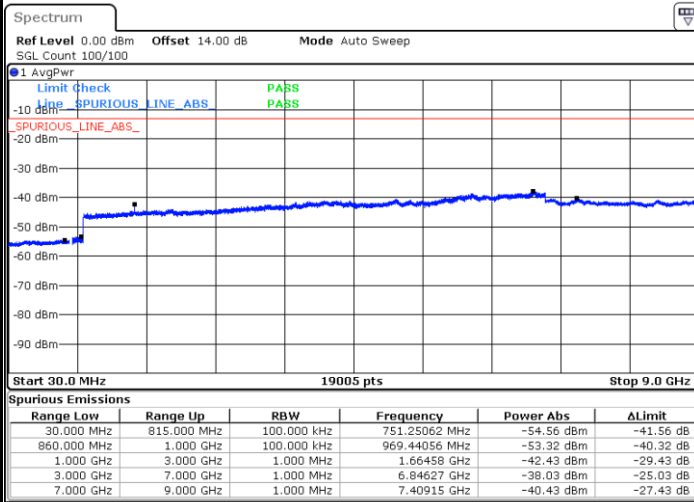




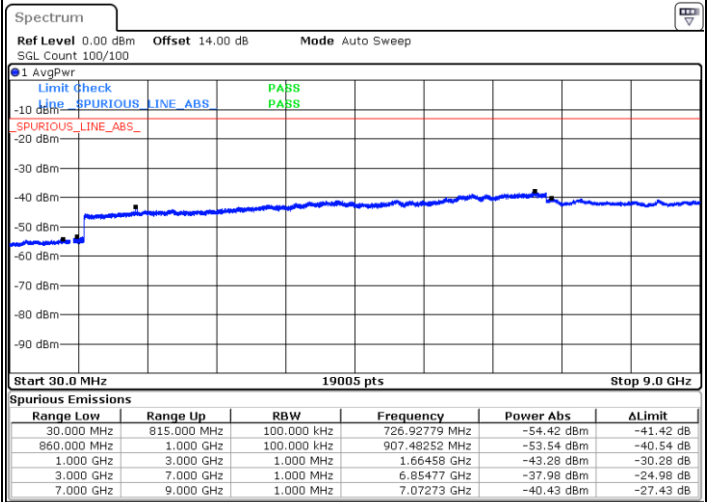
LTE Band 5 / 10MHz

Middle Channel / QPSK



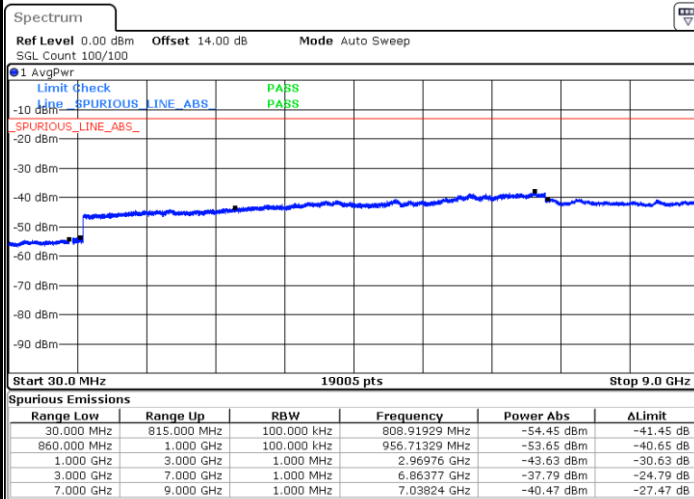
Date: 26 AUG 2019 22:43:17

Middle Channel / 16QAM



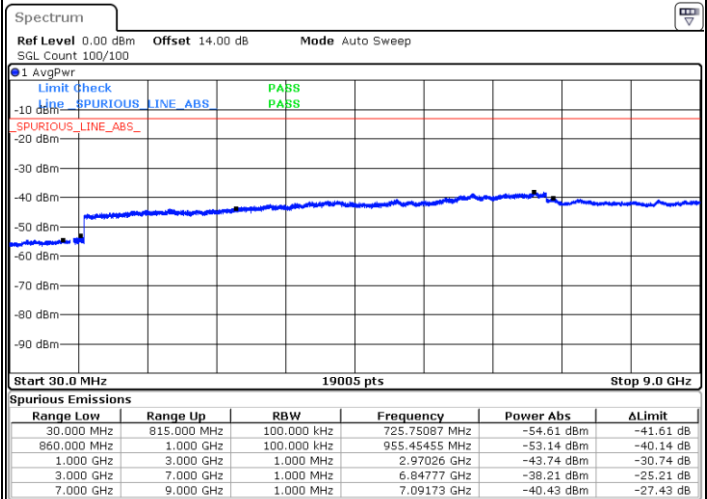
Date: 26 AUG 2019 22:44:10

Highest Channel / QPSK



Date: 26 AUG 2019 22:52:13

Highest Channel / 16QAM



Date: 26 AUG 2019 22:53:06

**Frequency Stability**

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0035	PASS
40	Normal Voltage	0.0010	
30	Normal Voltage	0.0007	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0013	
-20	Normal Voltage	0.0033	
-30	Normal Voltage	0.0012	
20	Maximum Voltage	0.0024	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0020	

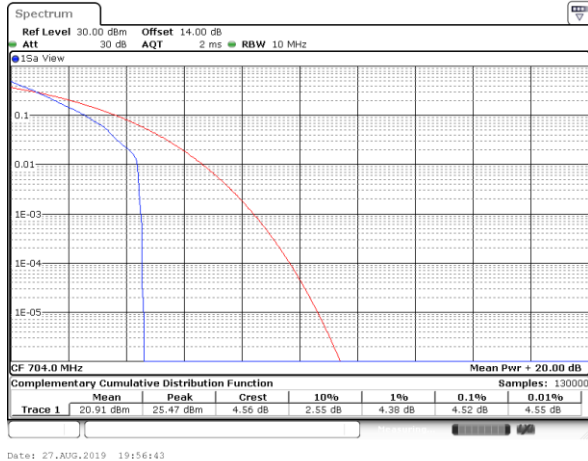
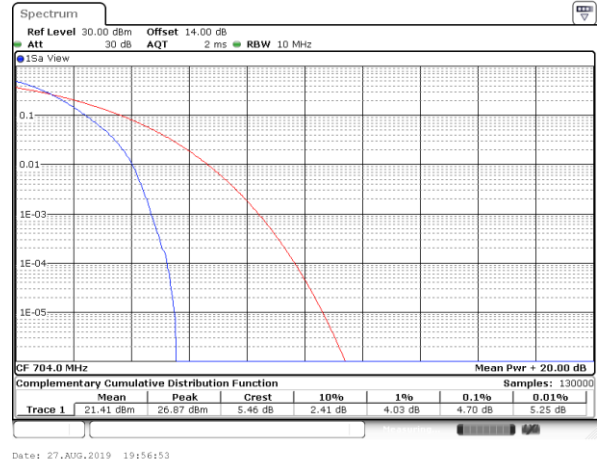
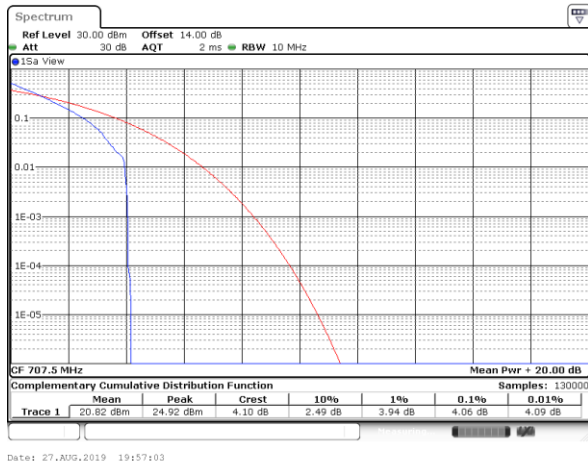
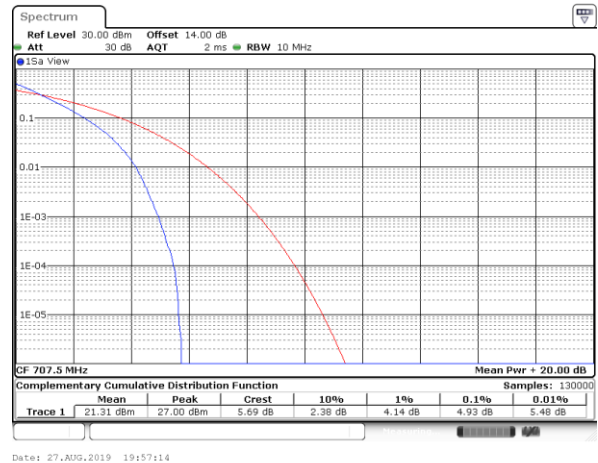
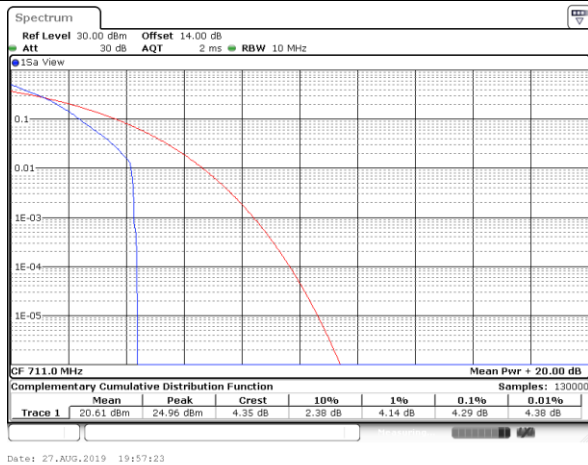
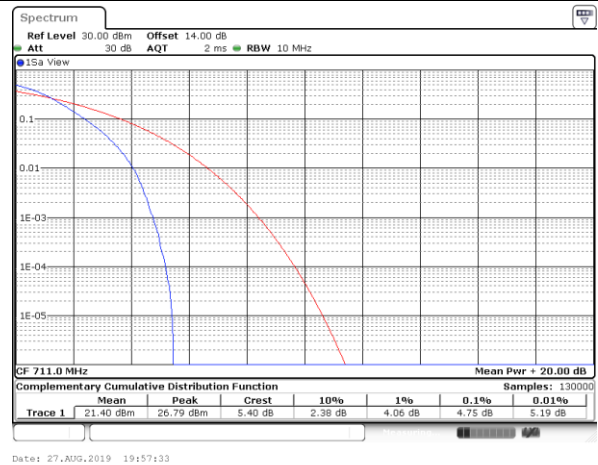
Note: Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.3 V. ; Maximum Voltage =4.35 V.



LTE Band 12

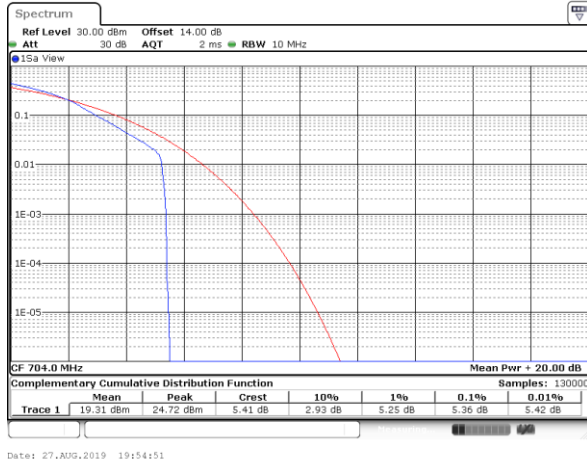
Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.52	4.7	5.36	5.62	PASS
Middle CH	4.06	4.93	5.04	5.71	
Highest CH	4.29	4.75	4.81	5.77	

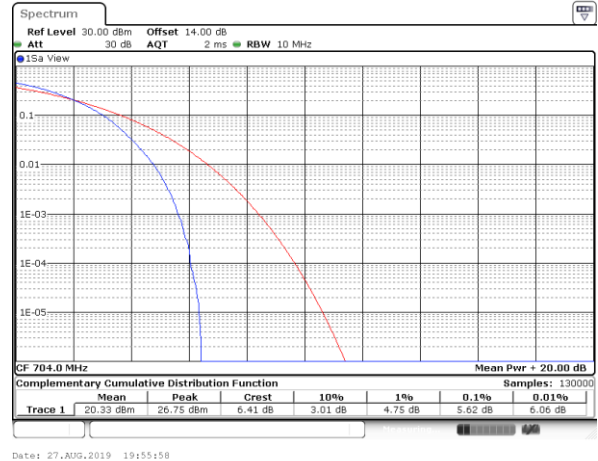
LTE Band 12 / 10MHz / QPSK
Lowest Channel / 1RB

Lowest Channel / Full RB

Middle Channel / 1RB

Middle Channel / Full RB

Highest Channel / 1RB

Highest Channel / Full RB


LTE Band 12 / 10MHz / 16QAM

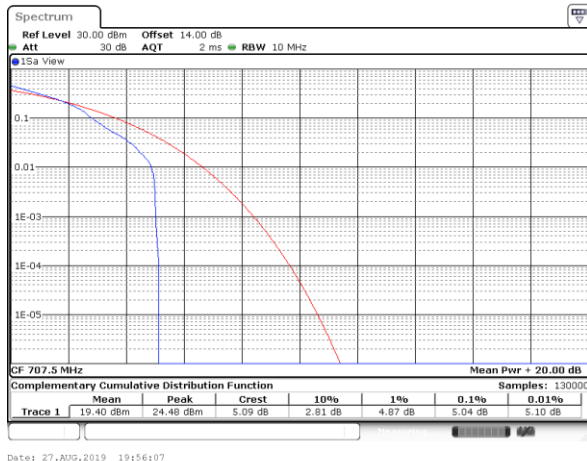
Lowest Channel / 1RB



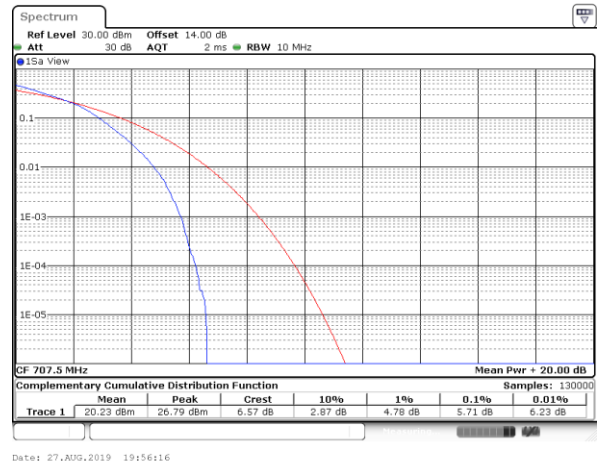
Lowest Channel / Full RB



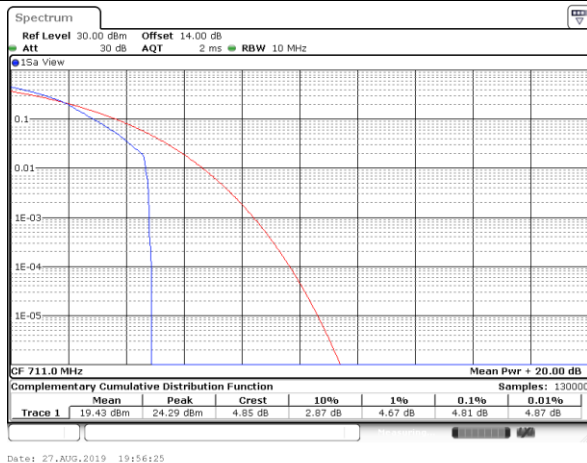
Middle Channel / 1RB



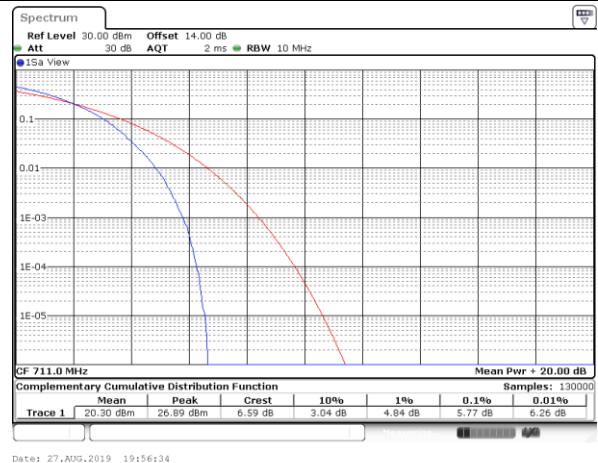
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB





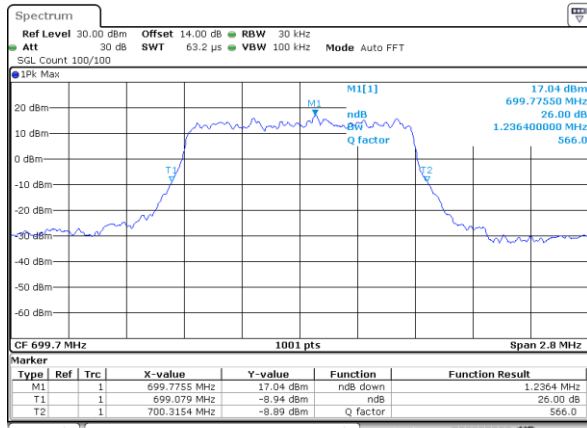
26dB Bandwidth

Mode	LTE Band 12 : 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	1.236	1.27	3.015	2.997	4.855	4.965	9.75	9.75	-	-	-	-
Middle CH	1.262	1.267	3.009	3.015	4.975	4.915	9.89	9.69	-	-	-	-
Highest CH	1.25	1.245	2.985	3.021	4.905	4.875	9.69	9.69	-	-	-	-



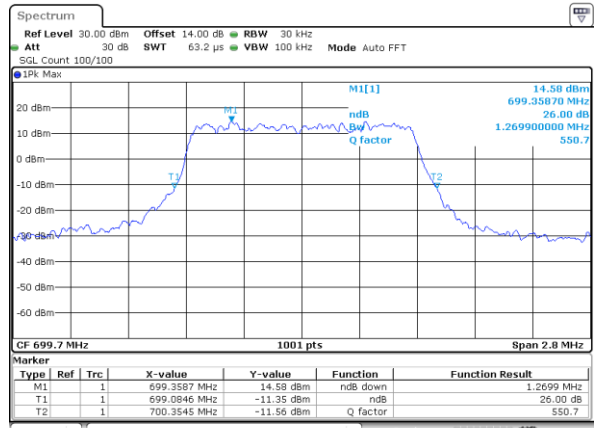
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



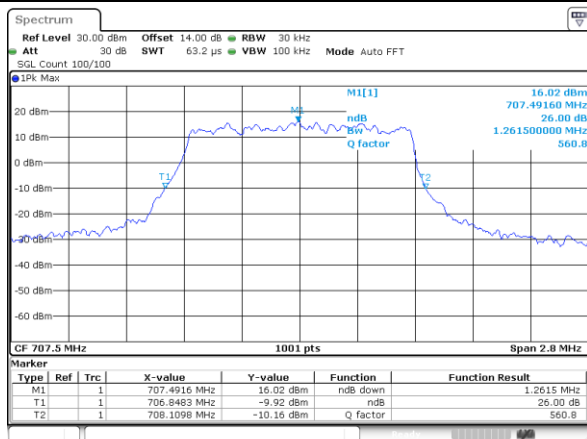
Date: 27.AUG.2019 18:48:13

Lowest Channel / 1.4MHz / 16QAM



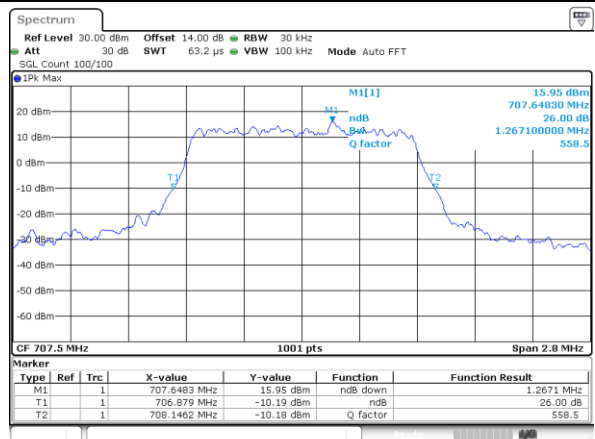
Date: 27.AUG.2019 18:48:03

Middle Channel / 1.4MHz / QPSK



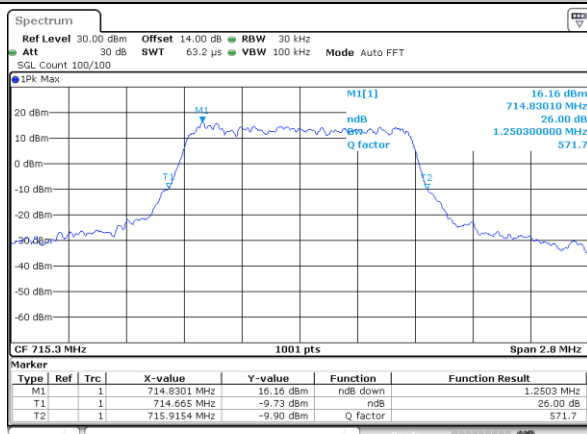
Date: 27.AUG.2019 18:55:11

Middle Channel / 1.4MHz / 16QAM



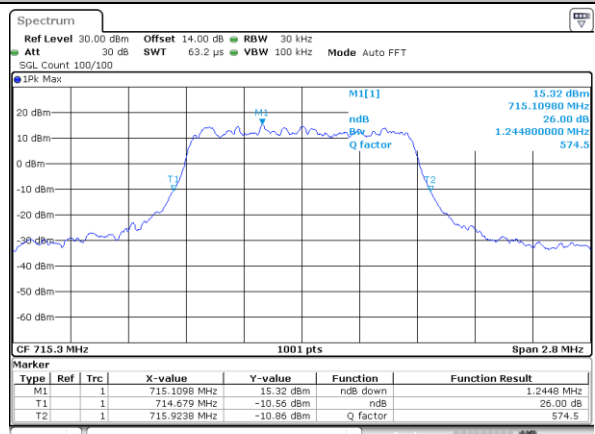
Date: 27.AUG.2019 18:55:21

Highest Channel / 1.4MHz / QPSK



Date: 27.AUG.2019 18:57:42

Highest Channel / 1.4MHz / 16QAM

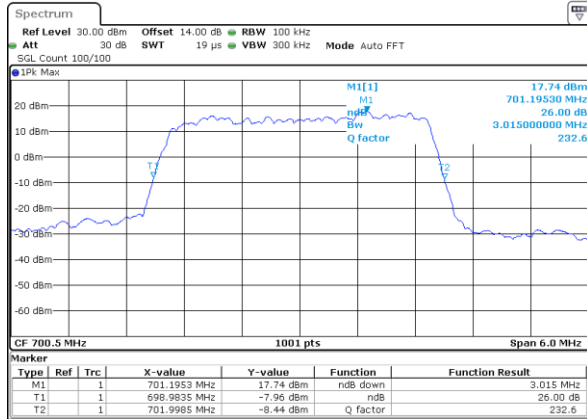


Date: 27.AUG.2019 18:57:52

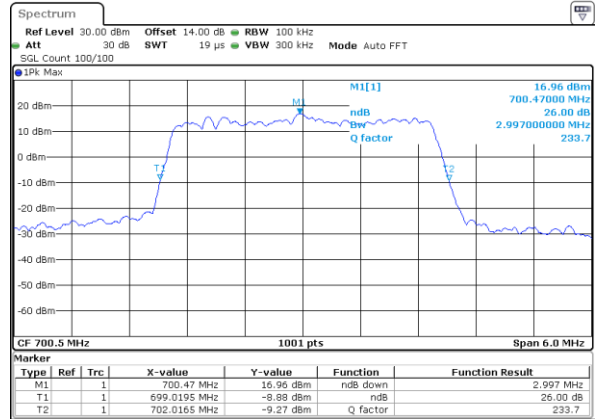


LTE Band 12

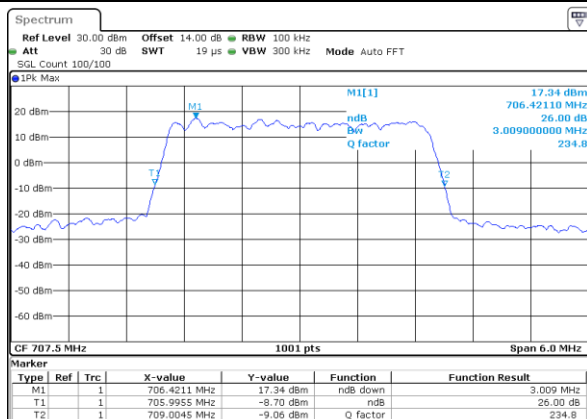
Lowest Channel / 3MHz / QPSK



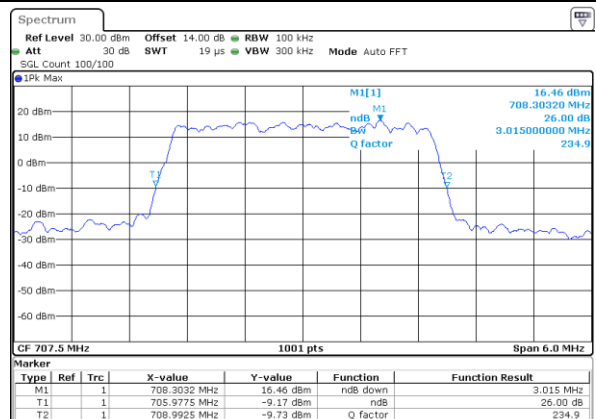
Lowest Channel / 3MHz / 16QAM



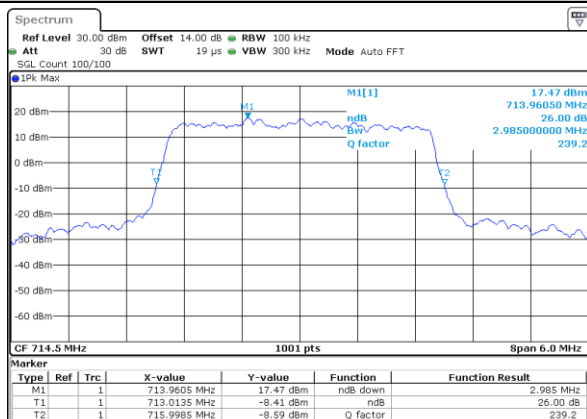
Middle Channel / 3MHz / QPSK



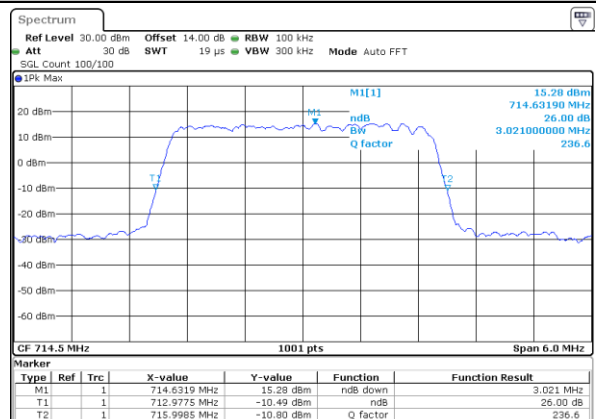
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK



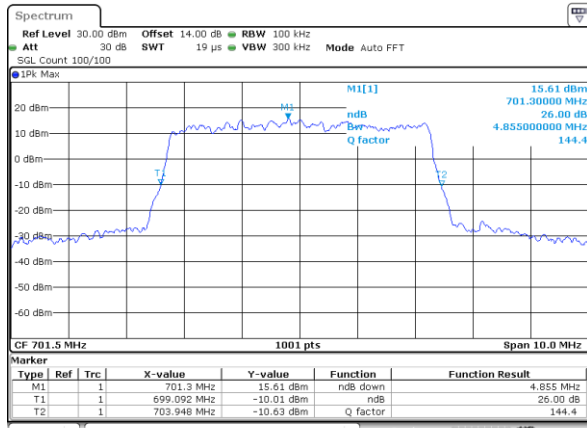
Highest Channel / 3MHz / 16QAM





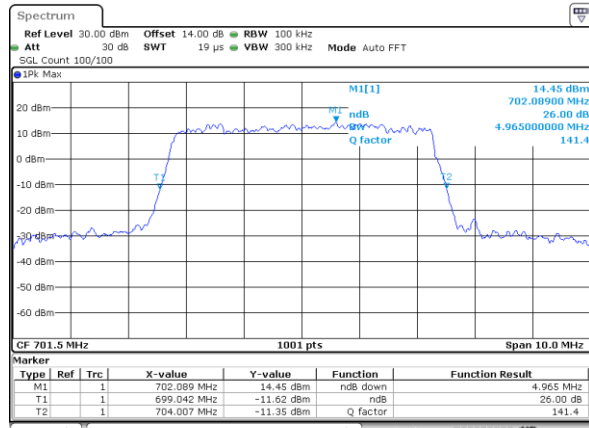
LTE Band 12

Lowest Channel / 5MHz / QPSK



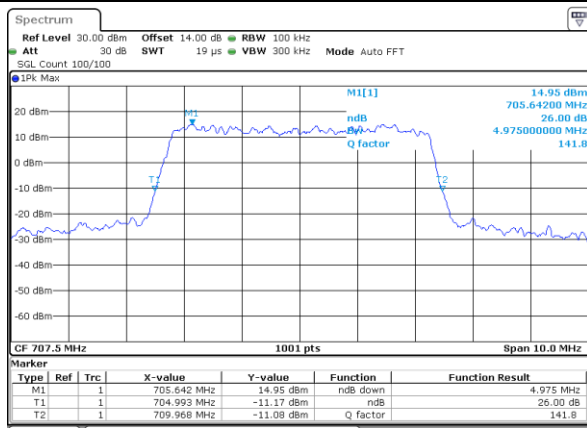
Date: 27.AUG.2019 19:21:37

Lowest Channel / 5MHz / 16QAM



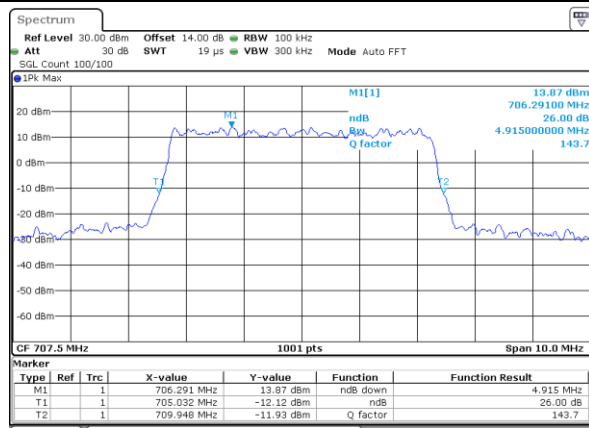
Date: 27.AUG.2019 19:21:47

Middle Channel / 5MHz / QPSK



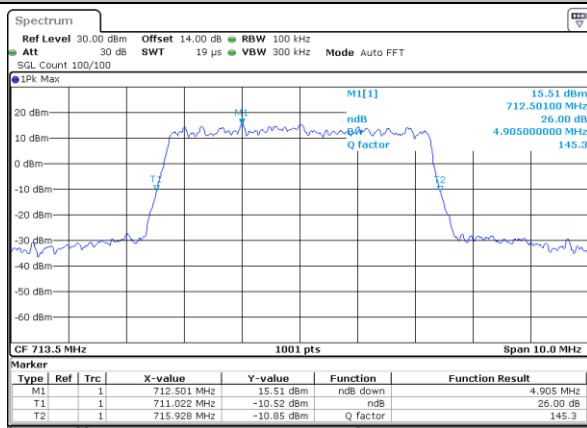
Date: 27.AUG.2019 19:28:44

Middle Channel / 5MHz / 16QAM



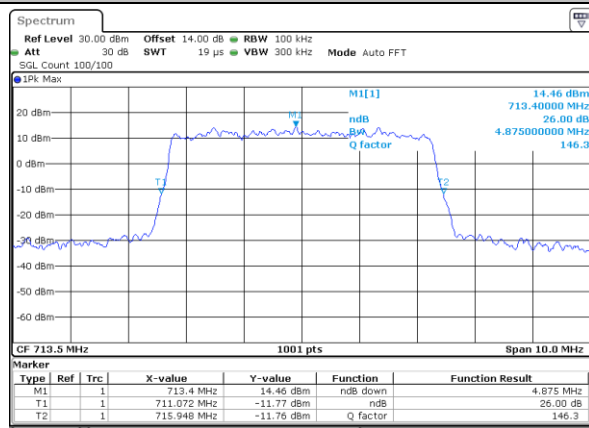
Date: 27.AUG.2019 19:28:54

Highest Channel / 5MHz / QPSK



Date: 27.AUG.2019 19:31:16

Highest Channel / 5MHz / 16QAM

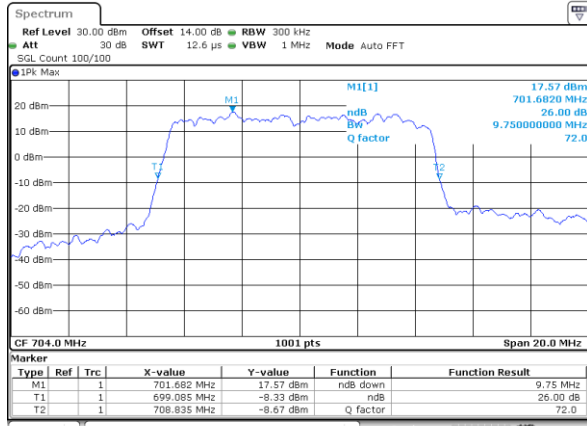


Date: 27.AUG.2019 19:31:26

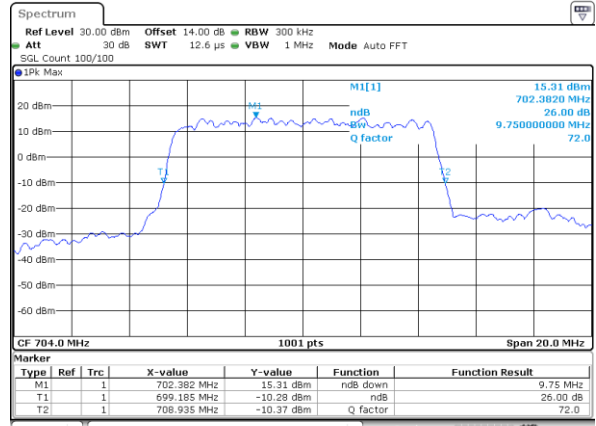


LTE Band 12

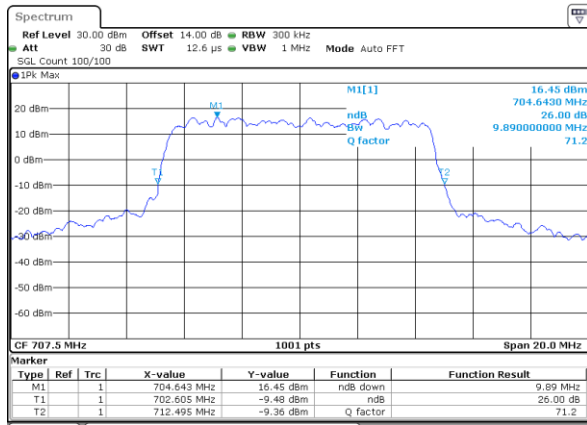
Lowest Channel / 10MHz / QPSK



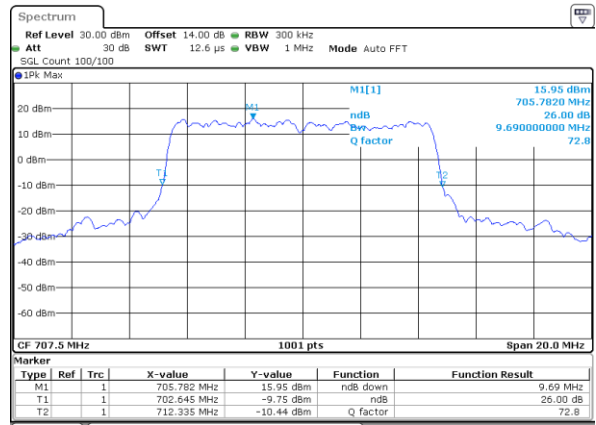
Lowest Channel / 10MHz / 16QAM



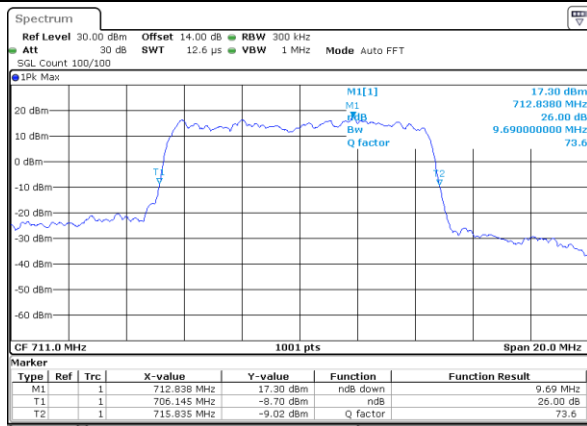
Middle Channel / 10MHz / QPSK



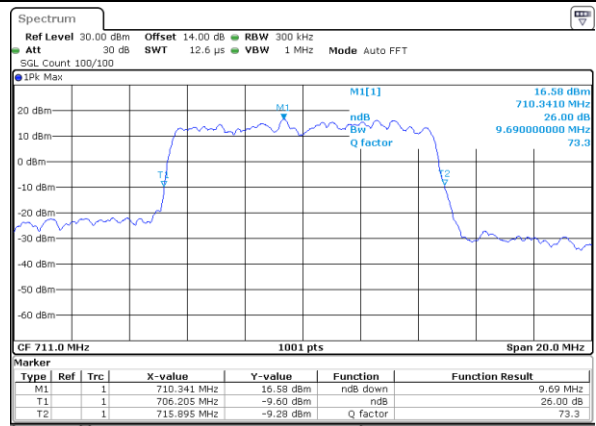
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



Highest Channel / 10MHz / 16QAM





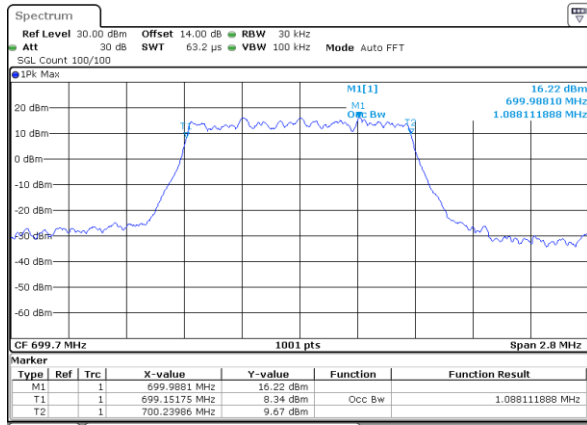
Occupied Bandwidth

Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.7	2.72	4.5	4.47	8.99	8.93	-	-	-	-
Middle CH	1.1	1.1	2.72	2.7	4.5	4.49	9.01	9.03	-	-	-	-
Highest CH	1.09	1.09	2.72	2.73	4.46	4.48	8.99	8.93	-	-	-	-



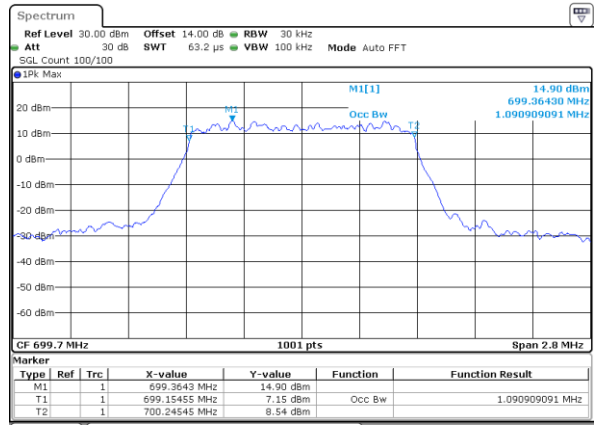
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



