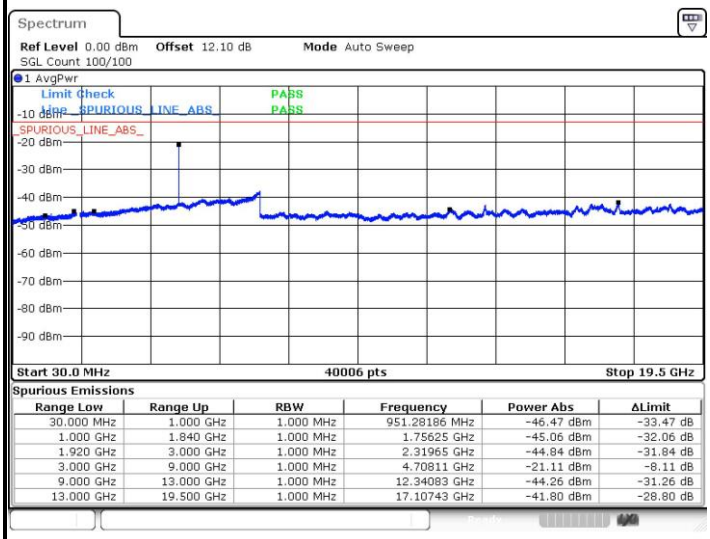
LTE Band 2 / 15MHz

Lowest Channel / QPSK

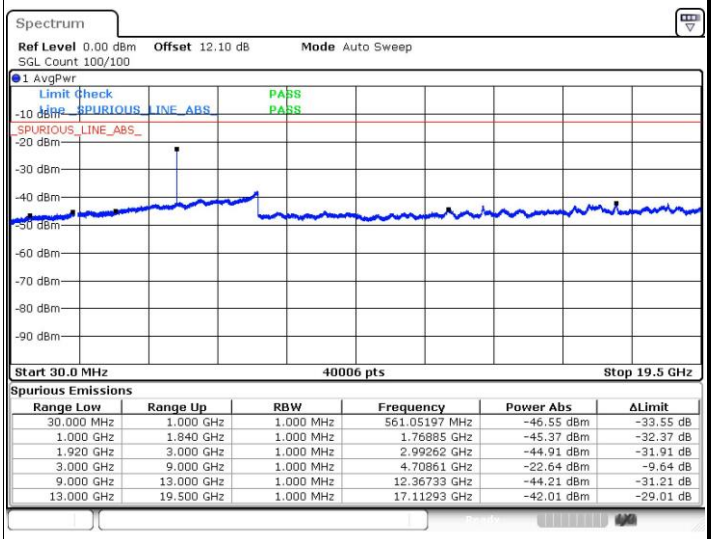


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	951.28186 MHz	-46.47 dBm	-33.47 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.75625 GHz	-45.06 dBm	-32.06 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.31965 GHz	-44.84 dBm	-31.84 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.70811 GHz	-21.11 dBm	-8.11 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.34083 GHz	-44.26 dBm	-31.26 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.10743 GHz	-41.80 dBm	-28.80 dB

Date: 21.SEP.2018 05:01:40

Lowest Channel / 16QAM

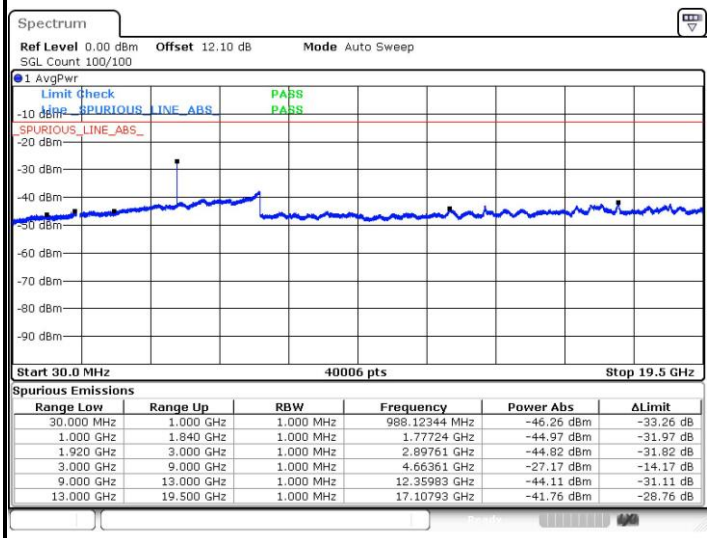


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	561.05197 MHz	-46.55 dBm	-33.55 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.76885 GHz	-45.37 dBm	-32.37 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99262 GHz	-44.91 dBm	-31.91 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.70861 GHz	-22.64 dBm	-9.64 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.36733 GHz	-44.21 dBm	-31.21 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11293 GHz	-42.01 dBm	-29.01 dB

Date: 21.SEP.2018 05:02:33

Middle Channel / QPSK

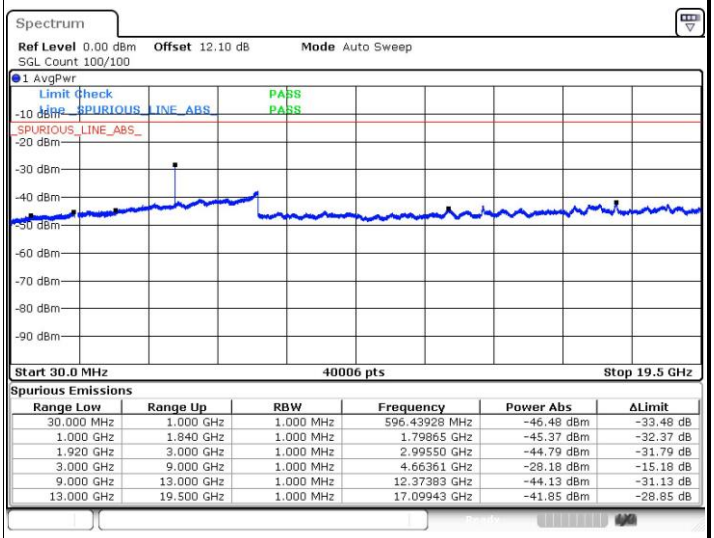


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	988.12344 MHz	-46.26 dBm	-33.26 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.77724 GHz	-44.97 dBm	-31.97 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.89761 GHz	-44.82 dBm	-31.82 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.66361 GHz	-27.17 dBm	-14.17 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.35983 GHz	-44.11 dBm	-31.11 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.10793 GHz	-41.76 dBm	-28.76 dB

Date: 21.SEP.2018 05:04:19

Middle Channel / 16QAM



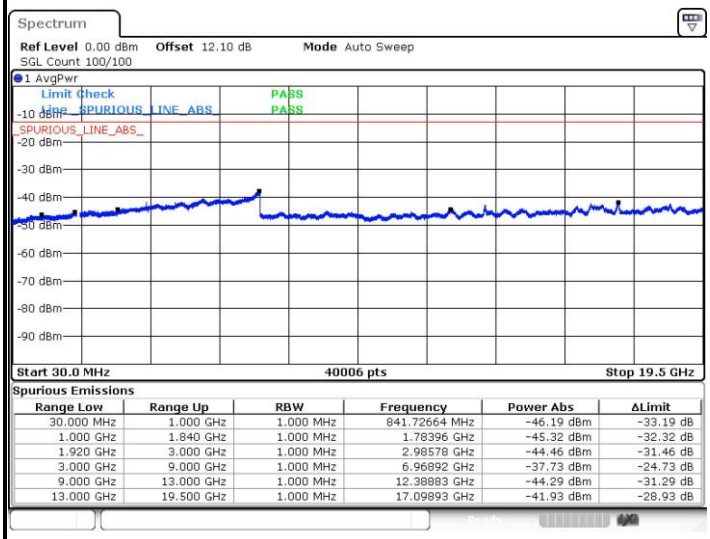
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	596.43928 MHz	-46.48 dBm	-33.48 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.79865 GHz	-45.37 dBm	-32.37 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99550 GHz	-44.79 dBm	-31.79 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.66361 GHz	-28.18 dBm	-15.18 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.37383 GHz	-44.13 dBm	-31.13 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.09943 GHz	-41.85 dBm	-28.85 dB

Date: 21.SEP.2018 05:05:13

LTE Band 2 / 15MHz

Highest Channel / QPSK

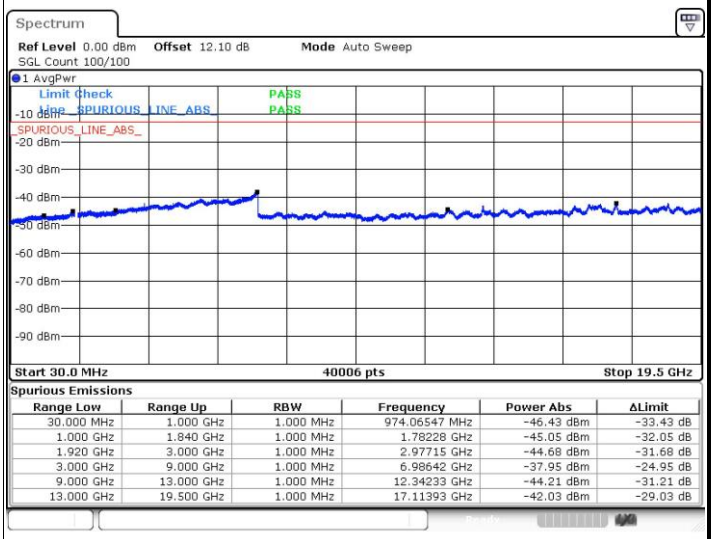


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	841.72664 MHz	-46.19 dBm	-33.19 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.78396 GHz	-45.32 dBm	-32.32 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98578 GHz	-44.46 dBm	-31.46 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.96892 GHz	-37.73 dBm	-24.73 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.38883 GHz	-44.29 dBm	-31.29 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.09893 GHz	-41.93 dBm	-28.93 dB

Date: 21.SEP.2018 05:11:41

Highest Channel / 16QAM



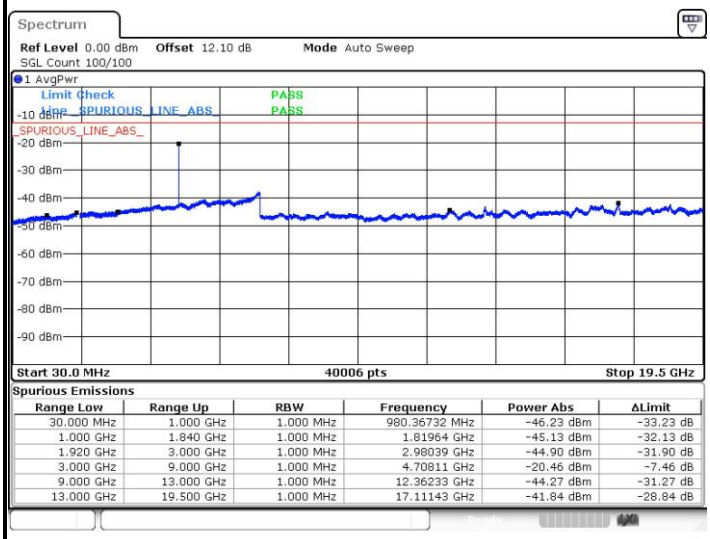
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	974.06547 MHz	-46.43 dBm	-33.43 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.78228 GHz	-45.05 dBm	-32.05 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97715 GHz	-44.68 dBm	-31.68 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98642 GHz	-37.95 dBm	-24.95 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.34233 GHz	-44.21 dBm	-31.21 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11393 GHz	-42.03 dBm	-29.03 dB

