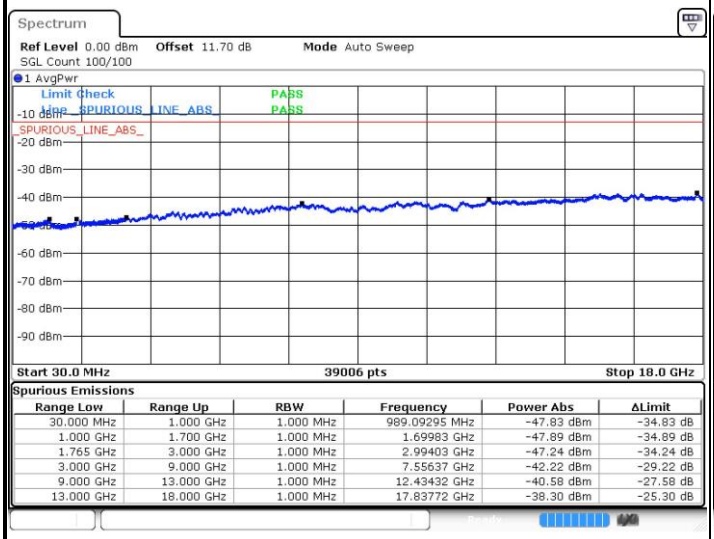
LTE Band 4 / 1.4MHz

Lowest Channel / 64QAM

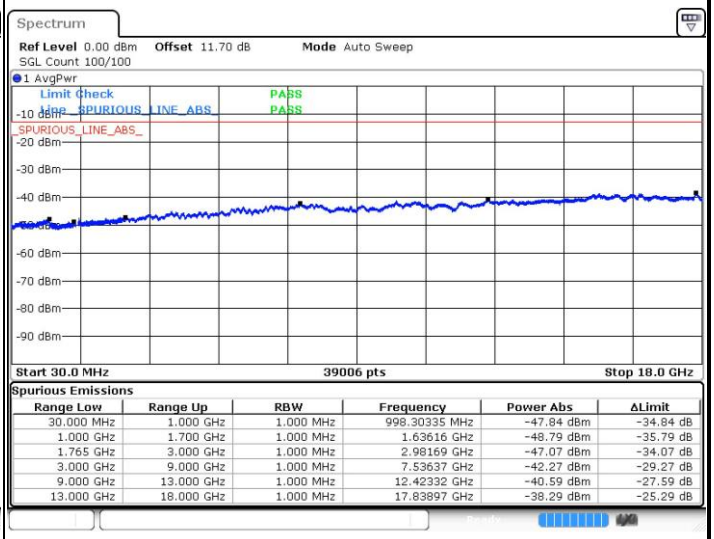


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	989.09295 MHz	-47.83 dBm	-34.83 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-47.89 dBm	-34.89 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.99403 GHz	-47.24 dBm	-34.24 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55637 GHz	-42.22 dBm	-29.22 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43432 GHz	-40.58 dBm	-27.58 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83772 GHz	-38.30 dBm	-25.30 dB

Date: 21.OCT.2018 16:52:37

Middle Channel / 64QAM

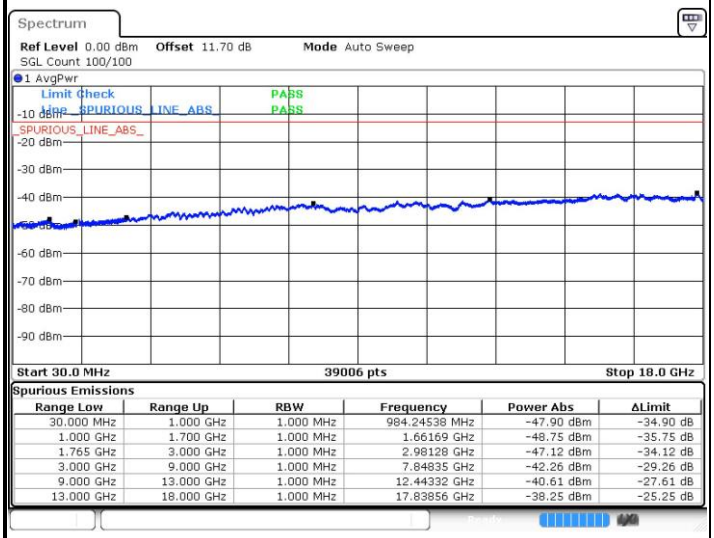


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	998.30335 MHz	-47.84 dBm	-34.84 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.63616 GHz	-48.79 dBm	-35.79 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.98169 GHz	-47.07 dBm	-34.07 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.53637 GHz	-42.27 dBm	-29.27 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42332 GHz	-40.59 dBm	-27.59 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83897 GHz	-38.29 dBm	-25.29 dB

Date: 21.OCT.2018 16:53:40

Highest Channel / 64QAM



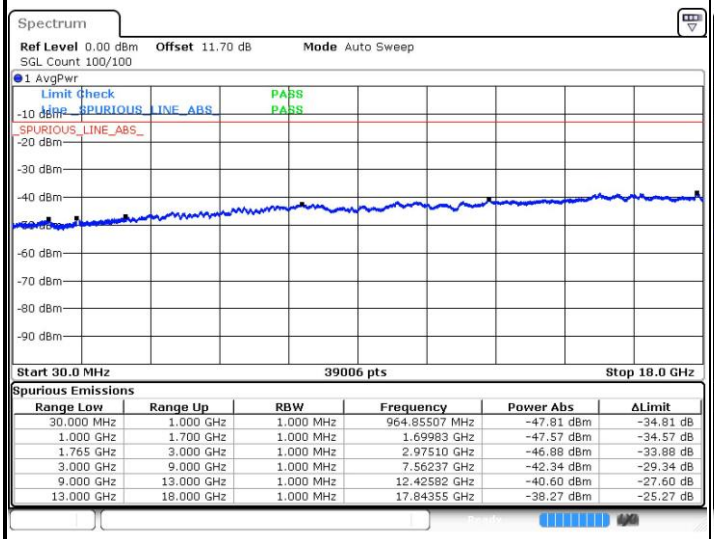
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	984.24538 MHz	-47.90 dBm	-34.90 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.66169 GHz	-48.75 dBm	-35.75 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.98128 GHz	-47.12 dBm	-34.12 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.84835 GHz	-42.26 dBm	-29.26 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44332 GHz	-40.61 dBm	-27.61 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83856 GHz	-38.25 dBm	-25.25 dB

Date: 21.OCT.2018 16:56:50

LTE Band 4 / 3MHz

Lowest Channel / 64QAM

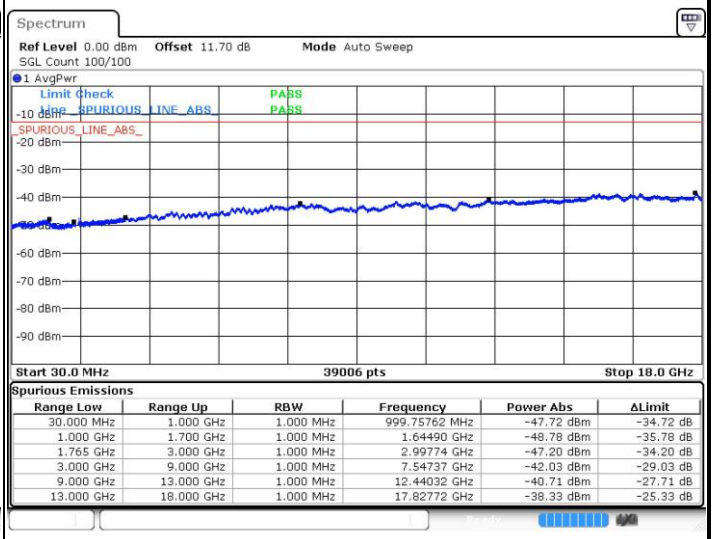


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	964.85507 MHz	-47.81 dBm	-34.81 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-47.57 dBm	-34.57 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.97510 GHz	-46.88 dBm	-33.88 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.56237 GHz	-42.34 dBm	-29.34 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42582 GHz	-40.60 dBm	-27.60 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84355 GHz	-38.27 dBm	-25.27 dB

Date: 21.OCT.2018 15:54:00

Middle Channel / 64QAM

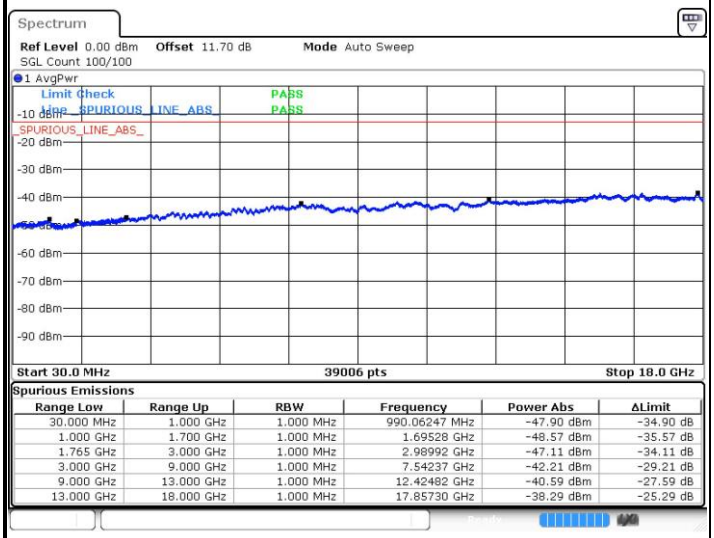


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	999.75762 MHz	-47.72 dBm	-34.72 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.64490 GHz	-48.78 dBm	-35.78 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.99774 GHz	-47.20 dBm	-34.20 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54737 GHz	-42.03 dBm	-29.03 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44032 GHz	-40.71 dBm	-27.71 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.82772 GHz	-38.33 dBm	-25.33 dB

Date: 21.OCT.2018 15:55:03

Highest Channel / 64QAM



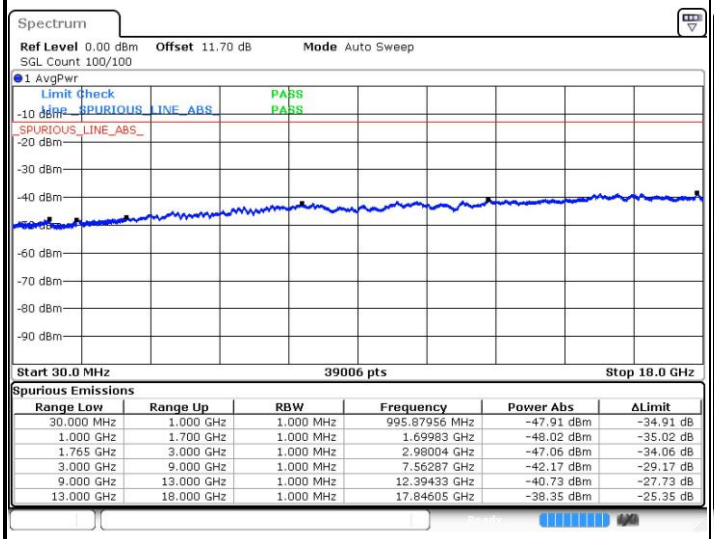
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	990.06247 MHz	-47.90 dBm	-34.90 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69528 GHz	-48.57 dBm	-35.57 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.98992 GHz	-47.11 dBm	-34.11 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54237 GHz	-42.21 dBm	-29.21 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42482 GHz	-40.59 dBm	-27.59 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85730 GHz	-38.29 dBm	-25.29 dB

Date: 21.OCT.2018 15:58:07

LTE Band 4 / 5MHz

Lowest Channel / 64QAM

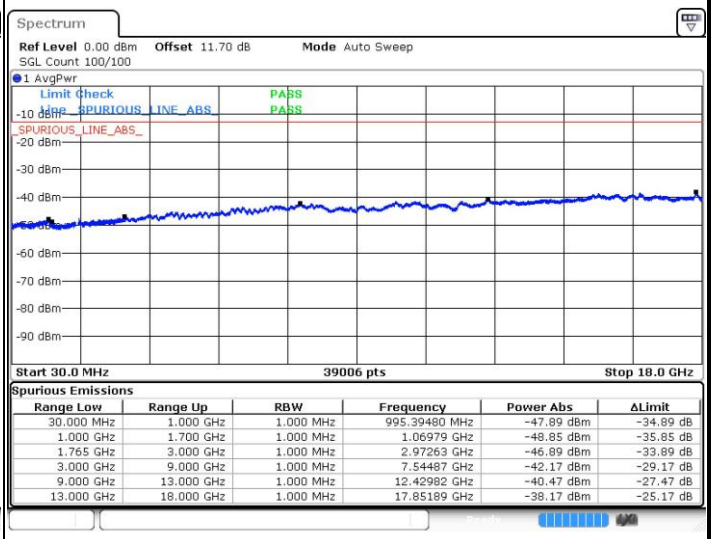


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	995.87956 MHz	-47.91 dBm	-34.91 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-48.02 dBm	-35.02 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.98004 GHz	-47.06 dBm	-34.06 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.56287 GHz	-42.17 dBm	-29.17 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.39433 GHz	-40.73 dBm	-27.73 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84605 GHz	-38.35 dBm	-25.35 dB

