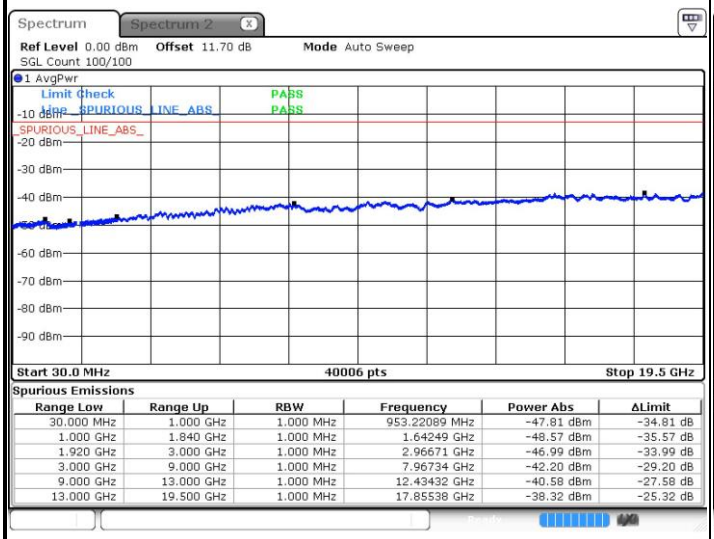
LTE Band 2 / 3MHz

Lowest Channel / 64QAM

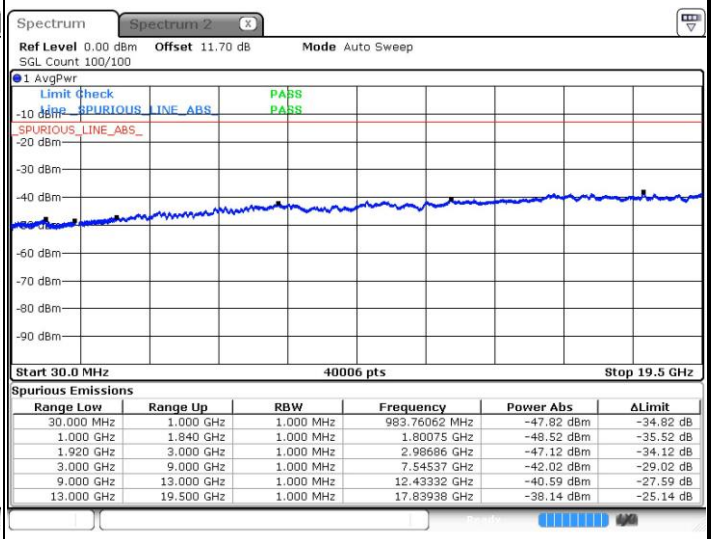


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	953.22089 MHz	-47.81 dBm	-34.81 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.64249 GHz	-48.57 dBm	-35.57 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.96671 GHz	-46.99 dBm	-33.99 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.96734 GHz	-42.20 dBm	-29.20 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43432 GHz	-40.58 dBm	-27.58 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.85538 GHz	-38.32 dBm	-25.32 dB

Date: 21.OCT.2018 01:11:57

Middle Channel / 64QAM

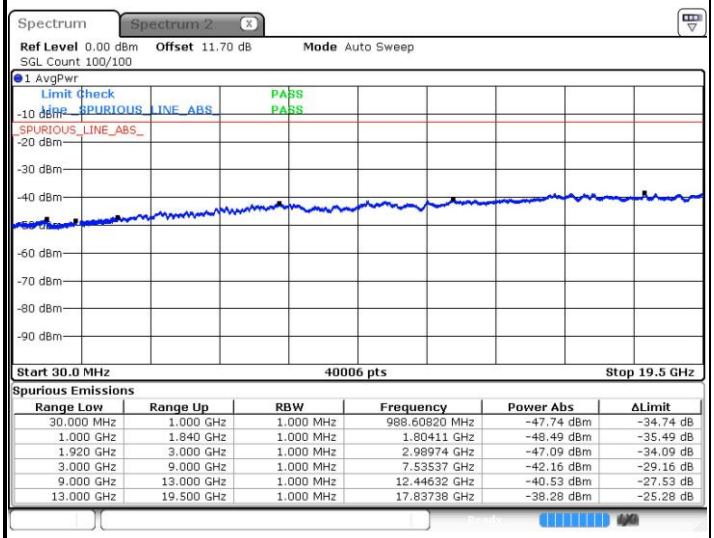


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.76062 MHz	-47.82 dBm	-34.82 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80075 GHz	-48.52 dBm	-35.52 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98686 GHz	-47.12 dBm	-34.12 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54537 GHz	-42.02 dBm	-29.02 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43332 GHz	-40.59 dBm	-27.59 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.83938 GHz	-38.14 dBm	-25.14 dB

Date: 21.OCT.2018 01:13:00

Highest Channel / 64QAM



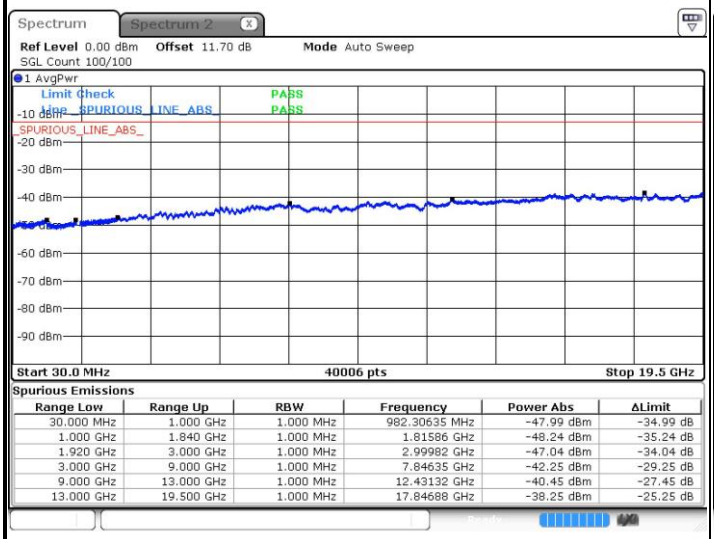
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	988.60820 MHz	-47.74 dBm	-34.74 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80411 GHz	-48.49 dBm	-35.49 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98974 GHz	-47.09 dBm	-34.09 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.53537 GHz	-42.16 dBm	-29.16 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44632 GHz	-40.53 dBm	-27.53 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.83738 GHz	-38.28 dBm	-25.28 dB

Date: 21.OCT.2018 01:15:44

LTE Band 2 / 5MHz

Lowest Channel / 64QAM

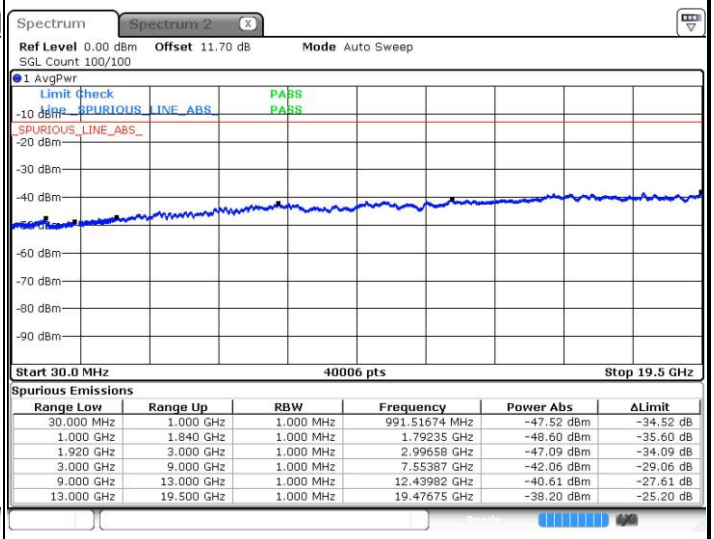


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	982.30635 MHz	-47.99 dBm	-34.99 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81586 GHz	-48.24 dBm	-35.24 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99982 GHz	-47.04 dBm	-34.04 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.84635 GHz	-42.25 dBm	-29.25 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43132 GHz	-40.45 dBm	-27.45 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.84688 GHz	-38.25 dBm	-25.25 dB

Date: 21.OCT.2018 01:18:27

Middle Channel / 64QAM

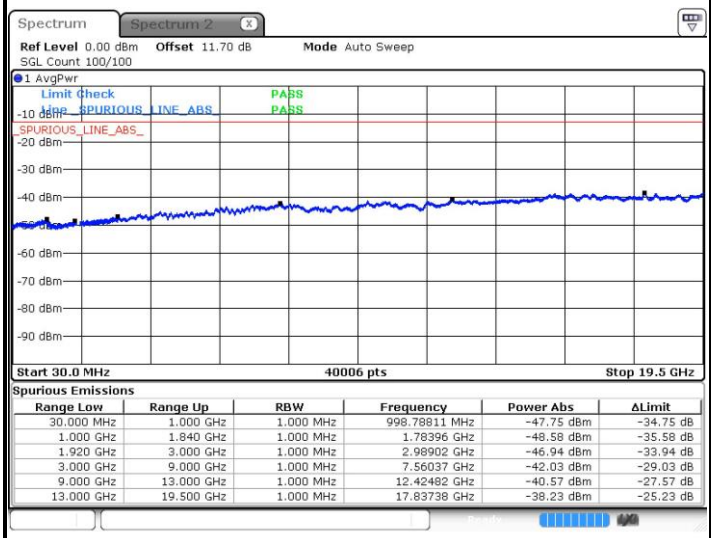


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.51674 MHz	-47.52 dBm	-34.52 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.79235 GHz	-48.60 dBm	-35.60 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99658 GHz	-47.09 dBm	-34.09 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55387 GHz	-42.06 dBm	-29.06 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43982 GHz	-40.61 dBm	-27.61 dB
13.000 GHz	19.500 GHz	1.000 MHz	19.47675 GHz	-38.20 dBm	-25.20 dB

Date: 21.OCT.2018 01:19:31

Highest Channel / 64QAM



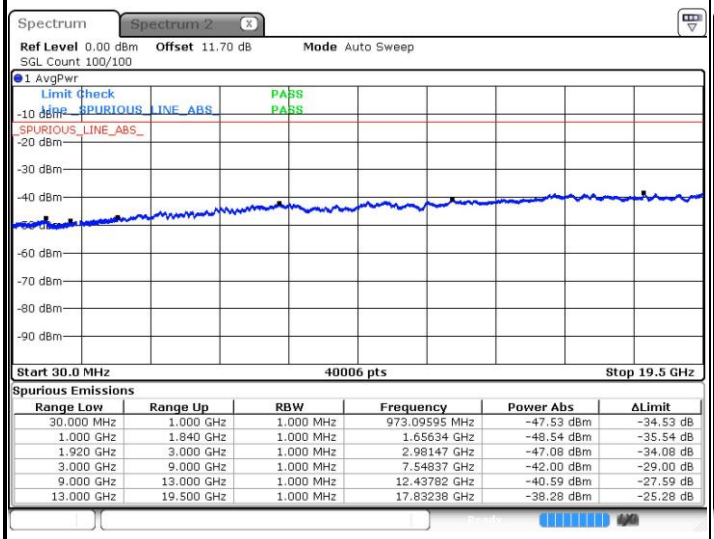
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	998.78811 MHz	-47.75 dBm	-34.75 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.78396 GHz	-48.58 dBm	-35.58 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98902 GHz	-46.94 dBm	-33.94 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.56037 GHz	-42.03 dBm	-29.03 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42482 GHz	-40.57 dBm	-27.57 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.83738 GHz	-38.23 dBm	-25.23 dB