Date: 21.SEP.2018 05:12:35

LTE Band 2 / 20MHz

Lowest Channel / QPSK

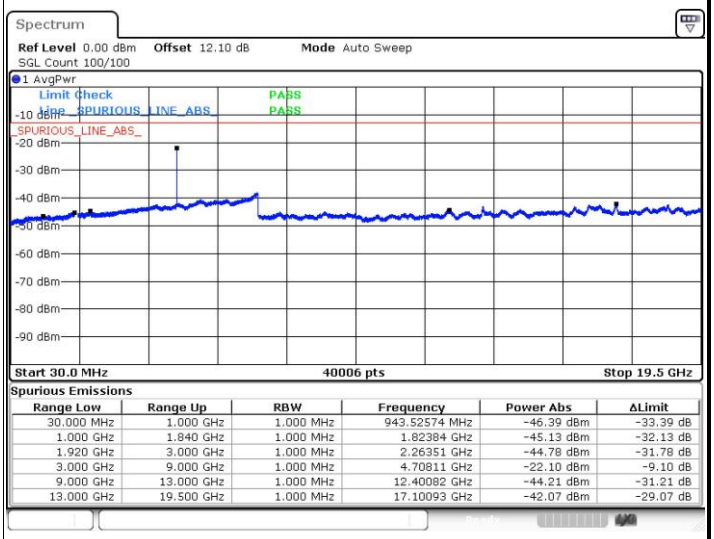


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	980.36732 MHz	-46.23 dBm	-33.23 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81964 GHz	-45.13 dBm	-32.13 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98039 GHz	-44.90 dBm	-31.90 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.70811 GHz	-20.46 dBm	-7.46 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.36233 GHz	-44.27 dBm	-31.27 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11143 GHz	-41.84 dBm	-28.84 dB

Date: 21.SEP.2018 05:19:02

Lowest Channel / 16QAM



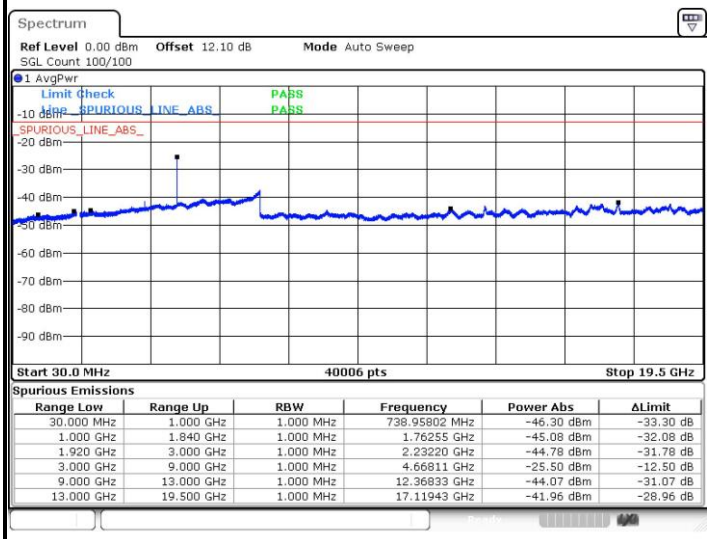
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	943.52574 MHz	-46.39 dBm	-33.39 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82384 GHz	-45.13 dBm	-32.13 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.26351 GHz	-44.78 dBm	-31.78 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.70811 GHz	-22.10 dBm	-9.10 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.40082 GHz	-44.21 dBm	-31.21 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.10093 GHz	-42.07 dBm	-29.07 dB

Date: 21.SEP.2018 05:19:56

LTE Band 2 / 20MHz

Middle Channel / QPSK

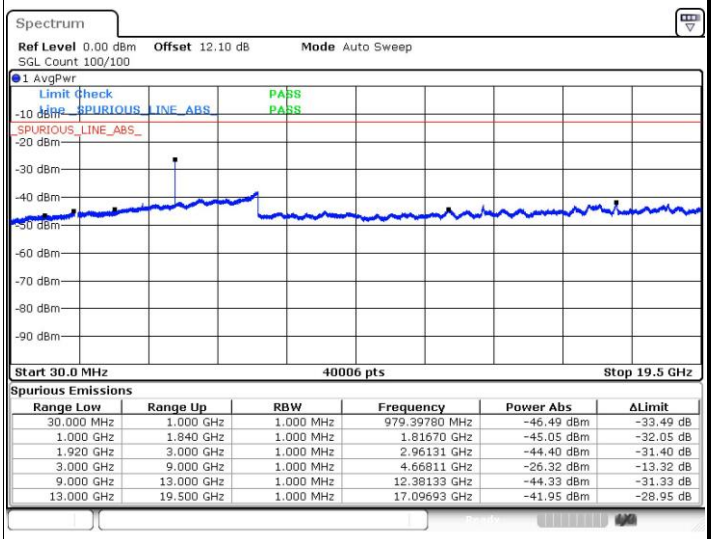


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	738.95802 MHz	-46.30 dBm	-33.30 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.76255 GHz	-45.08 dBm	-32.08 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.23220 GHz	-44.78 dBm	-31.78 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.66811 GHz	-25.50 dBm	-12.50 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.36833 GHz	-44.07 dBm	-31.07 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11943 GHz	-41.96 dBm	-28.96 dB

Date: 21.SEP.2018 05:21:42

Middle Channel / 16QAM

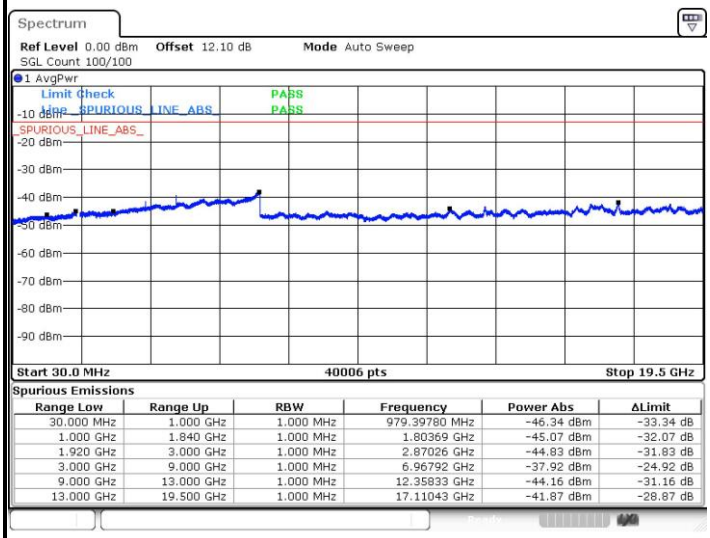


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	979.39780 MHz	-46.49 dBm	-33.49 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81670 GHz	-45.05 dBm	-32.05 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.96131 GHz	-44.40 dBm	-31.40 dB
3.000 GHz	9.000 GHz	1.000 MHz	4.66811 GHz	-26.32 dBm	-13.32 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.38133 GHz	-44.33 dBm	-31.33 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.09693 GHz	-41.95 dBm	-28.95 dB

Date: 21.SEP.2018 05:22:36

Highest Channel / QPSK

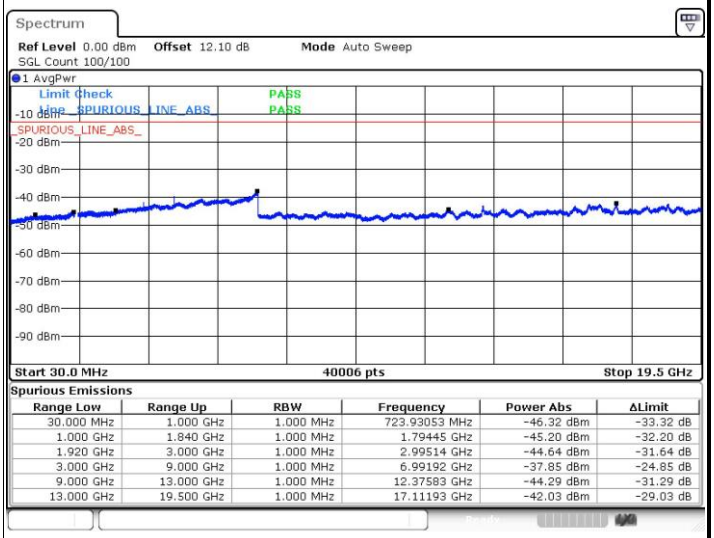


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	979.39780 MHz	-46.34 dBm	-33.34 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80369 GHz	-45.07 dBm	-32.07 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.87026 GHz	-44.83 dBm	-31.83 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.96792 GHz	-37.92 dBm	-24.92 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.35833 GHz	-44.16 dBm	-31.16 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11043 GHz	-41.87 dBm	-28.87 dB

Date: 21.SEP.2018 05:29:03

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	723.93053 MHz	-46.32 dBm	-33.32 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.79445 GHz	-45.20 dBm	-32.20 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99514 GHz	-44.64 dBm	-31.64 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99192 GHz	-37.85 dBm	-24.85 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.37583 GHz	-44.29 dBm	-31.29 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11193 GHz	-42.03 dBm	-29.03 dB

Date: 21.SEP.2018 05:29:57

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	0.0026	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0018	
0	Normal Voltage	0.0030	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0009	
-30	Normal Voltage	0.0007	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0022	

Note:

1. Normal Voltage =3.8 V.；Battery End Point (BEP) =3.4 V.；Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

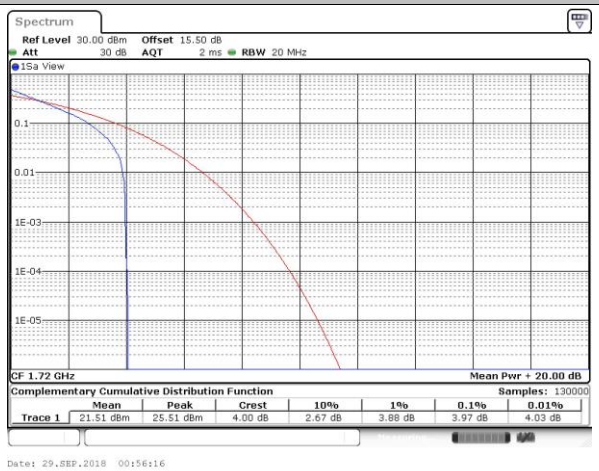
LTE Band 4

Peak-to-Average Ratio

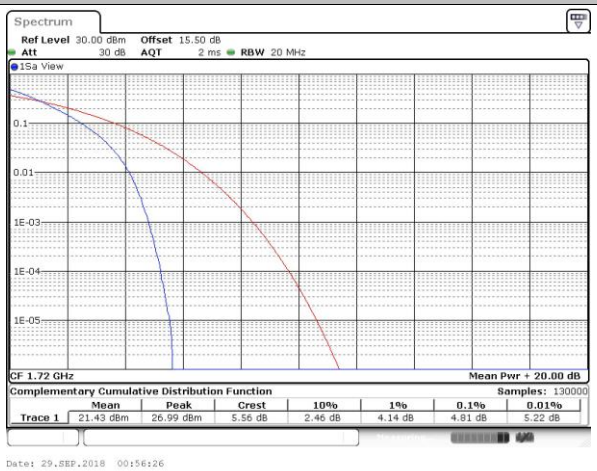
Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.97	4.81	4.67	5.68	PASS
Middle CH	4.06	4.84	5.13	5.68	
Highest CH	4.23	4.93	4.99	5.91	

