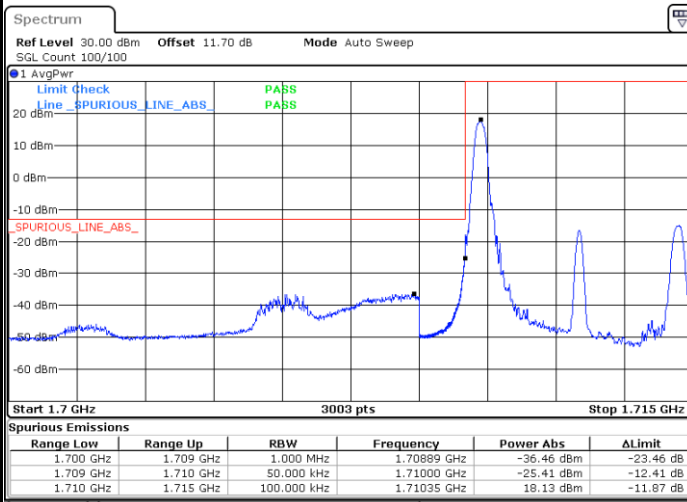




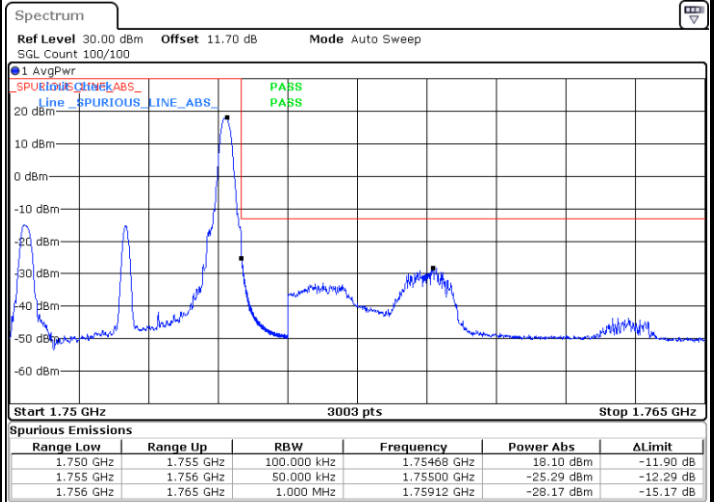
LTE Band 4 / 5MHz / 16QAM

Lowest Band Edge / 1RB



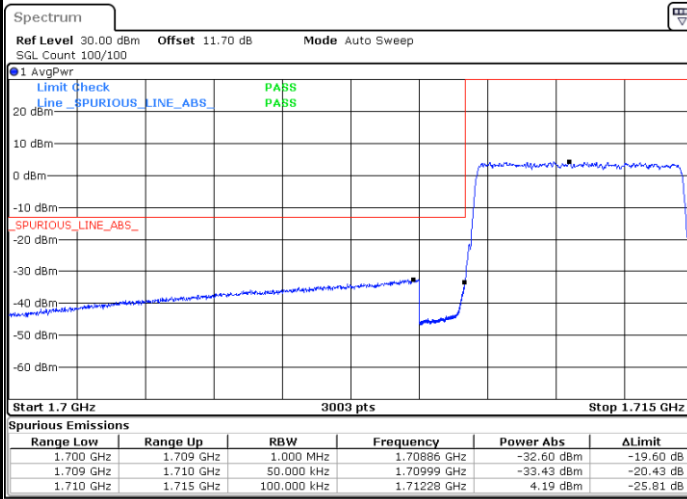
Date: 6 SEP.2019 14:41:31

Highest Band Edge / 1 RB



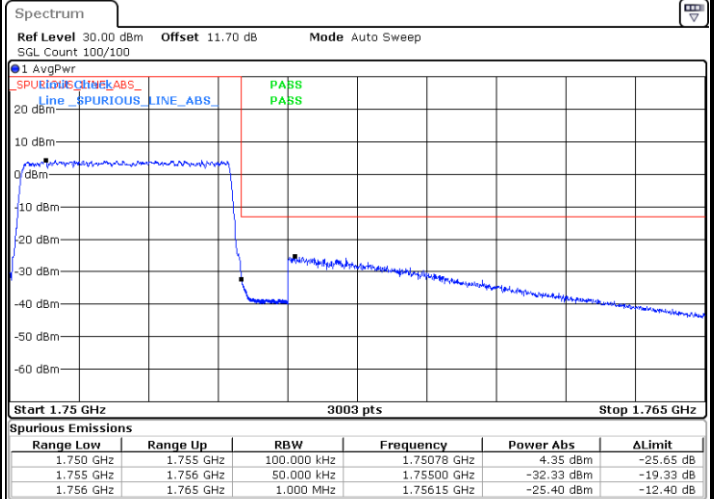
Date: 6 SEP.2019 14:51:13

Lowest Band Edge / Full RB



Date: 6 SEP.2019 14:43:33

Highest Band Edge / Full RB

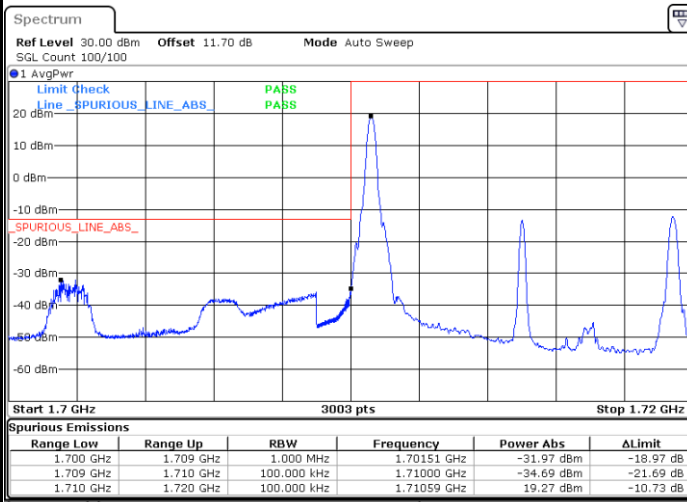


Date: 6 SEP.2019 14:53:14



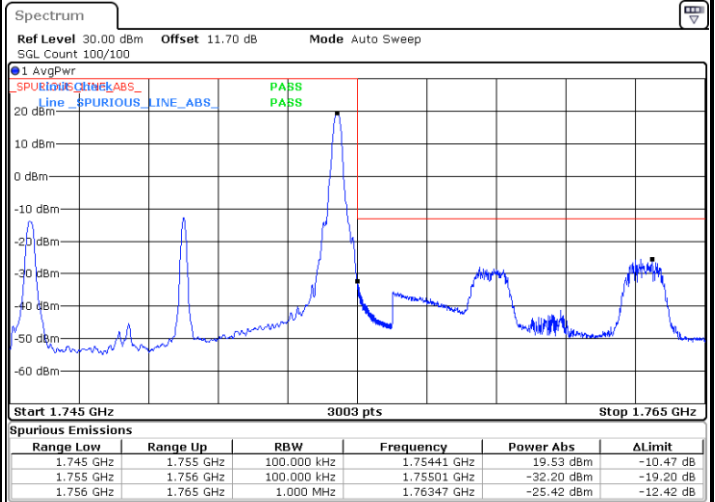
LTE Band 4 / 10MHz / QPSK

Lowest Band Edge / 1 RB



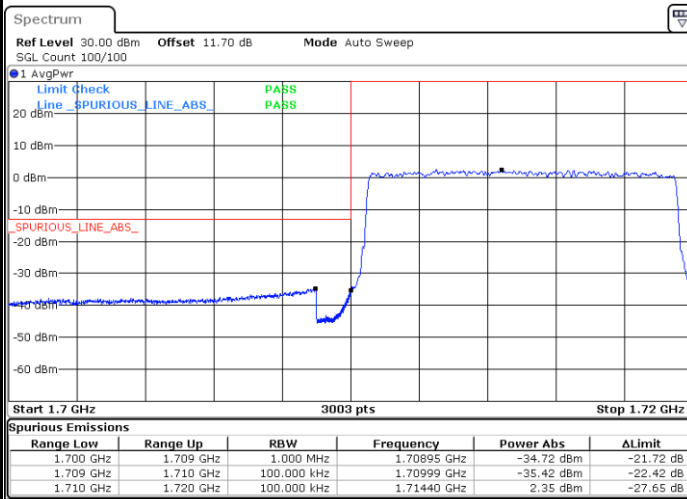
Date: 6 SEP.2019 14:56:42

Highest Band Edge / 1 RB



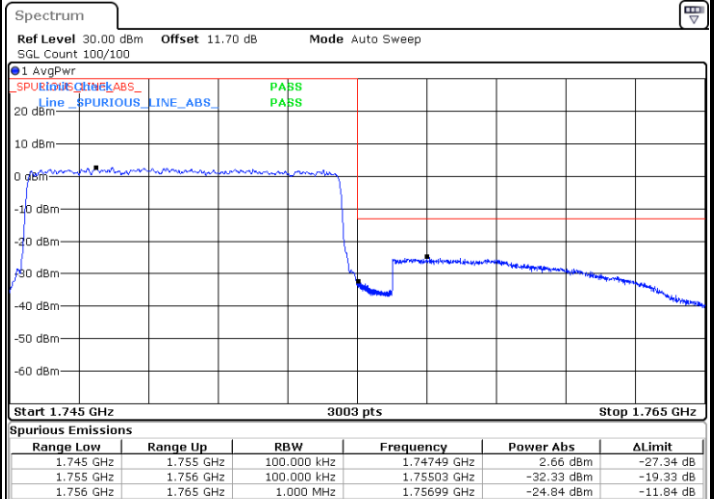
Date: 6 SEP.2019 15:04:37

Lowest Band Edge / Full RB



Date: 6 SEP.2019 14:58:44

Highest Band Edge / Full RB



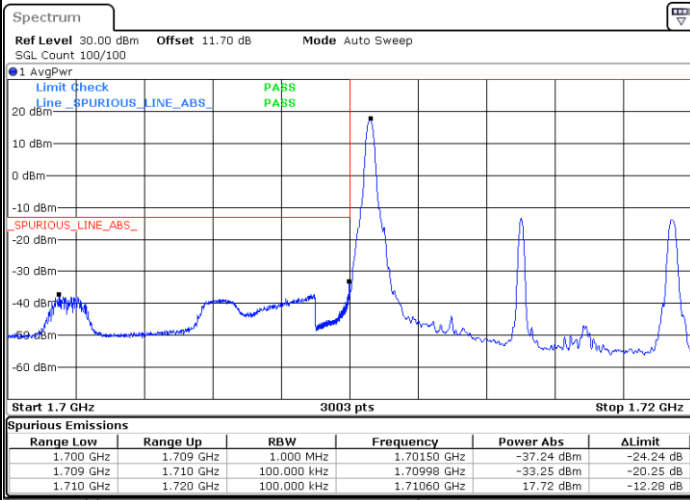
Date: 6 SEP.2019 15:06:40



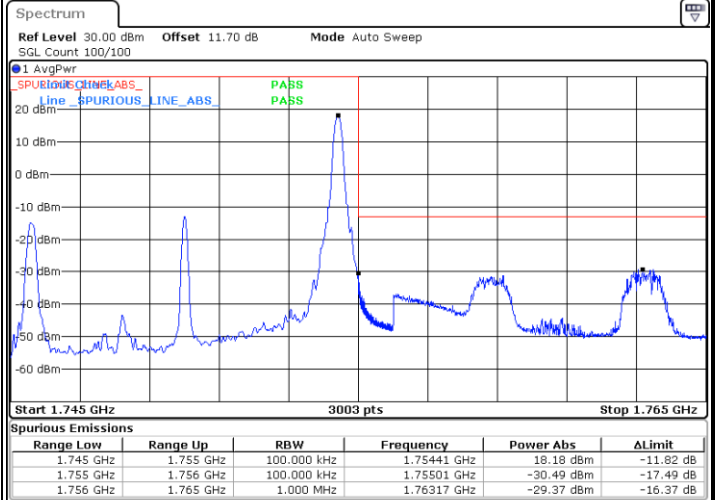
LTE Band 4 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



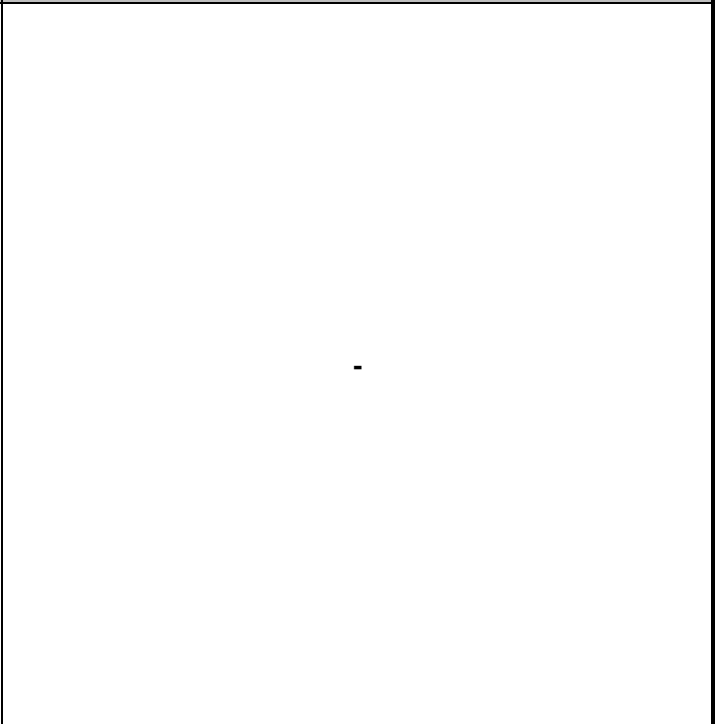
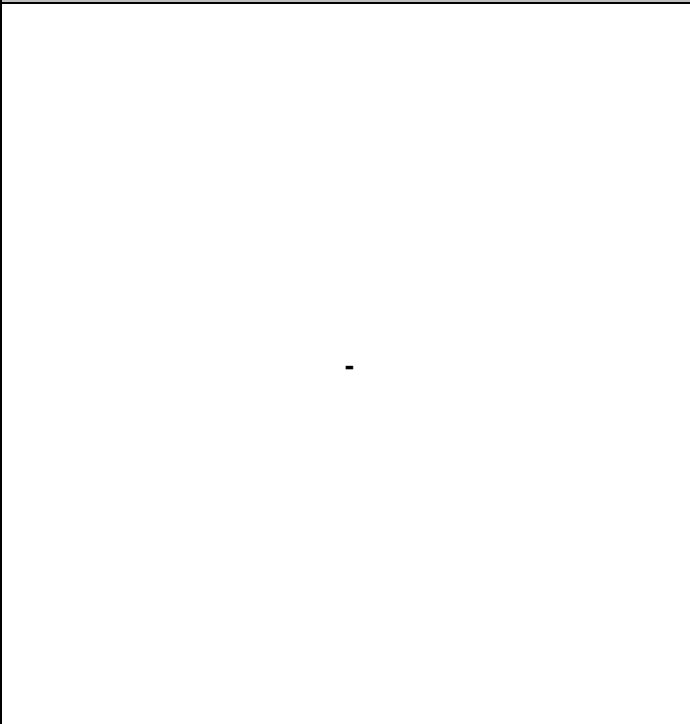
Date: 6 SEP.2019 14:57:43



