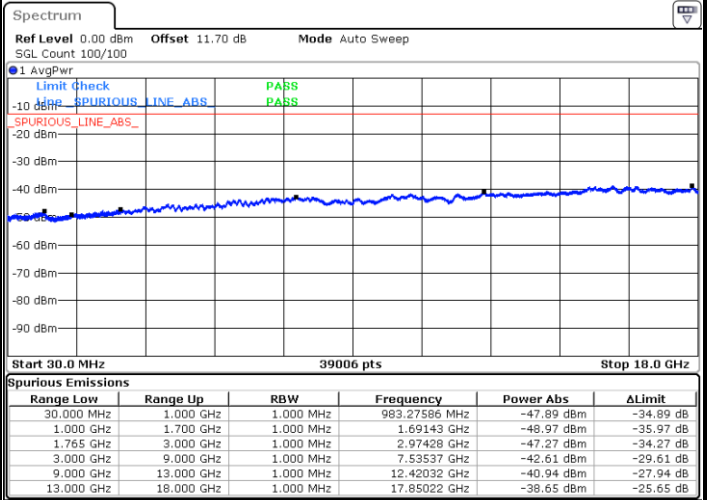
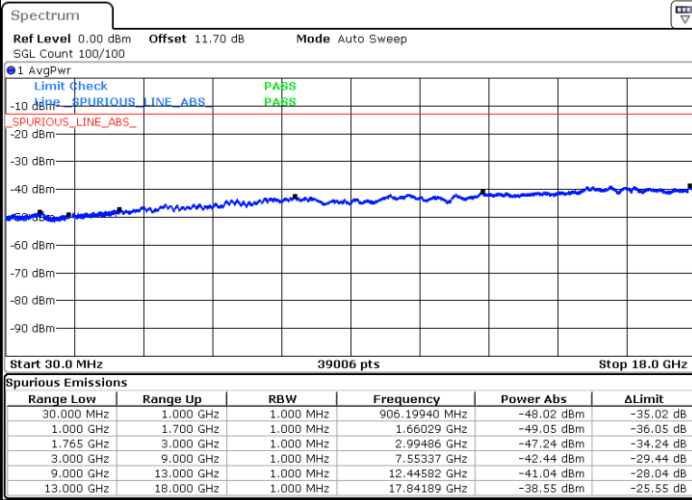




LTE Band 4 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



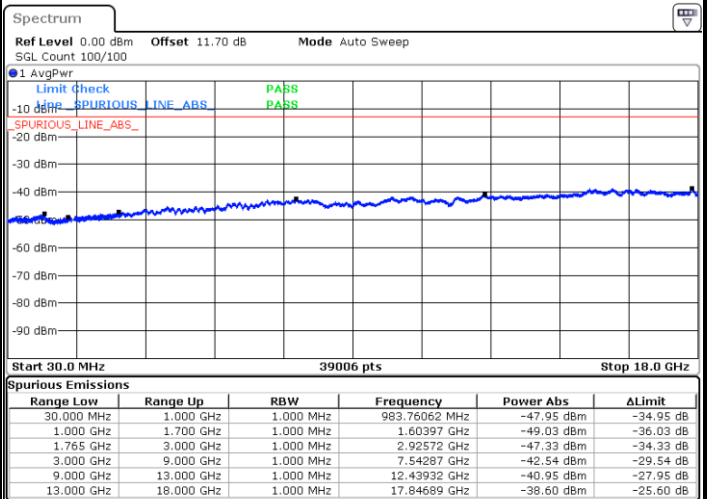
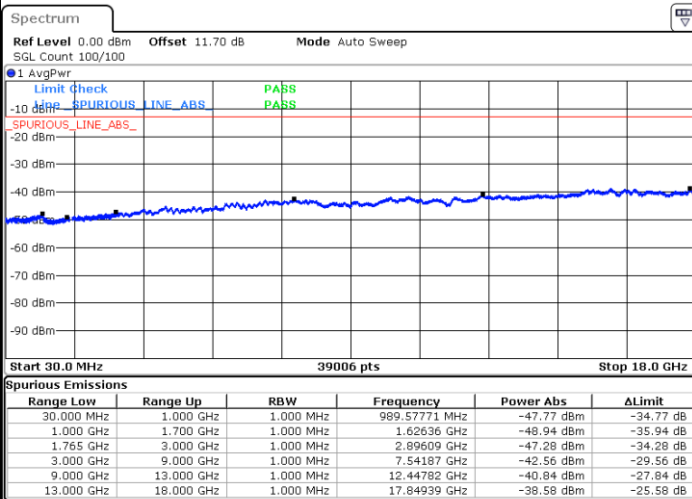
Date: 28 DEC 2019 14:27:08

Date: 28 DEC 2019 14:27:49

LTE Band 4 / 10MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 28 DEC 2019 14:33:22

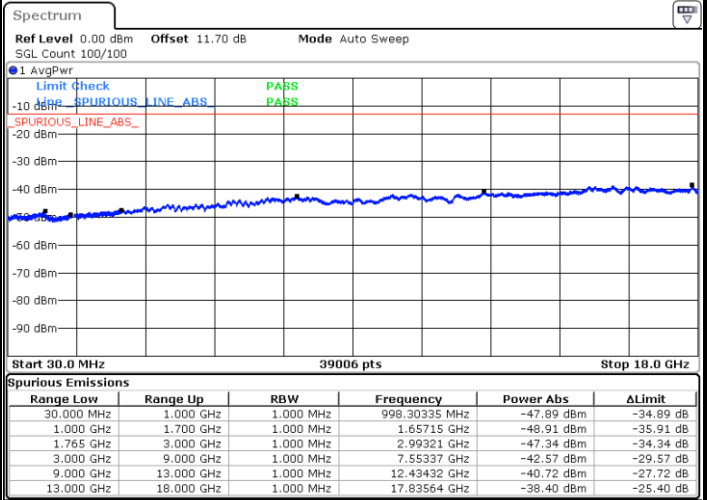
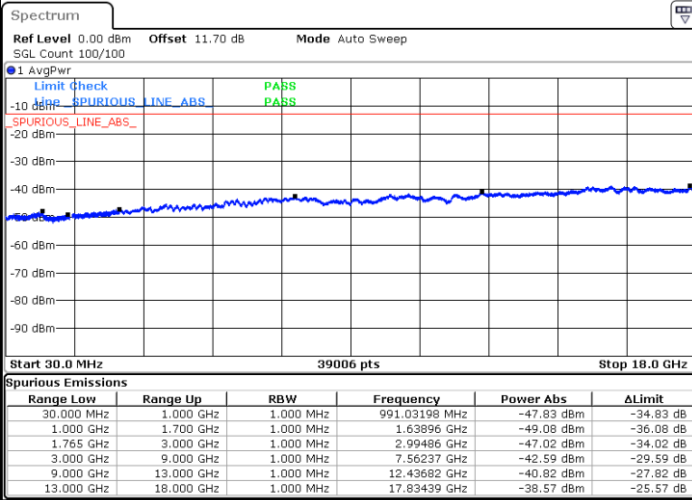
Date: 28 DEC 2019 14:34:03



LTE Band 4 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

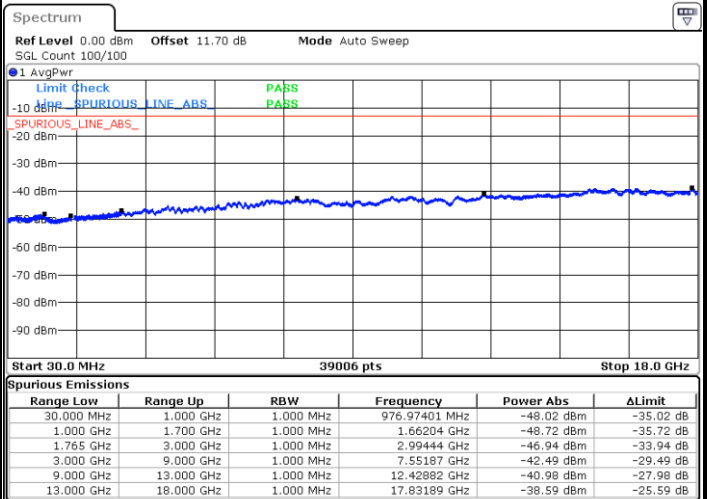
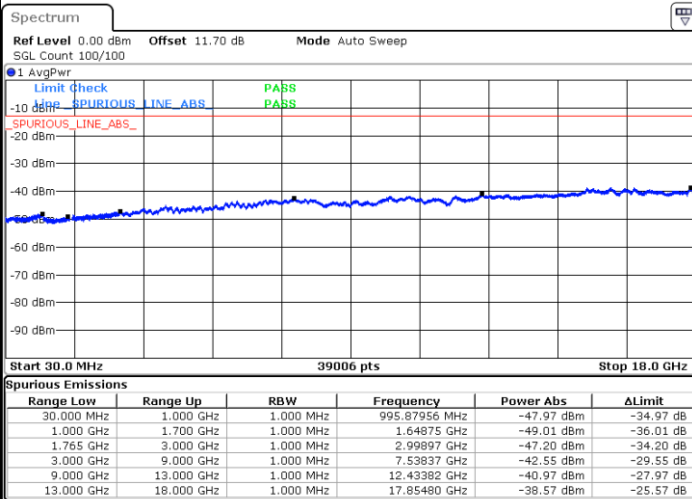


Date: 28 DEC.2019 14:35:30

Date: 28 DEC.2019 14:36:10

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 28 DEC.2019 14:41:42

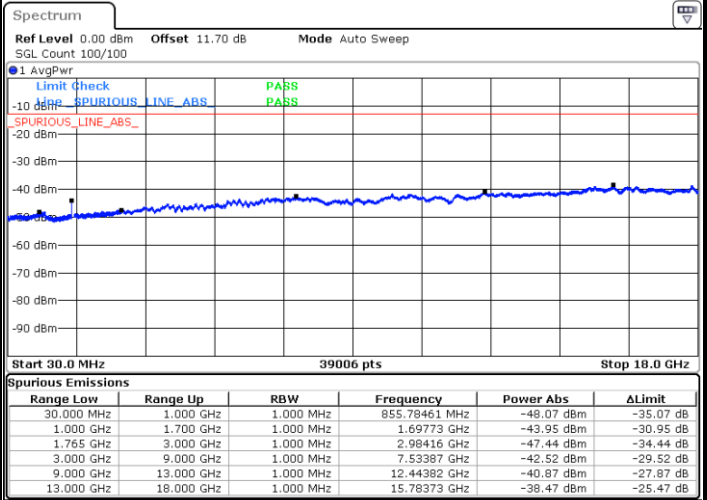
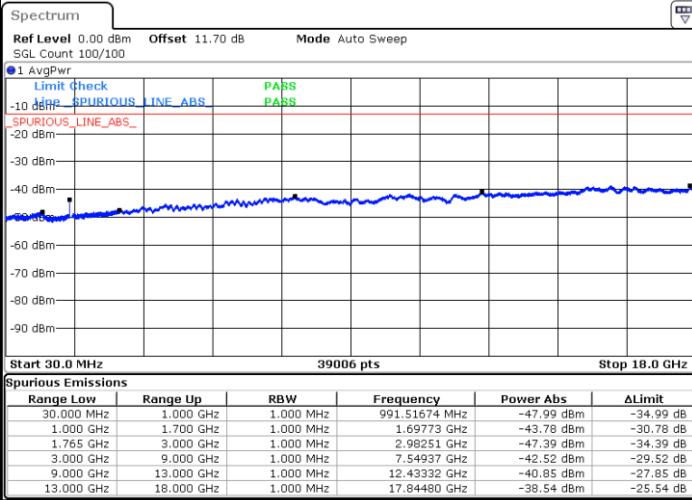
Date: 28 DEC.2019 14:42:23



LTE Band 4 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

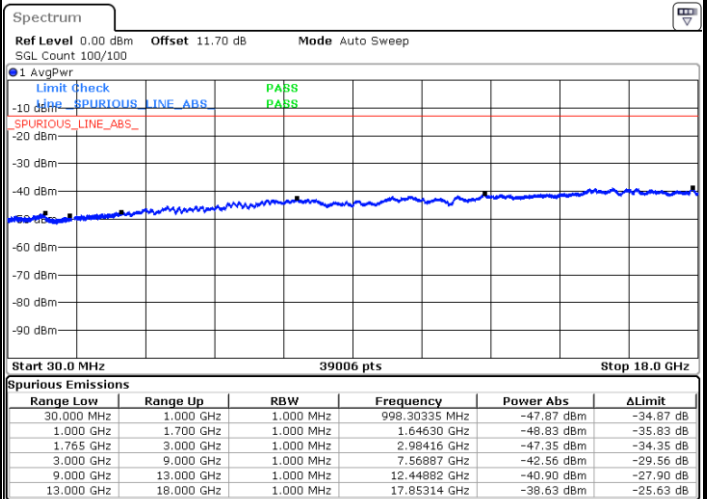
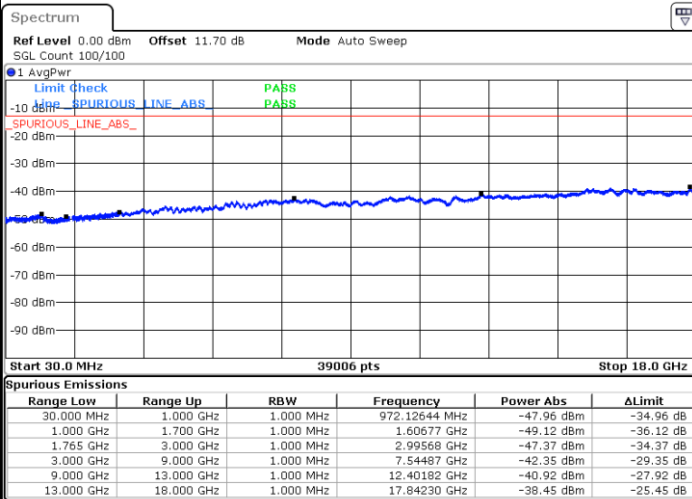


