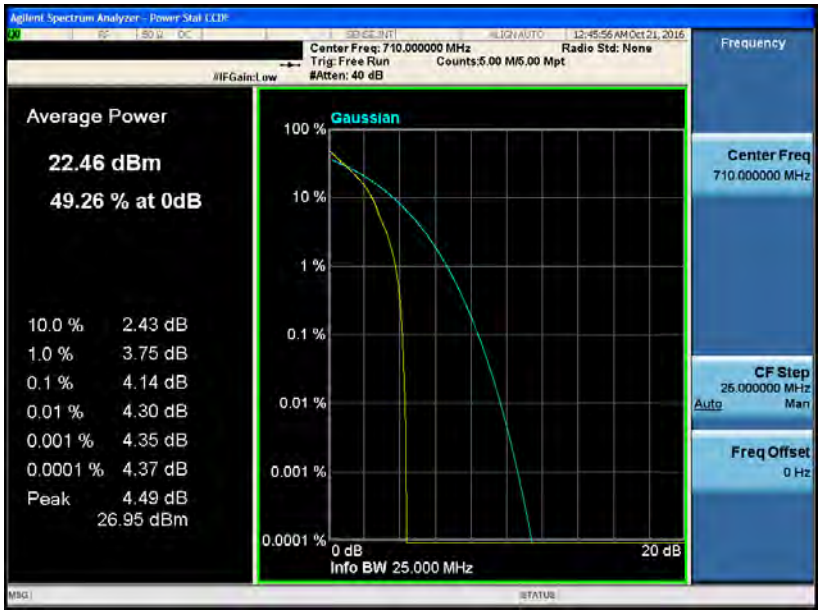
LTE Band 12 (Channel Bandwidth: 10 MHz) _ QPSK	
707.5 MHz	

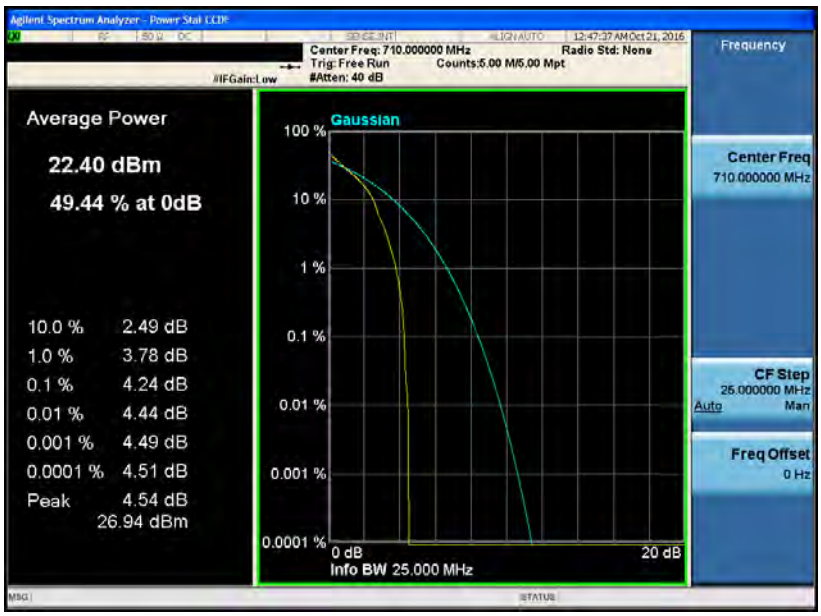
LTE Band 12 (Channel Bandwidth: 1.4 MHz) _ 16QAM	
707.5 MHz	

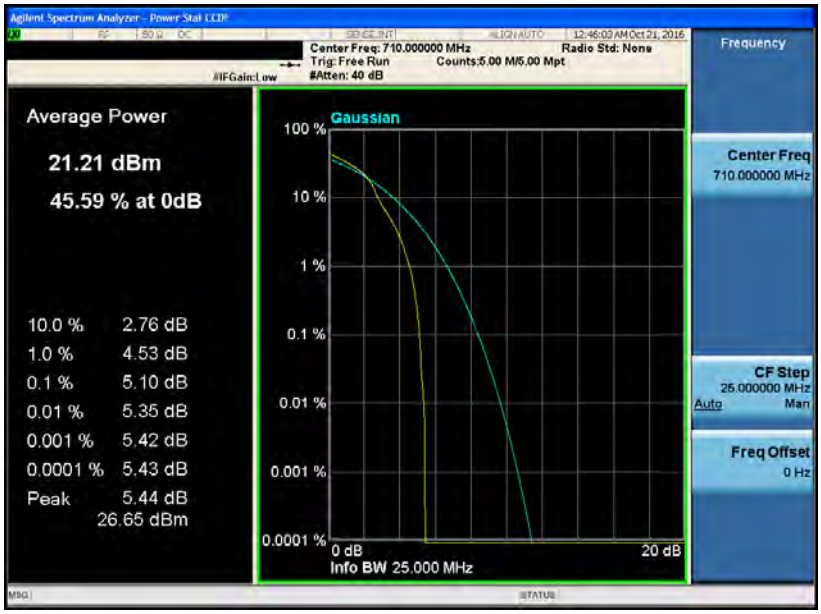
LTE Band 12 (Channel Bandwidth: 3 MHz) _ 16QAM	
707.5 MHz	

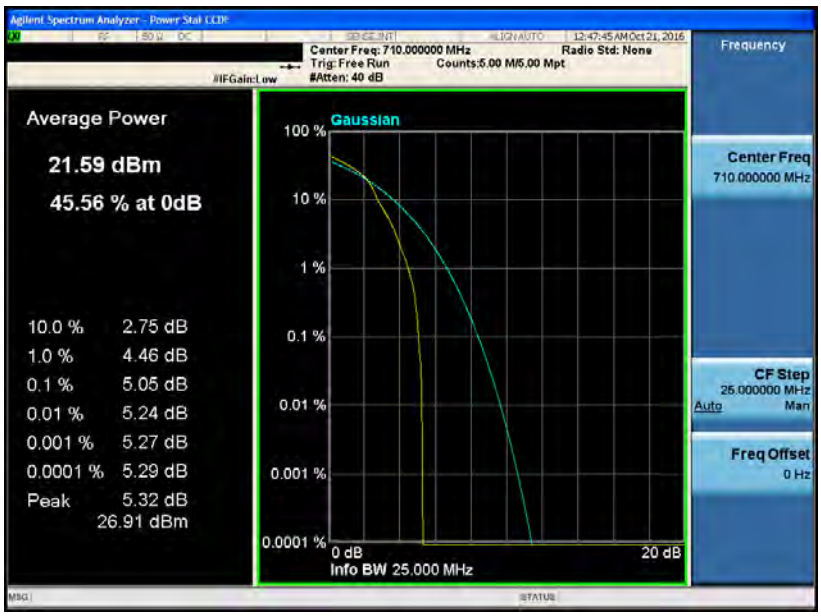
LTE Band 12 (Channel Bandwidth: 5 MHz) _ 16QAM	
707.5 MHz	

LTE Band 12 (Channel Bandwidth: 10 MHz) _ 16QAM	
707.5 MHz	

LTE Band 17 (Channel Bandwidth: 5 MHz) _ QPSK	
711.0 MHz	

LTE Band 17 (Channel Bandwidth: 10 MHz) _ QPSK	
711.0 MHz	

LTE Band 17 (Channel Bandwidth: 5 MHz) _ 16QAM	
711.0 MHz	

LTE Band 17 (Channel Bandwidth: 10 MHz) _ 16QAM	
711.0 MHz	

7 Band Edge Test

■ Limit

The Band Edge Limit:

§22.917(a), §24.238(a)

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

§27.53(g)

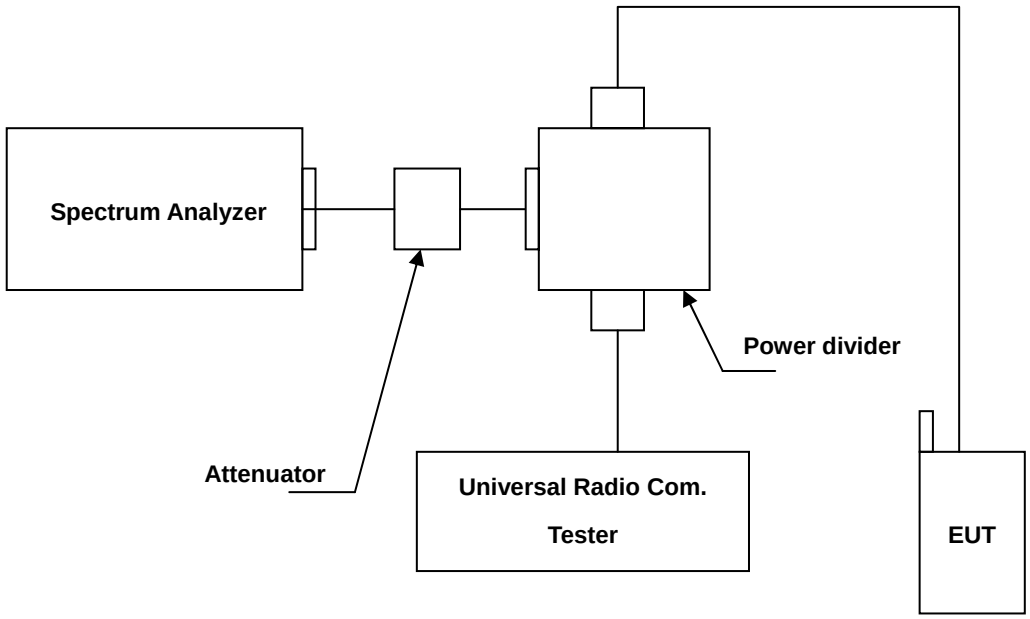
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$ (P) dB.

■ Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Wideband Radio Communication Test	R & S	CMW500	103168	10/30/2015	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

■ Setup



Test Procedure

The measurement is made according to FCC rules:

a. The EUT was set up for the maximum peak power with LTE/WCDMA link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.)

b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer. This splitter loss and cable loss are the worst loss in the transmitted path track.

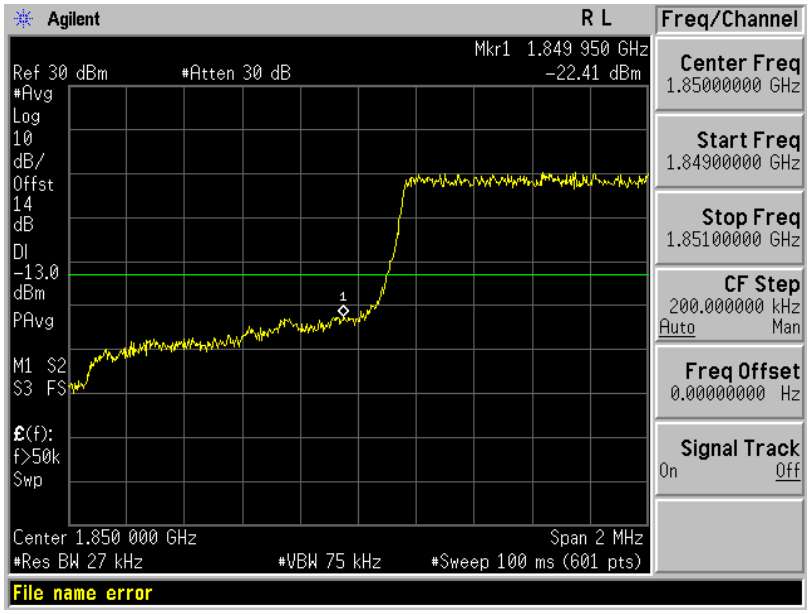
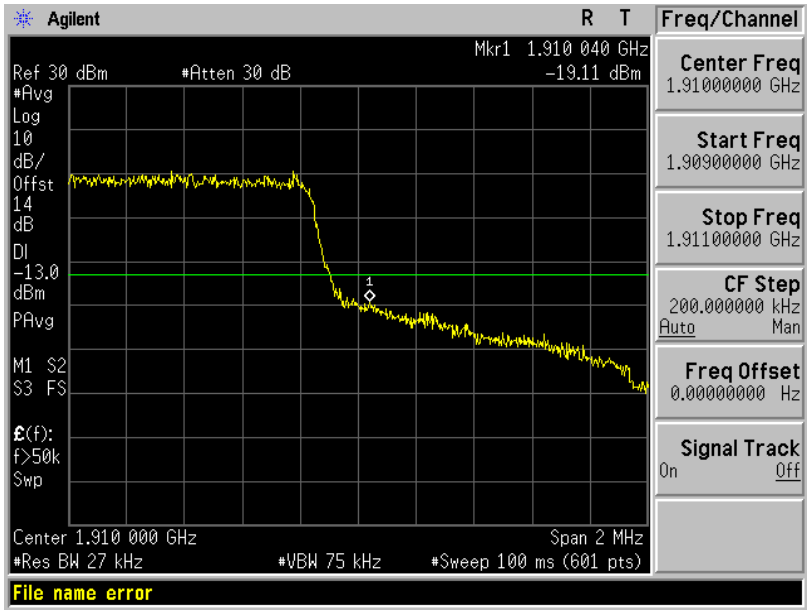
c. The center frequency of spectrum is the band edge frequency and span is 10 MHz. RB of the resolution bandwidth of at least one percent of the emission bandwidth.

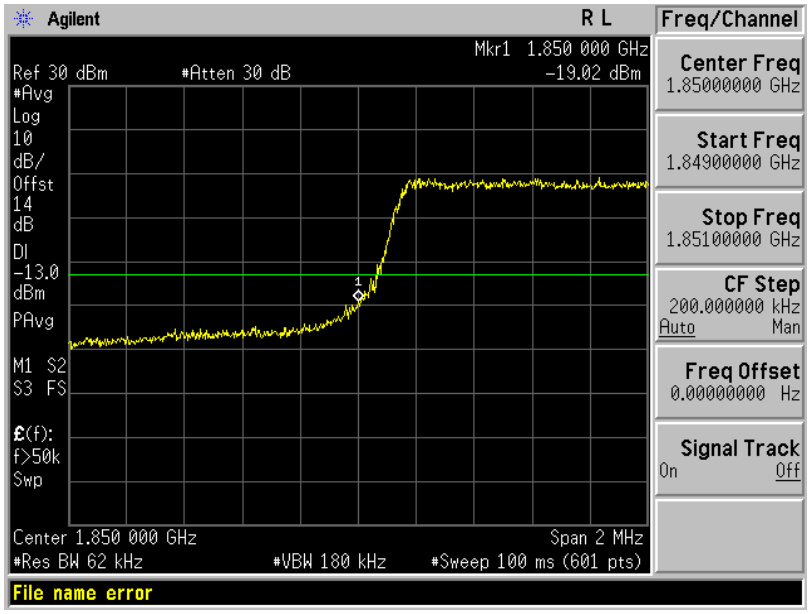
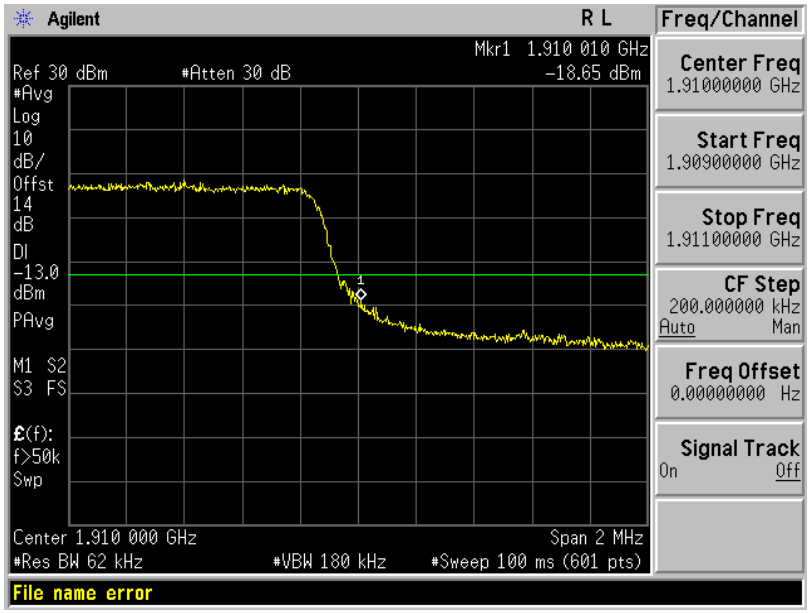
d. Record the max trace plot into the test report.

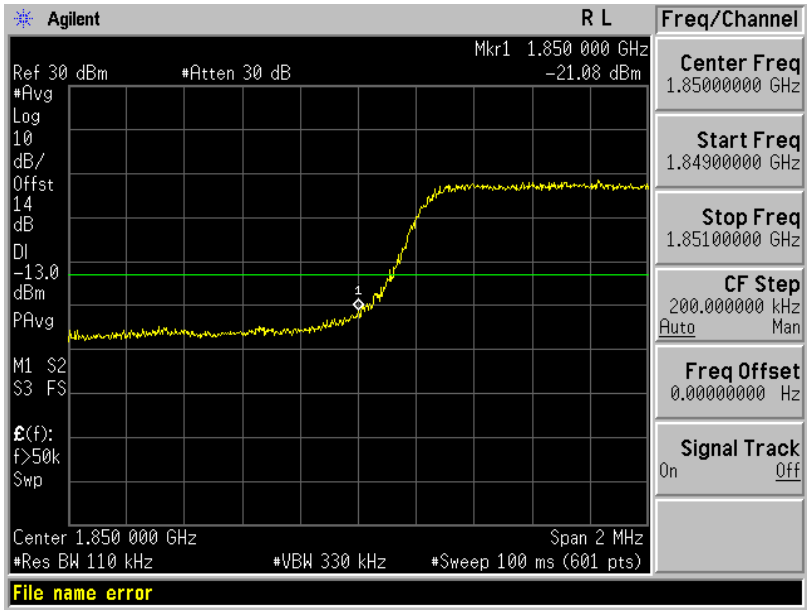
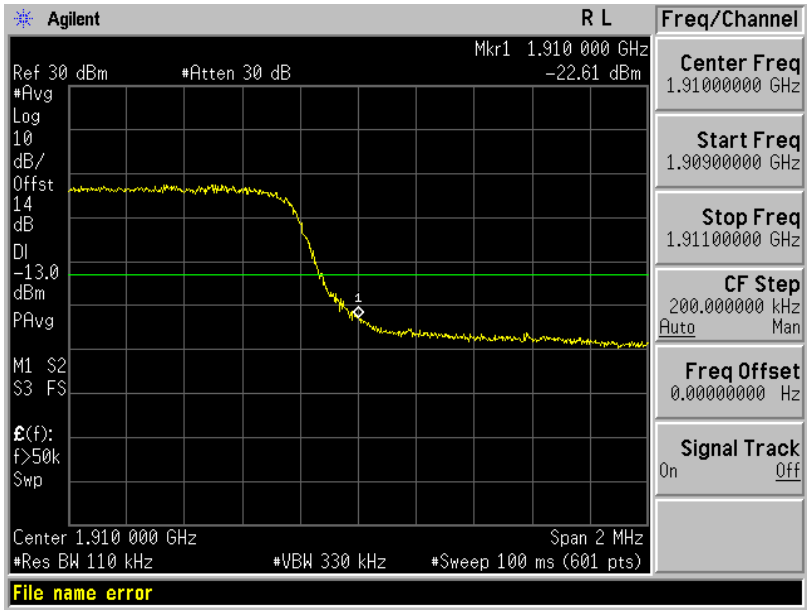
Uncertainty

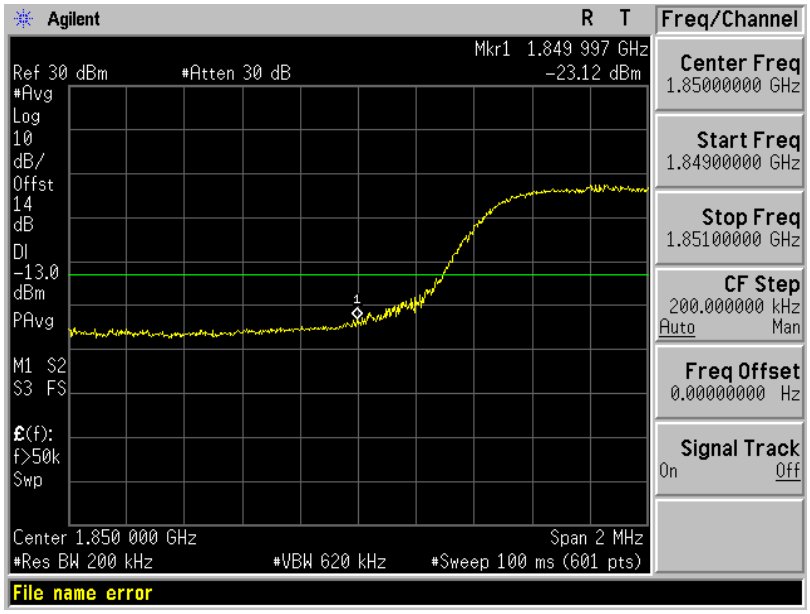
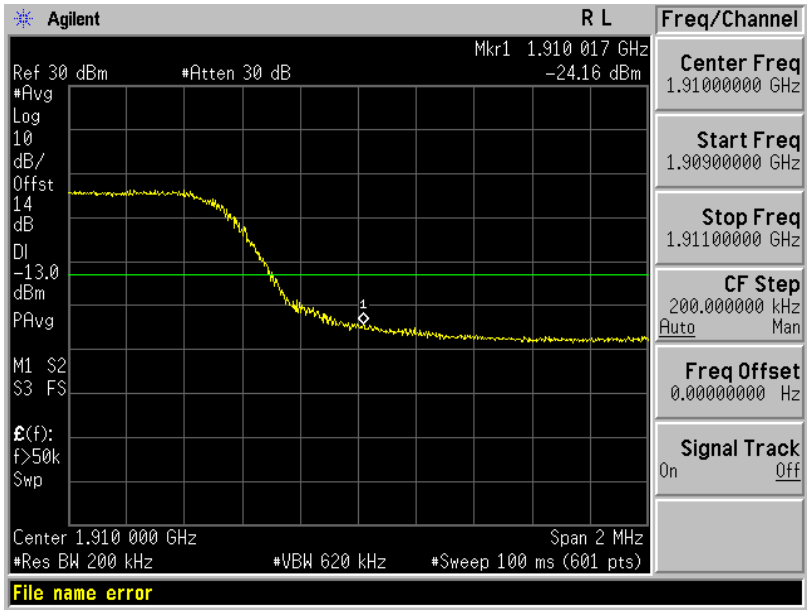
The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.