Date: 21.OCT.2018 01:22:14

LTE Band 2 / 10MHz

Lowest Channel / 64QAM

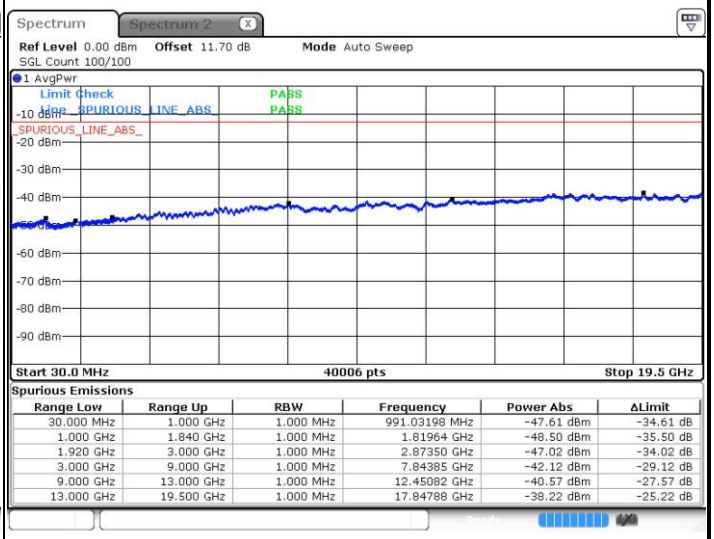


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	973.09595 MHz	-47.53 dBm	-34.53 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.65634 GHz	-48.54 dBm	-35.54 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98147 GHz	-47.08 dBm	-34.08 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54837 GHz	-42.00 dBm	-29.00 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43782 GHz	-40.59 dBm	-27.59 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.83238 GHz	-38.28 dBm	-25.28 dB

Date: 21.OCT.2018 01:24:58

Middle Channel / 64QAM

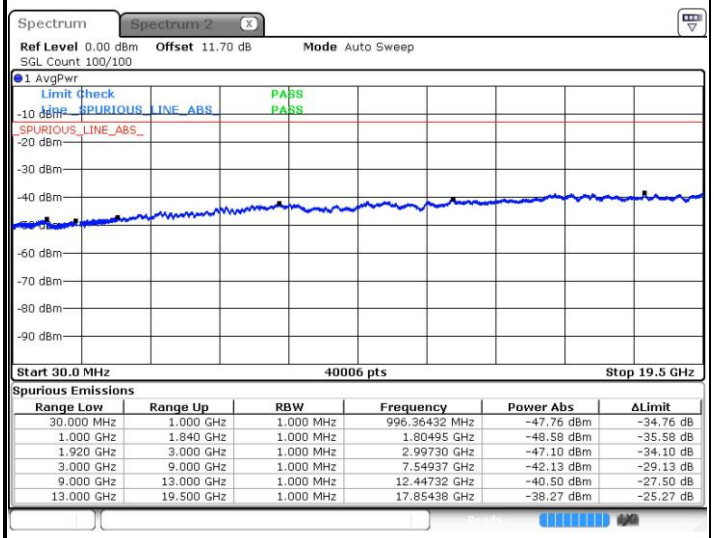


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.03198 MHz	-47.61 dBm	-34.61 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81964 GHz	-48.50 dBm	-35.50 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.87350 GHz	-47.02 dBm	-34.02 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.84385 GHz	-42.12 dBm	-29.12 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.45082 GHz	-40.57 dBm	-27.57 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.84788 GHz	-38.22 dBm	-25.22 dB

Date: 21.OCT.2018 01:26:01

Highest Channel / 64QAM



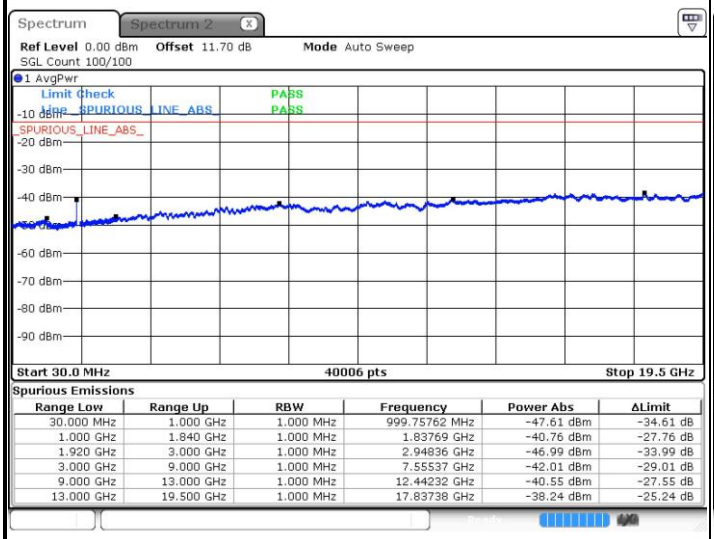
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.36432 MHz	-47.76 dBm	-34.76 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80495 GHz	-48.58 dBm	-35.58 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99730 GHz	-47.10 dBm	-34.10 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54937 GHz	-42.13 dBm	-29.13 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44732 GHz	-40.50 dBm	-27.50 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.85438 GHz	-38.27 dBm	-25.27 dB

Date: 21.OCT.2018 01:28:45

LTE Band 2 / 15MHz

Lowest Channel / 64QAM

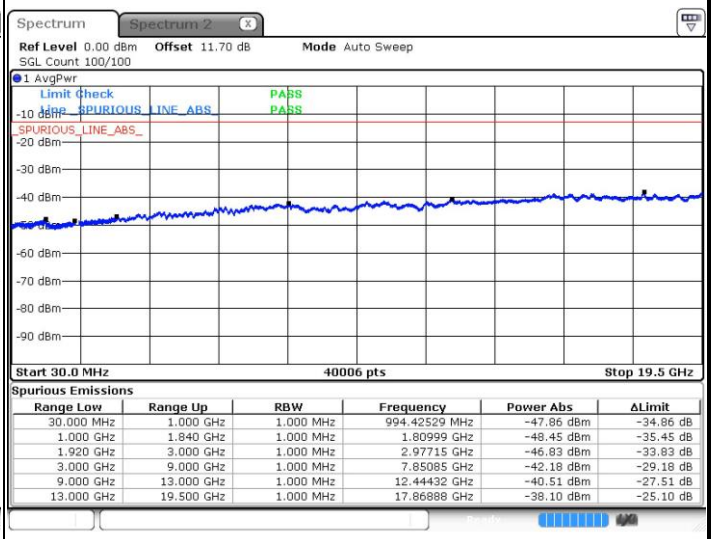


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	999.75762 MHz	-47.61 dBm	-34.61 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83769 GHz	-40.76 dBm	-27.76 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.94836 GHz	-46.99 dBm	-33.99 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55537 GHz	-42.01 dBm	-29.01 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44232 GHz	-40.55 dBm	-27.55 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.83738 GHz	-38.24 dBm	-25.24 dB

Date: 21.OCT.2018 01:31:28

Middle Channel / 64QAM

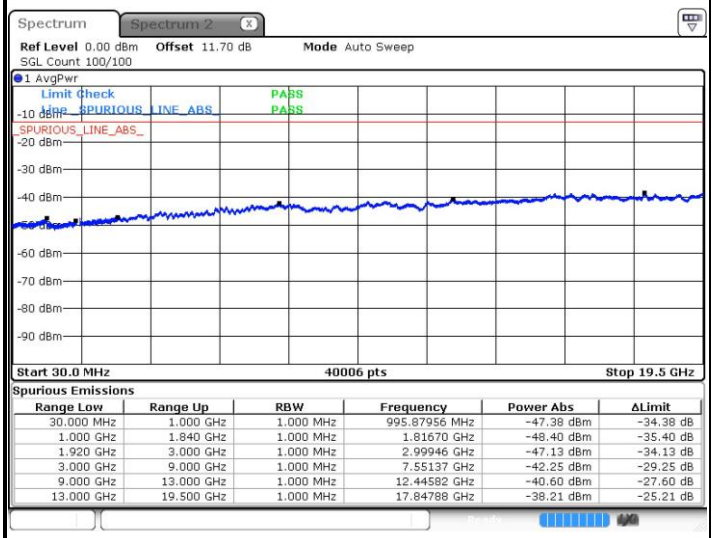


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	994.42529 MHz	-47.86 dBm	-34.86 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80999 GHz	-48.45 dBm	-35.45 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97715 GHz	-46.83 dBm	-33.83 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.85085 GHz	-42.18 dBm	-29.18 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44432 GHz	-40.51 dBm	-27.51 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.86888 GHz	-38.10 dBm	-25.10 dB

Date: 21.OCT.2018 01:32:32

Highest Channel / 64QAM



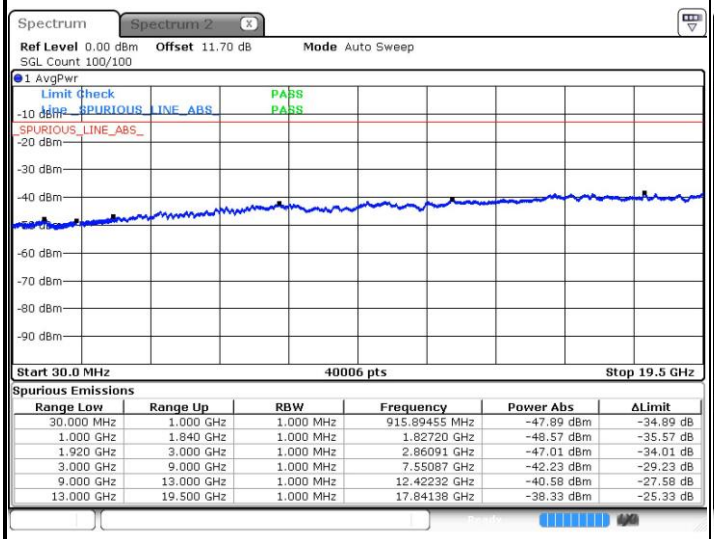
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	995.87956 MHz	-47.38 dBm	-34.38 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81670 GHz	-48.40 dBm	-35.40 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99946 GHz	-47.13 dBm	-34.13 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55137 GHz	-42.25 dBm	-29.25 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44582 GHz	-40.60 dBm	-27.60 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.84788 GHz	-38.21 dBm	-25.21 dB

Date: 21.OCT.2018 01:35:15

LTE Band 2 / 20MHz

Lowest Channel / 64QAM

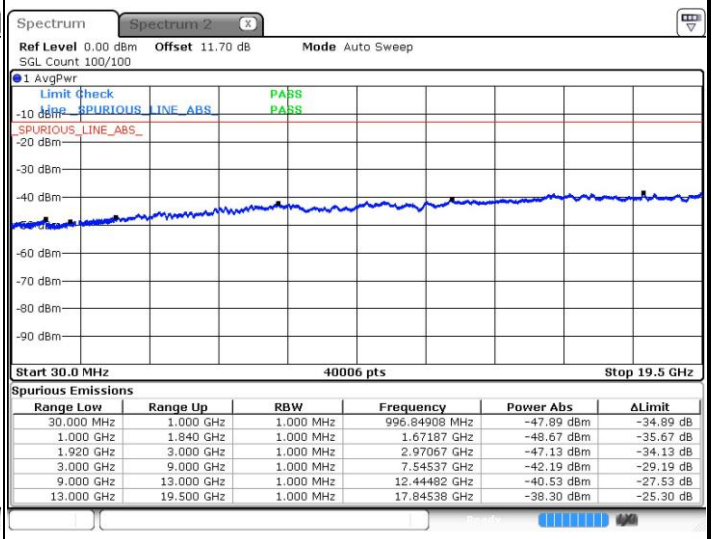


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	915.89455 MHz	-47.89 dBm	-34.89 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82720 GHz	-48.57 dBm	-35.57 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.86091 GHz	-47.01 dBm	-34.01 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55087 GHz	-42.23 dBm	-29.23 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42232 GHz	-40.58 dBm	-27.58 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.84138 GHz	-38.33 dBm	-25.33 dB