Date: 6 SEP.2019 15:05:39

Lowest Band Edge / Full RB

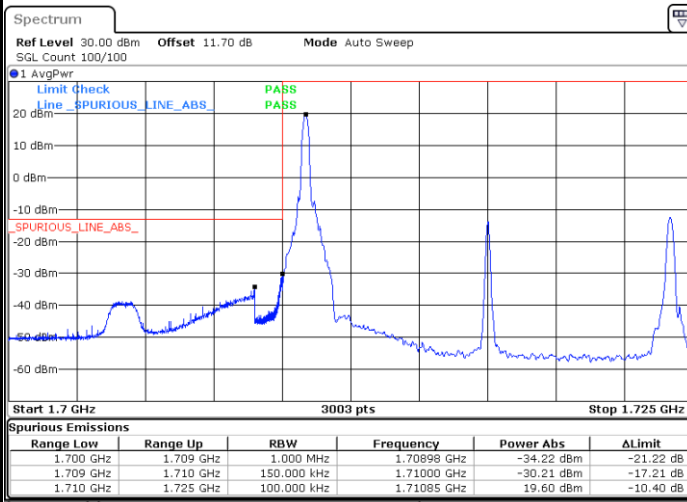
Highest Band Edge / Full RB





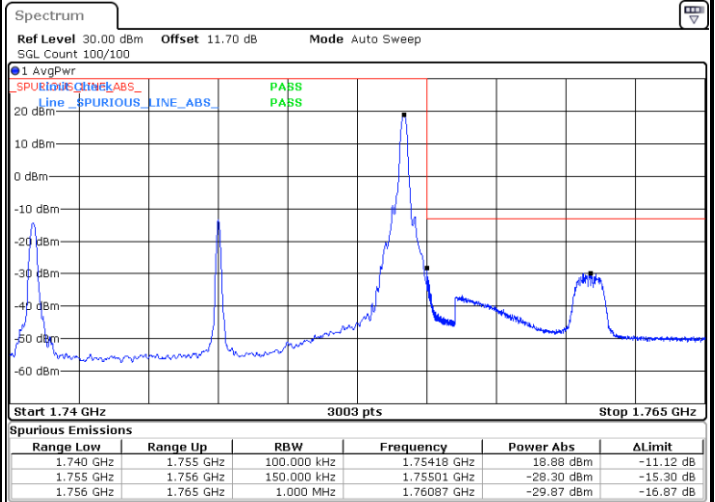
LTE Band 4 / 15MHz / QPSK

Lowest Band Edge / 1 RB



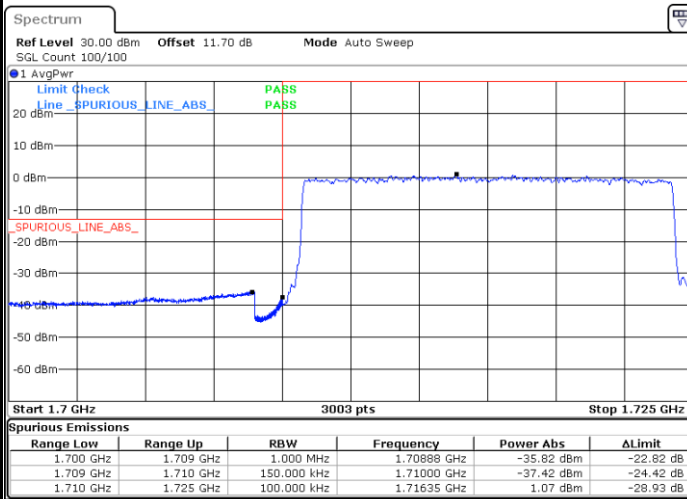
Date: 6 SEP.2019 15:10:08

Highest Band Edge / 1 RB



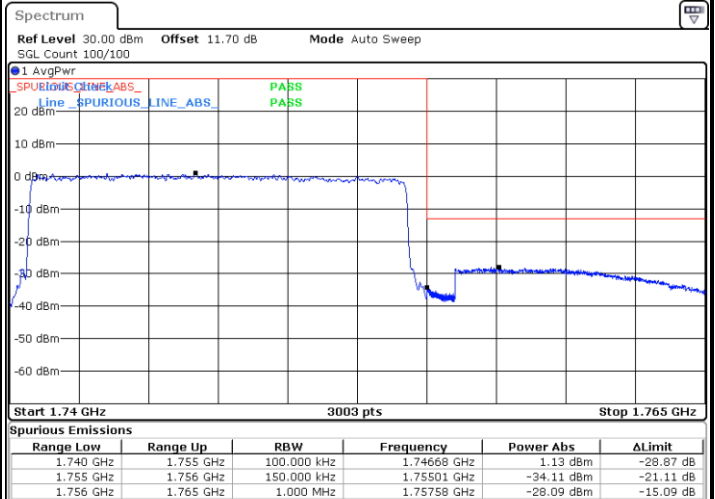
Date: 6 SEP.2019 15:18:00

Lowest Band Edge / Full RB



Date: 6 SEP.2019 15:12:09

Highest Band Edge / Full RB

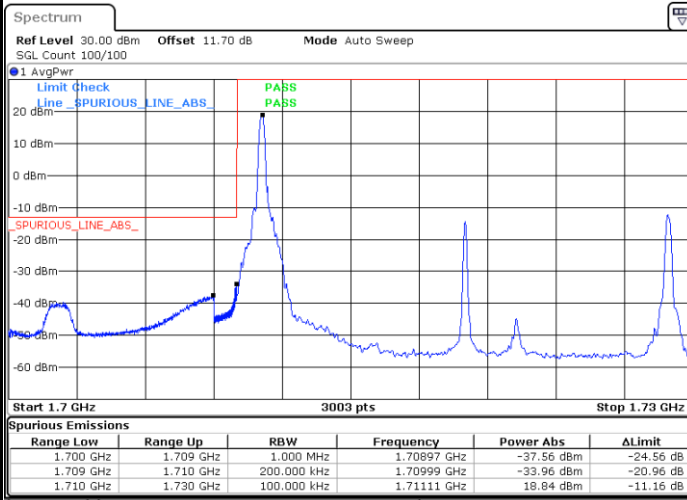


Date: 6 SEP.2019 15:20:02



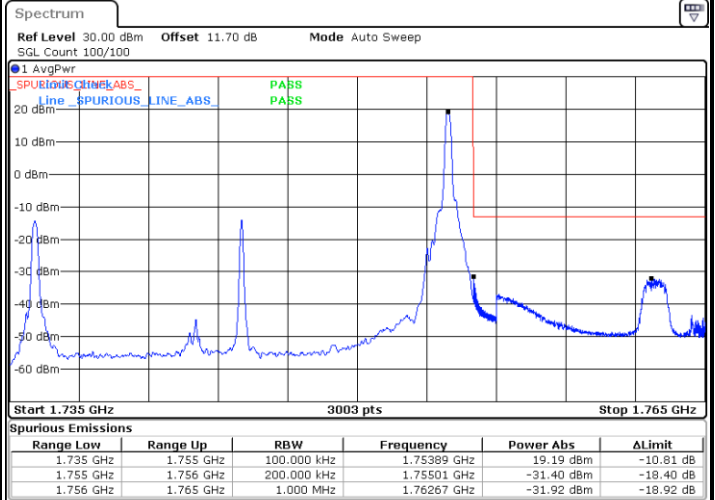
LTE Band 4 / 20MHz / QPSK

Lowest Band Edge / 1 RB



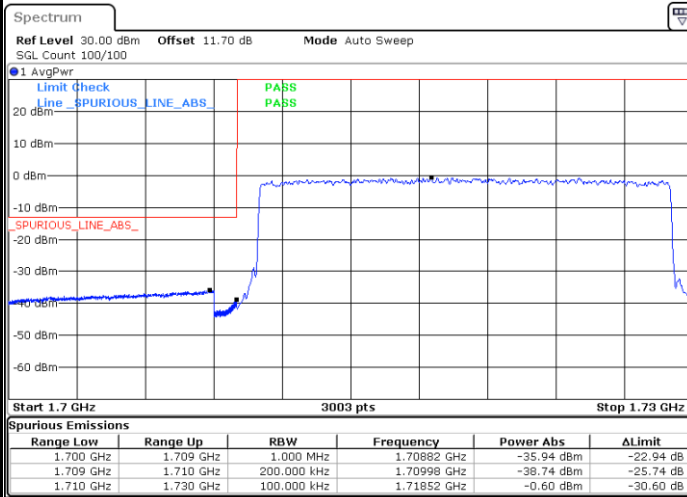
Date: 6 SEP.2019 15:23:29

Highest Band Edge / 1 RB



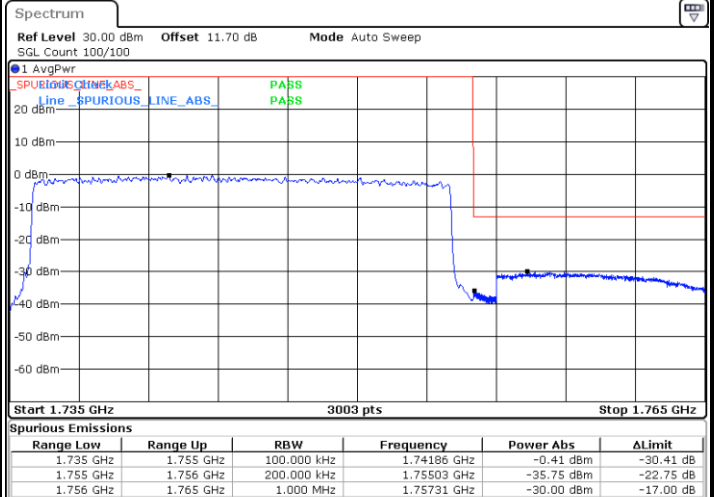
Date: 6 SEP.2019 15:31:22

Lowest Band Edge / Full RB



Date: 6 SEP.2019 15:25:31

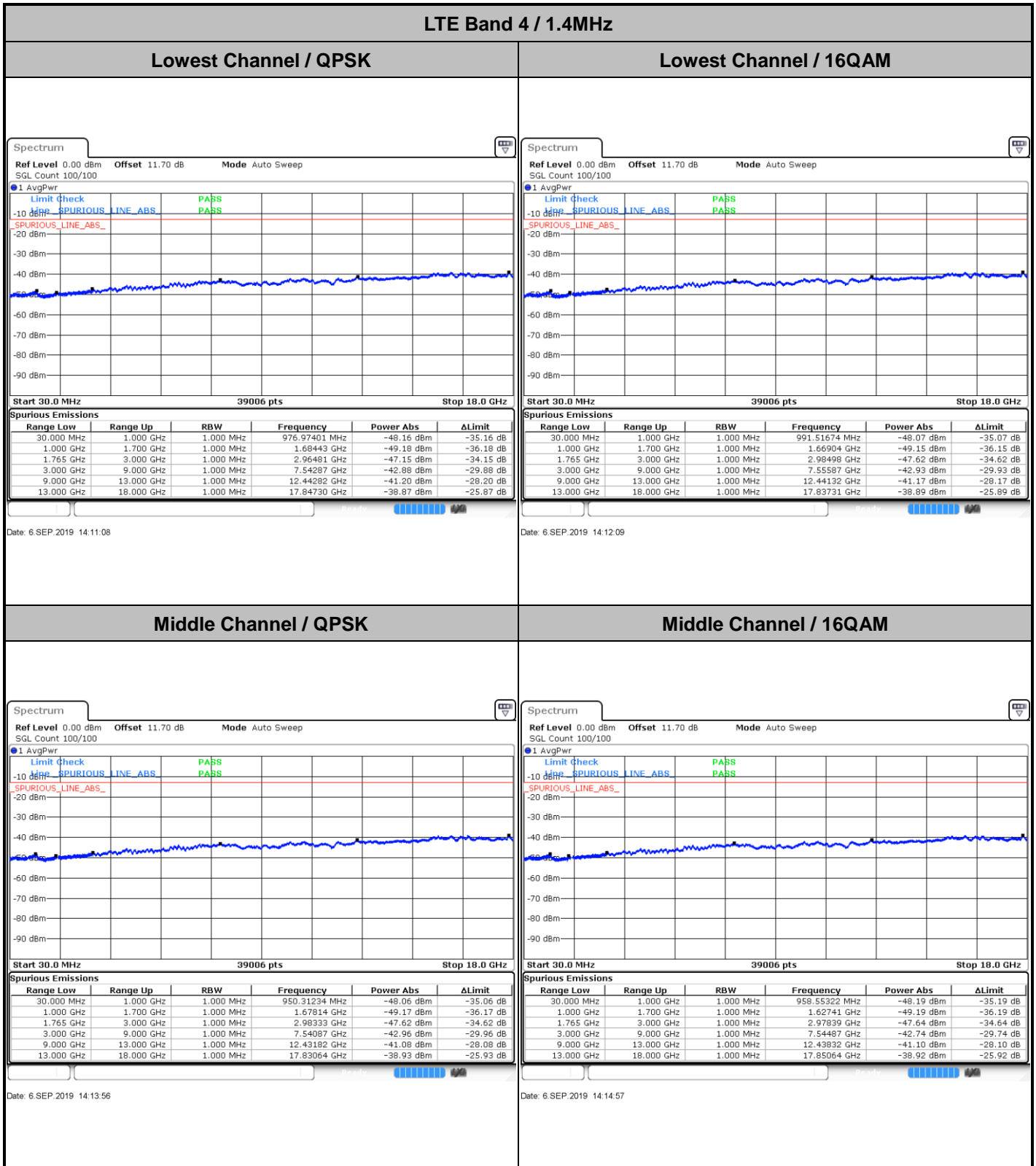
Highest Band Edge / Full RB



Date: 6 SEP.2019 15:33:24



# Conducted Spurious Emission

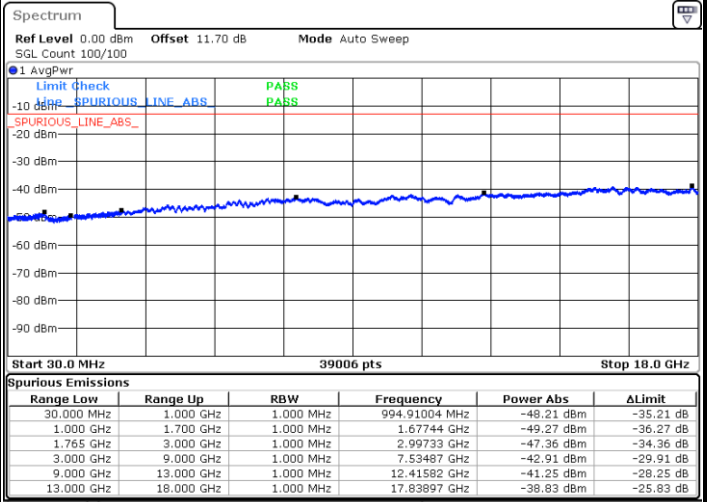
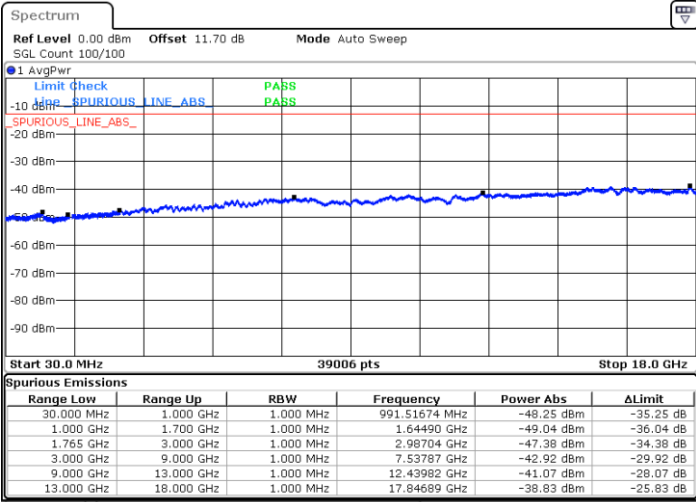