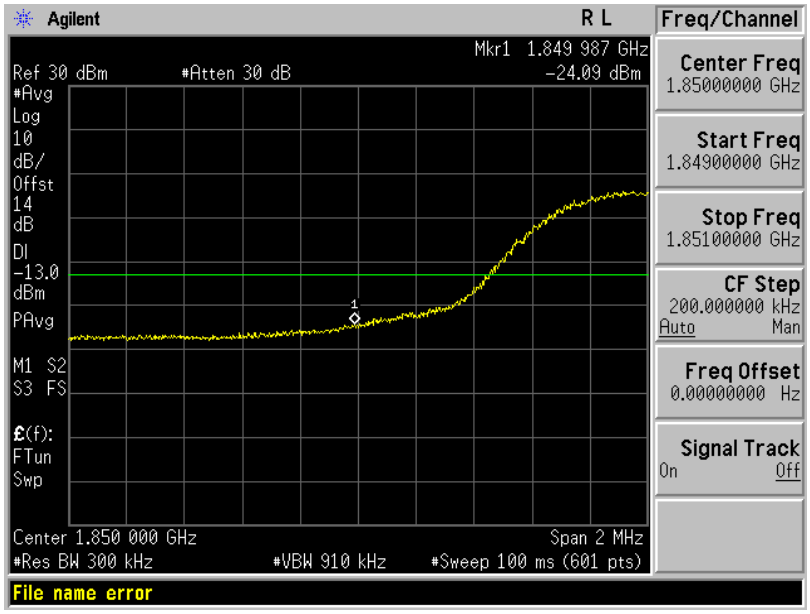
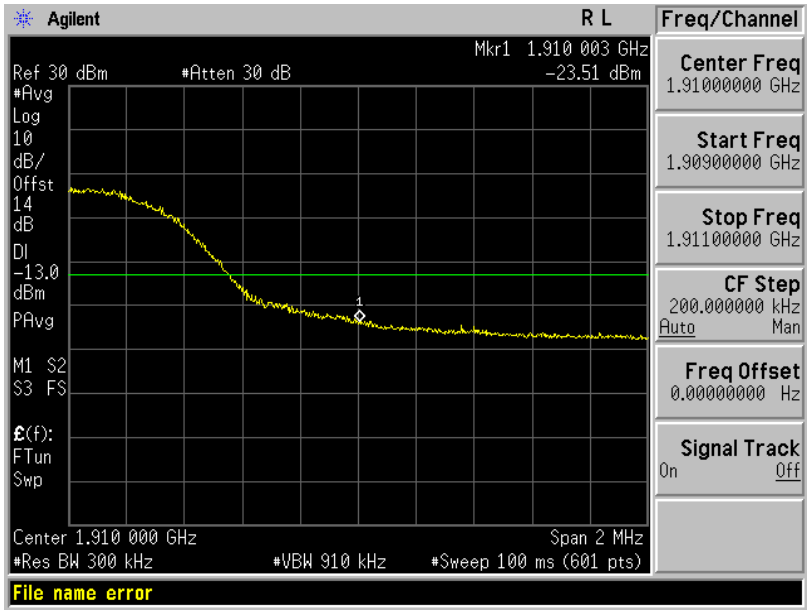
■ **Test Result**

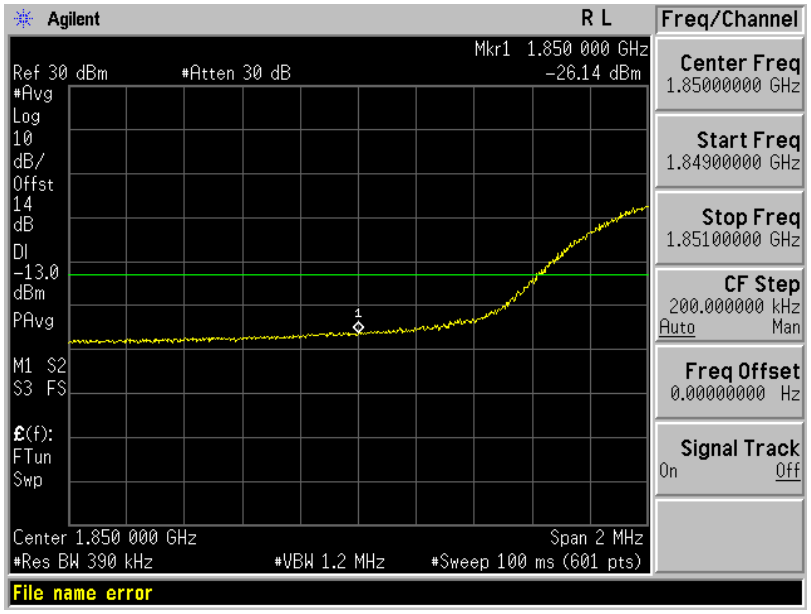
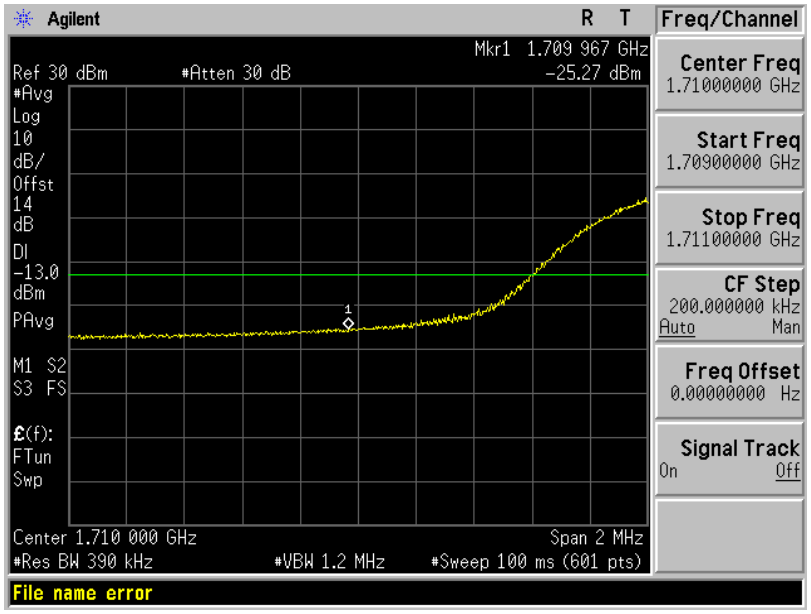
Frequency	LTE Band 2	Channel Bandwidth	1.4 MHz	RB Allocated	6
Lower Band Edge					
Higher Band Edge					

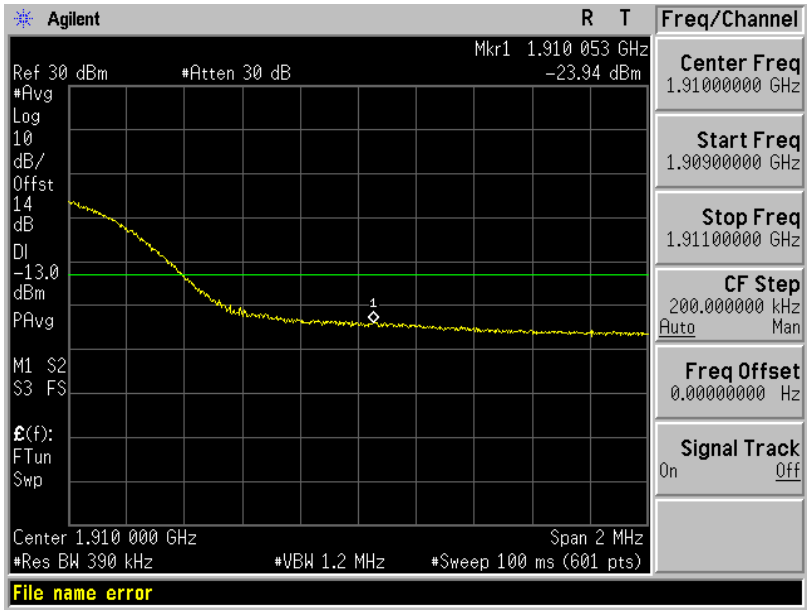
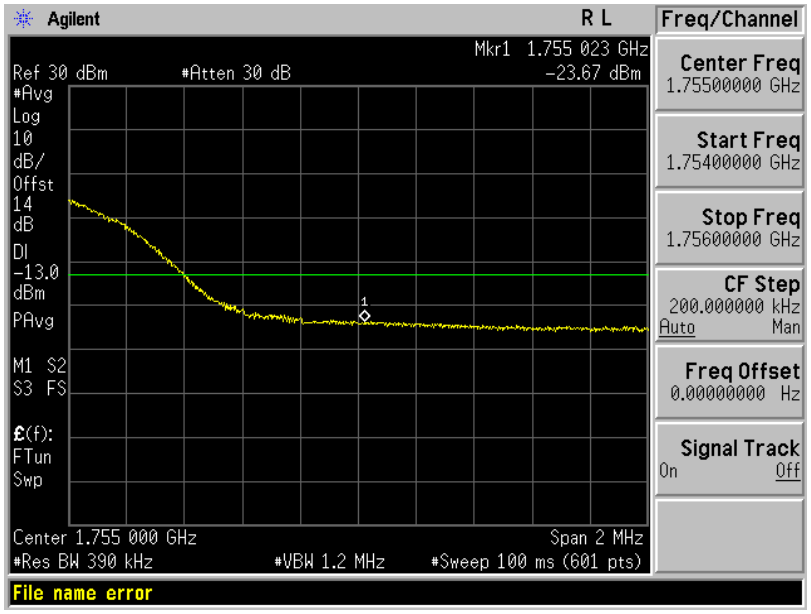
Frequency	LTE Band 2	Channel Bandwidth	3 MHz	RB Allocated	15
Lower Band Edge					
Higher Band Edge					

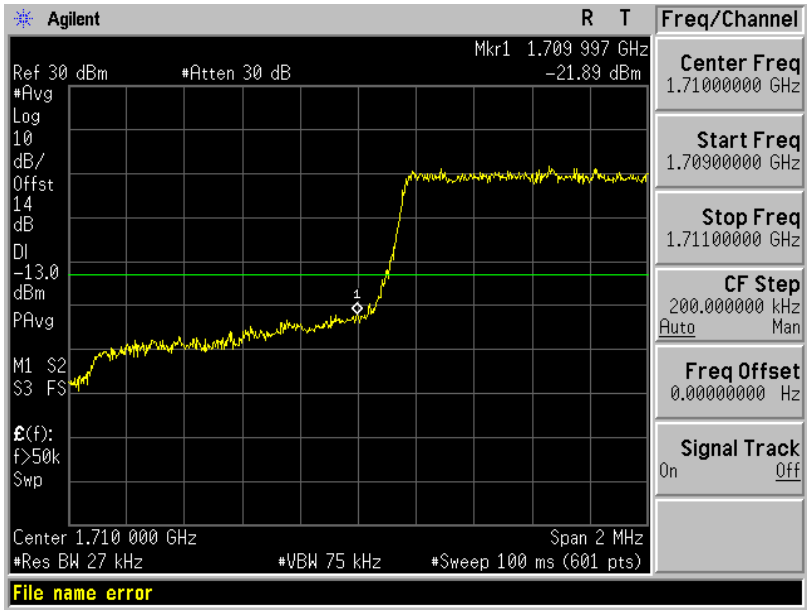
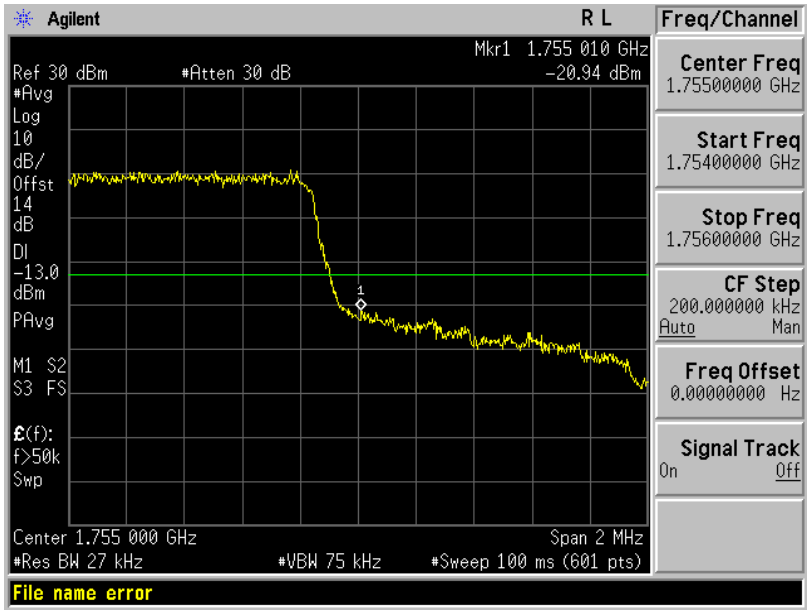
Frequency	LTE Band 2	Channel Bandwidth	5 MHz	RB Allocated	25
Lower Band Edge					
Higher Band Edge					

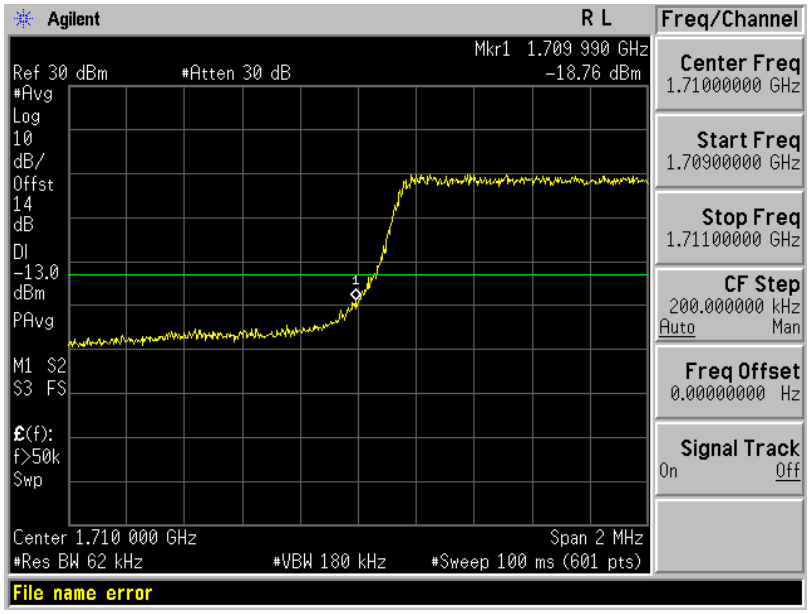
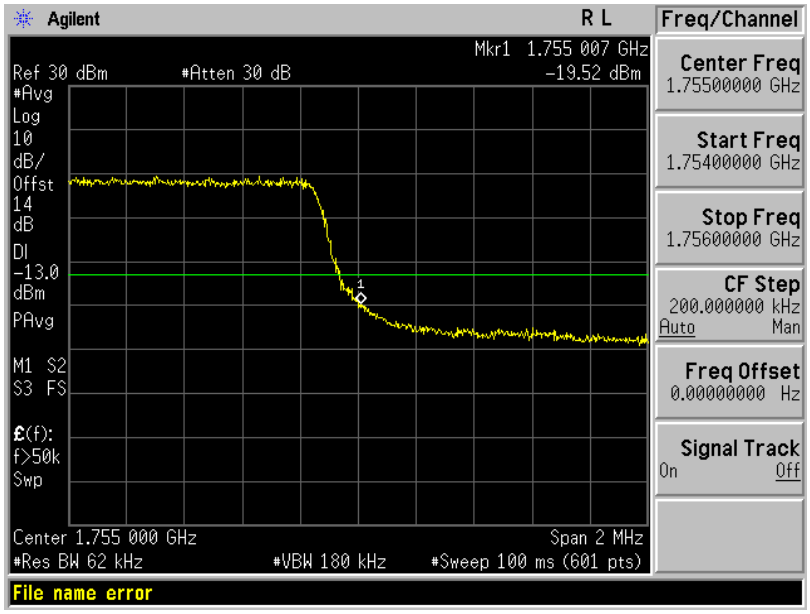
Frequency	LTE Band 2	Channel Bandwidth	10 MHz	RB Allocated	50
Lower Band Edge					
Higher Band Edge					

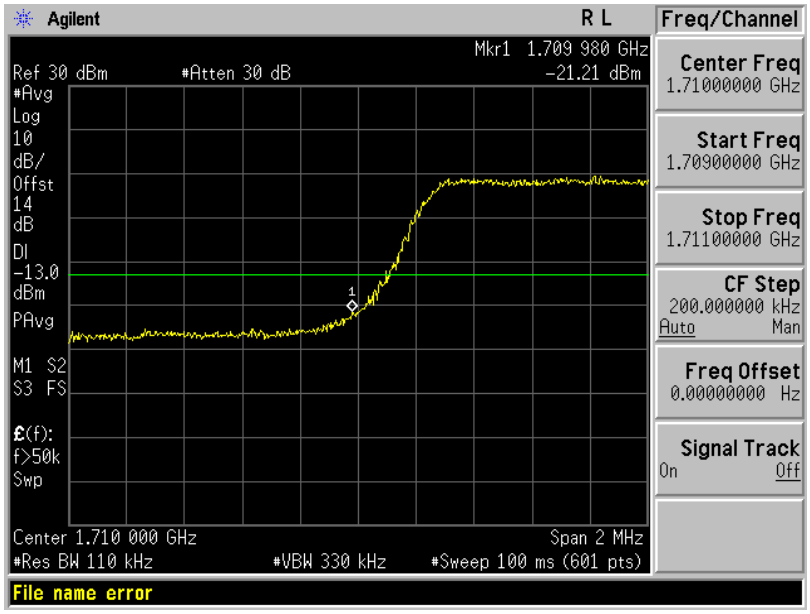
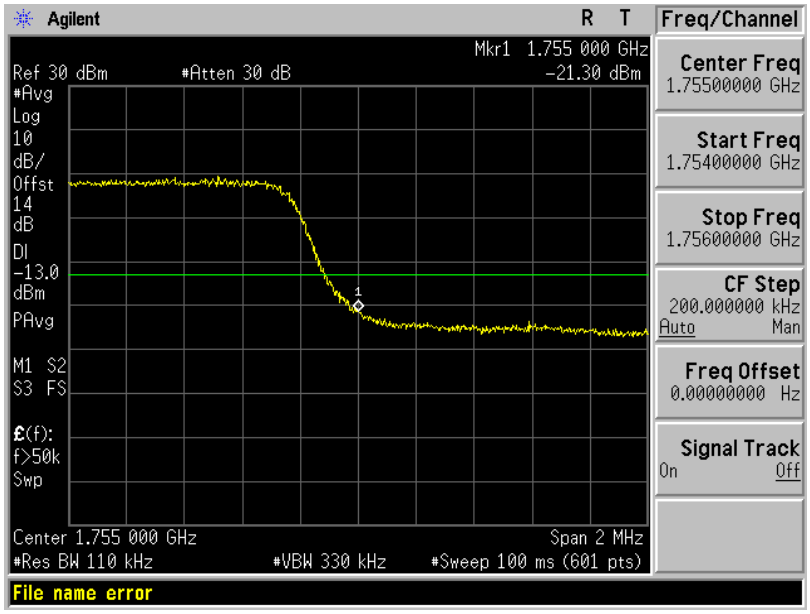
Frequency	LTE Band 2	Channel Bandwidth	15 MHz	RB Allocated	75
Lower Band Edge					
Higher Band Edge					

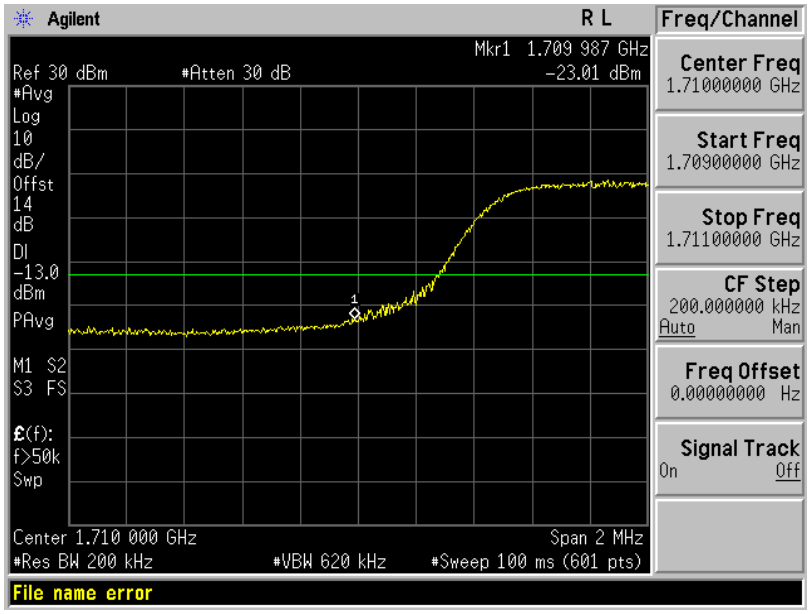
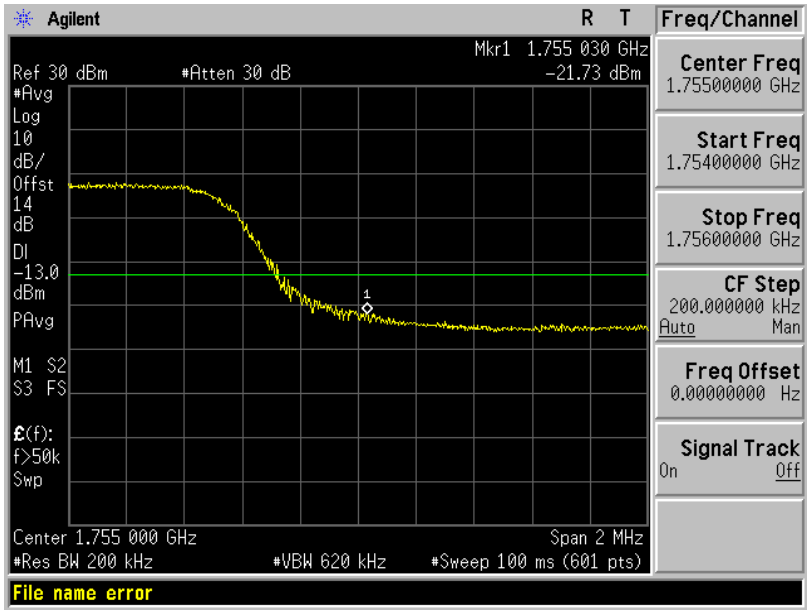
Frequency	LTE Band 2	Channel Bandwidth	20 MHz	RB Allocated	100
Lower Band Edge					
Lower Band Edge					

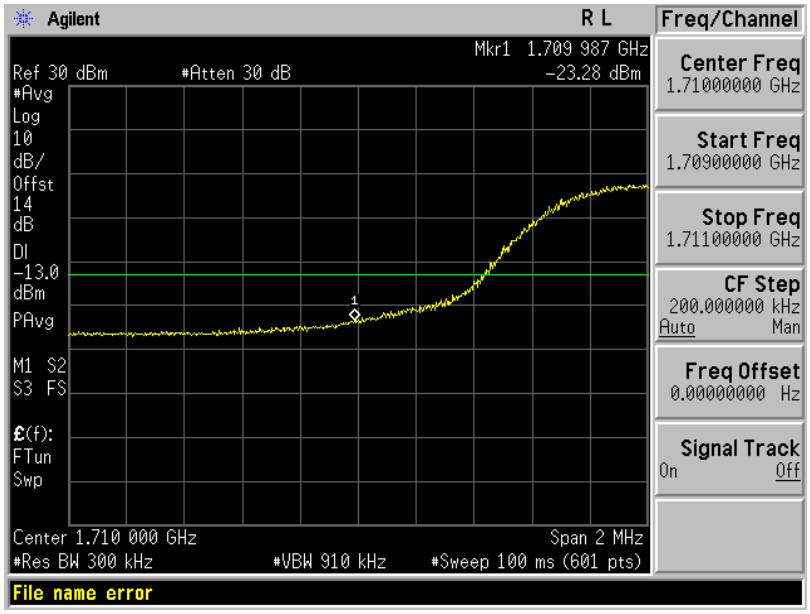
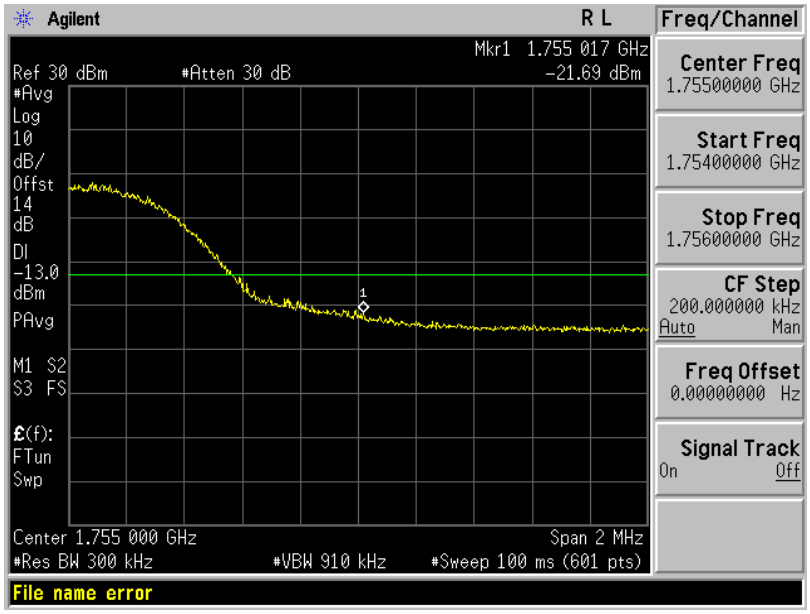
Frequency	LTE Band 2	Channel Bandwidth	20 MHz	RB Allocated	100
Higher Band Edge	
Higher Band Edge	

