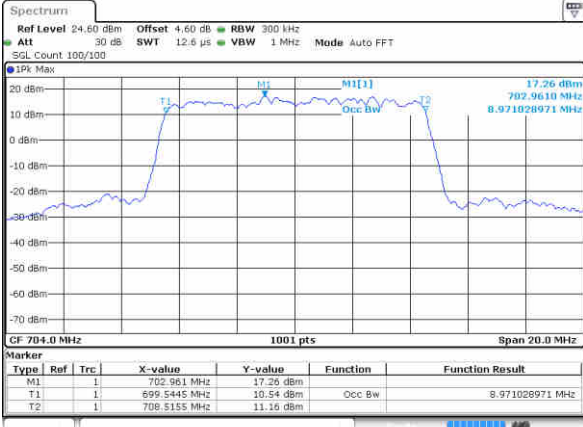




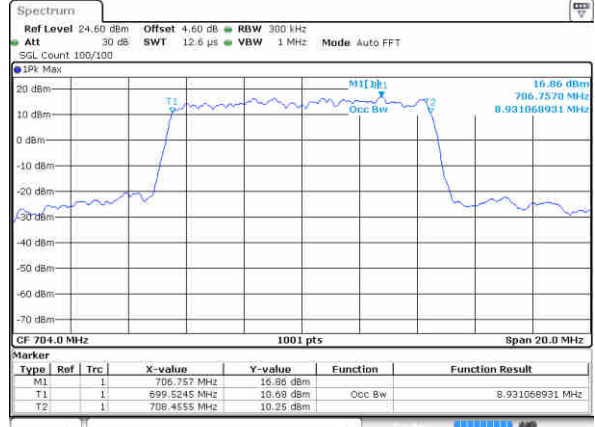
LTE Band 12

Lowest Channel / 10MHz / QPSK



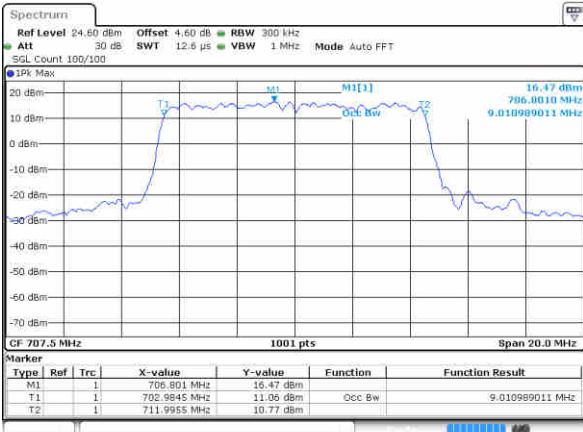
Date: 16 JAN 2020 18:23:29

Lowest Channel / 10MHz / 16QAM



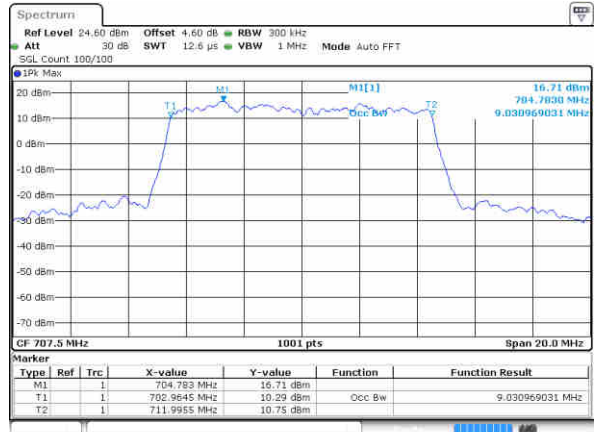
Date: 16 JAN 2020 18:23:39

Middle Channel / 10MHz / QPSK



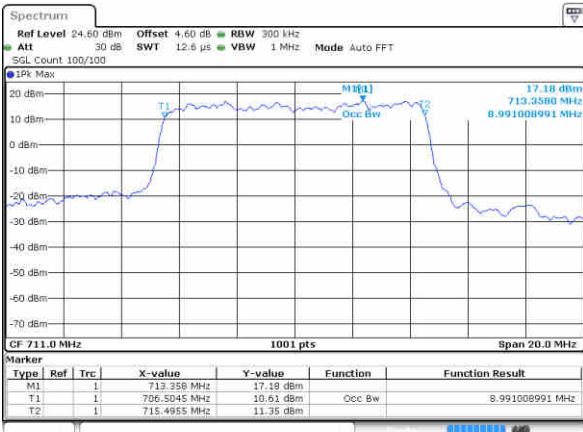
Date: 16 JAN 2020 18:23:59

Middle Channel / 10MHz / 16QAM



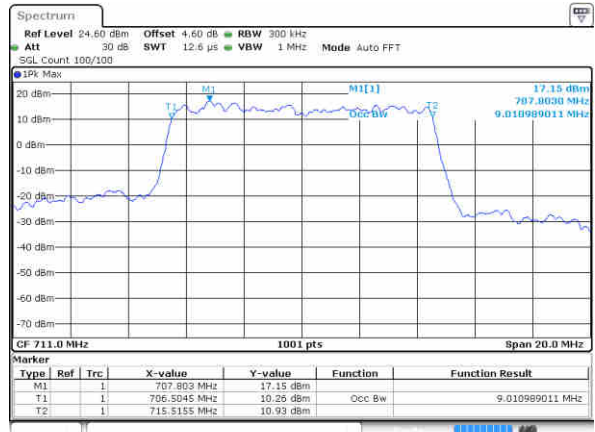
Date: 16 JAN 2020 18:23:49

Highest Channel / 10MHz / QPSK



Date: 16 JAN 2020 18:24:09

Highest Channel / 10MHz / 16QAM

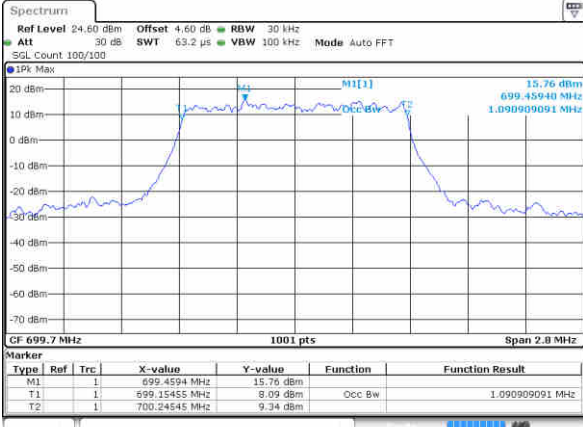


Date: 16 JAN 2020 18:24:19



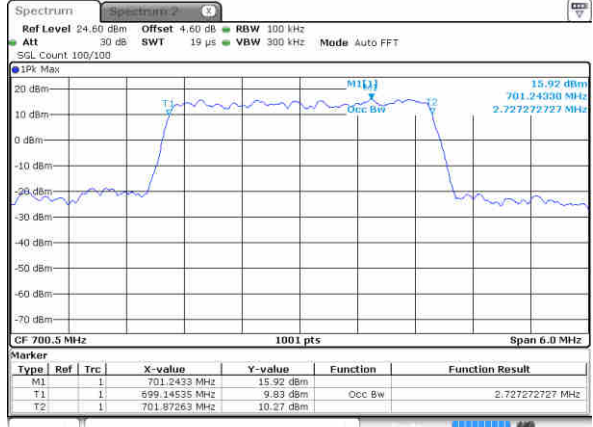
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