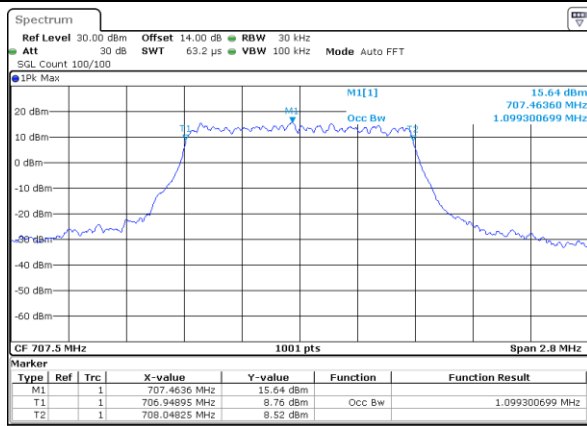
Date: 27.AUG.2019 18:47:43

Lowest Channel / 1.4MHz / 16QAM



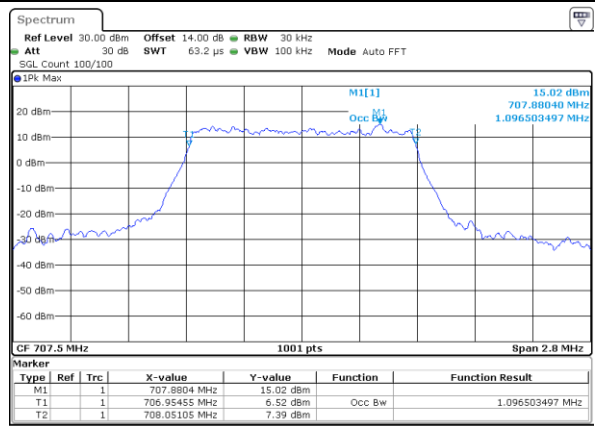
Date: 27.AUG.2019 18:47:53

Middle Channel / 1.4MHz / QPSK



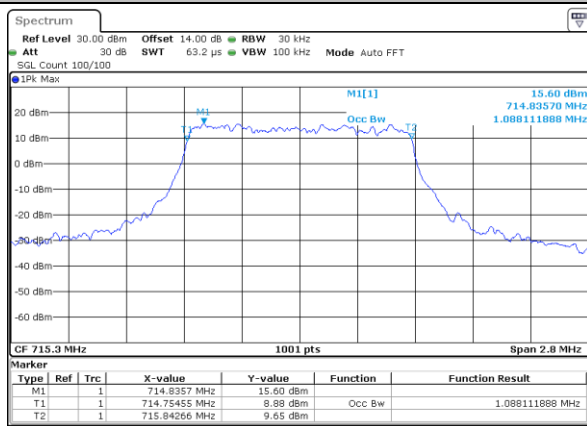
Date: 27.AUG.2019 18:54:50

Middle Channel / 1.4MHz / 16QAM



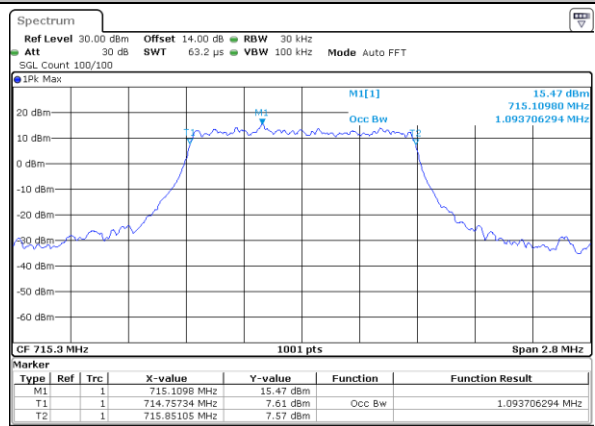
Date: 27.AUG.2019 18:55:00

Highest Channel / 1.4MHz / QPSK



Date: 27.AUG.2019 18:57:22

Highest Channel / 1.4MHz / 16QAM

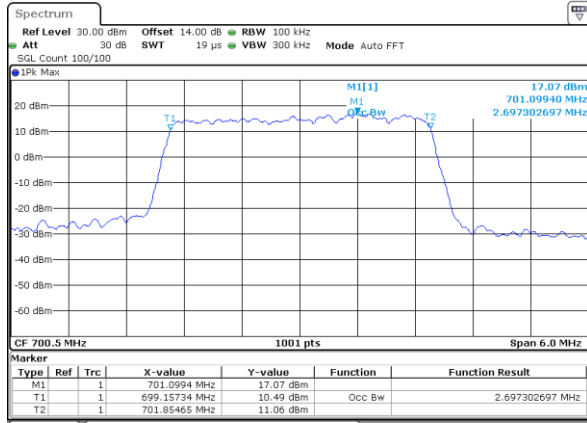


Date: 27.AUG.2019 18:57:32



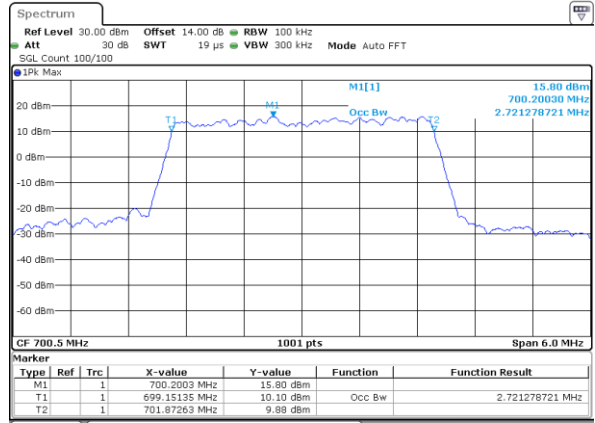
LTE Band 12

Lowest Channel / 3MHz / QPSK



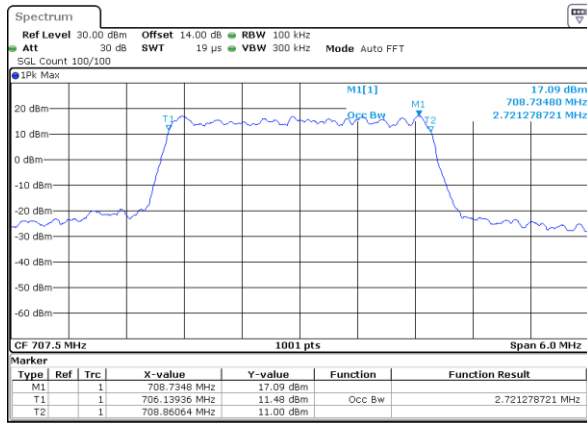
Date: 27.AUG.2019 19:04:29

Lowest Channel / 3MHz / 16QAM



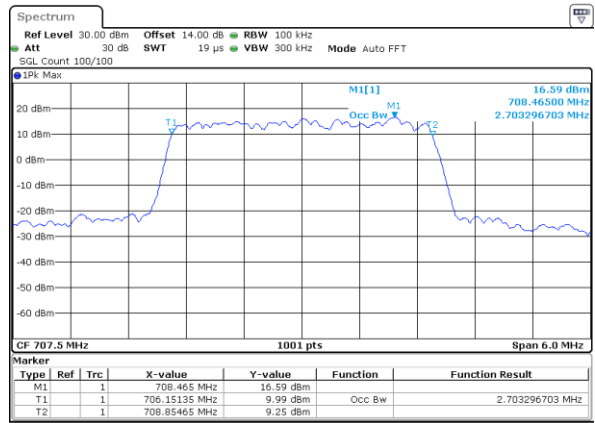
Date: 27.AUG.2019 19:04:39

Middle Channel / 3MHz / QPSK



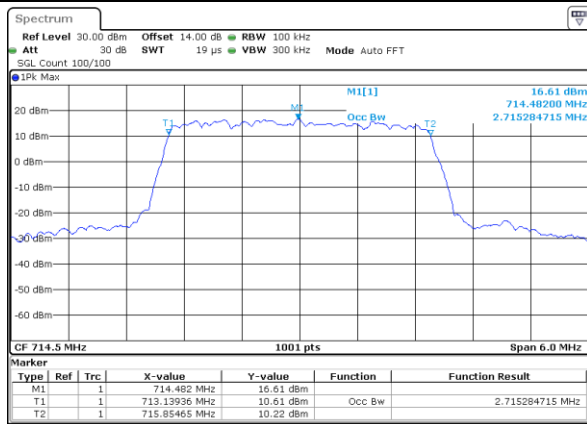
Date: 27.AUG.2019 19:11:37

Middle Channel / 3MHz / 16QAM



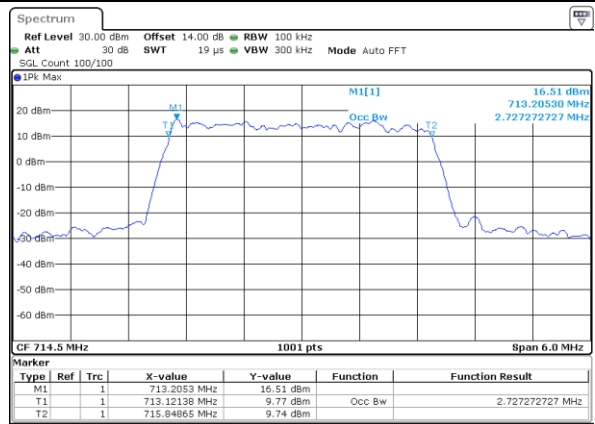
Date: 27.AUG.2019 19:11:47

Highest Channel / 3MHz / QPSK



Date: 27.AUG.2019 19:14:08

Highest Channel / 3MHz / 16QAM

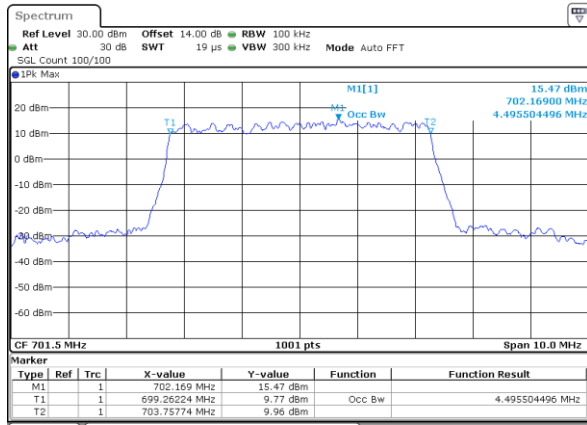


Date: 27.AUG.2019 19:14:19

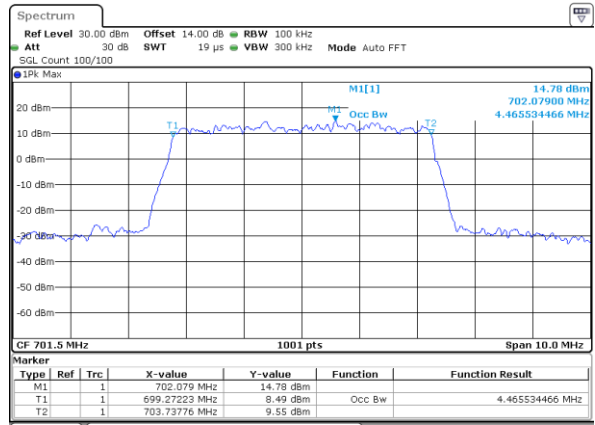


LTE Band 12

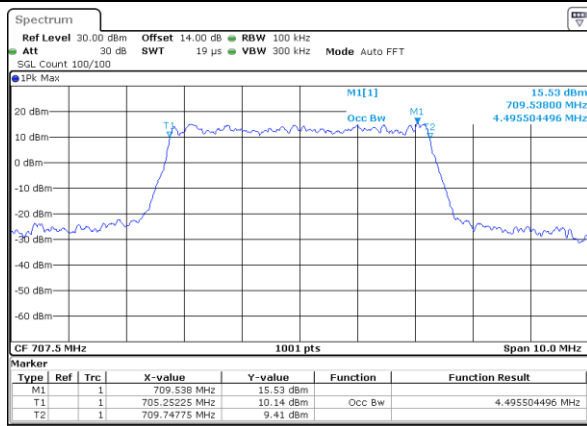
Lowest Channel / 5MHz / QPSK



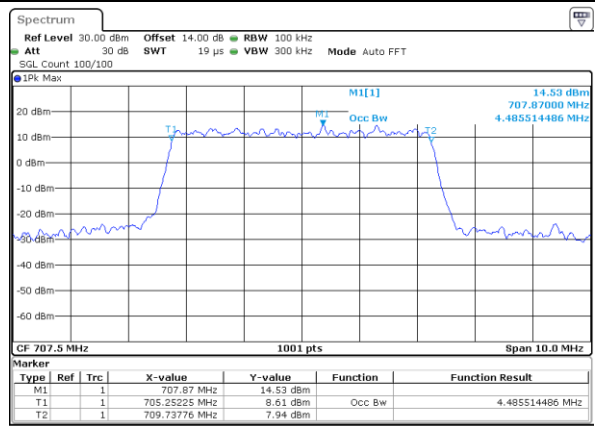
Lowest Channel / 5MHz / 16QAM



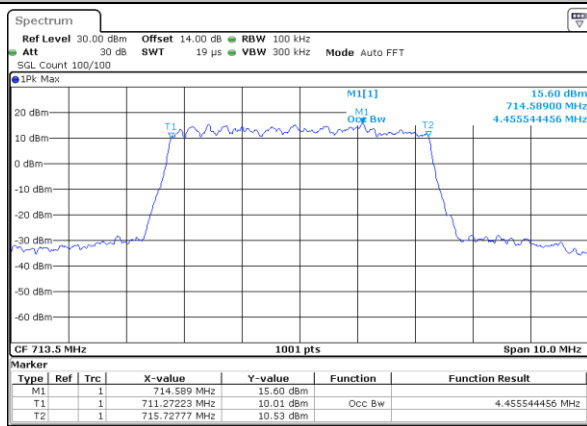
Middle Channel / 5MHz / QPSK



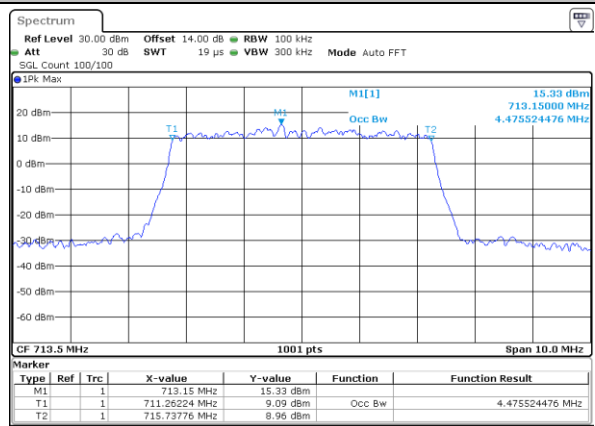
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



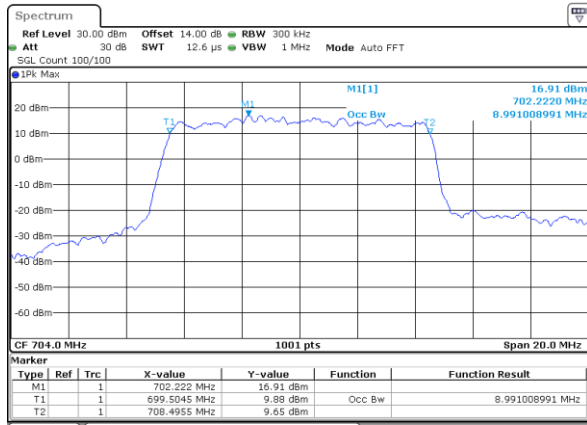
Highest Channel / 5MHz / 16QAM





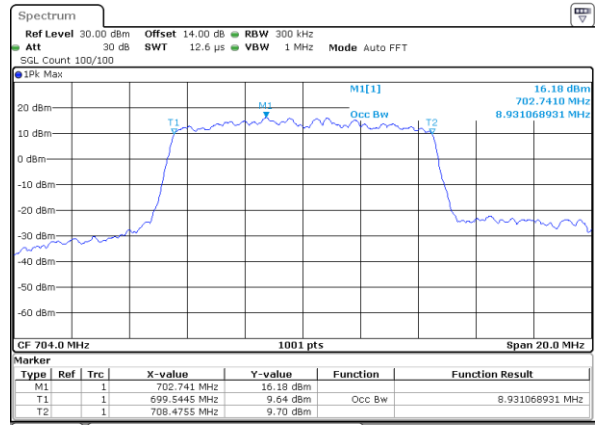
LTE Band 12

Lowest Channel / 10MHz / QPSK



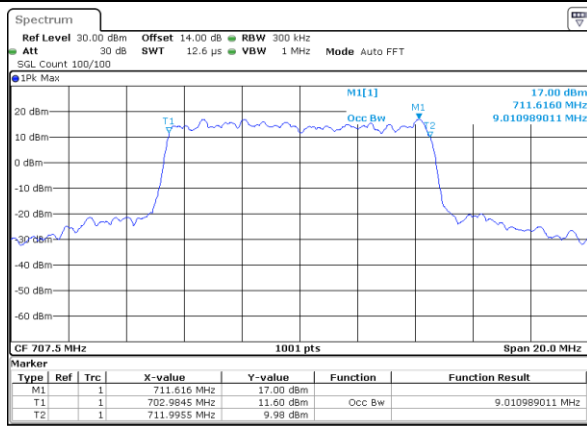
Date: 27.AUG.2019 19:38:02

Lowest Channel / 10MHz / 16QAM



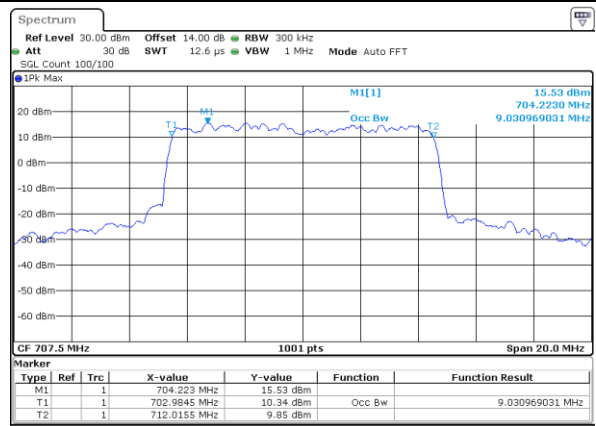
Date: 27.AUG.2019 19:38:13

Middle Channel / 10MHz / QPSK



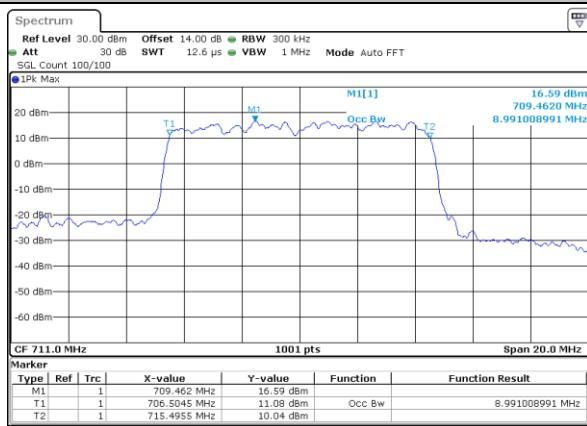
Date: 27.AUG.2019 19:45:10

Middle Channel / 10MHz / 16QAM



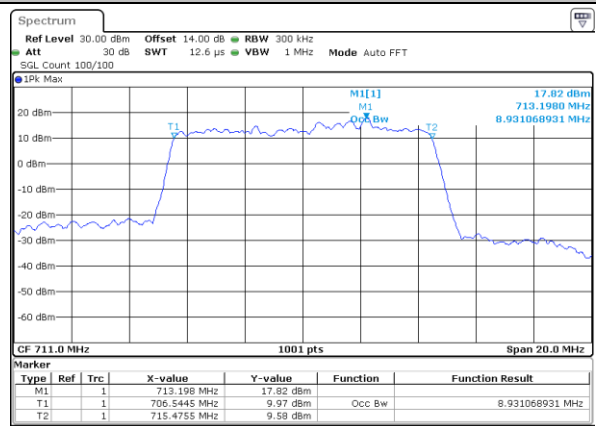
Date: 27.AUG.2019 19:45:20

Highest Channel / 10MHz / QPSK

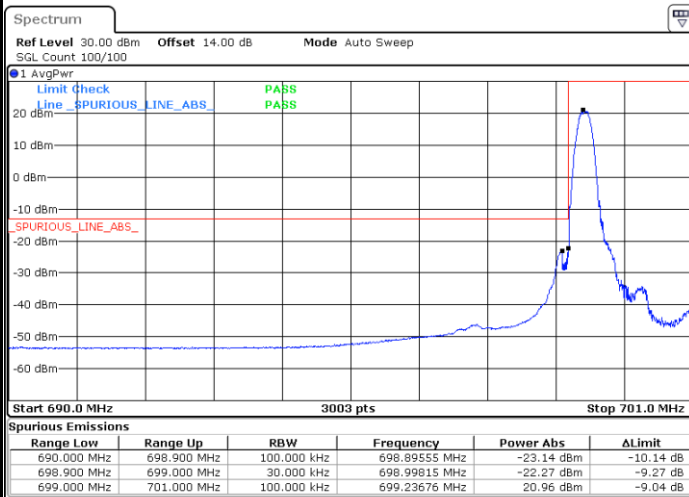
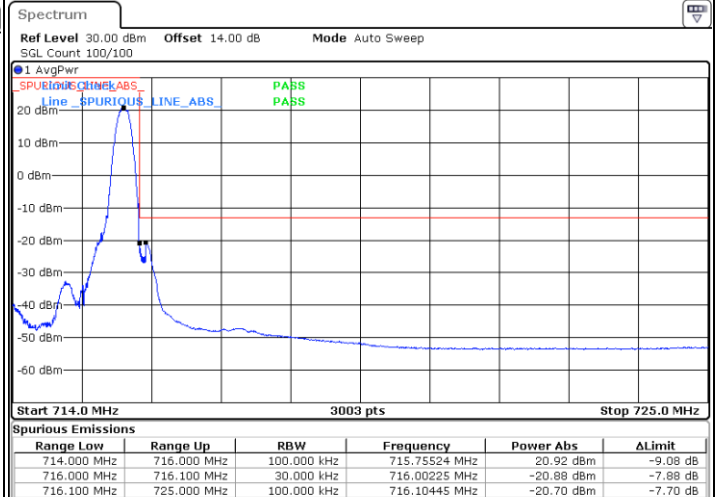
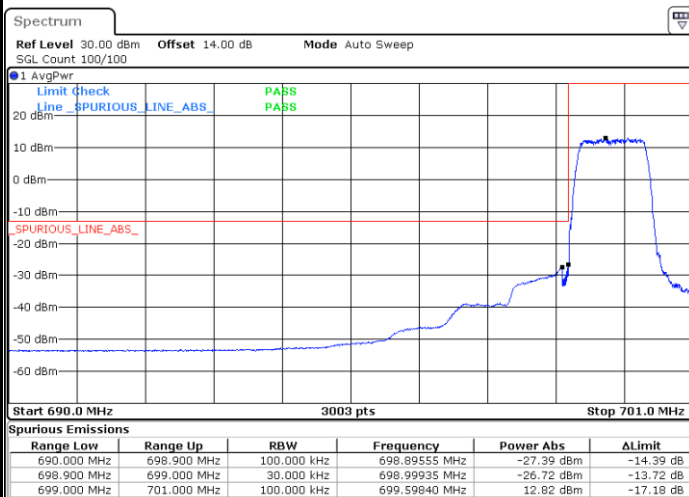
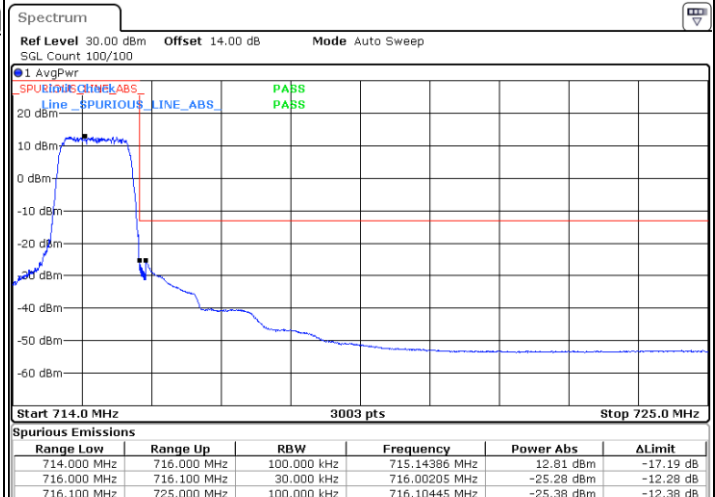


