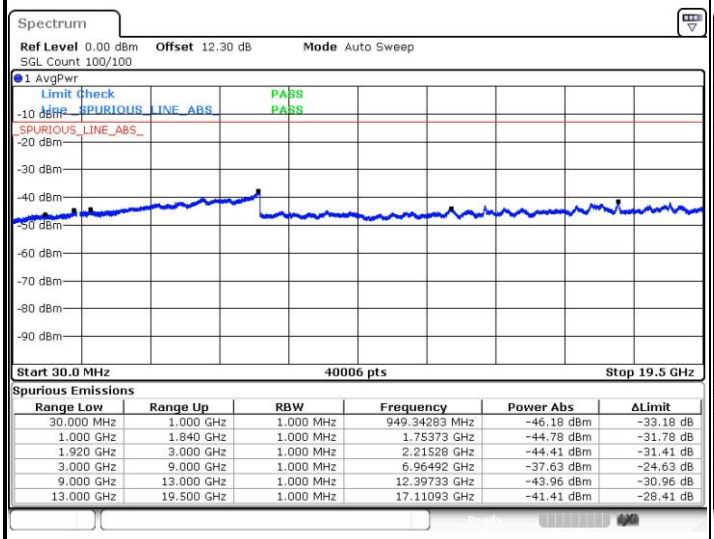
LTE Band 2 / 15MHz

Highest Channel / QPSK

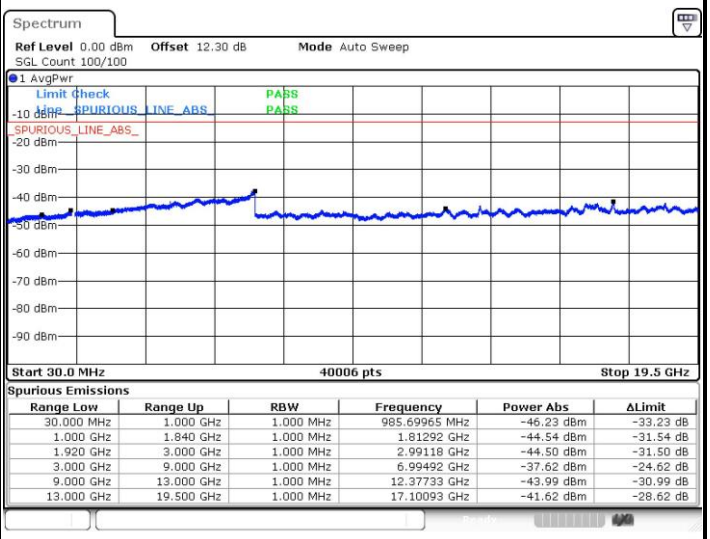


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	949.34283 MHz	-46.18 dBm	-33.18 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.75373 GHz	-44.78 dBm	-31.78 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.21528 GHz	-44.41 dBm	-31.41 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.96492 GHz	-37.63 dBm	-24.63 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.39733 GHz	-43.96 dBm	-30.96 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.11093 GHz	-41.41 dBm	-28.41 dB

Date: 18.JUL.2018 08:50:22

Highest Channel / 16QAM



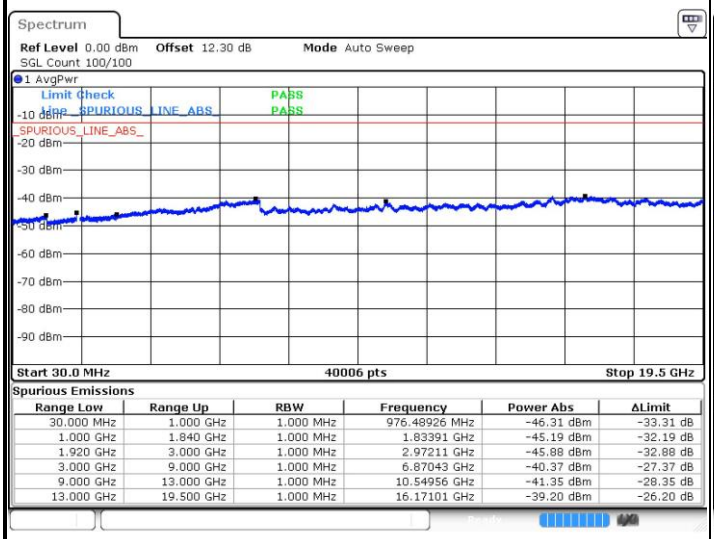
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	985.69965 MHz	-46.23 dBm	-33.23 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81292 GHz	-44.54 dBm	-31.54 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99118 GHz	-44.50 dBm	-31.50 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99492 GHz	-37.62 dBm	-24.62 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.37733 GHz	-43.99 dBm	-30.99 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.10093 GHz	-41.62 dBm	-28.62 dB

Date: 18.JUL.2018 08:51:24

LTE Band 2 / 20MHz

Lowest Channel / QPSK

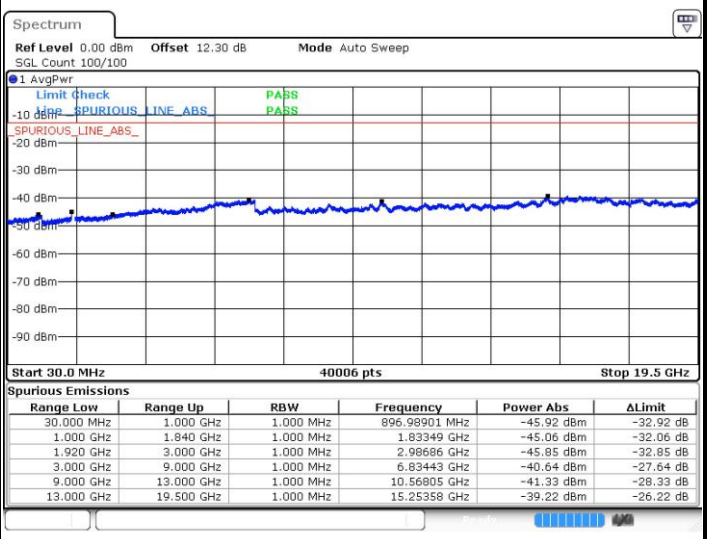


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	976.48926 MHz	-46.31 dBm	-33.31 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83391 GHz	-45.19 dBm	-32.19 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97211 GHz	-45.88 dBm	-32.88 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.87043 GHz	-40.37 dBm	-27.37 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.54956 GHz	-41.35 dBm	-28.35 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.17101 GHz	-39.20 dBm	-26.20 dB

Date: 20.JUL.2018 01:08:59

Lowest Channel / 16QAM



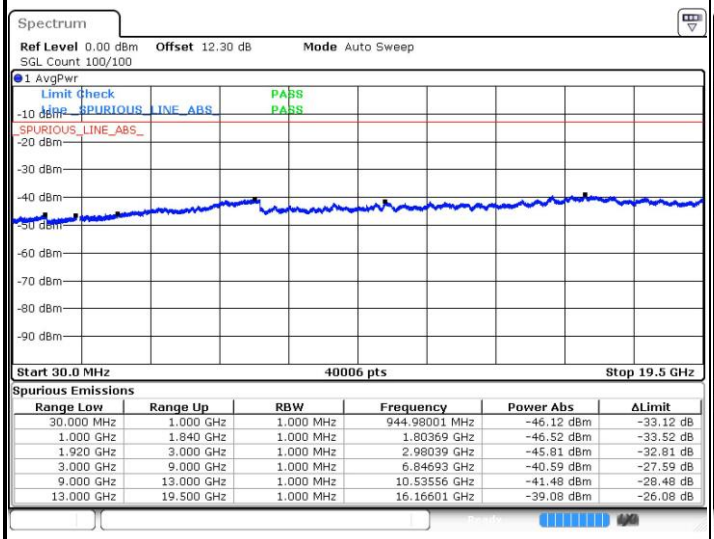
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	896.98901 MHz	-45.92 dBm	-32.92 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-45.06 dBm	-32.06 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98686 GHz	-45.85 dBm	-32.85 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.83443 GHz	-40.64 dBm	-27.64 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.56805 GHz	-41.33 dBm	-28.33 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.25358 GHz	-39.22 dBm	-26.22 dB

Date: 20.JUL.2018 01:10:00

LTE Band 2 / 20MHz

Middle Channel / QPSK

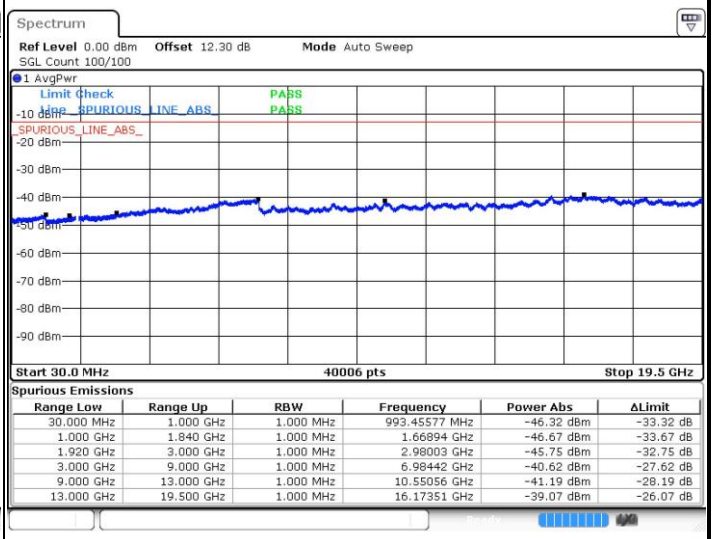


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	944.98001 MHz	-46.12 dBm	-33.12 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80369 GHz	-46.52 dBm	-33.52 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98039 GHz	-45.81 dBm	-32.81 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.84693 GHz	-40.59 dBm	-27.59 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.53556 GHz	-41.48 dBm	-28.48 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.16601 GHz	-39.08 dBm	-26.08 dB

Date: 20.JUL.2018 01:11:40

Middle Channel / 16QAM

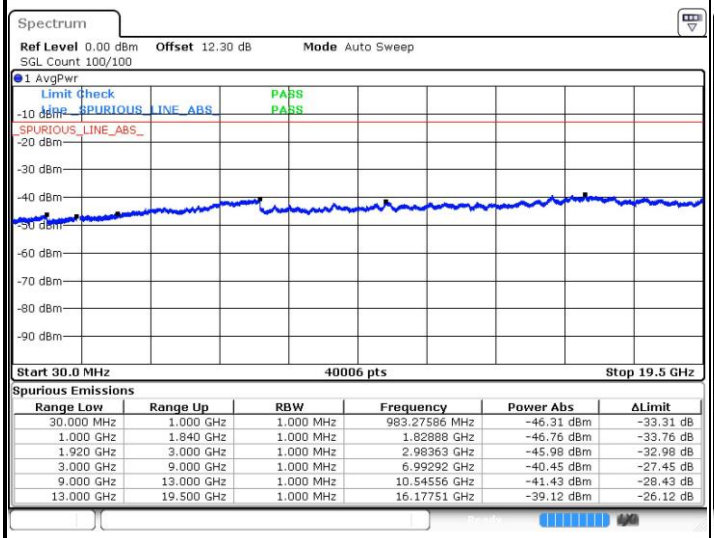


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	993.45577 MHz	-46.32 dBm	-33.32 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.66894 GHz	-46.67 dBm	-33.67 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98003 GHz	-45.75 dBm	-32.75 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98442 GHz	-40.62 dBm	-27.62 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.55056 GHz	-41.19 dBm	-28.19 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.17351 GHz	-39.07 dBm	-26.07 dB

