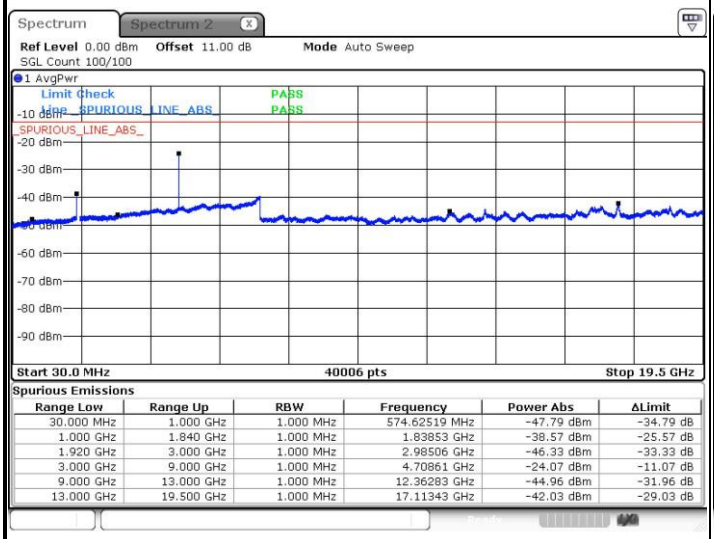
LTE Band 2 / 15MHz

Lowest Channel / QPSK

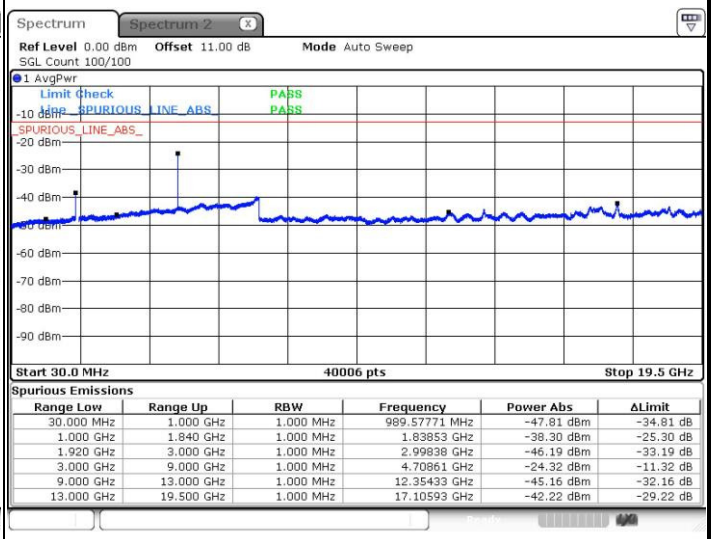


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	574.62519 MHz	-47.79 dBm	-34.79 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83853 GHz	-38.57 dBm	-25.57 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98506 GHz	-46.33 dBm	-33.33 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.70861 GHz	-24.07 dBm	-11.07 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.36283 GHz	-44.96 dBm	-31.96 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11343 GHz	-42.03 dBm	-29.03 dB

Date: 27.JUL.2016 20:40:39

Lowest Channel / 16QAM

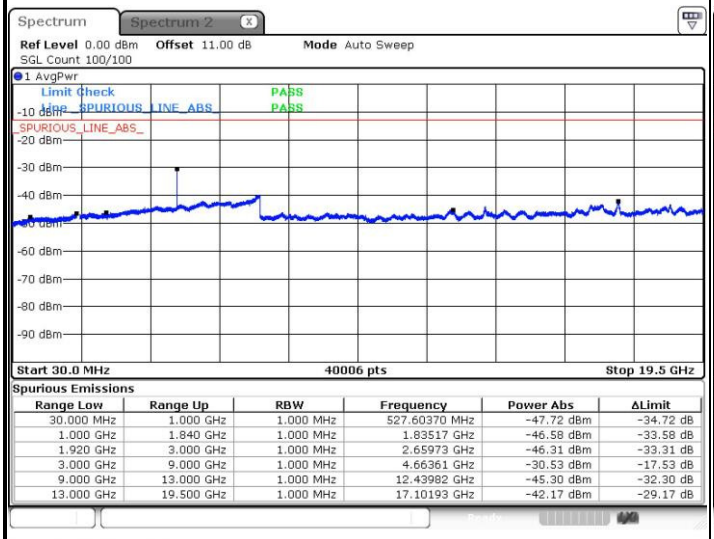


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	989.57771 MHz	-47.81 dBm	-34.81 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83853 GHz	-38.30 dBm	-25.30 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99838 GHz	-46.19 dBm	-33.19 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.70861 GHz	-24.32 dBm	-11.32 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.35433 GHz	-45.16 dBm	-32.16 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.10593 GHz	-42.22 dBm	-29.22 dB

Date: 27.JUL.2016 20:41:36

Middle Channel / QPSK

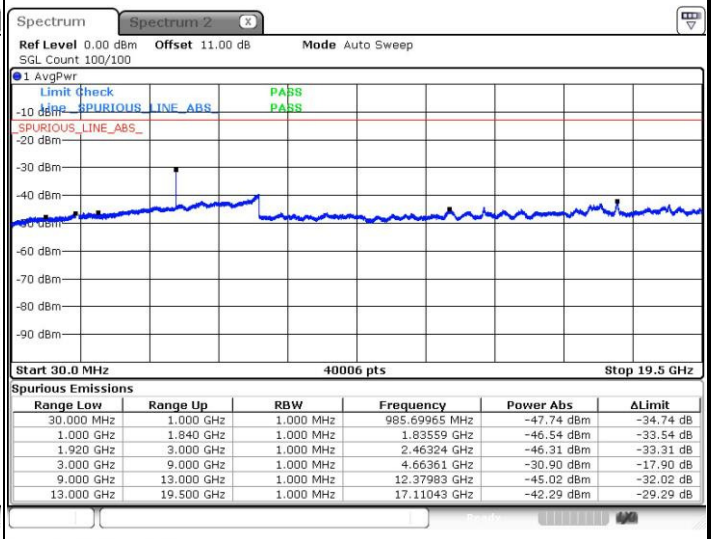


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	527.60370 MHz	-47.72 dBm	-34.72 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83517 GHz	-46.58 dBm	-33.58 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.65973 GHz	-46.31 dBm	-33.31 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.66361 GHz	-30.53 dBm	-17.53 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43982 GHz	-45.30 dBm	-32.30 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.10193 GHz	-42.17 dBm	-29.17 dB

Date: 27.JUL.2016 20:43:19

Middle Channel / 16QAM



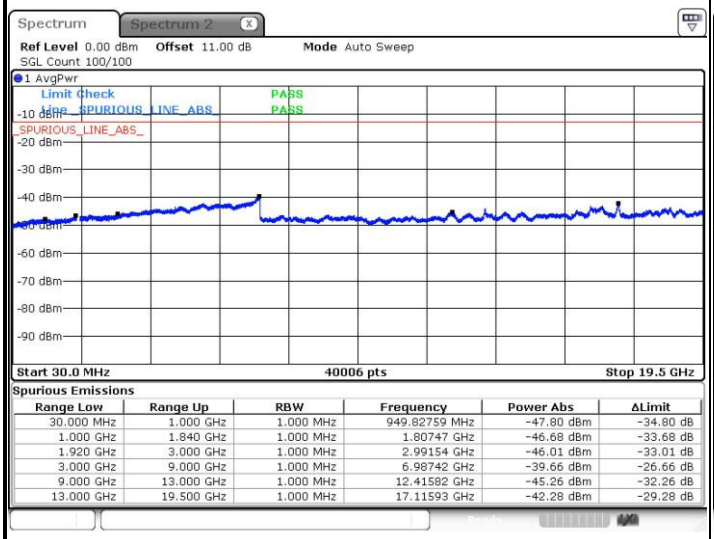
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	985.69965 MHz	-47.74 dBm	-34.74 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83559 GHz	-46.54 dBm	-33.54 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.46324 GHz	-46.31 dBm	-33.31 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.66361 GHz	-30.90 dBm	-17.90 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.37983 GHz	-45.02 dBm	-32.02 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11043 GHz	-42.29 dBm	-29.29 dB

Date: 27.JUL.2016 20:44:16

LTE Band 2 / 15MHz

Highest Channel / QPSK

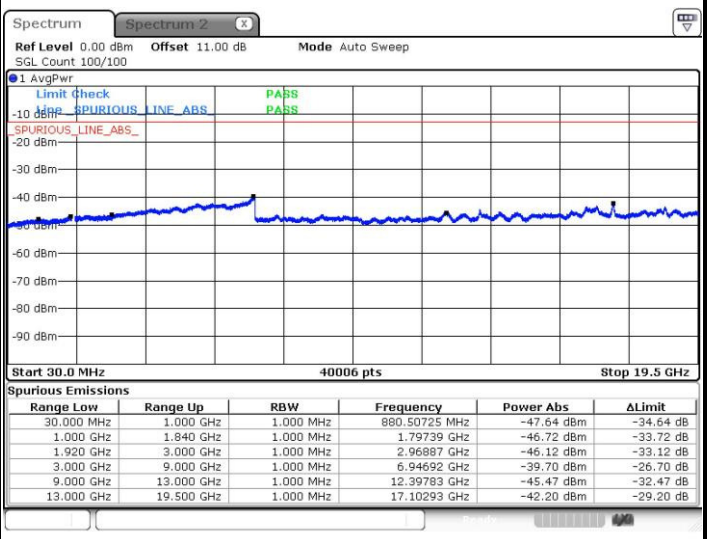


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	949.82759 MHz	-47.80 dBm	-34.80 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80747 GHz	-46.68 dBm	-33.68 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99154 GHz	-46.01 dBm	-33.01 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98742 GHz	-39.66 dBm	-26.66 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41582 GHz	-45.26 dBm	-32.26 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11593 GHz	-42.28 dBm	-29.28 dB

Date: 27.JUL.2016 20:50:37

Highest Channel / 16QAM



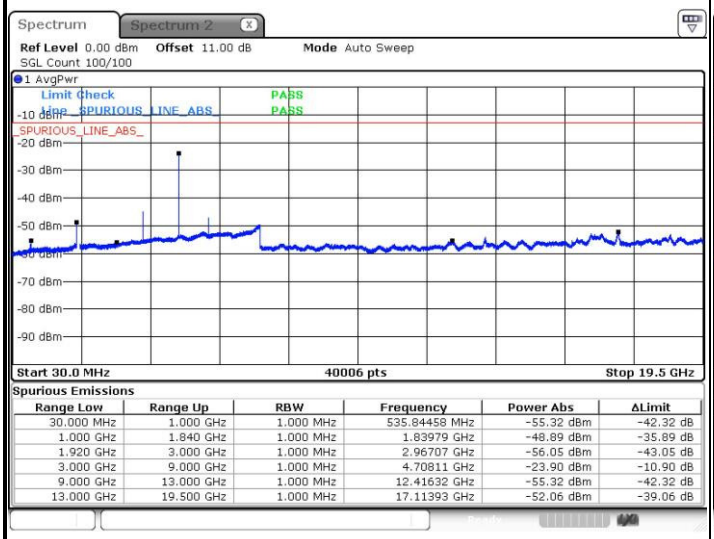
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	880.50725 MHz	-47.64 dBm	-34.64 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.79739 GHz	-46.72 dBm	-33.72 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.96887 GHz	-46.12 dBm	-33.12 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.94692 GHz	-39.70 dBm	-26.70 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.39783 GHz	-45.47 dBm	-32.47 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.10293 GHz	-42.20 dBm	-29.20 dB

