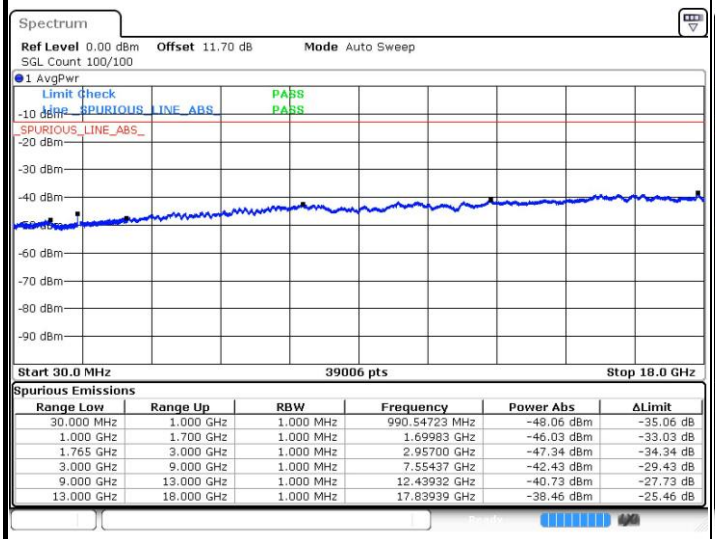
LTE Band 4 / 5MHz

Lowest Channel / 64QAM

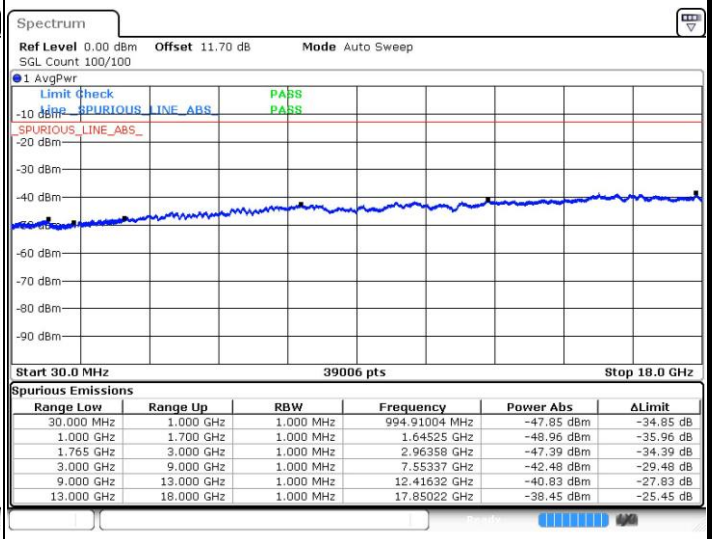


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	990.54723 MHz	-48.06 dBm	-35.06 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-46.03 dBm	-33.03 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.95700 GHz	-47.34 dBm	-34.34 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55437 GHz	-42.43 dBm	-29.43 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43932 GHz	-40.73 dBm	-27.73 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83939 GHz	-38.46 dBm	-25.46 dB

Date: 4.FEB.2019 12:26:16

Middle Channel / 64QAM

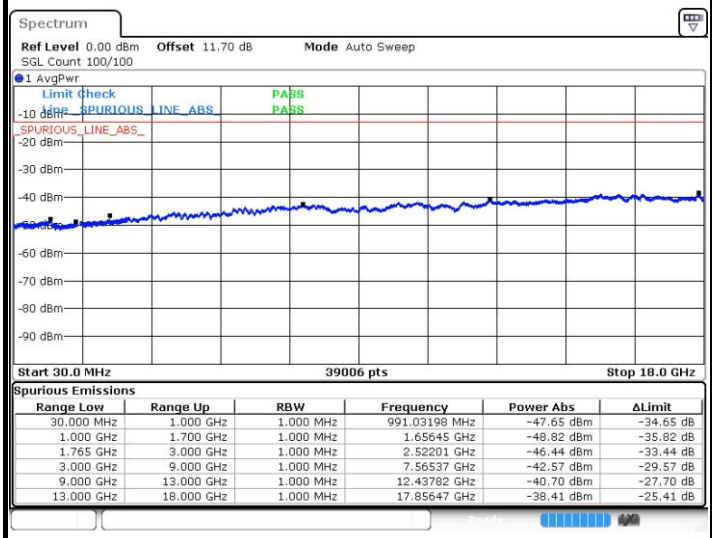


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	994.91004 MHz	-47.85 dBm	-34.85 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.64525 GHz	-48.96 dBm	-35.96 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.96358 GHz	-47.39 dBm	-34.39 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55337 GHz	-42.48 dBm	-29.48 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41632 GHz	-40.83 dBm	-27.83 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85022 GHz	-38.45 dBm	-25.45 dB

Date: 4.FEB.2019 12:27:19

Highest Channel / 64QAM



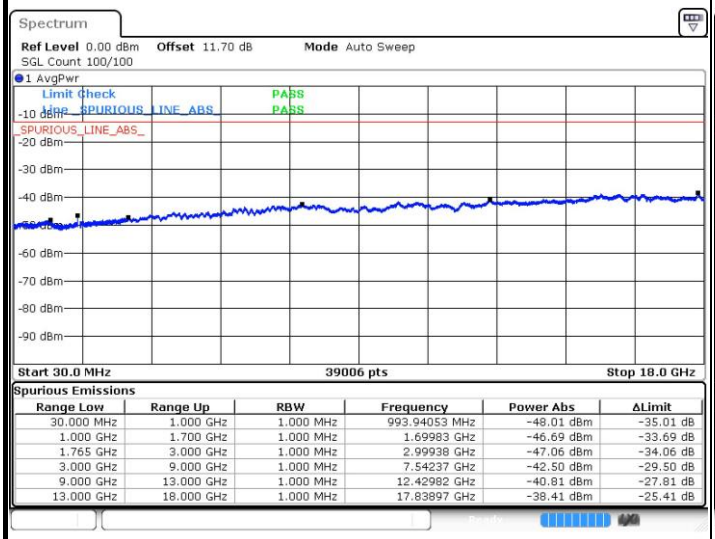
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.03198 MHz	-47.65 dBm	-34.65 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.65645 GHz	-48.82 dBm	-35.82 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.52201 GHz	-46.44 dBm	-33.44 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.56537 GHz	-42.57 dBm	-29.57 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43782 GHz	-40.70 dBm	-27.70 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85647 GHz	-38.41 dBm	-25.41 dB

Date: 4.FEB.2019 12:30:23

LTE Band 4 / 10MHz

Lowest Channel / 64QAM

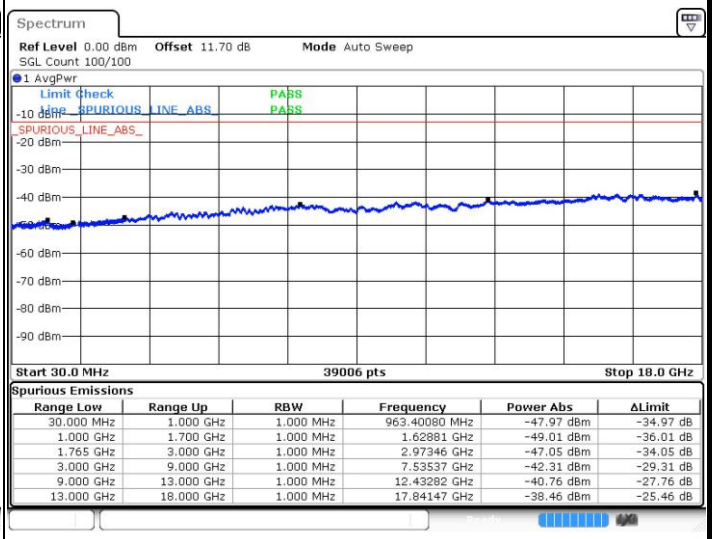


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	993.94053 MHz	-48.01 dBm	-35.01 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-46.69 dBm	-33.69 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.99938 GHz	-47.06 dBm	-34.06 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54237 GHz	-42.50 dBm	-29.50 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42982 GHz	-40.81 dBm	-27.81 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83897 GHz	-38.41 dBm	-25.41 dB

Date: 4.FEB.2019 12:33:26

Middle Channel / 64QAM

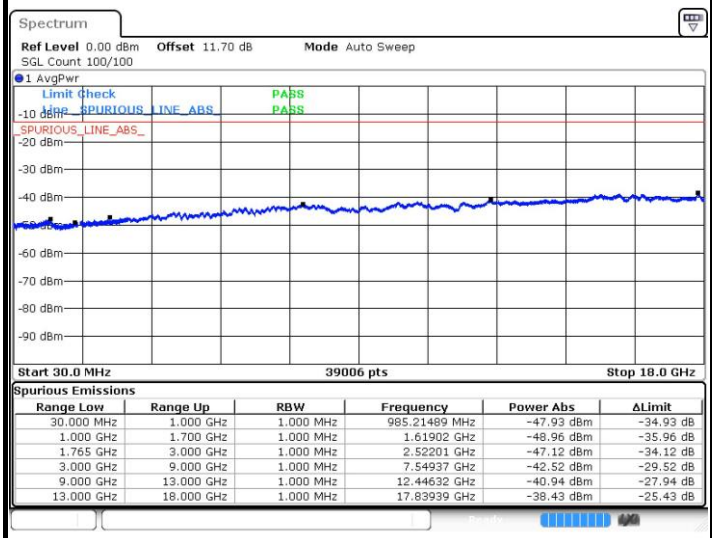


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	963.40080 MHz	-47.97 dBm	-34.97 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.62881 GHz	-49.01 dBm	-36.01 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.97346 GHz	-47.05 dBm	-34.05 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.53537 GHz	-42.31 dBm	-29.31 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43282 GHz	-40.76 dBm	-27.76 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84147 GHz	-38.46 dBm	-25.46 dB

Date: 4.FEB.2019 12:34:30

Highest Channel / 64QAM



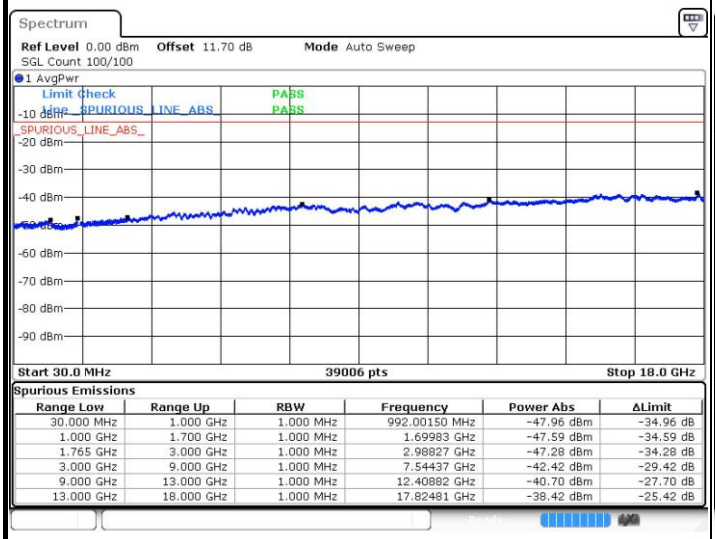
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	985.21489 MHz	-47.93 dBm	-34.93 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.61902 GHz	-48.96 dBm	-35.96 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.52201 GHz	-47.12 dBm	-34.12 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54937 GHz	-42.52 dBm	-29.52 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44632 GHz	-40.94 dBm	-27.94 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83939 GHz	-38.43 dBm	-25.43 dB