Date: 20.JUL.2018 01:12:39

Highest Channel / QPSK

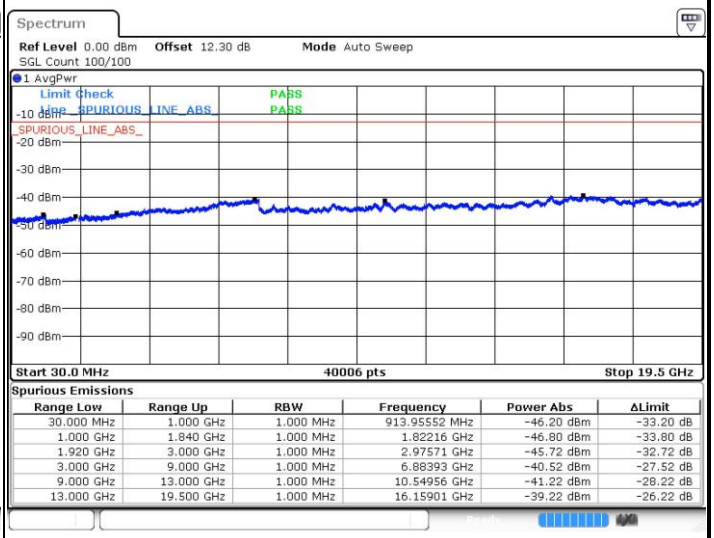


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.27586 MHz	-46.31 dBm	-33.31 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82888 GHz	-46.76 dBm	-33.76 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98363 GHz	-45.98 dBm	-32.98 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99292 GHz	-40.45 dBm	-27.45 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.54556 GHz	-41.43 dBm	-28.43 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.17751 GHz	-39.12 dBm	-26.12 dB

Date: 20.JUL.2018 01:19:09

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	913.95552 MHz	-46.20 dBm	-33.20 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82216 GHz	-46.80 dBm	-33.80 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97571 GHz	-45.72 dBm	-32.72 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.88393 GHz	-40.52 dBm	-27.52 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.54956 GHz	-41.22 dBm	-28.22 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.15901 GHz	-39.22 dBm	-26.22 dB

Date: 20.JUL.2018 01:20:09

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	0.0021	PASS
40	Normal Voltage	0.0035	
30	Normal Voltage	0.0003	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0046	
0	Normal Voltage	0.0060	
-10	Normal Voltage	0.0031	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0016	
20	Maximum Voltage	0.0038	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0057	

Note:

1. Normal Voltage =3.8 V.；Battery End Point (BEP) =3.4 V.；Maximum Voltage =4.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

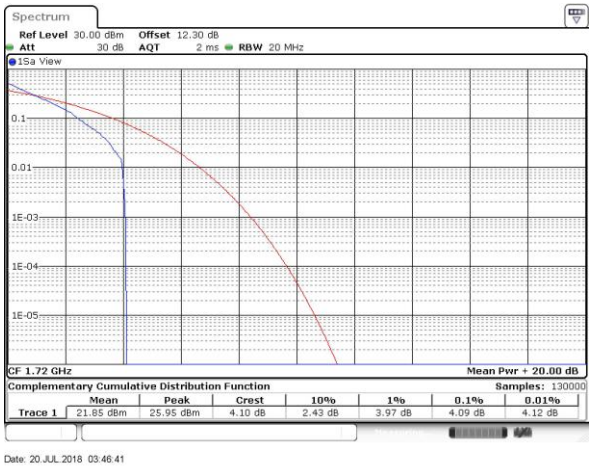
LTE Band 4

Peak-to-Average Ratio

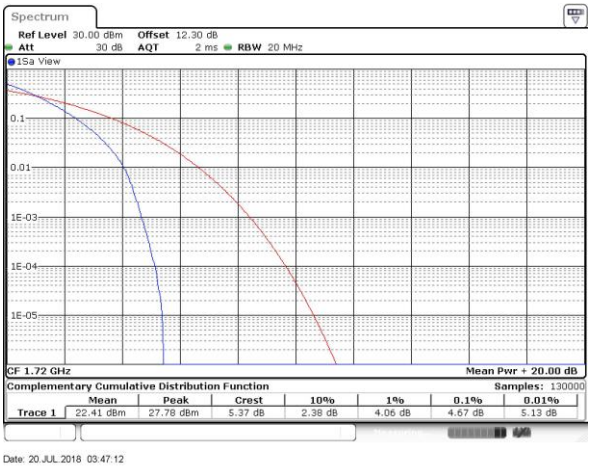
Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.09	4.67	4.9	5.65	PASS
Middle CH	3.94	4.72	4.55	5.65	
Highest CH	4.12	4.61	4.99	5.57	

LTE Band 4 / 20MHz / QPSK

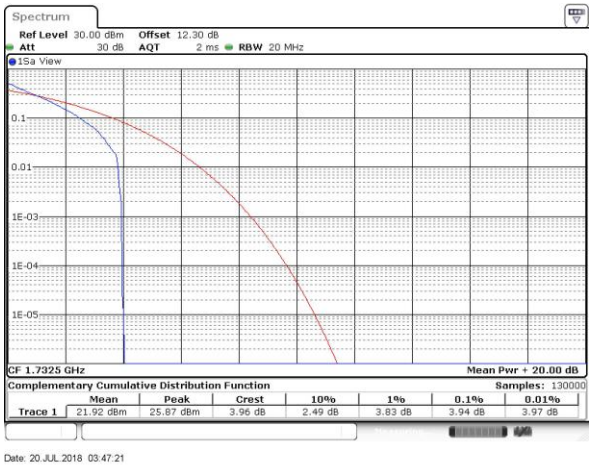
Lowest Channel / 1RB



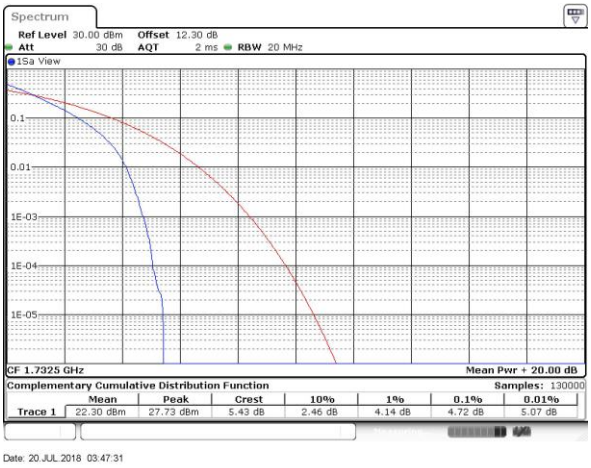
Lowest Channel / Full RB



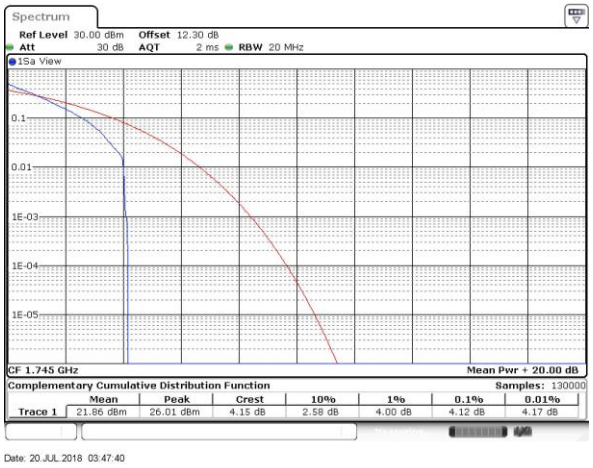
Middle Channel / 1RB



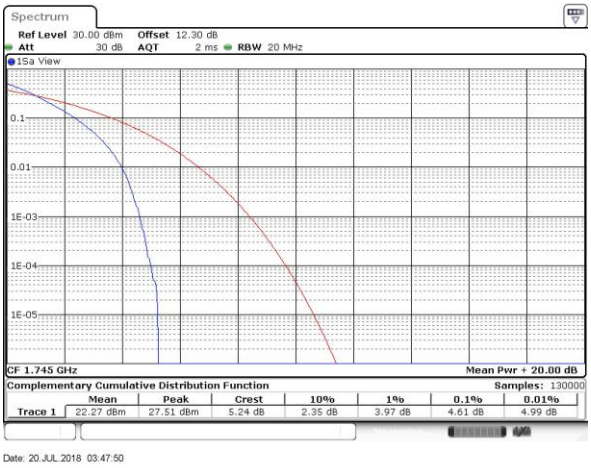
Middle Channel / Full RB



Highest Channel / 1RB

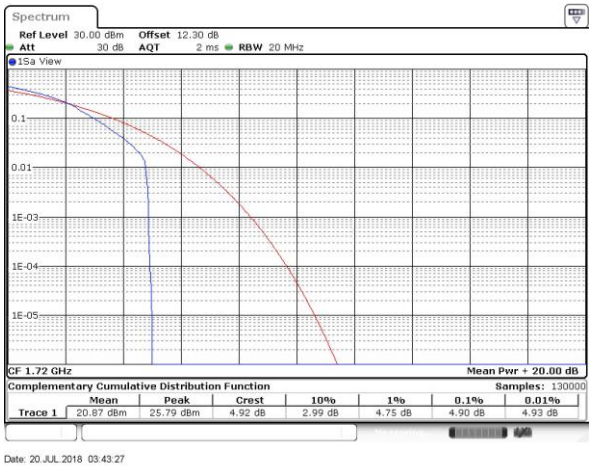


Highest Channel / Full RB

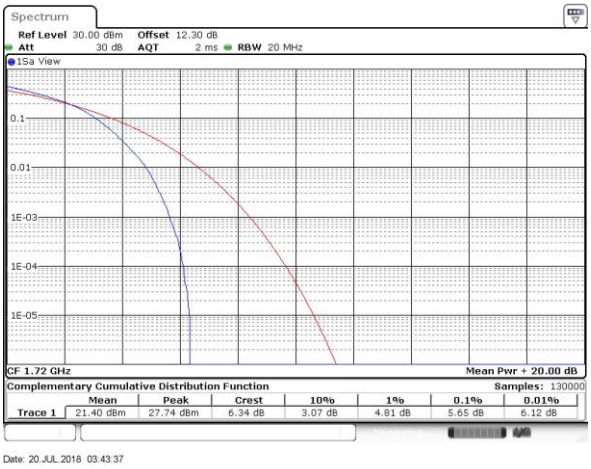


LTE Band 4 / 20MHz / 16QAM

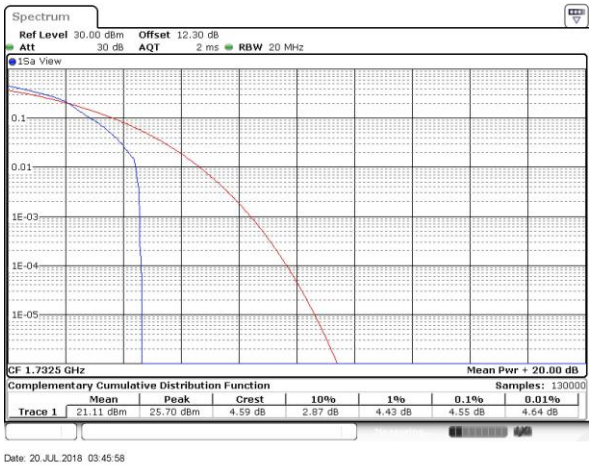
Lowest Channel / 1RB



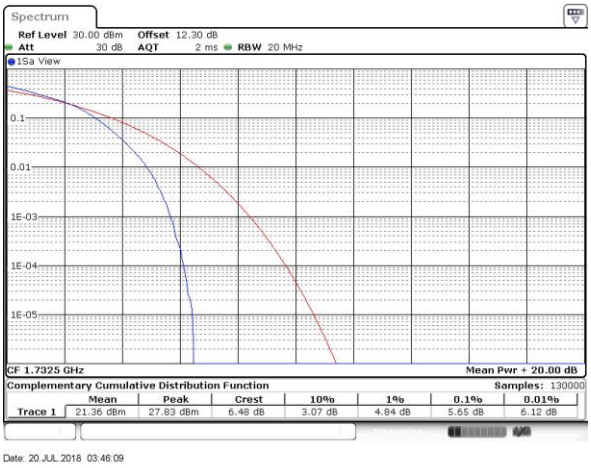
Lowest Channel / Full RB



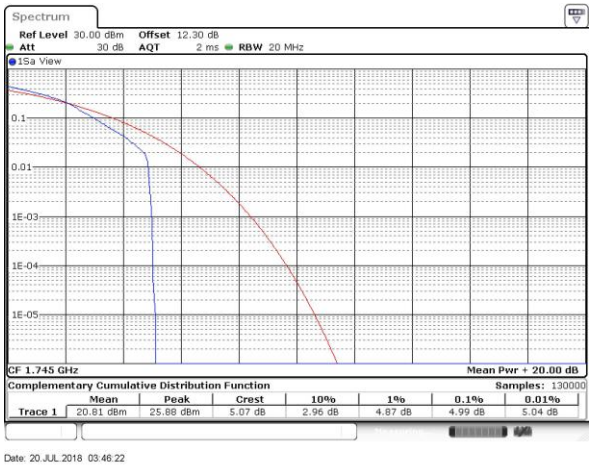
Middle Channel / 1RB



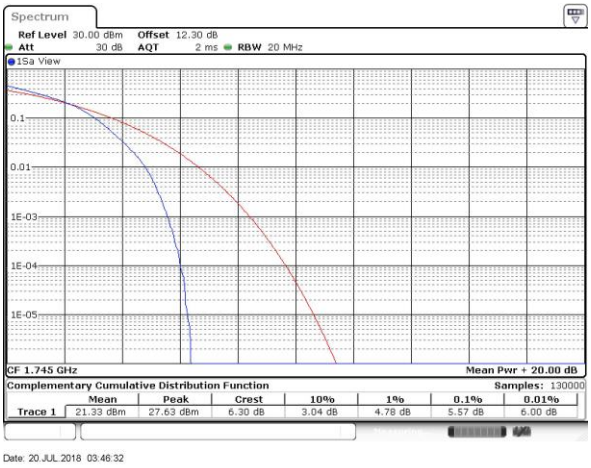
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