Date: 27.AUG.2019 19:47:41

Highest Channel / 10MHz / 16QAM



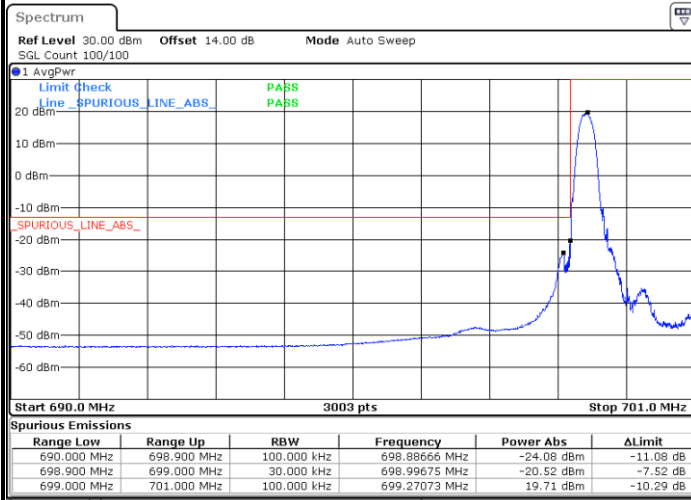
Date: 27.AUG.2019 19:47:51

**Conducted Band Edge****LTE Band 12 / 1.4MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**

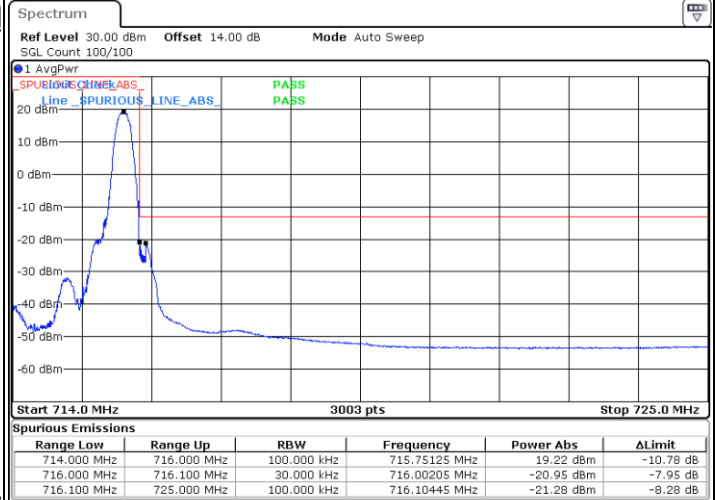


LTE Band 12 / 1.4MHz / 16QAM

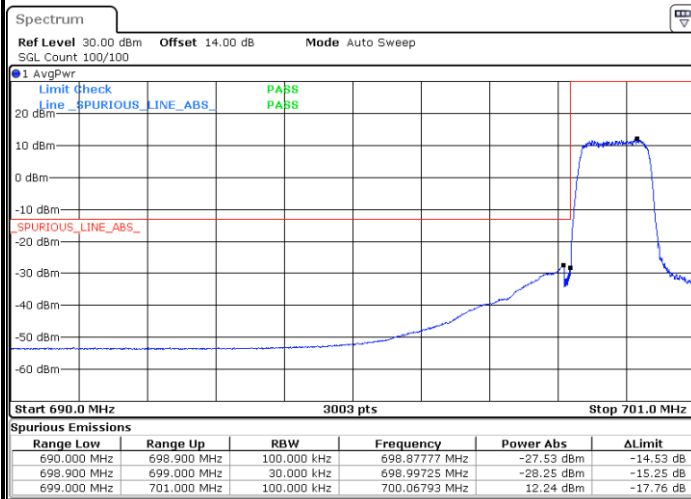
Lowest Band Edge / 1 RB



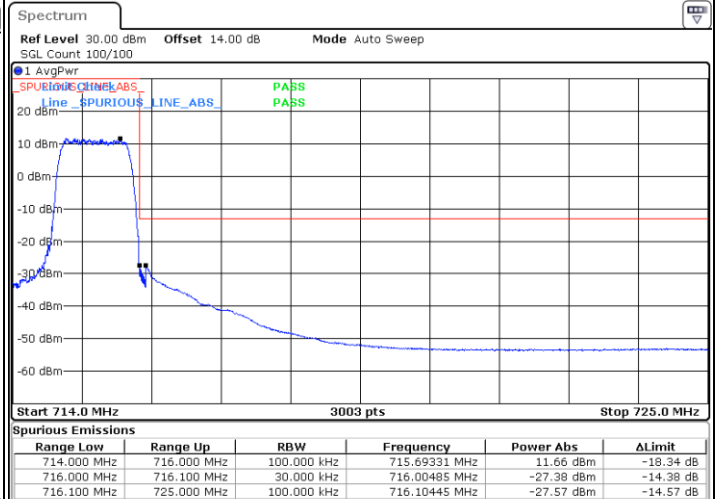
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



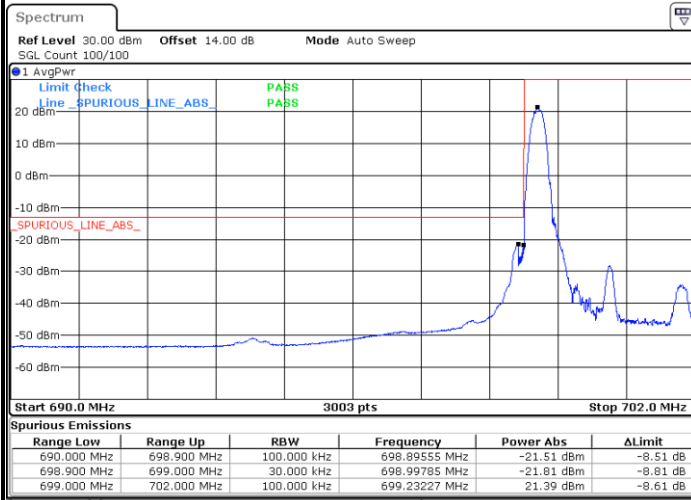
Highest Band Edge / Full RB



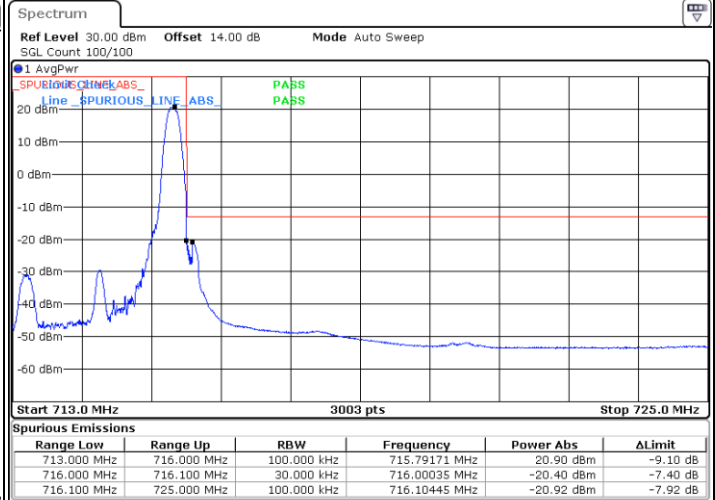


LTE Band 12 / 3MHz / QPSK

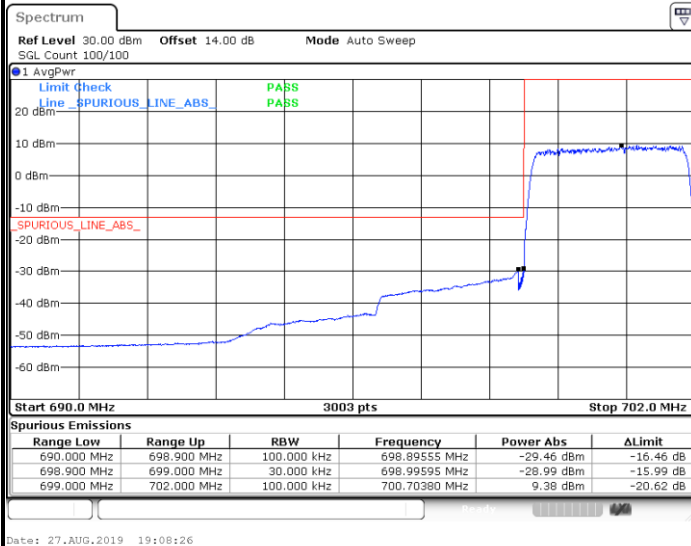
Lowest Band Edge / 1RB



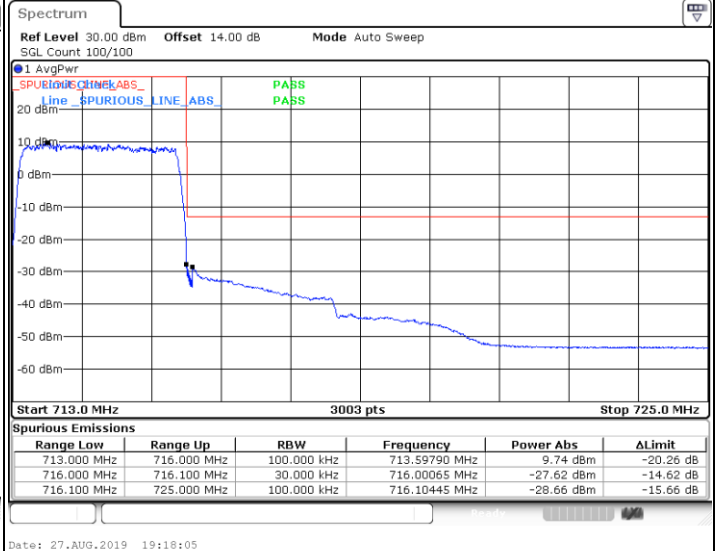
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



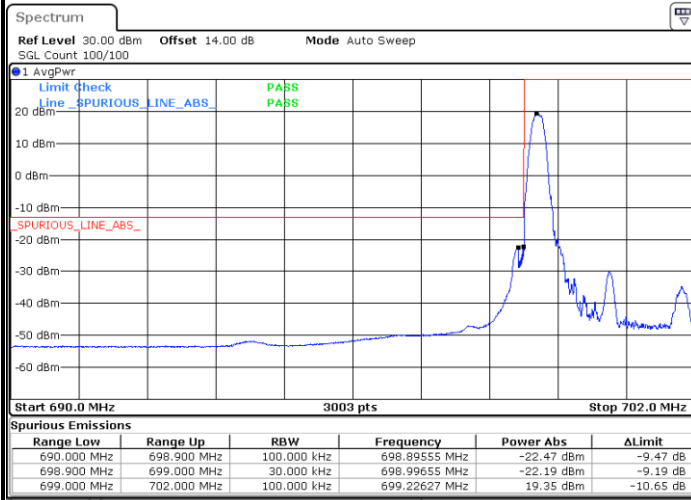
Highest Band Edge / Full RB



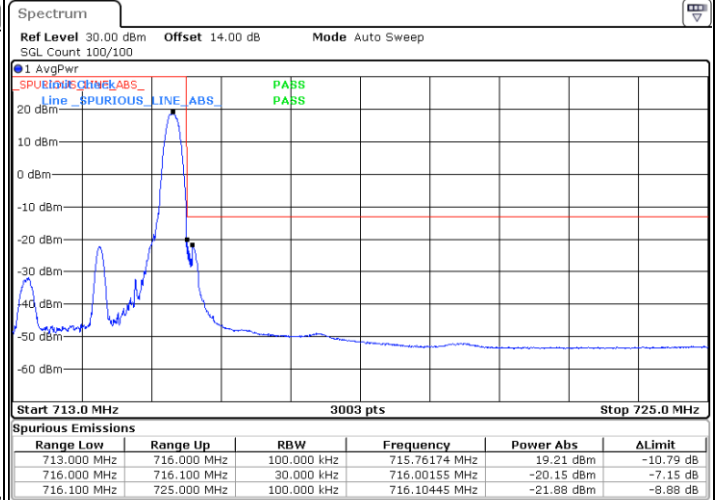


LTE Band 12 / 3MHz / 16QAM

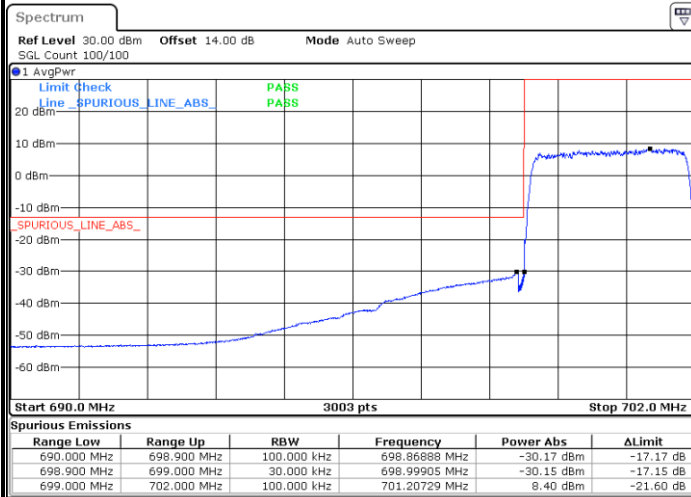
Lowest Band Edge / 1 RB



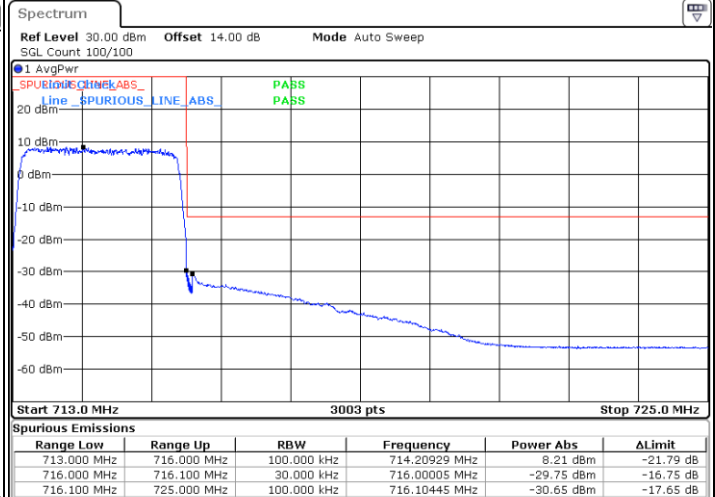
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