Date: 27.JUL.2016 21:43:56

LTE Band 2 / 20MHz

Lowest Channel / QPSK

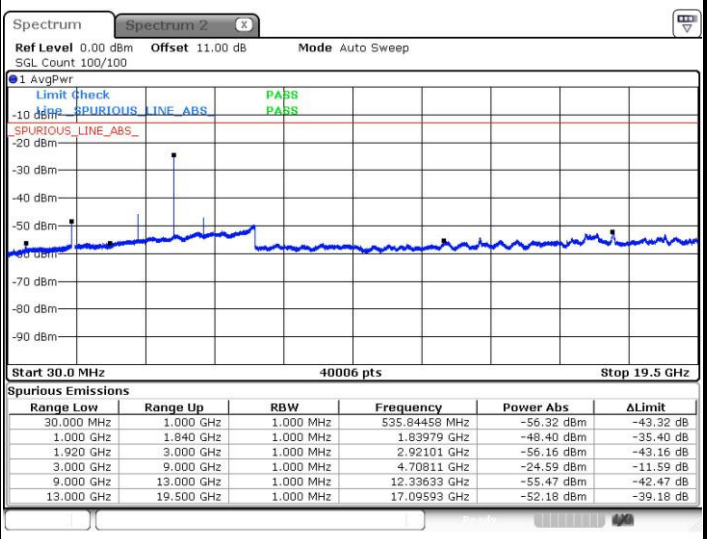


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	535.84458 MHz	-55.32 dBm	-42.32 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83979 GHz	-48.89 dBm	-35.89 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.96707 GHz	-56.05 dBm	-43.05 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.70811 GHz	-23.90 dBm	-10.90 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41632 GHz	-55.32 dBm	-42.32 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11393 GHz	-52.06 dBm	-39.06 dB

Date: 27.JUL.2016 21:01:53

Lowest Channel / 16QAM



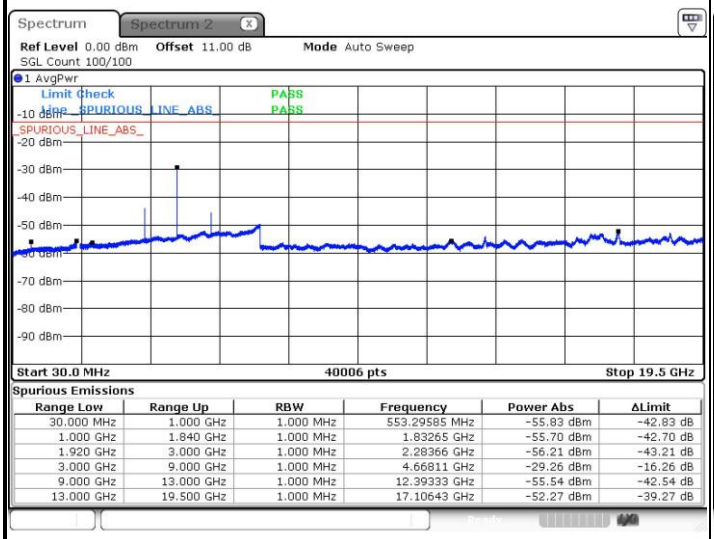
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	535.84458 MHz	-56.32 dBm	-43.32 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83979 GHz	-48.40 dBm	-35.40 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.92101 GHz	-56.16 dBm	-43.16 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.70811 GHz	-24.59 dBm	-11.59 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.33633 GHz	-55.47 dBm	-42.47 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.09593 GHz	-52.18 dBm	-39.18 dB

Date: 27.JUL.2016 21:02:49

LTE Band 2 / 20MHz

Middle Channel / QPSK

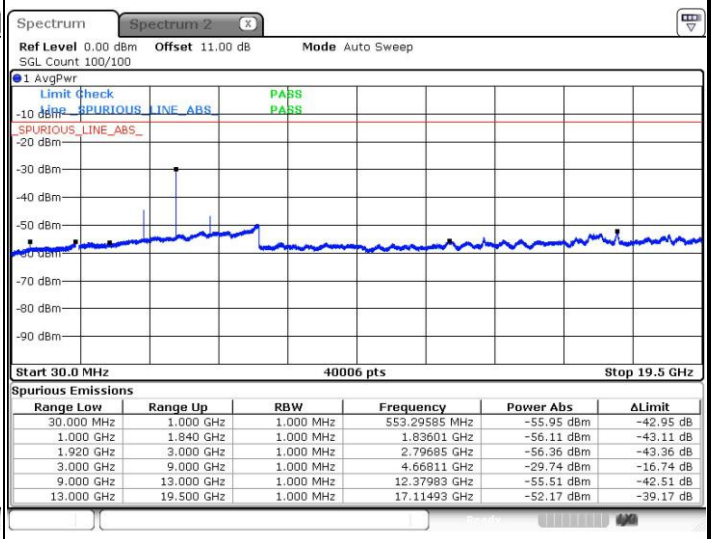


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	553.29585 MHz	-55.83 dBm	-42.83 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83265 GHz	-55.70 dBm	-42.70 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.28366 GHz	-56.21 dBm	-43.21 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.66811 GHz	-29.26 dBm	-16.26 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.39333 GHz	-55.54 dBm	-42.54 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.10643 GHz	-52.27 dBm	-39.27 dB

Date: 27.JUL.2016 21:04:33

Middle Channel / 16QAM

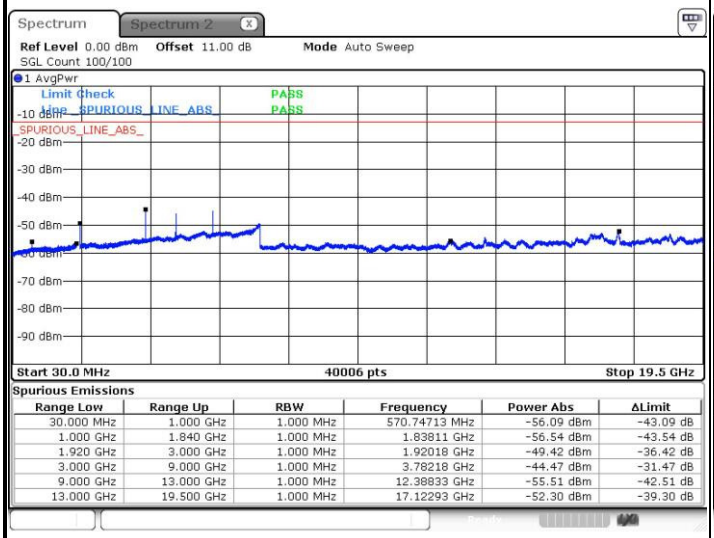


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	553.29585 MHz	-55.95 dBm	-42.95 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83601 GHz	-56.11 dBm	-43.11 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.79685 GHz	-56.36 dBm	-43.36 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.66811 GHz	-29.74 dBm	-16.74 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.37983 GHz	-55.51 dBm	-42.51 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11493 GHz	-52.17 dBm	-39.17 dB

Date: 27.JUL.2016 21:05:29

Highest Channel / QPSK

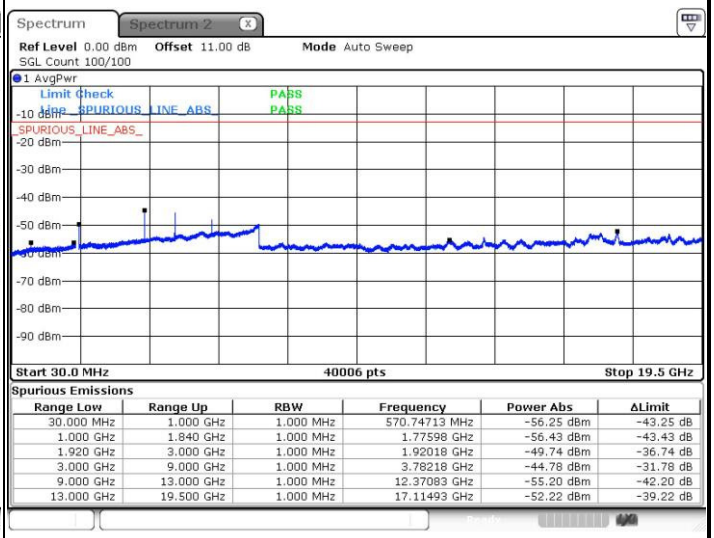


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	570.74713 MHz	-56.09 dBm	-43.09 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83811 GHz	-56.54 dBm	-43.54 dB
1.920 GHz	3.000 GHz	1.000 MHz	1.92018 GHz	-49.42 dBm	-36.42 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.78218 GHz	-44.47 dBm	-31.47 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.38833 GHz	-55.51 dBm	-42.51 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.12293 GHz	-52.30 dBm	-39.30 dB

Date: 27.JUL.2016 21:11:51

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	570.74713 MHz	-56.25 dBm	-43.25 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.77598 GHz	-56.43 dBm	-43.43 dB
1.920 GHz	3.000 GHz	1.000 MHz	1.92018 GHz	-49.74 dBm	-36.74 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.78218 GHz	-44.78 dBm	-31.78 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.37083 GHz	-55.20 dBm	-42.20 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11493 GHz	-52.22 dBm	-39.22 dB

Date: 27.JUL.2016 21:12:47

Frequency Stability

Test Conditions		LTE Band 2 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0004	PASS
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0005	
0	Normal Voltage	0.0002	
-10	Normal Voltage	0.0124	
-20	Normal Voltage	0.0004	
-30	Normal Voltage	0.0005	
20	Maximum Voltage	0.0110	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0001	

Note:

1. Normal Voltage =3.85 V.；Battery End Point (BEP) =3.6 V.；Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 4

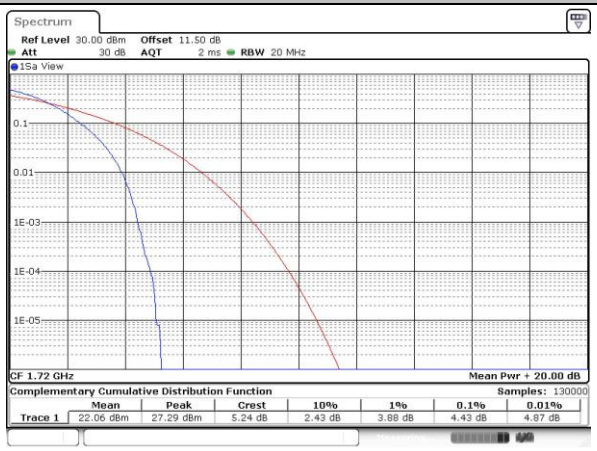
Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.58	4.43	5.36	5.62	PASS
Middle CH	3.57	4.23	4.72	5.42	
Highest CH	4.75	4.32	5.07	5.54	

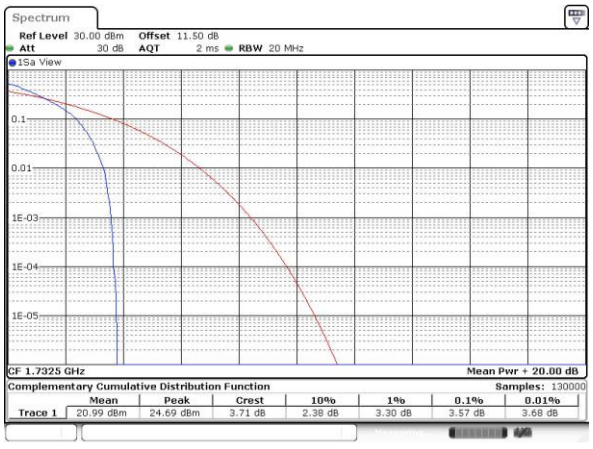
LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB

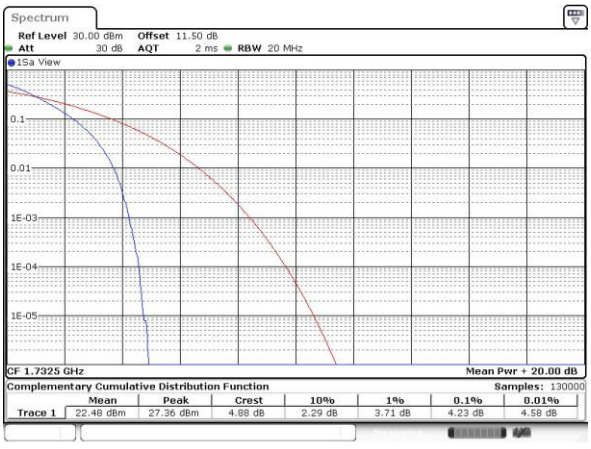
Lowest Channel / Full RB



Middle Channel / 1RB



Middle Channel / Full RB

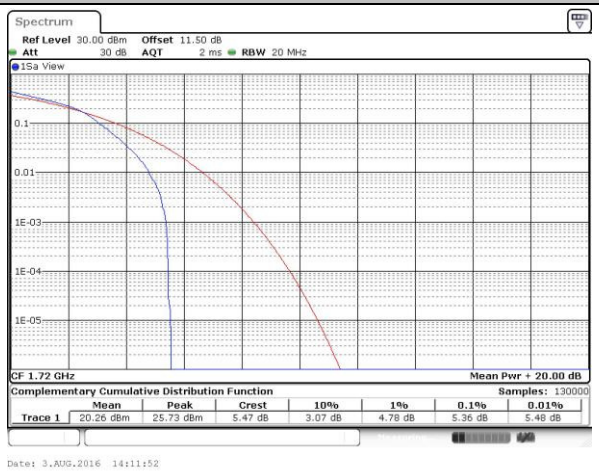


Highest Channel / 1RB

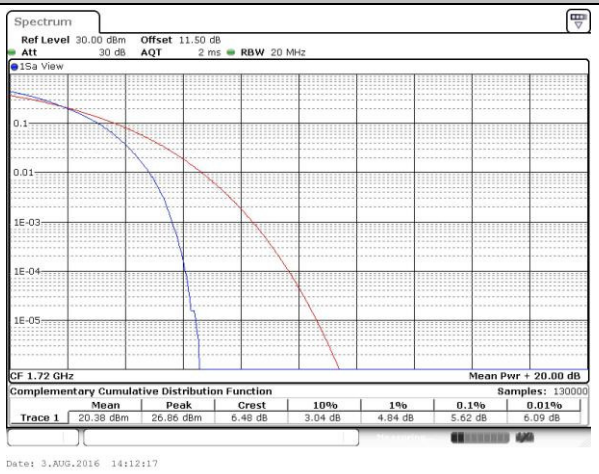
Highest Channel / Full RB

LTE Band 4 / 20MHz / 16QAM

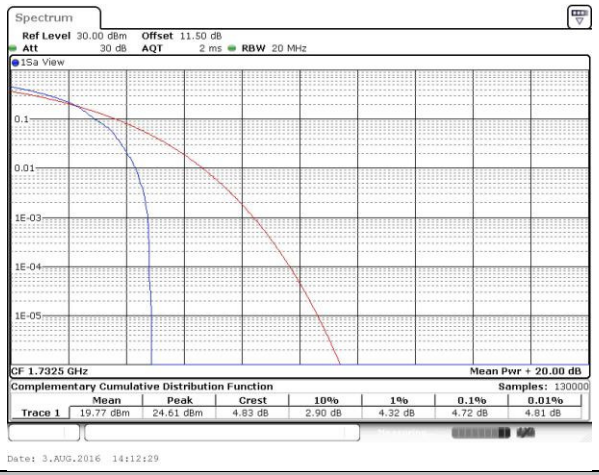
Lowest Channel / 1RB



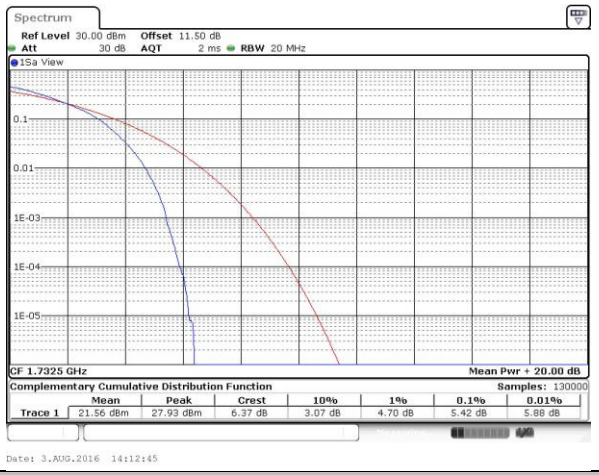
Lowest Channel / Full RB



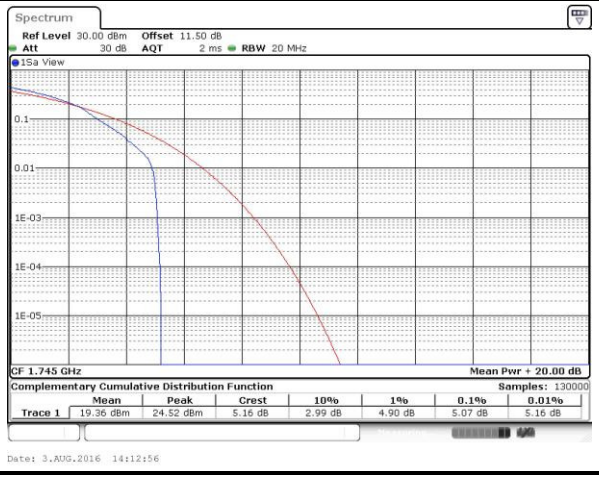
Middle Channel / 1RB



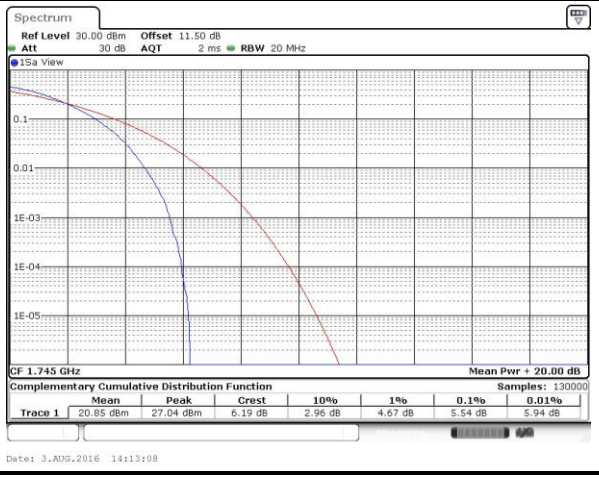
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

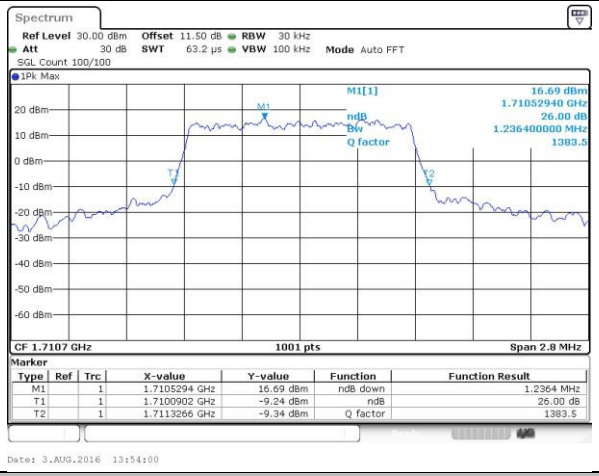


26dB Bandwidth

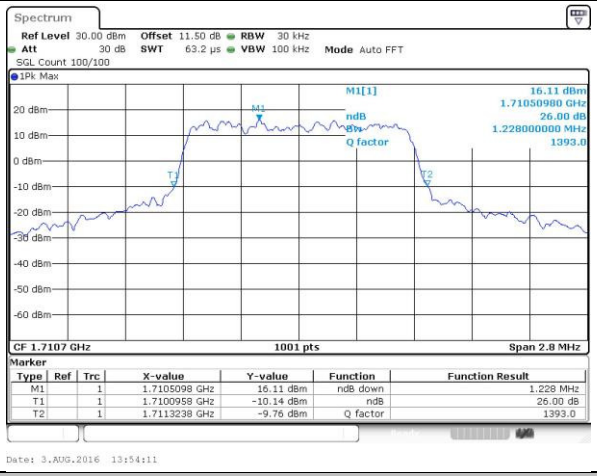
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.24	1.23	3.04	2.99	4.93	4.88	9.69	9.67	14.33	14.21	19.98	20.10
Middle CH	1.32	1.35	3.04	3.16	5.17	4.96	9.81	9.91	14.54	14.57	20.86	20.38
Highest CH	1.26	1.23	3.06	3.00	4.94	4.83	9.77	9.91	14.24	14.33	20.18	19.94

LTE Band 4

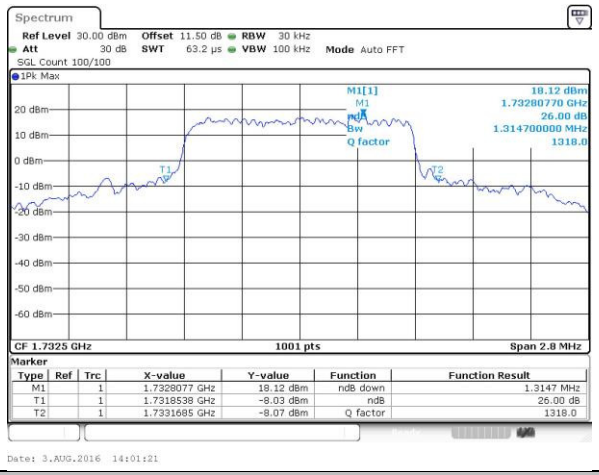
Lowest Channel / 1.4MHz / QPSK



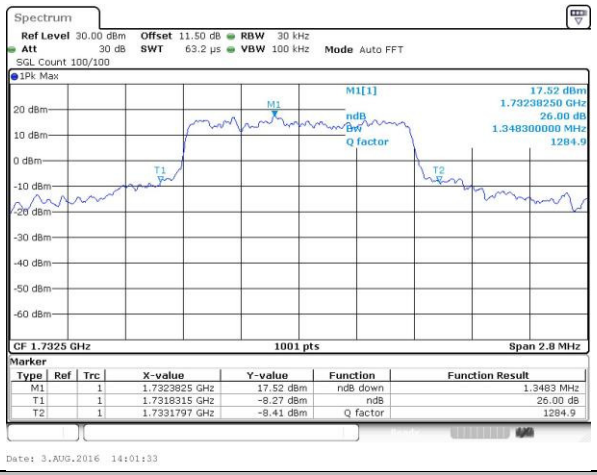
Lowest Channel / 1.4MHz / 16QAM



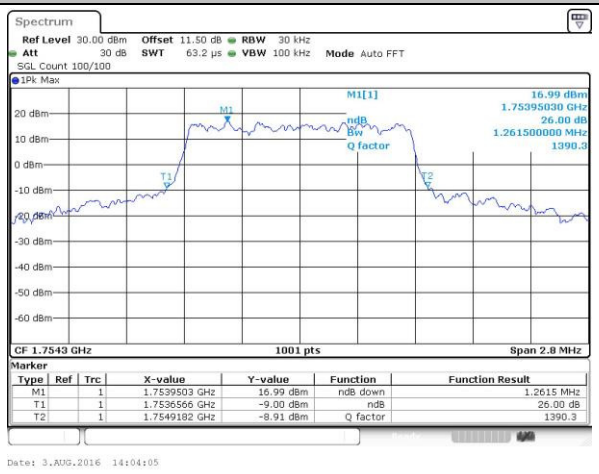
Middle Channel / 1.4MHz / QPSK



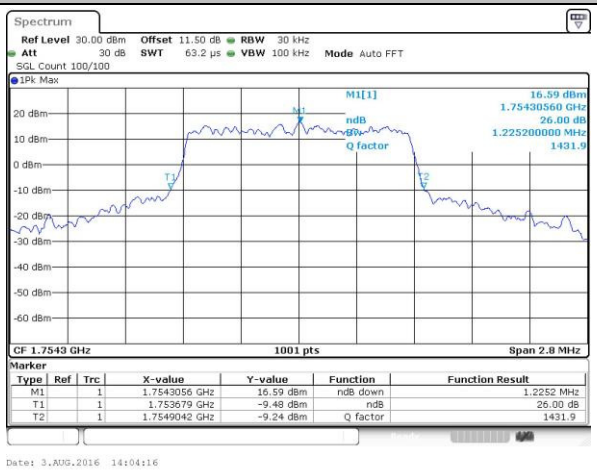
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

