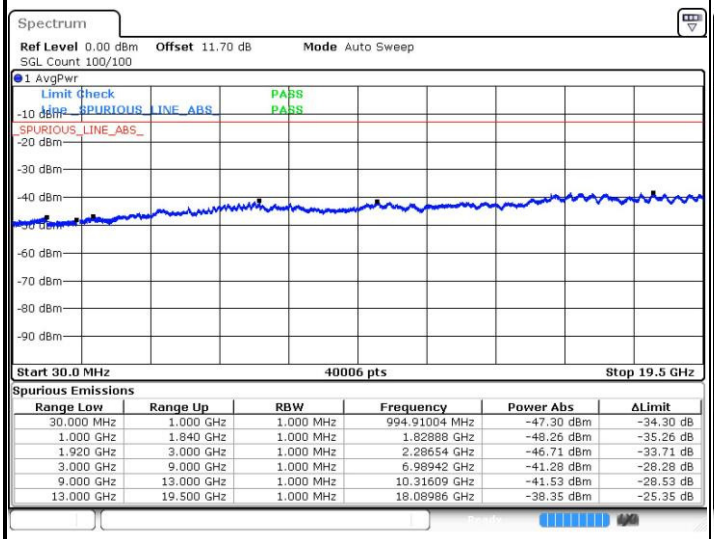
LTE Band 2 / 15MHz

Highest Channel / QPSK

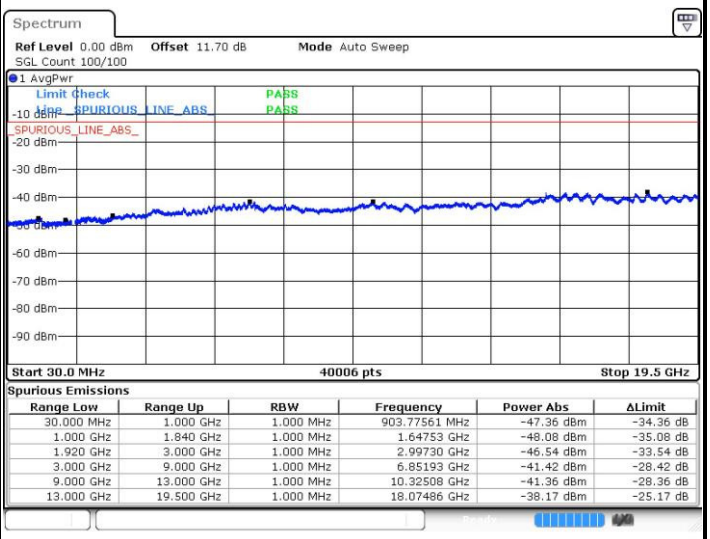


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	994.91004 MHz	-47.30 dBm	-34.30 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82888 GHz	-48.26 dBm	-35.26 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.28654 GHz	-46.71 dBm	-33.71 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98942 GHz	-41.28 dBm	-28.28 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31609 GHz	-41.53 dBm	-28.53 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.08986 GHz	-38.35 dBm	-25.35 dB

Date: 20.FEB.2017 10:19:14

Highest Channel / 16QAM



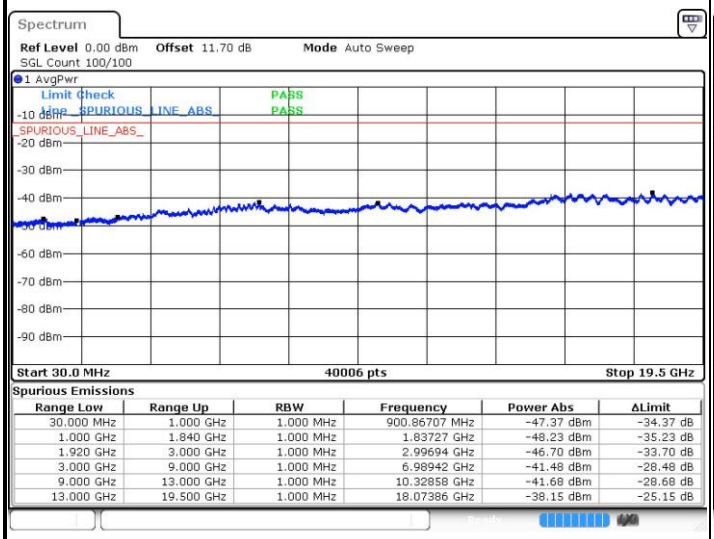
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	903.77561 MHz	-47.36 dBm	-34.36 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.64753 GHz	-48.08 dBm	-35.08 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99730 GHz	-46.54 dBm	-33.54 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.85193 GHz	-41.42 dBm	-28.42 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.32508 GHz	-41.36 dBm	-28.36 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.07486 GHz	-38.17 dBm	-25.17 dB

Date: 20.FEB.2017 10:20:08

LTE Band 2 / 20MHz

Lowest Channel / QPSK

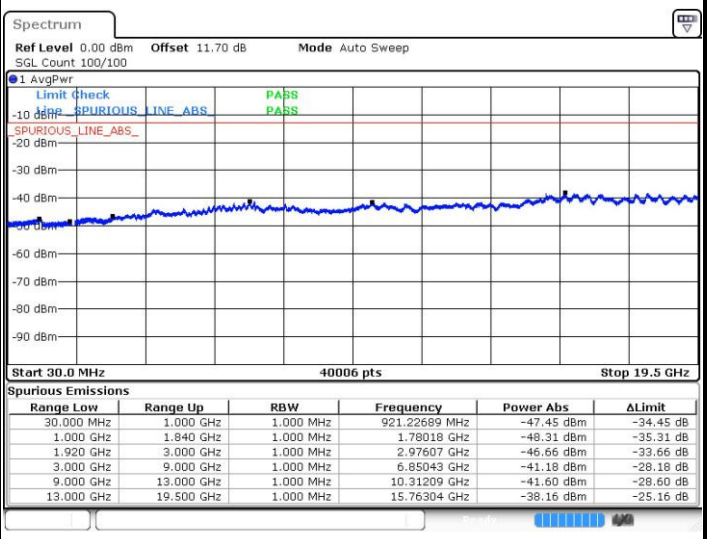


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	900.86707 MHz	-47.37 dBm	-34.37 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83727 GHz	-48.23 dBm	-35.23 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99694 GHz	-46.70 dBm	-33.70 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98942 GHz	-41.48 dBm	-28.48 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.32858 GHz	-41.68 dBm	-28.68 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.07386 GHz	-38.15 dBm	-25.15 dB

Date: 20.FEB.2017 10:26:21

Lowest Channel / 16QAM



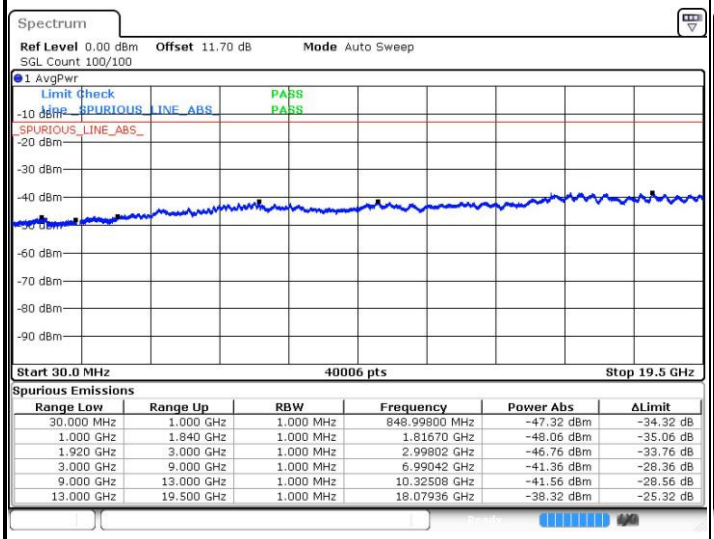
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	921.22689 MHz	-47.45 dBm	-34.45 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.78018 GHz	-48.31 dBm	-35.31 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97607 GHz	-46.66 dBm	-33.66 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.85043 GHz	-41.18 dBm	-28.18 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31209 GHz	-41.60 dBm	-28.60 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.76304 GHz	-38.16 dBm	-25.16 dB

Date: 20.FEB.2017 10:27:15

LTE Band 2 / 20MHz

Middle Channel / QPSK

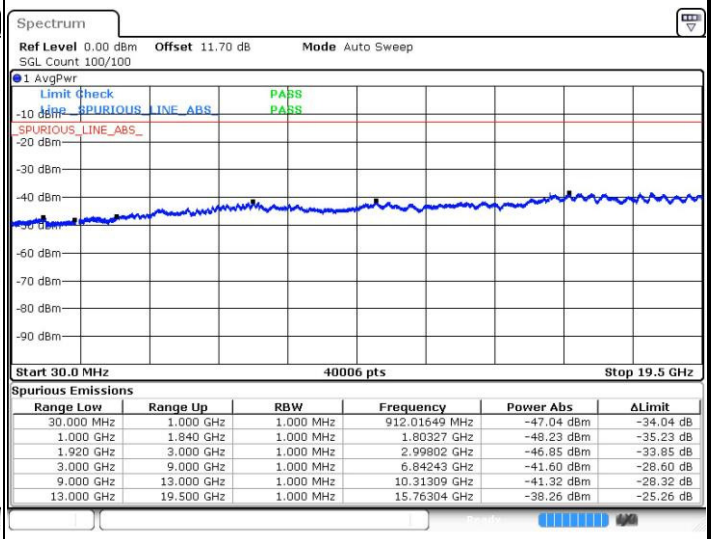


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	848.99800 MHz	-47.32 dBm	-34.32 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81670 GHz	-48.06 dBm	-35.06 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99802 GHz	-46.76 dBm	-33.76 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99042 GHz	-41.36 dBm	-28.36 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.32508 GHz	-41.56 dBm	-28.56 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.07936 GHz	-38.32 dBm	-25.32 dB

Date: 20.FEB.2017 10:28:51

Middle Channel / 16QAM

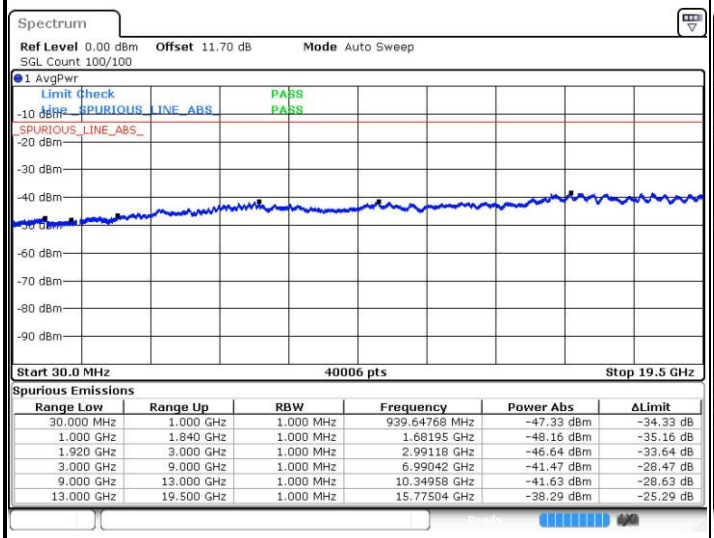


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	912.01649 MHz	-47.04 dBm	-34.04 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80327 GHz	-48.23 dBm	-35.23 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99802 GHz	-46.85 dBm	-33.85 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.84243 GHz	-41.60 dBm	-28.60 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31309 GHz	-41.32 dBm	-28.32 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.76304 GHz	-38.26 dBm	-25.26 dB