Date: 21.OCT.2018 16:01:10

Middle Channel / 64QAM

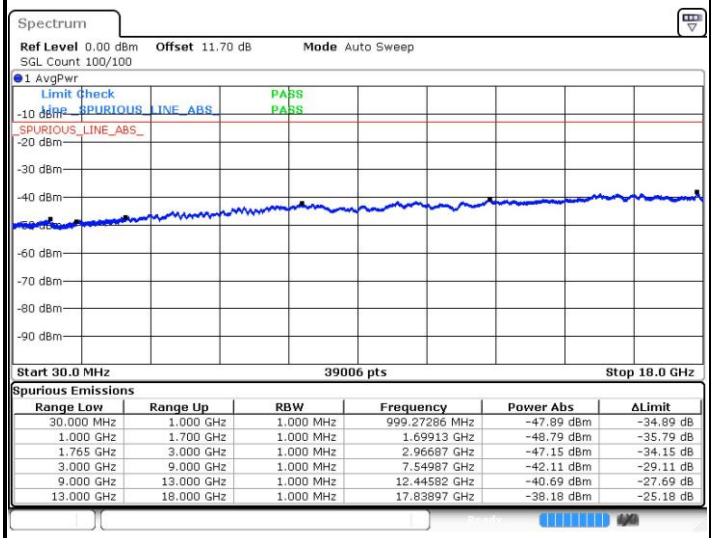


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	995.39480 MHz	-47.89 dBm	-34.89 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.06979 GHz	-48.85 dBm	-35.85 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.97263 GHz	-46.89 dBm	-33.89 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54487 GHz	-42.17 dBm	-29.17 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42982 GHz	-40.47 dBm	-27.47 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85189 GHz	-38.17 dBm	-25.17 dB

Date: 21.OCT.2018 16:02:13

Highest Channel / 64QAM



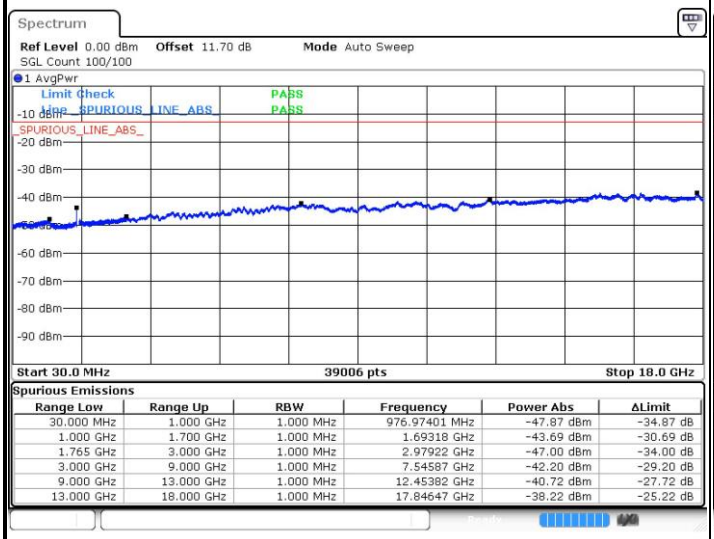
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	999.27286 MHz	-47.89 dBm	-34.89 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69913 GHz	-48.79 dBm	-35.79 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.96687 GHz	-47.15 dBm	-34.15 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54987 GHz	-42.11 dBm	-29.11 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44582 GHz	-40.69 dBm	-27.69 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83897 GHz	-38.18 dBm	-25.18 dB

Date: 21.OCT.2018 16:05:16

LTE Band 4 / 10MHz

Lowest Channel / 64QAM

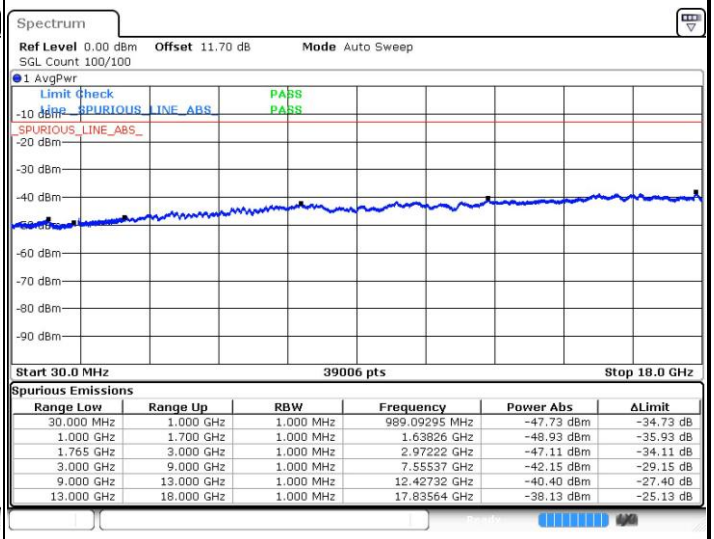


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	976.97401 MHz	-47.87 dBm	-34.87 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69318 GHz	-43.69 dBm	-30.69 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.97922 GHz	-47.00 dBm	-34.00 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54587 GHz	-42.20 dBm	-29.20 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.45382 GHz	-40.72 dBm	-27.72 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84647 GHz	-38.22 dBm	-25.22 dB

Date: 21.OCT.2018 16:08:20

Middle Channel / 64QAM

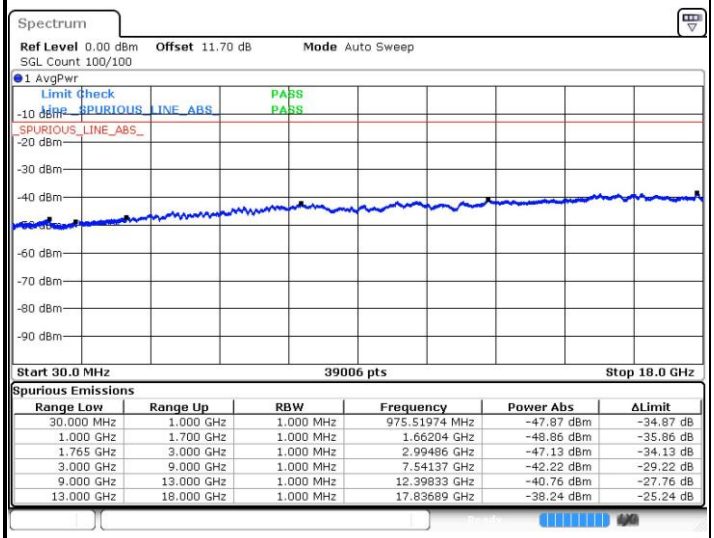


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	989.09295 MHz	-47.73 dBm	-34.73 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.63826 GHz	-48.93 dBm	-35.93 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.97222 GHz	-47.11 dBm	-34.11 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55537 GHz	-42.15 dBm	-29.15 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42732 GHz	-40.40 dBm	-27.40 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83564 GHz	-38.13 dBm	-25.13 dB

Date: 21.OCT.2018 16:09:23

Highest Channel / 64QAM



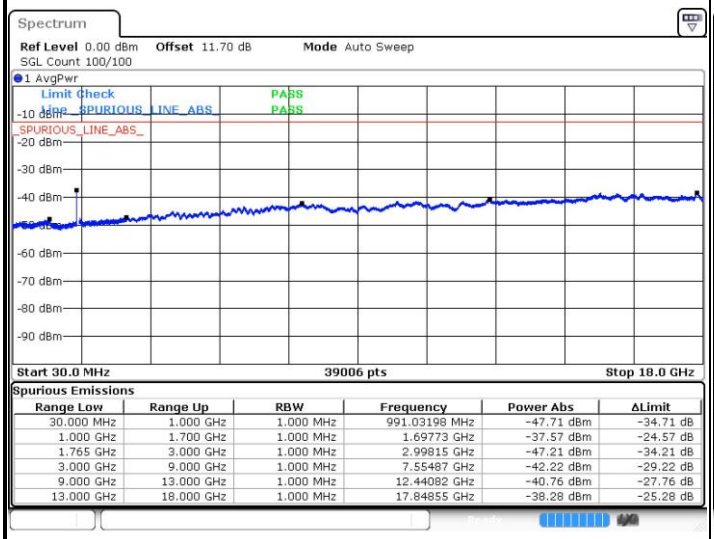
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	975.51974 MHz	-47.87 dBm	-34.87 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.66204 GHz	-48.86 dBm	-35.86 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.99486 GHz	-47.13 dBm	-34.13 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54137 GHz	-42.22 dBm	-29.22 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.39833 GHz	-40.76 dBm	-27.76 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83689 GHz	-38.24 dBm	-25.24 dB

Date: 21.OCT.2018 16:12:26

LTE Band 4 / 15MHz

Lowest Channel / 64QAM

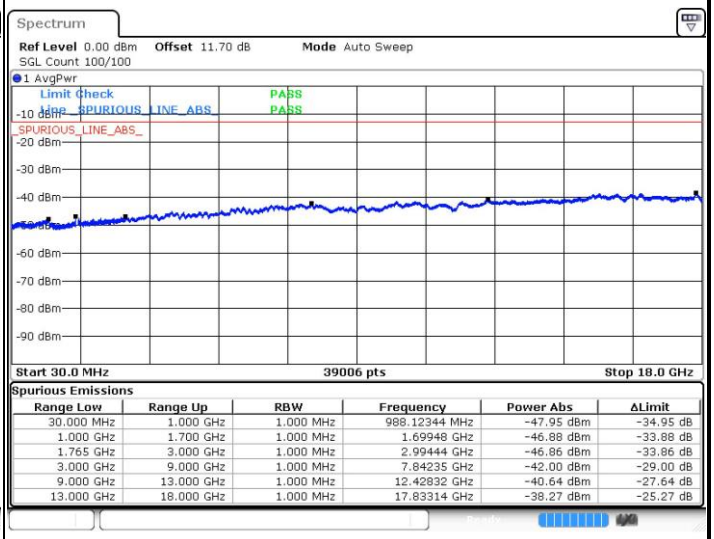


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.03198 MHz	-47.71 dBm	-34.71 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69773 GHz	-37.57 dBm	-24.57 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.99815 GHz	-47.21 dBm	-34.21 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55487 GHz	-42.22 dBm	-29.22 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44082 GHz	-40.76 dBm	-27.76 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84855 GHz	-38.28 dBm	-25.28 dB

Date: 21.OCT.2018 16:15:30

Middle Channel / 64QAM

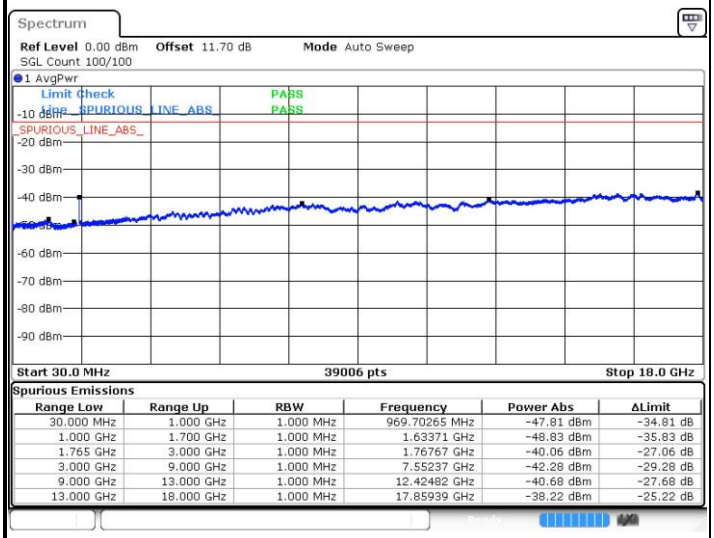


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	988.12344 MHz	-47.95 dBm	-34.95 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69948 GHz	-46.88 dBm	-33.88 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.99444 GHz	-46.86 dBm	-33.86 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.84235 GHz	-42.00 dBm	-29.00 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42832 GHz	-40.64 dBm	-27.64 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83314 GHz	-38.27 dBm	-25.27 dB