Date: 21.OCT.2018 01:37:59

Middle Channel / 64QAM

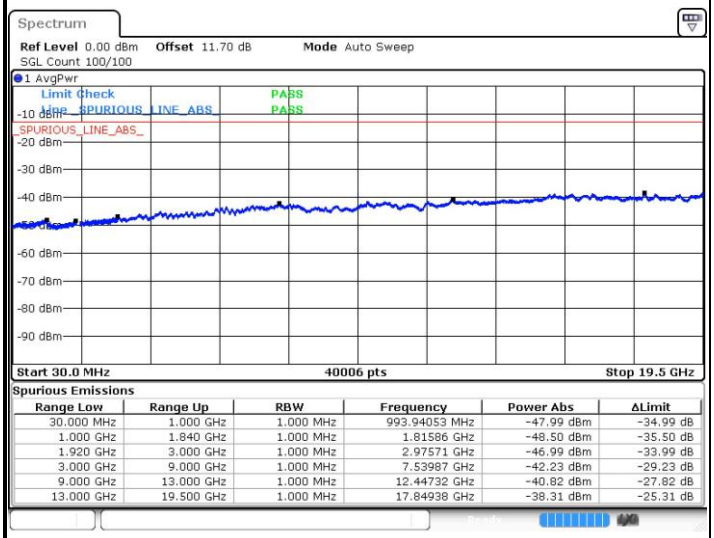


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.84908 MHz	-47.89 dBm	-34.89 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.67187 GHz	-48.67 dBm	-35.67 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97067 GHz	-47.13 dBm	-34.13 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54537 GHz	-42.19 dBm	-29.19 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44482 GHz	-40.53 dBm	-27.53 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.84538 GHz	-38.30 dBm	-25.30 dB

Date: 21.OCT.2018 01:39:02

Highest Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	993.94053 MHz	-47.99 dBm	-34.99 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81586 GHz	-48.50 dBm	-35.50 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97571 GHz	-46.99 dBm	-33.99 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.53987 GHz	-42.23 dBm	-29.23 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44732 GHz	-40.82 dBm	-27.82 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.84938 GHz	-38.31 dBm	-25.31 dB

Date: 21.OCT.2018 13:50:22

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	0.0014	PASS
40	Normal Voltage	0.0028	
30	Normal Voltage	0.0036	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0005	
0	Normal Voltage	0.0008	
-10	Normal Voltage	0.0034	
-20	Normal Voltage	0.0050	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0007	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0004	

Note:

1. Normal Voltage =3.8 V.；Battery End Point (BEP) =3.6 V.；Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

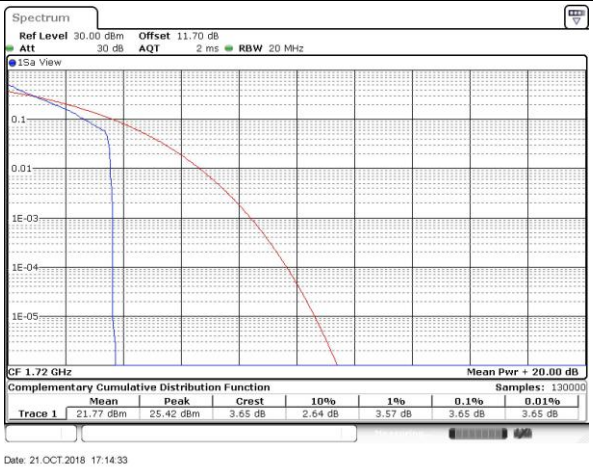
LTE Band 4

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	4.52	4.87	5.88	PASS
Middle CH	3.54	4.55	5.36	5.8	
Highest CH	3.59	4.52	5.3	5.77	
Mode	LTE Band 4 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.26	6.46	-	-	PASS
Middle CH	6.14	6.41	-	-	
Highest CH	6.64	6.32	-	-	

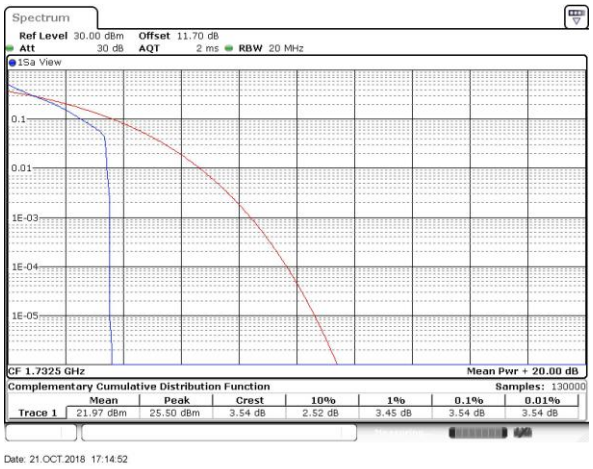
LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB

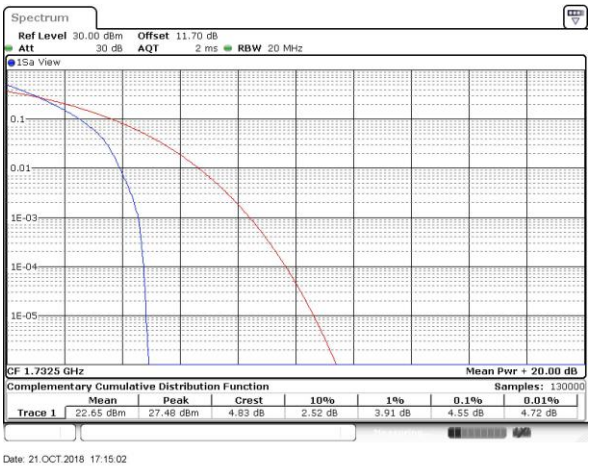


Lowest Channel / Full RB

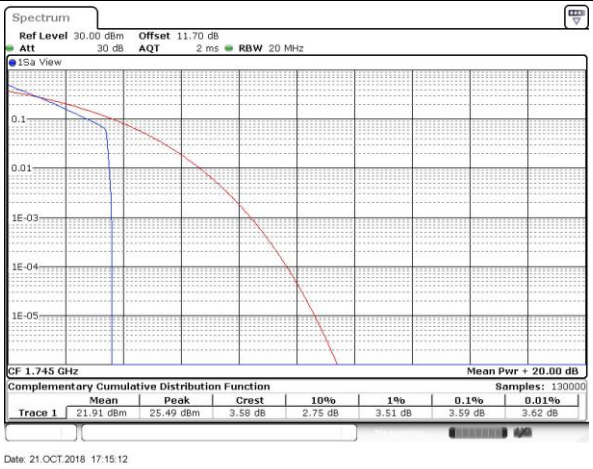
Middle Channel / 1RB



Middle Channel / Full RB



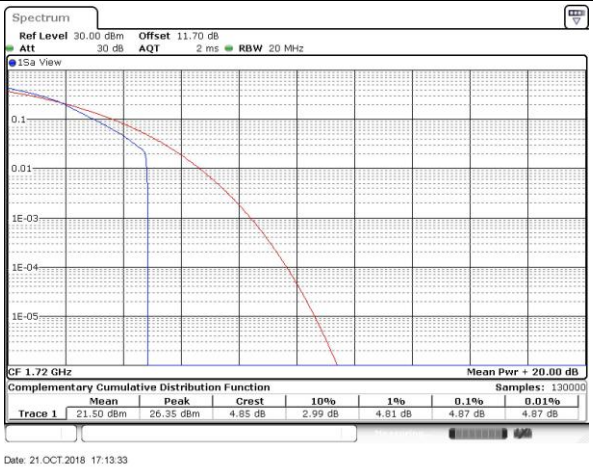
Highest Channel / 1RB



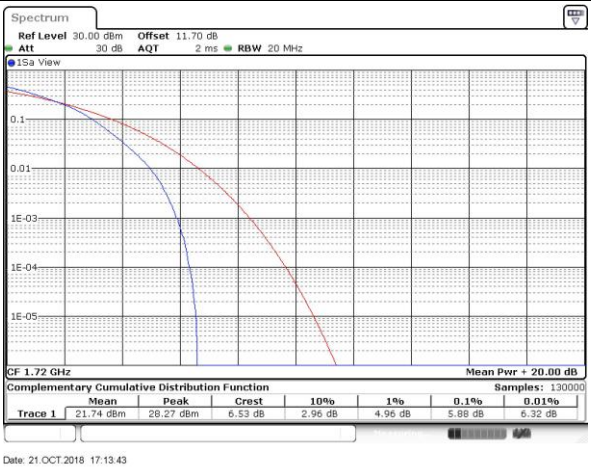
Highest Channel / Full RB

LTE Band 4 / 20MHz / 16QAM

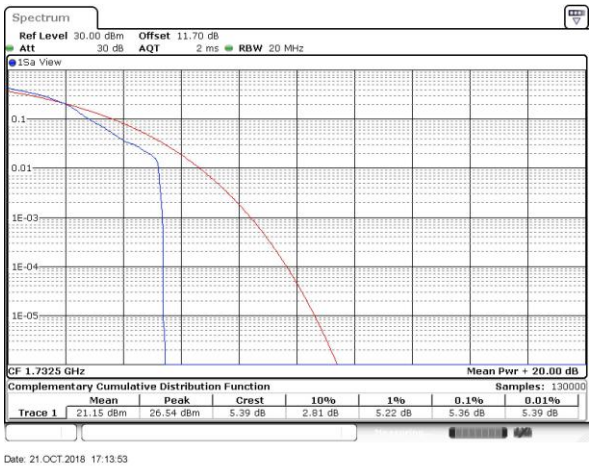
Lowest Channel / 1RB



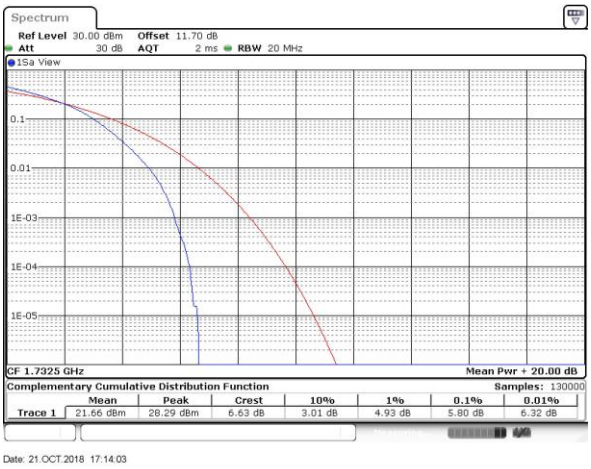
Lowest Channel / Full RB



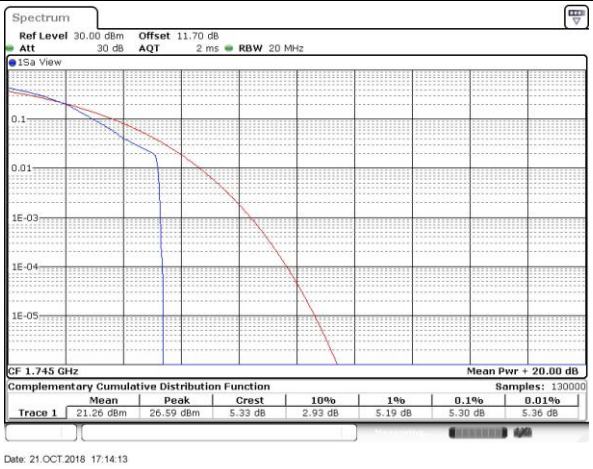
Middle Channel / 1RB



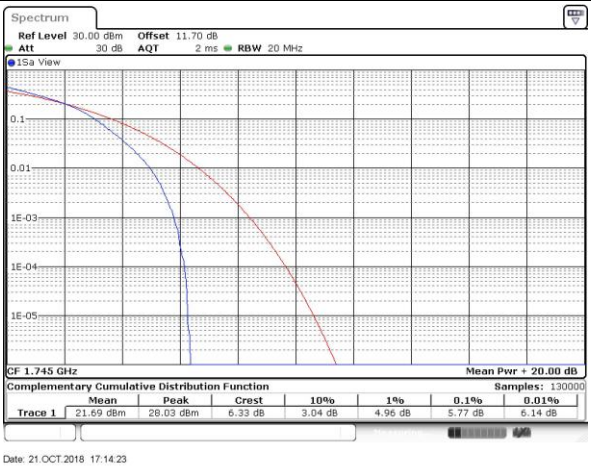
Middle Channel / Full RB



Highest Channel / 1RB

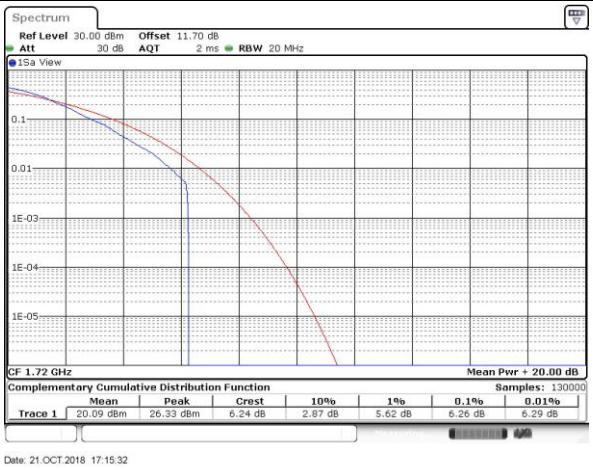


Highest Channel / Full RB

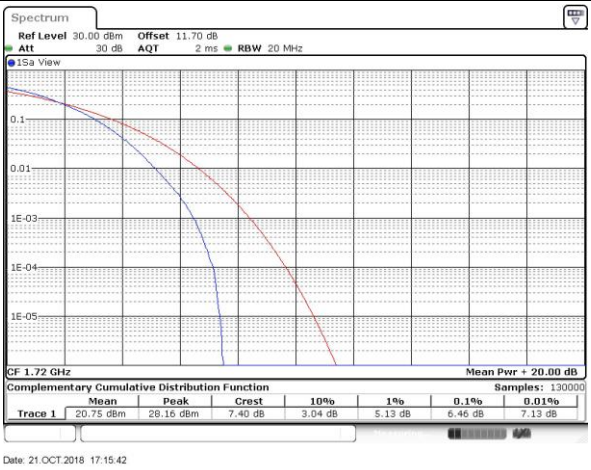


LTE Band 4 / 20MHz / 64QAM

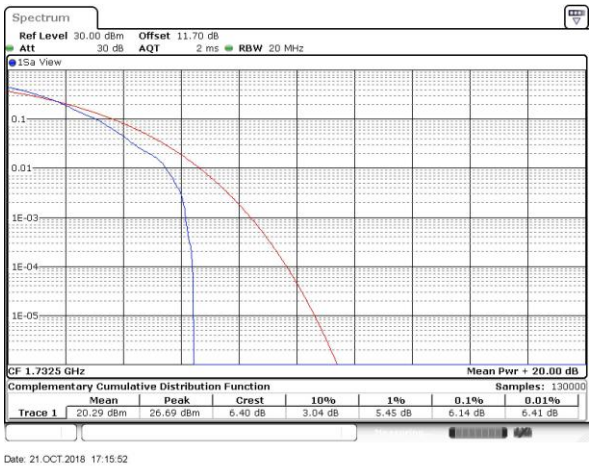
Lowest Channel / 1RB



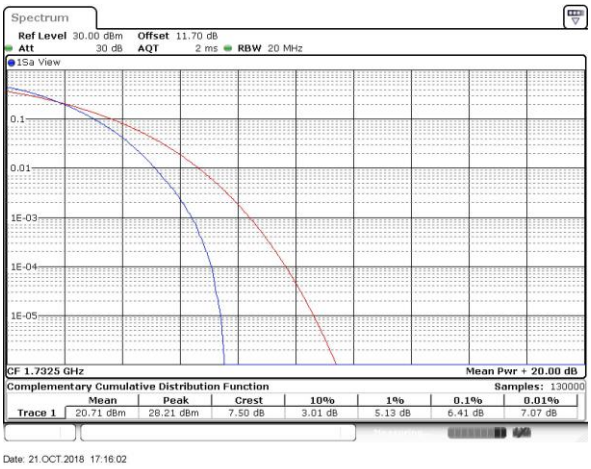
Lowest Channel / Full RB



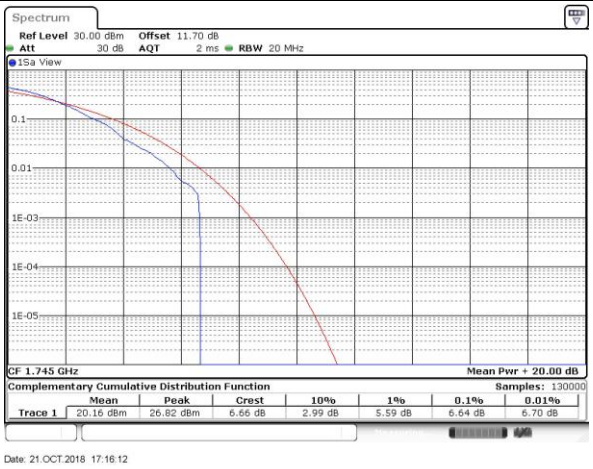
Middle Channel / 1RB



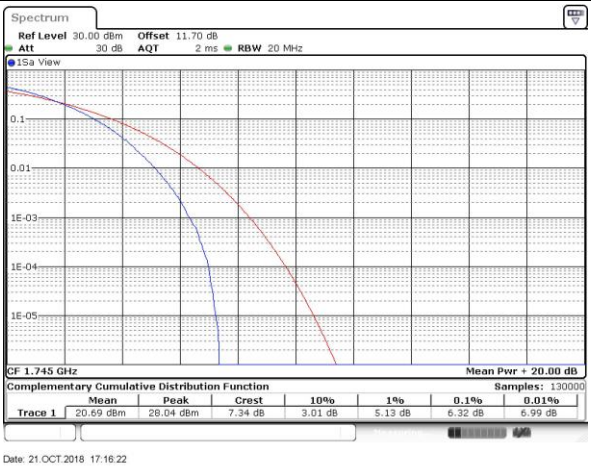
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

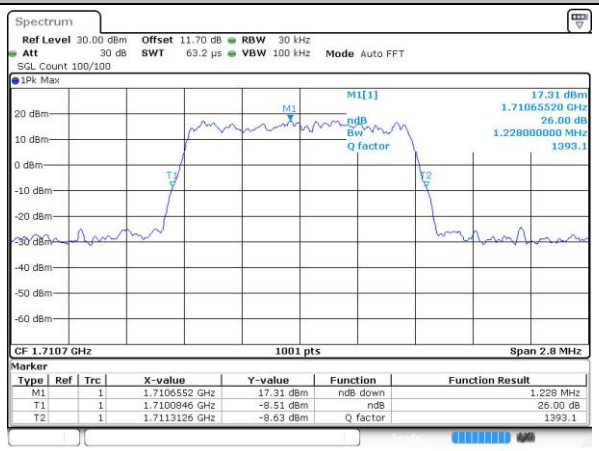


26dB Bandwidth

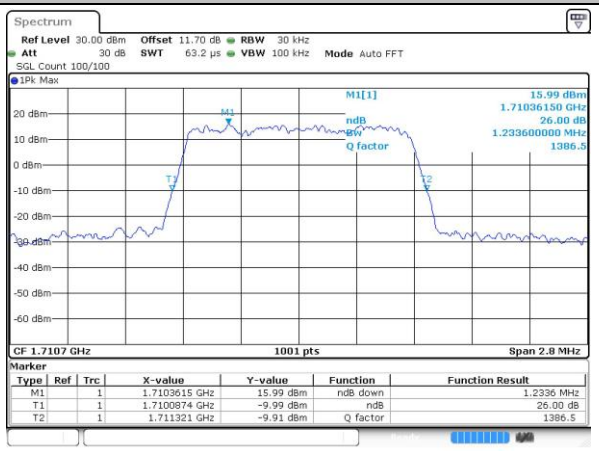
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.23	1.23	3.02	3.06	4.91	4.91	9.79	9.77	14.33	14.36	20.14	20.18
Middle CH	1.22	1.21	2.99	3.06	4.83	4.94	9.81	9.75	14.39	14.45	20.10	20.18
Highest CH	1.23	1.23	3.04	3.02	4.97	4.88	9.81	9.89	14.69	14.39	20.14	20.18
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.24	-	3.03	-	4.87	-	9.75	-	14.57	-	20.18	-
Middle CH	1.24	-	2.95	-	4.95	-	9.77	-	14.39	-	20.18	-
Highest CH	1.23	-	3.02	-	4.91	-	9.83	-	14.18	-	20.30	-

LTE Band 4

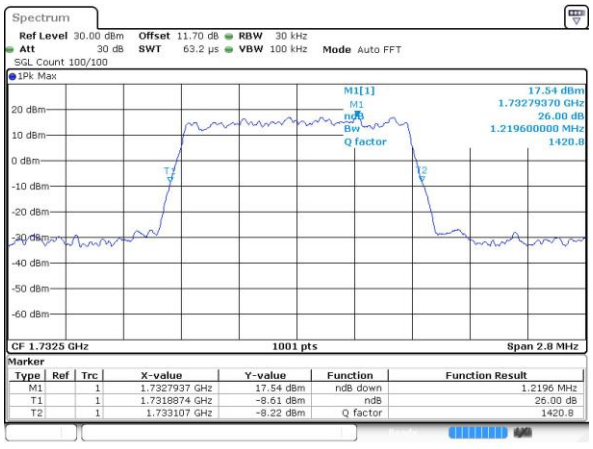
Lowest Channel / 1.4MHz / QPSK



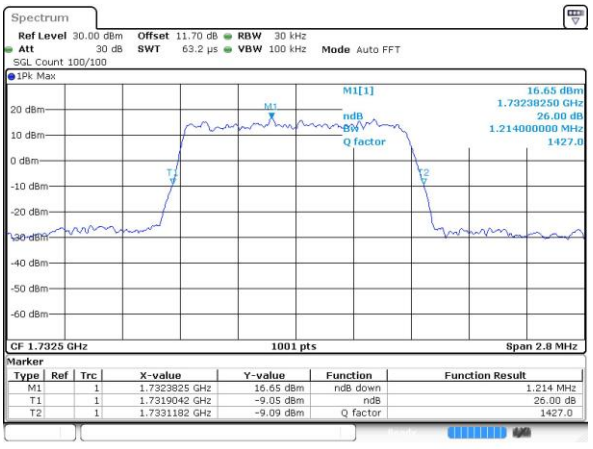
Lowest Channel / 1.4MHz / 16QAM



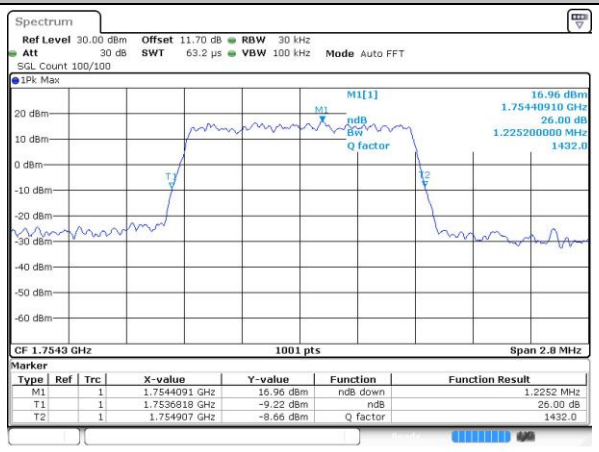
Middle Channel / 1.4MHz / QPSK



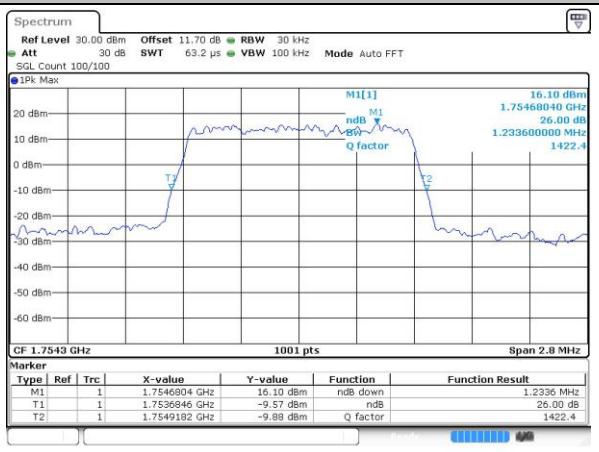
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

