

FCC Report (LTE)

Applicant: Sky Phone LLC

Address of Applicant: 1348 Washington Av. Suite 350 Miami Beach, Florida 33139
United States

Equipment Under Test (EUT)

Product Name: Smart Phone

Model No.: Elite 5.5L

Trade mark: Sky Devices

FCC ID: 2ABOSELITE55L

Applicable standards: FCC CFR Title 47 Part 2: 2014
FCC CFR Title 47 Part24 Subpart E: 2014
FCC CFR Title 47 Part27: 2014

Date of sample receipt: November 24, 2015

Date of Test: November 25 - December 01, 2015

Date of report issued: December 02, 2015

Test Result : PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

A circular blue ink stamp for GTS Global Testing Services Co., Ltd. is visible. The stamp contains the text "GTS", "GLOBAL TESTING", and "UNITED TECHNOLOGY SERVICES CO., LTD." around the perimeter. A handwritten signature in blue ink is written over the stamp.

Robinson Lo

Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the GTS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	December 02, 2015	Original

Prepared By:

Edward. Pan

Date:

December 02, 2015

Project Engineer

Check By:

Hank. Yan

Date:

December 02, 2015

Reviewer

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4 Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Pass* (Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 24.232 (c) Part 27.50 (d)(4)	Pass
Modulation Characteristics	Part 2.1047	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 24.238 Part 27.53(a)	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 24.238 (a) Part 27.53 (h)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 24.238 (a) Part 27.53 (h)	Pass
Out of band emission, Band Edge	Part 24.238 (a) Part 27.53(h)	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2)	Pass

Pass: The EUT complies with the essential requirements in the standard.

5 General Information

5.1 Client Information

Applicant:	Sky Phone LLC
Address of Applicant:	1348 Washington Av. Suite 350 Miami Beach, Florida 33139 United States
Manufacturer/Factory:	Shenzhen Konka Telecommunications Technology Co., Ltd.
Address of Manufacturer/Factory:	No.9008 Shennan Road,Overseas Chinese Town, ShenZhen, Guangdong, China

5.2 General Description of EUT

Product Name:	Smart Phone
Model No.:	Elite 5.5L
Support Networks:	LTE
Support Bands:	LTE Band 2, LTE Band 4, LTE Band 7, LTE Band 12, LTE Band 17
Channel Bandwidth:	LTE Band 2: 1.4MHz; 3MHz; 5MHz; 10MHz; 15MHz; 20MHz LTE Band 4: 1.4MHz; 3MHz; 5MHz; 10MHz; 15MHz; 20MHz LTE Band 7: 5MHz; 10MHz; 15MHz; 20MHz LTE Band 12: 1.4MHz; 3MHz; 5MHz; 10MHz LTE Band 17: 5MHz; 10MHz
TX Frequency:	LTE Band 2: 1850.70MHz-1909.30MHz LTE Band 4: 1710.70MHz-1754.30MHz LTE Band 7: 2502.50MHz-2567.50MHz LTE Band 12: 698.70MHz-715.30MHz LTE Band 17: 706.50MHz-713.50MHz
Modulation type:	LTE Band 2/4/7/12/17: QPSK, 16QAM
Antenna type:	PIFA antenna
Antenna gain:	1.0dBi
Power supply:	Adapter Model No.: U0B2E0A050100 Input: AC 100-240V, 50/60Hz, 0.15A Output: DC 5.0V, 1.0A or DC 3.7V Li-ion Battery

5.3 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is filing to comply with Section Part 24 subpart E and Part 27 of the FCC CFR 47 Rules.

5.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on TIA/EIA 603 and FCC CFR 47.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057

5.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC —Registration No.: 600491**

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 28, 2013.

- **Industry Canada (IC) —Registration No.: 9079A-2**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, June 26, 2013.

5.6 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: Room 301-309, 3th Floor, Block A, Huafeng Jinyuan Business Building, No. 300 Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen 518102

Tel: 0755-27798480

Fax: 0755-27798960

6 Test Instruments list

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 27 2015	Mar. 26 2016
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June 30 2015	June 29 2016
4	BiConiLog Antenna	SCHWARZBECK MESS- ELEKTRONIK	VULB9163	GTS214	June 30 2015	June 29 2016
5	Double -ridged waveguide horn	SCHWARZBECK MESS- ELEKTRONIK	9120D-829	GTS208	June 26 2015	June 25 2016
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 27 2015	Mar. 26 2016
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	Mar. 28 2015	Mar. 27 2016
9	Coaxial Cable	GTS	N/A	GTS211	Mar. 28 2015	Mar. 27 2016
10	Coaxial cable	GTS	N/A	GTS210	Mar. 28 2015	Mar. 27 2016
11	Coaxial Cable	GTS	N/A	GTS212	Mar. 28 2015	Mar. 27 2016
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June 30 2015	June 29 2016
13	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	June 30 2015	June 29 2016
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 26 2015	June 25 2016
15	Band filter	Amindeon	82346	GTS219	Mar. 28 2015	Mar. 27 2016
16	Universal radio communication tester	Rohde & Schwarz	CMU200	GTS235	May 08 2015	May 07 2016
17	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS588	May 09 2015	May 08 2016
18	Signal Generator	Rohde & Schwarz	SML03	GTS236	May 08 2015	May 07 2016
19	Temp. Humidity/Barometer	Oregon Scientific	BA-888	GTS248	May 08 2015	May 07 2016
20	D.C. Power Supply	Instek	PS-3030	GTS232	NA	NA
21	Splitter	Agilent	11636B	GTS237	May 08 2015	May 07 2016
22	Power meter	Rohde & Schwarz	NRVS	GTS238	May 08 2015	May 07 2016
23	Spectrum Analyzer	Agilent	E4440A	GTS533	Dec. 4 2014	Dec. 3 2015
24	Temp.&Humidity chamber	Chuang wei	GDS-225	GTS005-1	May 06 2015	May 05 2016
25	Highpass filter	Micro-Tronics	HPM50108	GTS549	Mar. 28 2015	Mar. 27 2016
26	Highpass filter	Micro-Tronics	HPM50111	GTS550	Mar. 28 2015	Mar. 27 2016

7 System test configuration

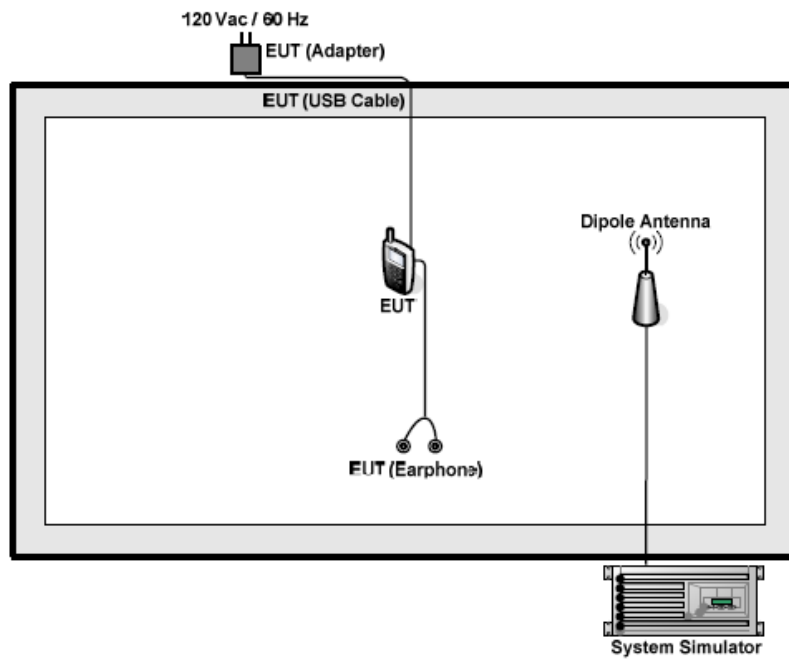
7.1 Test mode

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.

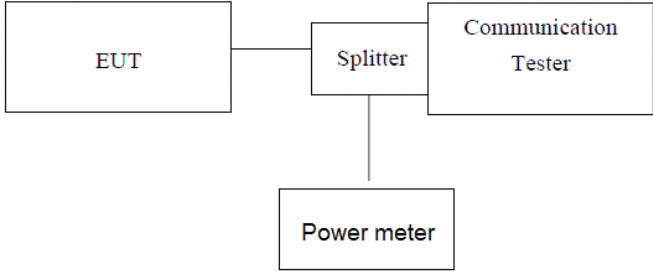
Test modes		
Band	Radiated	Conducted
LTE Band 2	■ QPSK link	■ QPSK link
LTE Band 4	■ QPSK link	■ QPSK link
LTE Band 7	■ QPSK link	■ QPSK link
LTE Band 12	■ QPSK link	■ QPSK link
LTE Band 17	■ QPSK link	■ QPSK link

Note: The maximum power levels are LTE mode for QPSK link. Only these modes were used for all tests.

7.2 Configuration of Tested System



7.3 Conducted Peak Output Power

Test Requirement:	FCC part24.232(b) and FCC part 27.50
Test Method:	FCC part2.1046
Limit:	LTE Band 2: 2W LTE Band 4: 1W LTE Band 7: 2W LTE Band 12/17: 3W
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1. The transmitter output port was connected to base station. 2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement. 3. Set EUT at maximum power through base station. 4. Select lowest, middle, and highest channels for each band and different modulation. 5. Measure the maximum burst average power.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

Measurement Data

Band 2						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18607 1850.7MHz	Channel 18900 1880.0MHz	Channel 19193 1909.3MHz
1.4MHz	QPSK	1	0	21.78	21.34	21.54
		1	2	21.69	21.39	21.58
		1	5	21.72	21.26	21.56
		3	0	21.63	21.32	21.61
		3	1	21.74	21.30	21.49
		3	2	21.82	21.36	21.62
		6	0	21.93	21.46	21.71
	16QAM	1	0	20.75	20.51	20.57
		1	2	20.82	20.53	20.62
		1	5	20.72	20.49	20.55
		3	0	20.74	20.48	20.55
		3	1	20.83	20.49	20.53
		3	2	20.89	20.51	20.58
		6	0	20.92	20.47	20.72
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18615 1851.5MHz	Channel 18900 1880.0MHz	Channel 19185 1908.5MHz
3MHz	QPSK	1	0	21.76	21.31	21.54
		1	8	21.74	21.30	21.56
		1	14	21.72	21.29	21.52
		8	0	21.70	21.35	21.49
		8	4	21.69	21.32	21.64
		8	7	21.75	21.31	21.62
		15	0	21.94	21.55	21.72
	16QAM	1	0	21.17	20.52	20.55
		1	8	21.16	20.60	20.56
		1	15	21.25	20.53	20.54
		8	0	21.26	20.54	20.52
		8	4	21.35	20.48	20.49
		8	7	21.12	20.50	20.60
		15	0	20.88	20.66	20.79
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18625 1852.5MHz	Channel 18900 1880.0MHz	Channel 19175 1907.5MHz
5MHz	QPSK	1	0	21.86	21.47	21.60
		1	13	21.88	21.46	21.61
		1	24	21.86	21.48	21.58
		12	0	21.84	21.45	21.56

		12	6	21.85	21.48	21.54
		12	13	21.79	21.38	21.55
		25	0	20.80	20.42	20.59
	16QAM	1	0	20.51	20.81	20.69
		1	13	20.54	20.83	20.68
		1	24	20.53	20.86	20.63
		12	0	20.55	20.87	20.64
		12	6	20.59	20.84	20.65
		12	13	20.58	20.87	20.66
		25	0	19.86	19.47	19.66
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18650 1855.0MHz	Channel 18900 1880.0MHz	Channel 19150 1905.0MHz
10MHz	QPSK	1	0	21.84	21.57	21.58
		1	25	21.85	21.54	21.59
		1	49	21.87	21.49	21.55
		25	0	21.84	21.52	21.56
		25	13	21.83	21.50	21.58
		25	25	21.79	21.56	21.52
		50	0	20.81	20.52	20.61
	16QAM	1	0	20.94	20.64	21.10
		1	25	20.93	20.57	21.09
		1	49	20.98	20.69	21.20
		25	0	20.94	20.68	21.18
		25	13	20.89	20.64	21.12
		25	25	20.91	20.62	21.15
		50	0	19.83	19.60	19.66
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18675 1857.5MHz	Channel 18900 1880.0MHz	Channel 19125 1902.5MHz
15MHz	QPSK	1	0	21.85	21.70	21.62
		1	38	21.88	21.73	21.68
		1	74	21.84	21.72	21.59
		36	0	21.83	21.69	21.58
		36	18	21.79	21.74	21.64
		36	39	21.80	21.78	21.58
		75	0	20.88	20.58	20.69
	16QAM	1	0	21.17	21.27	20.76
		1	38	21.18	21.25	20.79
		1	74	21.20	21.26	20.73
		36	0	21.22	21.21	20.74
		36	18	21.14	21.20	20.80
		36	39	21.19	21.31	20.76

		75	0	19.83	19.61	19.70
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 18700 1860.0MHz	Channel 18900 1880.0MHz	Channel 19100 1900.0MHz
20MHz	QPSK	1	0	21.85	21.75	21.63
		1	50	21.88	21.80	21.60
		1	99	21.82	21.76	21.62
		50	0	21.86	21.74	21.68
		50	25	21.80	21.72	21.59
		50	50	21.84	21.71	21.58
		100	0	20.78	20.59	20.61
	16QAM	1	0	21.03	21.28	20.84
		1	50	21.12	21.31	20.80
		1	99	21.11	21.20	21.81
		50	0	21.09	21.26	21.76
		50	25	21.08	21.25	21.78
		50	50	21.04	21.28	21.76
		100	0	19.80	19.65	19.70
Band 4						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 19957 1710.7MHz	Channel 20175 1732.5MHz	Channel 20393 1754.3MHz
1.4MHz	QPSK	1	0	22.04	21.75	22.09
		1	2	22.01	22.02	22.12
		1	5	22.15	21.58	22.15
		3	0	22.25	21.79	22.26
		3	1	22.08	21.53	22.35
		3	2	21.98	21.85	22.47
		6	0	21.05	20.80	21.13
	16QAM	1	0	21.11	20.86	21.29
		1	2	21.95	20.78	21.35
		1	5	21.53	20.89	21.42
		3	0	21.35	20.91	21.68
		3	1	21.08	21.05	21.72
		3	2	21.21	20.53	21.52
		6	0	20.13	19.81	20.22
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 19965 1711.5MHz	Channel 20175 1732.5MHz	Channel 20385 753.5MHz
3MHz	QPSK	1	0	22.03	21.79	22.05
		1	8	22.13	21.81	22.02
		1	14	22.08	21.85	22.12
		8	0	22.21	21.69	22.15
		8	4	22.15	21.75	22.20

		8	7	21.95	21.82	22.32
		15	0	21.12	20.90	21.21
	16QAM	1	0	21.19	20.90	21.68
		1	8	21.23	20.75	21.68
		1	15	21.35	20.68	21.56
		8	0	21.45	20.35	21.72
		8	4	21.02	20.85	21.86
		8	7	21.18	20.89	21.98
		15	0	20.14	20.01	20.35
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 19975 1712.5MHz	Channel 20175 1732.5MHz	Channel 20375 1752.5MHz
5MHz	QPSK	1	0	22.09	21.94	22.16
		1	13	22.12	21.79	22.20
		1	24	22.05	21.84	22.10
		12	0	22.25	21.86	22.25
		12	6	22.26	21.99	22.36
		12	13	22.15	21.89	22.53
		25	0	21.11	20.93	21.21
	16QAM	1	0	21.14	21.14	21.14
		1	13	21.15	21.28	21.56
		1	24	21.26	21.43	21.25
		12	0	21.38	21.36	21.56
		12	6	21.42	21.25	21.86
		12	13	21.35	21.23	21.13
		25	0	20.18	19.98	20.31
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20000 1715.0MHz	Channel 20175 1732.5MHz	Channel 20350 1750.0MHz
10MHz	QPSK	1	0	22.19	22.13	22.13
		1	25	22.25	22.17	22.18
		1	49	22.35	22.19	22.20
		25	0	22.21	22.32	21.90
		25	13	22.15	22.24	22.10
		25	25	22.30	22.15	22.07
		50	0	21.16	21.04	21.14
	16QAM	1	0	21.78	21.35	21.23
		1	25	21.82	21.32	21.30
		1	49	21.76	21.28	21.28
		25	0	21.58	21.29	21.13
		25	13	21.82	21.30	21.35
		25	25	21.69	21.31	21.02
		50	0	20.24	20.08	20.25

Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20025 1717.5MHz	Channel 20175 1732.5MHz	Channel 20325 1747.5MHz
15MHz	QPSK	1	0	22.19	22.13	22.16
		1	38	22.18	22.20	22.30
		1	74	22.20	22.18	22.21
		36	0	22.15	22.25	22.19
		36	18	22.05	22.09	22.18
		36	39	22.18	22.03	22.17
		75	0	21.17	21.08	21.19
	16QAM	1	0	21.77	21.35	21.63
		1	38	21.76	21.29	21.62
		1	74	21.82	21.39	21.68
		36	0	21.68	21.52	21.69
		36	18	21.59	21.45	21.58
		36	39	21.81	21.32	21.52
		75	0	20.21	20.12	20.24
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20050 1720.0MHz	Channel 20175 1732.5MHz	Channel 20300 1745.0MHz
20MHz	QPSK	1	0	21.99	21.91	21.94
		1	50	21.89	21.82	21.82
		1	99	21.96	21.88	21.95
		50	0	22.02	21.98	21.83
		50	25	21.78	22.10	22.02
		50	50	22.00	21.79	22.15
		100	0	20.98	21.06	21.17
	16QAM	1	0	21.52	20.32	21.23
		1	50	21.62	20.35	21.33
		1	99	21.58	20.69	21.28
		50	0	21.56	20.34	21.02
		50	25	21.48	20.48	21.36
		50	50	21.68	20.42	21.32
		100	0	19.98	19.92	20.03
Band 7						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20775 2502.5MHz	Channel 21100 2535MHz	Channel 21425 2567.5MHz
5MHz	QPSK	1	0	21.74	21.53	21.66
		1	13	21.15	21.86	21.59
		1	24	21.86	21.46	21.51
		12	0	21.84	21.54	21.86
		12	6	21.51	21.78	21.48
		12	13	21.12	21.13	21.23

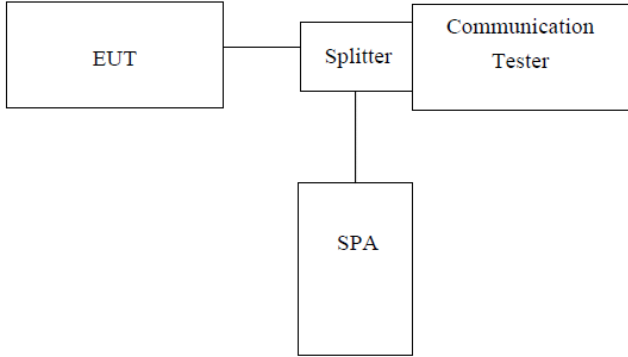
	16QAM	25	0	20.74	20.55	20.71
		1	0	20.66	20.92	20.76
		1	13	20.54	20.48	20.84
		1	24	20.55	20.86	20.55
		12	0	20.54	20.16	20.15
		12	6	20.89	21.12	20.21
		12	13	20.12	20.20	20.41
		25	0	19.82	19.71	19.87
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20800 2505MHz	Channel 21100 2535MHz	Channel 21400 2565MHz
10MHz	QPSK	1	0	21.92	21.93	21.75
		1	25	21.89	21.90	21.89
		1	49	21.78	21.86	21.56
		25	0	21.56	21.45	21.74
		25	13	21.62	21.56	21.35
		25	25	21.20	21.31	21.30
		50	0	20.85	20.74	20.83
	16QAM	1	0	20.89	21.41	20.96
		1	25	20.95	21.12	20.65
		1	49	21.12	21.65	21.12
		25	0	20.85	21.15	20.86
		25	13	20.45	21.16	20.65
		25	25	20.23	20.21	20.54
		50	0	19.69	19.89	20.01
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 20825 2507.5MHz	Channel 21100 2535MHz	Channel 21375 2562.5MHz
15MHz	QPSK	1	0	22.18	22.15	21.89
		1	38	22.23	22.16	21.56
		1	74	22.16	21.95	22.20
		36	0	22.65	21.86	21.65
		36	18	22.12	22.02	22.13
		36	39	21.15	21.35	21.25
		75	0	20.94	20.69	20.85
	16QAM	1	0	21.45	21.43	21.04
		1	38	21.65	21.56	21.02
		1	74	21.15	21.58	20.65
		36	0	21.16	21.53	20.95
		36	18	21.56	21.25	21.02
		36	39	21.20	21.15	20.65
		75	0	20.03	19.87	19.91
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		

				Channel 20850 2510MHz	Channel 21100 2535MHz	Channel 21350 2560MHz
20MHz	QPSK	1	0	22.07	22.13	21.21
		1	50	22.05	22.18	21.58
		1	99	22.56	22.26	21.15
		50	0	22.15	21.68	20.95
		50	25	21.98	21.92	21.56
		50	50	21.65	21.38	21.32
		100	0	20.82	20.74	20.59
	16QAM	1	0	20.57	21.08	20.29
		1	50	20.83	21.56	20.48
		1	99	20.86	21.15	20.85
		50	0	20.48	21.36	20.20
		50	25	20.56	21.12	20.56
		50	50	20.15	20.56	20.37
		100	0	19.25	19.48	19.42
Band 12						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23007 698.7MHz	Channel 23095 707.5MHz	Channel 23173 715.3MHz
1.4MHz	QPSK	1	0	22.02	22.10	22.32
		1	2	22.02	22.05	21.98
		1	5	21.98	22.15	22.84
		3	0	22.15	22.35	22.15
		3	1	21.98	21.97	21.65
		3	2	20.10	21.82	21.98
		6	0	21.36	21.09	21.22
	16QAM	1	0	21.35	21.06	21.15
		1	2	21.65	21.15	21.05
		1	5	21.50	21.32	21.53
		3	0	21.54	21.16	21.54
		3	1	21.32	20.90	20.98
		3	2	21.02	20.56	20.56
		6	0	20.46	20.14	20.29
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23015 699.5MHz	Channel 23095 707MHz	Channel 23165 714.5MHz
3MHz	QPSK	1	0	22.10	22.15	22.23
		1	8	21.98	22.18	22.15
		1	14	21.95	22.02	21.90
		8	0	22.15	21.58	22.90
		8	4	22.53	21.62	22.10
		8	7	21.85	21.58	21.98
		15	0	21.49	21.28	21.29

	16QAM	1	0	21.21	21.32	21.30
		1	8	21.15	21.16	21.25
		1	15	21.56	21.15	21.56
		8	0	21.84	21.50	21.50
		8	4	21.02	21.05	21.10
		8	7	21.10	21.02	20.98
		15	0	20.43	20.42	20.35
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23025 700.5MHz	Channel 23095 707MHz	Channel 23155 713.5MHz
5MHz	QPSK	1	0	22.02	22.15	22.35
		1	13	22.13	21.99	22.45
		1	24	22.35	21.98	22.15
		12	0	21.98	22.18	22.45
		12	6	22.25	22.15	22.12
		12	13	22.45	22.05	21.98
		25	0	21.39	21.33	21.31
	16QAM	1	0	20.95	20.15	20.32
		1	13	20.32	20.75	20.61
		1	24	21.02	20.32	20.45
		12	0	20.65	20.21	20.32
		12	6	20.75	20.66	20.87
		12	13	20.85	20.56	20.95
		25	0	20.58	20.55	20.42
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23050 703.0MHz	Channel 23095 707MHz	Channel 23130 711.0MHz
10MHz	QPSK	1	0	22.56	22.53	22.41
		1	25	22.23	22.44	22.13
		1	49	22.15	22.53	22.58
		25	0	21.42	21.41	21.32
		25	13	21.56	21.35	21.65
		25	25	21.35	21.42	21.13
		50	0	21.45	21.42	21.36
	16QAM	1	0	21.66	21.45	21.99
		1	25	21.65	21.35	21.79
		1	49	21.23	21.48	21.69
		25	0	21.68	21.56	21.58
		25	13	21.77	21.51	21.12
		25	25	21.00	21.20	20.98
		50	0	20.42	20.43	20.46
Band 17						
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		

				Channel 23755 706.5MHz	Channel 23790 710.0MHz	Channel 23825 713.5MHz
5MHz	QPSK	1	0	22.10	22.30	22.05
		1	13	22.18	22.15	22.10
		1	24	22.32	22.13	22..2
		12	0	22.09	22.16	22.32
		12	6	21.65	21.98	21.98
		12	13	21.84	21.56	21.82
		25	0	21.39	21.33	21.25
	16QAM	1	0	21.32	21.20	21.68
		1	13	21.54	21.45	21.15
		1	24	21.12	21.47	21.56
		12	0	21.46	21.54	21.32
		12	6	21.16	21.45	21.10
		12	13	21.10	21.30	20.90
		25	0	20.47	20.40	20.38
Bandwidth	Mode	RB Size	RB Offset	Actual output power(dBm)		
				Channel 23780 709.0MHz	Channel 23790 710.0MHz	Channel 23800 711.0MHz
10MHz	QPSK	1	0	22.25	22.28	22.23
		1	25	22.20	22.21	22.18
		1	49	22.15	22.14	22.13
		25	0	22.11	22.08	22.09
		25	13	22.06	22.02	22.04
		25	25	22.02	21.96	22.00
		50	0	21.99	21.91	21.97
	16QAM	1	0	21.95	21.86	21.93
		1	25	21.91	21.81	21.89
		1	49	21.88	21.76	21.86
		25	0	21.85	21.72	21.83
		25	13	21.82	21.68	21.80
		25	25	21.79	21.64	21.77
		50	0	21.76	21.60	21.74

7.4 Occupy Bandwidth

Test Requirement:	FCC part24.232(b) and FCC part27.53(a)
Test Method:	FCC part2.1049
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer 2. RBW was set to about 1% of emission BW, VBW= 3 times RBW. 3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

Measurement Data

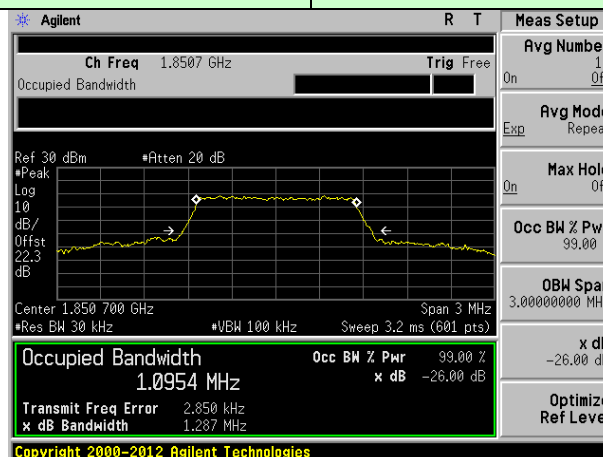
EUT Mode	Channel Bandwidth	Channel	RB Configure		99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
			RB Size	RB Offset		
LTE Band 2	1.4MHz	Low range	6	0	1095.40	1287.00
		Mid range	6	0	1099.30	1268.00
		High range	6	0	1094.70	1261.00
	3MHz	Low range	15	0	2688.30	2914.00
		Mid range	15	0	2687.90	2918.00
		High range	15	0	2683.60	2921.00
	5MHz	Low range	25	0	4527.10	5039.00
		Mid range	25	0	4515.40	5024.00
		High range	25	0	4540.90	5039.00
	10MHz	Low range	50	0	8936.30	9719.00
		Mid range	50	0	8933.10	9643.00
		High range	50	0	8961.80	9847.00
	15MHz	Low range	75	0	13473.7	14735.0
		Mid range	75	0	13492.5	14849.0
		High range	75	0	13535.3	15068.0
	20MHz	Low range	100	0	17917.9	19532.0
		Mid range	100	0	17869.8	19428.0
		High range	100	0	17903.3	19420.0

EUT Mode	Channel Bandwidth	Channel	RB Configure		99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
			RB Size	RB Offset		
LTE Band 4	1.4MHz	Low range	6	0	1098.70	1264.00
		Mid range	6	0	1093.20	1257.00
		High range	6	0	1094.70	1254.00
	3MHz	Low range	15	0	2686.40	2897.00
		Mid range	15	0	2684.50	2911.00
		High range	15	0	2687.30	2911.00
	5MHz	Low range	25	0	4524.10	5010.00
		Mid range	25	0	4514.10	5010.00
		High range	25	0	4522.10	4998.00
	10MHz	Low range	50	0	8948.20	9762.00
		Mid range	50	0	8932.00	9588.00
		High range	50	0	8943.20	9757.00
	15MHz	Low range	75	0	13538.4	14788.0
		Mid range	75	0	13412.0	14809.0
		High range	75	0	13515.2	14755.0
	20MHz	Low range	100	0	17899.0	19445.0
		Mid range	100	0	17848.2	19314.0
		High range	100	0	17929.5	19267.0

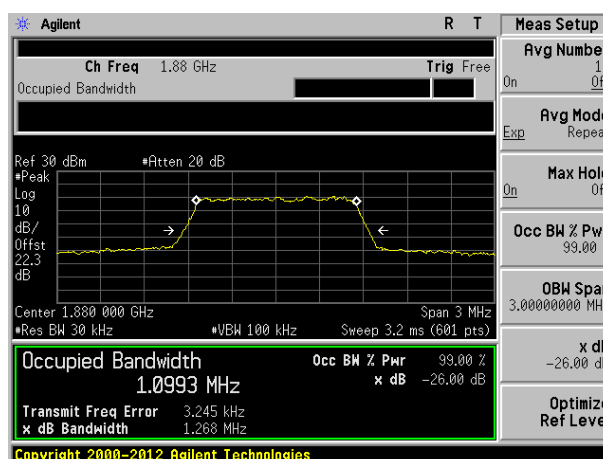
EUT Mode	Channel Bandwidth	Channel	RB Configure		99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
			RB Size	RB Offset		
LTE Band 7	5MHz	Low range	25	0	4522.00	4991.00
		Mid range	25	0	4532.00	5003.00
		High range	25	0	4524.20	5052.00
	10MHz	Low range	50	0	8951.40	9605.00
		Mid range	50	0	8946.40	9646.00
		High range	50	0	8964.90	9776.00
	15MHz	Low range	75	0	13486.1	14851.0
		Mid range	75	0	13486.3	14581.0
		High range	75	0	13528.0	14629.0
	20MHz	Low range	100	0	17871.9	19379.0
		Mid range	100	0	17882.0	19333.0
		High range	100	0	17906.8	19437.0
LTE Band 12	1.4MHz	Low range	6	0	1092.80	1262.00
		Mid range	6	0	1095.50	1277.00
		High range	6	0	1095.80	1261.00
	3MHz	Low range	15	0	2688.10	2894.00
		Mid range	15	0	2691.30	2914.00
		High range	15	0	2683.50	2897.00
	5MHz	Low range	25	0	4503.70	5033.00
		Mid range	25	0	4527.10	4942.00
		High range	25	0	4502.60	5009.00
	10MHz	Low range	50	0	8924.90	9610.00
		Mid range	50	0	8950.30	9765.00
		High range	50	0	8958.90	9629.00
LTE Band 17	5MHz	Low range	25	0	4519.00	4983.00
		Mid range	25	0	4505.90	5010.00
		High range	25	0	4512.80	4987.00
	10MHz	Low range	50	0	8963.20	9648.00
		Mid range	50	0	8973.10	9708.00
		High range	50	0	8951.00	9691.00

Test plot as follows:

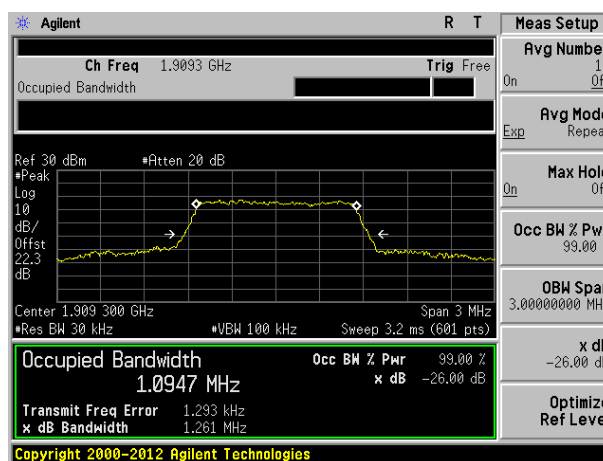
Test band: LTE Band 2	Channel Bandwidth: 1.4MHz
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Lowest channel

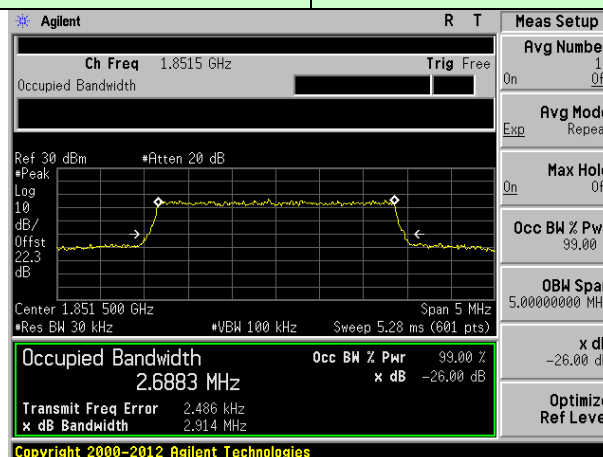


Middle channel

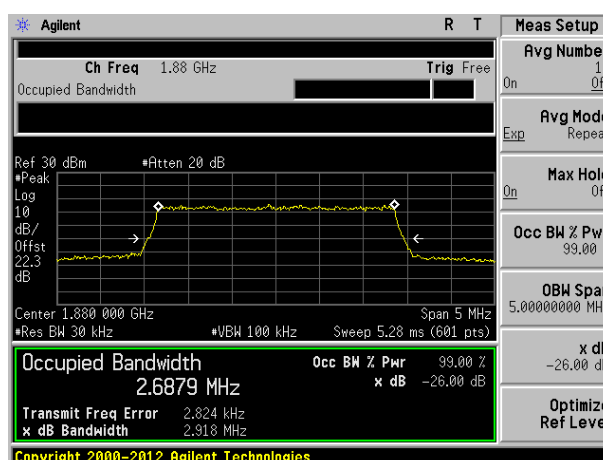


Highest channel

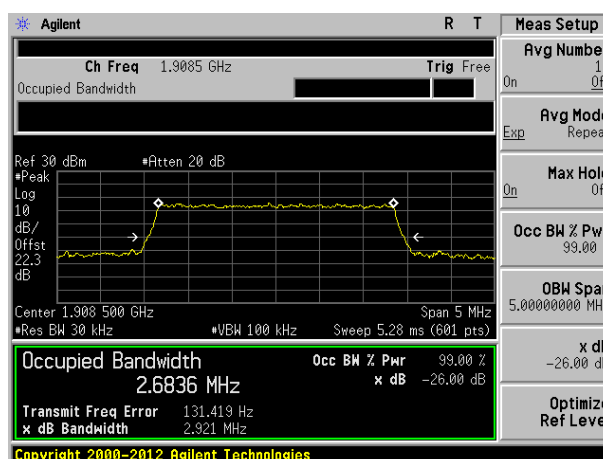
Test band: LTE Band 2	Channel Bandwidth: 3MHz
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Lowest channel