Date: 21.OCT.2018 16:16:33

Highest Channel / 64QAM



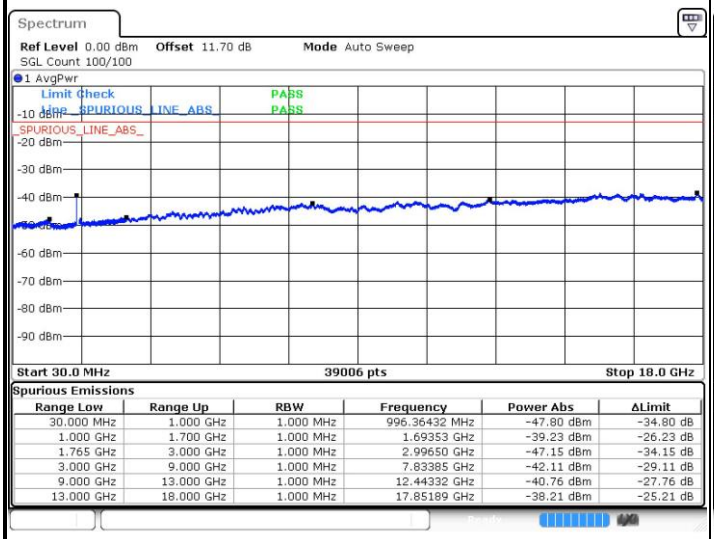
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	969.70265 MHz	-47.81 dBm	-34.81 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.63371 GHz	-48.83 dBm	-35.83 dB
1.765 GHz	3.000 GHz	1.000 MHz	1.76767 GHz	-40.06 dBm	-27.06 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55237 GHz	-42.28 dBm	-29.28 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42482 GHz	-40.68 dBm	-27.68 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85939 GHz	-38.22 dBm	-25.22 dB

Date: 21.OCT.2018 16:19:36

LTE Band 4 / 20MHz

Lowest Channel / 64QAM

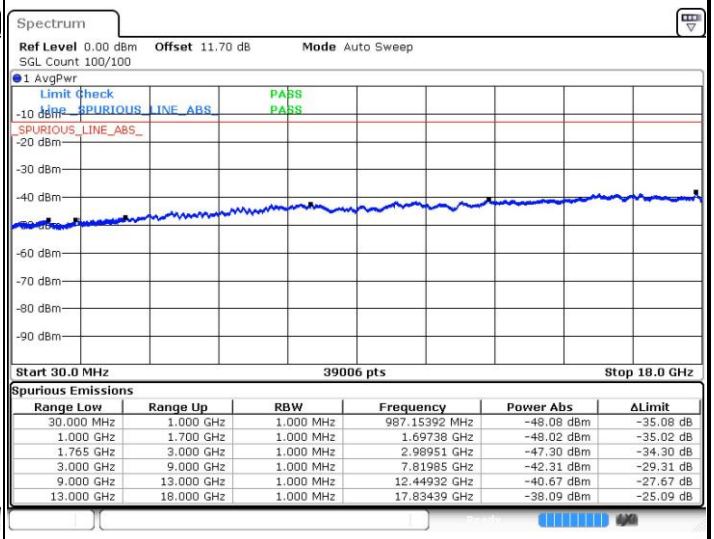


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	996.36432 MHz	-47.80 dBm	-34.80 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69353 GHz	-39.23 dBm	-26.23 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.99650 GHz	-47.15 dBm	-34.15 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.83385 GHz	-42.11 dBm	-29.11 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44332 GHz	-40.76 dBm	-27.76 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85189 GHz	-38.21 dBm	-25.21 dB

Date: 21.OCT.2018 17:27:57

Middle Channel / 64QAM

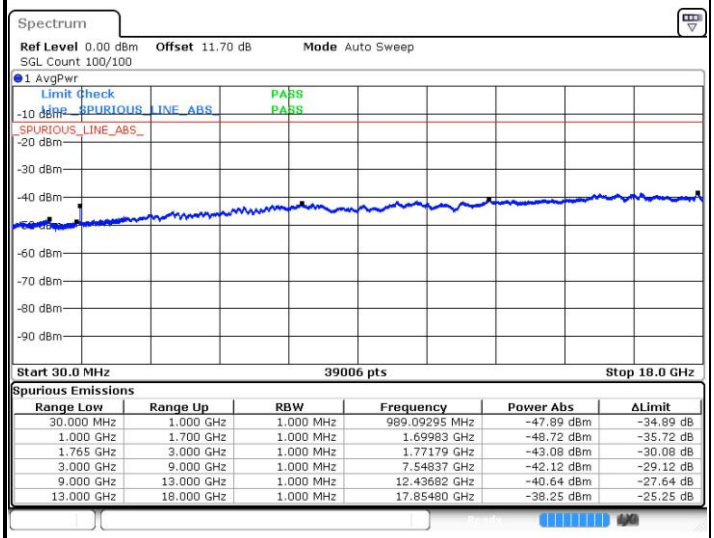


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	987.15392 MHz	-48.08 dBm	-35.08 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69738 GHz	-48.02 dBm	-35.02 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.98951 GHz	-47.30 dBm	-34.30 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.81985 GHz	-42.31 dBm	-29.31 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44932 GHz	-40.67 dBm	-27.67 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83439 GHz	-38.09 dBm	-25.09 dB

Date: 21.OCT.2018 17:29:01

Highest Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	989.09295 MHz	-47.89 dBm	-34.89 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-48.72 dBm	-35.72 dB
1.765 GHz	3.000 GHz	1.000 MHz	1.77179 GHz	-43.08 dBm	-30.08 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54837 GHz	-42.12 dBm	-29.12 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43682 GHz	-40.64 dBm	-27.64 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85480 GHz	-38.25 dBm	-25.25 dB

Date: 21.OCT.2018 17:32:04

Frequency Stability

Test Conditions		LTE Band 4 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0020	PASS
40	Normal Voltage	0.0035	
30	Normal Voltage	0.0070	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0017	
0	Normal Voltage	0.0001	
-10	Normal Voltage	0.0033	
-20	Normal Voltage	0.0031	
-30	Normal Voltage	0.0008	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0007	

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.

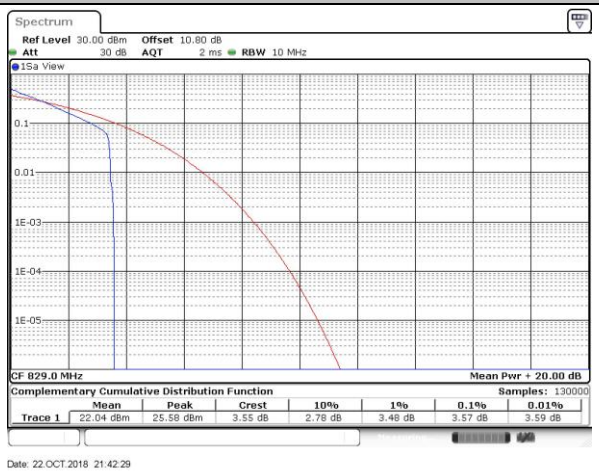
LTE Band 5

Peak-to-Average Ratio

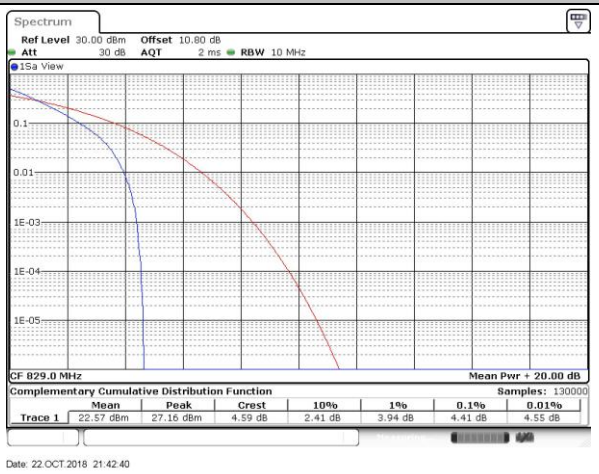
Mode	LTE Band 5 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.57	4.41	4.32	5.48	PASS
Middle CH	3.54	4.52	4.29	5.74	
Highest CH	3.57	4.52	4.55	5.71	
Mode	LTE Band 5 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.94	6.23	-	-	PASS
Middle CH	5.36	6.32	-	-	
Highest CH	5.86	6.32	-	-	