LTE Band 4 / 20MHz / QPSK

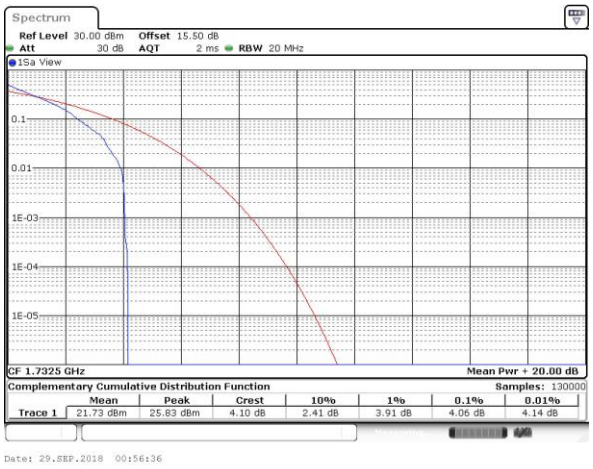
Lowest Channel / 1RB



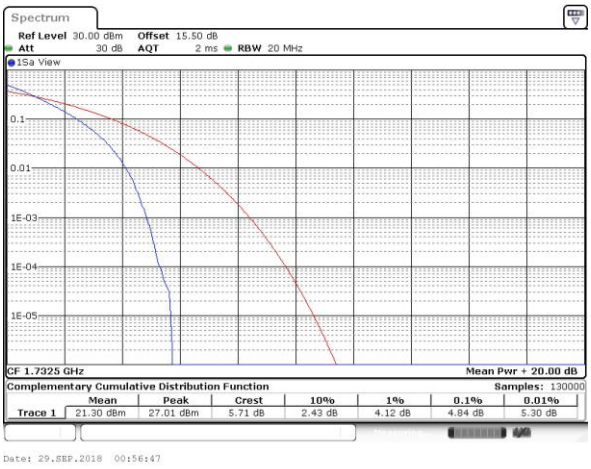
Lowest Channel / Full RB



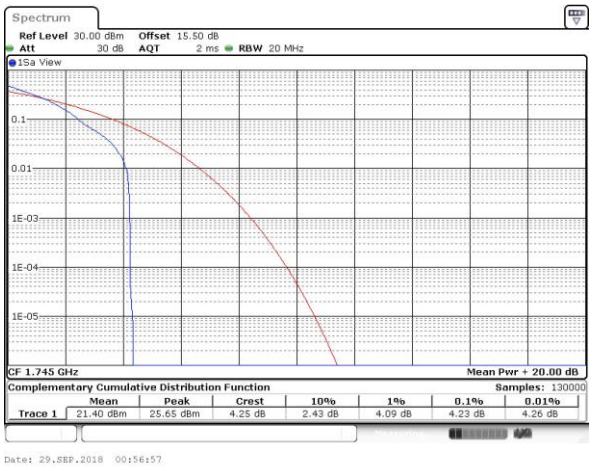
Middle Channel / 1RB



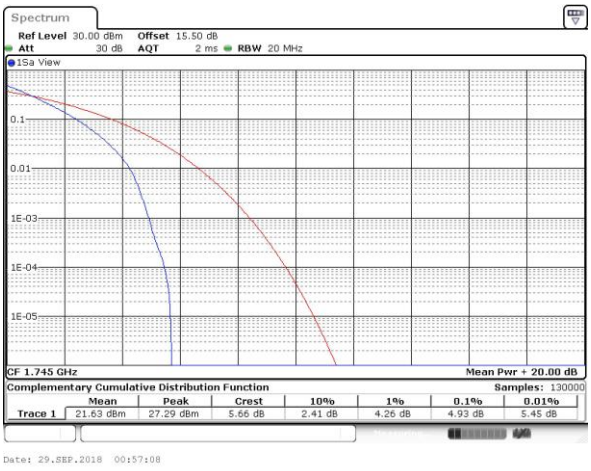
Middle Channel / Full RB



Highest Channel / 1RB

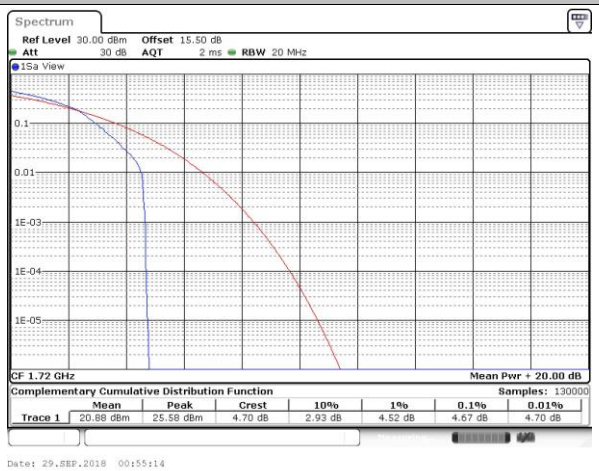


Highest Channel / Full RB

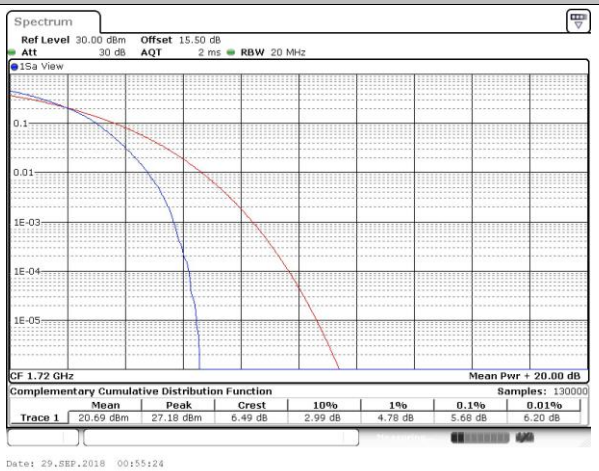


LTE Band 4 / 20MHz / 16QAM

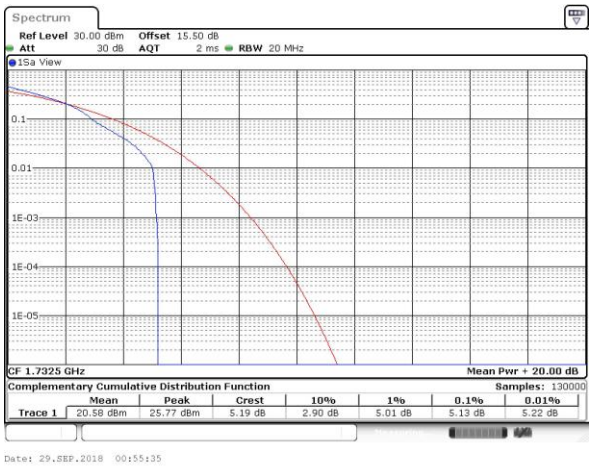
Lowest Channel / 1RB



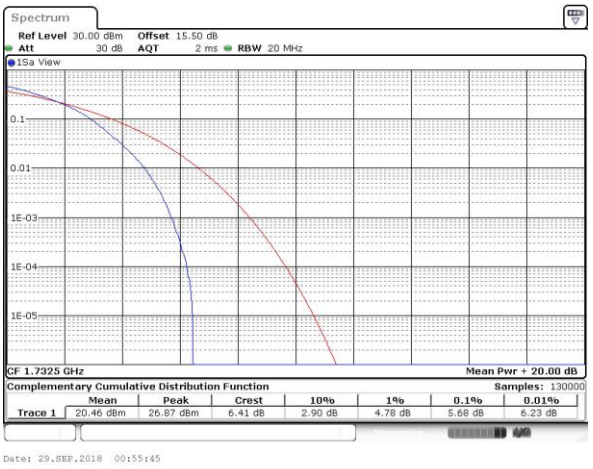
Lowest Channel / Full RB



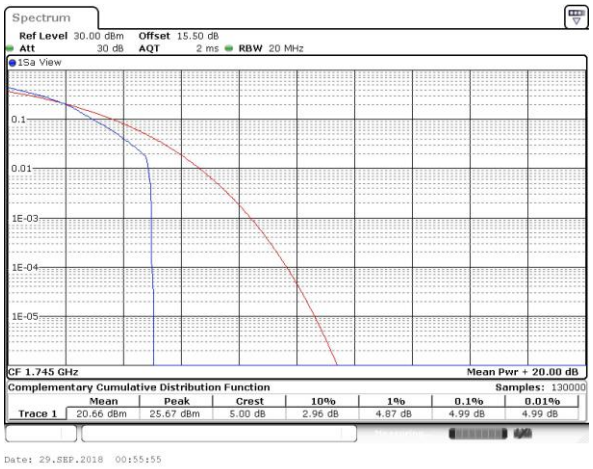
Middle Channel / 1RB



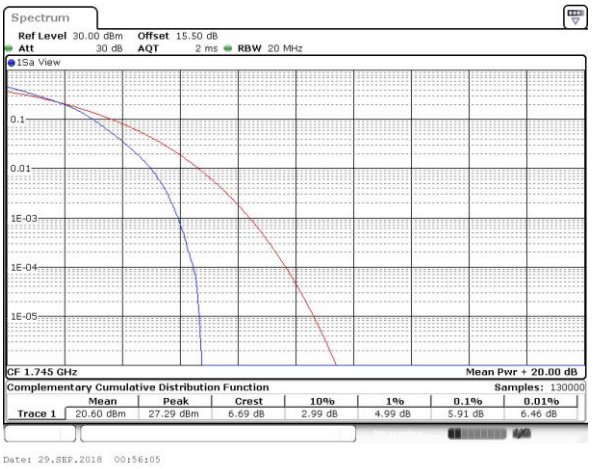
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

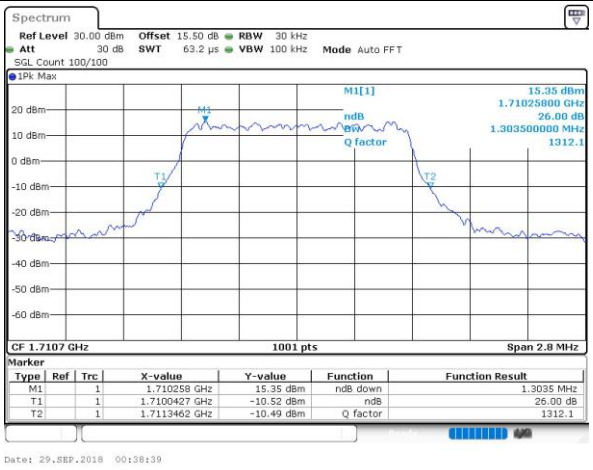


26dB Bandwidth

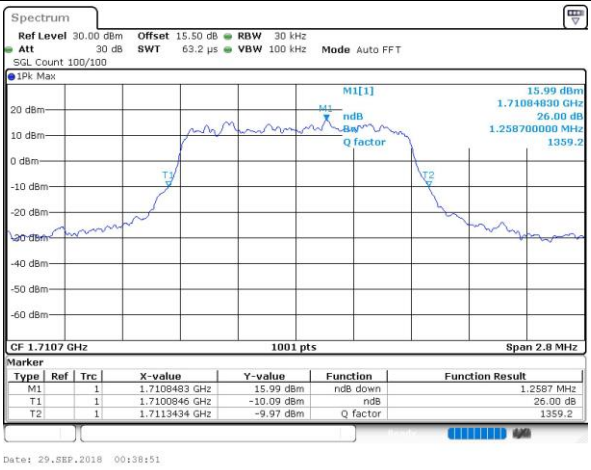
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.30	1.26	2.96	3.00	5.00	4.91	9.75	9.79	14.27	14.27	20.18	20.22
Middle CH	1.28	1.27	3.02	2.99	4.93	4.78	9.79	9.71	14.42	14.33	20.14	20.10
Highest CH	1.26	1.26	3.02	2.99	4.91	4.93	9.69	9.69	14.36	14.57	20.22	20.22