Date: 20.FEB.2017 10:29:45

Highest Channel / QPSK

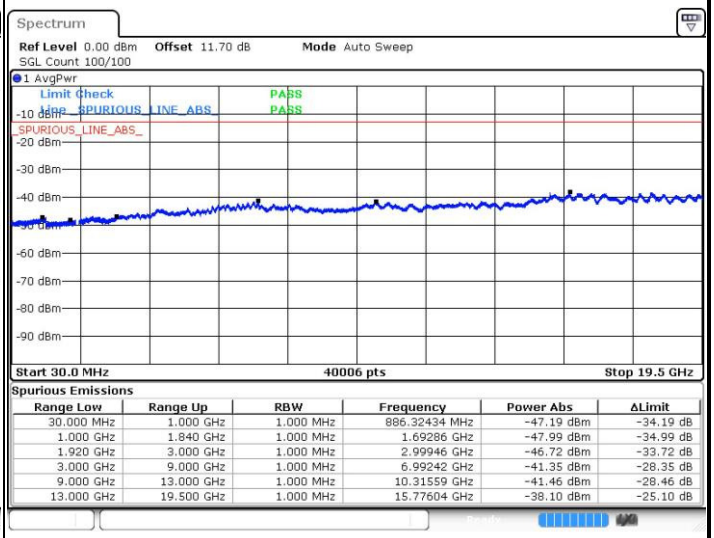


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	939.64768 MHz	-47.33 dBm	-34.33 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.68195 GHz	-48.16 dBm	-35.16 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99118 GHz	-46.64 dBm	-33.64 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99042 GHz	-41.47 dBm	-28.47 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.34958 GHz	-41.63 dBm	-28.63 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.77504 GHz	-38.29 dBm	-25.29 dB

Date: 20.FEB.2017 10:35:58

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	886.32434 MHz	-47.19 dBm	-34.19 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.69286 GHz	-47.99 dBm	-34.99 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99946 GHz	-46.72 dBm	-33.72 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99242 GHz	-41.35 dBm	-28.35 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31559 GHz	-41.46 dBm	-28.46 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.77604 GHz	-38.10 dBm	-25.10 dB

Date: 20.FEB.2017 10:36:52

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	0.0055	PASS
40	Normal Voltage	0.0051	
30	Normal Voltage	0.0014	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0047	
0	Normal Voltage	0.0013	
-10	Normal Voltage	0.0061	
-20	Normal Voltage	0.0012	
-30	Normal Voltage	0.0060	
20	Maximum Voltage	0.0063	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0003	

Note:

1. Normal Voltage =3.9 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.

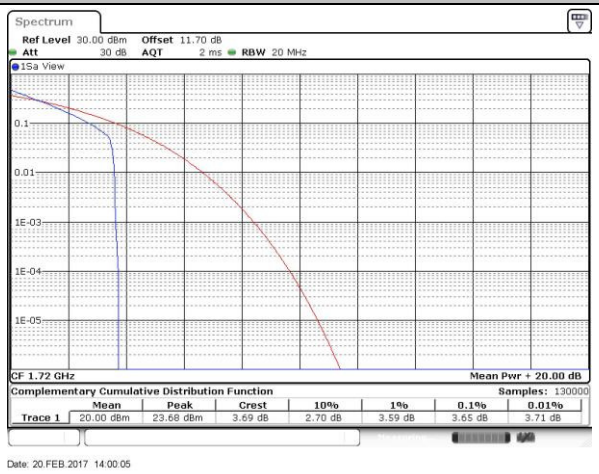
LTE Band 4

Peak-to-Average Ratio

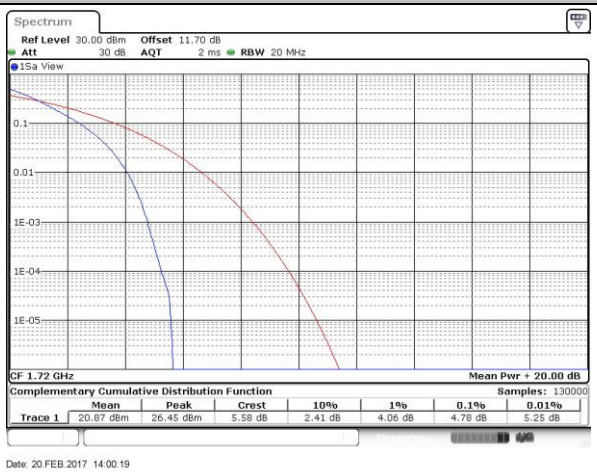
Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.65	4.78	4.49	5.68	PASS
Middle CH	3.54	4.93	4.23	5.8	
Highest CH	3.51	4.9	4.43	5.71	

LTE Band 4 / 20MHz / QPSK

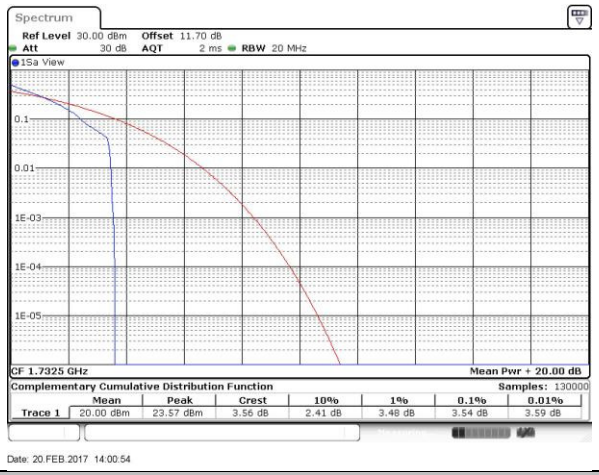
Lowest Channel / 1RB



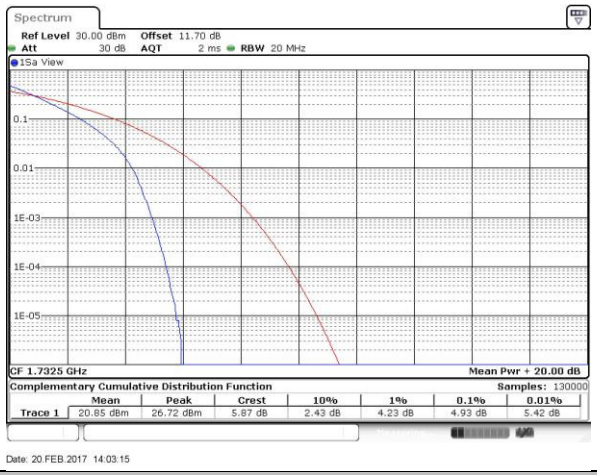
Lowest Channel / Full RB



Middle Channel / 1RB

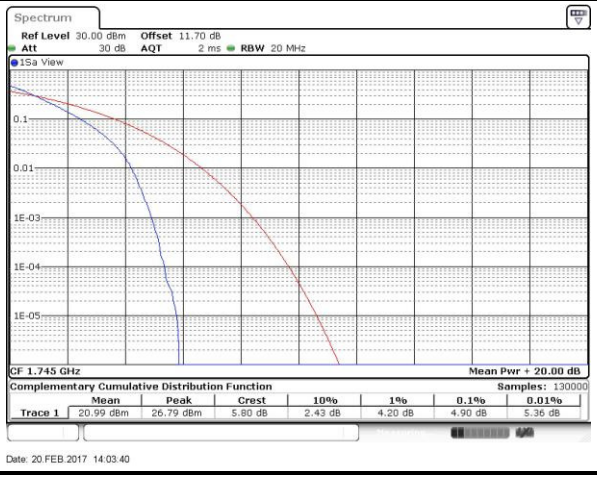


Middle Channel / Full RB



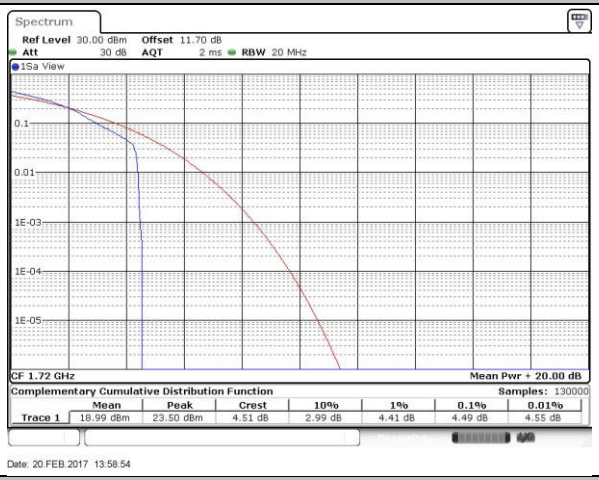
Highest Channel / 1RB

Highest Channel / Full RB

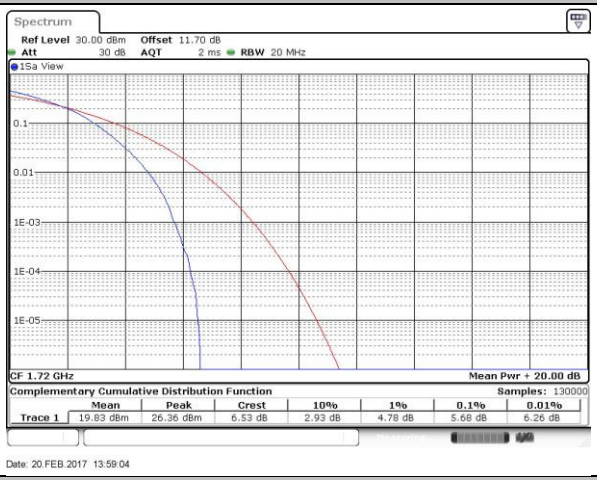


LTE Band 4 / 20MHz / 16QAM

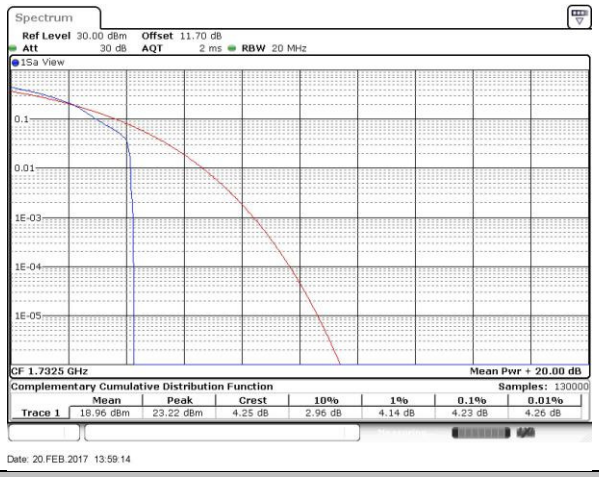
Lowest Channel / 1RB



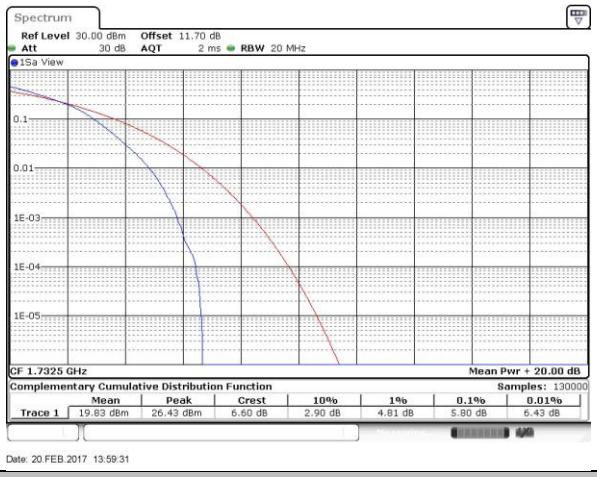
Lowest Channel / Full RB



Middle Channel / 1RB



Middle Channel / Full RB



Highest Channel / 1RB

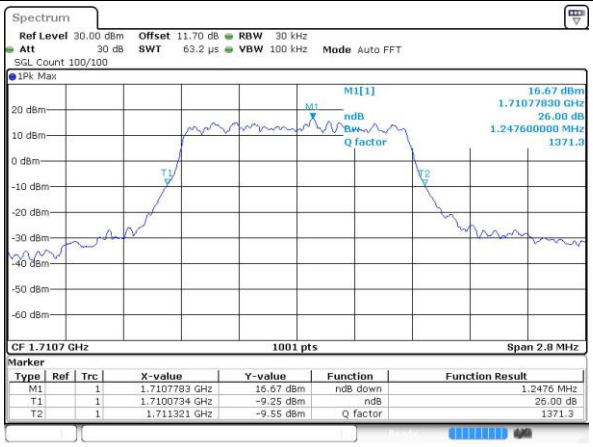
Highest Channel / Full RB

26dB Bandwidth

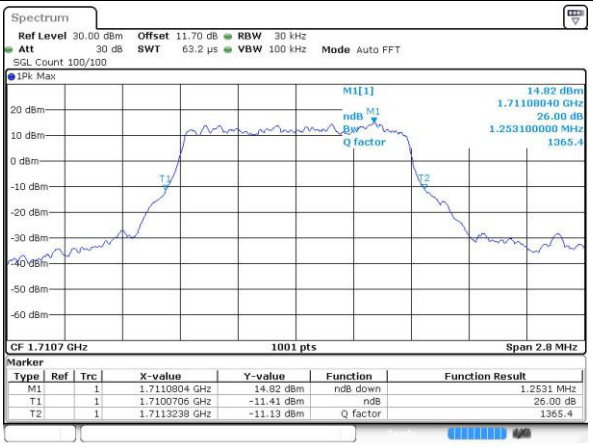
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.25	1.25	3.00	3.04	4.99	4.88	9.73	9.79	14.78	14.36	20.22	20.22
Middle CH	1.29	1.30	3.05	2.97	4.95	4.94	9.87	9.81	14.12	14.66	20.26	20.26
Highest CH	1.28	1.29	3.03	2.99	5.00	4.92	9.79	9.85	14.48	14.54	20.02	20.10