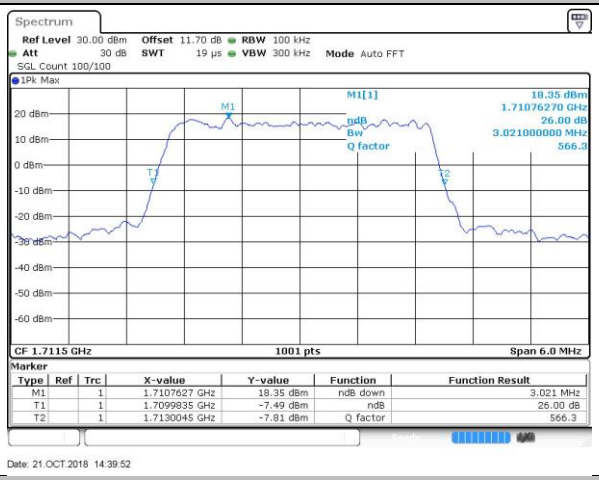


Highest Channel / 1.4MHz / 16QAM

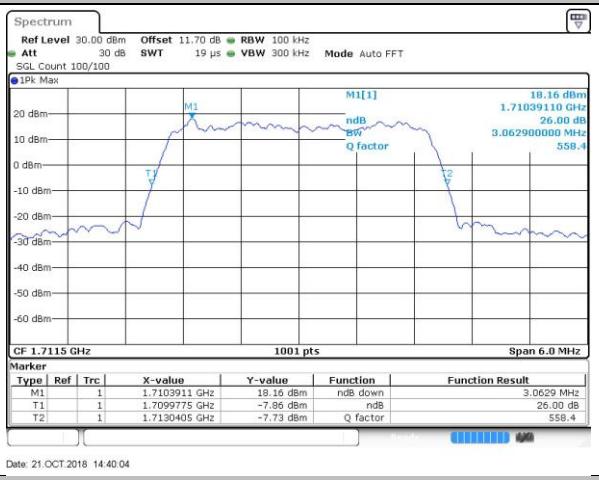


LTE Band 4

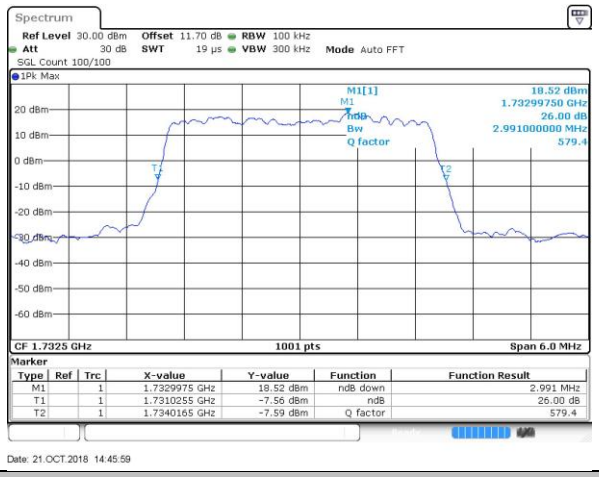
Lowest Channel / 3MHz / QPSK



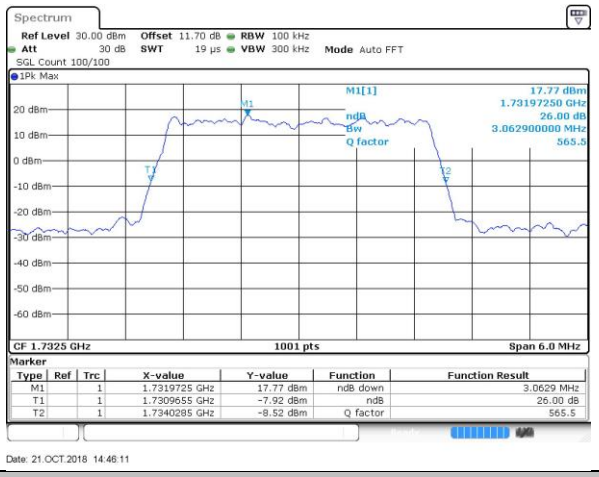
Lowest Channel / 3MHz / 16QAM



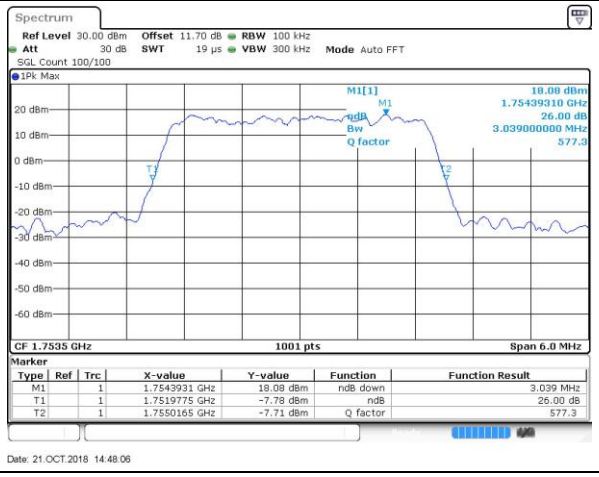
Middle Channel / 3MHz / QPSK



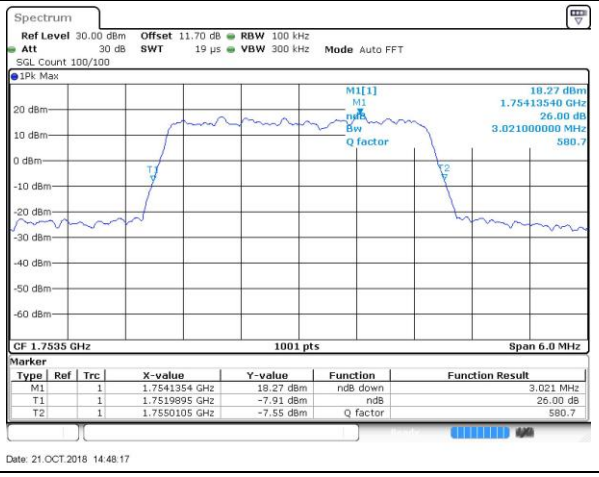
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

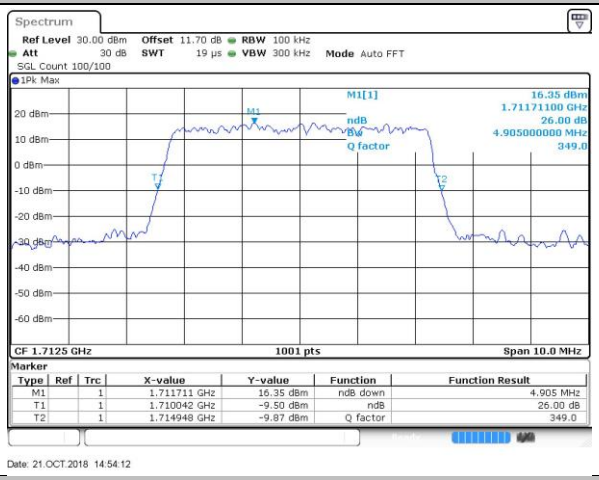


Highest Channel / 3MHz / 16QAM

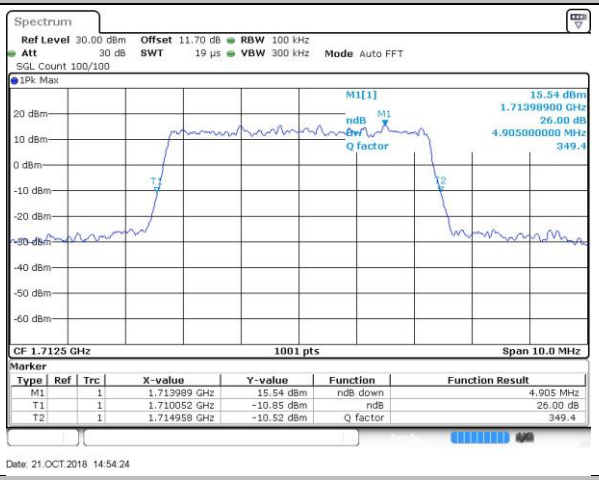


LTE Band 4

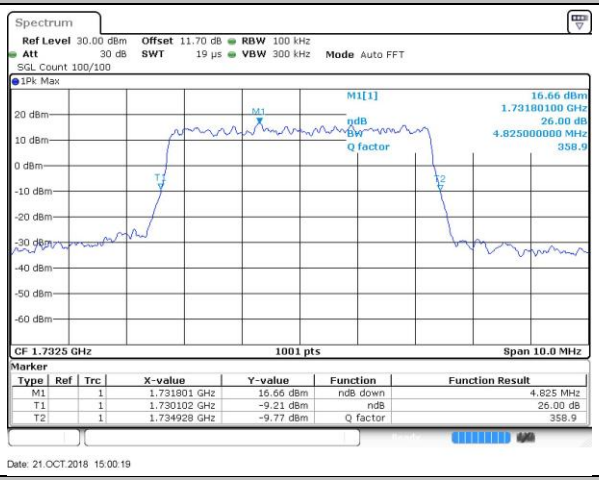
Lowest Channel / 5MHz / QPSK



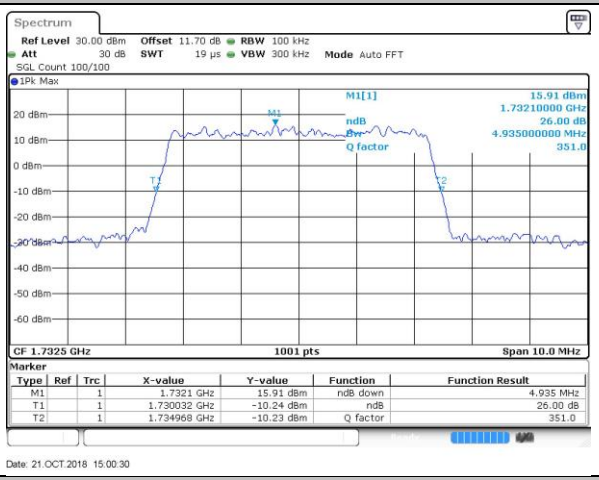
Lowest Channel / 5MHz / 16QAM



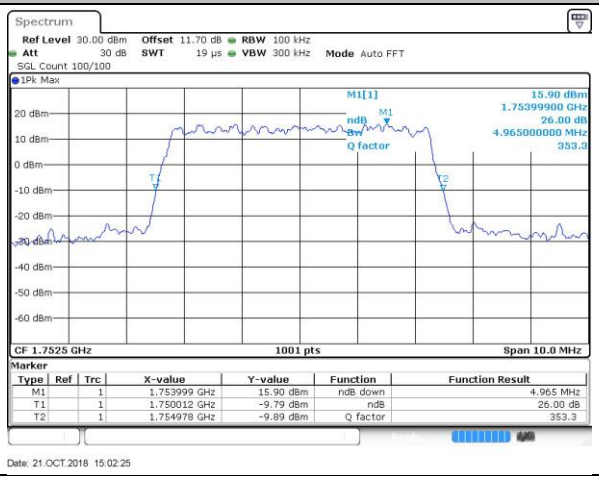
Middle Channel / 5MHz / QPSK



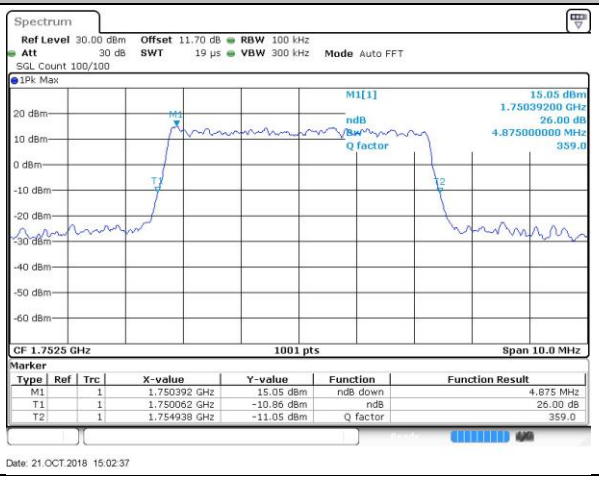
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