LTE Band 4

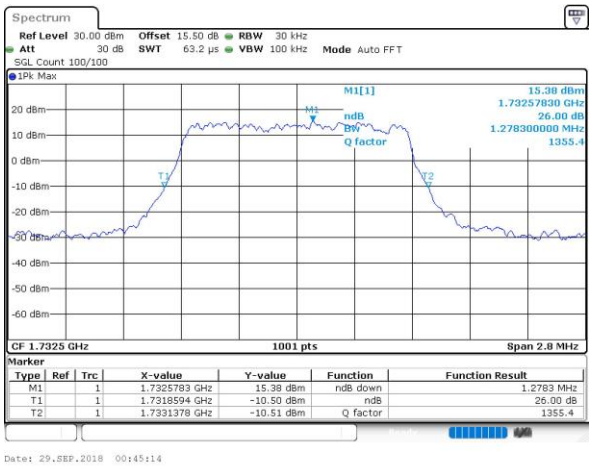
Lowest Channel / 1.4MHz / QPSK



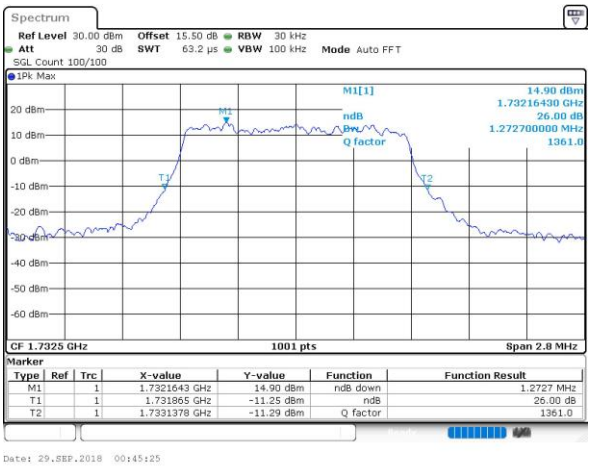
Lowest Channel / 1.4MHz / 16QAM



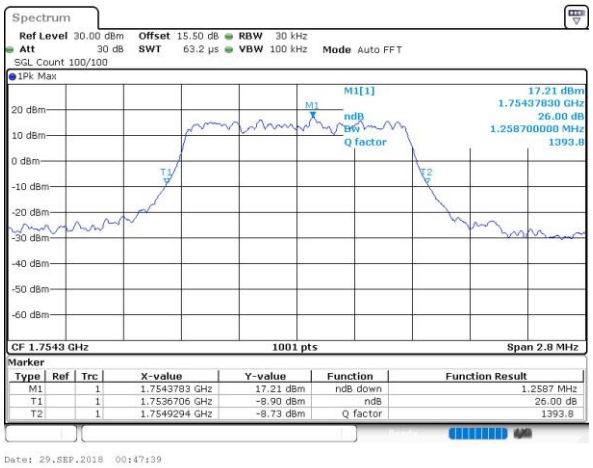
Middle Channel / 1.4MHz / QPSK



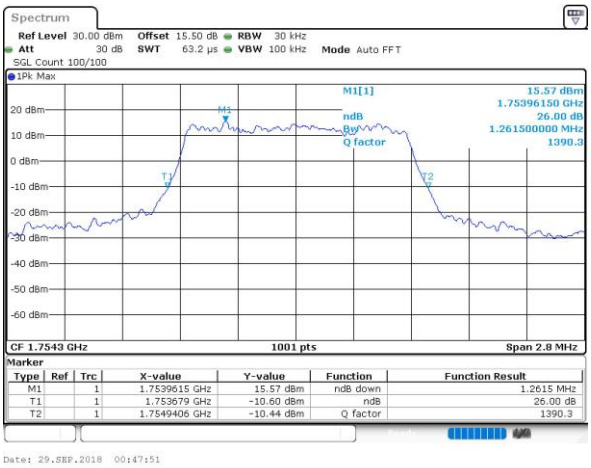
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

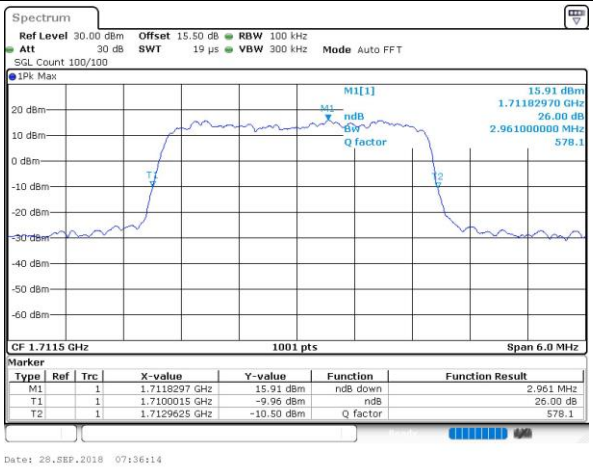


Highest Channel / 1.4MHz / 16QAM

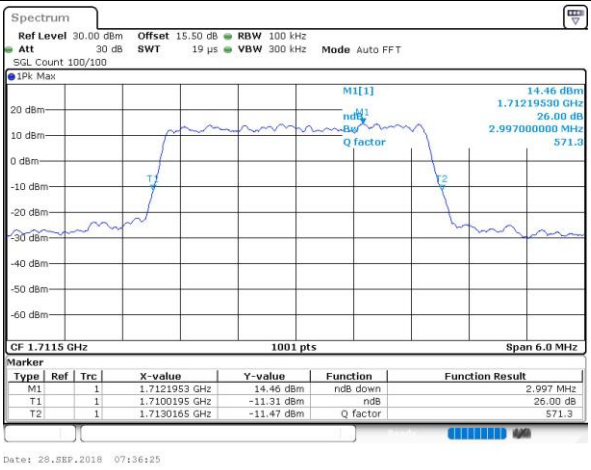


LTE Band 4

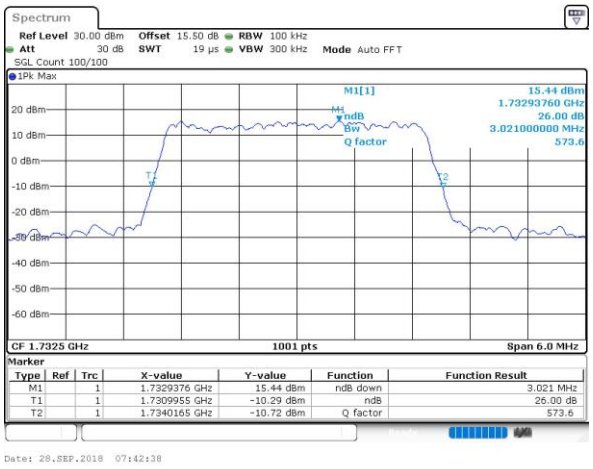
Lowest Channel / 3MHz / QPSK



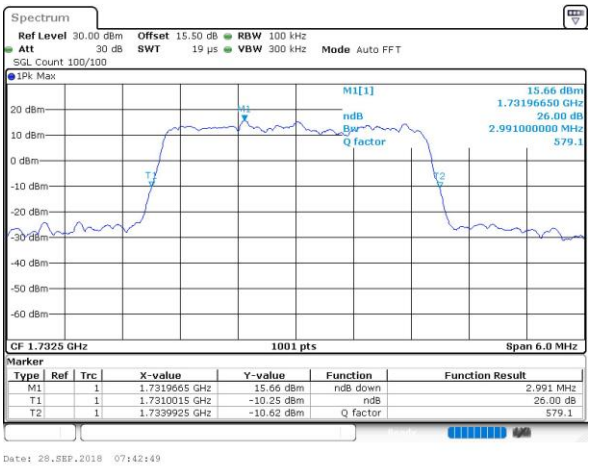
Lowest Channel / 3MHz / 16QAM



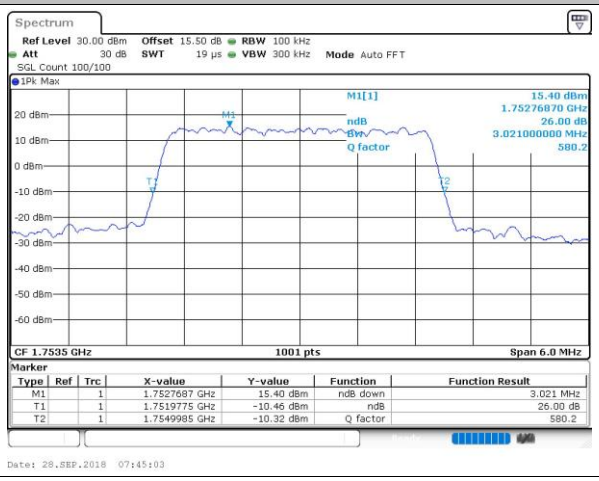
Middle Channel / 3MHz / QPSK



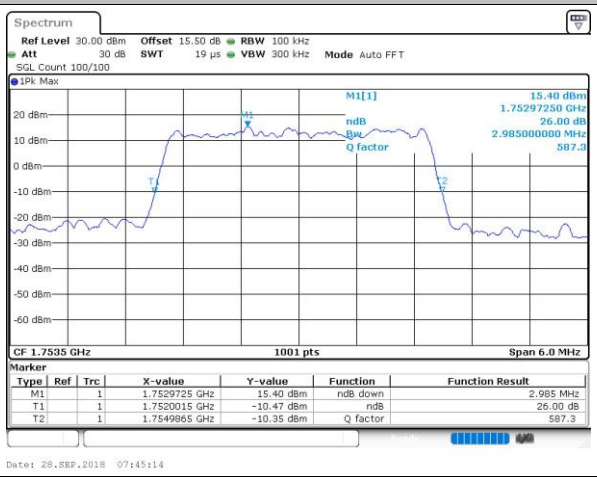
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