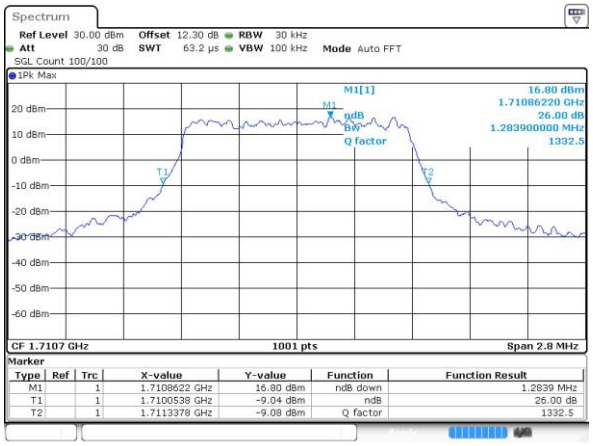


26dB Bandwidth

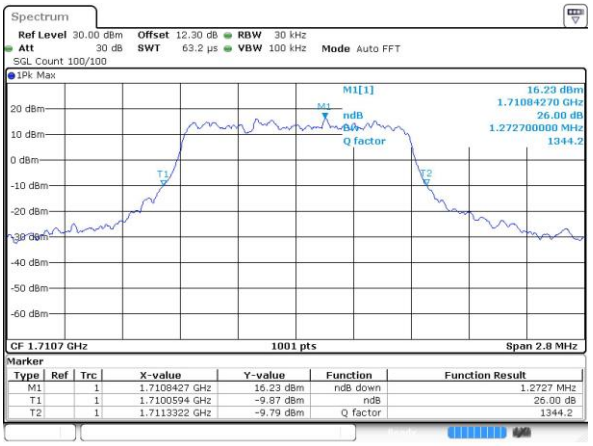
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.28	1.27	3.05	2.99	4.94	4.92	9.95	9.87	14.63	14.36	20.1	20.14
Middle CH	1.30	1.27	3.02	3.00	4.91	4.96	9.75	9.77	14.51	14.51	20.06	20.18
Highest CH	1.26	1.28	3.03	3.02	4.97	5.02	9.89	9.91	14.48	14.33	20.26	20.14

LTE Band 4

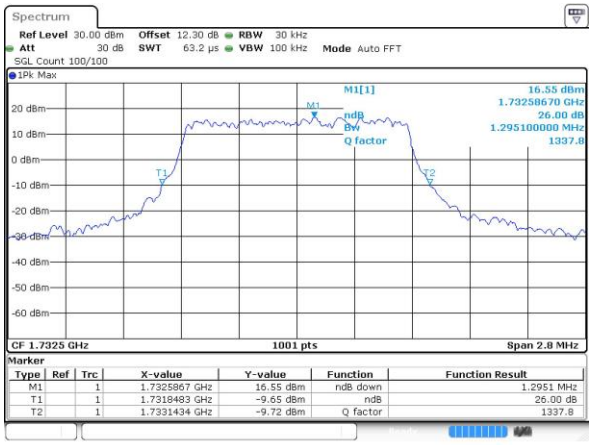
Lowest Channel / 1.4MHz / QPSK



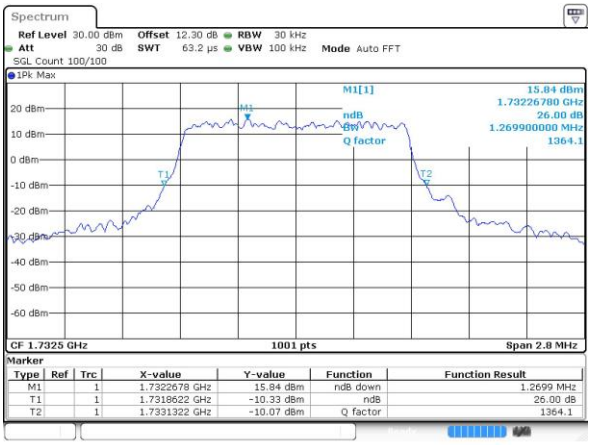
Lowest Channel / 1.4MHz / 16QAM



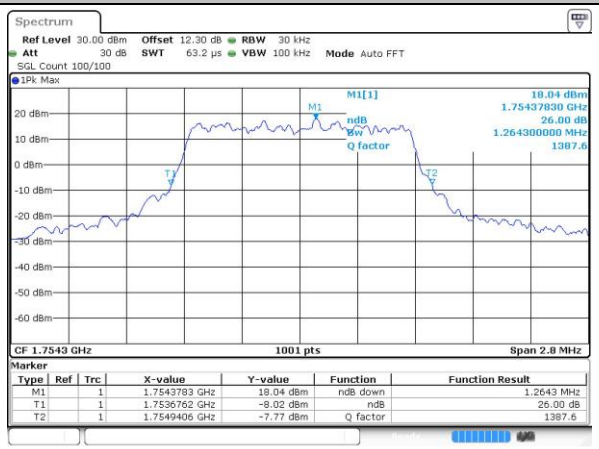
Middle Channel / 1.4MHz / QPSK



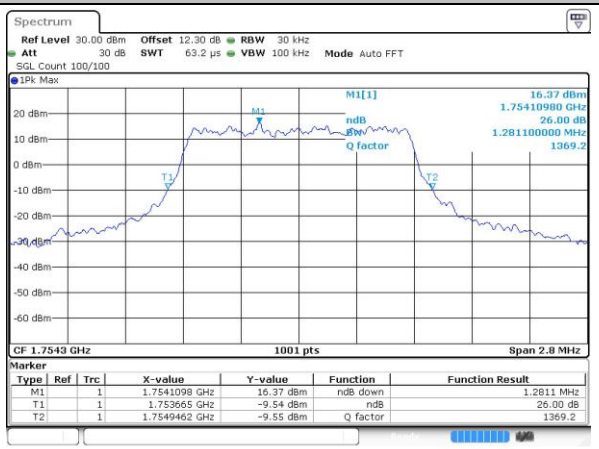
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

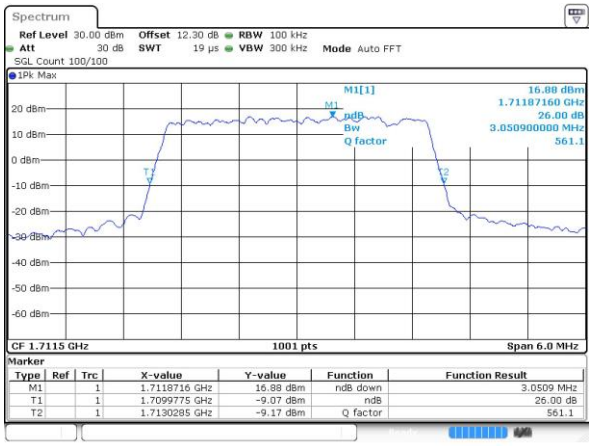


Highest Channel / 1.4MHz / 16QAM

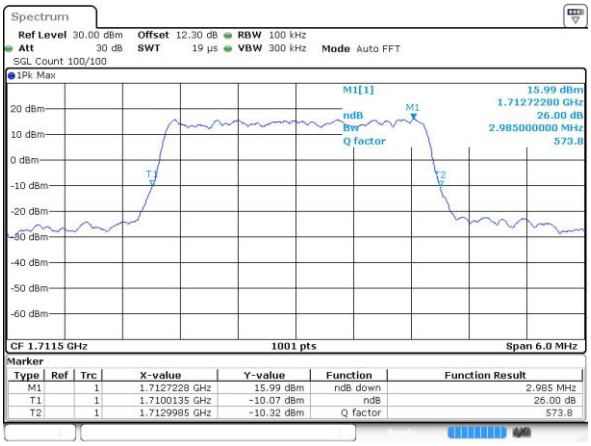


LTE Band 4

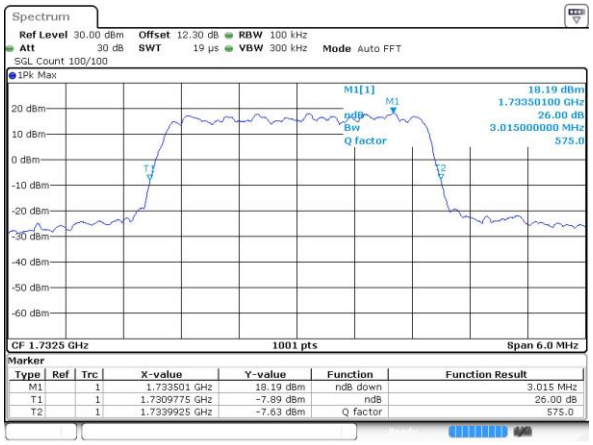
Lowest Channel / 3MHz / QPSK



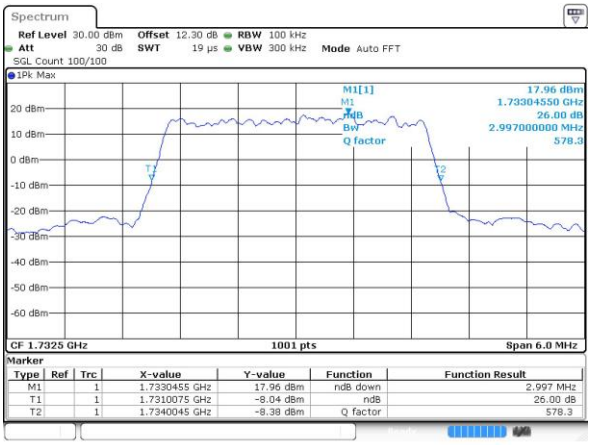
Lowest Channel / 3MHz / 16QAM



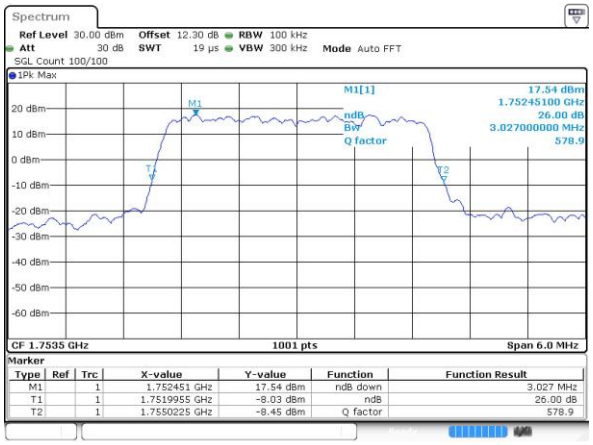
Middle Channel / 3MHz / QPSK



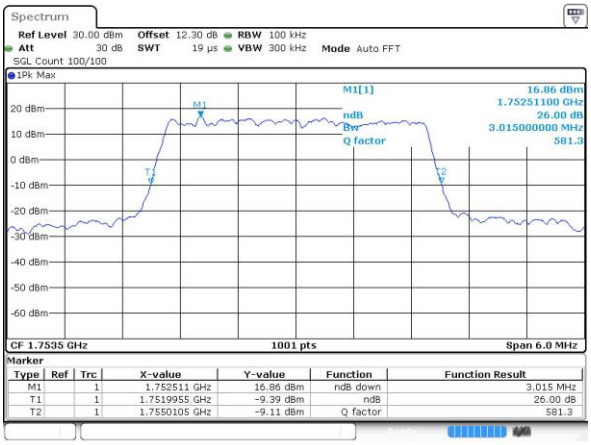
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

