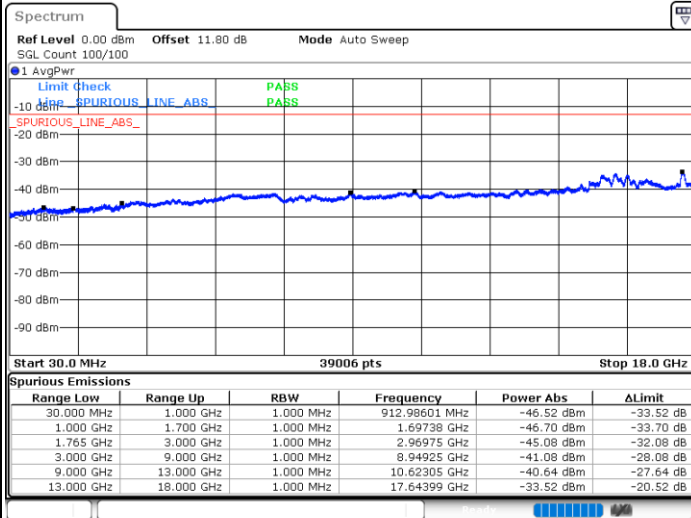




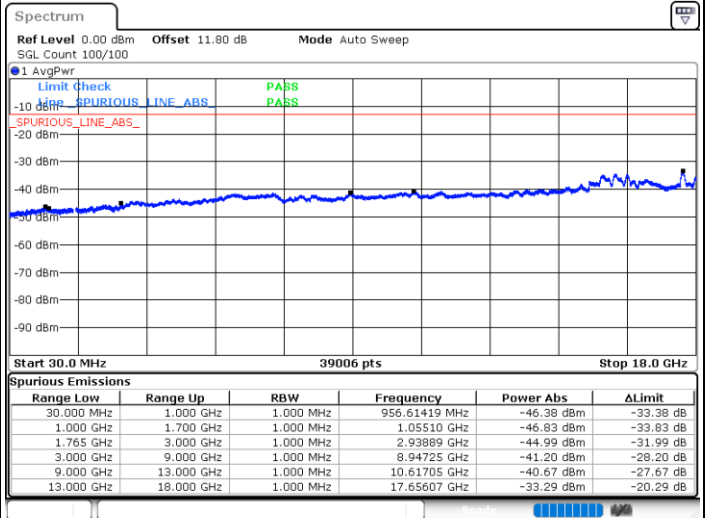
LTE Band 4 / 3MHz

Lowest Channel / 256QAM

Middle Channel / 256QAM

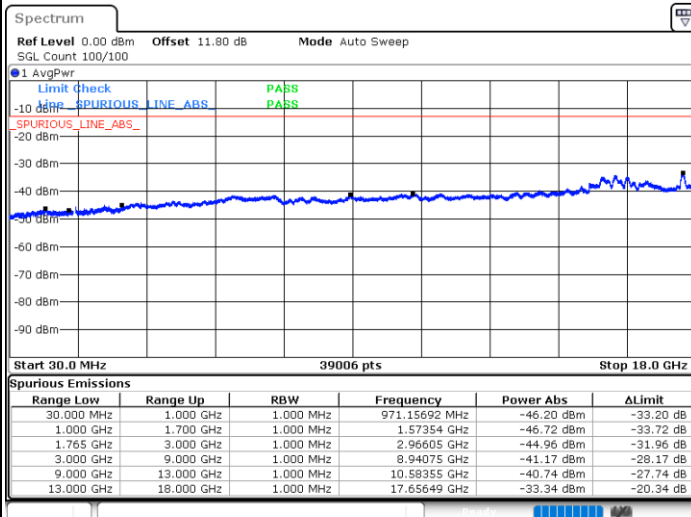


Date: 17.JUL.2020 10:17:51



Date: 17.JUL.2020 10:16:27

Highest Channel / 256QAM



Date: 17.JUL.2020 10:22:23

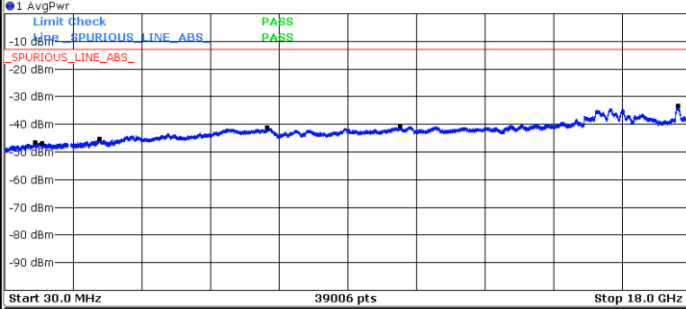


LTE Band 4 / 5MHz

Lowest Channel / 256QAM

Middle Channel / 256QAM

Spectrum

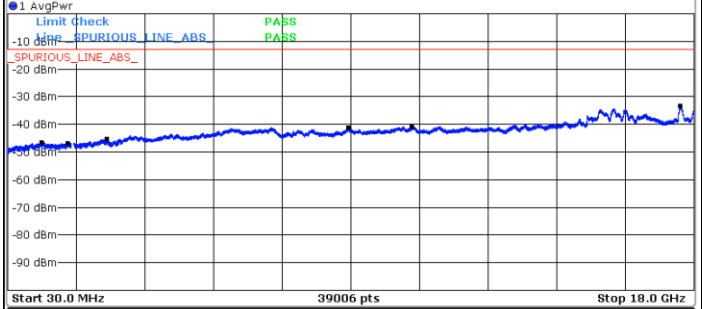
Ref Level 0.00 dBm Offset 11.80 dB Mode Auto Sweep
SGL Count 100/100

Start 30.0 MHz 39006 pts Stop 18.0 GHz

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	832.03148 MHz	-46.58 dBm	-33.58 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.01347 GHz	-46.82 dBm	-33.82 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.50061 GHz	-45.16 dBm	-32.16 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.90492 GHz	-41.18 dBm	-28.18 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.37208 GHz	-40.68 dBm	-27.68 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.64940 GHz	-33.48 dBm	-20.48 dB

Date: 17.JUL.2020 10:28:25

Spectrum

Ref Level 0.00 dBm Offset 11.80 dB Mode Auto Sweep
SGL Count 100/100

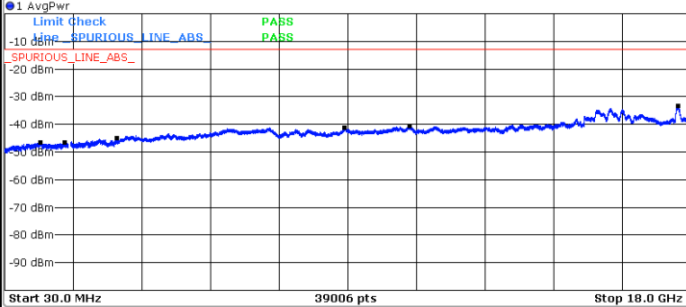
Start 30.0 MHz 39006 pts Stop 18.0 GHz

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	928.01349 MHz	-46.52 dBm	-33.52 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.60572 GHz	-46.80 dBm	-33.80 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.61872 GHz	-45.30 dBm	-32.30 dB
3.000 GHz	9.000 GHz	1.000 MHz	8.94775 GHz	-41.23 dBm	-28.23 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.61605 GHz	-40.75 dBm	-27.75 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.63941 GHz	-33.34 dBm	-20.34 dB

Date: 17.JUL.2020 10:25:23

Highest Channel / 256QAM

Spectrum

Ref Level 0.00 dBm Offset 11.80 dB Mode Auto Sweep
SGL Count 100/100

Start 30.0 MHz 39006 pts Stop 18.0 GHz

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	960.49225 MHz	-46.39 dBm	-33.39 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.60152 GHz	-46.60 dBm	-33.60 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.97510 GHz	-45.11 dBm	-32.11 dB
3.000 GHz	9.000 GHz	1.000 MHz	8.93226 GHz	-41.28 dBm	-28.28 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.61955 GHz	-40.70 dBm	-27.70 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.65607 GHz	-33.26 dBm	-20.26 dB