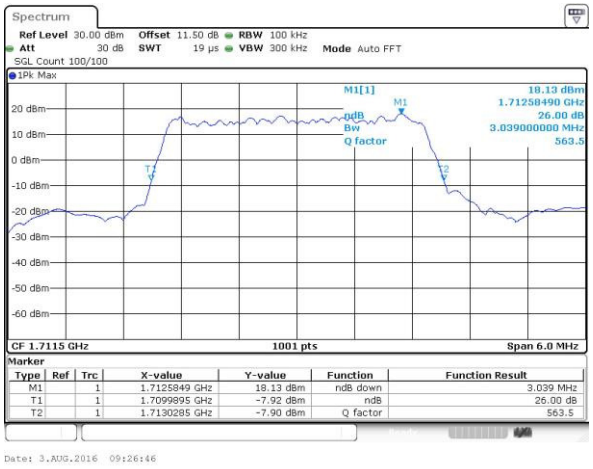


Highest Channel / 1.4MHz / 16QAM

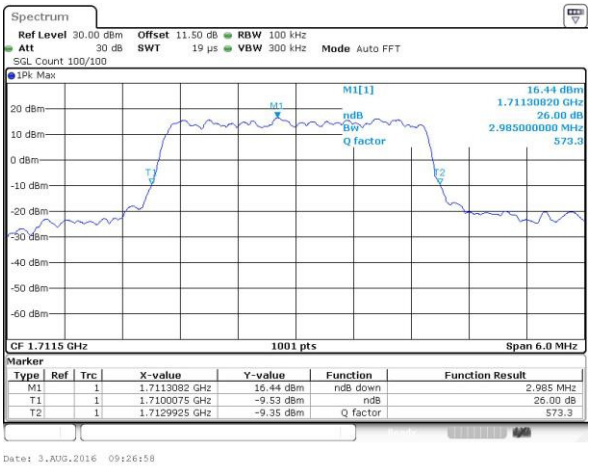


LTE Band 4

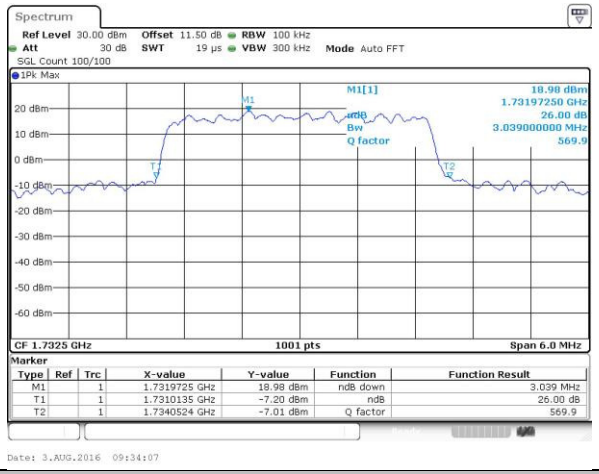
Lowest Channel / 3MHz / QPSK



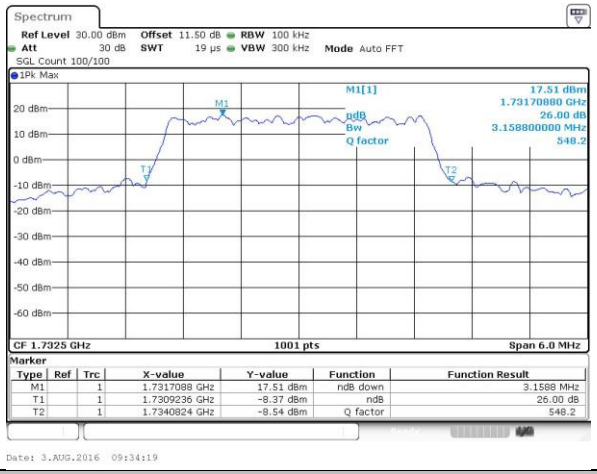
Lowest Channel / 3MHz / 16QAM



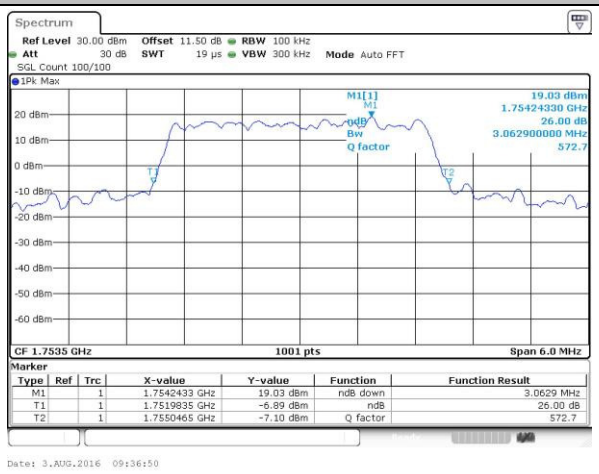
Middle Channel / 3MHz / QPSK



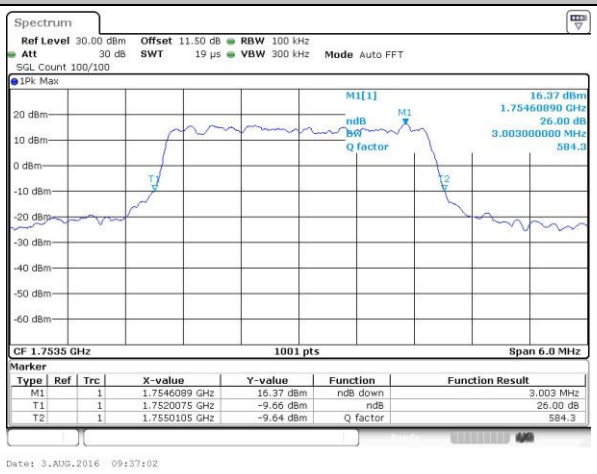
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

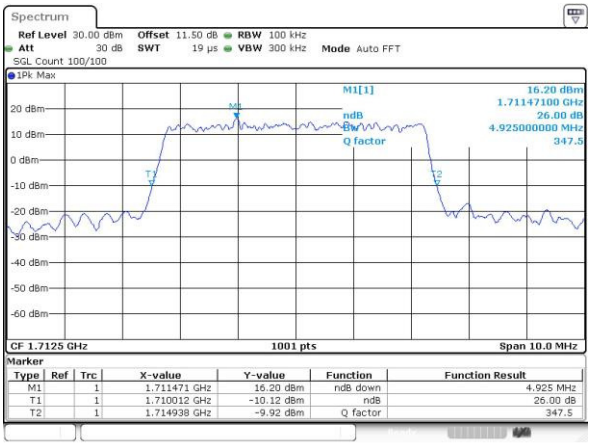


Highest Channel /3MHz / 16QAM

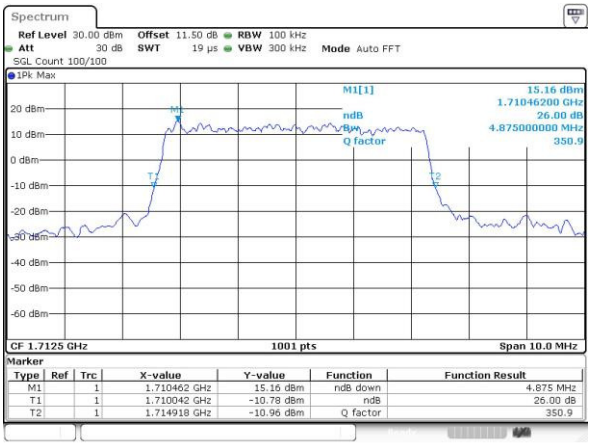


LTE Band 4

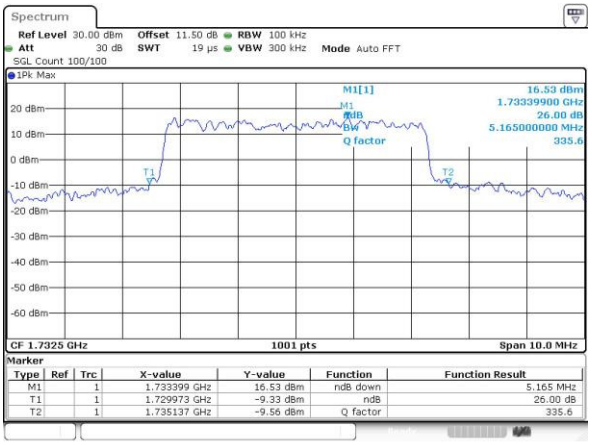
Lowest Channel / 5MHz / QPSK



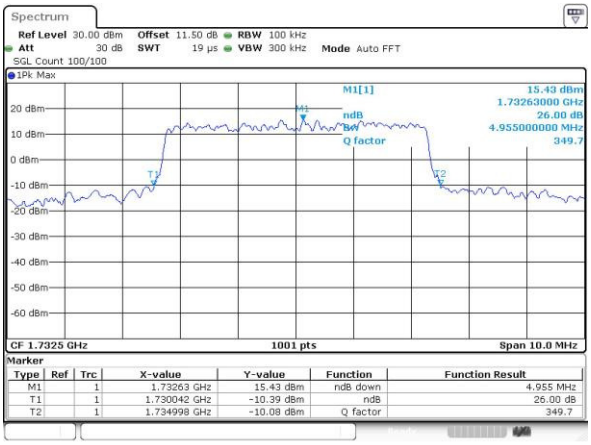
Lowest Channel / 5MHz / 16QAM



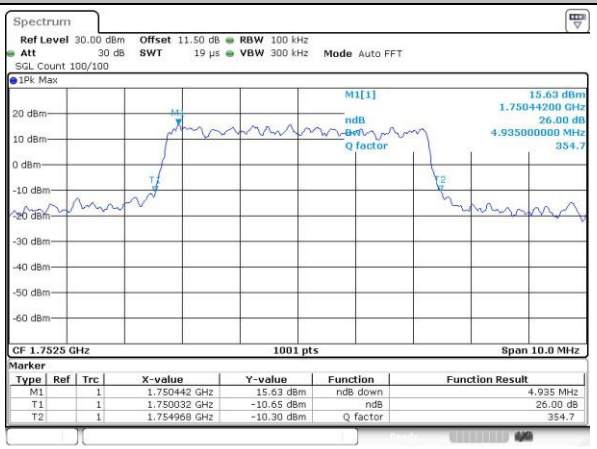
Middle Channel / 5MHz / QPSK



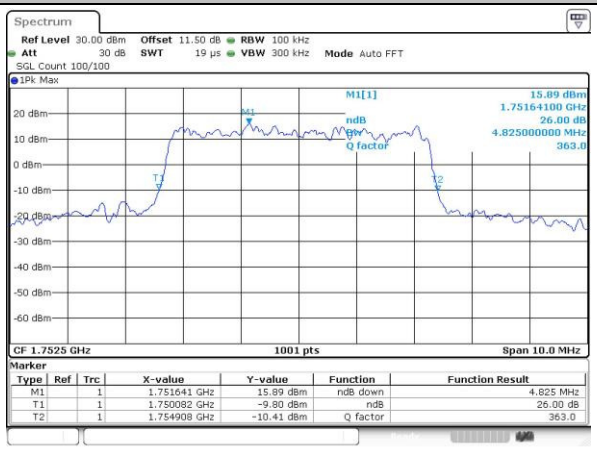
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