Date: 4.FEB.2019 12:37:33

LTE Band 4 / 15MHz

Lowest Channel / 64QAM

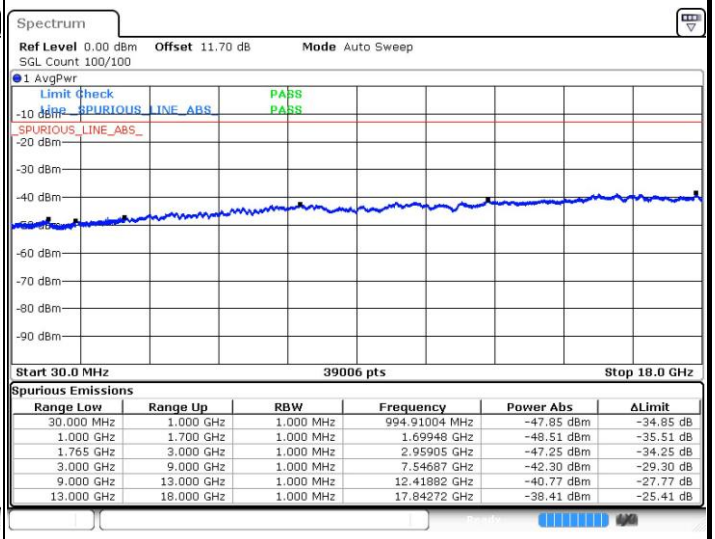


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	992.00150 MHz	-47.96 dBm	-34.96 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-47.59 dBm	-34.59 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.98827 GHz	-47.28 dBm	-34.28 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54437 GHz	-42.42 dBm	-29.42 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.40882 GHz	-40.70 dBm	-27.70 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.82481 GHz	-38.42 dBm	-25.42 dB

Date: 4.FEB.2019 12:40:37

Middle Channel / 64QAM

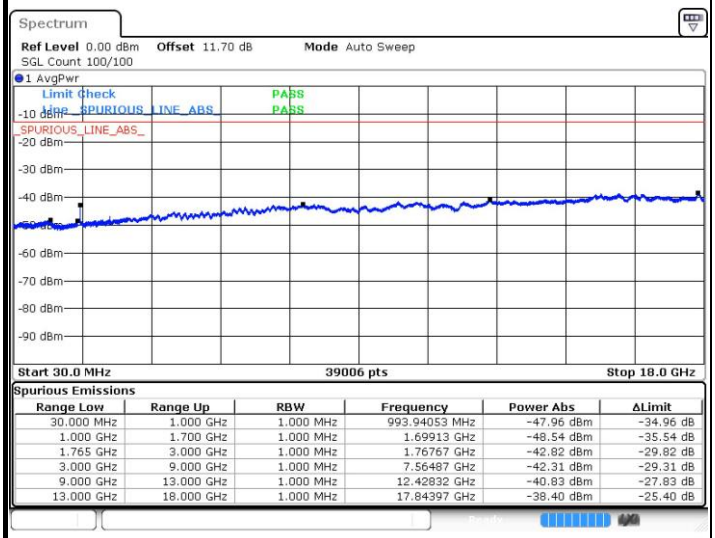


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	994.91004 MHz	-47.85 dBm	-34.85 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69948 GHz	-48.51 dBm	-35.51 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.95905 GHz	-47.25 dBm	-34.25 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54687 GHz	-42.30 dBm	-29.30 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41882 GHz	-40.77 dBm	-27.77 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84272 GHz	-38.41 dBm	-25.41 dB

Date: 4.FEB.2019 12:41:41

Highest Channel / 64QAM



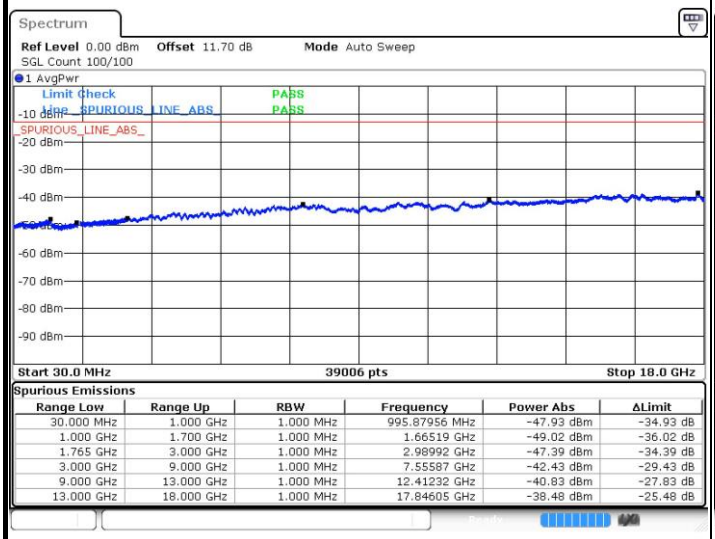
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	993.94053 MHz	-47.96 dBm	-34.96 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69913 GHz	-48.54 dBm	-35.54 dB
1.765 GHz	3.000 GHz	1.000 MHz	1.76767 GHz	-42.82 dBm	-29.82 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.56487 GHz	-42.31 dBm	-29.31 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42832 GHz	-40.83 dBm	-27.83 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84397 GHz	-38.40 dBm	-25.40 dB

Date: 4.FEB.2019 12:44:44

LTE Band 4 / 20MHz

Lowest Channel / 64QAM

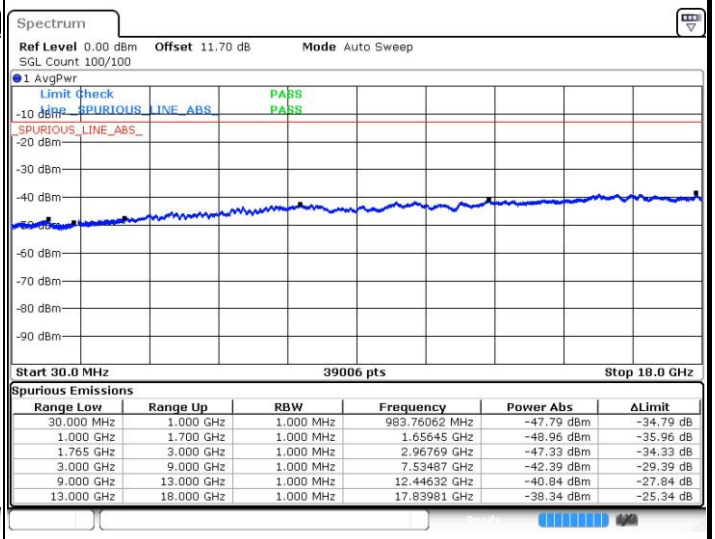


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	995.87956 MHz	-47.93 dBm	-34.93 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.66519 GHz	-49.02 dBm	-36.02 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.98992 GHz	-47.39 dBm	-34.39 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55587 GHz	-42.43 dBm	-29.43 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41232 GHz	-40.83 dBm	-27.83 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.84605 GHz	-38.48 dBm	-25.48 dB

Date: 4.FEB.2019 12:47:48

Middle Channel / 64QAM

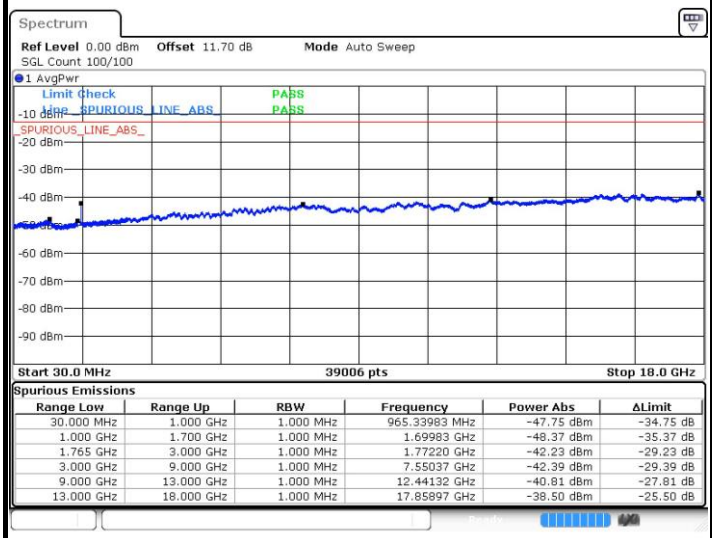


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.76062 MHz	-47.79 dBm	-34.79 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.65645 GHz	-48.96 dBm	-35.96 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.96769 GHz	-47.33 dBm	-34.33 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.53487 GHz	-42.39 dBm	-29.39 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44632 GHz	-40.84 dBm	-27.84 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.83981 GHz	-38.34 dBm	-25.34 dB

Date: 4.FEB.2019 12:48:51

Highest Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	965.33983 MHz	-47.75 dBm	-34.75 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69983 GHz	-48.37 dBm	-35.37 dB
1.765 GHz	3.000 GHz	1.000 MHz	1.77220 GHz	-42.23 dBm	-29.23 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55037 GHz	-42.39 dBm	-29.39 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44132 GHz	-40.81 dBm	-27.81 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.85897 GHz	-38.50 dBm	-25.50 dB

Date: 4.FEB.2019 12:51:55

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	0.0002	PASS
40	Normal Voltage	0.0002	
30	Normal Voltage	0.0008	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0075	
-10	Normal Voltage	0.0065	
-20	Normal Voltage	0.0072	
-30	Normal Voltage	0.0075	
20	Maximum Voltage	0.0075	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0002	

Note:

1. Normal Voltage =3.9 V.；Battery End Point (BEP) =3.4 V.；Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

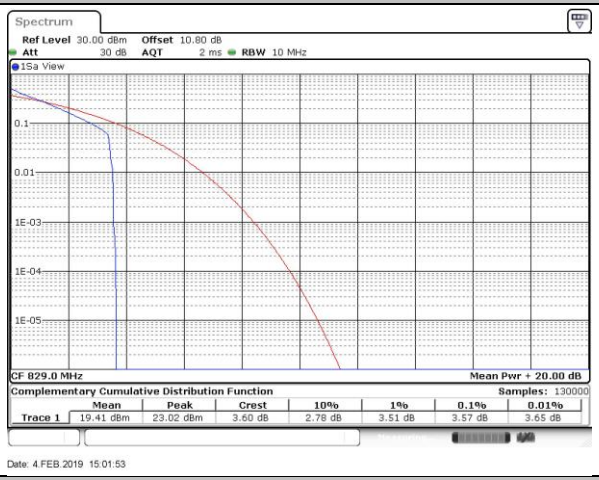
LTE Band 5

Peak-to-Average Ratio

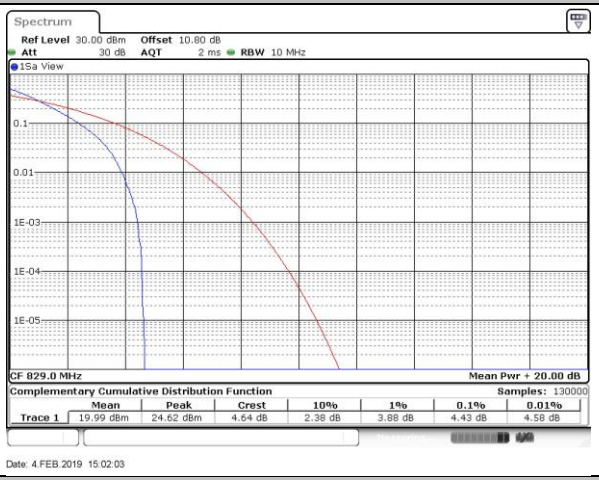
Mode	LTE Band 5 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.57	4.43	4.7	5.57	PASS
Middle CH	3.48	4.38	4.49	5.48	
Highest CH	3.62	4.41	4.7	5.51	
Mode	LTE Band 5 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.94	6.32	-	-	PASS
Middle CH	5.16	6.23	-	-	
Highest CH	5.48	6.26	-	-	