LTE Band 4 / 1.4MHz

Highest Channel / QPSK

Highest Channel / 16QAM



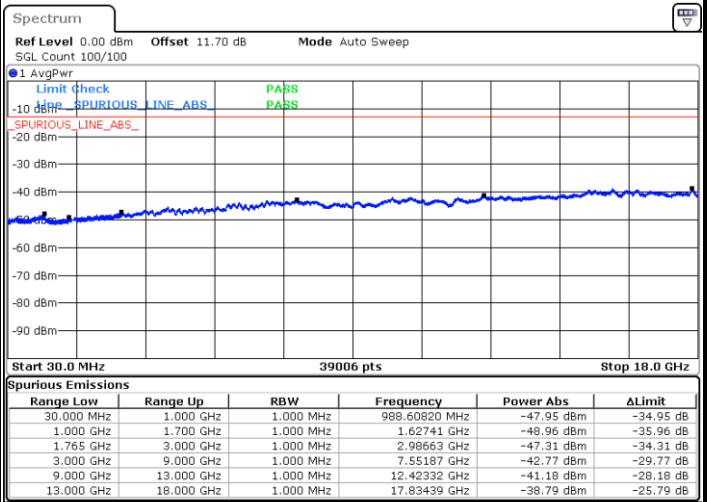
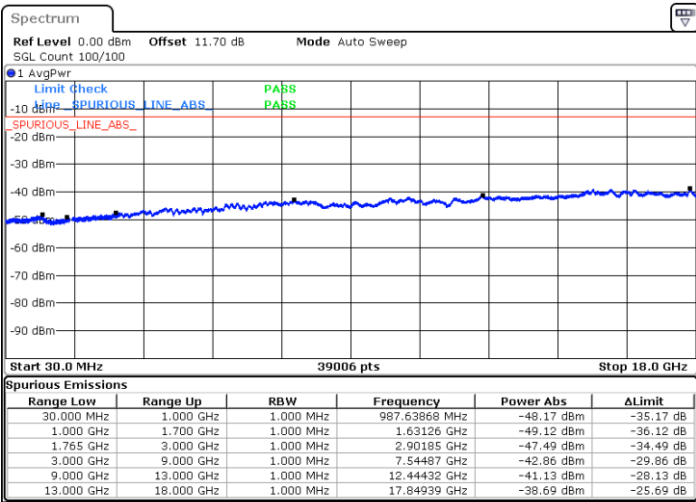
Date: 6 SEP.2019 14:21:02

Date: 6 SEP.2019 14:22:03

LTE Band 4 / 3MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 6 SEP.2019 14:27:57

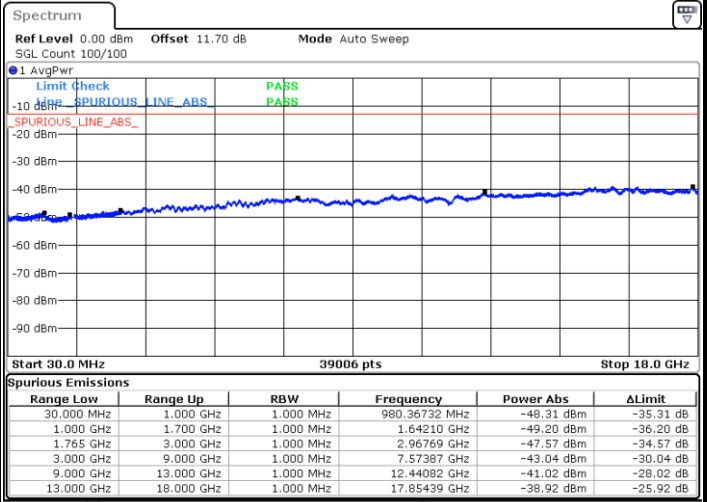
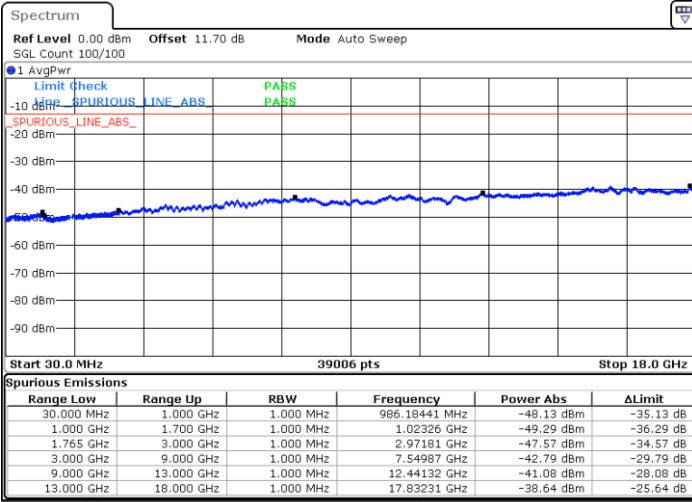
Date: 6 SEP.2019 14:28:58



LTE Band 4 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

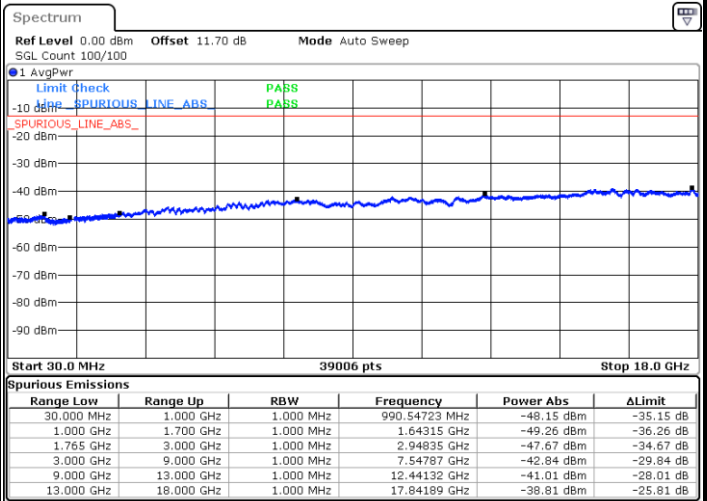
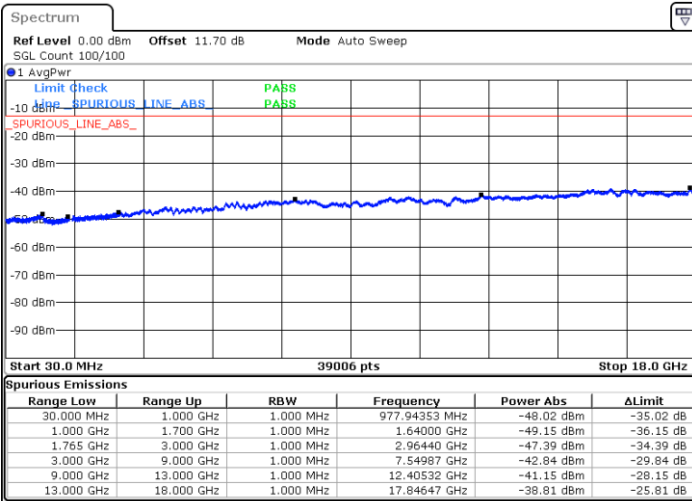


Date: 6 SEP.2019 14:30:46

Date: 6 SEP.2019 14:31:46

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 6 SEP.2019 14:37:39

Date: 6 SEP.2019 14:38:40

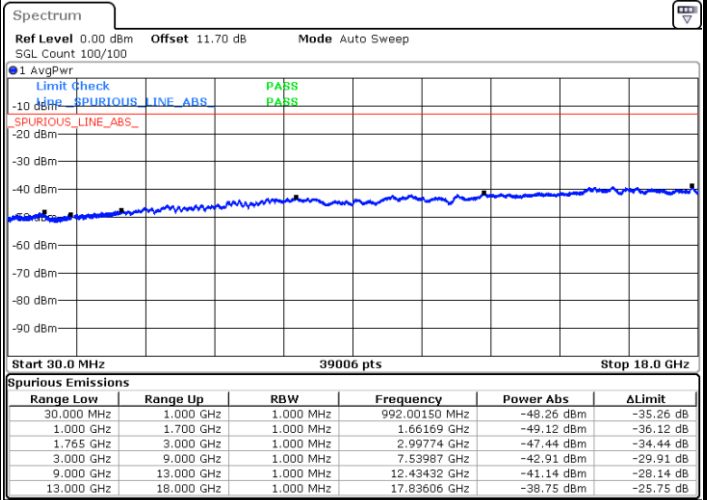
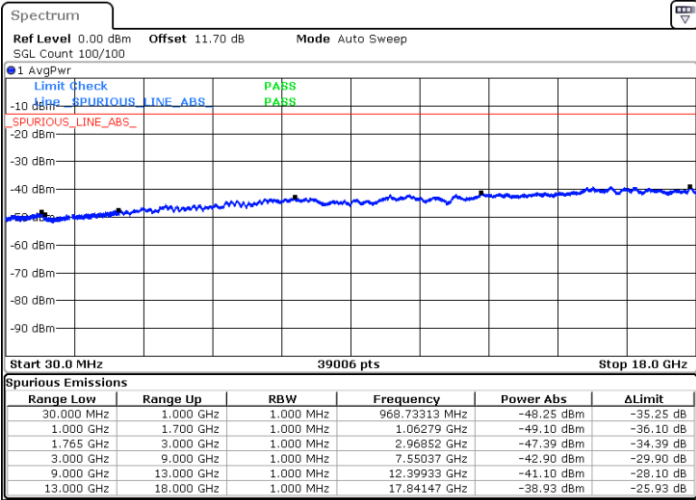




LTE Band 4 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

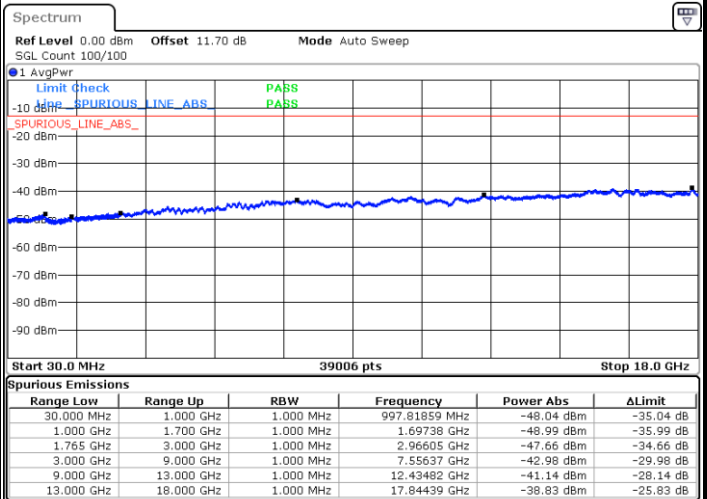
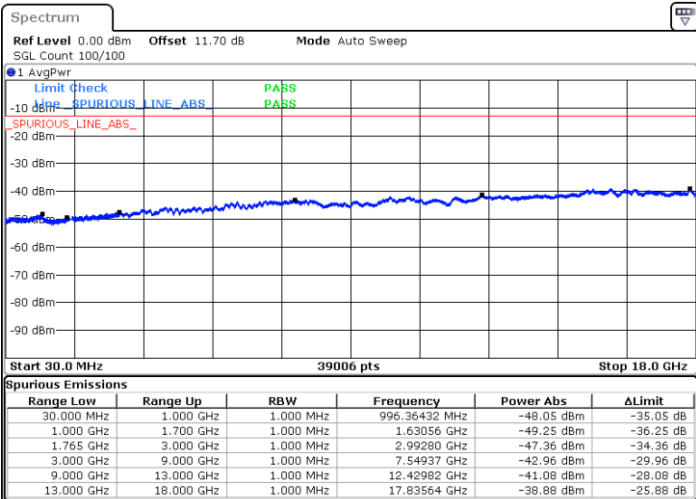