Date: 28 DEC.2019 14:55:12

Date: 28 DEC.2019 14:55:53

Middle Channel / QPSK

Middle Channel / 16QAM



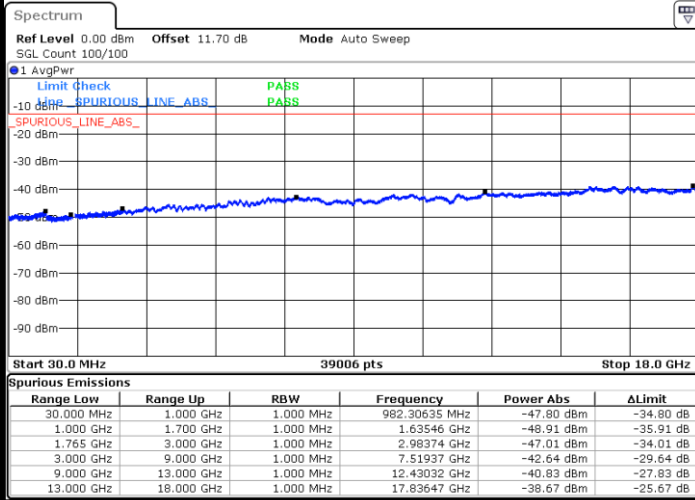
Date: 28 DEC.2019 14:57:20

Date: 28 DEC.2019 14:58:00



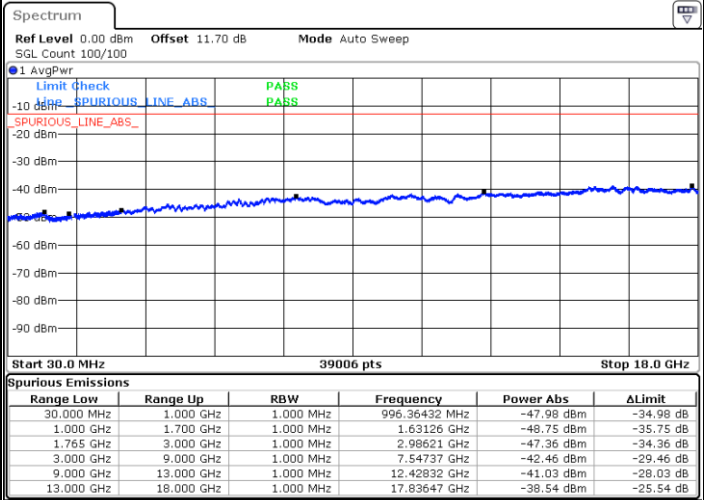
LTE Band 4 / 15MHz

Highest Channel / QPSK



Date: 28 DEC 2019 15:03:33

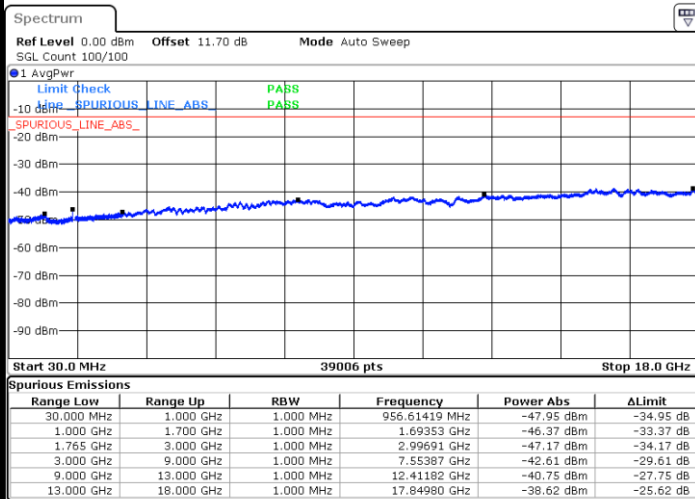
Highest Channel / 16QAM



Date: 28 DEC 2019 15:04:13

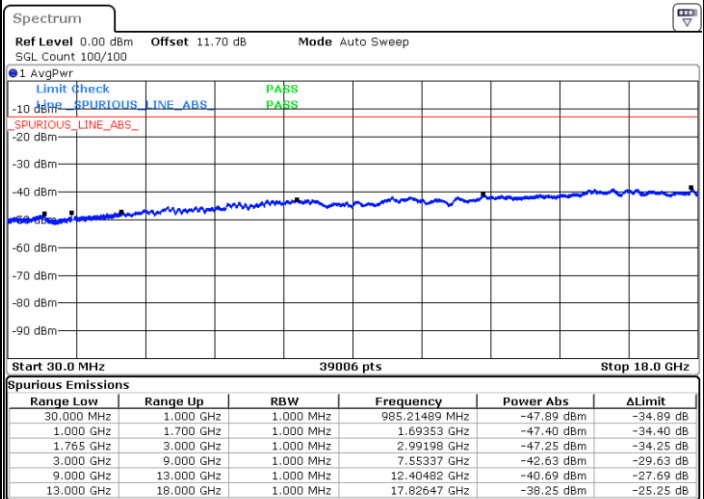
LTE Band 4 / 20MHz

Lowest Channel / QPSK



Date: 28 DEC 2019 15:17:02

Lowest Channel / 16QAM



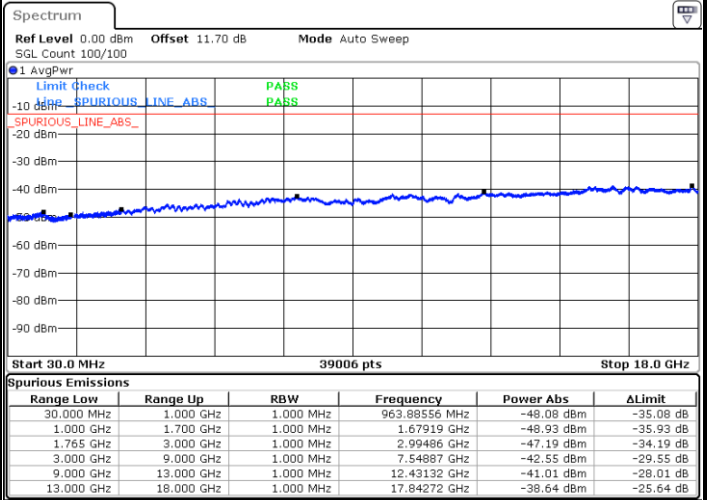
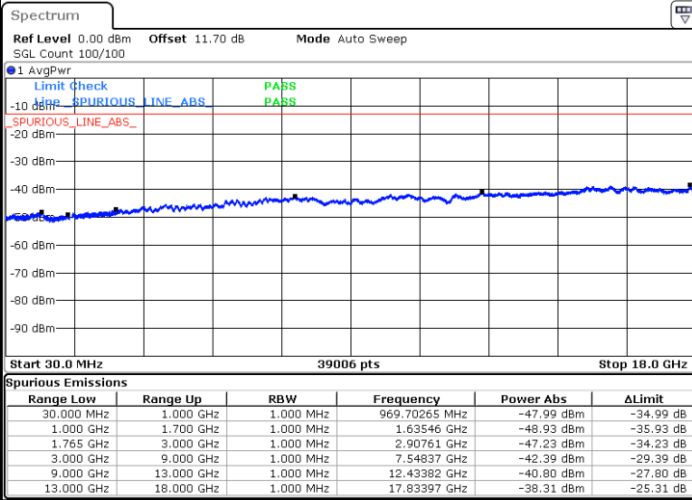
Date: 28 DEC 2019 15:17:43



LTE Band 4 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

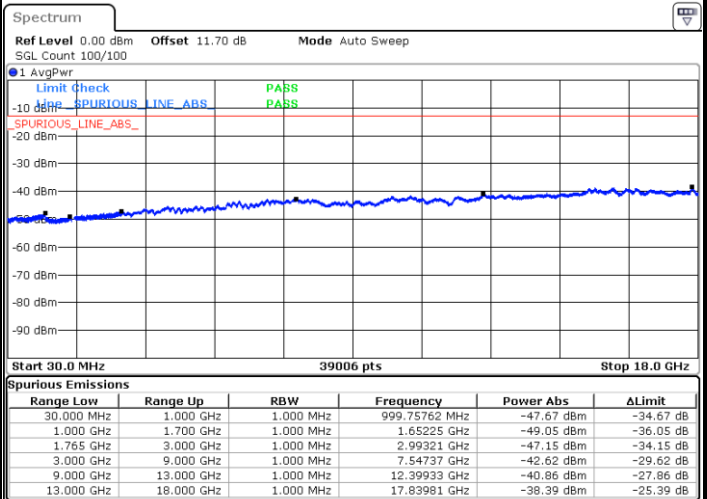
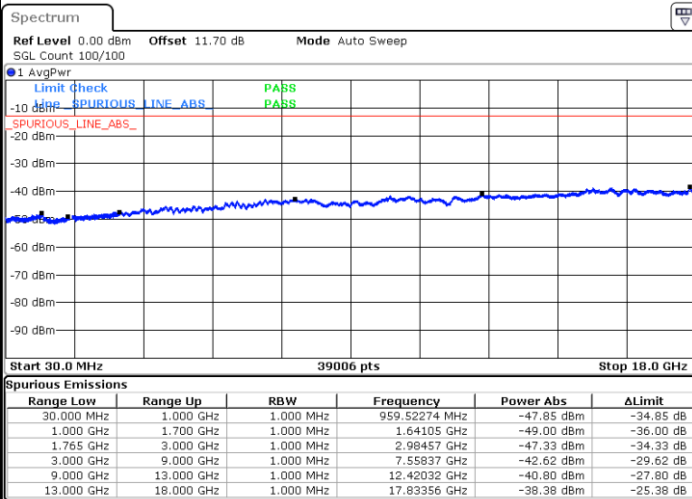


Date: 28 DEC.2019 15:19:10

Date: 28 DEC.2019 15:19:50

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 28 DEC.2019 15:25:22

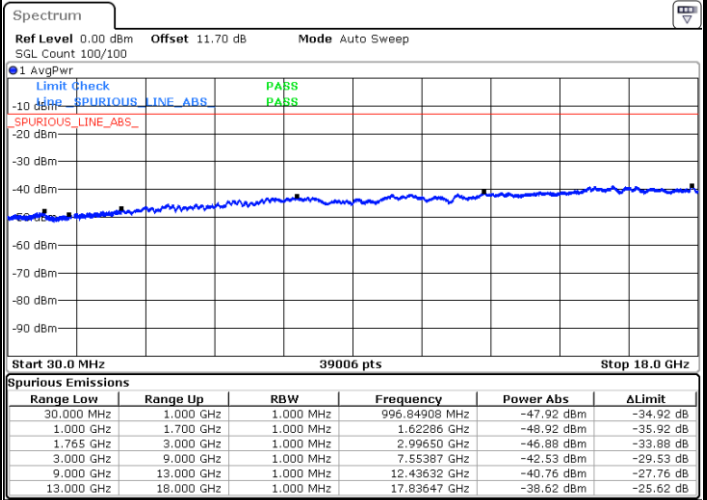
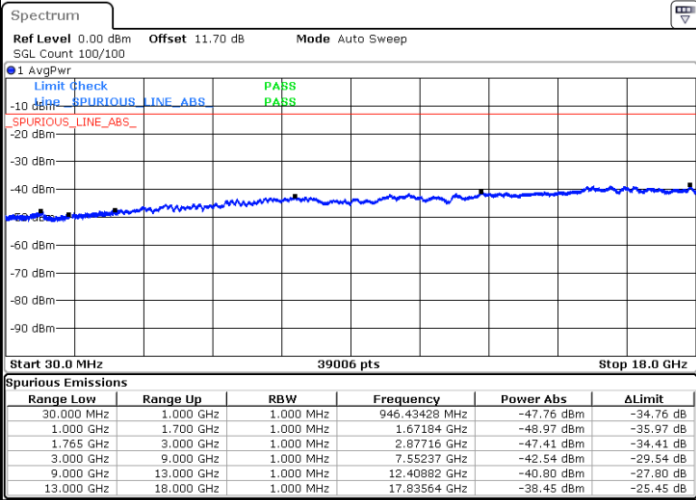
Date: 28 DEC.2019 15:26:03



LTE Band 4 / 1.4MHz

Lowest Channel / 64QAM

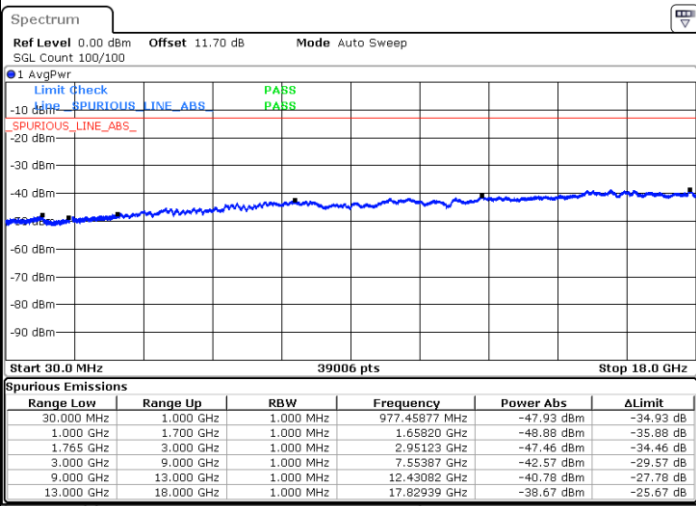
Middle Channel / 64QAM



Date: 28 DEC 2019 13:37:50

Date: 28 DEC 2019 13:40:57

Highest Channel / 64QAM



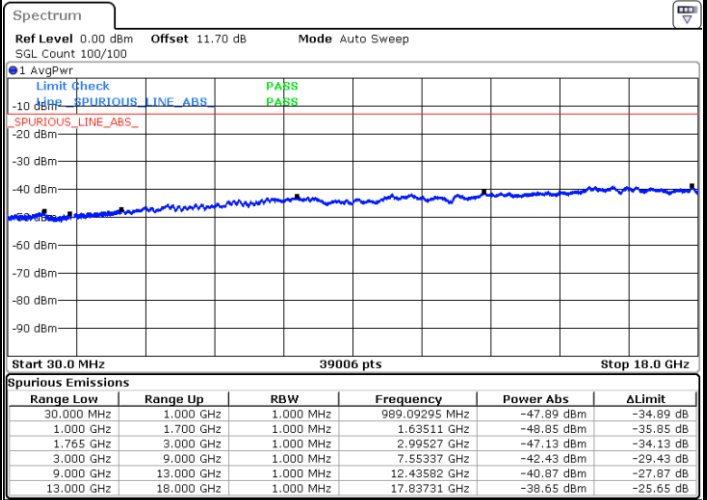
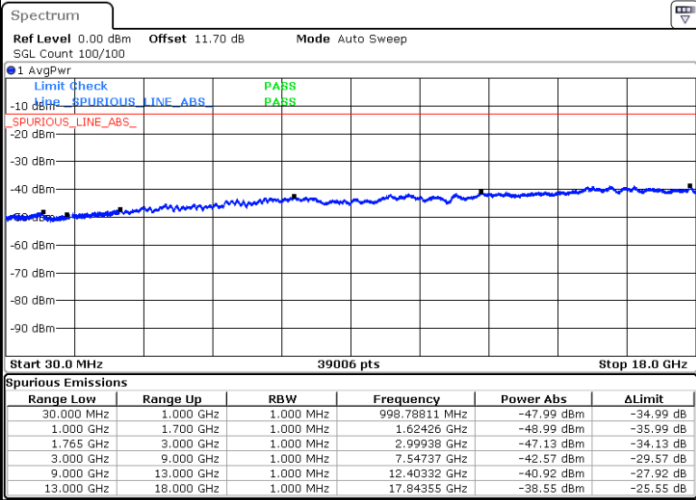
Date: 28 DEC 2019 13:44:09