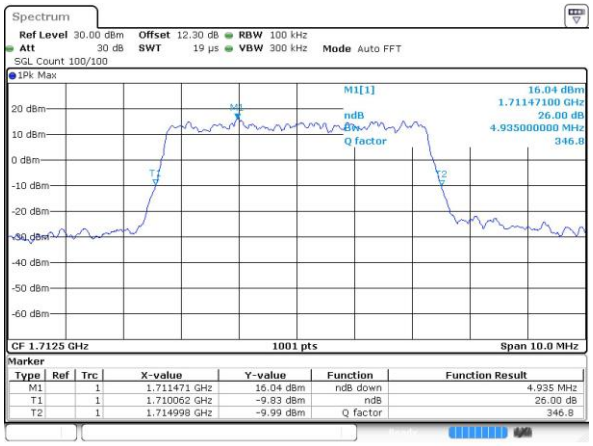


Highest Channel /3MHz / 16QAM

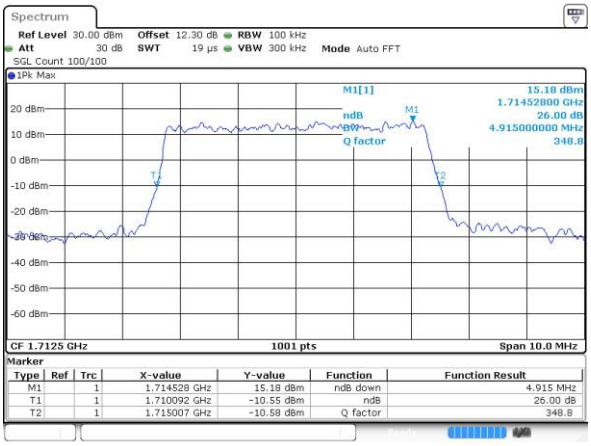


LTE Band 4

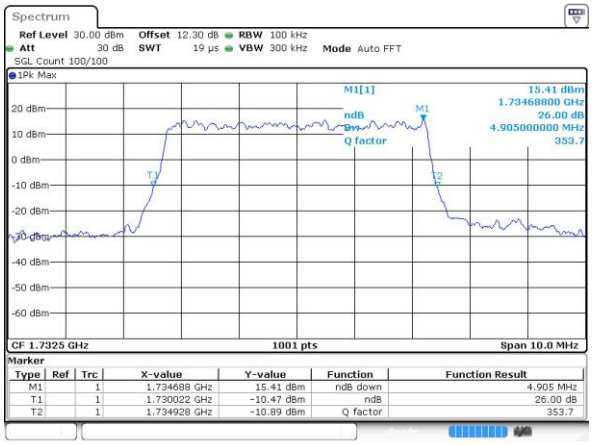
Lowest Channel / 5MHz / QPSK



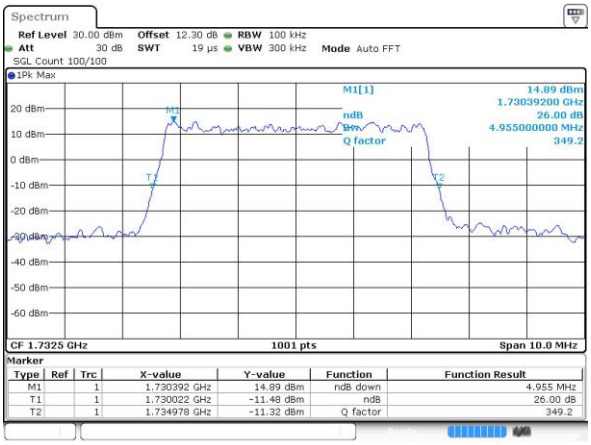
Lowest Channel / 5MHz / 16QAM



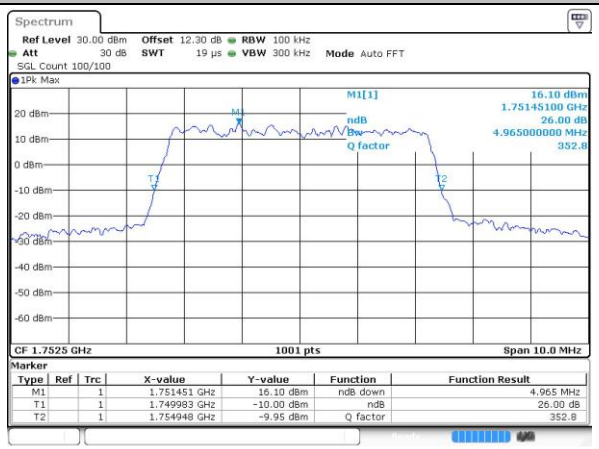
Middle Channel / 5MHz / QPSK



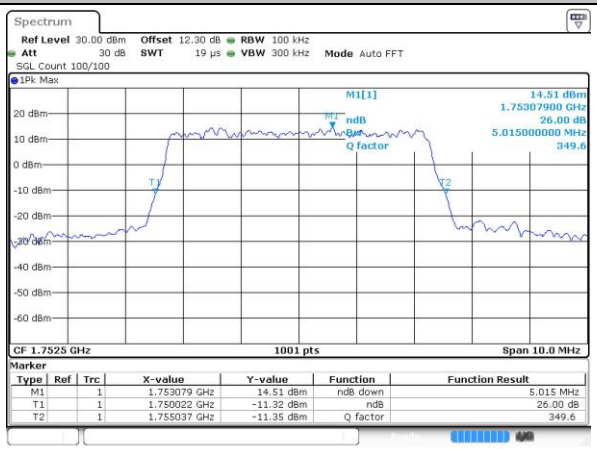
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

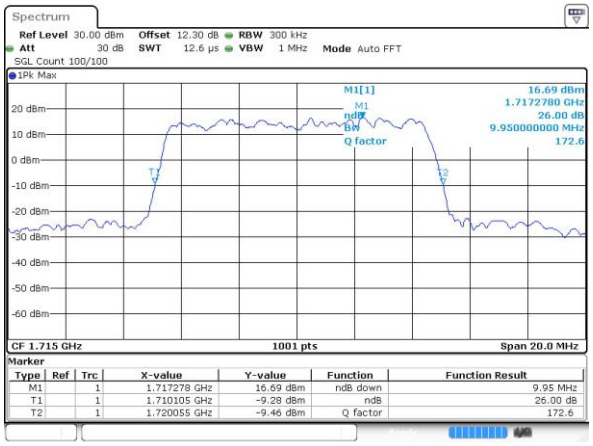


Highest Channel / 5MHz / 16QAM

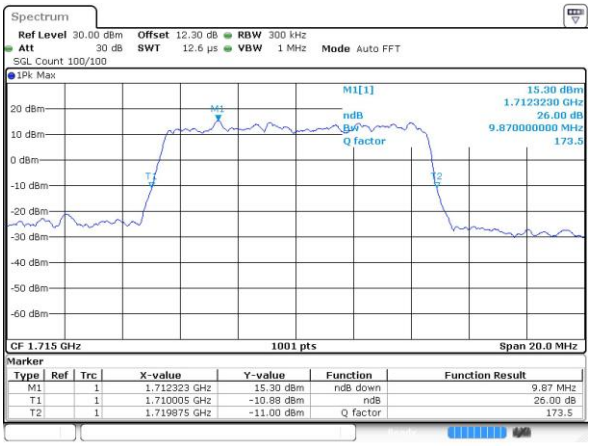


LTE Band 4

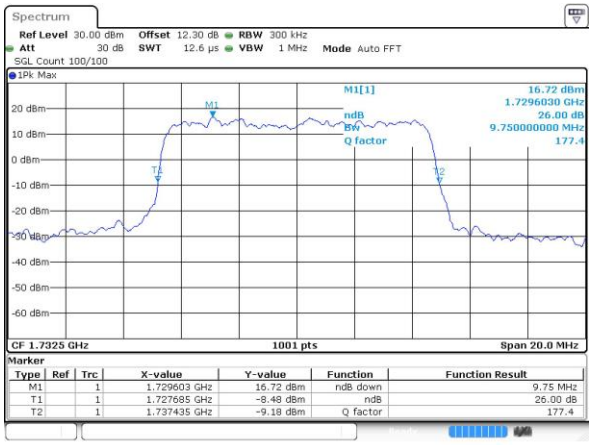
Lowest Channel / 10MHz / QPSK



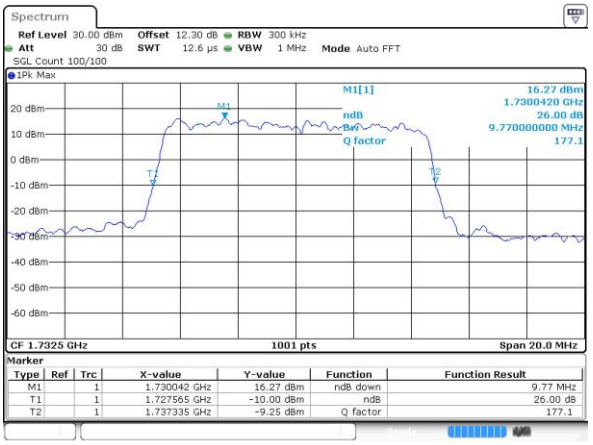
Lowest Channel / 10MHz / 16QAM



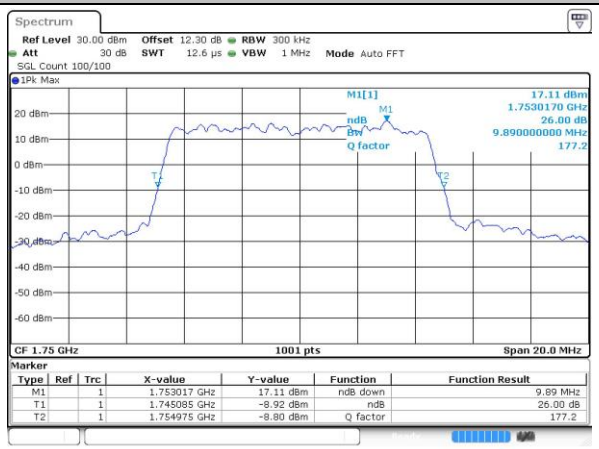
Middle Channel / 10MHz / QPSK



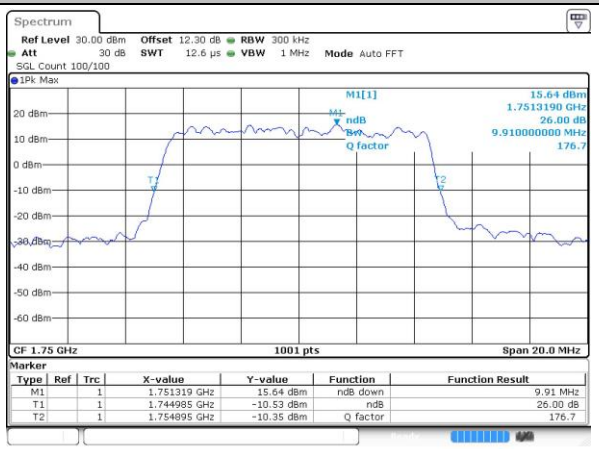
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

