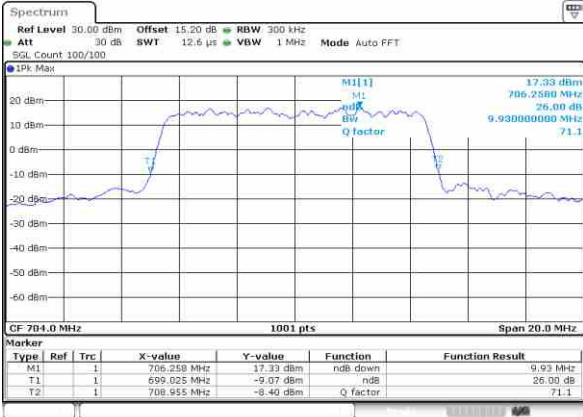




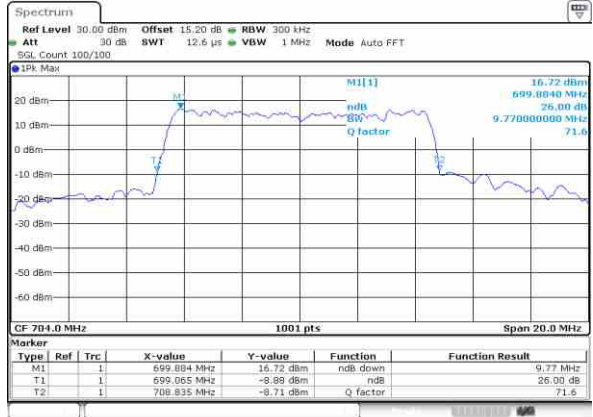
LTE Band 12

Lowest Channel / 10MHz / QPSK



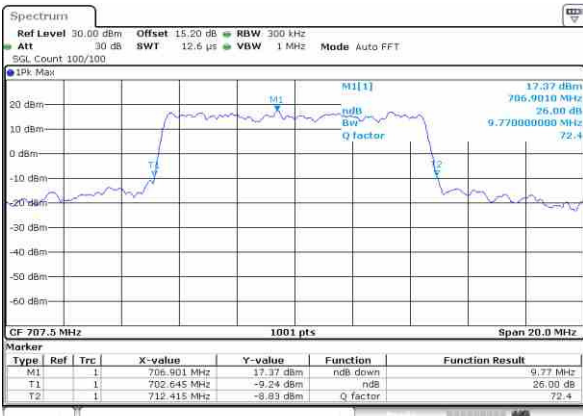
Date: 17.FEB.2018 17:59:39

Lowest Channel / 10MHz / 16QAM



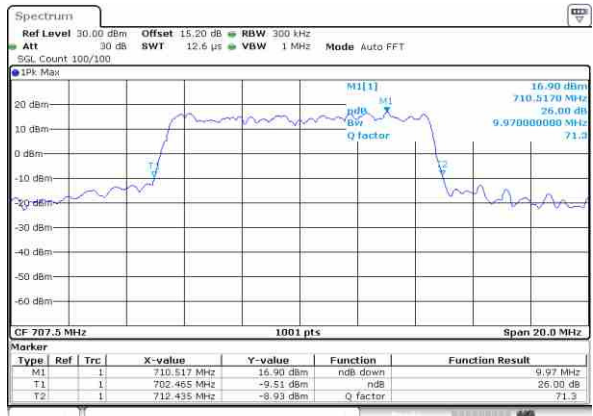
Date: 17.FEB.2018 17:59:23

Middle Channel / 10MHz / QPSK



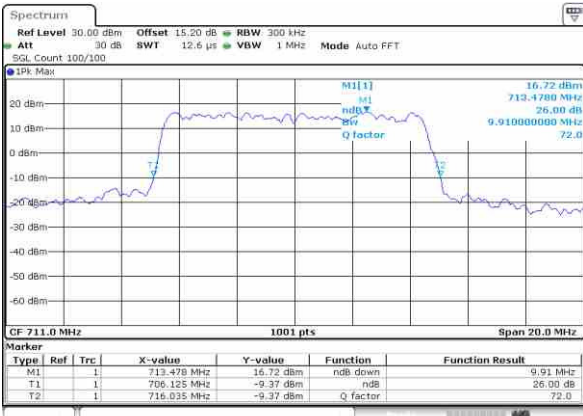
Date: 17.FEB.2018 17:46:39

Middle Channel / 10MHz / 16QAM



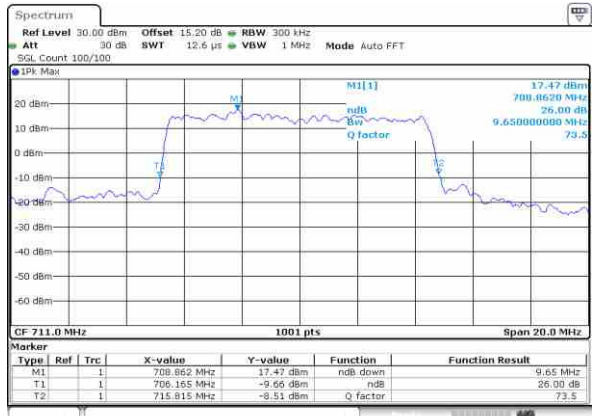
Date: 17.FEB.2018 17:46:50

Highest Channel / 10MHz / QPSK



Date: 17.FEB.2018 17:56:11

Highest Channel / 10MHz / 16QAM

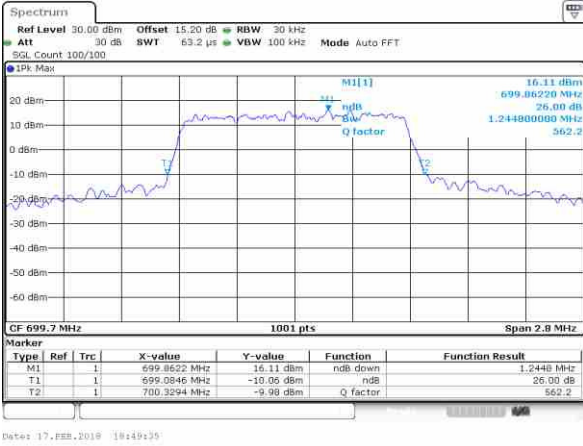


Date: 17.FEB.2018 17:55:59



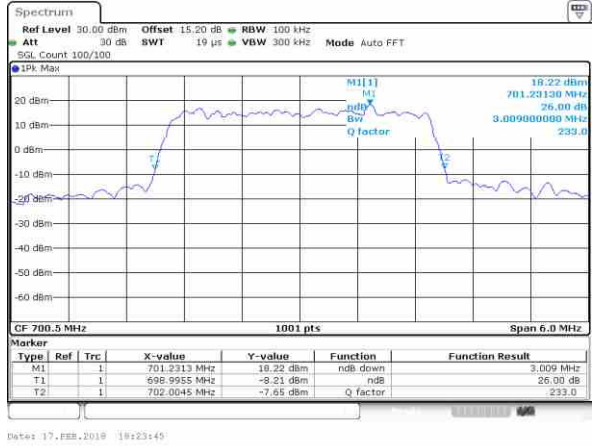
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



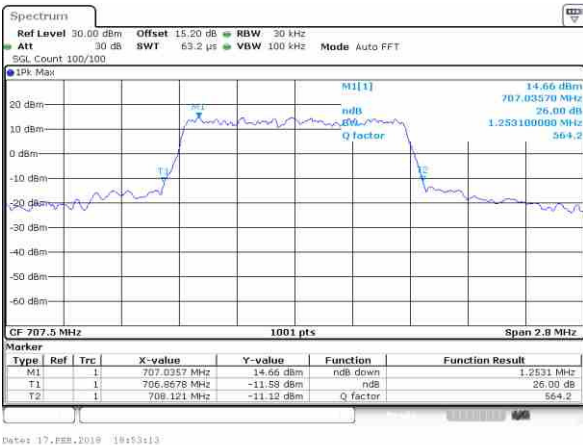
Date: 17.FEB.2019 19:49:39

Lowest Channel / 3MHz / 64QAM



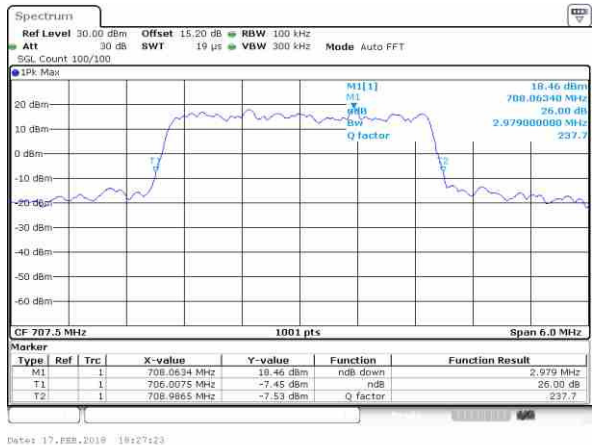
Date: 17.FEB.2019 19:23:45

Middle Channel / 1.4MHz / 64QAM



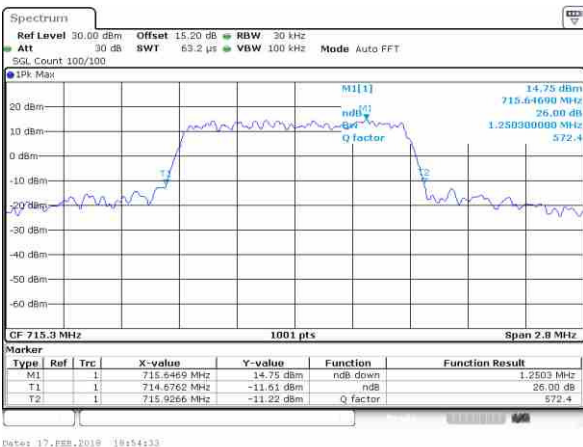
Date: 17.FEB.2019 19:53:13

Middle Channel / 3MHz / 64QAM



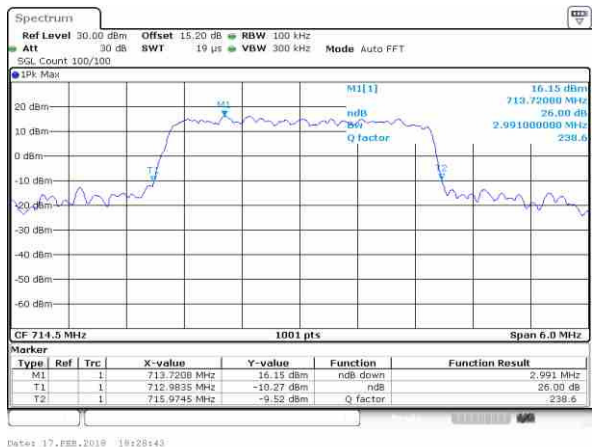
Date: 17.FEB.2019 19:27:23

Highest Channel / 1.4MHz / 64QAM



Date: 17.FEB.2019 19:54:33

Highest Channel / 3MHz / 64QAM

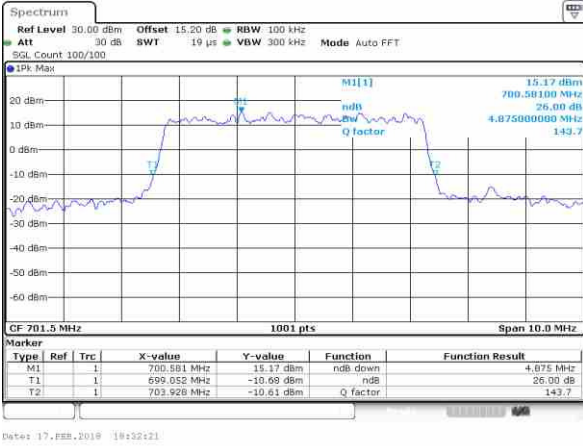


Date: 17.FEB.2019 19:28:43



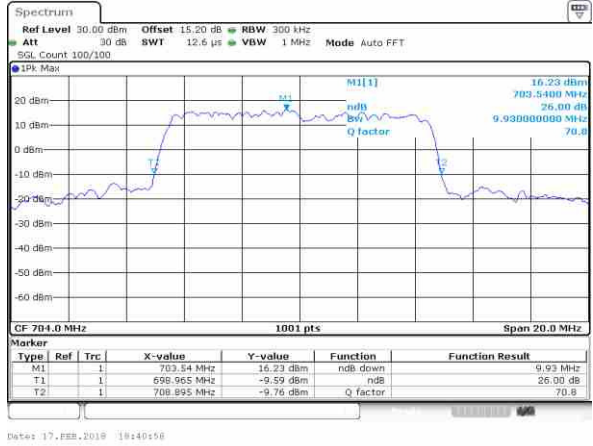
LTE Band 12

Lowest Channel / 5MHz / 64QAM



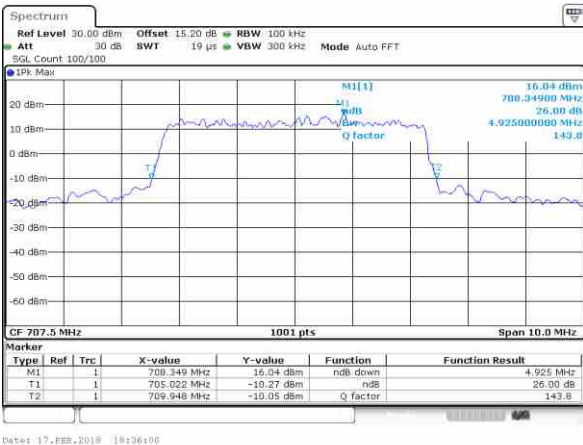
Date: 17.FEB.2019 19:32:21

Lowest Channel / 10MHz / 64QAM



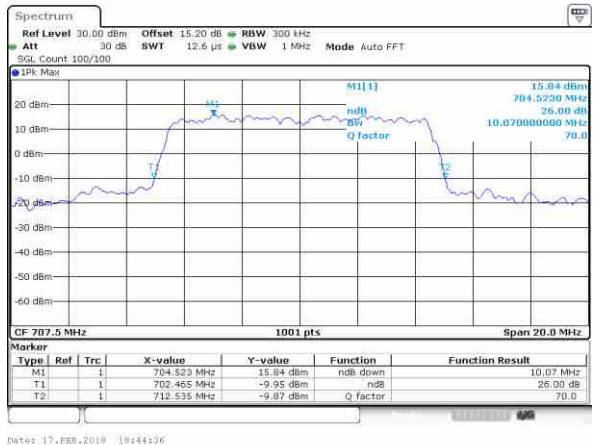
Date: 17.FEB.2019 19:40:58

Middle Channel / 5MHz / 64QAM



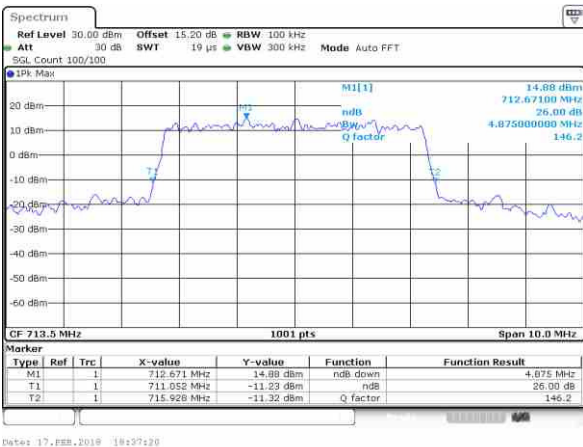
Date: 17.FEB.2019 19:36:00

Middle Channel / 10MHz / 64QAM



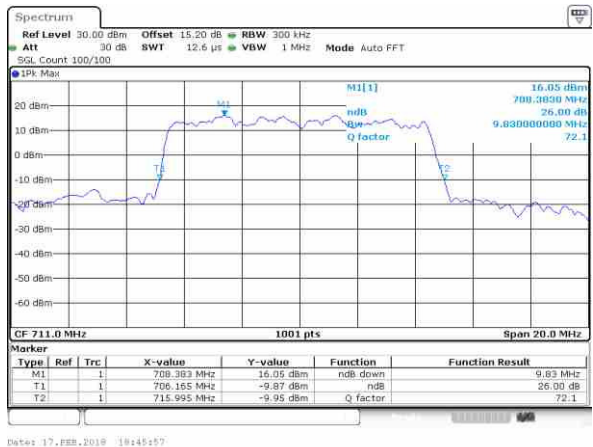
Date: 17.FEB.2019 19:44:36

Highest Channel / 5MHz / 64QAM



Date: 17.FEB.2019 19:37:20

Highest Channel / 10MHz / 64QAM



Date: 17.FEB.2019 19:45:57



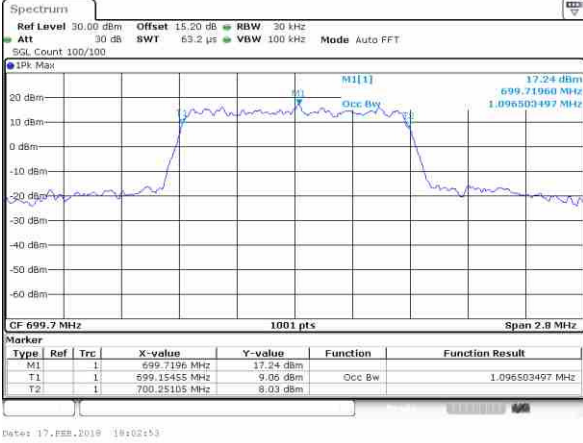
**Occupied Bandwidth**

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	1.10	1.10	2.76	2.73	4.50	4.49	8.99	9.07	-	-	-	-
Middle CH	1.09	1.09	2.73	2.78	4.50	4.54	9.07	9.05	-	-	-	-
Highest CH	1.10	1.10	2.75	2.72	4.49	4.50	9.03	9.09	-	-	-	-
Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09	-	2.71	-	4.50	-	9.09	-	-	-	-	-
Middle CH	1.09	-	2.73	-	4.48	-	9.05	-	-	-	-	-
Highest CH	1.10	-	2.72	-	4.48	-	9.01	-	-	-	-	-