LTE Band 4 / 3MHz

Lowest Channel / 64QAM

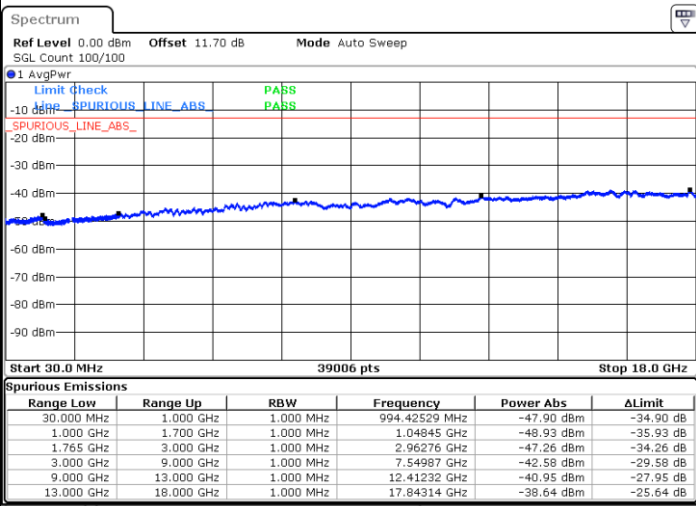
Middle Channel / 64QAM



Date: 28 DEC.2019 14:01:49

Date: 28 DEC.2019 14:02:53

Highest Channel / 64QAM

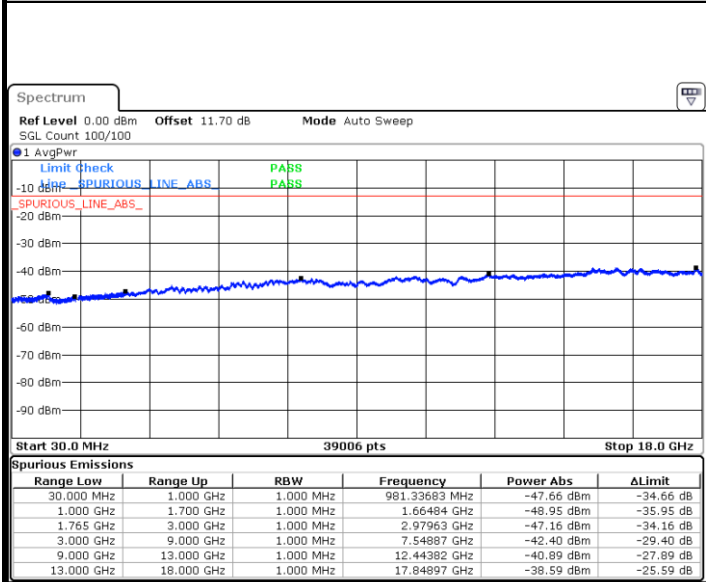


Date: 28 DEC.2019 14:05:59



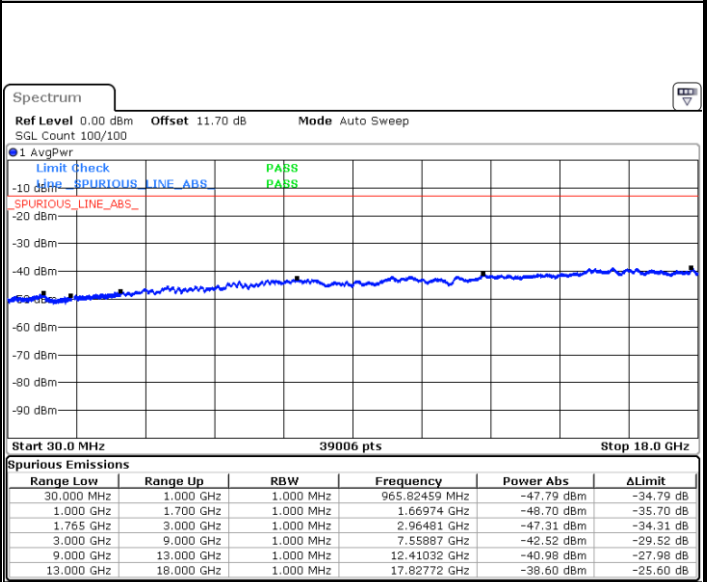
LTE Band 4 / 5MHz

Lowest Channel / 64QAM



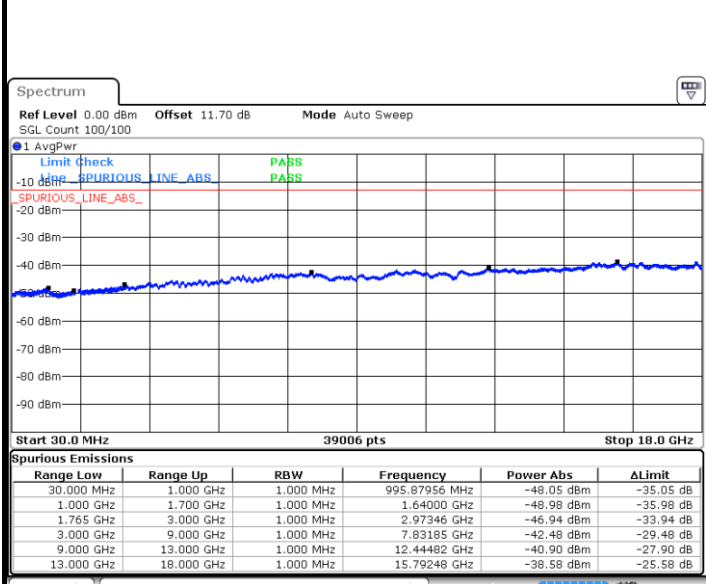
Date: 28 DEC.2019 14:09:06

Middle Channel / 64QAM



Date: 28 DEC.2019 14:10:09

Highest Channel / 64QAM



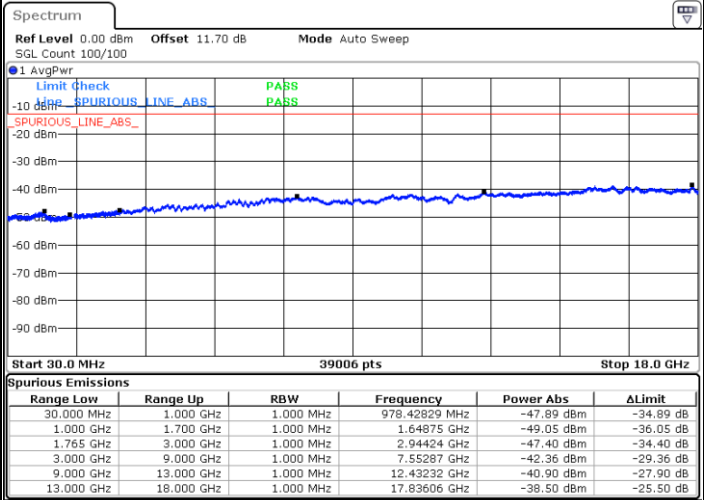
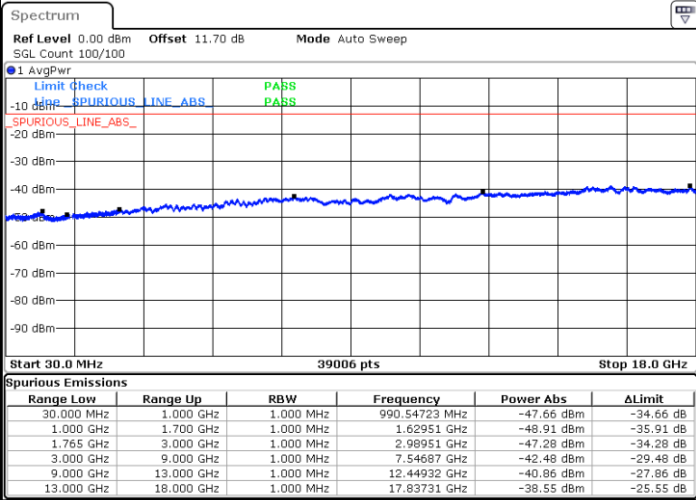
Date: 28 DEC.2019 14:13:16



LTE Band 4 / 10MHz

Lowest Channel / 64QAM

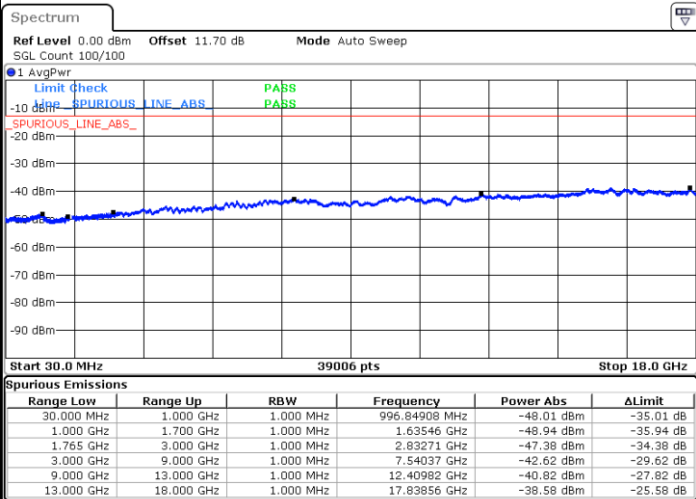
Middle Channel / 64QAM



Date: 28 DEC.2019 14:45:29

Date: 28 DEC.2019 14:46:33

Highest Channel / 64QAM



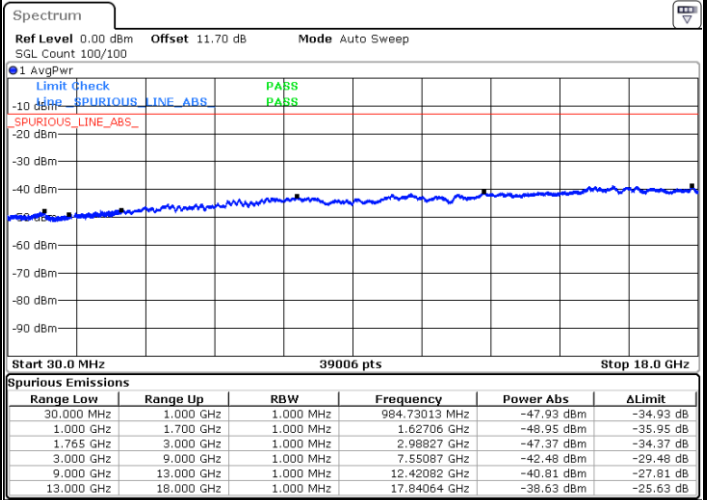
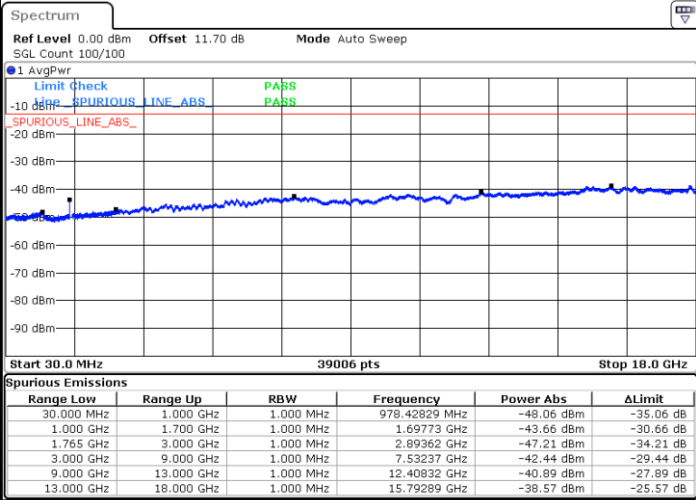
Date: 28 DEC.2019 14:49:39