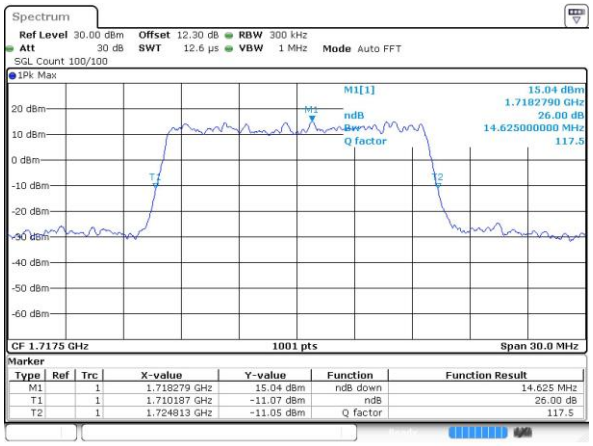


Highest Channel / 10MHz / 16QAM

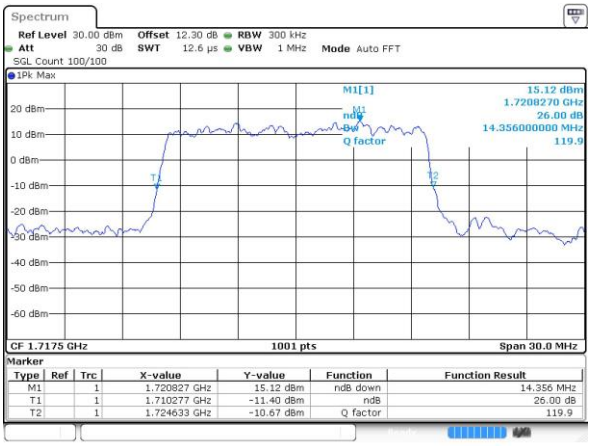


LTE Band 4

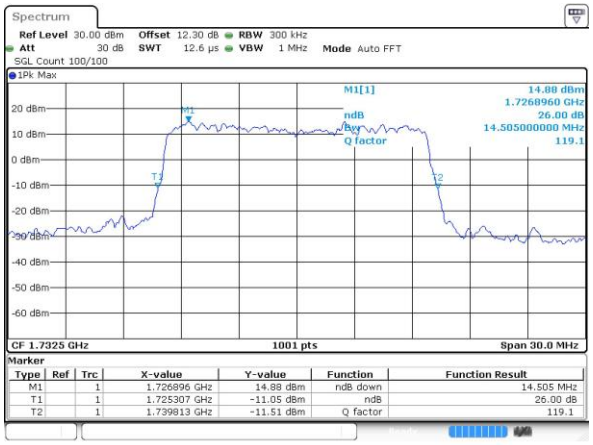
Lowest Channel / 15MHz / QPSK



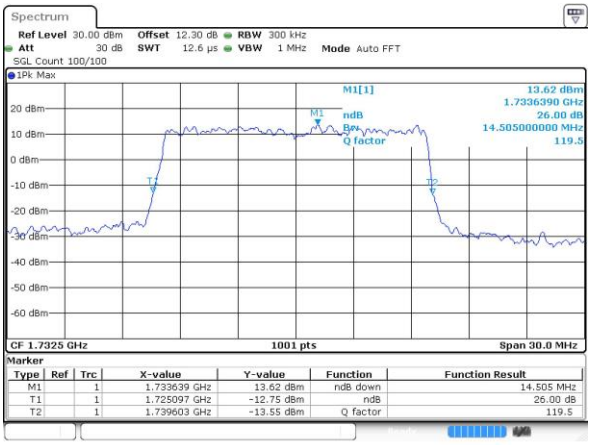
Lowest Channel / 15MHz / 16QAM



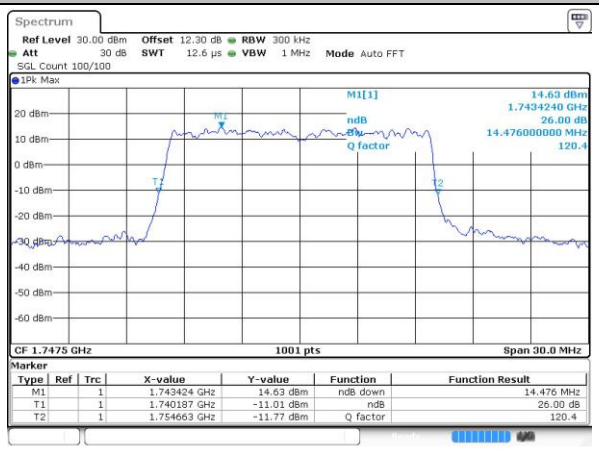
Middle Channel / 15MHz / QPSK



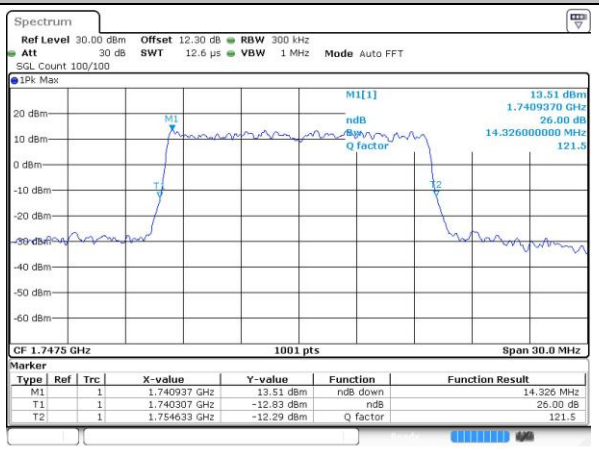
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

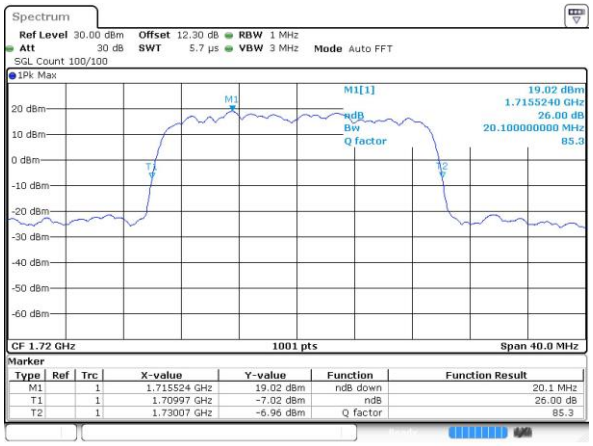


Highest Channel / 15MHz / 16QAM

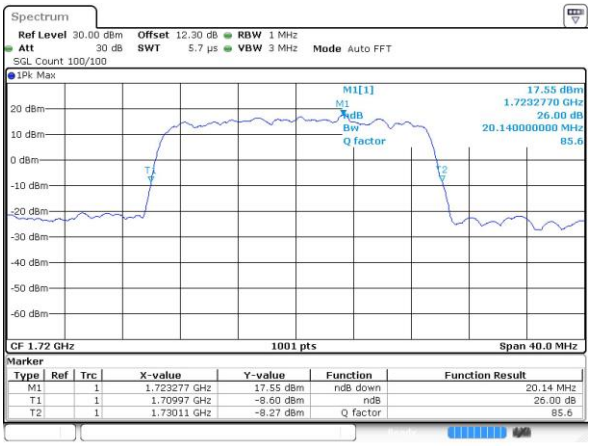


LTE Band 4

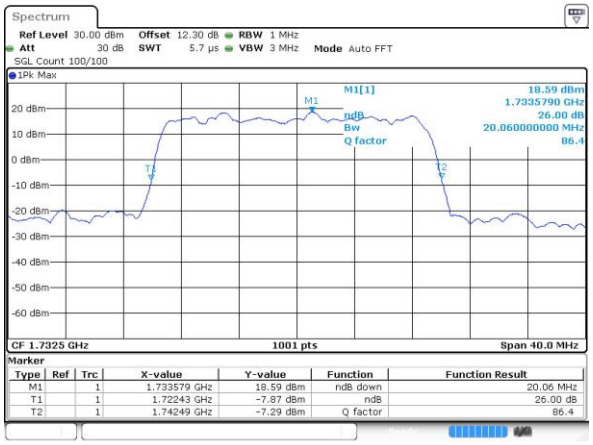
Lowest Channel / 20MHz / QPSK



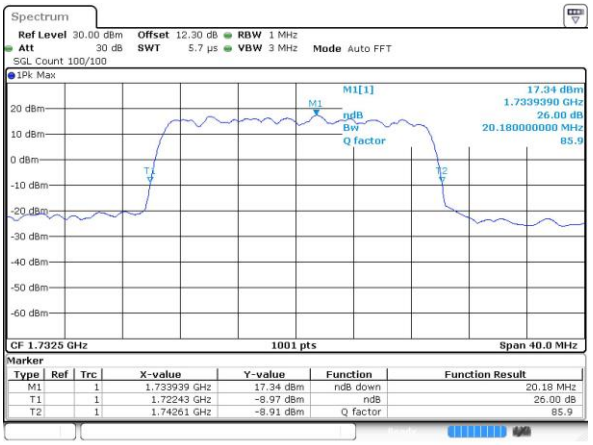
Lowest Channel / 20MHz / 16QAM



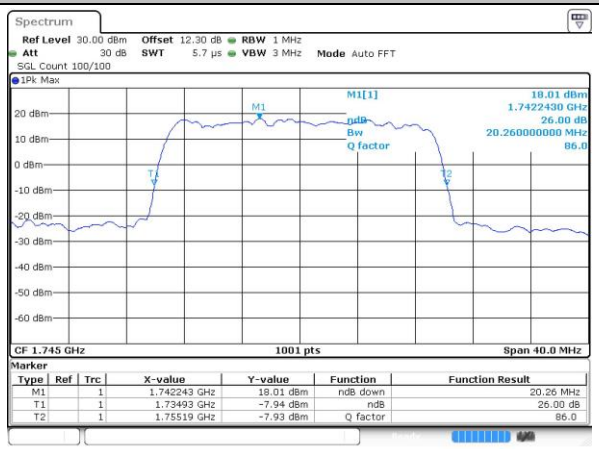
Middle Channel / 20MHz / QPSK



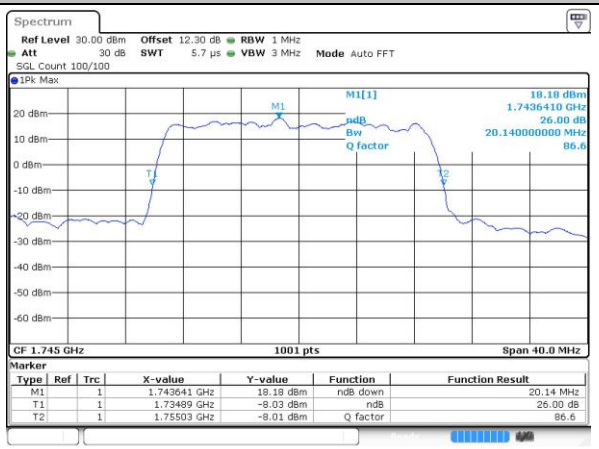
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

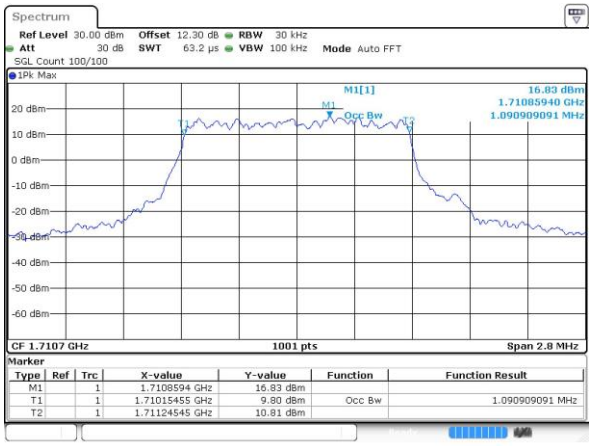


Occupied Bandwidth

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	2.72	4.49	4.5	9.05	9.01	13.43	13.43	18.3	18.3
Middle CH	1.1	1.1	2.74	2.72	4.52	4.51	9.03	9.01	13.4	13.49	18.46	18.46
Highest CH	1.1	1.09	2.72	2.72	4.49	4.48	9.05	9.01	13.46	13.4	18.5	18.18

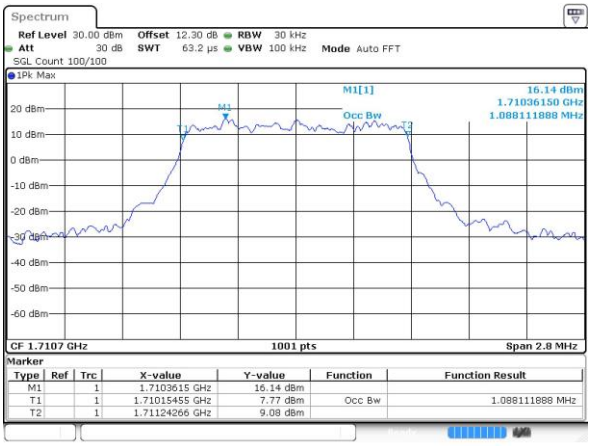
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