Date: 6 SEP.2019 14:44:34

Date: 6 SEP.2019 14:45:35

Middle Channel / QPSK

Middle Channel / 16QAM



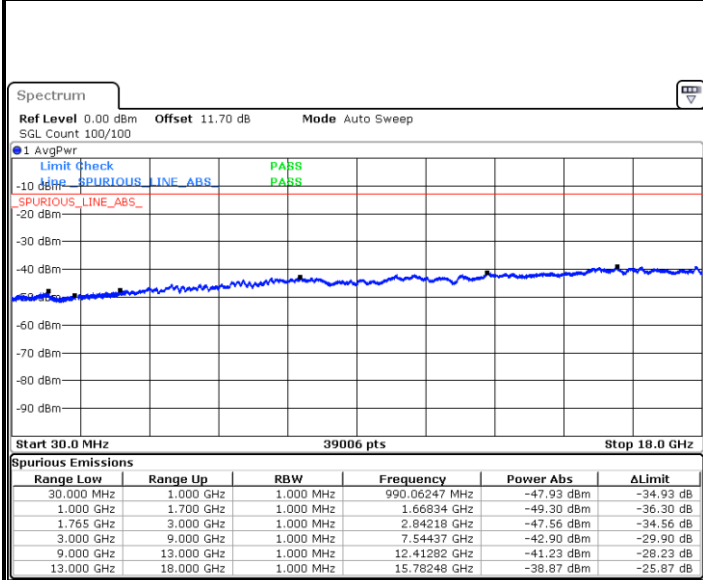
Date: 6 SEP.2019 14:47:23

Date: 6 SEP.2019 14:48:23



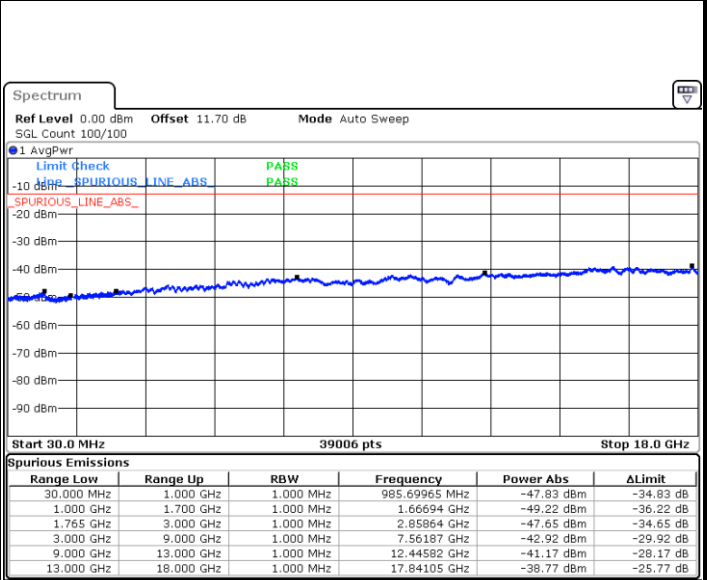
LTE Band 4 / 5MHz

Highest Channel / QPSK



Date: 6 SEP.2019 14:54:16

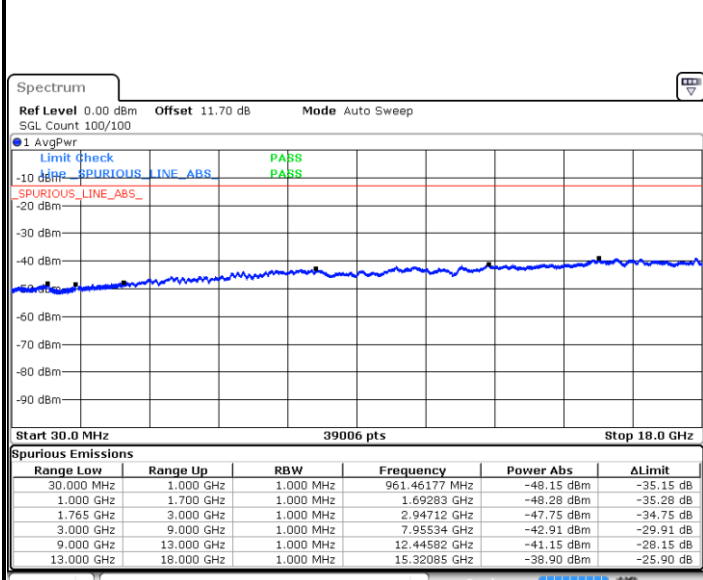
Highest Channel / 16QAM



Date: 6 SEP.2019 14:55:16

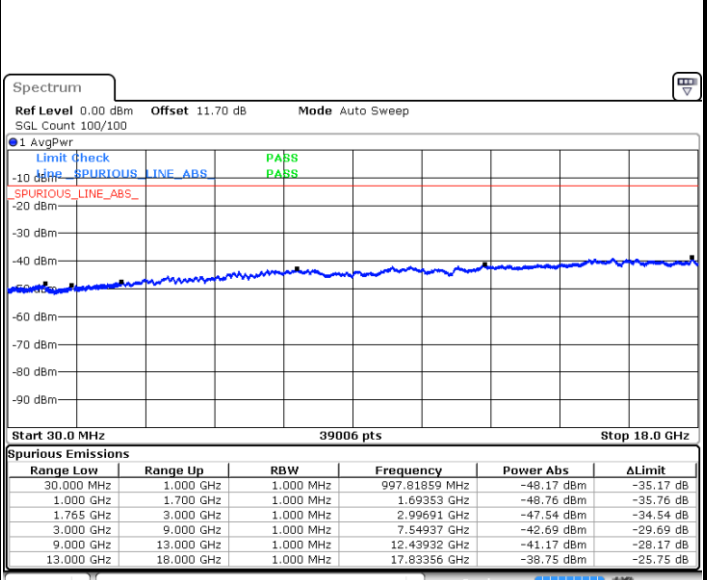
LTE Band 4 / 10MHz

Lowest Channel / QPSK



Date: 6 SEP.2019 14:59:45

Lowest Channel / 16QAM



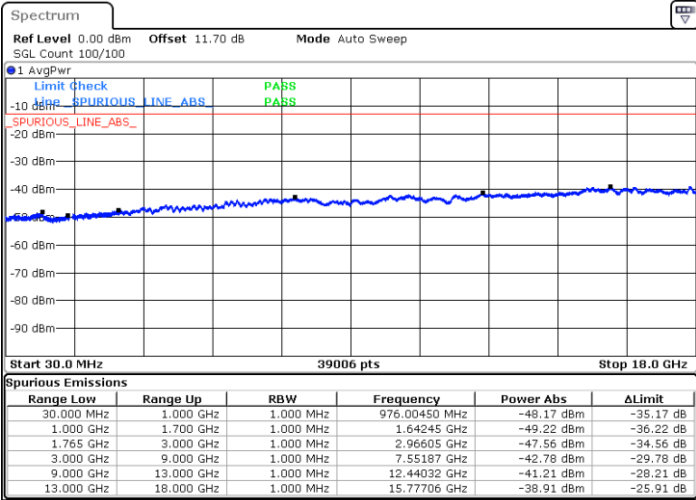
Date: 6 SEP.2019 15:00:46



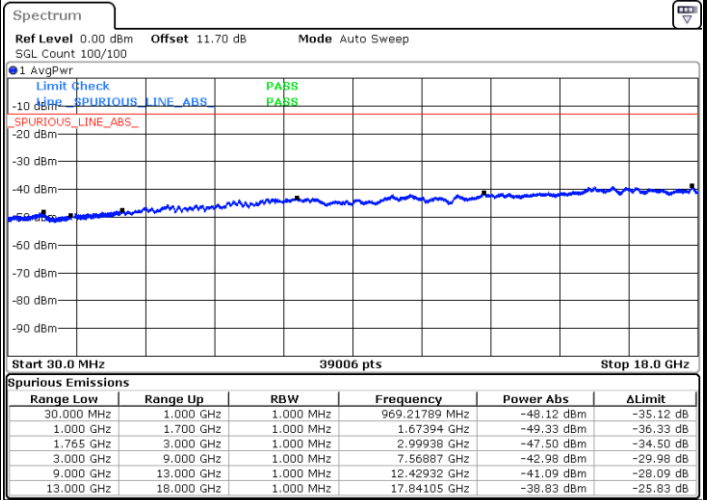
LTE Band 4 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM



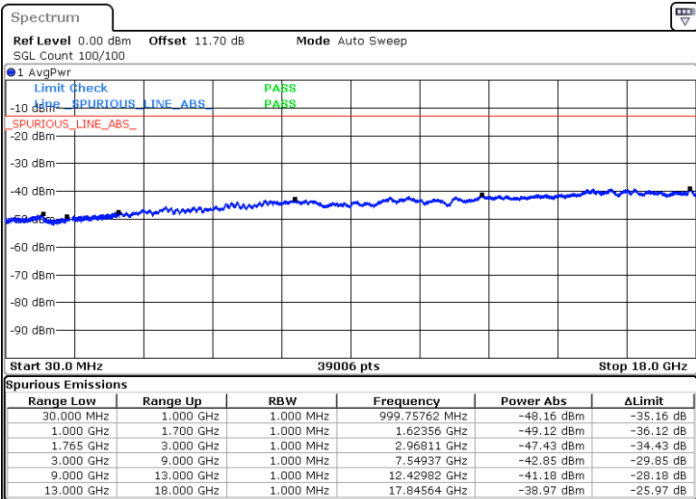
Date: 6 SEP.2019 15:02:11



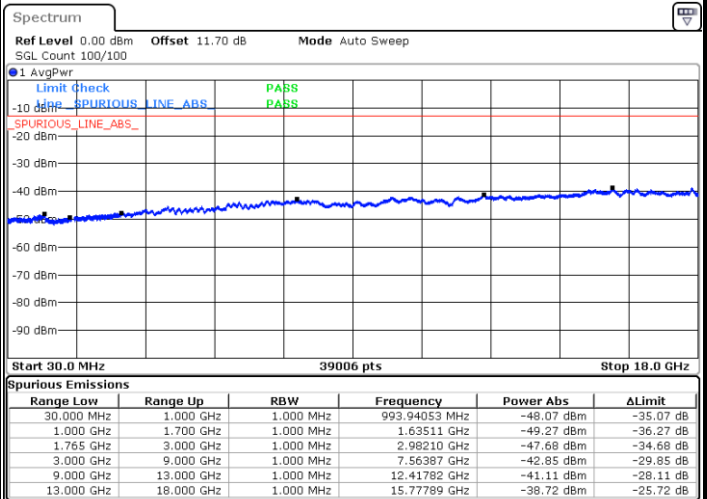
Date: 6 SEP.2019 15:03:11

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 6 SEP.2019 15:07:41



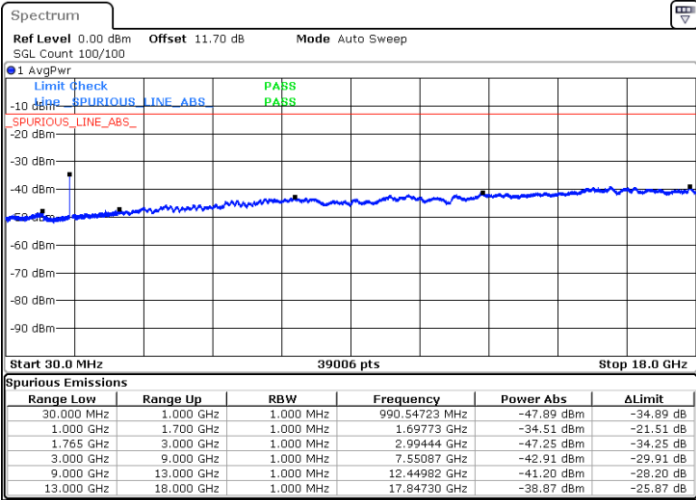
Date: 6 SEP.2019 15:08:42



LTE Band 4 / 15MHz

Lowest Channel / QPSK

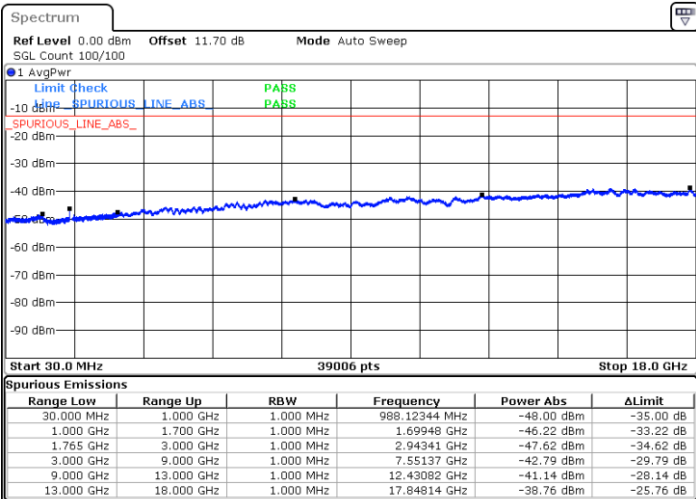
Lowest Channel / 16QAM



Date: 6 SEP.2019 15:13:11

Middle Channel / QPSK

Middle Channel / 16QAM



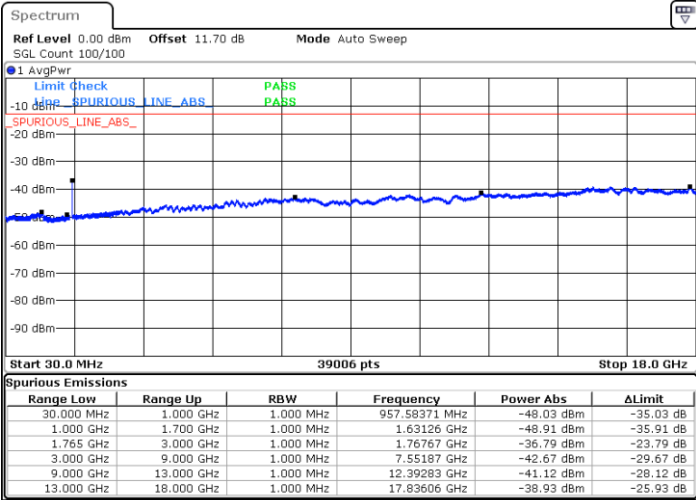
Date: 6 SEP.2019 15:15:35



LTE Band 4 / 15MHz

Highest Channel / QPSK

Highest Channel / 16QAM

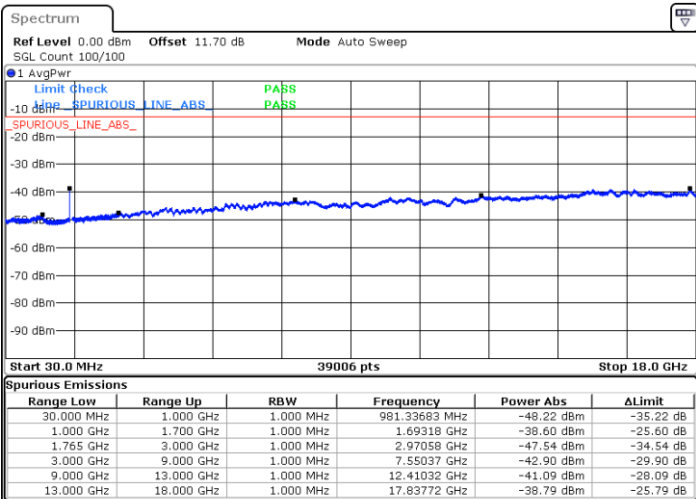


Date: 6 SEP.2019 15:21:03

LTE Band 4 / 20MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



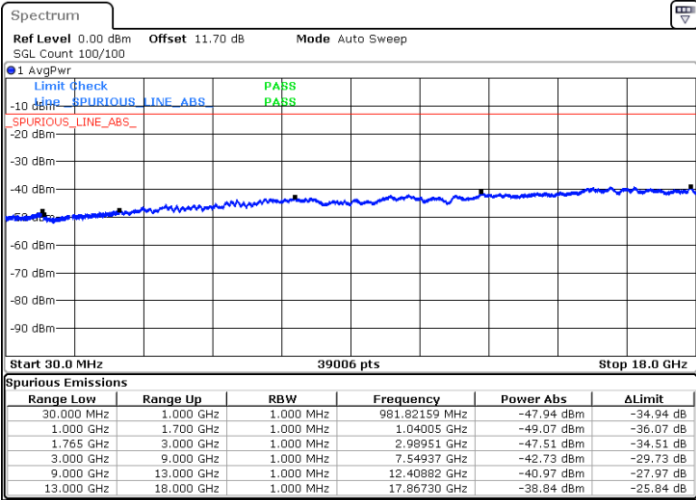
Date: 6 SEP.2019 15:26:32



LTE Band 4 / 20MHz

Middle Channel / QPSK

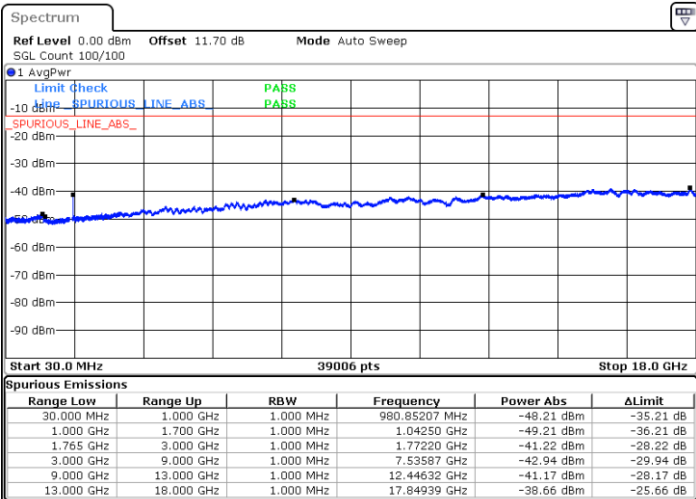
Middle Channel / 16QAM



Date: 6 SEP.2019 15:28:57

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 6 SEP.2019 15:34:25



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	0.0085	PASS
40	Normal Voltage	0.0077	
30	Normal Voltage	0.0002	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0080	
0	Normal Voltage	0.0003	
-10	Normal Voltage	0.0082	
-20	Normal Voltage	0.0089	
-30	Normal Voltage	0.0007	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0000	

Note:

1. Normal Voltage =4.0 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.3 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 12

### Peak-to-Average Ratio

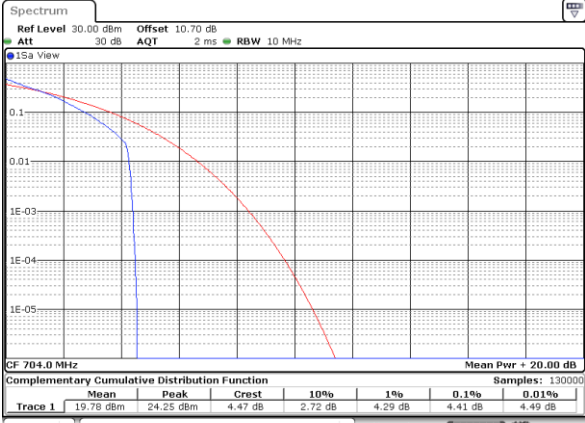
Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.41	5.1	5.13	-	PASS
Middle CH	4.49	5.16	5.71	-	
Highest CH	4.64	4.96	5.28	-	





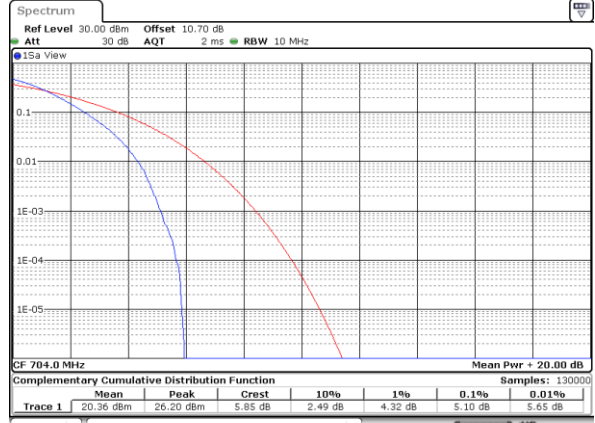
LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



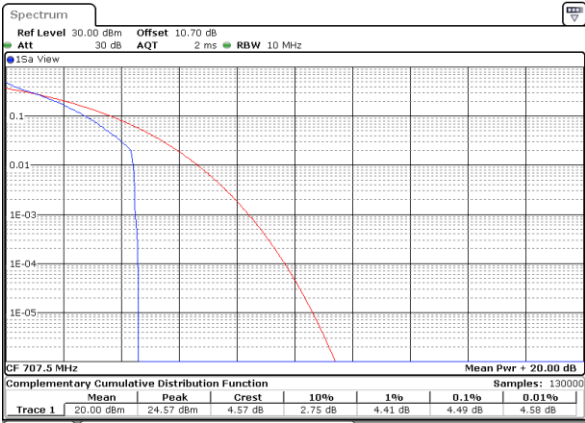
Date: 5 SEP 2019 16:49:33

Lowest Channel / Full RB



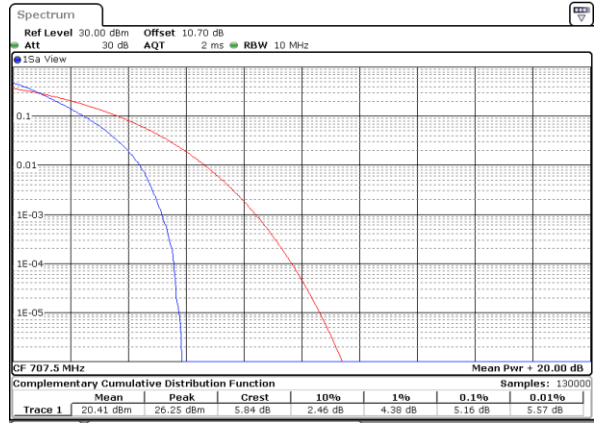
Date: 5 SEP 2019 16:49:21

Middle Channel / 1RB



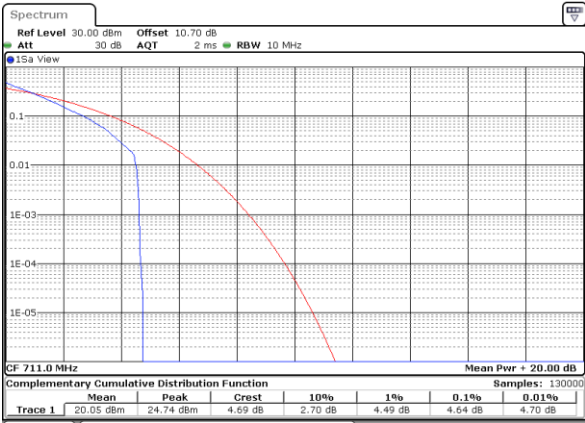
Date: 5 SEP 2019 16:49:53

Middle Channel / Full RB



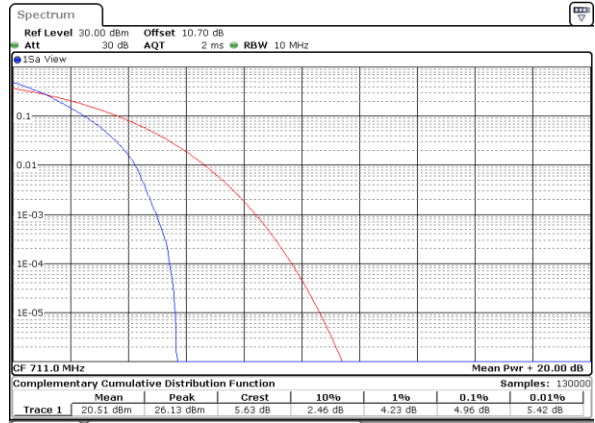
Date: 5 SEP 2019 16:50:02

Highest Channel / 1RB



Date: 5 SEP 2019 16:50:24

Highest Channel / Full RB

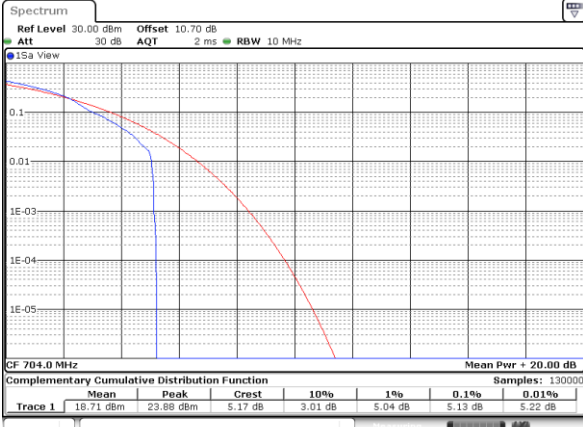


Date: 5 SEP 2019 16:50:13



LTE Band 12 / 10MHz / 16QAM

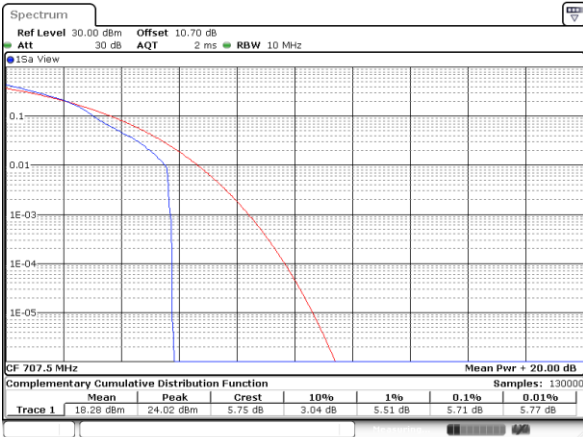
Lowest Channel / 1RB



Date: 5 SEP 2019 16:48:32

Lowest Channel / Full RB

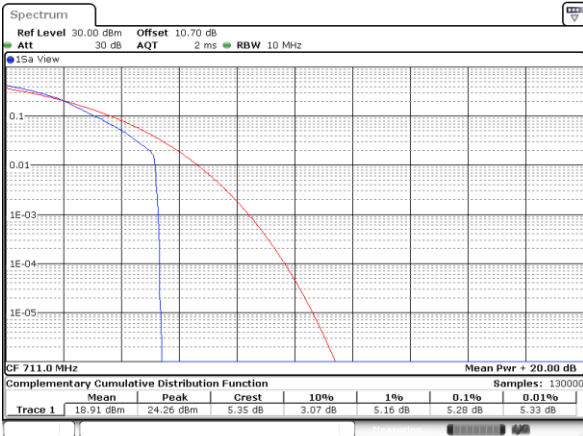
Middle Channel / 1RB



Date: 5 SEP 2019 16:48:42

Middle Channel / Full RB

Highest Channel / 1RB



Date: 5 SEP 2019 16:48:58

Highest Channel / Full RB



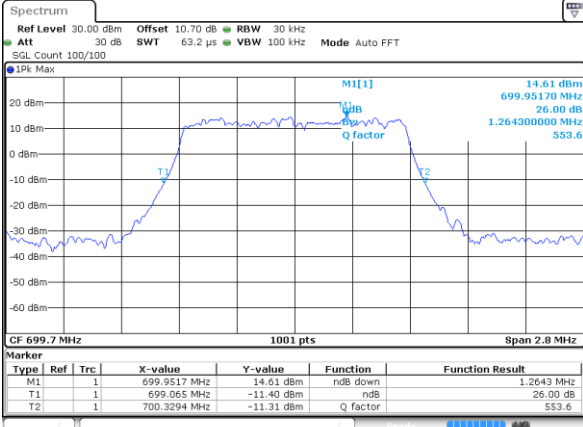
**26dB Bandwidth**

Mode	LTE Band 12 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.26	1.25	3.01	2.98	4.88	4.87	9.75	-	-	-	-	-
Middle CH	1.29	1.28	3.01	3.02	4.92	4.95	9.77	-	-	-	-	-
Highest CH	1.27	1.27	3.02	3.01	5.07	5.03	9.73	-	-	-	-	-



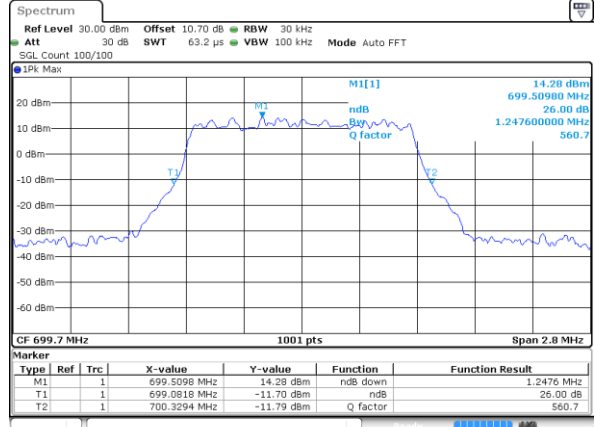
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