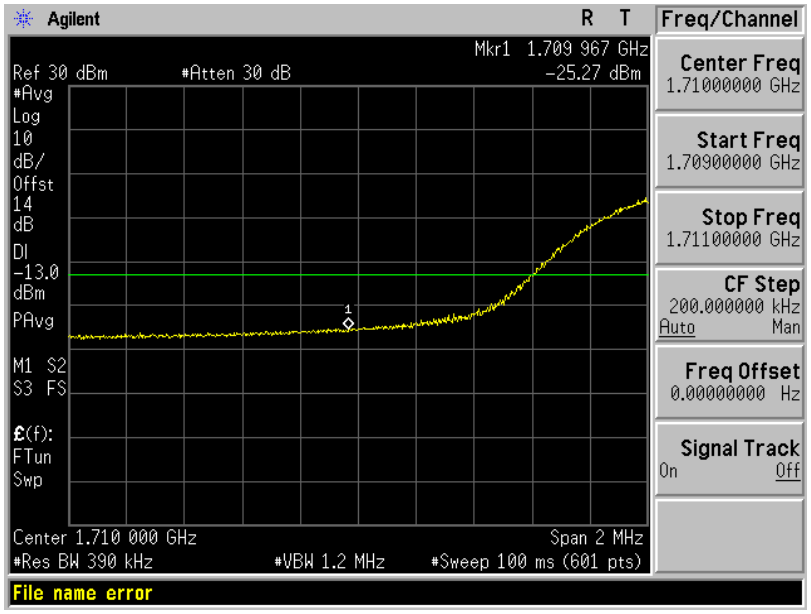
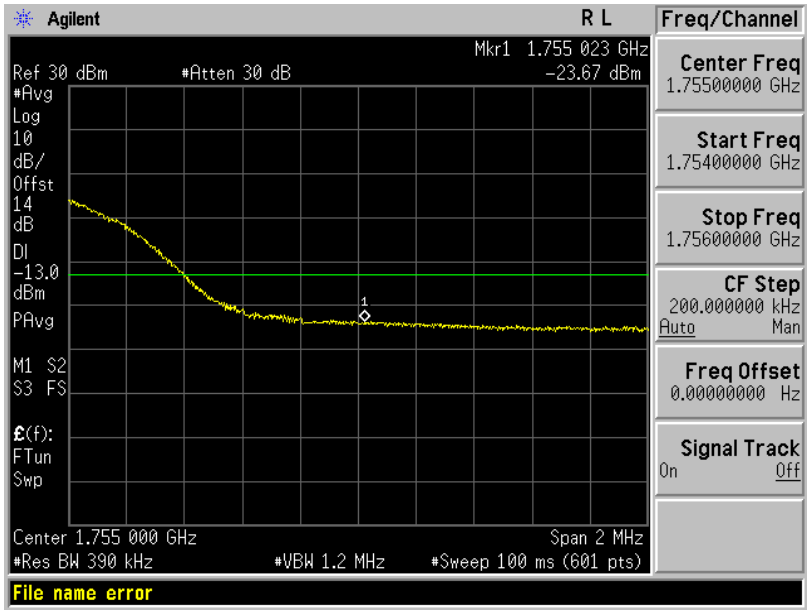
Frequency	LTE Band 4	Channel Bandwidth	1.4 MHz	RB Allocated	6
Lower Band Edge					
Higher Band Edge					

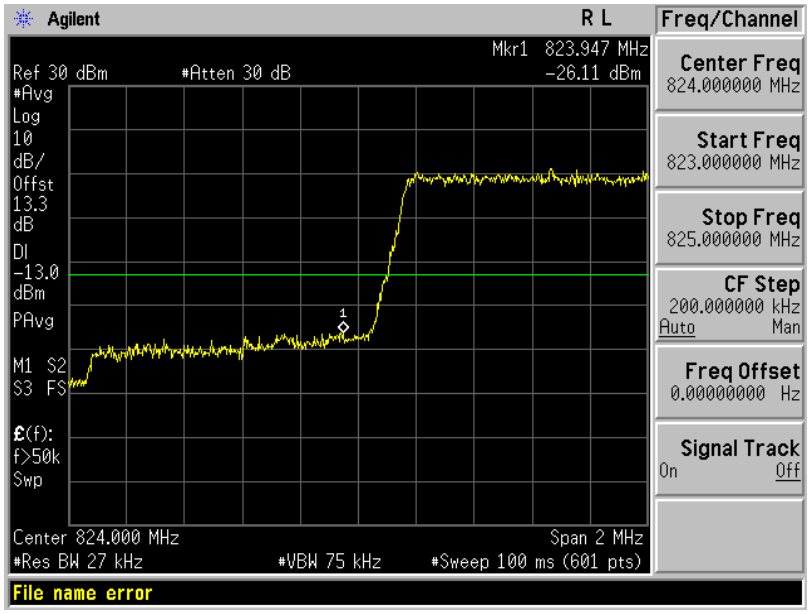
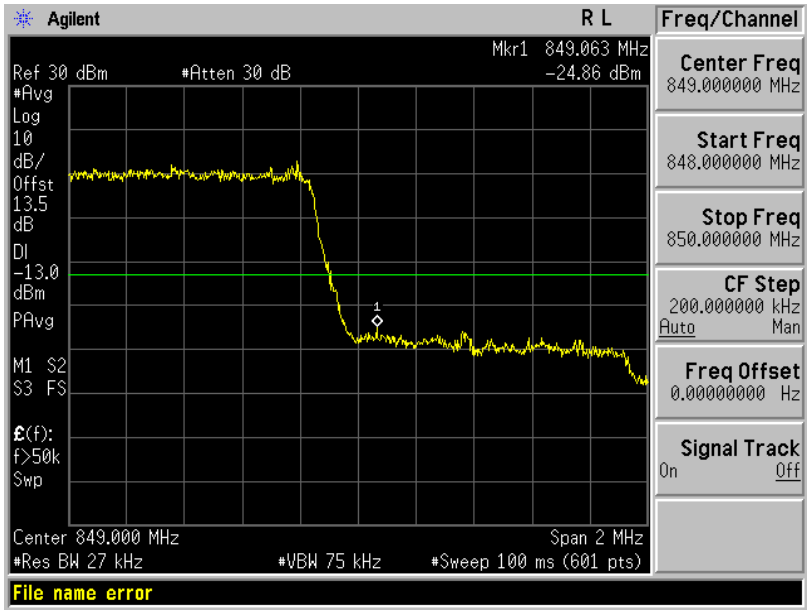
Frequency	LTE Band 4	Channel Bandwidth	3 MHz	RB Allocated	15
Lower Band Edge					
Higher Band Edge					

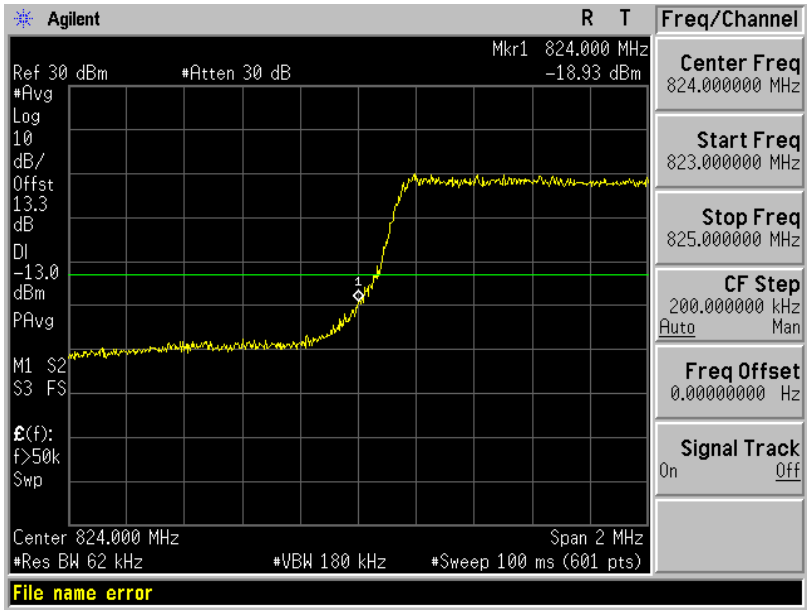
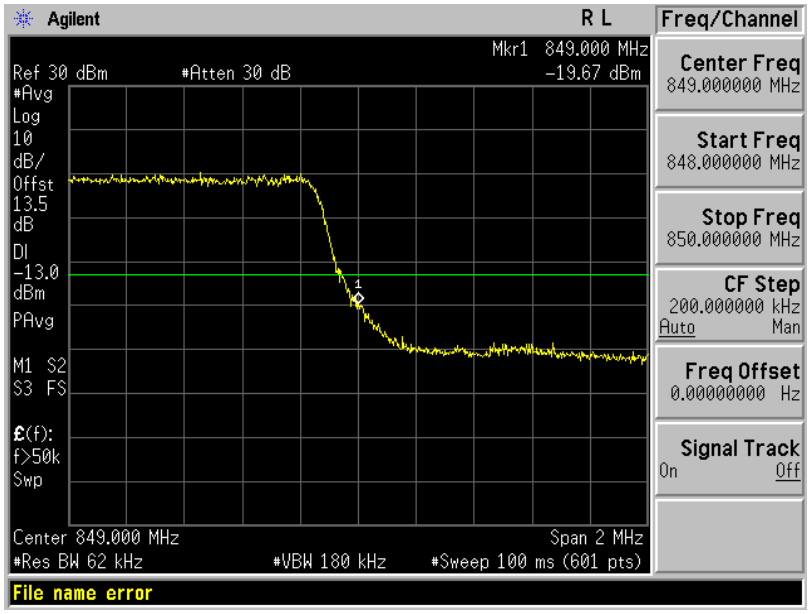
Frequency	LTE Band 4	Channel Bandwidth	5 MHz	RB Allocated	25
Lower Band Edge					
Higher Band Edge					

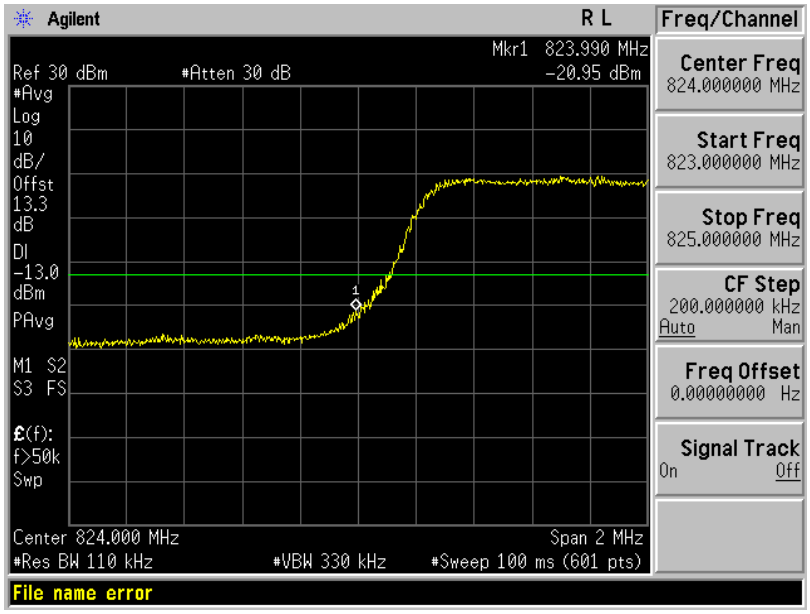
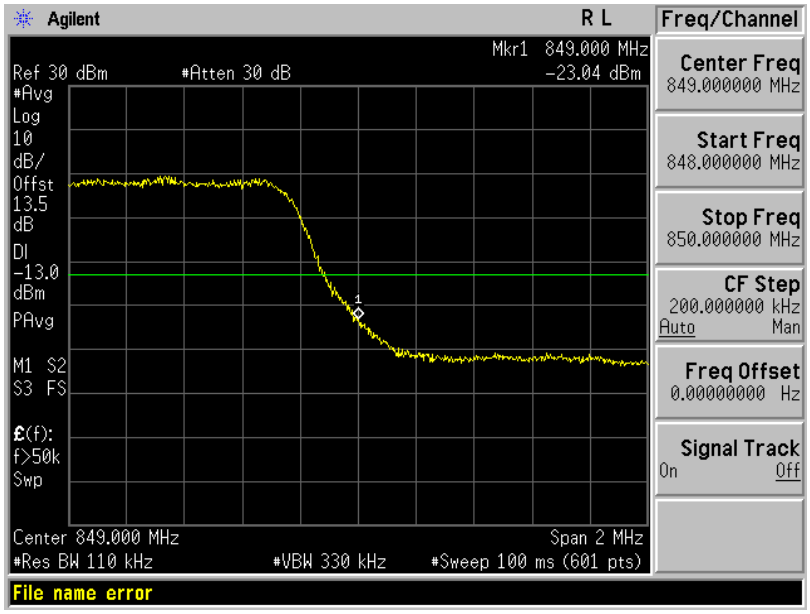
Frequency	LTE Band 4	Channel Bandwidth	10 MHz	RB Allocated	50
Lower Band Edge					
Higher Band Edge					

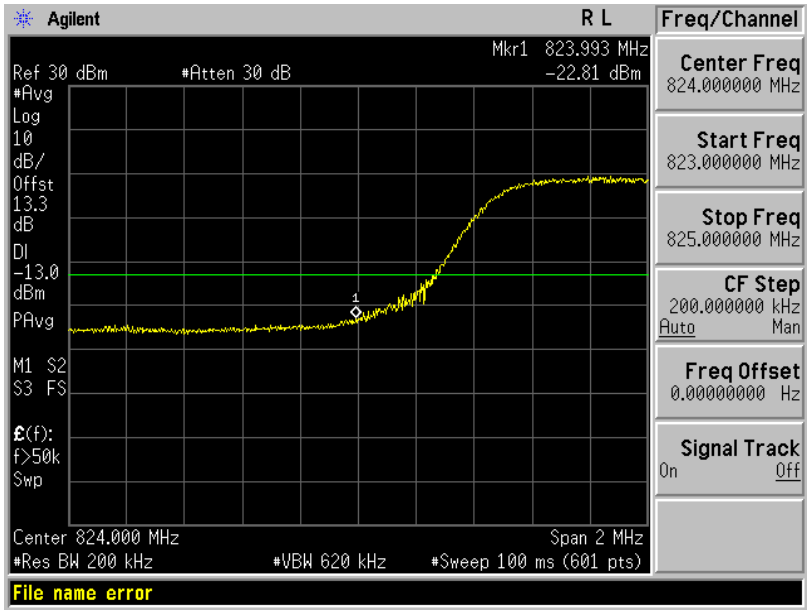
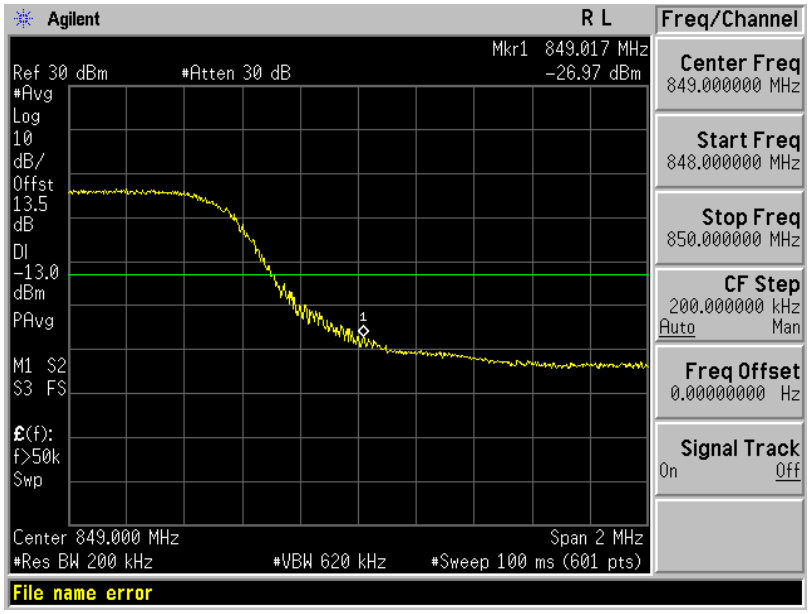
Frequency	LTE Band 4	Channel Bandwidth	15 MHz	RB Allocated	75
Lower Band Edge					
Higher Band Edge					

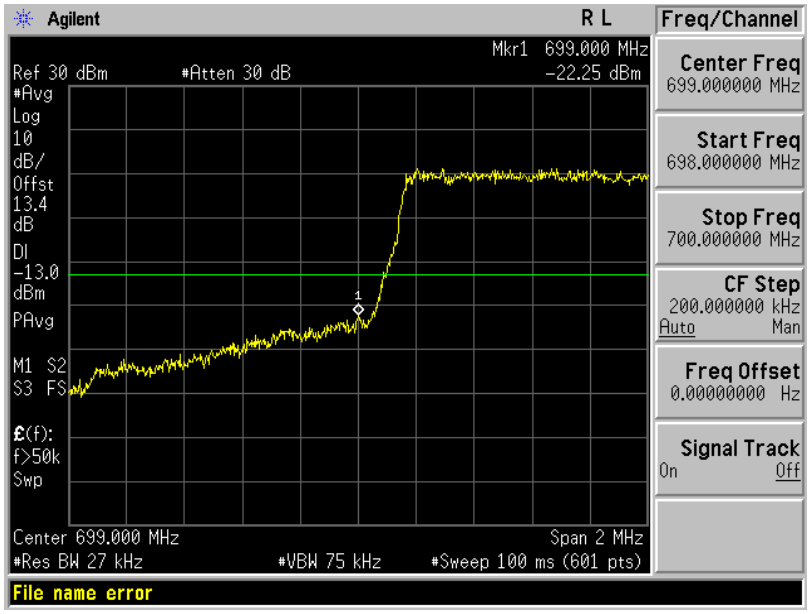
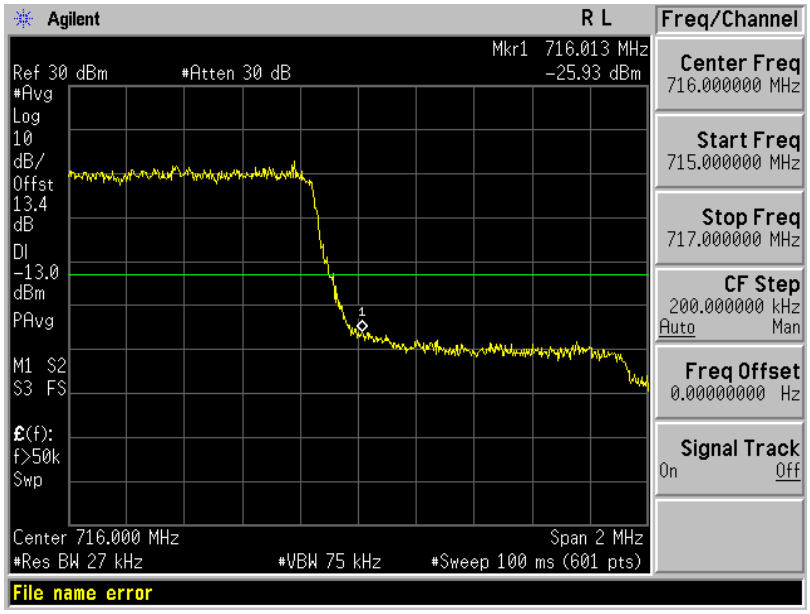
Frequency	LTE Band 4	Channel Bandwidth	20 MHz	RB Allocated	100
Lower Band Edge					
Higher Band Edge					

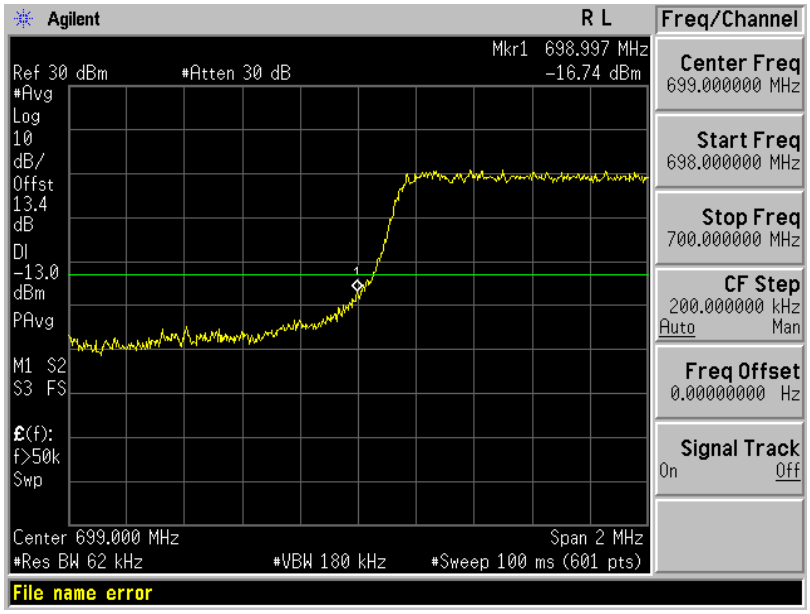
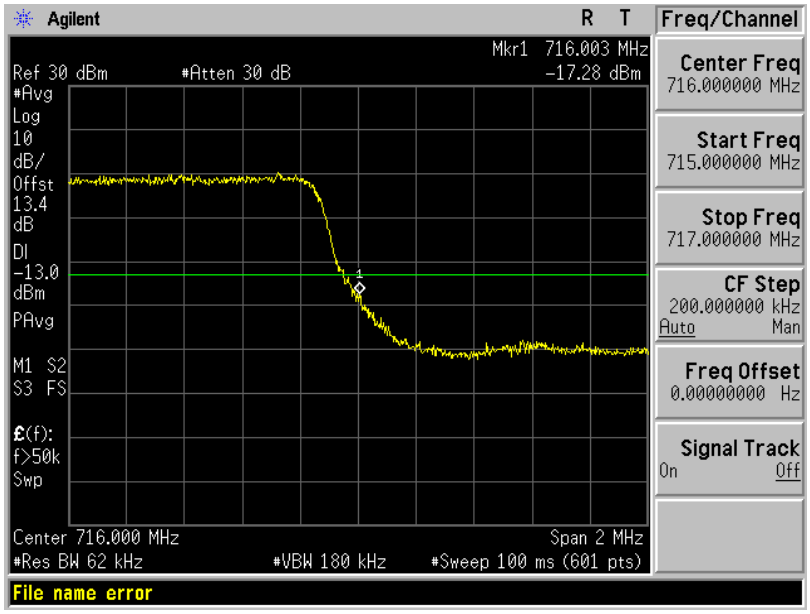
Frequency	LTE Band 5	Channel Bandwidth	1.4 MHz	RB Allocated	6
Lower Band Edge					
Higher Band Edge					