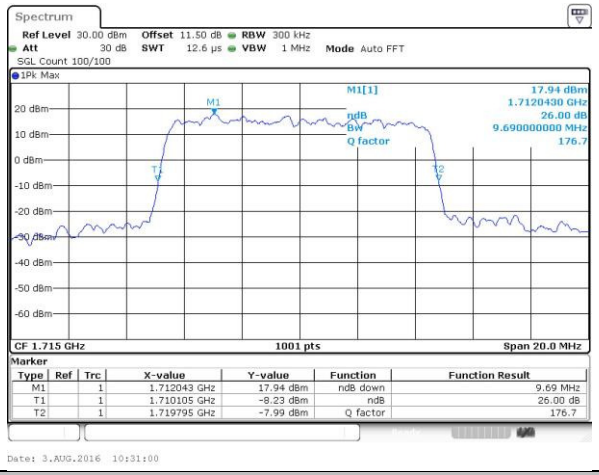


Highest Channel / 5MHz / 16QAM

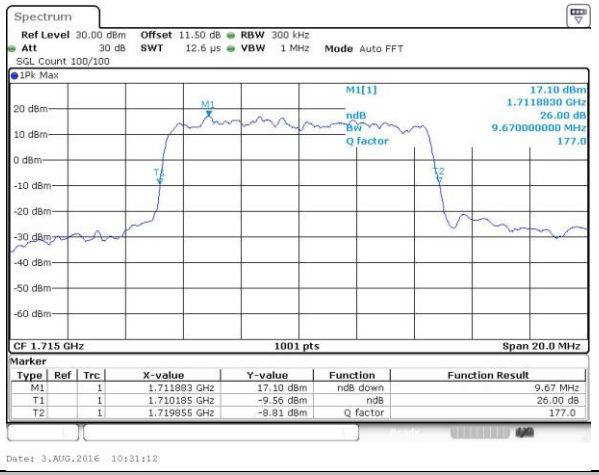


LTE Band 4

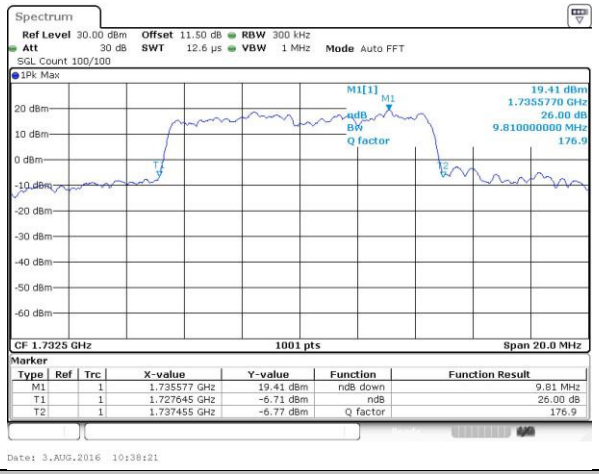
Lowest Channel / 10MHz / QPSK



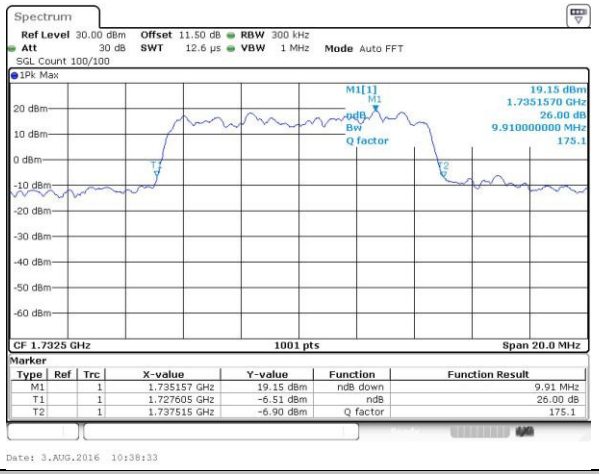
Lowest Channel / 10MHz / 16QAM



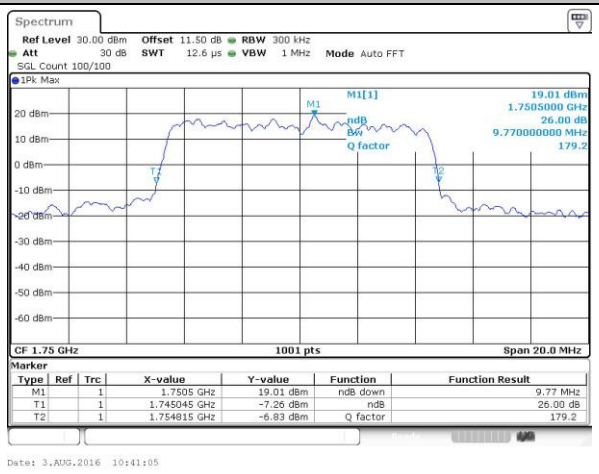
Middle Channel / 10MHz / QPSK



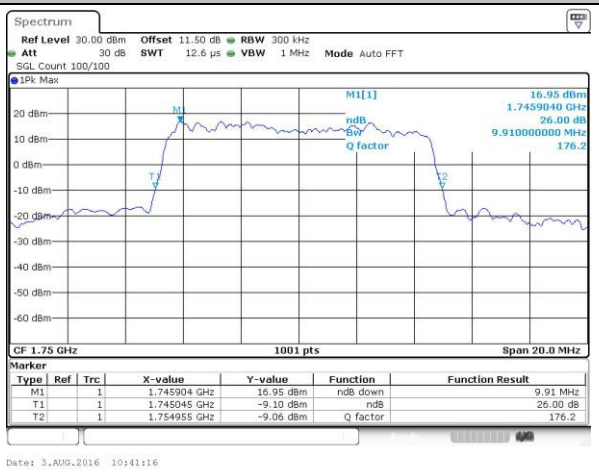
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

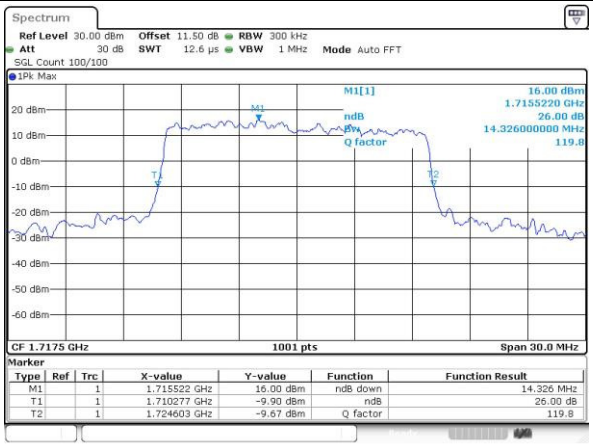


Highest Channel / 10MHz / 16QAM

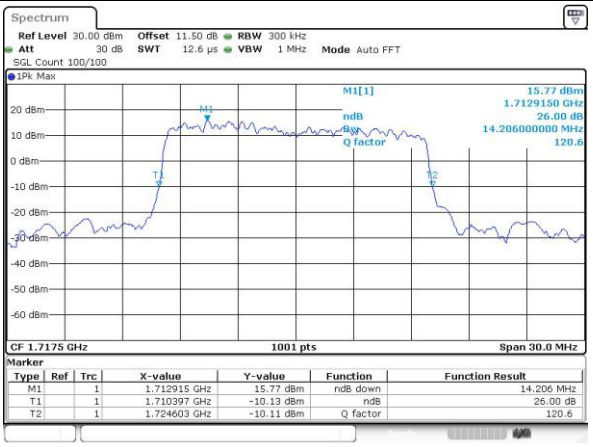


LTE Band 4

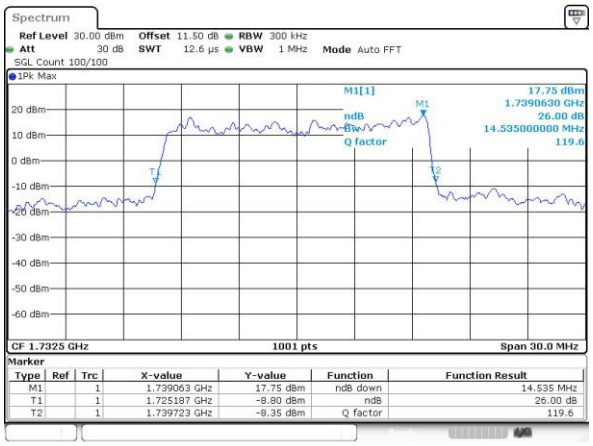
Lowest Channel / 15MHz / QPSK



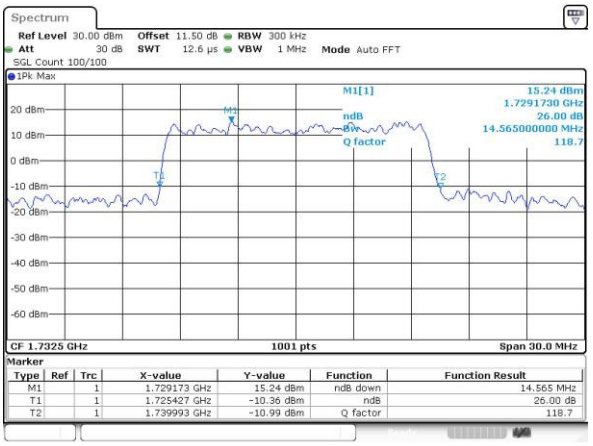
Lowest Channel / 15MHz / 16QAM



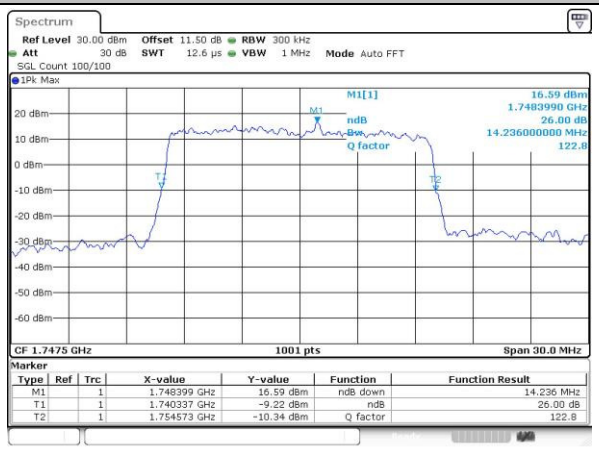
Middle Channel / 15MHz / QPSK



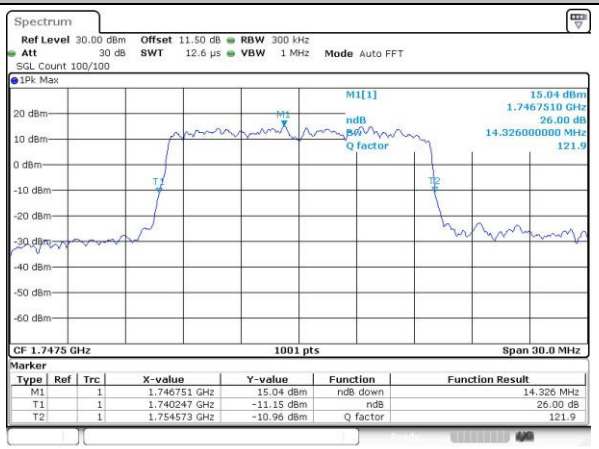
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