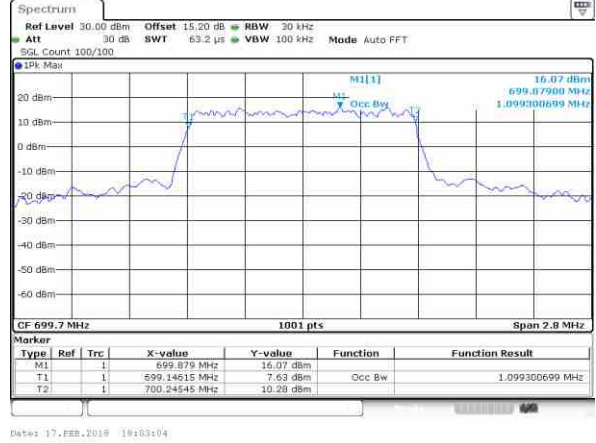
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



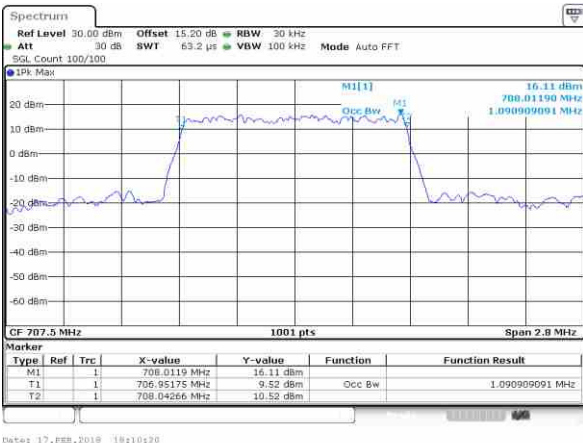
Date: 17.FEB.2019 19:02:53

Lowest Channel / 1.4MHz / 16QAM



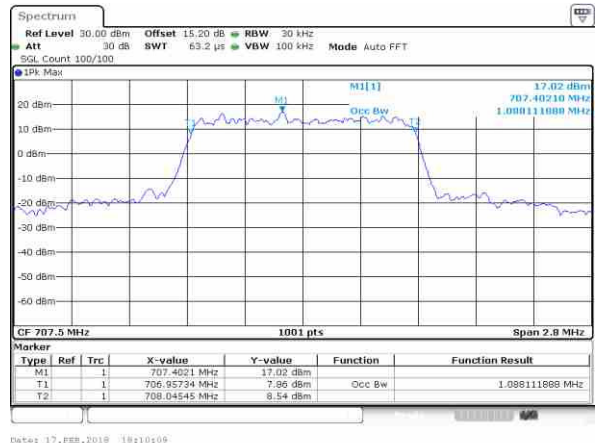
Date: 17.FEB.2019 19:03:04

Middle Channel / 1.4MHz / QPSK



Date: 17.FEB.2019 19:10:20

Middle Channel / 1.4MHz / 16QAM



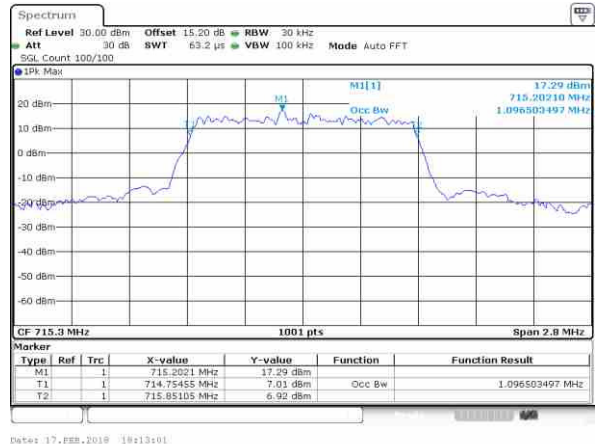
Date: 17.FEB.2019 19:10:09

Highest Channel / 1.4MHz / QPSK



Date: 17.FEB.2019 19:12:50

Highest Channel / 1.4MHz / 16QAM

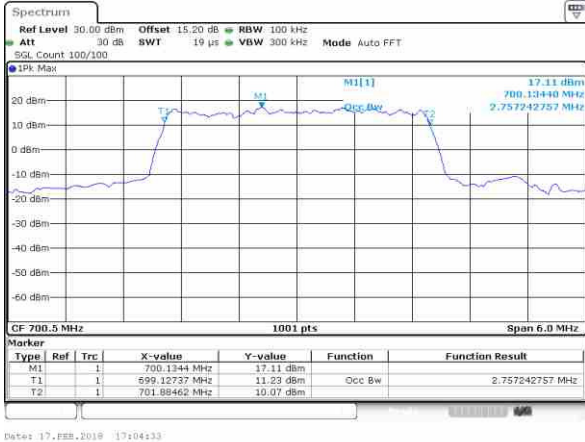


Date: 17.FEB.2019 19:13:01



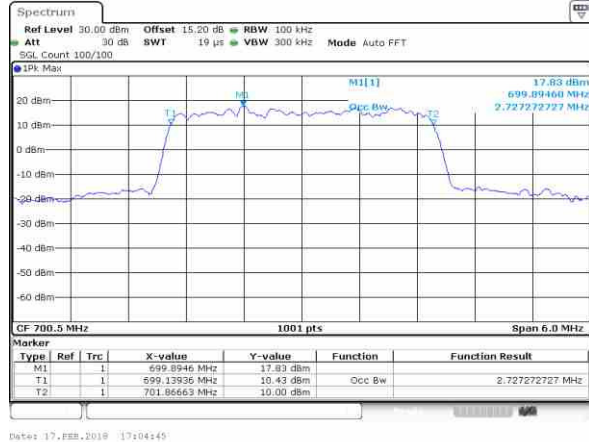
LTE Band 12

Lowest Channel / 3MHz / QPSK



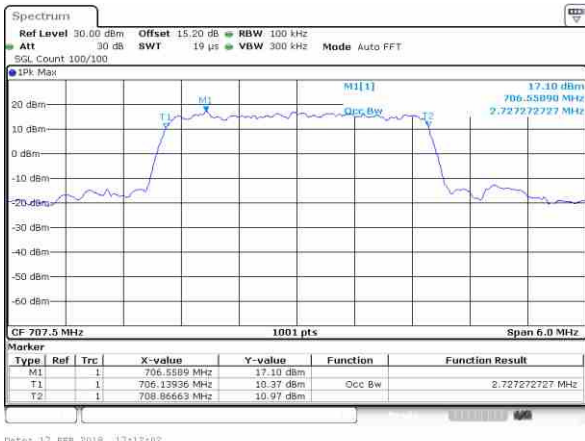
Date: 17.FEB.2018 17:04:33

Lowest Channel / 3MHz / 16QAM



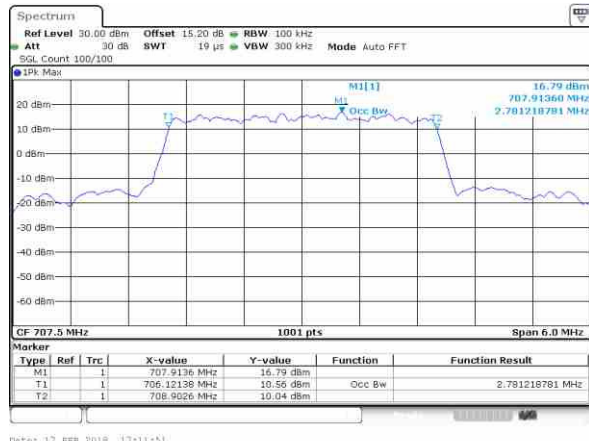
Date: 17.FEB.2018 17:04:45

Middle Channel / 3MHz / QPSK



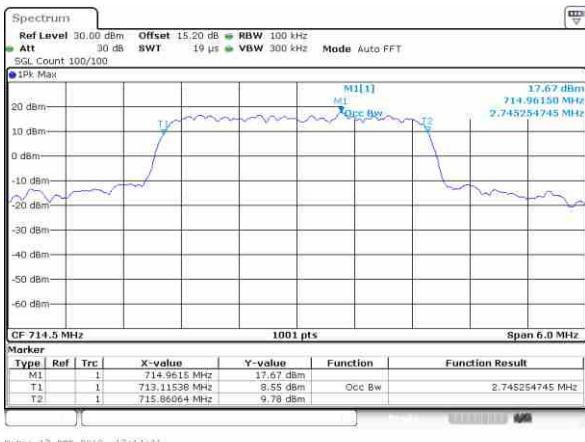
Date: 17.FEB.2018 17:12:02

Middle Channel / 3MHz / 16QAM



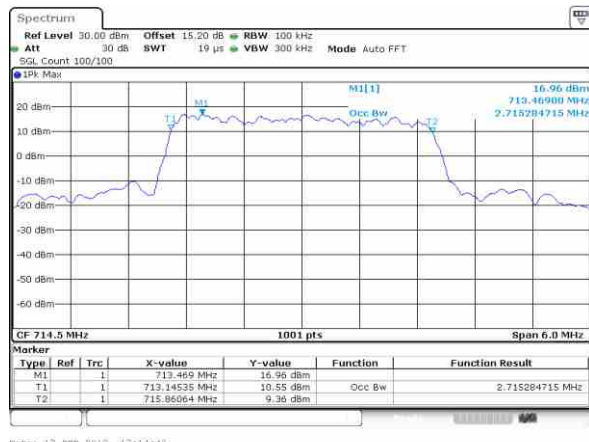
Date: 17.FEB.2018 17:11:51

Highest Channel / 3MHz / QPSK



Date: 17.FEB.2018 17:14:31

Highest Channel / 3MHz / 16QAM

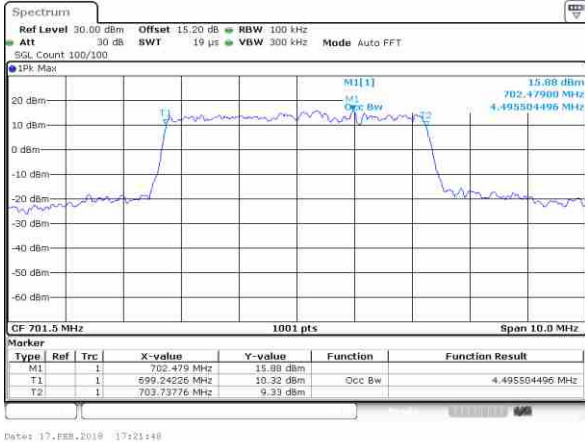


Date: 17.FEB.2018 17:14:43



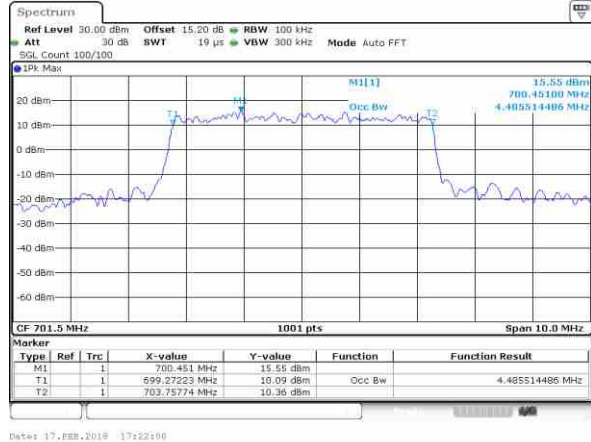
LTE Band 12

Lowest Channel / 5MHz / QPSK



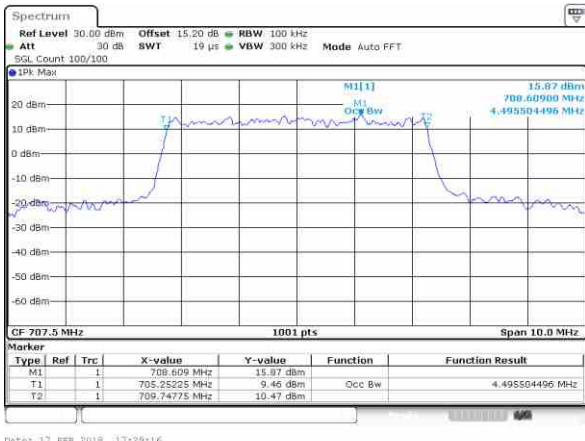
Date: 17.FEB.2019 17:21:48

Lowest Channel / 5MHz / 16QAM



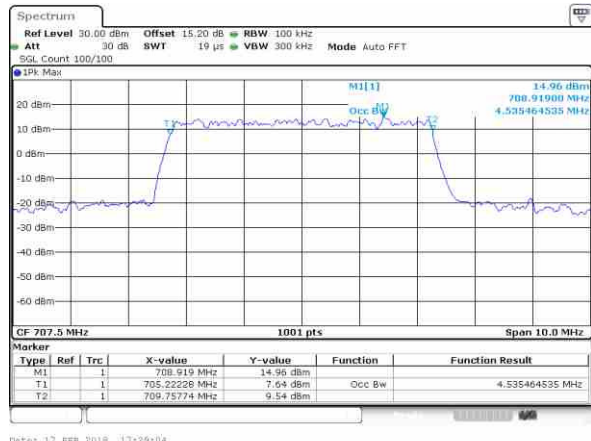
Date: 17.FEB.2019 17:22:00

Middle Channel / 5MHz / QPSK



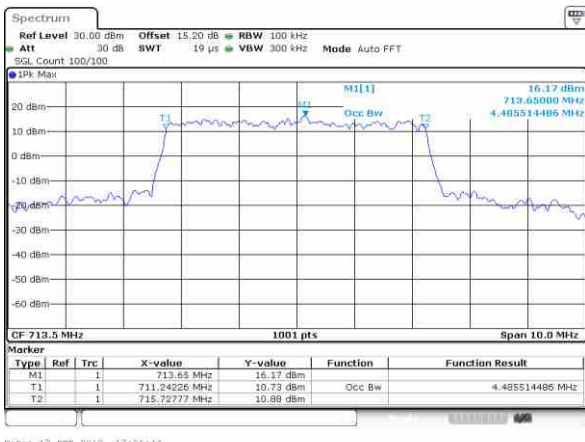
Date: 17.FEB.2019 17:25:16

Middle Channel / 5MHz / 16QAM



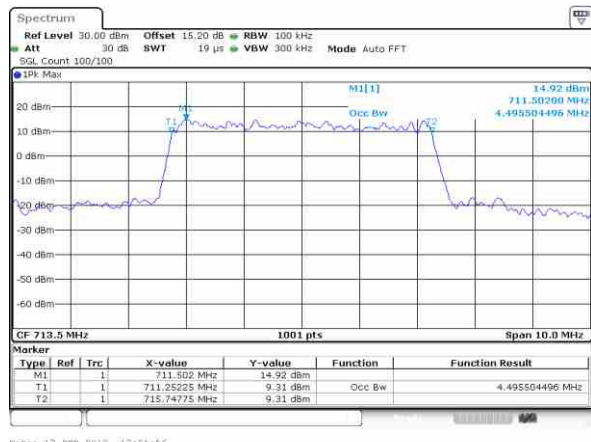
Date: 17.FEB.2019 17:25:04

Highest Channel / 5MHz / QPSK



Date: 17.FEB.2019 17:31:44

Highest Channel / 5MHz / 16QAM

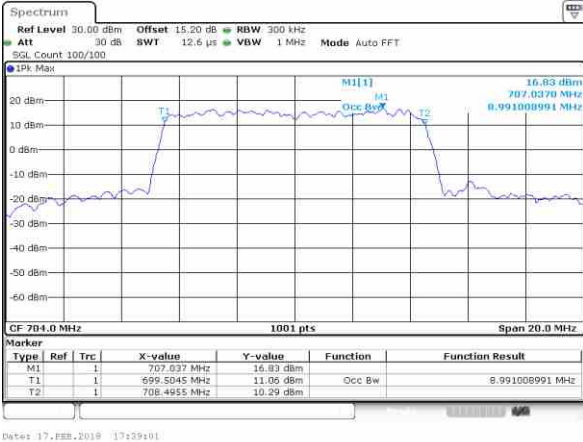


Date: 17.FEB.2019 17:31:56



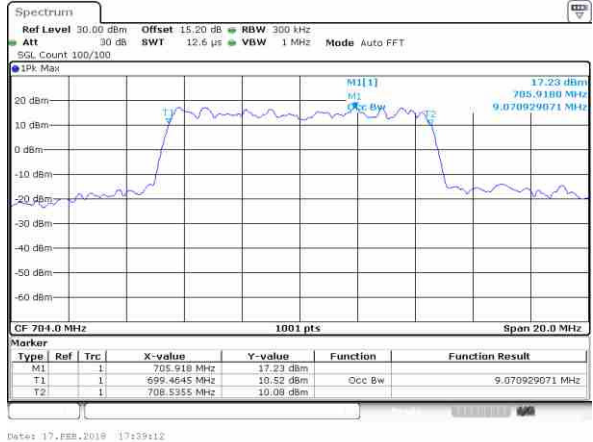
LTE Band 12

Lowest Channel / 10MHz / QPSK



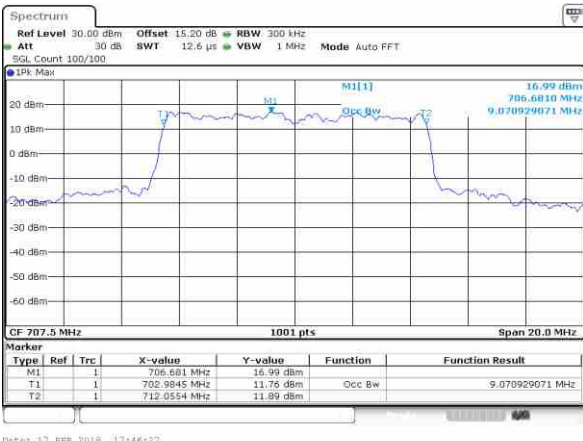
Date: 17.FEB.2019 17:29:01

Lowest Channel / 10MHz / 16QAM



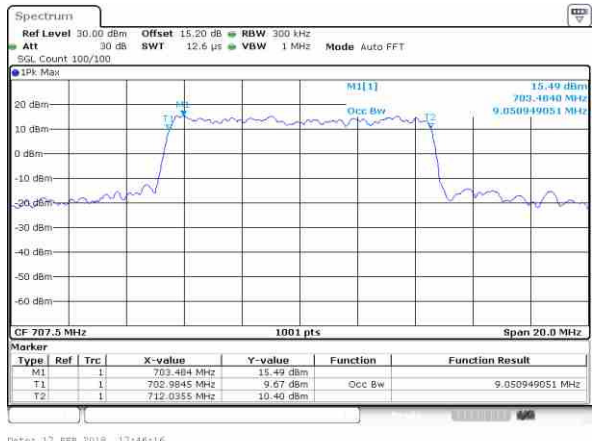
Date: 17.FEB.2019 17:29:12

Middle Channel / 10MHz / QPSK



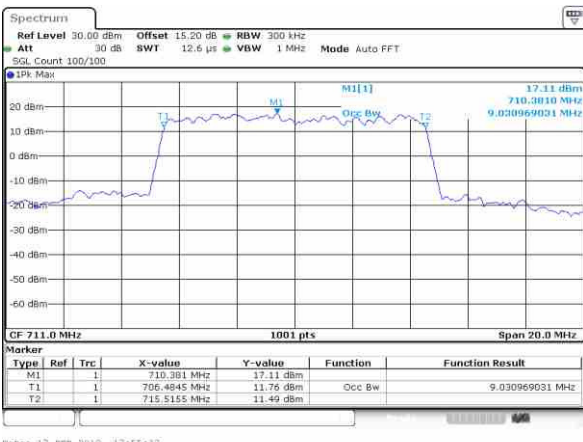
Date: 17.FEB.2019 17:46:27

Middle Channel / 10MHz / 16QAM



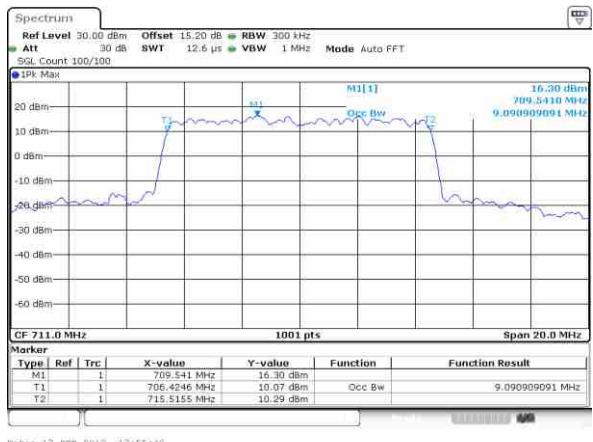
Date: 17.FEB.2019 17:46:16

Highest Channel / 10MHz / QPSK



Date: 17.FEB.2019 17:55:17

Highest Channel / 10MHz / 16QAM



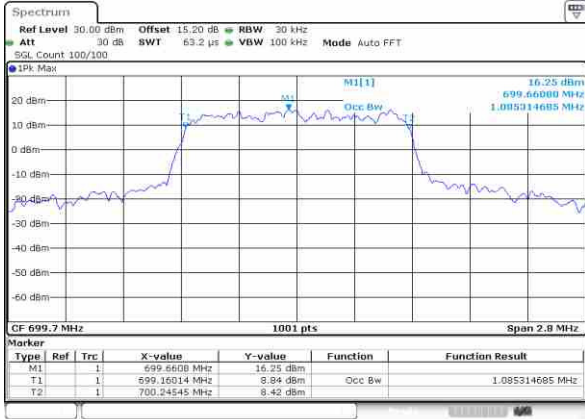
Date: 17.FEB.2019 17:55:48





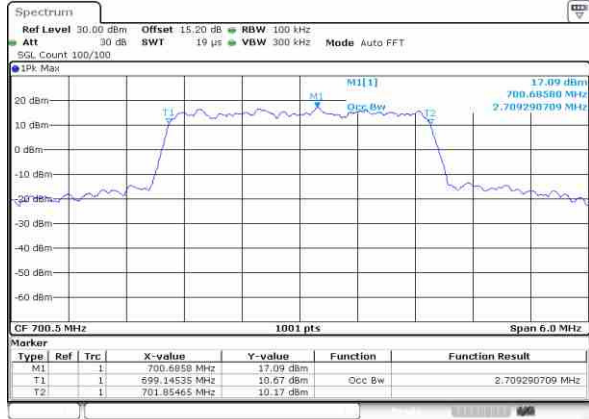
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