LTE Band 4

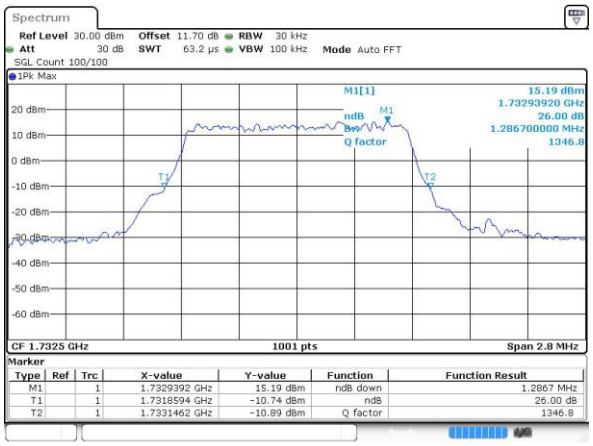
Lowest Channel / 1.4MHz / QPSK



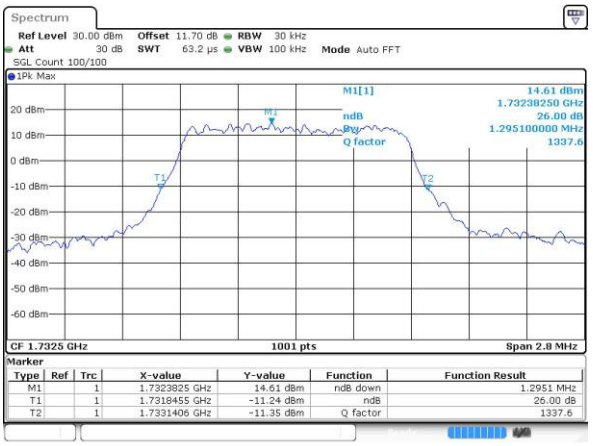
Lowest Channel / 1.4MHz / 16QAM



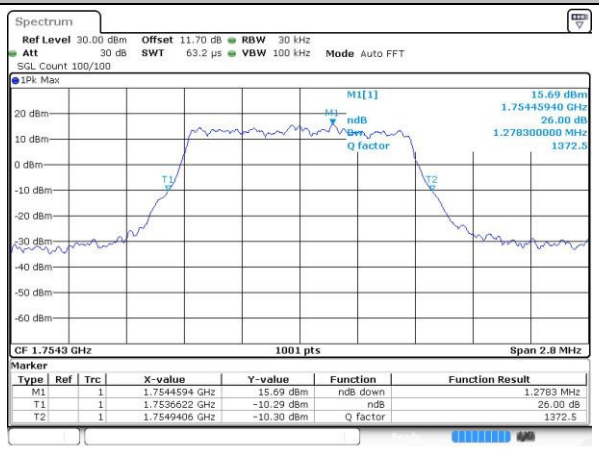
Middle Channel / 1.4MHz / QPSK



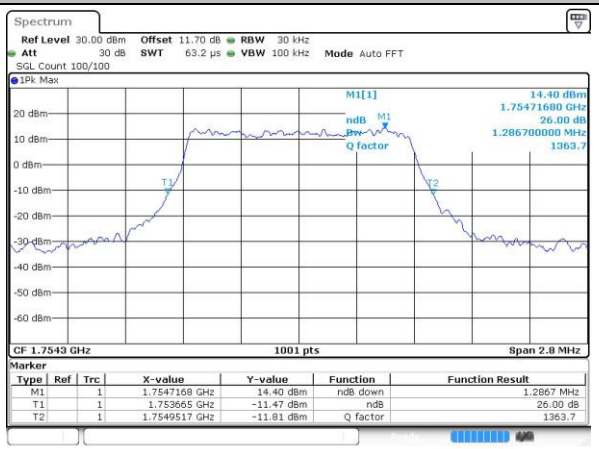
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

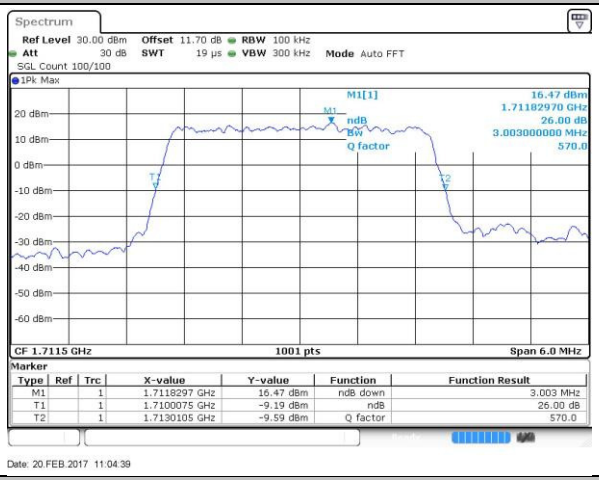


Highest Channel / 1.4MHz / 16QAM

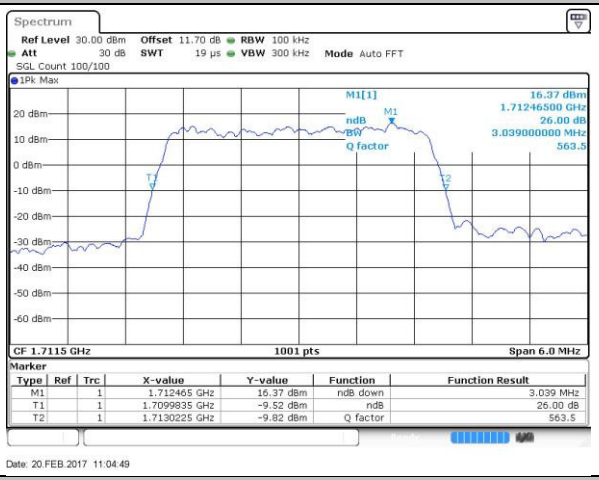


LTE Band 4

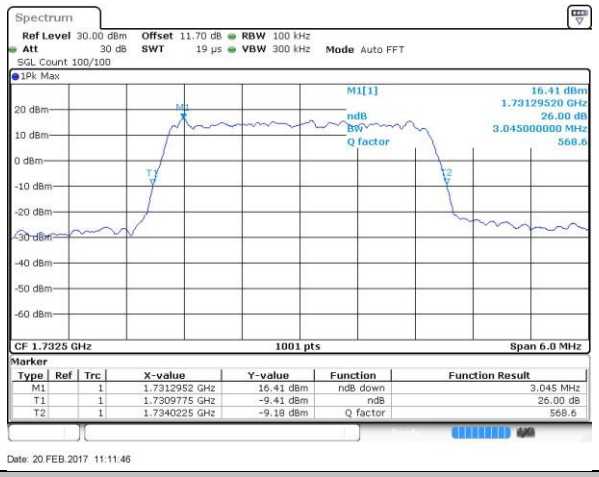
Lowest Channel / 3MHz / QPSK



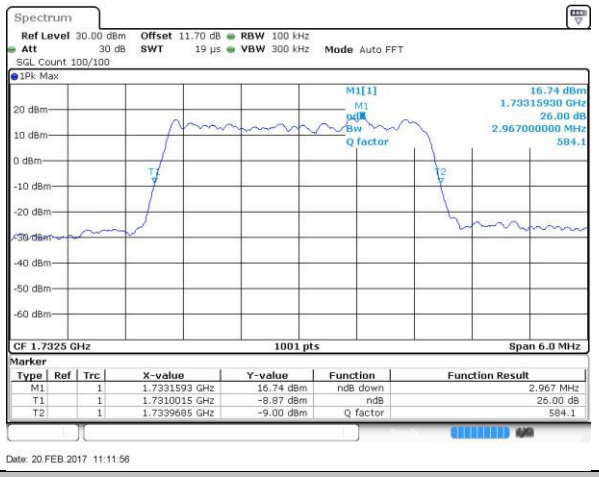
Lowest Channel / 3MHz / 16QAM



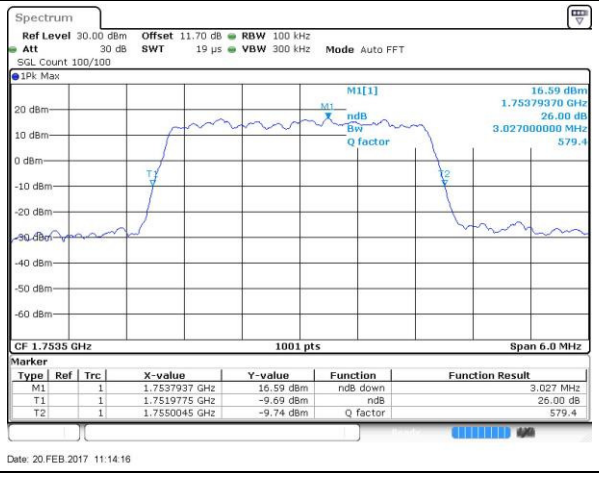
Middle Channel / 3MHz / QPSK



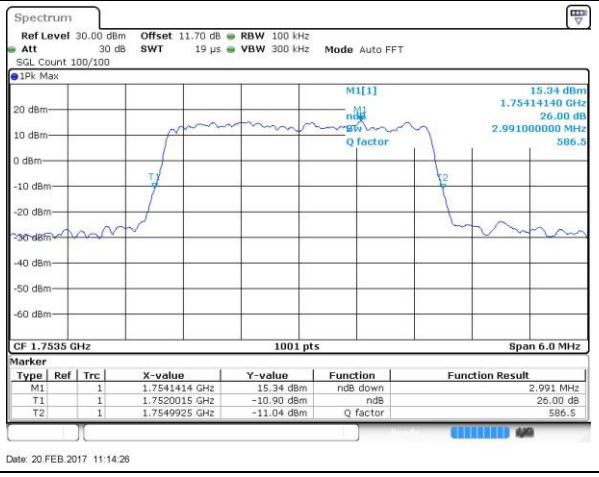
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