LTE Band 5 / 10MHz / QPSK

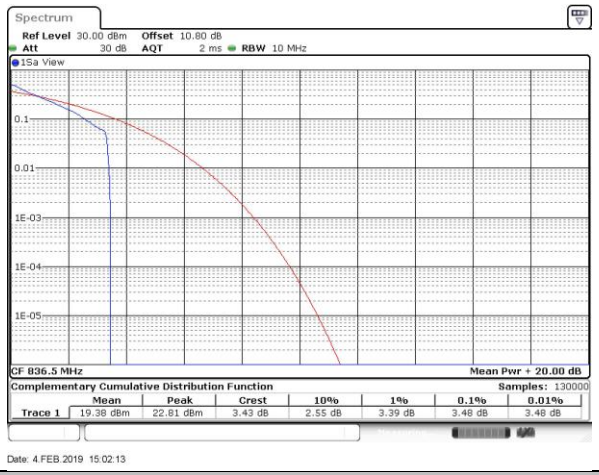
Lowest Channel / 1RB



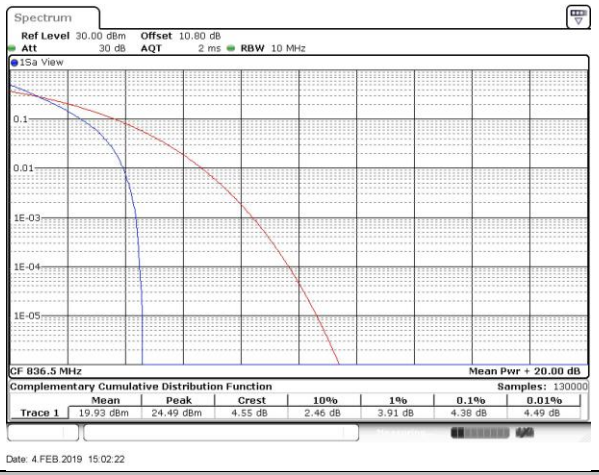
Lowest Channel / Full RB



Middle Channel / 1RB

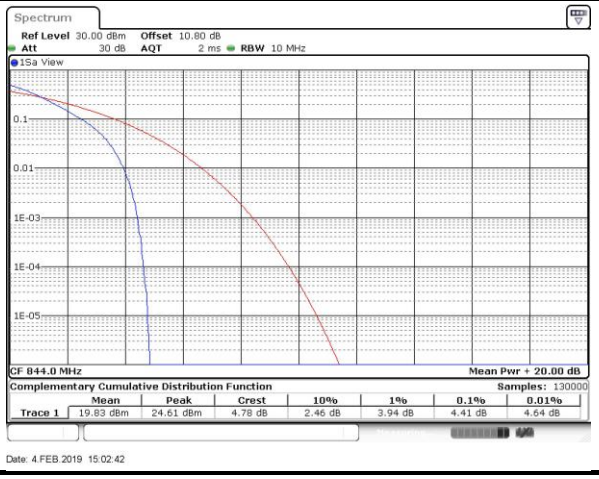


Middle Channel / Full RB



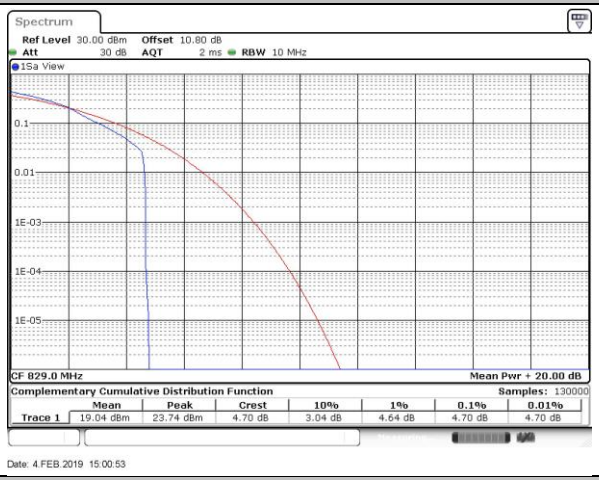
Highest Channel / 1RB

Highest Channel / Full RB



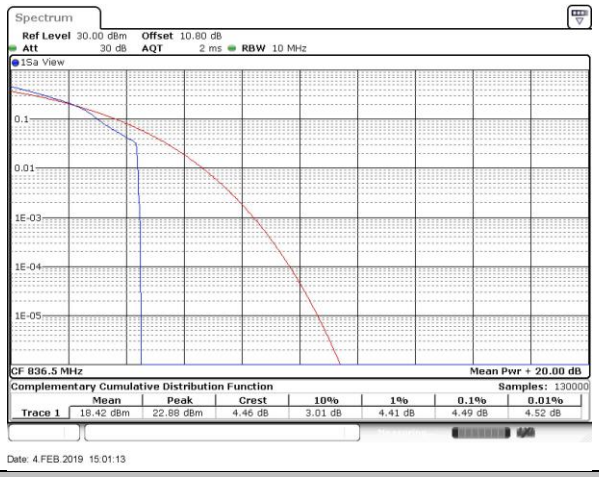
LTE Band 5 / 10MHz / 16QAM

Lowest Channel / 1RB

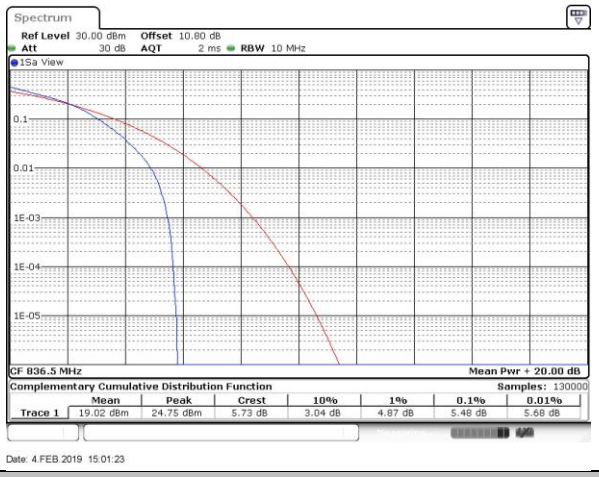


Lowest Channel / Full RB

Middle Channel / 1RB

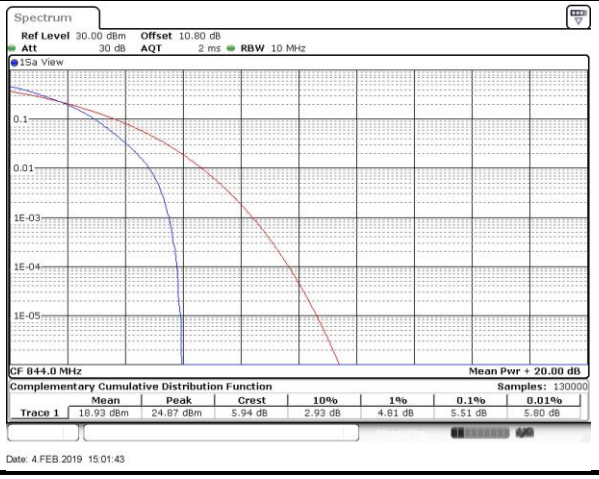


Middle Channel / Full RB



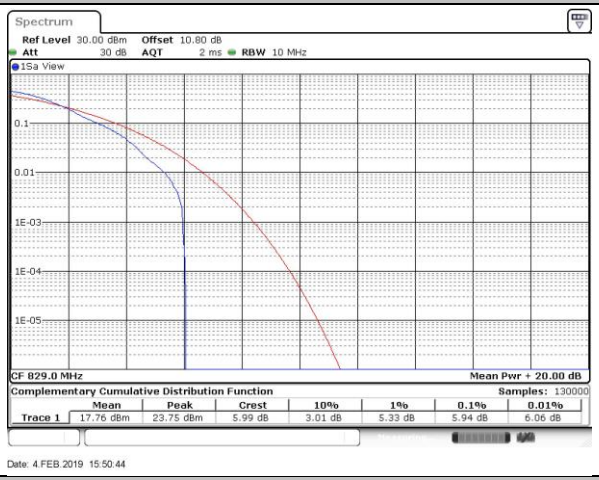
Highest Channel / 1RB

Highest Channel / Full RB

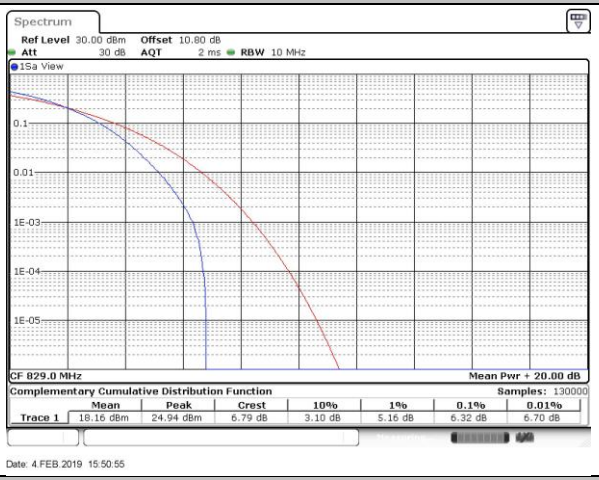


LTE Band 5 / 10MHz / 64QAM

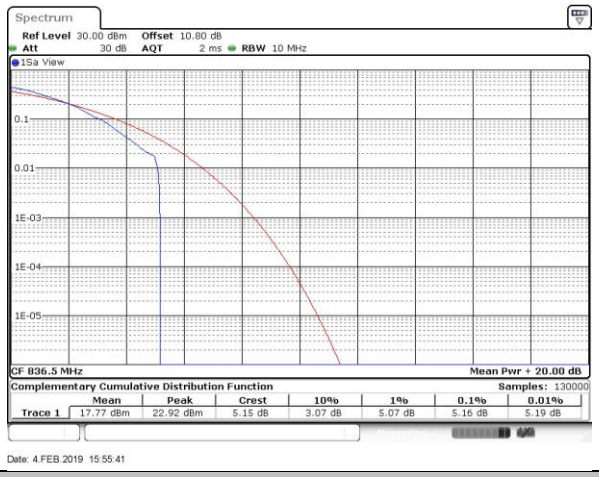
Lowest Channel / 1RB



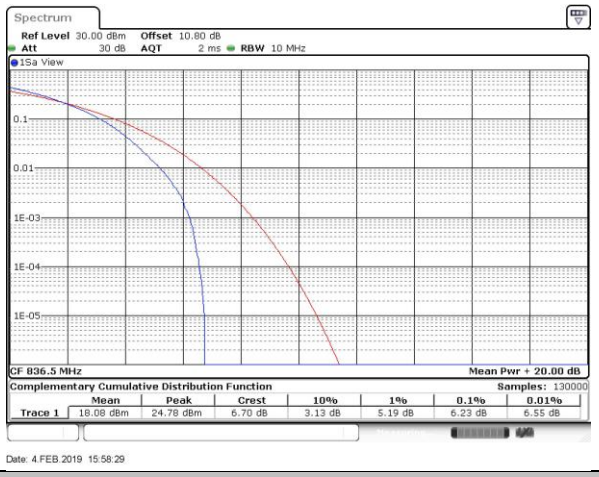
Lowest Channel / Full RB



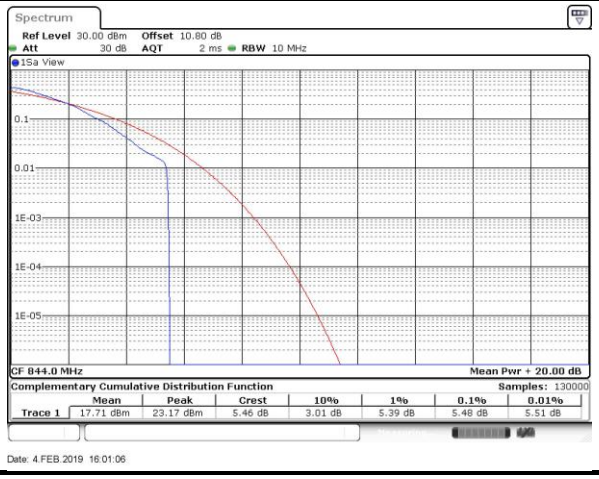
Middle Channel / 1RB



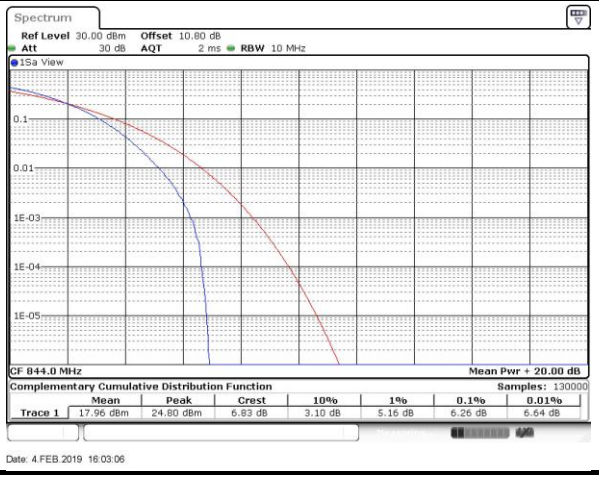
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