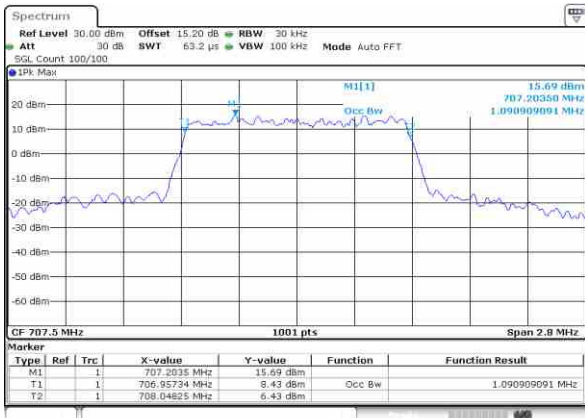
Date: 17.FEB.2019 19:49:23

Lowest Channel / 3MHz / 64QAM



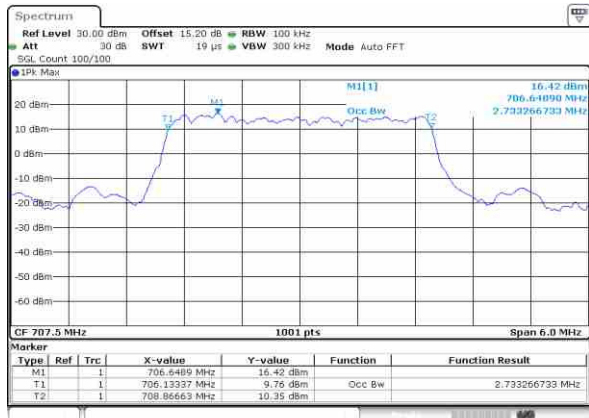
Date: 17.FEB.2019 19:23:33

Middle Channel / 1.4MHz / 64QAM



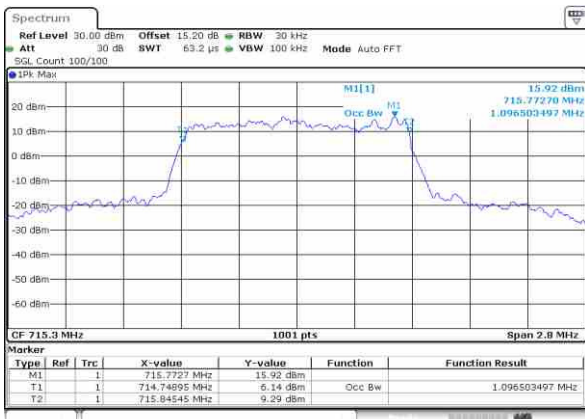
Date: 17.FEB.2019 19:53:01

Middle Channel / 3MHz / 64QAM



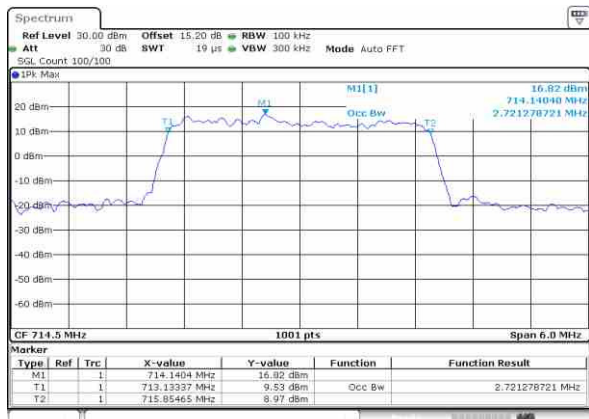
Date: 17.FEB.2019 19:27:11

Highest Channel / 1.4MHz / 64QAM



Date: 17.FEB.2019 19:54:22

Highest Channel / 3MHz / 64QAM

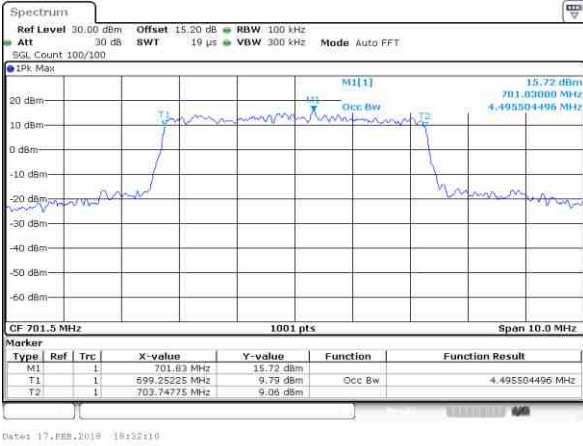


Date: 17.FEB.2019 19:28:32



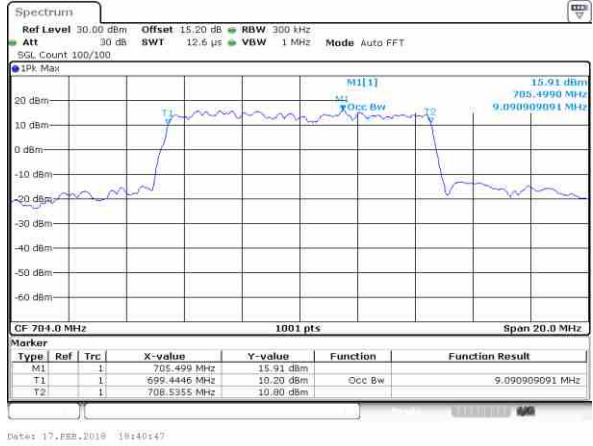
LTE Band 12

Lowest Channel / 5MHz / 64QAM



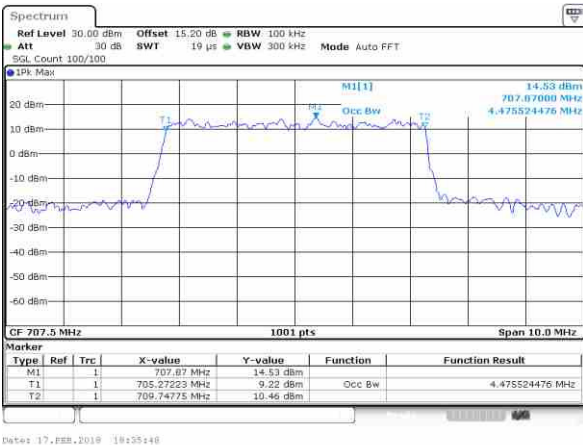
Date: 17.FEB.2019 19:32:10

Lowest Channel / 10MHz / 64QAM



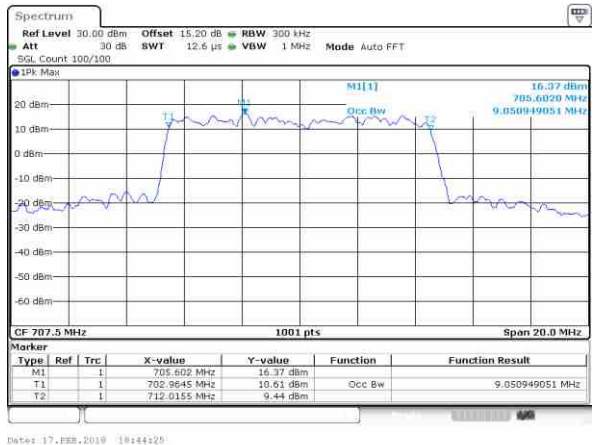
Date: 17.FEB.2019 19:40:47

Middle Channel / 5MHz / 64QAM



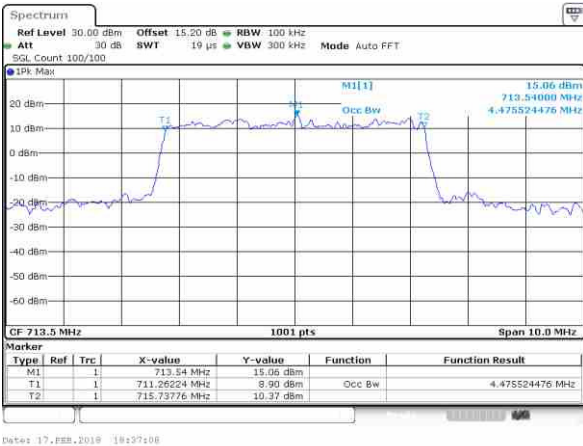
Date: 17.FEB.2019 19:35:48

Middle Channel / 10MHz / 64QAM



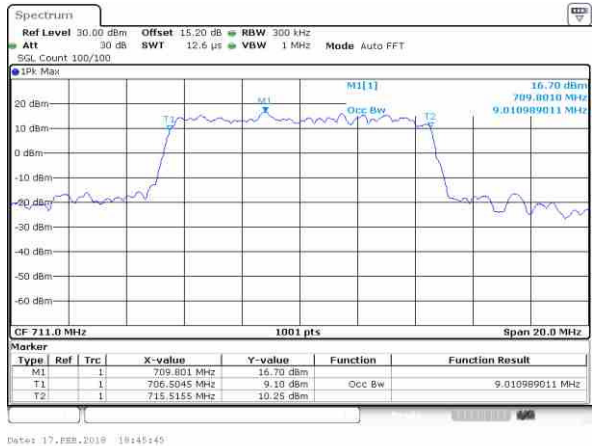
Date: 17.FEB.2019 19:44:25

Highest Channel / 5MHz / 64QAM



Date: 17.FEB.2019 19:37:08

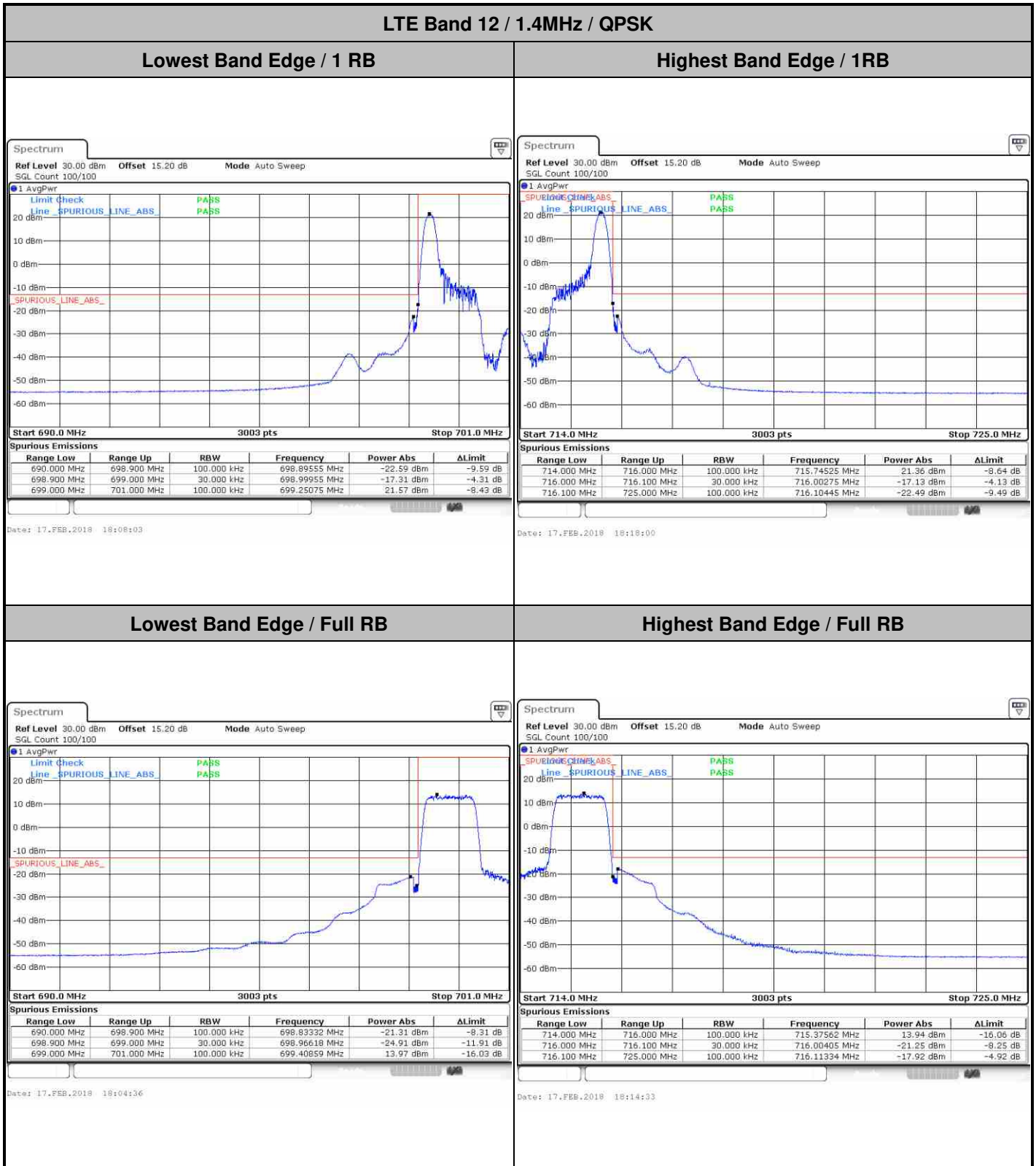
Highest Channel / 10MHz / 64QAM



Date: 17.FEB.2019 19:45:45



# Conducted Band Edge





LTE Band 12 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



Date: 17.FEB.2018 18:06:54

Highest Band Edge / 1 RB



Date: 17.FEB.2018 18:16:51

Lowest Band Edge / Full RB



Date: 17.FEB.2018 18:05:45

Highest Band Edge / Full RB

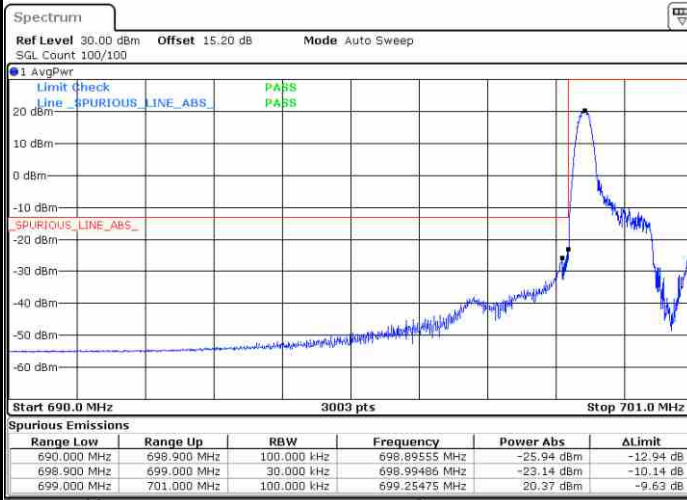


Date: 17.FEB.2018 18:15:42



LTE Band 12 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



Date: 17.FEB.2018 18:51:53

Highest Band Edge / 1 RB



Date: 17.FEB.2018 18:56:52

Lowest Band Edge / Full RB



Date: 17.FEB.2018 18:50:44