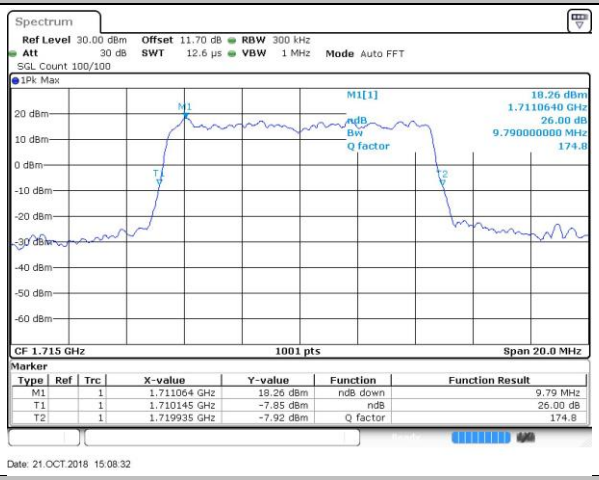


Highest Channel / 5MHz / 16QAM

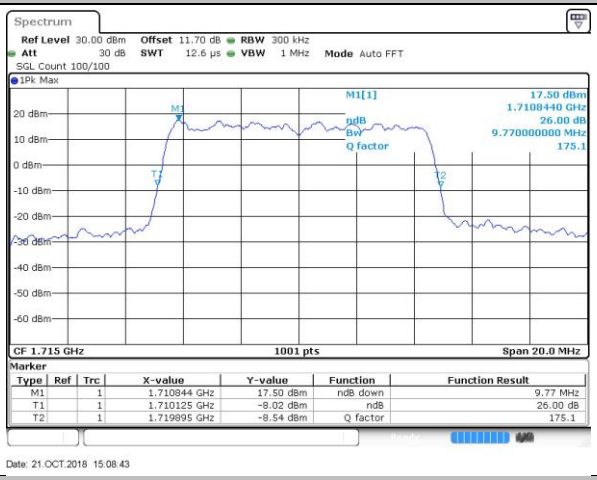


LTE Band 4

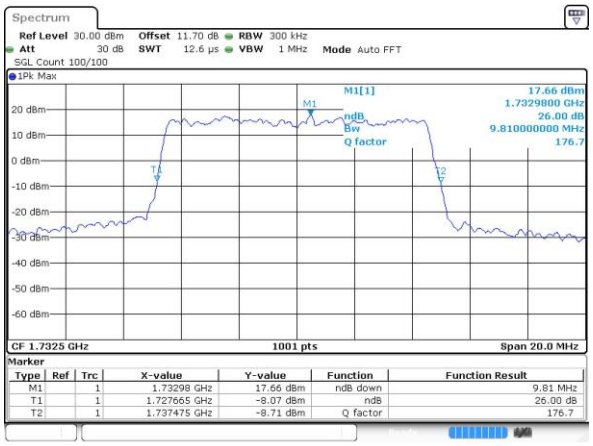
Lowest Channel / 10MHz / QPSK



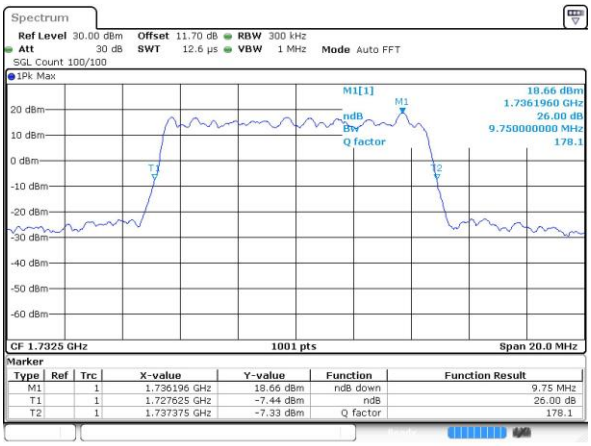
Lowest Channel / 10MHz / 16QAM



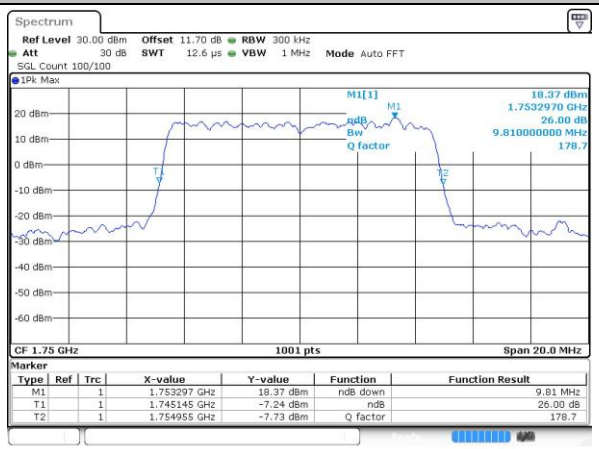
Middle Channel / 10MHz / QPSK



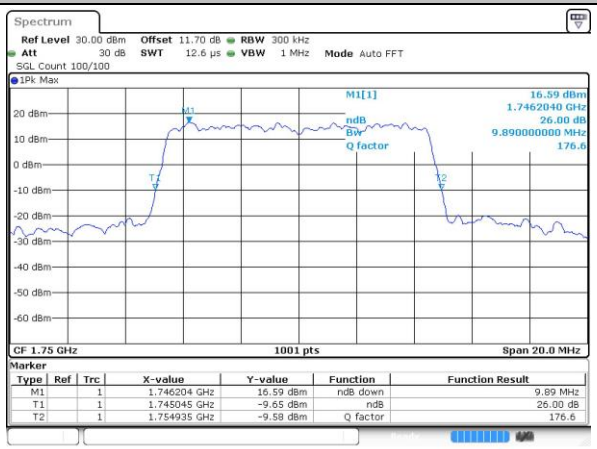
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

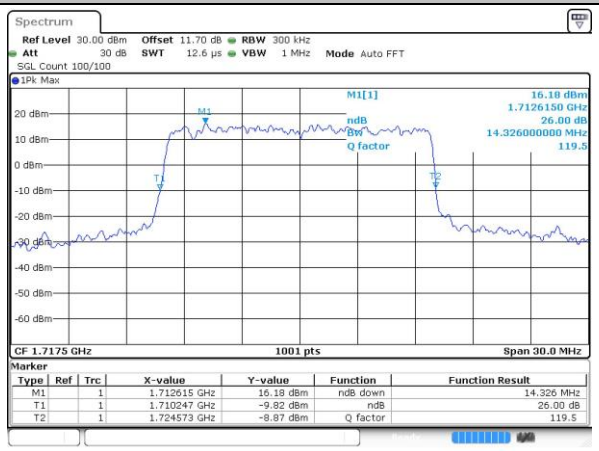


Highest Channel / 10MHz / 16QAM

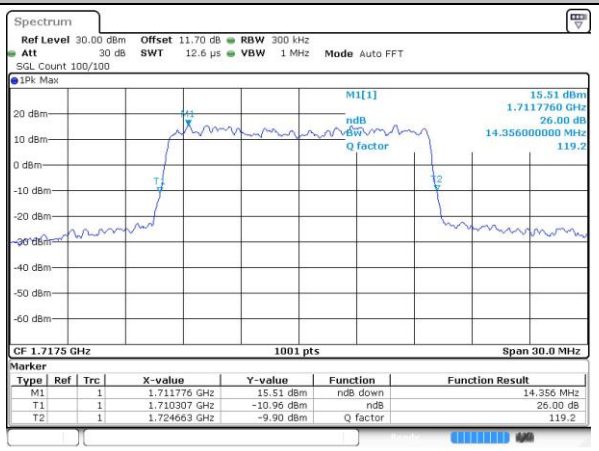


LTE Band 4

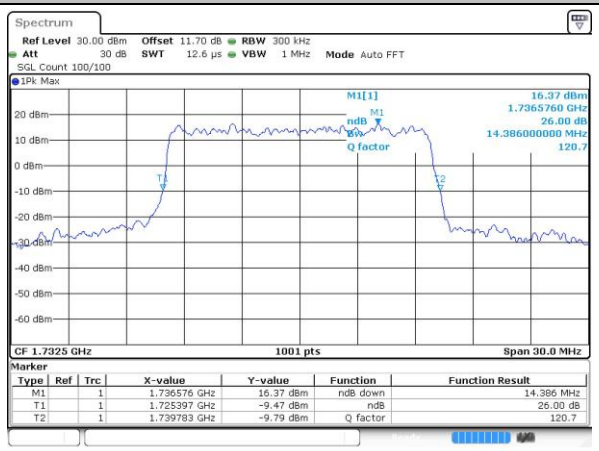
Lowest Channel / 15MHz / QPSK



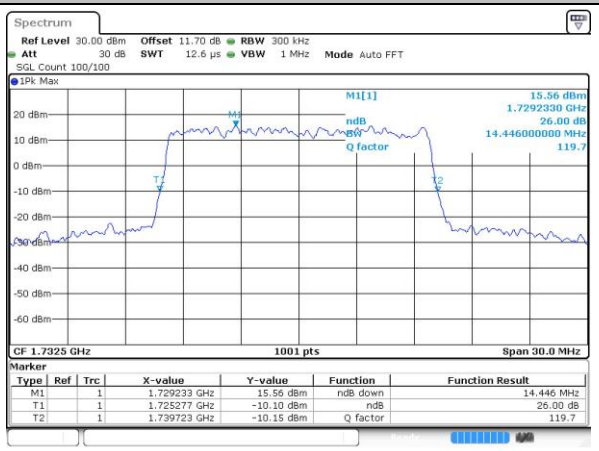
Lowest Channel / 15MHz / 16QAM



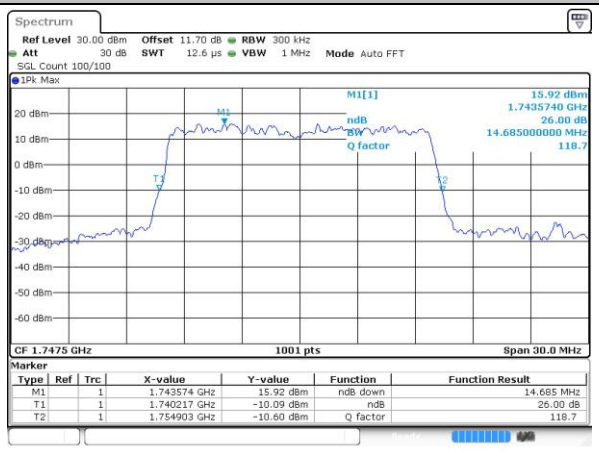
Middle Channel / 15MHz / QPSK



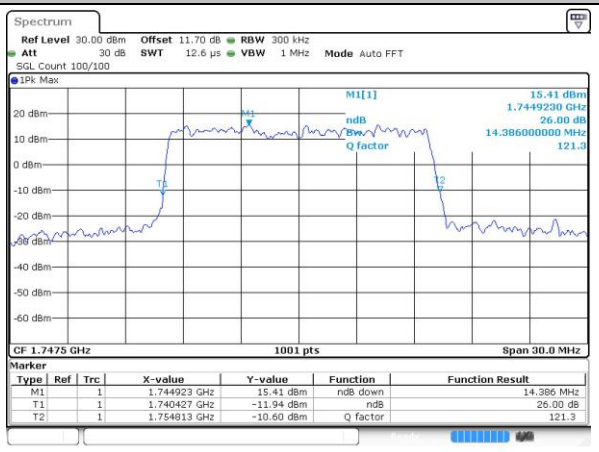
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