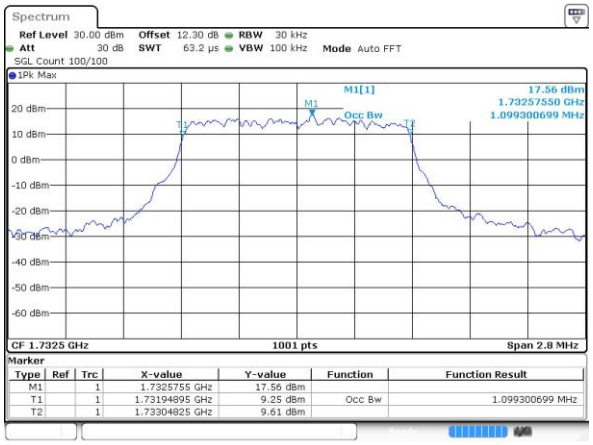
Date: 20.JUL.2018 03:08:23

Lowest Channel / 1.4MHz / 16QAM



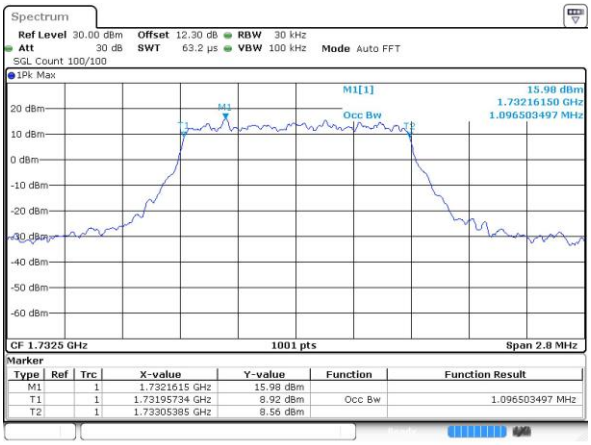
Date: 20.JUL.2018 03:08:33

Middle Channel / 1.4MHz / QPSK



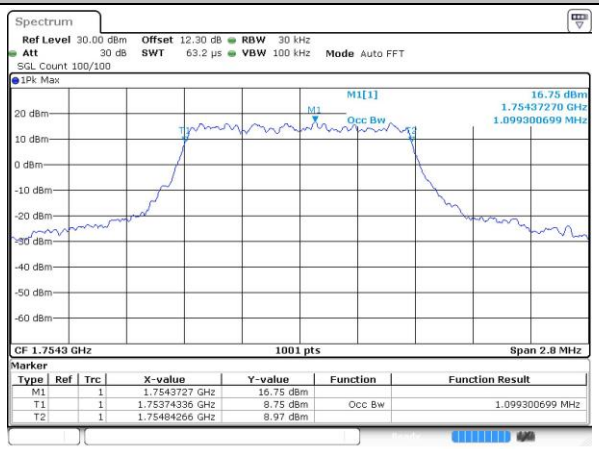
Date: 20.JUL.2018 03:15:48

Middle Channel / 1.4MHz / 16QAM



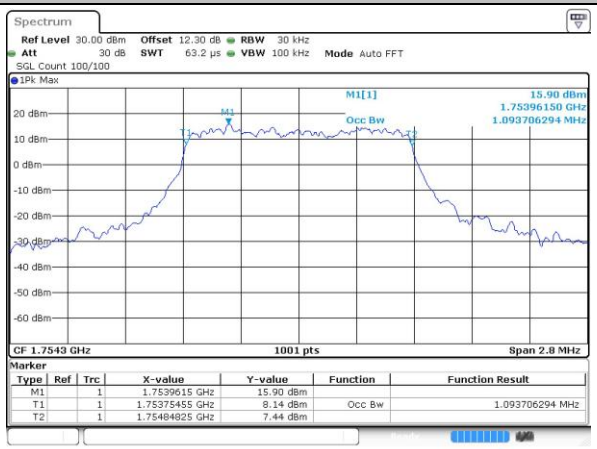
Date: 20.JUL.2018 03:15:58

Highest Channel / 1.4MHz / QPSK



Date: 20.JUL.2018 03:18:29

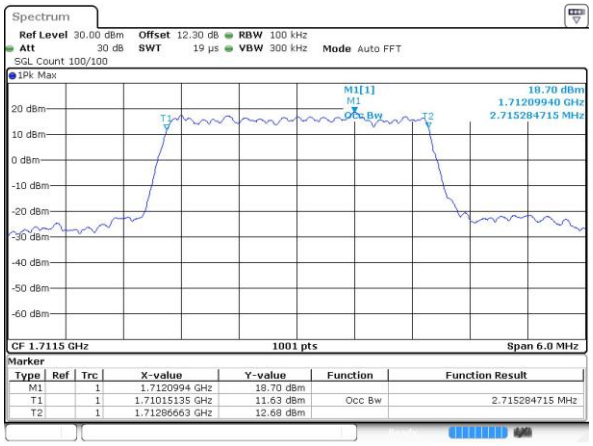
Highest Channel / 1.4MHz / 16QAM



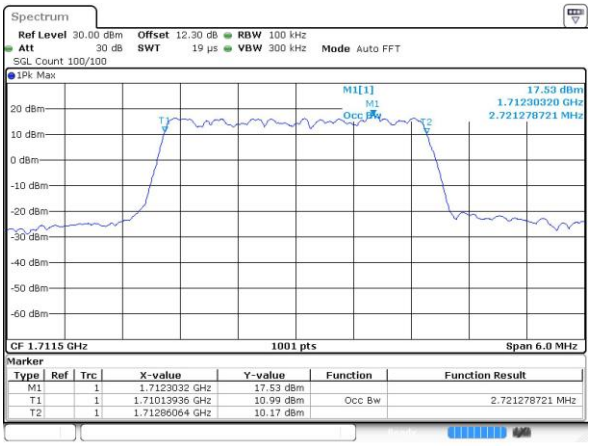
Date: 20.JUL.2018 03:18:39

LTE Band 4

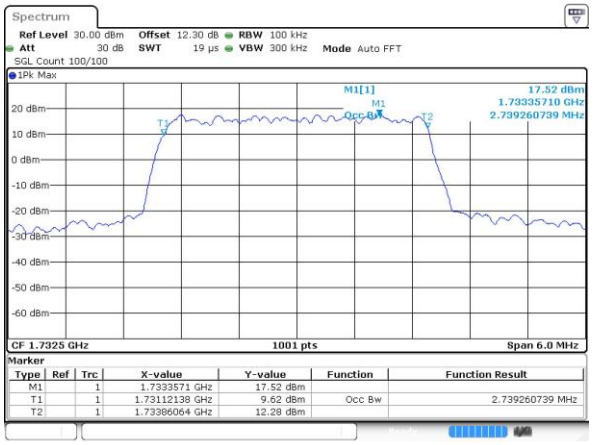
Lowest Channel / 3MHz / QPSK



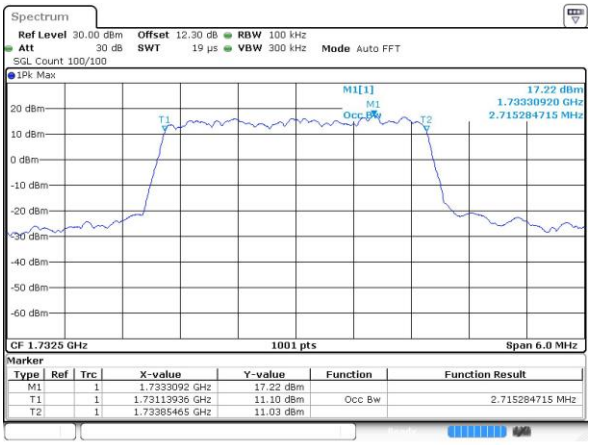
Lowest Channel / 3MHz / 16QAM



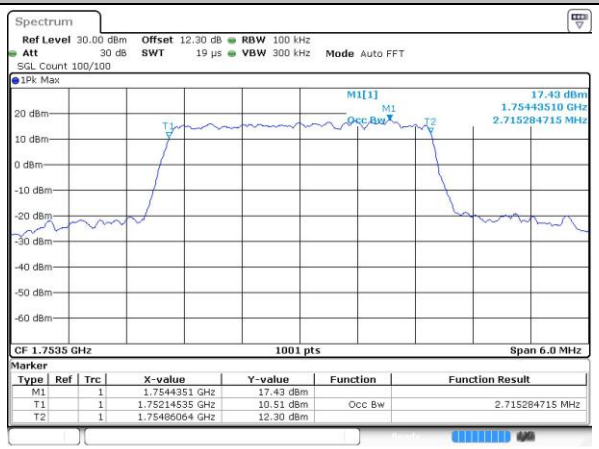
Middle Channel / 3MHz / QPSK



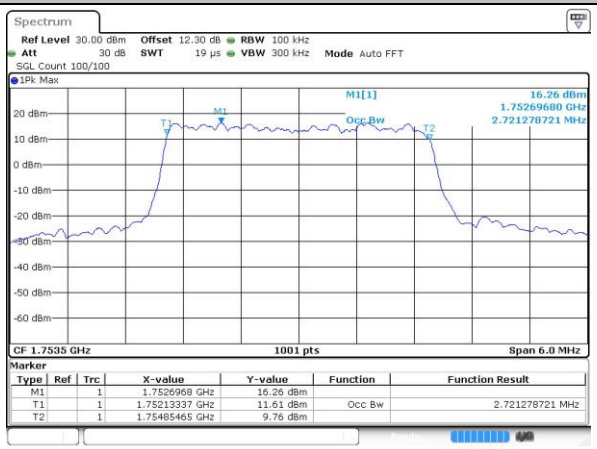
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