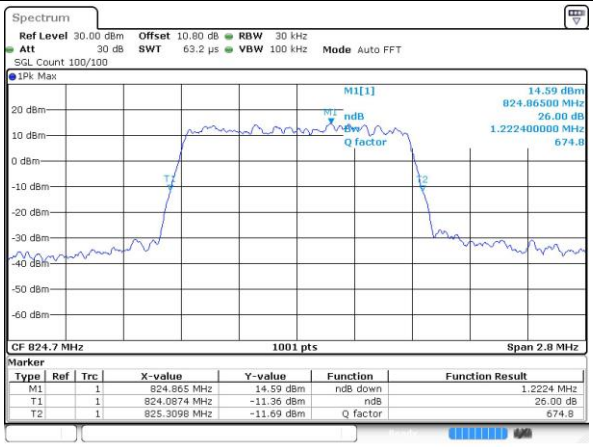


26dB Bandwidth

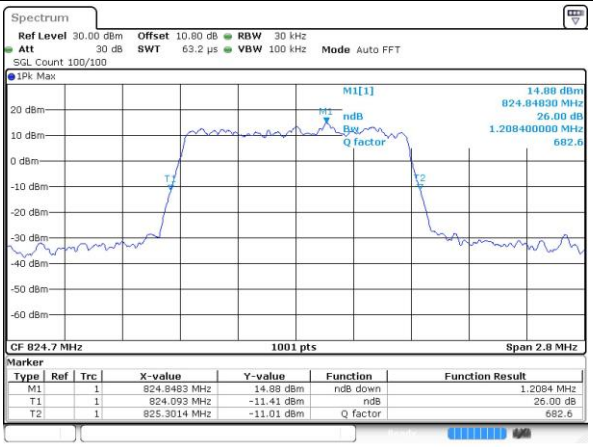
Mode	LTE Band 5 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.22	1.21	2.99	3.04	4.92	4.84	9.91	9.95	-	-	-	-
Middle CH	1.23	1.23	3.06	3.04	4.86	4.91	9.77	9.69	-	-	-	-
Highest CH	1.21	1.24	3.08	3.00	4.96	4.93	9.85	9.77	-	-	-	-
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	-	2.96	-	4.88	-	9.71	-	-	-	-	-
Middle CH	1.23	-	3.02	-	4.88	-	9.69	-	-	-	-	-
Highest CH	1.22	-	3.03	-	4.92	-	9.91	-	-	-	-	-

LTE Band 5

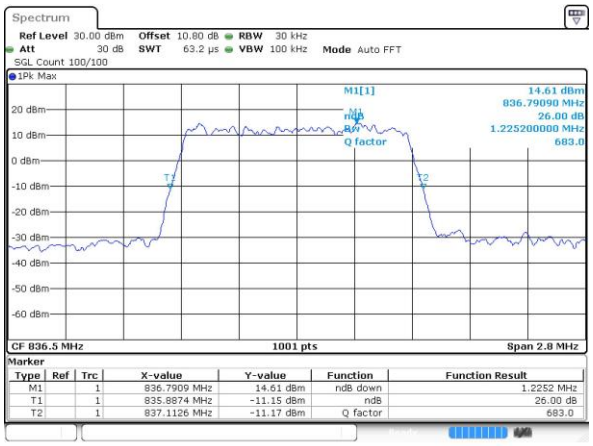
Lowest Channel / 1.4MHz / QPSK



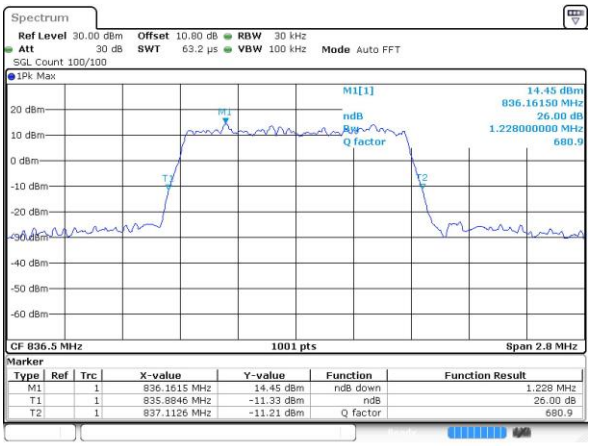
Lowest Channel / 1.4MHz / 16QAM



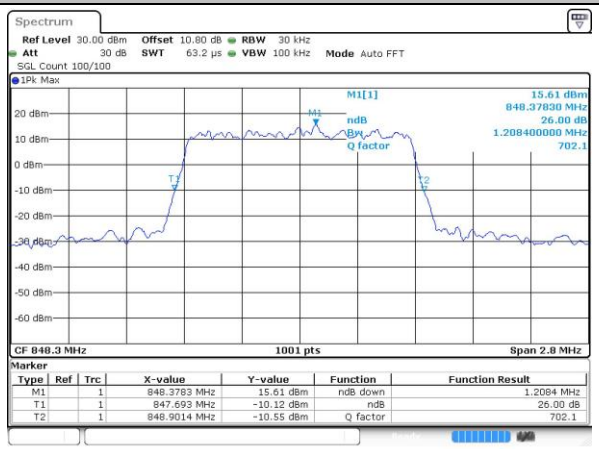
Middle Channel / 1.4MHz / QPSK



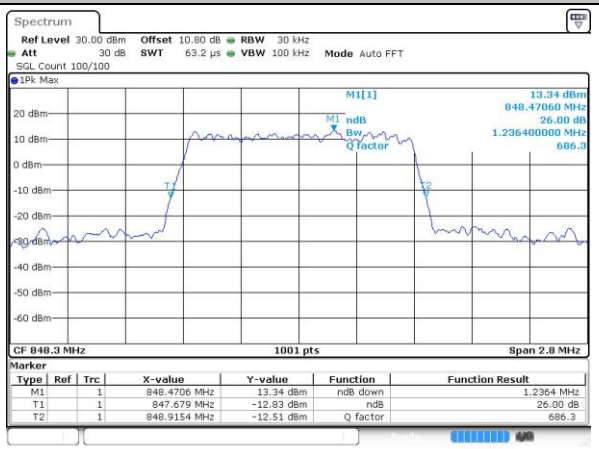
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

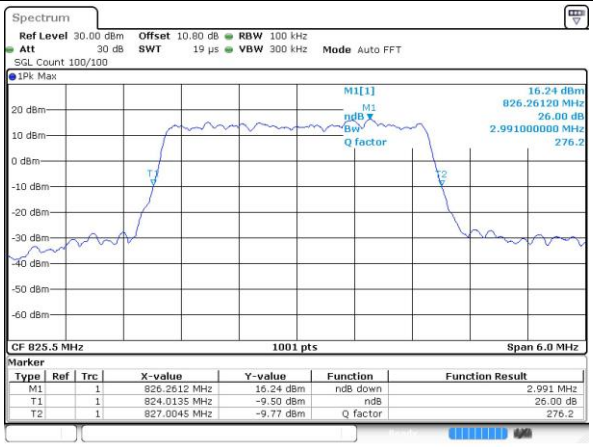


Highest Channel / 1.4MHz / 16QAM

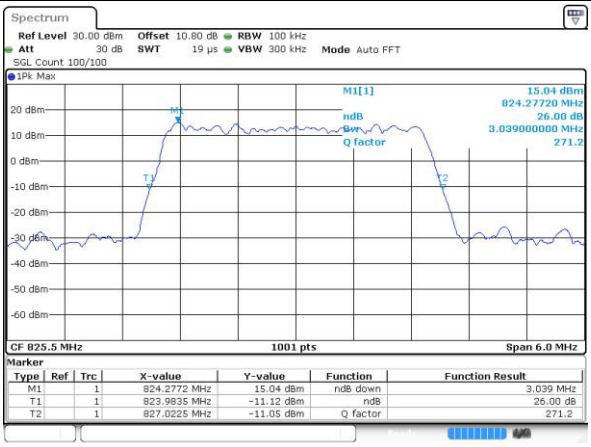


LTE Band 5

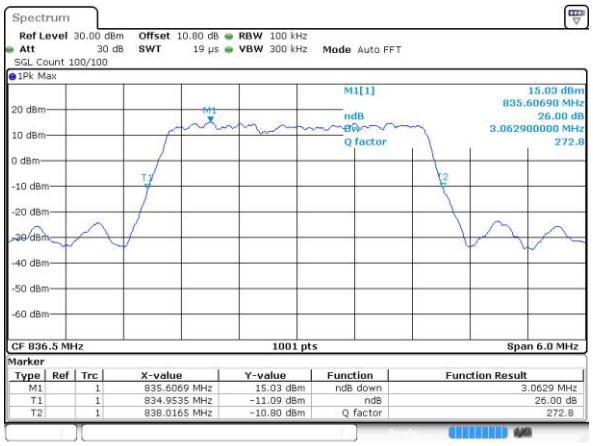
Lowest Channel / 3MHz / QPSK



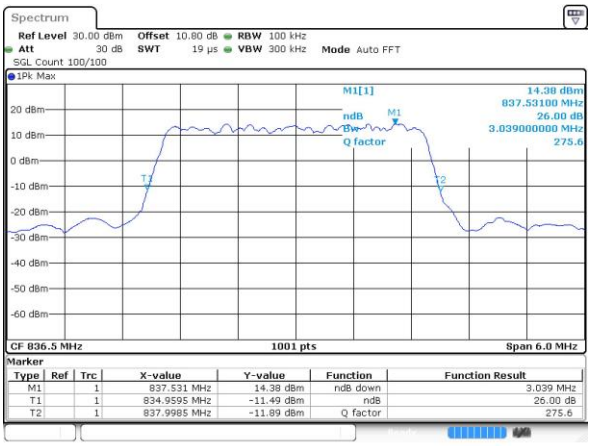
Lowest Channel / 3MHz / 16QAM



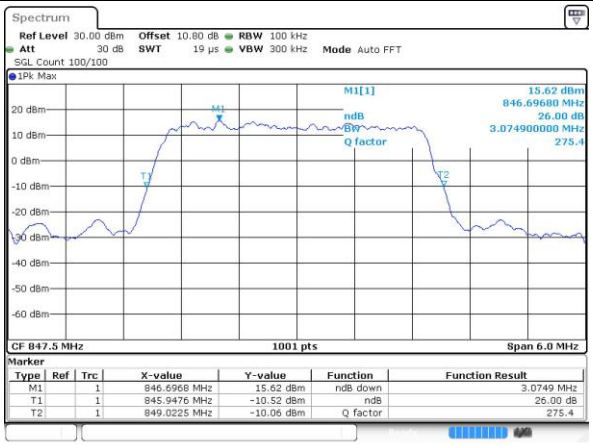
Middle Channel / 3MHz / QPSK



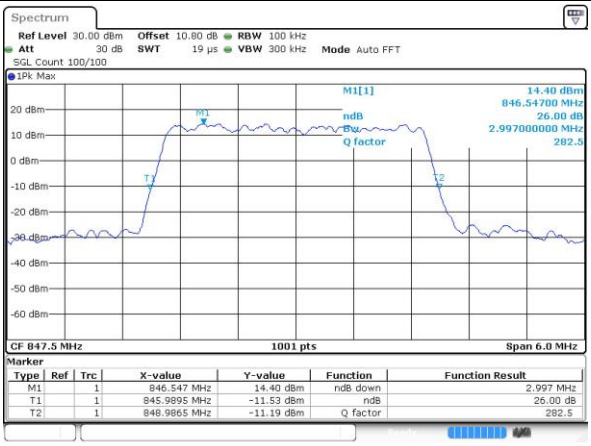
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