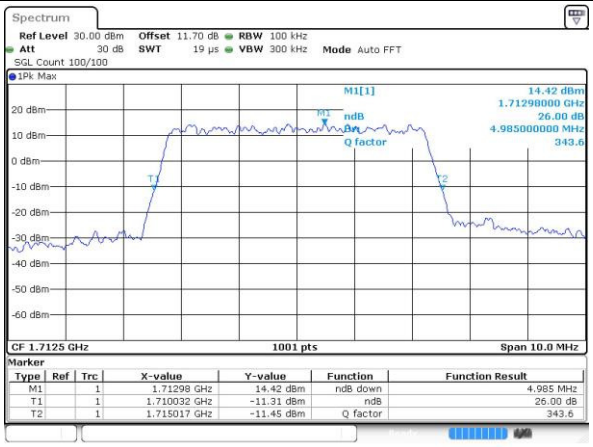


Highest Channel /3MHz / 16QAM

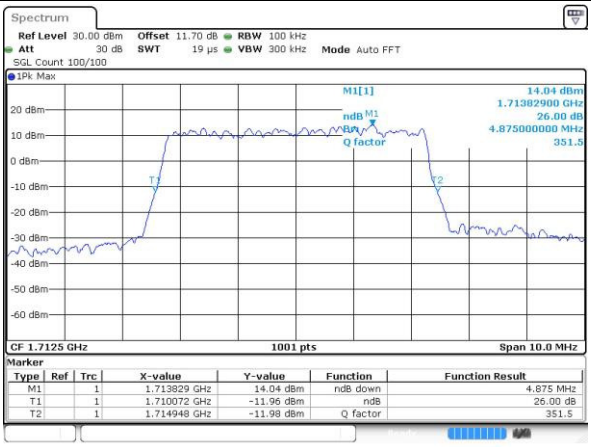


LTE Band 4

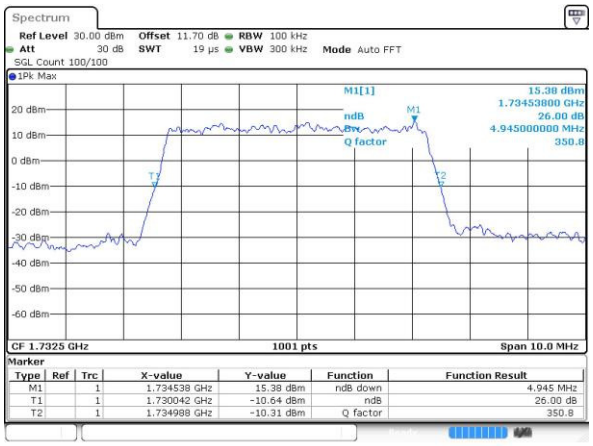
Lowest Channel / 5MHz / QPSK



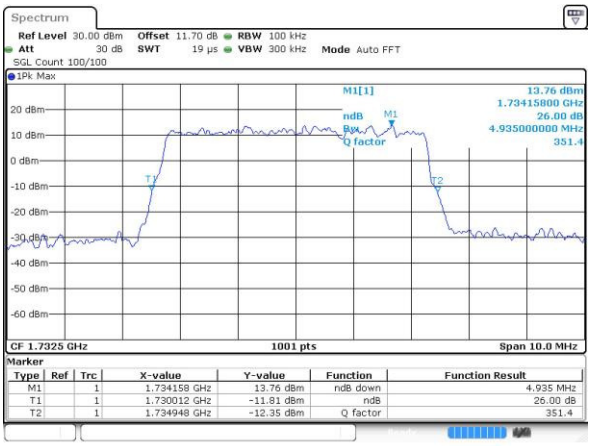
Lowest Channel / 5MHz / 16QAM



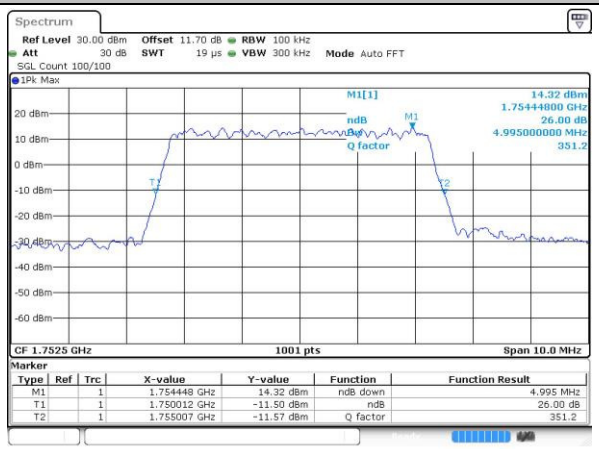
Middle Channel / 5MHz / QPSK



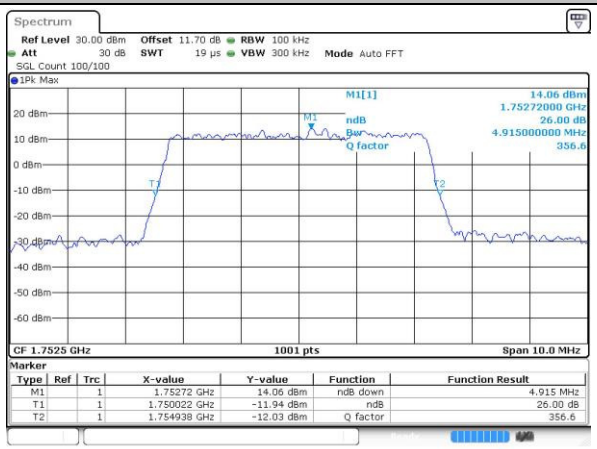
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

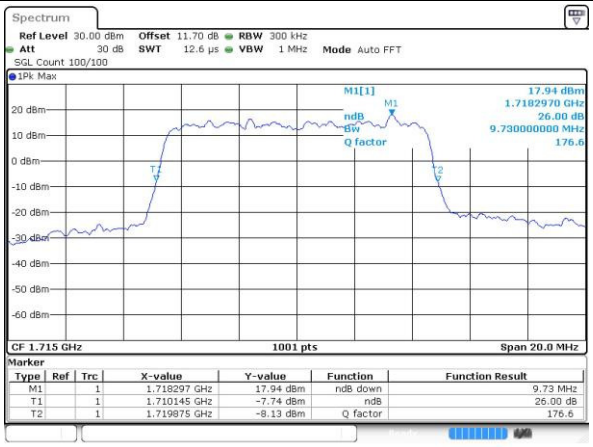


Highest Channel / 5MHz / 16QAM

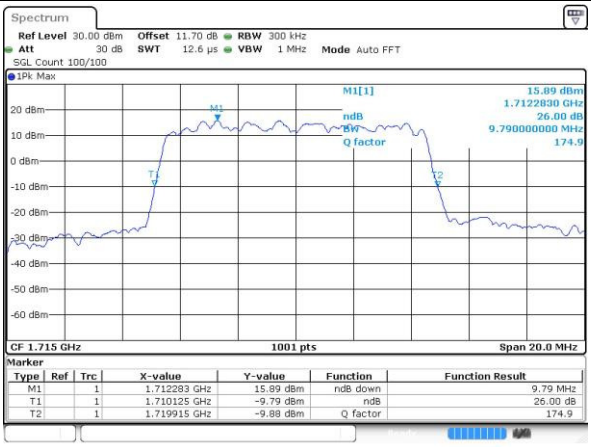


LTE Band 4

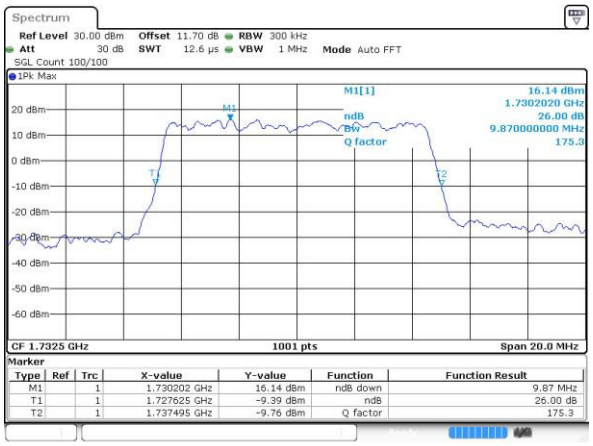
Lowest Channel / 10MHz / QPSK



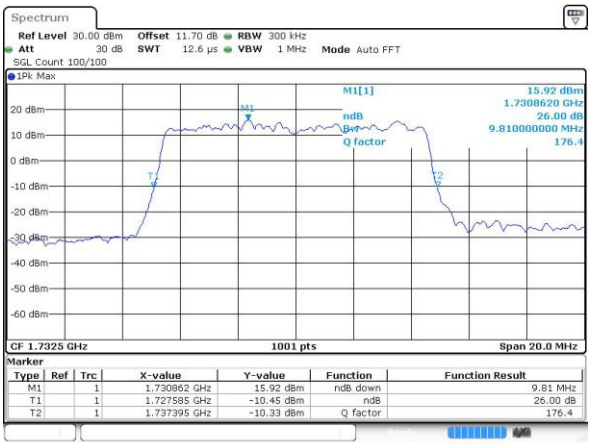
Lowest Channel / 10MHz / 16QAM



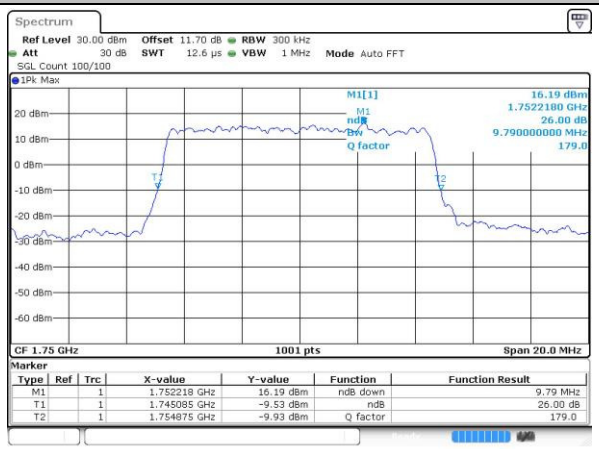
Middle Channel / 10MHz / QPSK



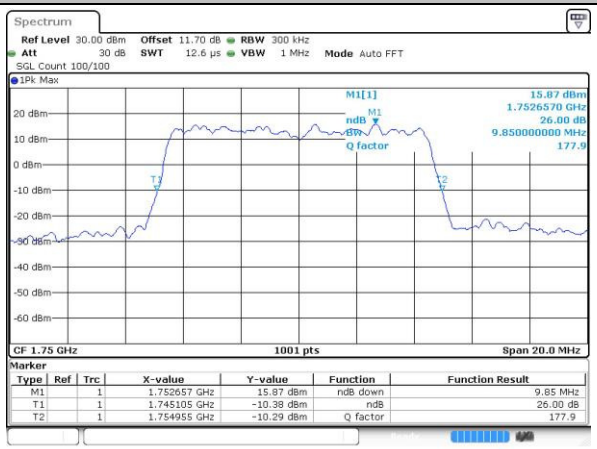
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