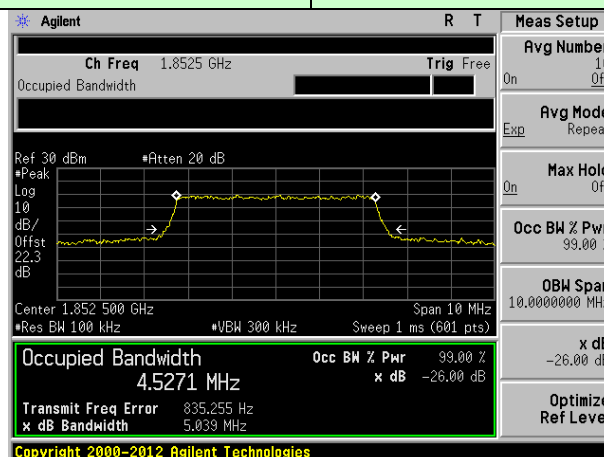


Middle channel

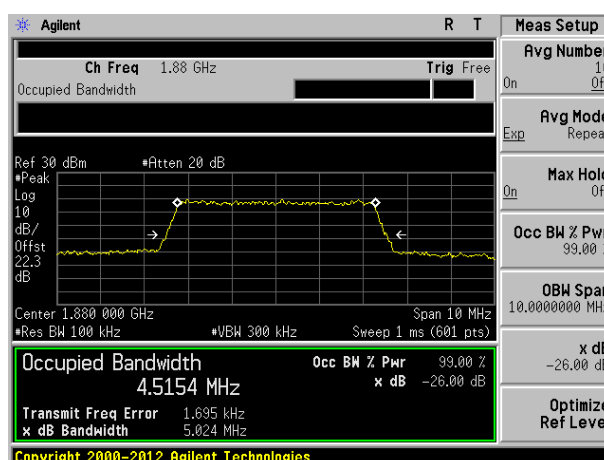


Highest channel

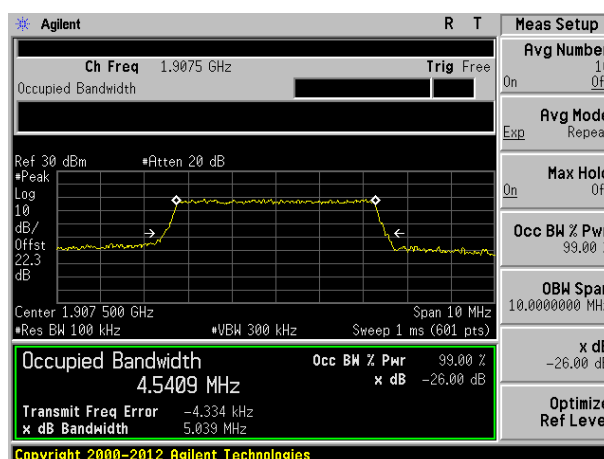
Test band: LTE Band 2	Channel Bandwidth: 5MHz
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Lowest channel

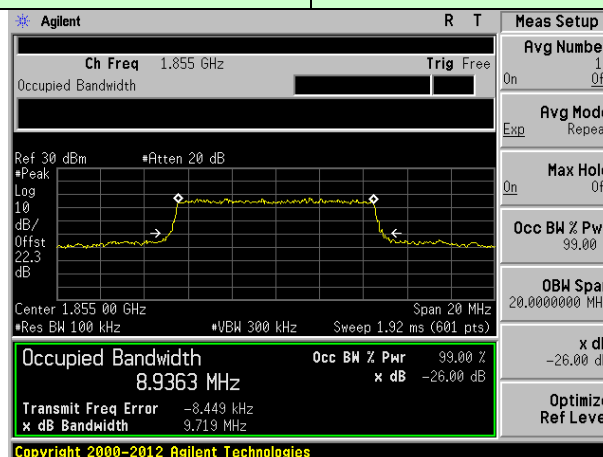


Middle channel

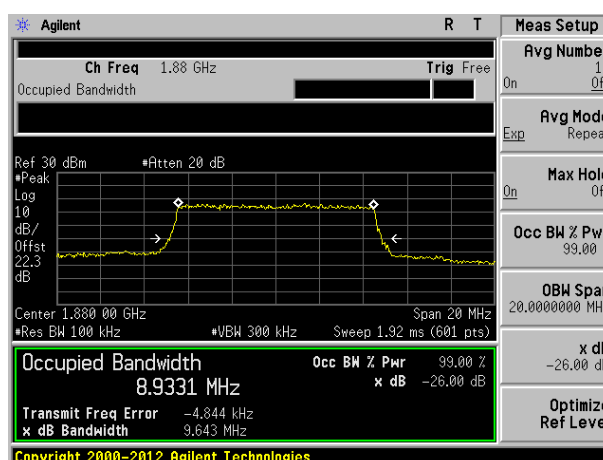


Highest channel

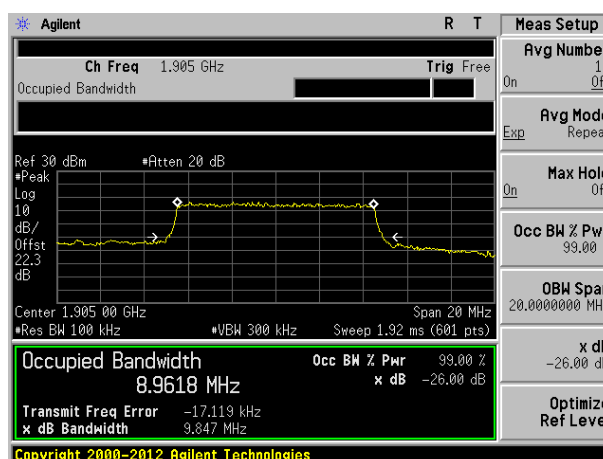
Test band: LTE Band 2	Channel Bandwidth: 10MHz
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Lowest channel

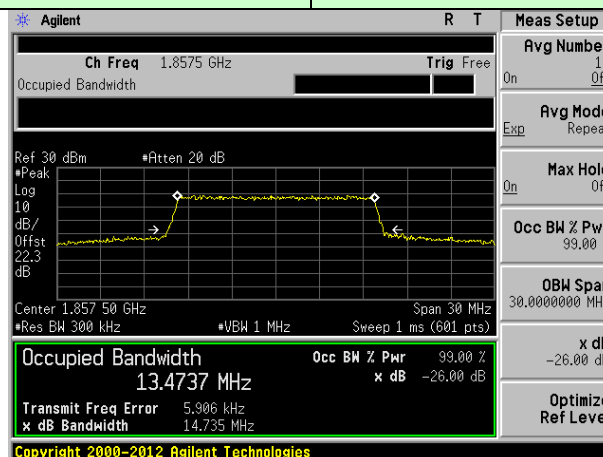


Middle channel

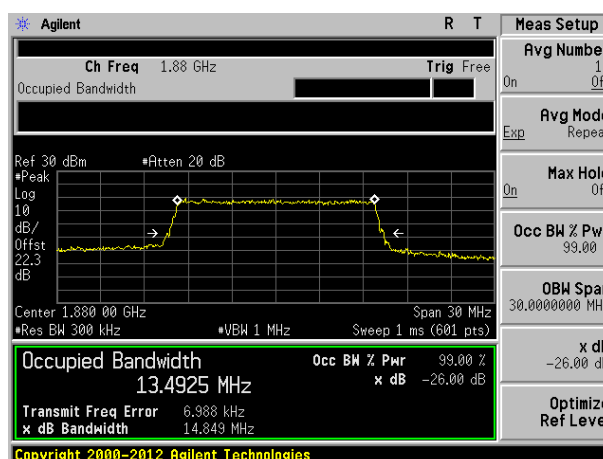


Highest channel

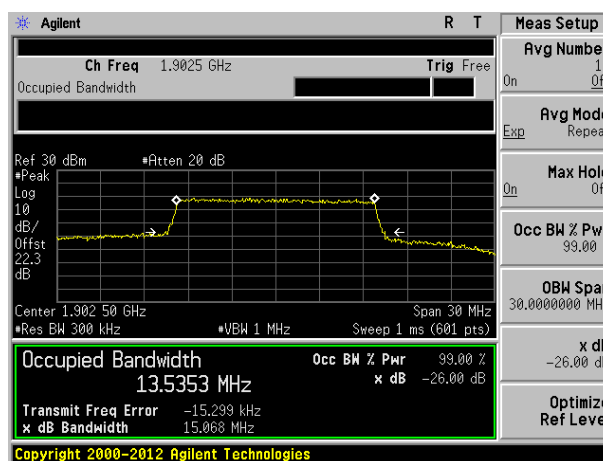
Test band: LTE Band 2	Channel Bandwidth: 15MHz
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Lowest channel



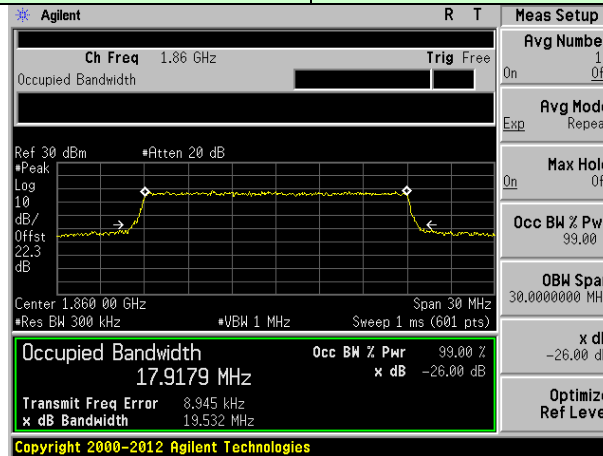
Middle channel



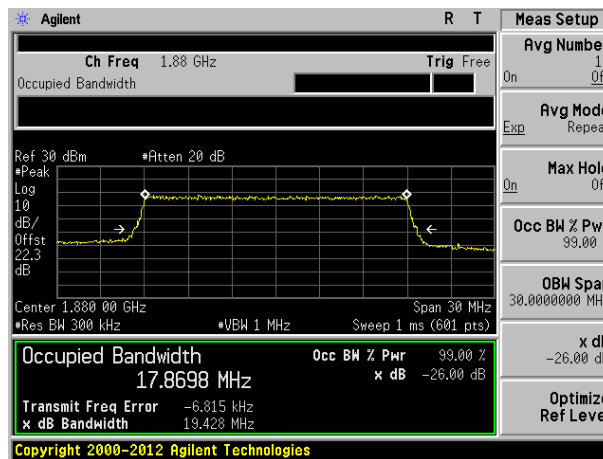
Highest channel

Test band: LTE Band 2

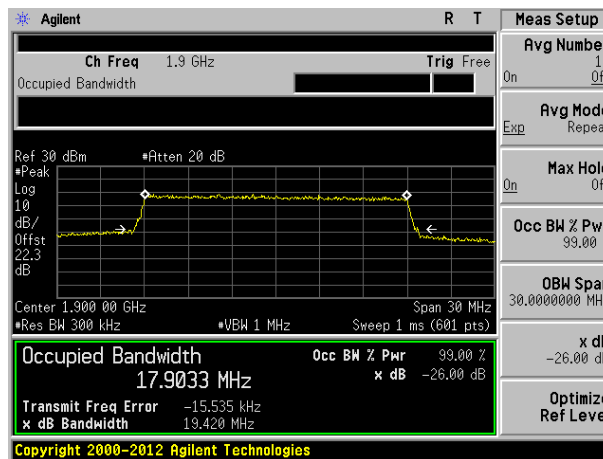
Channel Bandwidth: 20MHz



Lowest channel

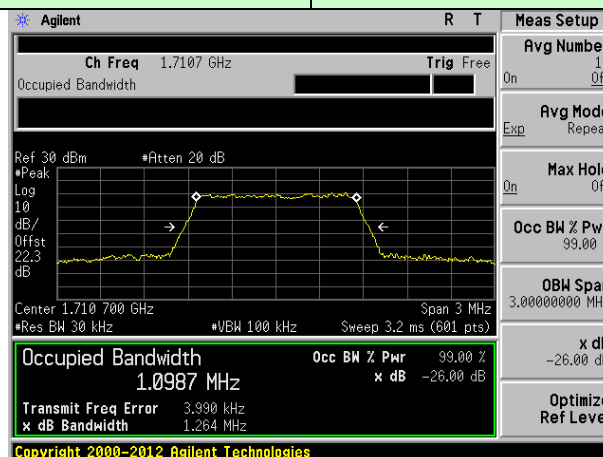


Middle channel

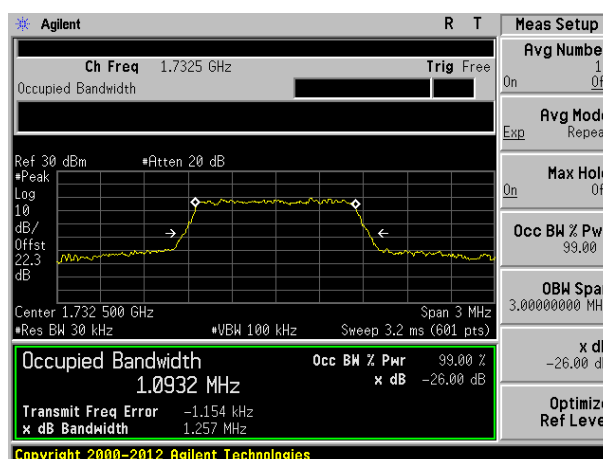


Highest channel

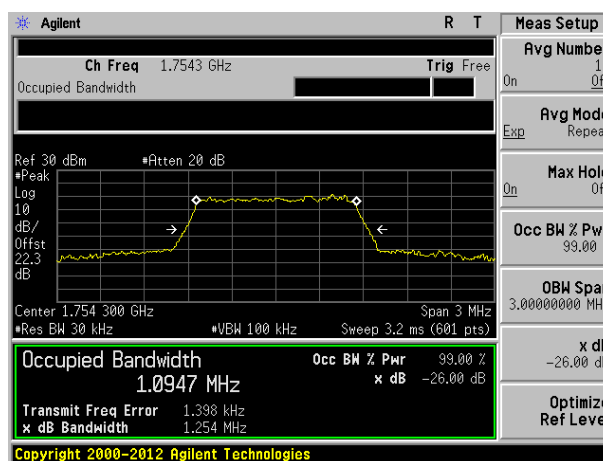
Test band: LTE Band 4	Channel Bandwidth: 1.4MHz
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Lowest channel

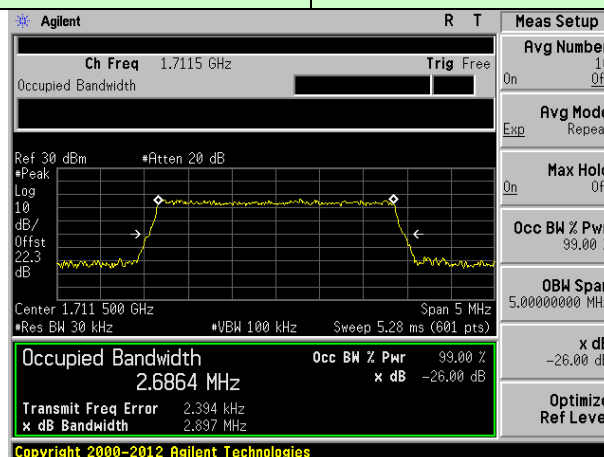


Middle channel

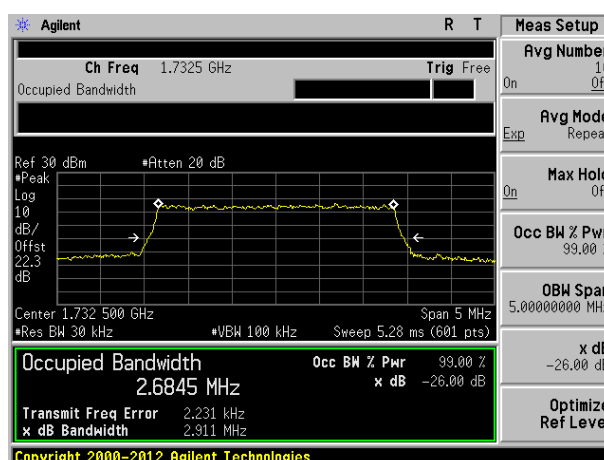


Highest channel

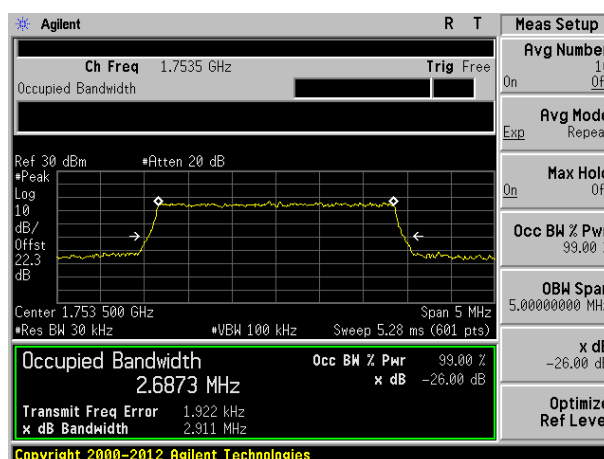
Test band: LTE Band 4	Channel Bandwidth: 3MHz
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Lowest channel

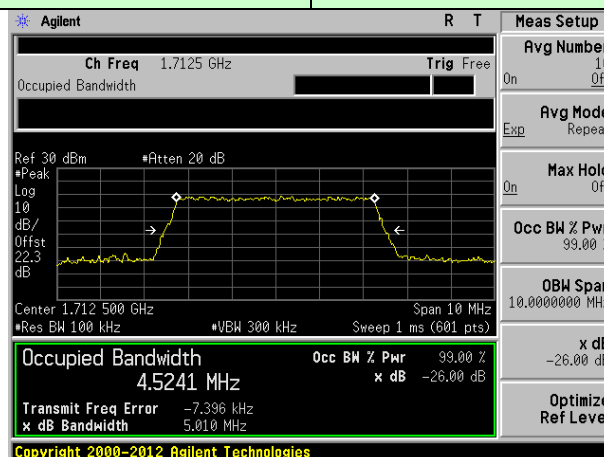


Middle channel

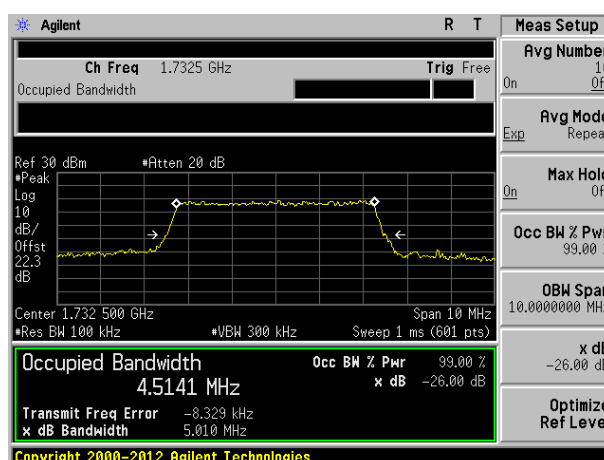


Highest channel

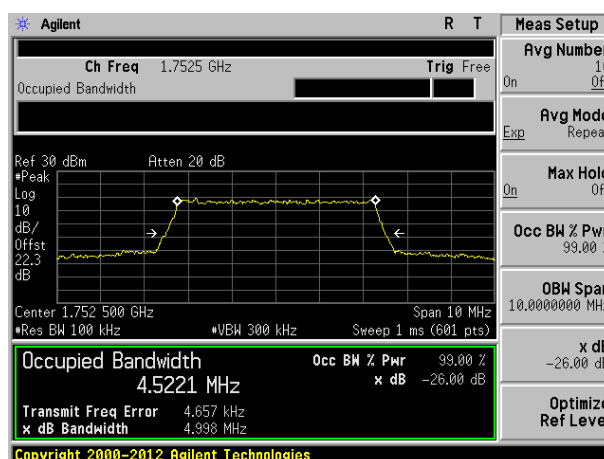
Test band: LTE Band 4	Channel Bandwidth: 5MHz
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Lowest channel

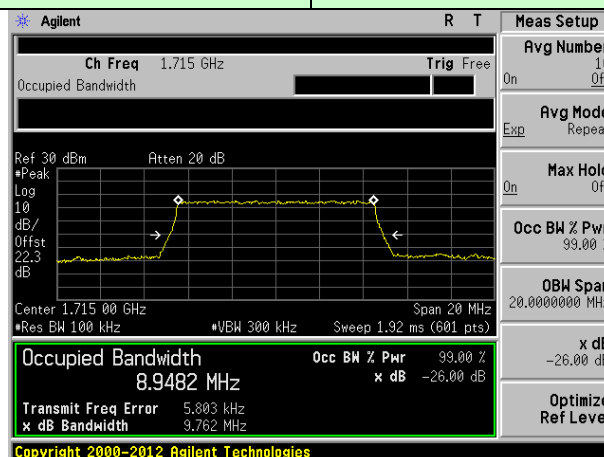


Middle channel

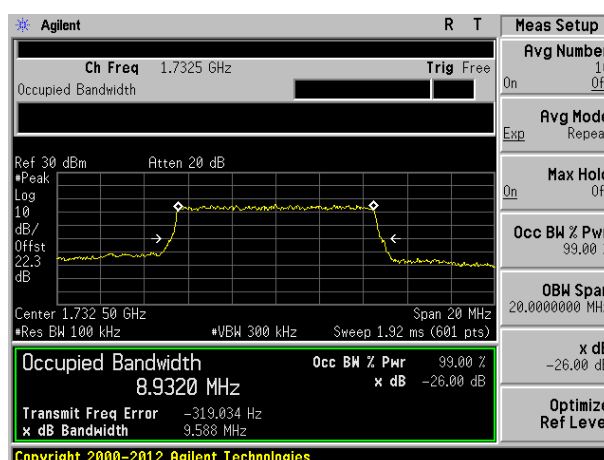


Highest channel

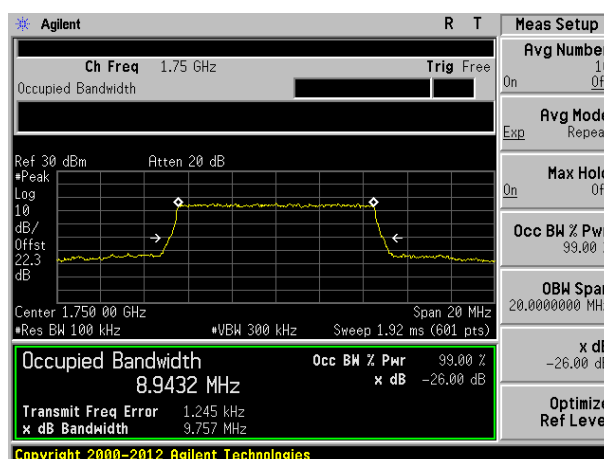
Test band: LTE Band 4	Channel Bandwidth: 10MHz
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Lowest channel

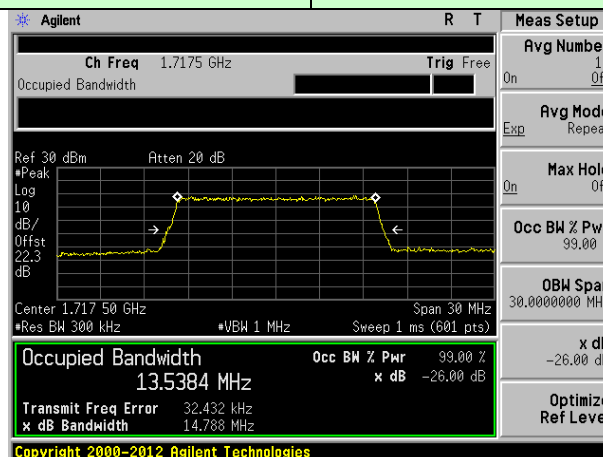


Middle channel

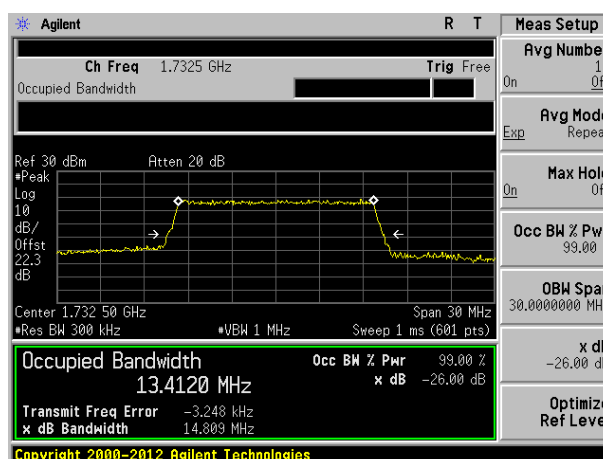


Highest channel

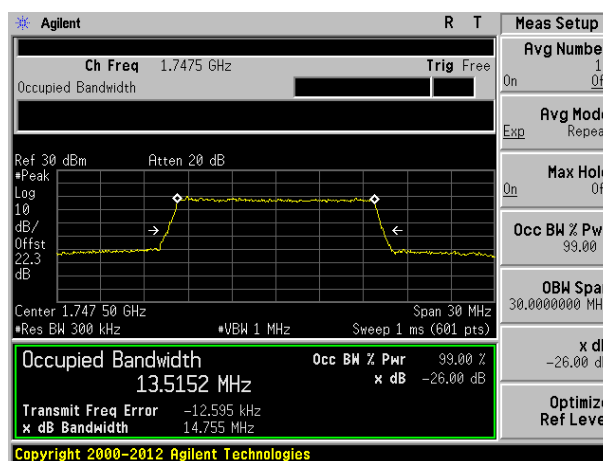
Test band: LTE Band 4	Channel Bandwidth: 15MHz
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Lowest channel



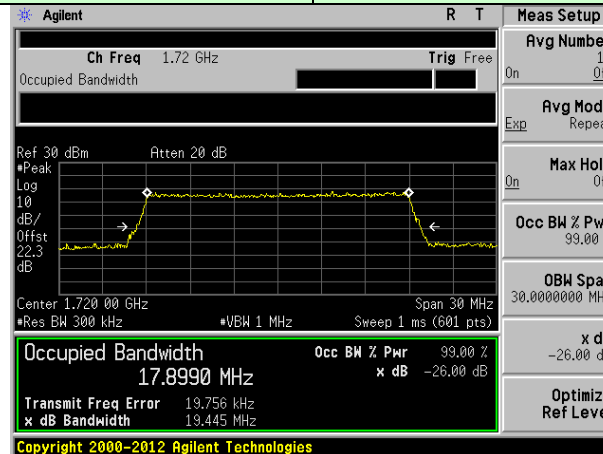
Middle channel



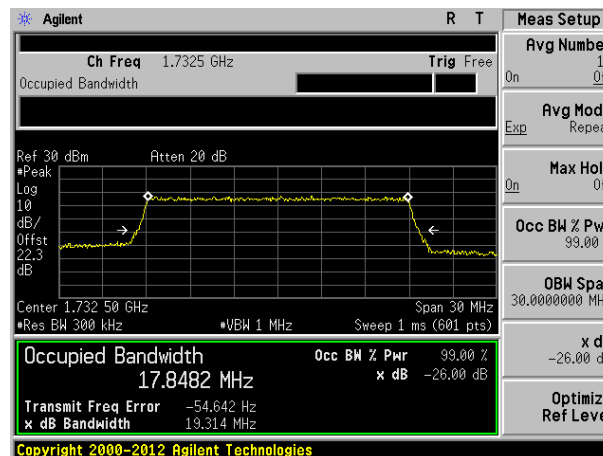
Highest channel

Test band: LTE Band 4

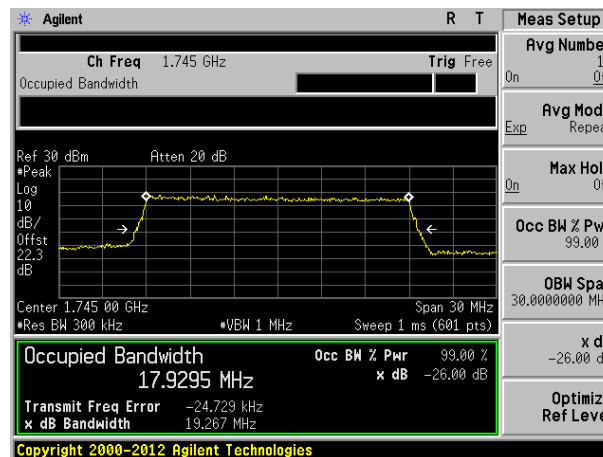
Channel Bandwidth: 20MHz



Lowest channel

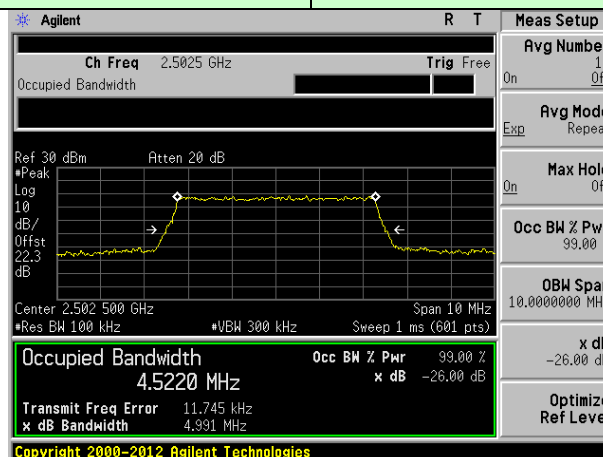


Middle channel

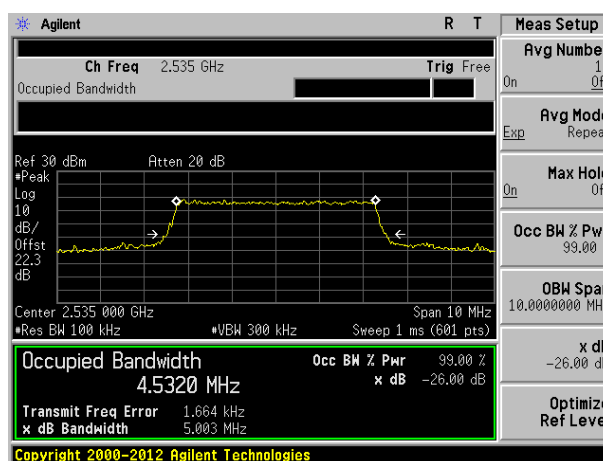


Highest channel

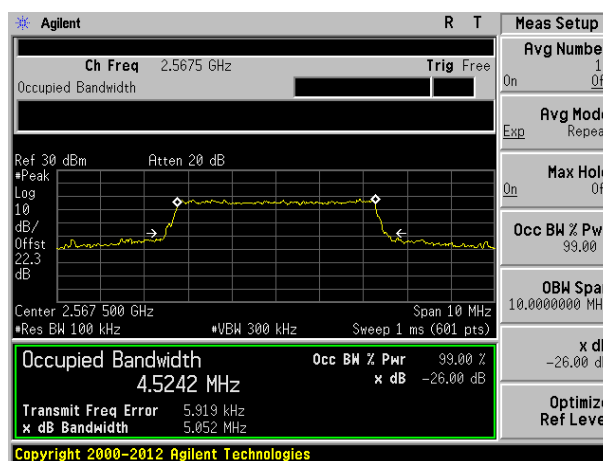
Test band: LTE Band 7	Channel Bandwidth: 5MHz
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Lowest channel

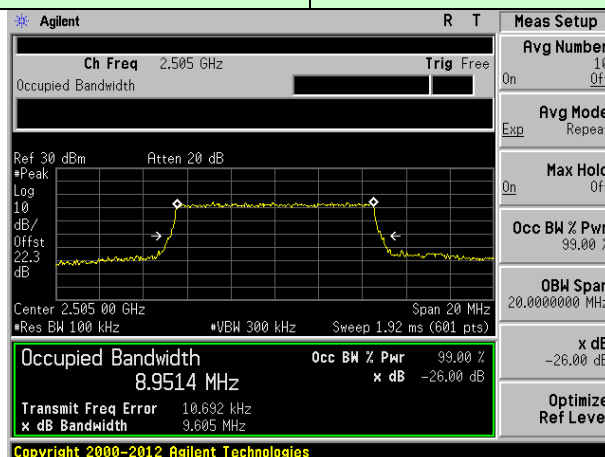


Middle channel

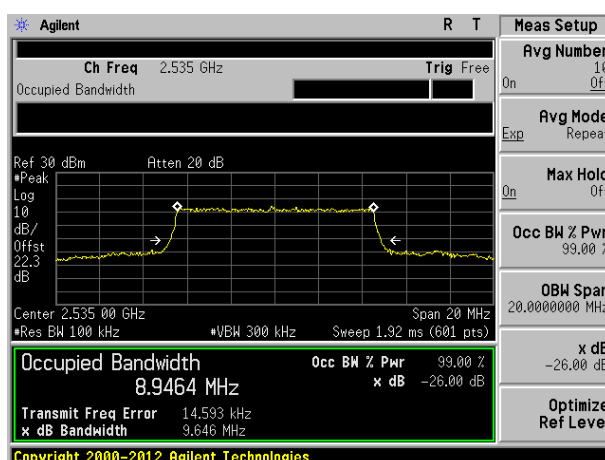


Highest channel

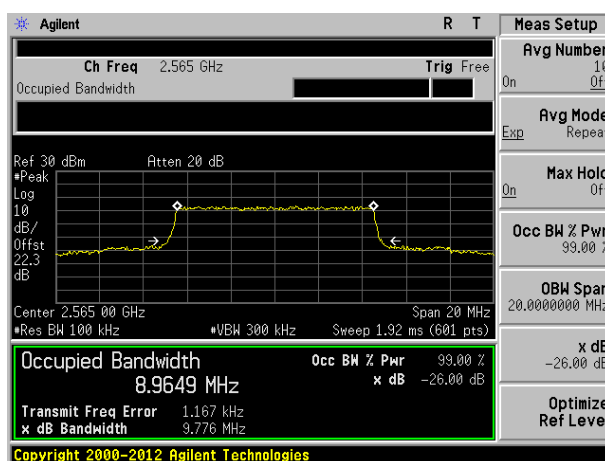
Test band: LTE Band 7	Channel Bandwidth: 10MHz
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Lowest channel