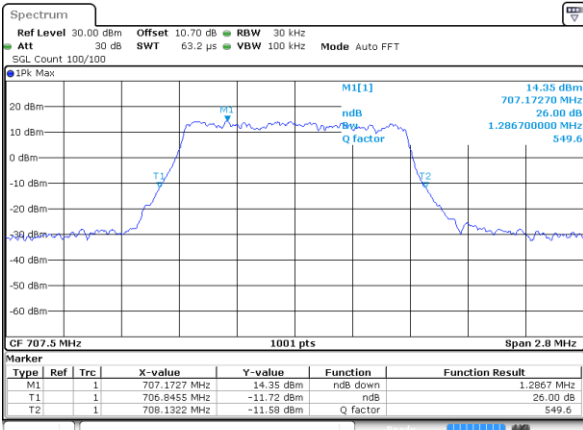
Date: 5 SEP.2019 17:01:48

Lowest Channel / 1.4MHz / 16QAM



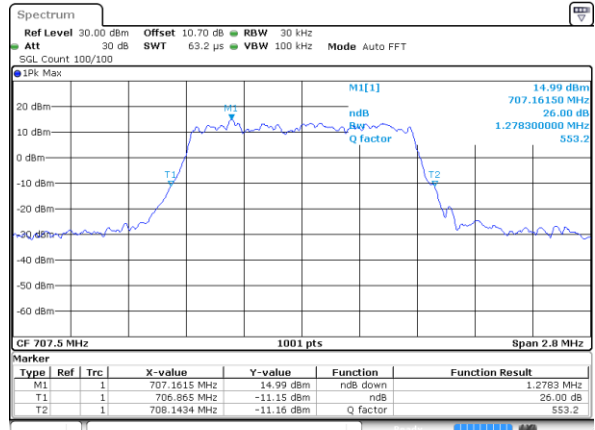
Date: 5 SEP.2019 17:01:36

Middle Channel / 1.4MHz / QPSK



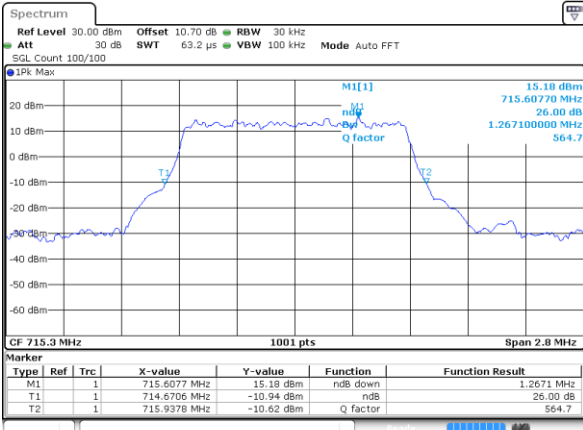
Date: 5 SEP.2019 17:07:22

Middle Channel / 1.4MHz / 16QAM



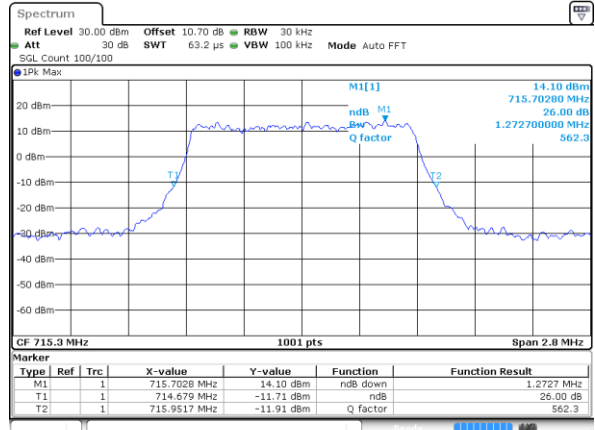
Date: 5 SEP.2019 17:07:34

Highest Channel / 1.4MHz / QPSK



Date: 5 SEP.2019 17:10:22

Highest Channel / 1.4MHz / 16QAM

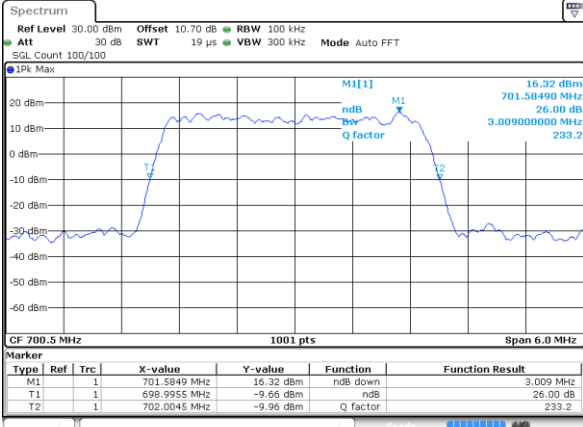


Date: 5 SEP.2019 17:10:11



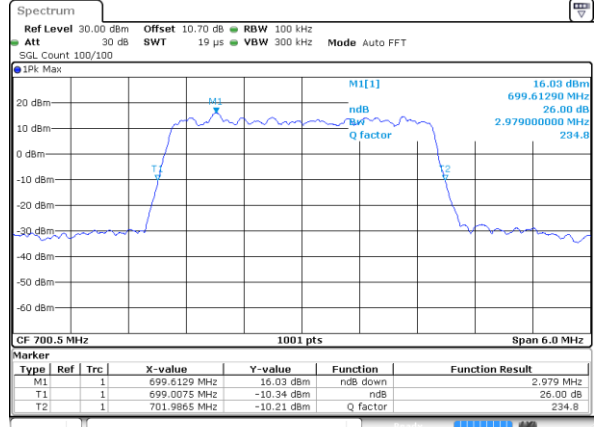
LTE Band 12

Lowest Channel / 3MHz / QPSK



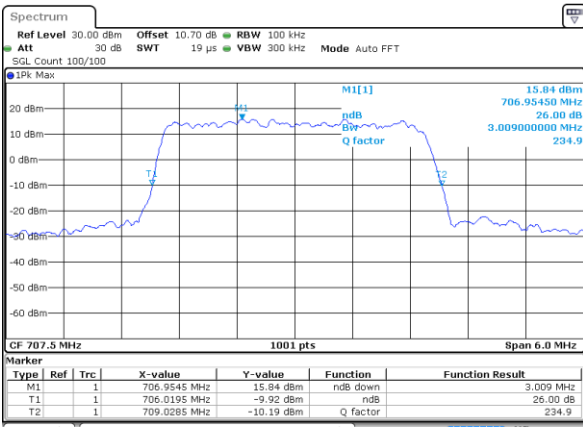
Date: 5 SEP 2019 15:23:31

Lowest Channel / 3MHz / 16QAM



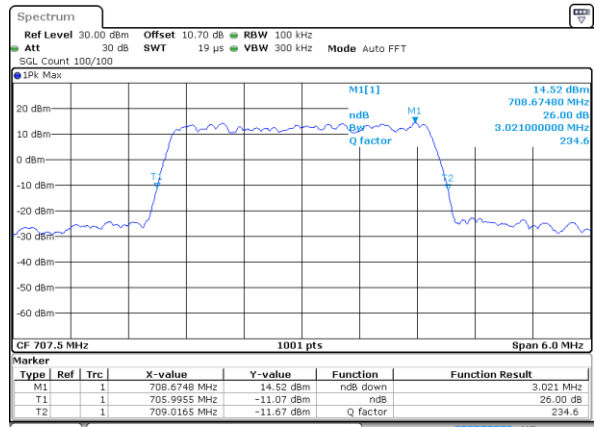
Date: 5 SEP 2019 15:23:19

Middle Channel / 3MHz / QPSK



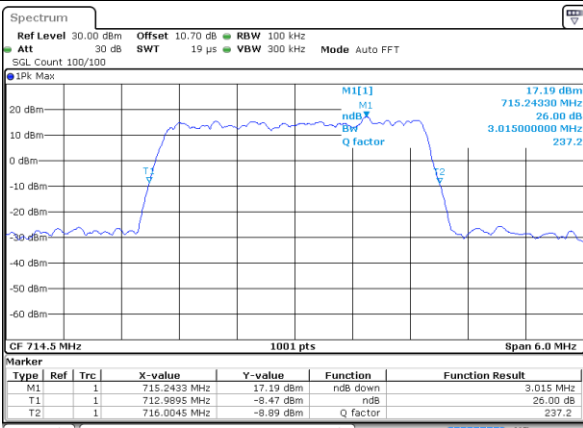
Date: 5 SEP 2019 15:28:51

Middle Channel / 3MHz / 16QAM



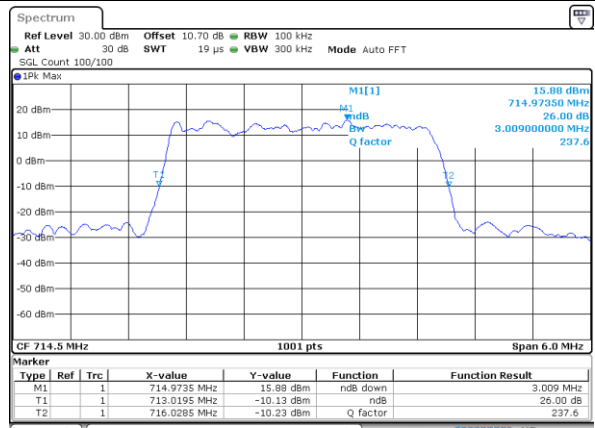
Date: 5 SEP 2019 15:29:03

Highest Channel / 3MHz / QPSK



Date: 5 SEP 2019 15:31:51

Highest Channel / 3MHz / 16QAM

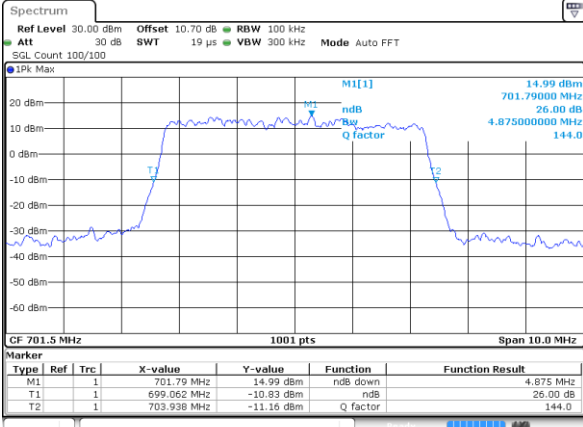


Date: 5 SEP 2019 15:31:39



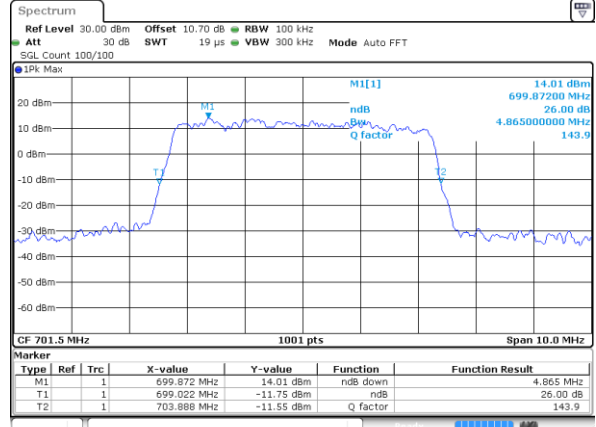
LTE Band 12

Lowest Channel / 5MHz / QPSK



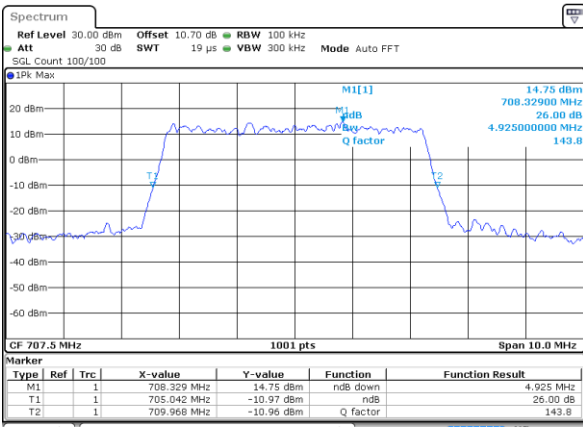
Date: 5 SEP 2019 15:37:24

Lowest Channel / 5MHz / 16QAM



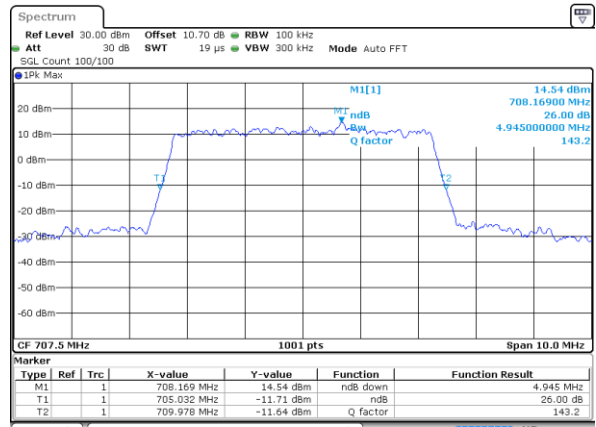
Date: 5 SEP 2019 15:37:12

Middle Channel / 5MHz / QPSK



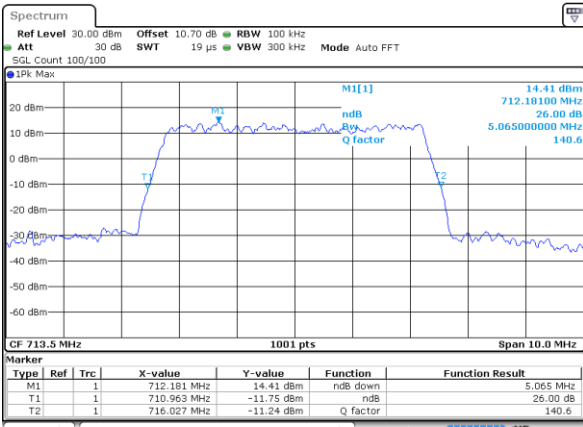
Date: 5 SEP 2019 15:42:44

Middle Channel / 5MHz / 16QAM



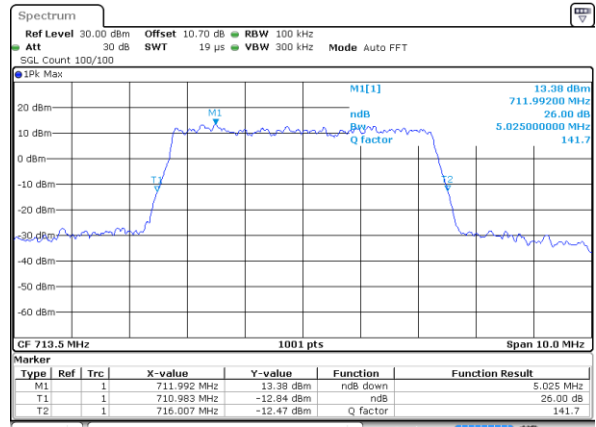
Date: 5 SEP 2019 15:42:55

Highest Channel / 5MHz / QPSK



Date: 5 SEP 2019 15:45:45

Highest Channel / 5MHz / 16QAM



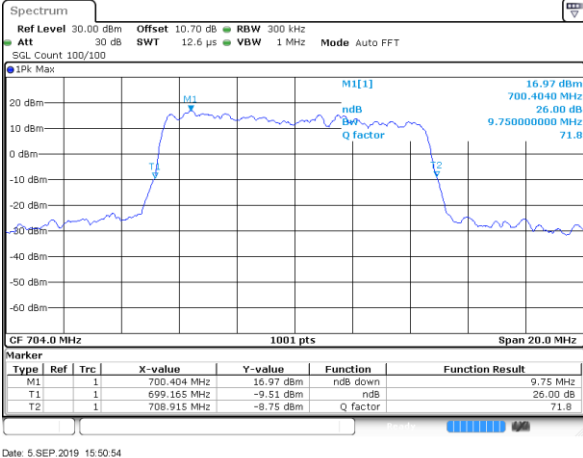
Date: 5 SEP 2019 15:45:33



LTE Band 12

Lowest Channel / 10MHz / QPSK

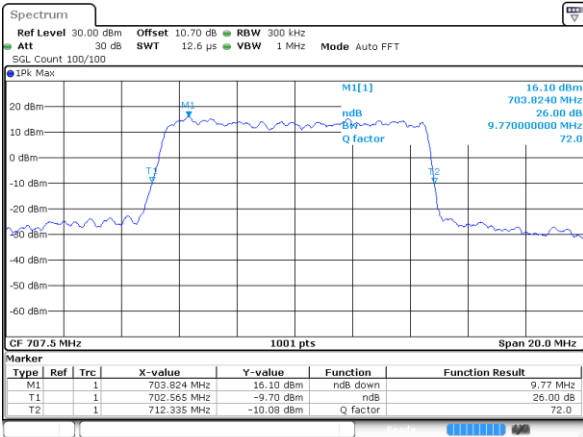
Lowest Channel / 10MHz / 16QAM



Date: 5 SEP 2019 15:50:54

Middle Channel / 10MHz / QPSK

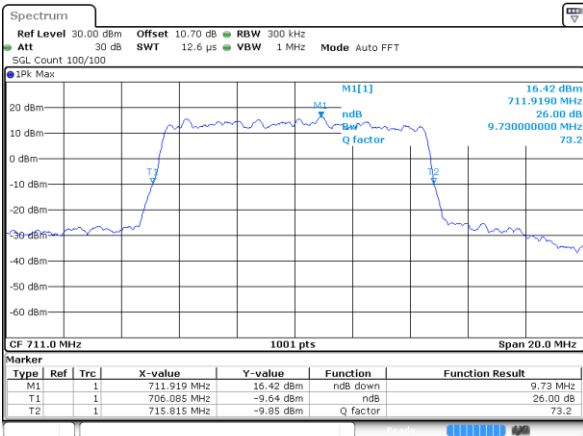
Middle Channel / 10MHz / 16QAM



Date: 5 SEP 2019 15:55:21

Highest Channel / 10MHz / QPSK

Highest Channel / 10MHz / 16QAM



Date: 5 SEP 2019 16:42:31



**Occupied Bandwidth**

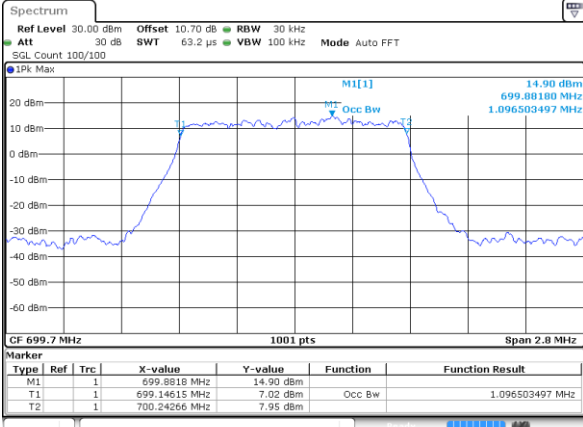
Mode	LTE Band 12 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.1	1.09	2.72	2.71	4.49	4.49	9.07	-	-	-	-	-
Middle CH	1.09	1.1	2.72	2.72	4.51	4.49	9.01	-	-	-	-	-
Highest CH	1.09	1.1	2.73	2.72	4.51	4.48	9.01	-	-	-	-	-





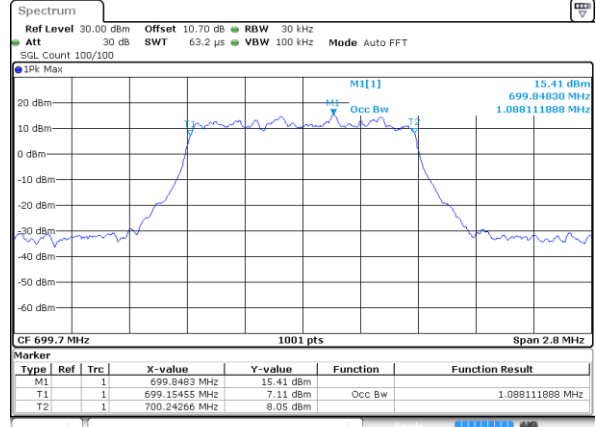
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