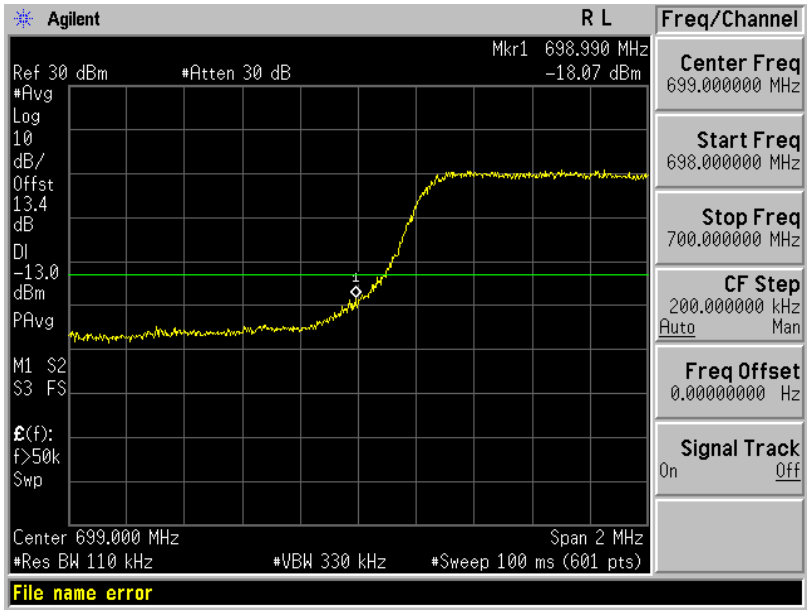
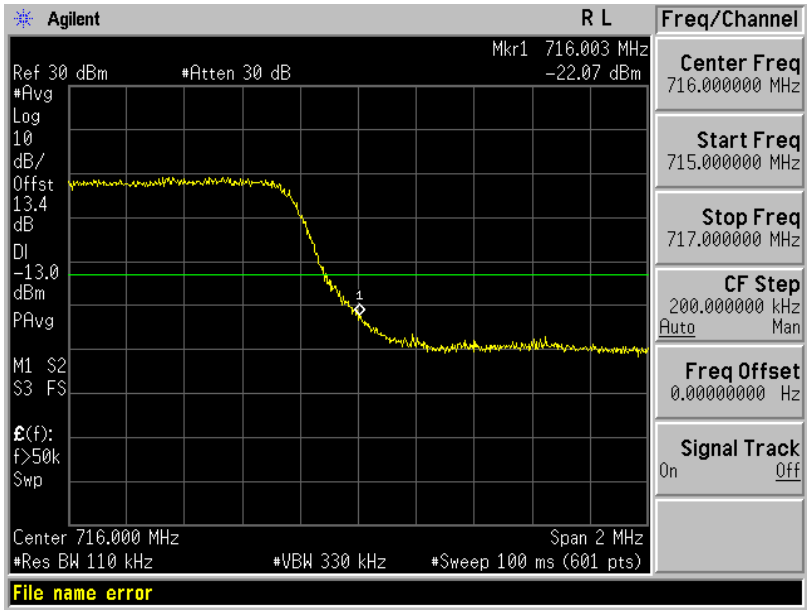
Frequency	LTE Band 5	Channel Bandwidth	3 MHz	RB Allocated	15
Lower Band Edge					
Higher Band Edge					

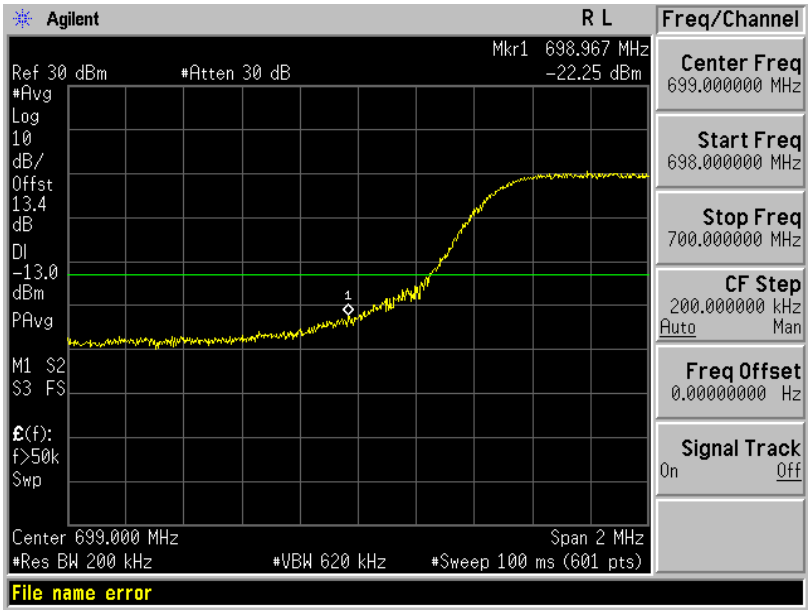
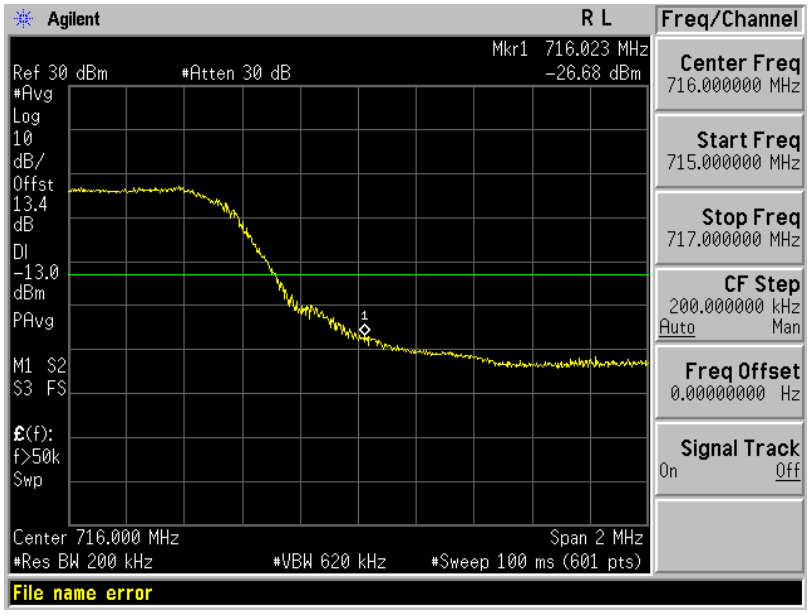
Frequency	LTE Band 5	Channel Bandwidth	5 MHz	RB Allocated	25
Lower Band Edge					
Higher Band Edge					

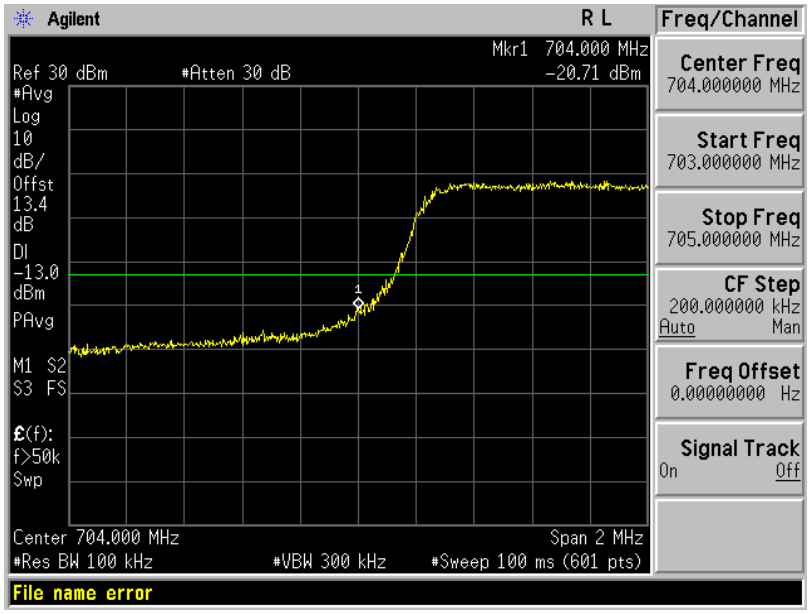
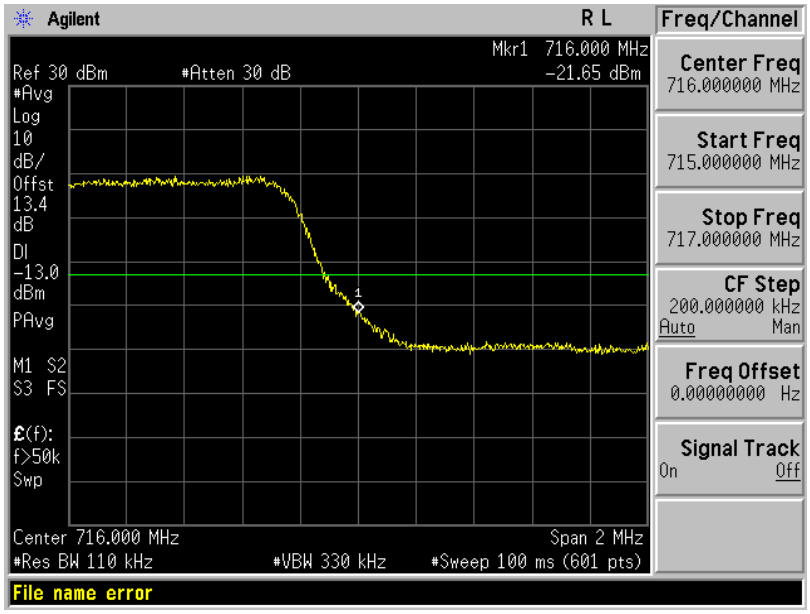
Frequency	LTE Band 5	Channel Bandwidth	10 MHz	RB Allocated	50
Lower Band Edge					
Higher Band Edge					

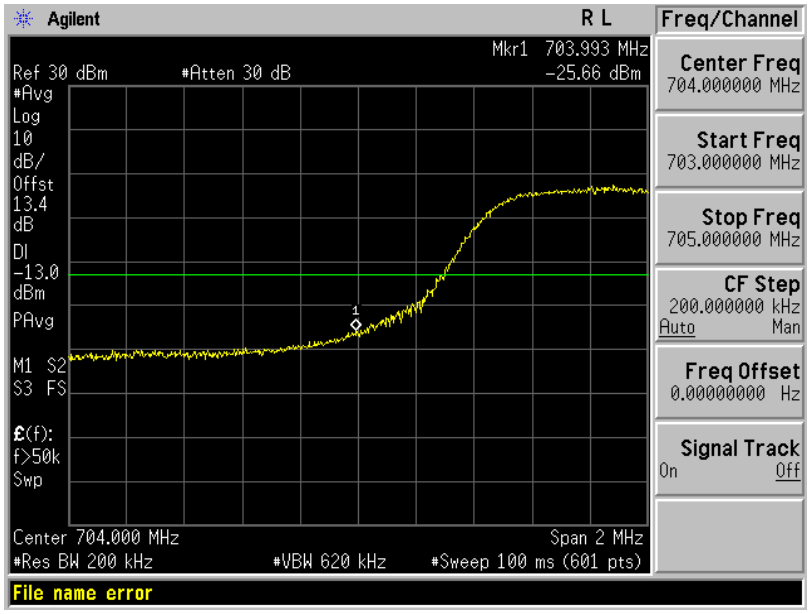
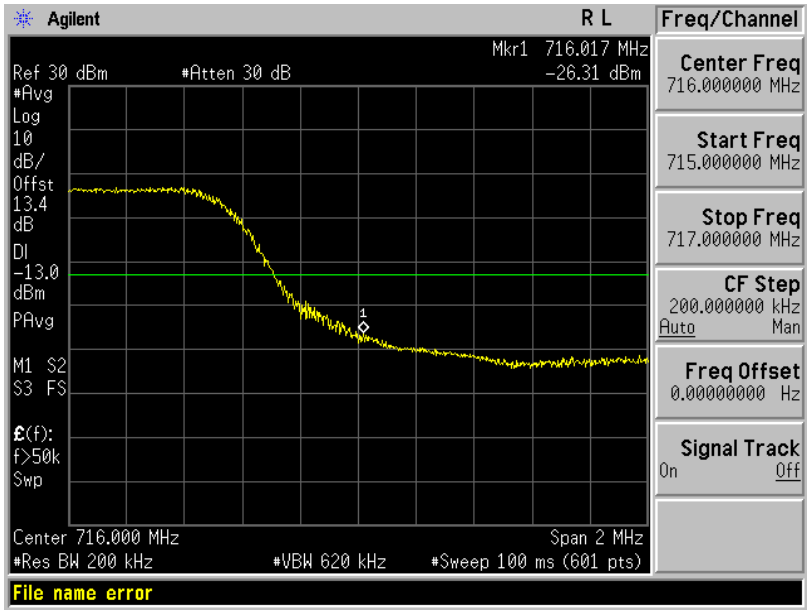
Frequency	LTE Band 12	Channel Bandwidth	1.4 MHz	RB Allocated	6
Lower Band Edge					
Higher Band Edge					

Frequency	LTE Band 12	Channel Bandwidth	3 MHz	RB Allocated	15
Lower Band Edge					
Higher Band Edge					

Frequency	LTE Band 12	Channel Bandwidth	5 MHz	RB Allocated	25
Lower Band Edge					
Higher Band Edge					

Frequency	LTE Band 12	Channel Bandwidth	10 MHz	RB Allocated	50
Lower Band Edge					
Higher Band Edge					

Frequency	LTE Band 17	Channel Bandwidth	5 MHz	RB Allocated	25
Lower Band Edge					
Higher Band Edge					

Frequency	LTE Band 17	Channel Bandwidth	10 MHz	RB Allocated	50
Lower Band Edge					
Higher Band Edge					

8 Conducted Spurious Emission Test

■ Limit

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 $\log_{10}$(P) dB. The limit of emission equal to -13dBm

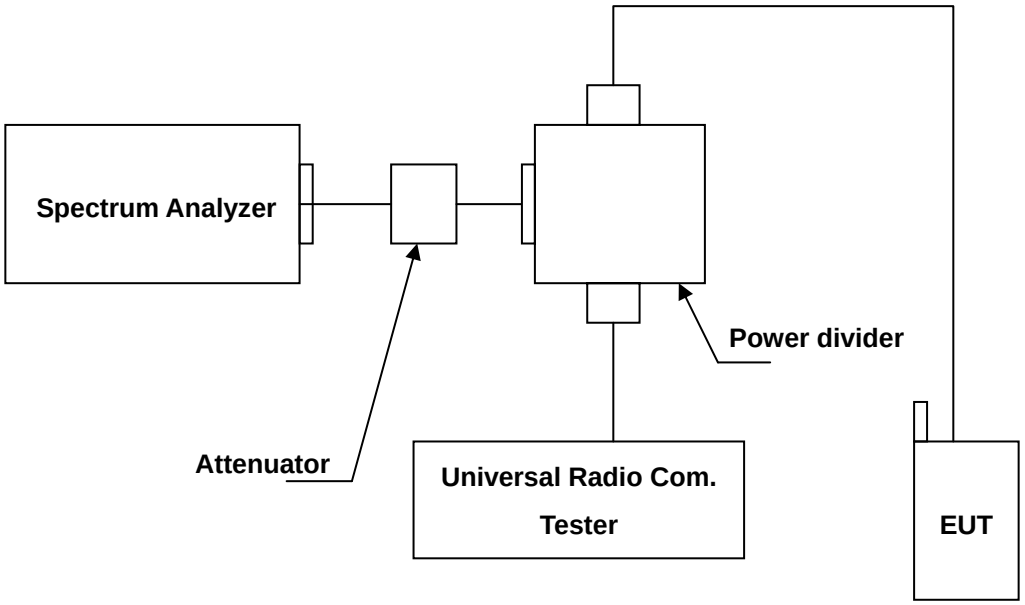
■ Test Instruments

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Wideband Radio Communication Test	R & S	CMW500	103168	10/30/2015	1 year
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE02	TE02	N.C.R.	-----

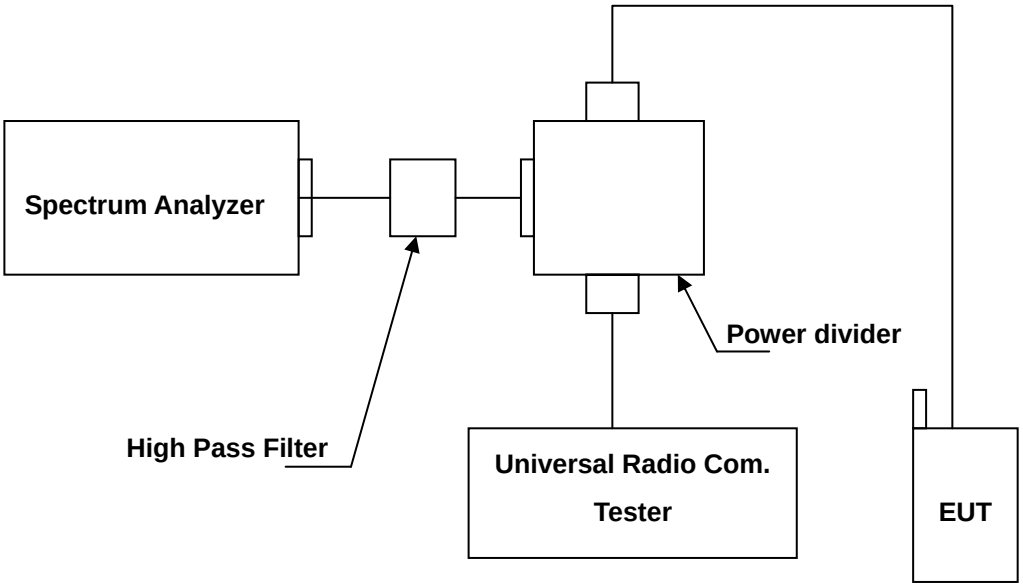
Note: N.C.R. = No Calibration Request.

■ Setup

Below 2.8GHz



Above 2.8GHz



Test Procedure

a. The EUT was set up for the maximum peak power with LTE / WCDMA link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.).

b. The conducted spurious emission used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

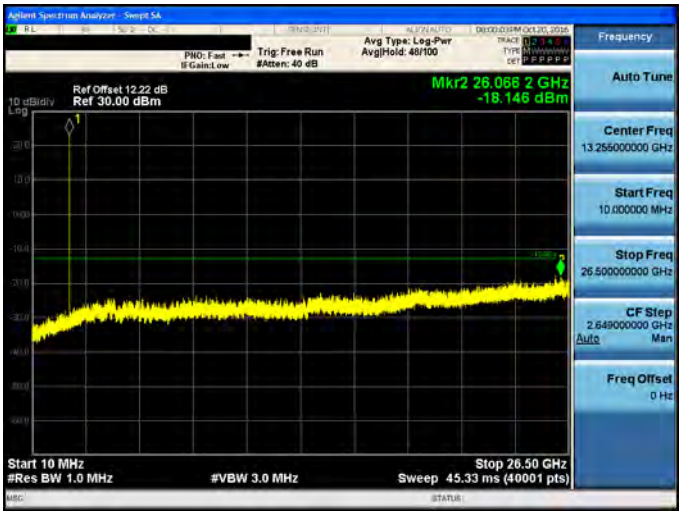
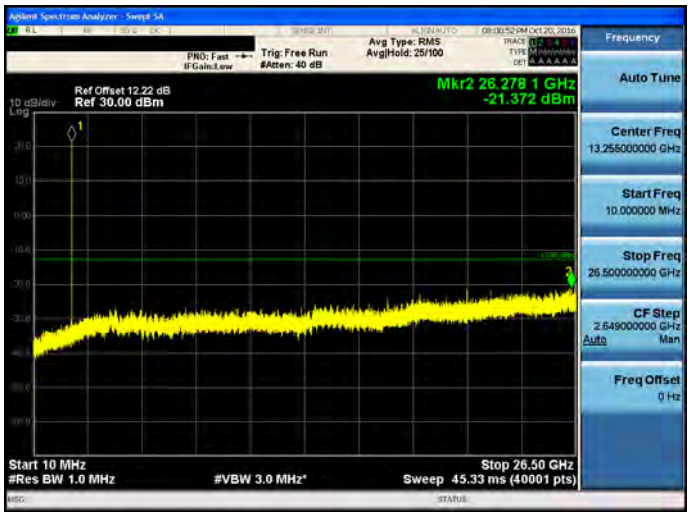
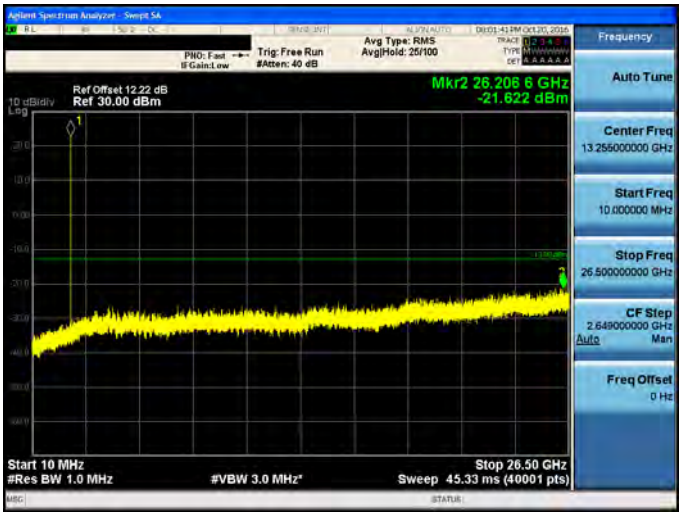
c. When the spectrum scanned from 10MHz to 2.5GHz (Band 7and Band 41: scanned from 10MHz to 4GHz), it shall be connected to the band reject filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=1MHz.