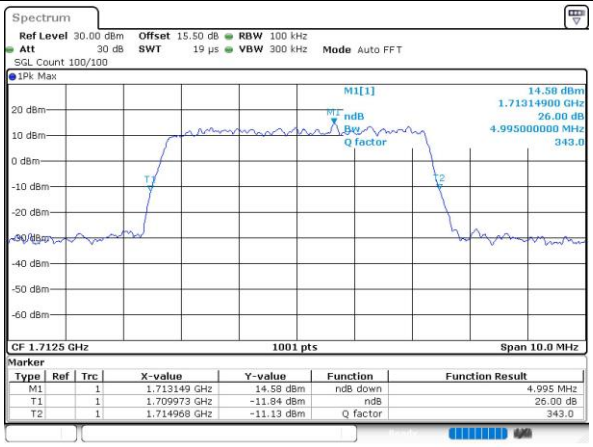


Highest Channel /3MHz / 16QAM

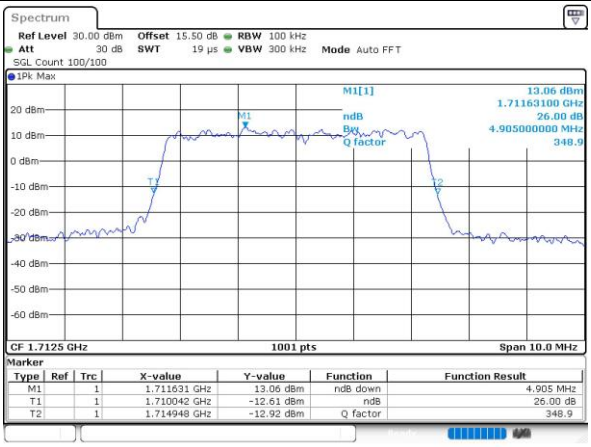


LTE Band 4

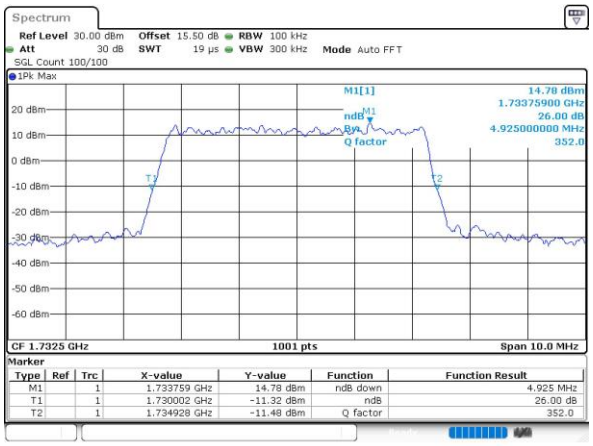
Lowest Channel / 5MHz / QPSK



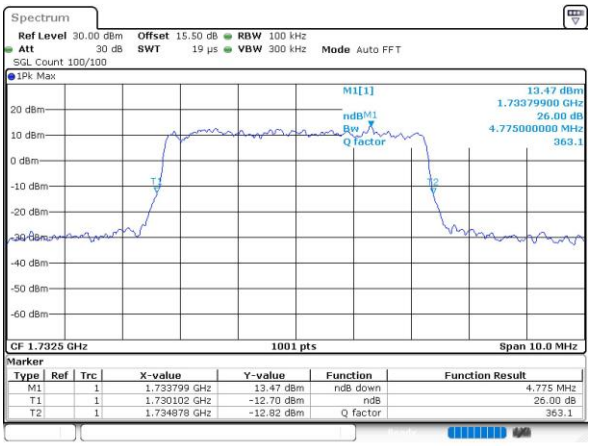
Lowest Channel / 5MHz / 16QAM



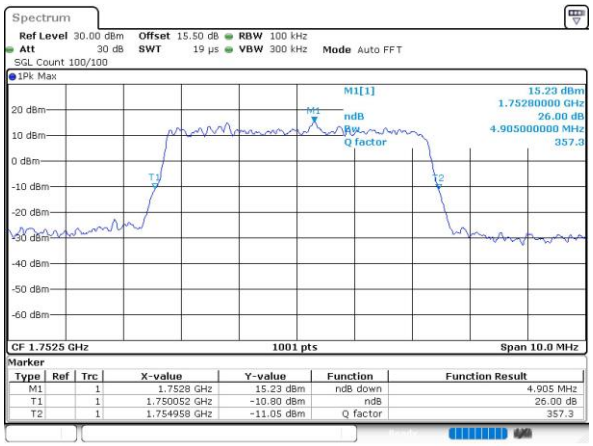
Middle Channel / 5MHz / QPSK



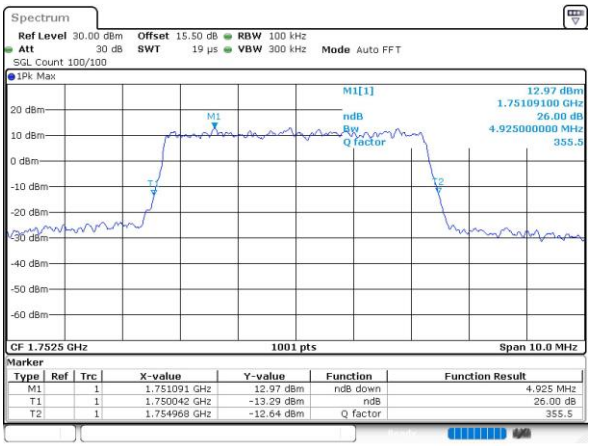
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

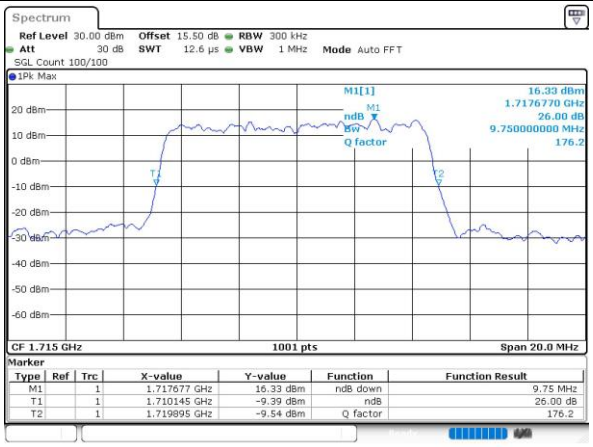


Highest Channel / 5MHz / 16QAM

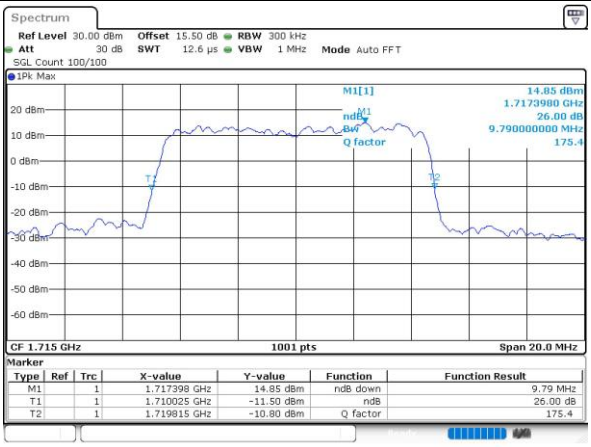


LTE Band 4

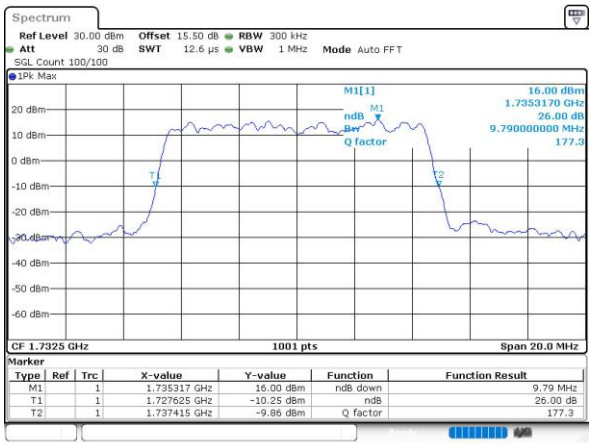
Lowest Channel / 10MHz / QPSK



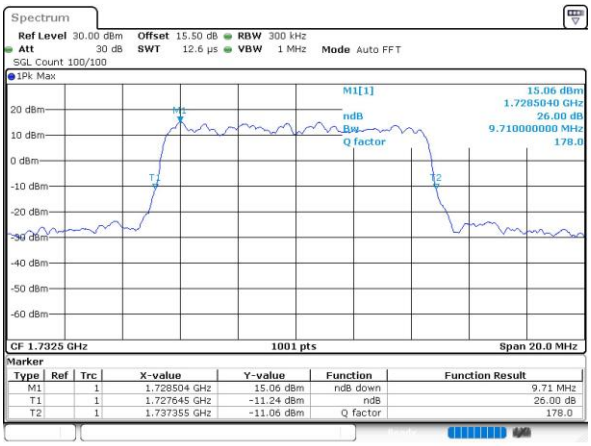
Lowest Channel / 10MHz / 16QAM



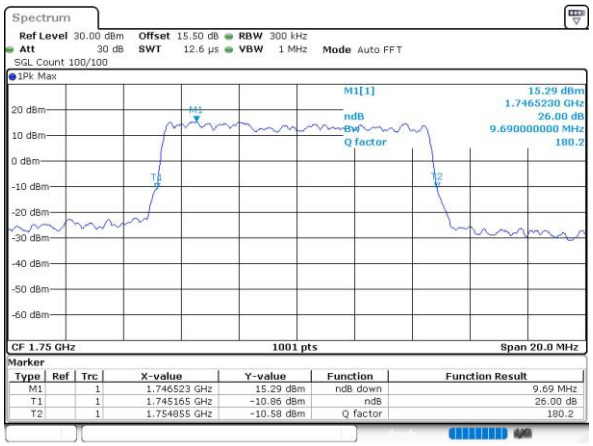
Middle Channel / 10MHz / QPSK



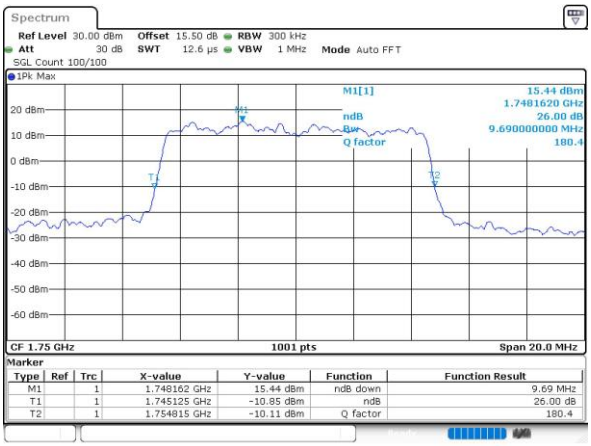
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

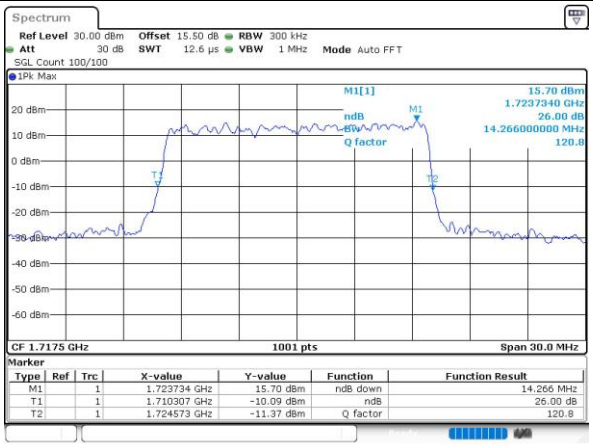


Highest Channel / 10MHz / 16QAM

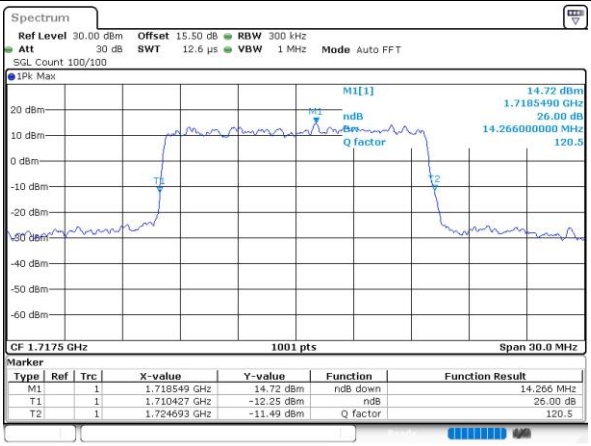


LTE Band 4

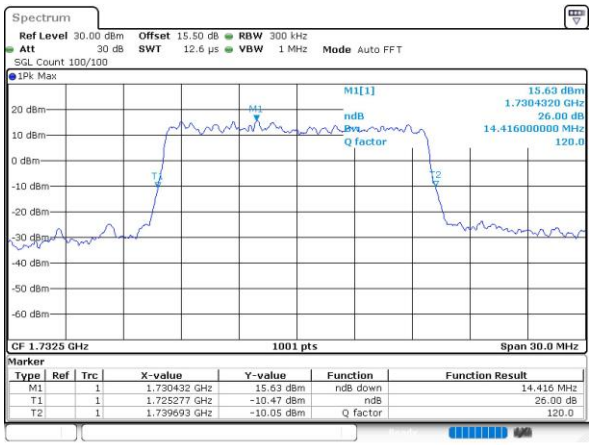
Lowest Channel / 15MHz / QPSK



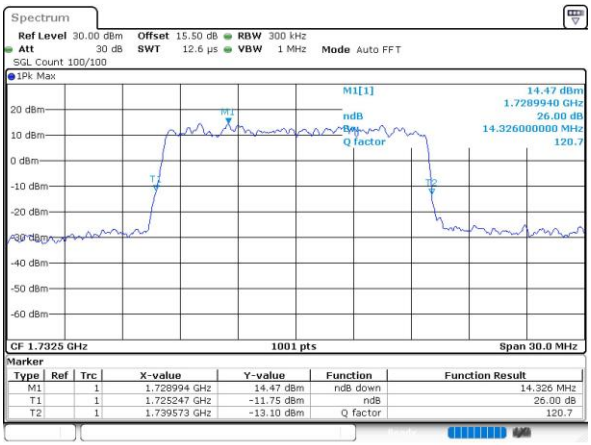
Lowest Channel / 15MHz / 16QAM



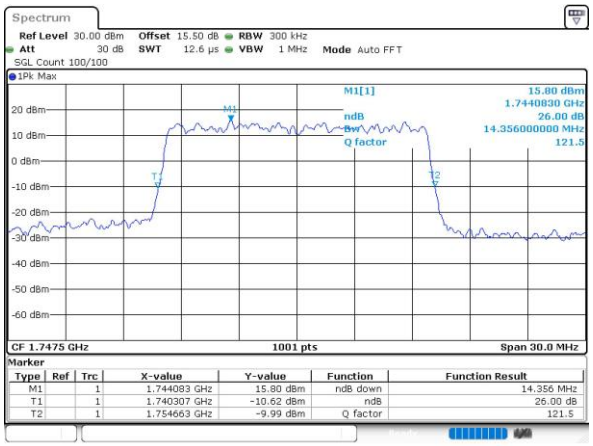
Middle Channel / 15MHz / QPSK



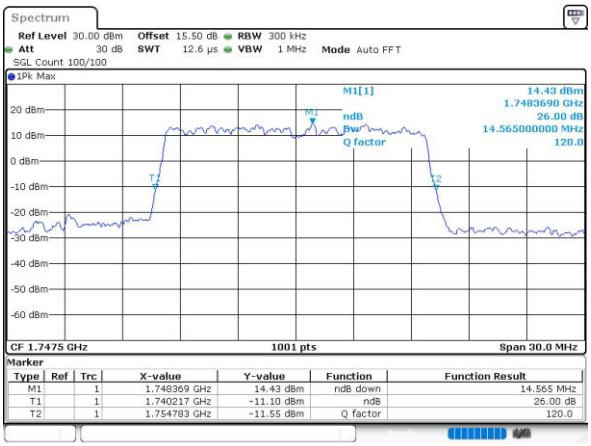
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