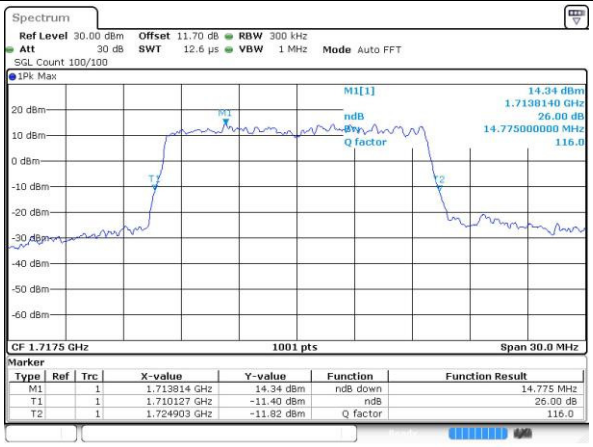


Highest Channel / 10MHz / 16QAM

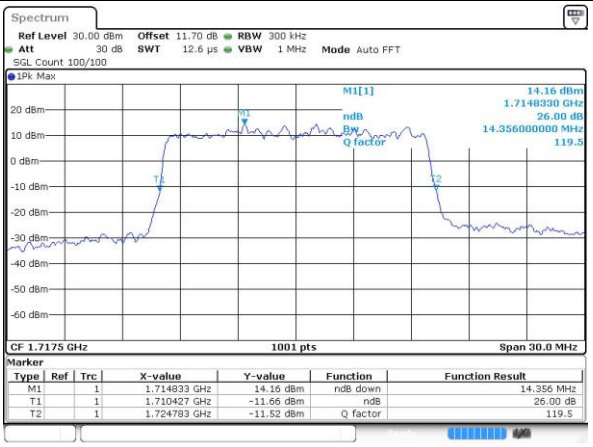


LTE Band 4

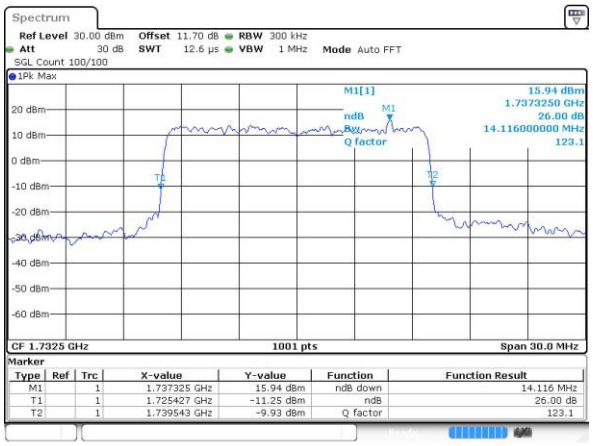
Lowest Channel / 15MHz / QPSK



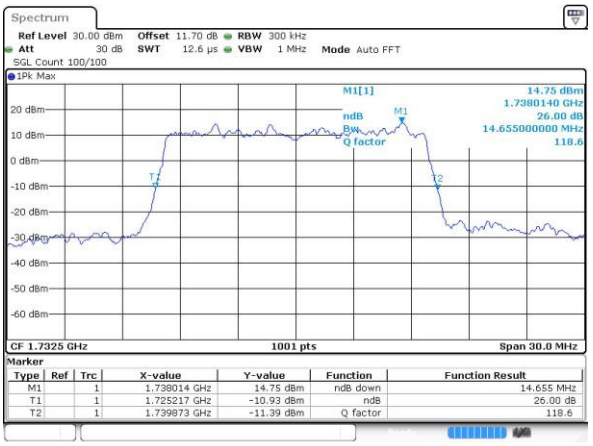
Lowest Channel / 15MHz / 16QAM



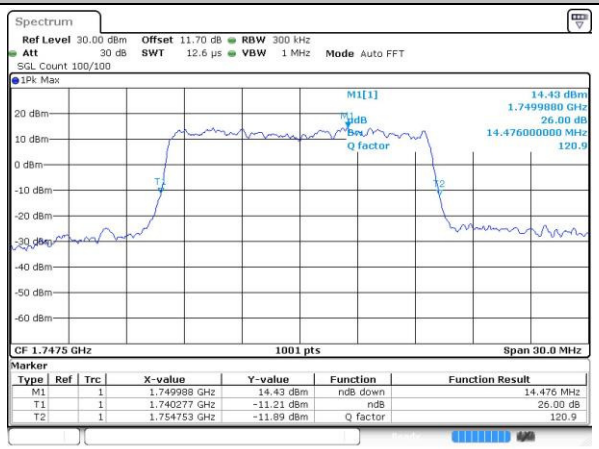
Middle Channel / 15MHz / QPSK



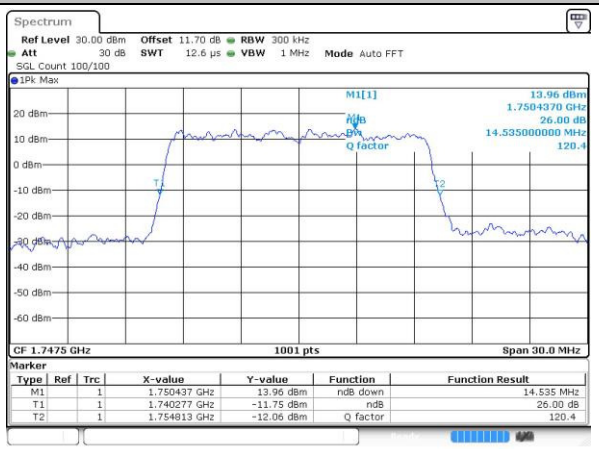
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

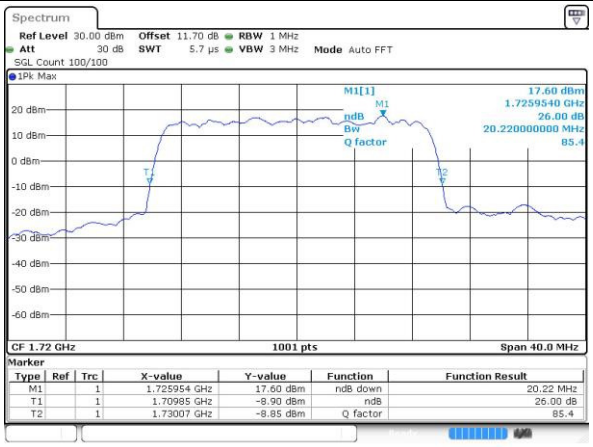


Highest Channel / 15MHz / 16QAM

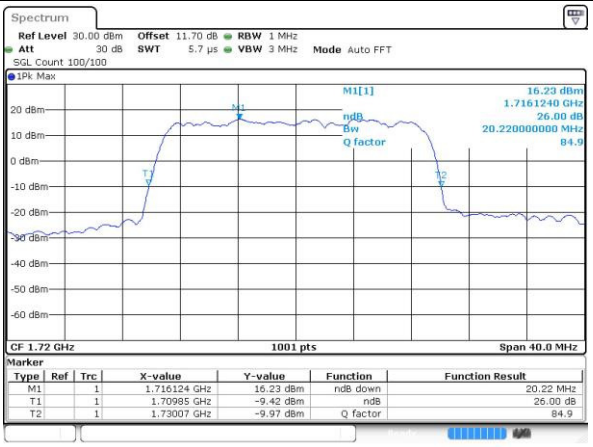


LTE Band 4

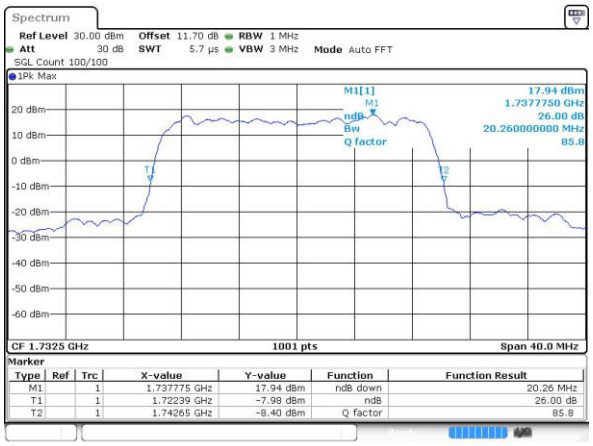
Lowest Channel / 20MHz / QPSK



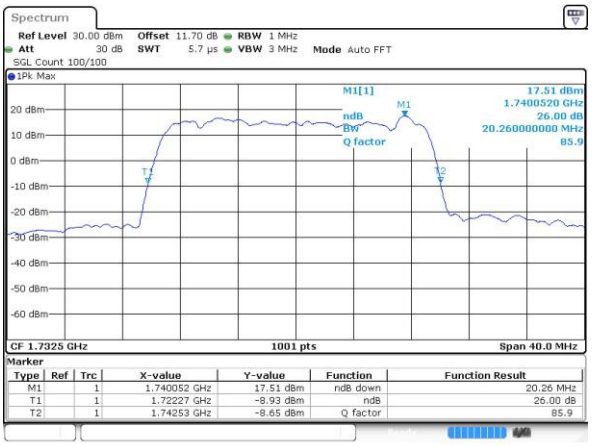
Lowest Channel / 20MHz / 16QAM



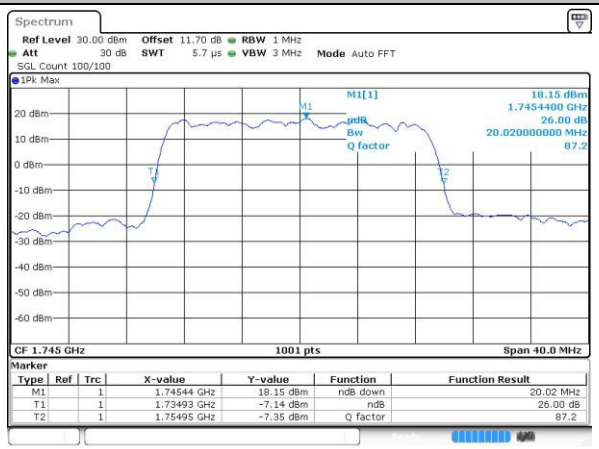
Middle Channel / 20MHz / QPSK



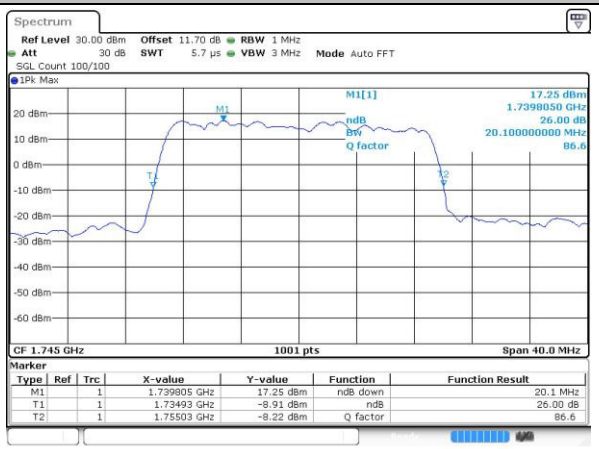
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

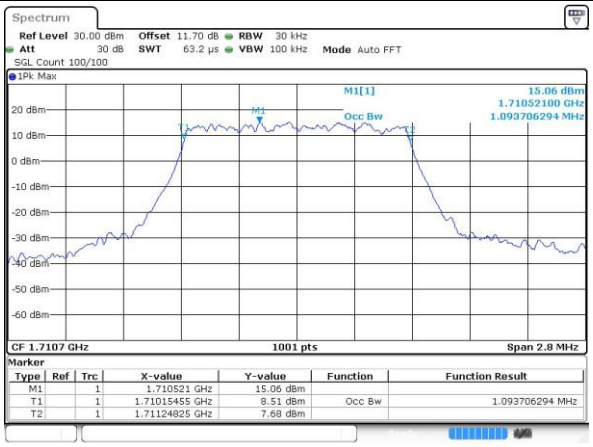


Occupied Bandwidth

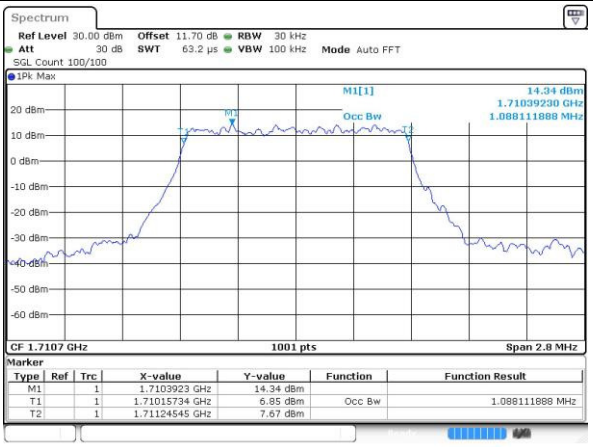
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.71	2.69	4.49	4.5	9.05	9.01	13.43	13.46	18.34	18.42
Middle CH	1.1	1.09	2.7	2.72	4.49	4.49	9.07	9.05	13.52	13.43	18.3	18.46
Highest CH	1.09	1.09	2.71	2.71	4.48	4.49	9.05	8.97	13.49	13.46	18.3	18.38