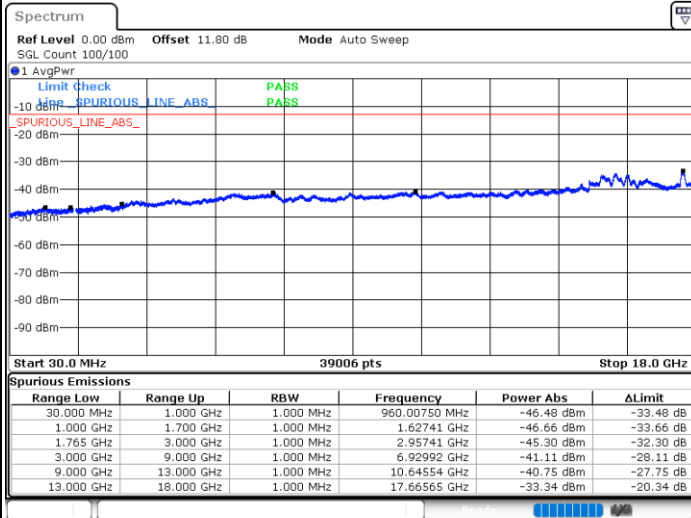
Date: 17.JUL.2020 10:30:43



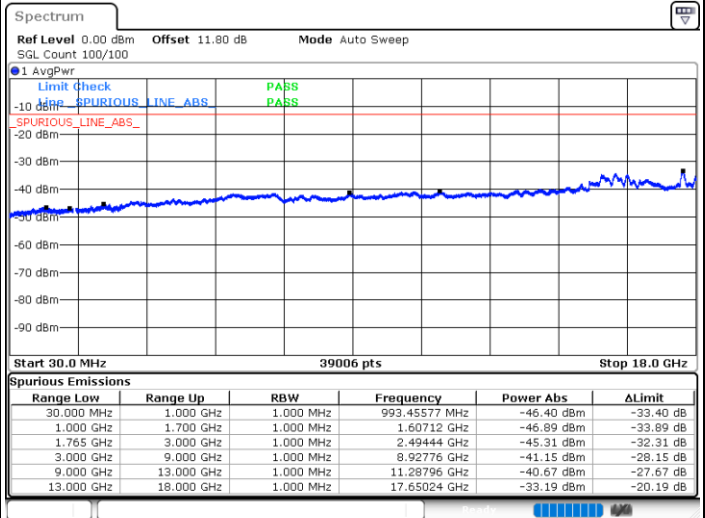
LTE Band 4 / 10MHz

Lowest Channel / 256QAM

Middle Channel / 256QAM

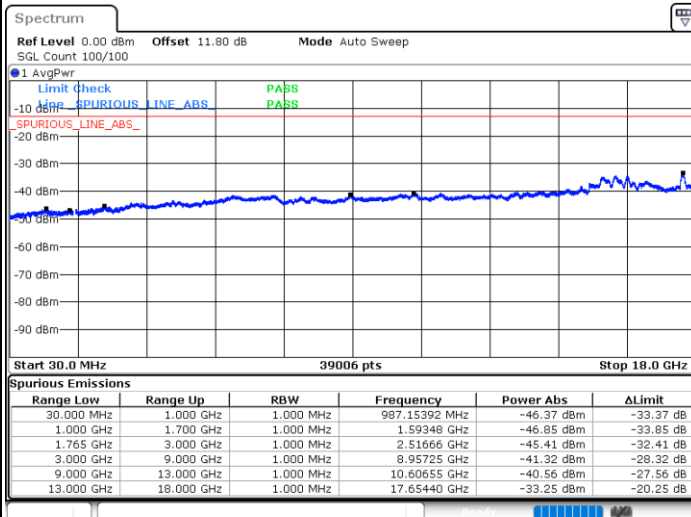


Date: 17.JUL.2020 10:36:17



Date: 17.JUL.2020 10:33:16

Highest Channel / 256QAM

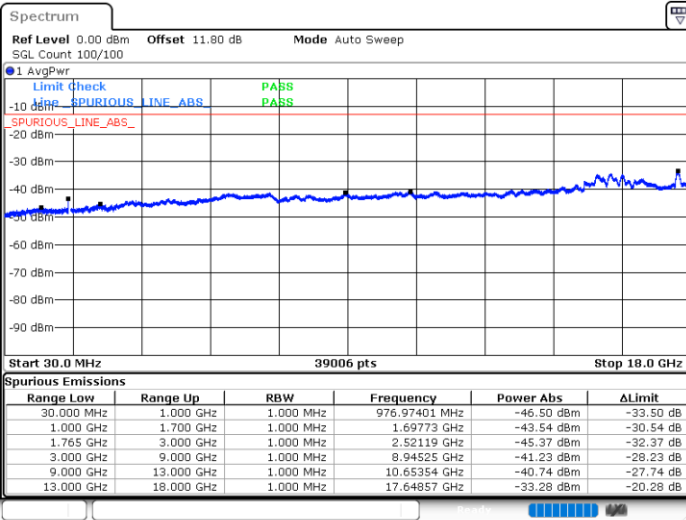


Date: 17.JUL.2020 10:38:38



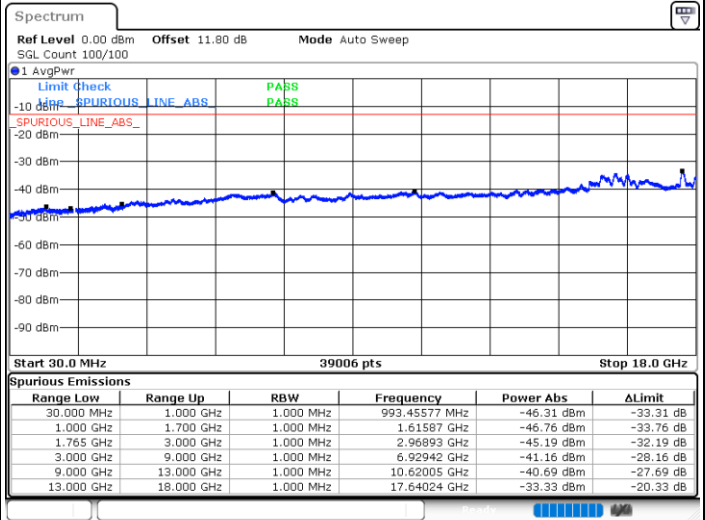
LTE Band 4 / 15MHz

Lowest Channel / 256QAM



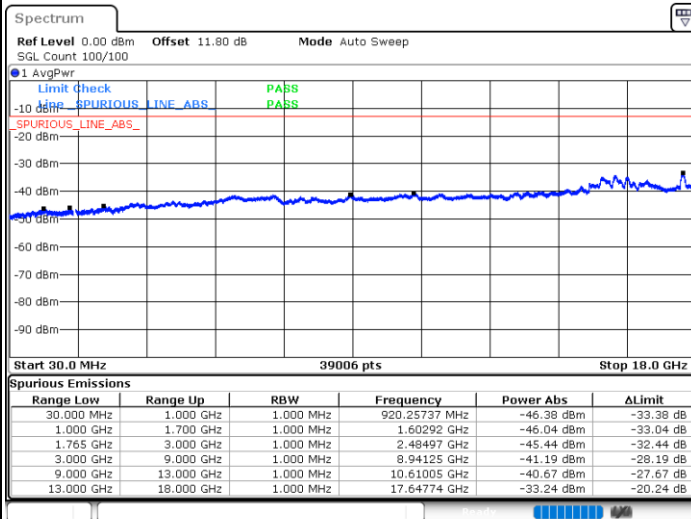
Date: 17.JUL.2020 10:43:18

Middle Channel / 256QAM



Date: 17.JUL.2020 10:41:06

Highest Channel / 256QAM



Date: 17.JUL.2020 10:46:23

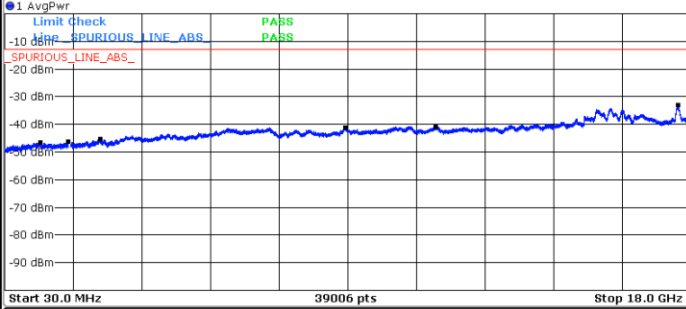


LTE Band 4 / 20MHz

Lowest Channel / 256QAM

Middle Channel / 256QAM

Spectrum

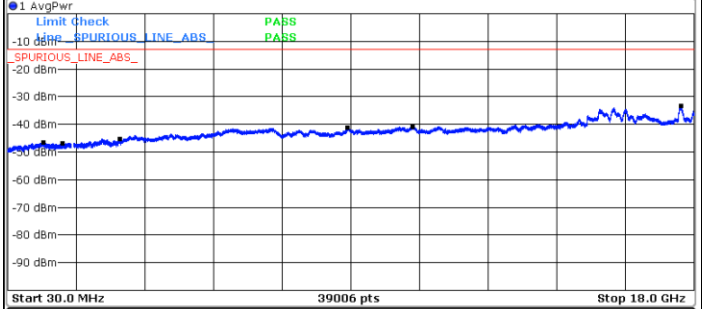
Ref Level 0.00 dBm Offset 11.80 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	959.52274 MHz	-46.50 dBm	-33.50 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69353 GHz	-46.27 dBm	-32.27 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.52736 GHz	-45.15 dBm	-32.15 dB
3.000 GHz	9.000 GHz	1.000 MHz	8.95075 GHz	-41.15 dBm	-28.15 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.31346 GHz	-40.75 dBm	-27.75 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.65440 GHz	-33.12 dBm	-20.12 dB

Date: 17.JUL.2020 10:51:40

Spectrum

Ref Level 0.00 dBm Offset 11.80 dB Mode Auto Sweep
SGL Count 100/100

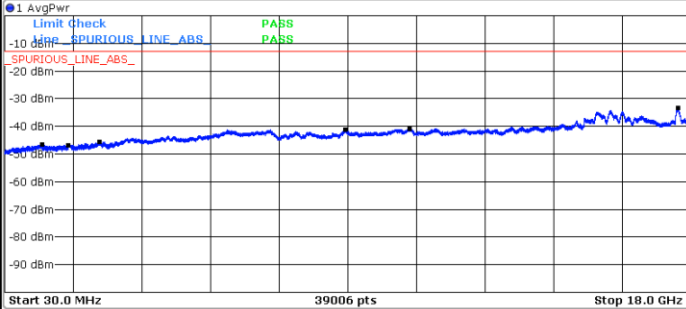
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	953.22089 MHz	-46.41 dBm	-33.41 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.45950 GHz	-46.77 dBm	-33.77 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.96399 GHz	-45.23 dBm	-32.23 dB
3.000 GHz	9.000 GHz	1.000 MHz	8.93476 GHz	-41.18 dBm	-28.18 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.62755 GHz	-40.74 dBm	-27.74 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.65940 GHz	-33.18 dBm	-20.18 dB

Date: 17.JUL.2020 10:49:24

Highest Channel / 256QAM

Spectrum

Ref Level 0.00 dBm Offset 11.80 dB Mode Auto Sweep
SGL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	998.30335 MHz	-46.66 dBm	-33.66 dB
1.000 GHz	1.700 GHz	1.000 MHz	1.69773 GHz	-46.82 dBm	-33.82 dB
1.765 GHz	3.000 GHz	1.000 MHz	2.51913 GHz	-45.49 dBm	-32.49 dB
3.000 GHz	9.000 GHz	1.000 MHz	8.94725 GHz	-41.26 dBm	-28.26 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.62605 GHz	-40.80 dBm	-27.80 dB
13.000 GHz	18.000 GHz	1.000 MHz	17.66857 GHz	-33.47 dBm	-20.47 dB

Date: 17.JUL.2020 10:53:38

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	0.0003	PASS
40	Normal Voltage	0.0001	
30	Normal Voltage	0.0007	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0007	
0	Normal Voltage	0.0118	
-10	Normal Voltage	0.0124	
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0014	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0112	

Note:

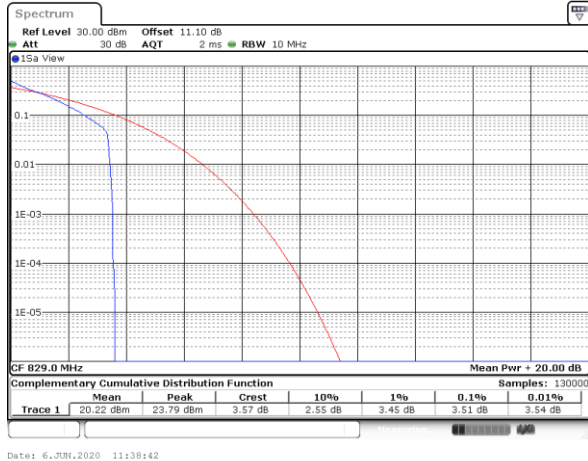
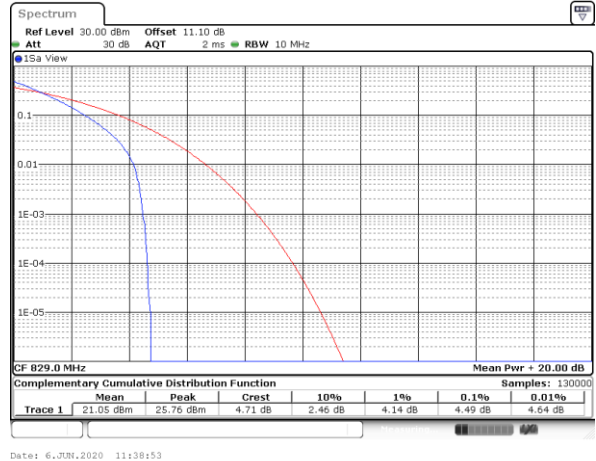
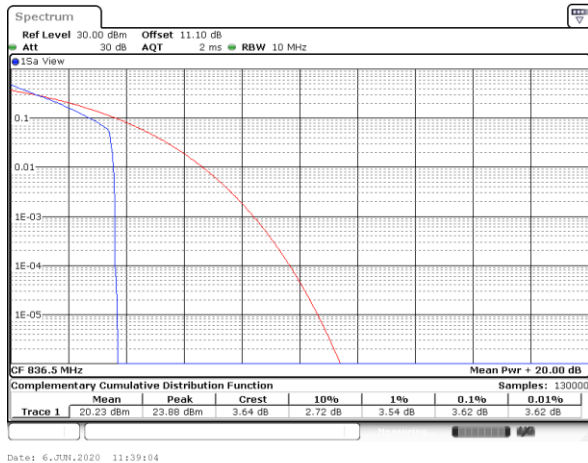
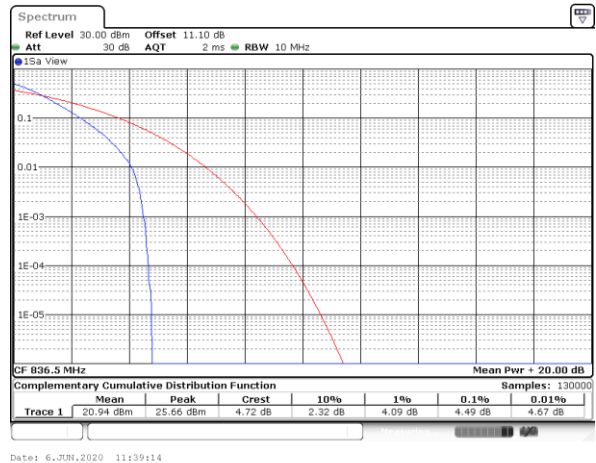
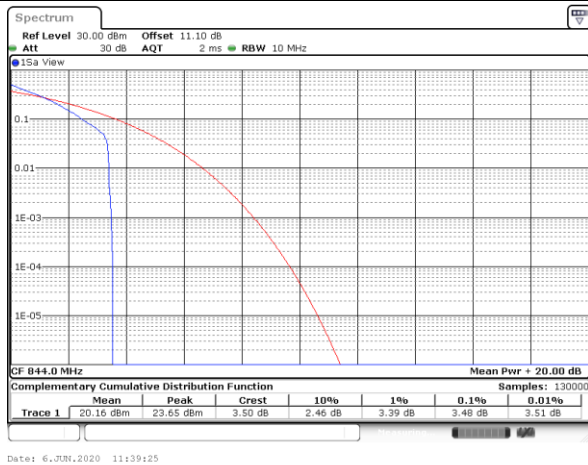
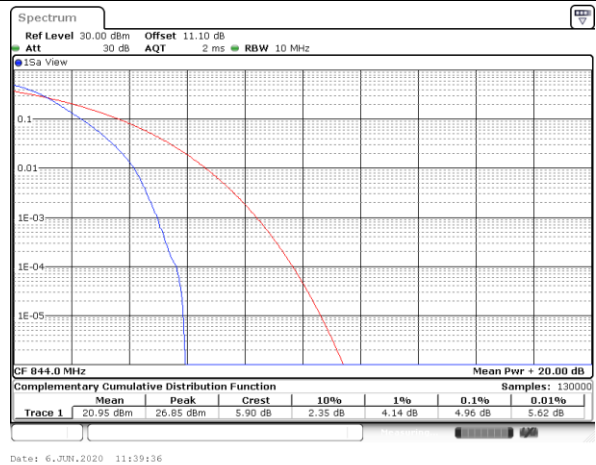
1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.30 V. ; Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

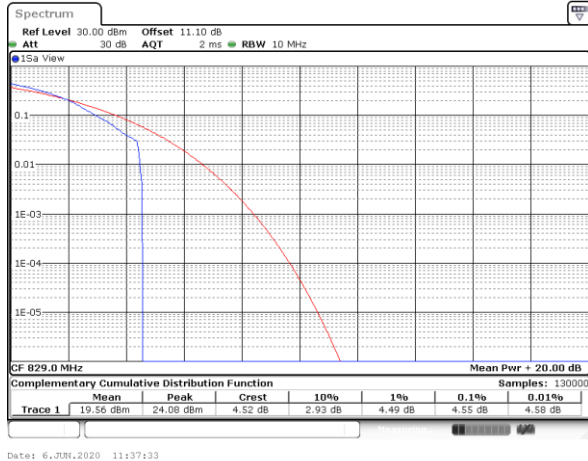
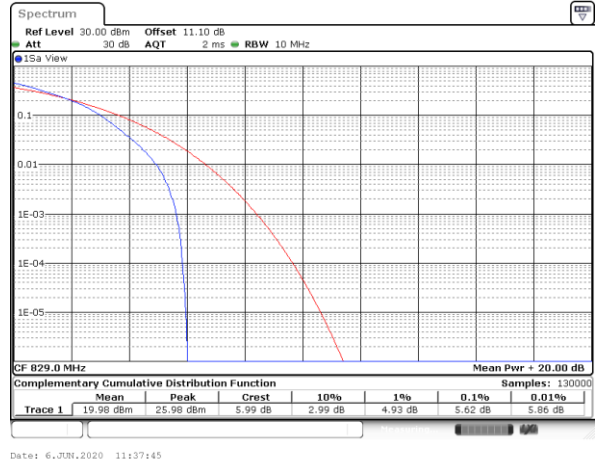
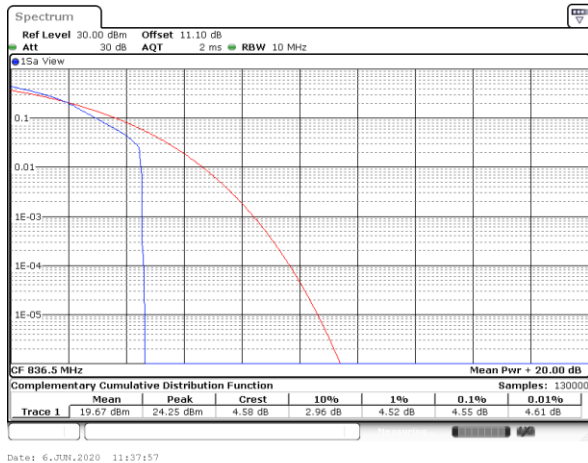
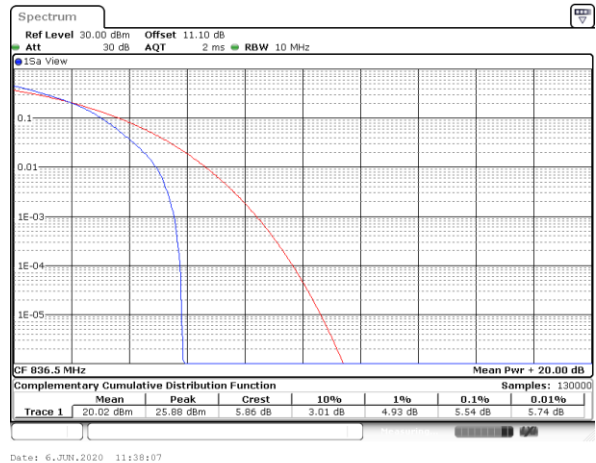
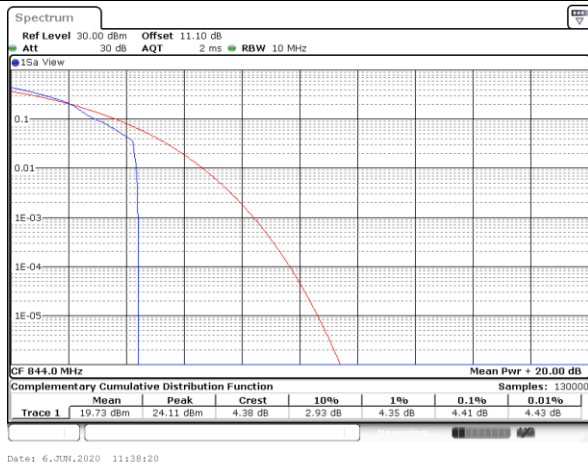
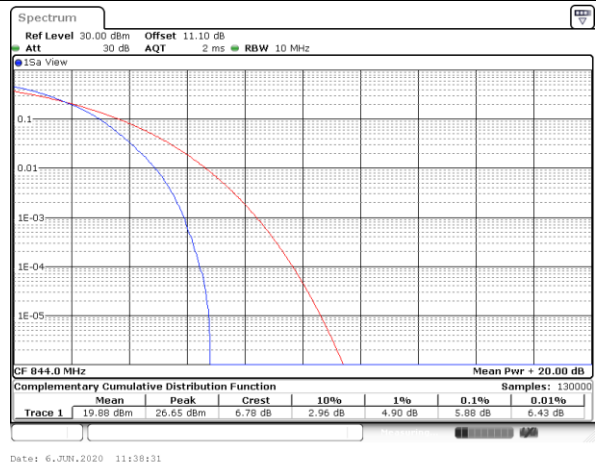