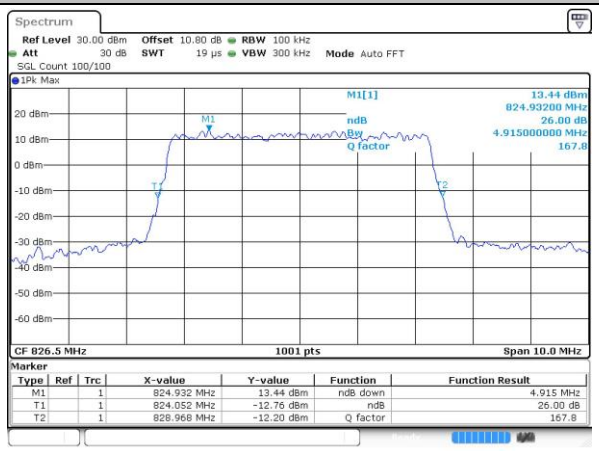


Highest Channel / 3MHz / 16QAM

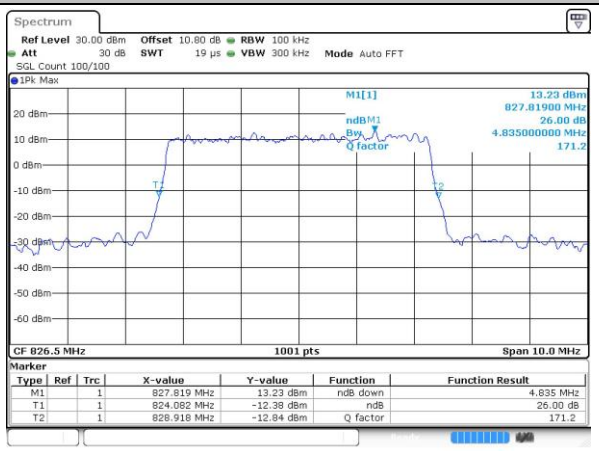


LTE Band 5

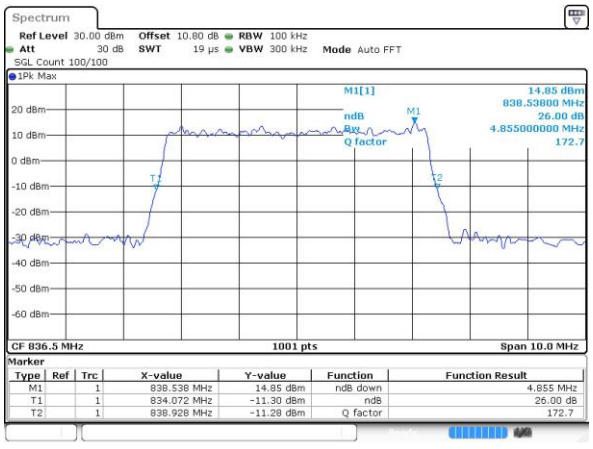
Lowest Channel / 5MHz / QPSK



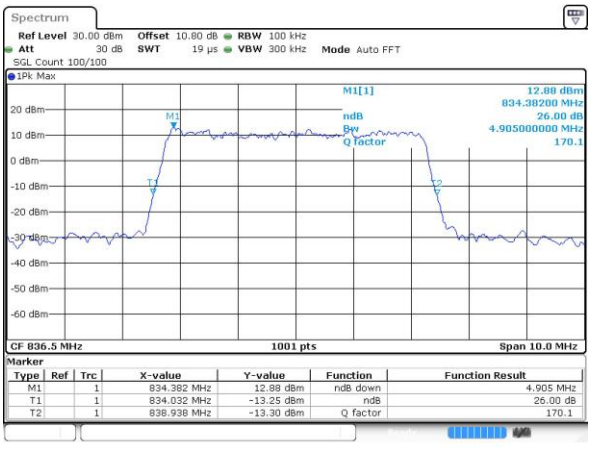
Lowest Channel / 5MHz / 16QAM



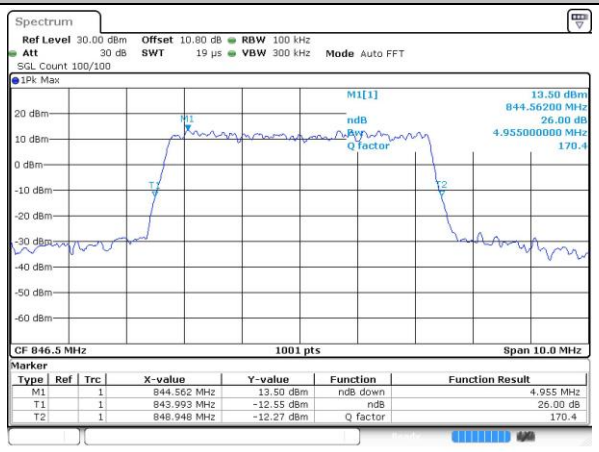
Middle Channel / 5MHz / QPSK



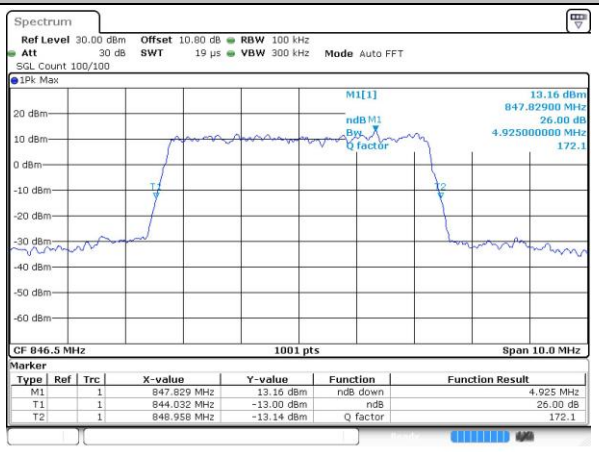
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

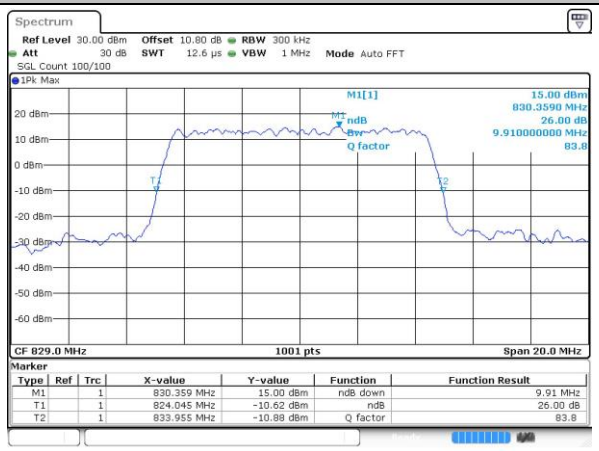


Highest Channel / 5MHz / 16QAM

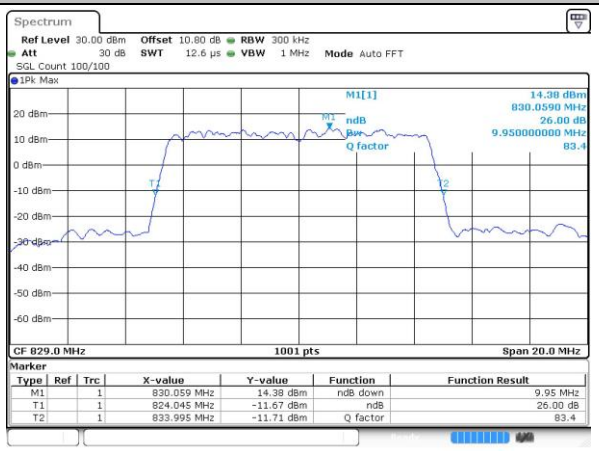


LTE Band 5

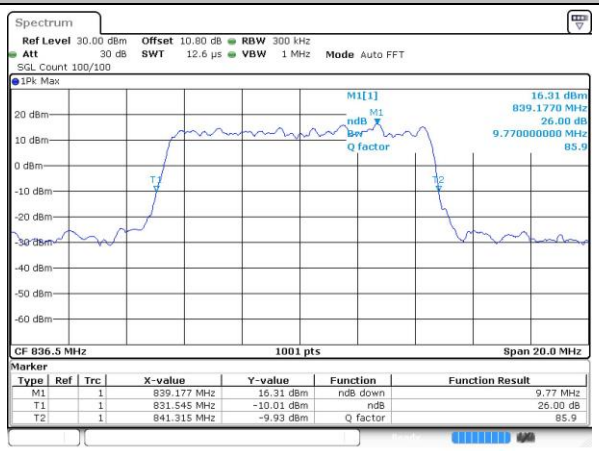
Lowest Channel / 10MHz / QPSK



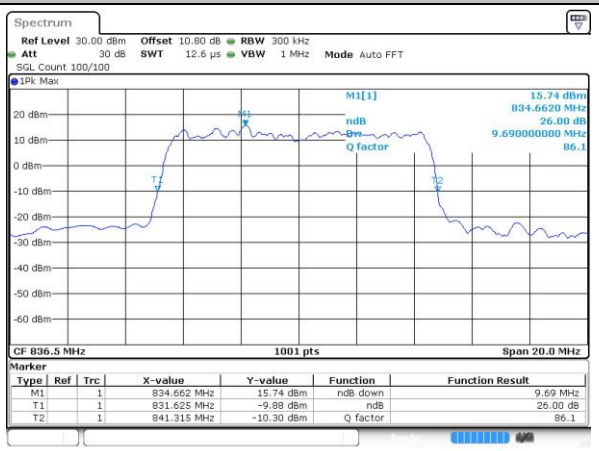
Lowest Channel / 10MHz / 16QAM



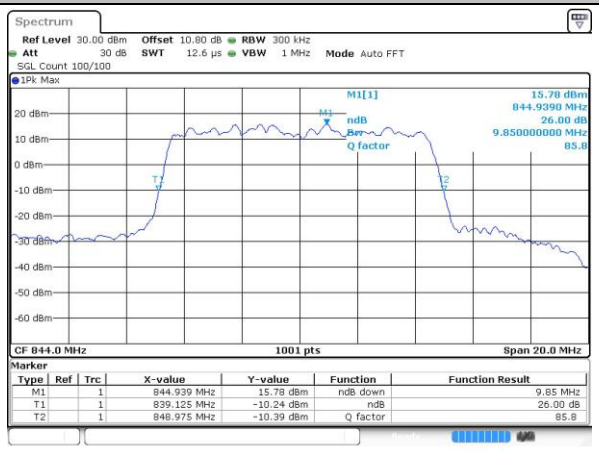
Middle Channel / 10MHz / QPSK



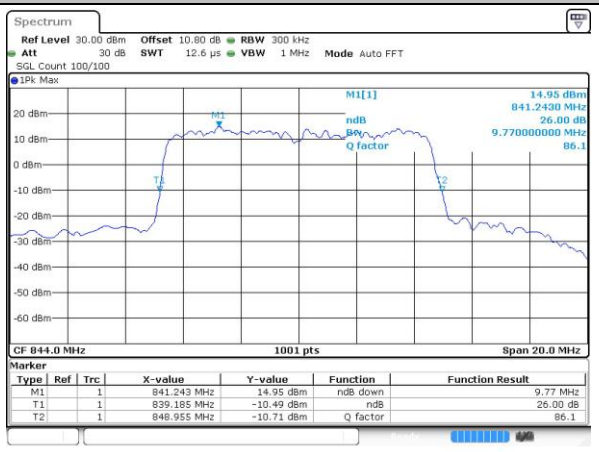
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