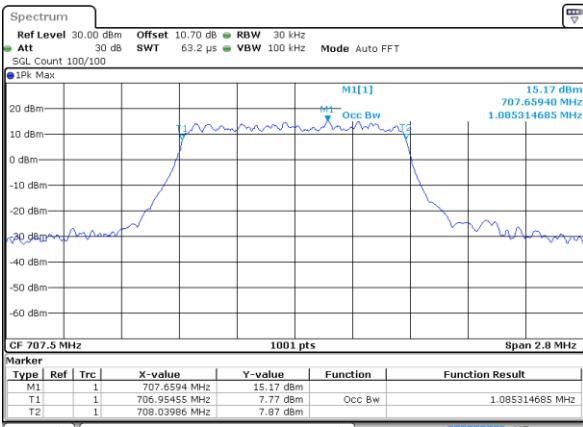
Date: 5 SEP 2019 17:01:12

Lowest Channel / 1.4MHz / 16QAM



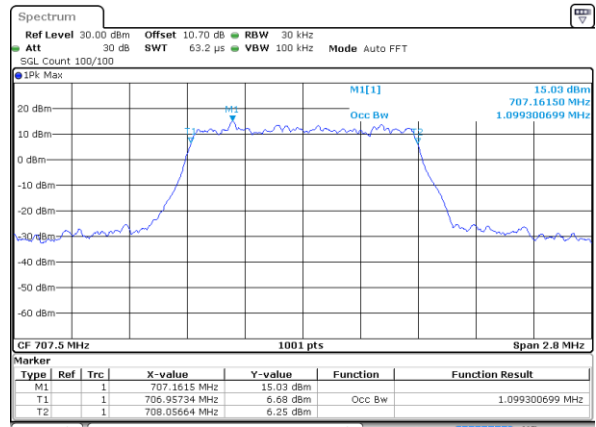
Date: 5 SEP 2019 17:18:15

Middle Channel / 1.4MHz / QPSK



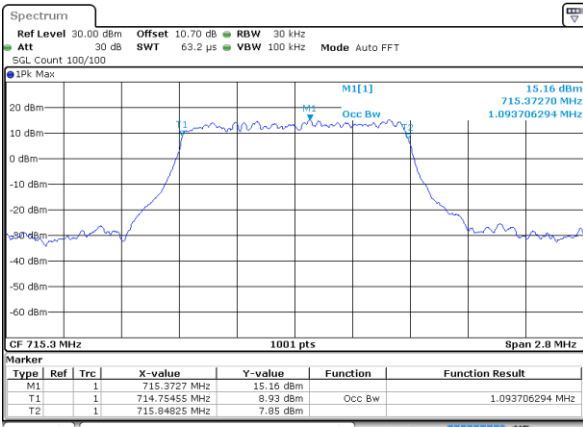
Date: 5 SEP 2019 17:07:11

Middle Channel / 1.4MHz / 16QAM



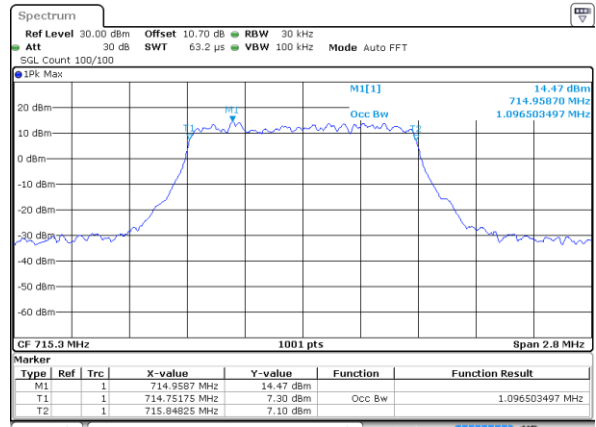
Date: 5 SEP 2019 17:06:59

Highest Channel / 1.4MHz / QPSK



Date: 5 SEP 2019 17:09:46

Highest Channel / 1.4MHz / 16QAM

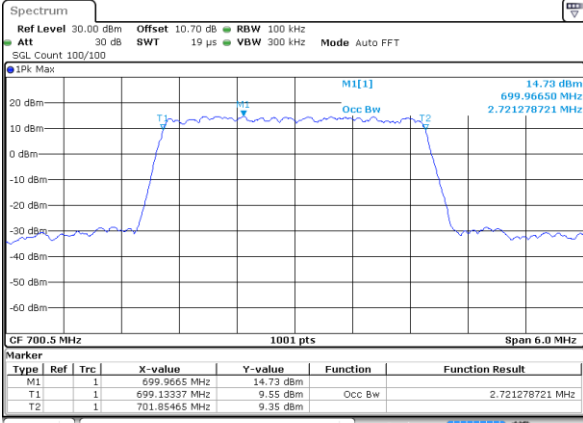


Date: 5 SEP 2019 17:22:57



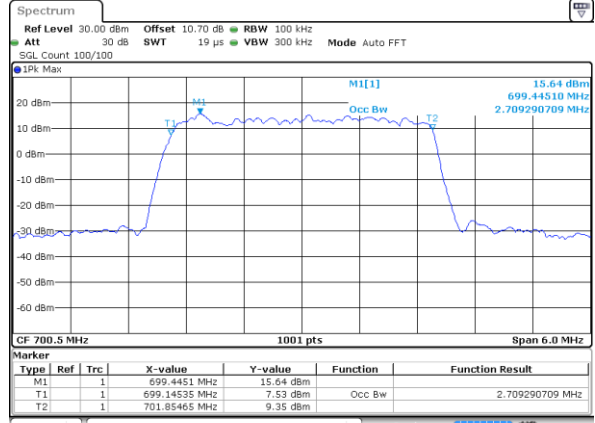
LTE Band 12

Lowest Channel / 3MHz / QPSK



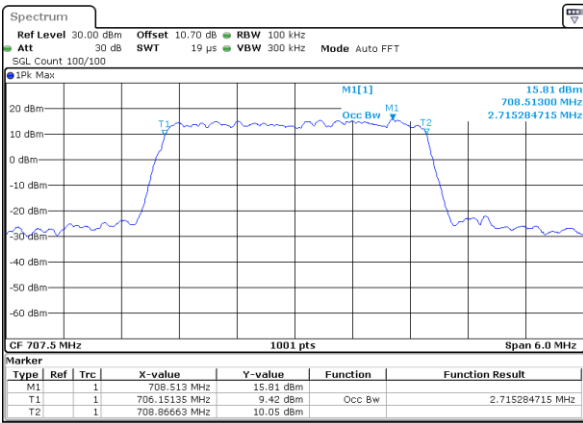
Date: 5 SEP 2019 15:22:55

Lowest Channel / 3MHz / 16QAM



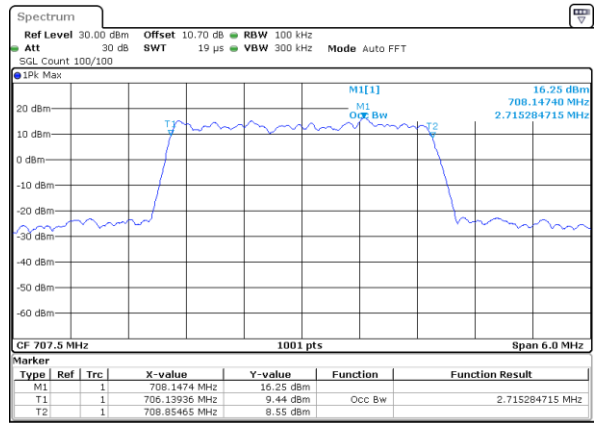
Date: 5 SEP 2019 15:23:07

Middle Channel / 3MHz / QPSK



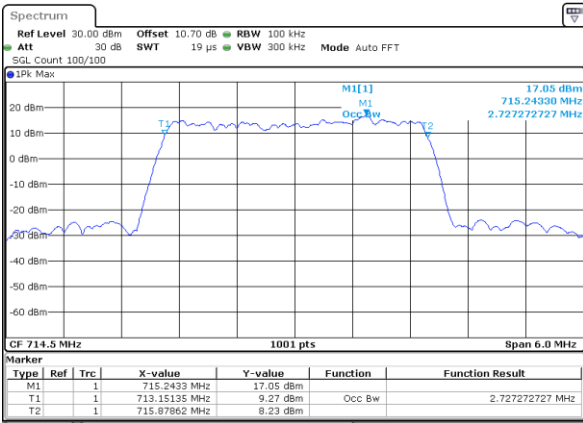
Date: 5 SEP 2019 15:28:39

Middle Channel / 3MHz / 16QAM



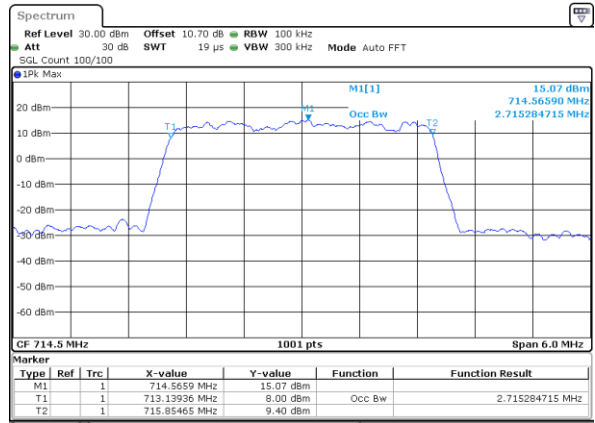
Date: 5 SEP 2019 15:28:28

Highest Channel / 3MHz / QPSK



Date: 5 SEP 2019 15:31:15

Highest Channel / 3MHz / 16QAM

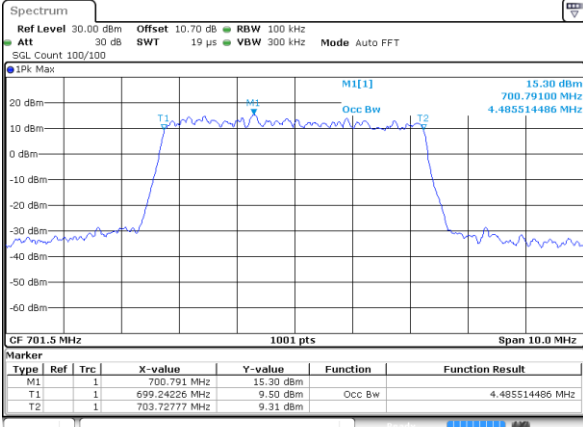


Date: 5 SEP 2019 15:31:27



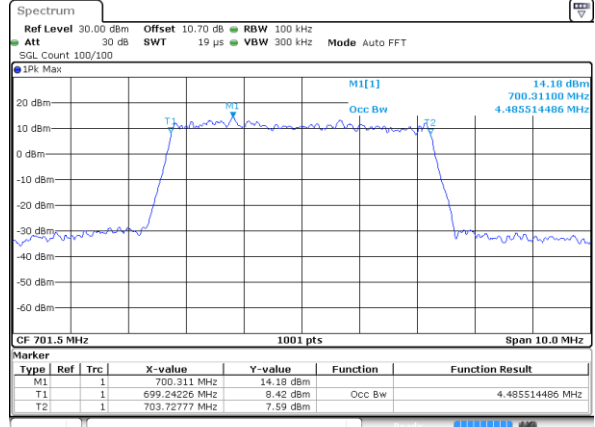
LTE Band 12

Lowest Channel / 5MHz / QPSK



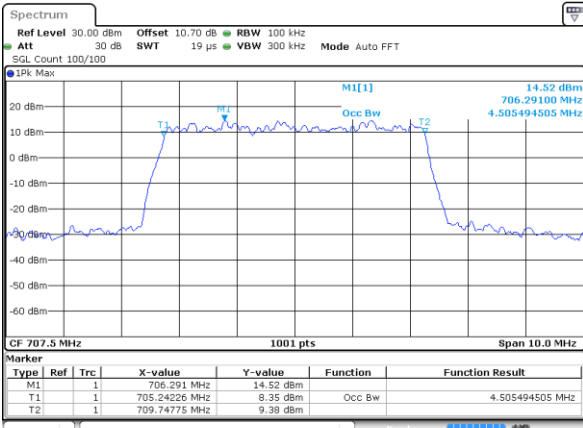