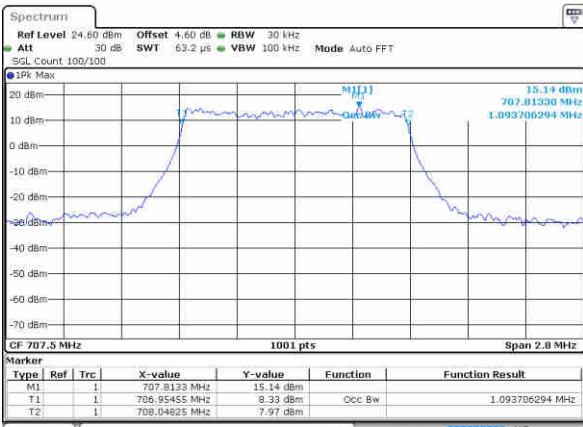
Date: 16 JAN 2020 19:05:14

Lowest Channel / 3MHz / 64QAM



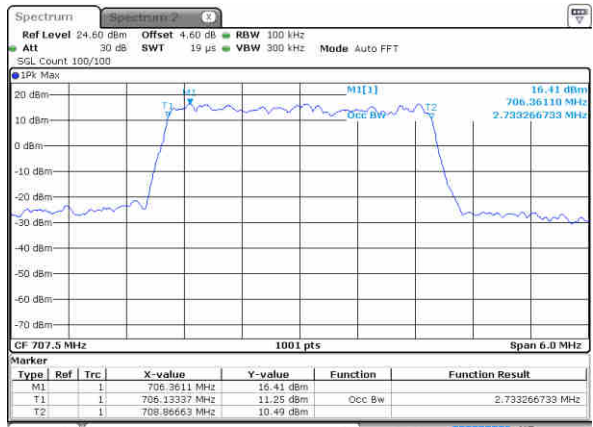
Date: 16 JAN 2020 19:53:02

Middle Channel / 1.4MHz / 64QAM



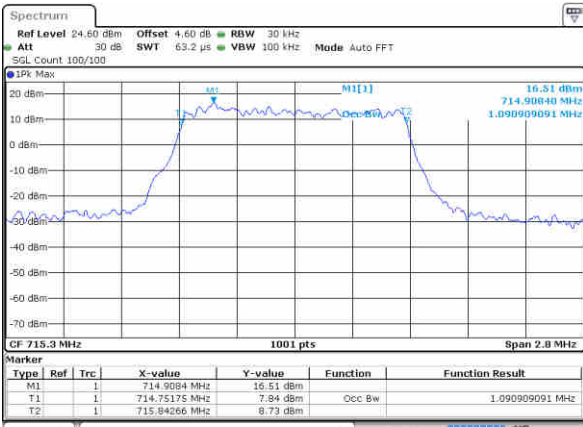
Date: 16 JAN 2020 19:05:34

Middle Channel / 3MHz / 64QAM



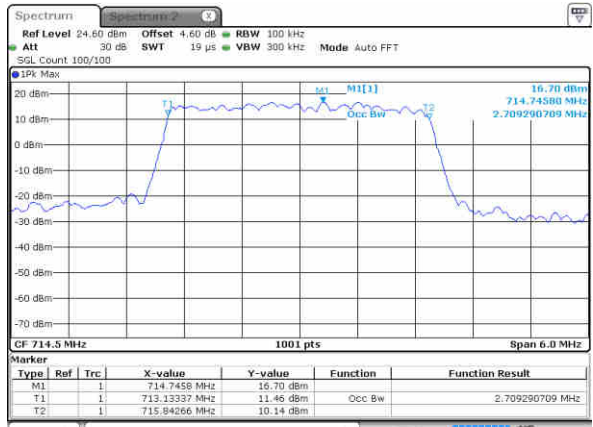
Date: 16 JAN 2020 19:53:22

Highest Channel / 1.4MHz / 64QAM



Date: 16 JAN 2020 19:05:54

Highest Channel / 3MHz / 64QAM

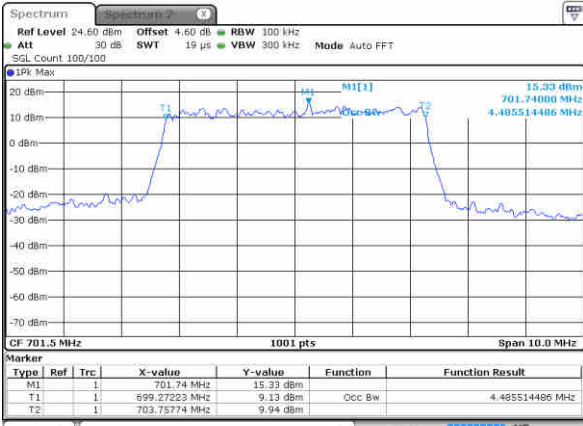


Date: 16 JAN 2020 19:53:42



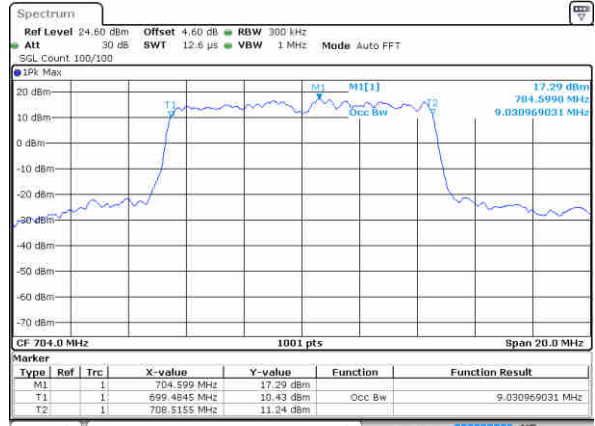
LTE Band 12

Lowest Channel / 5MHz / 64QAM



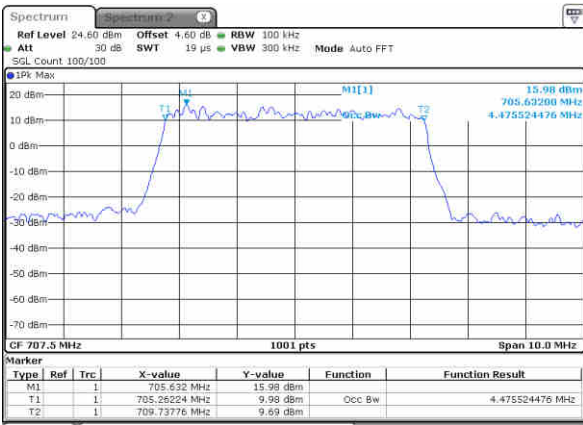
Date: 16 JAN 2020 19:58:32

Lowest Channel / 10MHz / 64QAM



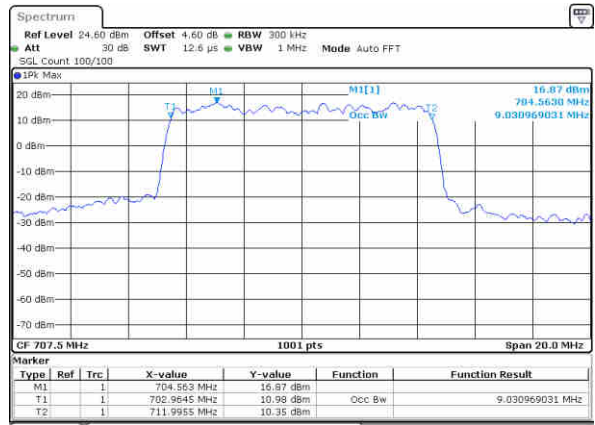
Date: 17 JAN 2020 09:22:20

Middle Channel / 5MHz / 64QAM



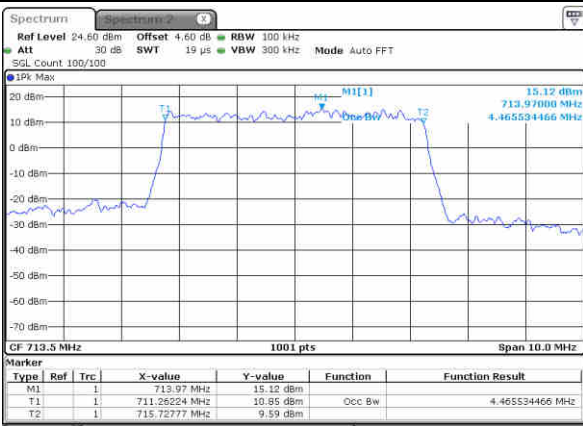
Date: 16 JAN 2020 19:58:52

Middle Channel / 10MHz / 64QAM



Date: 17 JAN 2020 09:22:40

Highest Channel / 5MHz / 64QAM



Date: 16 JAN 2020 19:59:12

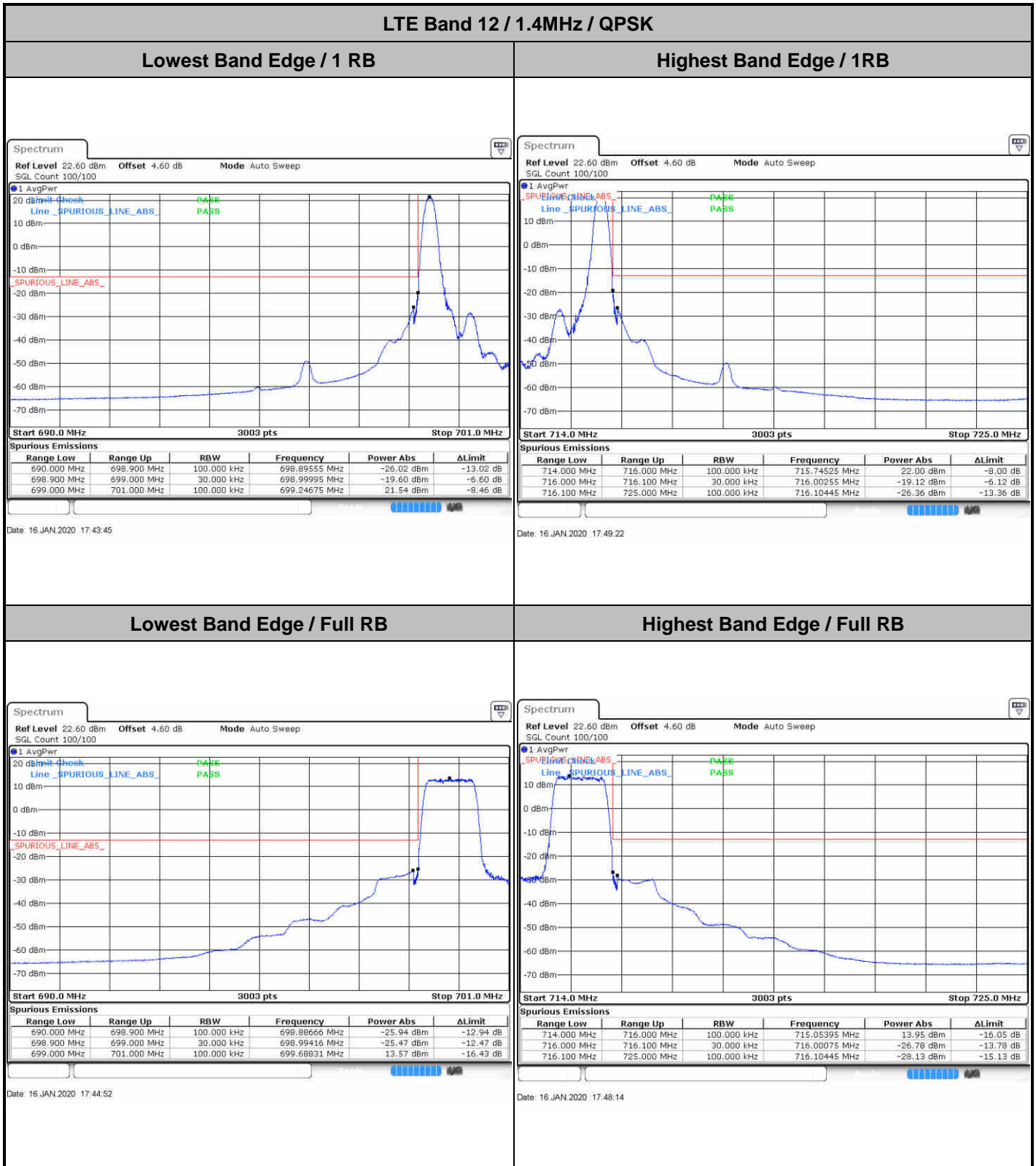
Highest Channel / 10MHz / 64QAM



Date: 17 JAN 2020 09:23:01