LTE Band 5 / 10MHz / QPSK

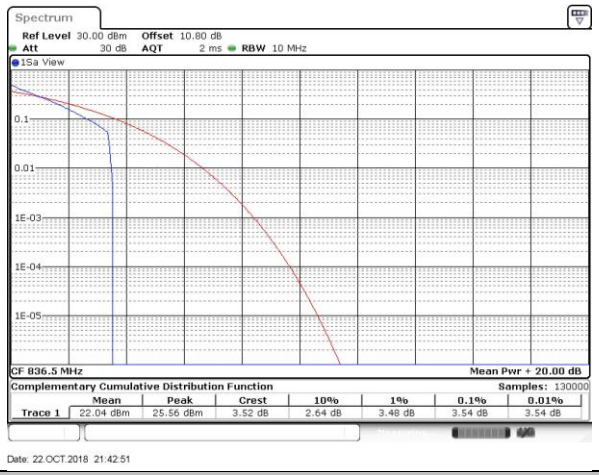
Lowest Channel / 1RB



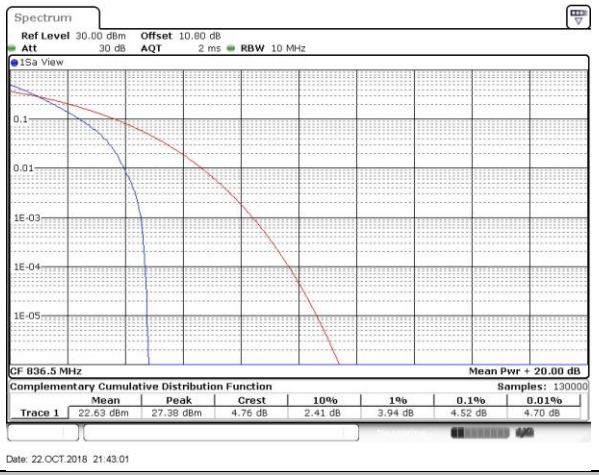
Lowest Channel / Full RB



Middle Channel / 1RB

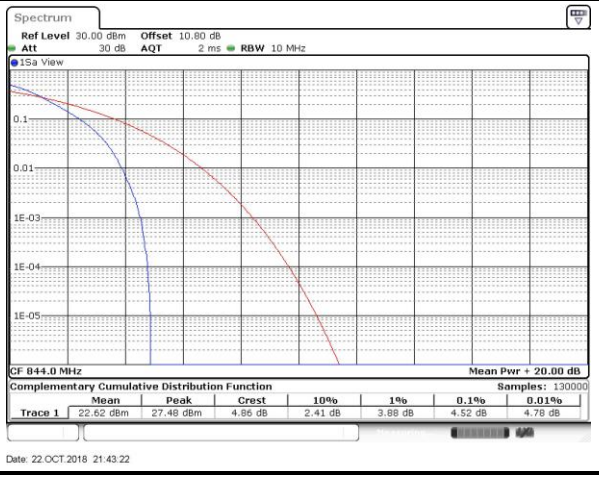


Middle Channel / Full RB



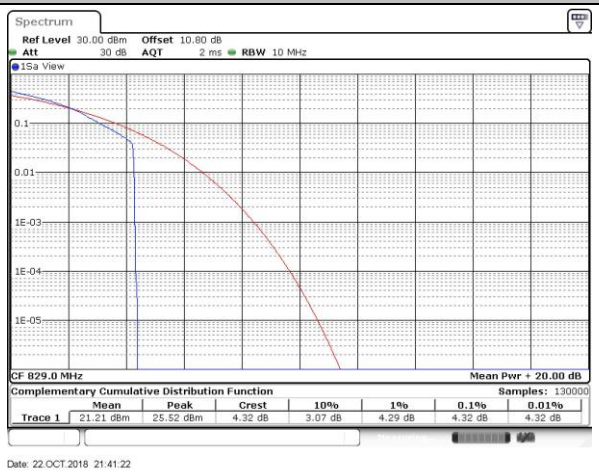
Highest Channel / 1RB

Highest Channel / Full RB

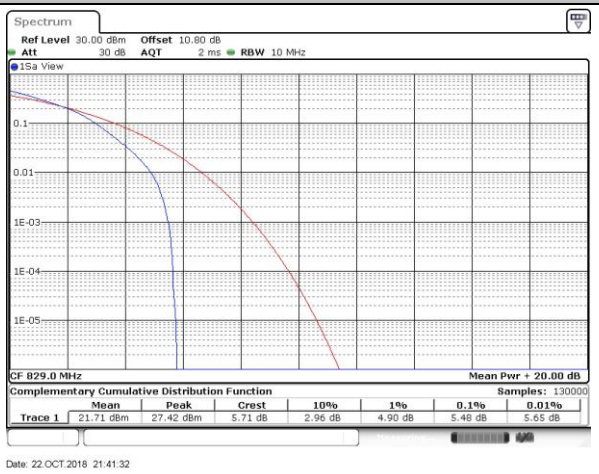


LTE Band 5 / 10MHz / 16QAM

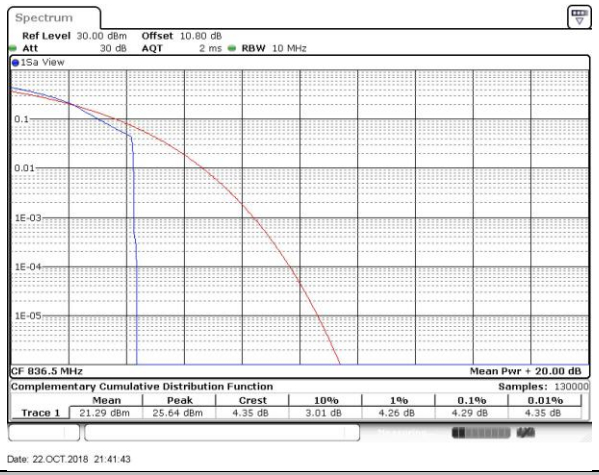
Lowest Channel / 1RB



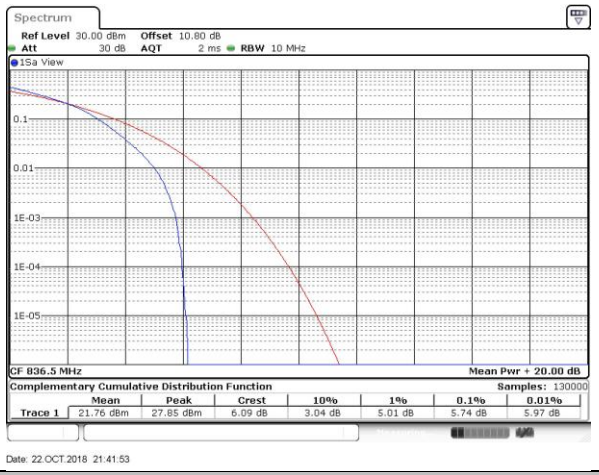
Lowest Channel / Full RB



Middle Channel / 1RB

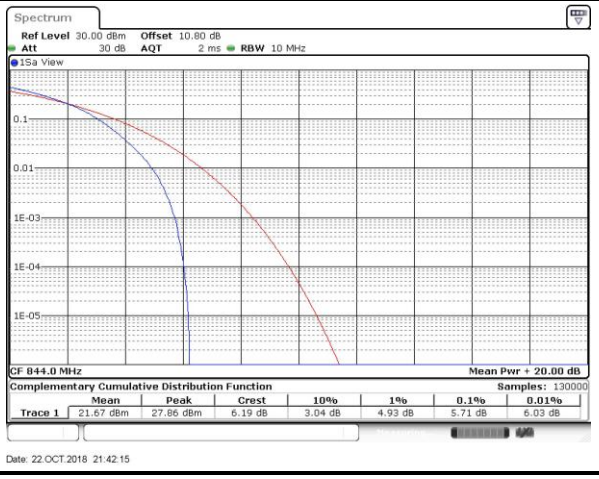


Middle Channel / Full RB



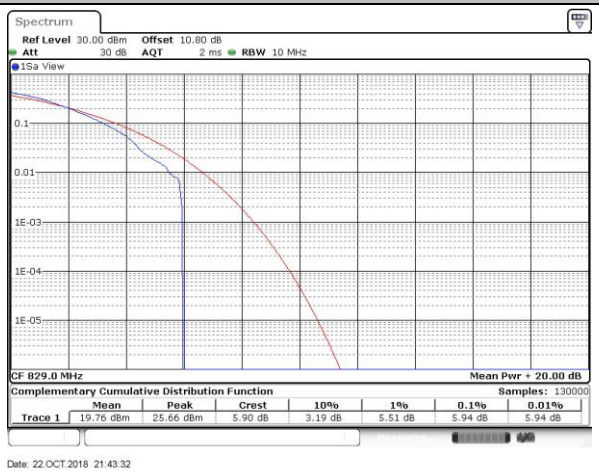
Highest Channel / 1RB

Highest Channel / Full RB

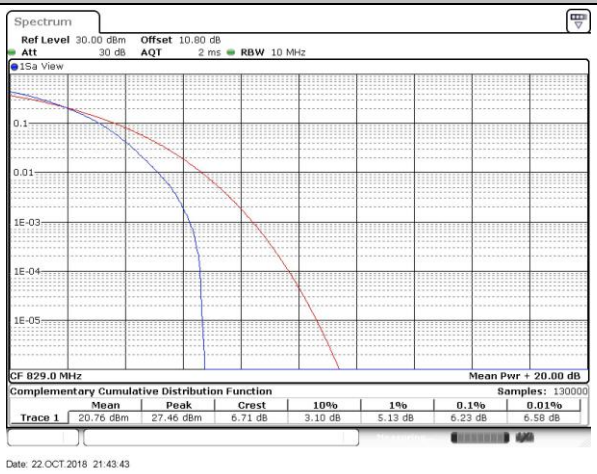


LTE Band 5 / 10MHz / 64QAM

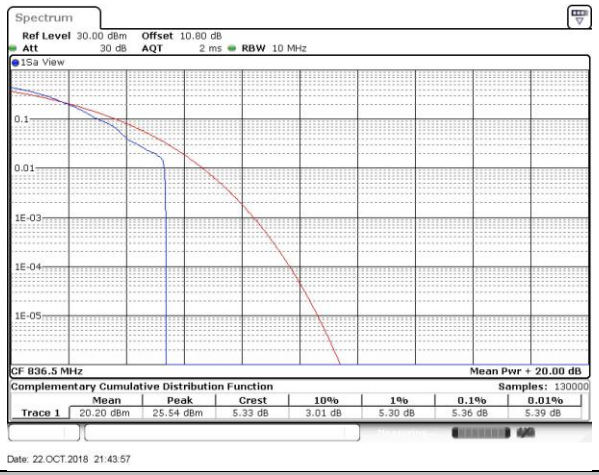
Lowest Channel / 1RB



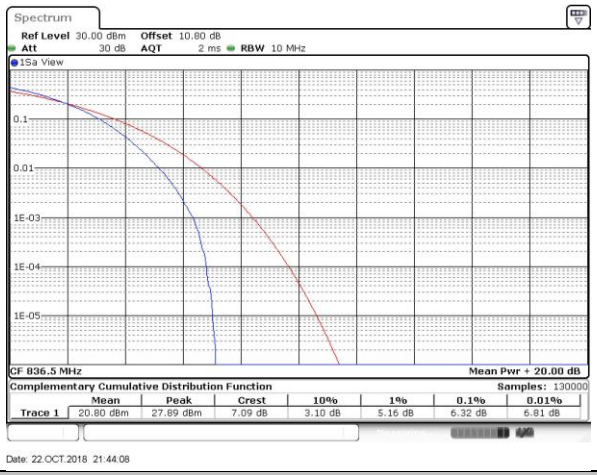
Lowest Channel / Full RB



Middle Channel / 1RB

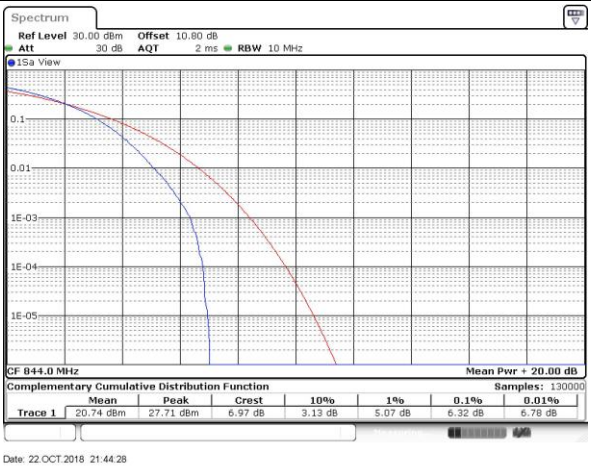


Middle Channel / Full RB



Highest Channel / 1RB

Highest Channel / Full RB

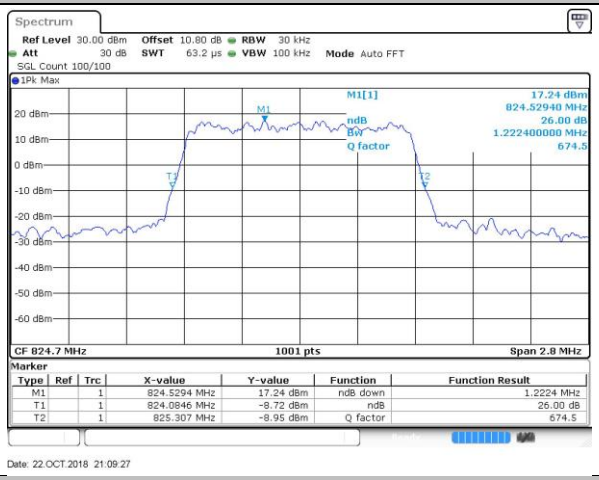


26dB Bandwidth

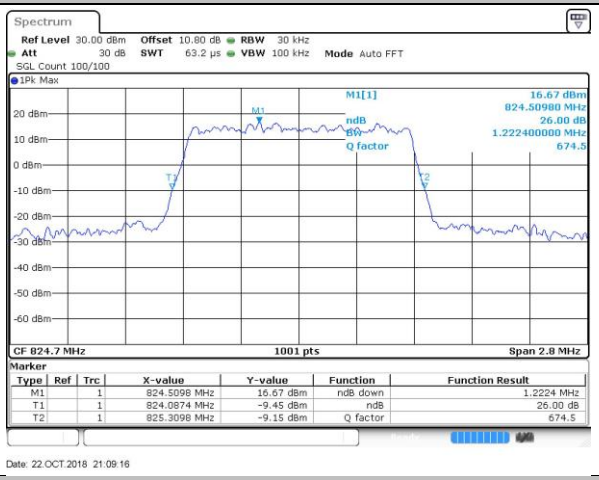
Mode	LTE Band 5 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.22	1.22	3.03	3.05	4.88	4.93	9.79	9.85	-	-	-	-
Middle CH	1.21	1.23	2.96	2.98	4.90	4.92	9.67	9.65	-	-	-	-
Highest CH	1.23	1.23	3.02	3.03	4.98	4.85	9.73	9.81	-	-	-	-
Mode	LTE Band 5 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.23	-	3.06	-	4.88	-	9.79	-	-	-	-	-
Middle CH	1.23	-	2.98	-	4.97	-	9.75	-	-	-	-	-
Highest CH	1.21	-	3.00	-	4.91	-	9.81	-	-	-	-	-