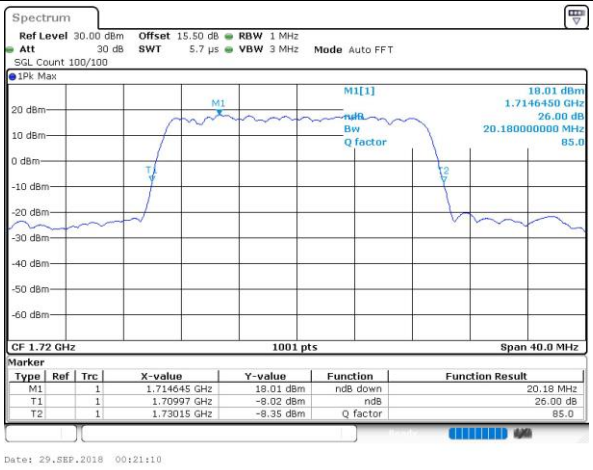


Highest Channel / 15MHz / 16QAM

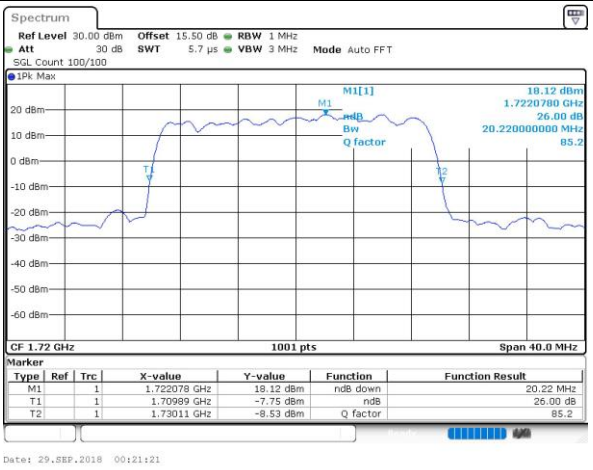


LTE Band 4

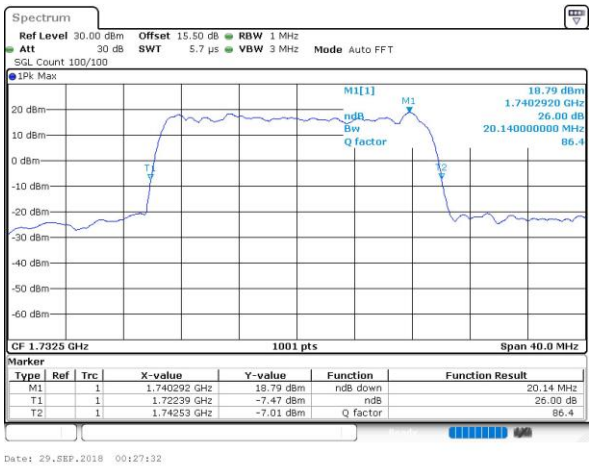
Lowest Channel / 20MHz / QPSK



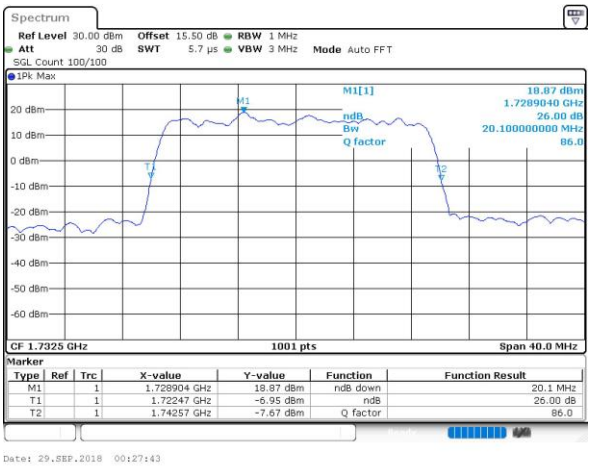
Lowest Channel / 20MHz / 16QAM



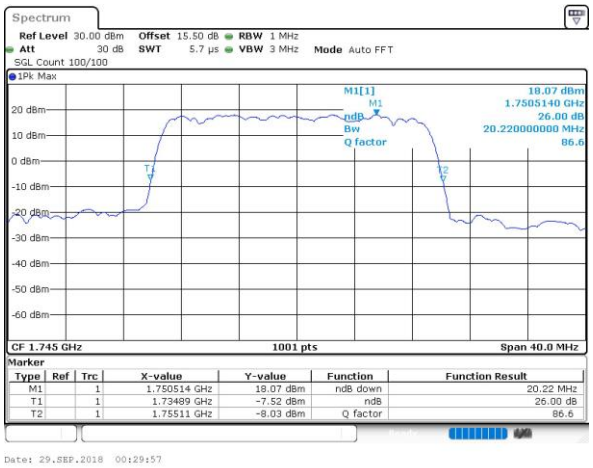
Middle Channel / 20MHz / QPSK



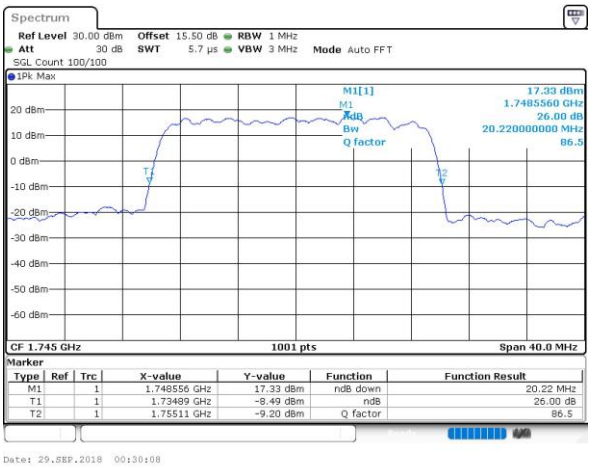
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

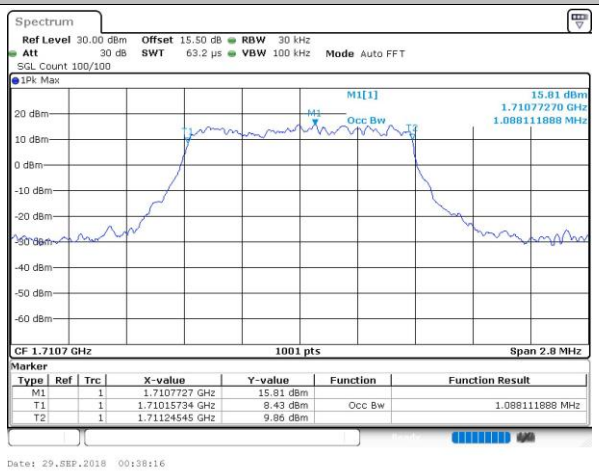


Occupied Bandwidth

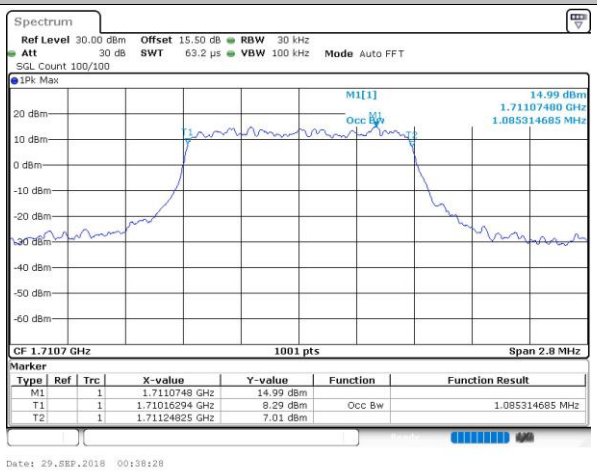
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.72	2.71	4.51	4.49	9.03	9.01	13.43	13.46	18.46	18.26
Middle CH	1.09	1.09	2.73	2.72	4.50	4.50	8.99	8.99	13.43	13.43	18.18	18.42
Highest CH	1.09	1.09	2.73	2.72	4.48	4.49	8.99	9.01	13.49	13.49	18.34	18.34

LTE Band 4

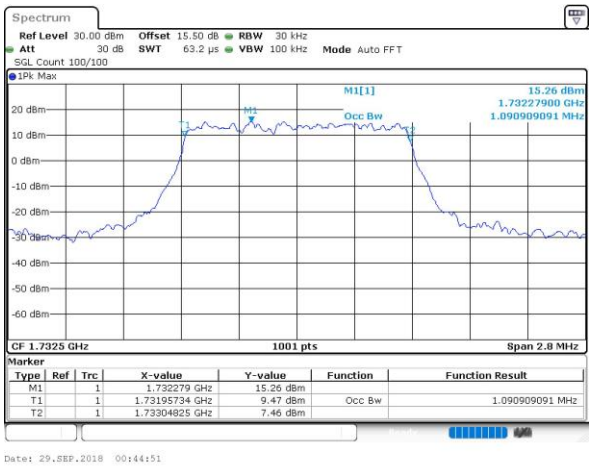
Lowest Channel / 1.4MHz / QPSK



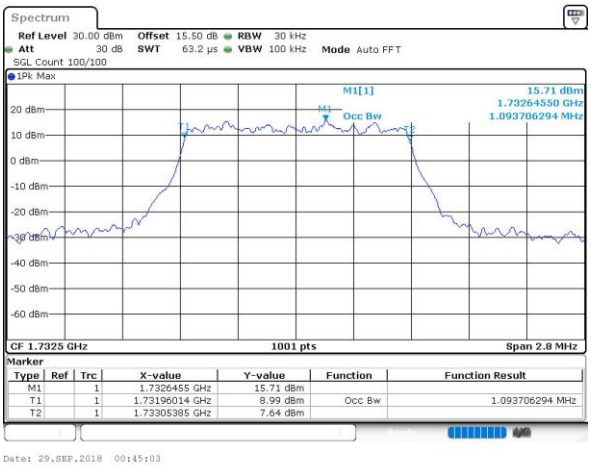
Lowest Channel / 1.4MHz / 16QAM



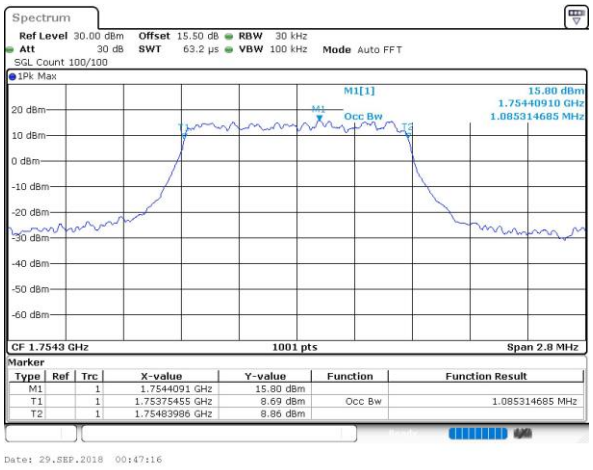
Middle Channel / 1.4MHz / QPSK



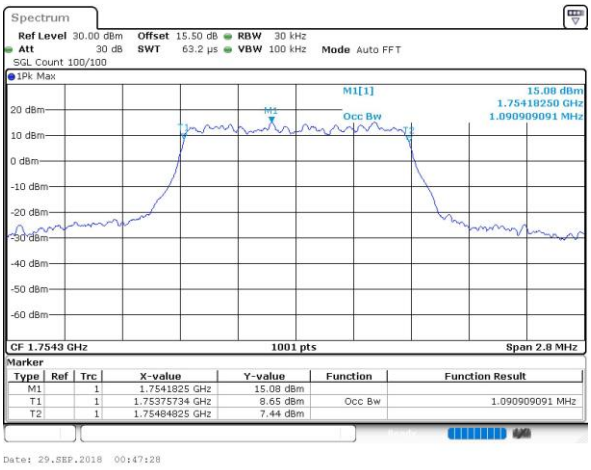
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