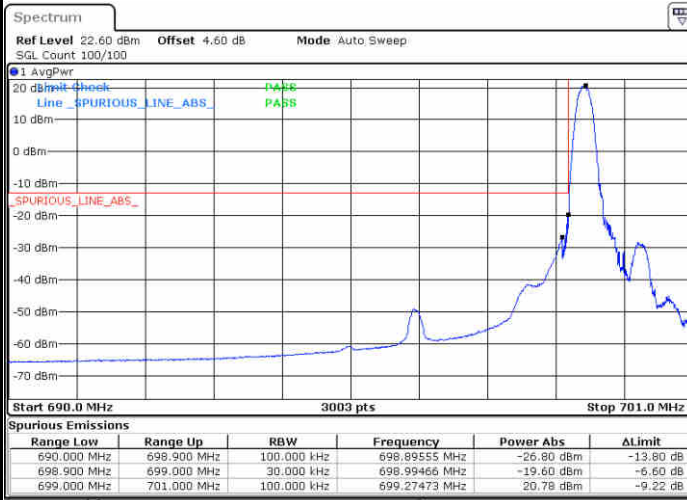
Conducted Band Edge





LTE Band 12 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



Date: 16 JAN 2020 17:42:38

Highest Band Edge / 1 RB



Date: 16 JAN 2020 17:50:29

Lowest Band Edge / Full RB



Date: 16 JAN 2020 17:46:00

Highest Band Edge / Full RB



Date: 16 JAN 2020 17:47:07



LTE Band 12 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



Date: 16 JAN 2020 19:46:19

Highest Band Edge / 1 RB



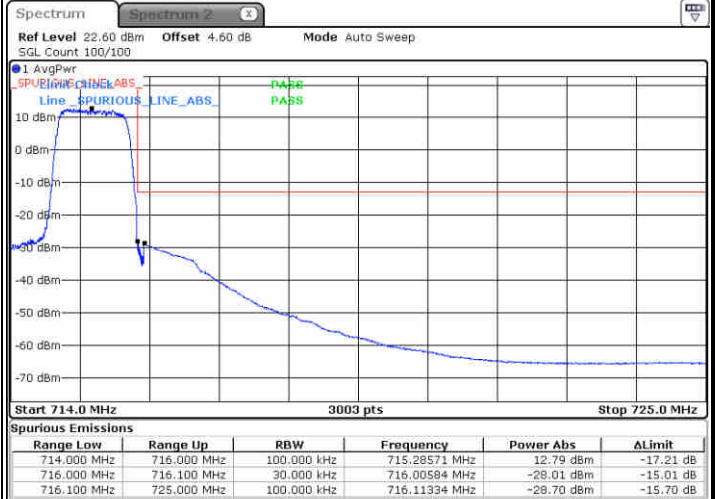
Date: 16 JAN 2020 19:44:05

Lowest Band Edge / Full RB



Date: 16 JAN 2020 19:47:27

Highest Band Edge / Full RB

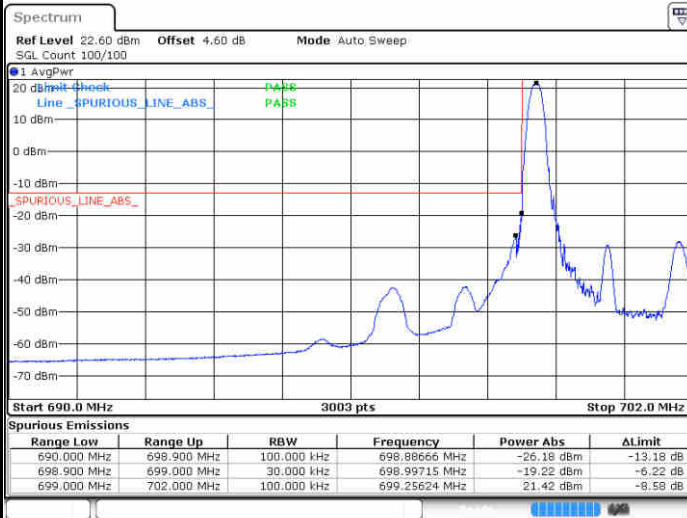


Date: 16 JAN 2020 19:45:12



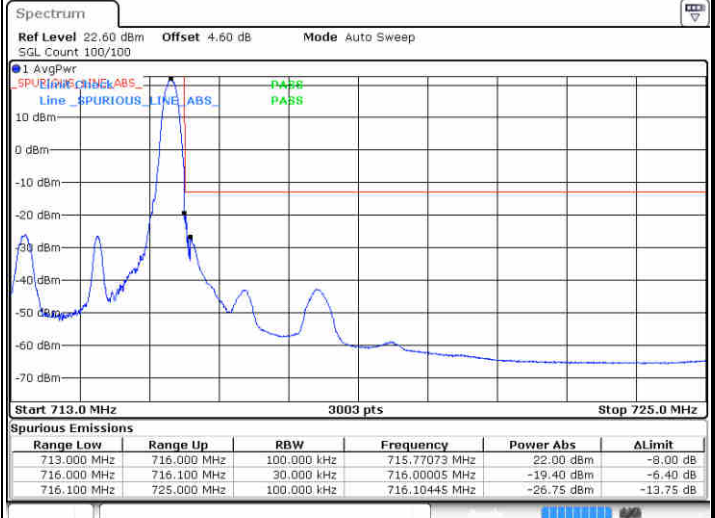
LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



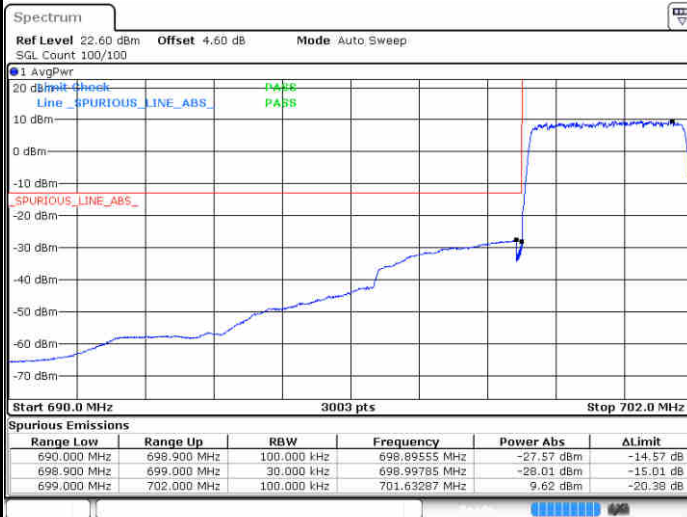
Date: 16 JAN 2020 18:00:09

Highest Band Edge / 1 RB



Date: 16 JAN 2020 18:05:46

Lowest Band Edge / Full RB



Date: 16 JAN 2020 18:01:17

Highest Band Edge / Full RB

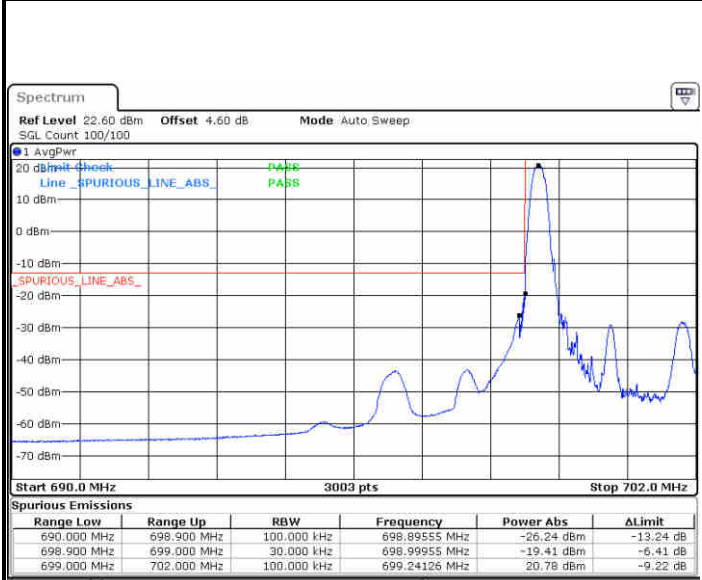


Date: 16 JAN 2020 18:04:39



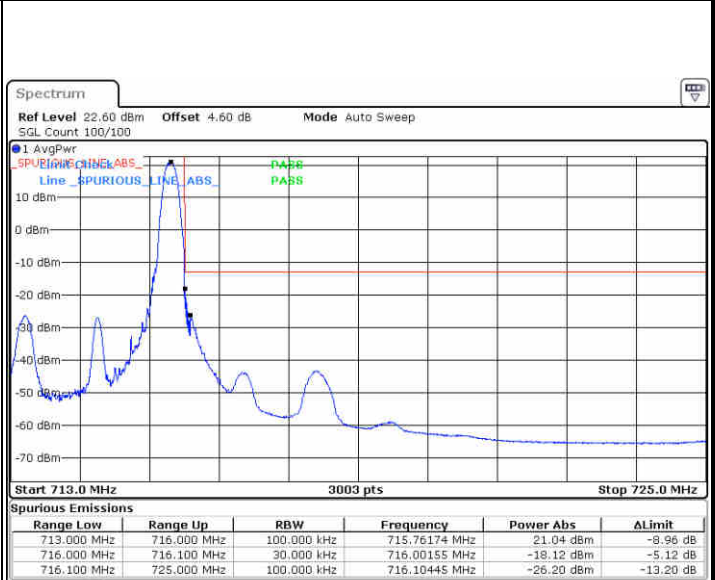
LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