LTE Band 5

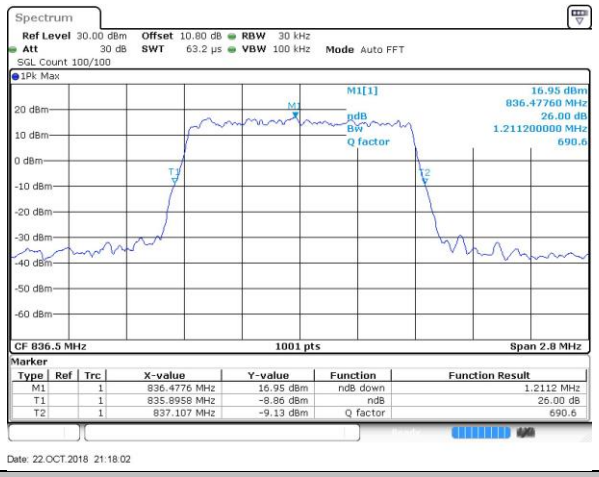
Lowest Channel / 1.4MHz / QPSK



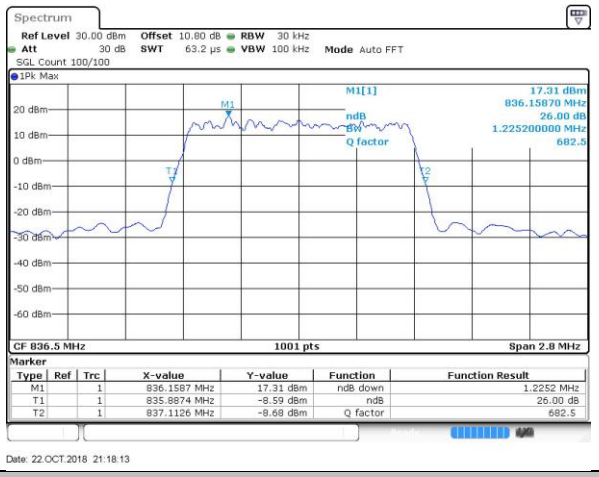
Lowest Channel / 1.4MHz / 16QAM



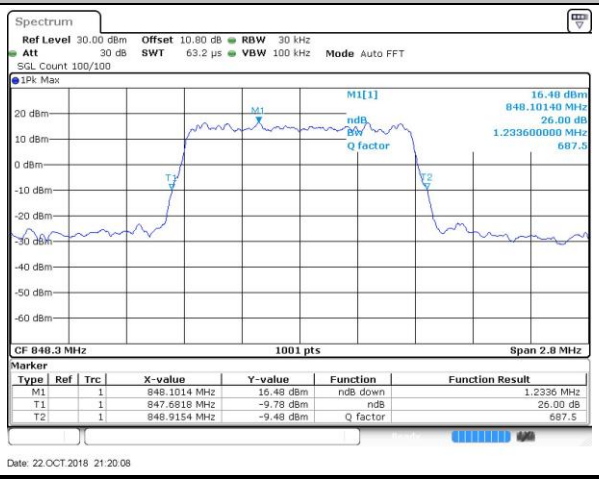
Middle Channel / 1.4MHz / QPSK



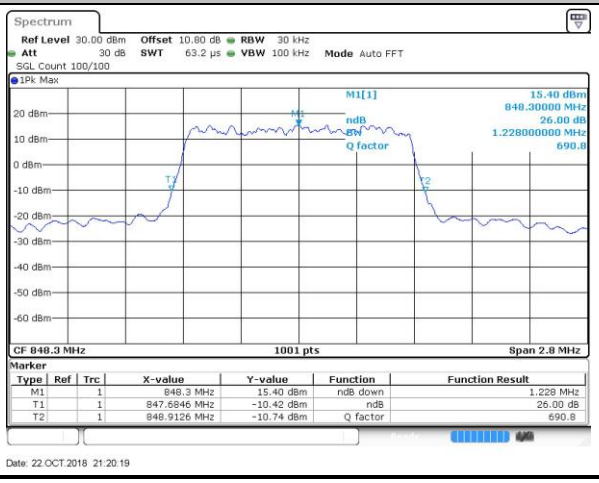
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

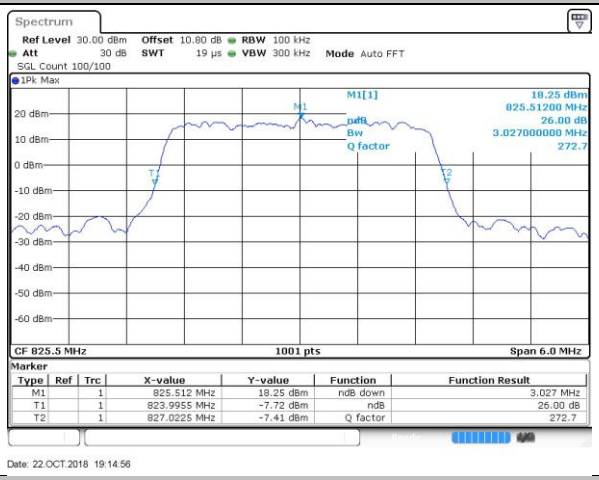


Highest Channel / 1.4MHz / 16QAM

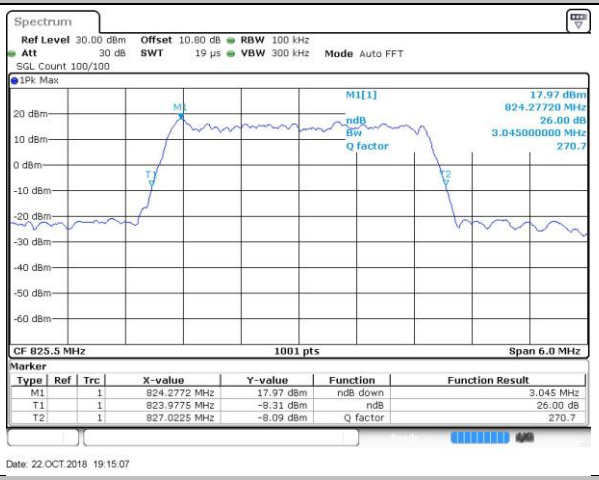


LTE Band 5

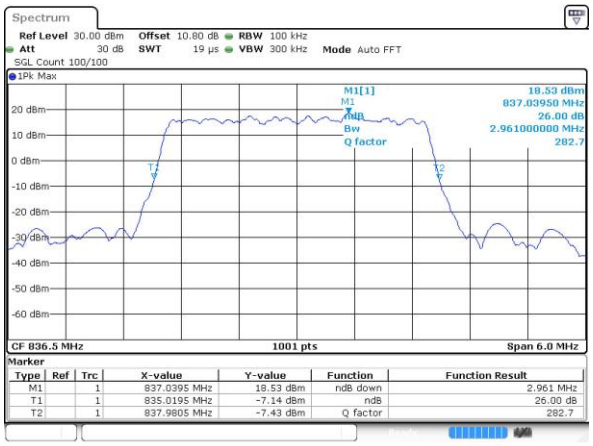
Lowest Channel / 3MHz / QPSK



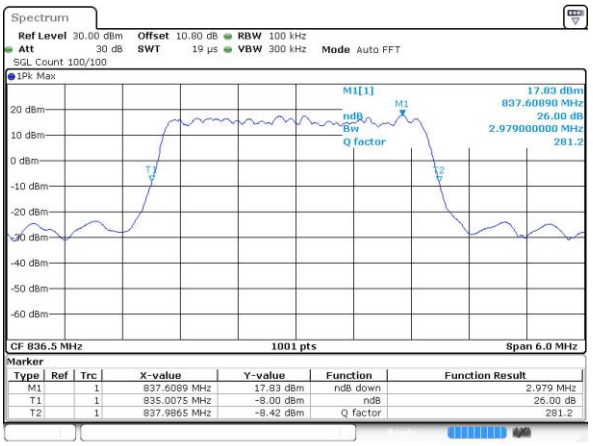
Lowest Channel / 3MHz / 16QAM



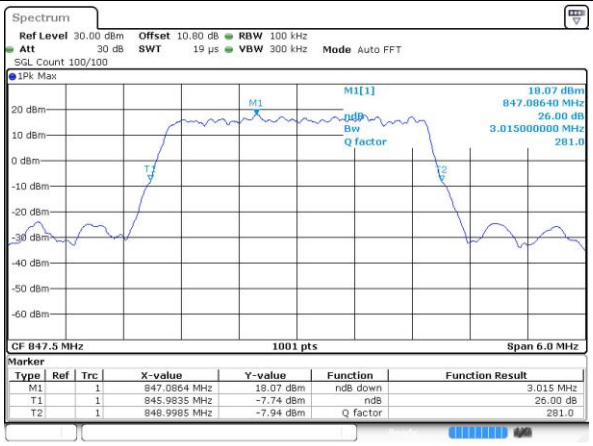
Middle Channel / 3MHz / QPSK



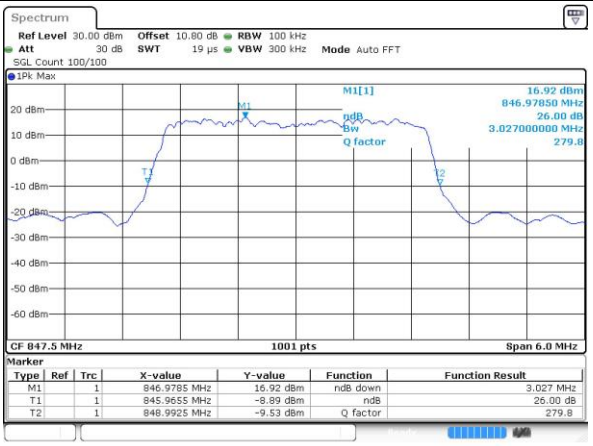
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

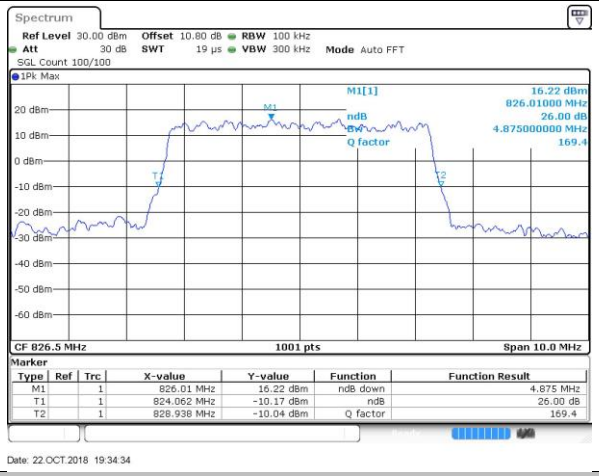


Highest Channel / 3MHz / 16QAM

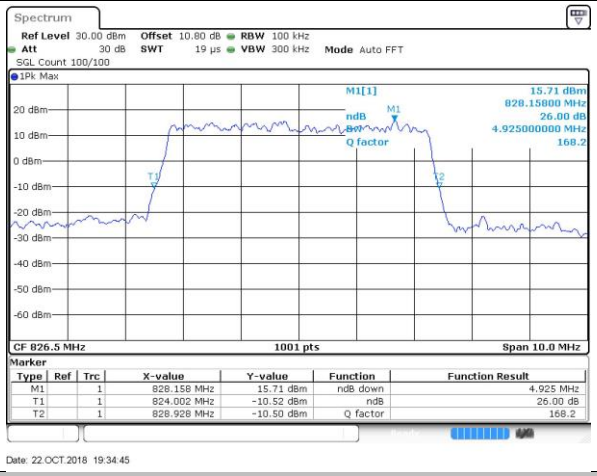


LTE Band 5

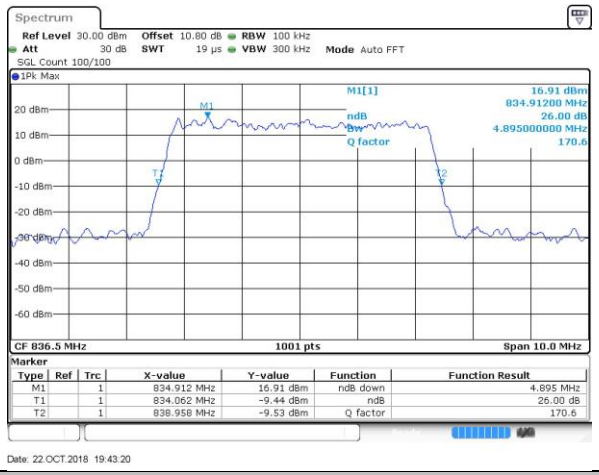
Lowest Channel / 5MHz / QPSK



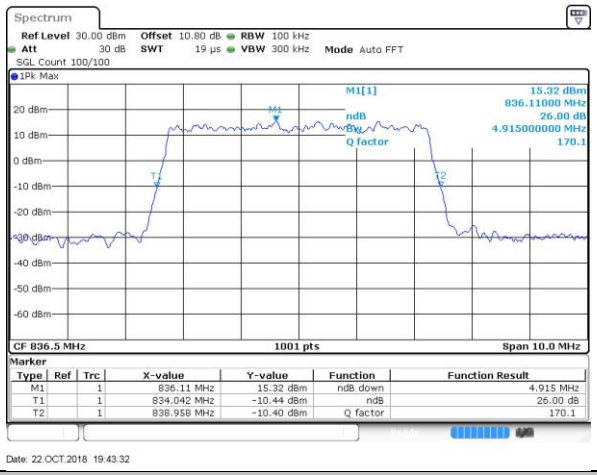
Lowest Channel / 5MHz / 16QAM



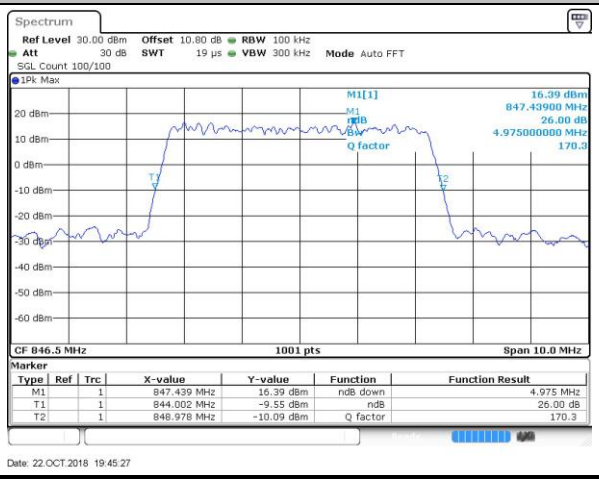
Middle Channel / 5MHz / QPSK



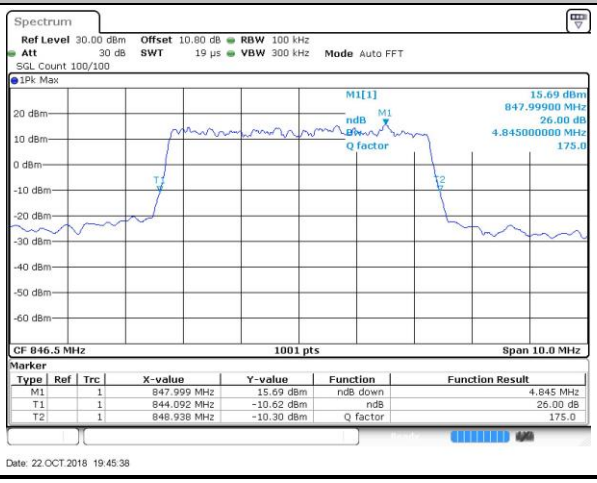
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