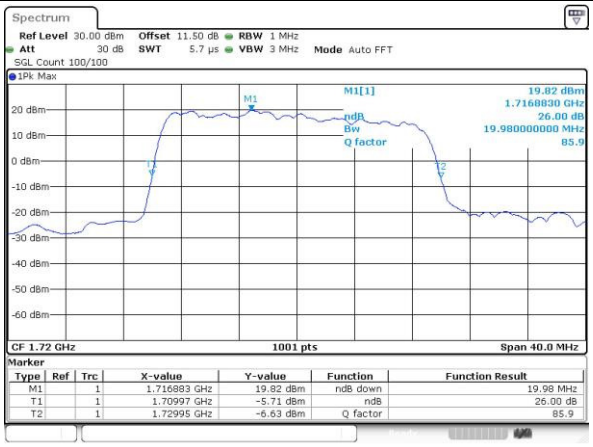


Highest Channel / 15MHz / 16QAM

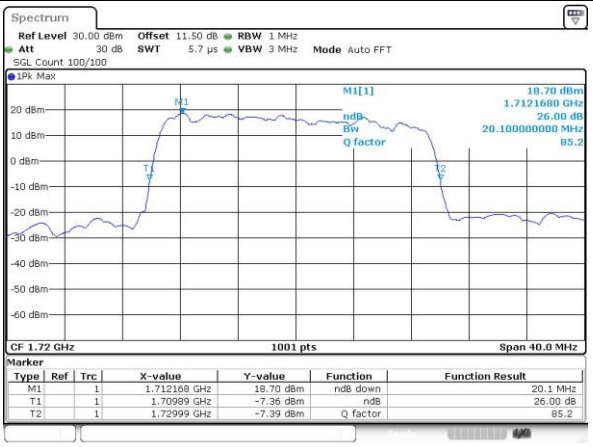


LTE Band 4

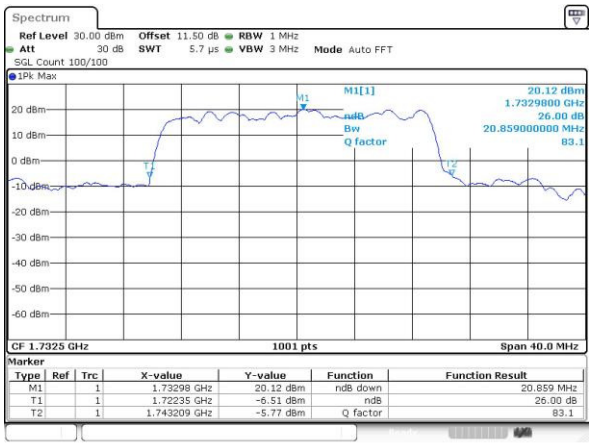
Lowest Channel / 20MHz / QPSK



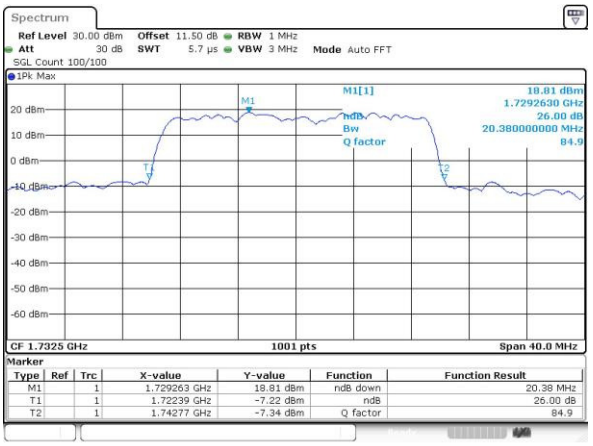
Lowest Channel / 20MHz / 16QAM



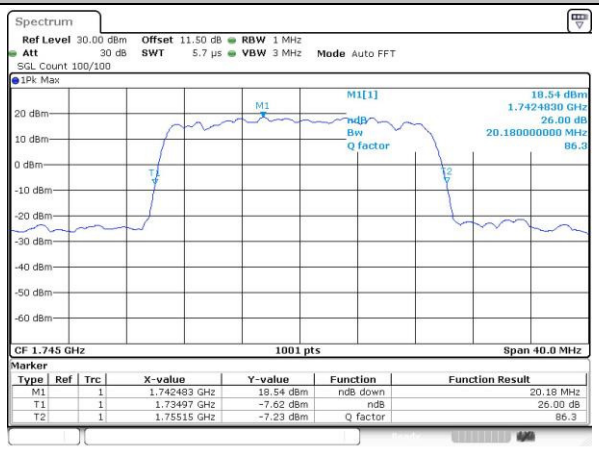
Middle Channel / 20MHz / QPSK



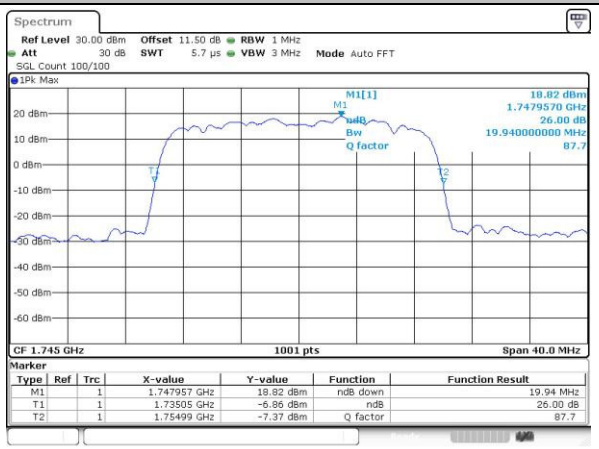
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

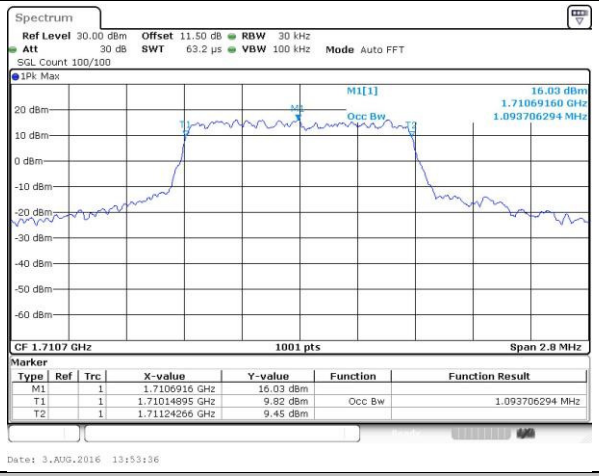


Occupied Bandwidth

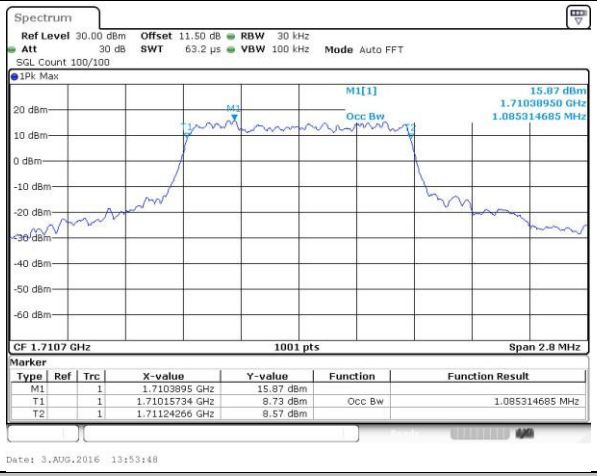
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.71	2.72	4.5	4.5	9.11	8.95	13.4	13.37	18.26	18.14
Middle CH	1.09	1.1	2.75	2.74	4.51	4.5	9.05	9.01	13.52	13.46	18.7	18.58
Highest CH	1.09	1.1	2.73	2.73	4.5	4.49	8.99	9.05	13.37	13.34	18.06	18.14

LTE Band 4

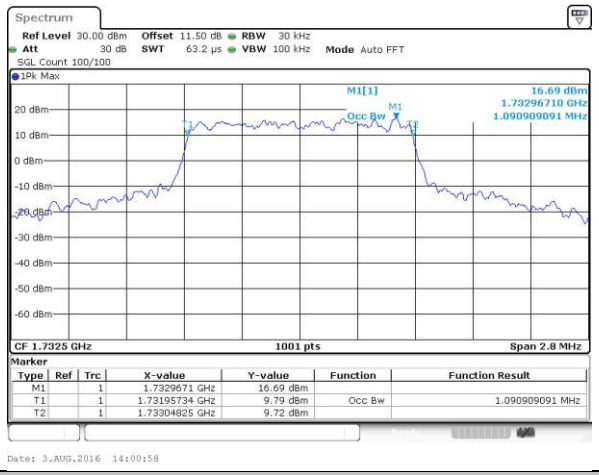
Lowest Channel / 1.4MHz / QPSK



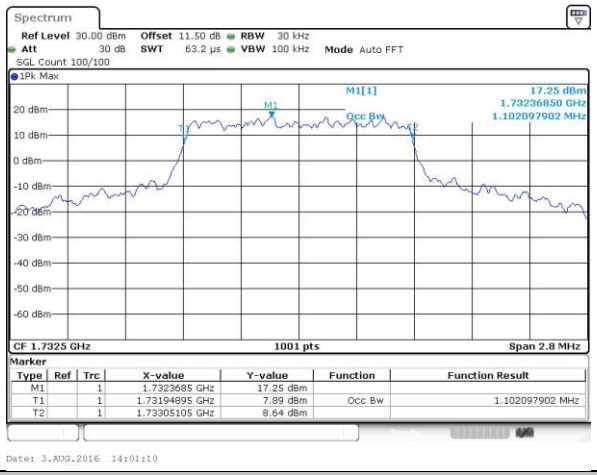
Lowest Channel / 1.4MHz / 16QAM



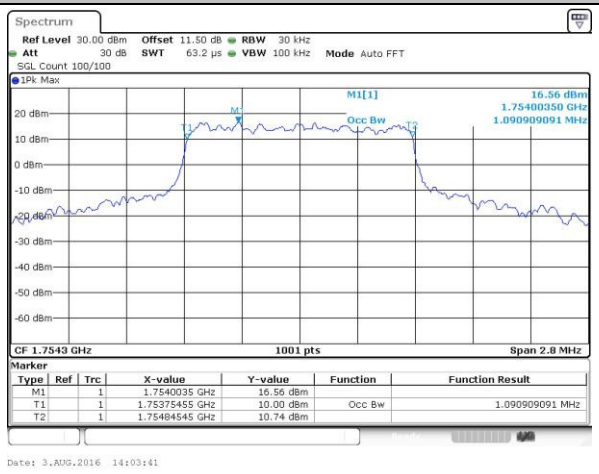
Middle Channel / 1.4MHz / QPSK



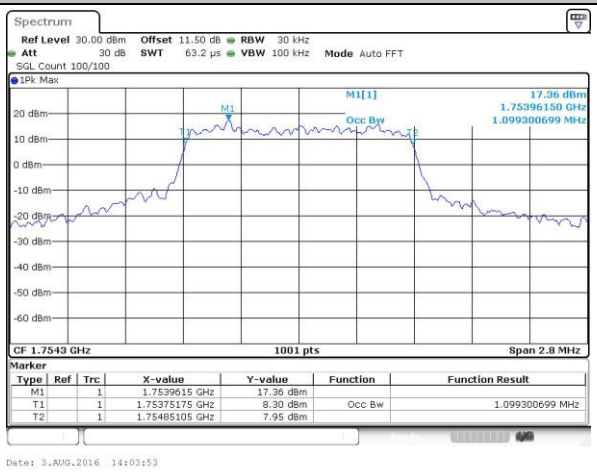
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