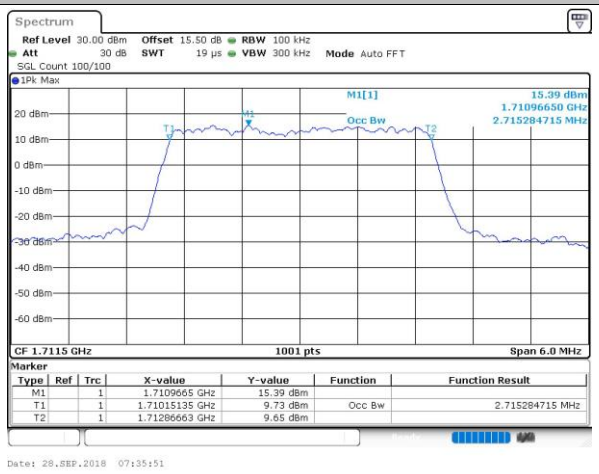


Highest Channel / 1.4MHz / 16QAM

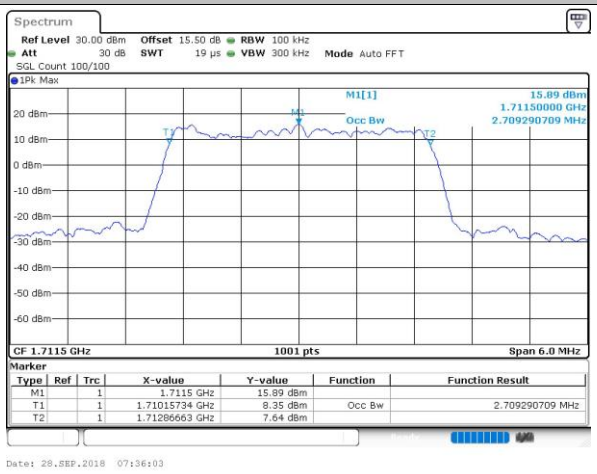


LTE Band 4

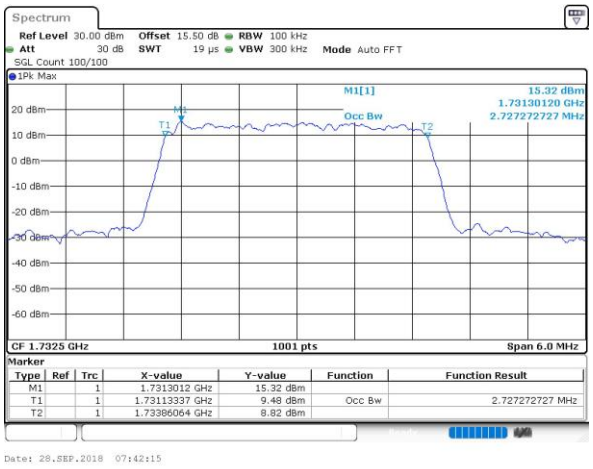
Lowest Channel / 3MHz / QPSK



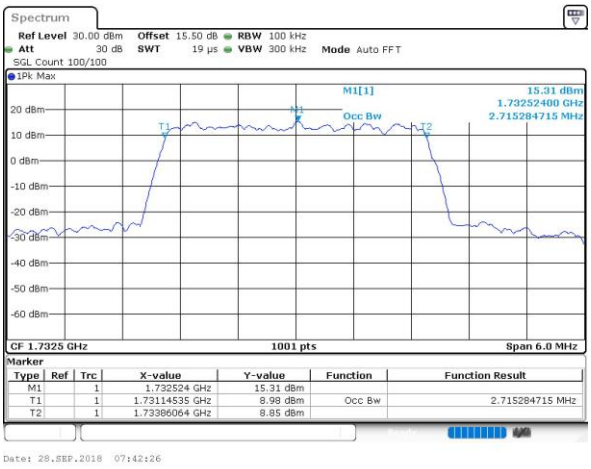
Lowest Channel / 3MHz / 16QAM



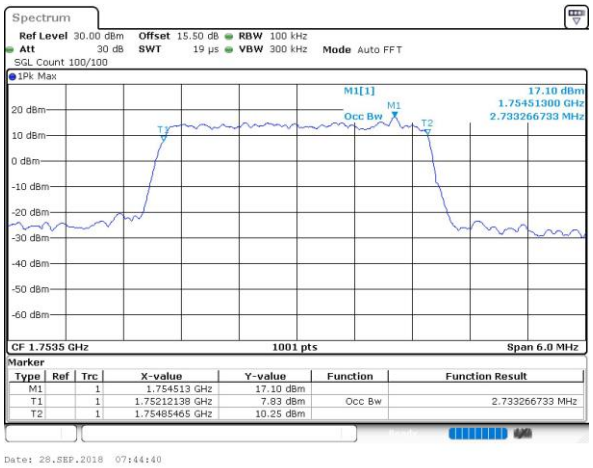
Middle Channel / 3MHz / QPSK



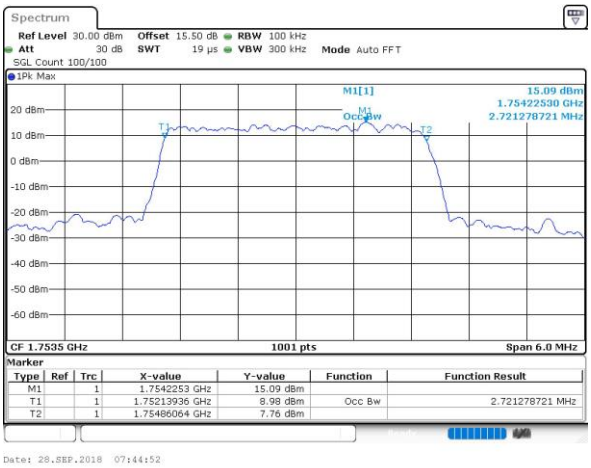
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

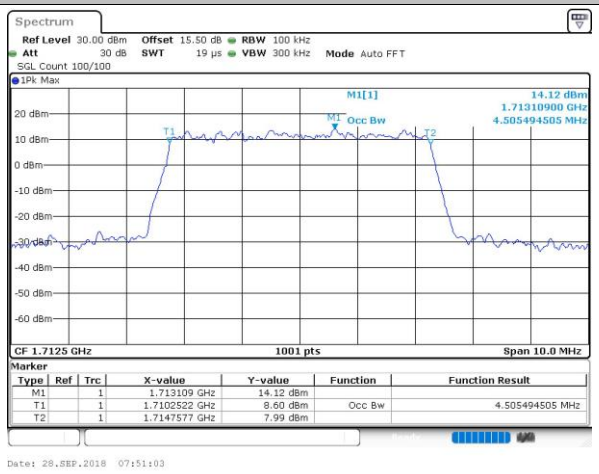


Highest Channel / 3MHz / 16QAM

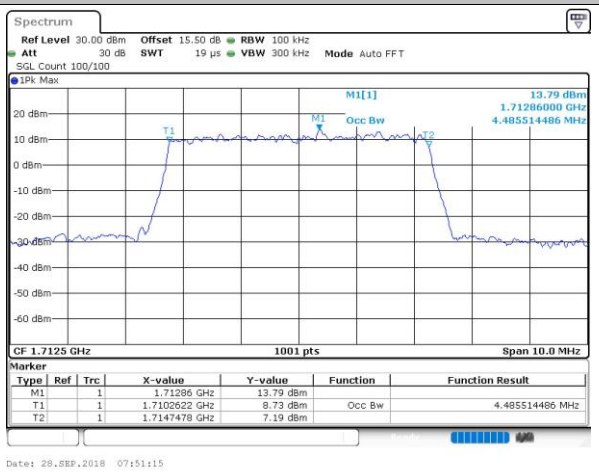


LTE Band 4

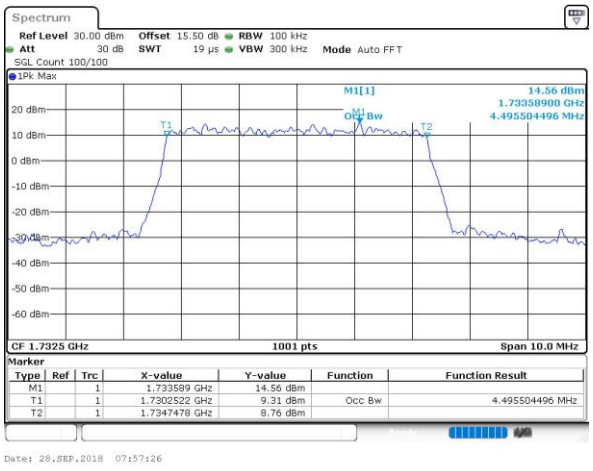
Lowest Channel / 5MHz / QPSK



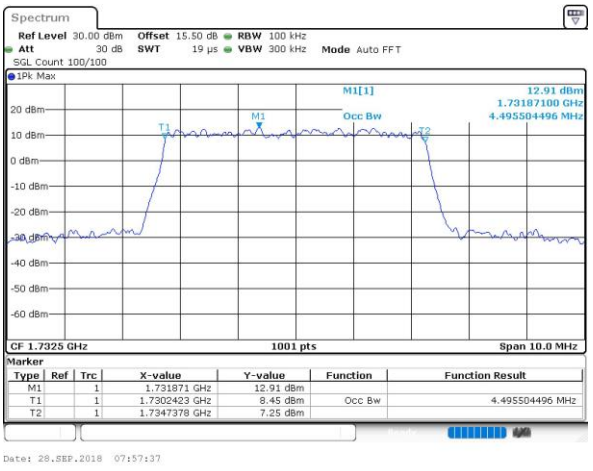
Lowest Channel / 5MHz / 16QAM



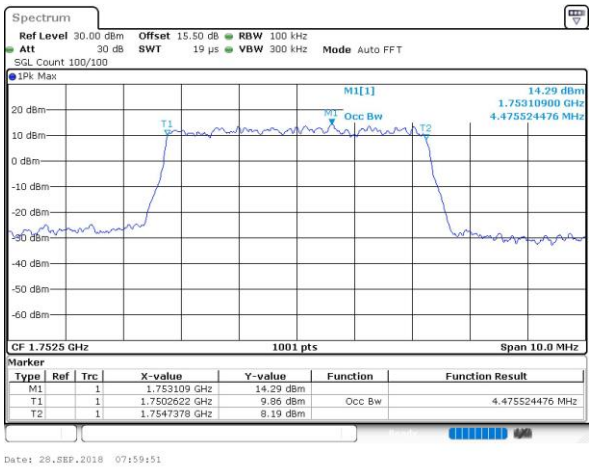
Middle Channel / 5MHz / QPSK



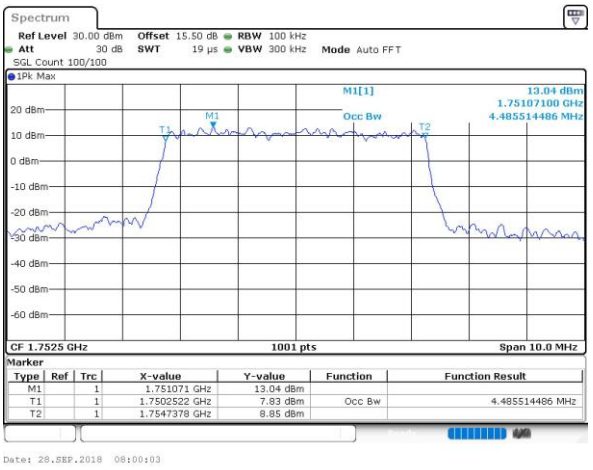
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