Date: 5 SEP 2019 15:36:48

Lowest Channel / 5MHz / 16QAM



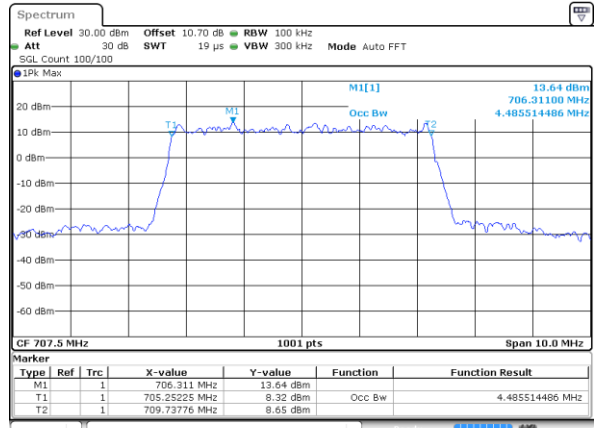
Date: 5 SEP 2019 15:37:00

Middle Channel / 5MHz / QPSK



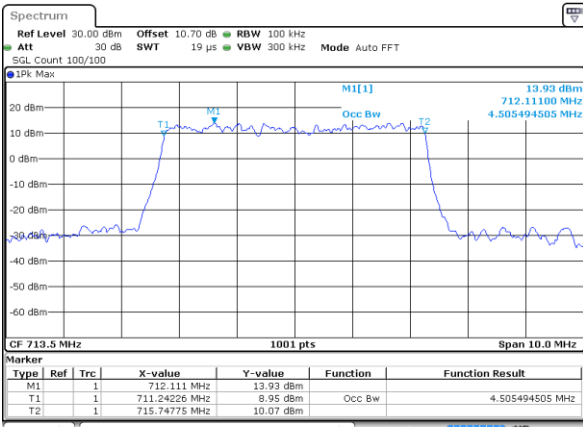
Date: 5 SEP 2019 15:42:32

Middle Channel / 5MHz / 16QAM



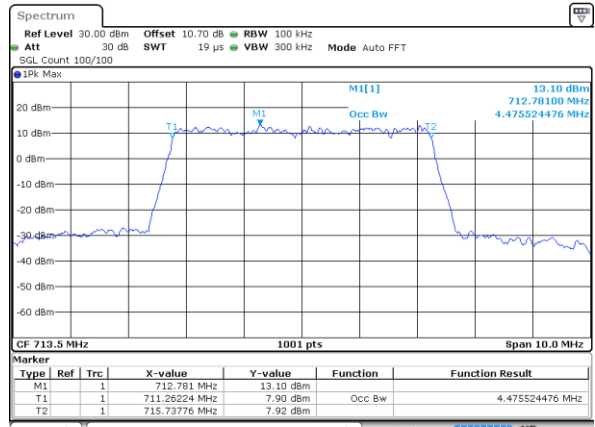
Date: 5 SEP 2019 15:42:20

Highest Channel / 5MHz / QPSK



Date: 5 SEP 2019 15:45:08

Highest Channel / 5MHz / 16QAM



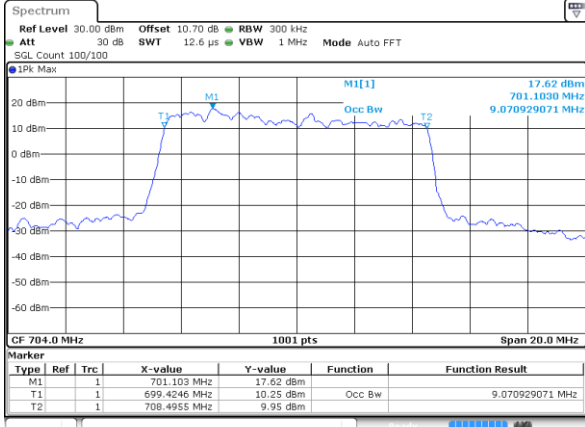
Date: 5 SEP 2019 15:45:21



LTE Band 12

Lowest Channel / 10MHz / QPSK

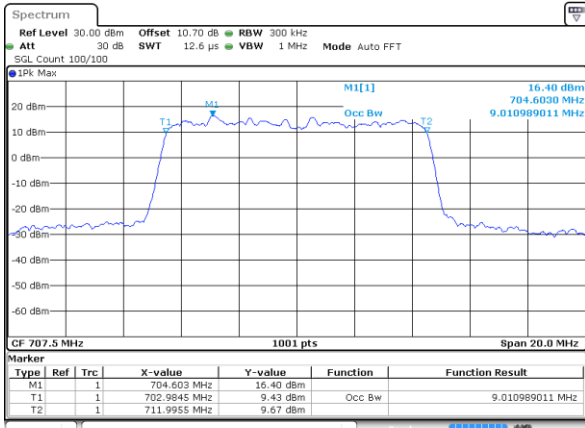
Lowest Channel / 10MHz / 16QAM



Date: 5 SEP 2019 15:50:42

Middle Channel / 10MHz / QPSK

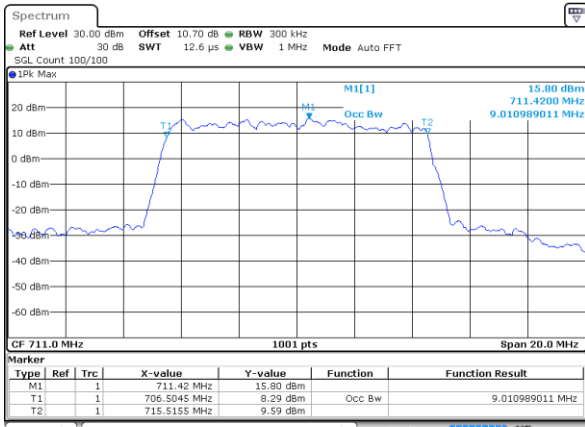
Middle Channel / 10MHz / 16QAM



Date: 5 SEP 2019 15:55:10

Highest Channel / 10MHz / QPSK

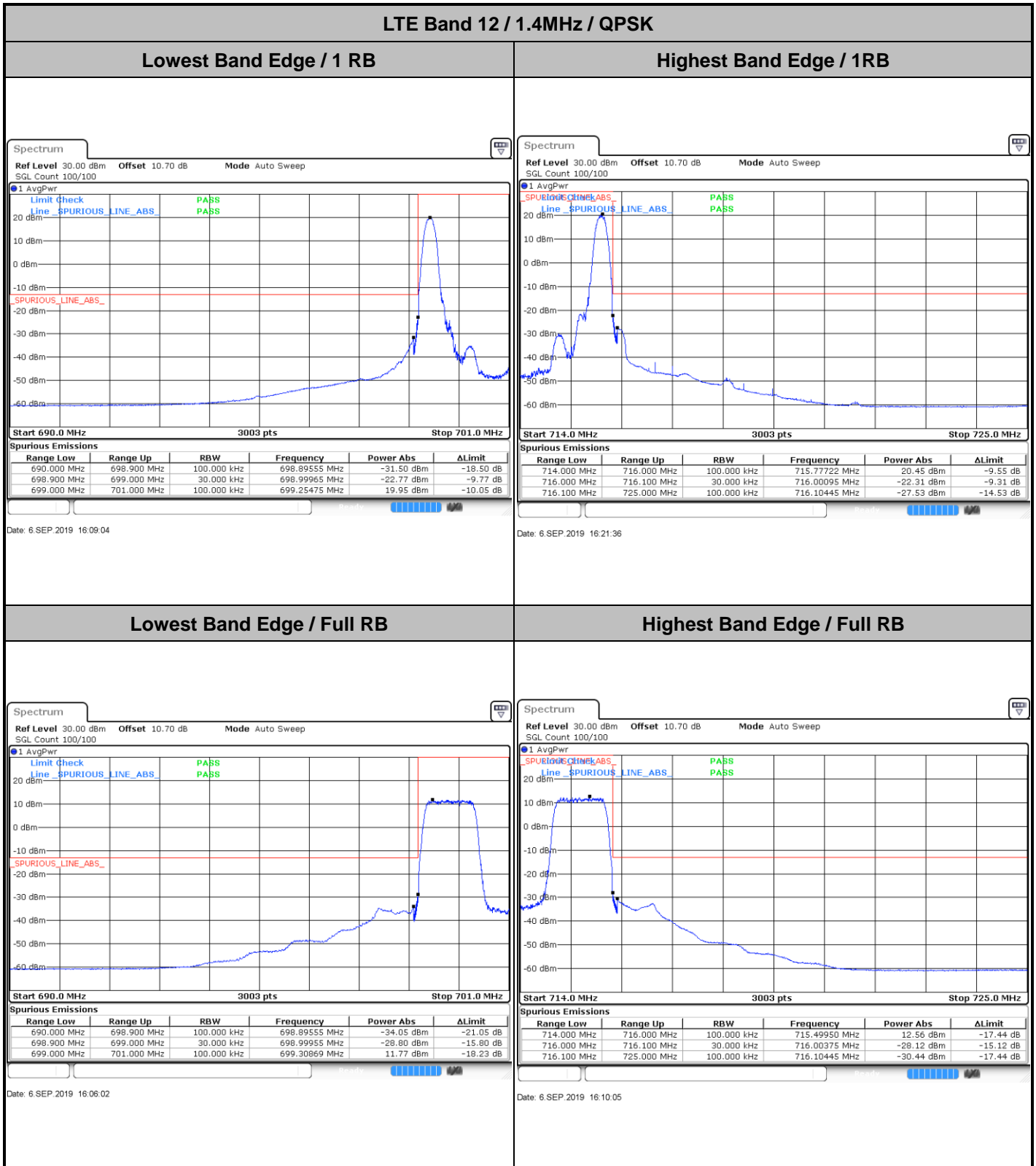
Highest Channel / 10MHz / 16QAM



Date: 5 SEP 2019 16:42:19



# Conducted Band Edge





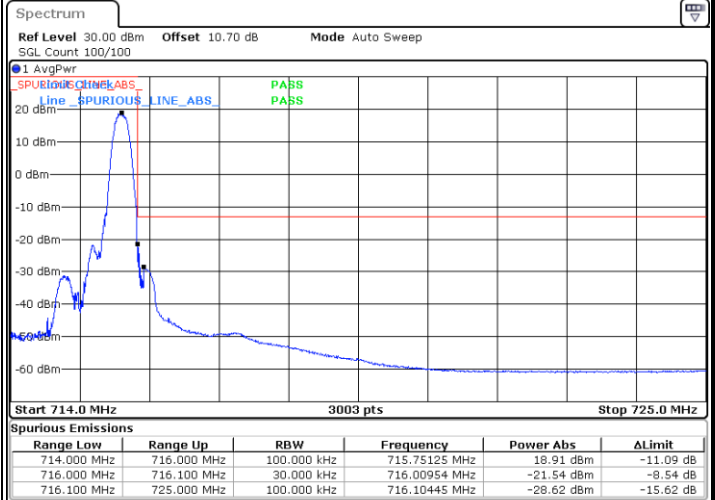
LTE Band 12 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



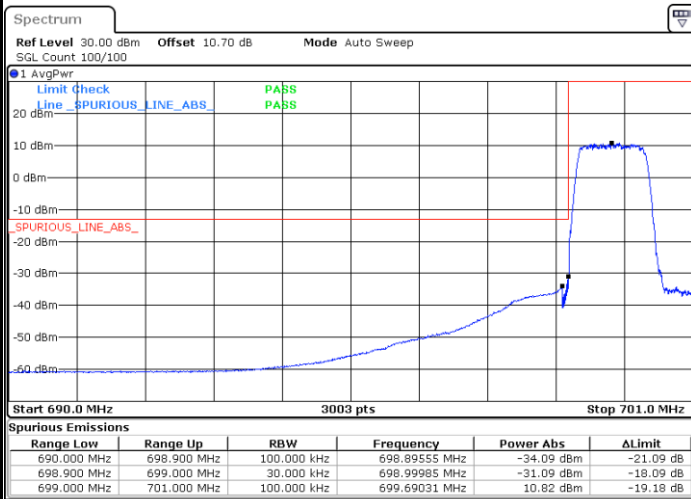
Date: 6 SEP.2019 16:08:03



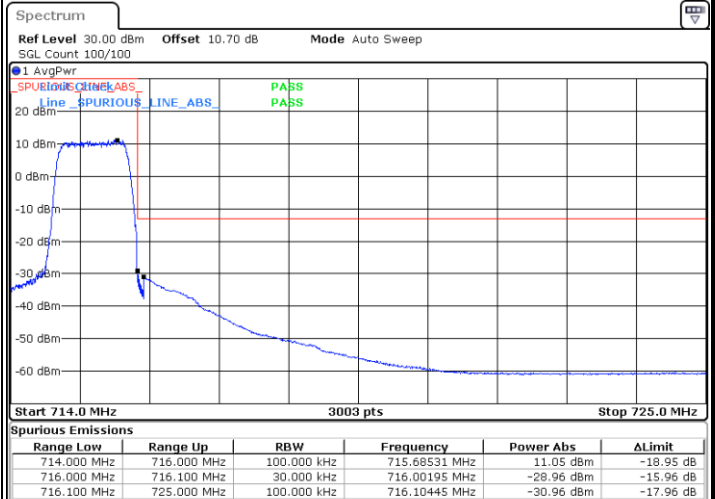
Date: 6 SEP.2019 16:12:06

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 6 SEP.2019 16:07:03



Date: 6 SEP.2019 16:11:06