Highest Band Edge / Full RB

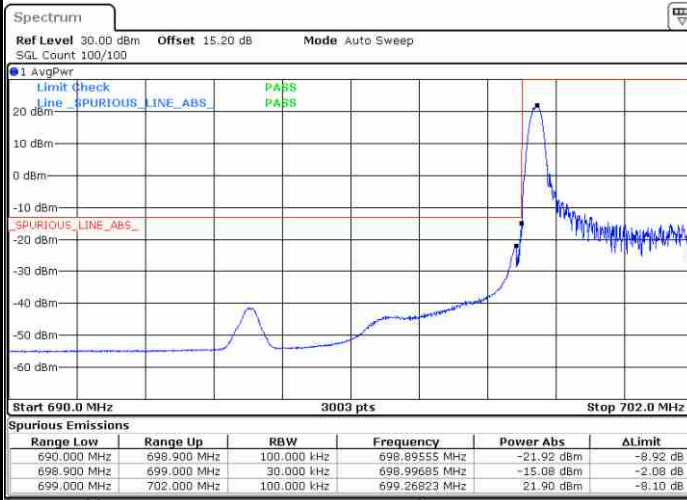


Date: 17.FEB.2018 18:55:43



LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



Date: 17.FEB.2018 17:09:47

Highest Band Edge / 1 RB



Date: 17.FEB.2018 17:19:42

Lowest Band Edge / Full RB



Date: 17.FEB.2018 17:06:18

Highest Band Edge / Full RB



Date: 17.FEB.2018 17:16:15



LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



Date: 17.FEB.2018 17:08:37

Highest Band Edge / 1 RB



Date: 17.FEB.2018 17:18:33

Lowest Band Edge / Full RB



Date: 17.FEB.2018 17:07:27

Highest Band Edge / Full RB

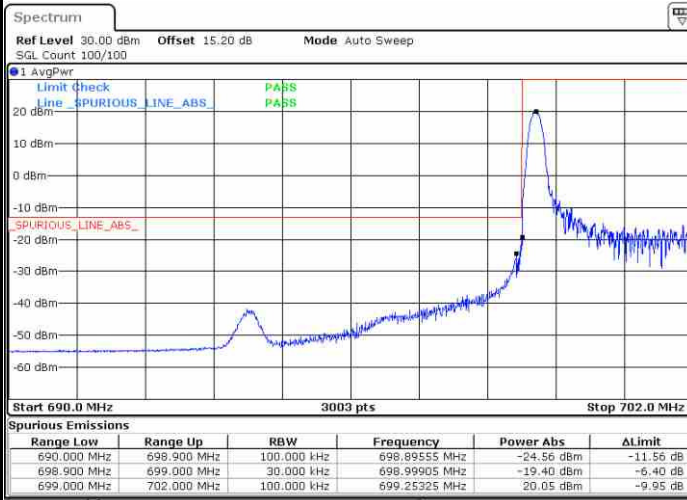


Date: 17.FEB.2018 17:17:24



LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



Date: 17.FEB.2018 18:26:03

Highest Band Edge / 1 RB



Date: 17.FEB.2018 18:31:01

Lowest Band Edge / Full RB



Date: 17.FEB.2018 18:24:54

Highest Band Edge / Full RB



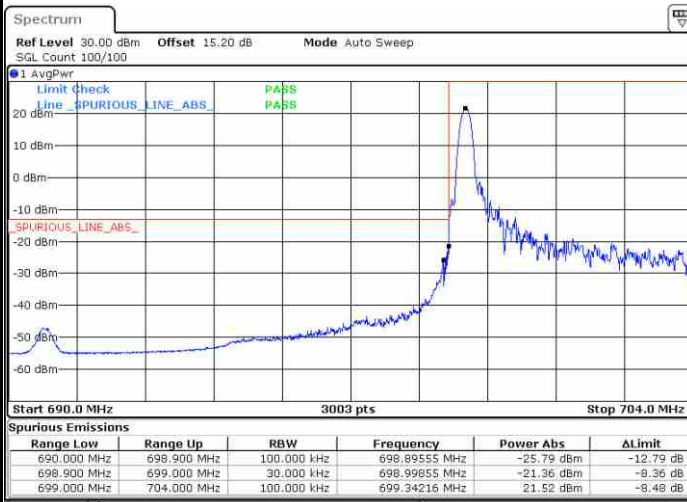
Date: 17.FEB.2018 18:25:52





LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1 RB



Date: 17.FEB.2018 17:26:59

Highest Band Edge / 1 RB



Date: 17.FEB.2018 17:35:46

Lowest Band Edge / Full RB



Date: 17.FEB.2018 17:23:32

Highest Band Edge / Full RB

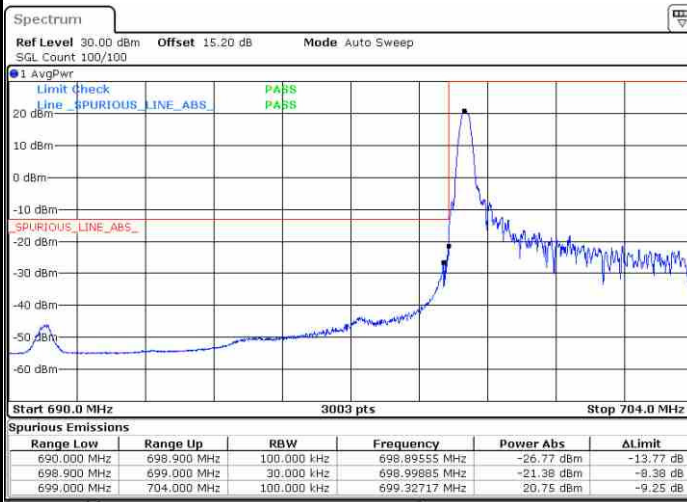


Date: 17.FEB.2018 17:33:28



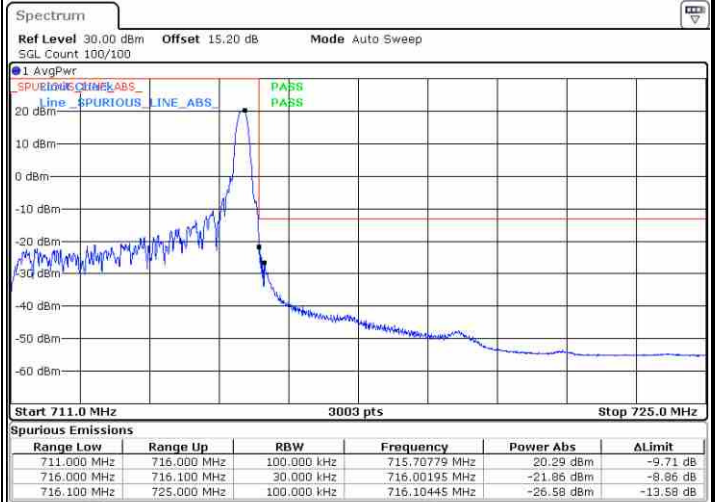
LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / 1RB



Date: 17.FEB.2018 17:25:50

Highest Band Edge / 1 RB



Date: 17.FEB.2018 17:36:55

Lowest Band Edge / Full RB



Date: 17.FEB.2018 17:24:41

Highest Band Edge / Full RB

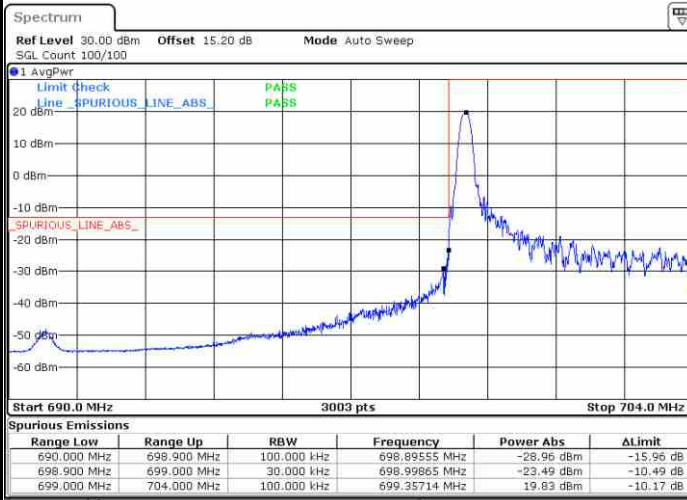


Date: 17.FEB.2018 17:34:37



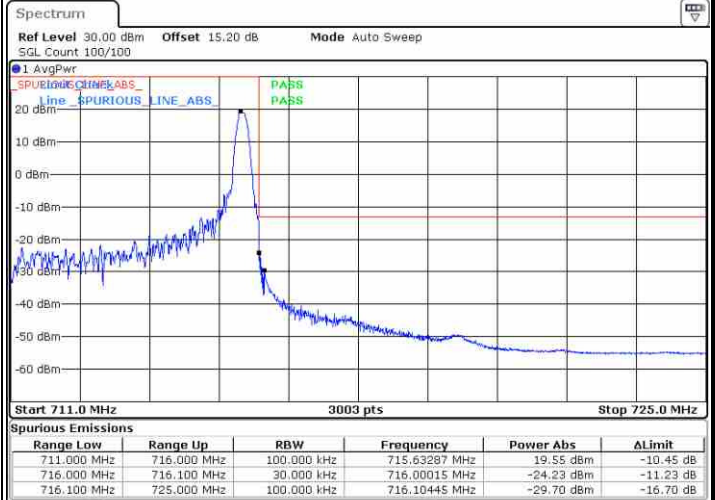
LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / 1RB