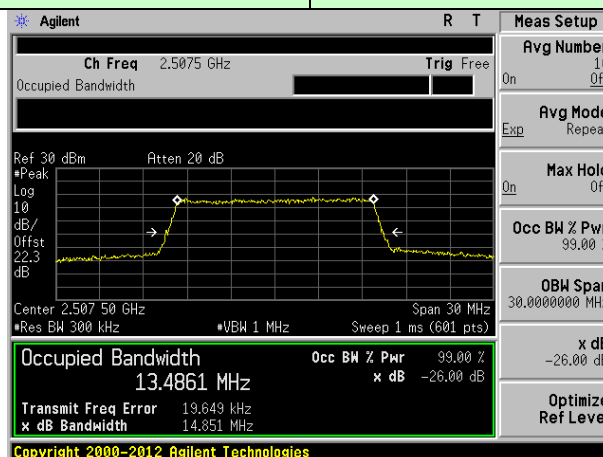


Middle channel

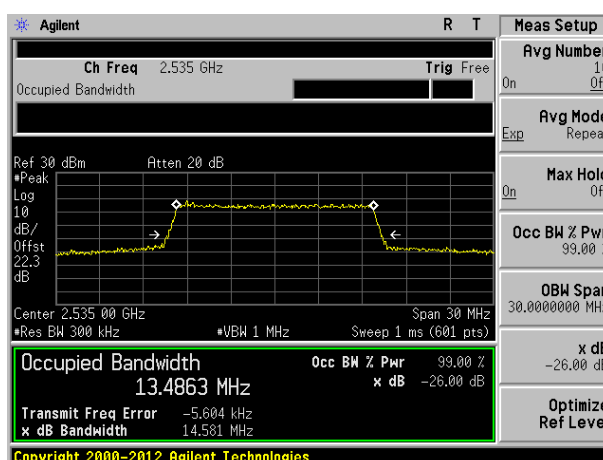


Highest channel

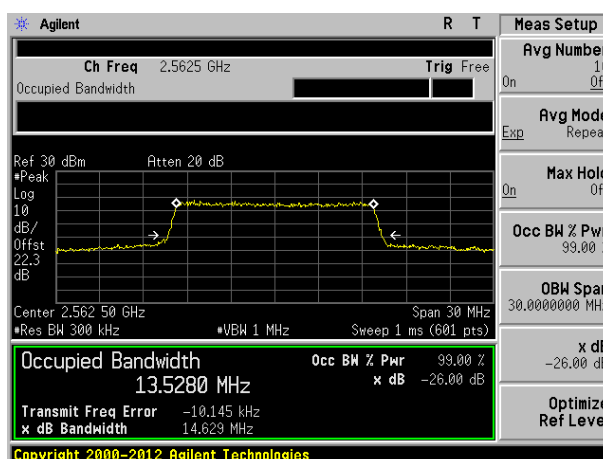
Test band: LTE Band 7	Channel Bandwidth: 15MHz
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Lowest channel

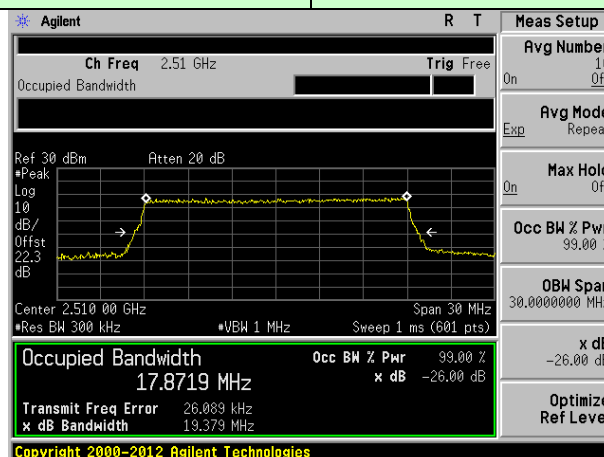


Middle channel

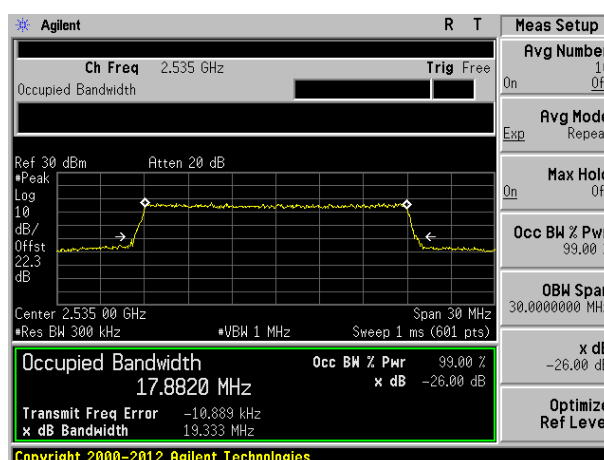


Highest channel

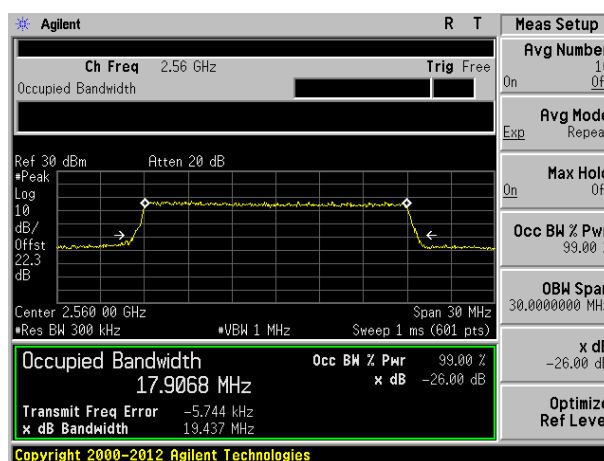
Test band: LTE Band 7	Channel Bandwidth: 20MHz
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Lowest channel



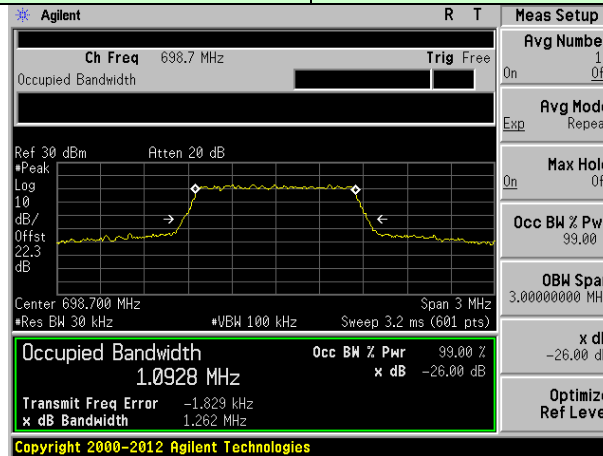
Middle channel



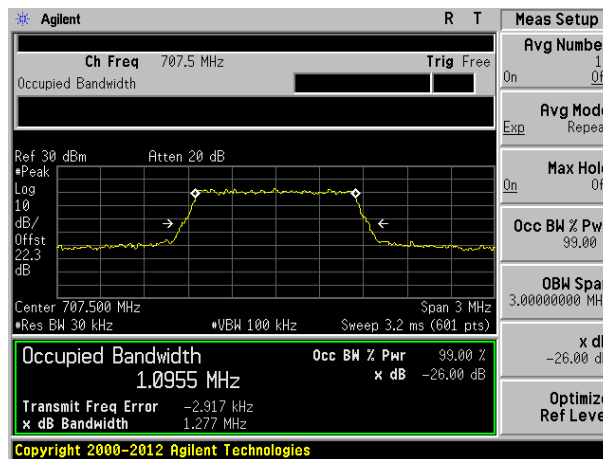
Highest channel

Test band: LTE Band 12

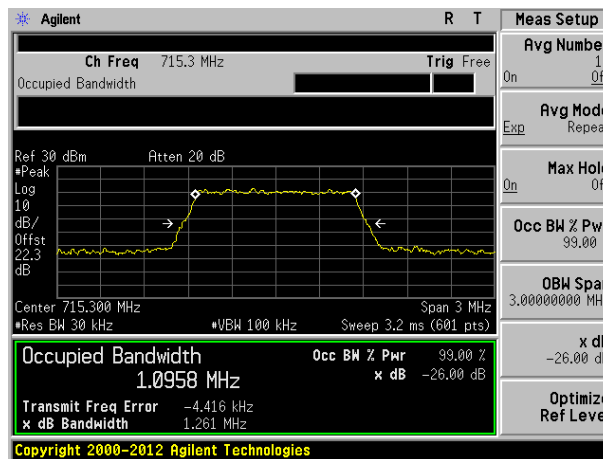
Channel Bandwidth: 1.4MHz



Lowest channel

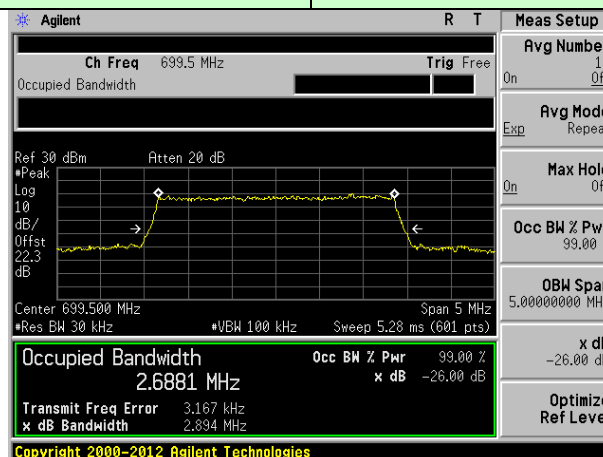


Middle channel

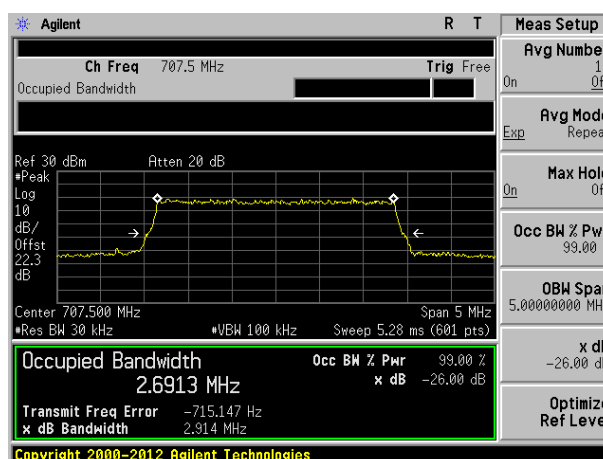


Highest channel

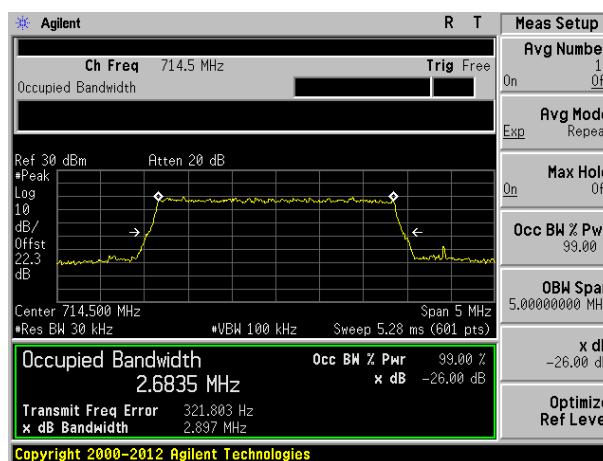
Test band: LTE Band 12	Channel Bandwidth: 3MHz
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Lowest channel



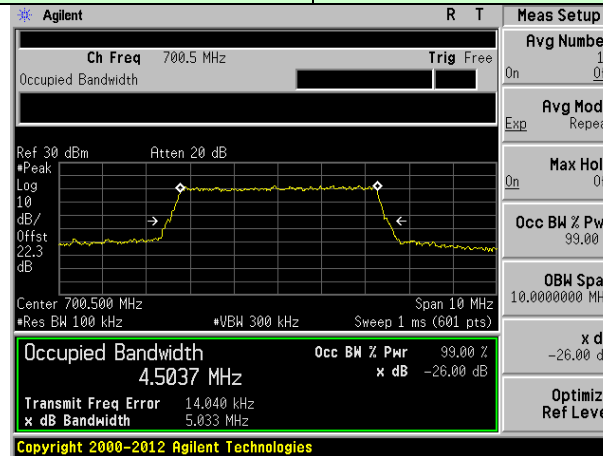
Middle channel



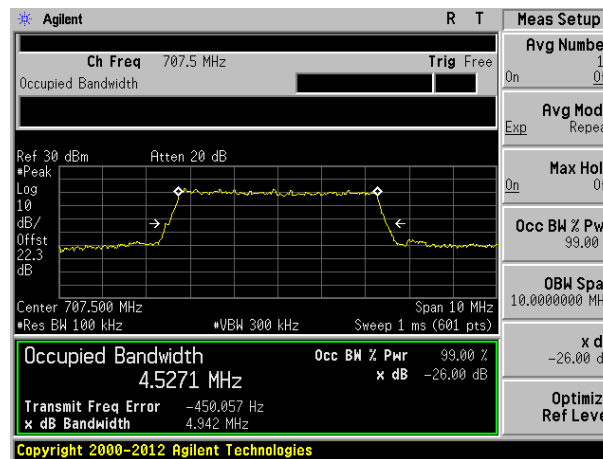
Highest channel

Test band: LTE Band 12

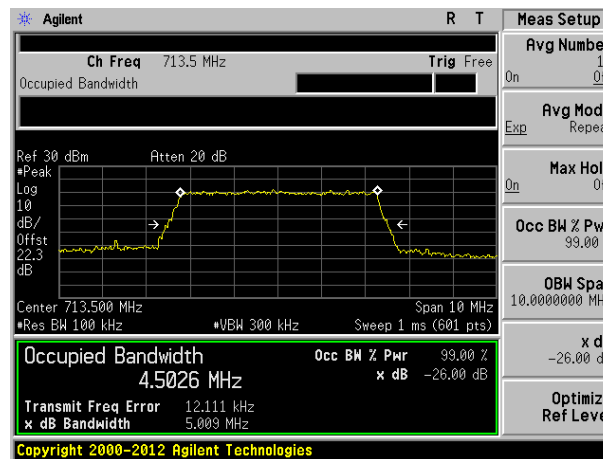
Channel Bandwidth: 5MHz



Lowest channel



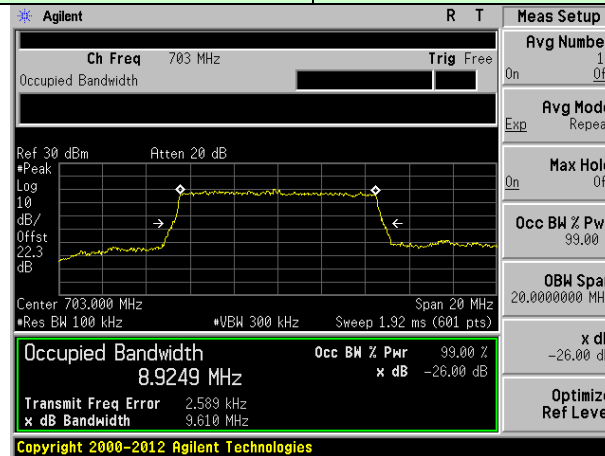
Middle channel



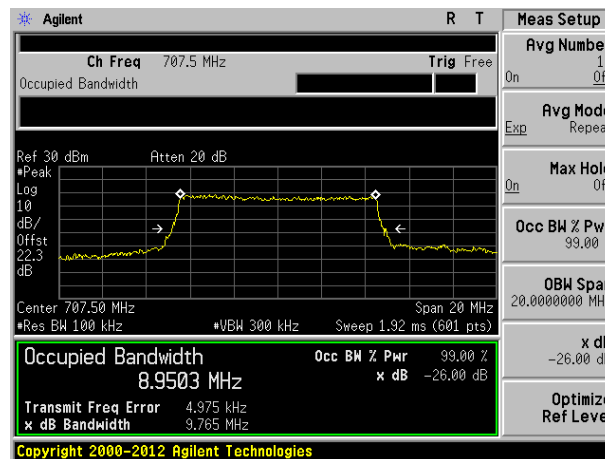
Highest channel

Test band: LTE Band 12

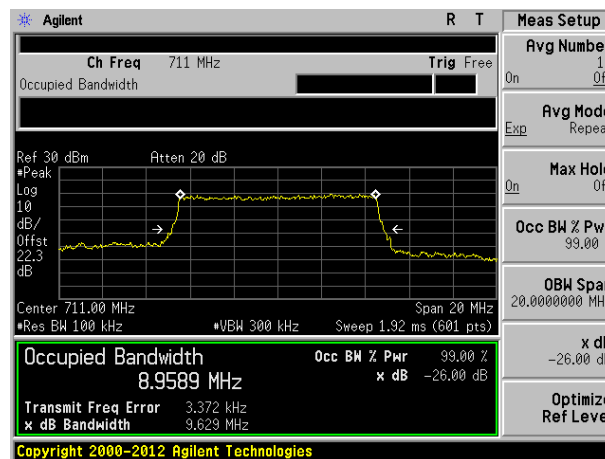
Channel Bandwidth: 10MHz



Lowest channel

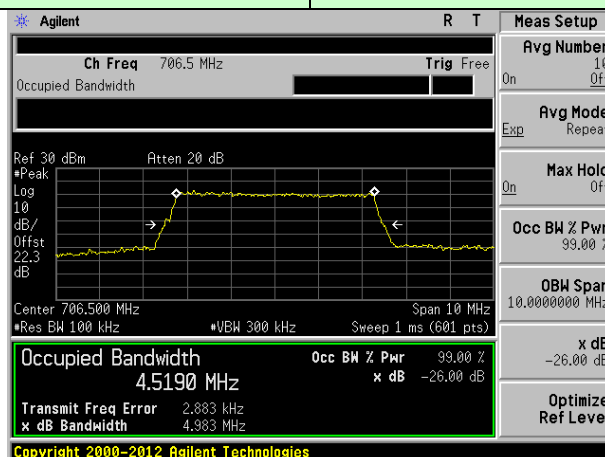


Middle channel

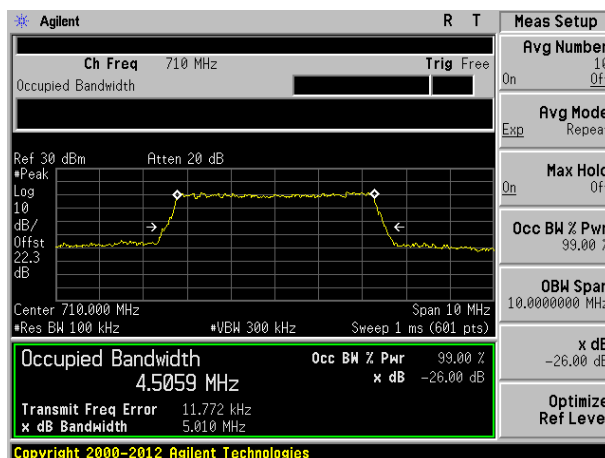


Highest channel

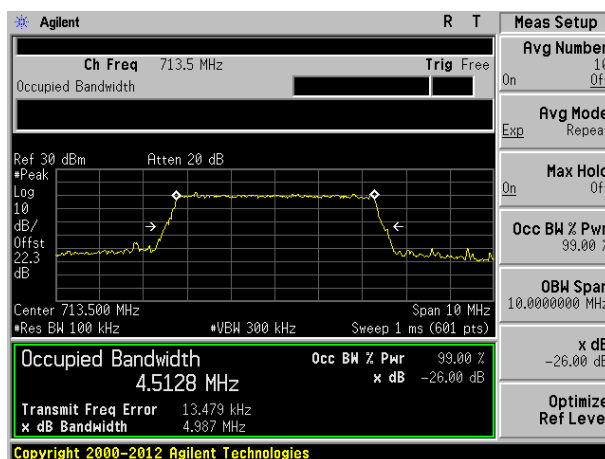
Test band: LTE Band 17	Channel Bandwidth: 5MHz
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Lowest channel



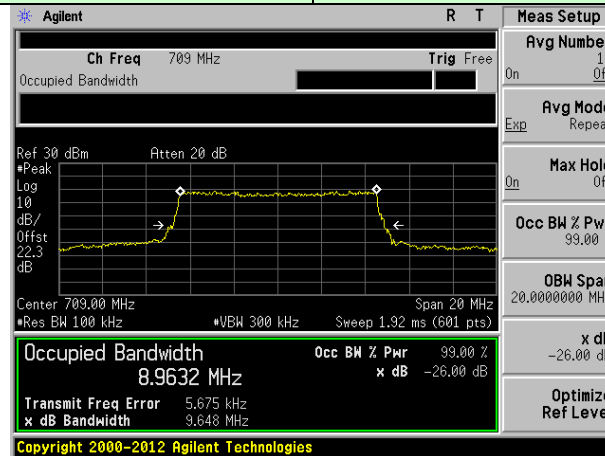
Middle channel



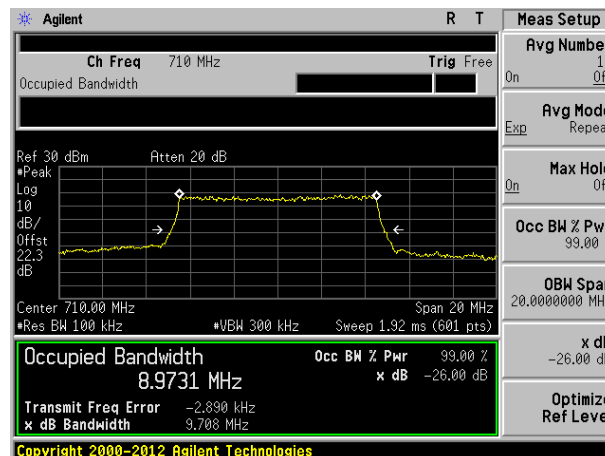
Highest channel

Test band: LTE Band 17

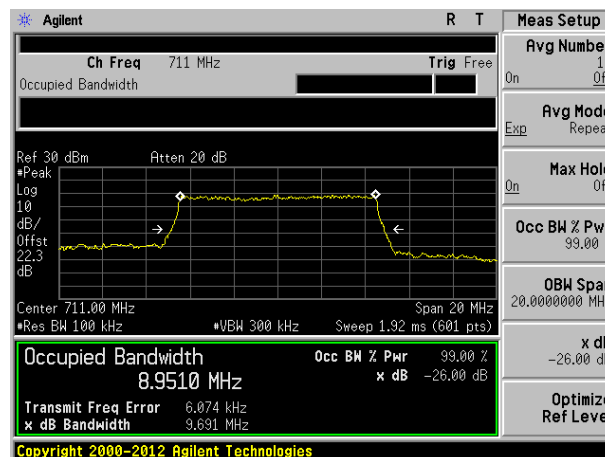
Channel Bandwidth: 10MHz



Lowest channel



Middle channel

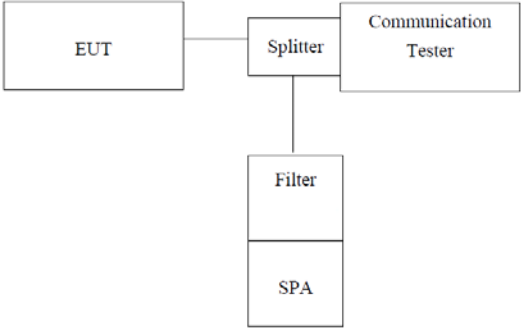


Highest channel

7.5 MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 24E & Part 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

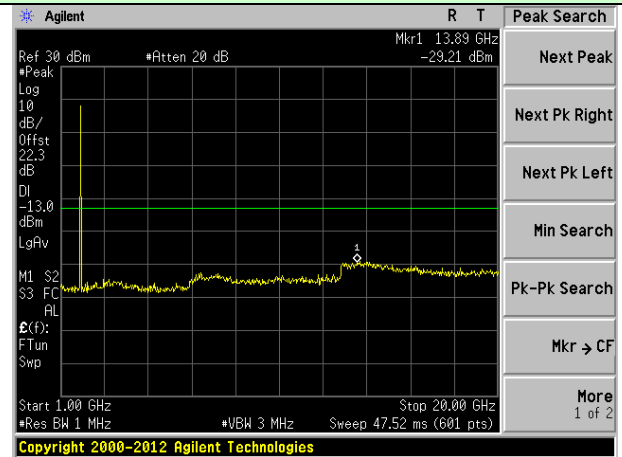
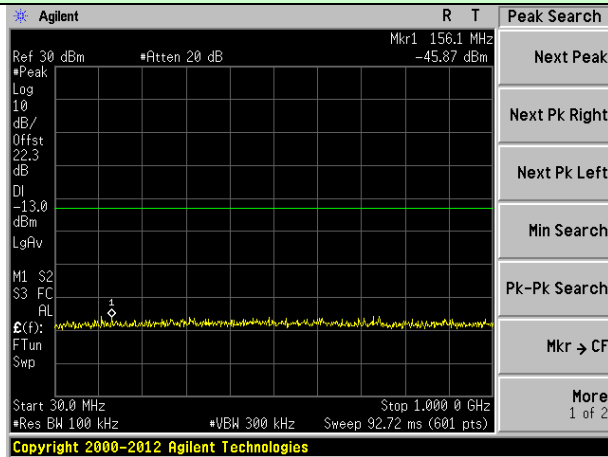
7.6 Out of band emission at antenna terminals

Test Requirement:	FCC part24.238(a) and FCC part27.53(h)
Test Method:	FCC part2.1051
Limit:	-13dBm
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic. 3 For the out of band: Set the RBW, VBW = 1MHz, Start=30MHz, Stop= 10th harmonic. 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

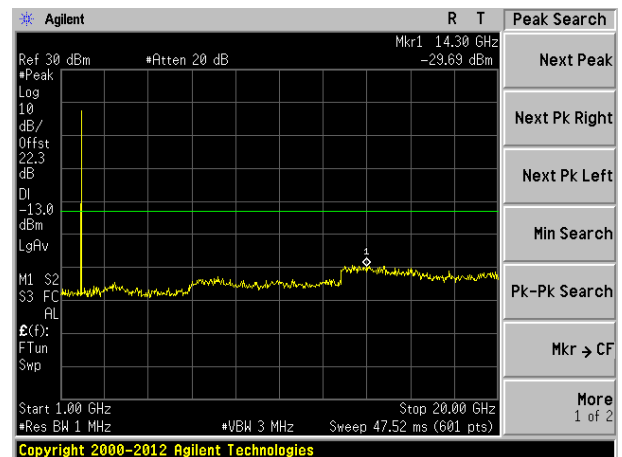
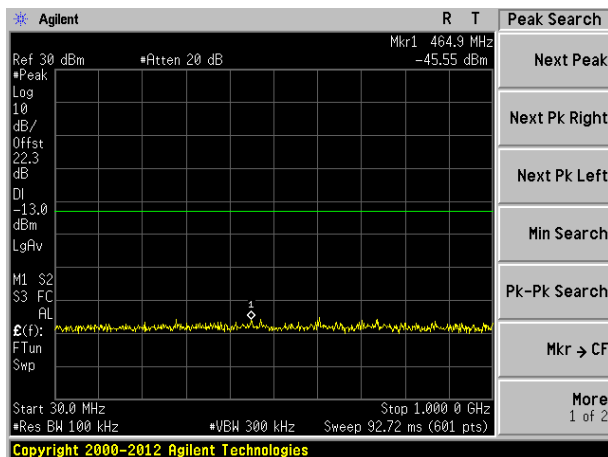
Test plot as follows:

Test Mode: LTE Band 2

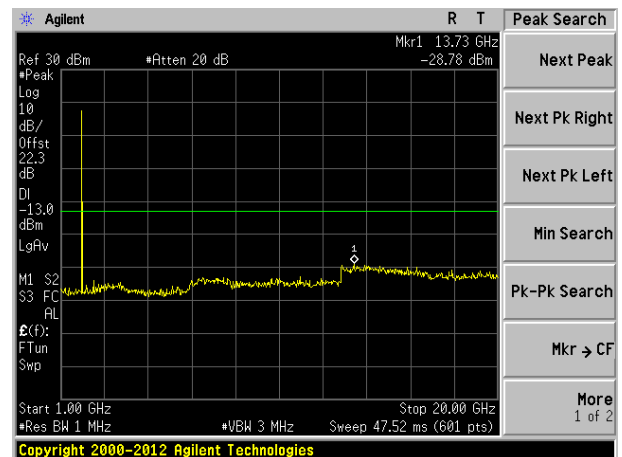
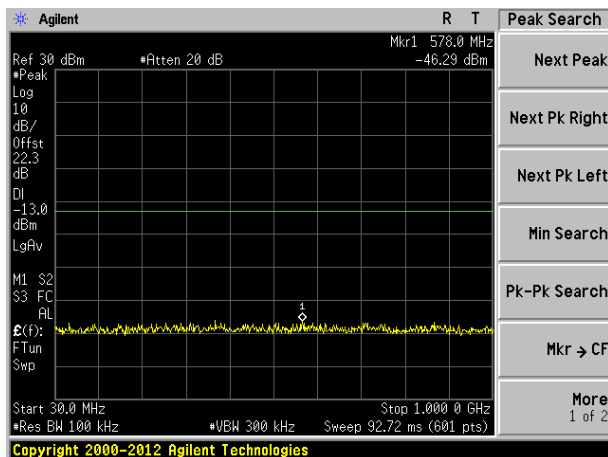
Channel Bandwidth: 1.4MHz



Lowest channel



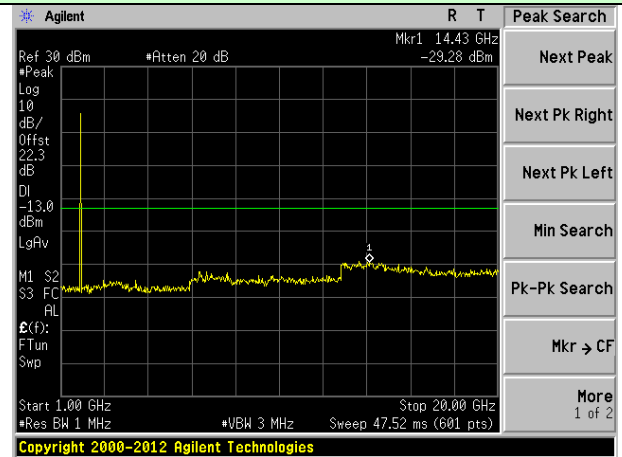
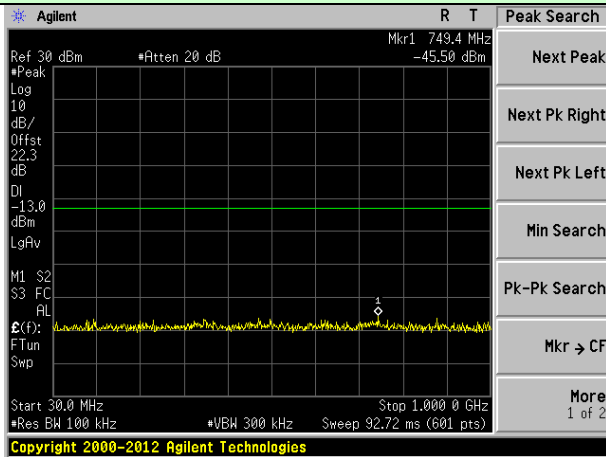
Middle channel



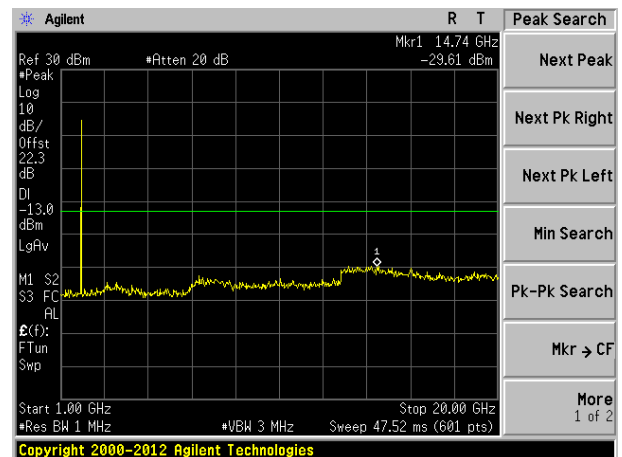
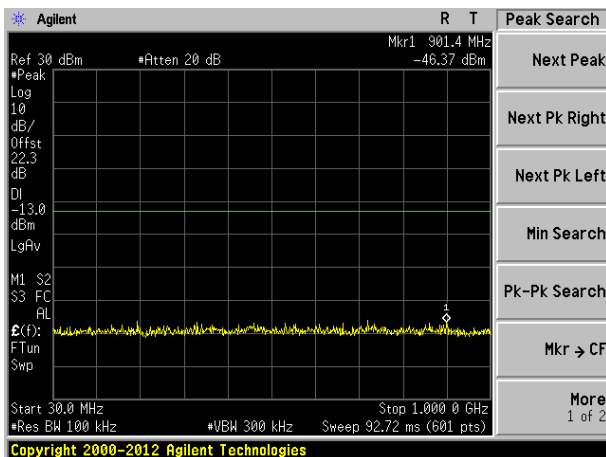
Highest channel

Test Mode: LTE Band 2

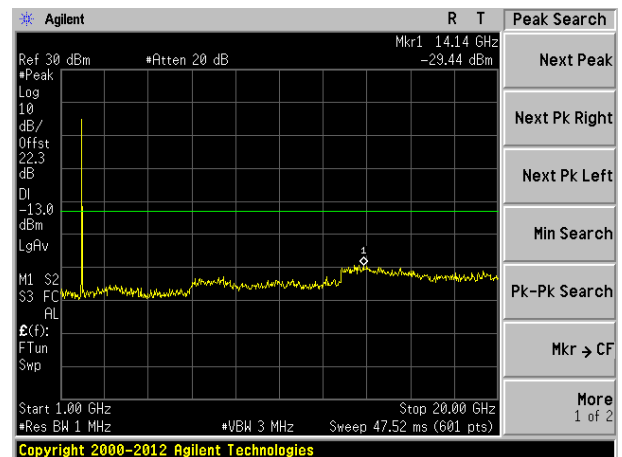
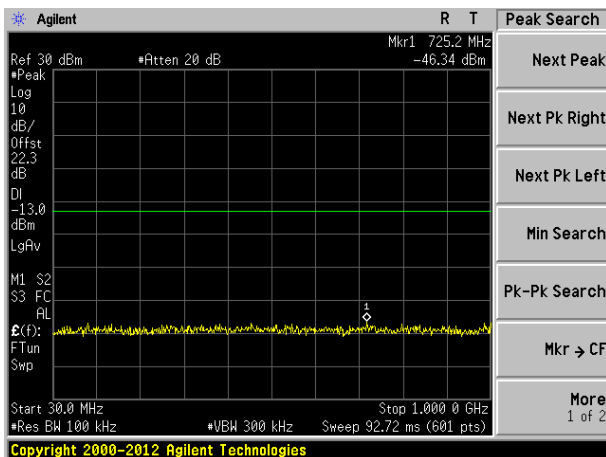
Channel Bandwidth: 3MHz