LTE Band 4 / 15MHz

Lowest Channel / 64QAM

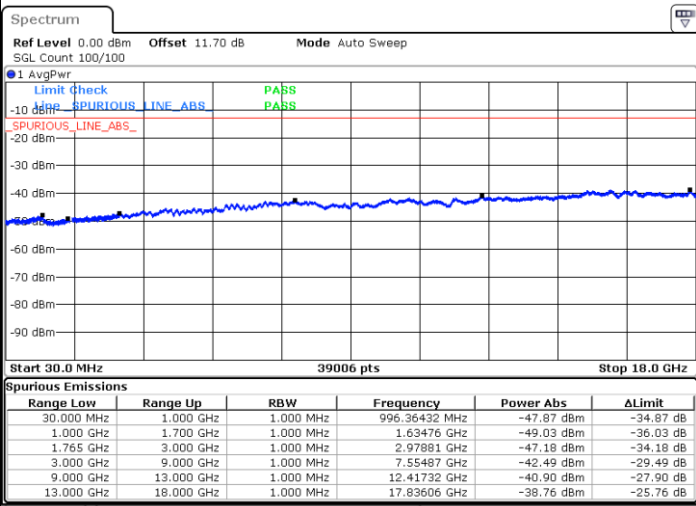
Middle Channel / 64QAM



Date: 28 DEC 2019 15:07:20

Date: 28 DEC 2019 15:08:23

Highest Channel / 64QAM



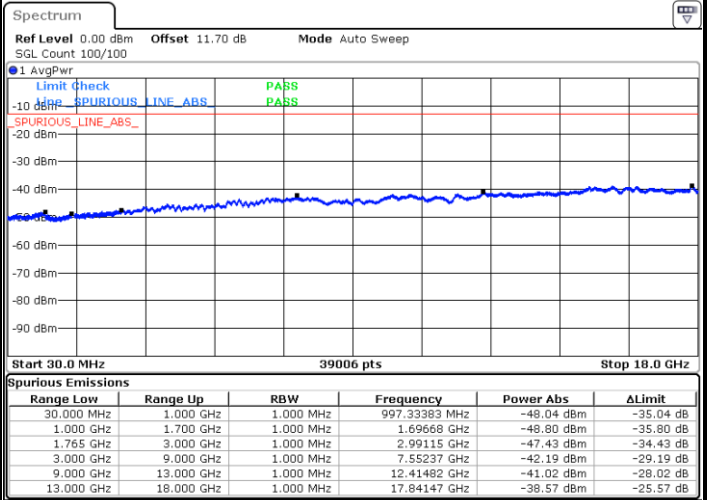
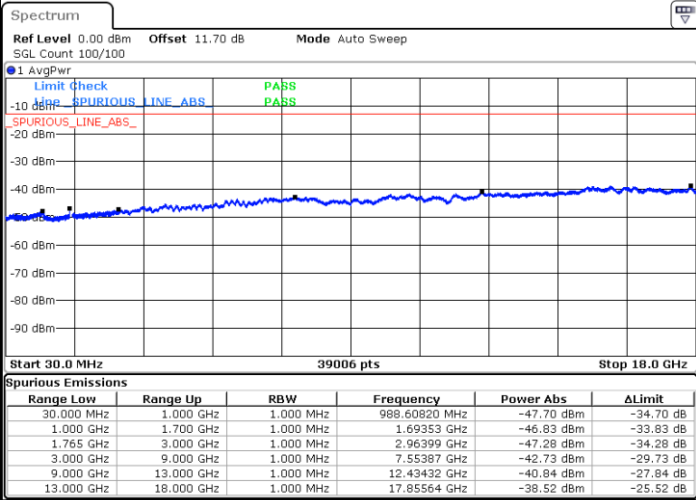
Date: 28 DEC 2019 15:11:29



LTE Band 4 / 20MHz

Lowest Channel / 64QAM

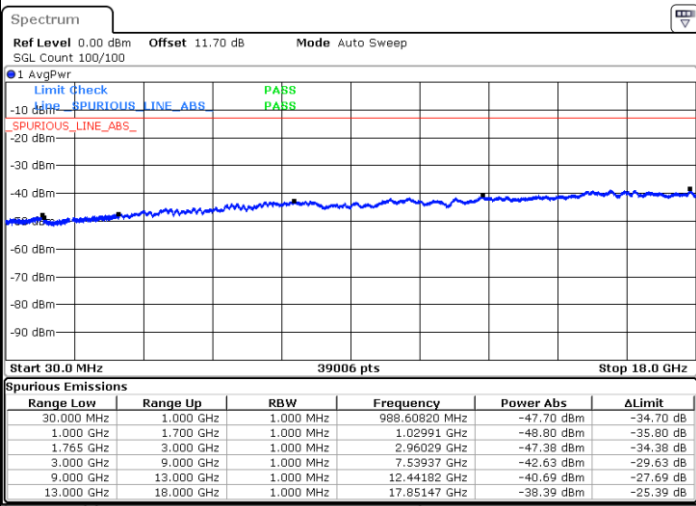
Middle Channel / 64QAM



Date: 28 DEC 2019 15:29:09

Date: 28 DEC 2019 15:30:13

Highest Channel / 64QAM



Date: 28 DEC 2019 15:33:19



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	0.0006	PASS
40	Normal Voltage	0.0052	
30	Normal Voltage	0.0028	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0046	
0	Normal Voltage	0.0005	
-10	Normal Voltage	0.0018	
-20	Normal Voltage	0.0045	
-30	Normal Voltage	0.0031	
20	Maximum Voltage	0.0003	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0003	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.25 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 5

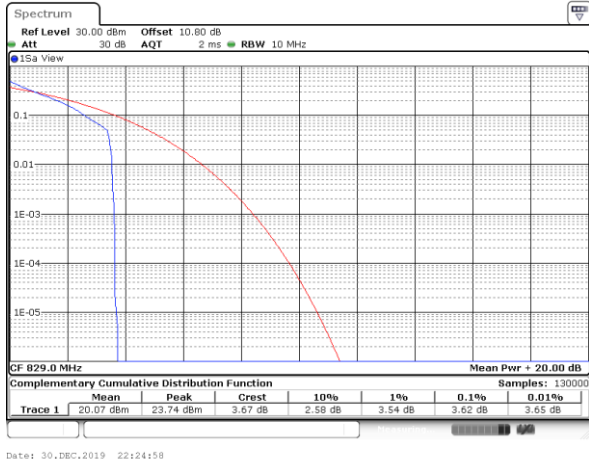
Peak-to-Average Ratio

Mode	LTE Band 5 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.62	4.93	5.57	5.80	PASS
Middle CH	3.62	5.13	5.19	5.88	
Highest CH	3.65	4.87	5.33	5.80	
Mode	LTE Band 5 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.75	6.43	-	-	PASS
Middle CH	7.28	6.38	-	-	
Highest CH	6.46	6.32	-	-	



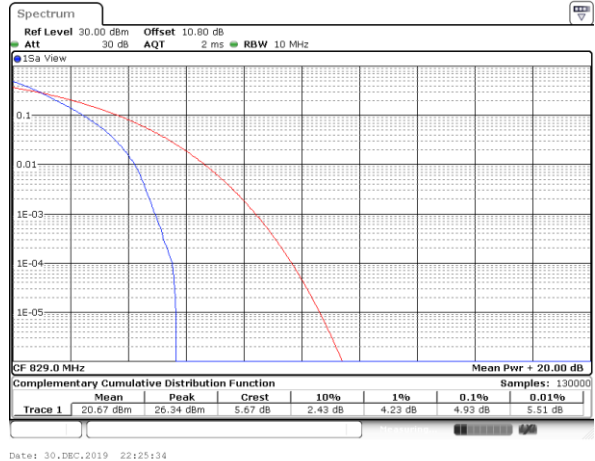
LTE Band 5 / 10MHz / QPSK

Lowest Channel / 1RB



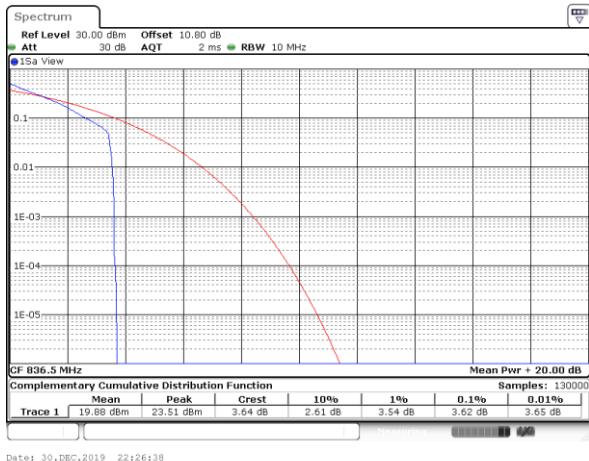
Date: 30, DEC, 2019 22:24:58

Lowest Channel / Full RB



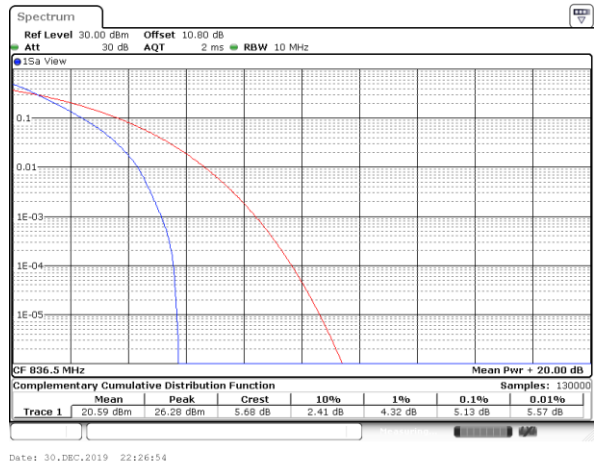
Date: 30, DEC, 2019 22:25:134

Middle Channel / 1RB



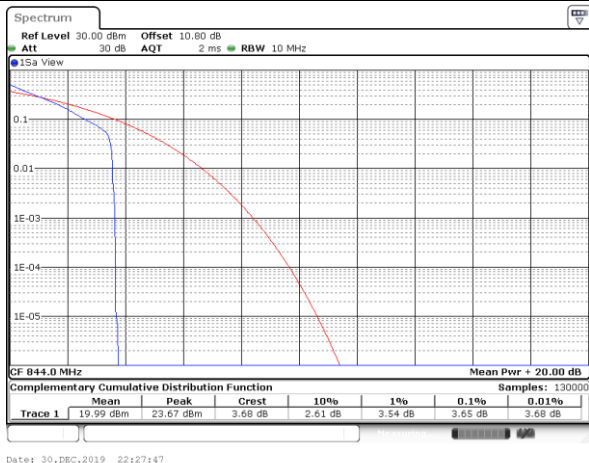
Date: 30, DEC, 2019 22:26:18

Middle Channel / Full RB



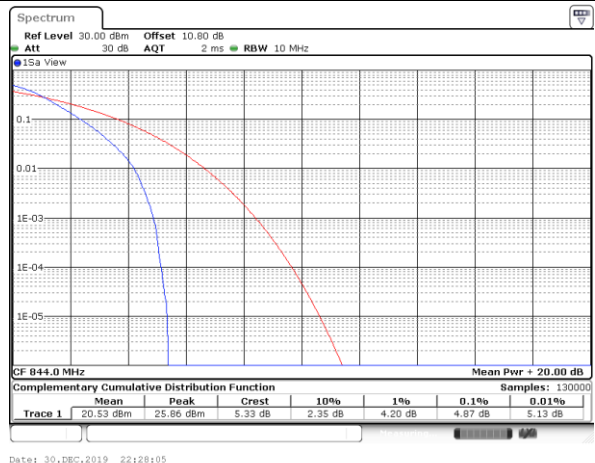
Date: 30, DEC, 2019 22:26:154

Highest Channel / 1RB



Date: 30, DEC, 2019 22:27:47

Highest Channel / Full RB

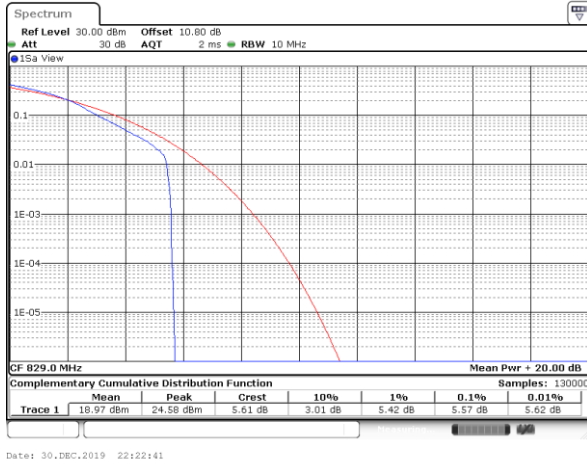


Date: 30, DEC, 2019 22:28:05

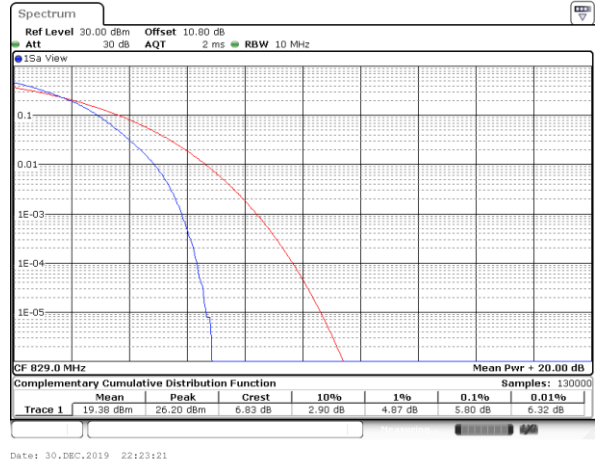


LTE Band 5 / 10MHz / 16QAM

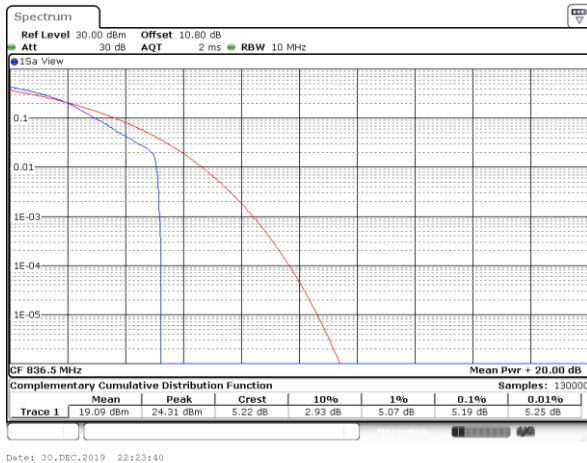
Lowest Channel / 1RB



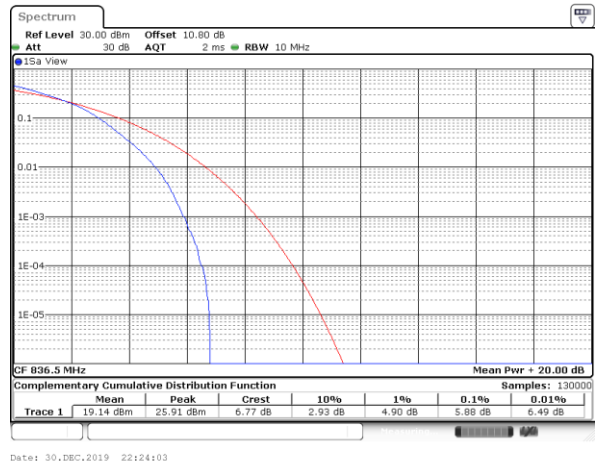
Lowest Channel / Full RB



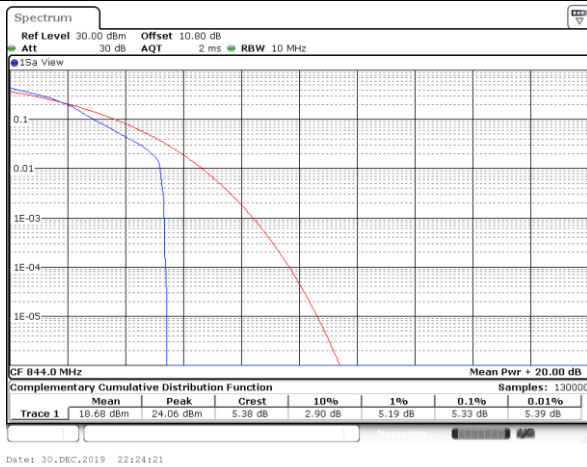
Middle Channel / 1RB



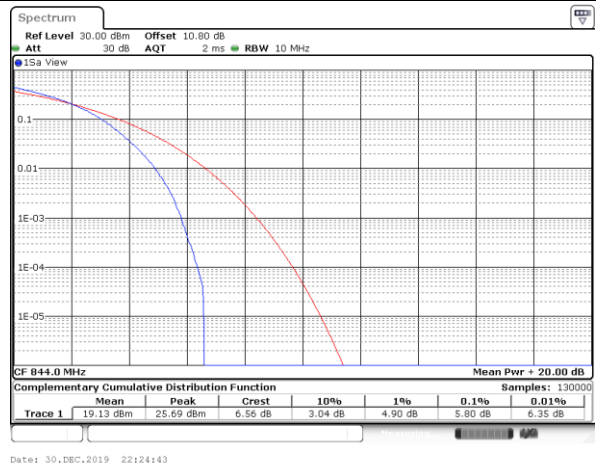
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB