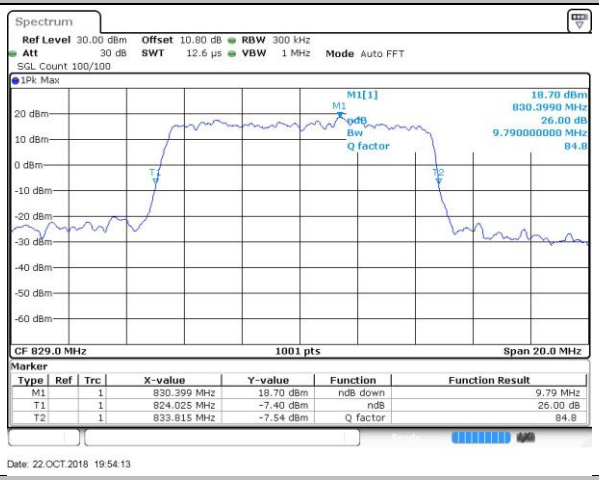


Highest Channel / 5MHz / 16QAM

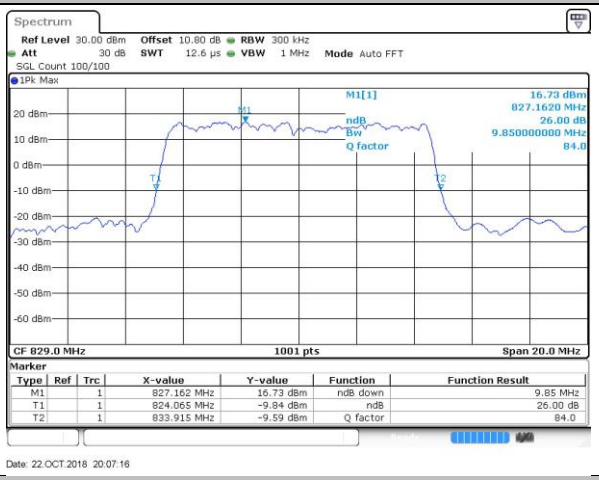


LTE Band 5

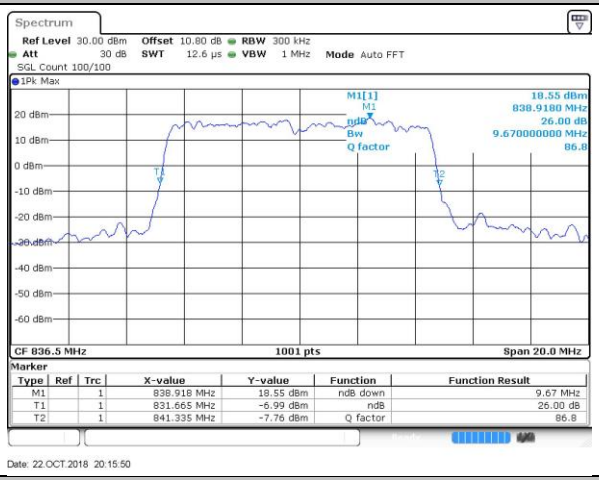
Lowest Channel / 10MHz / QPSK



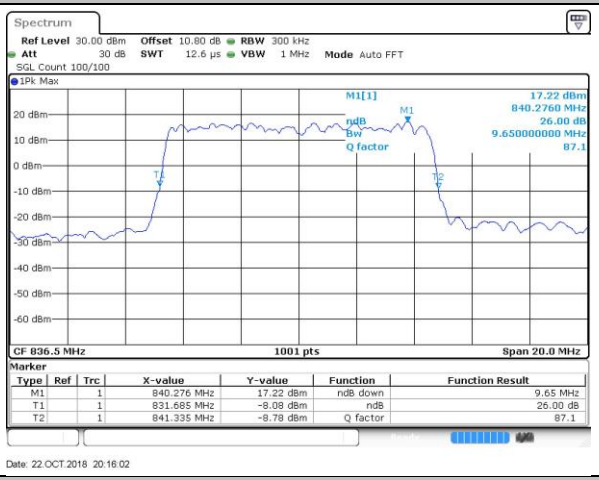
Lowest Channel / 10MHz / 16QAM



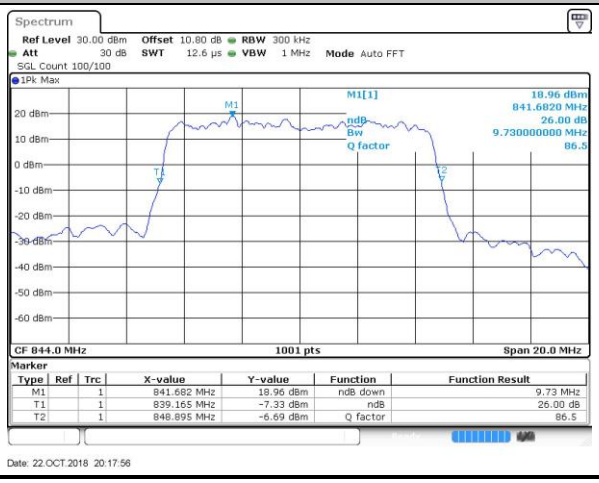
Middle Channel / 10MHz / QPSK



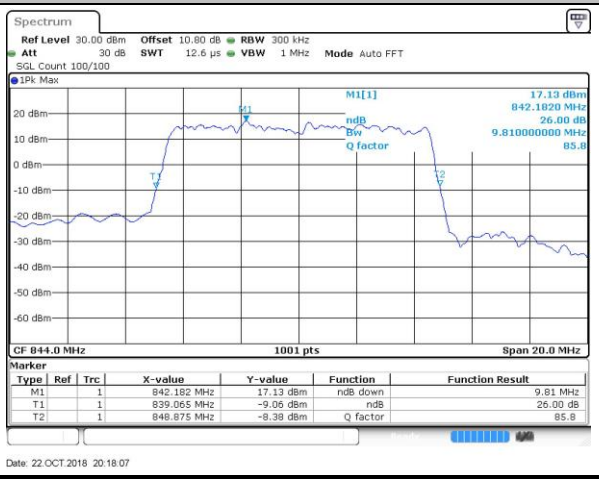
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

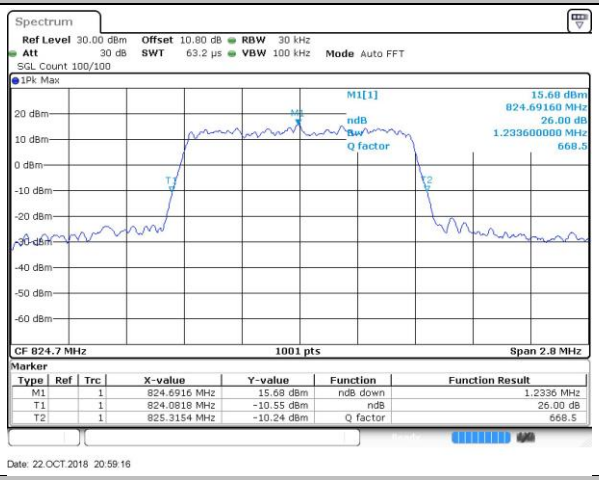


Highest Channel / 10MHz / 16QAM

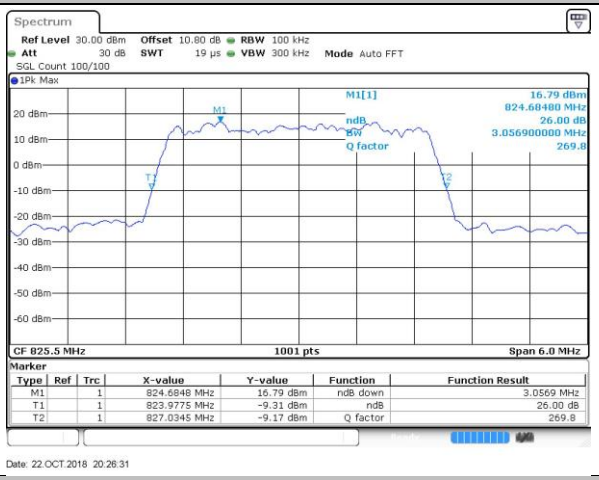


LTE Band 5

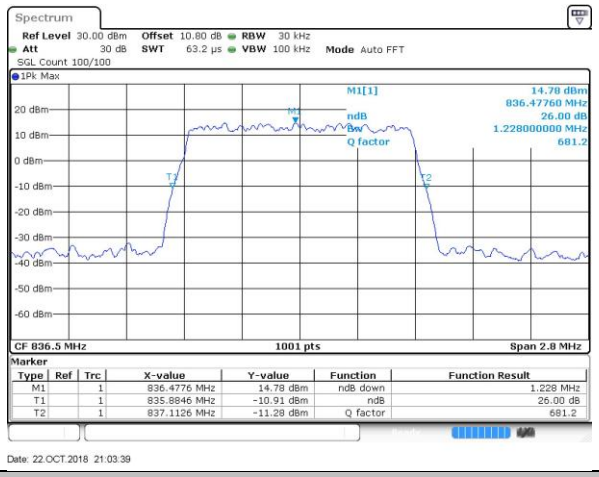
Lowest Channel / 1.4MHz / 64QAM



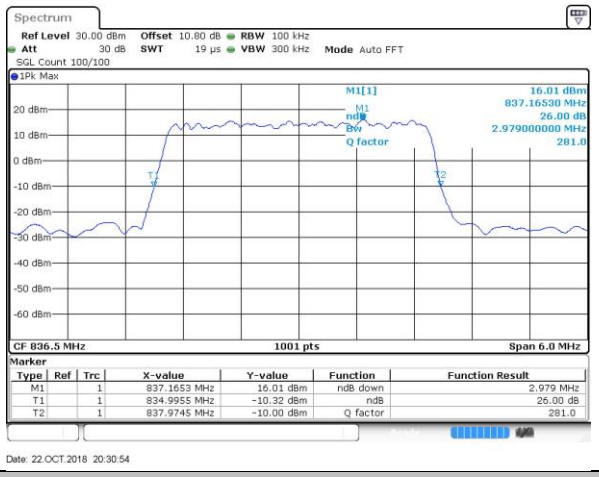
Lowest Channel / 3MHz / 64QAM



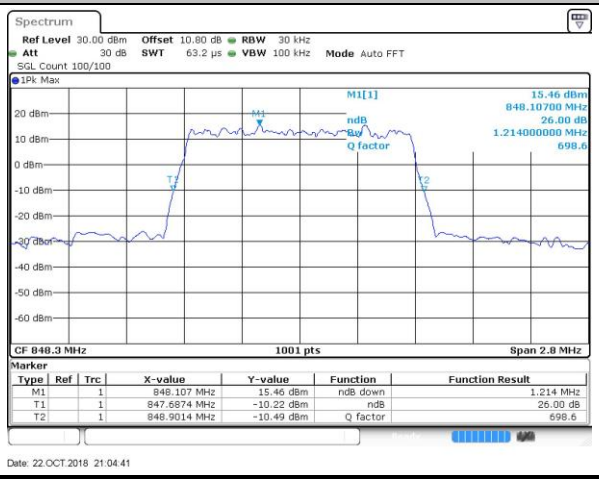
Middle Channel / 1.4MHz / 64QAM



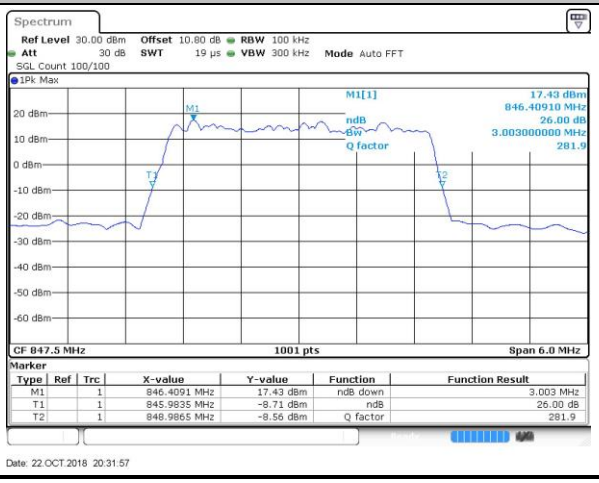
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM

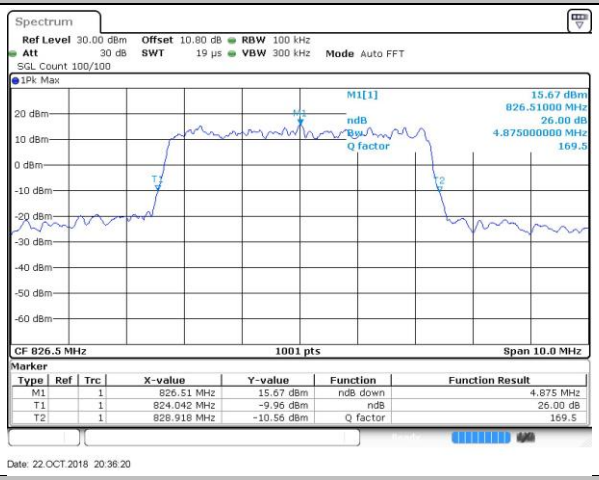


Highest Channel / 3MHz / 64QAM

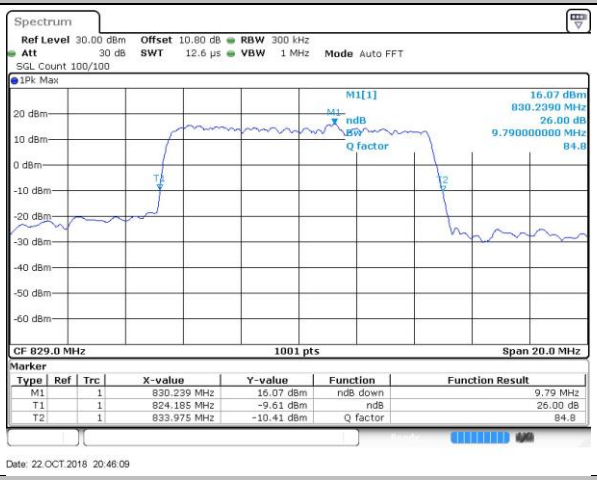


LTE Band 5

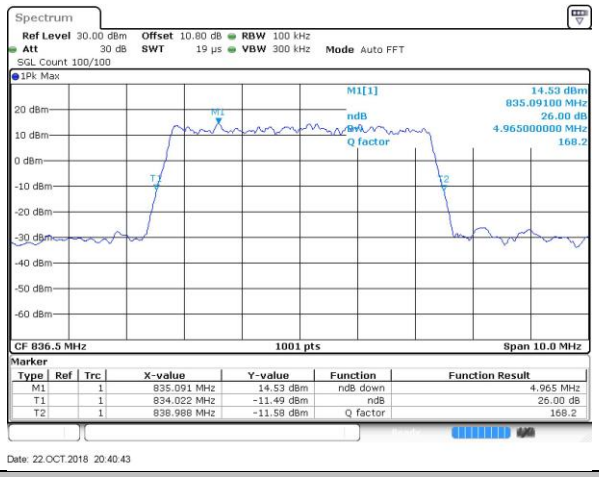
Lowest Channel / 5MHz / 64QAM



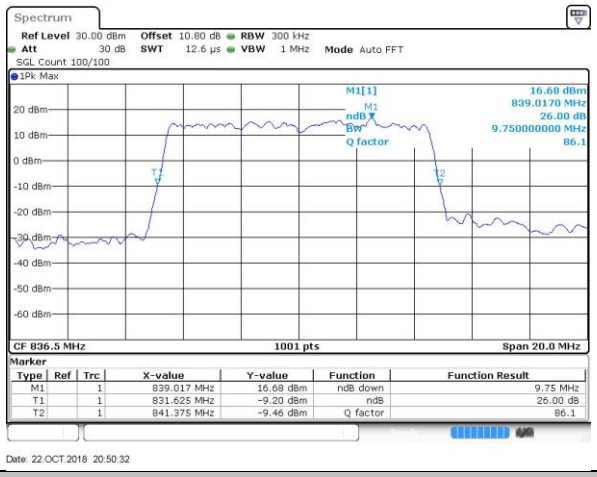
Lowest Channel / 10MHz / 64QAM



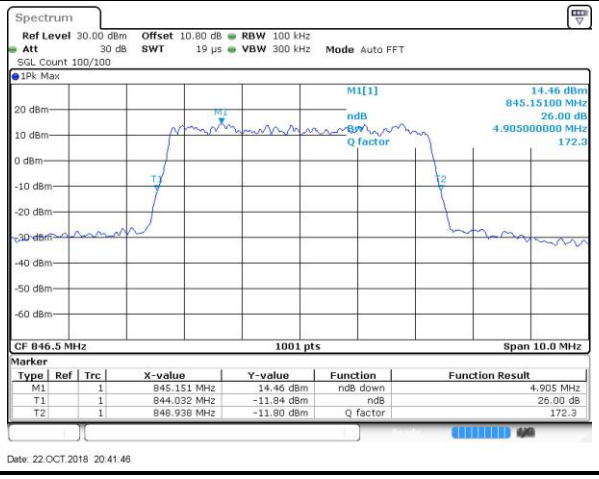
Middle Channel / 5MHz / 64QAM



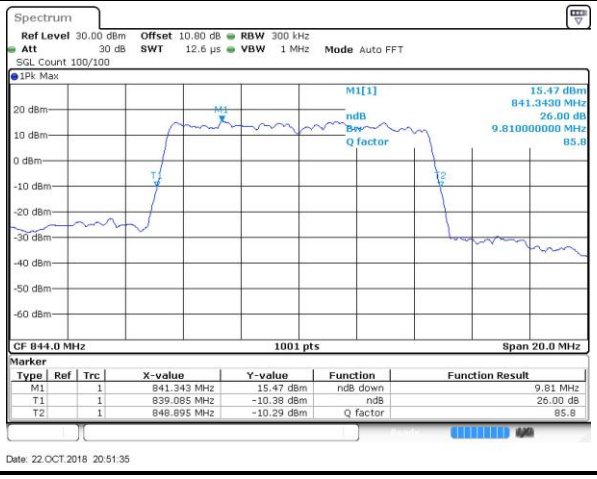
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



Highest Channel / 10MHz / 64QAM

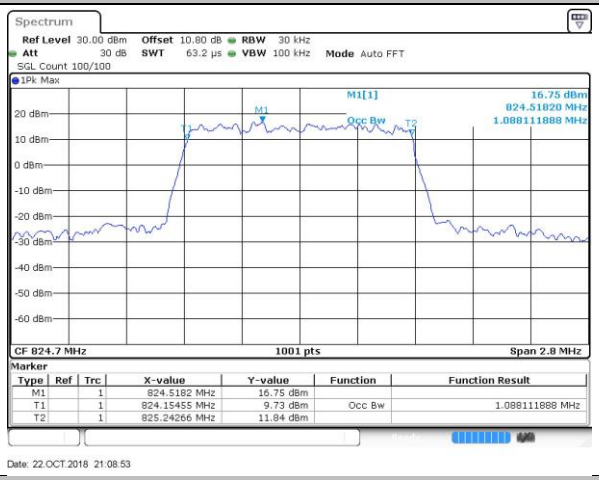


Occupied Bandwidth

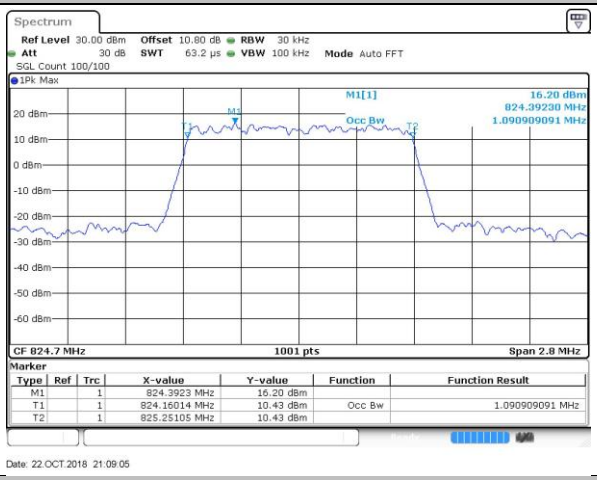
Mode	LTE Band 5 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.73	2.71	4.49	4.5	9.05	9.01	-	-	-	-
Middle CH	1.09	1.1	2.71	2.72	4.52	4.48	9.05	8.99	-	-	-	-
Highest CH	1.1	1.09	2.73	2.72	4.51	4.51	8.97	9.03	-	-	-	-
Mode	LTE Band 5 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09	-	2.71	-	4.51	-	9.07	-	-	-	-	-
Middle CH	1.09	-	2.72	-	4.50	-	9.03	-	-	-	-	-
Highest CH	1.09	-	2.73	-	4.52	-	9.05	-	-	-	-	-

LTE Band 5

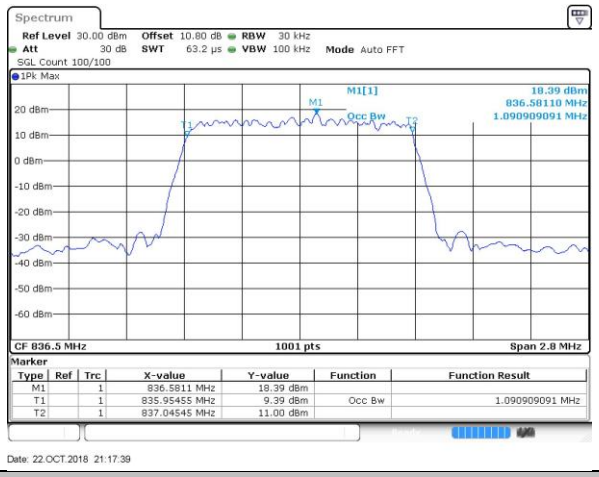
Lowest Channel / 1.4MHz / QPSK



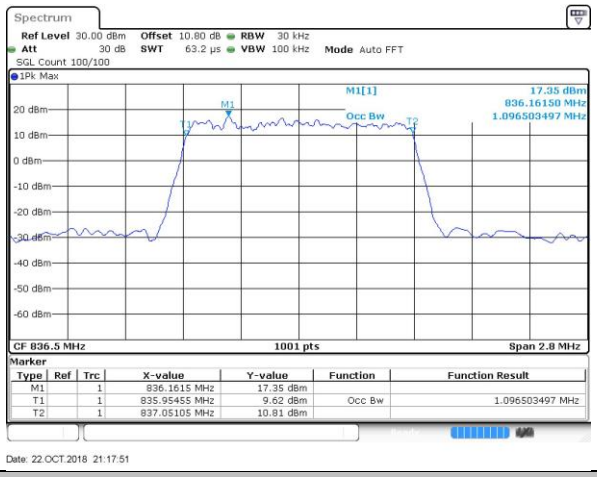
Lowest Channel / 1.4MHz / 16QAM



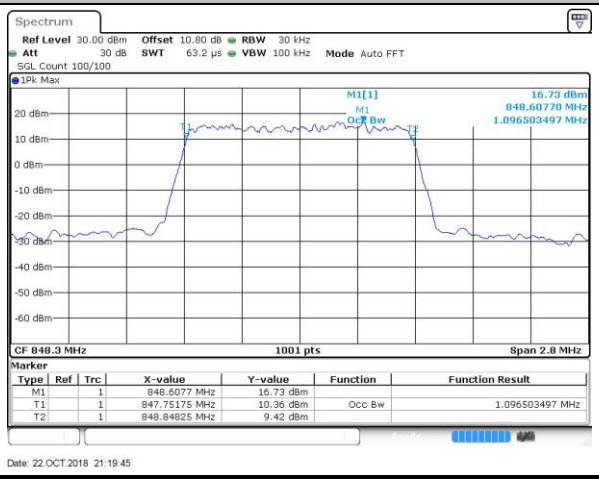
Middle Channel / 1.4MHz / QPSK



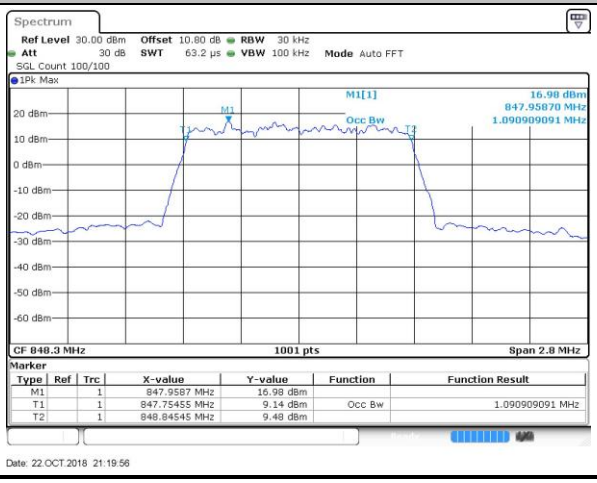
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