LTE Band 4

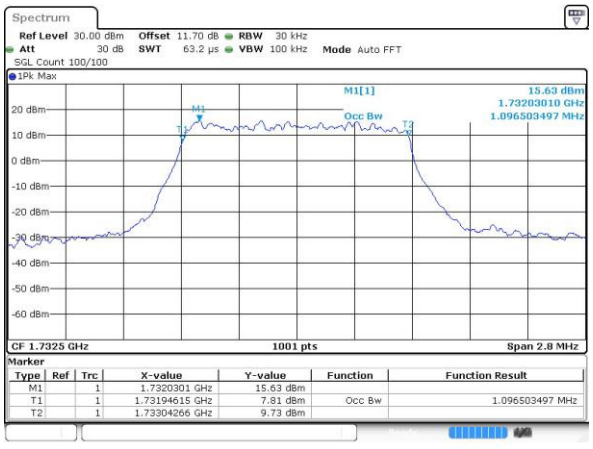
Lowest Channel / 1.4MHz / QPSK



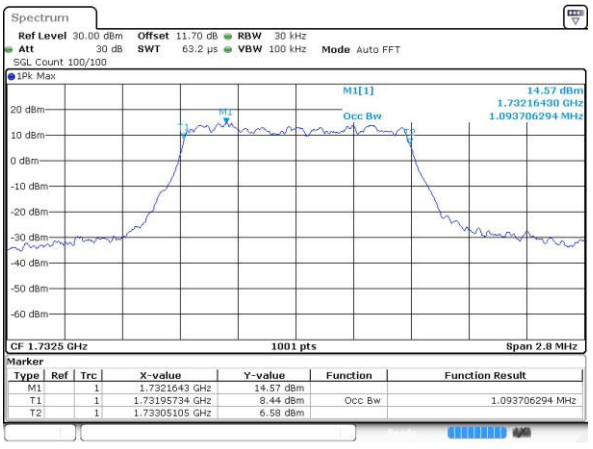
Lowest Channel / 1.4MHz / 16QAM



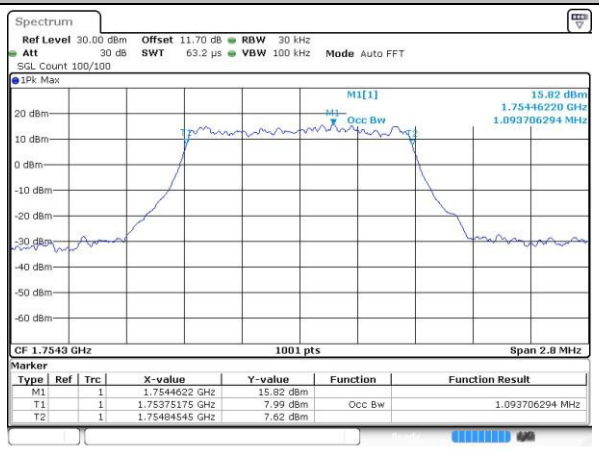
Middle Channel / 1.4MHz / QPSK



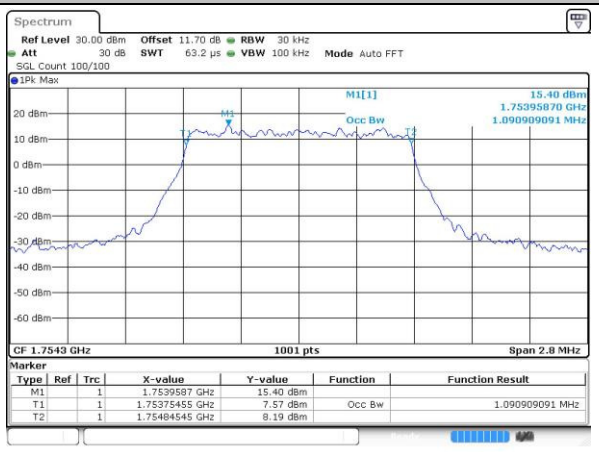
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

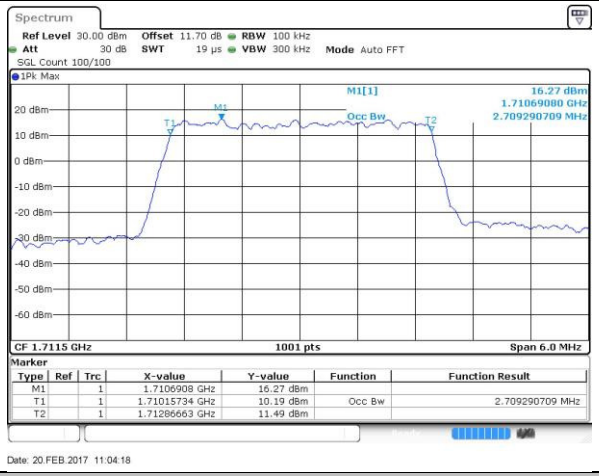


Highest Channel / 1.4MHz / 16QAM

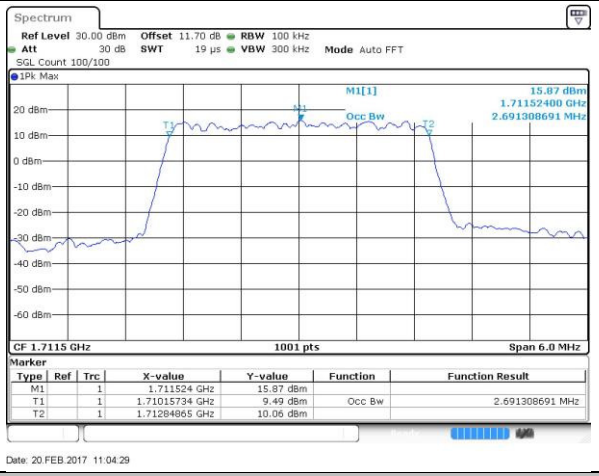


LTE Band 4

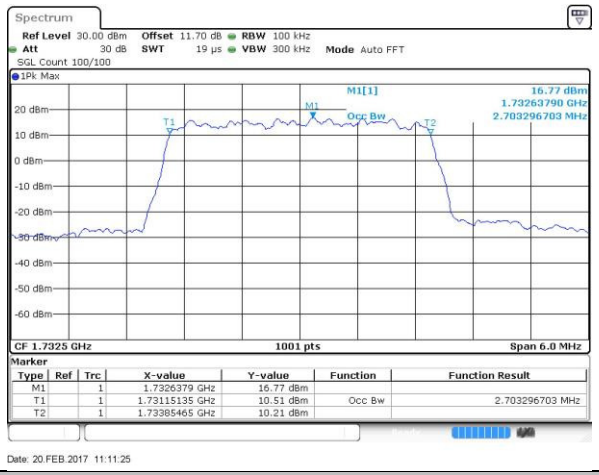
Lowest Channel / 3MHz / QPSK



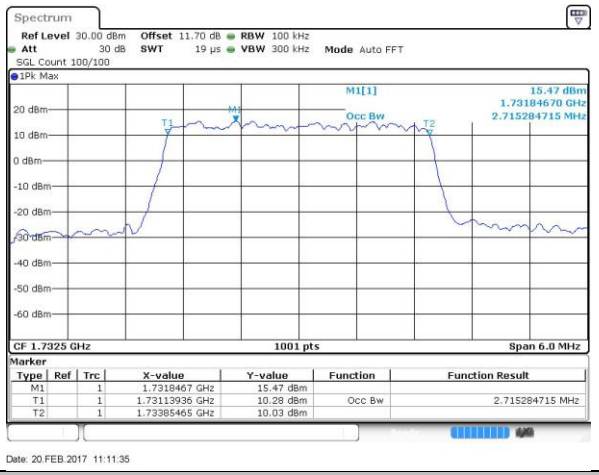
Lowest Channel / 3MHz / 16QAM



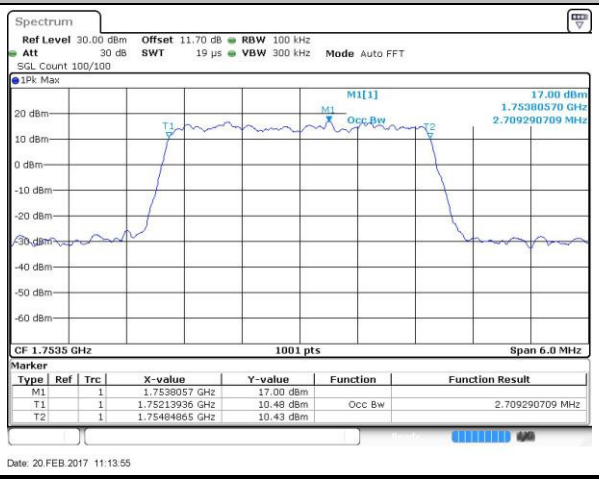
Middle Channel / 3MHz / QPSK



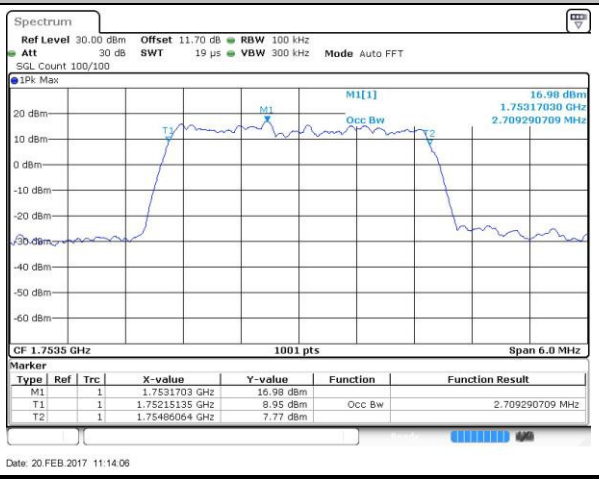
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

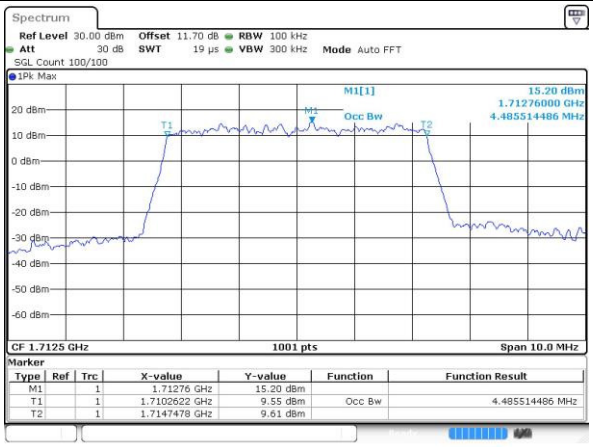


Highest Channel / 3MHz / 16QAM

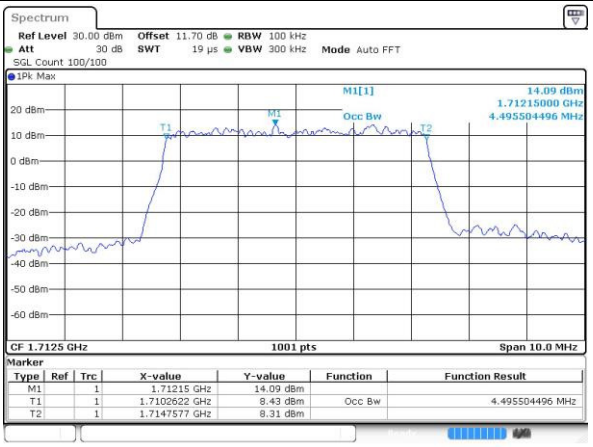


LTE Band 4

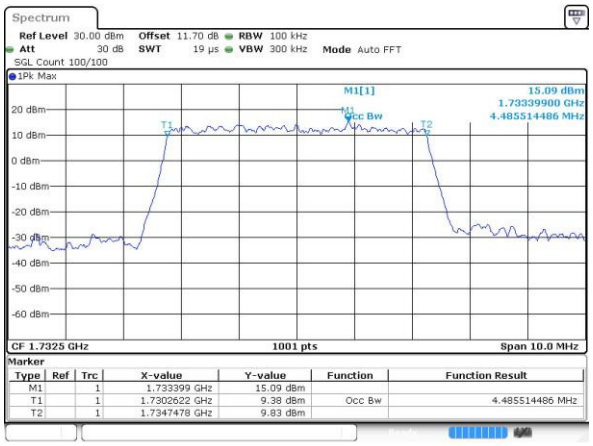
Lowest Channel / 5MHz / QPSK



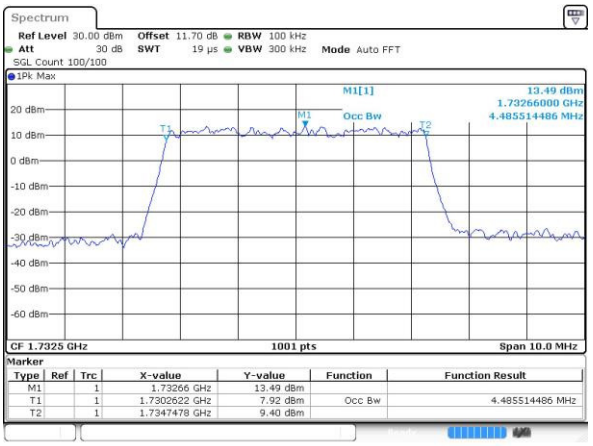
Lowest Channel / 5MHz / 16QAM



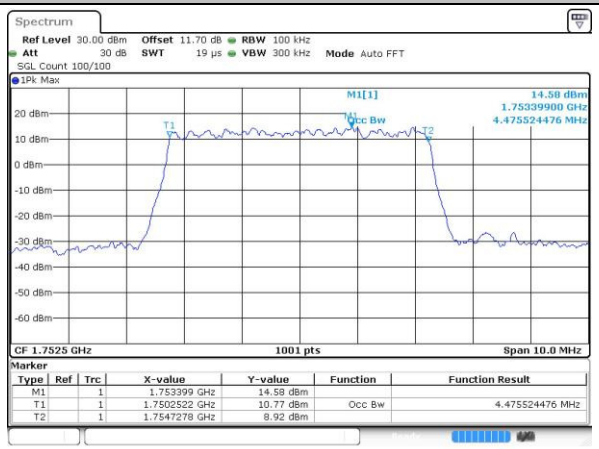
Middle Channel / 5MHz / QPSK



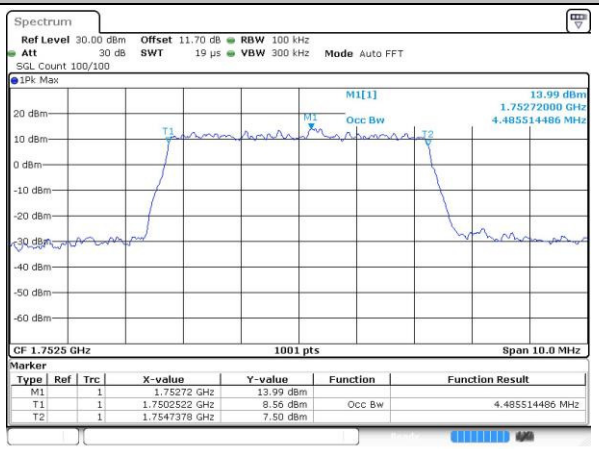
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