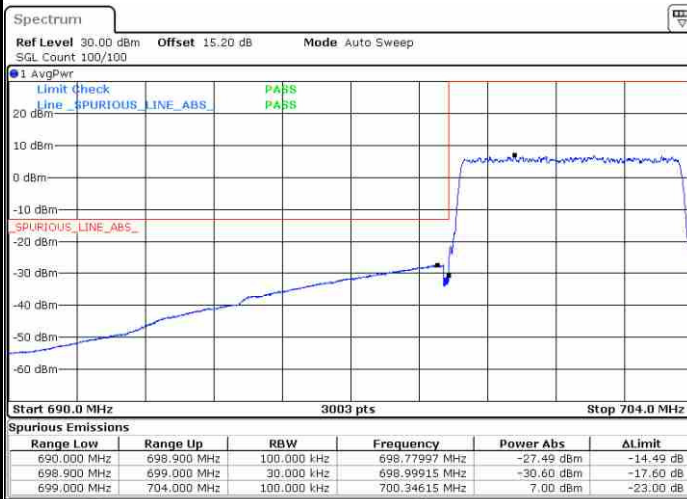
Date: 17.FEB.2018 18:34:39

Highest Band Edge / 1 RB



Date: 17.FEB.2018 18:38:38

Lowest Band Edge / Full RB



Date: 17.FEB.2018 18:33:30

Highest Band Edge / Full RB

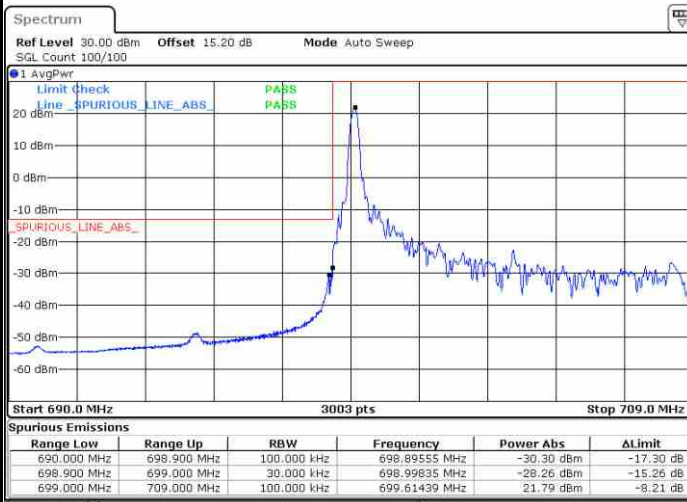


Date: 17.FEB.2018 18:38:29



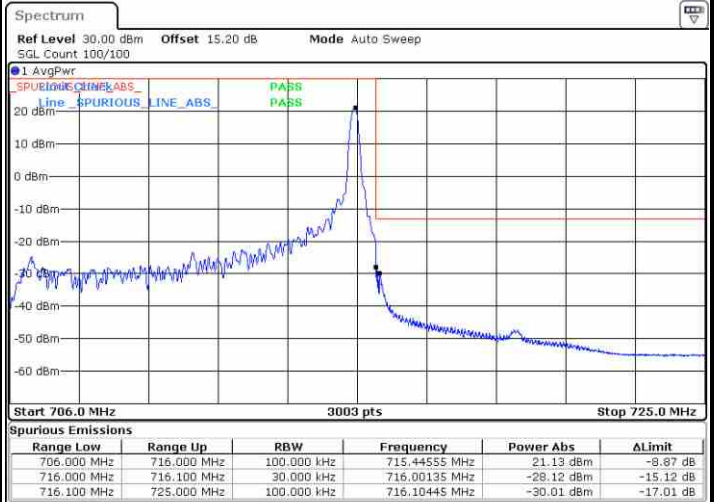
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



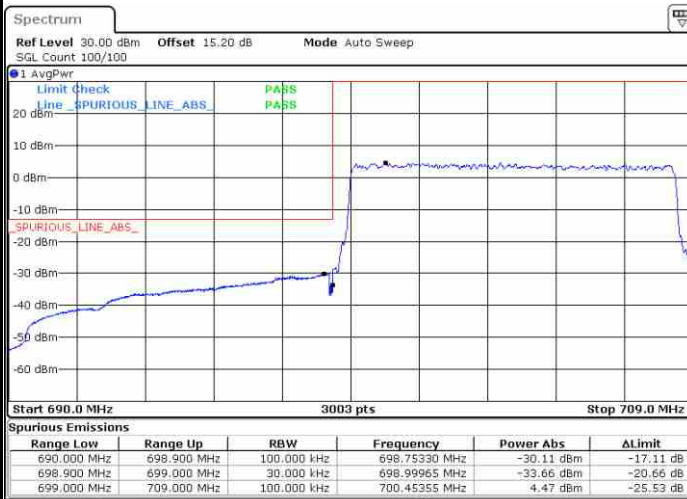
Date: 17.FEB.2018 17:44:11

Highest Band Edge / 1 RB



Date: 17.FEB.2018 18:00:47

Lowest Band Edge / Full RB



Date: 17.FEB.2018 17:40:44

Highest Band Edge / Full RB

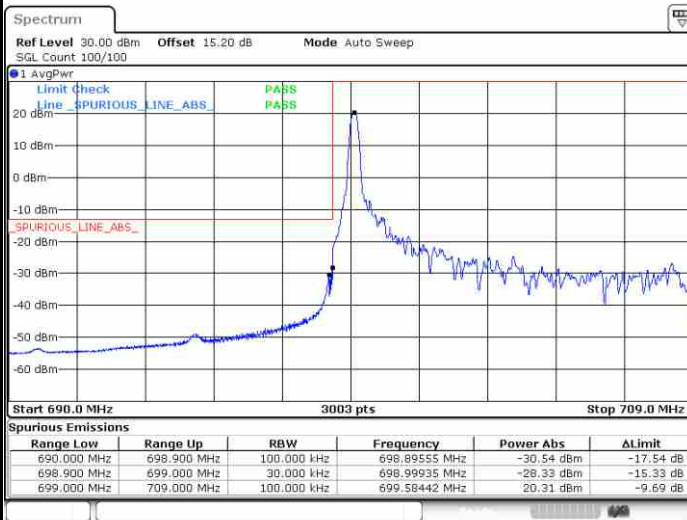


Date: 17.FEB.2018 17:57:20

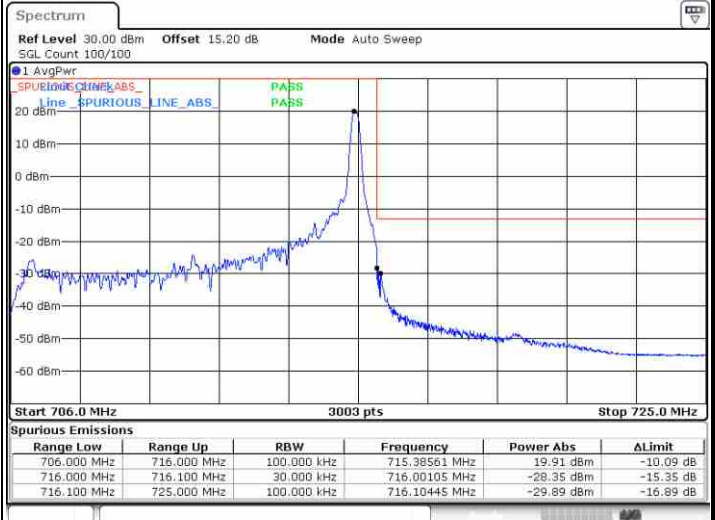


LTE Band 12 / 10MHz / 16QAM

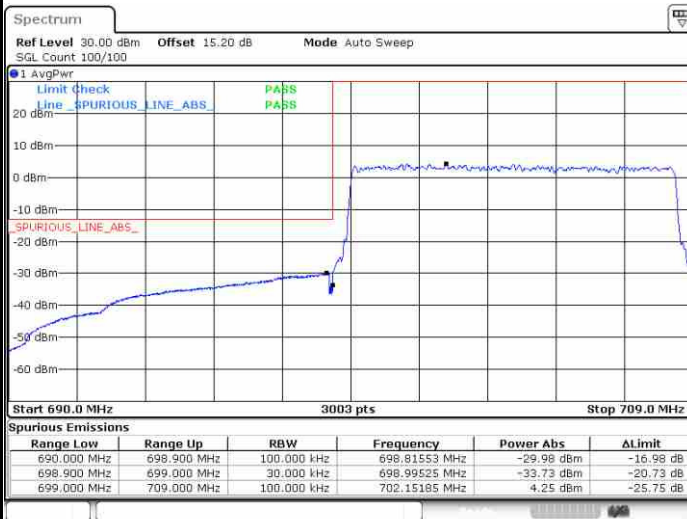
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



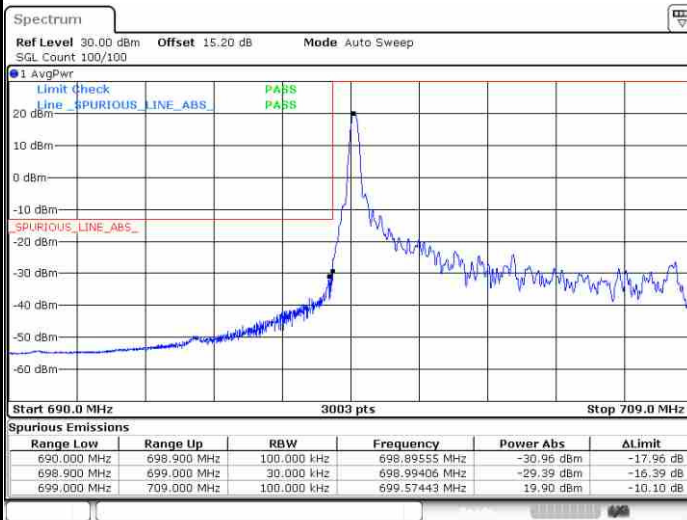
Highest Band Edge / Full RB





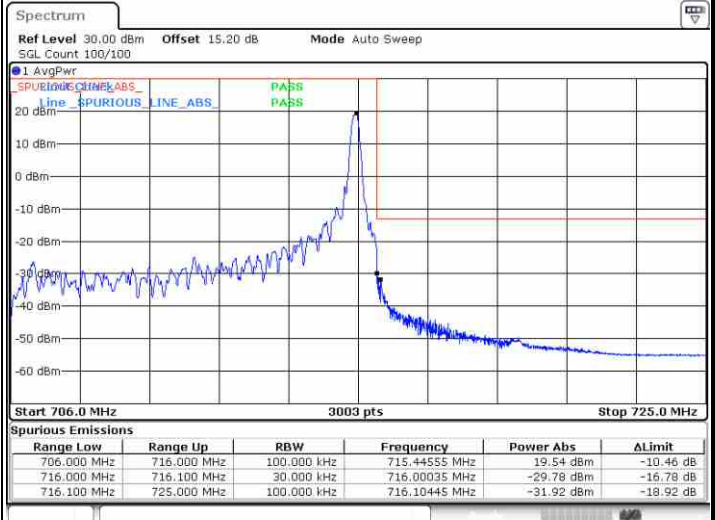
LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



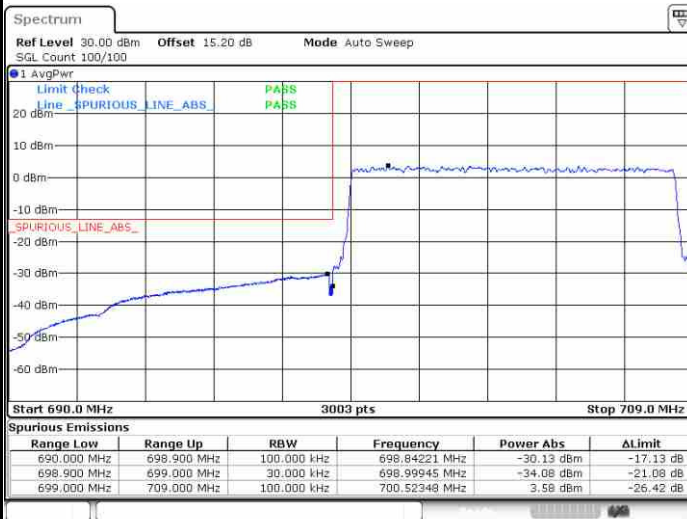
Date: 17.FEB.2018 18:43:16

Highest Band Edge / 1 RB



Date: 17.FEB.2018 18:48:15

Lowest Band Edge / Full RB



Date: 17.FEB.2018 18:42:07

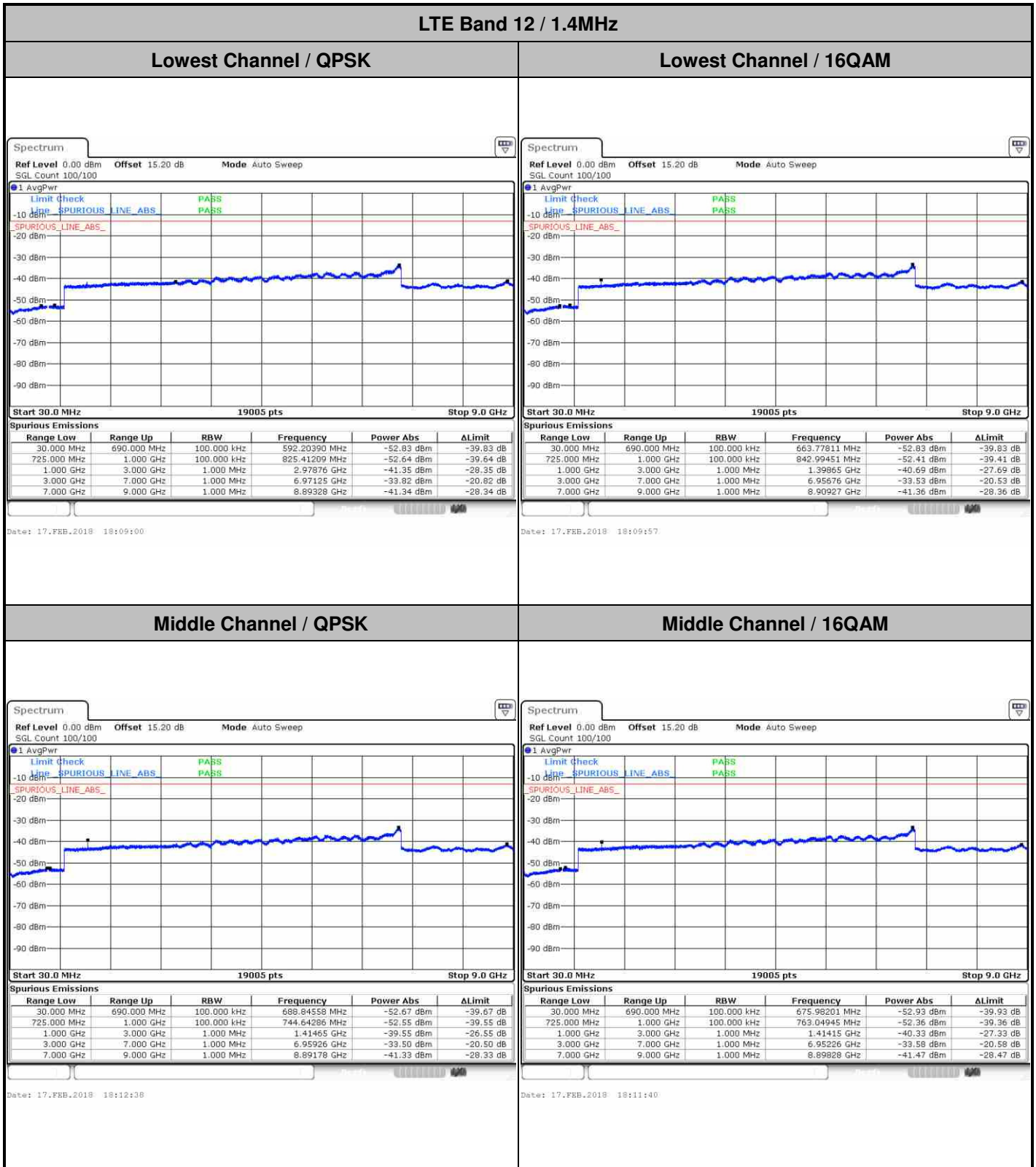
Highest Band Edge / Full RB



Date: 17.FEB.2018 18:47:06



# Conducted Spurious Emission





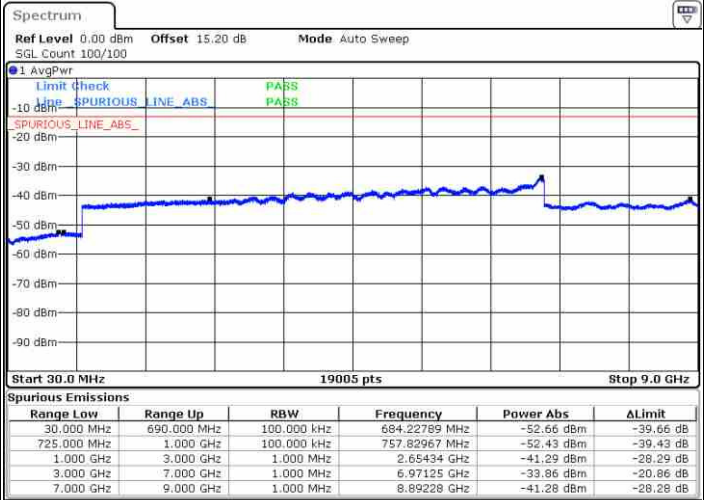
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 17.FEB.2018 18:18:56