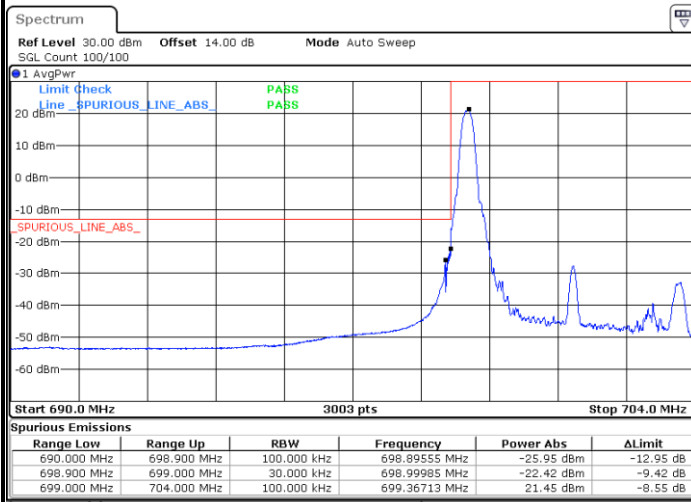
Highest Band Edge / Full RB



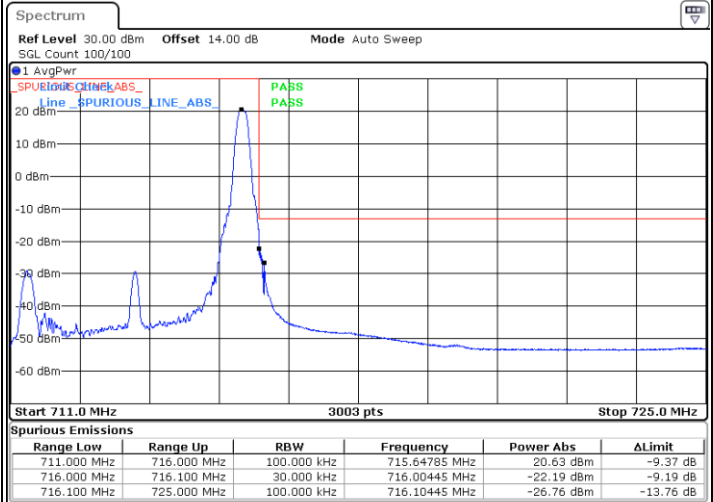


LTE Band 12 / 5MHz / QPSK

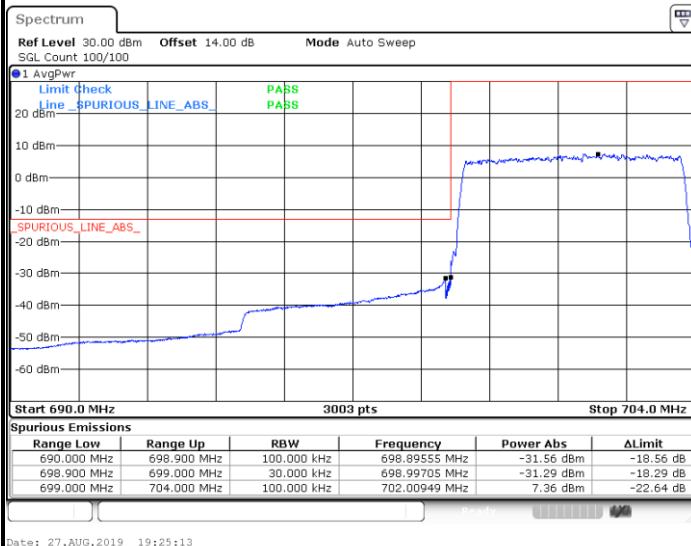
Lowest Band Edge / 1 RB



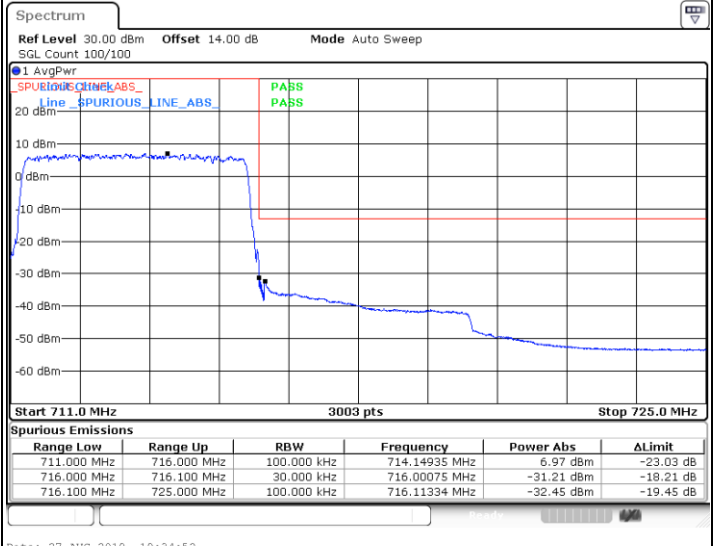
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



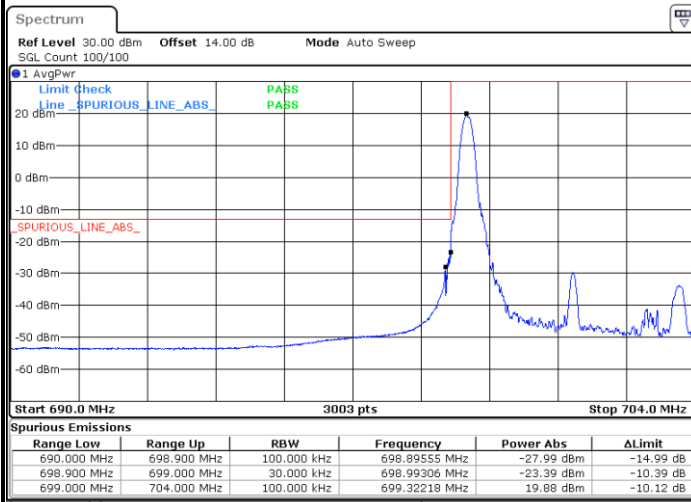
Highest Band Edge / Full RB



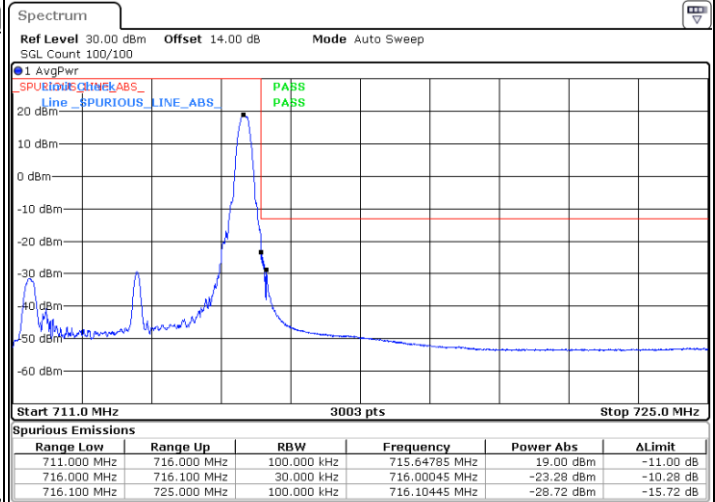


LTE Band 12 / 5MHz / 16QAM

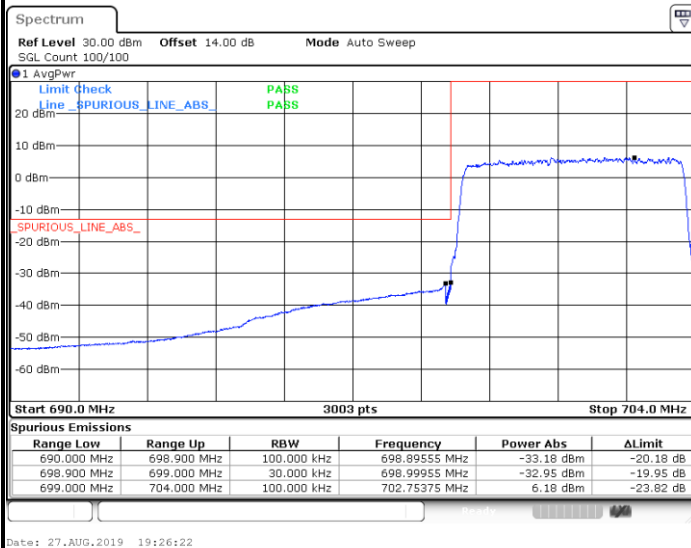
Lowest Band Edge / 1RB



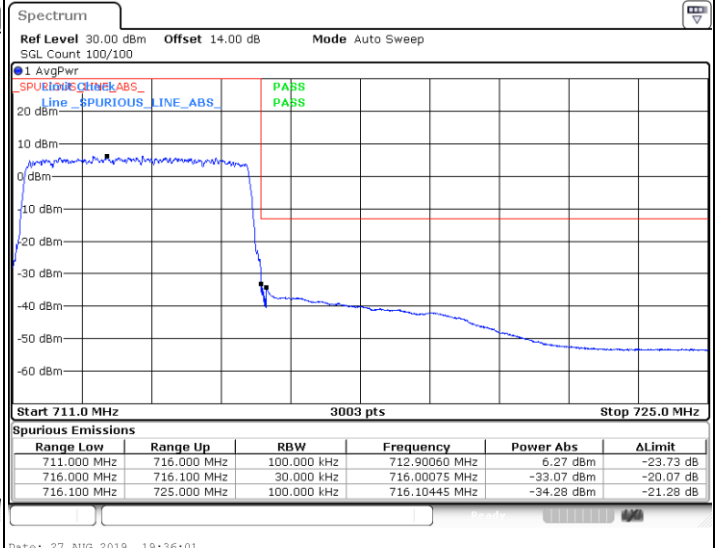
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



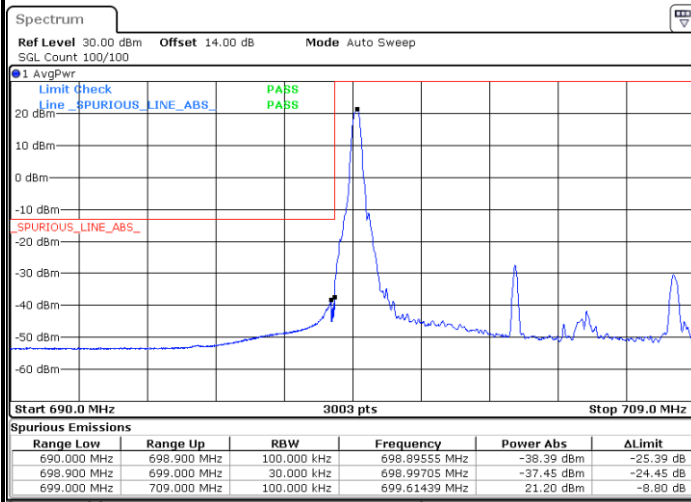
Highest Band Edge / Full RB



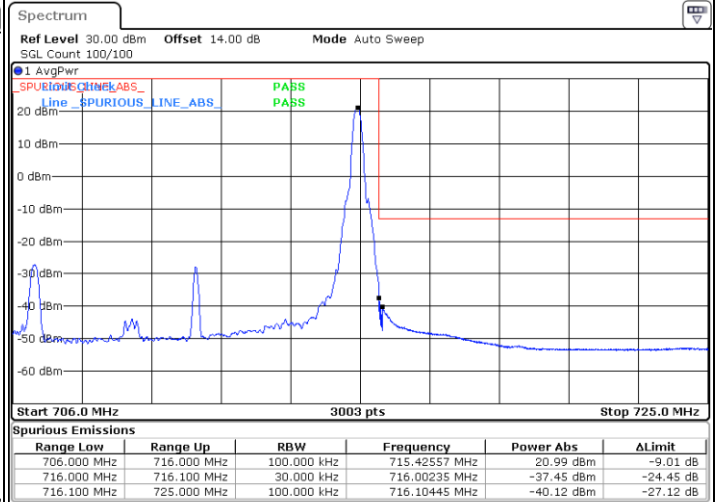


LTE Band 12 / 10MHz / QPSK

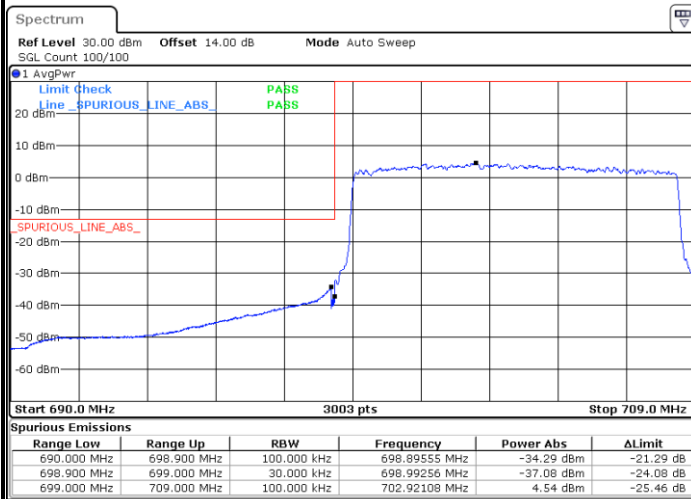
Lowest Band Edge / 1 RB



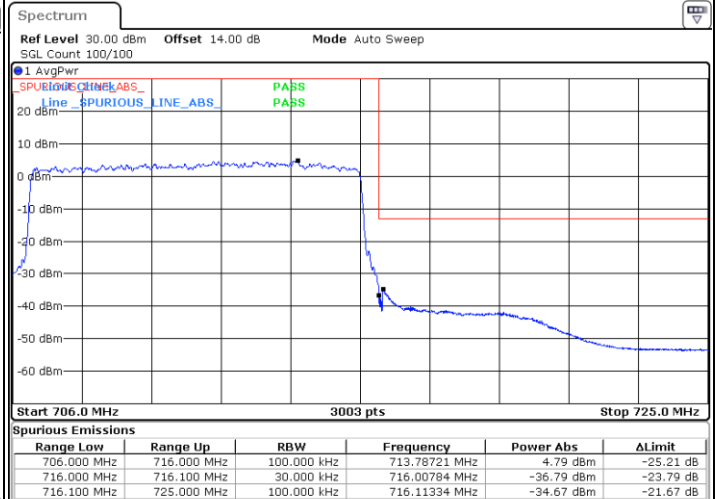
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