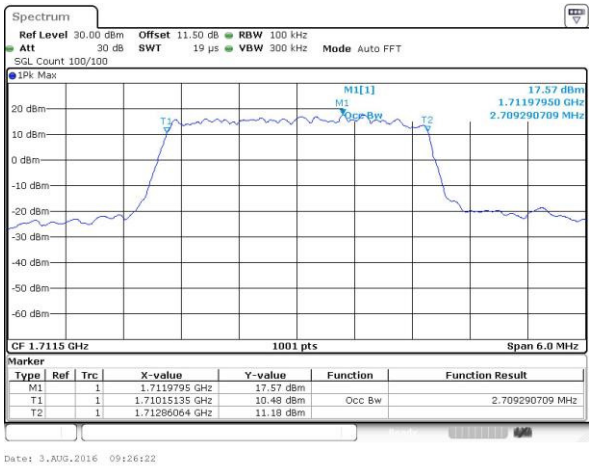


Highest Channel / 1.4MHz / 16QAM

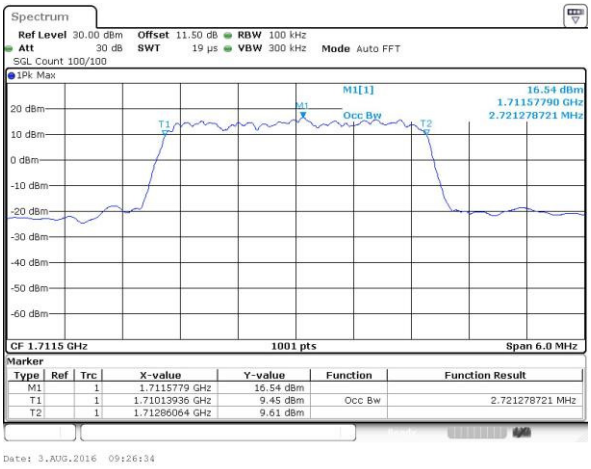


LTE Band 4

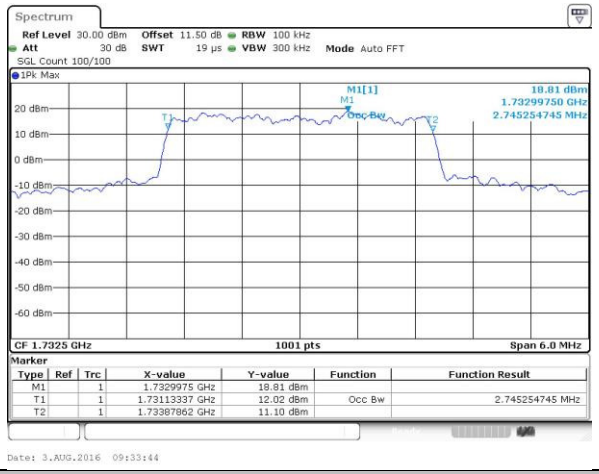
Lowest Channel / 3MHz / QPSK



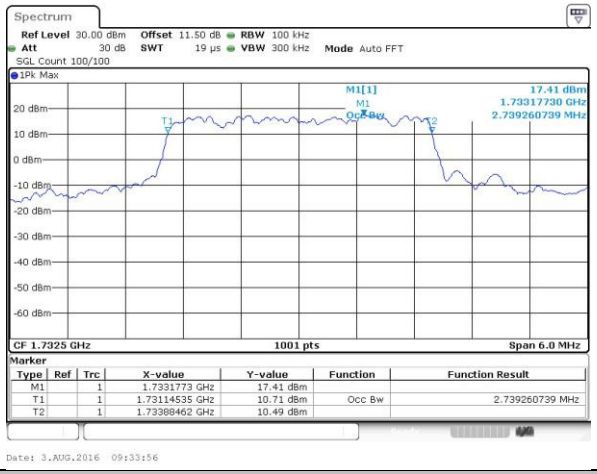
Lowest Channel / 3MHz / 16QAM



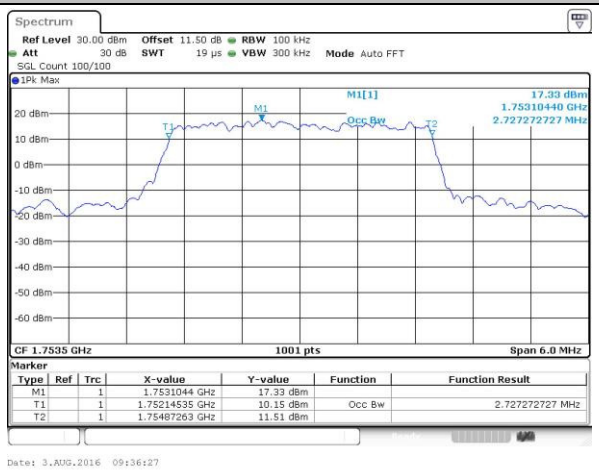
Middle Channel / 3MHz / QPSK



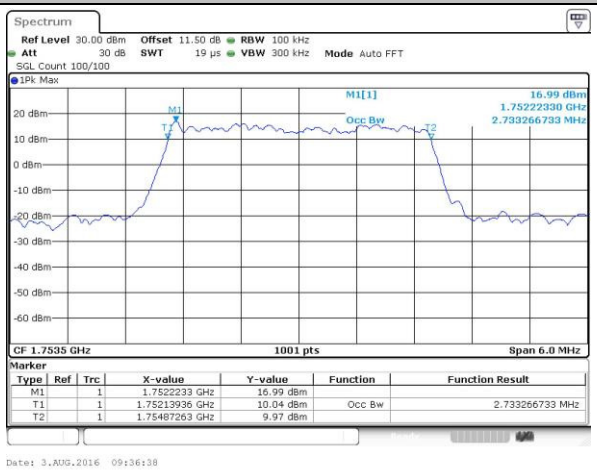
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

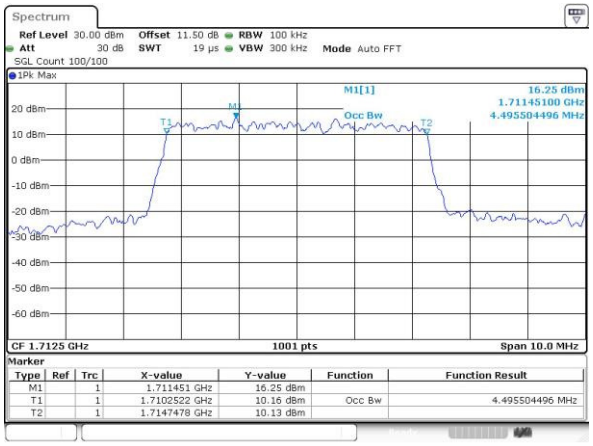


Highest Channel / 3MHz / 16QAM

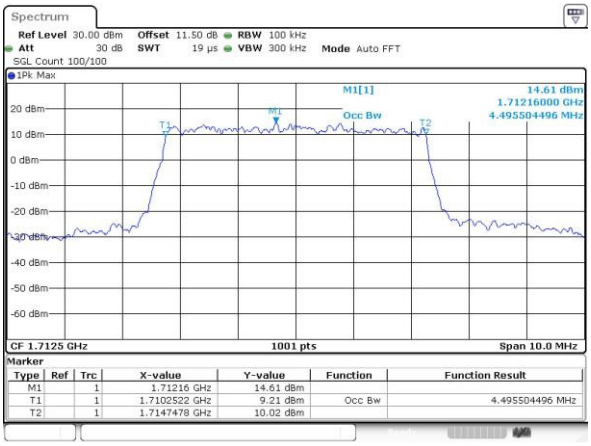


LTE Band 4

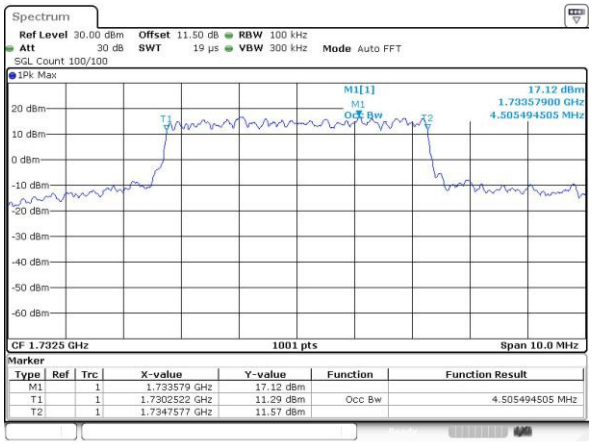
Lowest Channel / 5MHz / QPSK



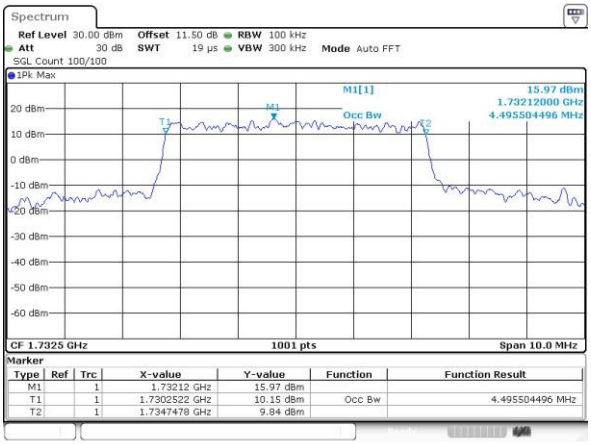
Lowest Channel / 5MHz / 16QAM



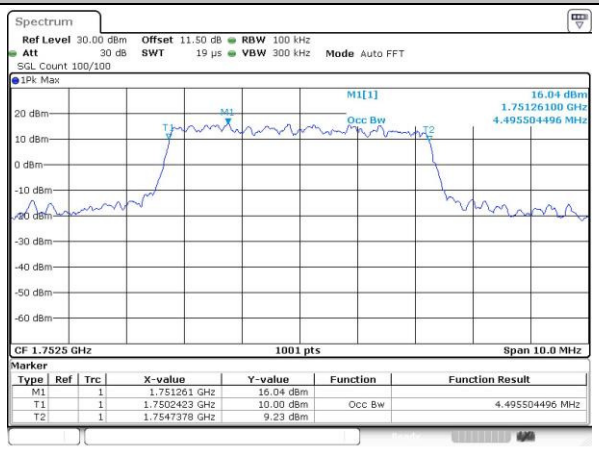
Middle Channel / 5MHz / QPSK



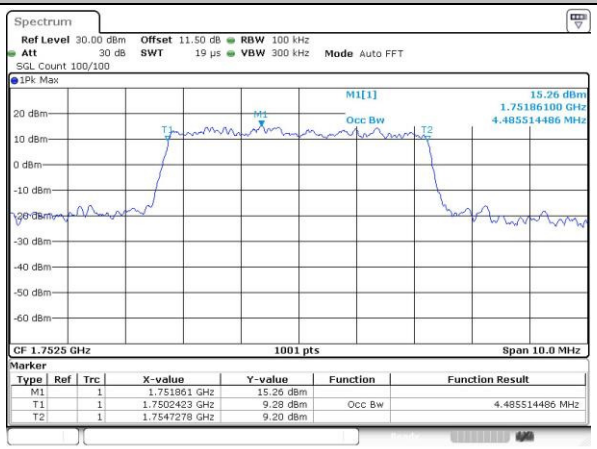
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

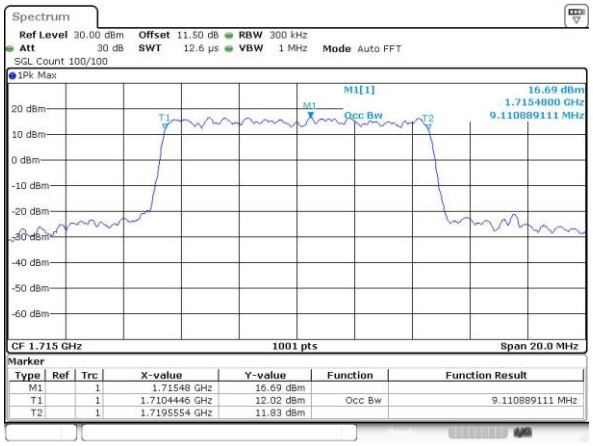


Highest Channel / 5MHz / 16QAM

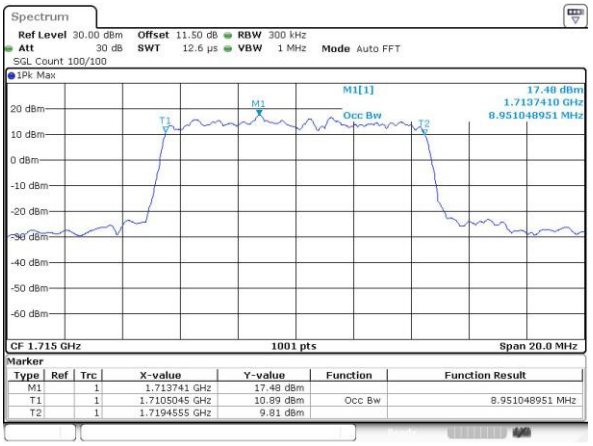


LTE Band 4

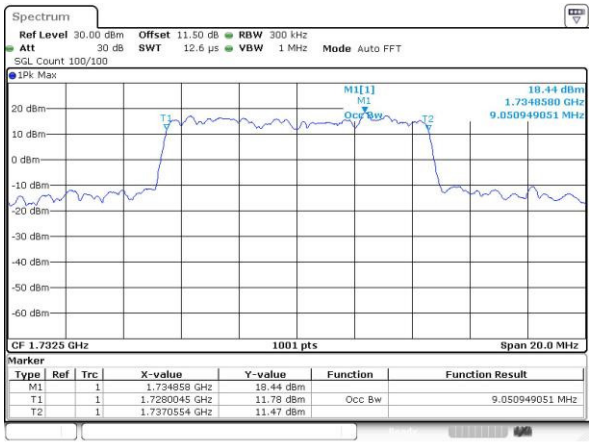
Lowest Channel / 10MHz / QPSK



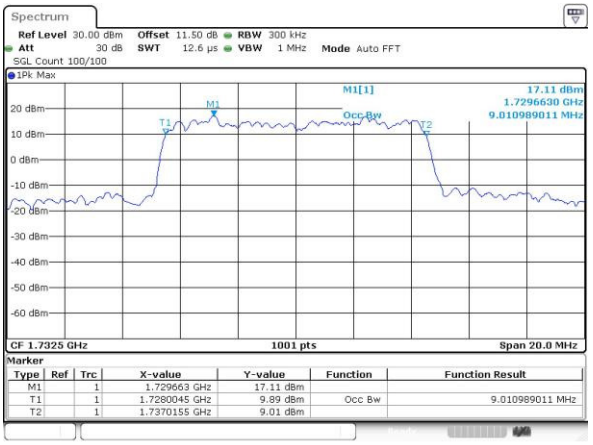
Lowest Channel / 10MHz / 16QAM



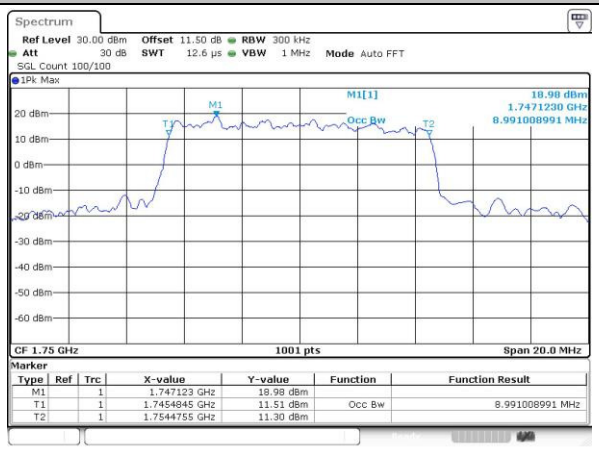
Middle Channel / 10MHz / QPSK



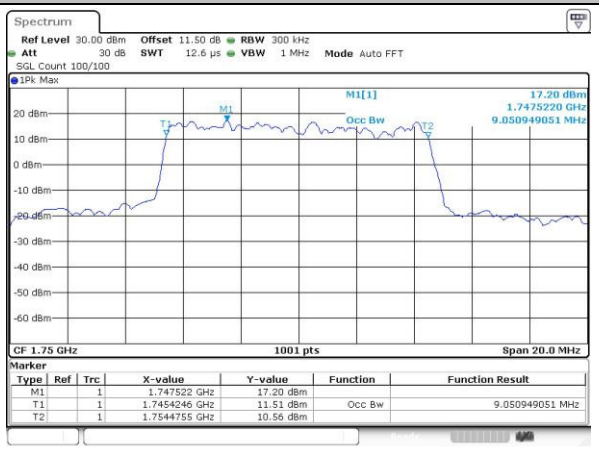
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