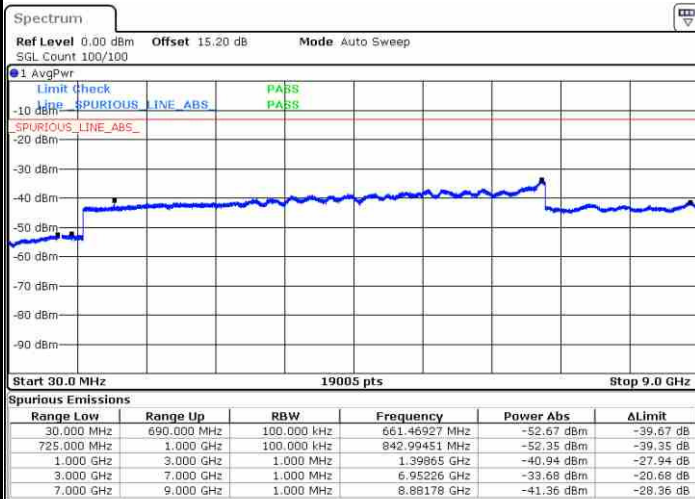
Highest Channel / 16QAM



Date: 17.FEB.2018 18:19:54

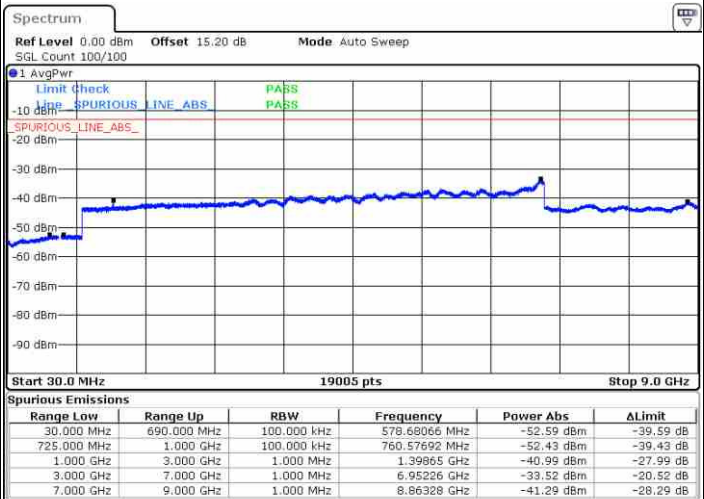
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 17.FEB.2018 17:10:42

Lowest Channel / 16QAM



Date: 17.FEB.2018 17:11:39

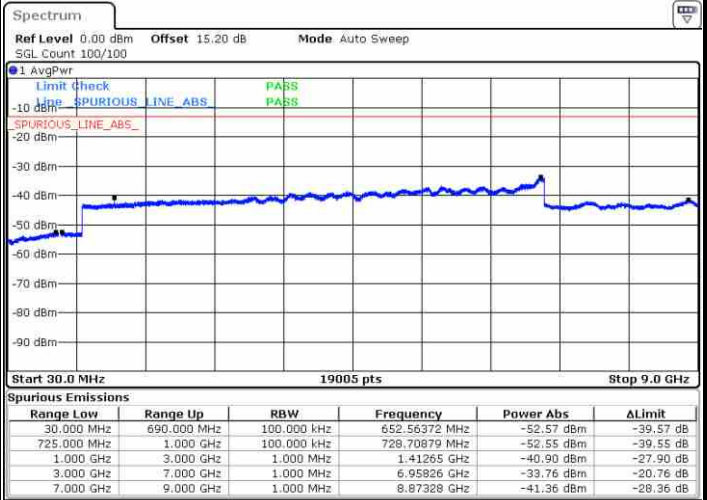




LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

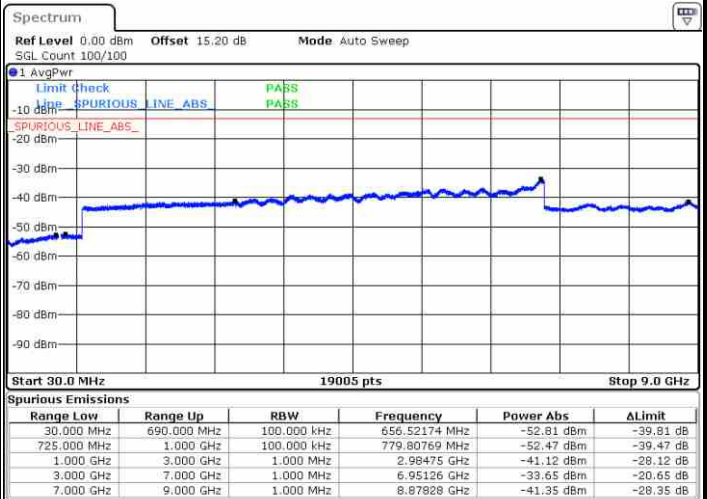
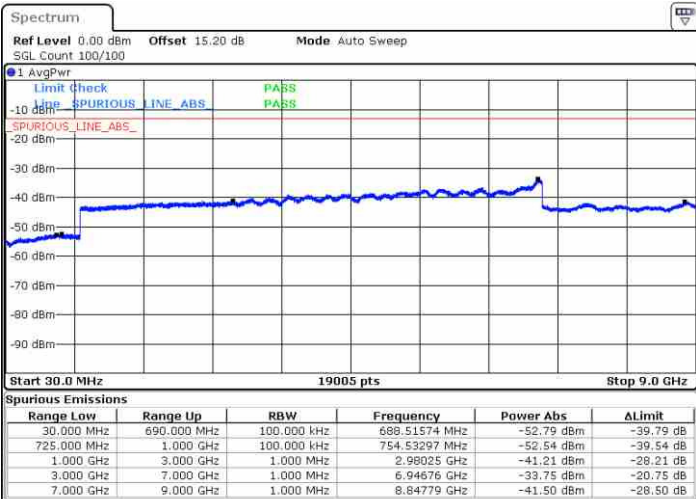


Date: 17.FEB.2018 17:14:20

Date: 17.FEB.2018 17:13:22

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 17.FEB.2018 17:20:39

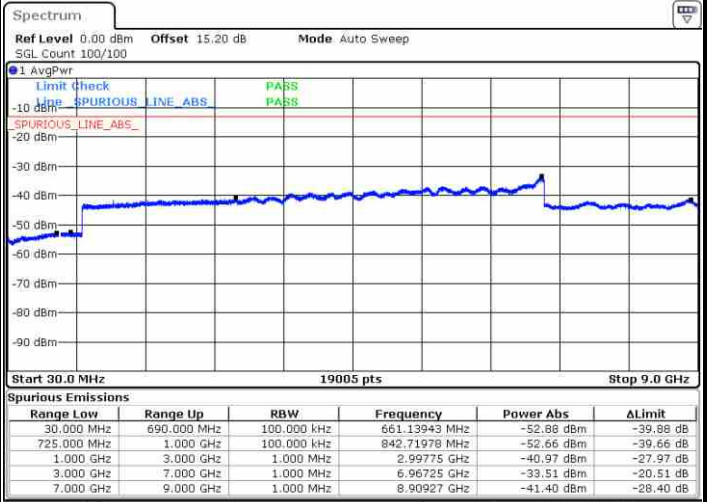
Date: 17.FEB.2018 17:21:36



LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

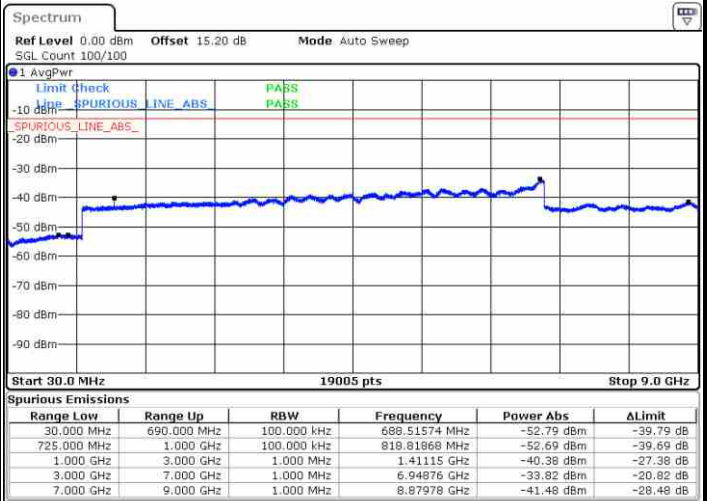
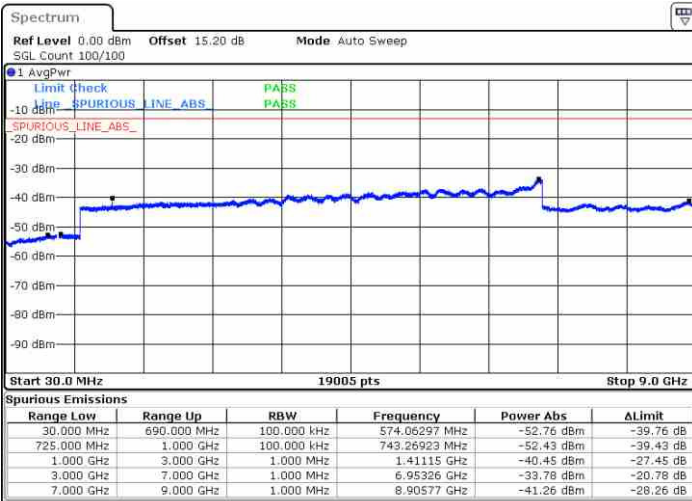


Date: 17.FEB.2018 17:27:55

Date: 17.FEB.2018 17:28:52

Middle Channel / QPSK

Middle Channel / 16QAM



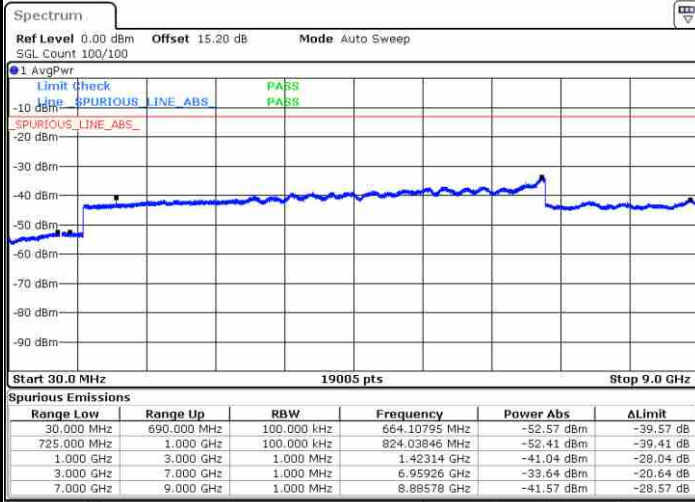
Date: 17.FEB.2018 17:31:32

Date: 17.FEB.2018 17:30:35



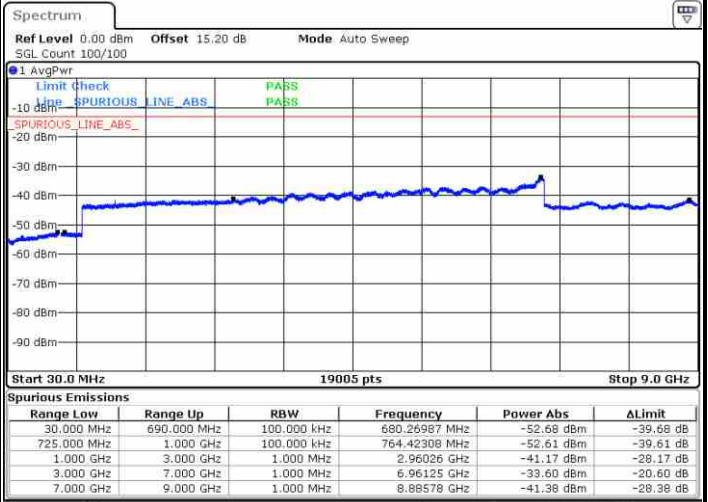
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 17.FEB.2018 17:38:48

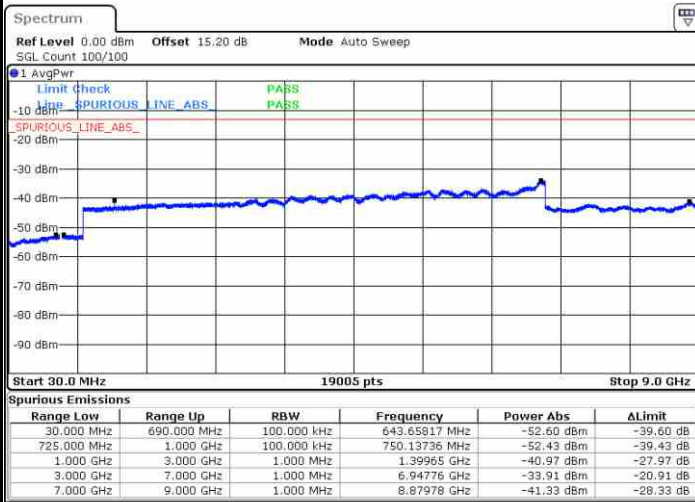
Highest Channel / 16QAM



Date: 17.FEB.2018 17:37:51

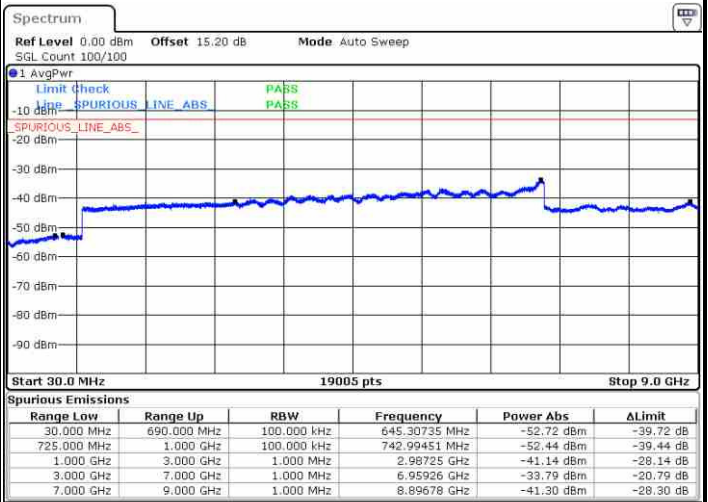
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 17.FEB.2018 17:45:07

Lowest Channel / 16QAM



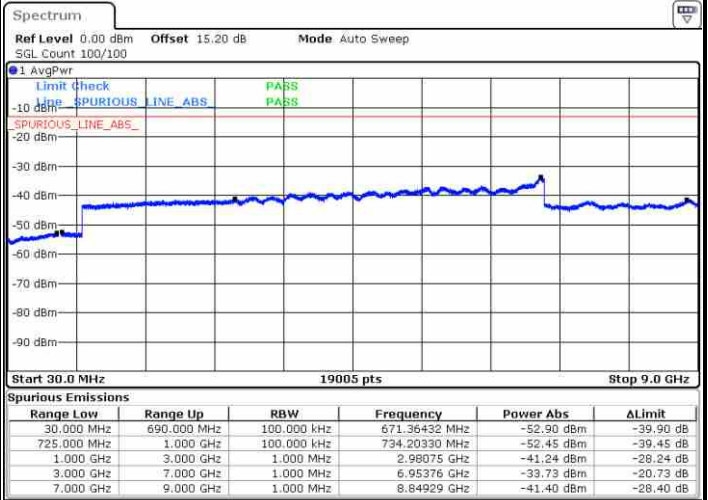
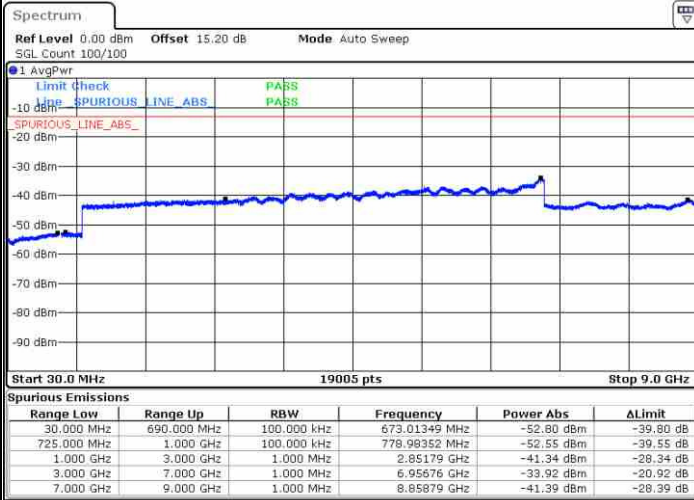
Date: 17.FEB.2018 17:46:04