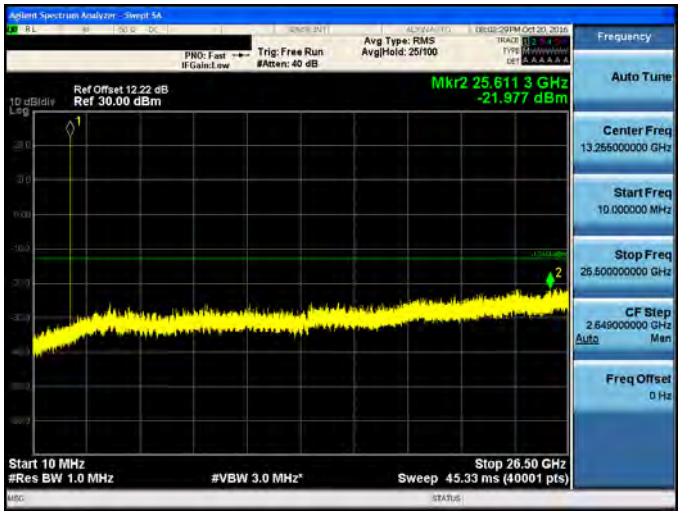
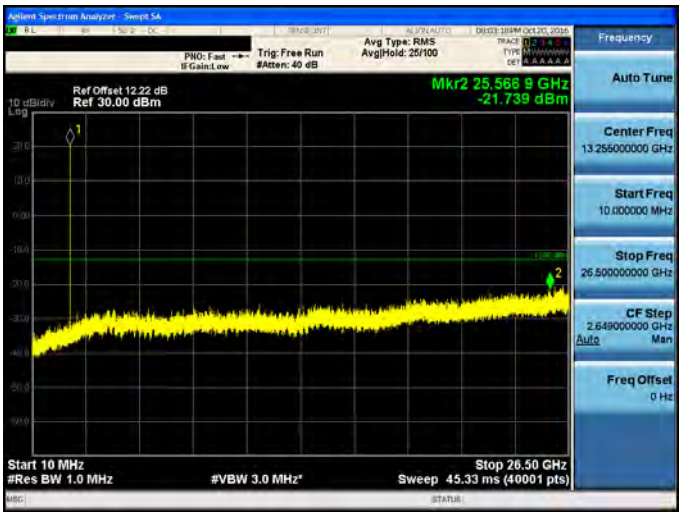
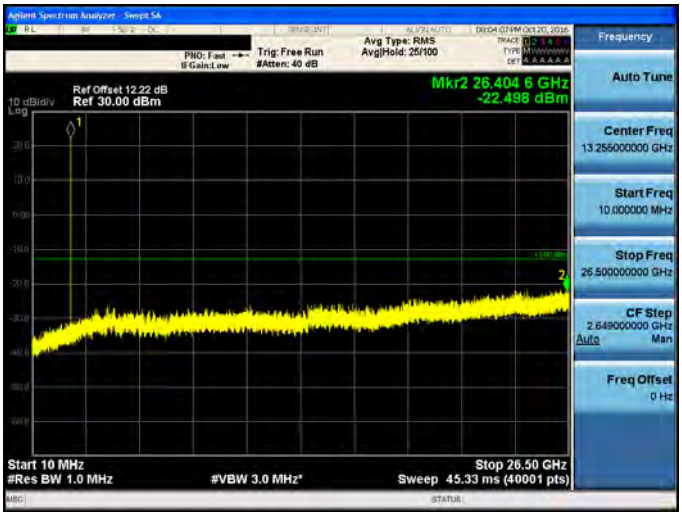
d. When the spectrum scanned from 2.5GHz to 10th harmonic (Band 7 and Band 41: scanned from 4GHz to 10th harmonic), it shall be connected to the high pass filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=1MHz.

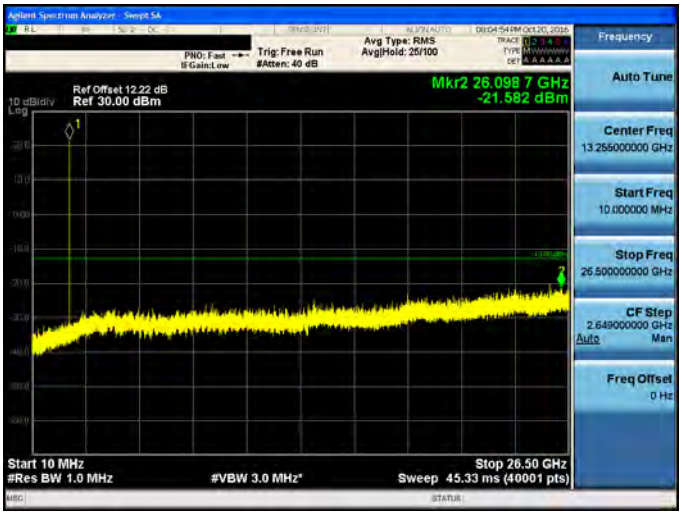
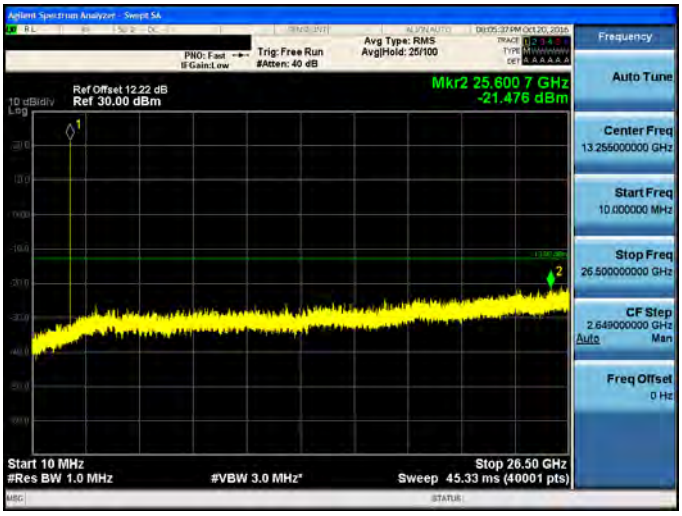
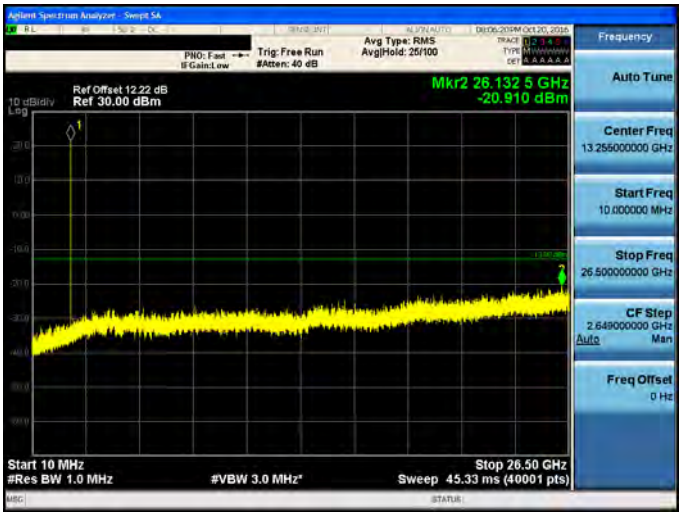
Uncertainty

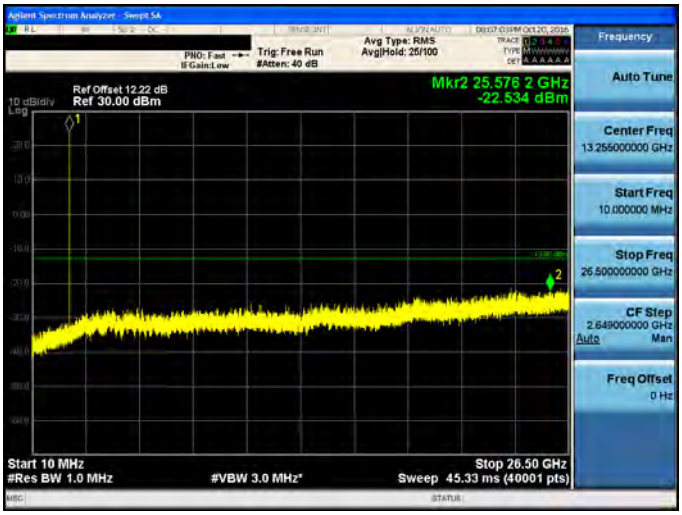
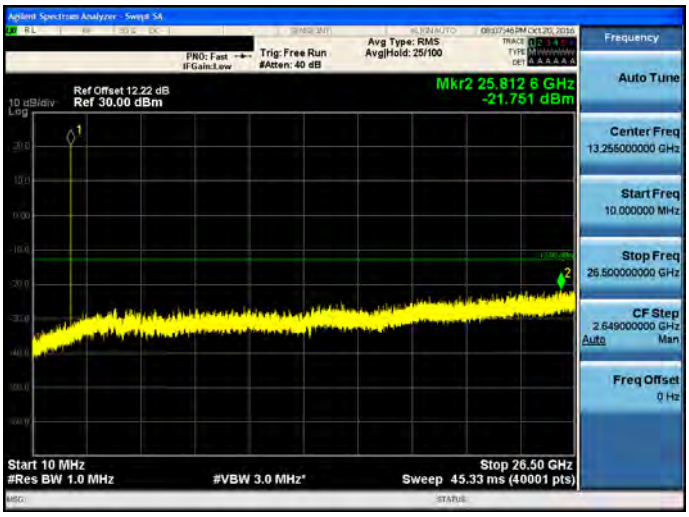
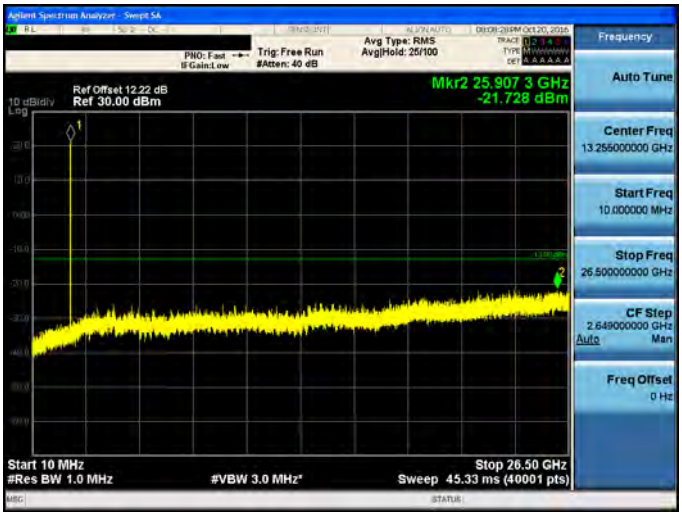
The measurement uncertainty is evaluated as ± 2.24 dB.

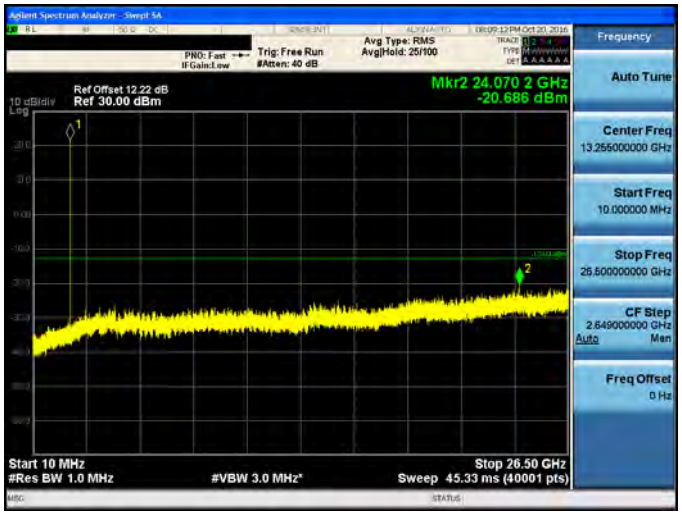
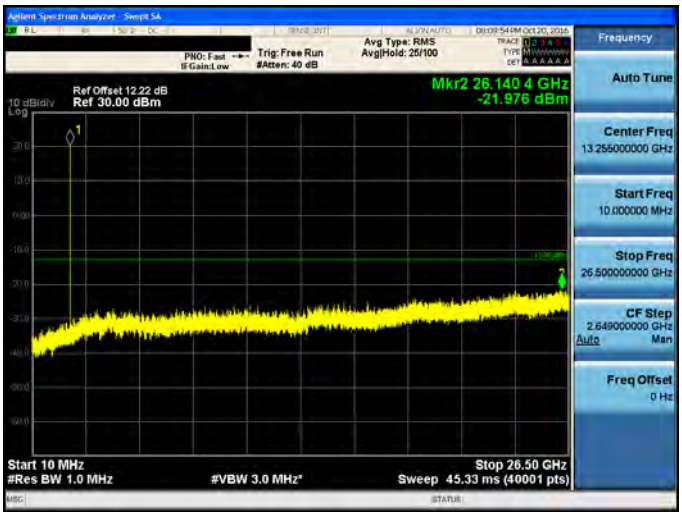
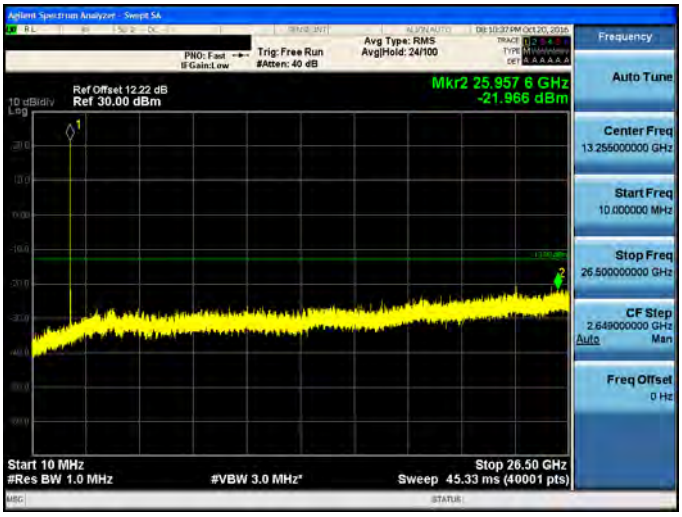
■ **Test Graphs**

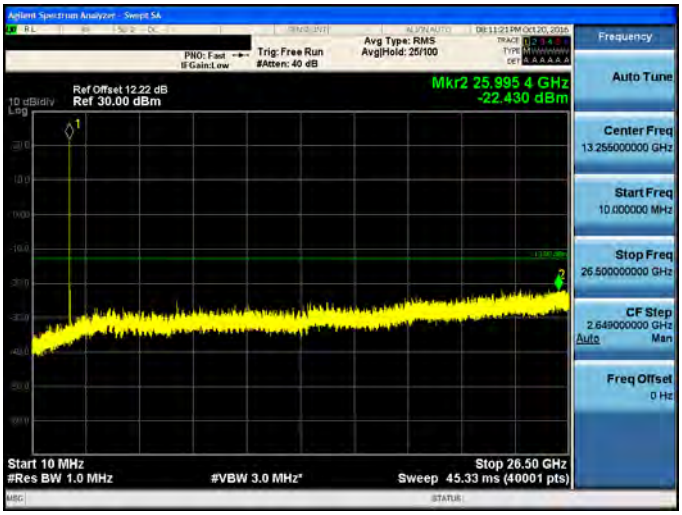
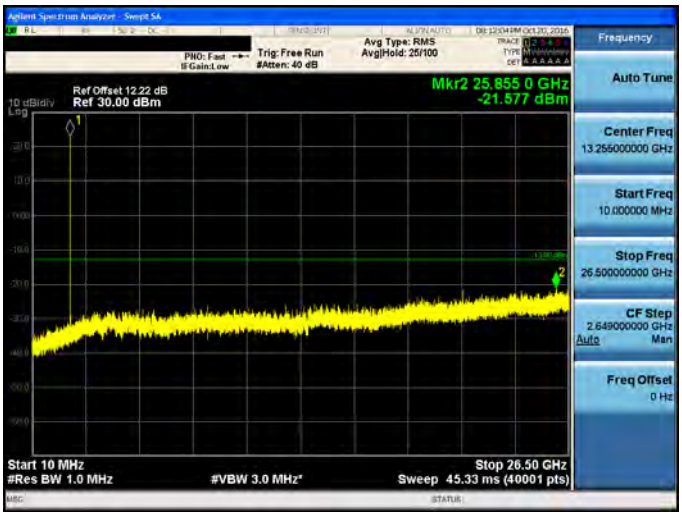
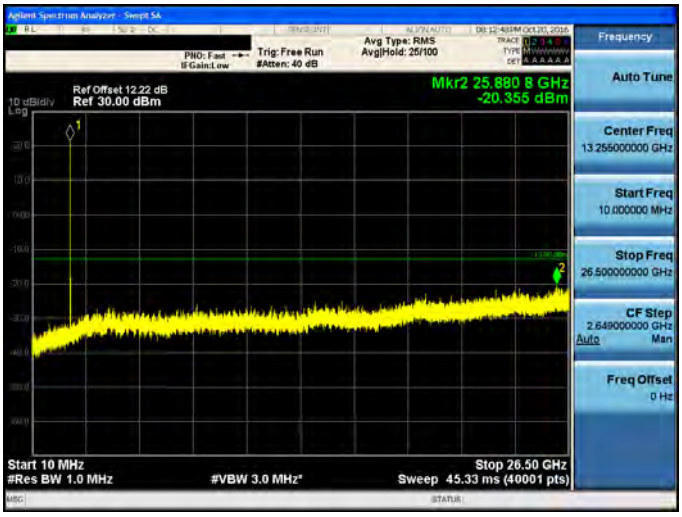
LTE Band 2 (Channel Bandwidth: 1.4 MHz) _ QPSK	
1850.7 MHz	
1880.0 MHz	
1909.3 MHz	

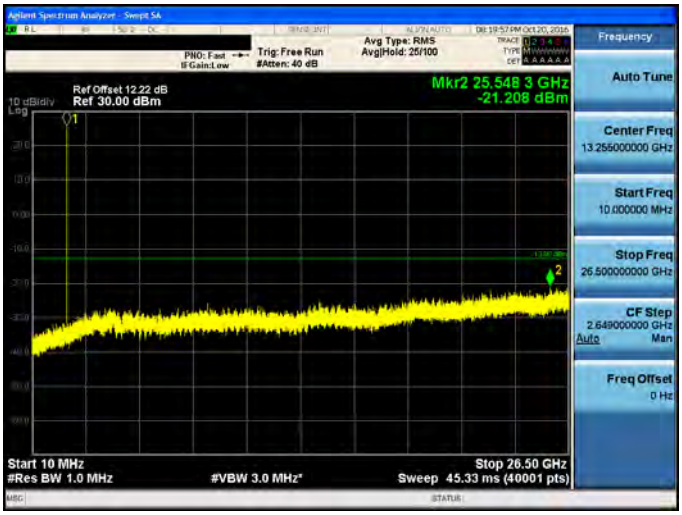
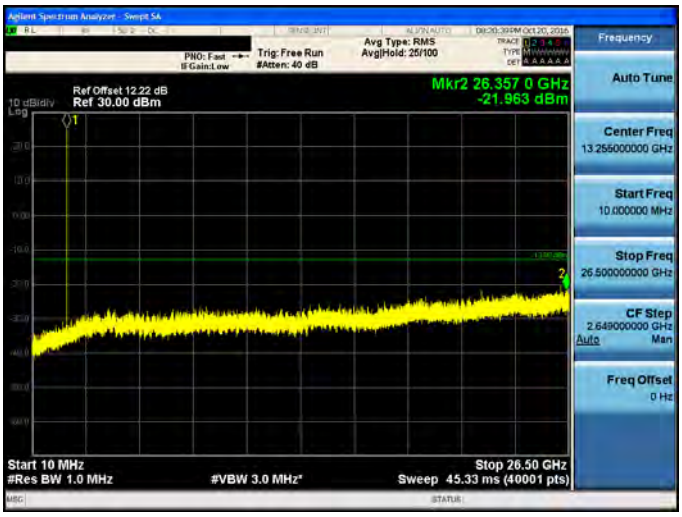
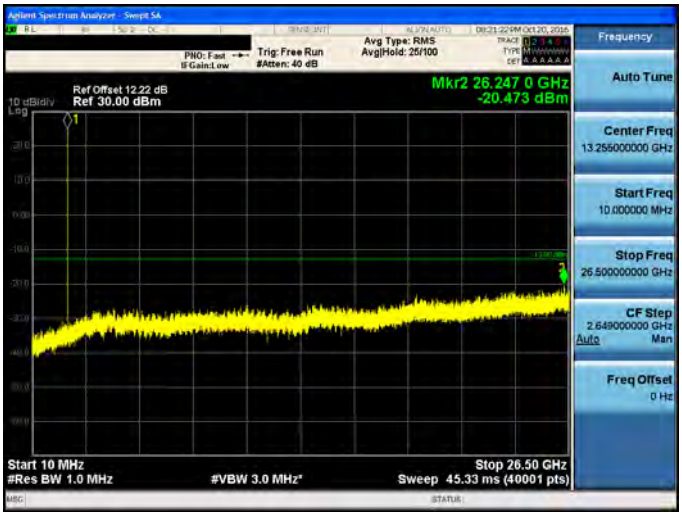
LTE Band 2 (Channel Bandwidth: 3 MHz) _ QPSK	
1851.5 MHz	
1880.0 MHz	
1908.5 MHz	

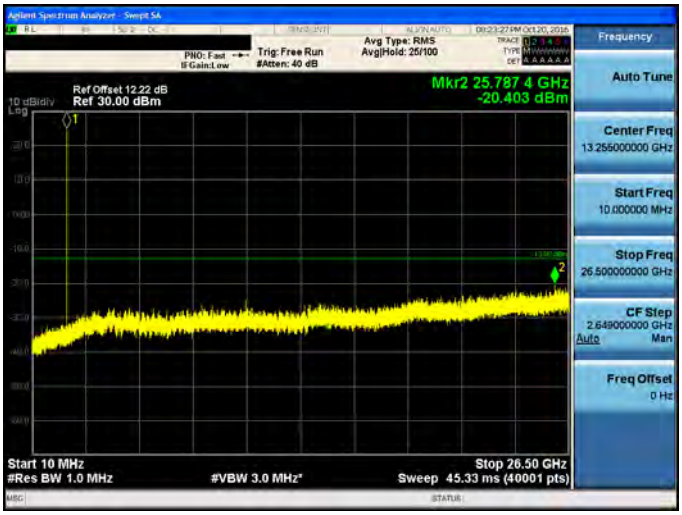
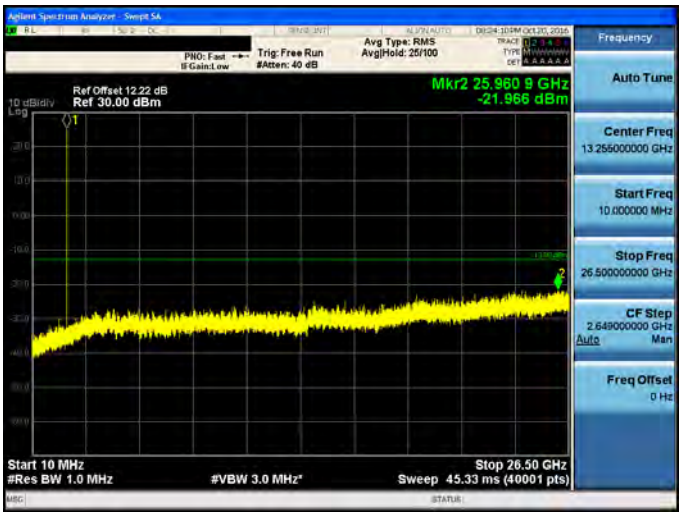
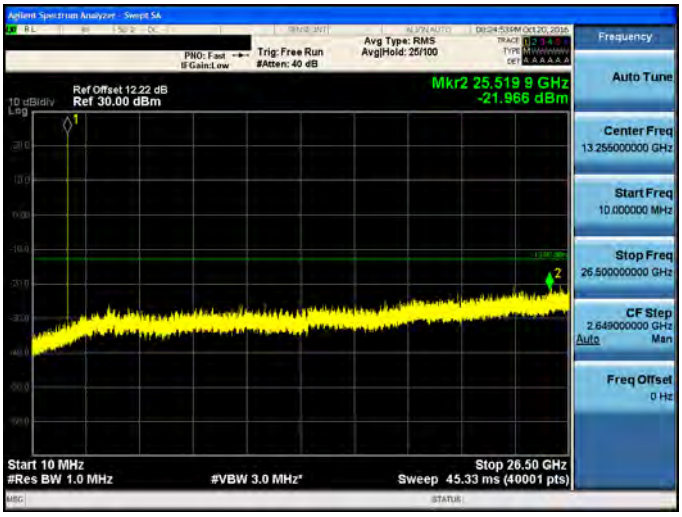
LTE Band 2 (Channel Bandwidth: 5 MHz) _ QPSK	
1852.5 MHz	
1880.0 MHz	
1907.5 MHz	