LTE Band 5

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	3.51	4.49	4.55	5.62	PASS
Middle CH	3.62	4.49	4.55	5.54	
Highest CH	3.48	4.96	4.41	5.88	
Mode	LTE Band 5 / 10MHz				
Mod.	64QAM		256QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	6.87	6.43	6.00	6.72	PASS
Middle CH	6.84	6.38	6.75	6.58	
Highest CH	6.81	6.35	6.32	6.41	

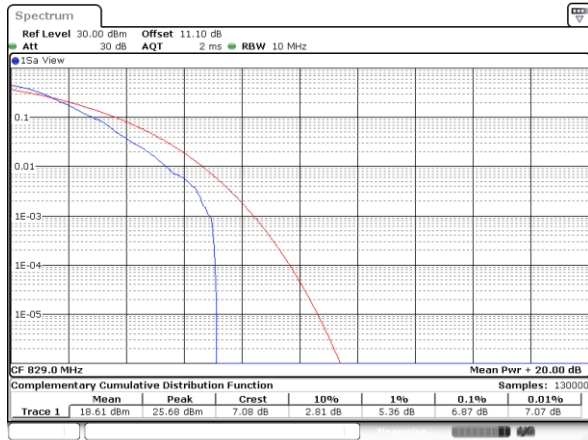
LTE Band 5 / 10MHz / QPSK
Lowest Channel / 1RB

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


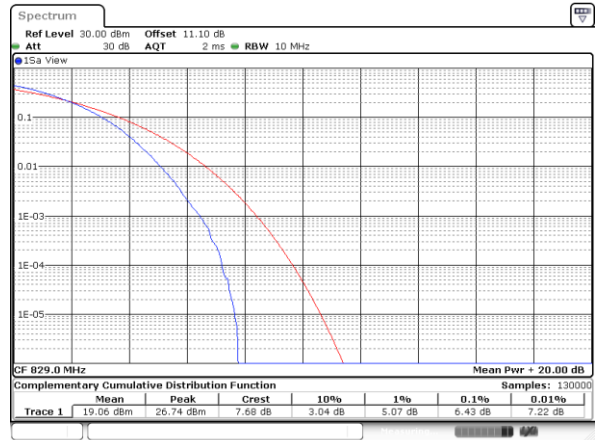


LTE Band 5 / 10MHz / 64QAM

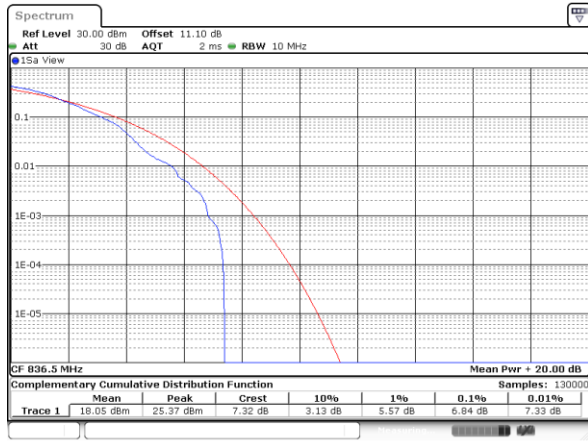
Lowest Channel / 1RB



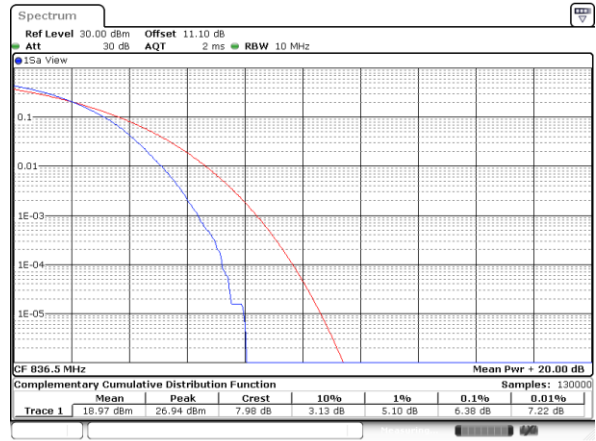
Lowest Channel / Full RB



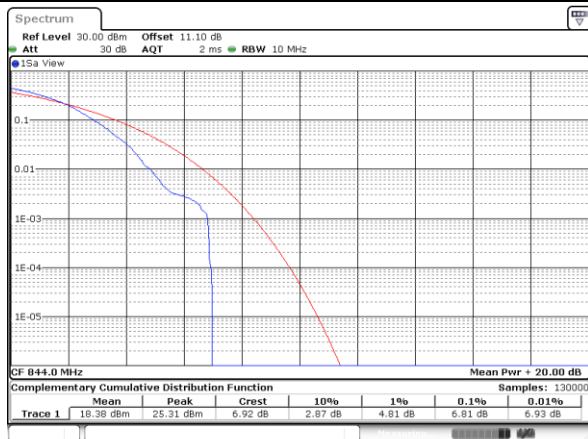
Middle Channel / 1RB



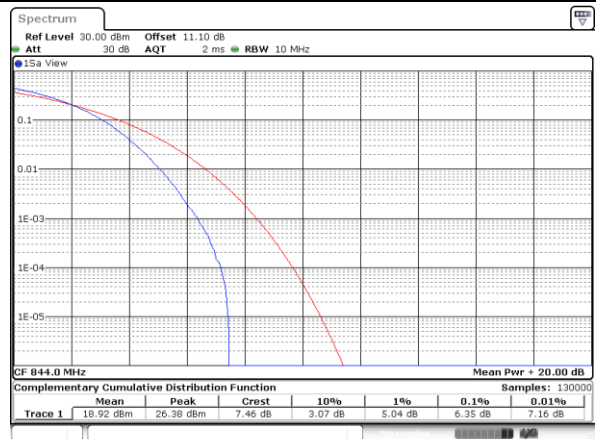
Middle Channel / Full RB



Highest Channel / 1RB



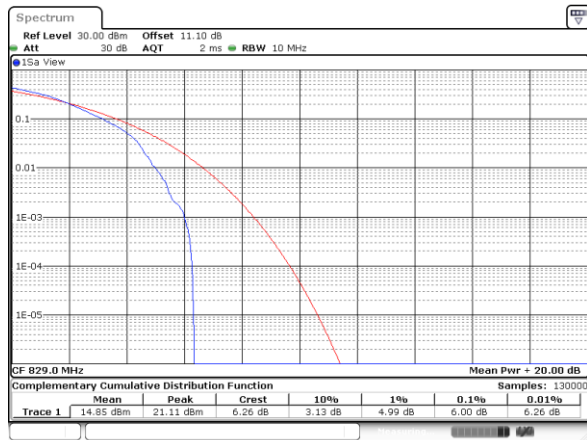
Highest Channel / Full RB



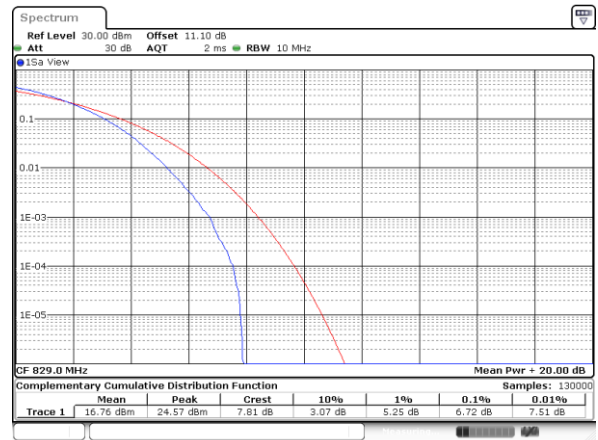


LTE Band 5 / 10MHz / 256QAM

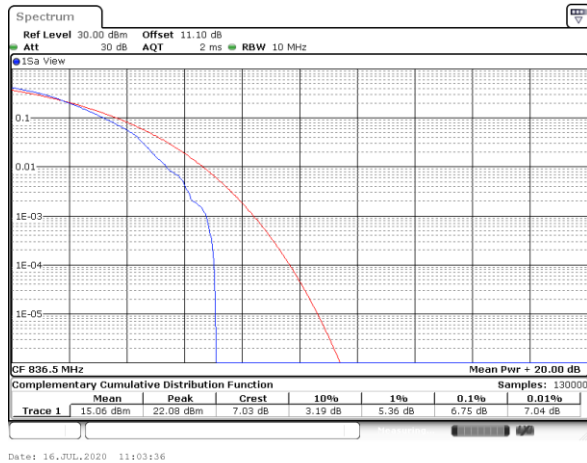
Lowest Channel / 1RB



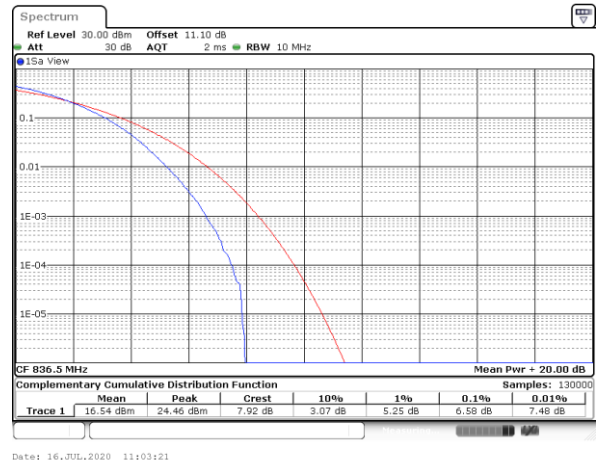
Lowest Channel / Full RB



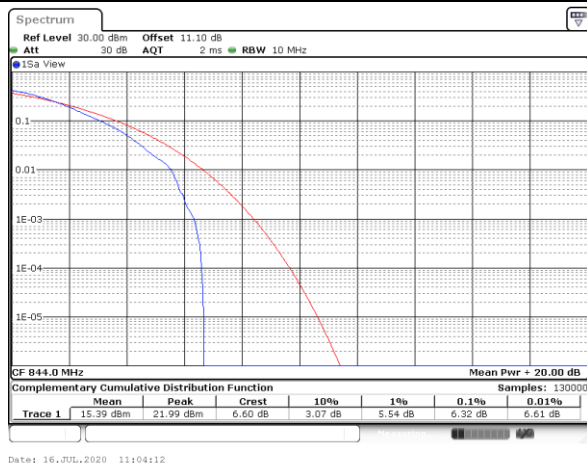
Middle Channel / 1RB



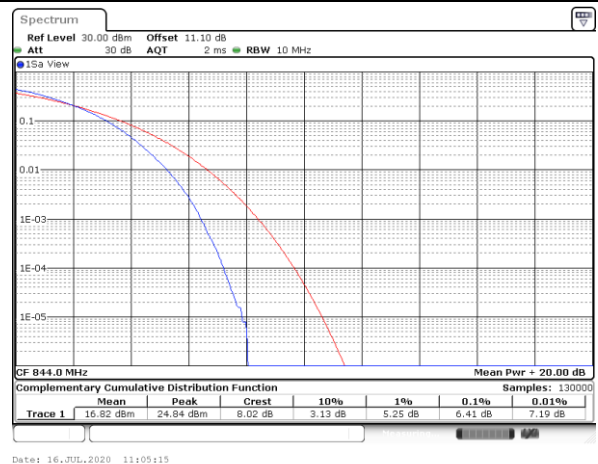
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB



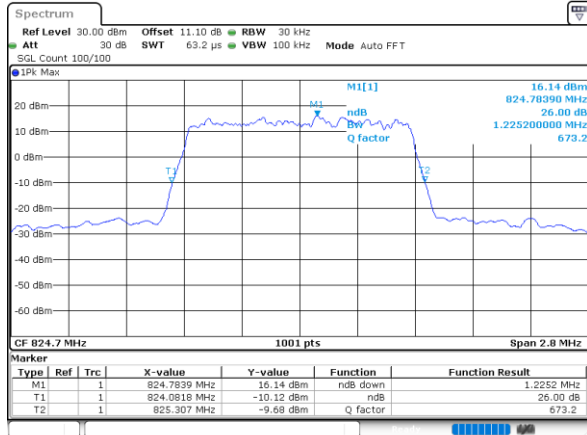
**26dB Bandwidth**

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	1.23	1.21	3.02	3.01	4.94	4.86	9.83	9.83	-	-	-	-
Middle CH	1.23	1.23	2.98	3.05	4.88	4.91	9.73	9.69	-	-	-	-
Highest CH	1.22	1.23	3.03	3.05	4.87	4.88	9.73	9.75	-	-	-	-
Mode	LTE Band 5 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM		64QAM	
Lowest CH	1.23	1.21	2.99	3.08	4.87	4.92	9.81	9.61	-	-	-	-
Middle CH	1.23	1.22	3.05	3.03	4.87	4.80	9.73	9.81	-	-	-	-
Highest CH	1.23	1.23	3.02	3.02	4.91	4.87	9.83	9.85	-	-	-	-



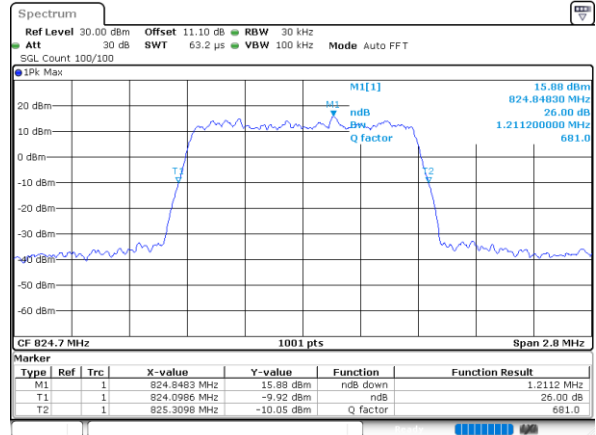
LTE Band 5

Lowest Channel / 1.4MHz / QPSK



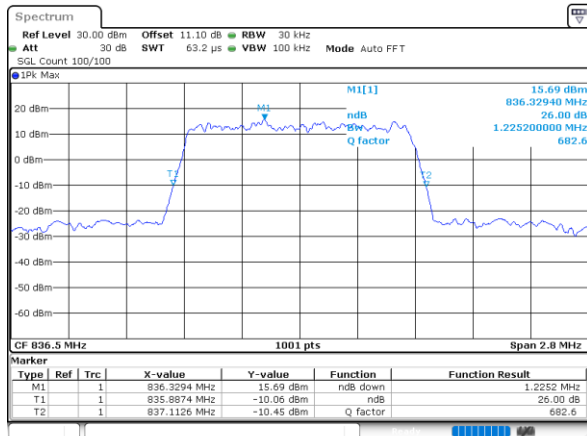
Date: 6 JUN 2020 11:12:21

Lowest Channel / 1.4MHz / 16QAM



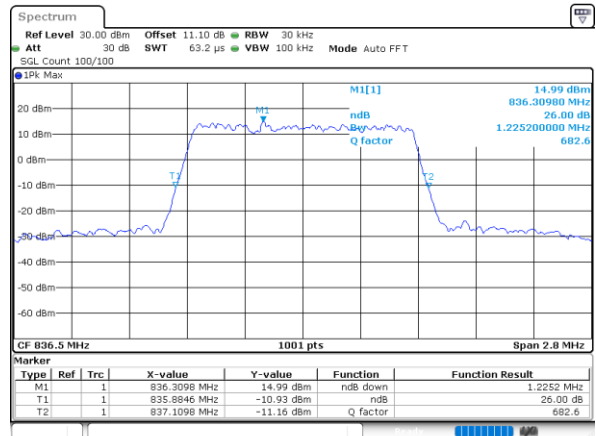
Date: 6 JUN 2020 11:12:09

Middle Channel / 1.4MHz / QPSK



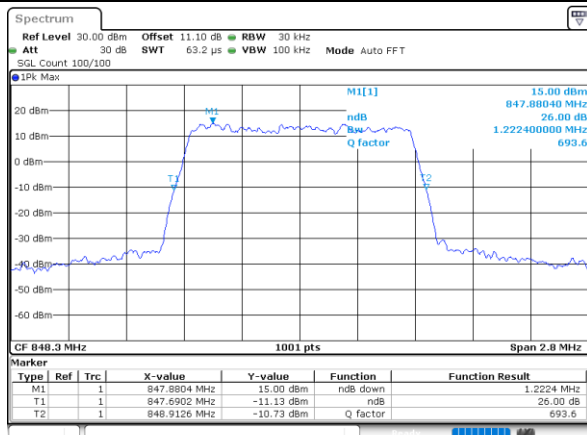
Date: 6 JUN 2020 11:17:48

Middle Channel / 1.4MHz / 16QAM



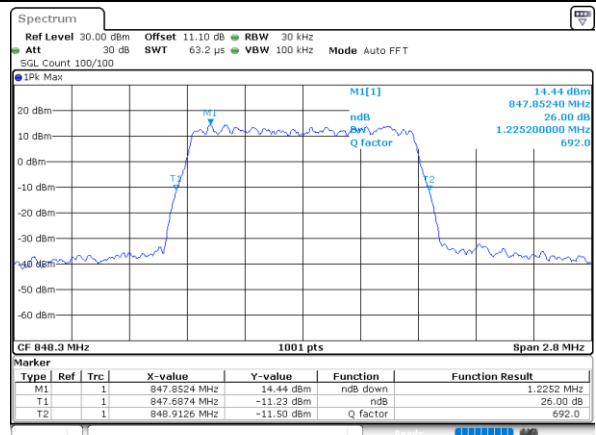
Date: 6 JUN 2020 11:17:59

Highest Channel / 1.4MHz / QPSK



Date: 6 JUN 2020 11:20:03

Highest Channel / 1.4MHz / 16QAM

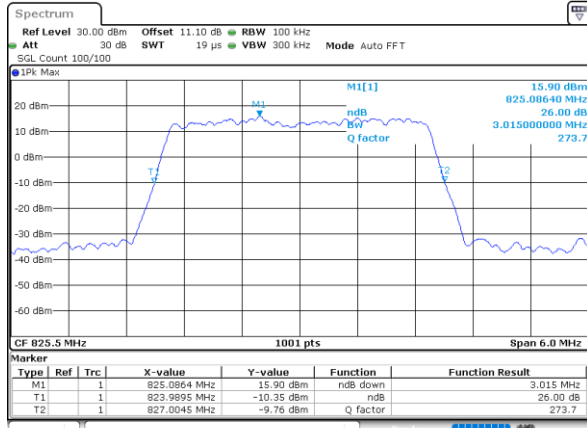


Date: 6 JUN 2020 11:20:15

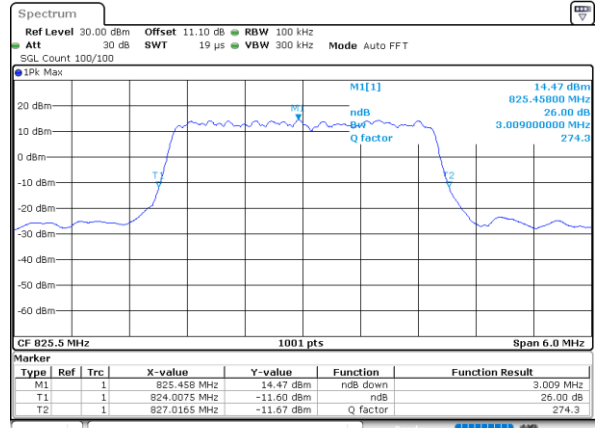


LTE Band 5

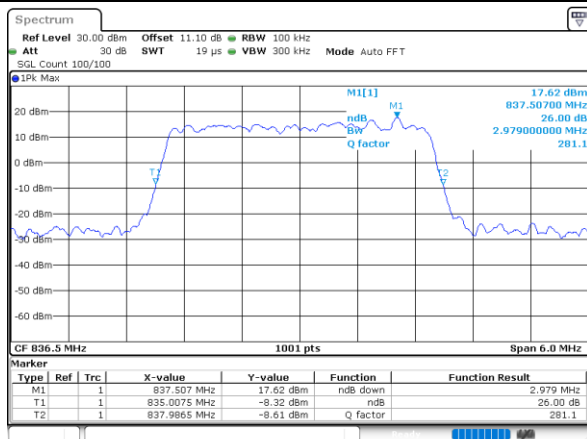
Lowest Channel / 3MHz / QPSK



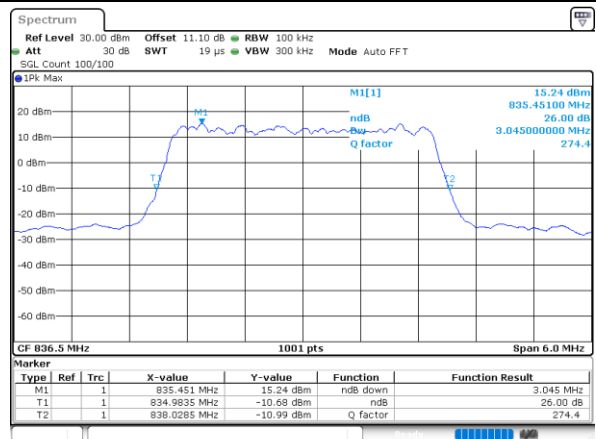
Lowest Channel / 3MHz / 16QAM



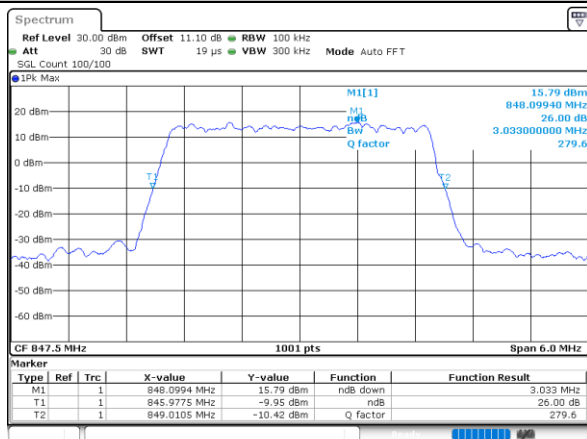
Middle Channel / 3MHz / QPSK



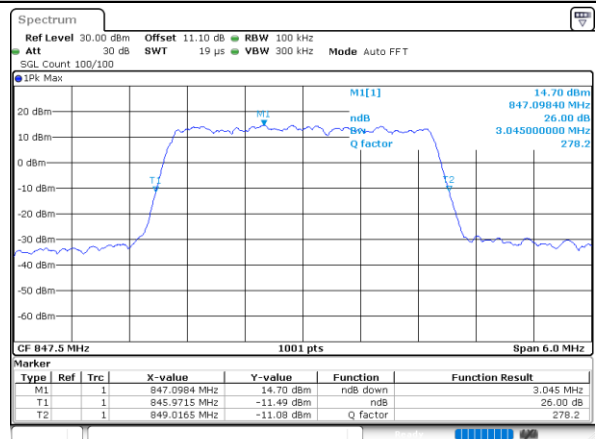
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK



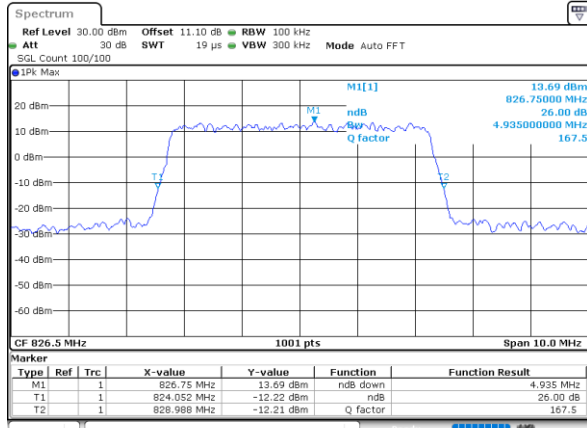
Highest Channel / 3MHz / 16QAM



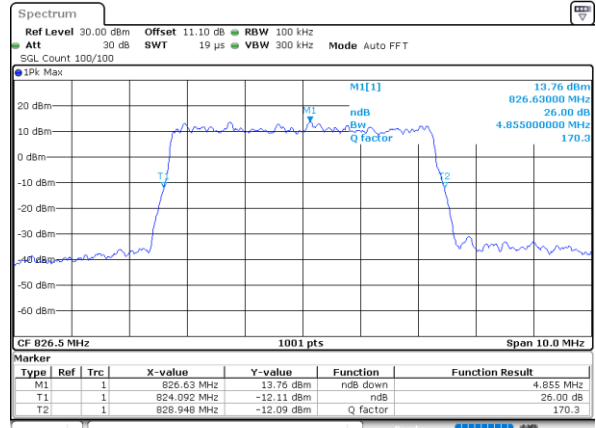


LTE Band 5

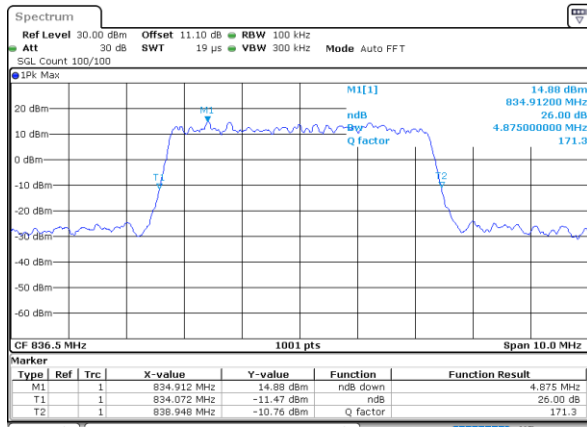
Lowest Channel / 5MHz / QPSK



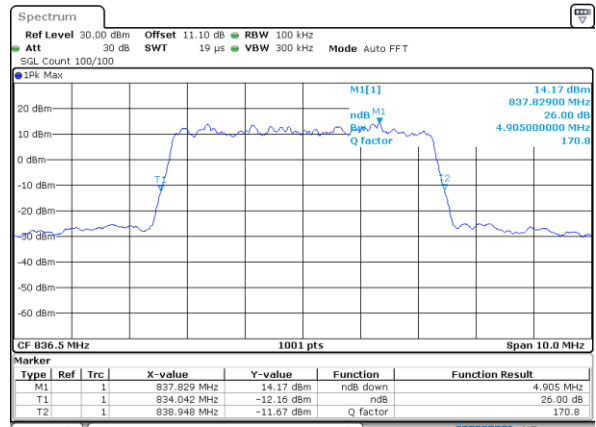
Lowest Channel / 5MHz / 16QAM



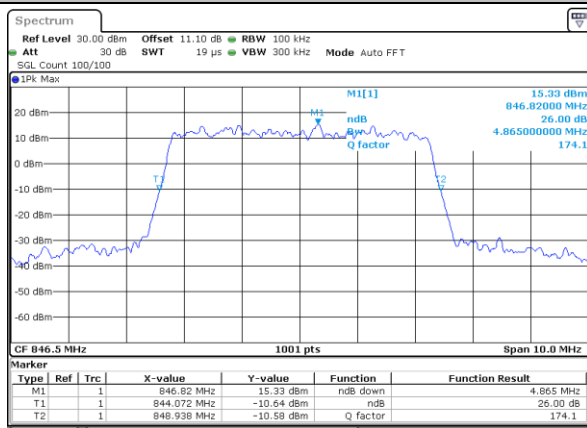
Middle Channel / 5MHz / QPSK



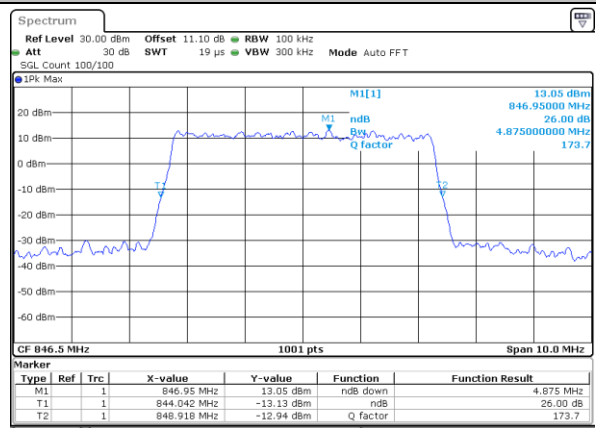
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



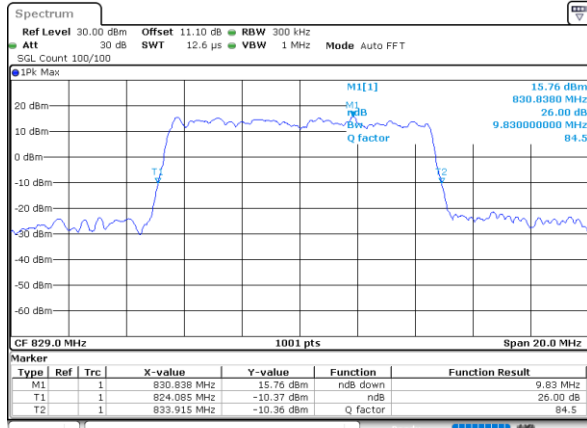
Highest Channel / 5MHz / 16QAM





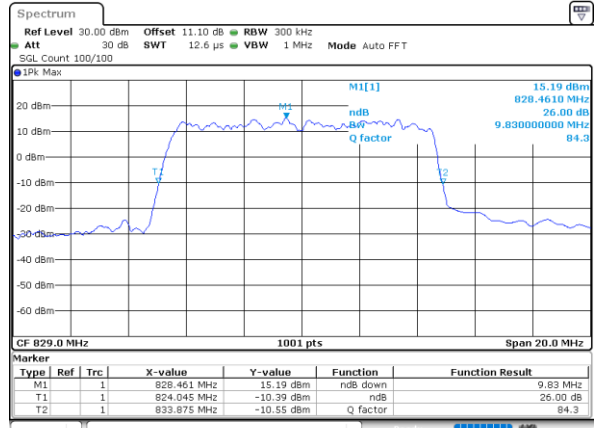
LTE Band 5

Lowest Channel / 10MHz / QPSK



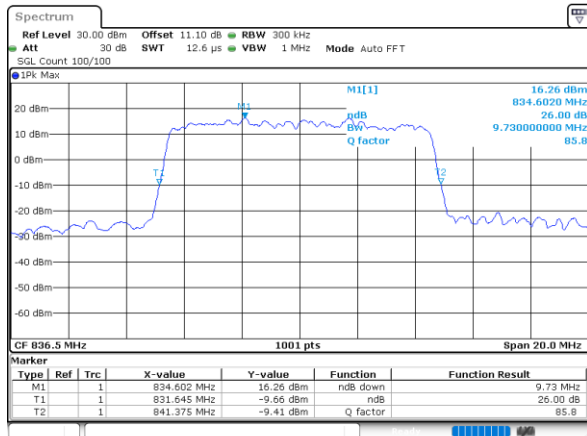
Date: 6, JUN, 2020 08:55:06

Lowest Channel / 10MHz / 16QAM



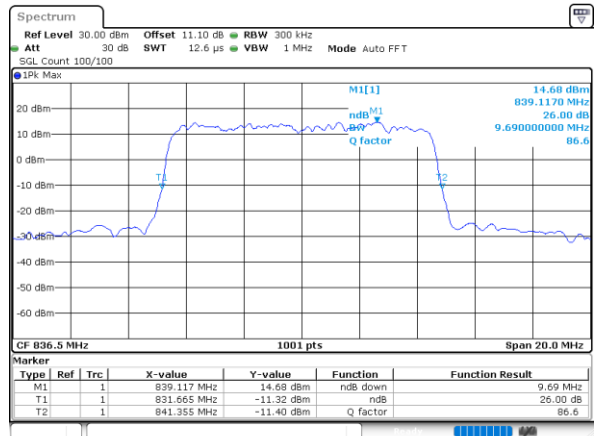
Date: 6, JUN, 2020 08:55:18

Middle Channel / 10MHz / QPSK



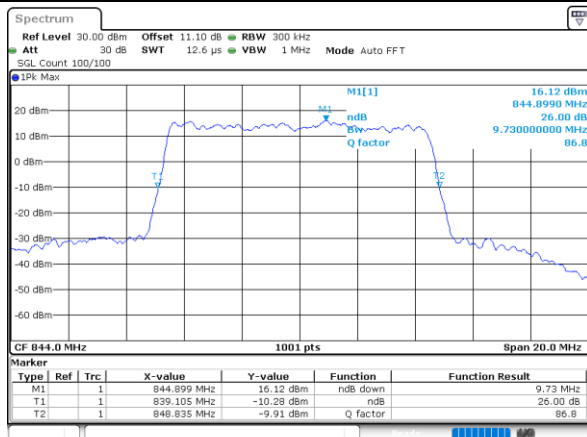
Date: 6, JUN, 2020 09:04:02

Middle Channel / 10MHz / 16QAM



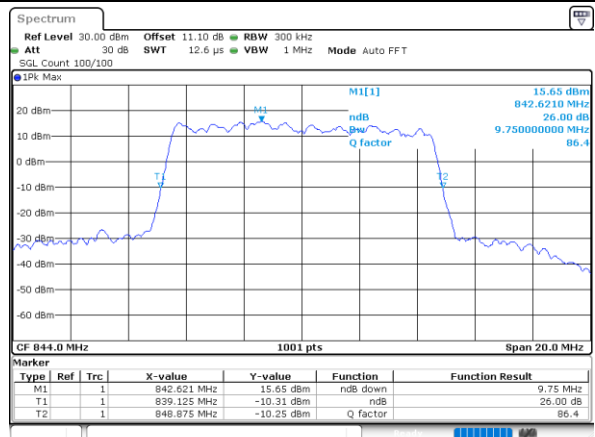
Date: 6, JUN, 2020 09:04:14

Highest Channel / 10MHz / QPSK



Date: 6, JUN, 2020 09:06:18

Highest Channel / 10MHz / 16QAM

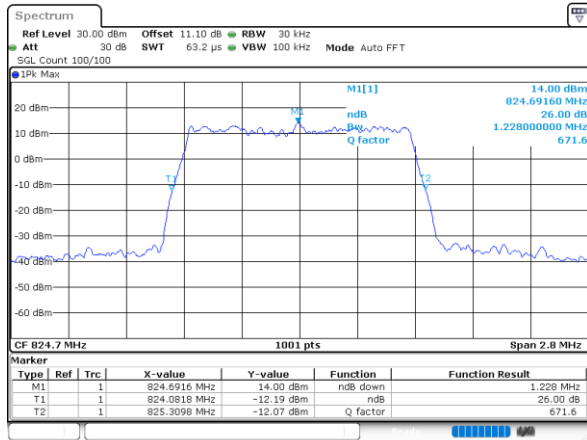


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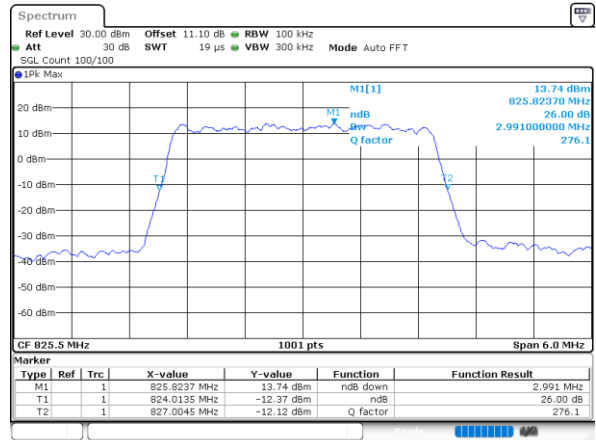


LTE Band 5

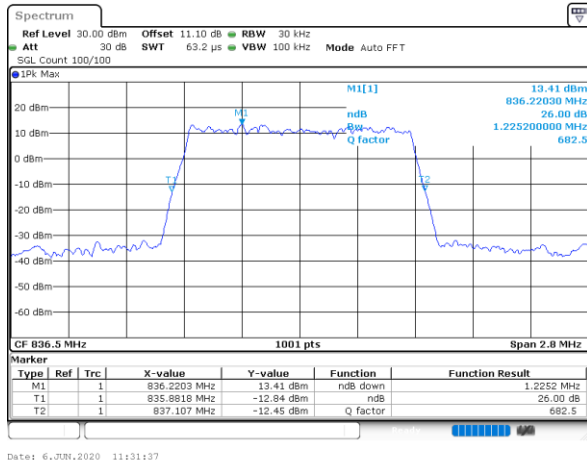
Lowest Channel / 1.4MHz / 64QAM



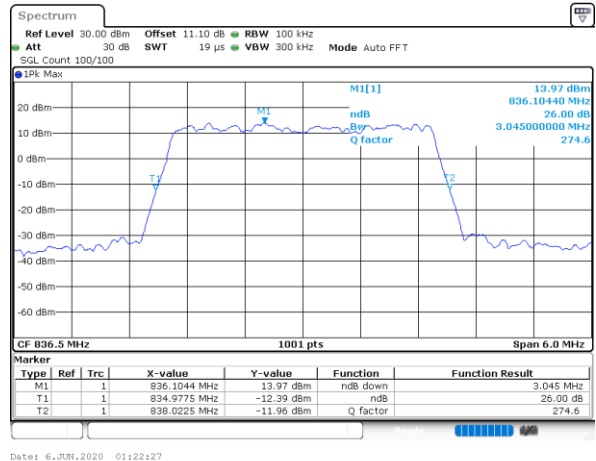
Lowest Channel / 3MHz / 64QAM



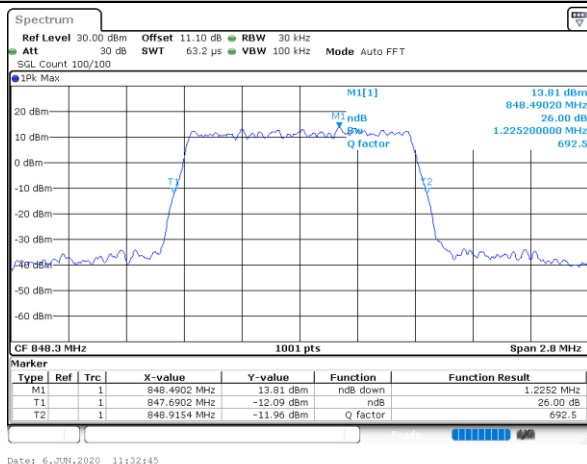
Middle Channel / 1.4MHz / 64QAM



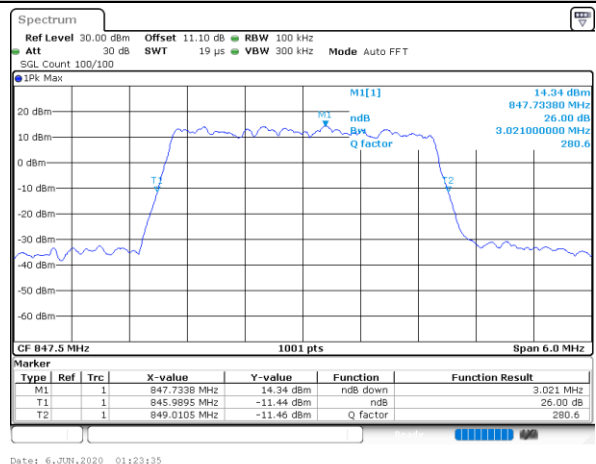
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM



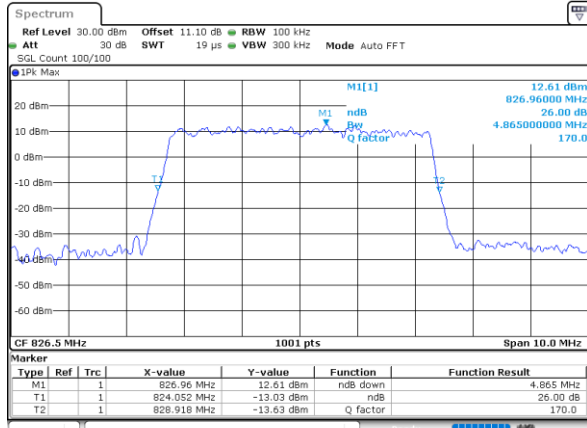
Highest Channel / 3MHz / 64QAM



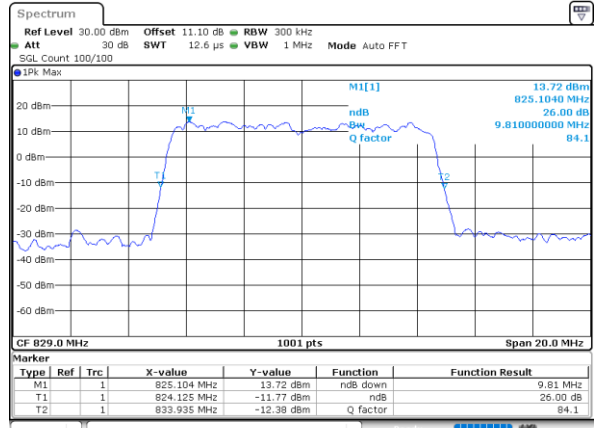


LTE Band 5

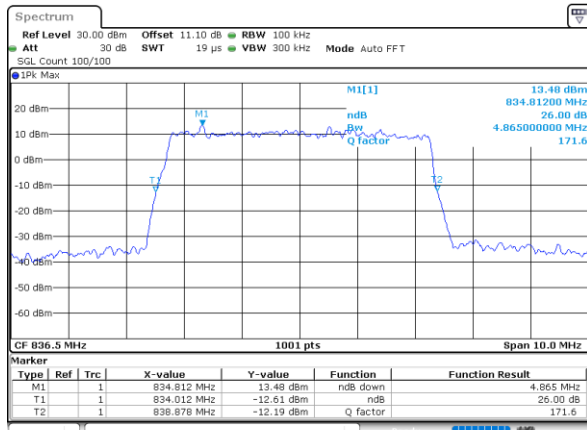
Lowest Channel / 5MHz / 64QAM



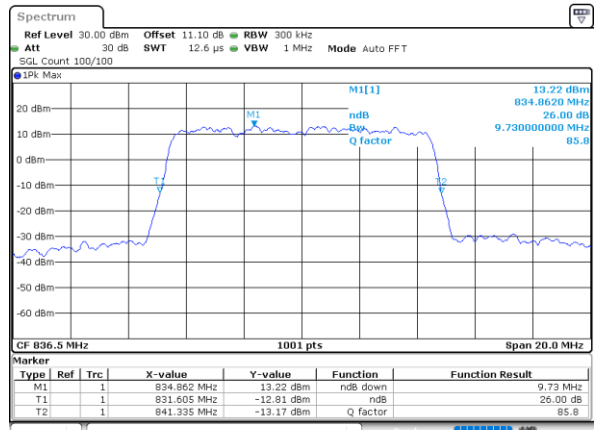
Lowest Channel / 10MHz / 64QAM



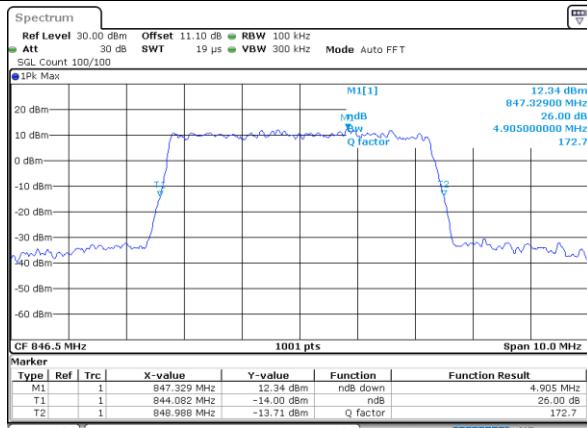
Middle Channel / 5MHz / 64QAM



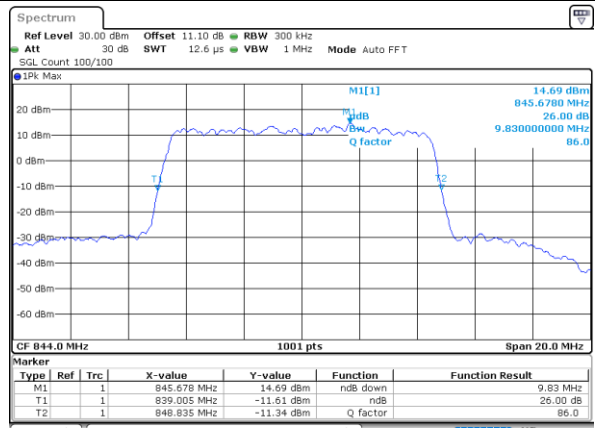
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