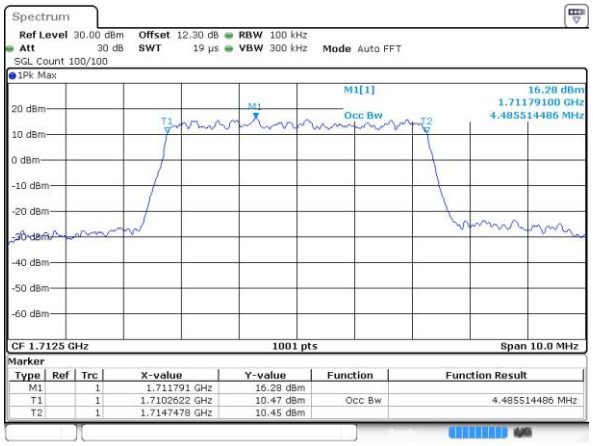


Highest Channel / 3MHz / 16QAM

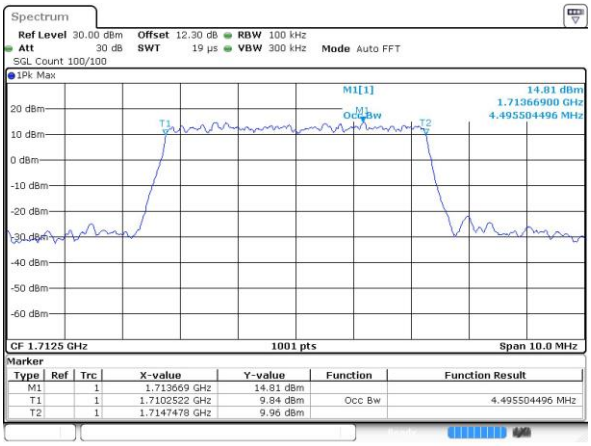


LTE Band 4

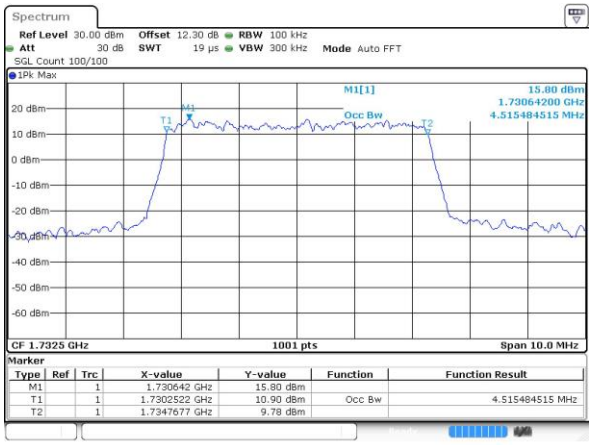
Lowest Channel / 5MHz / QPSK



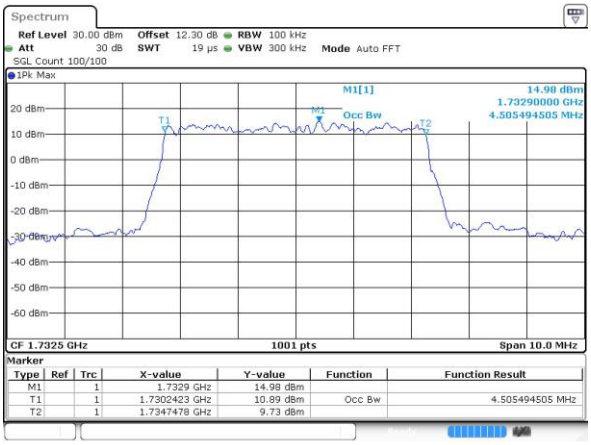
Lowest Channel / 5MHz / 16QAM



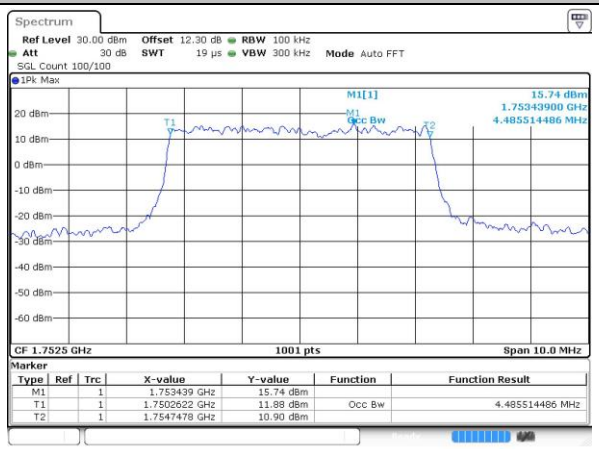
Middle Channel / 5MHz / QPSK



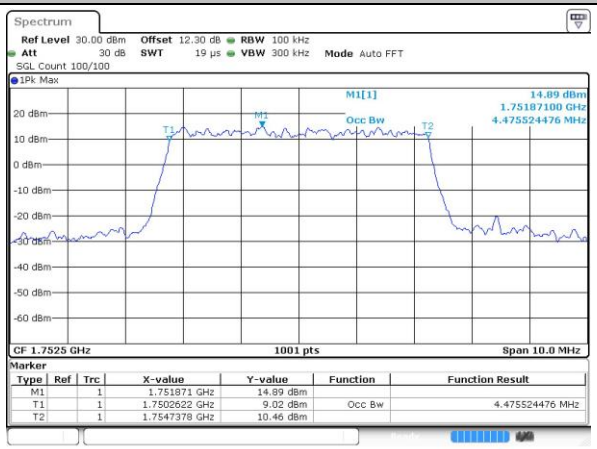
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