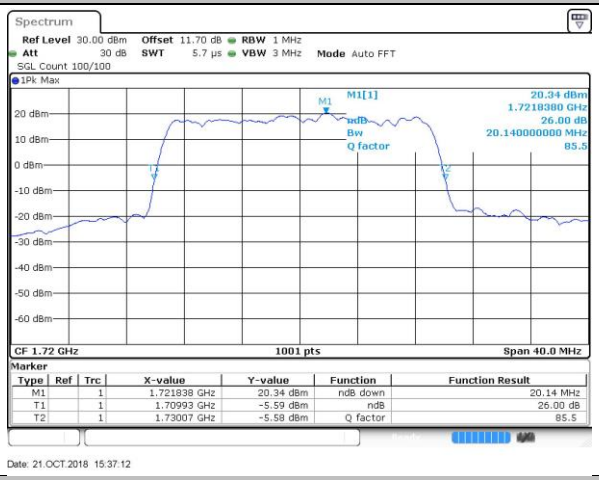


Highest Channel / 15MHz / 16QAM

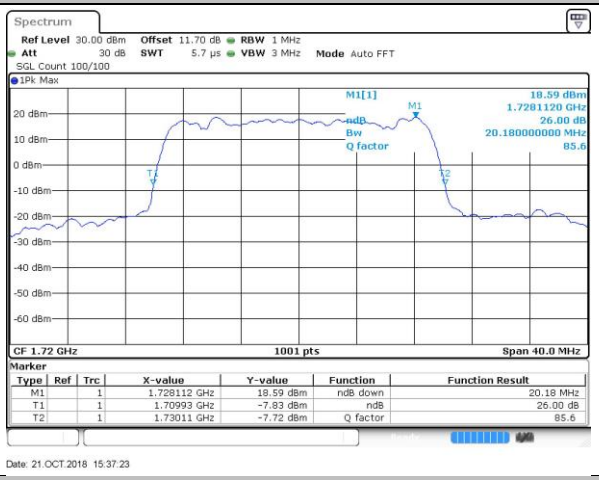


LTE Band 4

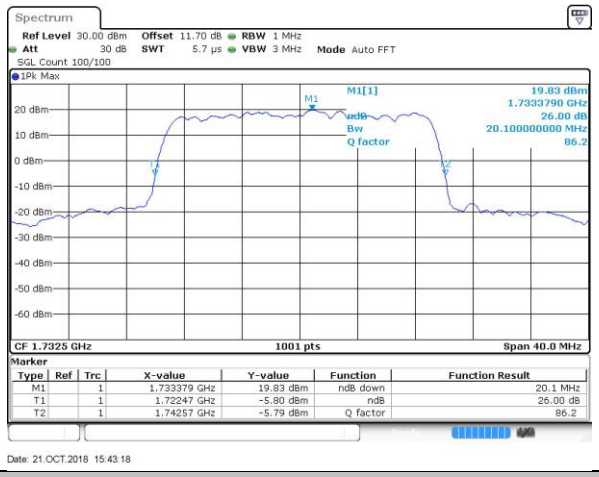
Lowest Channel / 20MHz / QPSK



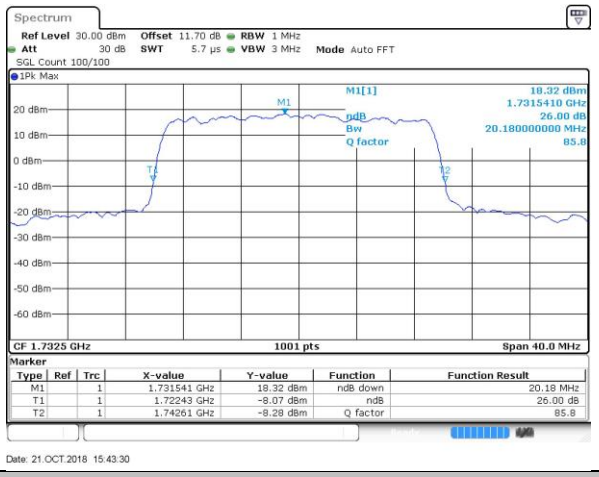
Lowest Channel / 20MHz / 16QAM



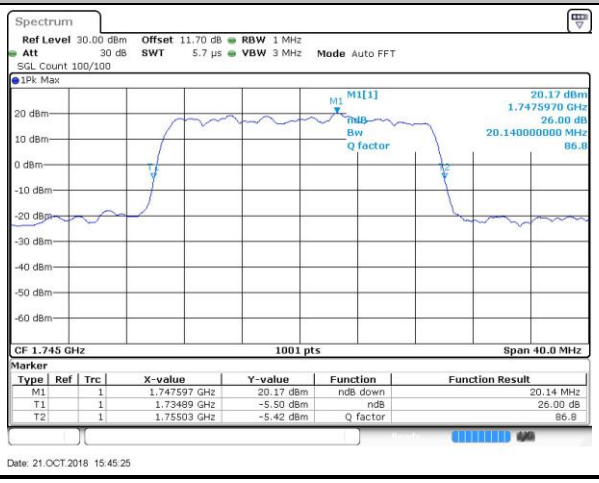
Middle Channel / 20MHz / QPSK



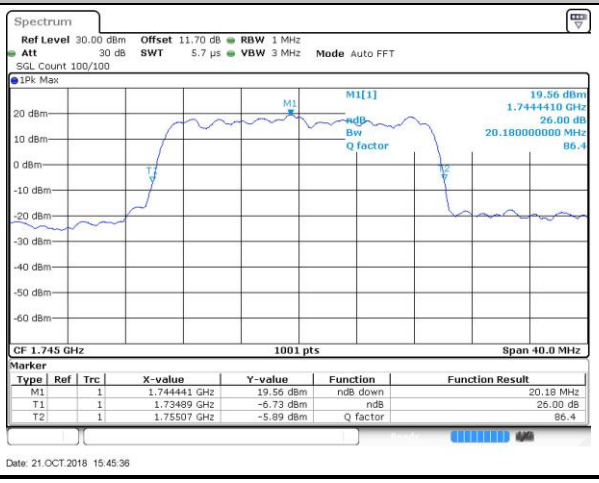
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK

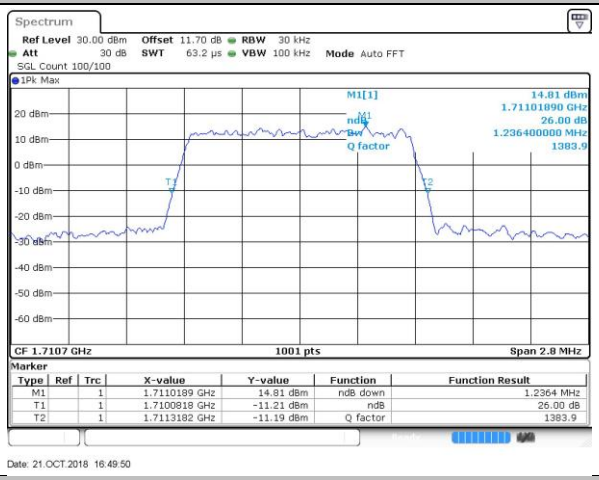


Highest Channel / 20MHz / 16QAM

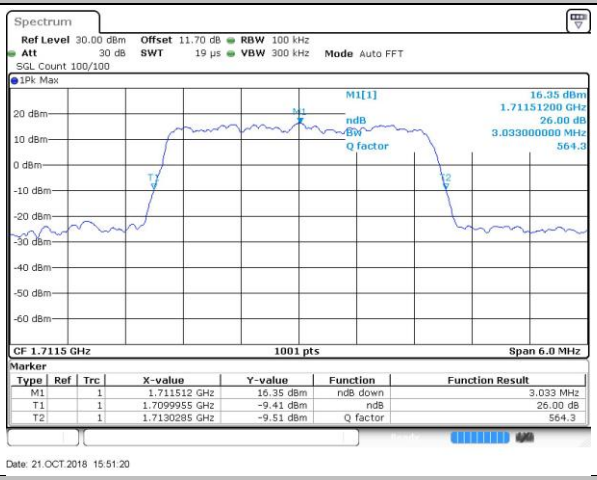


LTE Band 4

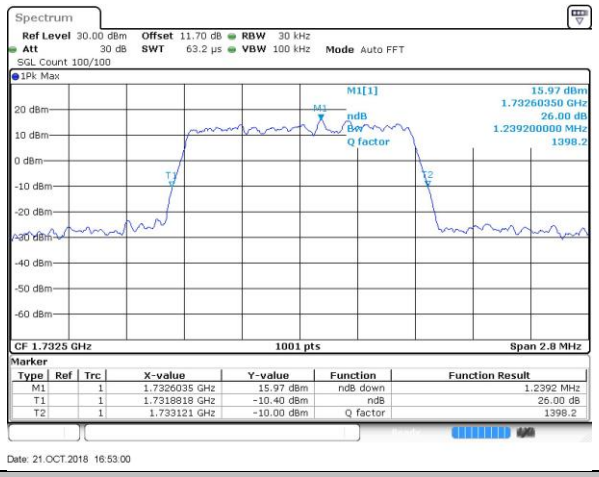
Lowest Channel / 1.4MHz / 64QAM



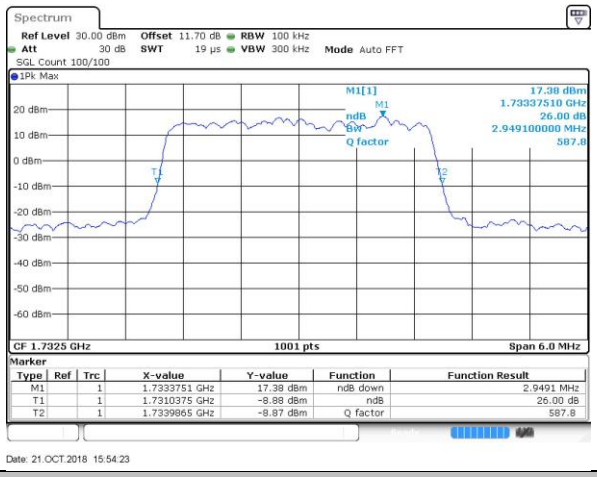
Lowest Channel / 3MHz / 64QAM



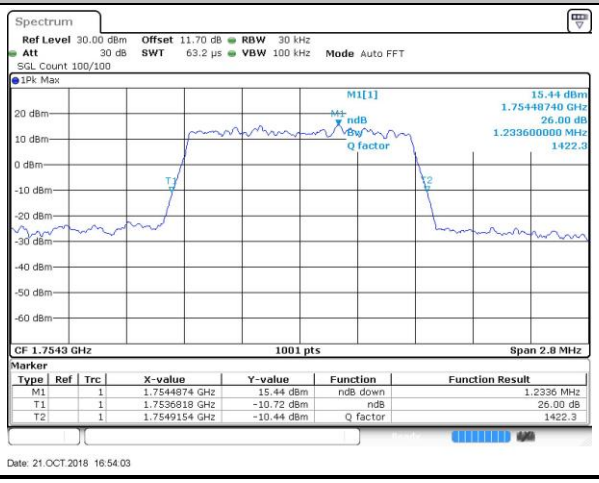
Middle Channel / 1.4MHz / 64QAM



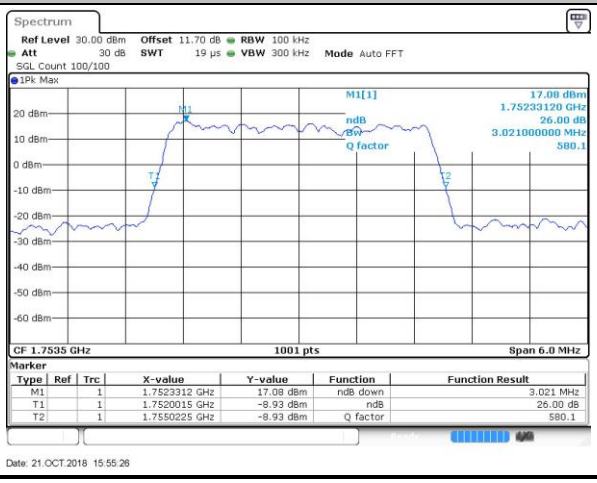
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM