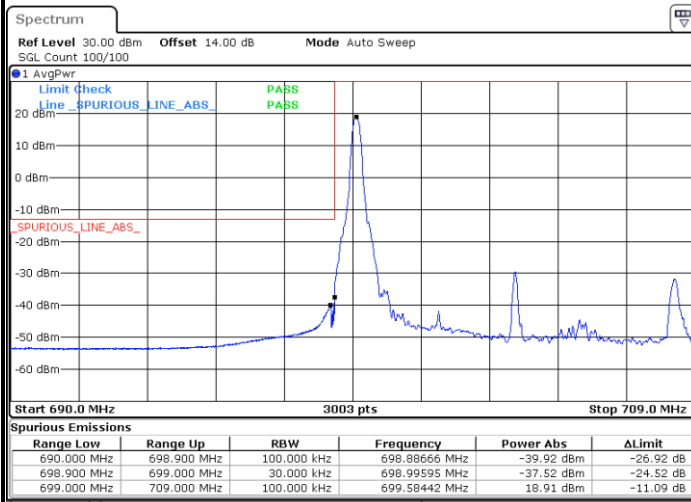
Highest Band Edge / Full RB



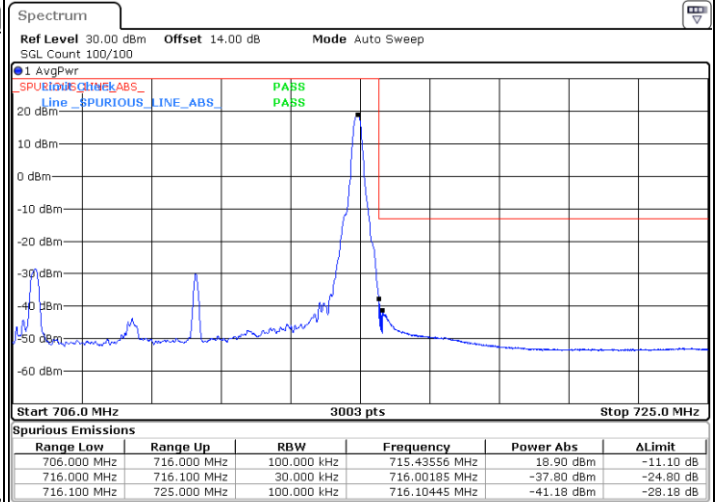


LTE Band 12 / 10MHz / 16QAM

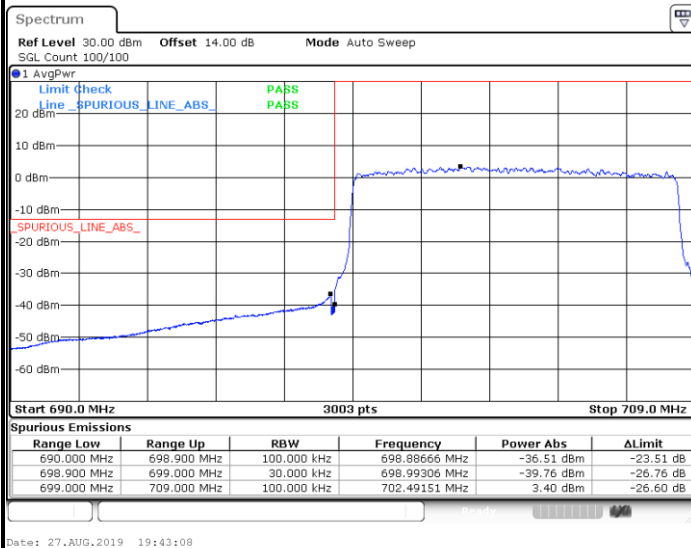
Lowest Band Edge / 1 RB



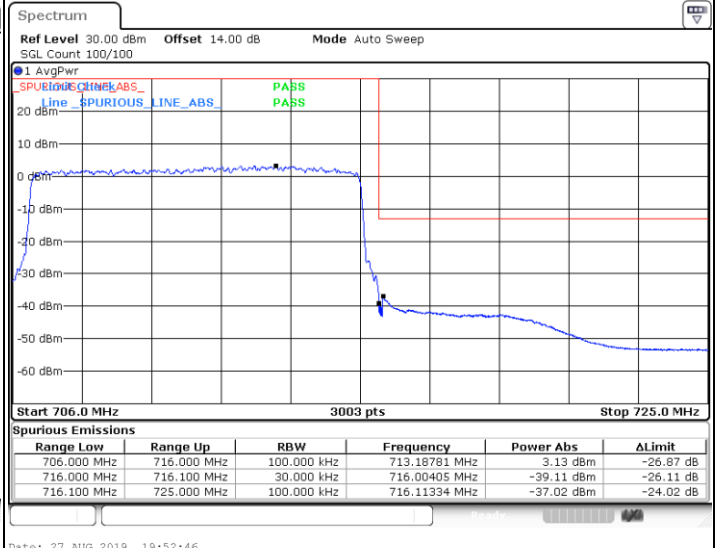
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB

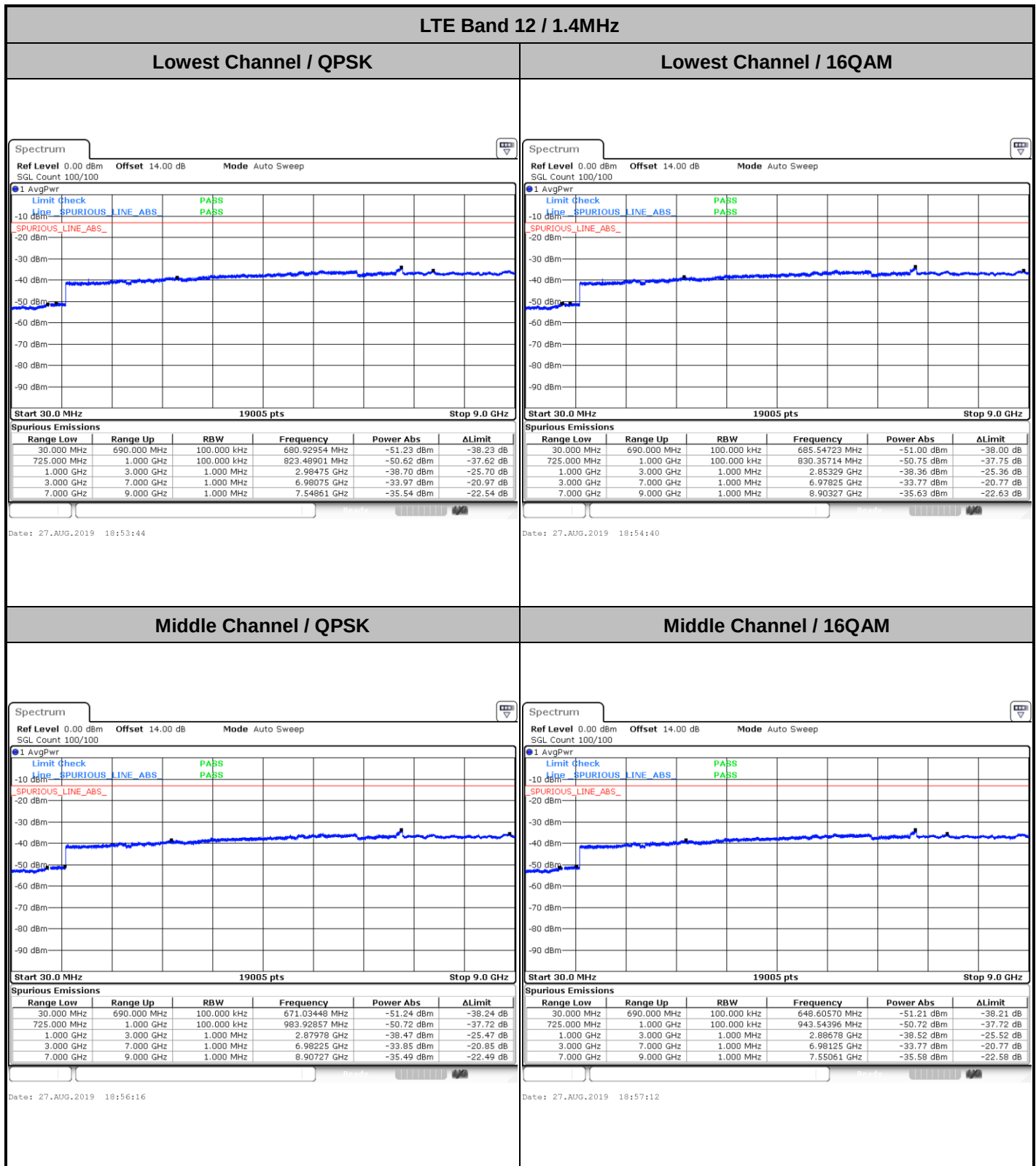


Highest Band Edge / Full RB





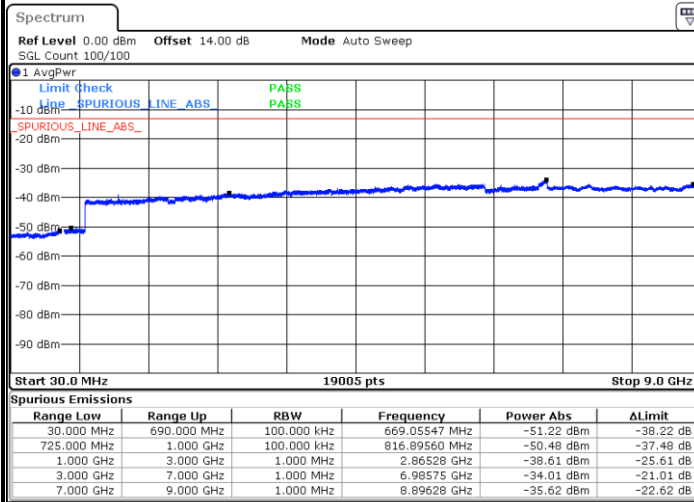
Conducted Spurious Emission





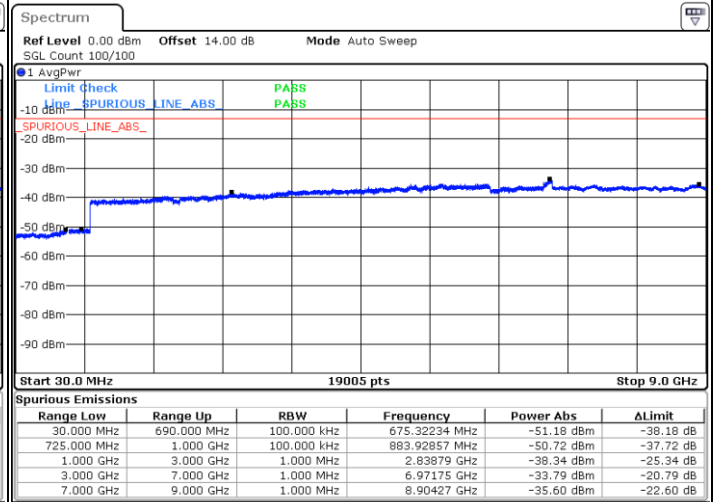
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 27.AUG.2019 19:03:23

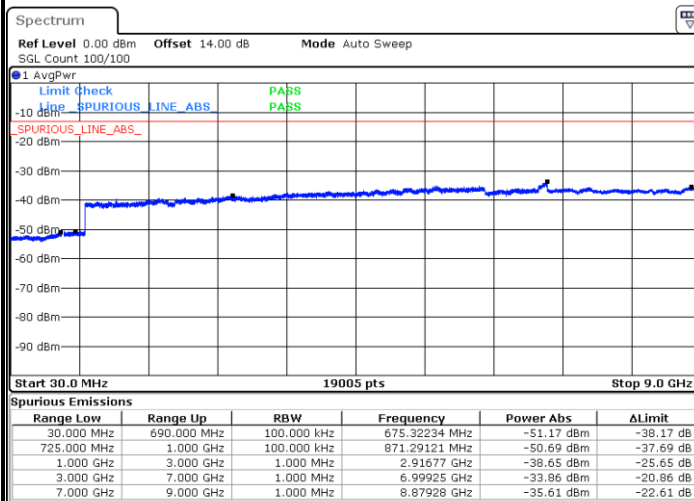
Highest Channel / 16QAM



Date: 27.AUG.2019 19:04:19

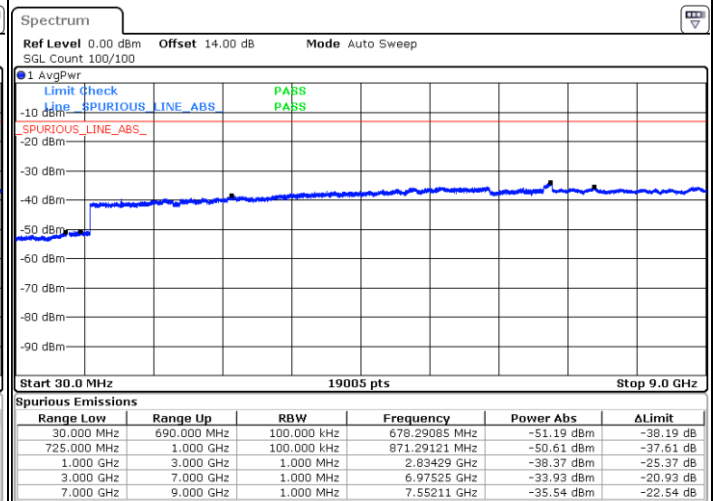
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 27.AUG.2019 19:10:31