LTE Band 12 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

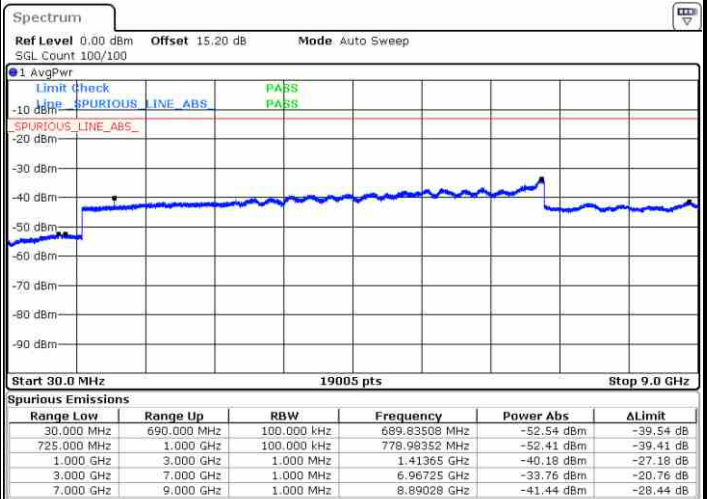


Date: 17.FEB.2018 17:55:25

Date: 17.FEB.2018 17:54:27

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 17.FEB.2018 18:01:43

Date: 17.FEB.2018 18:02:41



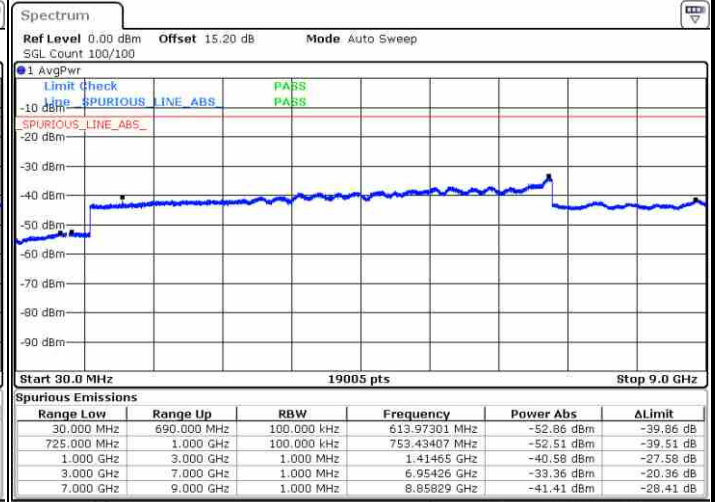
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

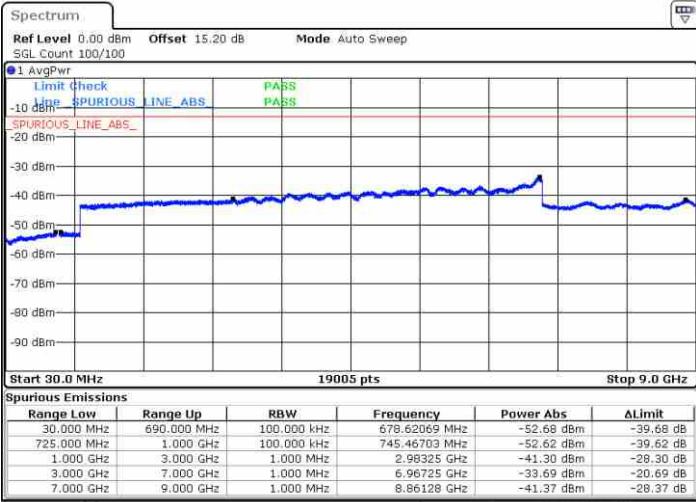


Date: 17.FEB.2018 18:52:50



Date: 17.FEB.2018 18:54:10

Highest Channel / 64QAM



Date: 17.FEB.2018 18:57:49



LTE Band 12 / 3MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM



Date: 17.FEB.2018 18:26:59



Date: 17.FEB.2018 18:28:20

Highest Channel / 64QAM



Date: 17.FEB.2018 18:31:59



LTE Band 12 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

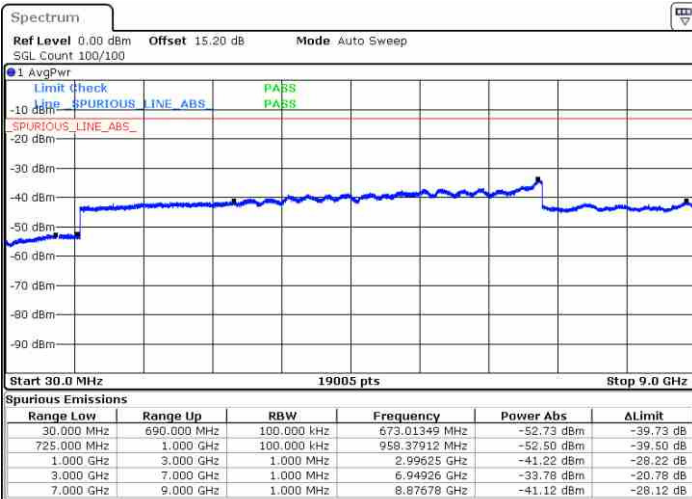


Date: 17.FEB.2018 18:35:36



Date: 17.FEB.2018 18:36:56

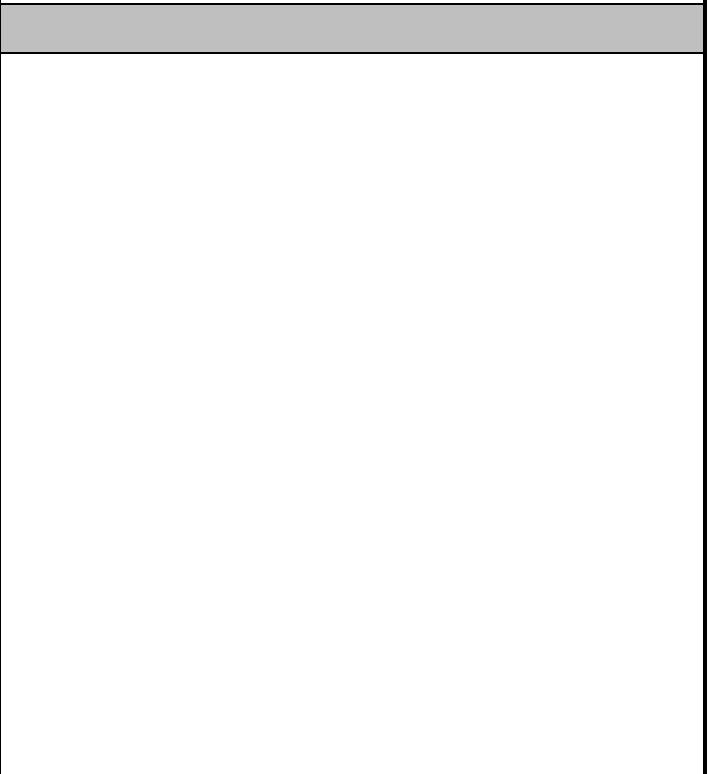
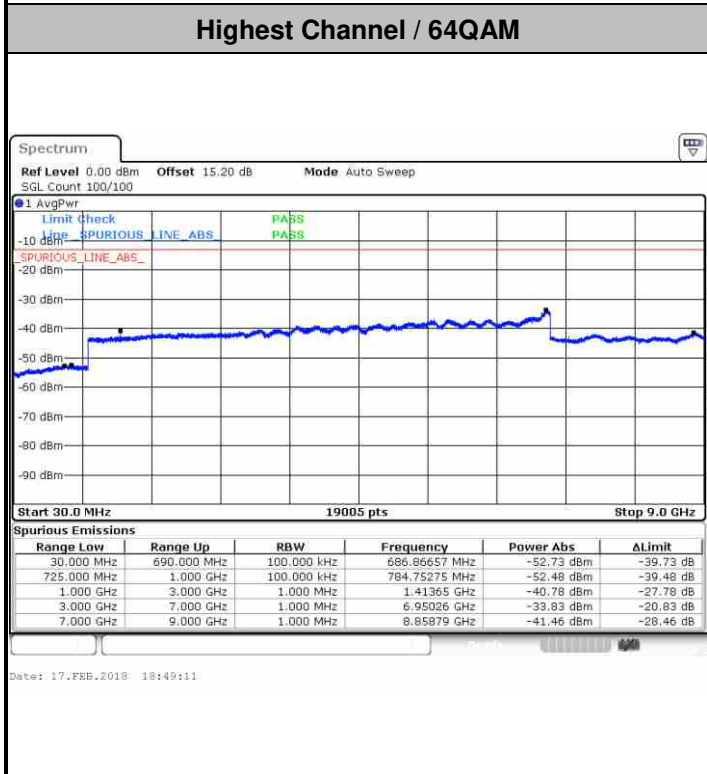
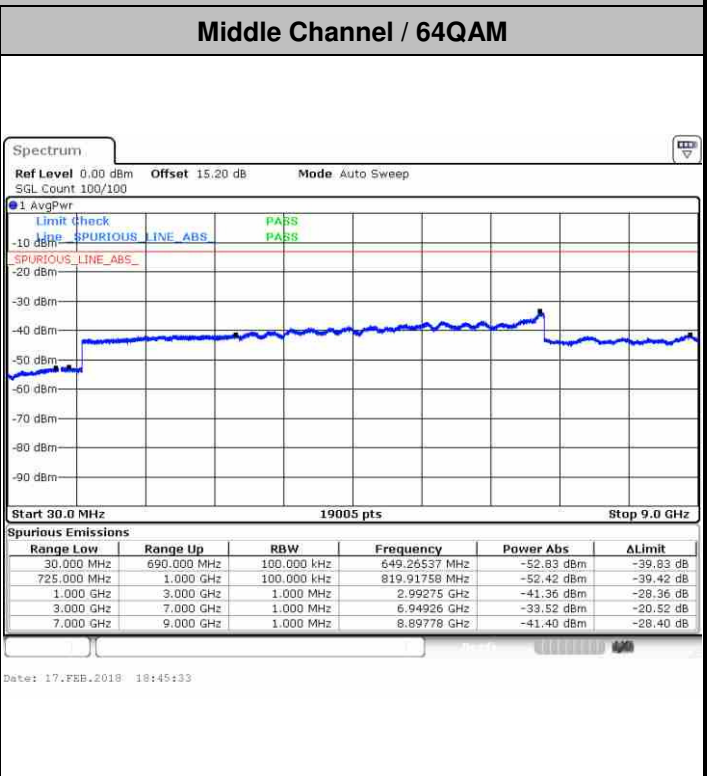
Highest Channel / 64QAM



Date: 17.FEB.2018 18:40:35



**LTE Band 12 / 10MHz**







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	0.0027	PASS
40	Normal Voltage	0.0028	
30	Normal Voltage	0.0020	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0064	
0	Normal Voltage	0.0034	
-10	Normal Voltage	0.0047	
-20	Normal Voltage	0.0045	
-30	Normal Voltage	0.0037	
20	Maximum Voltage	0.0071	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0069	

Note:

1. Normal Voltage =3.82 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



<For Down Antenna>

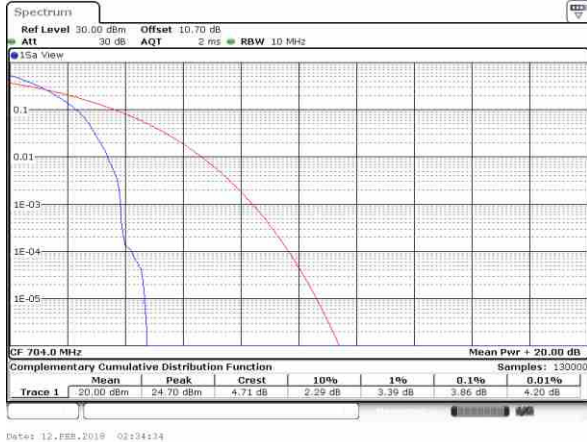
**Peak-to-Average Ratio**

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.86	4.43	4.46	5.3	PASS
Middle CH	3.77	4.52	4.38	5.42	
Highest CH	3.62	4.35	4.64	5.54	
Mode	LTE Band 12 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.30	5.71	-	-	PASS
Middle CH	5.22	5.91	-	-	
Highest CH	4.81	5.77	-	-	

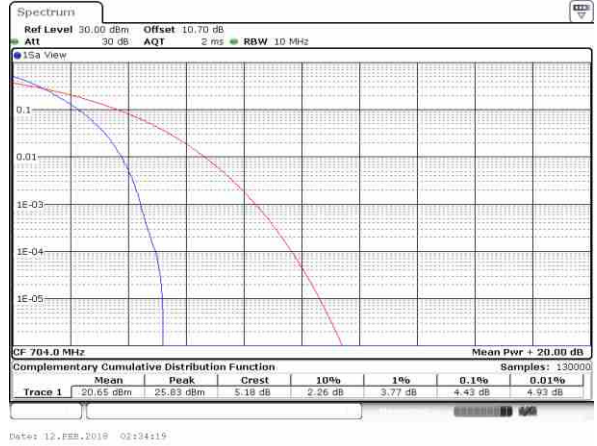


LTE Band 12 / 10MHz / QPSK

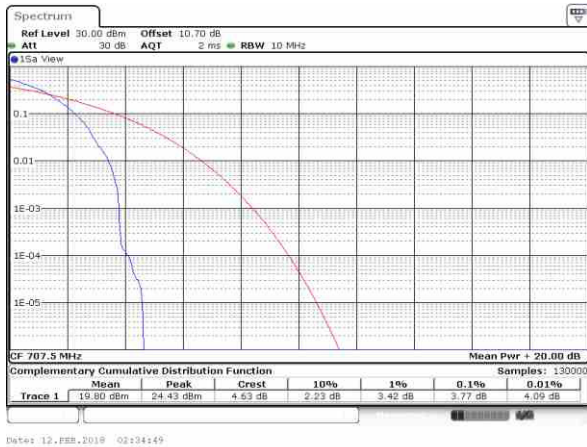
Lowest Channel / 1RB



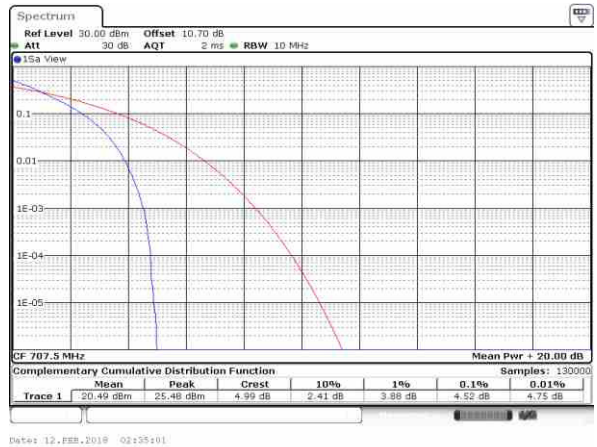
Lowest Channel / Full RB



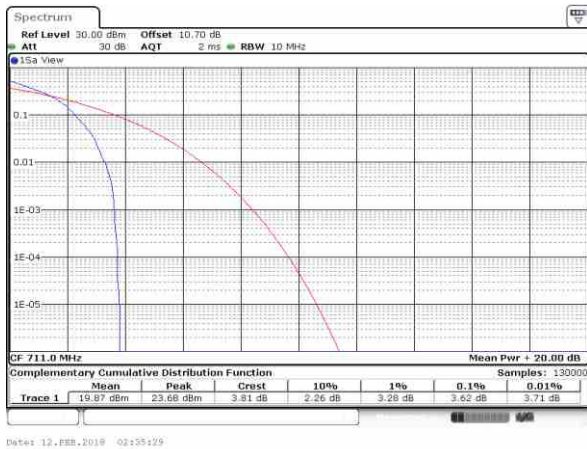
Middle Channel / 1RB



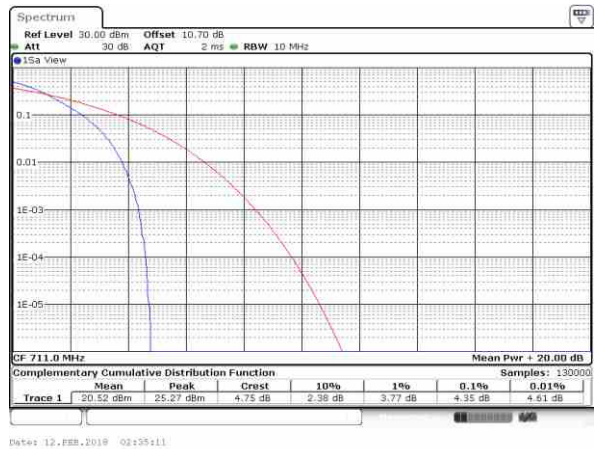
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB