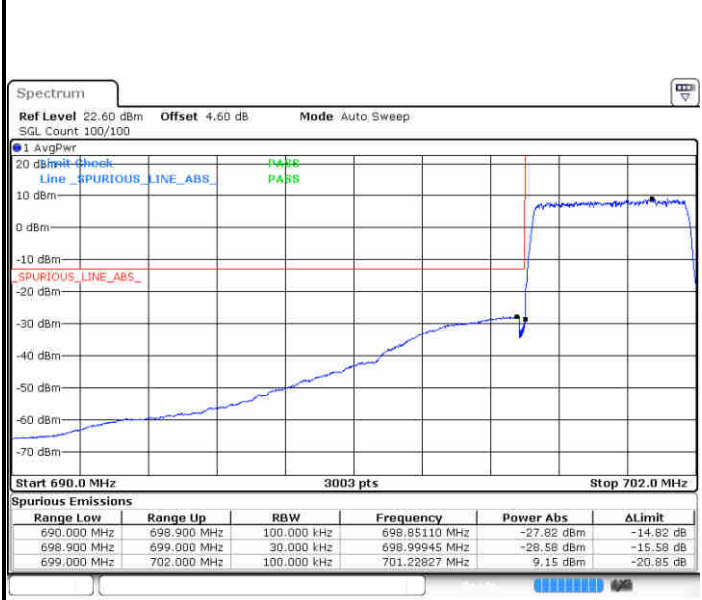
Date: 16 JAN 2020 17:59:02

Highest Band Edge / 1 RB



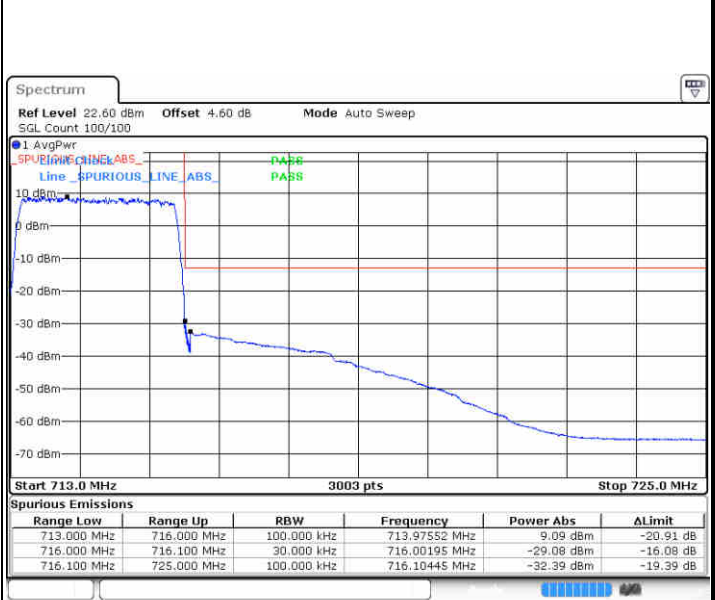
Date: 16 JAN 2020 18:08:54

Lowest Band Edge / Full RB



Date: 16 JAN 2020 18:02:24

Highest Band Edge / Full RB

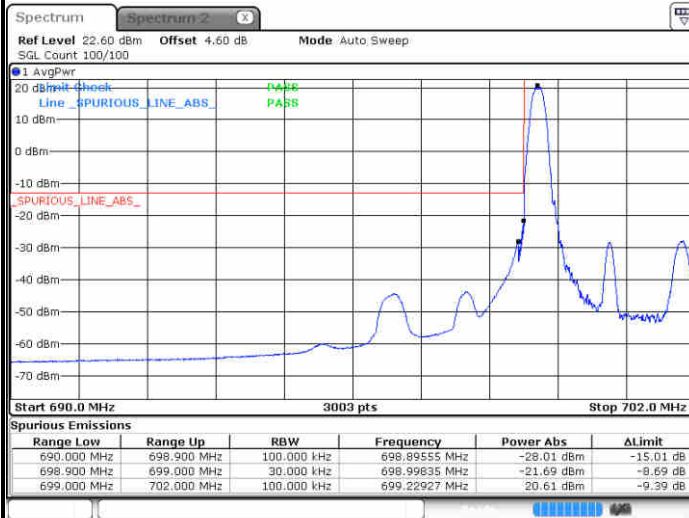


Date: 16 JAN 2020 18:03:32



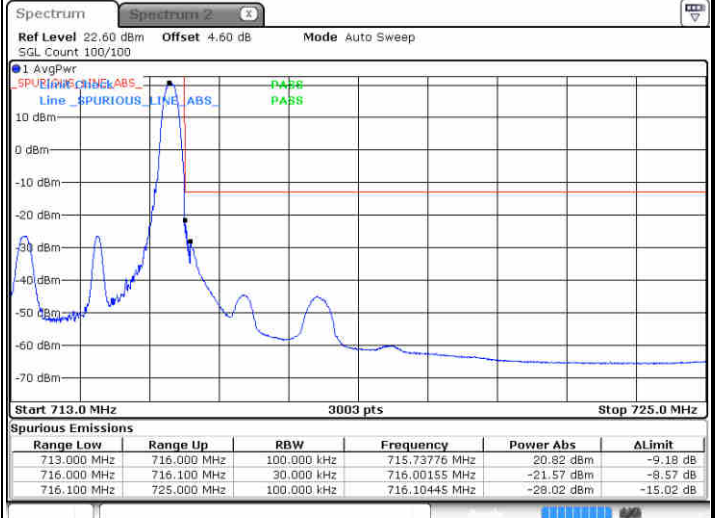
LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



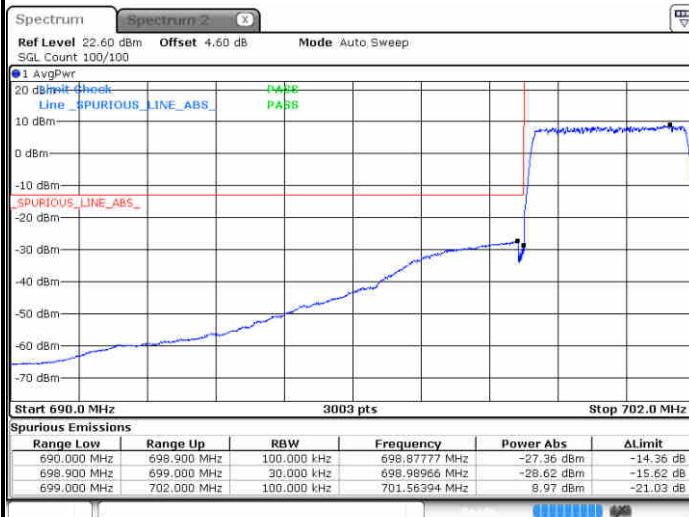
Date: 16 JAN 2020 19:55:00

Highest Band Edge / 1 RB



Date: 16 JAN 2020 19:58:22

Lowest Band Edge / Full RB



Date: 16 JAN 2020 19:56:08

Highest Band Edge / Full RB

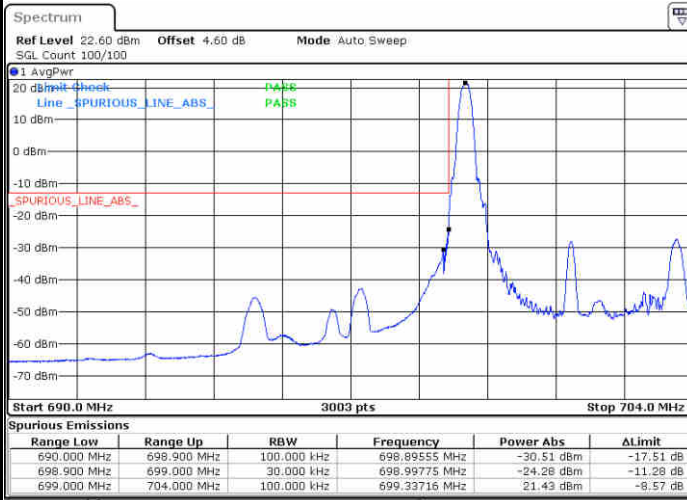


Date: 16 JAN 2020 19:57:15



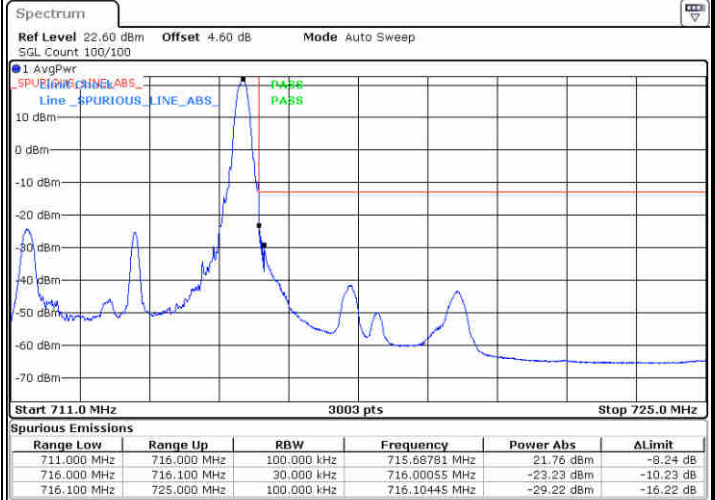
LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1 RB