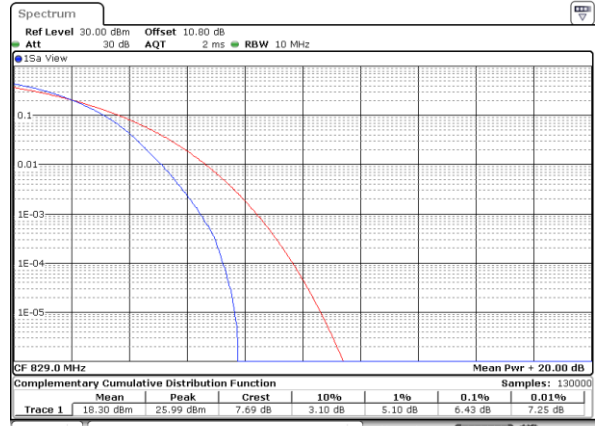
LTE Band 5 / 10MHz / 64QAM

Lowest Channel / 1RB



Date: 30.Dec.2019 22:34:11

Lowest Channel / Full RB



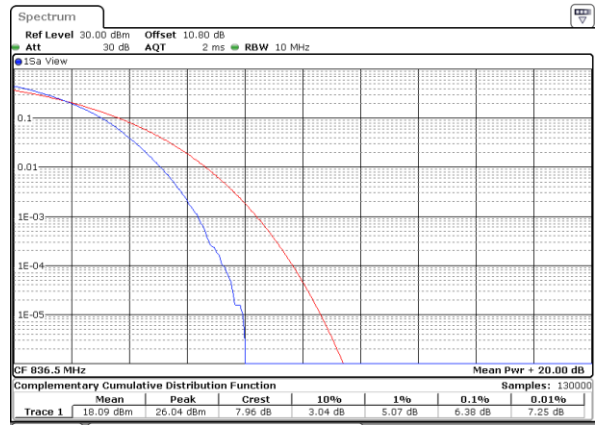
Date: 30.Dec.2019 22:28:57

Middle Channel / 1RB



Date: 30.Dec.2019 22:29:12

Middle Channel / Full RB



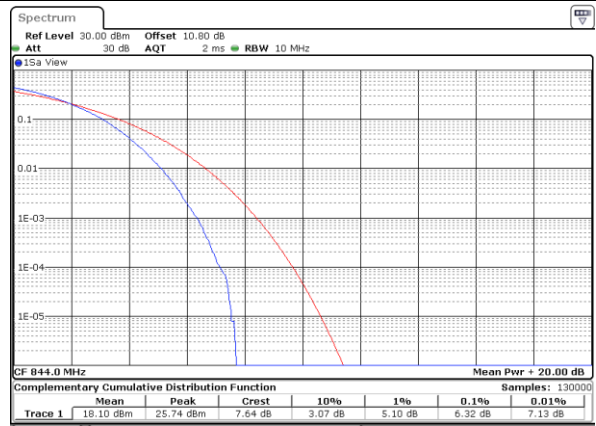
Date: 30.Dec.2019 22:28:26

Highest Channel / 1RB



Date: 30.Dec.2019 22:29:39

Highest Channel / Full RB



Date: 30.Dec.2019 22:30:32



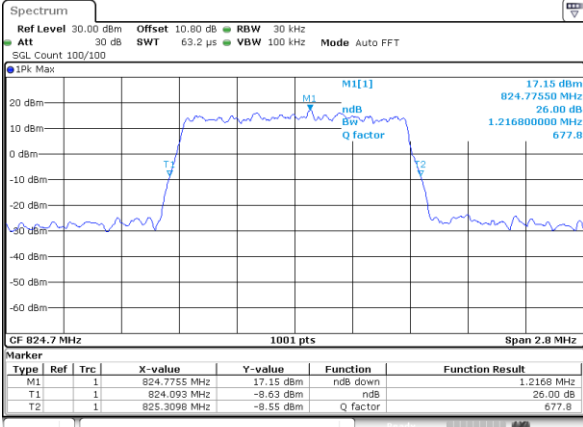
26dB Bandwidth

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	1.23	3.03	3.06	4.97	4.95	9.69	9.67	-	-	-	-
Middle CH	1.23	1.21	3.03	3.02	4.94	4.86	9.79	9.81	-	-	-	-
Highest CH	1.22	1.23	3.01	3.02	4.88	4.95	9.65	9.75	-	-	-	-
Mode	LTE Band 5 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.22	-	3.03	-	4.85	-	9.83	-	-	-	-	-
Middle CH	1.22	-	2.99	-	4.90	-	9.81	-	-	-	-	-
Highest CH	1.24	-	2.99	-	4.84	-	9.73	-	-	-	-	-