Lowest Channel / 16QAM

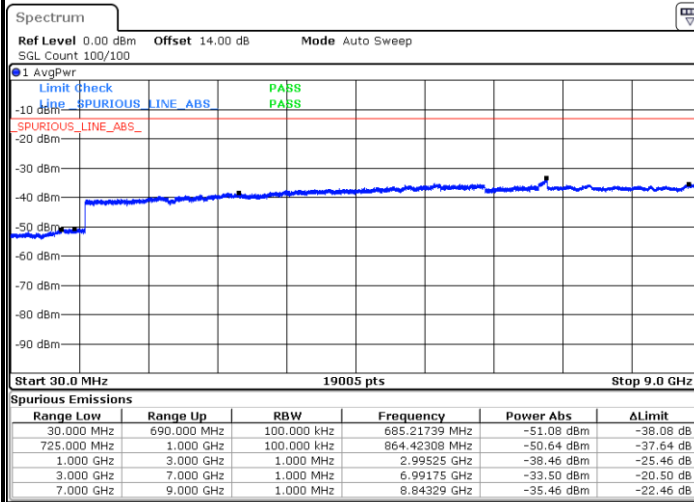


Date: 27.AUG.2019 19:11:27



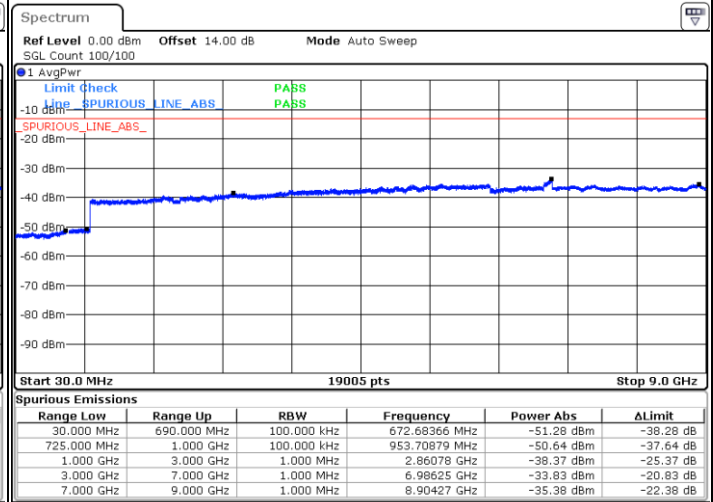
LTE Band 12 / 3MHz

Middle Channel / QPSK



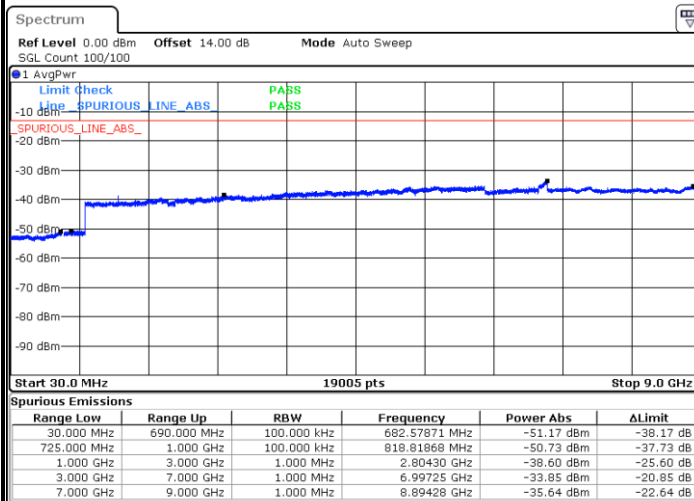
Date: 27.AUG.2019 19:13:03

Middle Channel / 16QAM



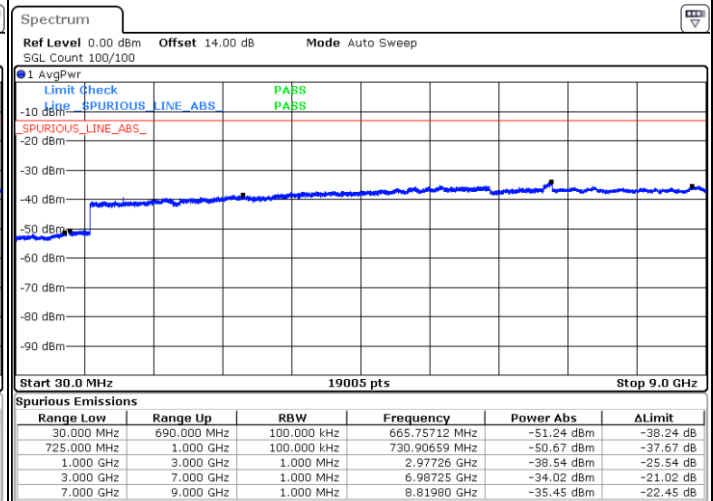
Date: 27.AUG.2019 19:13:58

Highest Channel / QPSK



Date: 27.AUG.2019 19:20:10

Highest Channel / 16QAM

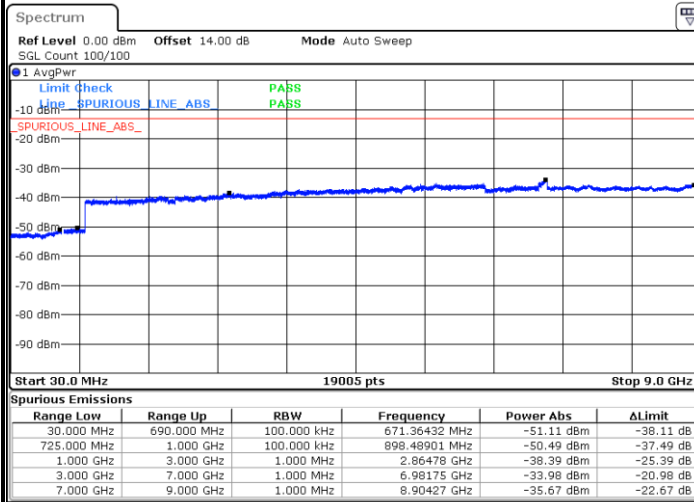


Date: 27.AUG.2019 19:21:06



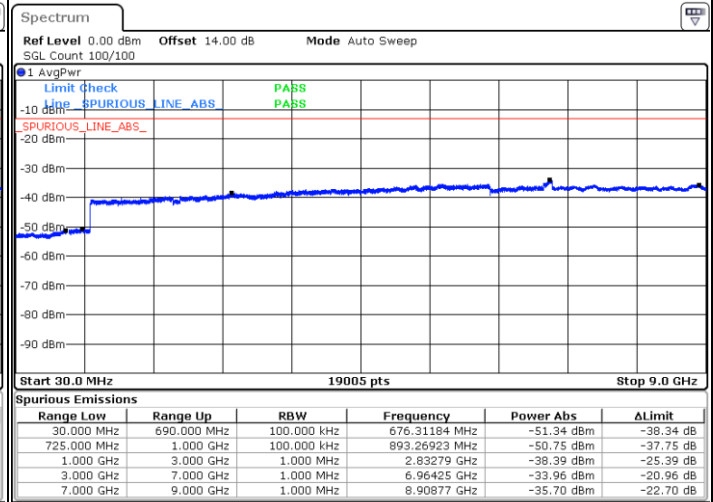
LTE Band 12 / 5MHz

Lowest Channel / QPSK



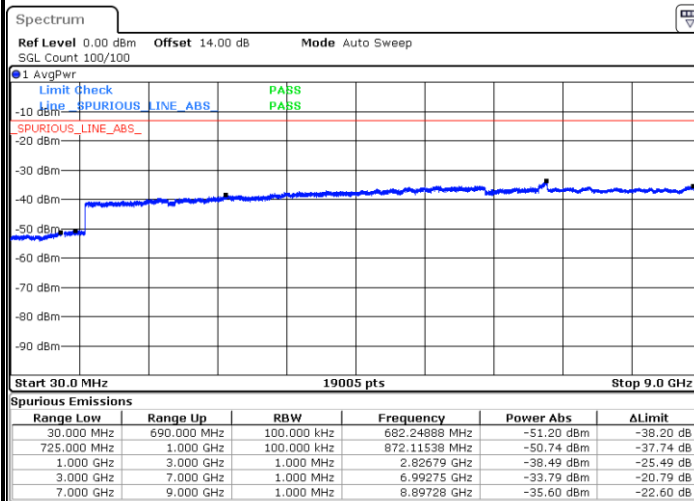
Date: 27.AUG.2019 19:27:18

Lowest Channel / 16QAM



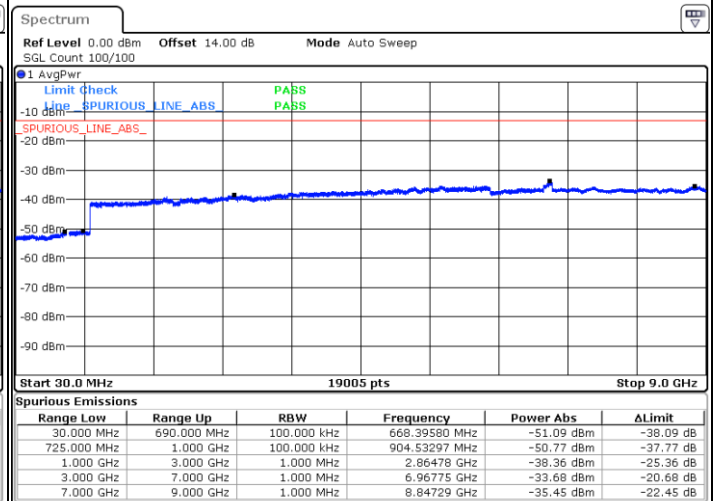
Date: 27.AUG.2019 19:28:14

Middle Channel / QPSK



Date: 27.AUG.2019 19:29:50

Middle Channel / 16QAM

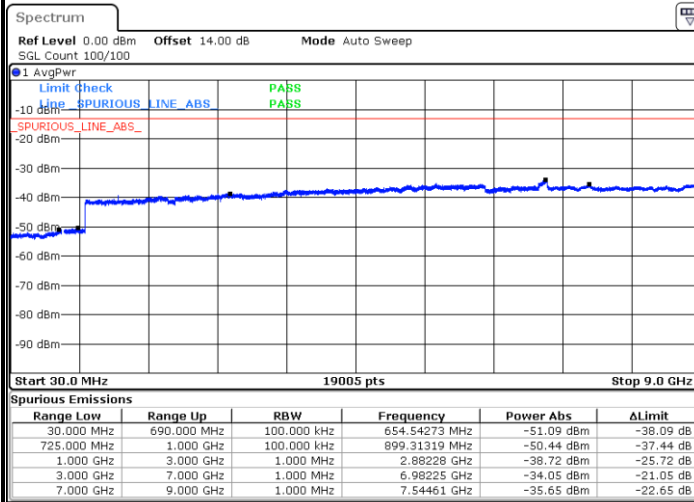


Date: 27.AUG.2019 19:30:45



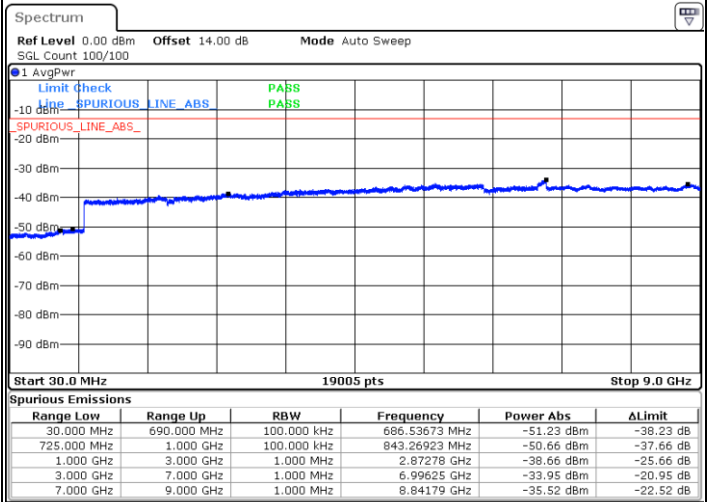
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 27.AUG.2019 19:36:57

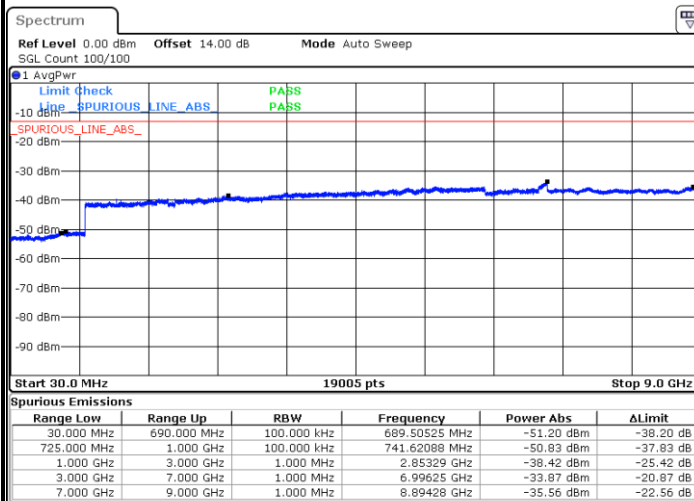
Highest Channel / 16QAM



Date: 27.AUG.2019 19:37:52

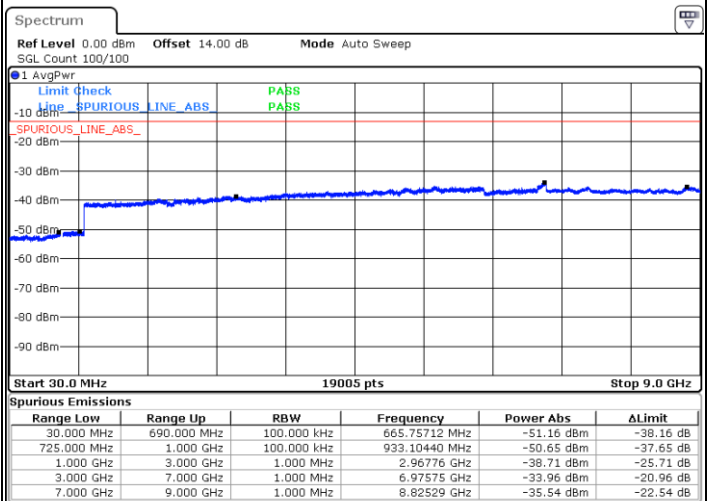
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 27.AUG.2019 19:44:04

Lowest Channel / 16QAM

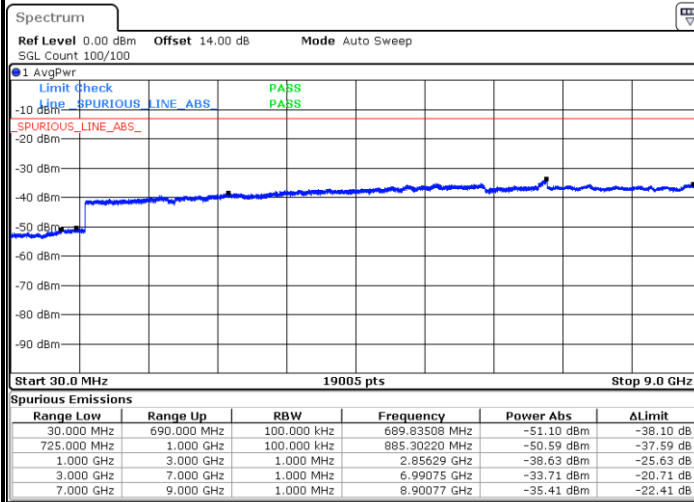


Date: 27.AUG.2019 19:44:59



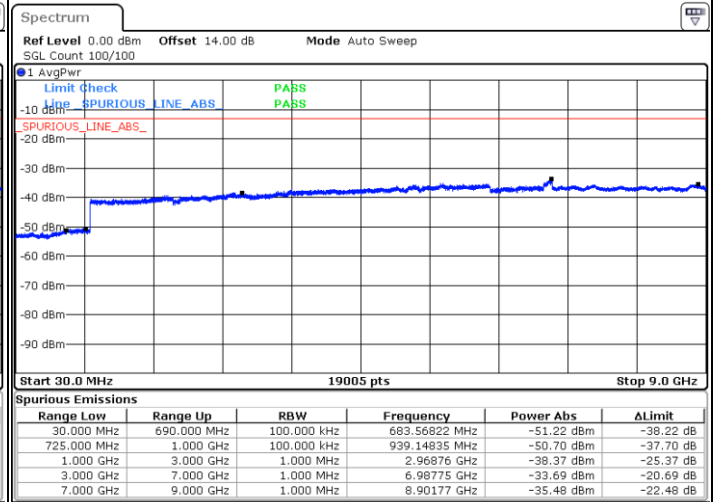
LTE Band 12 / 10MHz

Middle Channel / QPSK



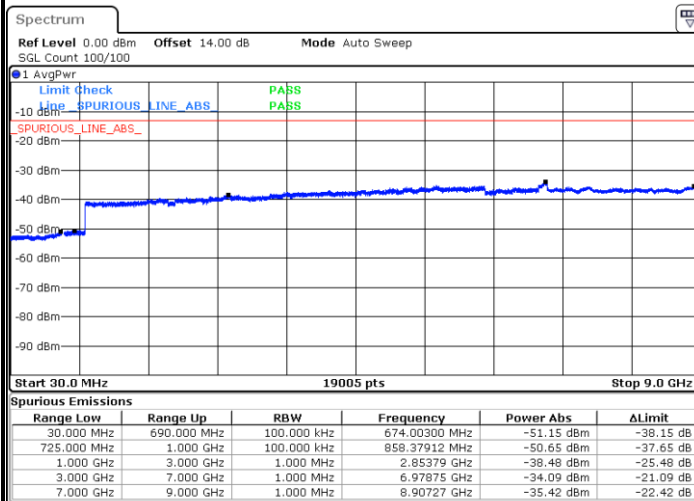
Date: 27.AUG.2019 19:46:35

Middle Channel / 16QAM



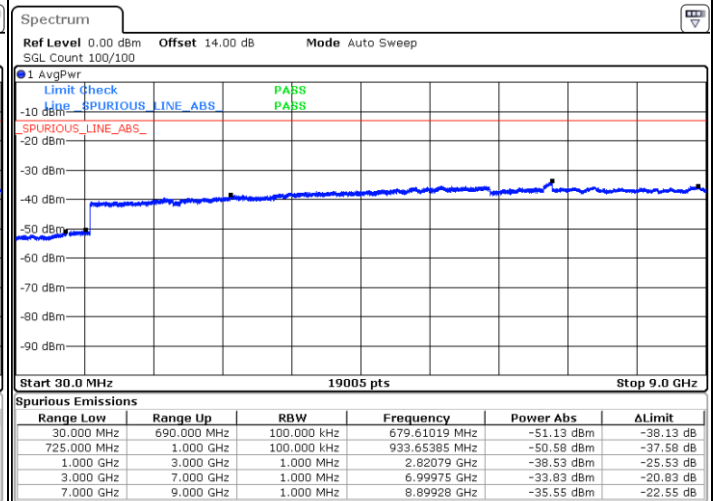
Date: 27.AUG.2019 19:47:31

Highest Channel / QPSK



Date: 27.AUG.2019 19:53:43

Highest Channel / 16QAM



Date: 27.AUG.2019 19:54:38

Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0092	PASS
40	Normal Voltage	0.0017	
30	Normal Voltage	0.0004	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0085	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0082	
-20	Normal Voltage	0.0004	
-30	Normal Voltage	0.0001	
20	Maximum Voltage	0.0016	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0011	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.3 V. ; Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.2	4.9	5.13	5.77	
Highest CH	-	-	-	-	