Date: 16 JAN 2020 18:16:35

Highest Band Edge / 1 RB



Date: 16 JAN 2020 18:22:12

Lowest Band Edge / Full RB



Date: 16 JAN 2020 18:17:42

Highest Band Edge / Full RB

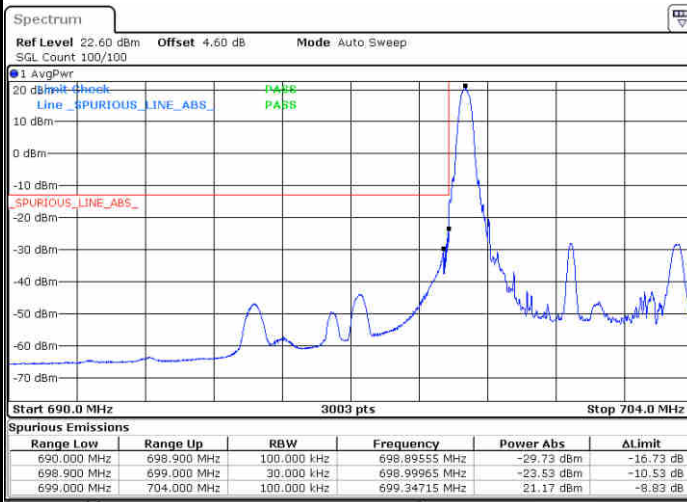


Date: 16 JAN 2020 18:21:04



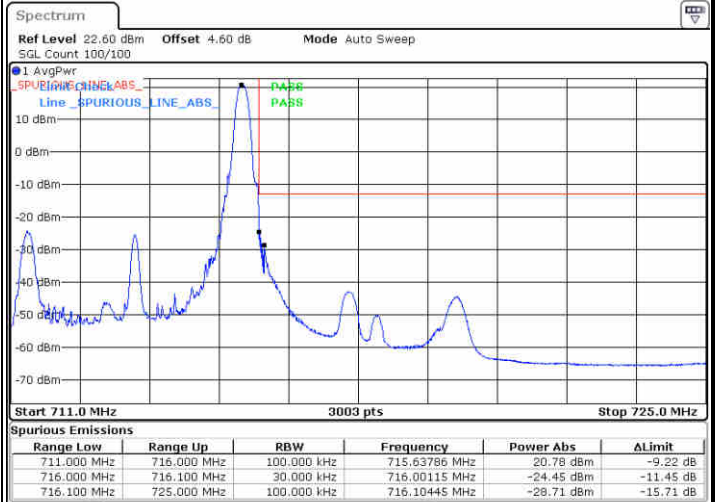
LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / 1RB



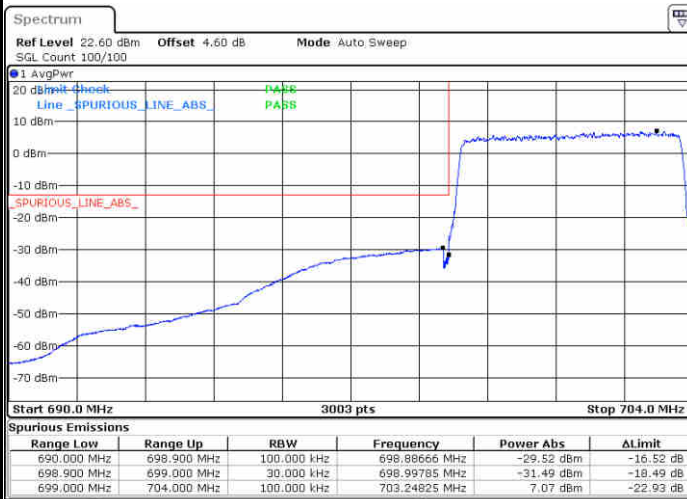
Date: 16 JAN 2020 18:15:27

Highest Band Edge / 1 RB



Date: 16 JAN 2020 18:23:19

Lowest Band Edge / Full RB



Date: 16 JAN 2020 18:18:50

Highest Band Edge / Full RB

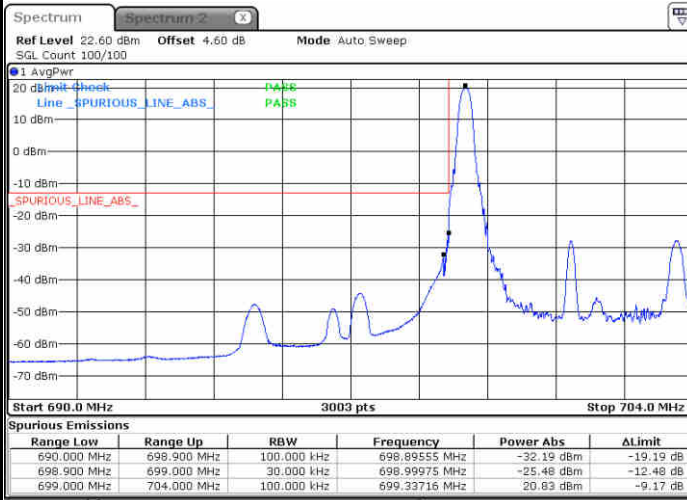


Date: 16 JAN 2020 18:19:57



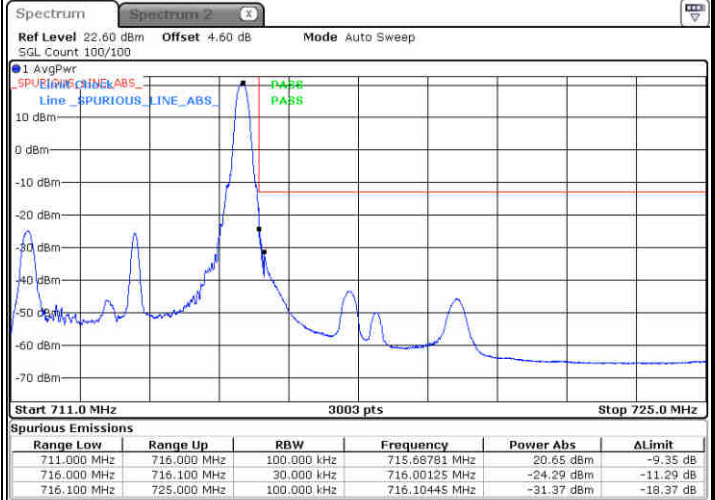
LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / 1RB



Date: 16 JAN 2020 20:02:44

Highest Band Edge / 1 RB



Date: 16 JAN 2020 20:01:37

Lowest Band Edge / Full RB



Date: 16 JAN 2020 20:03:52

Highest Band Edge / Full RB

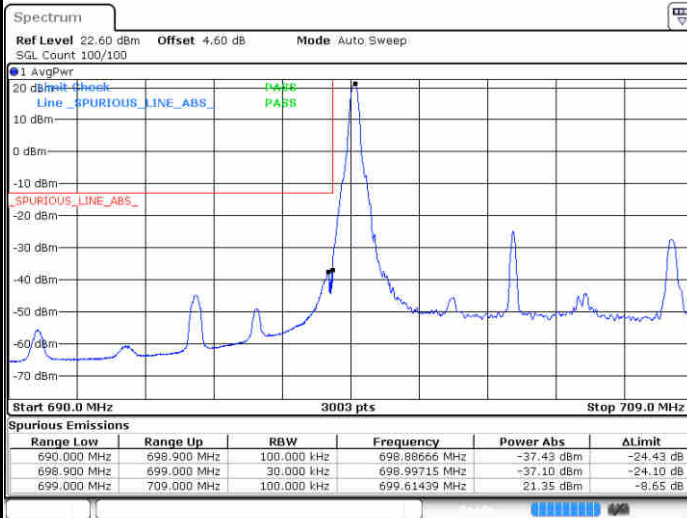


Date: 16 JAN 2020 20:00:30



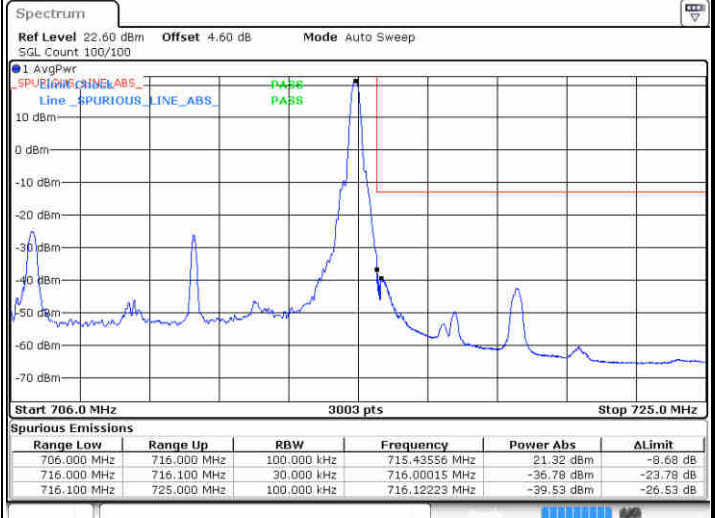
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