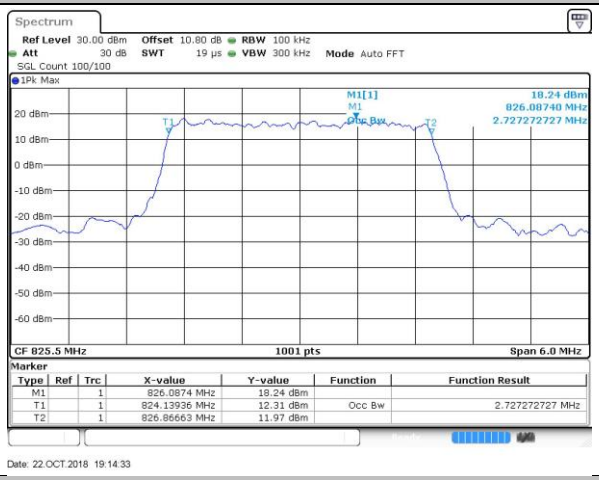


Highest Channel / 1.4MHz / 16QAM

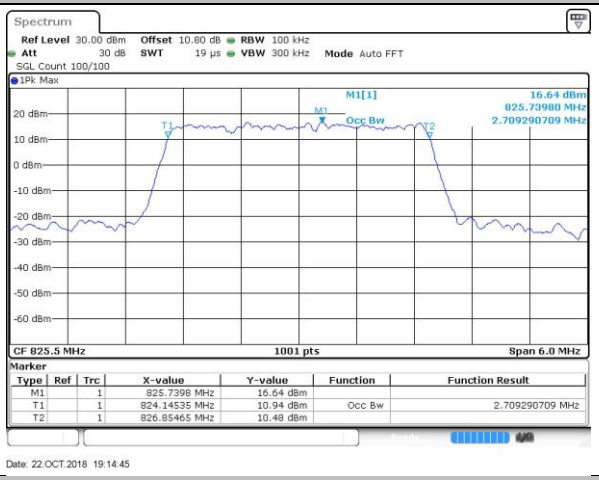


LTE Band 5

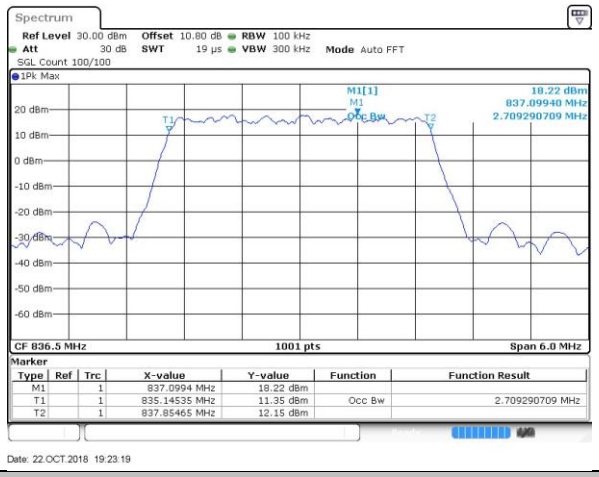
Lowest Channel / 3MHz / QPSK



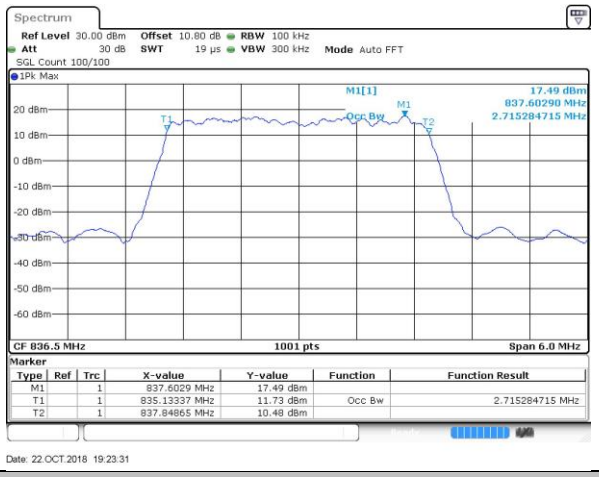
Lowest Channel / 3MHz / 16QAM



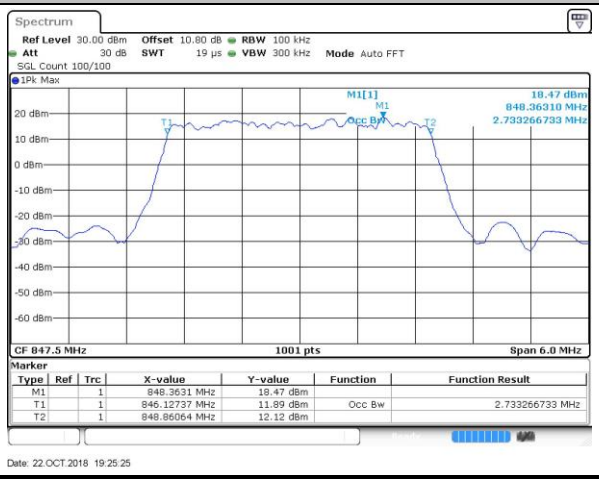
Middle Channel / 3MHz / QPSK



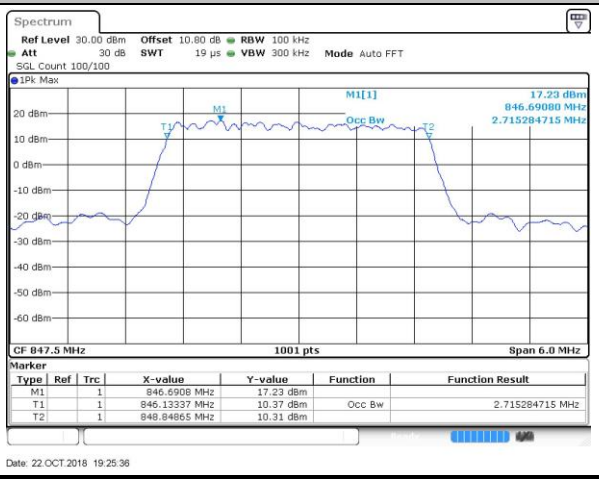
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

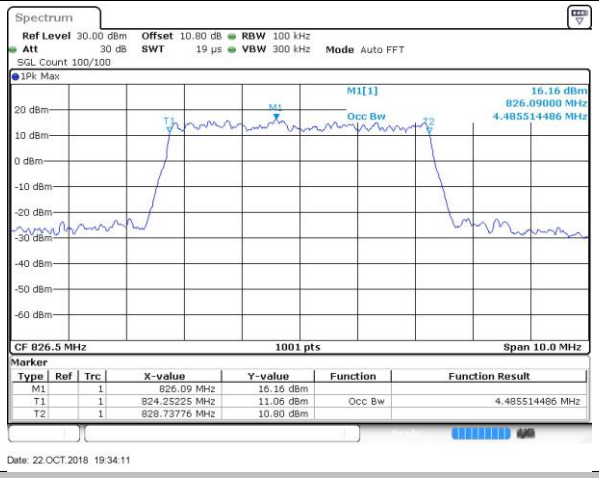


Highest Channel / 3MHz / 16QAM

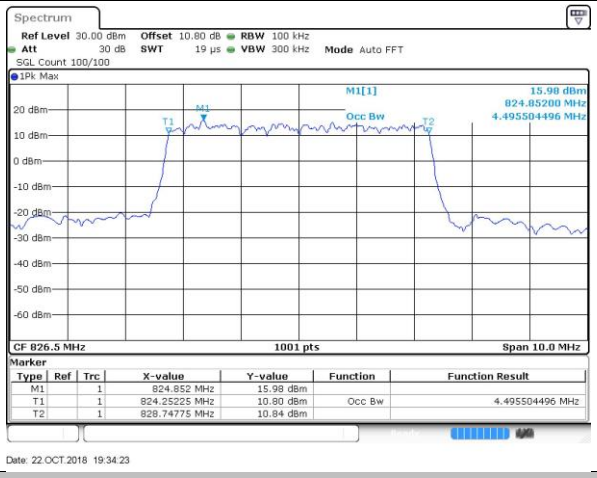


LTE Band 5

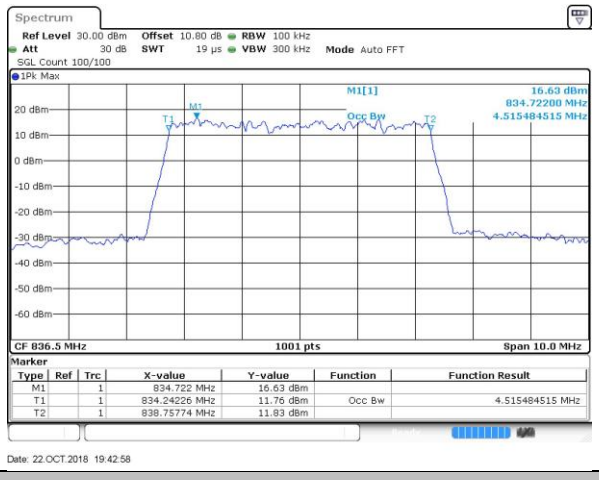
Lowest Channel / 5MHz / QPSK



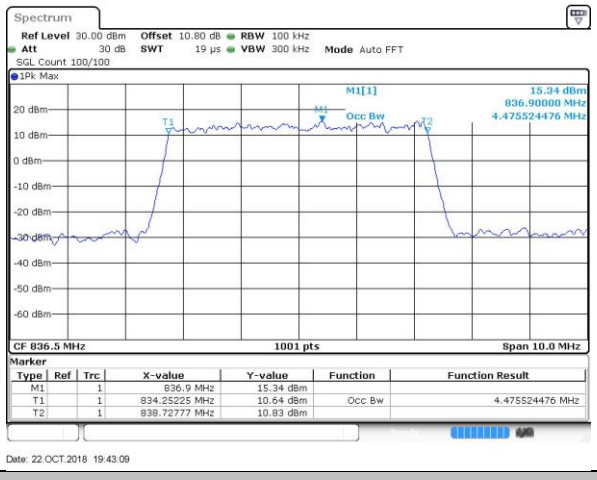
Lowest Channel / 5MHz / 16QAM



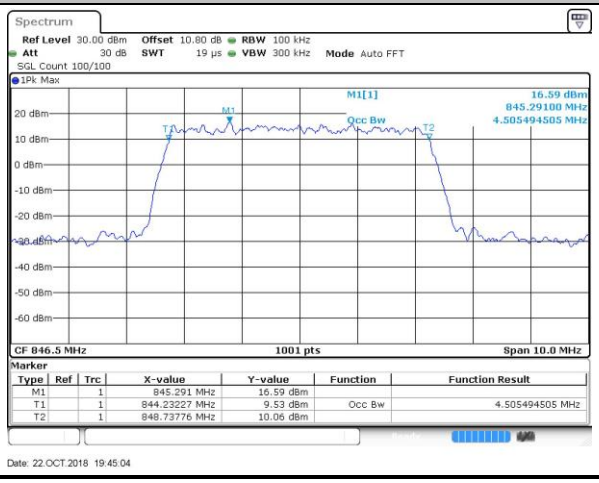
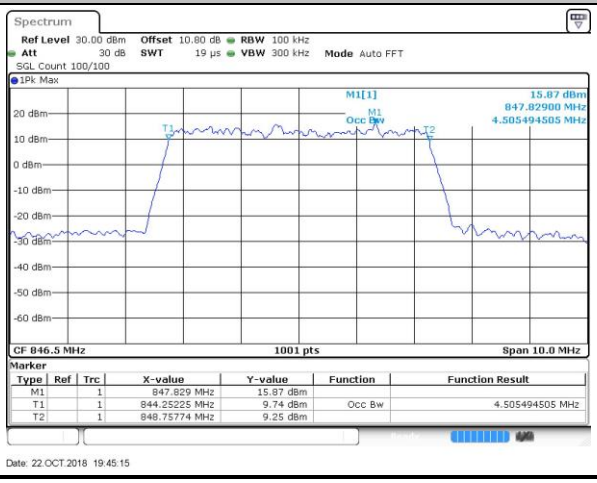
Middle Channel / 5MHz / QPSK



Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



Highest Channel / 5MHz / 16QAM