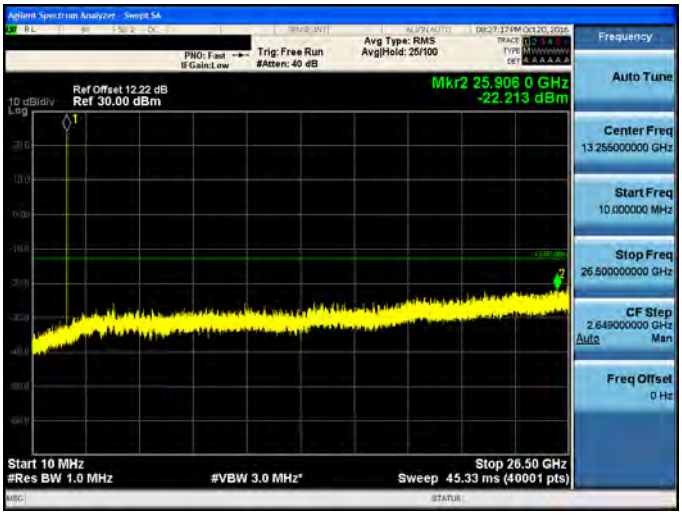
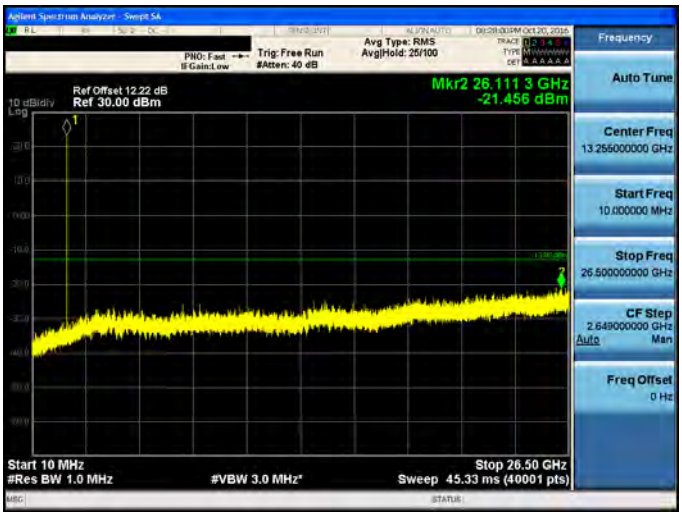
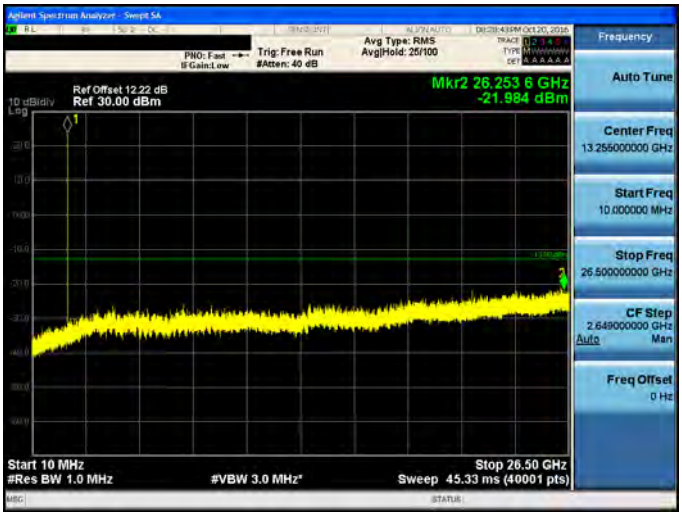
LTE Band 2 (Channel Bandwidth: 10 MHz) _ QPSK	
1855.0 MHz	
1880.0 MHz	
1905.0 MHz	

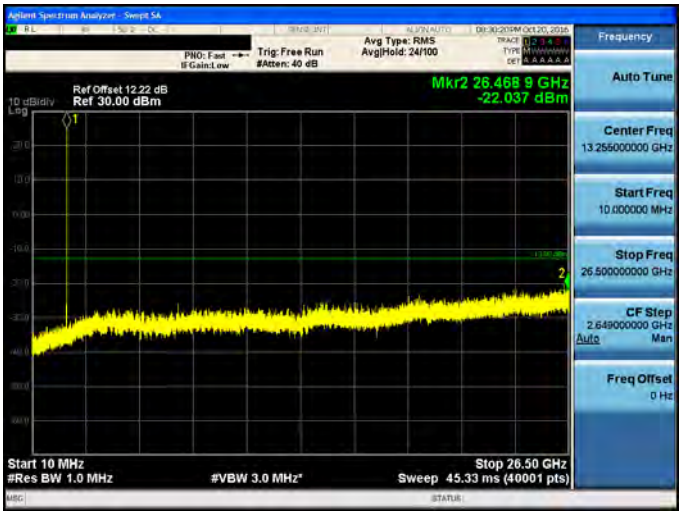
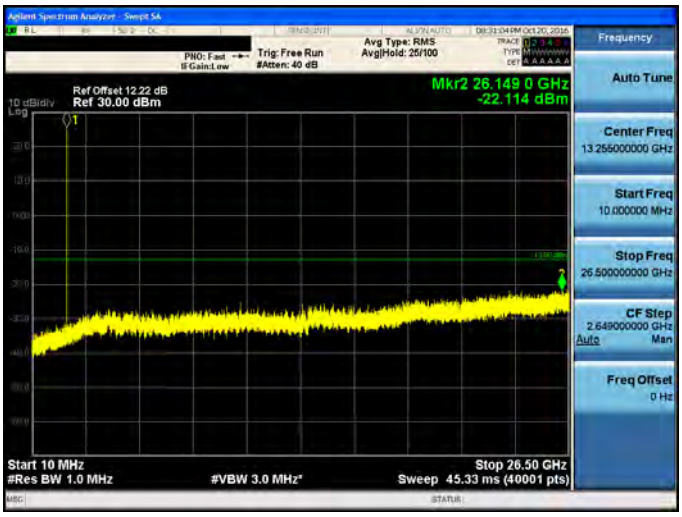
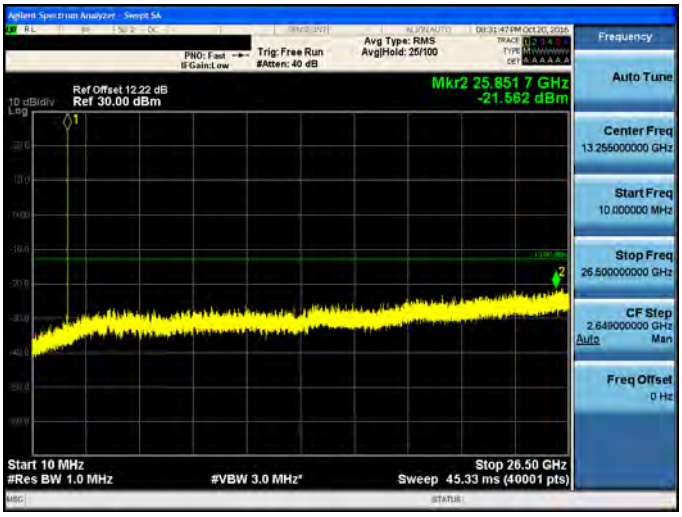
LTE Band 2 (Channel Bandwidth: 15 MHz) _ QPSK	
1857.5 MHz	
1880.0 MHz	
1902.5 MHz	

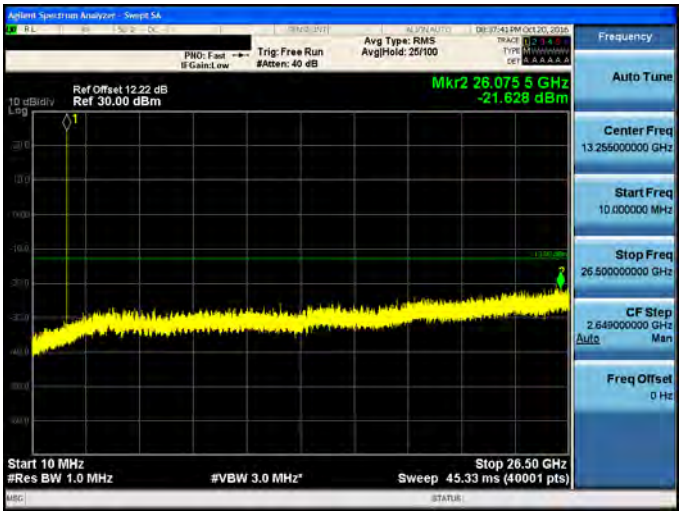
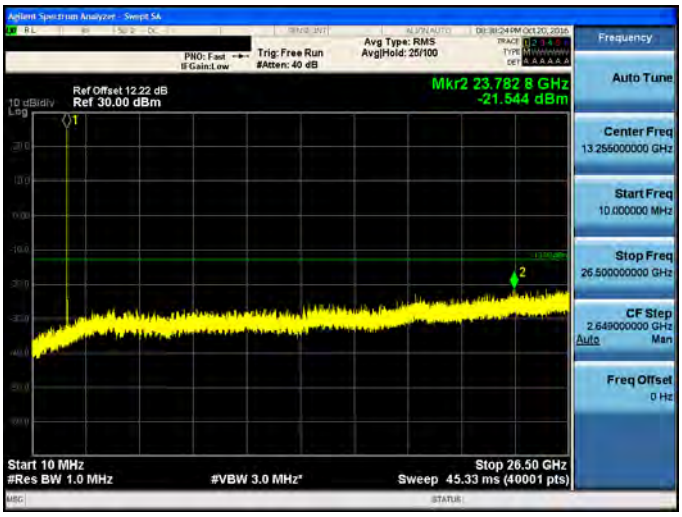
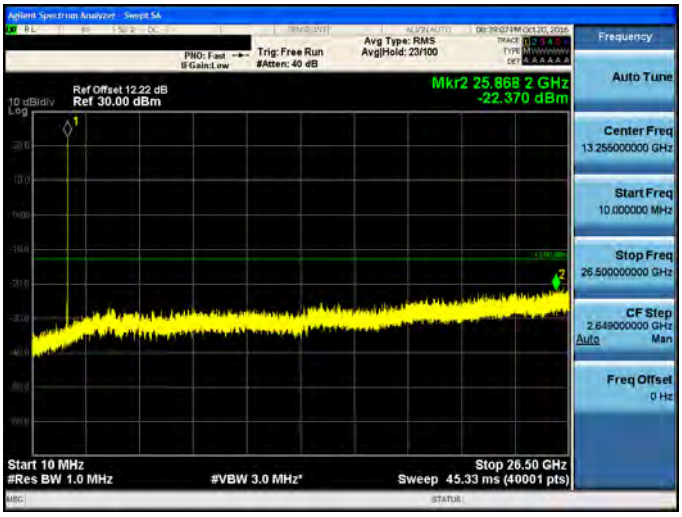
LTE Band 2 (Channel Bandwidth: 20 MHz) _ QPSK	
1860.0 MHz	
1880.0 MHz	
1900.0 MHz	

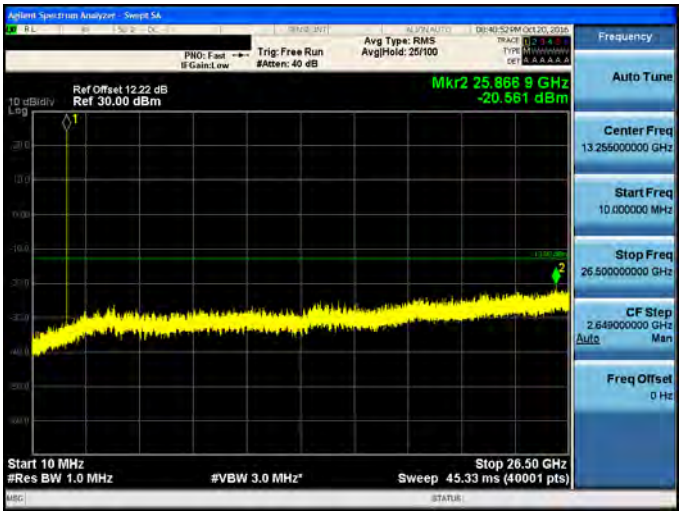
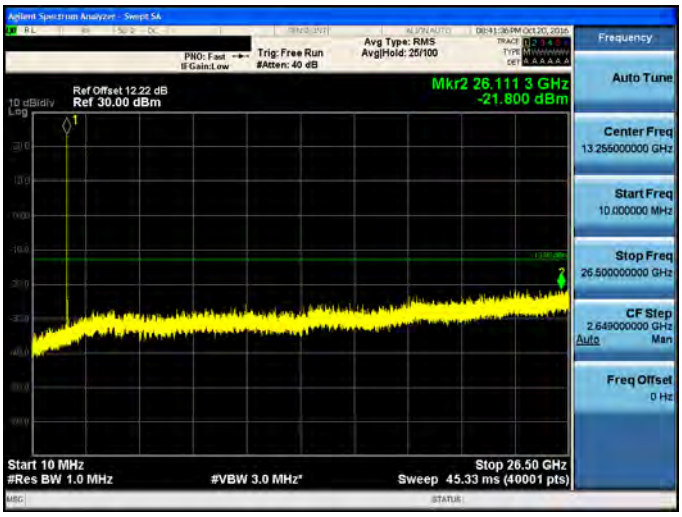
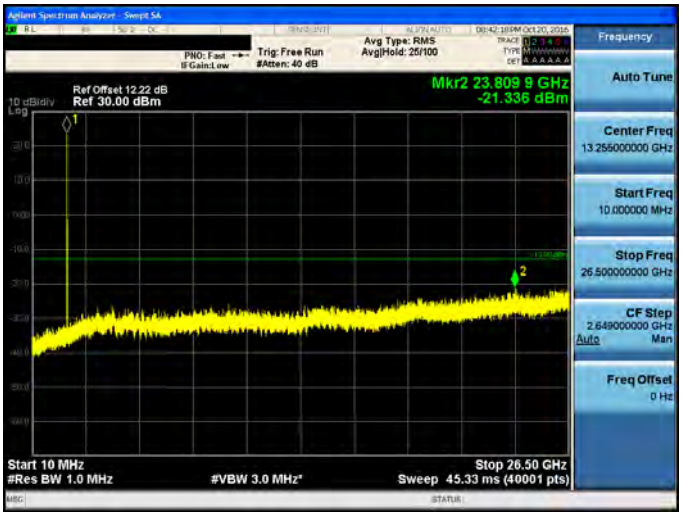
LTE Band 4 (Channel Bandwidth: 1.4 MHz) _ QPSK	
1710.7 MHz	
1732.5 MHz	
1754.3 MHz	

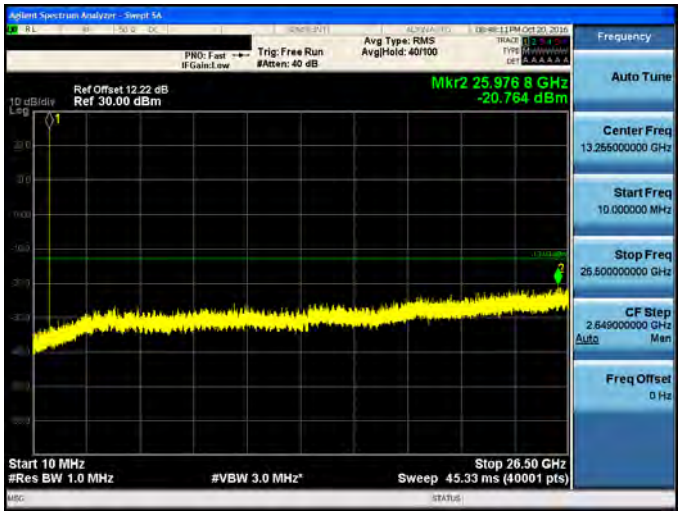
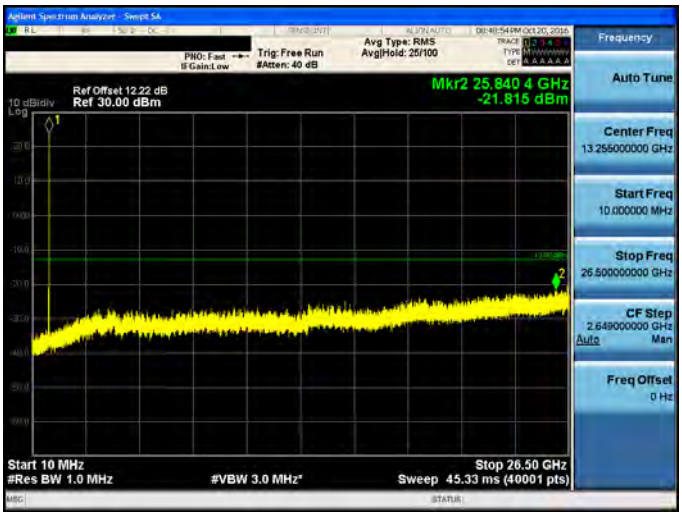
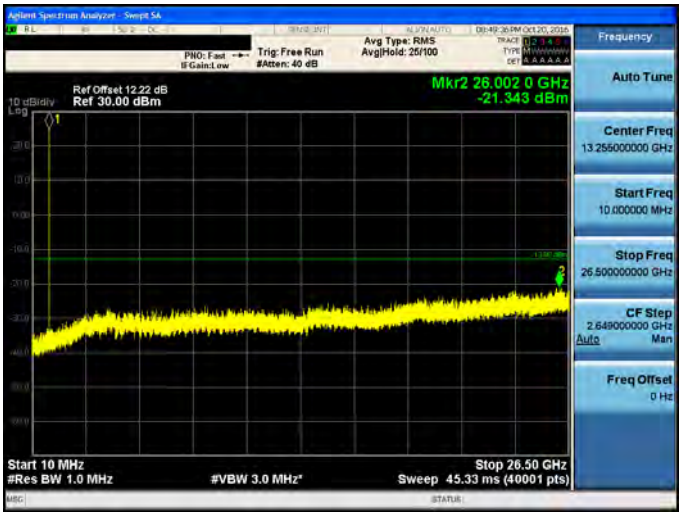
LTE Band 4 (Channel Bandwidth: 3 MHz) _ QPSK	
1711.5 MHz	
1732.5 MHz	
1753.5 MHz	

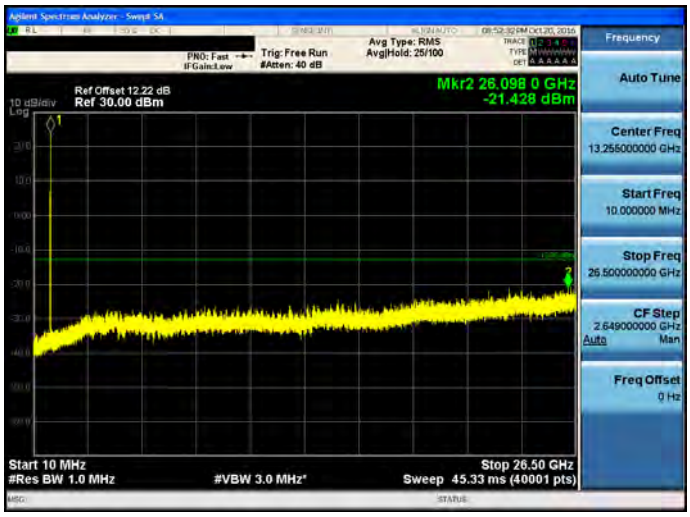
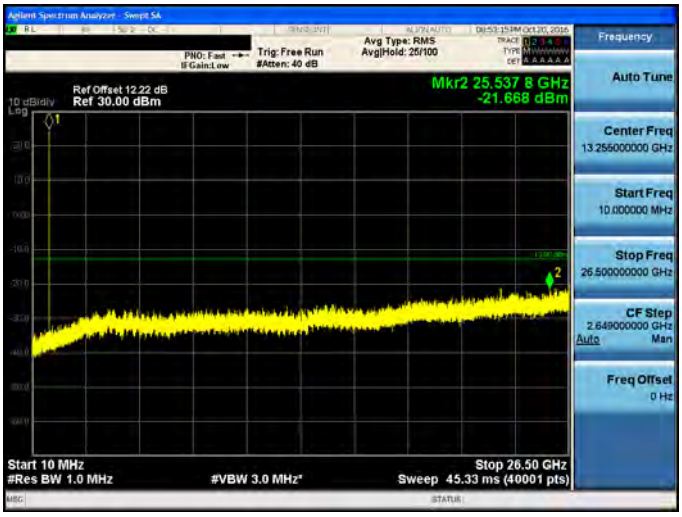
LTE Band 4 (Channel Bandwidth: 5 MHz) _ QPSK	
1712.5 MHz	
1732.5 MHz	
1752.5 MHz	

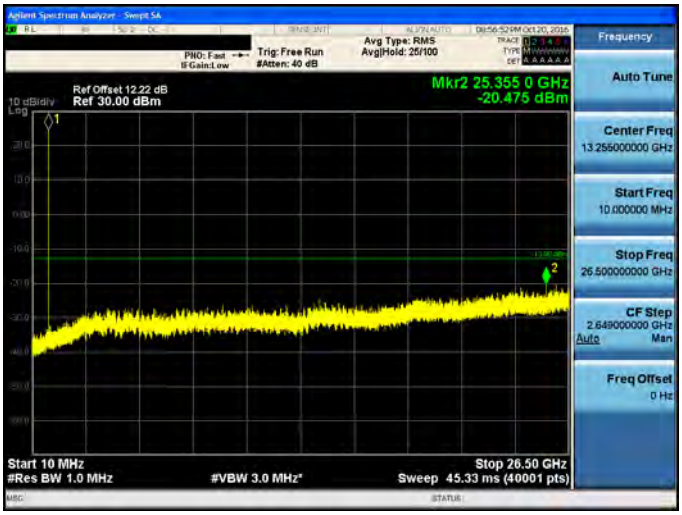
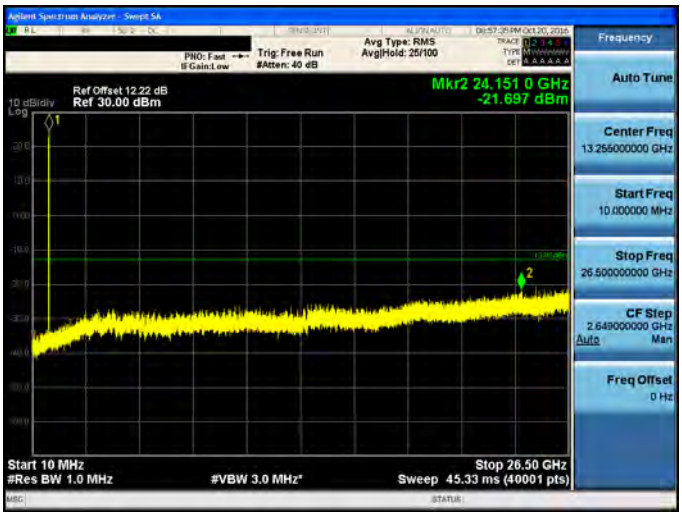
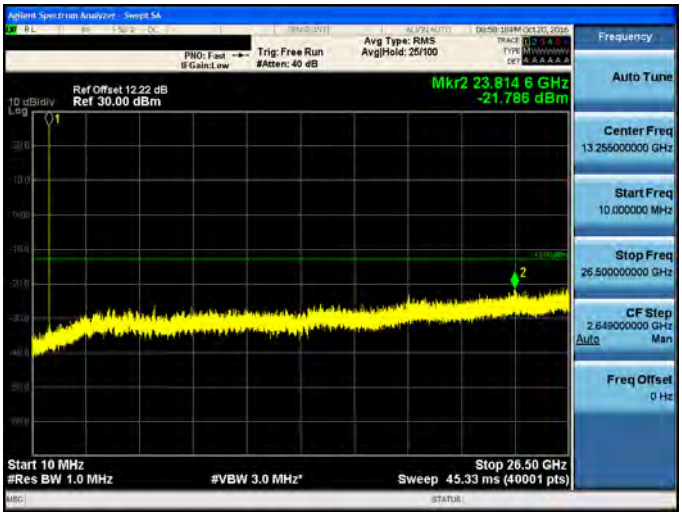
LTE Band 4 (Channel Bandwidth: 10 MHz) _ QPSK	
1715.0 MHz	
1732.5 MHz	
1750.0 MHz	