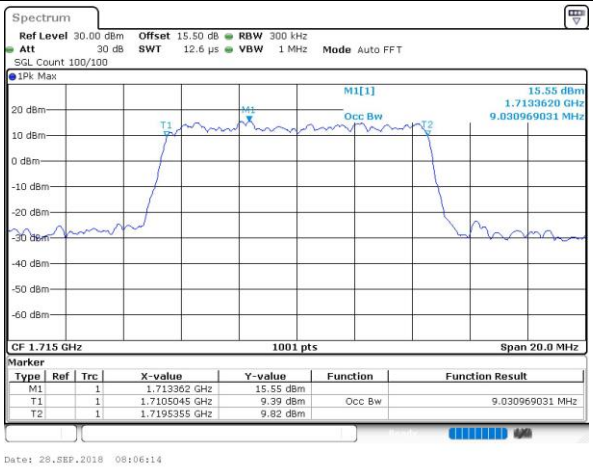


Highest Channel / 5MHz / 16QAM

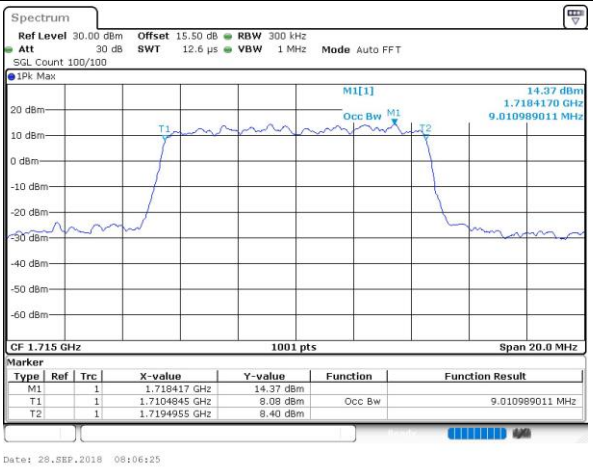


LTE Band 4

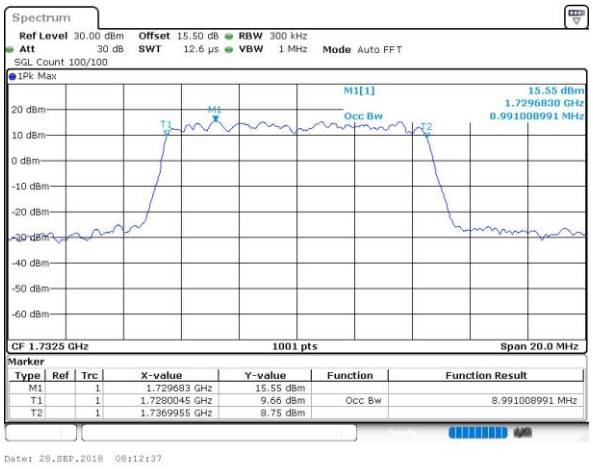
Lowest Channel / 10MHz / QPSK



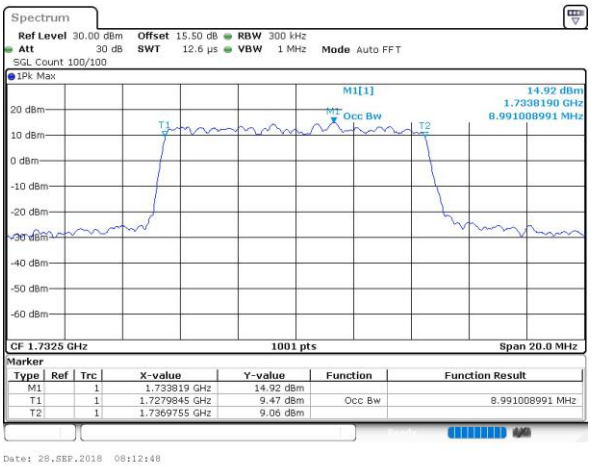
Lowest Channel / 10MHz / 16QAM



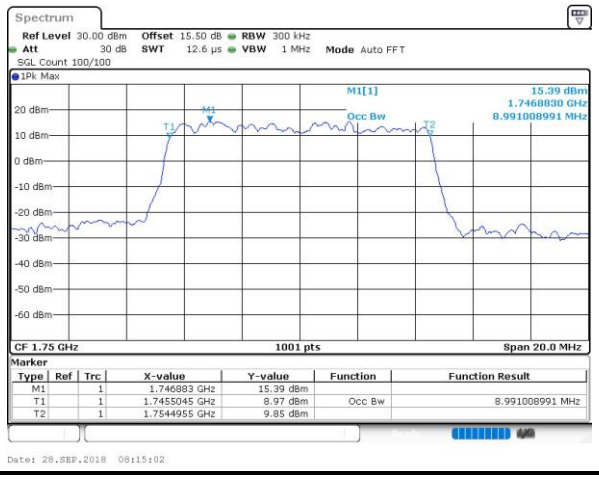
Middle Channel / 10MHz / QPSK



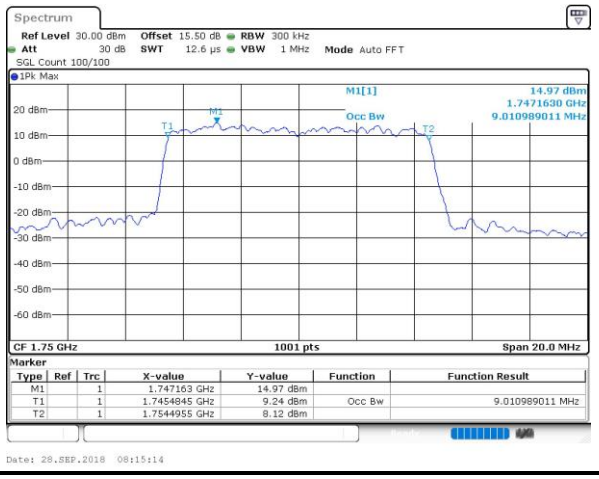
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

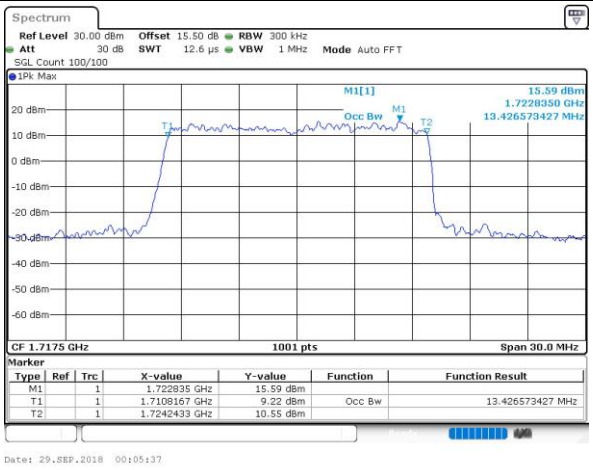


Highest Channel / 10MHz / 16QAM

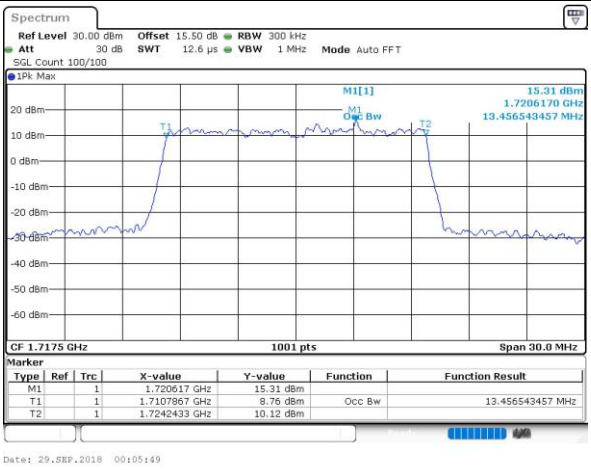


LTE Band 4

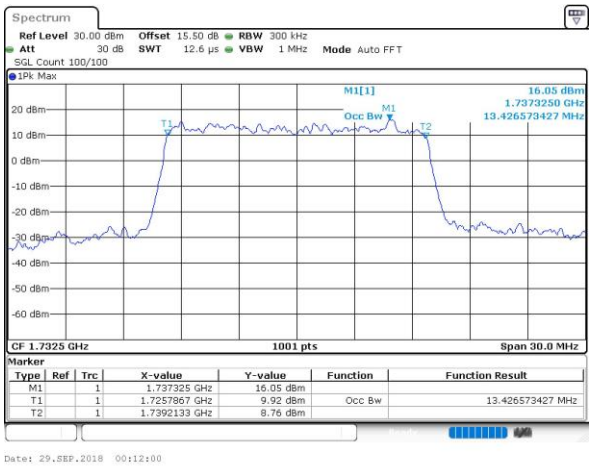
Lowest Channel / 15MHz / QPSK



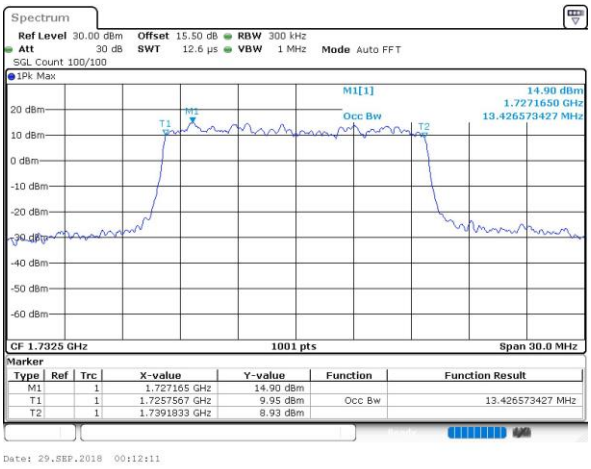
Lowest Channel / 15MHz / 16QAM



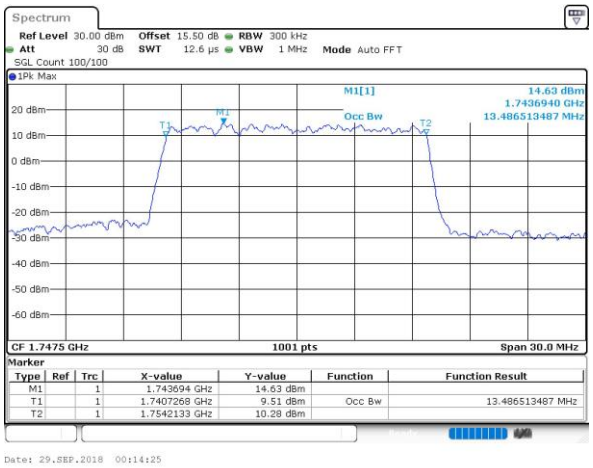
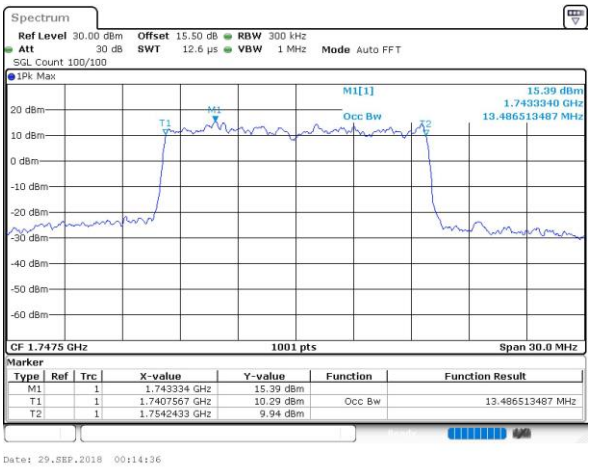
Middle Channel / 15MHz / QPSK



Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



Highest Channel / 15MHz / 16QAM