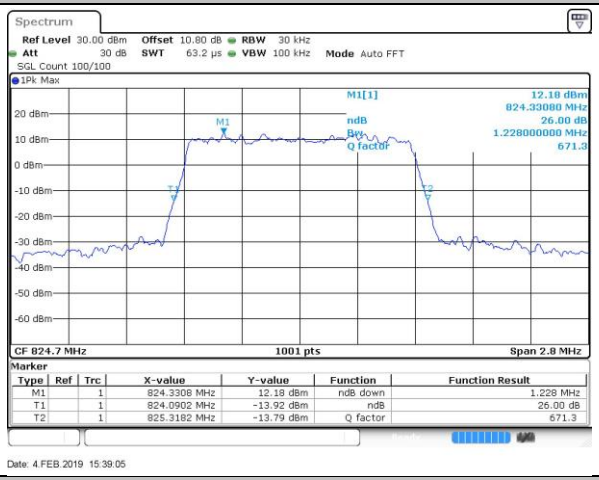


Highest Channel / 10MHz / 16QAM

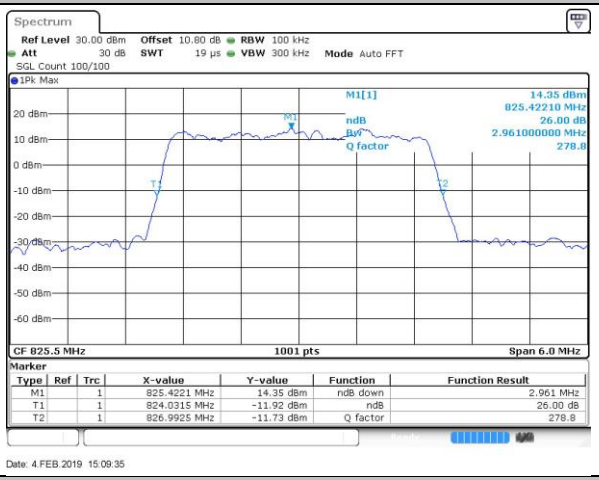


LTE Band 5

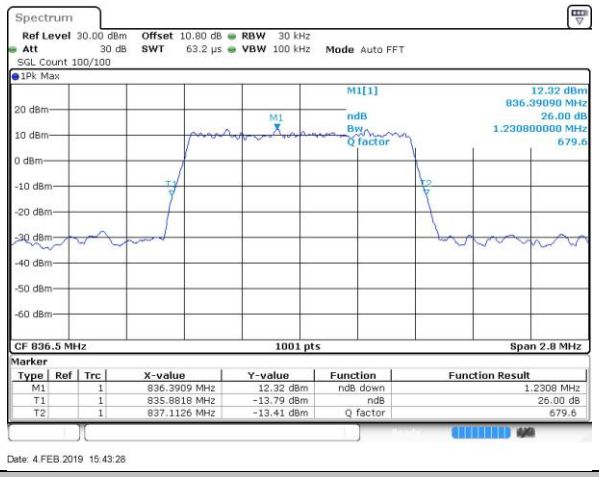
Lowest Channel / 1.4MHz / 64QAM



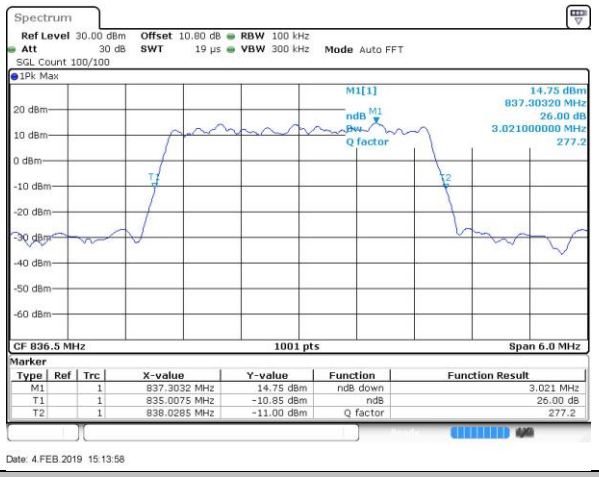
Lowest Channel / 3MHz / 64QAM



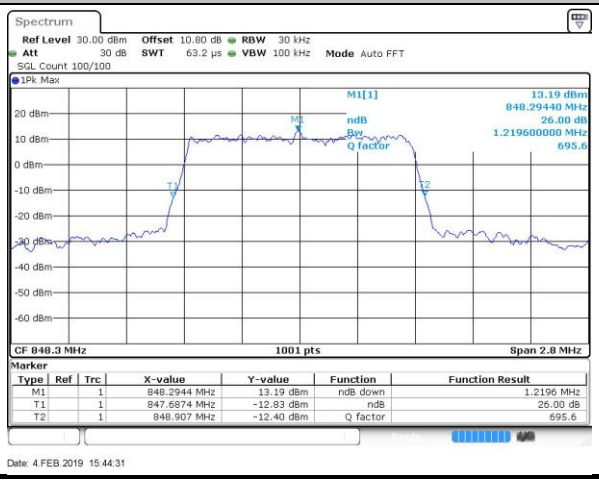
Middle Channel / 1.4MHz / 64QAM



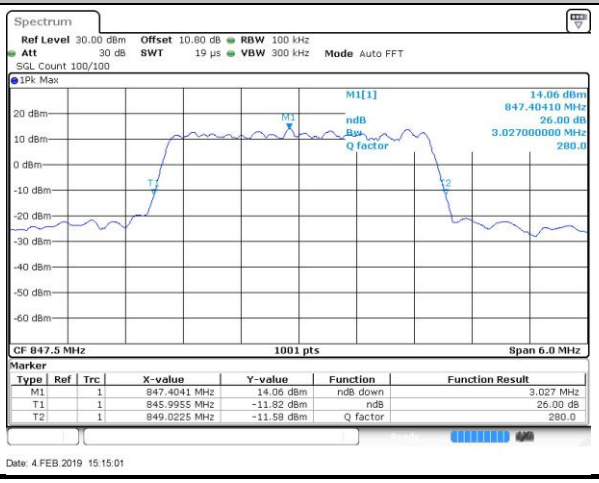
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM

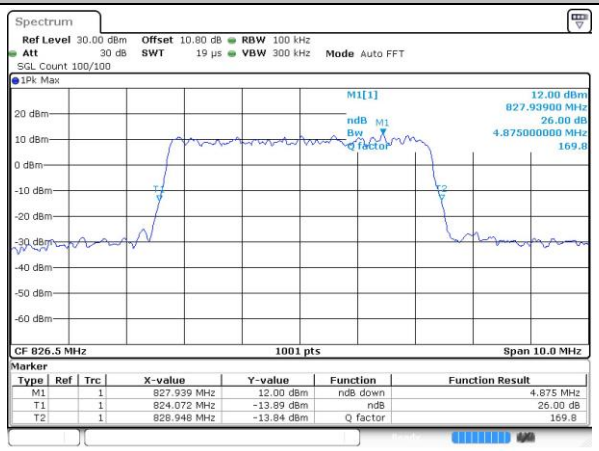


Highest Channel / 3MHz / 64QAM

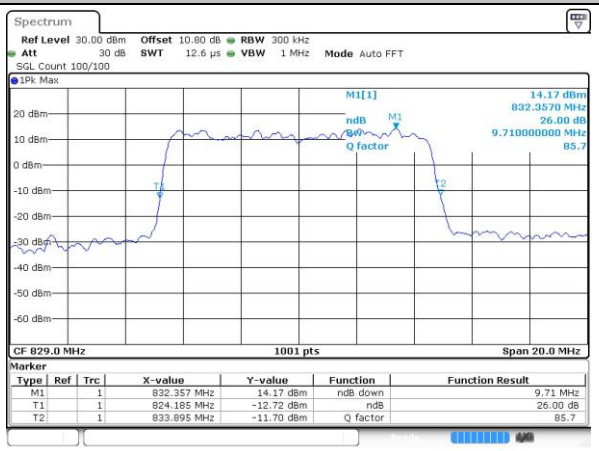


LTE Band 5

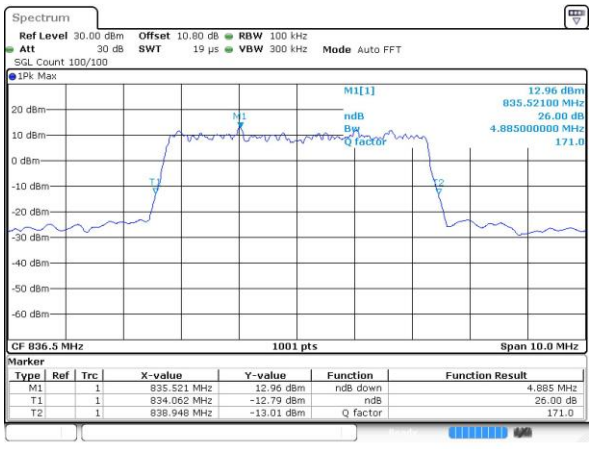
Lowest Channel / 5MHz / 64QAM



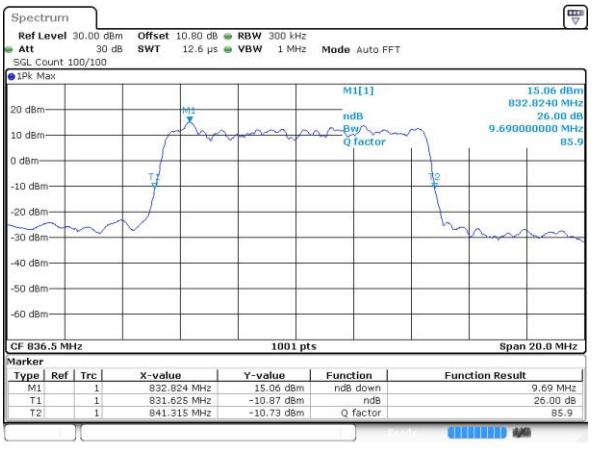
Lowest Channel / 10MHz / 64QAM



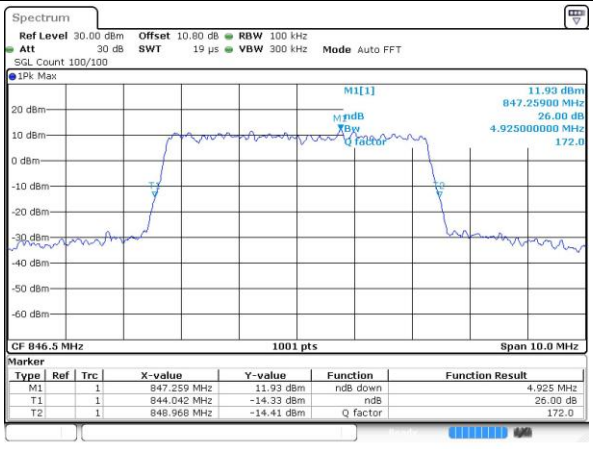
Middle Channel / 5MHz / 64QAM



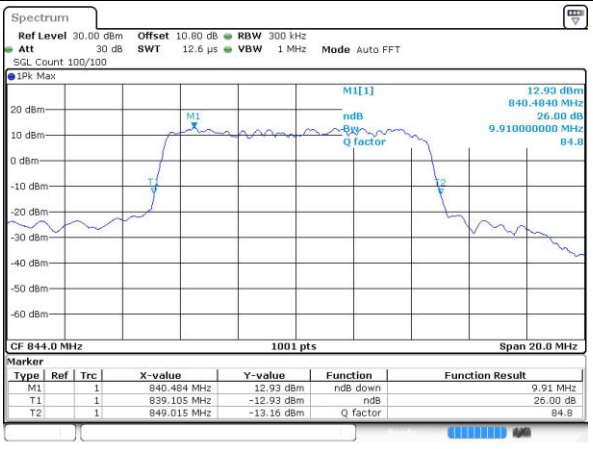
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