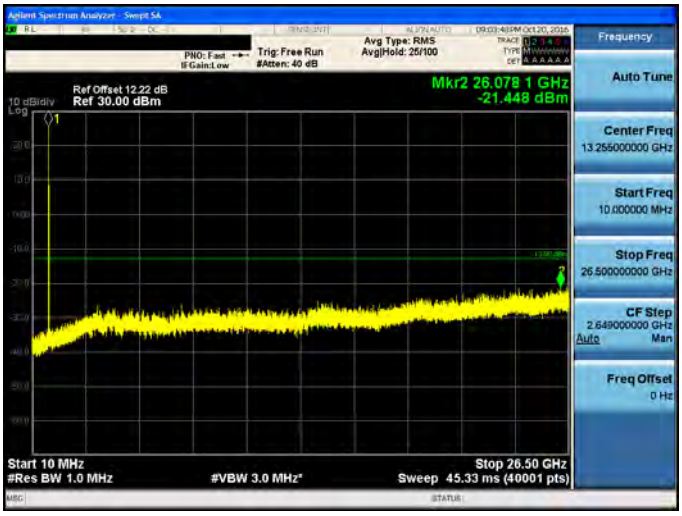
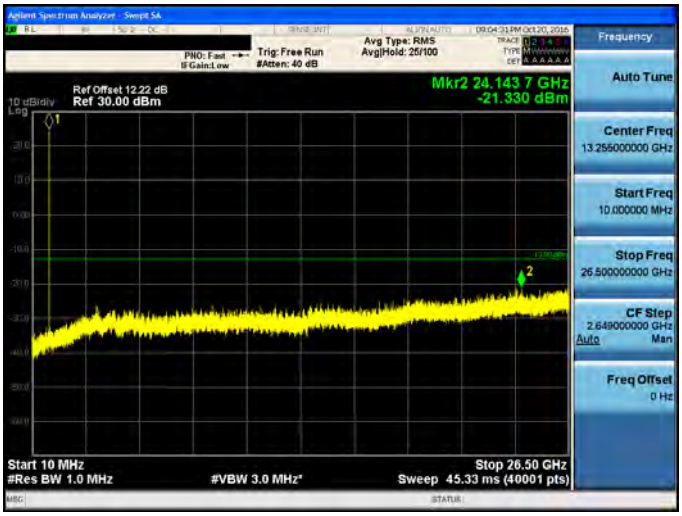
LTE Band 4 (Channel Bandwidth: 15 MHz) _ QPSK	
1717.5 MHz	
1732.5 MHz	
1747.5 MHz	

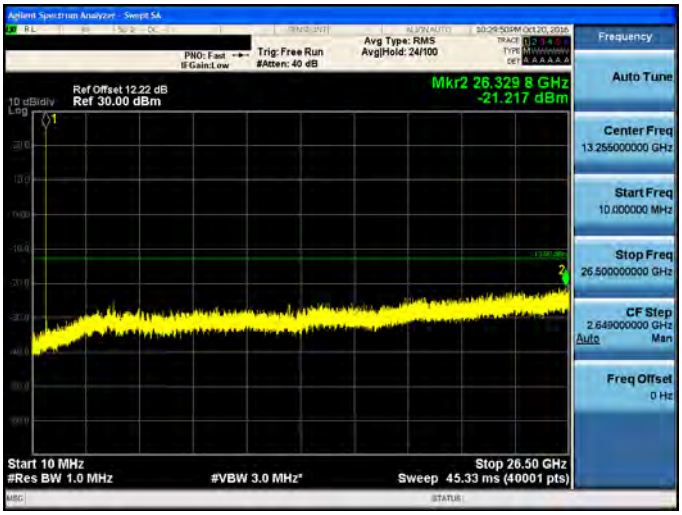
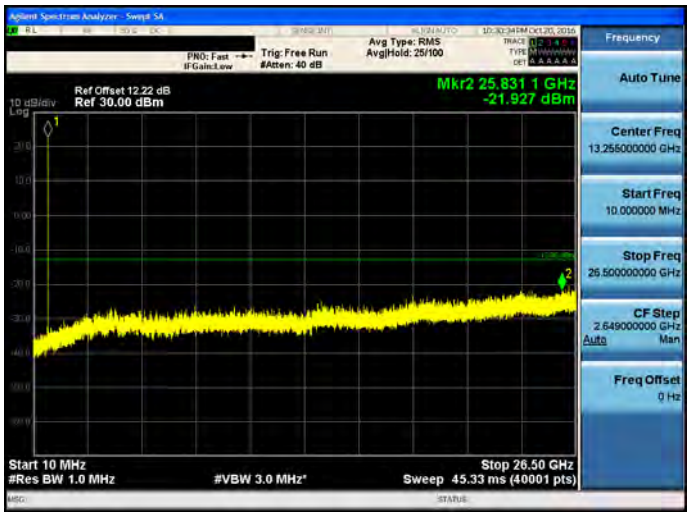
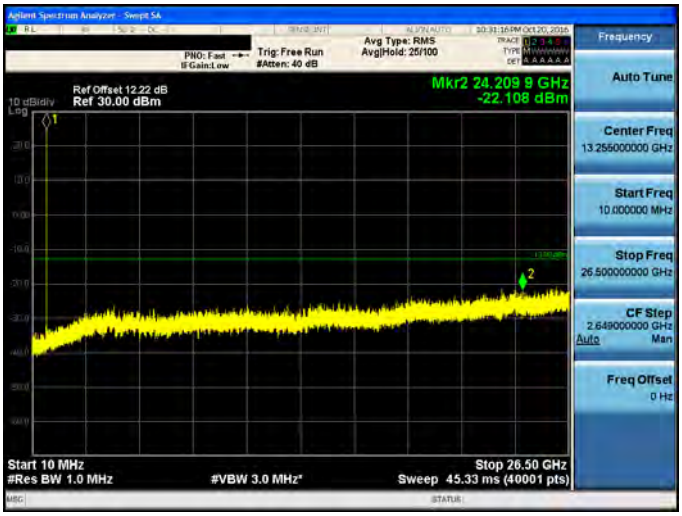
LTE Band 4 (Channel Bandwidth: 20 MHz) _ QPSK	
1720.0 MHz	
1732.5 MHz	
1745.0 MHz	

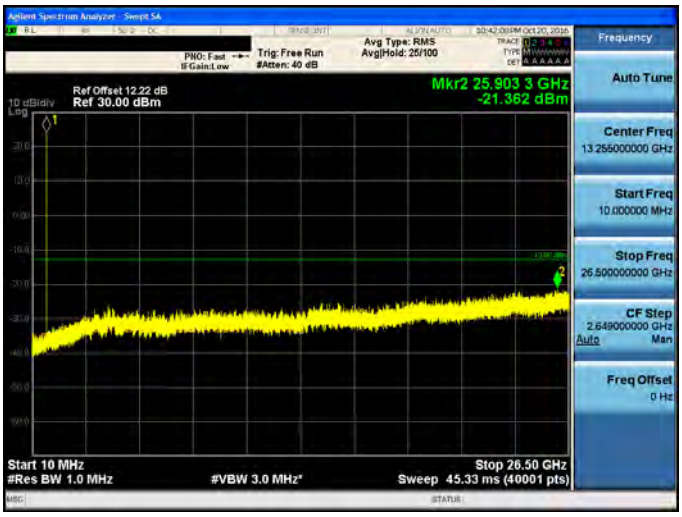
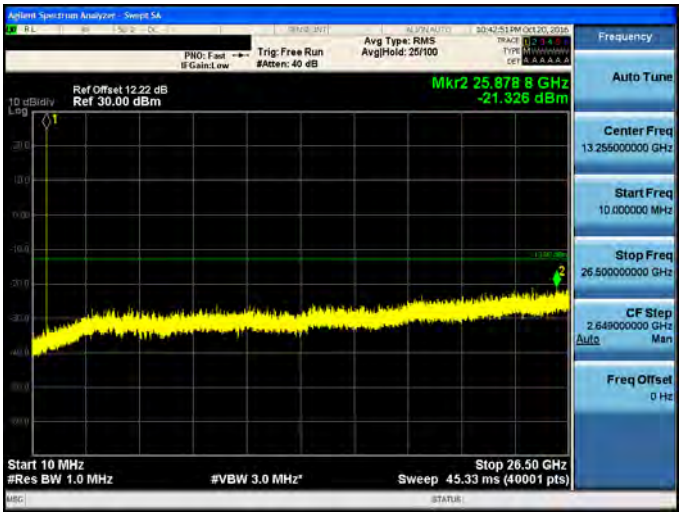
LTE Band 5 (Channel Bandwidth: 1.4 MHz) _ QPSK	
824.7 MHz	
836.5 MHz	
848.3 MHz	

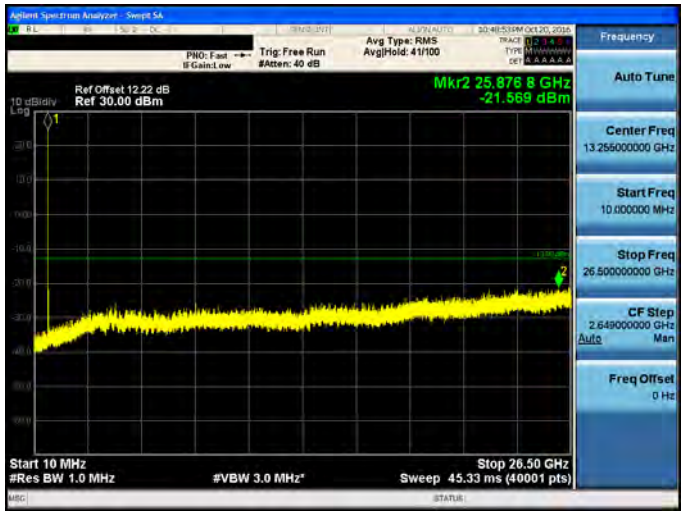
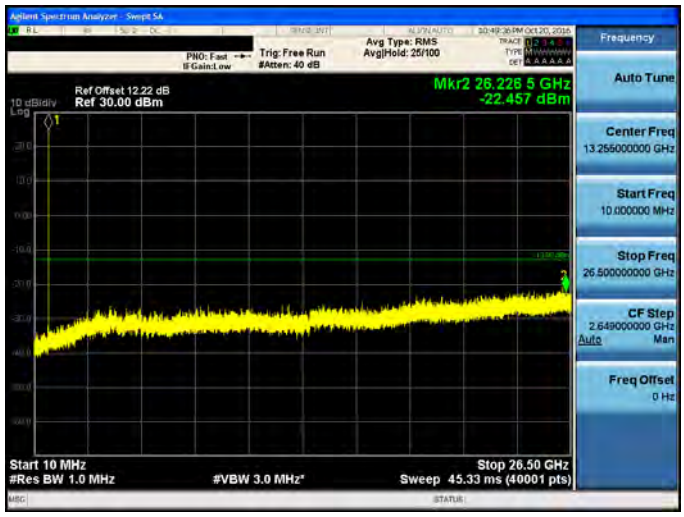
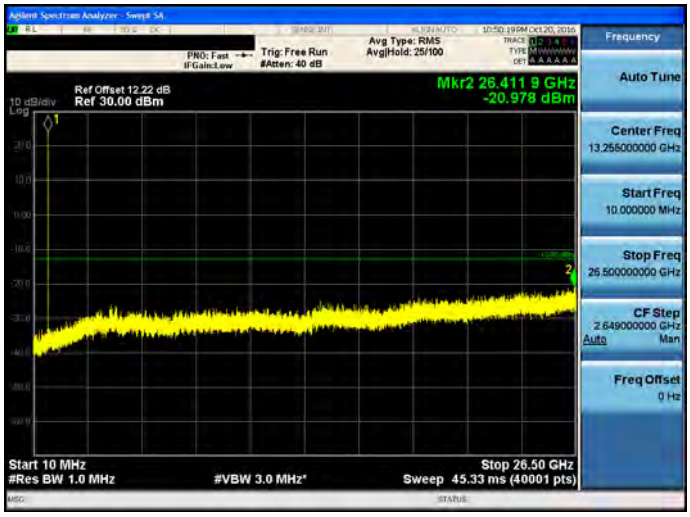
LTE Band 5 (Channel Bandwidth: 3 MHz) _ QPSK	
825.5 MHz	
836.5 MHz	
847.5 MHz	

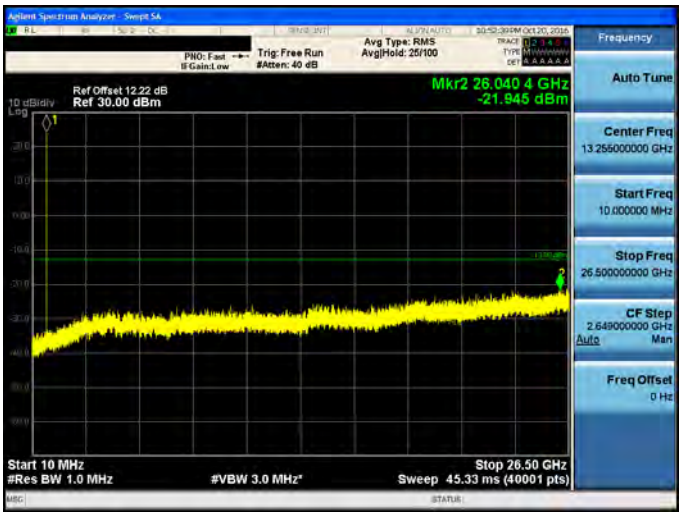
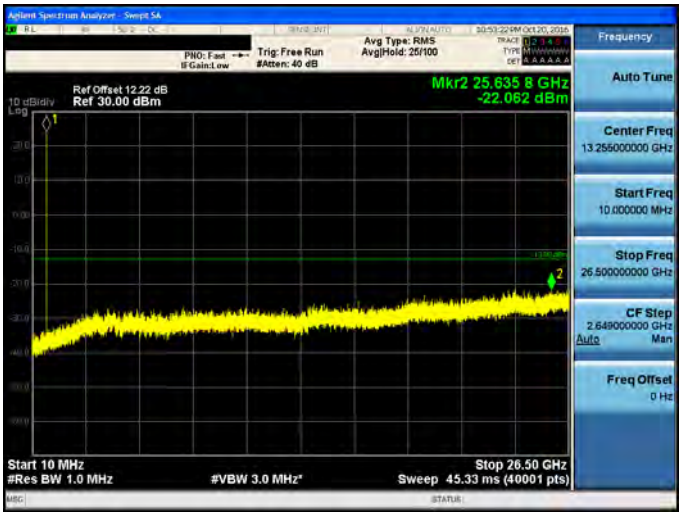
LTE Band 5 (Channel Bandwidth: 5 MHz) _ QPSK	
826.5 MHz	
836.5 MHz	
846.5 MHz	

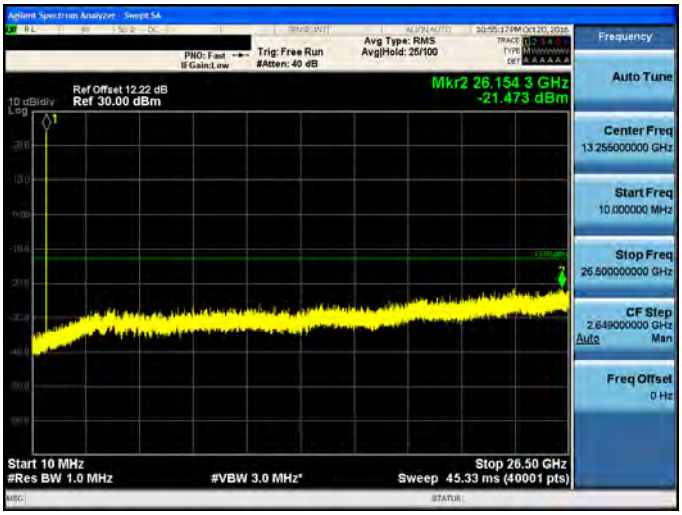
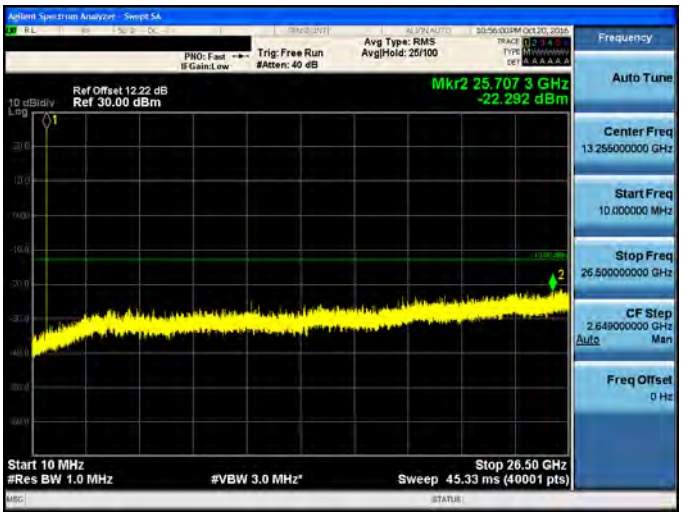
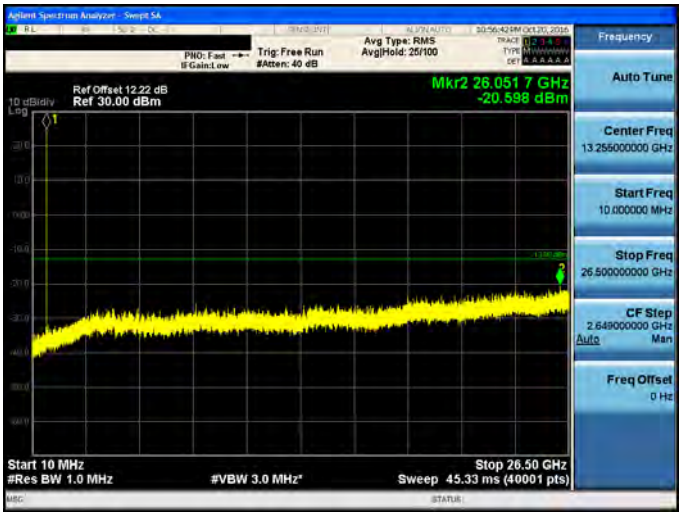
LTE Band 5 (Channel Bandwidth: 10 MHz) _ QPSK	
829.0 MHz	
836.5 MHz	
844.0 MHz	

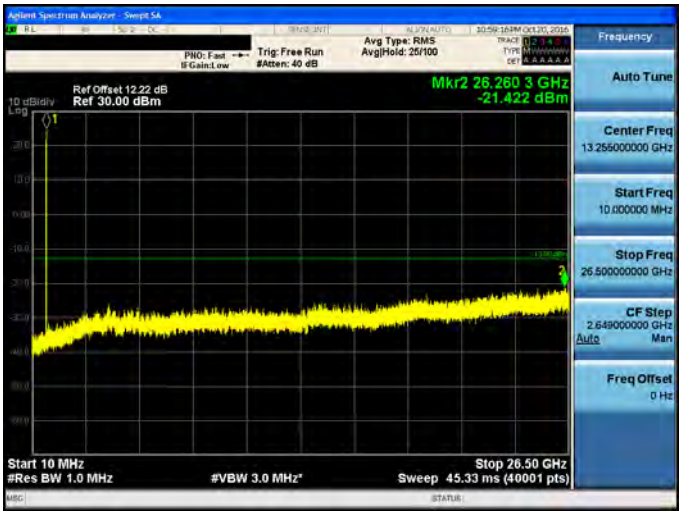
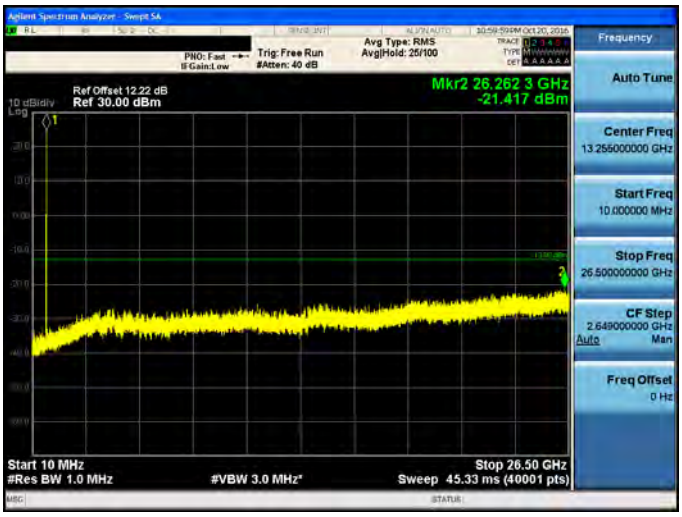
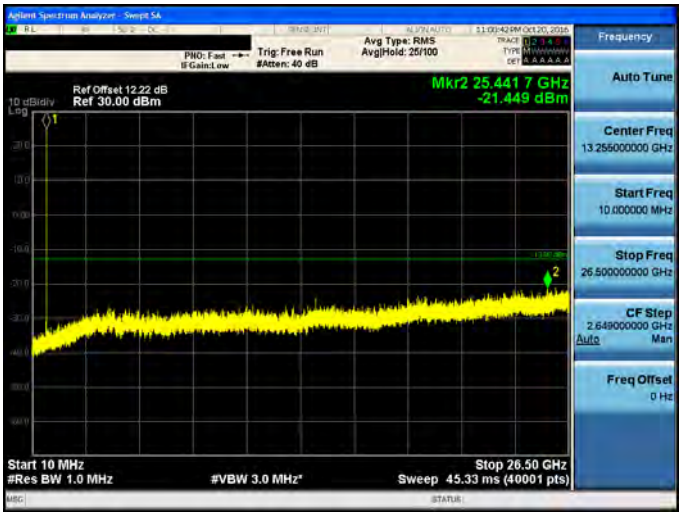
LTE Band 12 (Channel Bandwidth: 1.4 MHz) _ QPSK	
699.7 MHz	
707.5 MHz	
715.3 MHz	

LTE Band 12 (Channel Bandwidth: 3 MHz) _ QPSK	
700.5 MHz	
707.5 MHz	
714.5 MHz	

LTE Band 12 (Channel Bandwidth: 5 MHz) _ QPSK	
701.5 MHz	
707.5 MHz	
713.5 MHz	

LTE Band 12 (Channel Bandwidth: 10 MHz) _ QPSK	
704.0 MHz	
707.5 MHz	
711.0 MHz	

LTE Band 17 (Channel Bandwidth: 5 MHz) _ QPSK	
706.5 MHz	
710.0 MHz	
713.5 MHz	

LTE Band 17 (Channel Bandwidth: 10 MHz) _ QPSK	
709.0 MHz	
710.0 MHz	
711.0 MHz	

9 Radiated Emission Test

■ Limit

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 $\log_{10}$(P) dB. The limit of emission equal to -13dBm