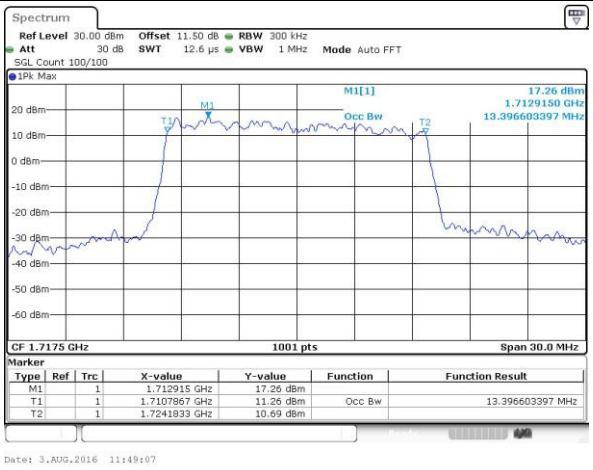


Highest Channel / 10MHz / 16QAM

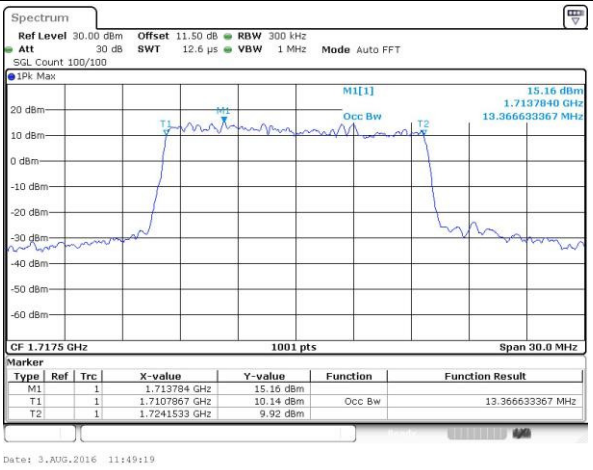


LTE Band 4

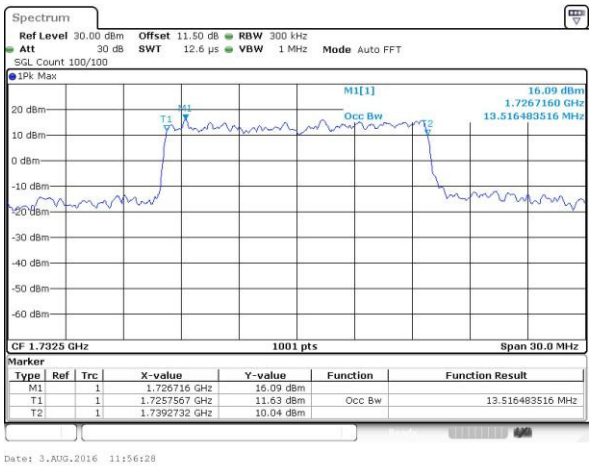
Lowest Channel / 15MHz / QPSK



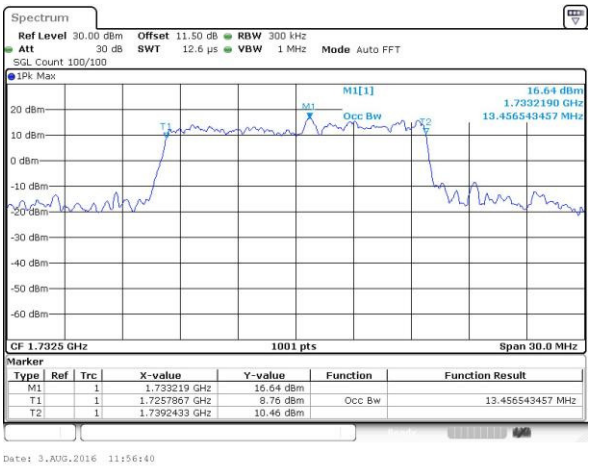
Lowest Channel / 15MHz / 16QAM



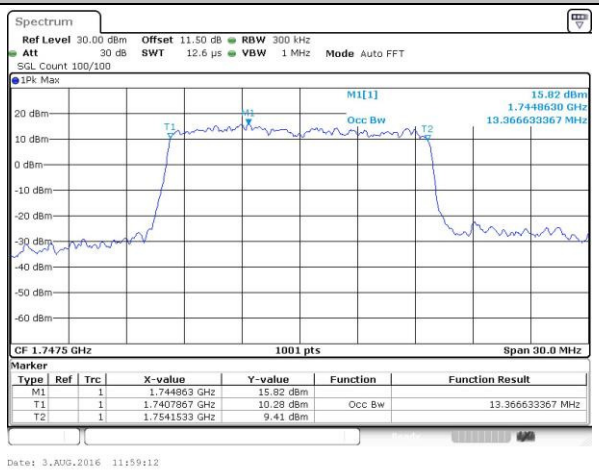
Middle Channel / 15MHz / QPSK



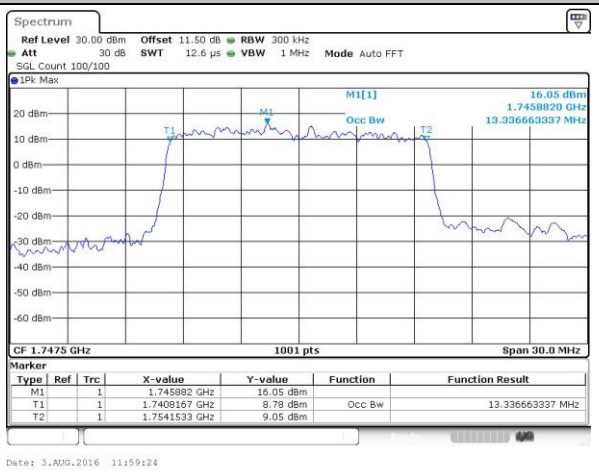
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

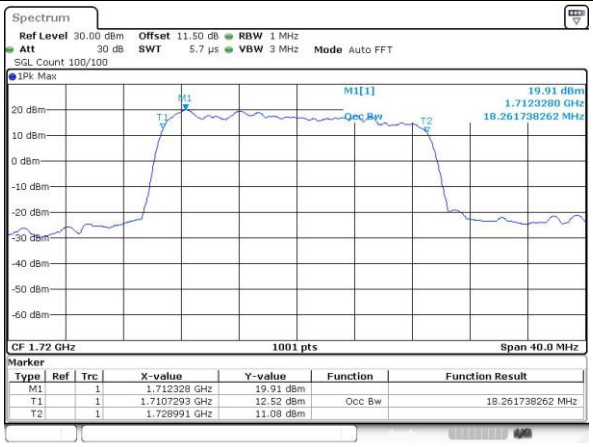


Highest Channel / 15MHz / 16QAM

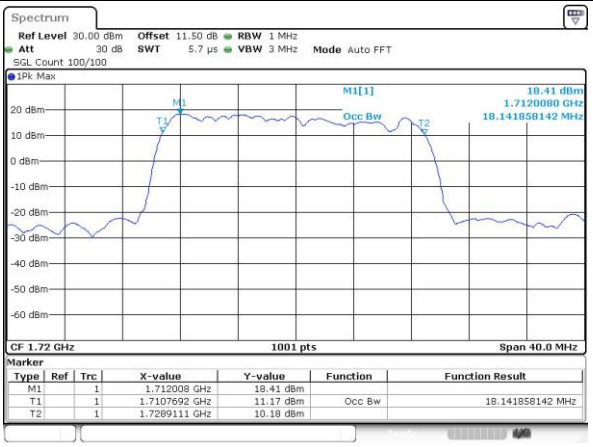


LTE Band 4

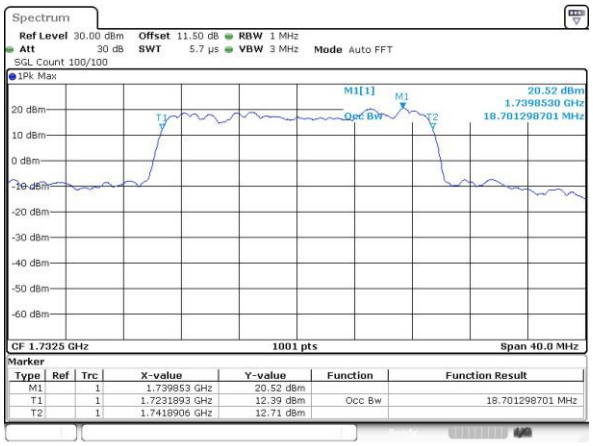
Lowest Channel / 20MHz / QPSK



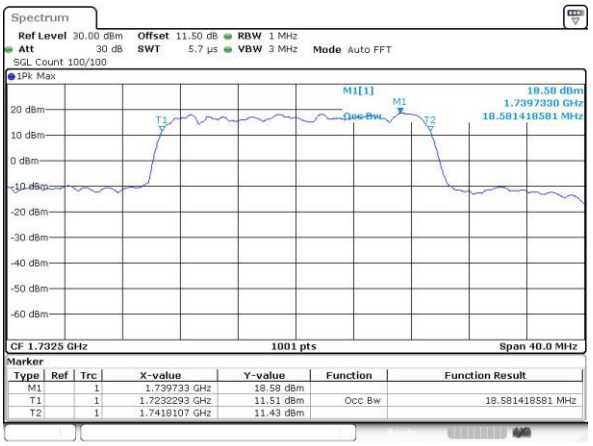
Lowest Channel / 20MHz / 16QAM



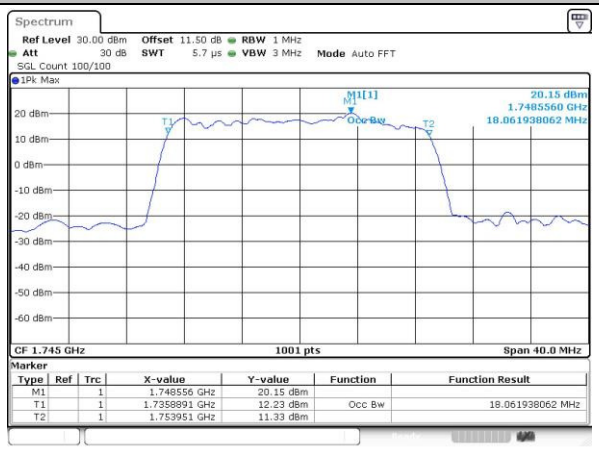
Middle Channel / 20MHz / QPSK



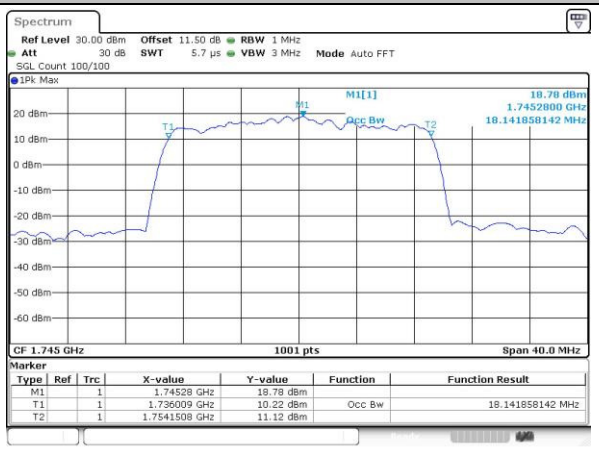
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM



Conducted Band Edge