Highest Channel / 10MHz / 64QAM

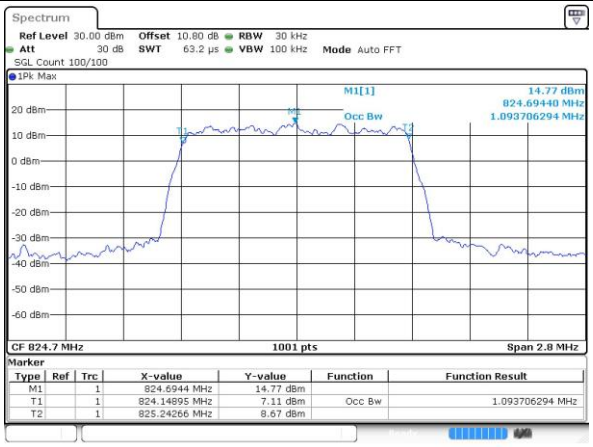


Occupied Bandwidth

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	1.08	2.72	2.72	4.5	4.5	9.09	9.07	-	-	-	-
Middle CH	1.09	1.09	2.71	2.71	4.5	4.5	9.05	8.95	-	-	-	-
Highest CH	1.09	1.09	2.72	2.72	4.5	4.48	8.99	9.01	-	-	-	-
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	-	2.73	-	4.50	-	8.99	-	-	-	-	-
Middle CH	1.09	-	2.73	-	4.50	-	9.01	-	-	-	-	-
Highest CH	1.09	-	2.72	-	4.48	-	8.99	-	-	-	-	-

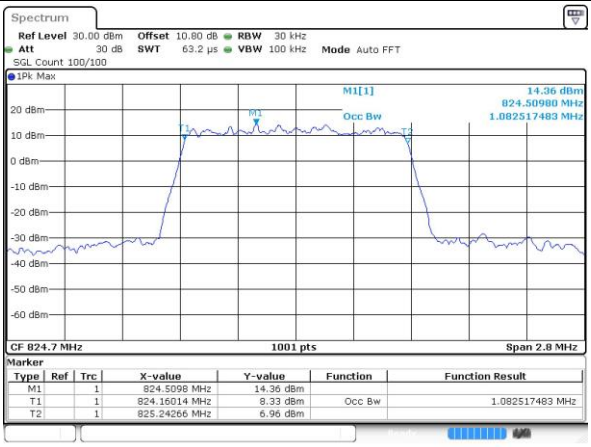
LTE Band 5

Lowest Channel / 1.4MHz / QPSK



Date: 4.FEB.2019 13:39:05

Lowest Channel / 1.4MHz / 16QAM



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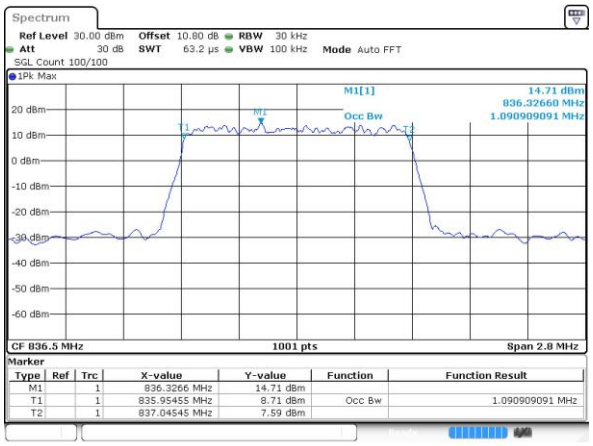
Middle Channel / 1.4MHz / QPSK



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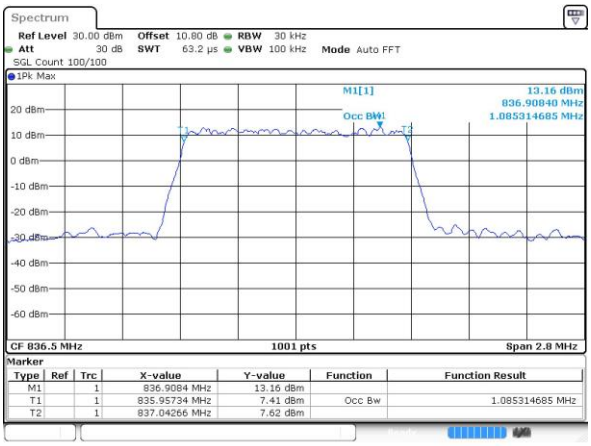
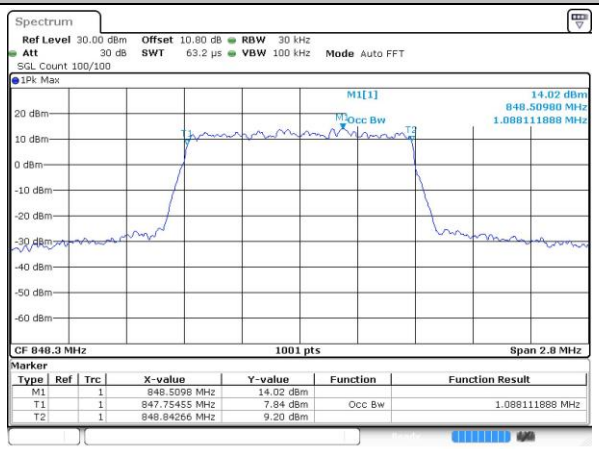
Middle Channel / 1.4MHz / 16QAM



Date: 4.FEB.2019 13:48:04

Highest Channel / 1.4MHz / QPSK



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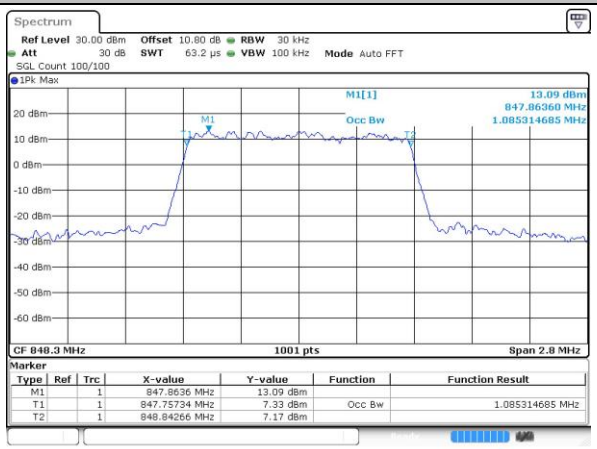
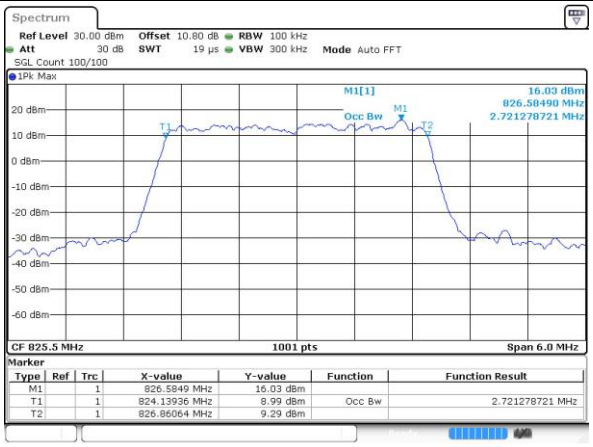
Highest Channel / 1.4MHz / 16QAM



Date: 4.FEB.2019 13:50:10

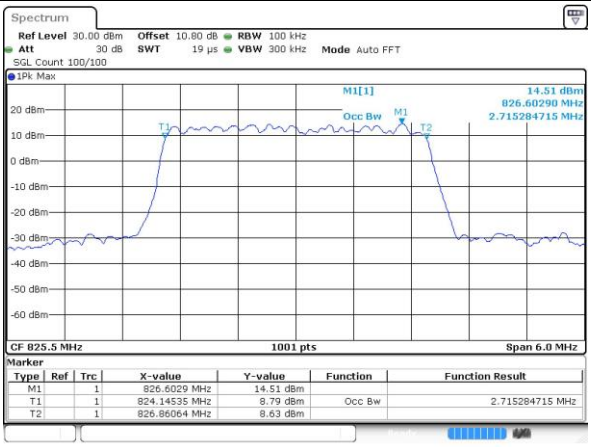
LTE Band 5

Lowest Channel / 3MHz / QPSK



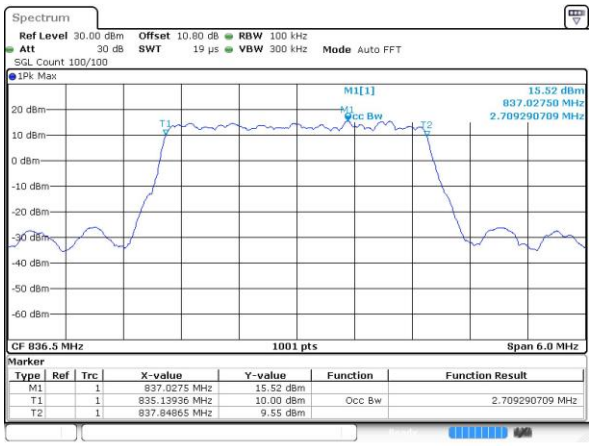
Date: 4.FEB.2019 13:58:45

Lowest Channel / 3MHz / 16QAM



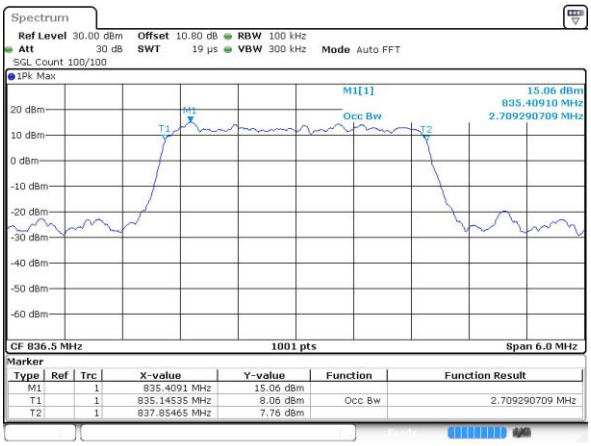
Date: 4.FEB.2019 13:58:57

Middle Channel / 3MHz / QPSK



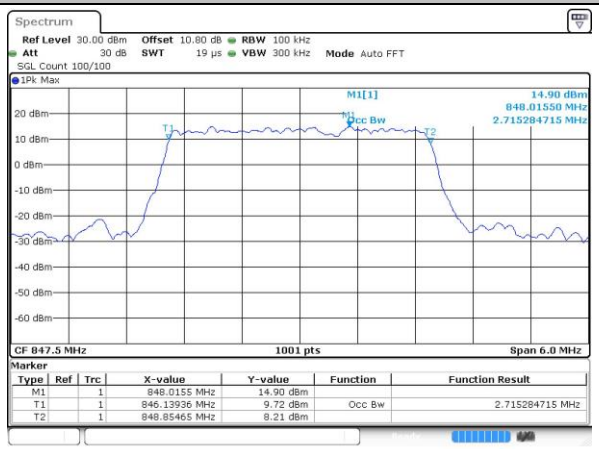
Date: 4.FEB.2019 14:07:32

Middle Channel / 3MHz / 16QAM



Date: 4.FEB.2019 14:07:43

Highest Channel / 3MHz / QPSK



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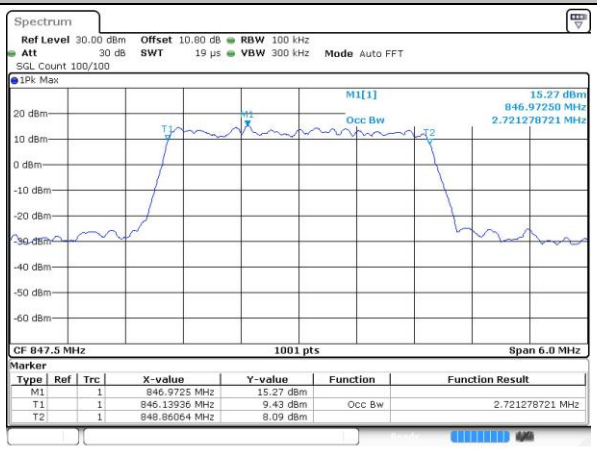
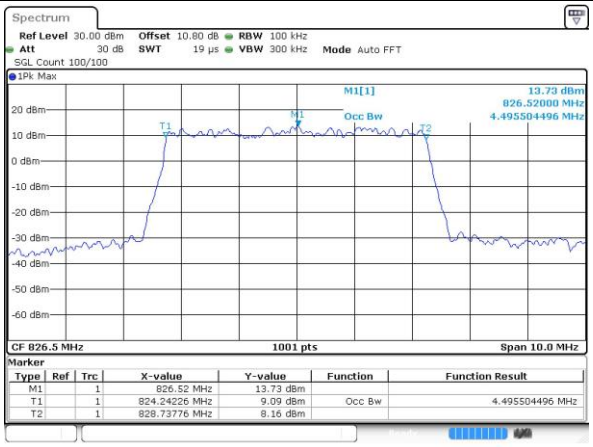
Highest Channel / 3MHz / 16QAM