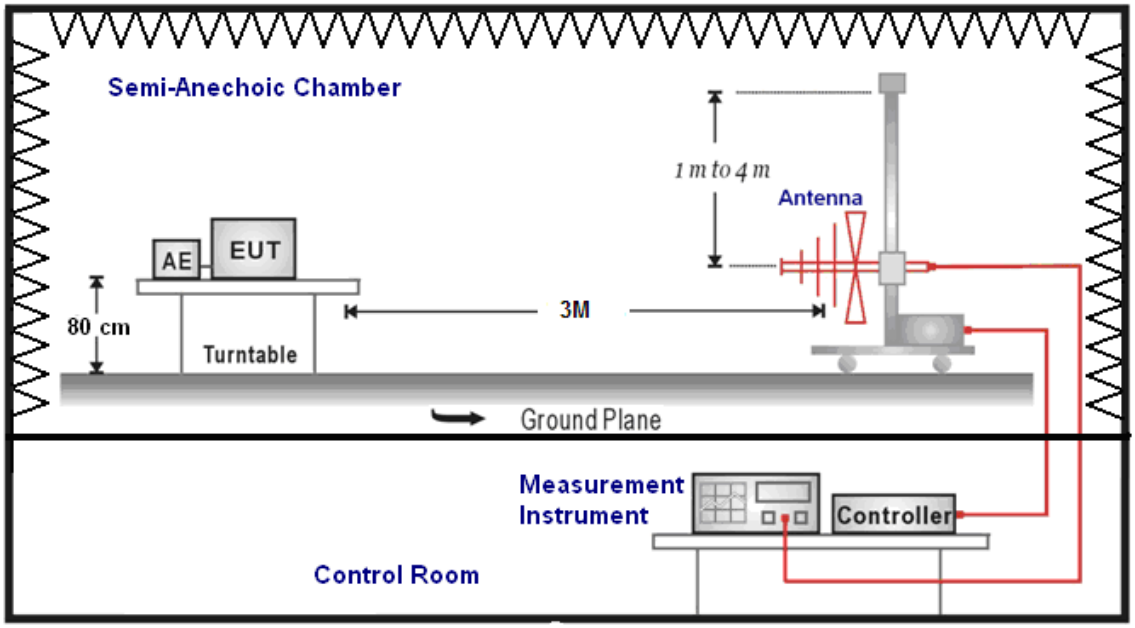
■ Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/08/2016	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/08/2016	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/11/2016	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/11/2016	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	416	10/13/2016	1 year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB 9168	419	10/28/2015	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/06/2016	1 year
Horn Antenna (18~40GHz)	ETS	3116	00086467	09/05/2016	1 year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/18/2016	1 year
Microwave Cable	EMCI	EMC102-KM-KM-14000	151001	02/23/2016	1 year
Microwave Cable	EMCI	EMC-104-SM-SM-14000	140202	02/23/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-600	140301	02/23/2016	1 year
Signal Generator	Agilent	E8257D	MY44320425	02/25/2016	1 year
Test Site	ATL	TE01	888001	08/29/2016	1 year

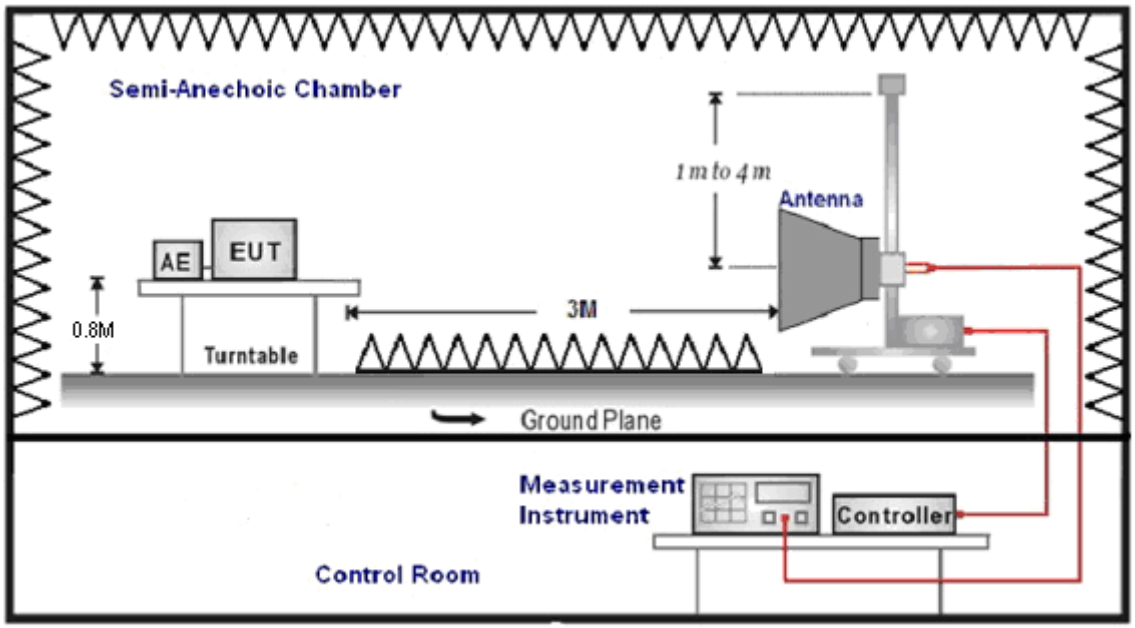
Note: N.C.R. = No Calibration Request.

■ **Setup**

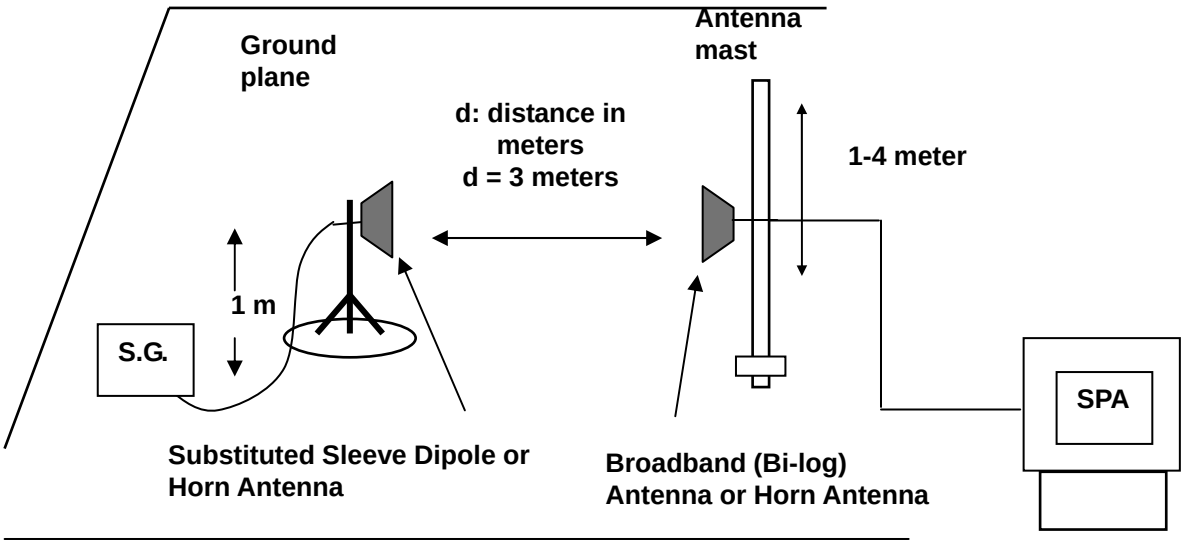
Below 1GHz



Above 1GHz



For Substituted Method Test Set-UP



■ **Test Procedure**

a. The EUT was set up for the maximum power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range). RWB and VBW is 1MHz.

b. Radiation Emission measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

c. The substitution antenna (Note:1 & 2) is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G.

d. E.I.R.P. = Output power level of S.G - TX cable loss + Antenna gain of substitution horn

e. E.R.P. = E.I.R.P- 2.15 dB

Note: 1. Below 1 GHz Substituted Method Test：Sleeve dipole antenna to Bi-Log Antenna

2. Above 1 GHz Substituted Method Test：Horn antenna to Horn Antenn

■ **Uncertainty**

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is ± 3.072 dB.

■ **Test Result**

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1850.7 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6100.000	-59.34	6.70	-52.64	-13.00	-39.64	peak	H
1	6316.000	-58.02	7.58	-50.44	-13.00	-37.44	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8044.000	-60.77	13.27	-47.50	-13.00	-34.50	peak	H
1	5656.000	-57.09	5.39	-51.70	-13.00	-38.70	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1909.3 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7504.000	-60.35	11.94	-48.41	-13.00	-35.41	peak	H
1	7228.000	-60.28	10.79	-49.49	-13.00	-36.49	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8704.000	-62.30	13.28	-49.02	-13.00	-36.02	peak	H
1	7900.000	-61.45	13.02	-48.43	-13.00	-35.43	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1851.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7936.000	-59.02	13.12	-45.90	-13.00	-32.90	peak	H
1	8308.000	-60.64	13.17	-47.47	-13.00	-34.47	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	4948.000	-57.36	4.36	-53.00	-13.00	-40.00	peak	H
1	7480.000	-59.32	11.87	-47.45	-13.00	-34.45	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1908.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7984.000	-60.84	13.25	-47.59	-13.00	-34.59	peak	H
1	7516.000	-59.56	11.98	-47.58	-13.00	-34.58	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7792.000	-60.90	12.73	-48.17	-13.00	-35.17	peak	H
1	6268.000	-58.55	7.38	-51.17	-13.00	-38.17	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1852.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	9664.000	-65.47	15.54	-49.93	-13.00	-36.93	peak	H
1	6748.000	-57.91	9.08	-48.83	-13.00	-35.83	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7036.000	-58.51	9.99	-48.52	-13.00	-35.52	peak	H
1	9148.000	-63.29	14.09	-49.20	-13.00	-36.20	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1907.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5392.000	-59.21	4.88	-54.33	-13.00	-41.33	peak	H
1	6688.000	-59.07	8.89	-50.18	-13.00	-37.18	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6184.000	-58.68	7.04	-51.64	-13.00	-38.64	peak	H
1	7456.000	-60.75	11.76	-48.99	-13.00	-35.99	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1855.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5584.000	-58.02	5.20	-52.82	-13.00	-39.82	peak	H
1	7180.000	-60.54	10.60	-49.94	-13.00	-36.94	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5608.000	-58.62	5.26	-53.36	-13.00	-40.36	peak	H
1	8848.000	-63.08	13.43	-49.65	-13.00	-36.65	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1905.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8344.000	-60.54	13.15	-47.39	-13.00	-34.39	peak	H
1	7624.000	-61.13	12.28	-48.85	-13.00	-35.85	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8668.000	-61.48	13.26	-48.22	-13.00	-35.22	peak	H
1	7708.000	-59.70	12.50	-47.20	-13.00	-34.20	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	15 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1857.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7120.000	-60.60	10.34	-50.26	-13.00	-37.26	peak	H
1	8260.000	-60.67	13.19	-47.48	-13.00	-34.48	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	15 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6304.000	-55.73	7.53	-48.20	-13.00	-35.20	peak	H
1	7768.000	-60.04	12.66	-47.38	-13.00	-34.38	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	15 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1902.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7948.000	-60.32	13.15	-47.17	-13.00	-34.17	peak	H
1	9304.000	-61.98	14.64	-47.34	-13.00	-34.34	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	15 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8764.000	-61.47	13.35	-48.12	-13.00	-35.12	peak	H
1	6760.000	-59.09	9.12	-49.97	-13.00	-36.97	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	20 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1860.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7444.000	-60.32	11.70	-48.62	-13.00	-35.62	peak	H
1	8596.000	-61.89	13.18	-48.71	-13.00	-35.71	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	20 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6208.000	-58.59	7.14	-51.45	-13.00	-38.45	peak	H
1	8584.000	-60.86	13.16	-47.70	-13.00	-34.70	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	20 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1900.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5380.000	-58.59	4.87	-53.72	-13.00	-40.72	peak	H
1	8560.000	-61.27	13.14	-48.13	-13.00	-35.13	peak	V

Standard:	FCC Part 24	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 2	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	20 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1880.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7636.000	-60.15	12.31	-47.84	-13.00	-34.84	peak	H
1	9304.000	-62.52	14.64	-47.88	-13.00	-34.88	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1710.7 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8788.000	-62.13	13.37	-48.76	-13.00	-35.76	peak	H
1	5680.000	-58.06	5.45	-52.61	-13.00	-39.61	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1732.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6808.000	-59.20	9.25	-49.95	-13.00	-36.95	peak	H
1	7396.000	-59.75	11.52	-48.23	-13.00	-35.23	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1754.3 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8116.000	-61.09	13.24	-47.85	-13.00	-34.85	peak	H
1	7612.000	-62.31	12.25	-50.06	-13.00	-37.06	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1732.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8524.000	-63.48	13.11	-50.37	-13.00	-37.37	peak	H
1	6652.000	-59.54	8.78	-50.76	-13.00	-37.76	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1711.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6400.000	-57.57	7.92	-49.65	-13.00	-36.65	peak	H
1	6340.000	-58.83	7.67	-51.16	-13.00	-38.16	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	3904.000	-55.88	1.73	-54.15	-13.00	-41.15	peak	H
1	8284.000	-61.69	13.18	-48.51	-13.00	-35.51	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1753.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7396.000	-61.16	11.52	-49.64	-13.00	-36.64	peak	H
1	9436.000	-64.09	15.09	-49.00	-13.00	-36.00	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	9388.000	-60.79	14.92	-45.87	-13.00	-32.87	peak	H
1	6844.000	-61.04	9.37	-51.67	-13.00	-38.67	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1712.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6832.000	-60.18	9.32	-50.86	-13.00	-37.86	peak	H
1	6736.000	-61.05	9.03	-52.02	-13.00	-39.02	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6532.000	-59.13	8.42	-50.71	-13.00	-37.71	peak	H
1	6868.000	-57.83	9.44	-48.39	-13.00	-35.39	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1752.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5068.000	-59.02	4.58	-54.44	-13.00	-41.44	peak	H
1	8512.000	-64.27	13.09	-51.18	-13.00	-38.18	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5644.000	-59.52	5.36	-54.16	-13.00	-41.16	peak	H
1	6076.000	-60.44	6.60	-53.84	-13.00	-40.84	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1715.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8692.000	-61.78	13.28	-48.50	-13.00	-35.50	peak	H
1	6592.000	-59.56	8.61	-50.95	-13.00	-37.95	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6400.000	-59.02	7.92	-51.10	-13.00	-38.10	peak	H
1	6844.000	-59.83	9.37	-50.46	-13.00	-37.46	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1750.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7876.000	-61.80	12.95	-48.85	-13.00	-35.85	peak	H
1	7924.000	-61.23	13.08	-48.15	-13.00	-35.15	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7900.000	-60.83	13.02	-47.81	-13.00	-34.81	peak	H
1	6316.000	-54.88	7.58	-47.30	-13.00	-34.30	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	15 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1717.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6028.000	-60.17	6.41	-53.76	-13.00	-40.76	peak	H
1	6244.000	-58.63	7.29	-51.34	-13.00	-38.34	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	15 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5956.000	-58.86	6.18	-52.68	-13.00	-39.68	peak	H
1	8572.000	-62.16	13.16	-49.00	-13.00	-36.00	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	15 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1747.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6688.000	-58.52	8.89	-49.63	-13.00	-36.63	peak	H
1	6352.000	-57.64	7.72	-49.92	-13.00	-36.92	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	15 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	9316.000	-63.85	14.68	-49.17	-13.00	-36.17	peak	H
1	7492.000	-59.21	11.90	-47.31	-13.00	-34.31	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	20 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1720.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8668.000	-61.36	13.26	-48.10	-13.00	-35.10	peak	H
1	8548.000	-60.14	13.14	-47.00	-13.00	-34.00	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	20 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5884.000	-58.19	5.99	-52.20	-13.00	-39.20	peak	H
1	6748.000	-59.95	9.08	-50.87	-13.00	-37.87	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	20 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	1745.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6544.000	-58.29	8.46	-49.83	-13.00	-36.83	peak	H
1	8320.000	-61.95	13.16	-48.79	-13.00	-35.79	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 4	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	20 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	1732.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	9376.000	-65.28	14.88	-50.40	-13.00	-37.40	peak	H
1	7636.000	-61.00	12.31	-48.69	-13.00	-35.69	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	824.7 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6808.000	-59.41	9.25	-50.16	-13.00	-37.16	peak	H
1	8308.000	-59.21	13.17	-46.04	-13.00	-33.04	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	836.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8644.000	-60.58	13.22	-47.36	-13.00	-34.36	peak	H
1	7216.000	-58.76	10.75	-48.01	-13.00	-35.01	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	848.3 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6628.000	-58.40	8.71	-49.69	-13.00	-36.69	peak	H
1	6400.000	-56.59	7.92	-48.67	-13.00	-35.67	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	836.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5440.000	-57.04	4.92	-52.12	-13.00	-39.12	peak	H
1	9268.000	-61.04	14.50	-46.54	-13.00	-33.54	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	825.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6556.000	-58.53	8.49	-50.04	-13.00	-37.04	peak	H
1	6052.000	-56.84	6.50	-50.34	-13.00	-37.34	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	836.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6076.000	-59.78	6.60	-53.18	-13.00	-40.18	peak	H
1	8572.000	-59.89	13.16	-46.73	-13.00	-33.73	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	847.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8332.000	-58.83	13.16	-45.67	-13.00	-32.67	peak	H
1	5260.000	-57.71	4.75	-52.96	-13.00	-39.96	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	836.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7648.000	-59.20	12.35	-46.85	-13.00	-33.85	peak	H
1	6400.000	-57.72	7.92	-49.80	-13.00	-36.80	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	826.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6556.000	-58.19	8.49	-49.70	-13.00	-36.70	peak	H
1	7996.000	-60.17	13.29	-46.88	-13.00	-33.88	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	836.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6196.000	-57.93	7.09	-50.84	-13.00	-37.84	peak	H
1	6556.000	-57.98	8.49	-49.49	-13.00	-36.49	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	846.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5464.000	-58.20	4.95	-53.25	-13.00	-40.25	peak	H
1	7480.000	-58.76	11.87	-46.89	-13.00	-33.89	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	836.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	9736.000	-65.32	15.65	-49.67	-13.00	-36.67	peak	H
1	8368.000	-58.82	13.15	-45.67	-13.00	-32.67	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	829.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	10144.000	-64.63	16.41	-48.22	-13.00	-35.22	peak	H
1	5296.000	-57.80	4.79	-53.01	-13.00	-40.01	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	836.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7216.000	-59.63	10.75	-48.88	-13.00	-35.88	peak	H
1	9316.000	-61.21	14.68	-46.53	-13.00	-33.53	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	844.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5452.000	-57.17	4.94	-52.23	-13.00	-39.23	peak	H
1	6508.000	-57.35	8.34	-49.01	-13.00	-36.01	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 5	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	836.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7612.000	-60.07	12.25	-47.82	-13.00	-34.82	peak	H
1	8752.000	-61.55	13.33	-48.22	-13.00	-35.22	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	699.7 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8992.000	-62.67	13.57	-49.10	-13.00	-36.10	peak	H
1	7012.000	-58.89	9.88	-49.01	-13.00	-36.01	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	707.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	10024.000	-63.05	16.09	-46.96	-13.00	-33.96	peak	H
1	9712.000	-63.14	15.62	-47.52	-13.00	-34.52	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	715.3 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6472.000	-57.01	8.21	-48.80	-13.00	-35.80	peak	H
1	7288.000	-61.04	11.06	-49.98	-13.00	-36.98	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	1.4 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	707.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6412.000	-57.80	7.96	-49.84	-13.00	-36.84	peak	H
1	6136.000	-56.80	6.85	-49.95	-13.00	-36.95	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	700.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8320.000	-61.28	13.16	-48.12	-13.00	-35.12	peak	H
1	6496.000	-59.66	8.30	-51.36	-13.00	-38.36	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	707.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6940.000	-59.25	9.65	-49.60	-13.00	-36.60	peak	H
1	7780.000	-59.74	12.69	-47.05	-13.00	-34.05	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	714.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	9868.000	-65.26	15.83	-49.43	-13.00	-36.43	peak	H
1	8752.000	-62.27	13.33	-48.94	-13.00	-35.94	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	3 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	707.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	10048.000	-64.79	16.15	-48.64	-13.00	-35.64	peak	H
1	6592.000	-59.59	8.61	-50.98	-13.00	-37.98	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	701.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7924.000	-59.89	13.08	-46.81	-13.00	-33.81	peak	H
1	5668.000	-59.20	5.43	-53.77	-13.00	-40.77	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	707.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7924.000	-61.30	13.08	-48.22	-13.00	-35.22	peak	H
1	6880.000	-61.05	9.48	-51.57	-13.00	-38.57	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	713.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7540.000	-60.32	12.04	-48.28	-13.00	-35.28	peak	H
1	7216.000	-61.16	10.75	-50.41	-13.00	-37.41	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	707.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5908.000	-58.53	6.05	-52.48	-13.00	-39.48	peak	H
1	7564.000	-58.31	12.11	-46.20	-13.00	-33.20	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	704.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7648.000	-59.28	12.35	-46.93	-13.00	-33.93	peak	H
1	6748.000	-60.07	9.08	-50.99	-13.00	-37.99	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	707.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7060.000	-60.24	10.08	-50.16	-13.00	-37.16	peak	H
1	5860.000	-56.88	5.93	-50.95	-13.00	-37.95	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	711.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5620.000	-58.36	5.29	-53.07	-13.00	-40.07	peak	H
1	7396.000	-61.38	11.52	-49.86	-13.00	-36.86	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 12	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	707.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6844.000	-59.09	9.37	-49.72	-13.00	-36.72	peak	H
1	9028.000	-61.86	13.67	-48.19	-13.00	-35.19	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 17	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	706.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7228.000	-60.49	10.79	-49.70	-13.00	-36.70	peak	H
1	6208.000	-59.84	7.14	-52.70	-13.00	-39.70	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 17	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	710.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	9052.000	-63.31	13.75	-49.56	-13.00	-36.56	peak	H
1	9244.000	-65.23	14.42	-50.81	-13.00	-37.81	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 17	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	713.5 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	6484.000	-57.77	8.25	-49.52	-13.00	-36.52	peak	H
1	5728.000	-59.27	5.58	-53.69	-13.00	-40.69	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 17	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	5 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	710.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5716.000	-58.74	5.55	-53.19	-13.00	-40.19	peak	H
1	7312.000	-60.52	11.14	-49.38	-13.00	-36.38	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 17	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	709.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	5332.000	-58.55	4.83	-53.72	-13.00	-40.72	peak	H
1	8656.000	-63.25	13.25	-50.00	-13.00	-37.00	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 17	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	710.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	8764.000	-62.98	13.35	-49.63	-13.00	-36.63	peak	H
1	4876.000	-56.72	4.12	-52.60	-13.00	-39.60	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 17	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	QPSK		
Frequency:	711.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	9892.000	-64.65	15.87	-48.78	-13.00	-35.78	peak	H
1	7252.000	-61.98	10.89	-51.09	-13.00	-38.09	peak	V

Standard:	FCC Part 27	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Band:	LTE Band 17	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Channel Bandwidth:	10 MHz	Test By:	Eric Ou Yang
Modulation Technology:	16QAM		
Frequency:	710.0 MHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor(dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
1	7888.000	-61.62	12.98	-48.64	-13.00	-35.64	peak	H
1	6676.000	-60.40	8.86	-51.54	-13.00	-38.54	peak	V