Lowest channel



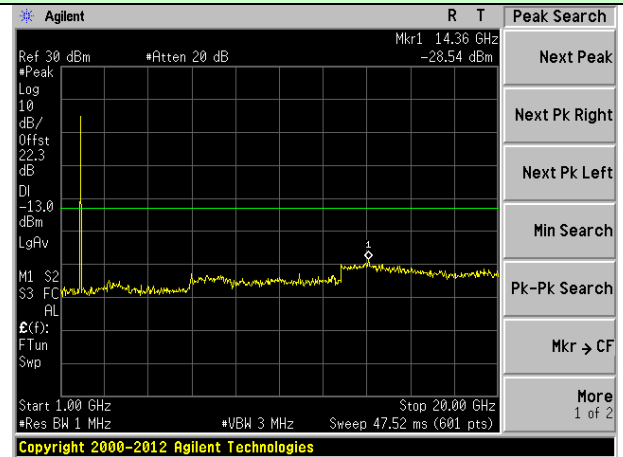
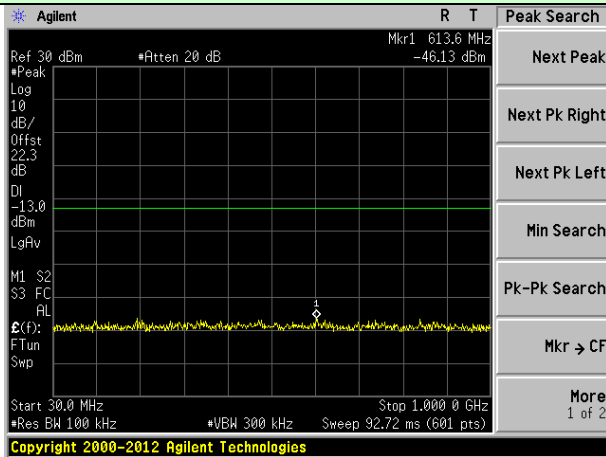
Middle channel



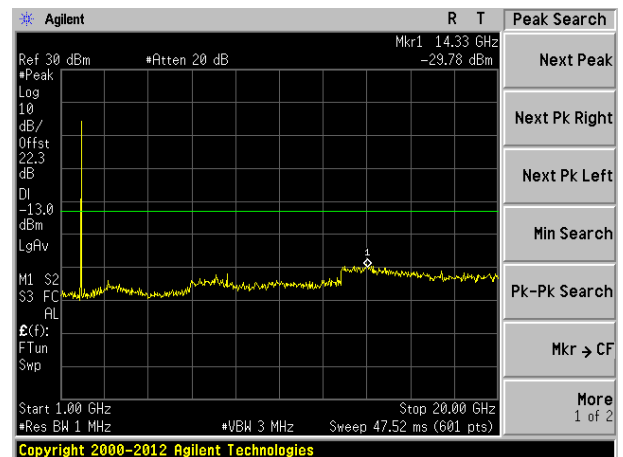
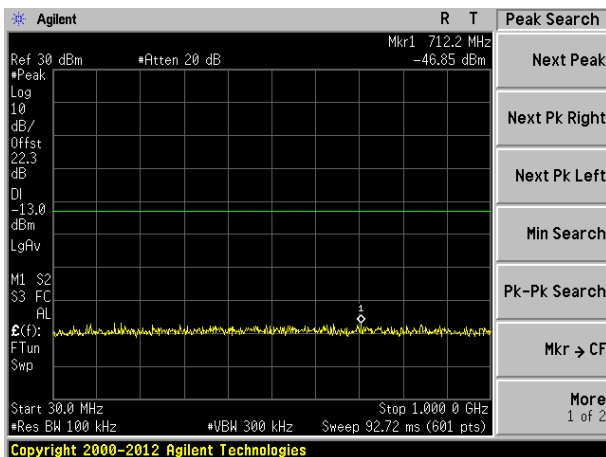
Highest channel

Test Mode: LTE Band 2

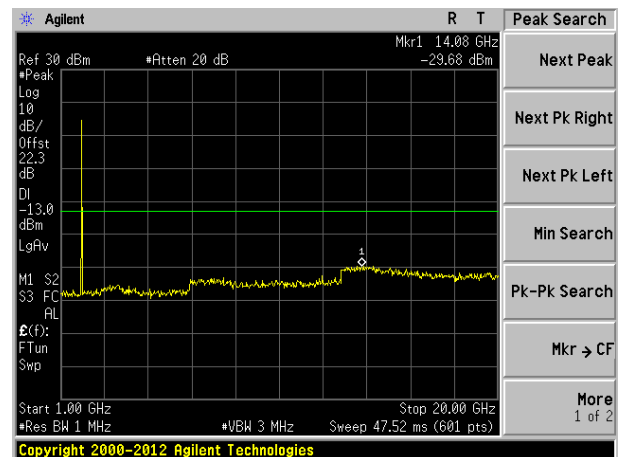
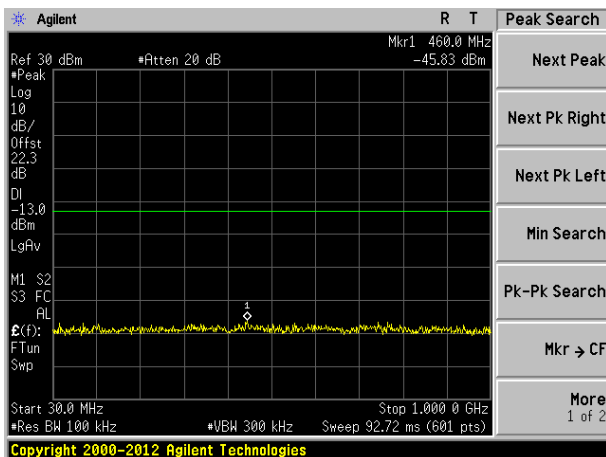
Channel Bandwidth: 5MHz



Lowest channel



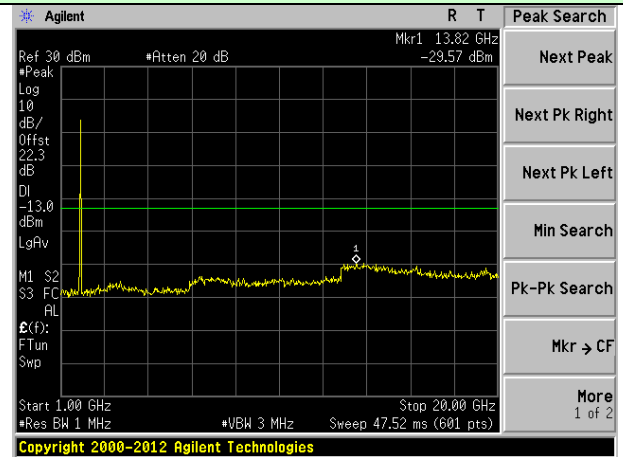
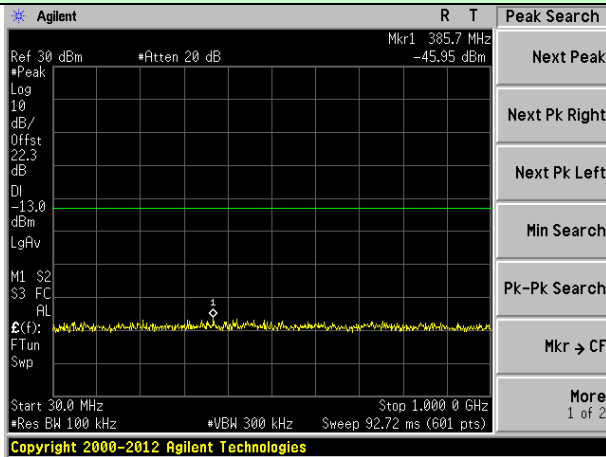
Middle channel



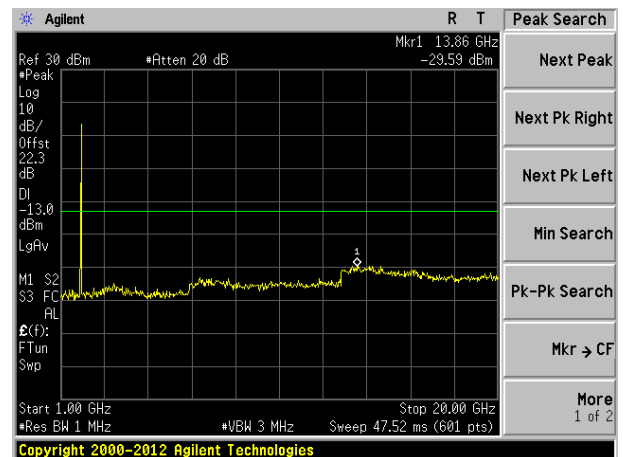
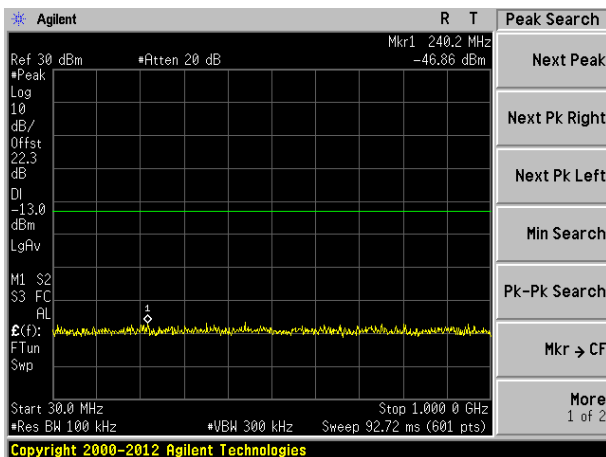
Highest channel

Test Mode: LTE Band 2

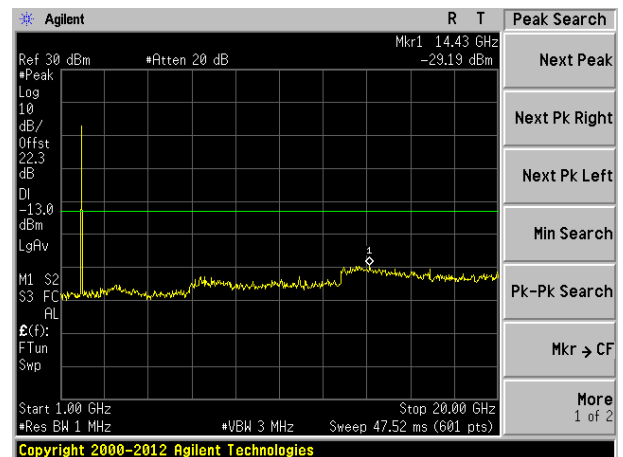
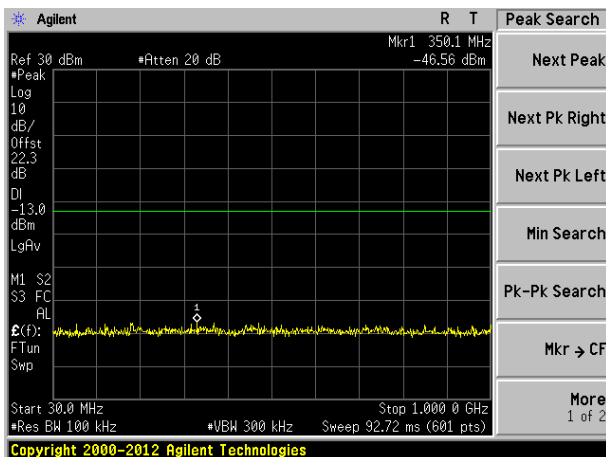
Channel Bandwidth: 10MHz



Lowest channel



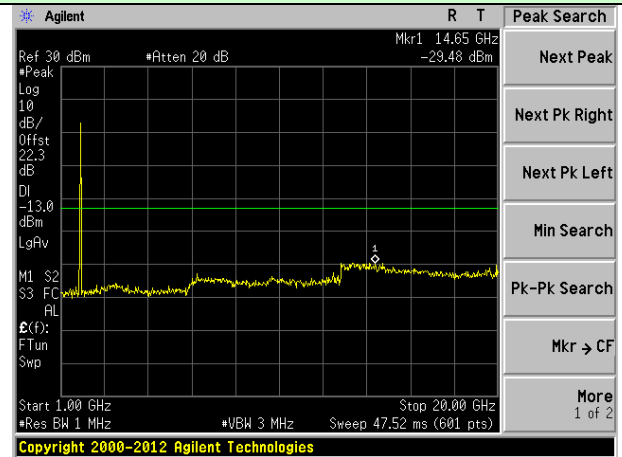
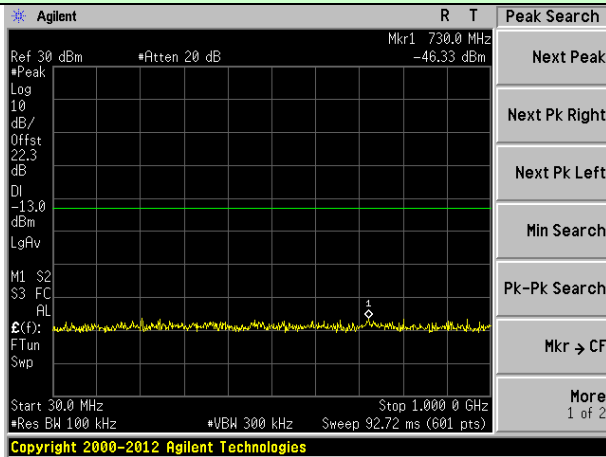
Middle channel



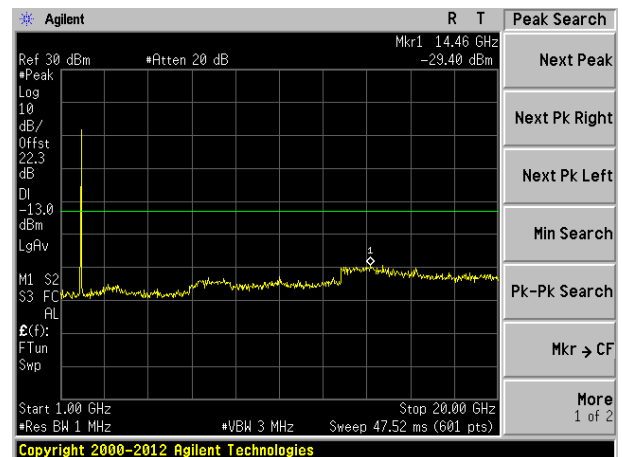
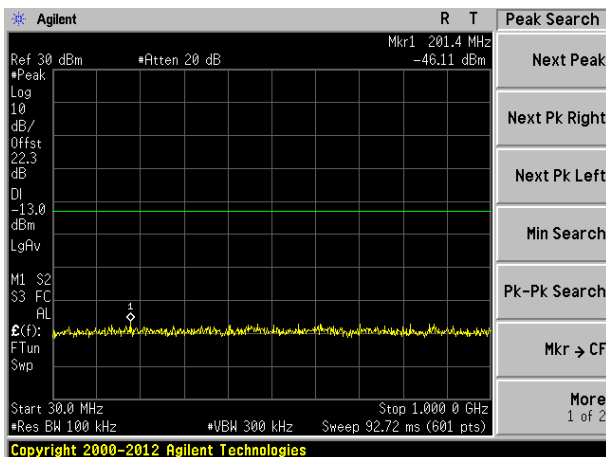
Highest channel

Test Mode: LTE Band 2

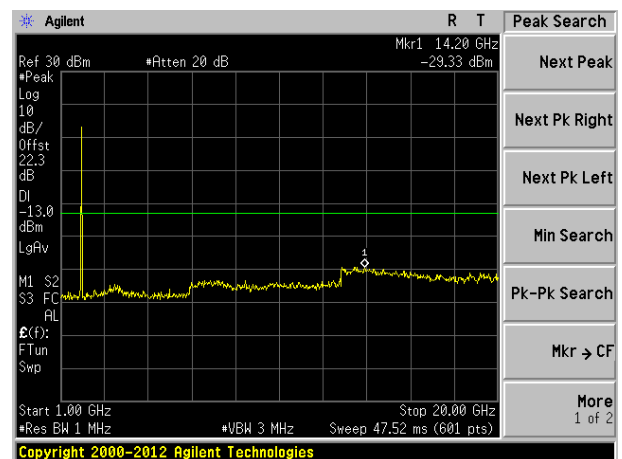
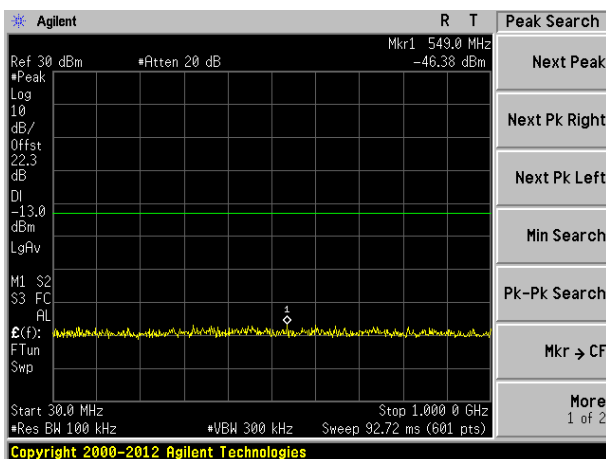
Channel Bandwidth: 15MHz



Lowest channel



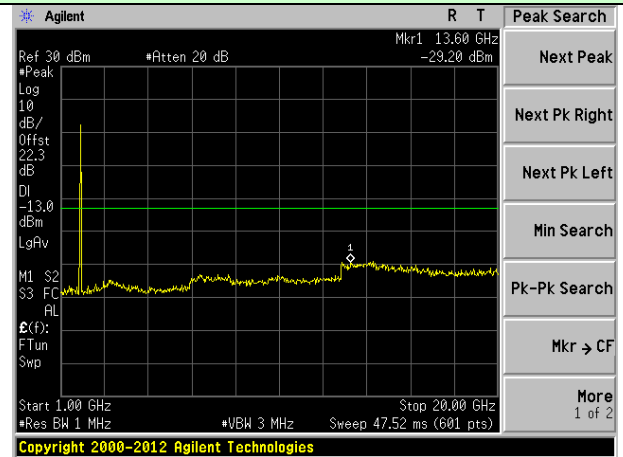
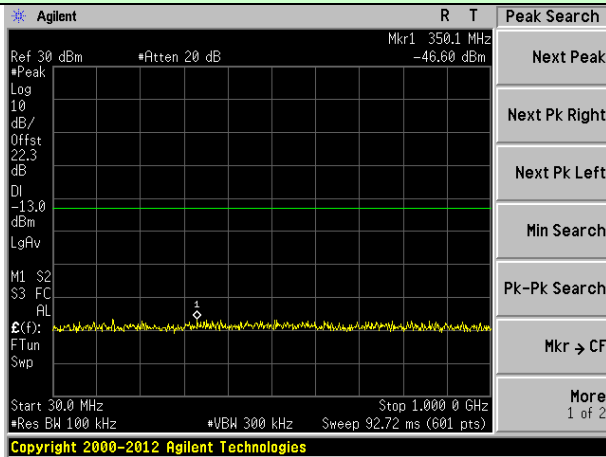
Middle channel



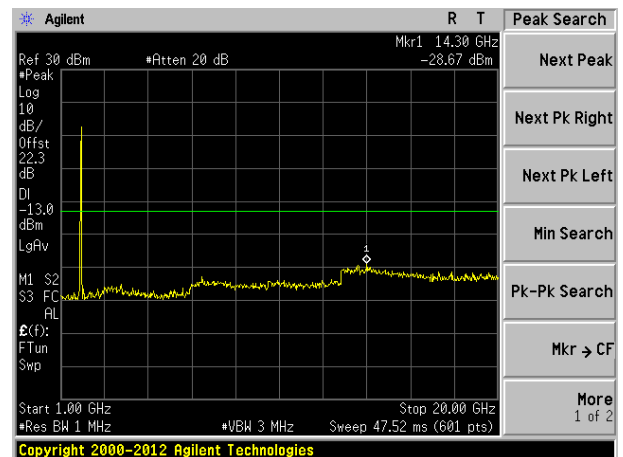
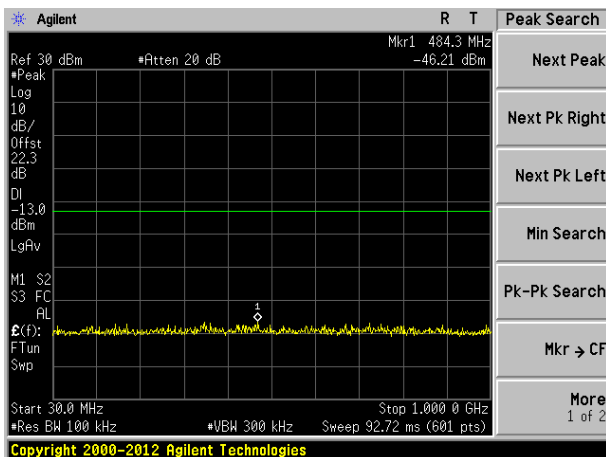
Highest channel

Test Mode: LTE Band 2

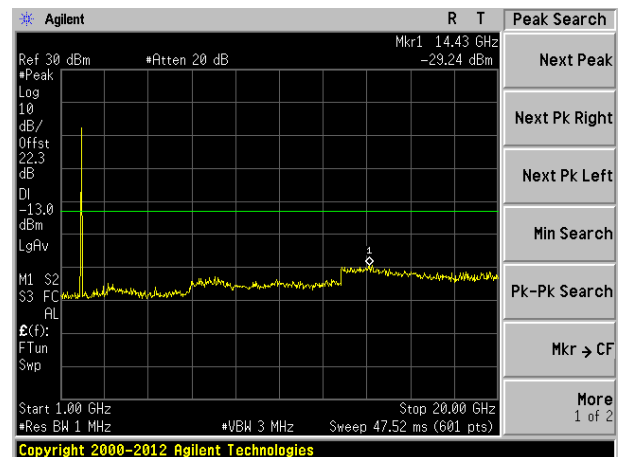
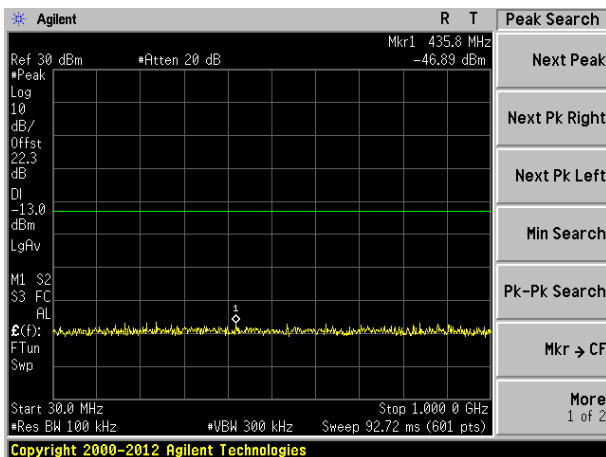
Channel Bandwidth: 20MHz



Lowest channel



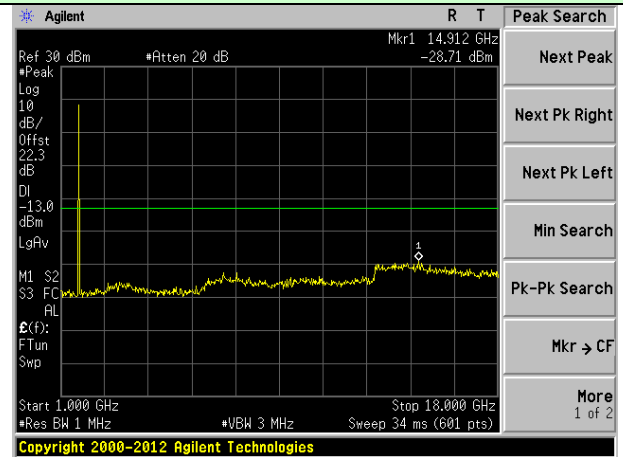
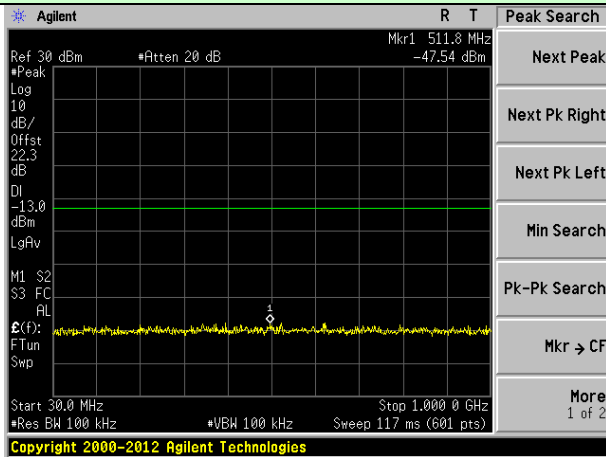
Middle channel



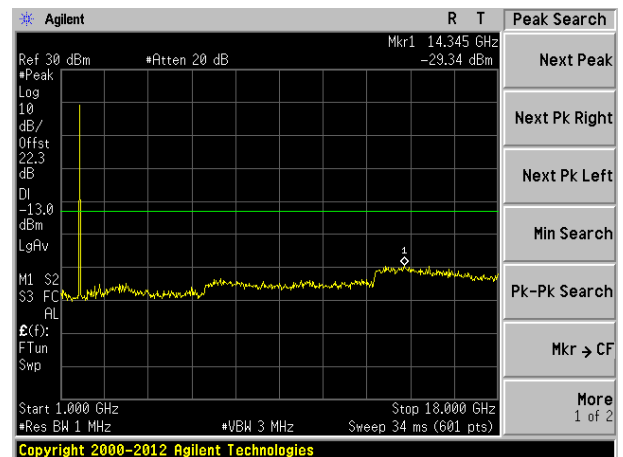
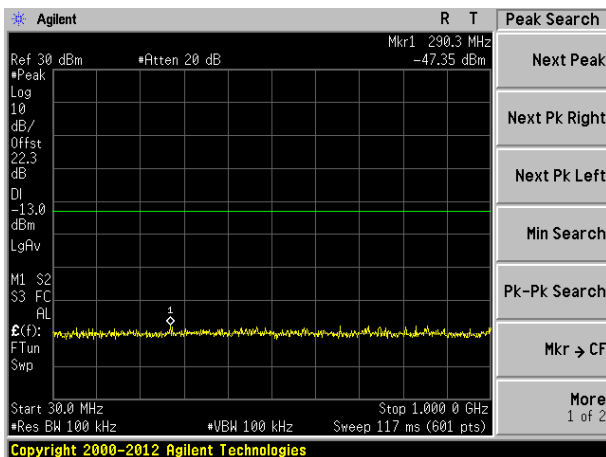
Highest channel

Test Mode: LTE Band 4

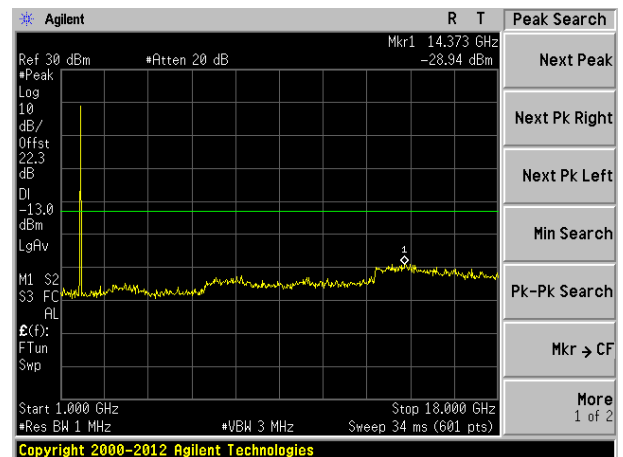
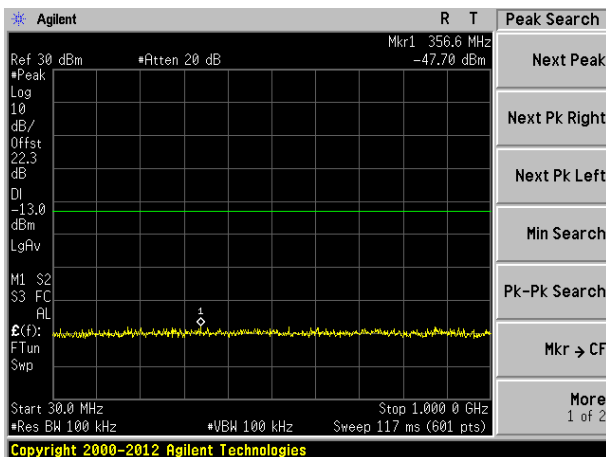
Channel Bandwidth: 1.4MHz



Lowest channel



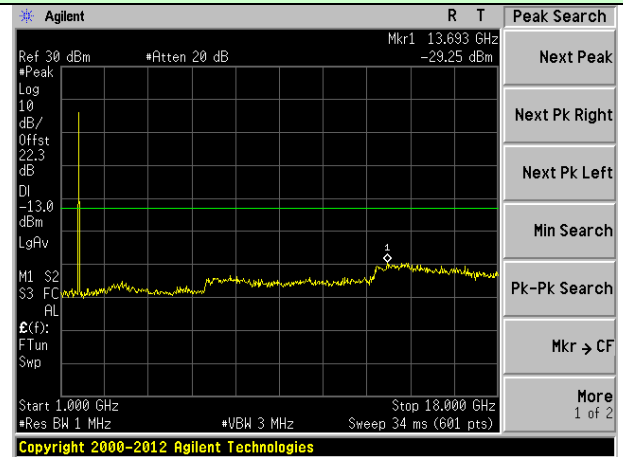
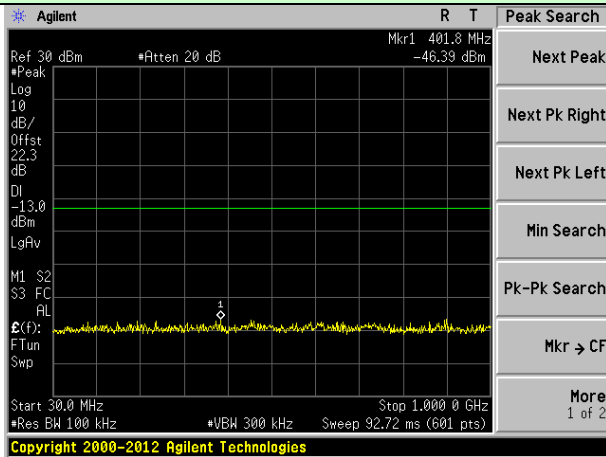
Middle channel



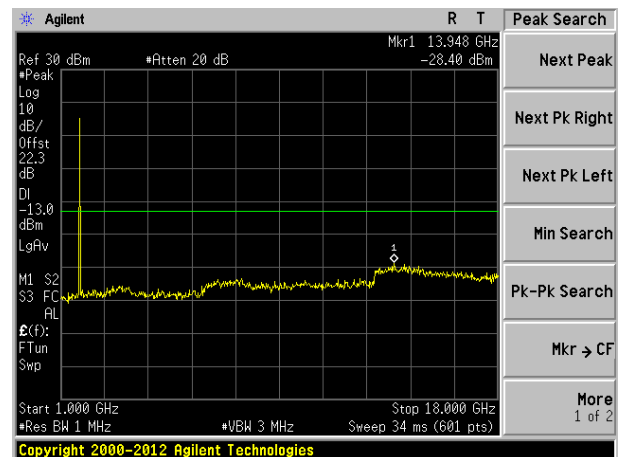
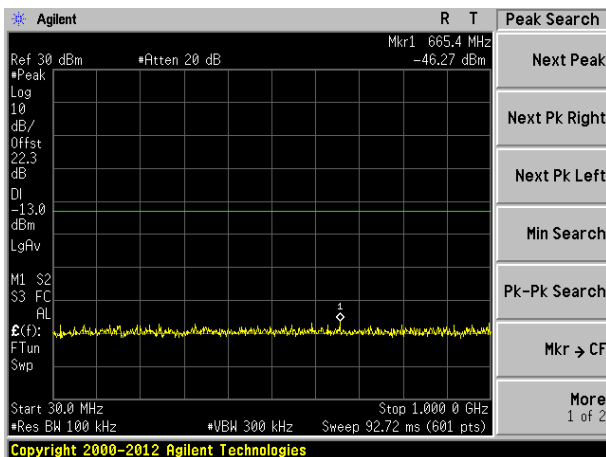
Highest channel

Test Mode: LTE Band 4

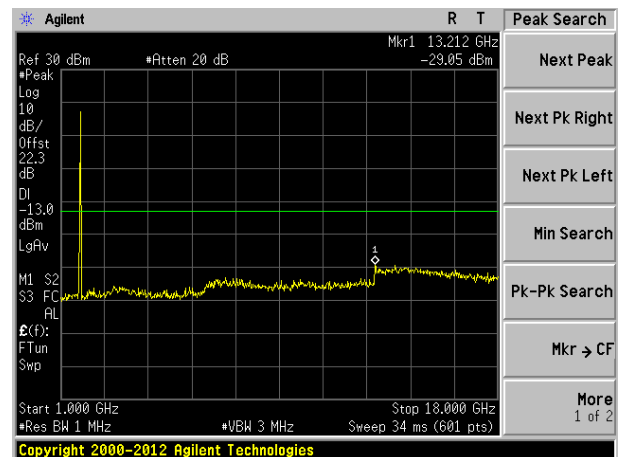
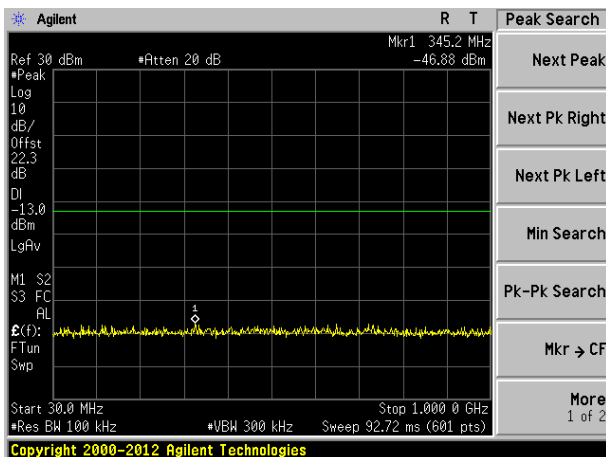
Channel Bandwidth: 3MHz