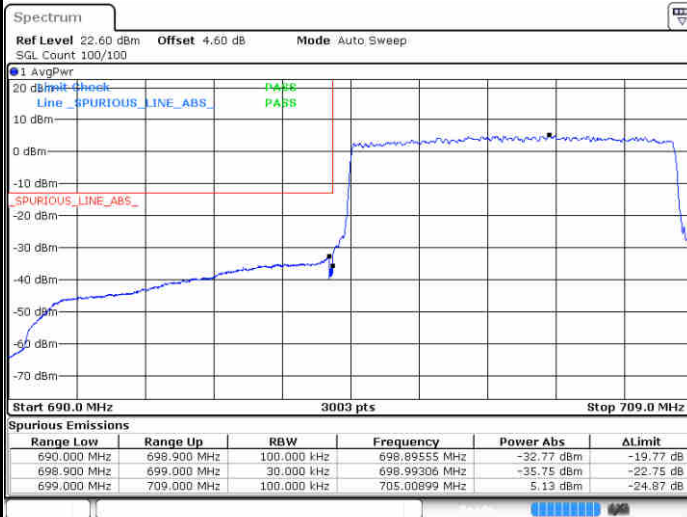
Date: 16 JAN 2020 18:58:20

Highest Band Edge / 1 RB



Date: 16 JAN 2020 19:03:57

Lowest Band Edge / Full RB



Date: 16 JAN 2020 18:59:27

Highest Band Edge / Full RB

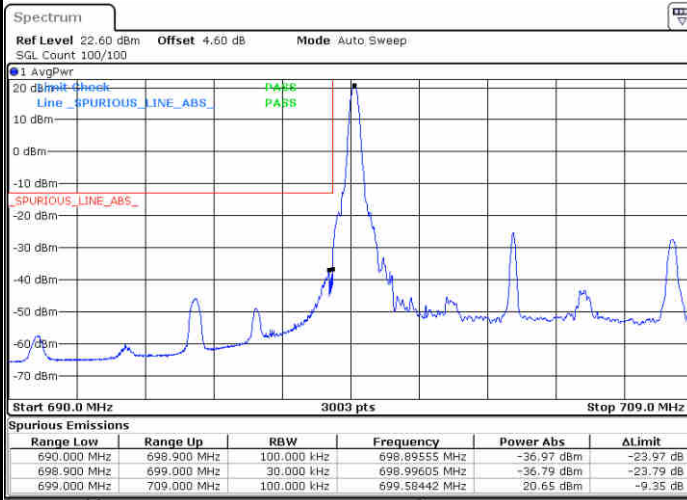


Date: 16 JAN 2020 19:02:49



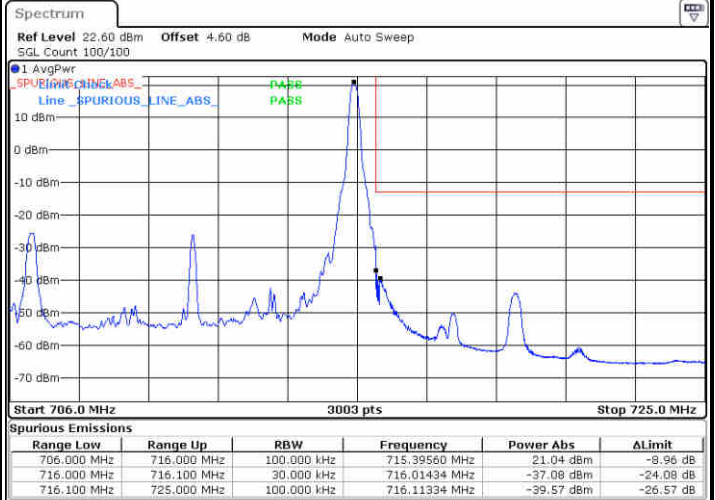
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



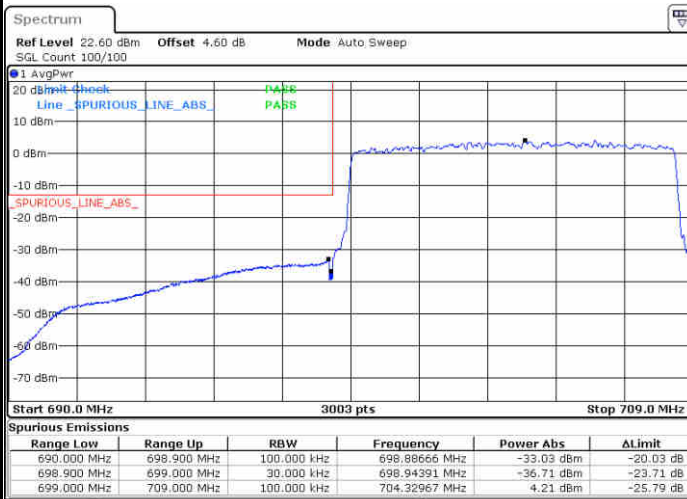
Date: 16 JAN 2020 18:57:12

Highest Band Edge / 1 RB



Date: 16 JAN 2020 19:05:04

Lowest Band Edge / Full RB



Date: 16 JAN 2020 19:00:34

Highest Band Edge / Full RB

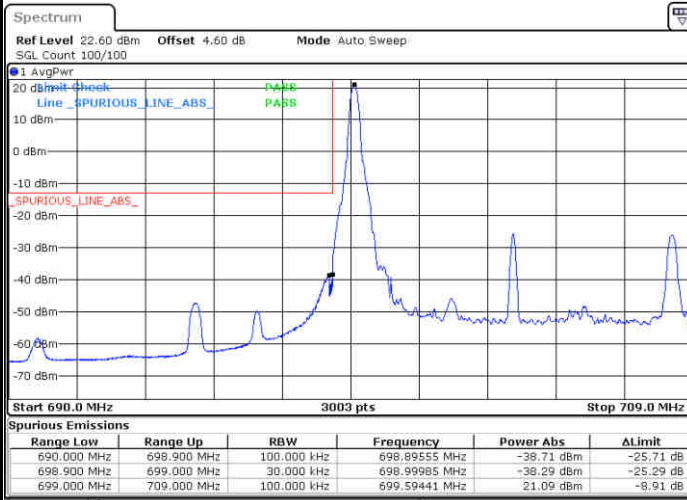


Date: 16 JAN 2020 19:01:42



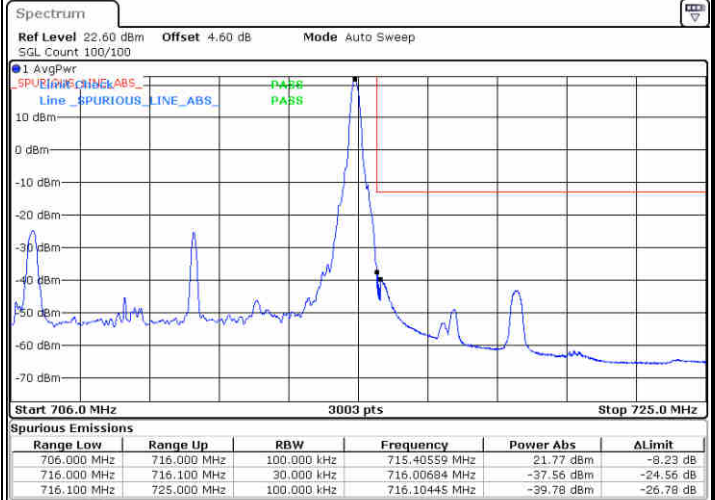
LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