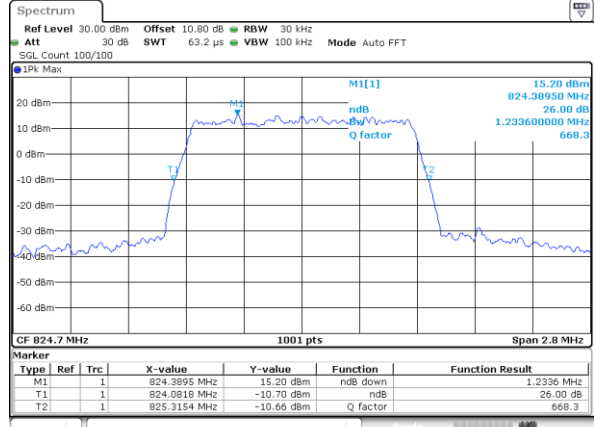
LTE Band 5

Lowest Channel / 1.4MHz / QPSK



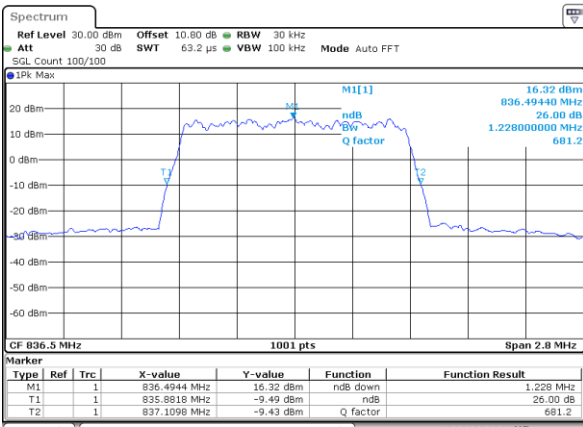
Date: 30. DEC. 2019 19:26:44

Lowest Channel / 1.4MHz / 16QAM



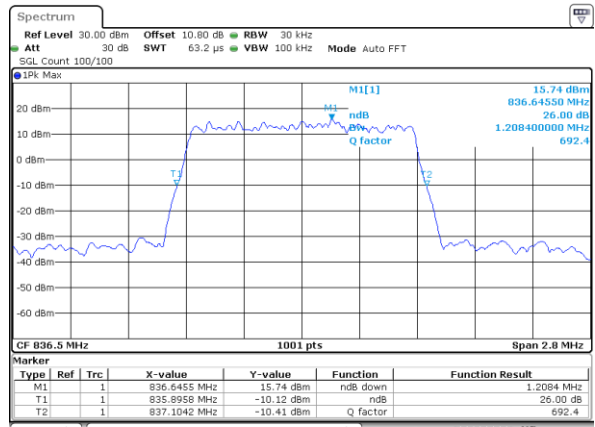
Date: 30. DEC. 2019 19:26:30

Middle Channel / 1.4MHz / QPSK



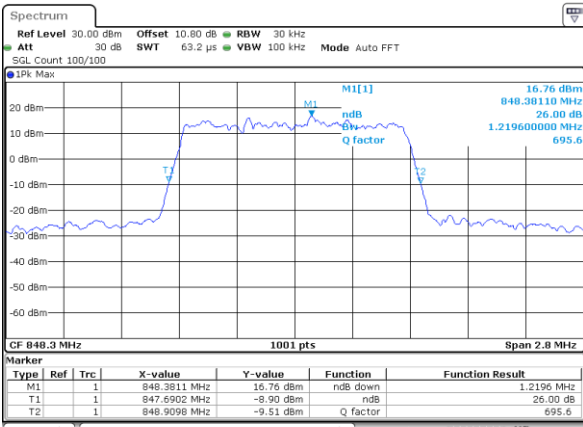
Date: 30. DEC. 2019 19:36:21

Middle Channel / 1.4MHz / 16QAM



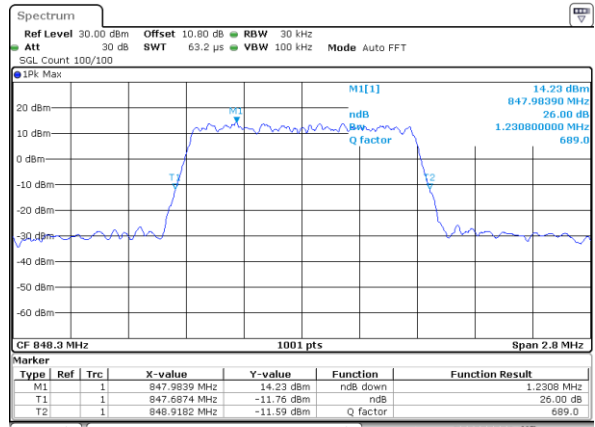
Date: 30. DEC. 2019 19:36:34

Highest Channel / 1.4MHz / QPSK



Date: 30. DEC. 2019 19:39:25

Highest Channel / 1.4MHz / 16QAM

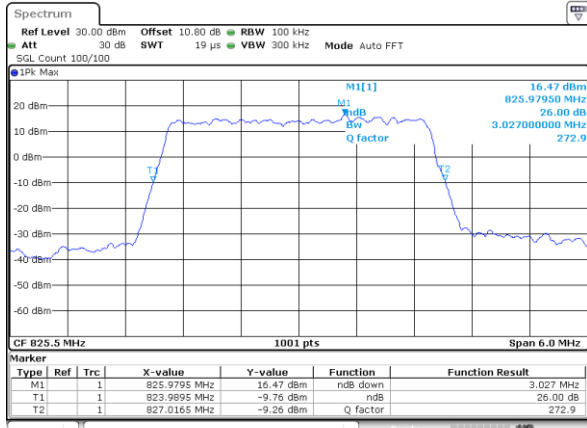


Date: 30. DEC. 2019 19:39:39



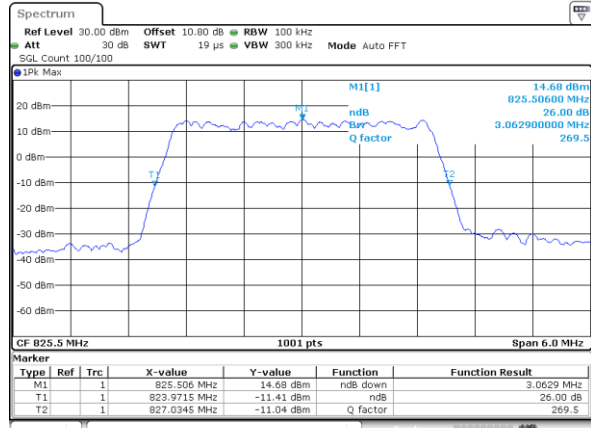
LTE Band 5

Lowest Channel / 3MHz / QPSK



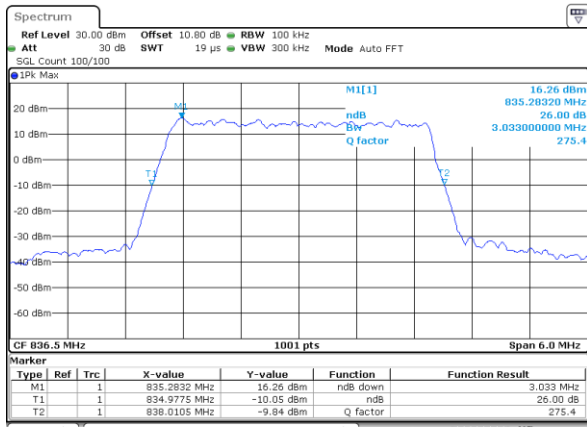
Date: 30, DEC, 2019 20:00:41

Lowest Channel / 3MHz / 16QAM



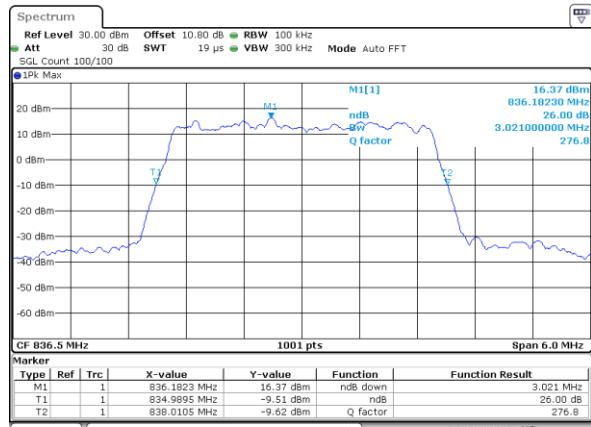
Date: 30, DEC, 2019 20:00:55

Middle Channel / 3MHz / QPSK



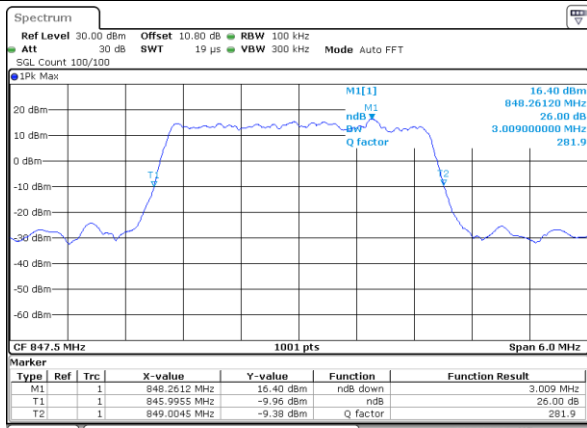
Date: 30, DEC, 2019 20:45:49

Middle Channel / 3MHz / 16QAM



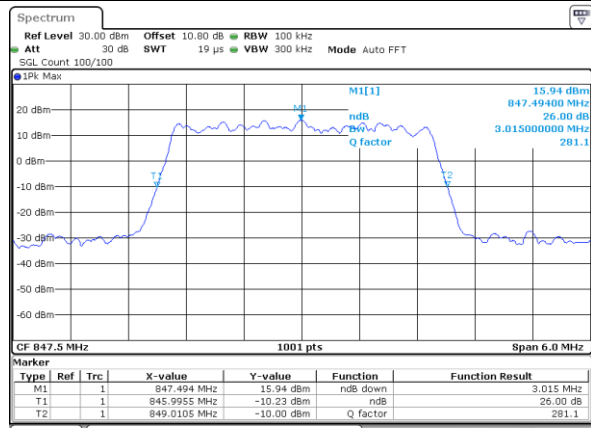
Date: 30, DEC, 2019 20:46:02

Highest Channel / 3MHz / QPSK



Date: 30, DEC, 2019 20:48:55

Highest Channel / 3MHz / 16QAM

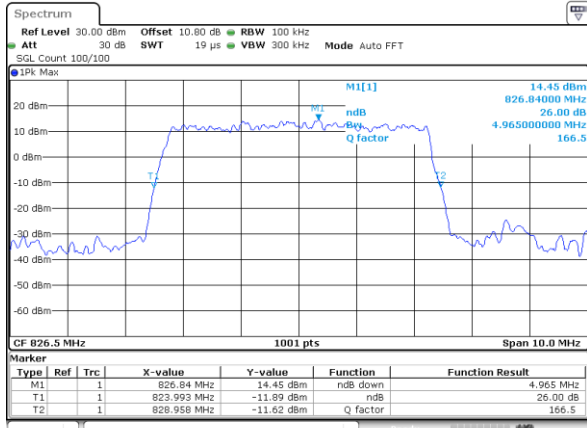


Date: 30, DEC, 2019 20:49:09



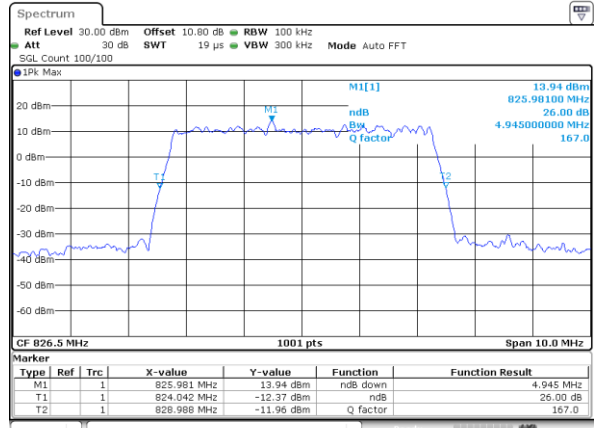
LTE Band 5

Lowest Channel / 5MHz / QPSK



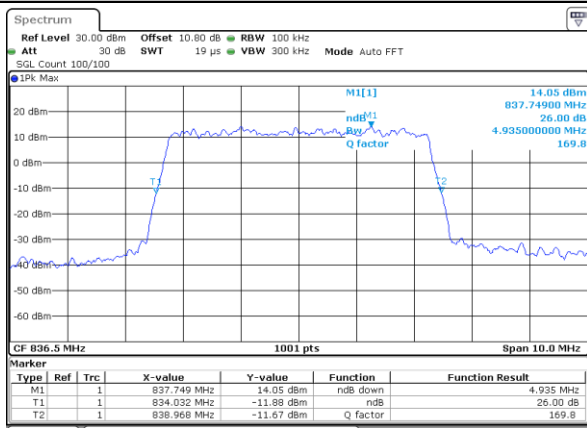
Date: 30.Dec.2019 21:10:11

Lowest Channel / 5MHz / 16QAM



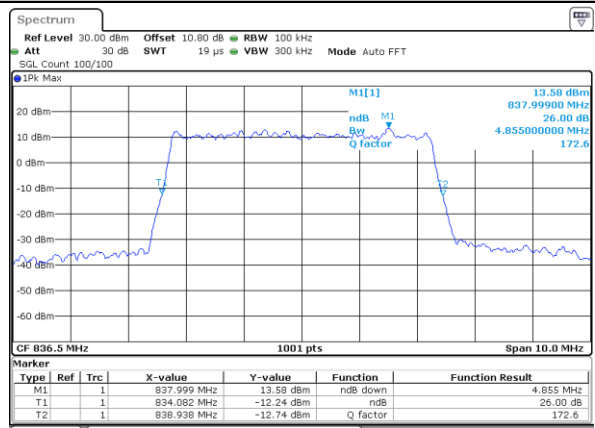
Date: 30.Dec.2019 21:10:25

Middle Channel / 5MHz / QPSK



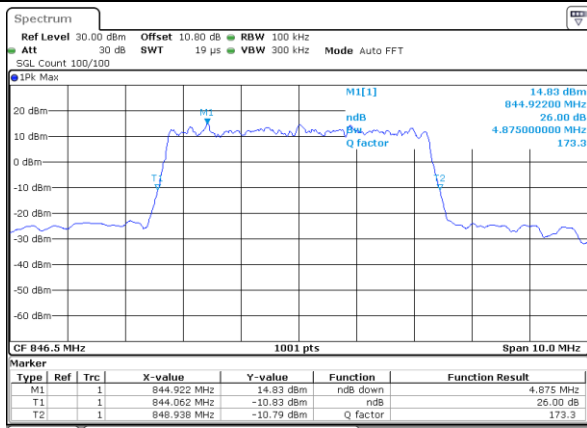
Date: 30.Dec.2019 21:20:02

Middle Channel / 5MHz / 16QAM



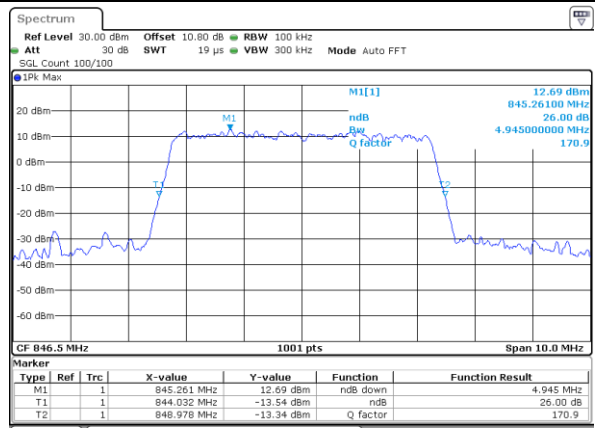
Date: 30.Dec.2019 21:20:15

Highest Channel / 5MHz / QPSK



Date: 30.Dec.2019 21:23:07

Highest Channel / 5MHz / 16QAM

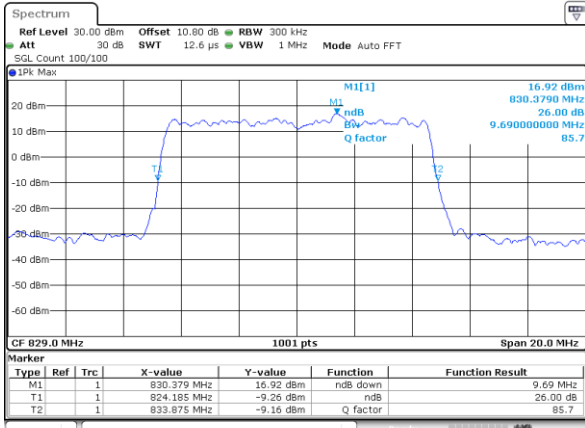


Date: 30.Dec.2019 21:23:20



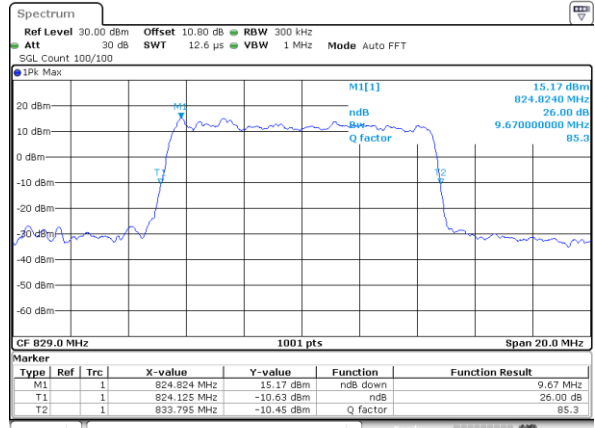
LTE Band 5

Lowest Channel / 10MHz / QPSK



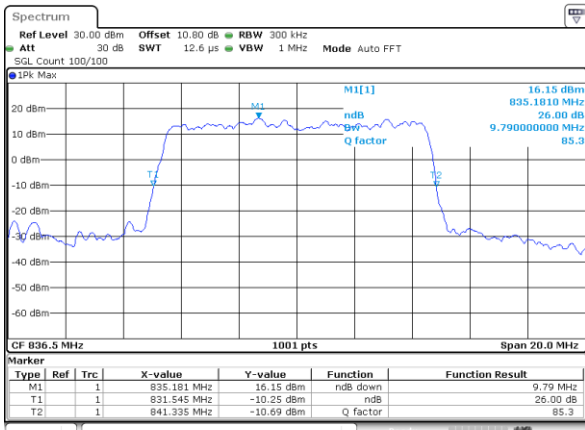
Date: 30, DEC, 2019 21:47:49

Lowest Channel / 10MHz / 16QAM



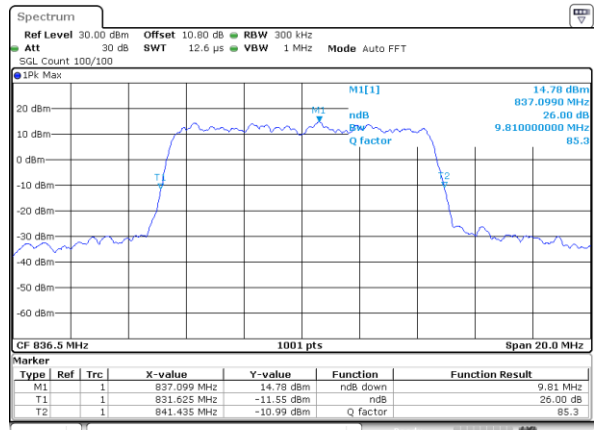