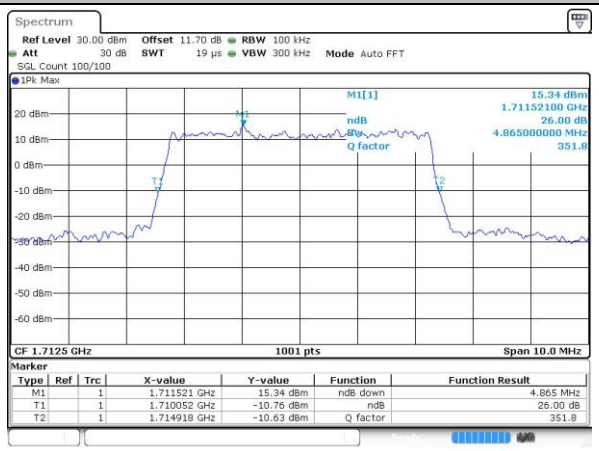


Highest Channel / 3MHz / 64QAM

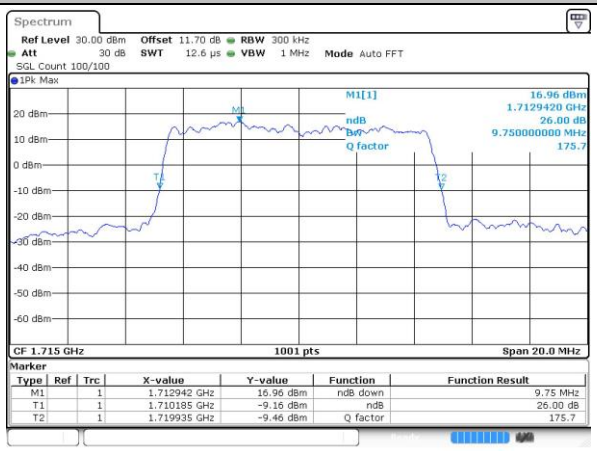


LTE Band 4

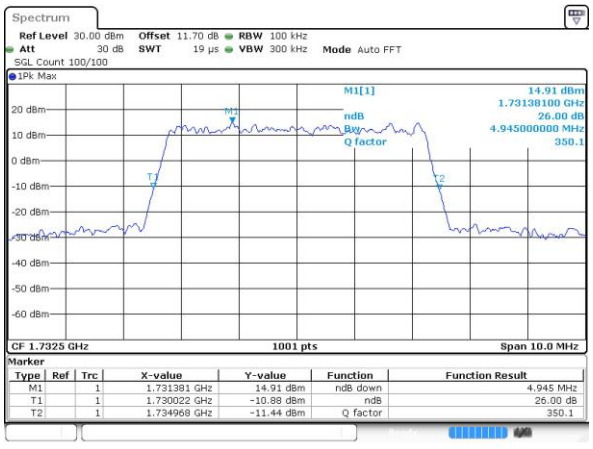
Lowest Channel / 5MHz / 64QAM



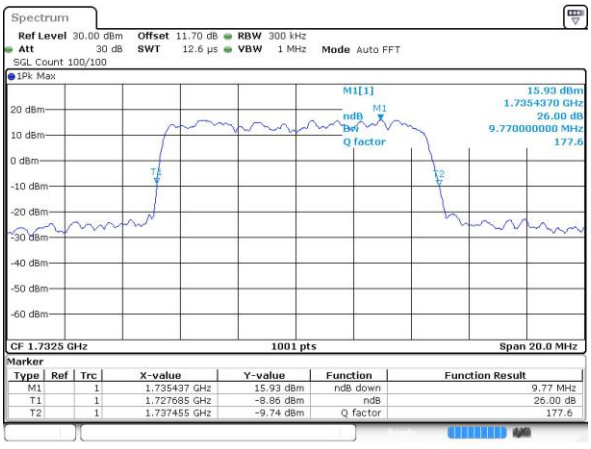
Lowest Channel / 10MHz / 64QAM



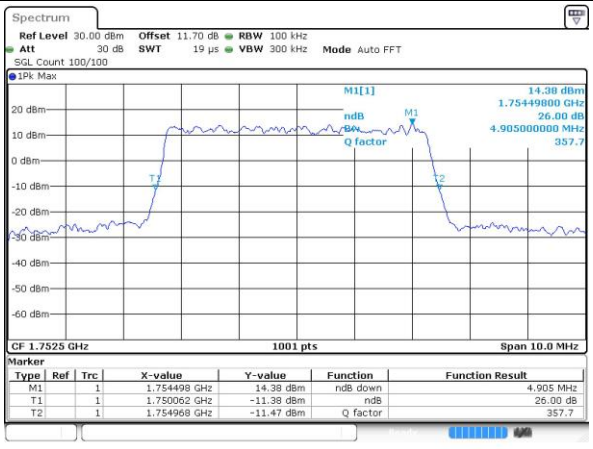
Middle Channel / 5MHz / 64QAM



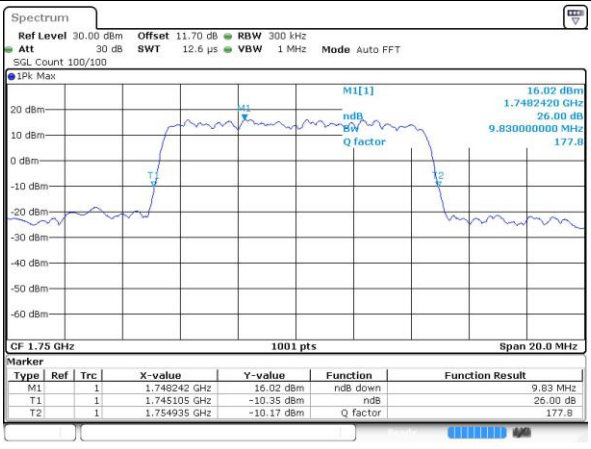
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

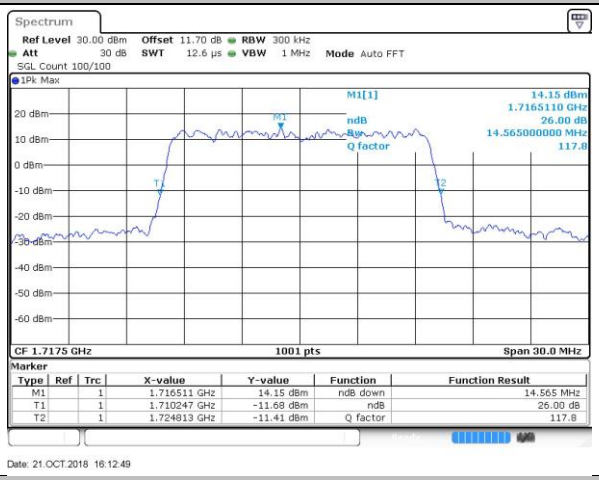


Highest Channel / 10MHz / 64QAM

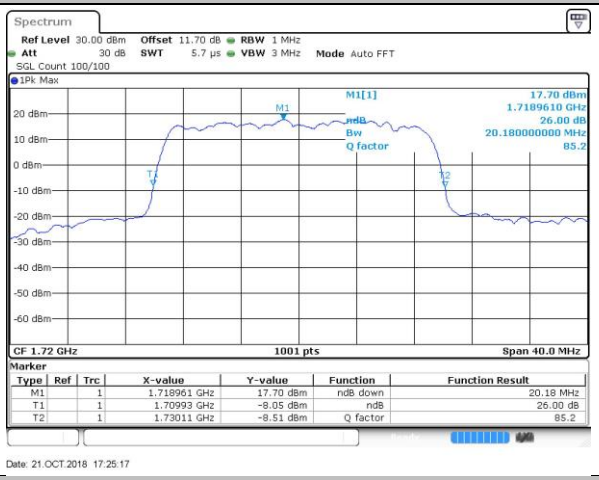


LTE Band 4

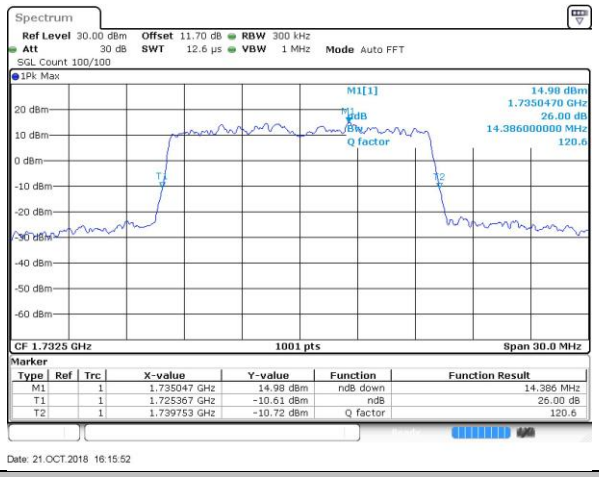
Lowest Channel / 15MHz / 64QAM



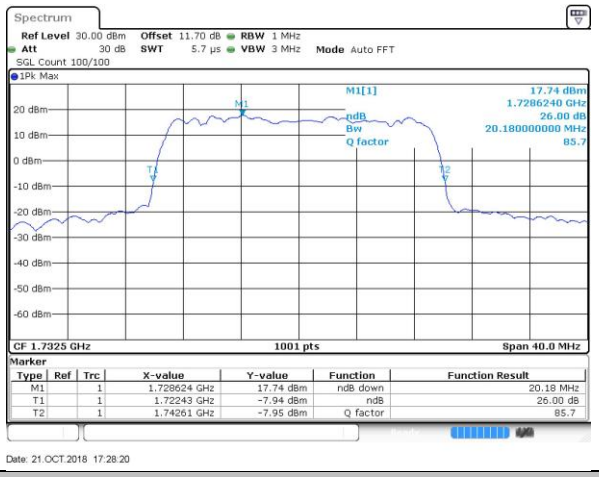
Lowest Channel / 20MHz / 64QAM



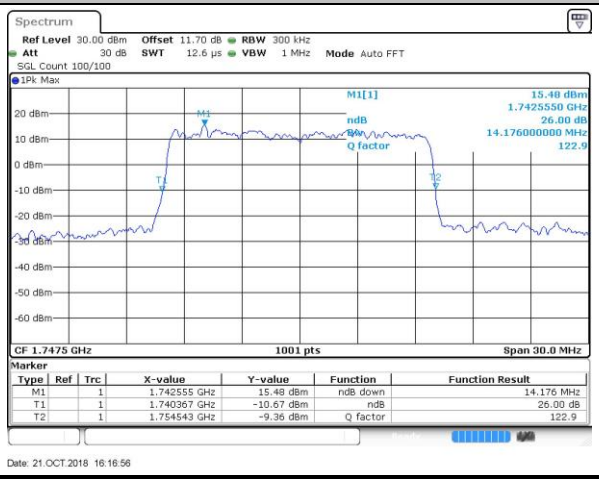
Middle Channel / 15MHz / 64QAM



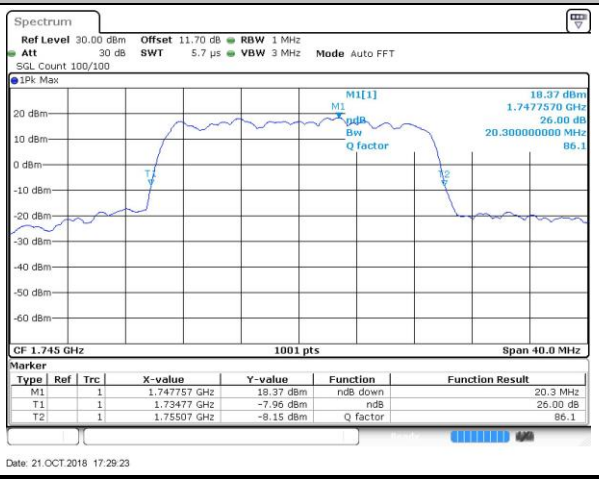
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM



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	2.7	4.5	4.49	9.05	9.05	13.46	13.43	18.18	18.46
Middle CH	1.09	1.09	2.7	2.73	4.48	4.49	9.03	9.03	13.43	13.46	18.34	18.22
Highest CH	1.09	1.09	2.72	2.73	4.51	4.51	9.05	9.07	13.46	13.46	18.34	18.34
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09	-	2.72	-	4.47	-	8.97	-	13.43	-	18.34	-
Middle CH	1.09	-	2.71	-	4.53	-	9.03	-	13.40	-	18.38	-
Highest CH	1.09	-	2.73	-	4.50	-	9.03	-	13.40	-	18.34	-