Lowest channel



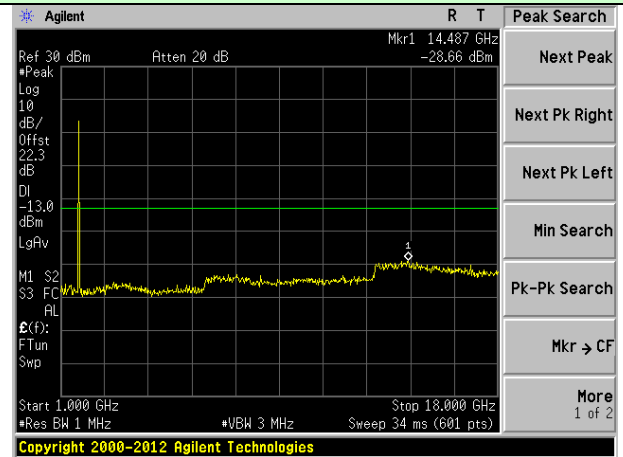
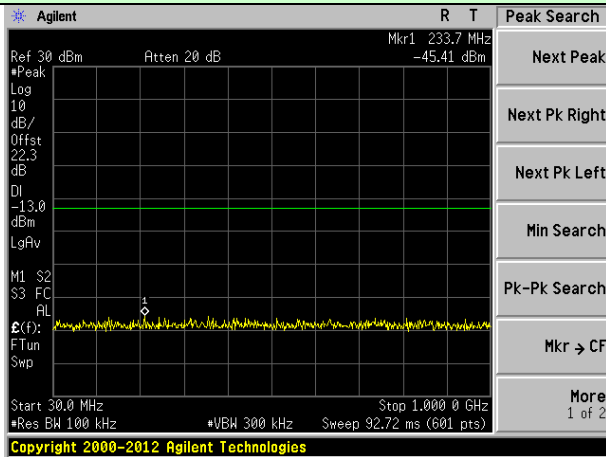
Middle channel



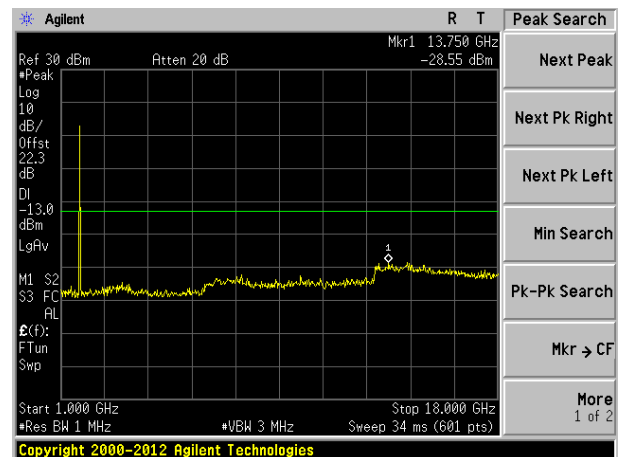
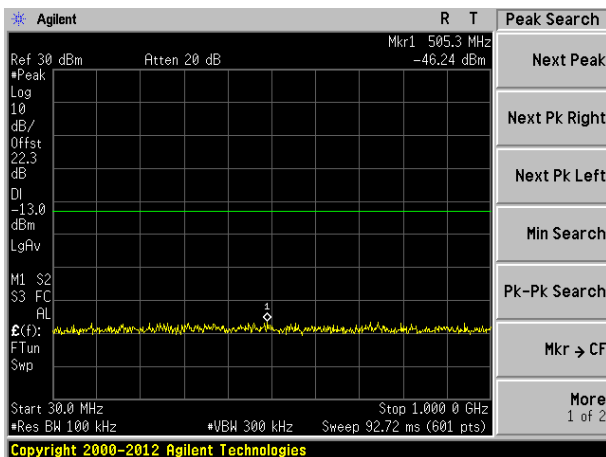
Highest channel

Test Mode: LTE Band 4

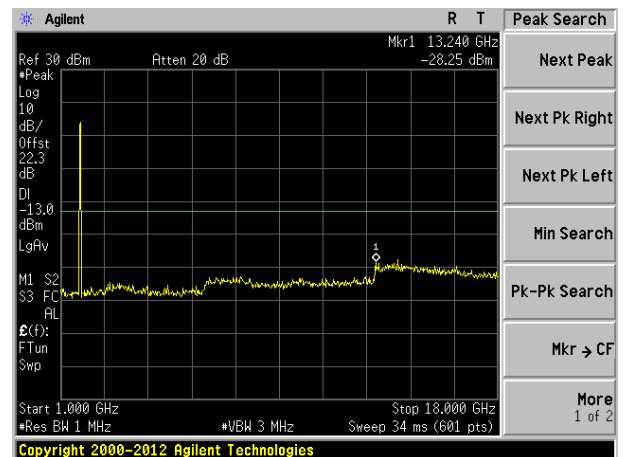
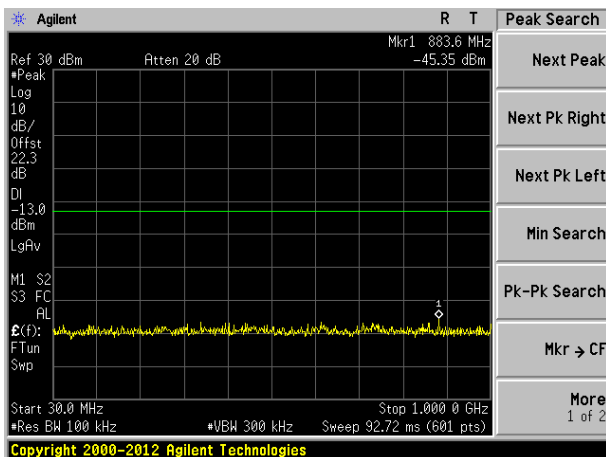
Channel Bandwidth: 5MHz



Lowest channel



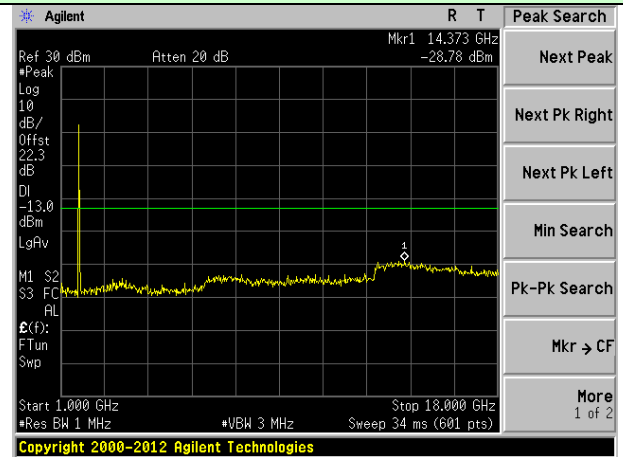
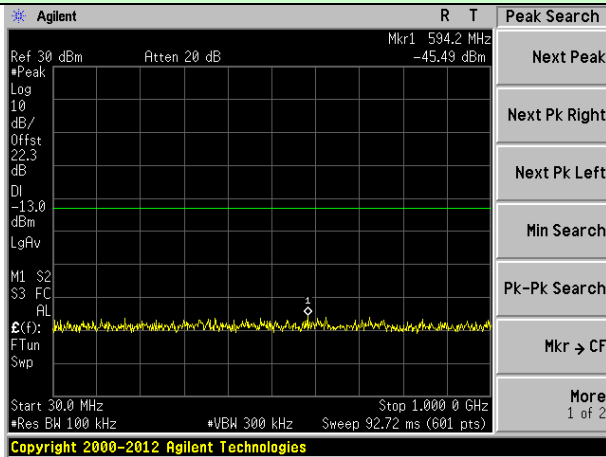
Middle channel



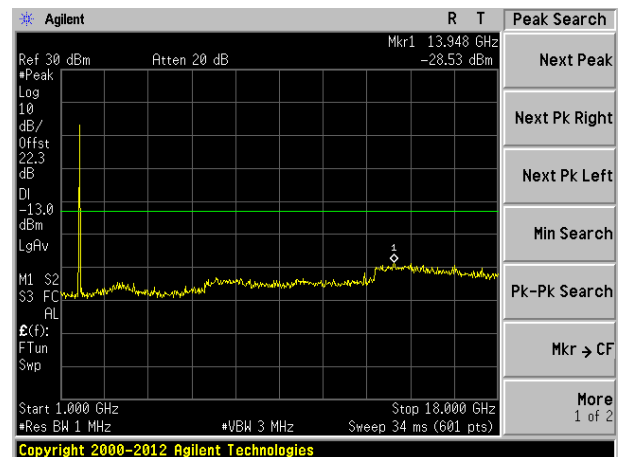
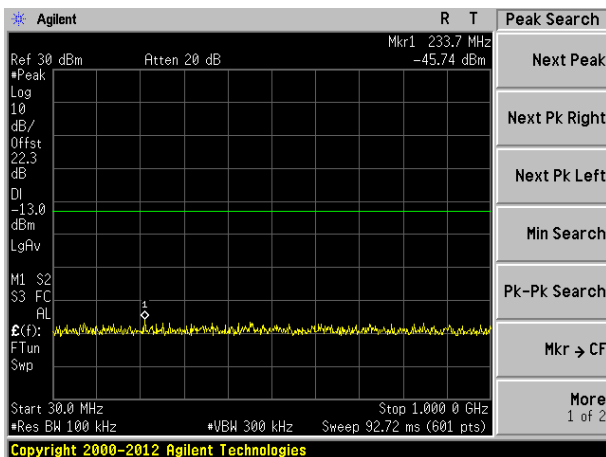
Highest channel

Test Mode: LTE Band 4

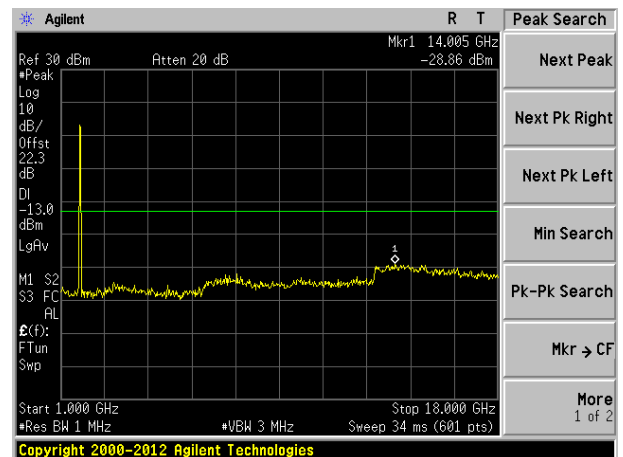
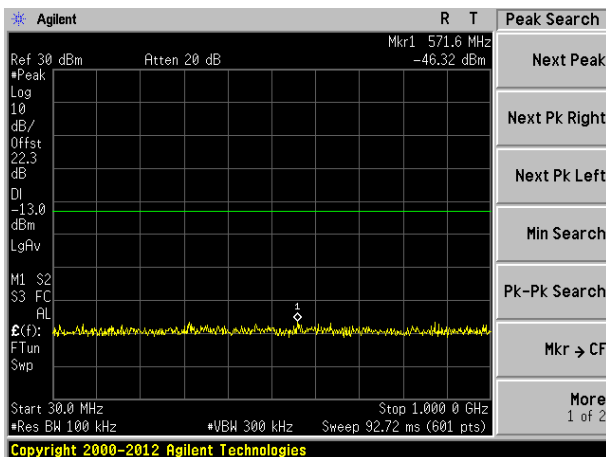
Channel Bandwidth: 10MHz



Lowest channel



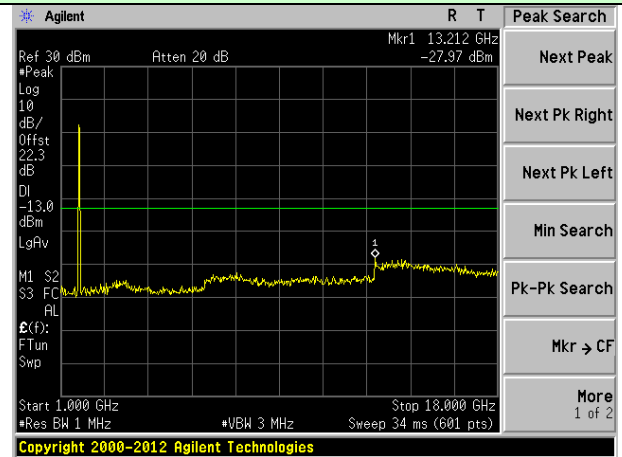
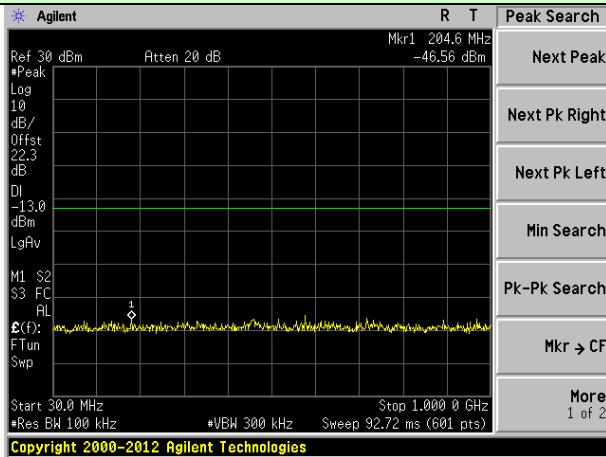
Middle channel



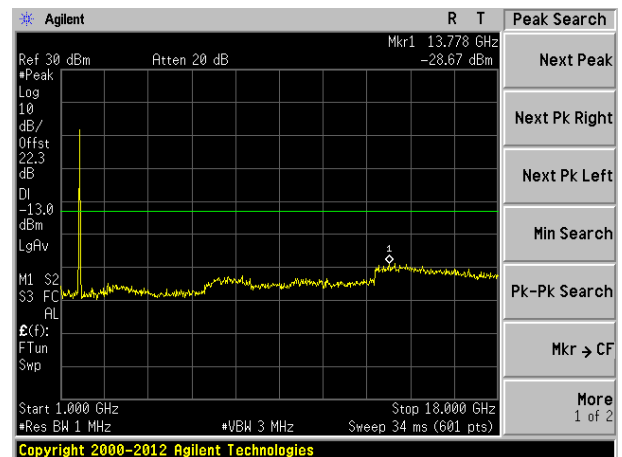
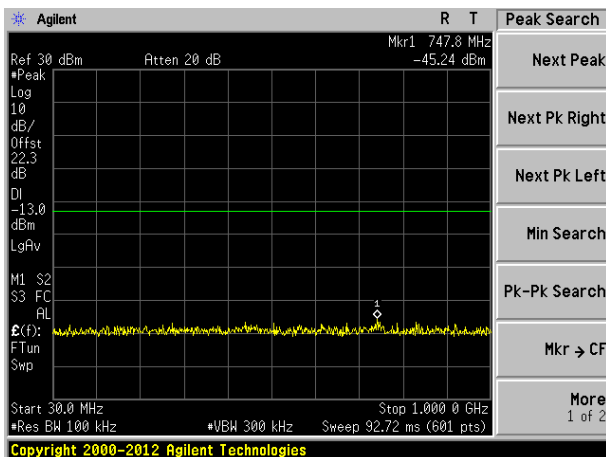
Highest channel

Test Mode: LTE Band 4

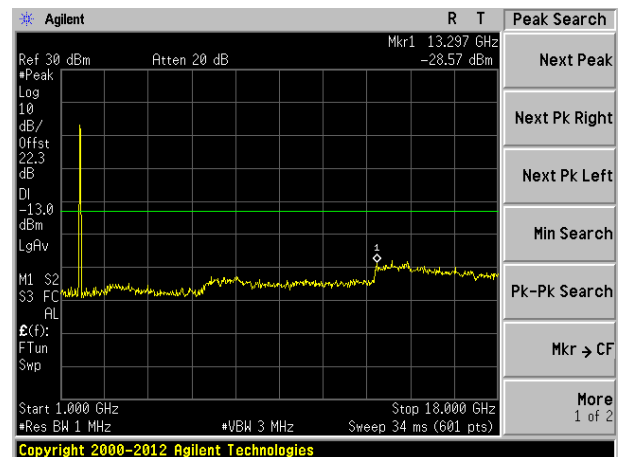
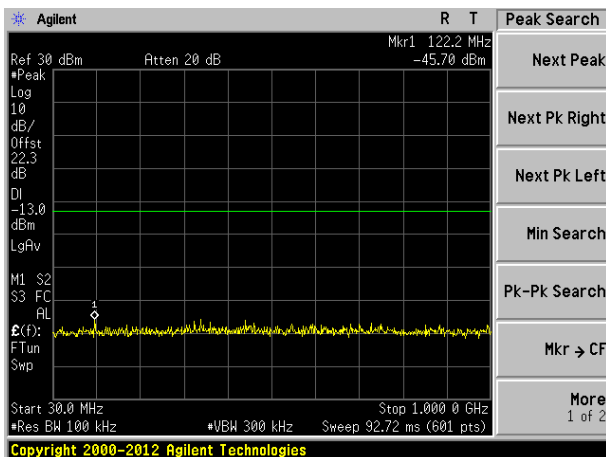
Channel Bandwidth: 15MHz



Lowest channel



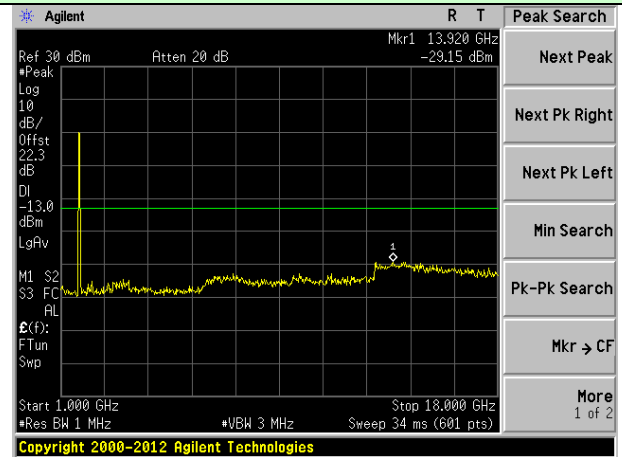
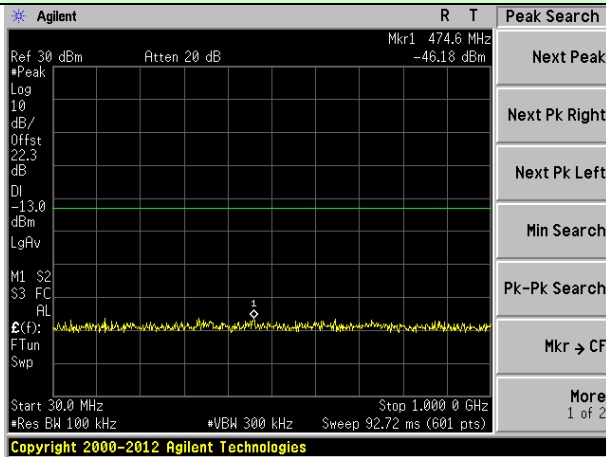
Middle channel



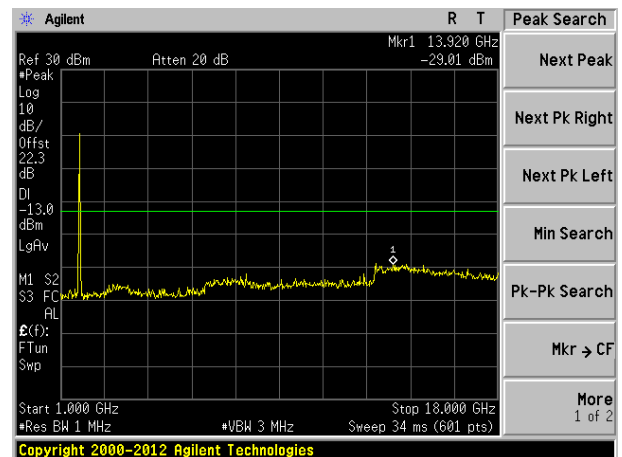
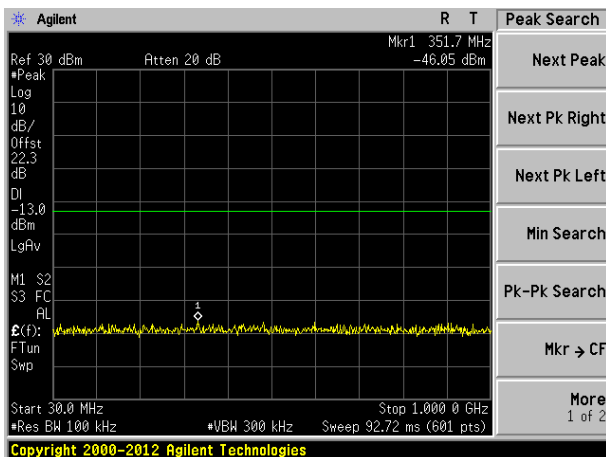
Highest channel

Test Mode: LTE Band 4

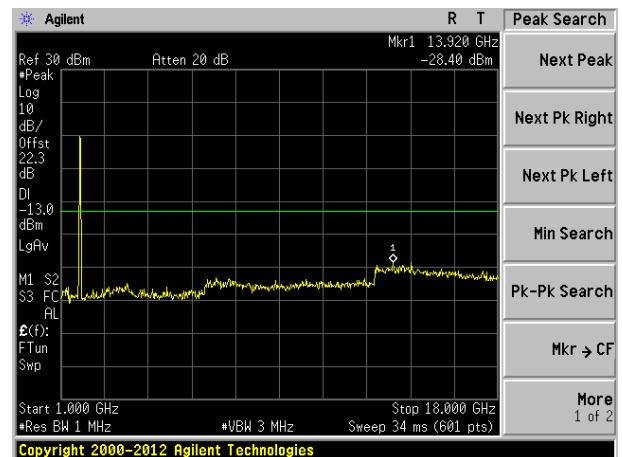
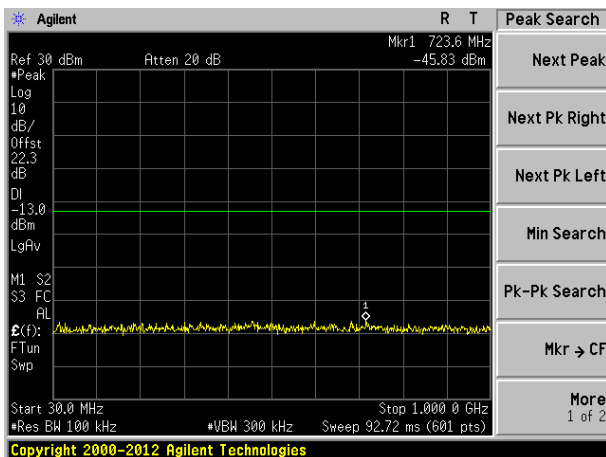
Channel Bandwidth: 20MHz



Lowest channel



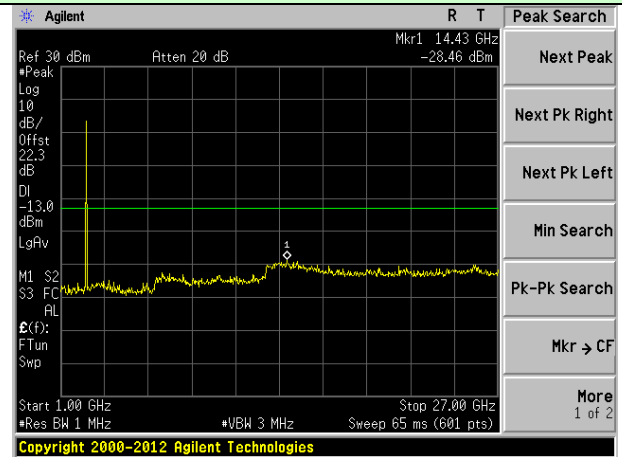
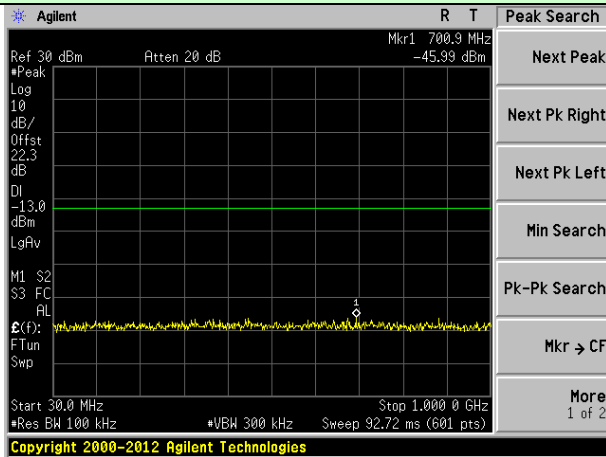
Middle channel



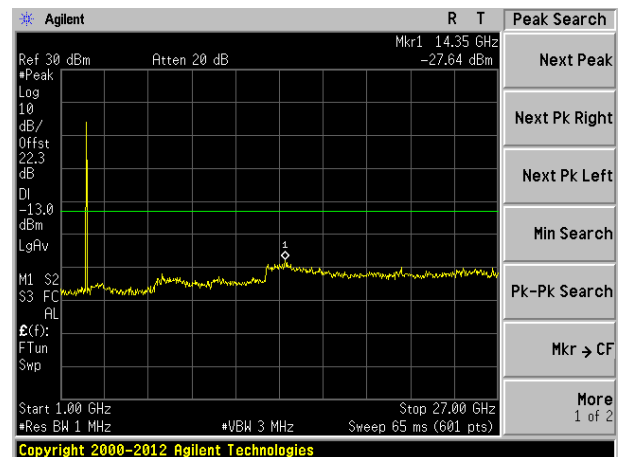
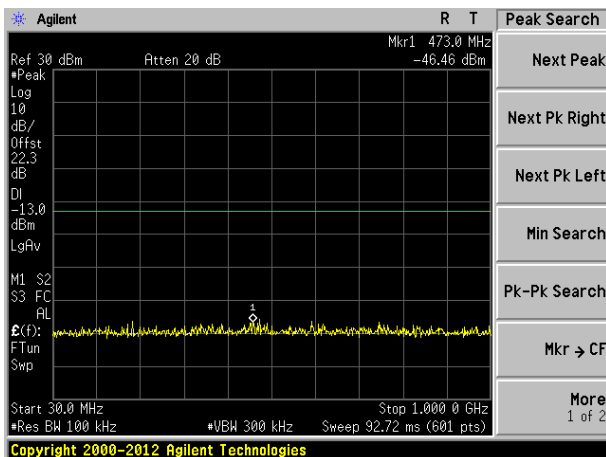
Highest channel

Test Mode: LTE Band 7

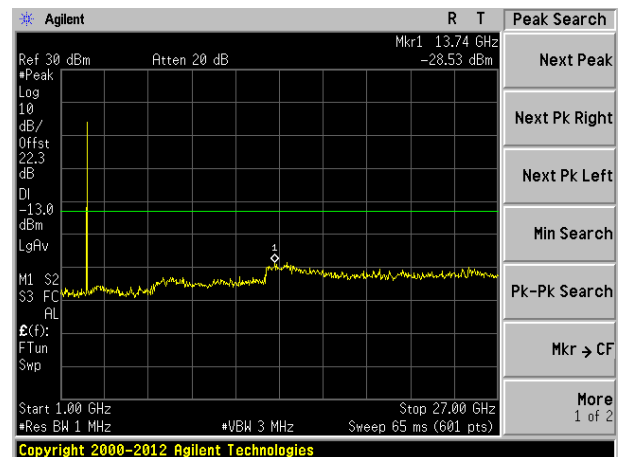
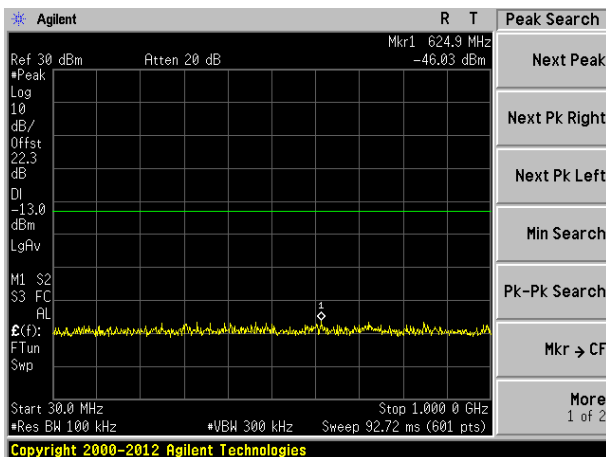
Channel Bandwidth: 5MHz



Lowest channel



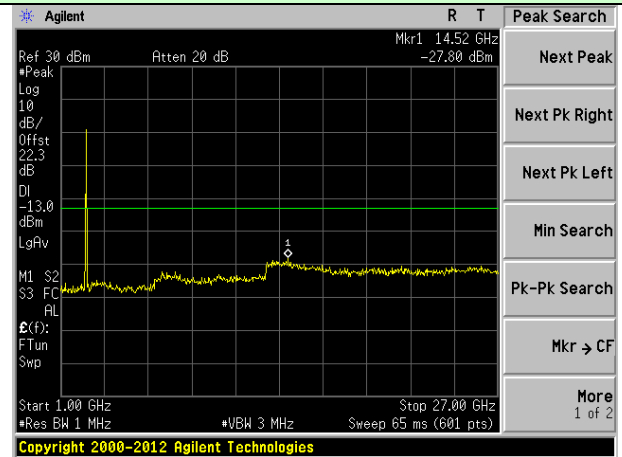
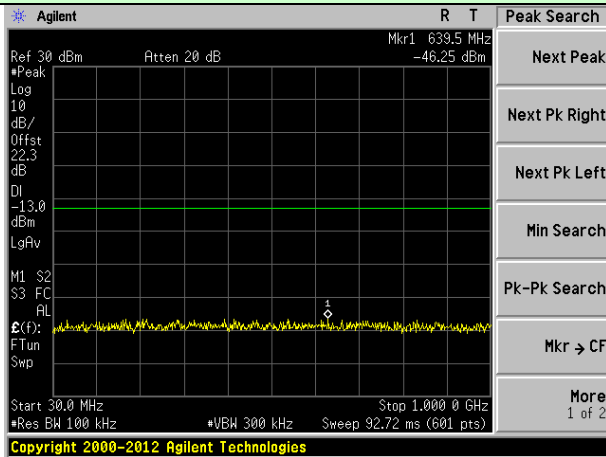
Middle channel



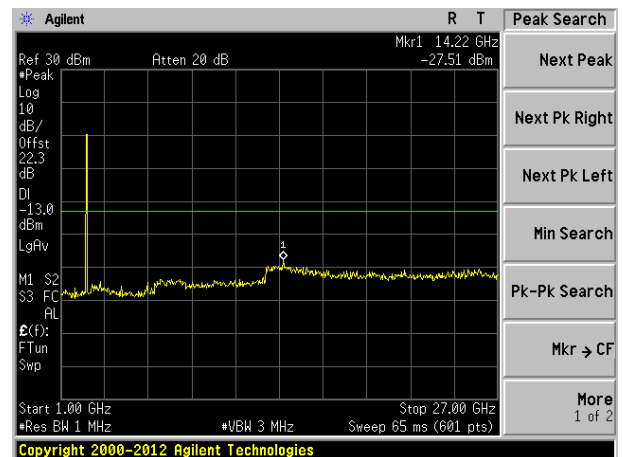
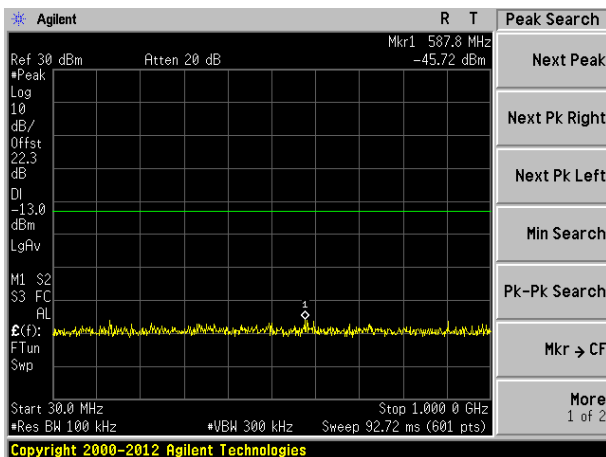
Highest channel

Test Mode: LTE Band 7

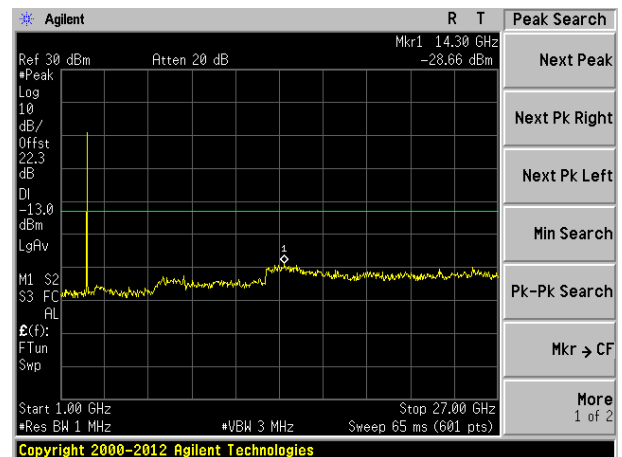
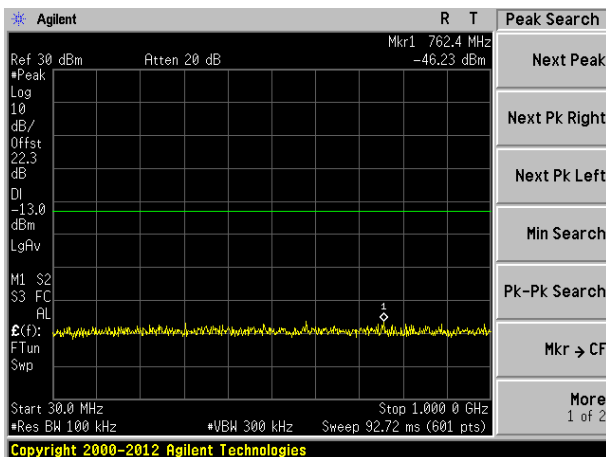
Channel Bandwidth: 10MHz