Date: 4.FEB.2019 14:09:50

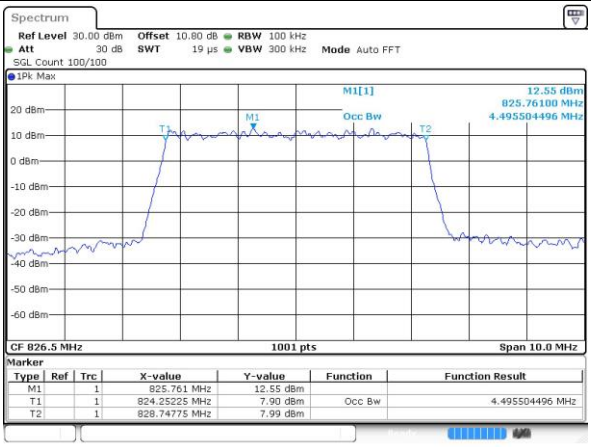
LTE Band 5

Lowest Channel / 5MHz / QPSK



Date: 4.FEB.2019 14:18:25

Lowest Channel / 5MHz / 16QAM



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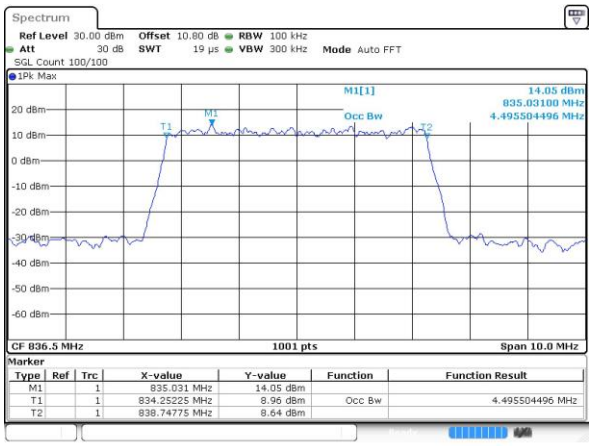
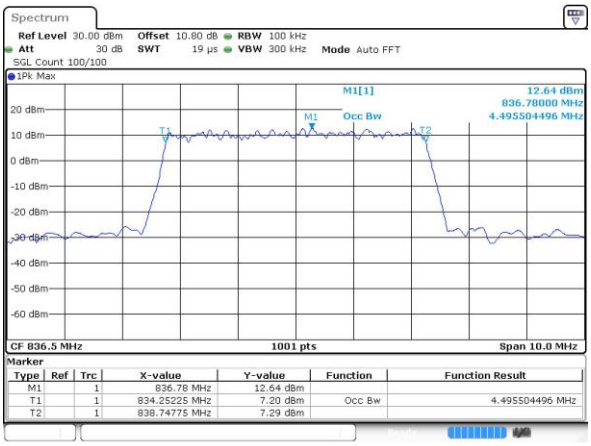
Middle Channel / 5MHz / QPSK



Date: 4.FEB.2019 14:27:12

Middle Channel / 5MHz / 16QAM



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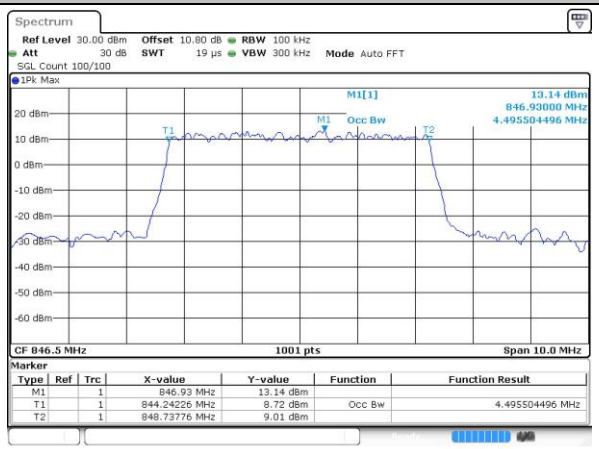
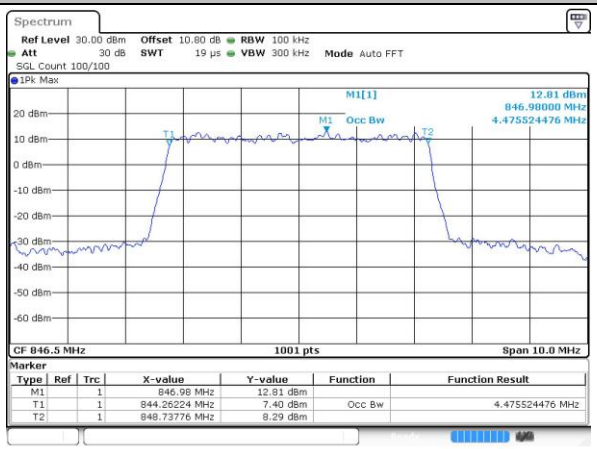
Highest Channel / 5MHz / QPSK



Date: 4.FEB.2019 14:29:18

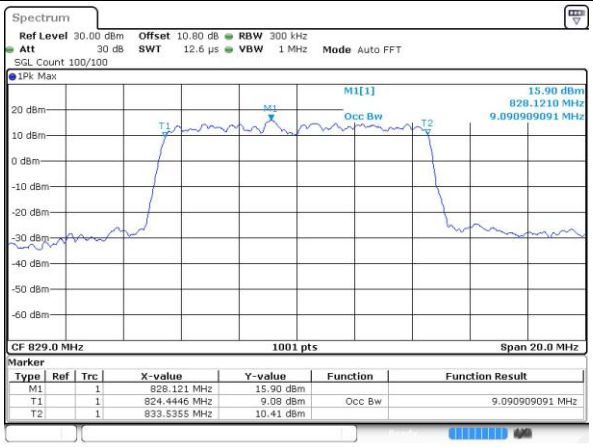
Highest Channel / 5MHz / 16QAM



Date: 4.FEB.2019 14:29:29

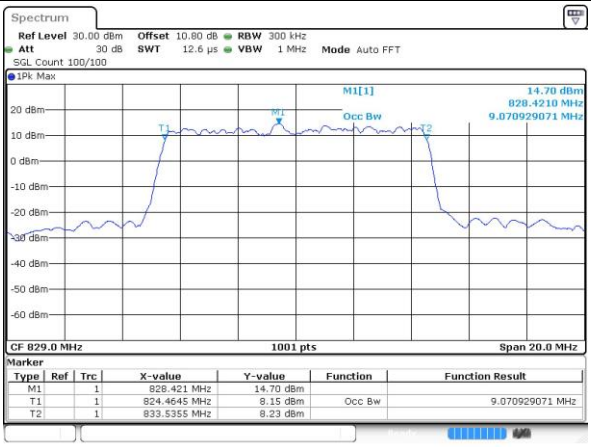
LTE Band 5

Lowest Channel / 10MHz / QPSK



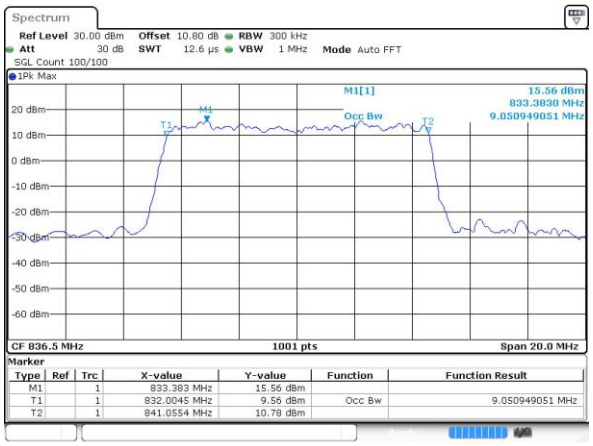
Date: 4.FEB.2019 14:38:05

Lowest Channel / 10MHz / 16QAM



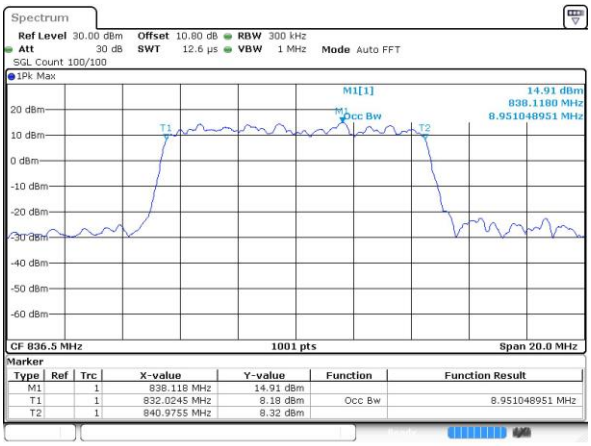
Date: 4.FEB.2019 14:38:16

Middle Channel / 10MHz / QPSK



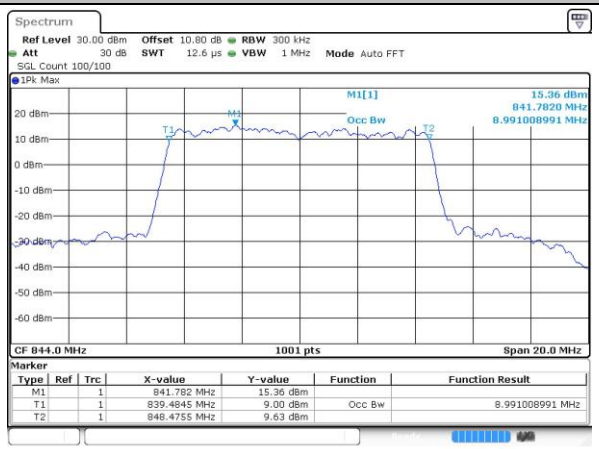
Date: 4.FEB.2019 14:46:52

Middle Channel / 10MHz / 16QAM



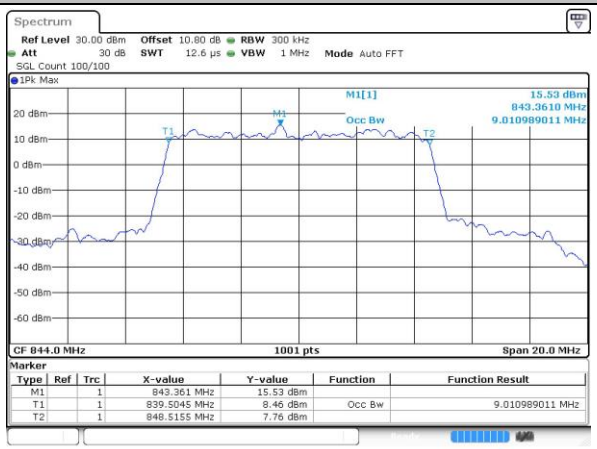
Date: 4.FEB.2019 14:47:03

Highest Channel / 10MHz / QPSK



Date: 4.FEB.2019 14:48:58

Highest Channel / 10MHz / 16QAM



Date: 4.FEB.2019 14:49:09