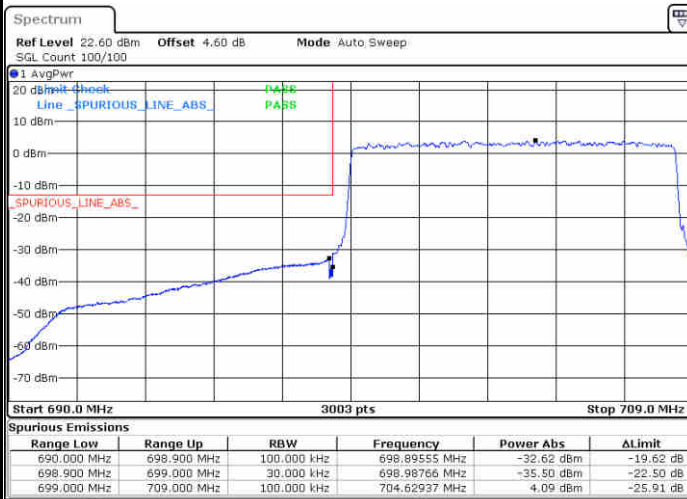
Date: 17.JAN.2020 09:26:33

Highest Band Edge / 1 RB



Date: 17.JAN.2020 09:25:26

Lowest Band Edge / Full RB



Date: 17.JAN.2020 09:27:41

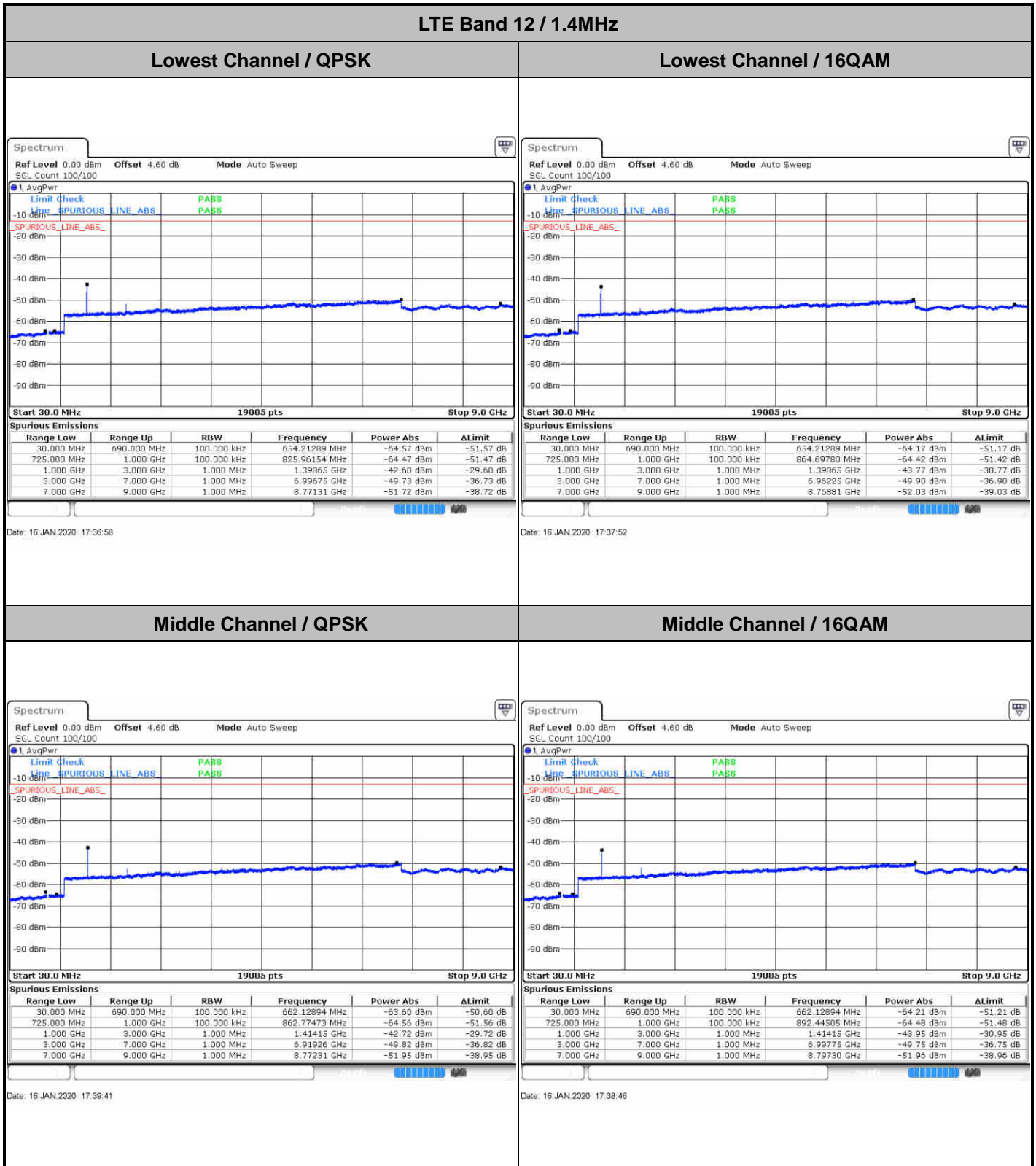
Highest Band Edge / Full RB



Date: 17.JAN.2020 09:24:18



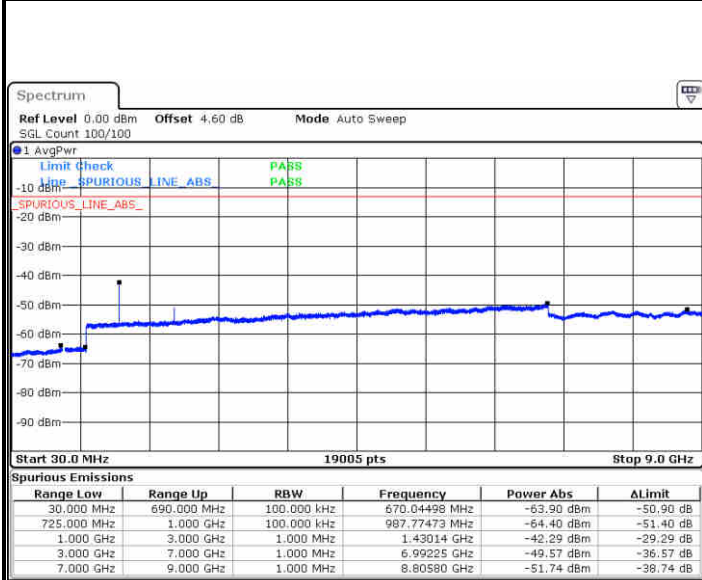
Conducted Spurious Emission





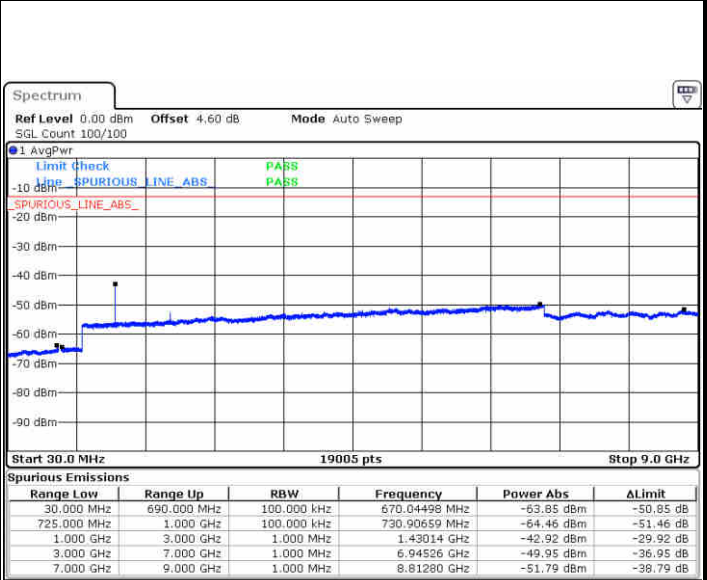
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 16 JAN 2020 17:40:35

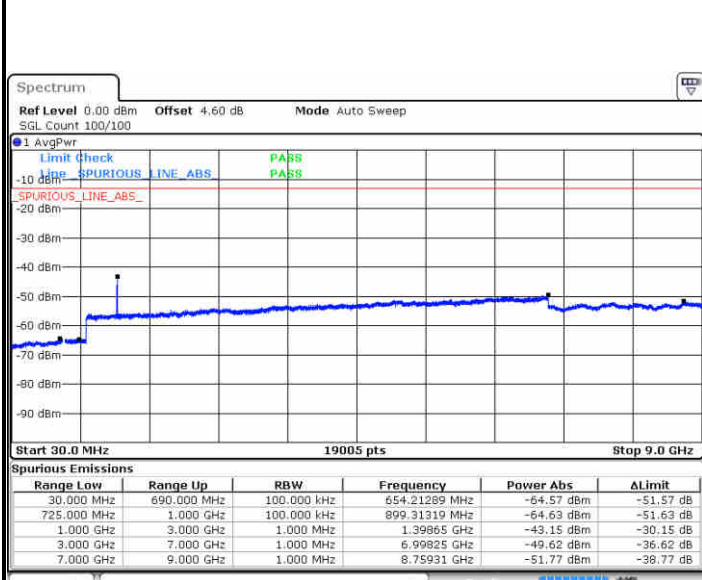
Highest Channel / 16QAM



Date: 16 JAN 2020 17:41:29

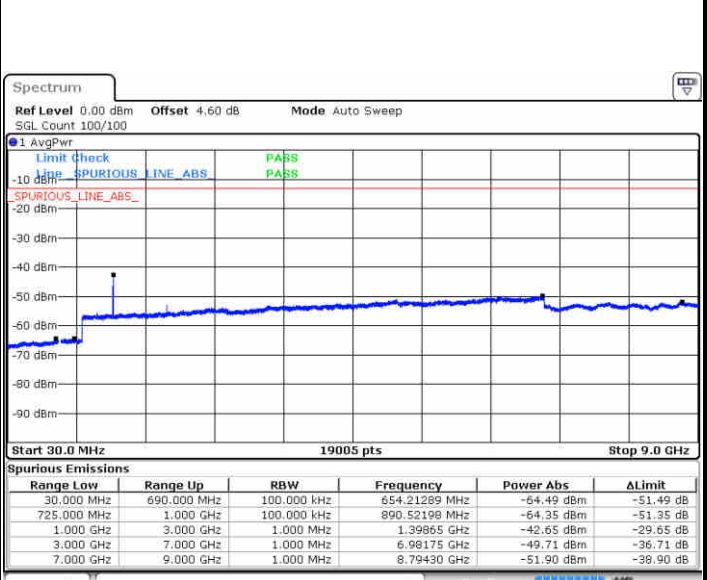
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 16 JAN 2020 17:53:22