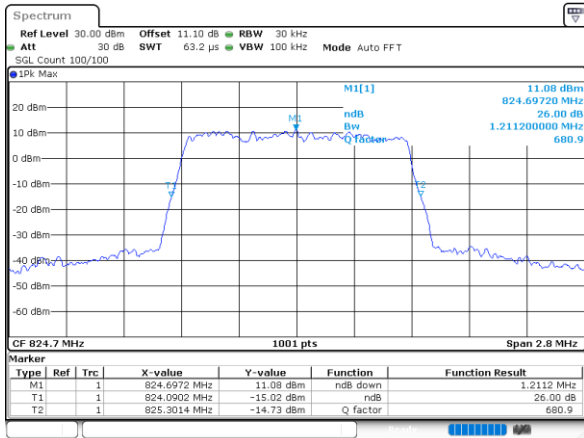
Highest Channel / 10MHz / 64QAM



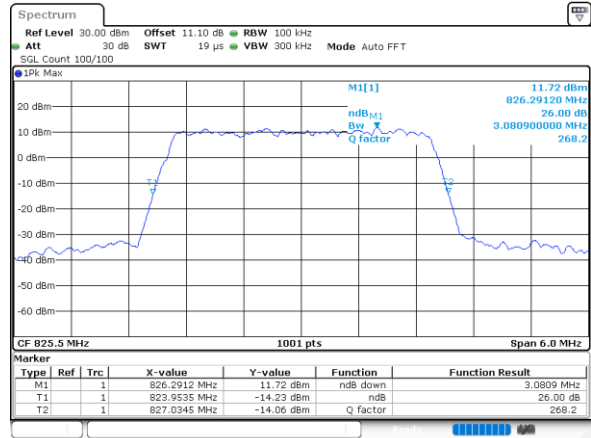


LTE Band 5

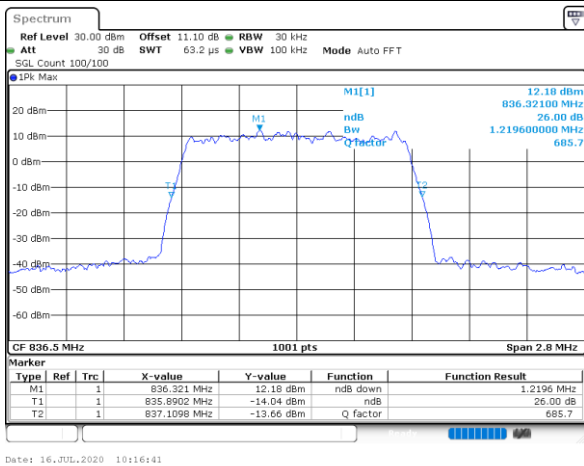
Lowest Channel / 1.4MHz / 256QAM



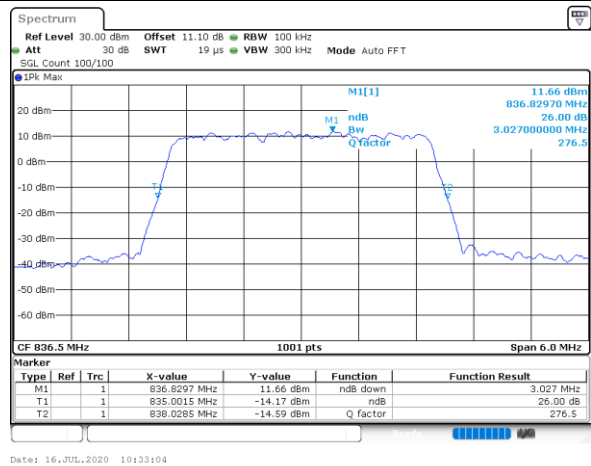
Lowest Channel / 3MHz / 256QAM



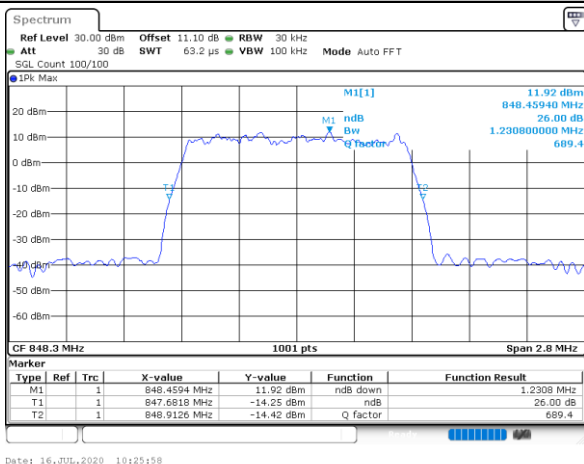
Middle Channel / 1.4MHz / 256QAM



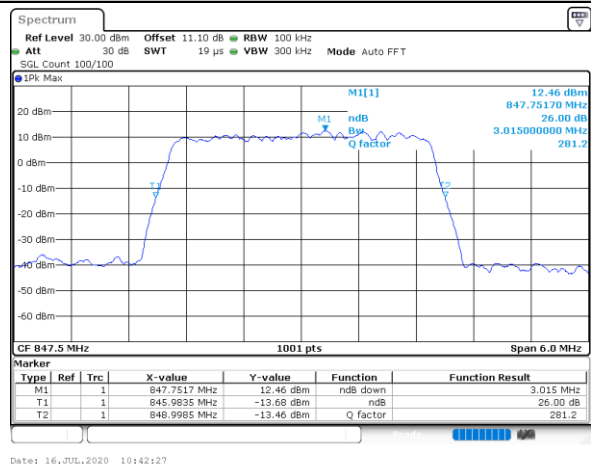
Middle Channel / 3MHz / 256QAM



Highest Channel / 1.4MHz / 256QAM



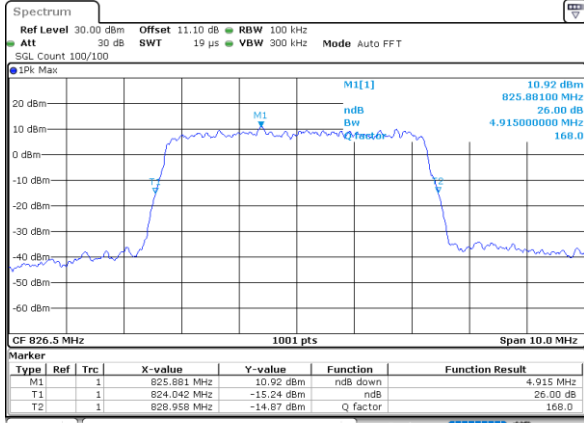
Highest Channel / 3MHz / 256QAM



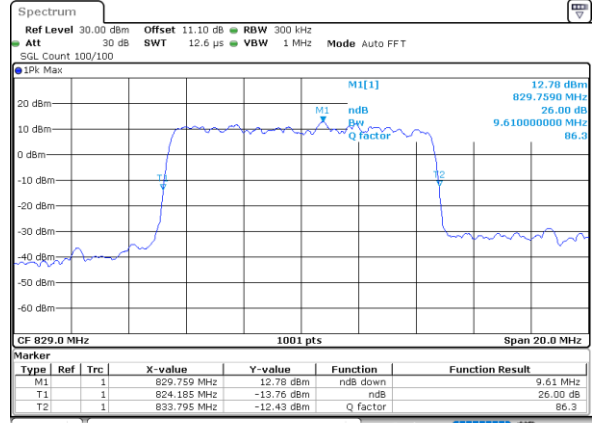


LTE Band 5

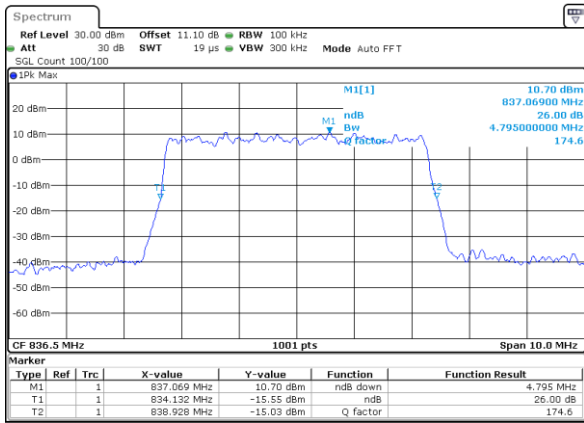
Lowest Channel / 5MHz / 256QAM



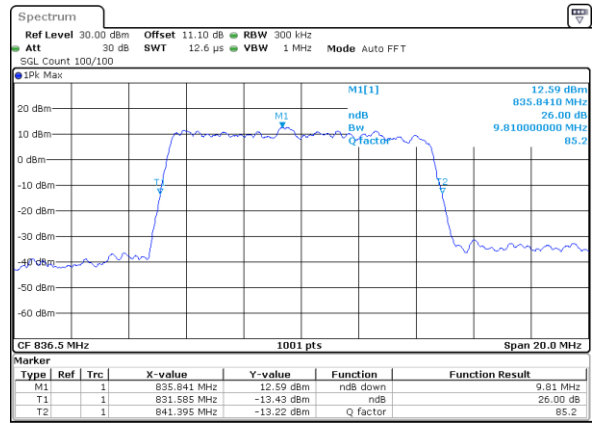
Lowest Channel / 10MHz / 256QAM



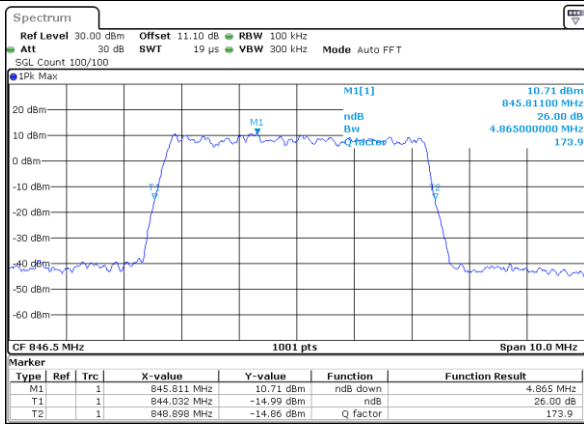
Middle Channel / 5MHz / 256QAM



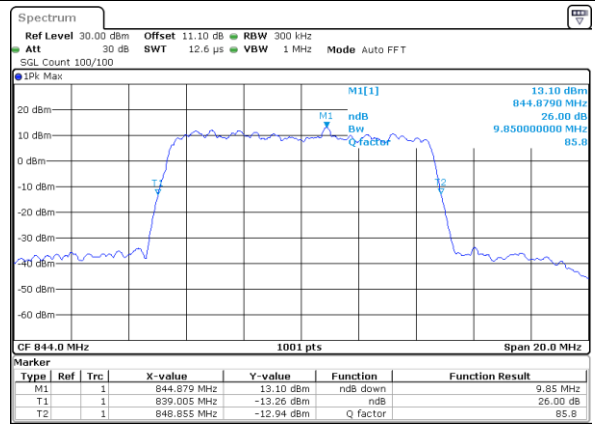
Middle Channel / 10MHz / 256QAM



Highest Channel / 5MHz / 256QAM



Highest Channel / 10MHz / 256QAM



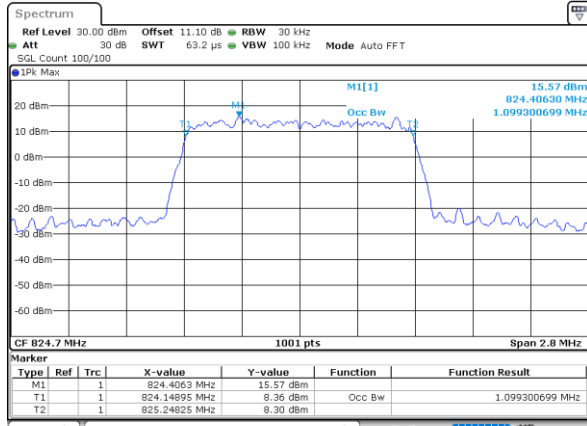
**Occupied Bandwidth**

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	1.10	1.09	2.72	2.72	4.50	4.50	9.05	9.03	-	-	-	-
Middle CH	1.09	1.09	2.72	2.73	4.49	4.47	9.03	8.99	-	-	-	-
Highest CH	1.09	1.08	2.70	2.72	4.49	4.49	9.05	9.05	-	-	-	-
Mode	LTE Band 5 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM		64QAM	
Lowest CH	1.09	1.08	2.71	2.73	4.49	4.49	9.01	8.95	-	-	-	-
Middle CH	1.09	1.08	2.72	2.72	4.51	4.50	9.03	9.01	-	-	-	-
Highest CH	1.09	1.08	2.72	2.72	4.50	4.47	9.03	8.93	-	-	-	-

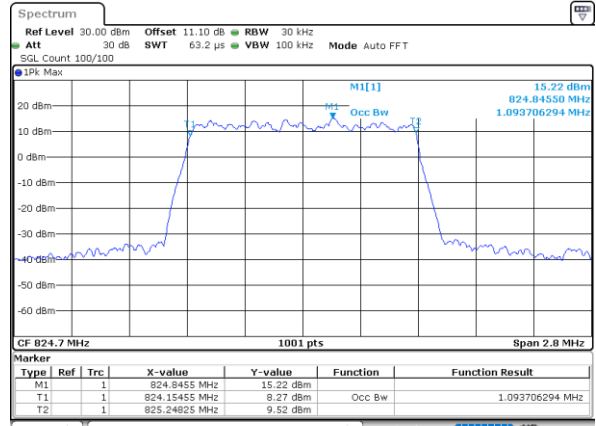


LTE Band 5

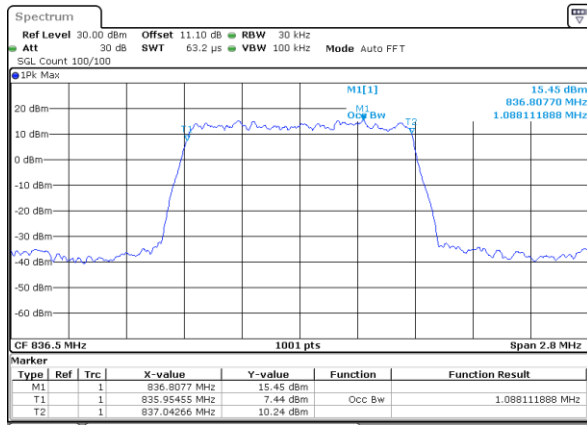
Lowest Channel / 1.4MHz / QPSK



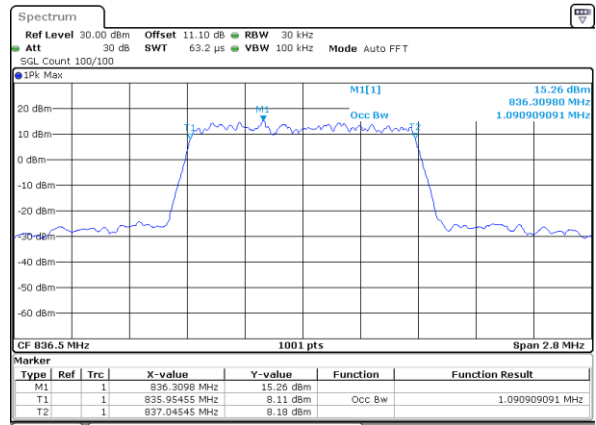
Lowest Channel / 1.4MHz / 16QAM



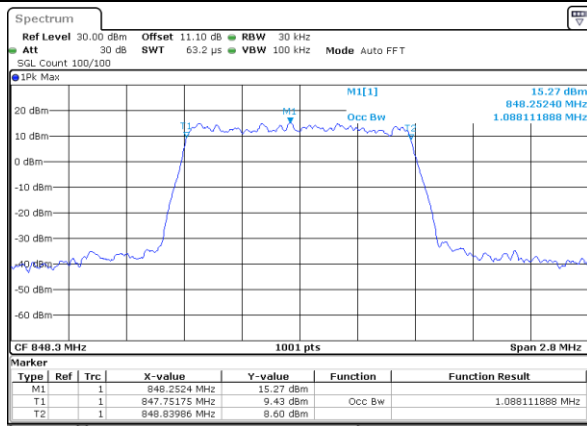
Middle Channel / 1.4MHz / QPSK



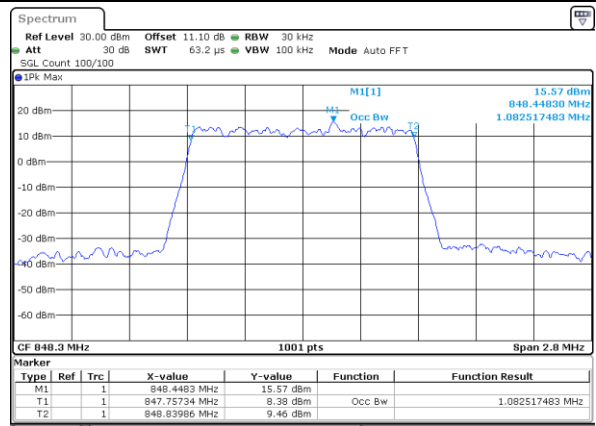
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK



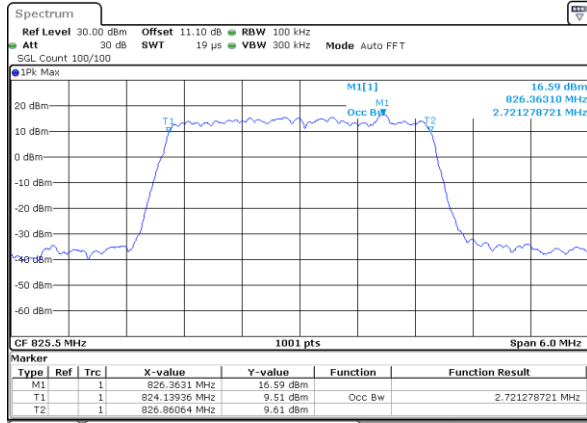
Highest Channel / 1.4MHz / 16QAM



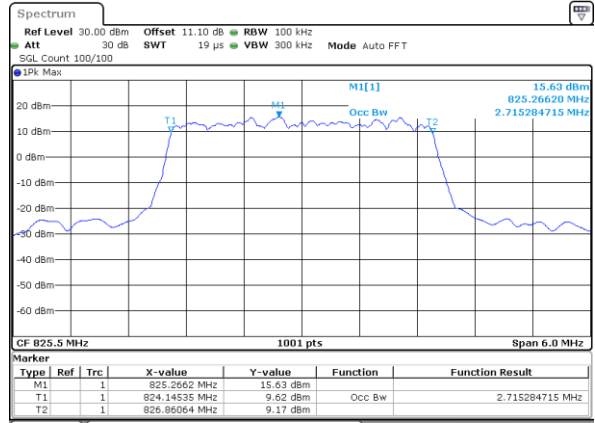


LTE Band 5

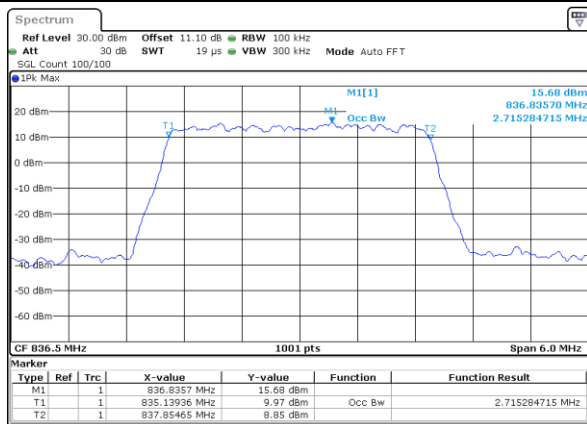
Lowest Channel / 3MHz / QPSK



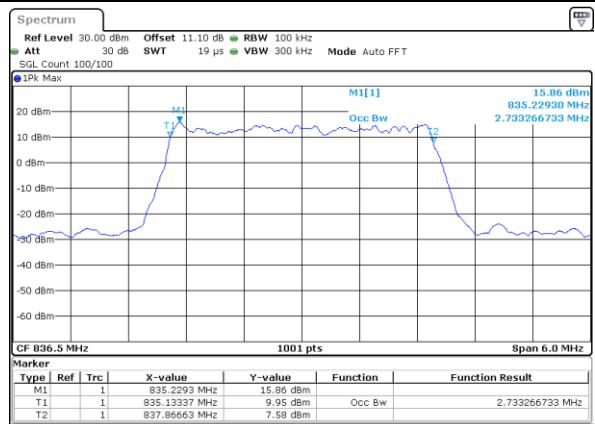
Lowest Channel / 3MHz / 16QAM



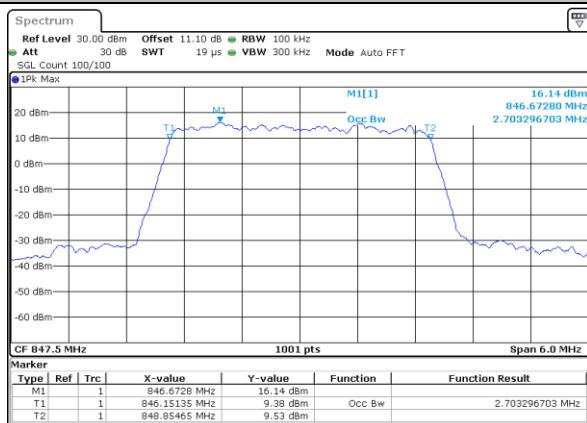
Middle Channel / 3MHz / QPSK



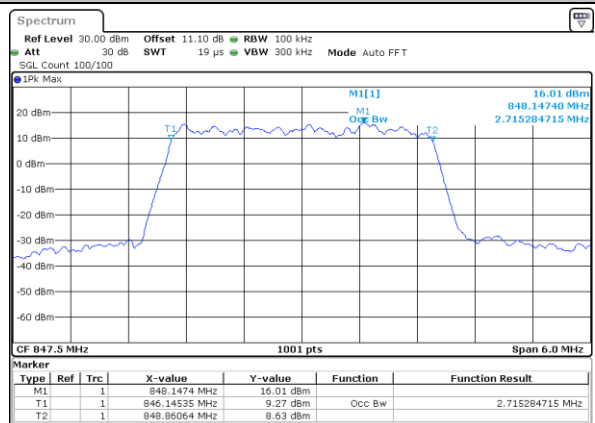
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK