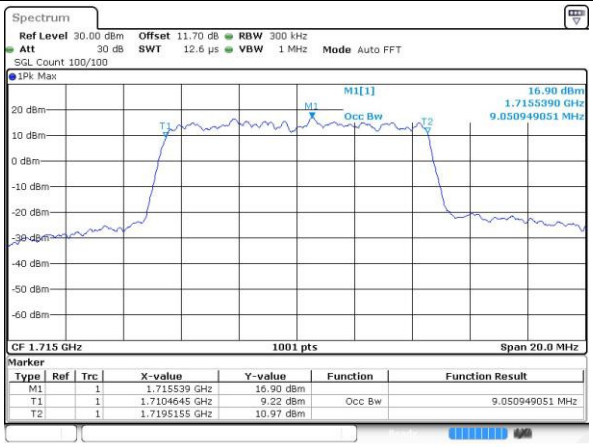


Highest Channel / 5MHz / 16QAM

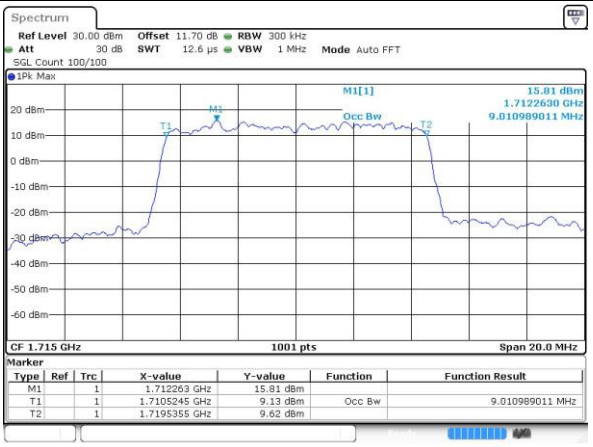


LTE Band 4

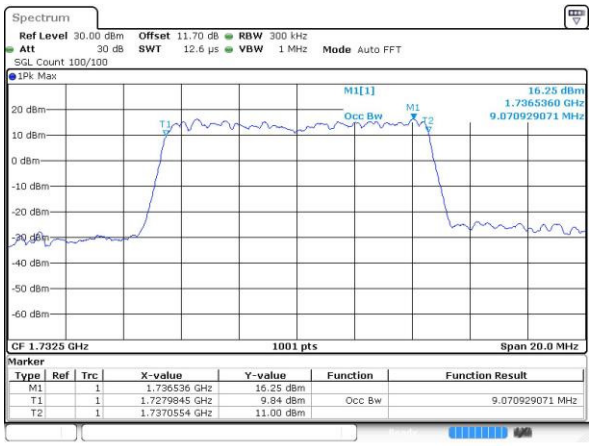
Lowest Channel / 10MHz / QPSK



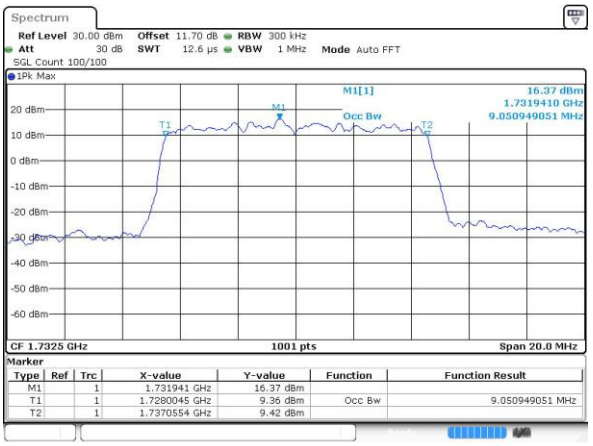
Lowest Channel / 10MHz / 16QAM



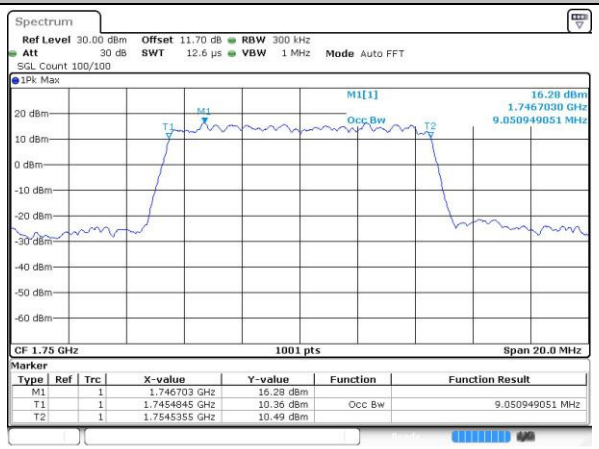
Middle Channel / 10MHz / QPSK



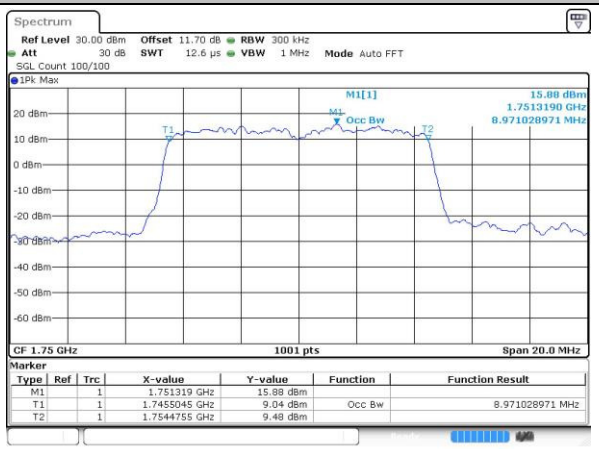
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

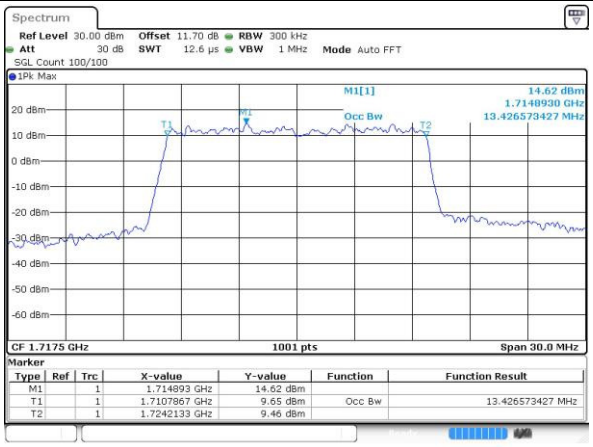


Highest Channel / 10MHz / 16QAM

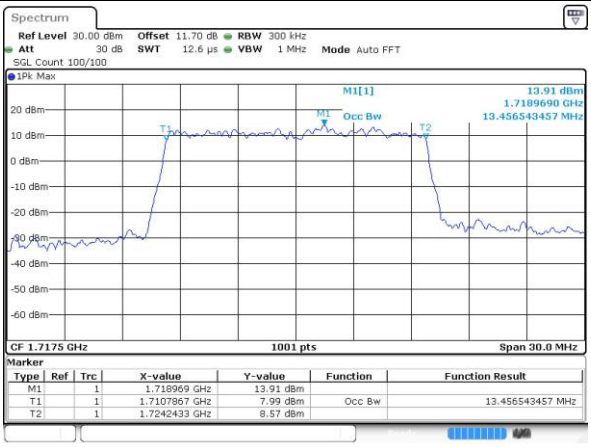


LTE Band 4

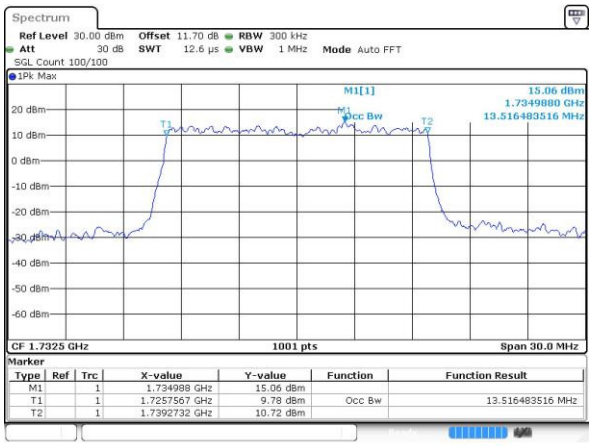
Lowest Channel / 15MHz / QPSK



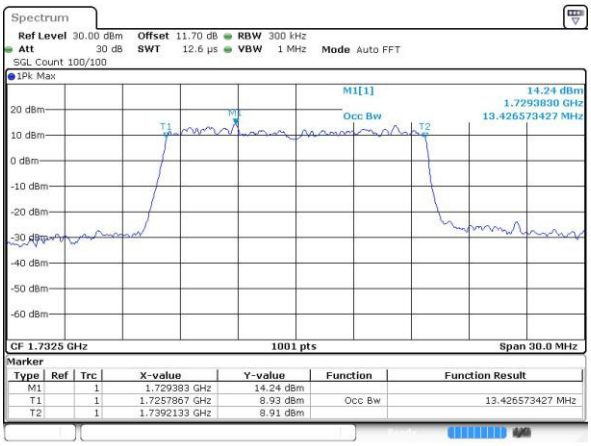
Lowest Channel / 15MHz / 16QAM



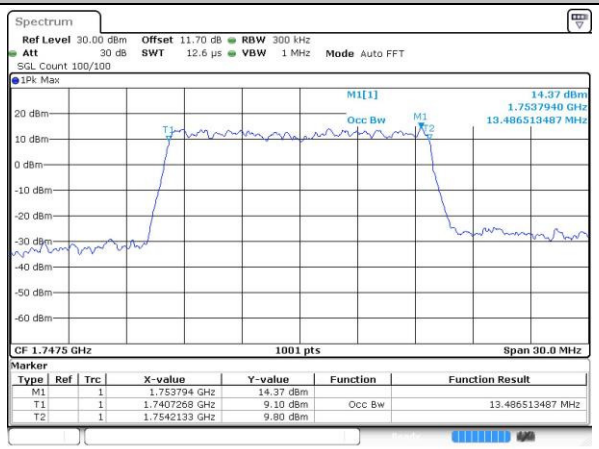
Middle Channel / 15MHz / QPSK



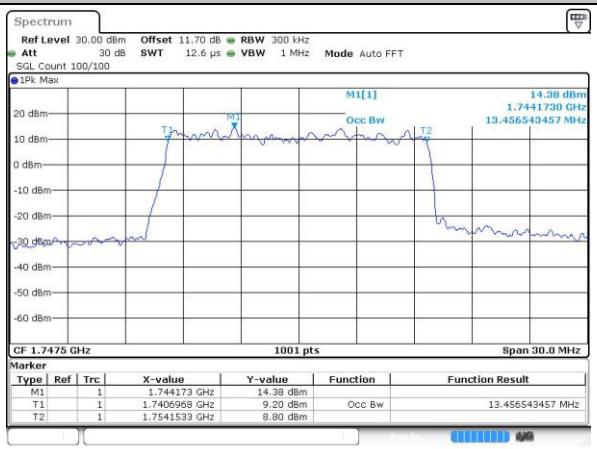
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