Lowest channel



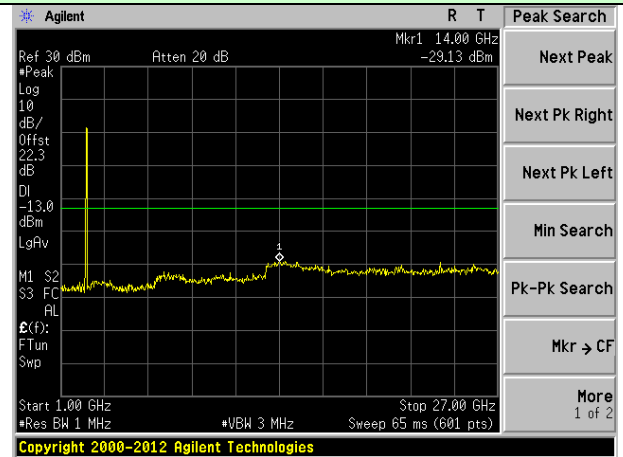
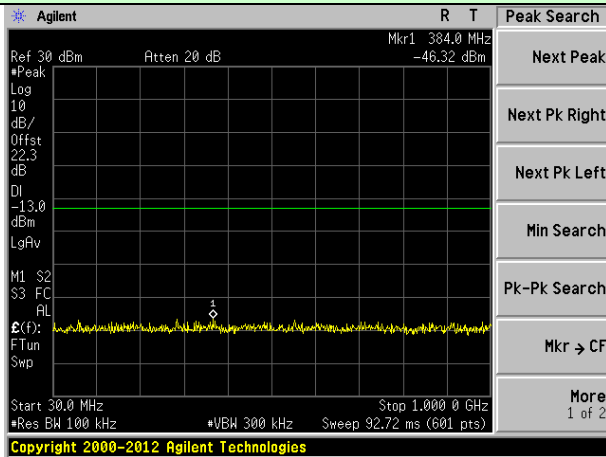
Middle channel



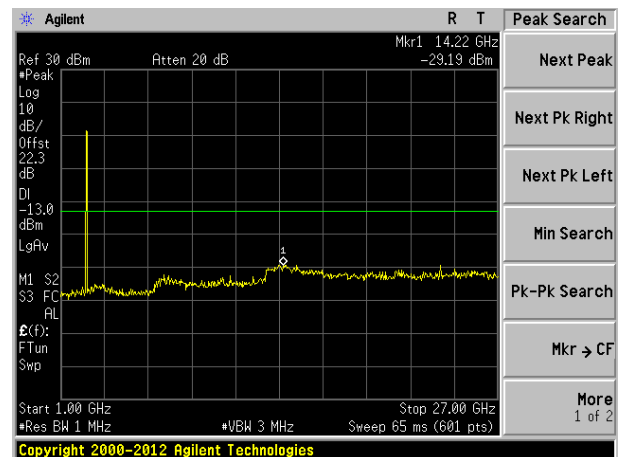
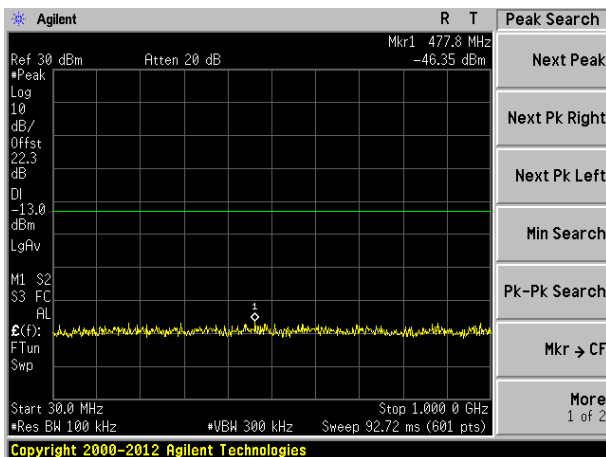
Highest channel

Test Mode: LTE Band 7

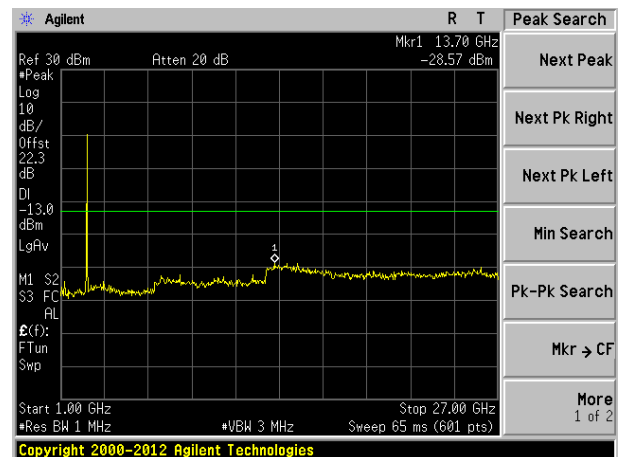
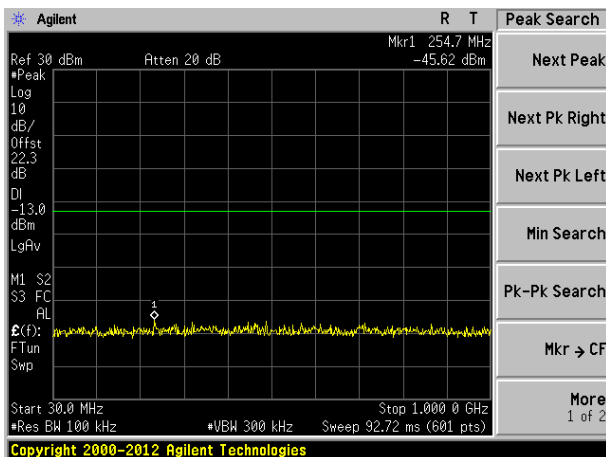
Channel Bandwidth: 15MHz



Lowest channel



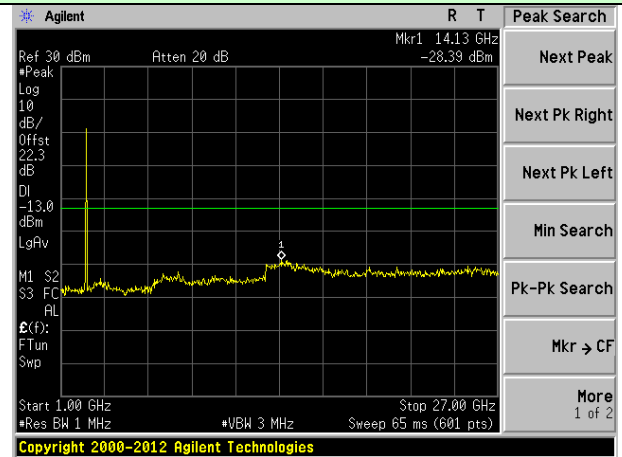
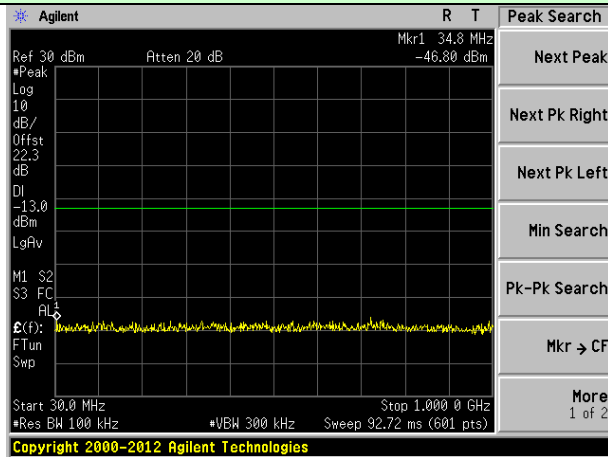
Middle channel



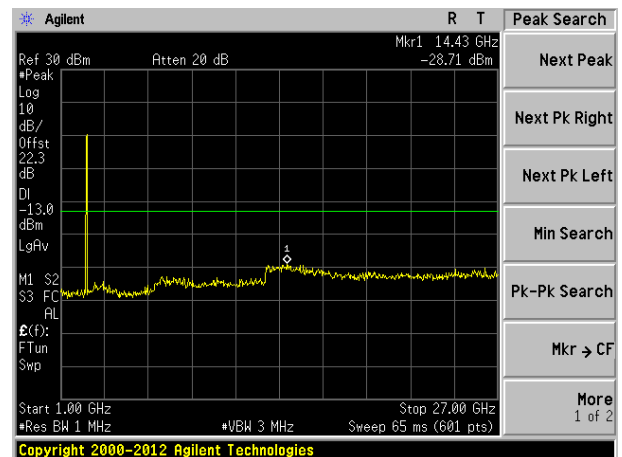
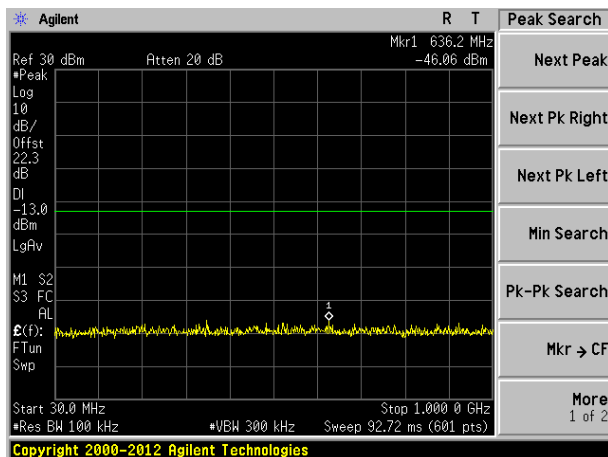
Highest channel

Test Mode: LTE Band 7

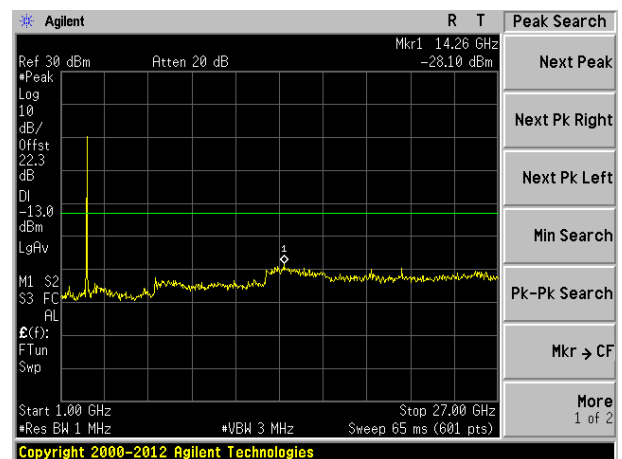
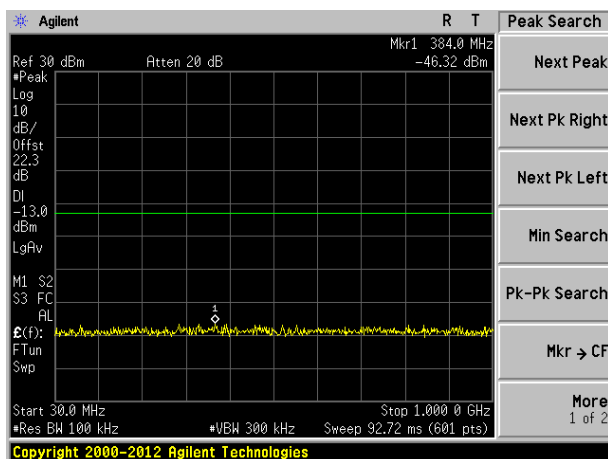
Channel Bandwidth: 20MHz



Lowest channel



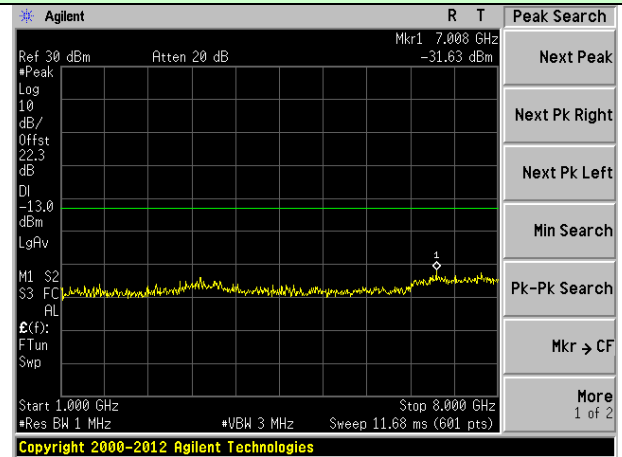
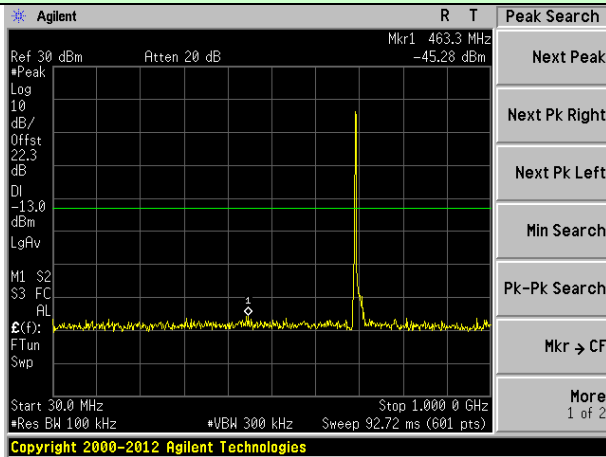
Middle channel



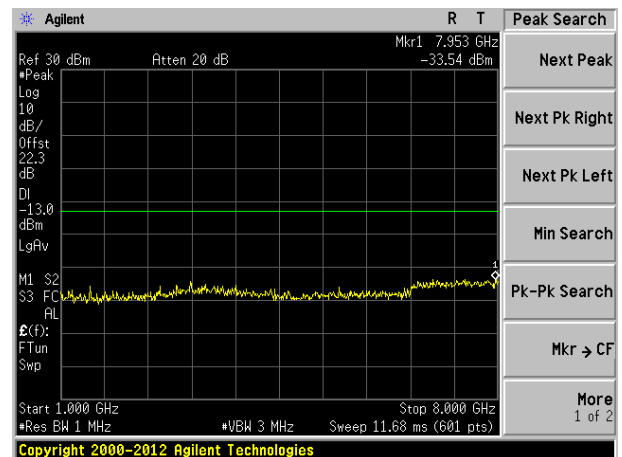
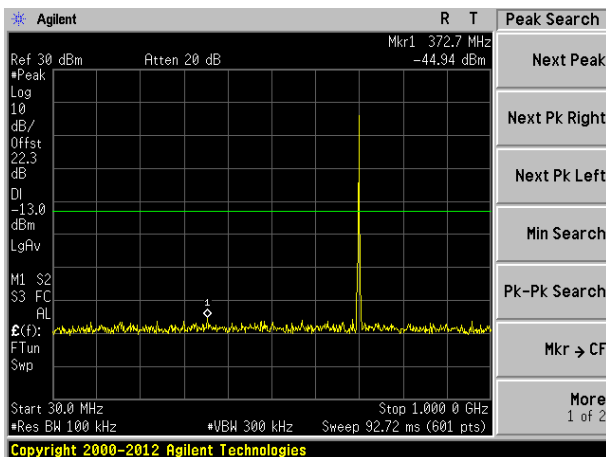
Highest channel

Test Mode: LTE Band 12

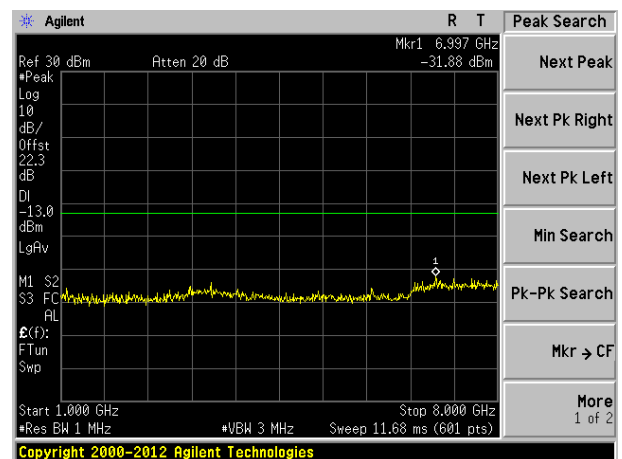
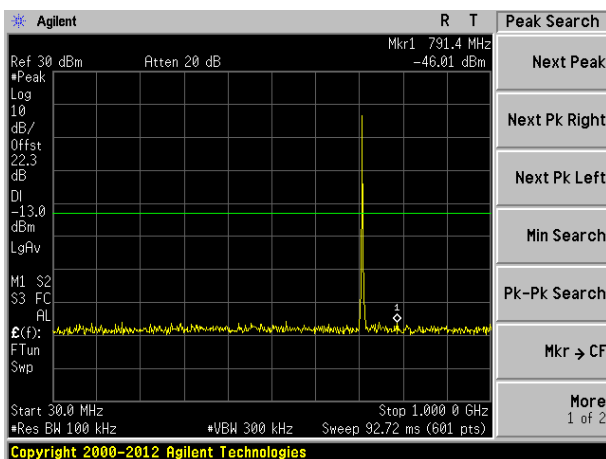
Channel Bandwidth: 1.4MHz



Lowest channel



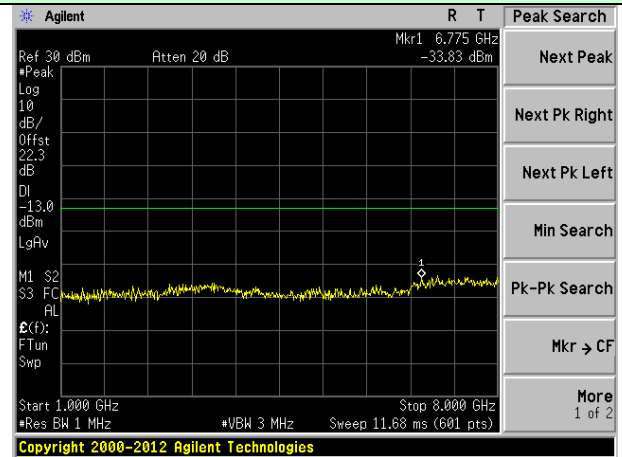
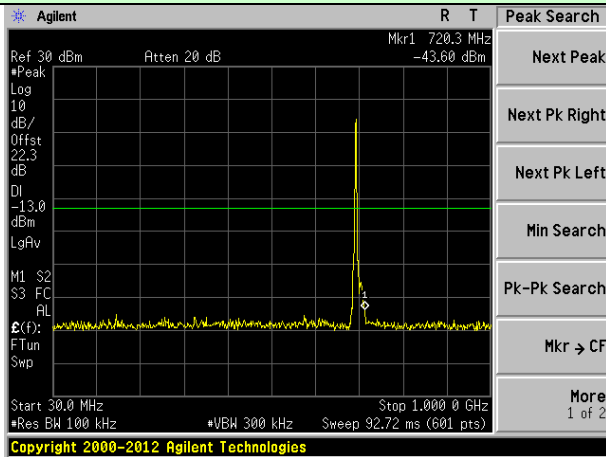
Middle channel



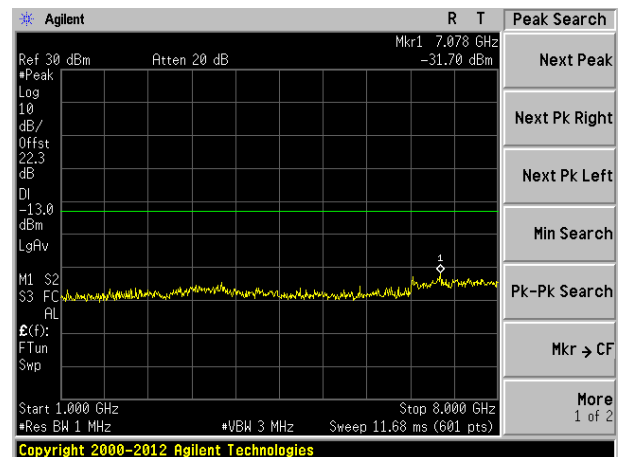
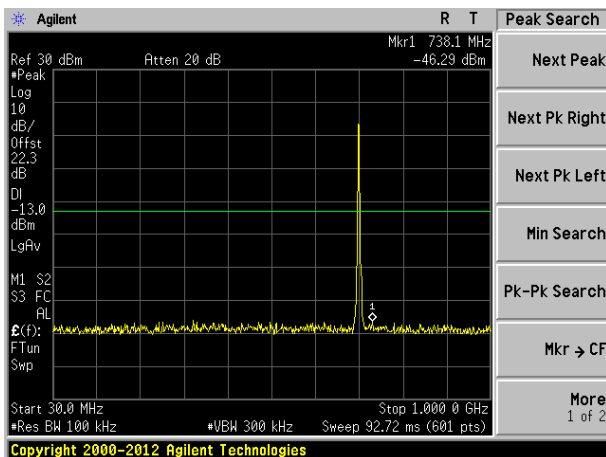
Highest channel

Test Mode: LTE Band 12

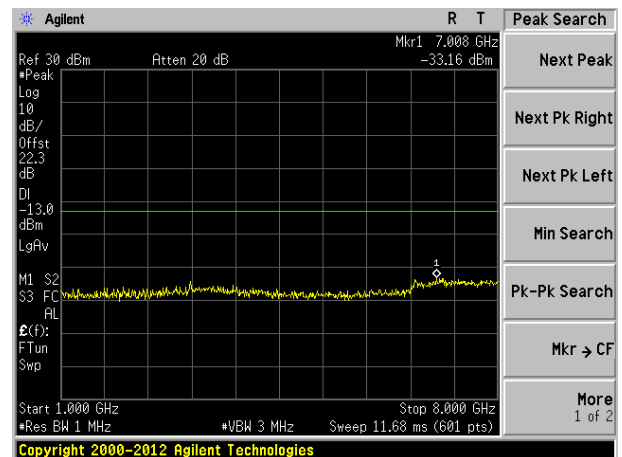
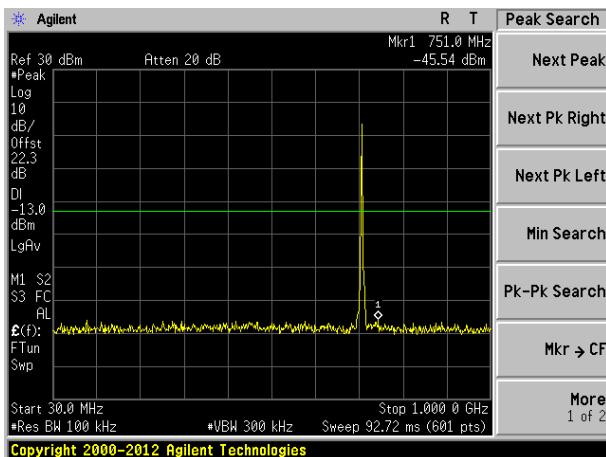
Channel Bandwidth: 3MHz



Lowest channel



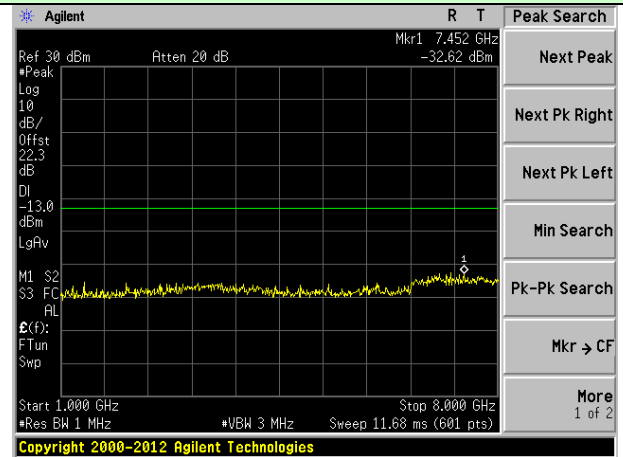
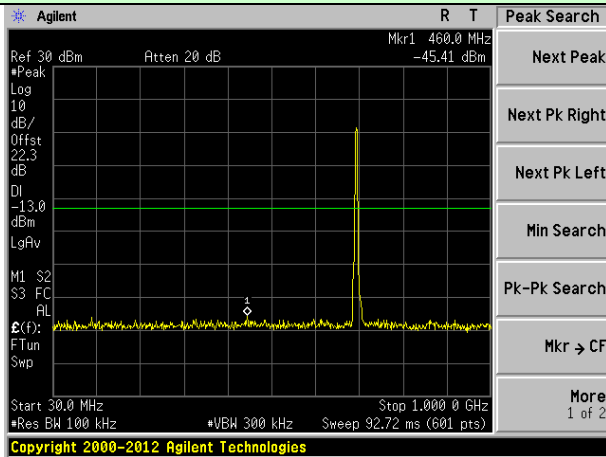
Middle channel



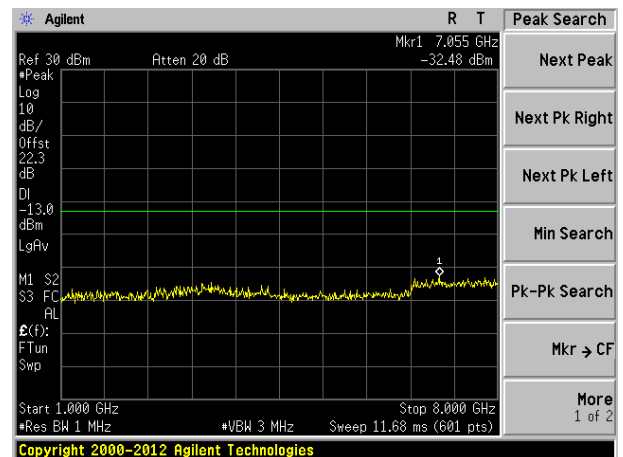
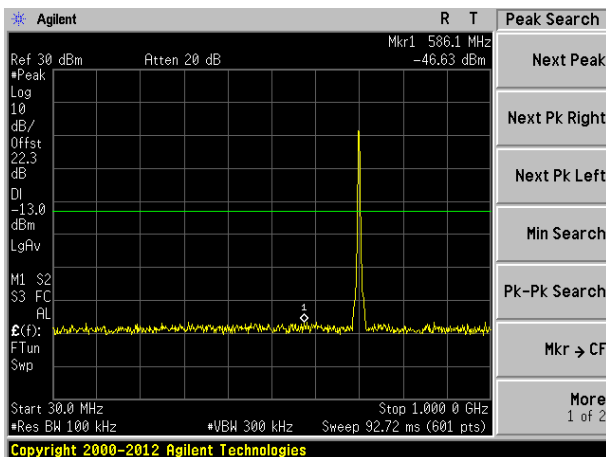
Highest channel

Test Mode: LTE Band 12

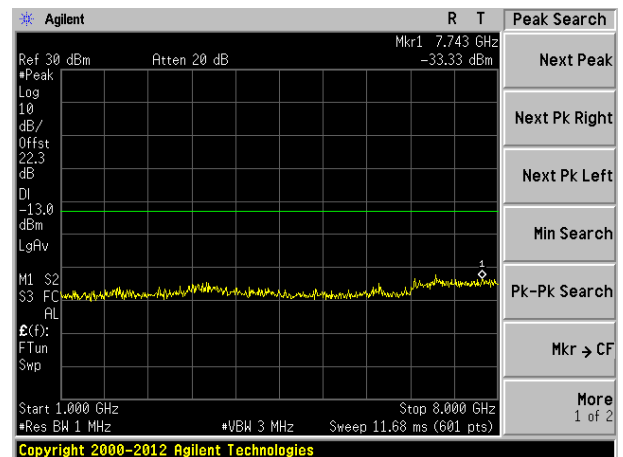
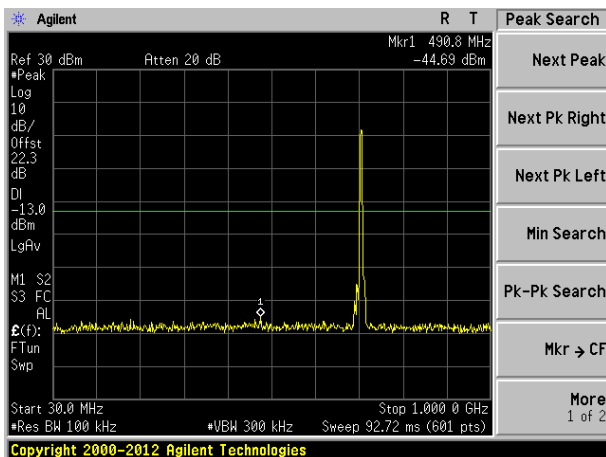
Channel Bandwidth: 5MHz



Lowest channel



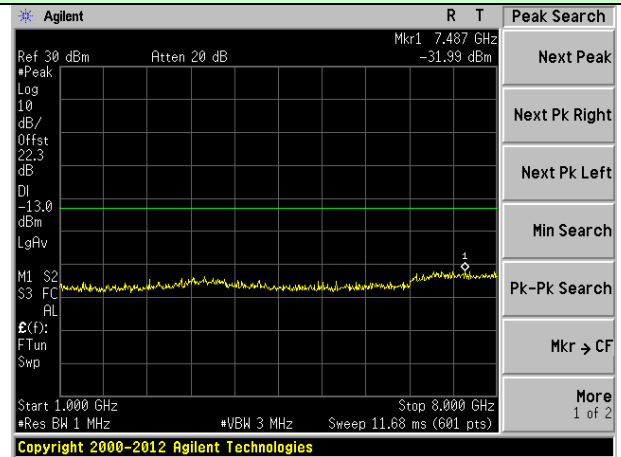
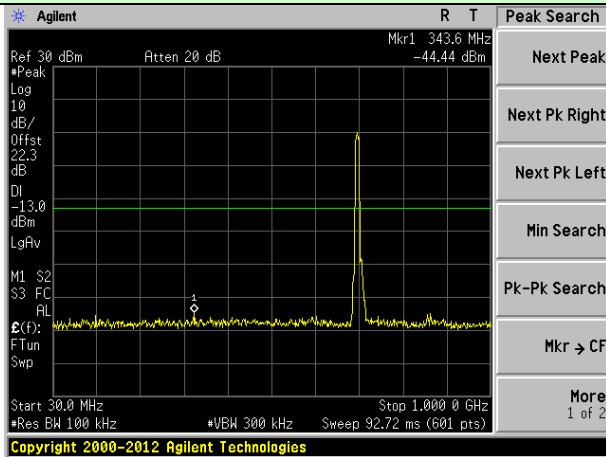
Middle channel



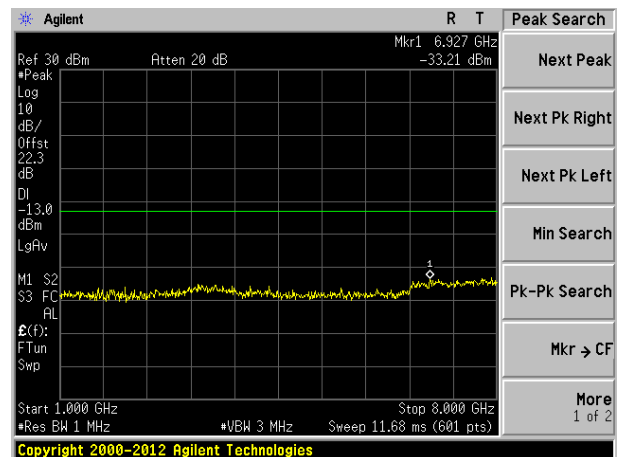
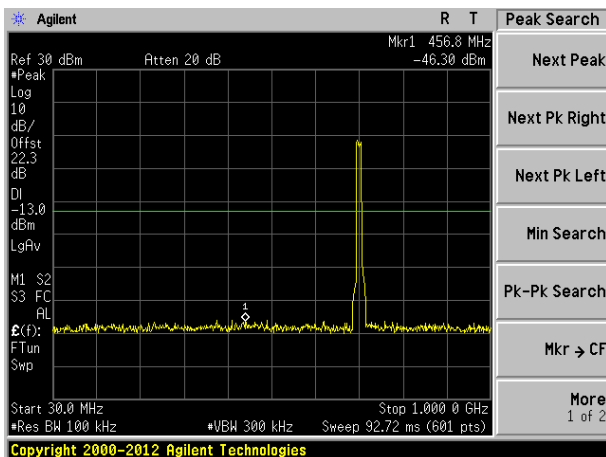
Highest channel

Test Mode: LTE Band 12

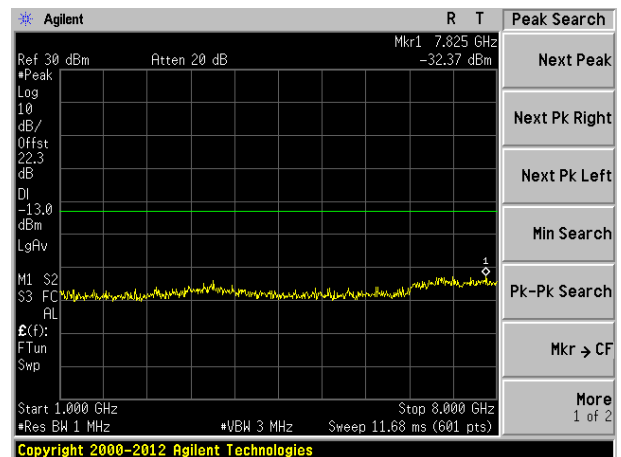
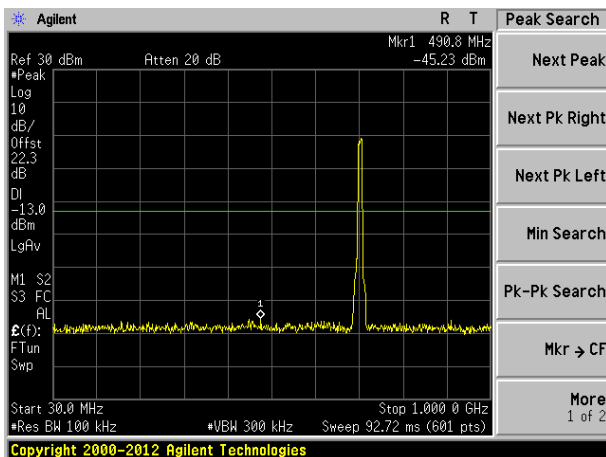
Channel Bandwidth: 10MHz



Lowest channel



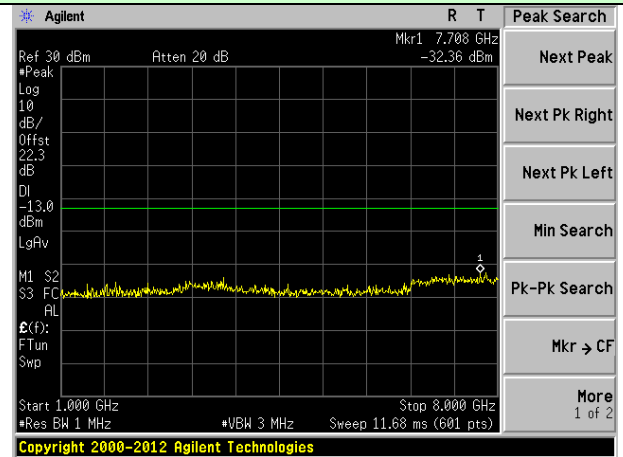
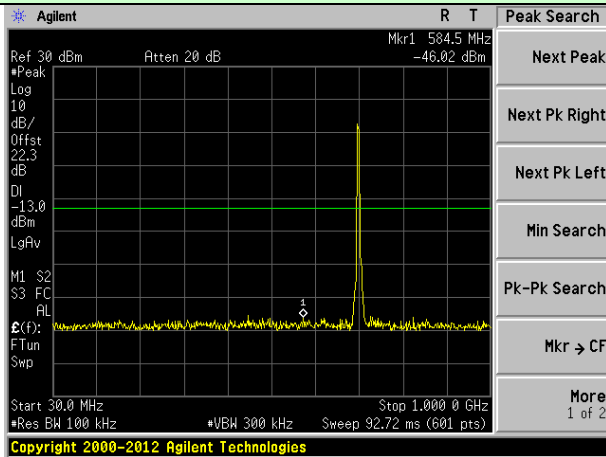
Middle channel