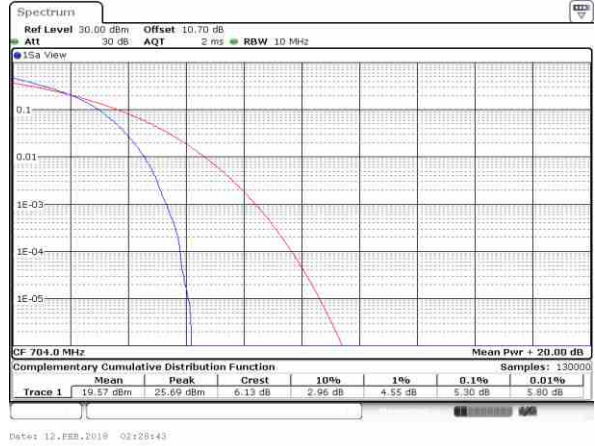


LTE Band 12 / 10MHz / 16QAM

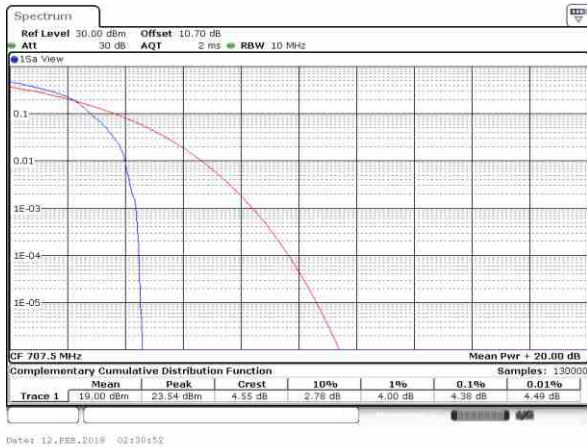
Lowest Channel / 1RB



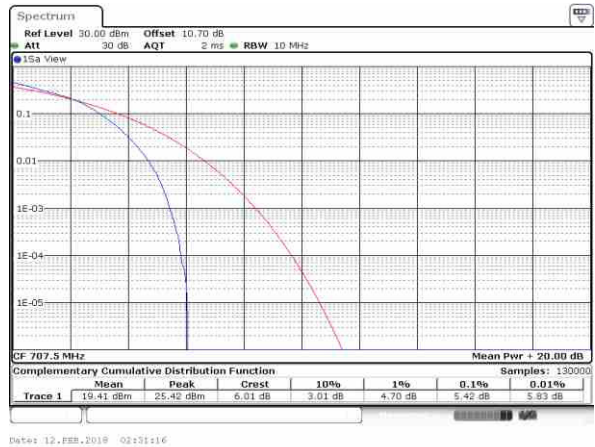
Lowest Channel / Full RB



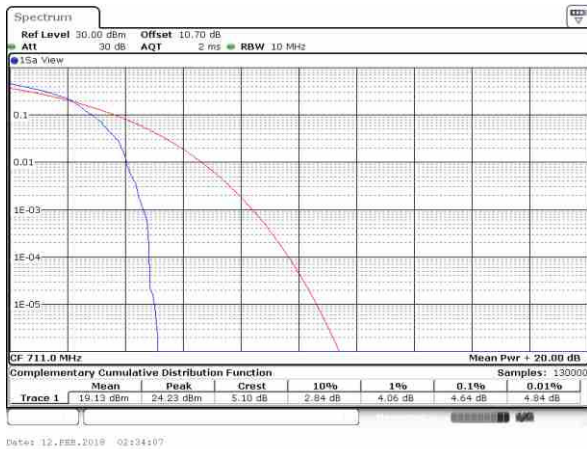
Middle Channel / 1RB



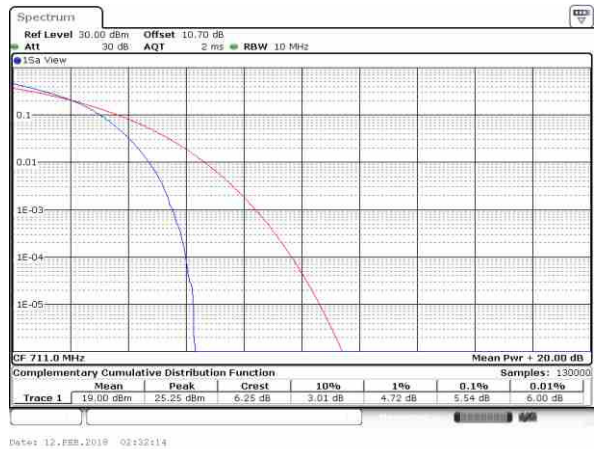
Middle Channel / Full RB



Highest Channel / 1RB



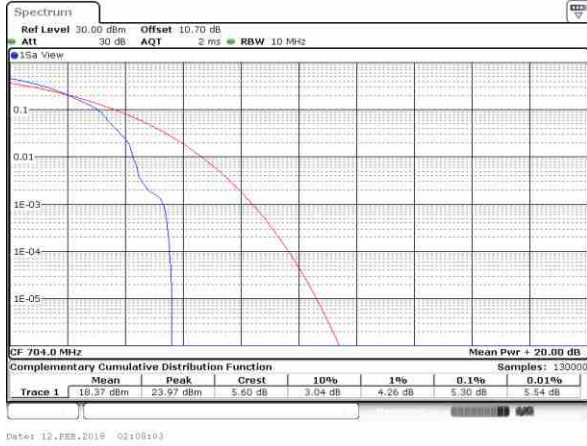
Highest Channel / Full RB



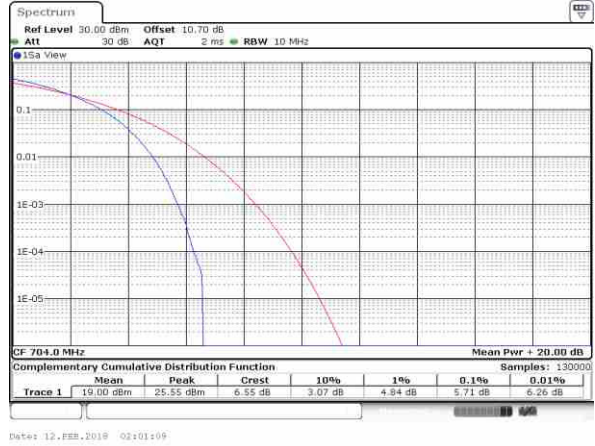


LTE Band 12 / 10MHz / 64QAM

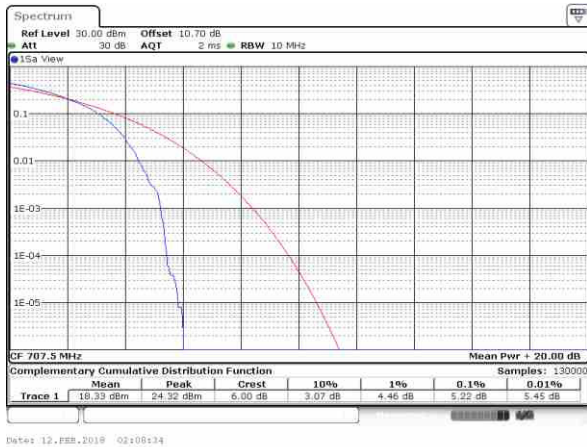
Lowest Channel / 1RB



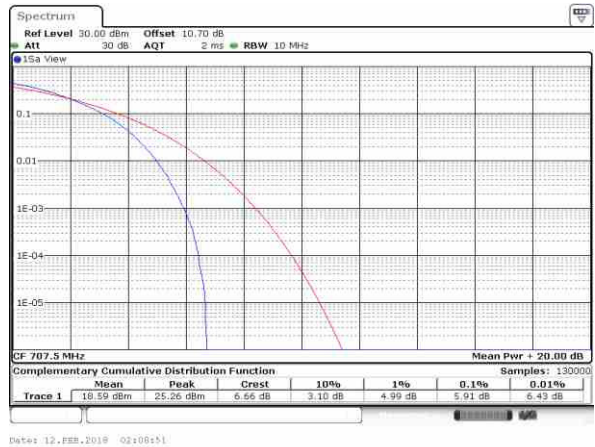
Lowest Channel / Full RB



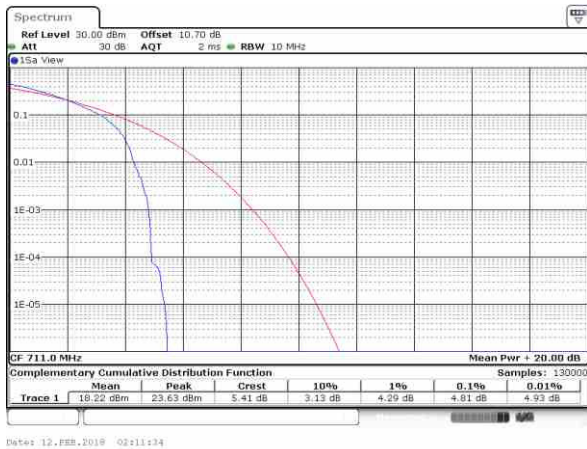
Middle Channel / 1RB



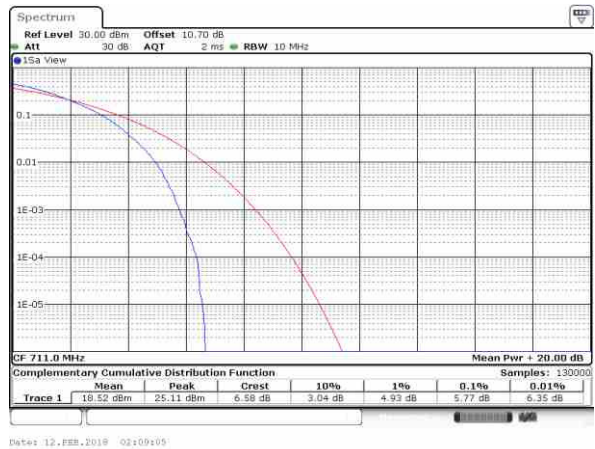
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB





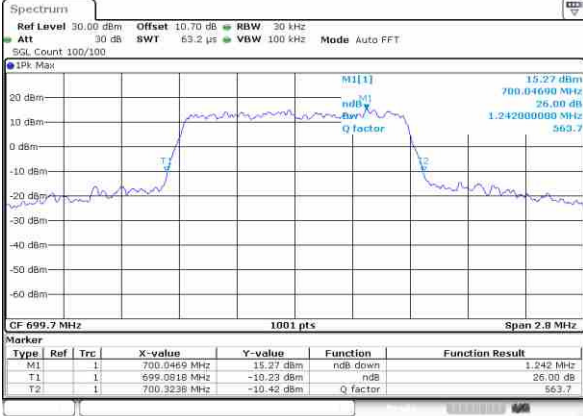
**26dB Bandwidth**

Mode	LTE Band 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	1.24	1.25	3.00	3.02	4.98	4.90	10.03	9.79	-	-	-	-
Middle CH	1.24	1.24	3.06	3.02	4.99	4.93	9.93	10.03	-	-	-	-
Highest CH	1.25	1.24	3.09	3.01	4.92	4.89	9.99	9.89	-	-	-	-
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.24	-	3.00	-	4.93	-	9.89	-	-	-	-	-
Middle CH	1.24	-	3.00	-	4.89	-	9.79	-	-	-	-	-
Highest CH	1.24	-	3.00	-	4.86	-	9.83	-	-	-	-	-

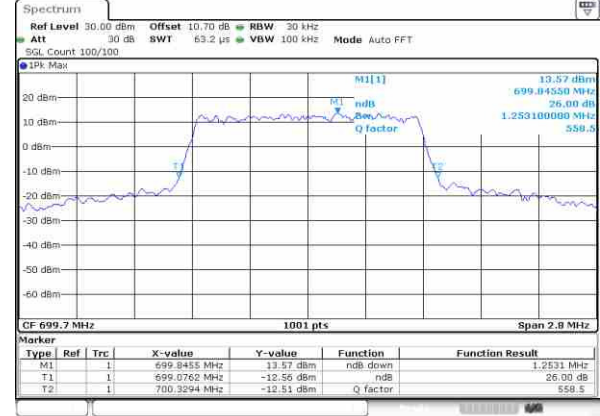


LTE Band 12

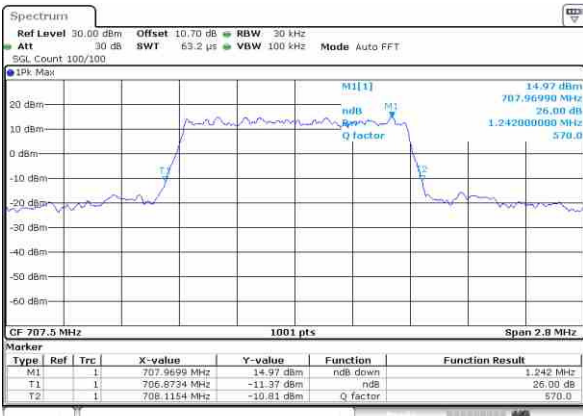
Lowest Channel / 1.4MHz / QPSK



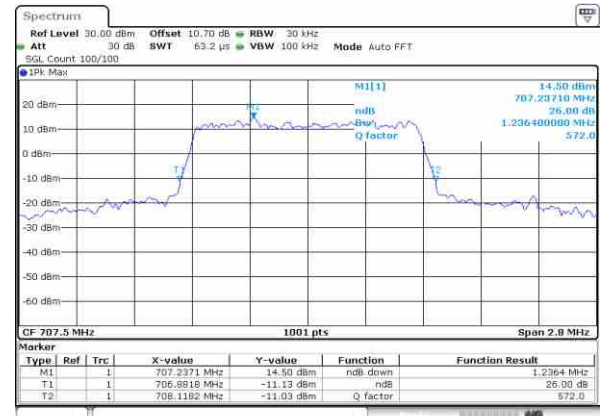
Lowest Channel / 1.4MHz / 16QAM



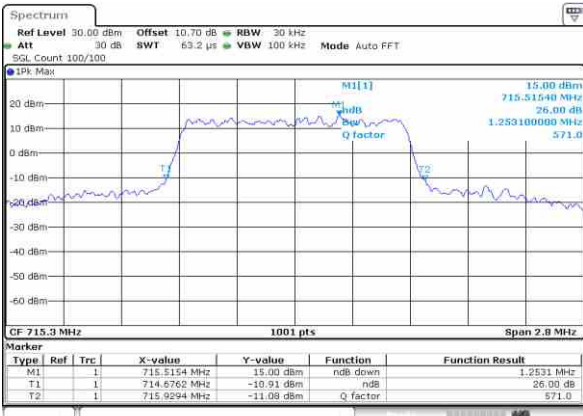
Middle Channel / 1.4MHz / QPSK



Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK



Highest Channel / 1.4MHz / 16QAM