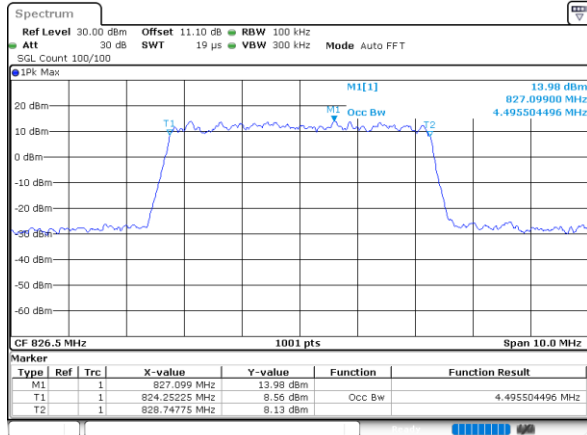
Highest Channel / 3MHz / 16QAM





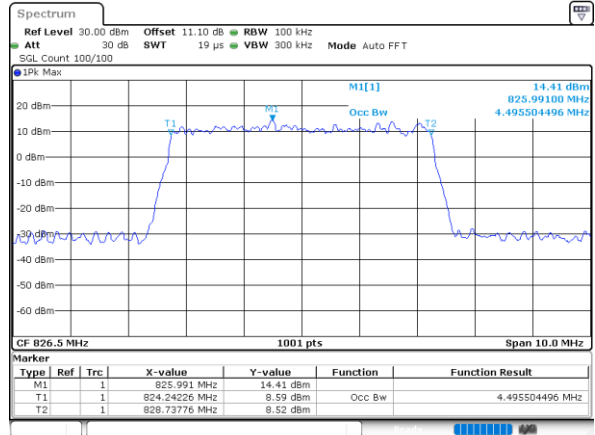
LTE Band 5

Lowest Channel / 5MHz / QPSK



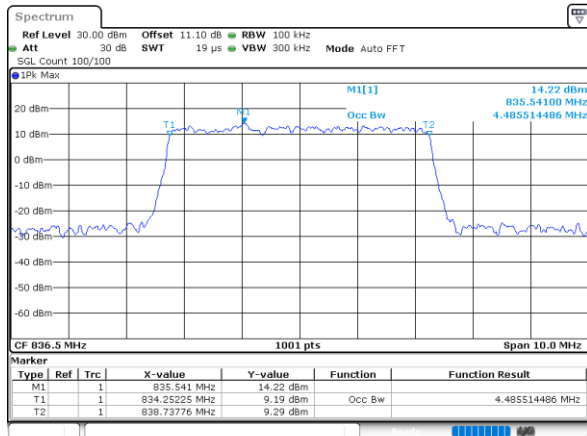
Date: 6 JUN 2020 01:27:53

Lowest Channel / 5MHz / 16QAM



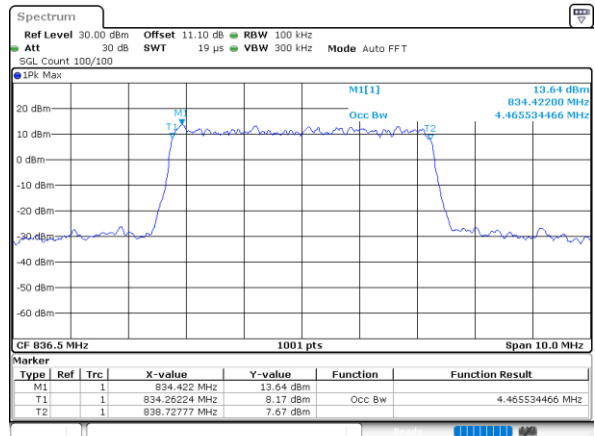
Date: 6 JUN 2020 01:28:05

Middle Channel / 5MHz / QPSK



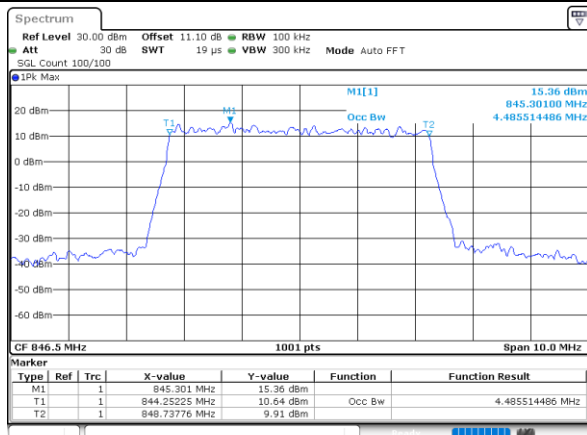
Date: 6 JUN 2020 08:34:11

Middle Channel / 5MHz / 16QAM



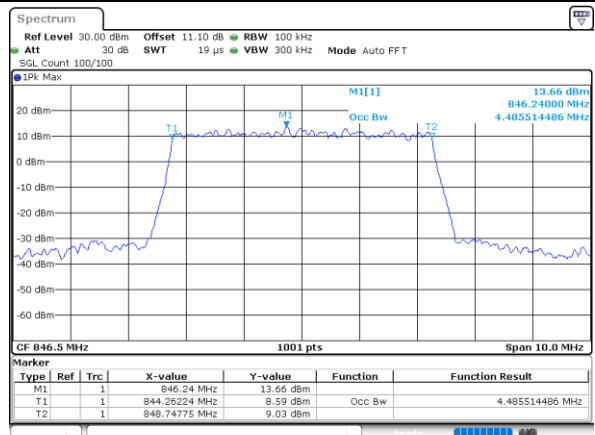
Date: 6 JUN 2020 08:34:22

Highest Channel / 5MHz / QPSK



Date: 6 JUN 2020 08:36:26

Highest Channel / 5MHz / 16QAM

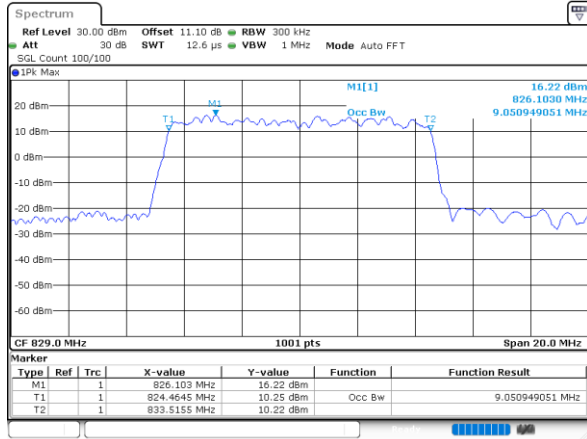


Date: 6 JUN 2020 08:36:37

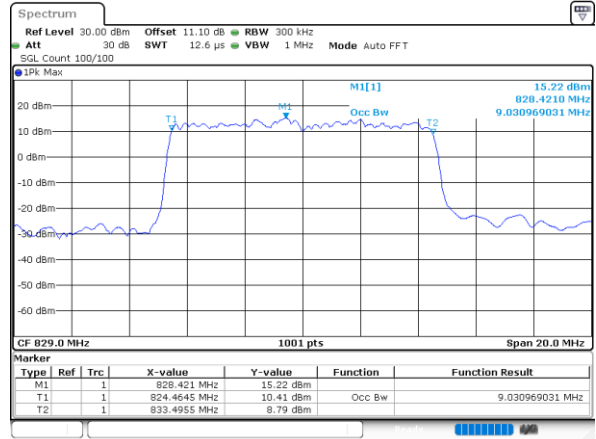


LTE Band 5

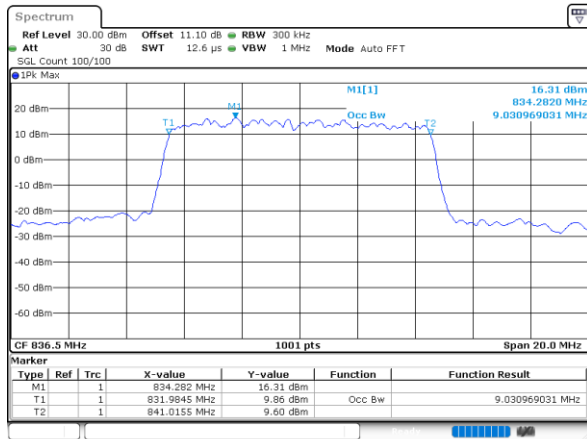
Lowest Channel / 10MHz / QPSK



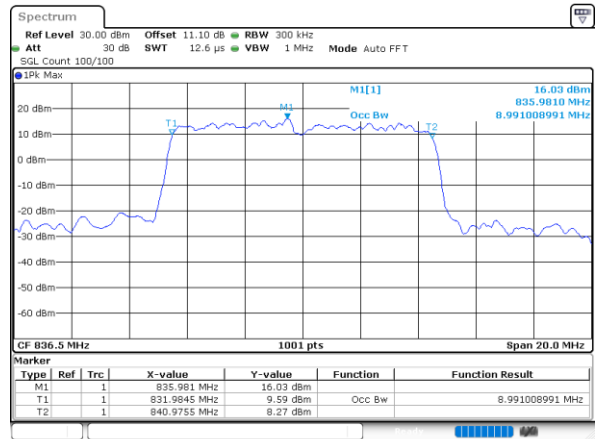
Lowest Channel / 10MHz / 16QAM



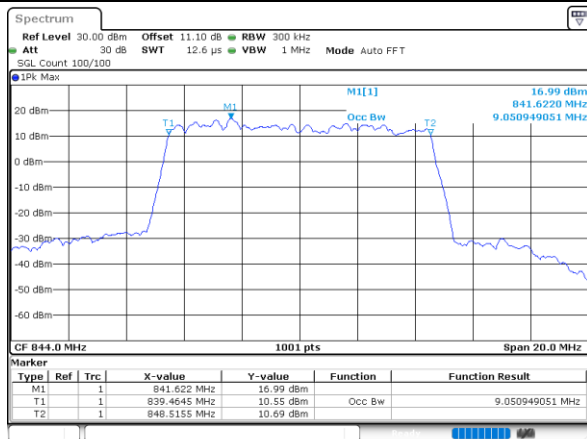
Middle Channel / 10MHz / QPSK



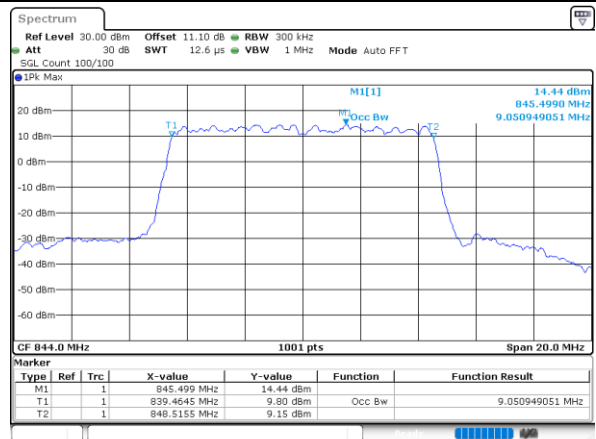
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



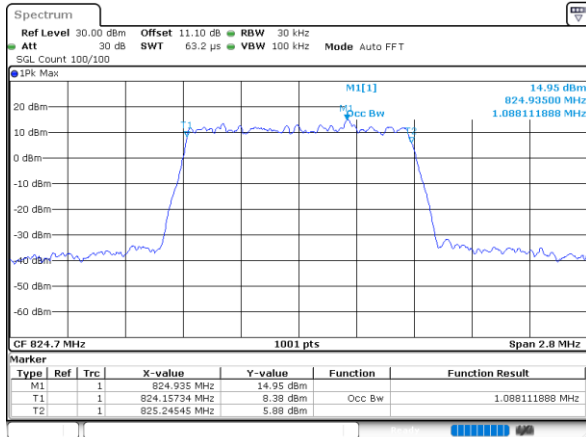
Highest Channel / 10MHz / 16QAM



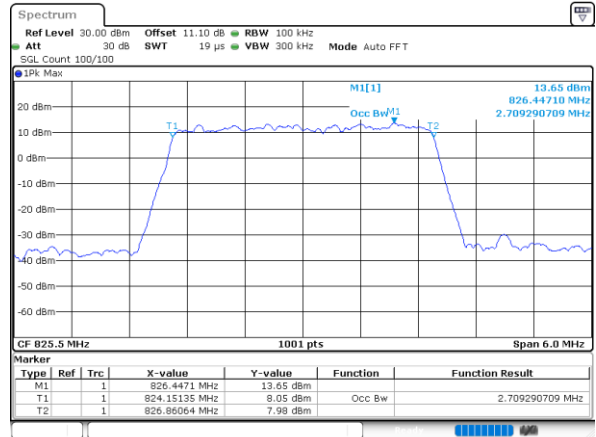


LTE Band 5

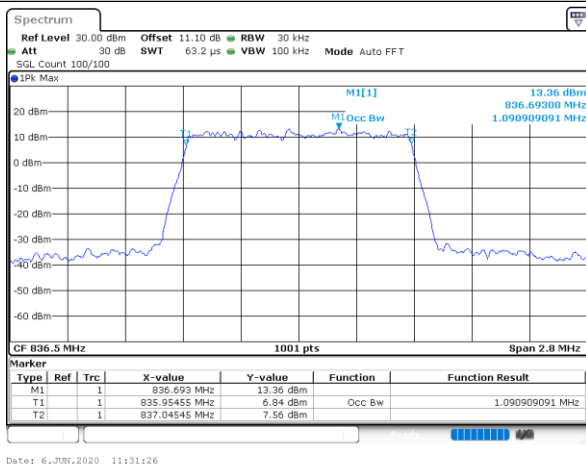
Lowest Channel / 1.4MHz / 64QAM



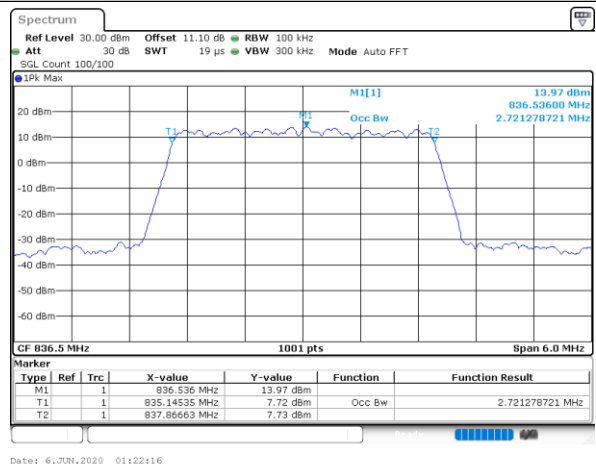
Lowest Channel / 3MHz / 64QAM



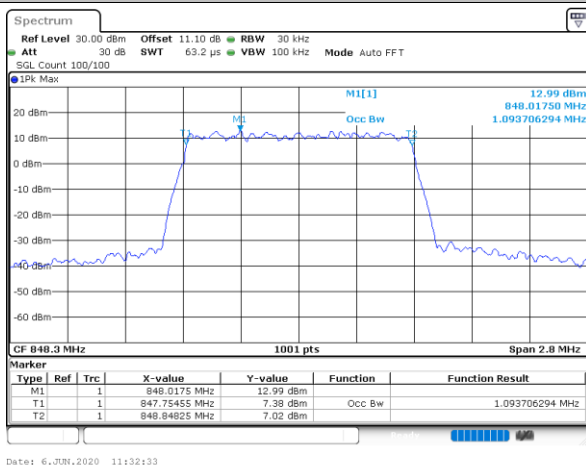
Middle Channel / 1.4MHz / 64QAM



Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM



Highest Channel / 3MHz / 64QAM