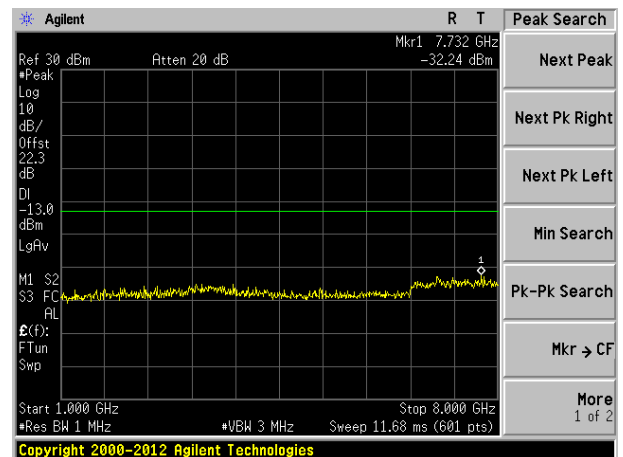
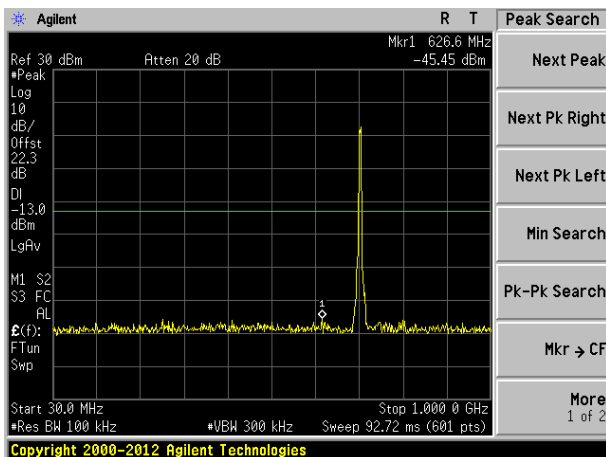
Highest channel

Test Mode: LTE Band 17

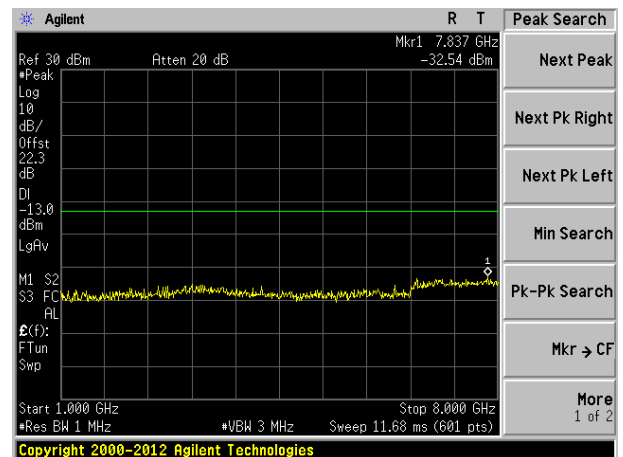
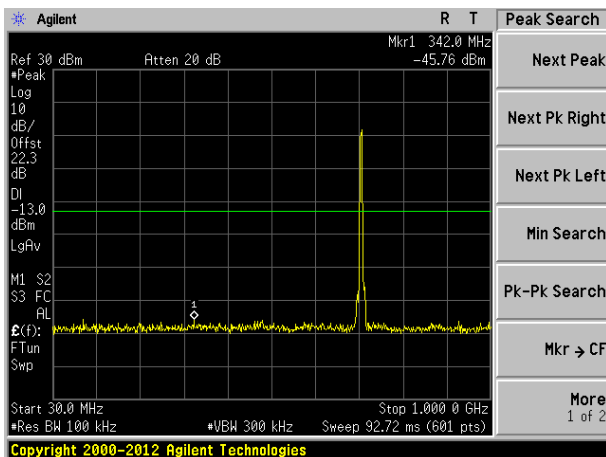
Channel Bandwidth: 5MHz



Lowest channel



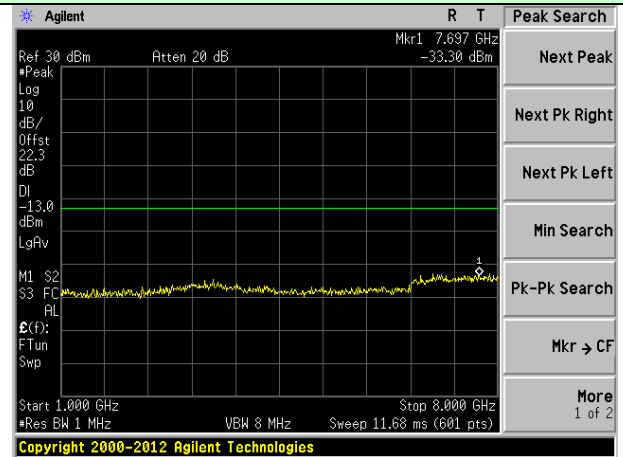
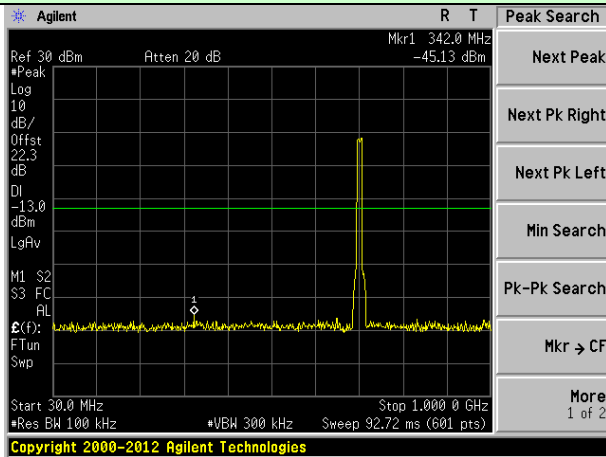
Middle channel



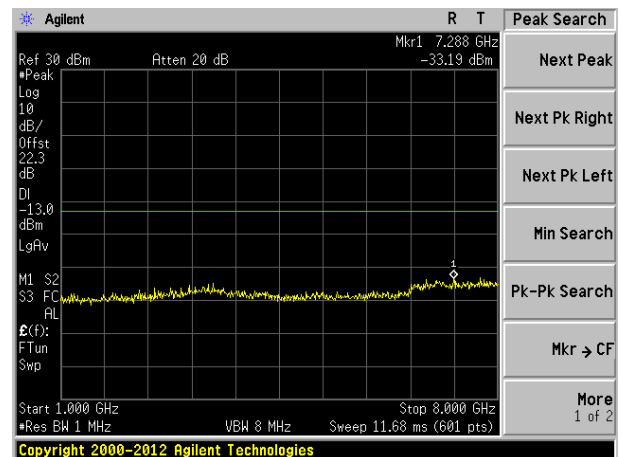
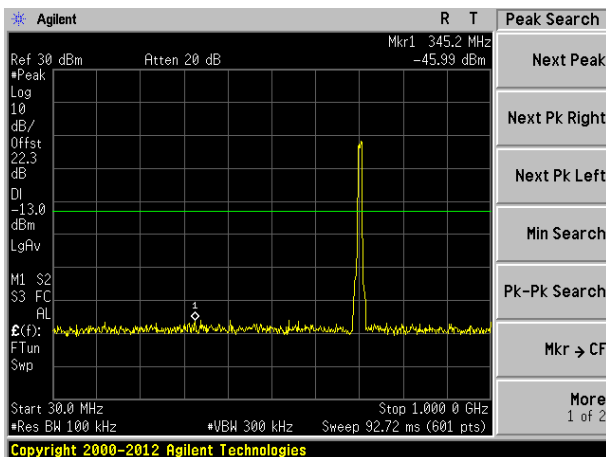
Highest channel

Test Mode: LTE Band 17

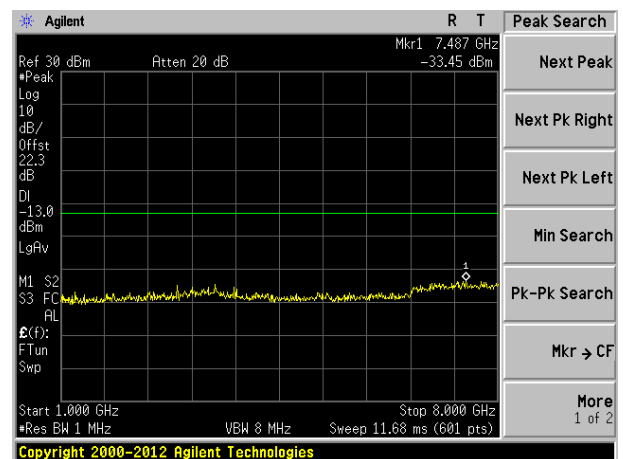
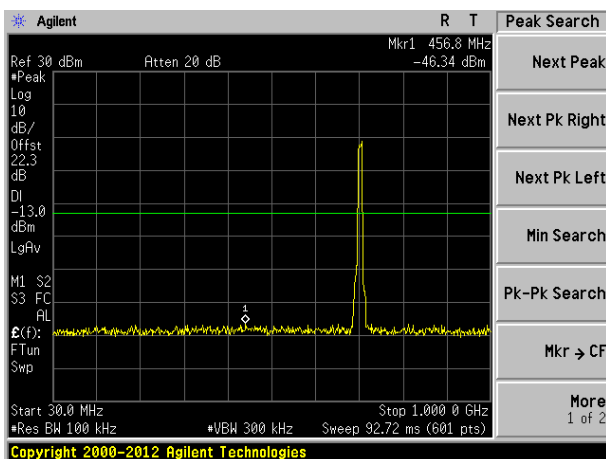
Channel Bandwidth: 10MHz



Lowest channel

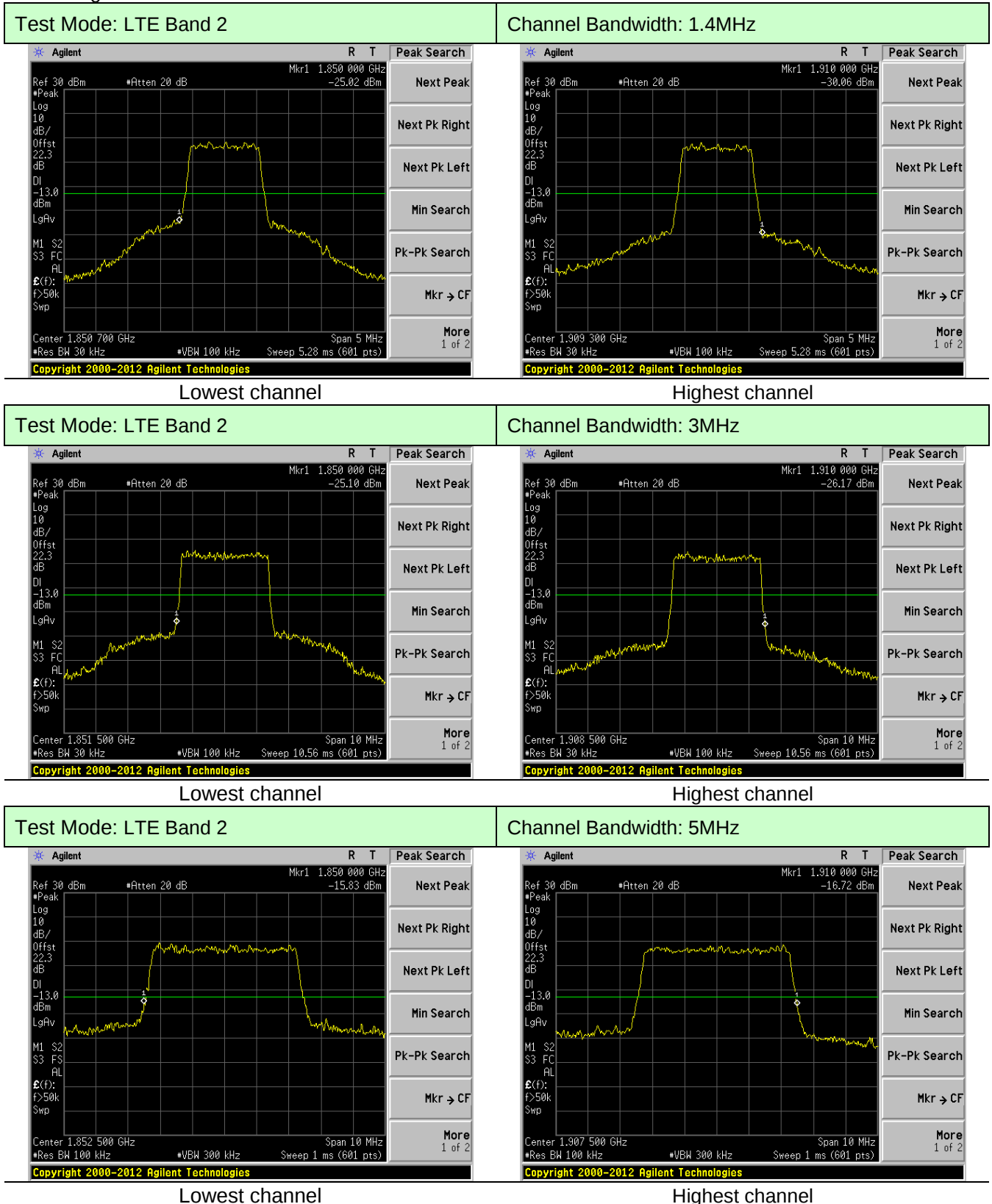


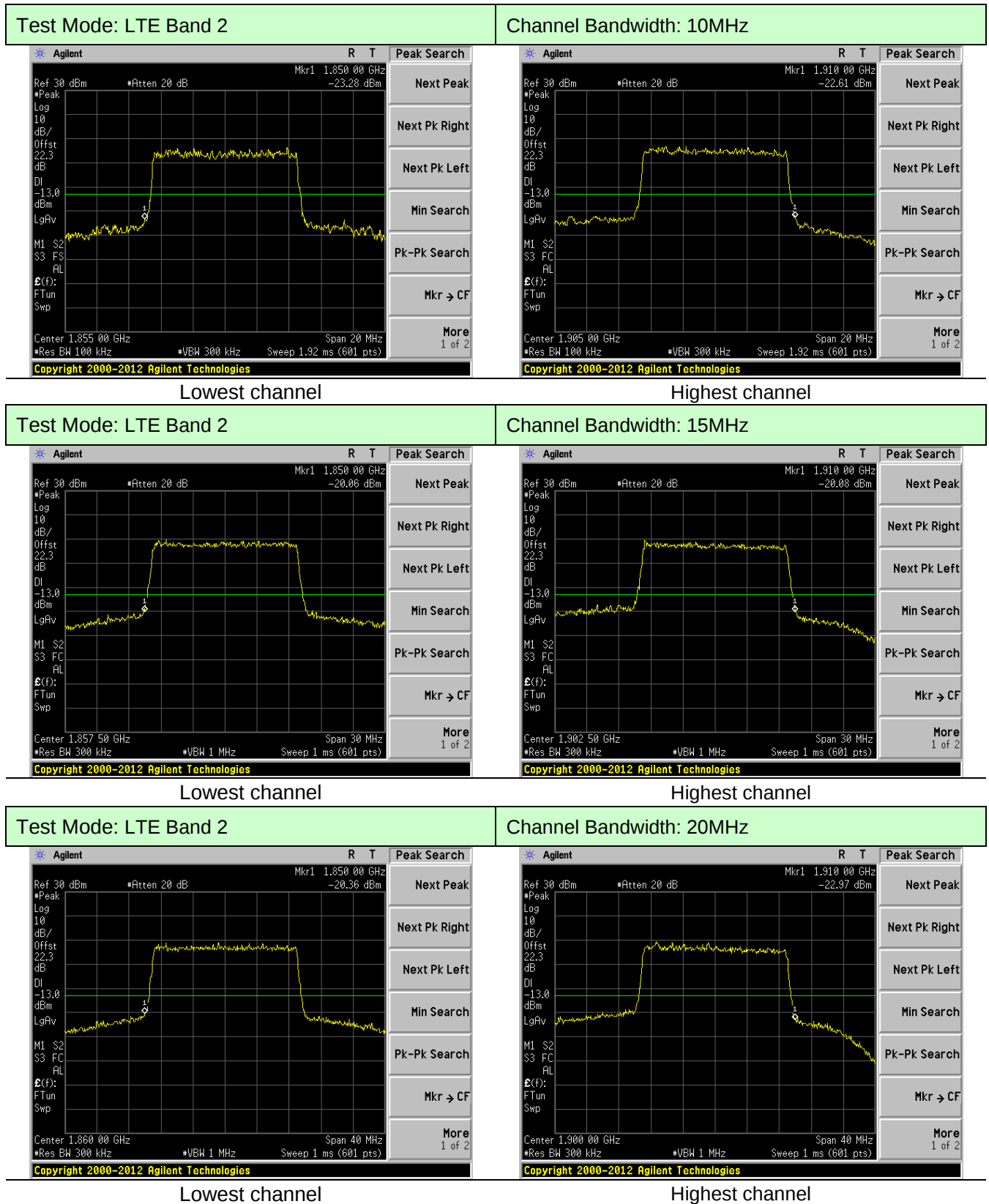
Middle channel

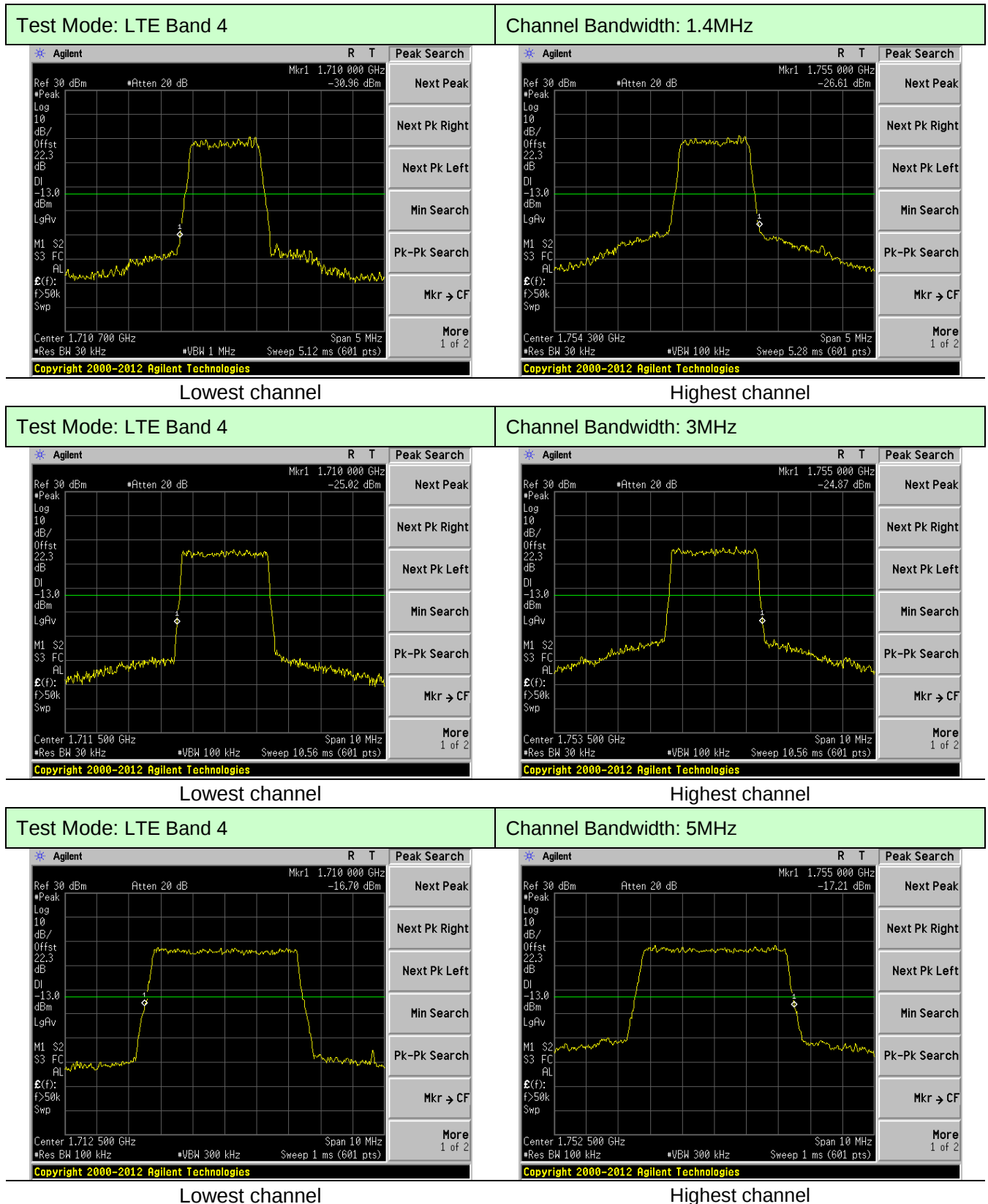


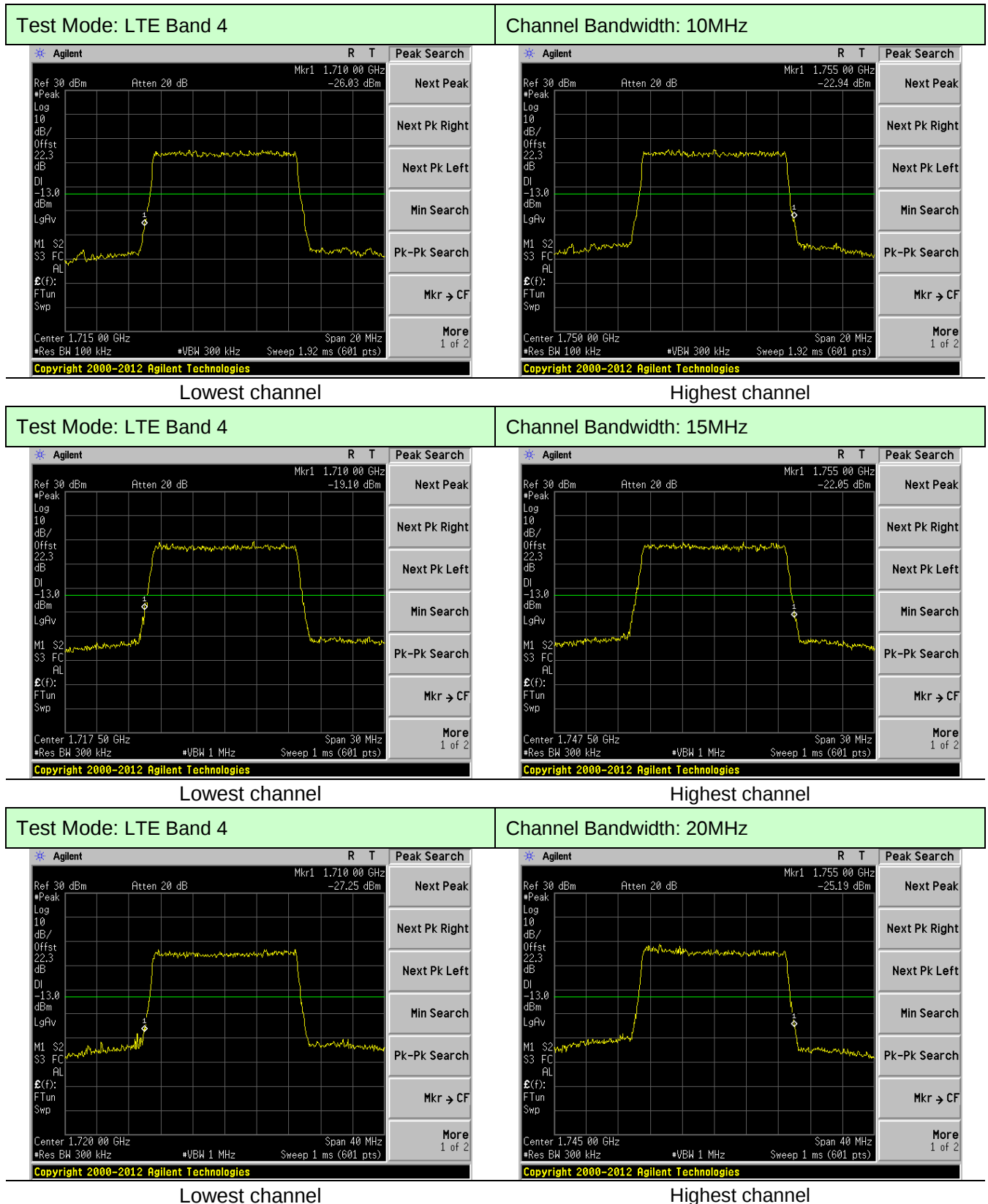
Highest channel

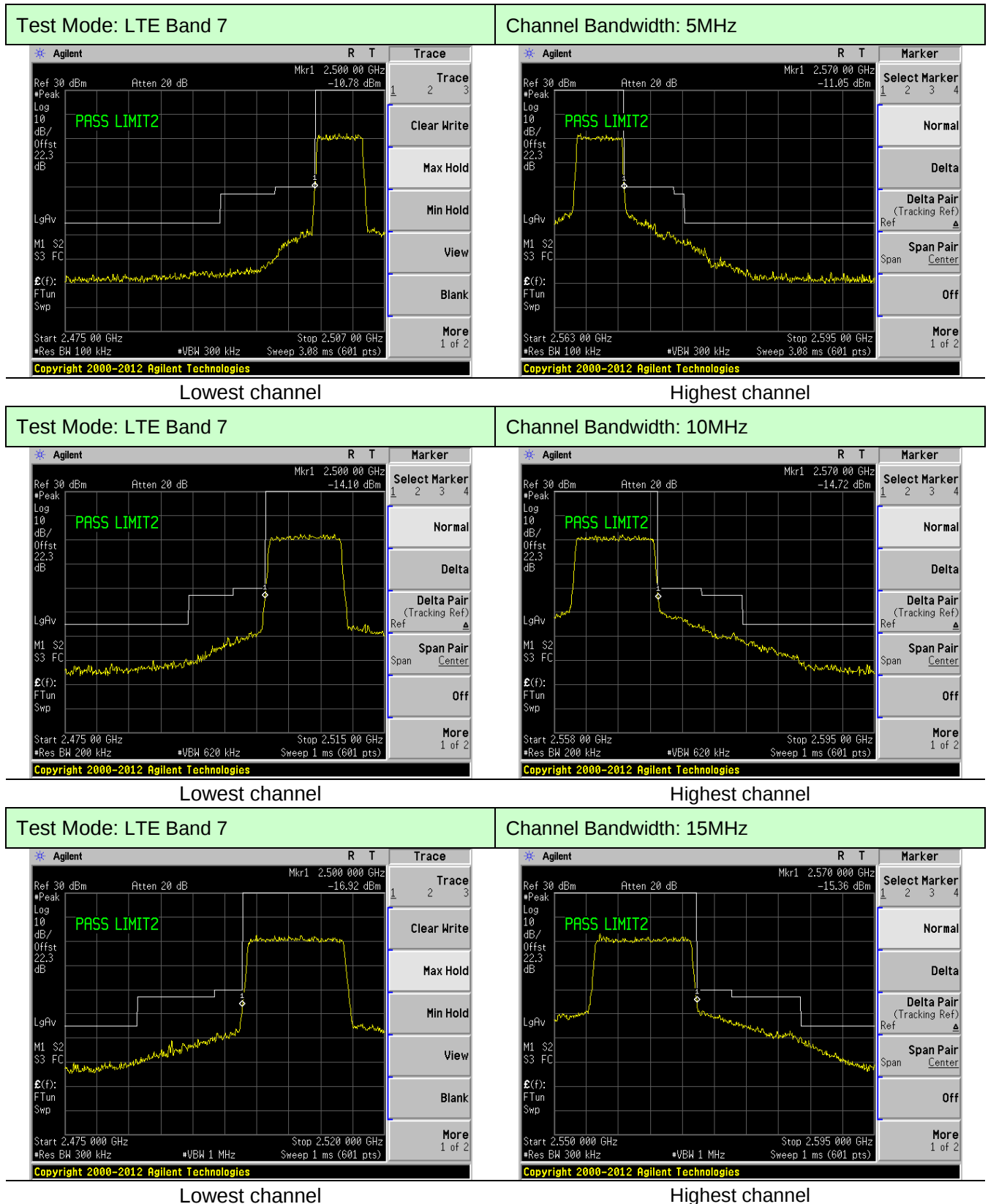
Band Edge:

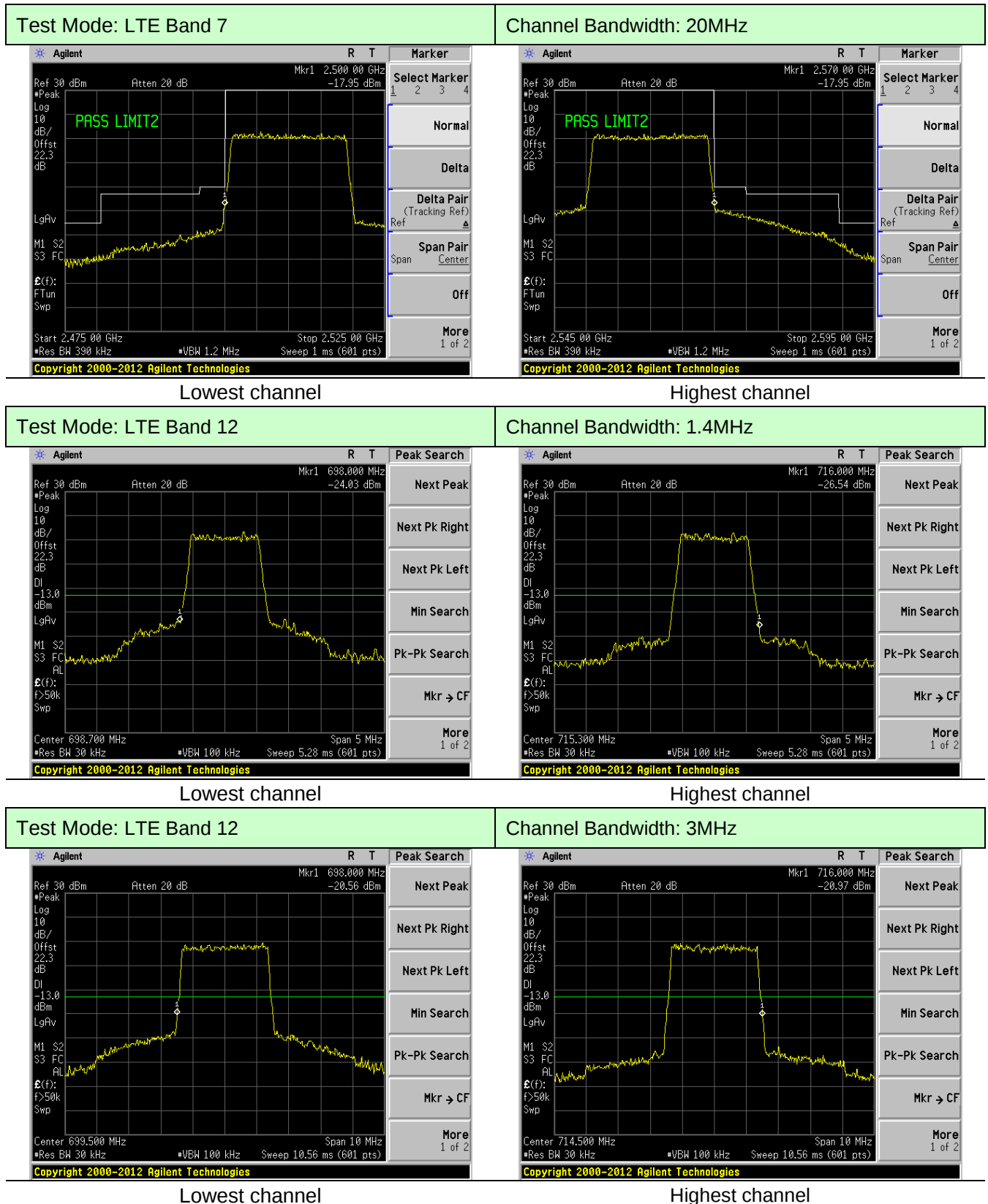


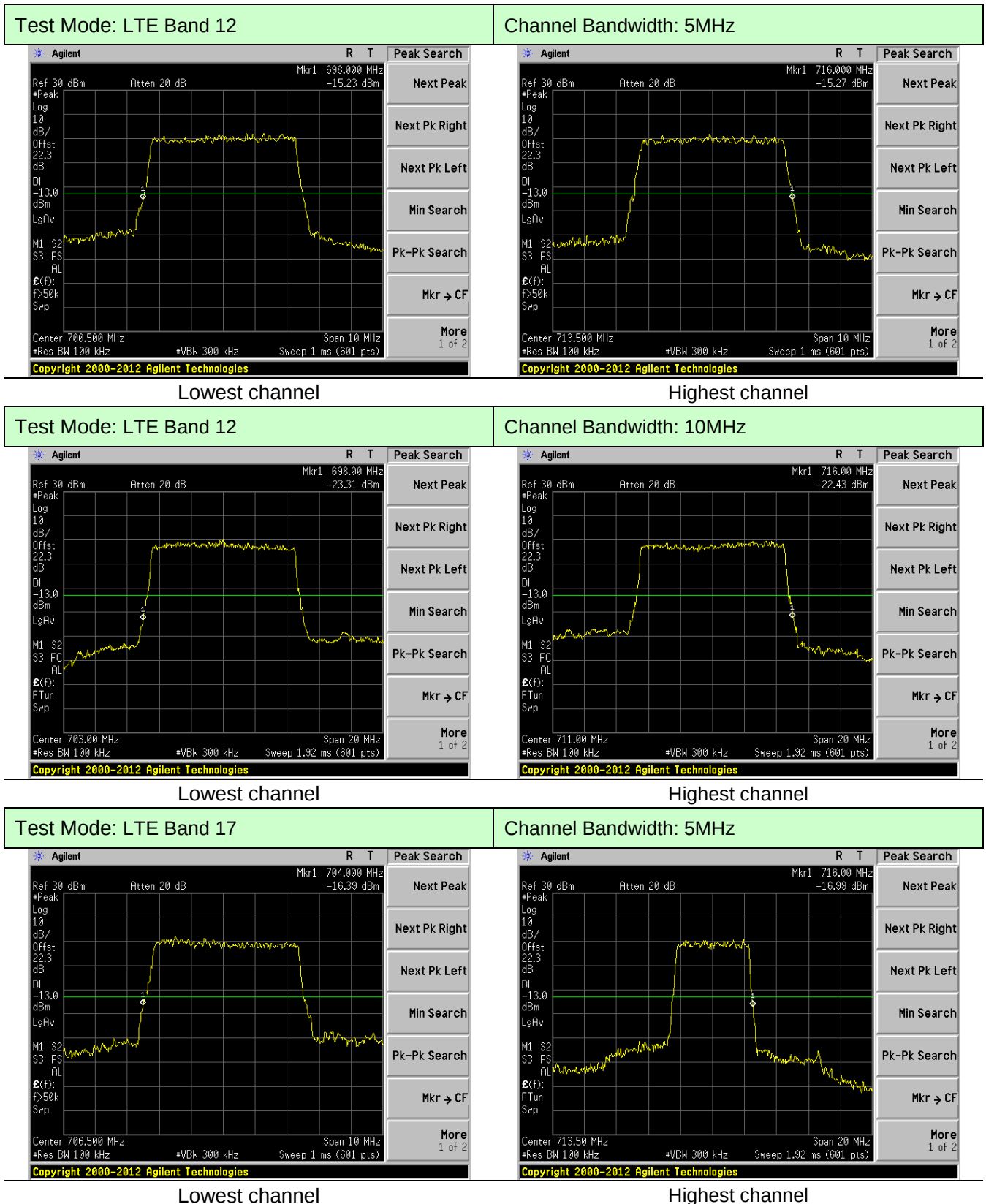


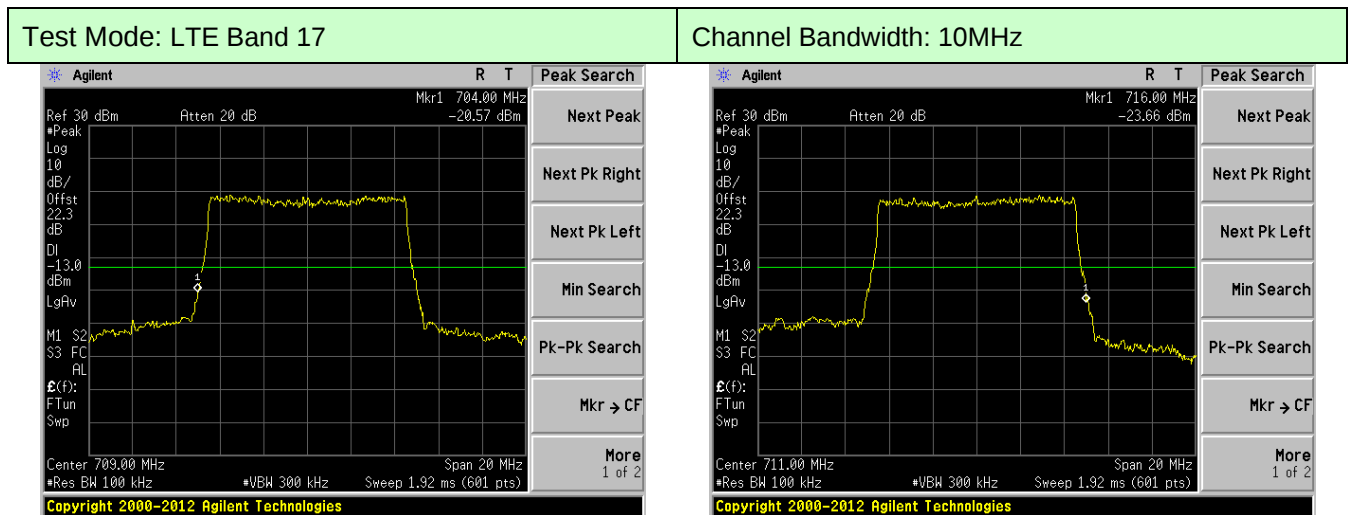








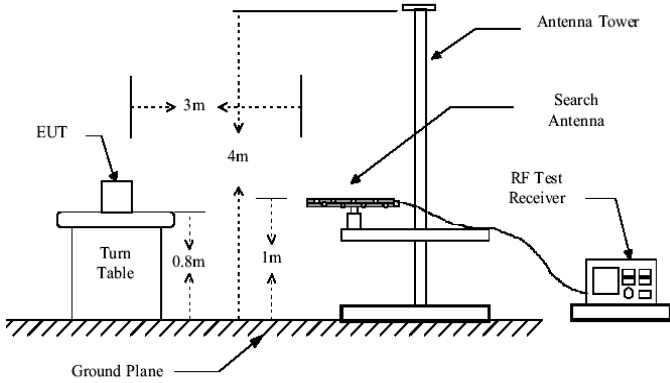
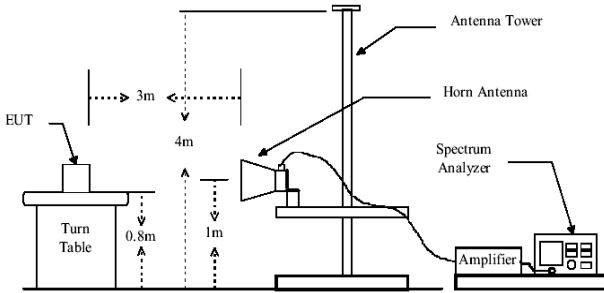
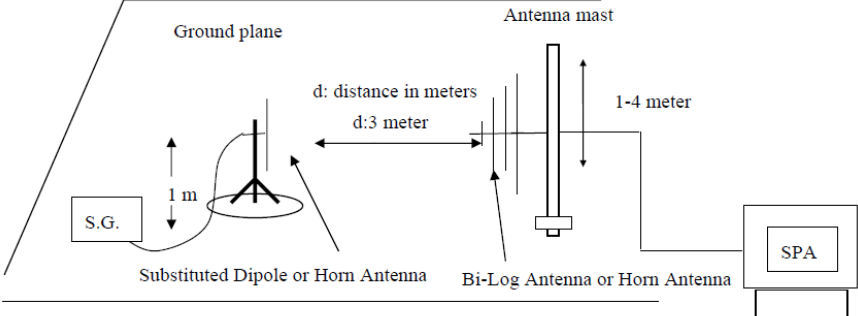




Lowest channel

Highest channel

7.7 ERP, EIRP Measurement

Test Requirement:	FCC part24.232(b) and FCC part 27.53
Test Method:	FCC part2.1046
Limit:	LTE Band 2: 2W (EIRP) LTE Band 4/7: 1W (EIRP) LTE Band 12/17: 3W (ERP)
Test setup:	Below 1GHz  Above 1GHz  Substituted method: 

Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated. 3. ERP in frequency band 824.2 –848.80.8MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows: $\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable Loss (dB)}$ 4. EIRP in frequency band 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows: $\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

Measurement Data

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (1.4MHz)	Lowest	H	V	21.98	33.00	Pass
			H	19.87		
		E1	V	21.51		
			H	19.04		
		E2	V	20.58		
			H	17.67		
	Middle	H	V	21.72	33.00	Pass
			H	18.87		
		E1	V	21.02		
			H	18.48		
		E2	V	20.98		
			H	17.78		
	Highest	H	V	21.48	33.00	Pass
			H	19.12		
		E1	V	21.11		
			H	18.71		
		E2	V	21.09		
			H	18.44		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (3MHz)	Lowest	H	V	22.22	33.00	Pass
			H	20.13		
		E1	V	21.81		
			H	19.37		
		E2	V	20.93		
			H	18.06		
	Middle	H	V	22.06	33.00	Pass
			H	19.28		
		E1	V	21.47		
			H	18.96		
		E2	V	21.38		
			H	18.21		
	Highest	H	V	21.82	33.00	Pass
			H	19.48		
		E1	V	21.50		
			H	19.14		
		E2	V	21.38		
			H	18.75		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (5MHz)	Lowest	H	V	22.40	33.00	Pass
			H	20.33		
		E1	V	22.03		
			H	19.62		
		E2	V	21.20		
			H	18.35		
	Middle	H	V	22.32	33.00	Pass
			H	19.59		
		E1	V	21.81		
			H	19.32		
		E2	V	21.68		
			H	18.54		
	Highest	H	V	22.07	33.00	Pass
			H	19.76		
		E1	V	21.80		
			H	19.46		
		E2	V	21.60		
			H	18.99		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
LTE Band 2 (10MHz)	Lowest	H	V	22.53	33.00	Pass
			H	20.49		
		E1	V	22.20		
			H	19.80		
		E2	V	21.41		
			H	18.57		
	Middle	H	V	22.52	33.00	Pass
			H	19.82		
		E1	V	22.06		
			H	19.60		
		E2	V	21.92		
			H	18.79		
	Highest	H	V	22.26	33.00	Pass
			H	19.97		
		E1	V	22.03		
			H	19.70		
		E2	V	21.76		
			H	19.18		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
LTE Band 2 (15MHz)	Lowest	H	V	22.63	33.00	Pass
			H	20.60		
		E1	V	22.33		
			H	19.95		
		E2	V	21.57		
			H	18.74		
	Middle	H	V	22.67	33.00	Pass
			H	20.00		
		E1	V	22.26		
			H	19.81		
		E2	V	22.09		
			H	18.98		
	Highest	H	V	22.41	33.00	Pass
			H	20.12		
		E1	V	22.20		
			H	19.89		
		E2	V	21.89		
			H	19.32		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
LTE Band 2 (20MHz)	Lowest	H	V	22.71	33.00	Pass
			H	20.69		
		E1	V	22.43		
			H	20.06		
		E2	V	21.68		
			H	18.87		
	Middle	H	V	22.78	33.00	Pass
			H	20.14		
		E1	V	22.41		
			H	19.97		
		E2	V	22.23		
			H	19.12		
	Highest	H	V	22.52	33.00	Pass
			H	20.25		
		E1	V	22.33		
			H	20.03		
		E2	V	21.99		
			H	19.42		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (1.4MHz)	Lowest	H	V	22.71	30.00	Pass
			H	20.68		
		E1	V	22.42		
			H	20.05		
		E2	V	21.68		
			H	18.86		
	Middle	H	V	22.77	30.00	Pass
			H	20.13		
		E1	V	22.40		
			H	19.96		
		E2	V	22.22		
			H	19.12		
	Highest	H	V	22.51	30.00	Pass
			H	20.24		
		E1	V	22.33		
			H	20.02		
		E2	V	21.98		
			H	19.42		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (3MHz)	Lowest	H	V	22.35	30.00	Pass
			H	20.28		
		E1	V	21.97		
			H	19.55		
		E2	V	21.14		
			H	18.28		
	Middle	H	V	22.26	30.00	Pass
			H	19.51		
		E1	V	21.72		
			H	19.23		
		E2	V	21.61		
			H	18.46		
	Highest	H	V	22.01	30.00	Pass
			H	19.69		
		E1	V	21.73		
			H	19.38		
		E2	V	21.54		
			H	18.93		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (5MHz)	Lowest	H	V	22.31	30.00	Pass
			H	20.23		
		E1	V	21.92		
			H	19.49		
		E2	V	21.07		
			H	18.20		
	Middle	H	V	22.19	30.00	Pass
			H	19.43		
		E1	V	21.63		
			H	19.14		
		E2	V	21.53		
			H	18.38		
	Highest	H	V	21.94	30.00	Pass
			H	19.62		
		E1	V	21.65		
			H	19.30		
		E2	V	21.49		
			H	18.87		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (10MHz)	Lowest	H	V	22.00	30.00	Pass
			H	19.89		
		E1	V	21.54		
			H	19.07		
		E2	V	20.61		
			H	17.71		
	Middle	H	V	21.75	30.00	Pass
			H	18.90		
		E1	V	21.06		
			H	18.52		
		E2	V	21.01		
			H	17.82		
	Highest	H	V	21.51	30.00	Pass
			H	19.15		
		E1	V	21.14		
			H	18.75		
		E2	V	21.12		
			H	18.46		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (15MHz)	Lowest	H	V	21.90	30.00	Pass
			H	19.78		
		E1	V	21.41		
			H	18.93		
		E2	V	20.46		
			H	17.54		
	Middle	H	V	21.60	30.00	Pass
			H	18.73		
		E1	V	20.87		
			H	18.32		
		E2	V	20.84		
			H	17.63		
	Highest	H	V	21.37	30.00	Pass
			H	18.99		
		E1	V	20.98		
			H	18.57		
		E2	V	20.99		
			H	18.33		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (20MHz)	Lowest	H	V	21.00	30.00	Pass
			H	18.48		
		E1	V	21.41		
			H	18.27		
		E2	V	20.82		
			H	17.86		
	Middle	H	V	21.98	30.00	Pass
			H	19.59		
		E1	V	21.81		
			H	19.31		
		E2	V	21.32		
			H	18.07		
	Highest	H	V	21.80	30.00	Pass
			H	19.74		
		E1	V	21.77		
			H	19.24		
		E2	V	21.22		
			H	18.60		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (5MHz)	Lowest	H	V	21.98	30.00	Pass
			H	19.87		
		E1	V	21.51		
			H	19.04		
		E2	V	20.58		
			H	17.67		
	Middle	H	V	21.72	30.00	Pass
			H	18.87		
		E1	V	21.02		
			H	18.48		
		E2	V	20.98		
			H	17.78		
	Highest	H	V	21.48	30.00	Pass
			H	19.12		
		E1	V	21.11		
			H	18.71		
		E2	V	21.09		
			H	18.44		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (10MHz)	Lowest	H	V	22.50	30.00	Pass
			H	20.45		
		E1	V	22.16		
			H	19.76		
		E2	V	21.36		
			H	18.52		
	Middle	H	V	22.47	30.00	Pass
			H	19.77		
		E1	V	22.00		
			H	19.54		
		E2	V	21.86		
			H	18.73		
	Highest	H	V	22.22	30.00	Pass
			H	19.92		
		E1	V	21.98		
			H	19.65		
		E2	V	21.73		
			H	19.14		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (15MHz)	Lowest	H	V	22.62	30.00	Pass
			H	20.58		
		E1	V	22.31		
			H	19.93		
		E2	V	21.54		
			H	18.72		
	Middle	H	V	22.64	30.00	Pass
			H	19.97		
		E1	V	22.23		
			H	19.77		
		E2	V	22.07		
			H	18.95		
	Highest	H	V	22.38	30.00	Pass
			H	20.10		
		E1	V	22.18		
			H	19.86		
		E2	V	21.87		
			H	19.30		

EUT mode	Channel	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (20MHz)	Lowest	H	V	22.69	30.00	Pass
			H	20.66		
		E1	V	22.40		
			H	20.02		
		E2	V	21.65		
			H	18.83		
	Middle	H	V	22.74	30.00	Pass
			H	20.09		
		E1	V	22.36		
			H	19.91		
		E2	V	22.18		
			H	19.08		
	Highest	H	V	22.48	30.00	Pass
			H	20.21		
		E1	V	22.29		
			H	19.99		
		E2	V	21.96		
			H	19.39		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 12 (1.4MHz)	Lowest	H	V	22.28	34.77	Pass
			H	20.20		
		E1	V	21.88		
			H	19.45		
		E2	V	21.03		
			H	18.16		
	Middle	H	V	22.15	34.77	Pass
			H	19.38		
		E1	V	21.58		
			H	19.08		
		E2	V	21.48		
			H	18.33		
	Highest	H	V	21.90	34.77	Pass
			H	19.57		
		E1	V	21.61		
			H	19.25		
		E2	V	21.45		
			H	18.84		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 12 (3MHz)	Lowest	H	V	22.46	34.77	Pass
			H	20.40		
		E1	V	22.11		
			H	19.70		
		E2	V	21.30		
			H	18.45		
	Middle	H	V	22.41	34.77	Pass
			H	19.69		
		E1	V	21.92		
			H	19.45		
		E2	V	21.79		
			H	18.65		
	Highest	H	V	22.15	34.77	Pass
			H	19.85		
		E1	V	21.90		
			H	19.57		
		E2	V	21.67		
			H	19.08		

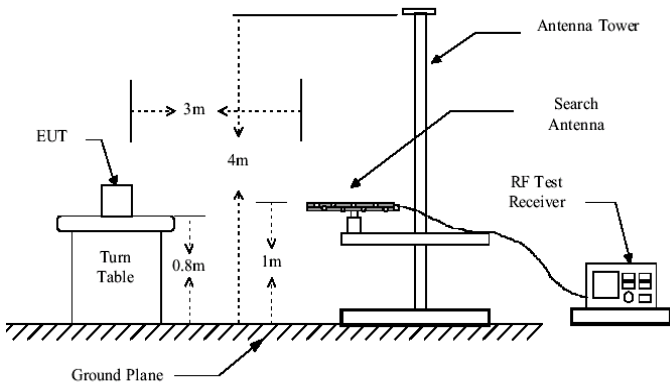
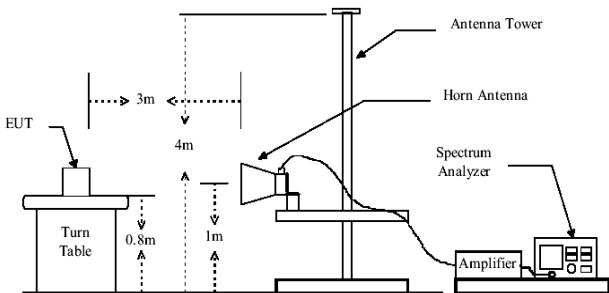
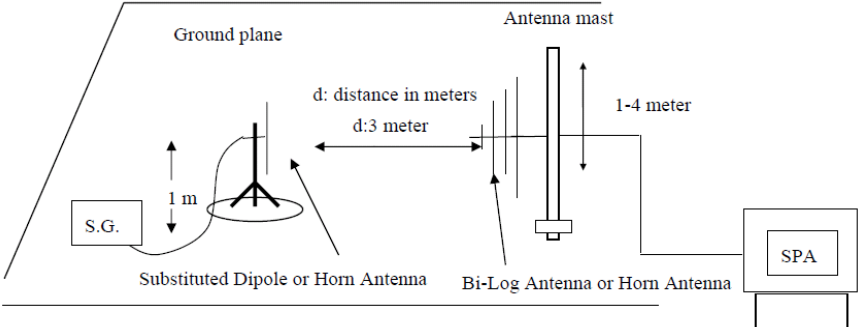
EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 12 (5MHz)	Lowest	H	V	22.40	34.77	Pass
			H	20.34		
		E1	V	22.04		
			H	19.63		
		E2	V	21.22		
			H	18.36		
	Middle	H	V	22.33	34.77	Pass
			H	19.60		
		E1	V	21.82		
			H	19.34		
		E2	V	21.70		
			H	18.56		
	Highest	H	V	22.08	34.77	Pass
			H	19.77		
		E1	V	21.82		
			H	19.47		
		E2	V	21.61		
			H	19.01		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 12 (10MHz)	Lowest	H	V	22.25	34.77	Pass
			H	20.17		
		E1	V	21.85		
			H	19.42		
		E2	V	20.99		
			H	18.12		
	Middle	H	V	22.11	34.77	Pass
			H	19.34		
		E1	V	21.53		
			H	19.03		
		E2	V	21.44		
			H	18.28		
	Highest	H	V	21.87	34.77	Pass
			H	19.53		
		E1	V	21.56		
			H	19.20		
		E2	V	21.42		
			H	18.80		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 17 (5MHz)	Lowest	H	V	22.59	34.77	Pass
			H	20.50		
		E1	V	22.49		
			H	19.99		
		E2	V	21.82		
			H	19.01		
	Middle	H	V	22.92	34.77	Pass
			H	20.38		
		E1	V	22.68		
			H	20.25		
		E2	V	22.40		
			H	19.29		
	Highest	H	V	22.67	34.77	Pass
			H	20.46		
		E1	V	22.56		
			H	20.24		
		E2	V	22.09		
			H	19.54		

EUT mode	Channel	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 17 (10MHz)	Lowest	H	V	22.45	34.77	Pass
			H	20.32		
		E1	V	22.39		
			H	19.84		
		E2	V	21.74		
			H	18.91		
	Middle	H	V	22.84	34.77	Pass
			H	20.32		
		E1	V	22.60		
			H	20.17		
		E2	V	22.30		
			H	19.19		
	Highest	H	V	22.59	34.77	Pass
			H	20.40		
		E1	V	22.50		
			H	20.16		
		E2	V	22.01		
			H	19.46		

7.8 Field strength of spurious radiation measurement

Test Requirement:	FCC part24.238(a) and FCC part27.53
Test Method:	FCC part2.1053
Limit:	Band 2/4/12/17:-13dBm Band 7:-25dBm
Test setup:	Below 1GHz  Above 1GHz  Substituted method: 

Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. $\text{ERP / EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

Measurement Data

Test mode:	LTE Band 2(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3701.40	Vertical	-36.15	-13.00	Pass
5552.10	V	-38.88		
7402.80	V	-41.13		
9253.50	V	-43.29		
11104.20	V	---		
3701.40	Horizontal	-41.38	-13.00	Pass
5552.10	H	-45.23		
7402.80	H	-46.79		
9253.50	H	-49.51		
11104.20	H	---		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-37.44	-13.00	Pass
5640.00	V	-39.71		
7520.00	V	-41.59		
9400.00	V	-43.40		
11280.00	V	---		
3760.00	Horizontal	-41.80	-13.00	Pass
5640.00	H	-45.02		
7520.00	H	-46.32		
9400.00	H	-48.59		
11280.00	H	---		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3818.60	Vertical	-37.74	-13.00	Pass
5727.90	V	-39.77		
7637.20	V	-41.43		
9546.50	V	-43.04		
11455.80	V	---		
3818.60	Horizontal	-41.62	-13.00	Pass
5727.90	H	-44.48		
7637.20	H	-45.63		
9546.50	H	-47.64		
11455.80	H	---		

Remark :

1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	LTE Band 4(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3421.40	Vertical	-37.14	-13.00	Pass
5132.10	V	-39.51		
6842.80	V	-41.48		
8553.50	V	-43.37		
10264.20	V	---		
3421.40	Horizontal	-41.70	-13.00	Pass
5132.10	H	-45.07		
6842.80	H	-46.42		
8553.50	H	-48.78		
10264.20	H	---		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3465.00	Vertical	-34.85	-13.00	Pass
5197.50	V	-37.30		
6930.00	V	-39.33		
8662.50	V	-41.30		
10395.00	V	---		
3465.00	Horizontal	-39.57	-13.00	Pass
5197.50	H	-43.05		
6930.00	H	-44.46		
8662.50	H	-46.90		
10395.00	H	---		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3508.60	Vertical	-35.87	-13.00	Pass
5262.90	V	-38.26		
7017.20	V	-40.24		
8771.50	V	-42.14		
10525.80	V	---		
3508.60	Horizontal	-40.46	-13.00	Pass
5262.90	H	-43.84		
7017.20	H	-45.20		
8771.50	H	-47.58		
10525.80	H	---		

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	LTE Band 7(5MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5005.00	Vertical	-38.81	-25.00	Pass
7507.50	V	-41.89		
10010.00	V	-44.44		
12512.50	V	-46.89		
15015.00	V	---		
5005.00	Horizontal	-44.72	-25.00	Pass
7507.50	H	-49.08		
10010.00	H	-50.84		
12512.50	H	-53.91		
15015.00	H	---		
Test mode:	LTE Band 7(5MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5070.00	Vertical	-39.81	-25.00	Pass
7605.00	V	-42.72		
10140.00	V	-45.12		
12675.00	V	-47.44		
15210.00	V	---		
5070.00	Horizontal	-45.40	-25.00	Pass
7605.00	H	-49.52		
10140.00	H	-51.17		
12675.00	H	-54.06		
15210.00	H	---		
Test mode:	LTE Band 7(5MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5135.00	Vertical	-38.80	-25.00	Pass
7702.50	V	-41.53		
10270.00	V	-43.77		
12837.50	V	-45.95		
15405.00	V	---		
5135.00	Horizontal	-44.03	-25.00	Pass
7702.50	H	-47.88		
10270.00	H	-49.43		
12837.50	H	-52.14		
15405.00	H	---		

Remark :

1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	LTE Band 12(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1399.40	Vertical	-37.50	-13.00	Pass
2099.10	V	-41.24		
2798.80	V	-43.97		
3498.50	V	-41.50		
4198.20	V	---		
1399.40	Horizontal	-40.30	-13.00	Pass
2099.10	H	-42.98		
2798.80	H	-48.39		
3498.50	H	-52.01		
4198.20	H	---		
Test mode:	LTE Band 12(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1415.00	Vertical	-39.69	-13.00	Pass
2122.50	V	-40.99		
2830.00	V	-44.60		
3537.50	V	-47.06		
4245.00	V	---		
1415.00	Horizontal	-42.13	-13.00	Pass
2122.50	H	-44.02		
2830.00	H	-48.69		
3537.50	H	-51.06		
4245.00	H	---		
Test mode:	LTE Band 12(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1430.60	Vertical	-37.96	-13.00	Pass
2145.90	V	-40.39		
2861.20	V	-43.02		
3576.50	V	-45.91		
4291.80	V	---		
1430.60	Horizontal	-41.30	-13.00	Pass
2145.90	H	-43.72		
2861.20	H	-45.09		
3576.50	H	-51.28		
4291.80	H	---		

Remark:

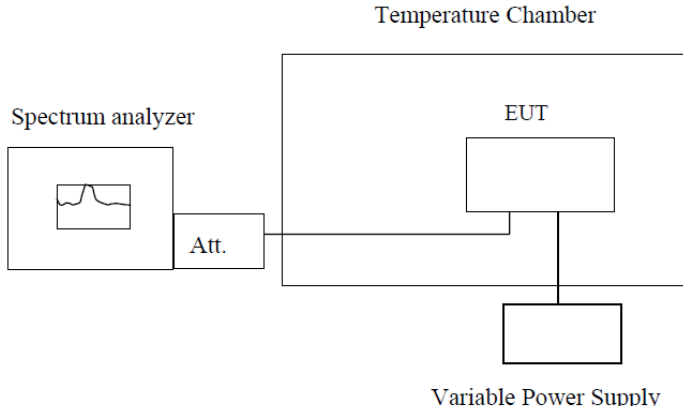
1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

Test mode:	LTE Band 17(5MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1413.00	Vertical	-40.39	-13.00	Pass
2119.50	V	-41.07		
2826.00	V	-42.47		
3532.50	V	-44.71		
4239.00	V	---		
1413.00	Horizontal	-43.55	-13.00	Pass
2119.50	H	-45.19		
2826.00	H	-46.10		
3532.50	H	-49.00		
4239.00	H	---		
Test mode:	LTE Band 17(5MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1420.00	Vertical	-40.97	-13.00	Pass
2130.00	V	-43.08		
2840.00	V	-44.64		
3550.00	V	-48.73		
4260.00	V	---		
1420.00	Horizontal	-44.14	-13.00	Pass
2130.00	H	-44.99		
2840.00	H	-47.21		
3550.00	H	-50.26		
4260.00	H	---		
Test mode:	LTE Band 17(5MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1427.00	Vertical	-38.63	-13.00	Pass
2140.50	V	-40.04		
2854.00	V	-42.10		
3567.50	V	-43.18		
4281.00	V	---		
1427.00	Horizontal	-44.42	-13.00	Pass
2140.50	H	-48.25		
2854.00	H	-50.34		
3567.50	H	-53.32		
4281.00	H	---		

Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Remark"---" means that the emission level is too low to be measured
3. The emission levels of below 1 GHz are very lower than the limit and not show in test report.

7.9 Frequency stability V.S. Temperature measurement

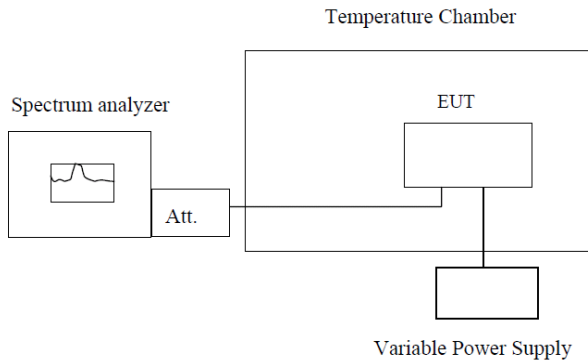
Test Requirement:	FCC Part2.1055(a)(1)(b)
Test Method:	FCC Part2.1055(a)(1)(b)
Limit:	2.5ppm
Test setup:	 Note : Measurement setup for testing on Antenna connector
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

Measurement Data

Reference Frequency: LTE Band 2 Middle channel=18900 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	31	0.0165	2.5	Pass
	-20	34	0.0182		
	-10	30	0.0159		
	0	26	0.0136		
	10	29	0.0154		
	20	26	0.0136		
	30	39	0.0205		
	40	35	0.0188		
	50	34	0.0182		
Reference Frequency: LTE Band 4 Middle channel=20175 channel=1732.5MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	30	0.0171	2.5	Pass
	-20	32	0.0185		
	-10	28	0.0164		
	0	26	0.0150		
	10	27	0.0157		
	20	25	0.0143		
	30	38	0.0219		
	40	33	0.0192		
	50	32	0.0185		
Reference Frequency: LTE Band 7 Middle channel=21100 channel=2535MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	50	0.0197	2.5	Pass
	-20	58	0.0230		
	-10	48	0.0190		
	0	41	0.0163		
	10	47	0.0185		
	20	40	0.0159		
	30	71	0.0279		
	40	61	0.0241		
	50	58	0.0227		

Reference Frequency: LTE Band 12 Middle channel=23095 channel=707MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error			Result
		Hz	ppm		
3.70	-30	35	0.0498	2.5	Pass
	-20	44	0.0620		
	-10	35	0.0498		
	0	28	0.0395		
	10	35	0.0498		
	20	29	0.0416		
	30	54	0.0764		
	40	45	0.0641		
	50	42	0.0600		
Reference Frequency: LTE Band 17 Middle channel=23790 channel=710MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error			Result
		Hz	ppm		
3.70	-30	37	0.0522	2.5	Pass
	-20	44	0.0619		
	-10	34	0.0483		
	0	27	0.0386		
	10	36	0.0503		
	20	27	0.0386		
	30	51	0.0717		
	40	41	0.0581		
	50	44	0.0619		

7.10 Frequency stability V.S. Voltage measurement

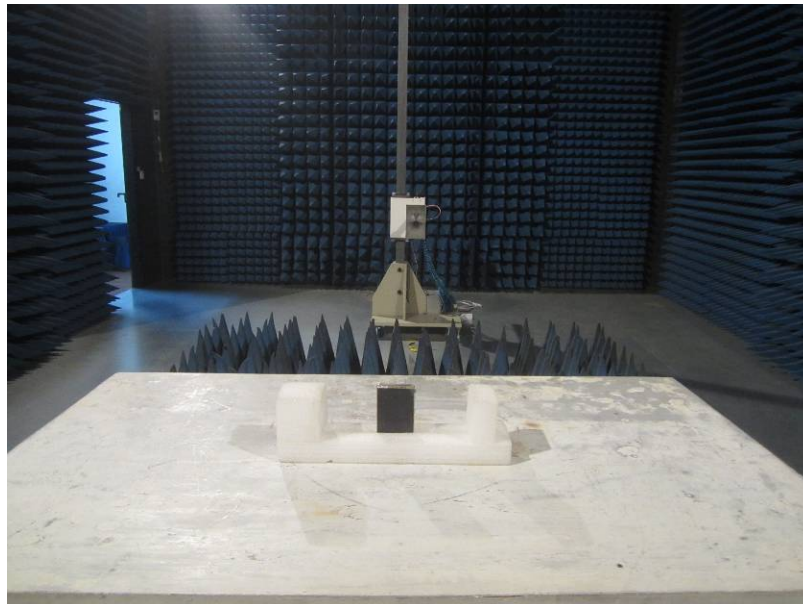
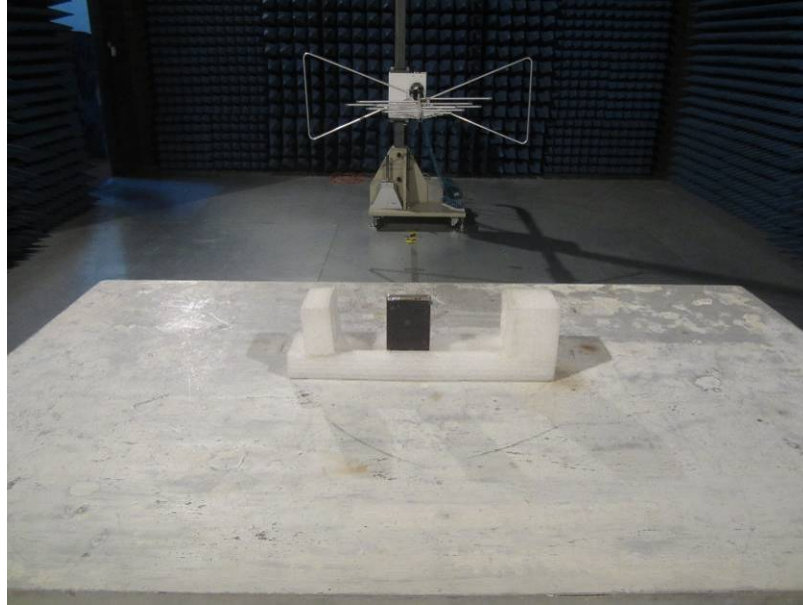
Test Requirement:	FCC Part2.1055(d)(1)(2)
Test Method:	FCC Part2.1055(d)(1)(2)
Limit:	2.5ppm
Test setup:	 Note : Measurement setup for testing on Antenna connector
Test procedure:	1. Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specified extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 7.1 for details
Test results:	Pass

Measurement Data

Reference Frequency: LTE Band 2 Middle channel=18900 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	19	0.0103	2.5	Pass
	3.70	22	0.0116		
	3.40	24	0.0128		
Reference Frequency: LTE Band 4 Middle channel=20175 channel=1732.5MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	24	0.0137	2.5	Pass
	3.70	15	0.0088		
	3.40	18	0.0104		
Reference Frequency: LTE Band 7 Middle channel=21100 channel=2535MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	31	0.0122	2.5	Pass
	3.70	36	0.0142		
	3.40	41	0.0161		
Reference Frequency: LTE Band 12 Middle channel=23095 channel=707MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	20	0.0282	2.5	Pass
	3.70	28	0.0392		
	3.40	28	0.0392		
Reference Frequency: LTE Band 17 Middle channel=23790channel=710MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	40	0.0569	2.5	Pass
	3.70	32	0.0452		
	3.40	34	0.0476		

8 Test Setup Photo

Radiated Emission



9 EUT Constructional Details

Reference to the test report No. GTSE15110214001

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