Date: 30, DEC, 2019 21:48:03

Middle Channel / 10MHz / QPSK



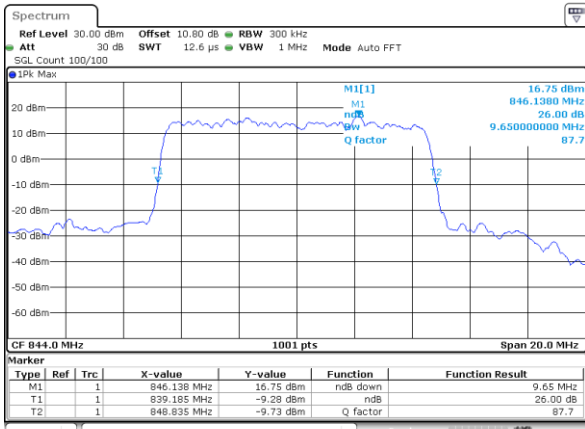
Date: 30, DEC, 2019 21:57:42

Middle Channel / 10MHz / 16QAM



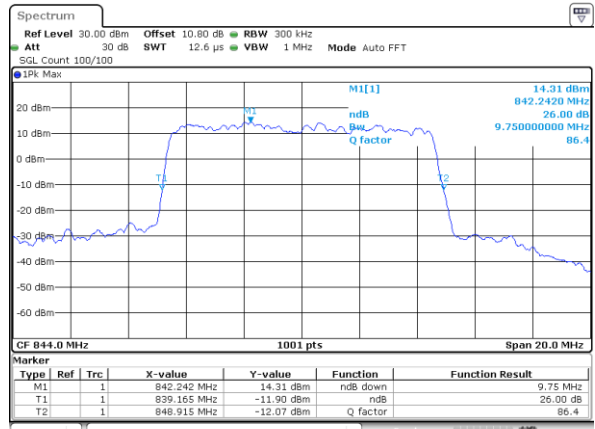
Date: 30, DEC, 2019 21:57:55

Highest Channel / 10MHz / QPSK



Date: 30, DEC, 2019 22:00:45

Highest Channel / 10MHz / 16QAM

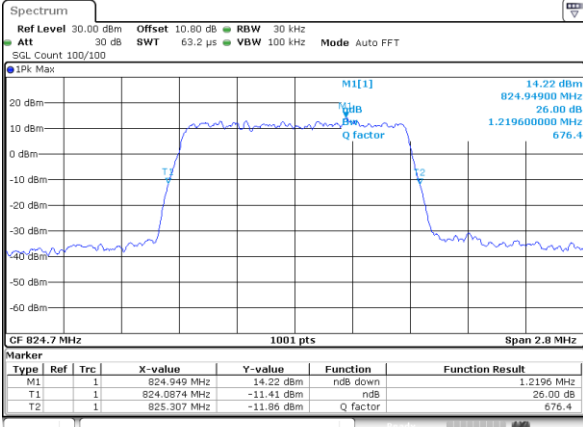


Date: 30, DEC, 2019 22:00:59



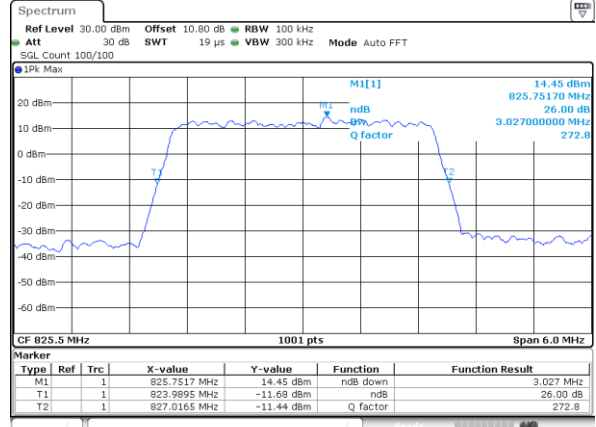
LTE Band 5

Lowest Channel / 1.4MHz / 64QAM



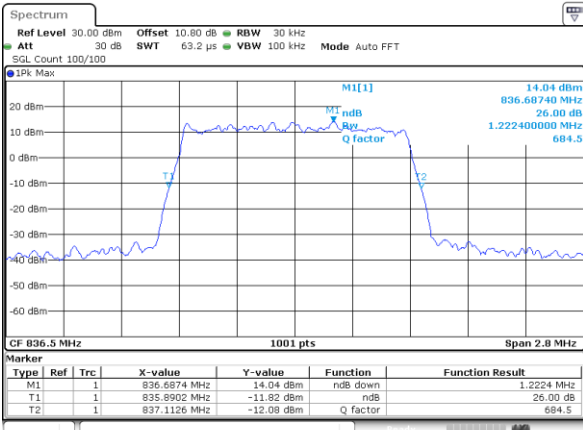
Date: 30, DEC, 2019 19:49:03

Lowest Channel / 3MHz / 64QAM



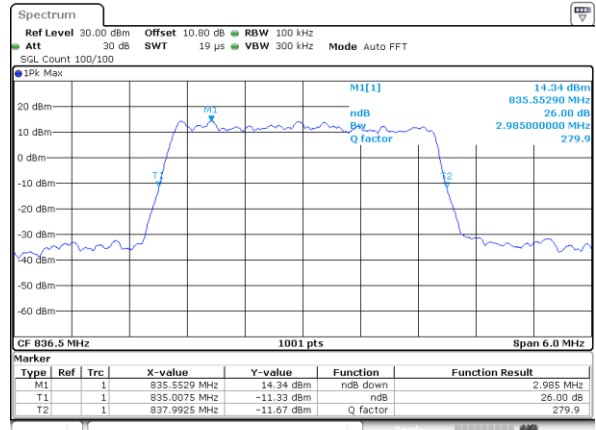
Date: 30, DEC, 2019 20:58:34

Middle Channel / 1.4MHz / 64QAM



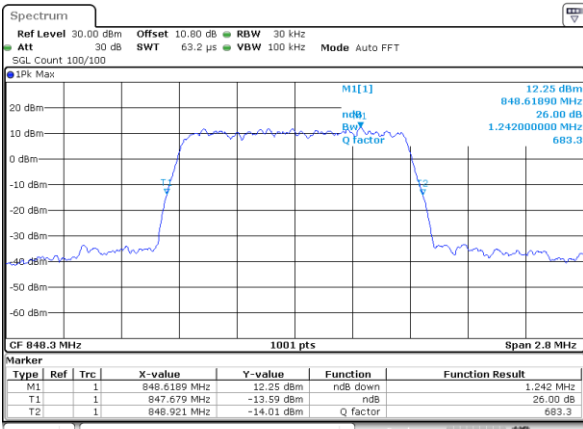
Date: 30, DEC, 2019 19:53:58

Middle Channel / 3MHz / 64QAM



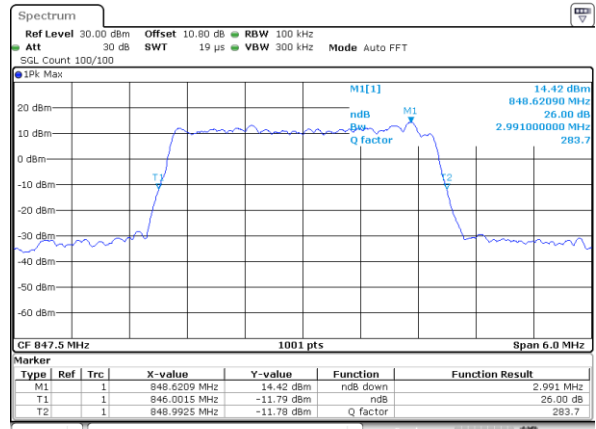
Date: 30, DEC, 2019 21:03:29

Highest Channel / 1.4MHz / 64QAM



Date: 30, DEC, 2019 19:55:30

Highest Channel / 3MHz / 64QAM

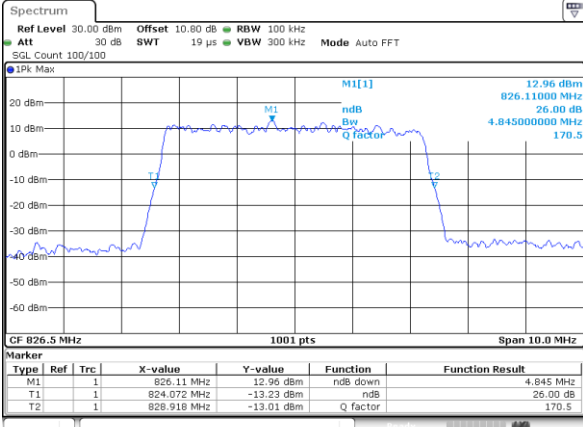


Date: 30, DEC, 2019 21:05:01



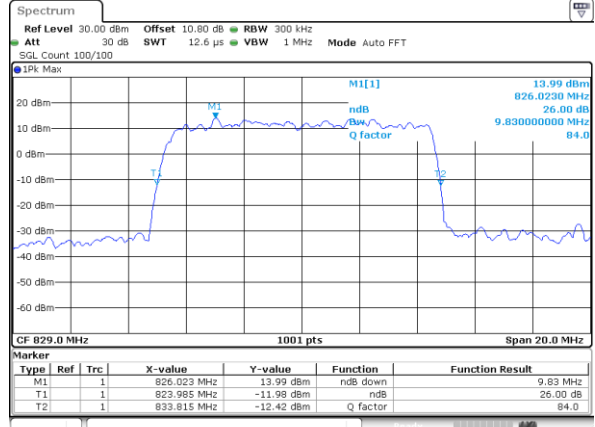
LTE Band 5

Lowest Channel / 5MHz / 64QAM



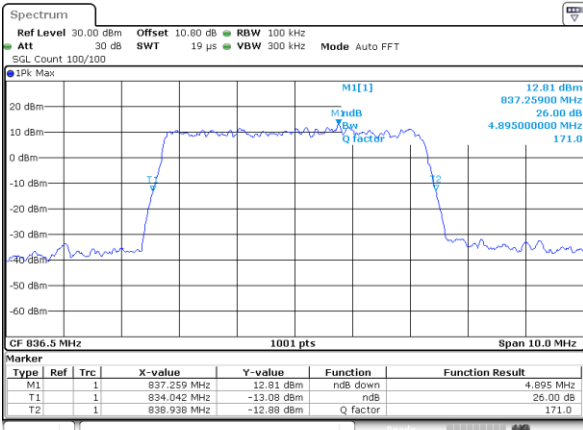
Date: 30, DEC, 2019 21:32:46

Lowest Channel / 10MHz / 64QAM



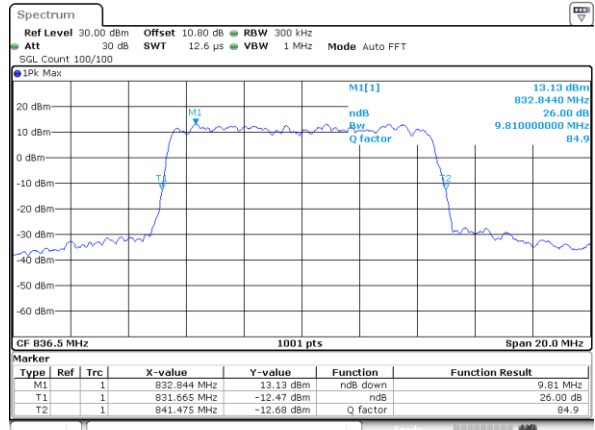
Date: 30, DEC, 2019 22:11:28

Middle Channel / 5MHz / 64QAM



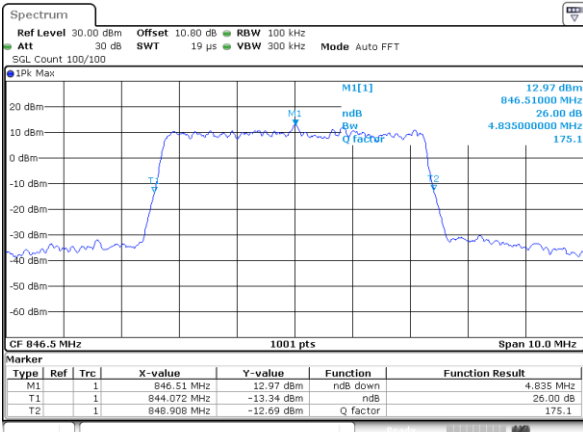
Date: 30, DEC, 2019 21:37:41

Middle Channel / 10MHz / 64QAM



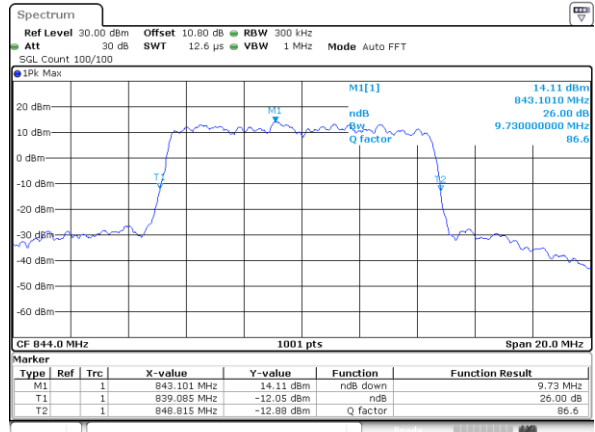
Date: 30, DEC, 2019 22:16:22

Highest Channel / 5MHz / 64QAM



Date: 30, DEC, 2019 21:43:45

Highest Channel / 10MHz / 64QAM



Date: 30, DEC, 2019 22:17:54



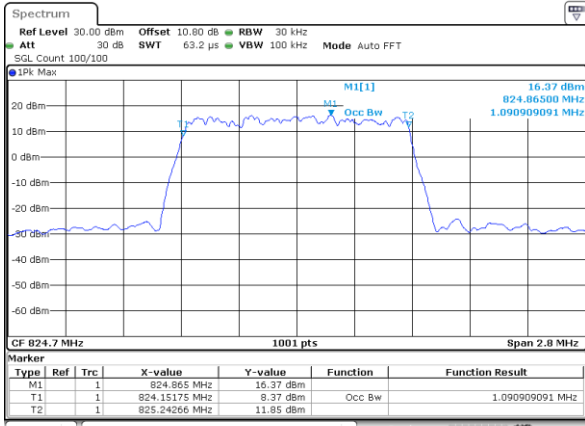
Occupied Bandwidth

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	2.71	2.70	4.47	4.46	8.99	8.99	-	-	-	-
Middle CH	1.09	1.09	2.72	2.72	4.52	4.50	9.05	9.01	-	-	-	-
Highest CH	1.08	1.09	2.70	2.72	4.49	4.50	8.95	8.97	-	-	-	-
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	-	2.72	-	4.46	-	9.03	-	-	-	-	-
Middle CH	1.10	-	2.71	-	4.49	-	9.03	-	-	-	-	-
Highest CH	1.09	-	2.70	-	4.50	-	8.97	-	-	-	-	-