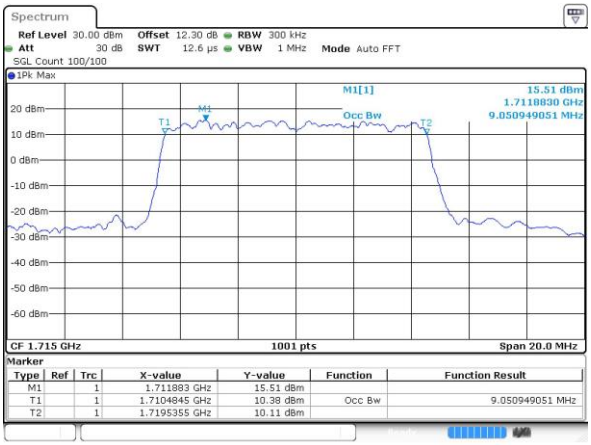


Highest Channel / 5MHz / 16QAM



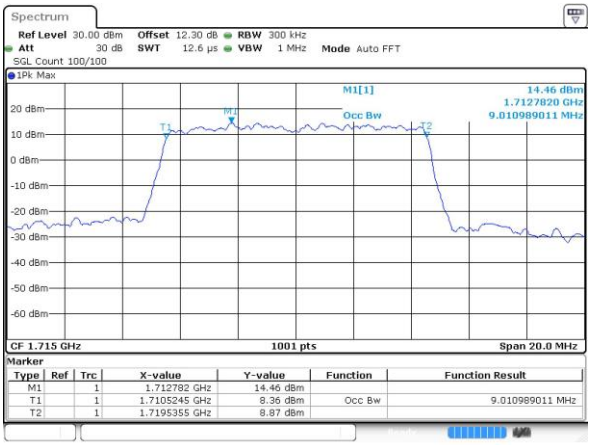
LTE Band 4

Lowest Channel / 10MHz / QPSK



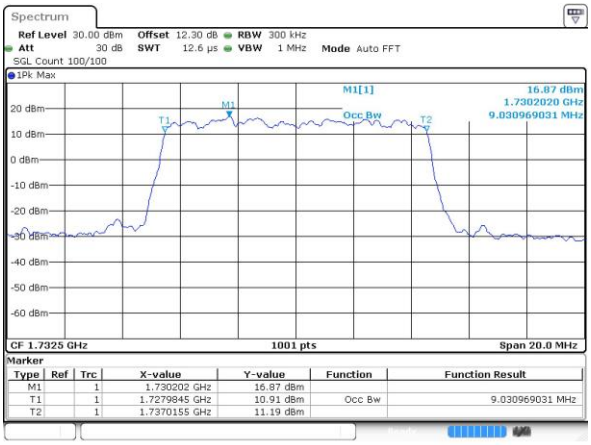
Date: 20.JUL.2018 02:15:52

Lowest Channel / 10MHz / 16QAM



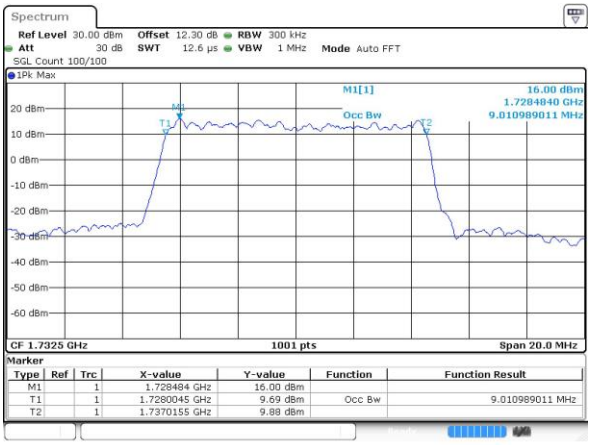
Date: 20.JUL.2018 02:16:02

Middle Channel / 10MHz / QPSK



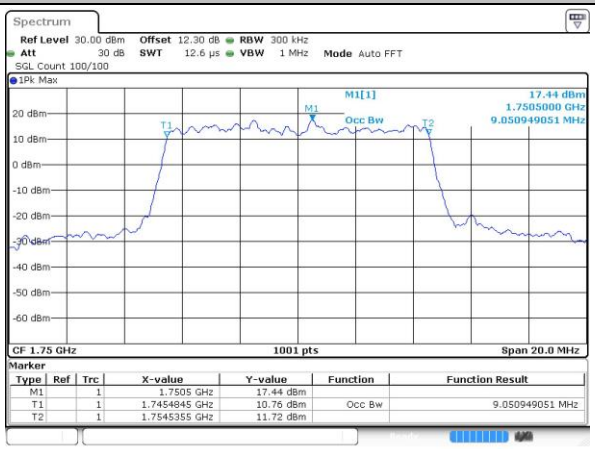
Date: 20.JUL.2018 02:23:15

Middle Channel / 10MHz / 16QAM



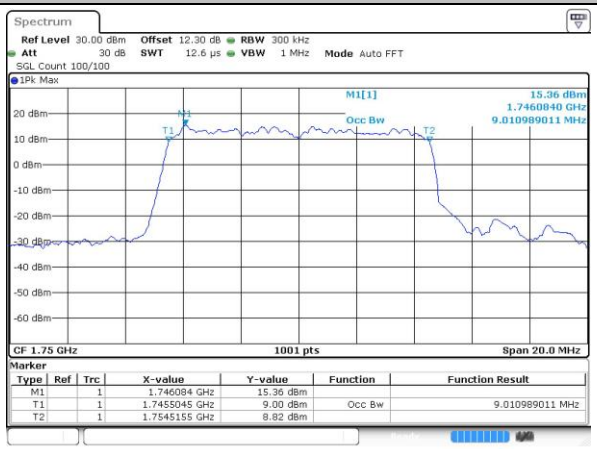
Date: 20.JUL.2018 02:23:25

Highest Channel / 10MHz / QPSK



Date: 20.JUL.2018 02:25:54

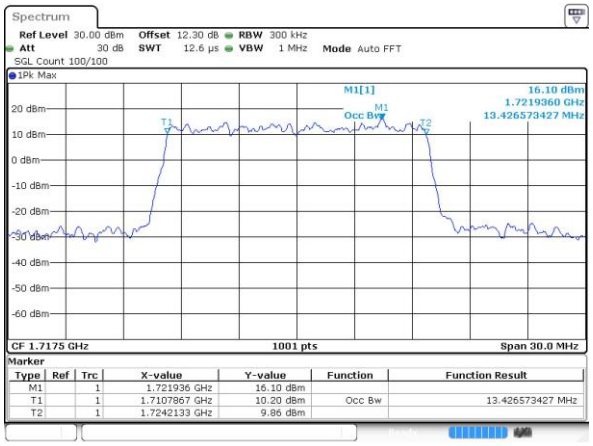
Highest Channel / 10MHz / 16QAM



Date: 20.JUL.2018 02:26:05

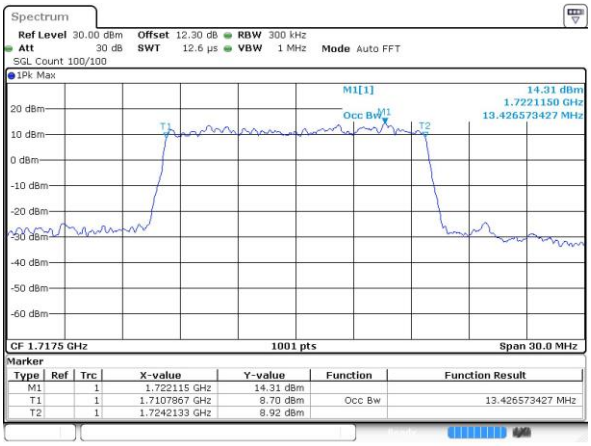
LTE Band 4

Lowest Channel / 15MHz / QPSK



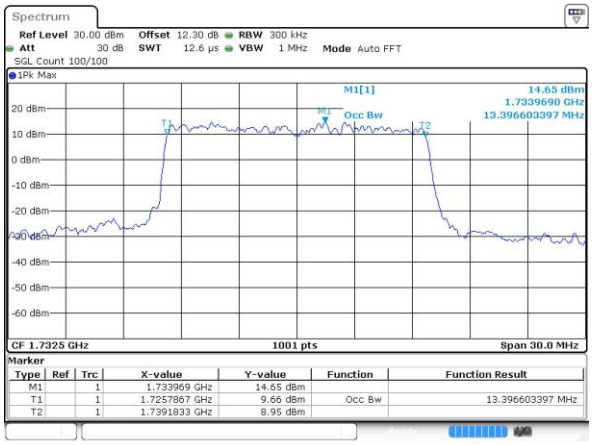
Date: 20.JUL.2018 02:33:19

Lowest Channel / 15MHz / 16QAM



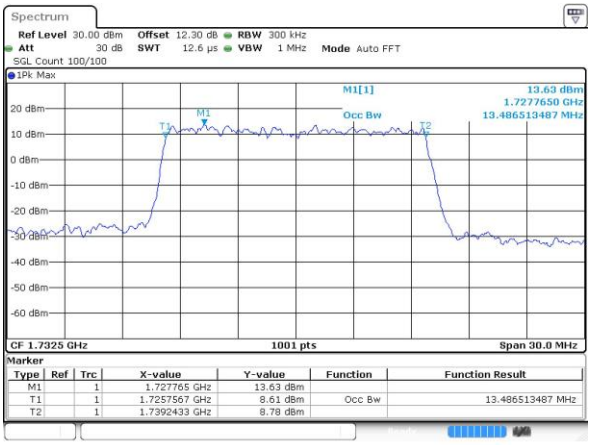
Date: 20.JUL.2018 02:33:29

Middle Channel / 15MHz / QPSK



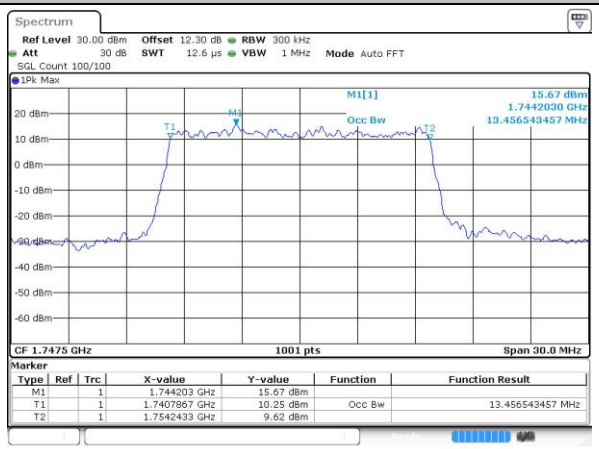
Date: 20.JUL.2018 02:40:45

Middle Channel / 15MHz / 16QAM



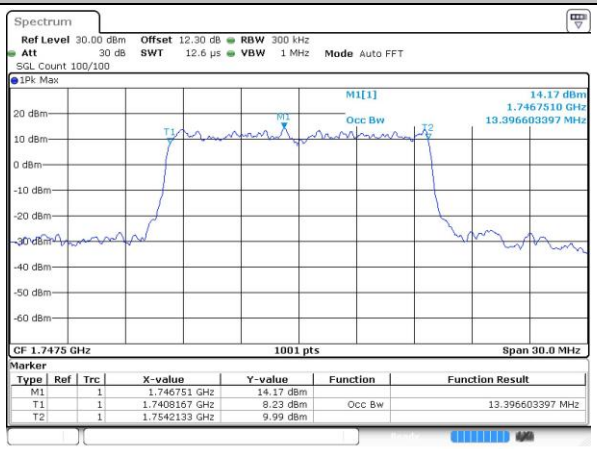
Date: 20.JUL.2018 02:40:56

Highest Channel / 15MHz / QPSK



Date: 20.JUL.2018 02:43:25

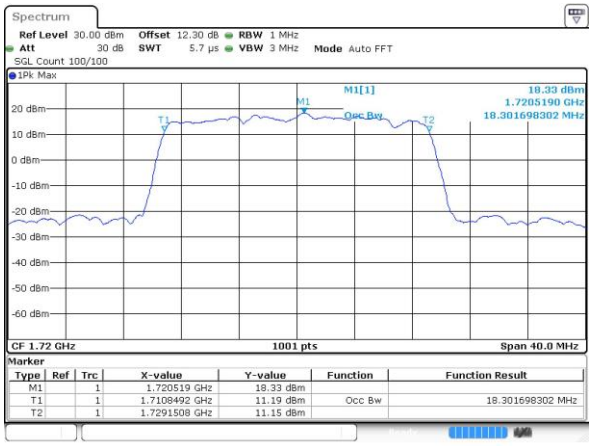
Highest Channel / 15MHz / 16QAM



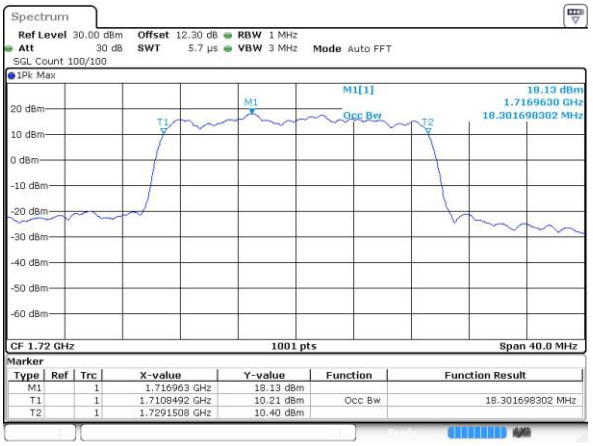
Date: 20.JUL.2018 02:43:36

LTE Band 4

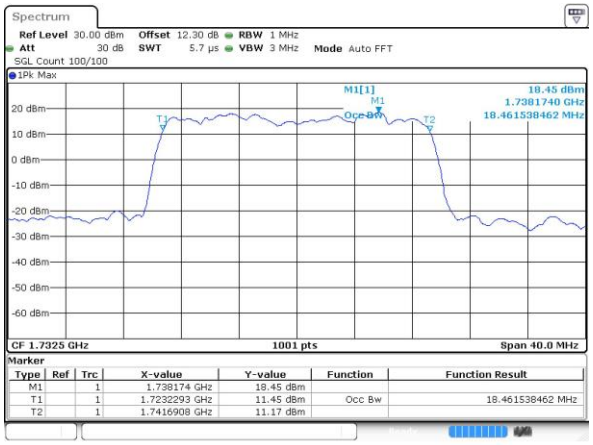
Lowest Channel / 20MHz / QPSK



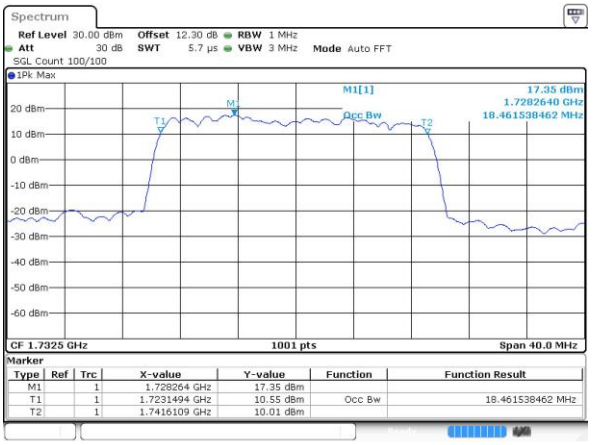
Lowest Channel / 20MHz / 16QAM



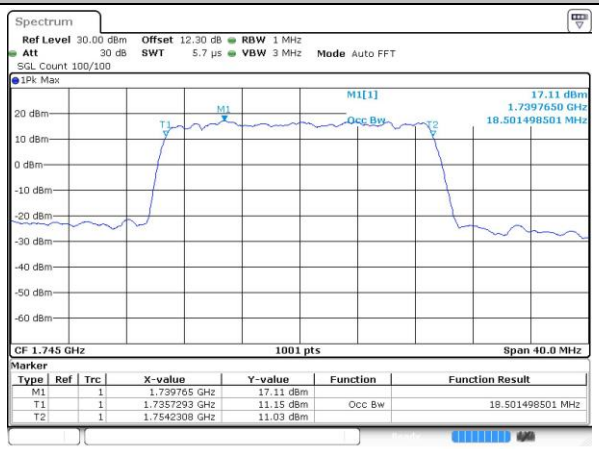
Middle Channel / 20MHz / QPSK



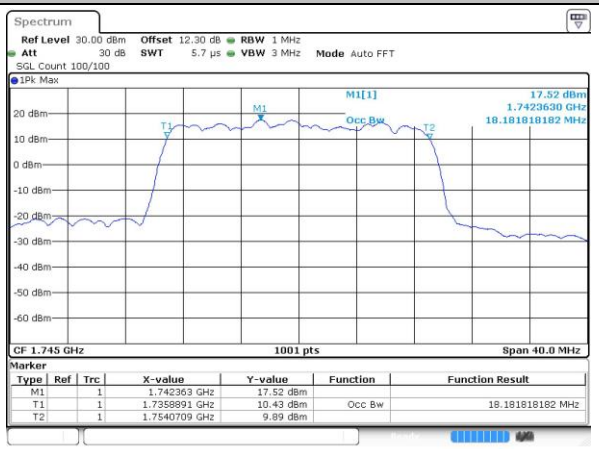
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



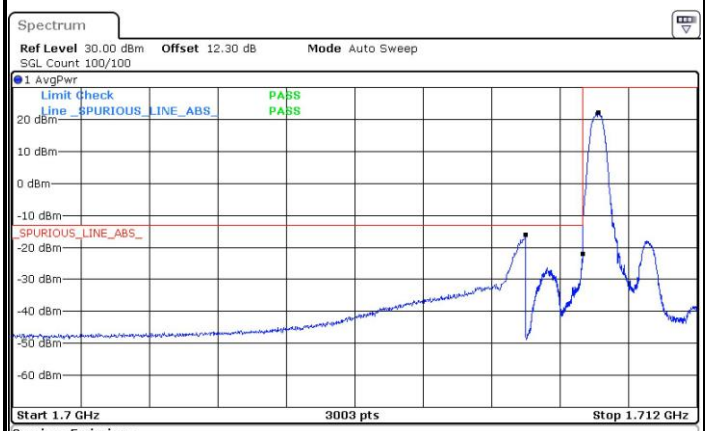
Highest Channel / 20MHz / 16QAM



Conducted Band Edge

LTE Band 4 / 1.4MHz / QPSK

Lowest Band Edge / 1RB

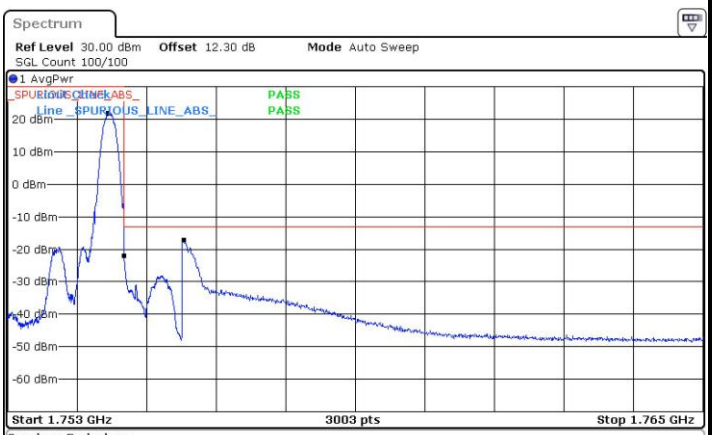


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70899 GHz	-16.19 dBm	-3.19 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.70999 GHz	-22.09 dBm	-9.09 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71027 GHz	22.15 dBm	-7.85 dB

Date: 20.JUL.2018 05:46:27

Highest Band Edge / 1RB

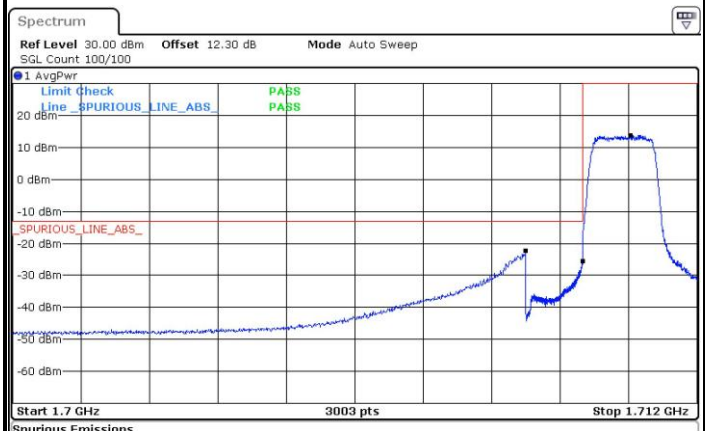


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.753 GHz	1.755 GHz	100.000 kHz	1.75474 GHz	22.00 dBm	-8.00 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75500 GHz	-22.05 dBm	-9.05 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75603 GHz	-17.15 dBm	-4.15 dB

Date: 20.JUL.2018 03:20:11

Lowest Band Edge / Full RB

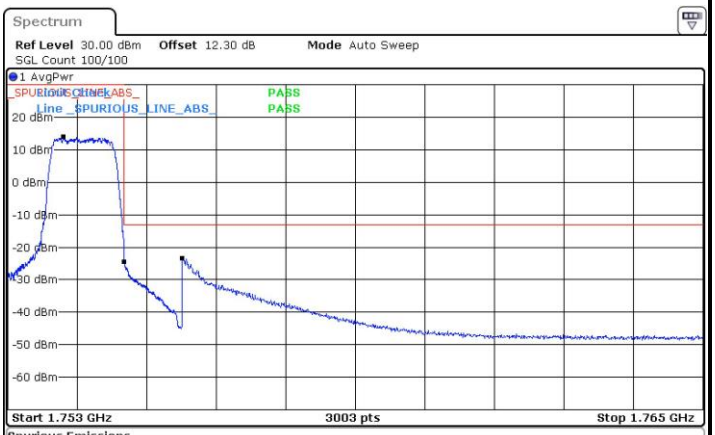


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70899 GHz	-22.20 dBm	-9.20 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.71000 GHz	-25.58 dBm	-12.58 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71082 GHz	13.81 dBm	-16.19 dB

Date: 20.JUL.2018 03:12:28

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	1.75396 GHz	13.90 dBm	-16.10 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75500 GHz	-24.40 dBm	-11.40 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75601 GHz	-23.43 dBm	-10.43 dB

Date: 20.JUL.2018 03:22:35