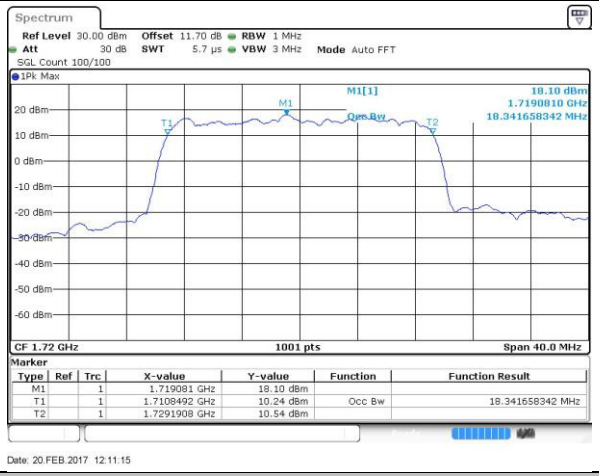


Highest Channel / 15MHz / 16QAM

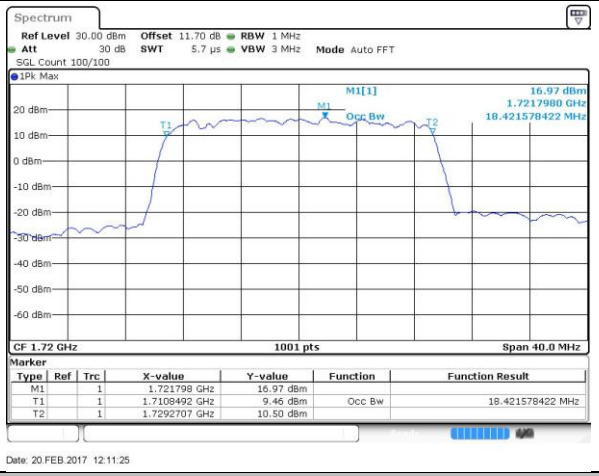


LTE Band 4

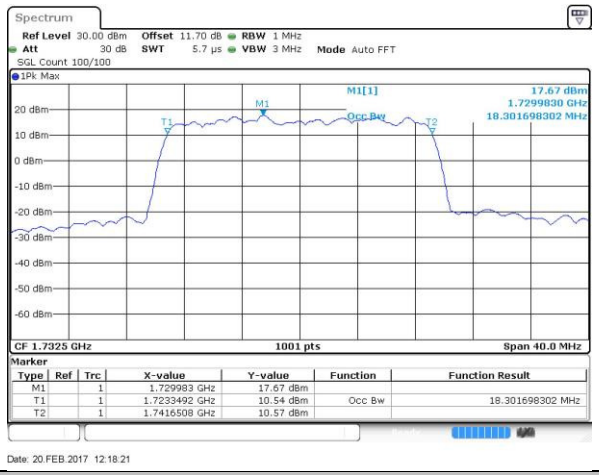
Lowest Channel / 20MHz / QPSK



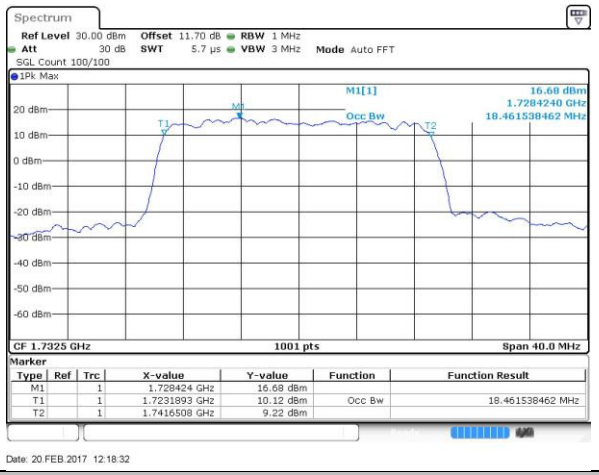
Lowest Channel / 20MHz / 16QAM



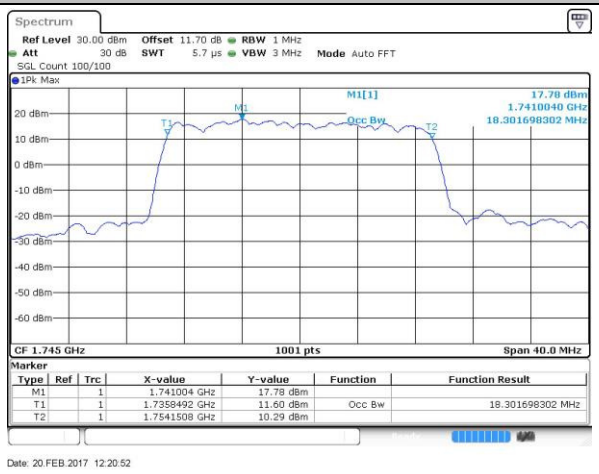
Middle Channel / 20MHz / QPSK



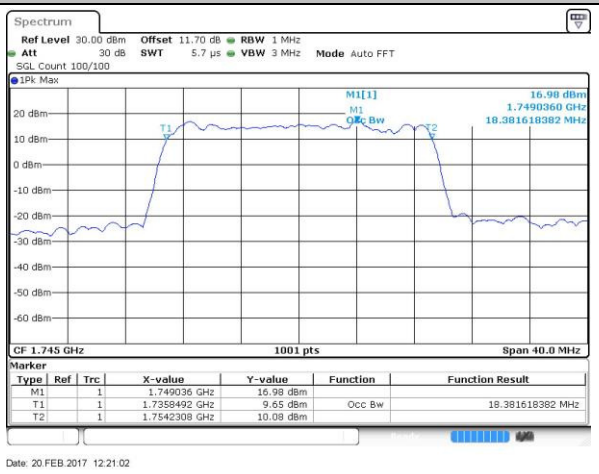
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



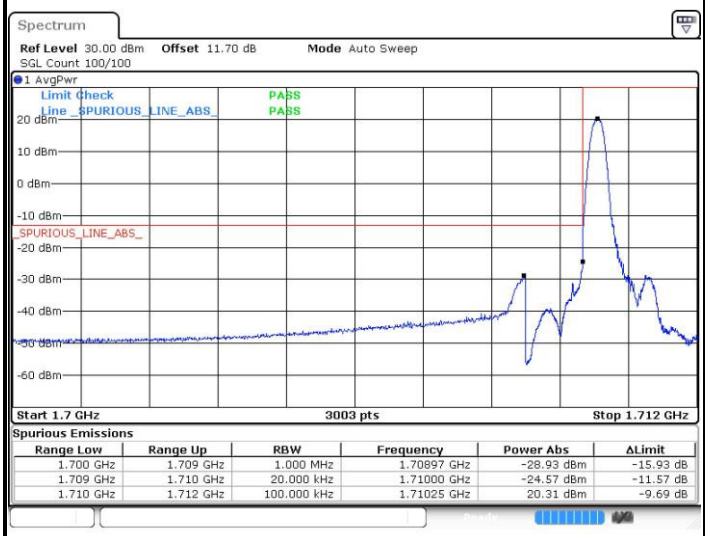
Highest Channel / 20MHz / 16QAM



Conducted Band Edge

LTE Band 4 / 1.4MHz / QPSK

Lowest Band Edge / 1RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70897 GHz	-28.93 dBm	-15.93 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.71000 GHz	-24.57 dBm	-11.57 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71025 GHz	20.31 dBm	-9.69 dB

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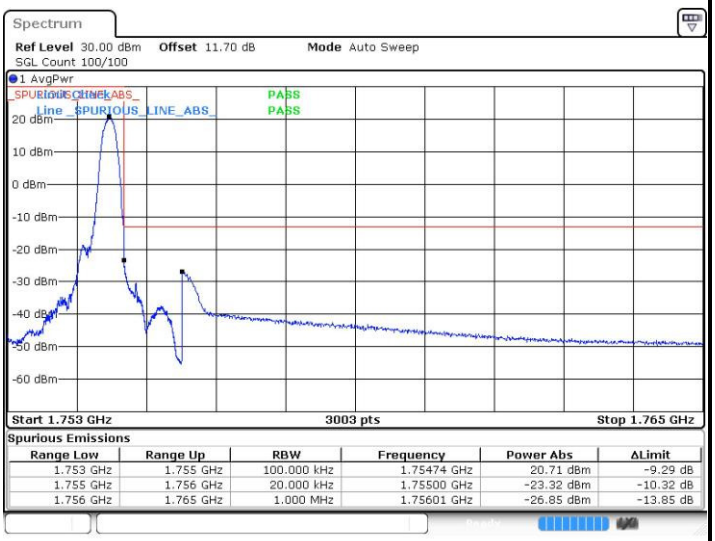
Highest Band Edge / 1RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.753 GHz	1.755 GHz	100.000 kHz	1.75474 GHz	20.71 dBm	-9.29 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75500 GHz	-23.32 dBm	-10.32 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75601 GHz	-26.85 dBm	-13.85 dB

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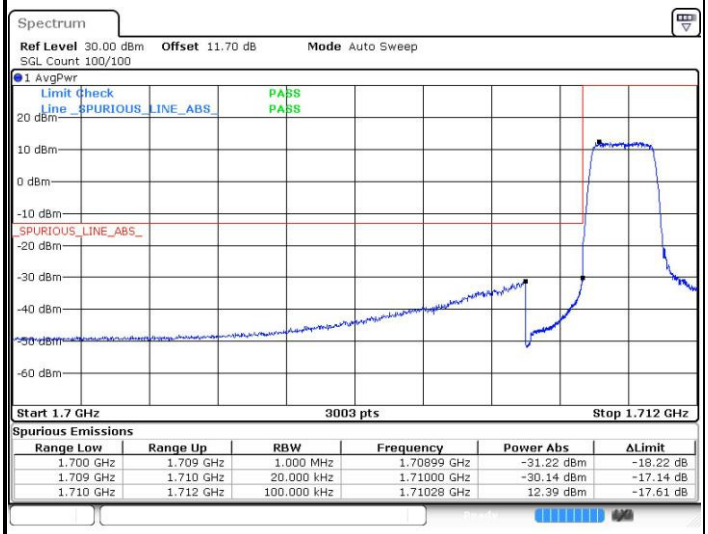
Lowest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70899 GHz	-31.22 dBm	-18.22 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.71000 GHz	-30.14 dBm	-17.14 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71028 GHz	12.39 dBm	-17.61 dB

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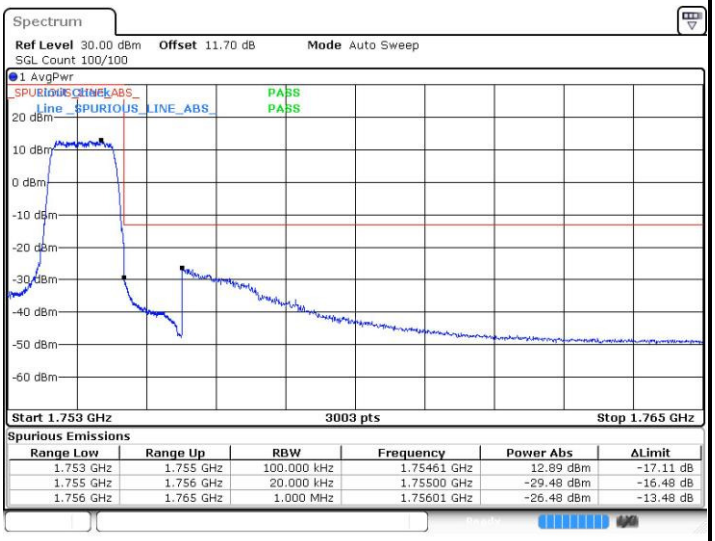
Highest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.753 GHz	1.755 GHz	100.000 kHz	1.75461 GHz	12.89 dBm	-17.11 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75500 GHz	-29.48 dBm	-16.48 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75601 GHz	-26.48 dBm	-13.48 dB

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