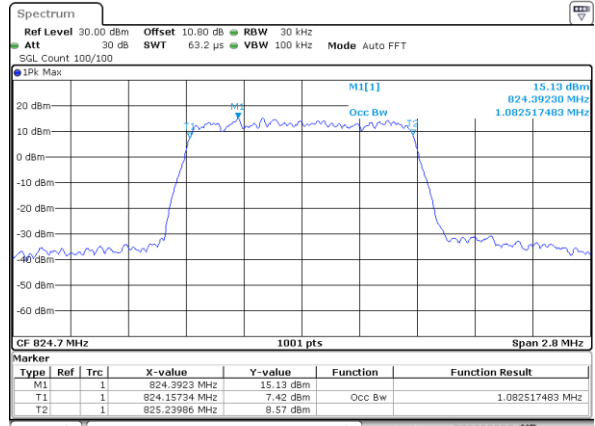
LTE Band 5

Lowest Channel / 1.4MHz / QPSK



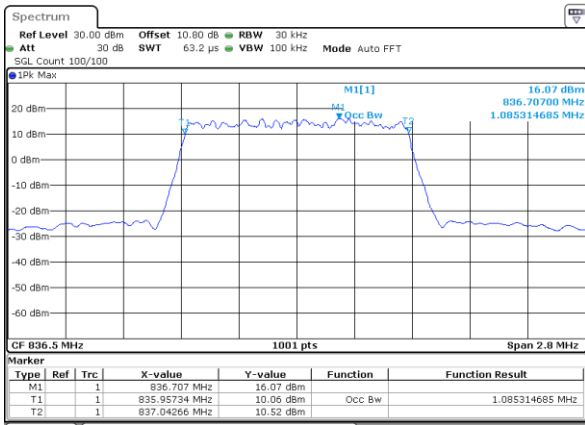
Date: 30.Dec.2019 19:26:02

Lowest Channel / 1.4MHz / 16QAM



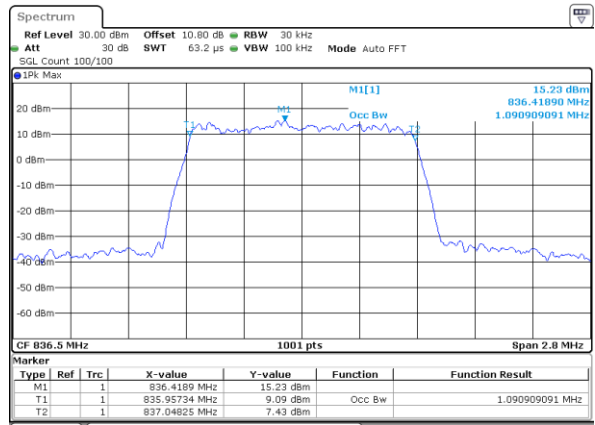
Date: 30.Dec.2019 19:26:17

Middle Channel / 1.4MHz / QPSK



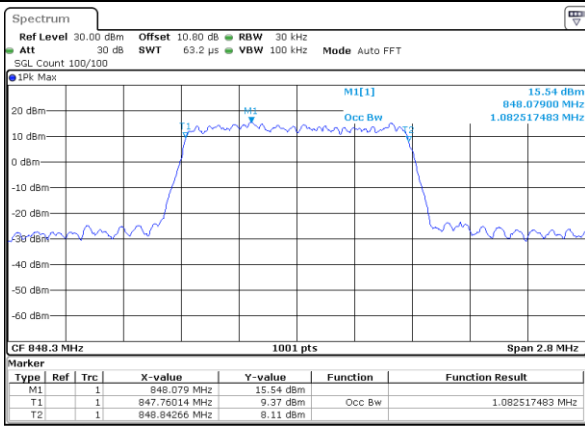
Date: 30.Dec.2019 19:35:05

Middle Channel / 1.4MHz / 16QAM



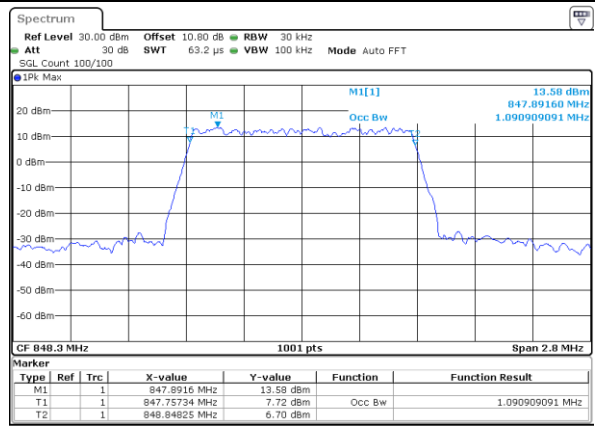
Date: 30.Dec.2019 19:36:08

Highest Channel / 1.4MHz / QPSK



Date: 30.Dec.2019 19:38:57

Highest Channel / 1.4MHz / 16QAM

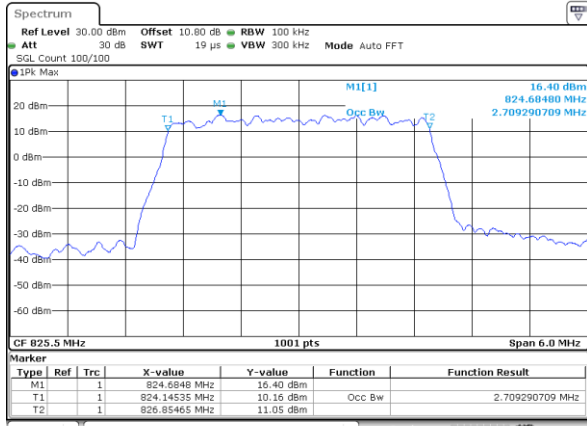


Date: 30.Dec.2019 19:39:11



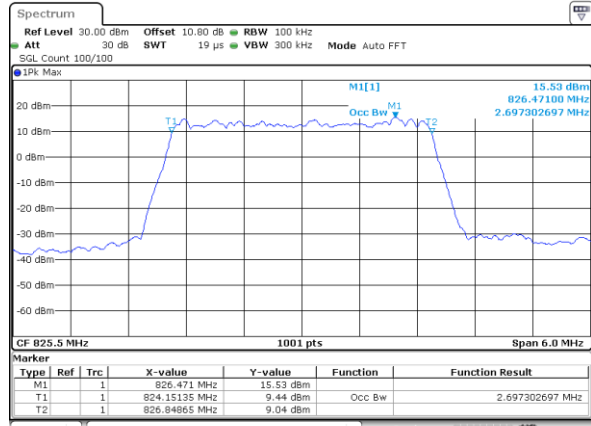
LTE Band 5

Lowest Channel / 3MHz / QPSK



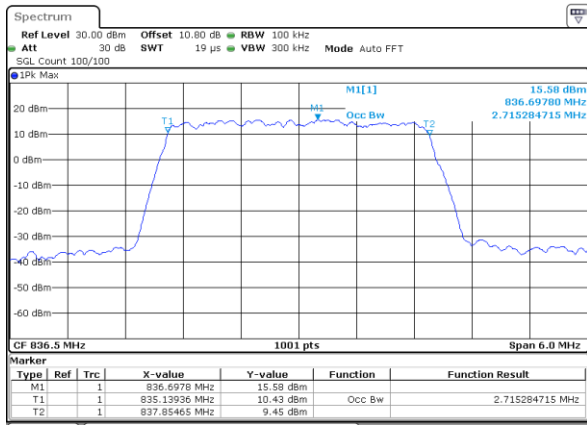
Date: 30.Dec.2019 20:00:14

Lowest Channel / 3MHz / 16QAM



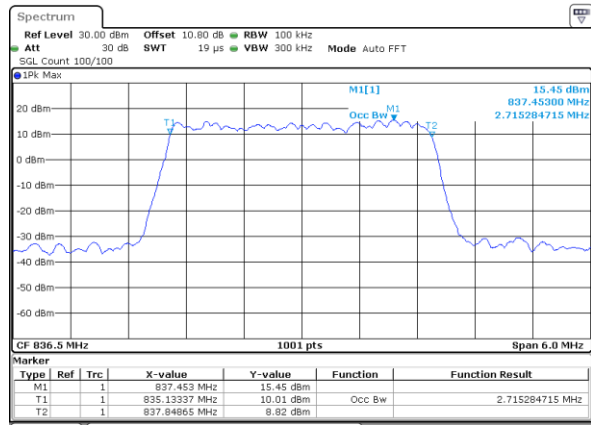
Date: 30.Dec.2019 20:00:27

Middle Channel / 3MHz / QPSK



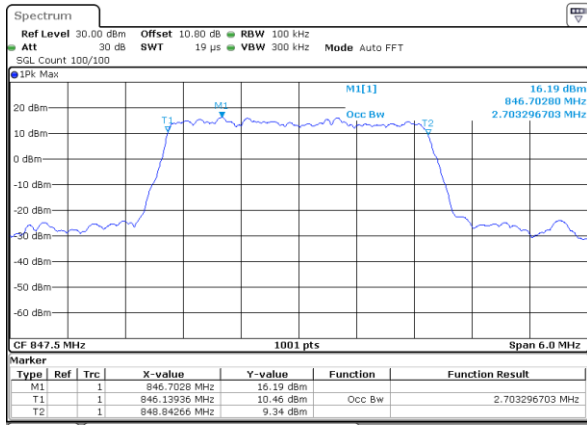
Date: 30.Dec.2019 20:30:15

Middle Channel / 3MHz / 16QAM



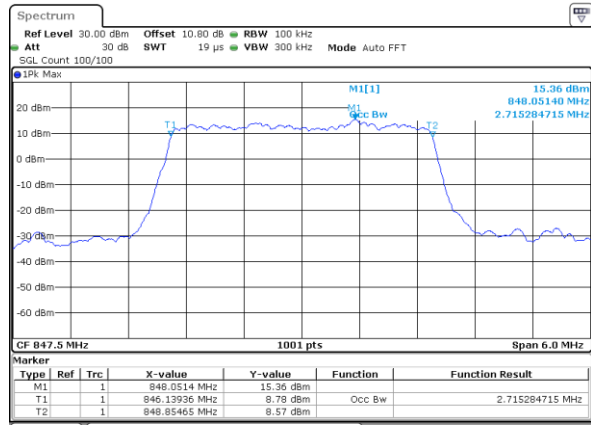
Date: 30.Dec.2019 20:30:28

Highest Channel / 3MHz / QPSK



Date: 30.Dec.2019 20:48:26

Highest Channel / 3MHz / 16QAM

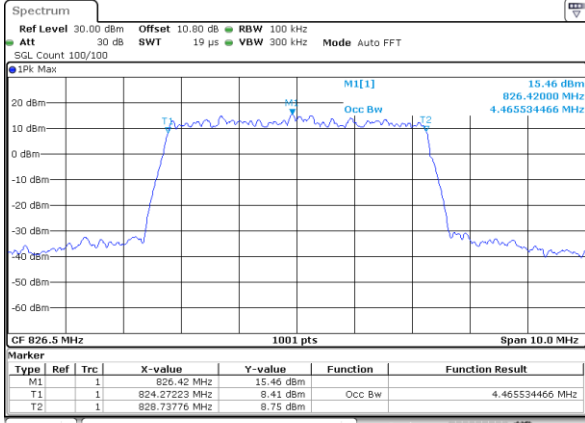


Date: 30.Dec.2019 20:48:40



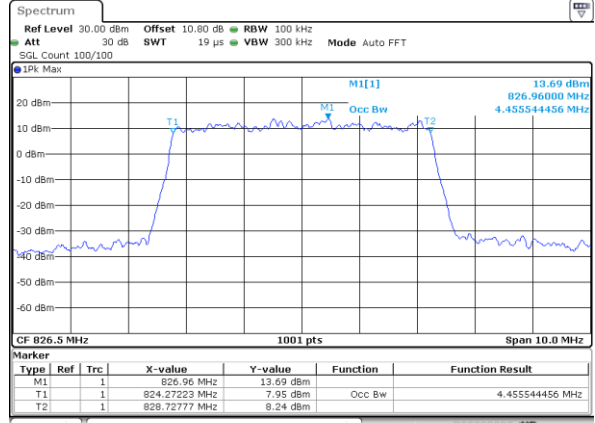
LTE Band 5

Lowest Channel / 5MHz / QPSK



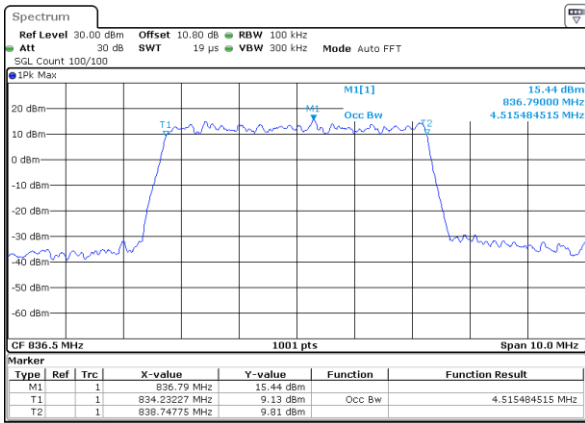
Date: 30.Dec.2019 21:09:44

Lowest Channel / 5MHz / 16QAM



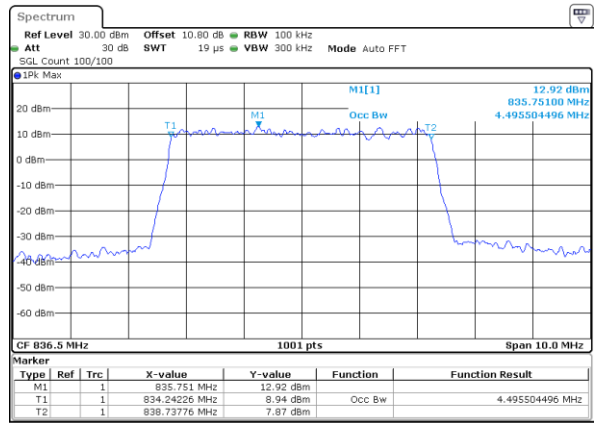
Date: 30.Dec.2019 21:09:58

Middle Channel / 5MHz / QPSK



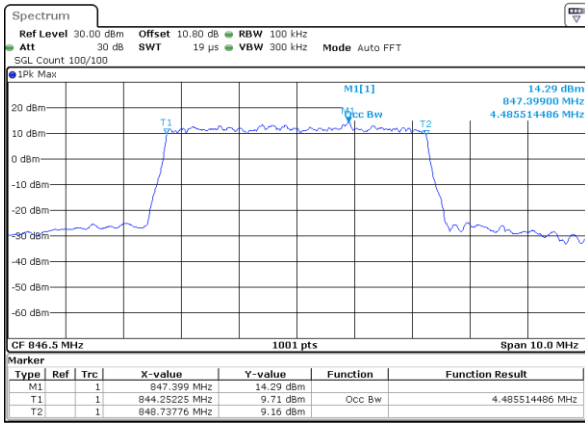
Date: 30.Dec.2019 21:19:34

Middle Channel / 5MHz / 16QAM



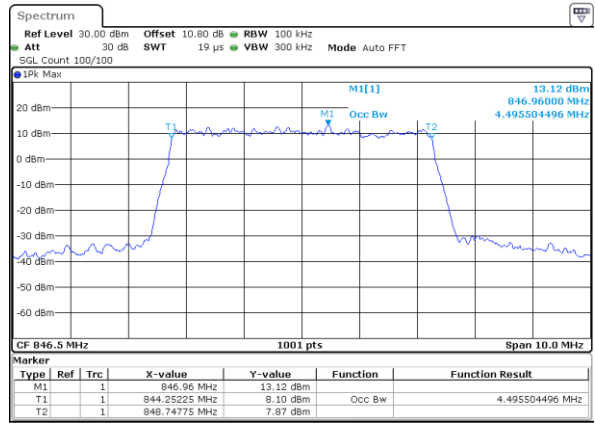
Date: 30.Dec.2019 21:19:49

Highest Channel / 5MHz / QPSK



Date: 30.Dec.2019 21:22:39

Highest Channel / 5MHz / 16QAM



Date: 30.Dec.2019 21:22:53