Lowest Channel / 16QAM

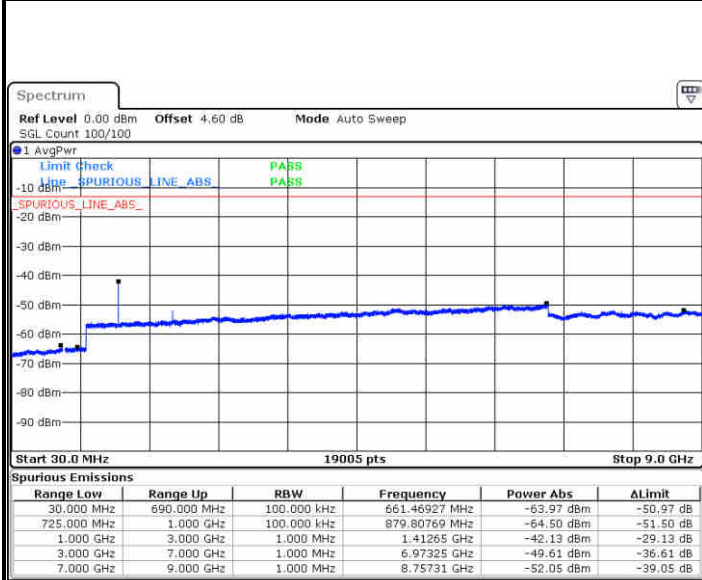


Date: 16 JAN 2020 17:54:16



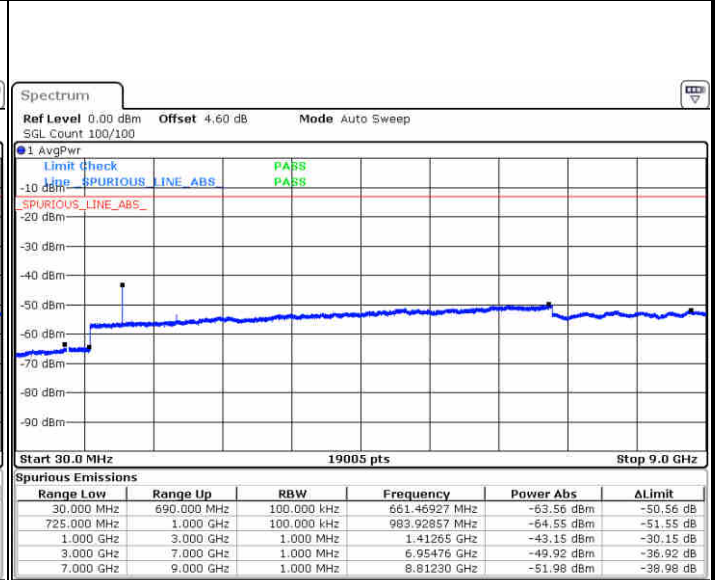
LTE Band 12 / 3MHz

Middle Channel / QPSK



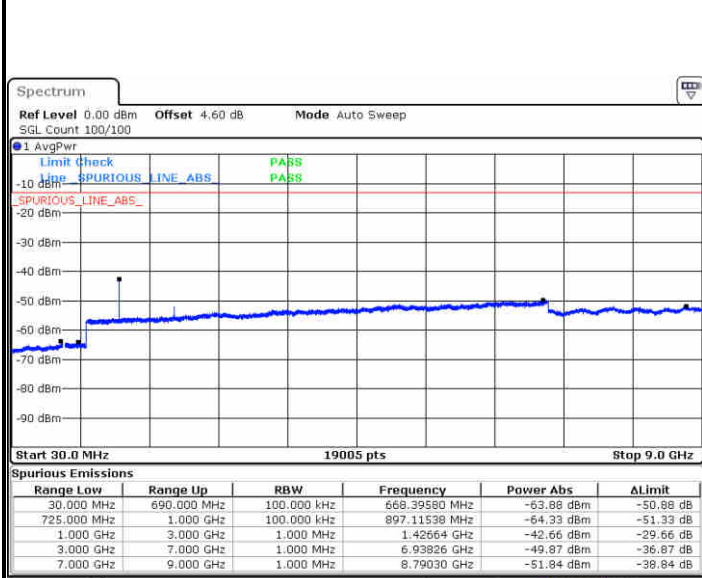
Date: 16 JAN 2020 17:56:05

Middle Channel / 16QAM



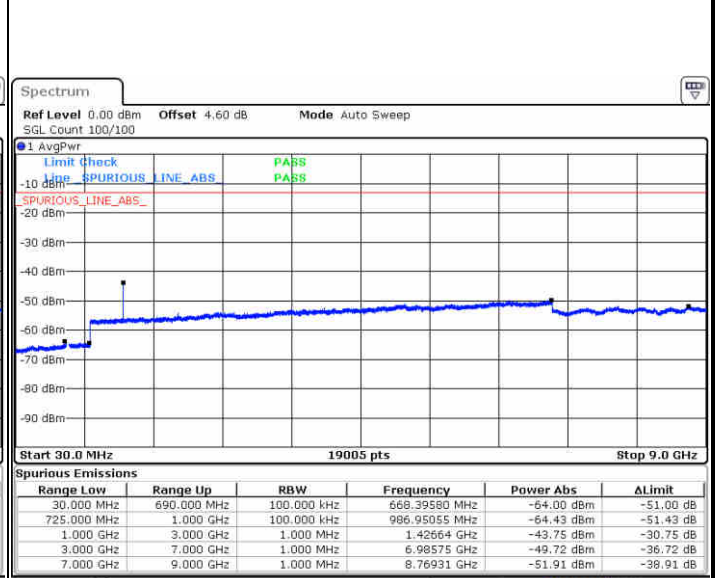
Date: 16 JAN 2020 17:55:11

Highest Channel / QPSK



Date: 16 JAN 2020 17:56:59

Highest Channel / 16QAM



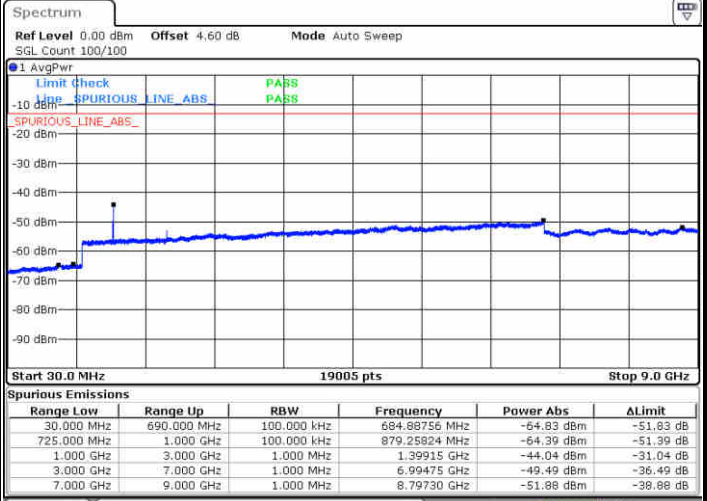
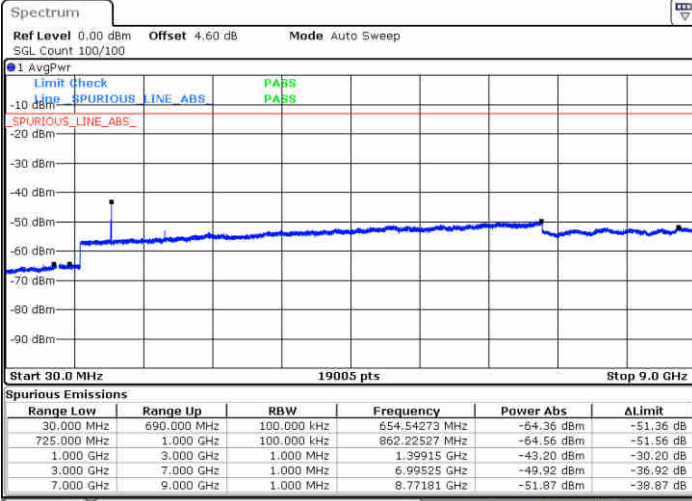
Date: 16 JAN 2020 17:57:54



LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

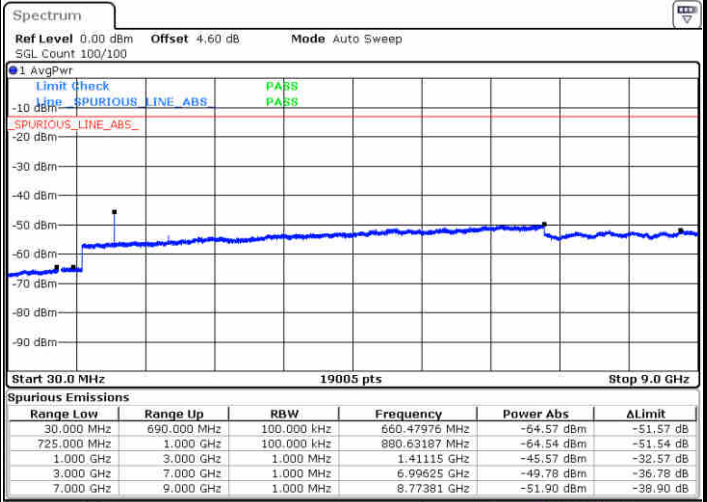
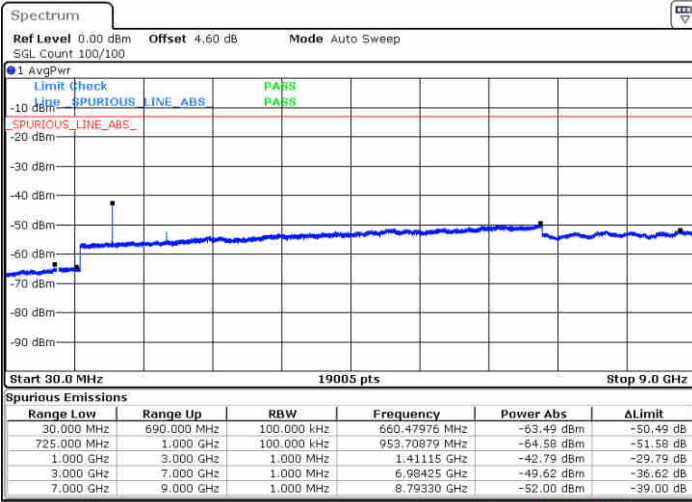


Date: 16 JAN 2020 18:09:47

Date: 16 JAN 2020 18:10:42

Middle Channel / QPSK

Middle Channel / 16QAM



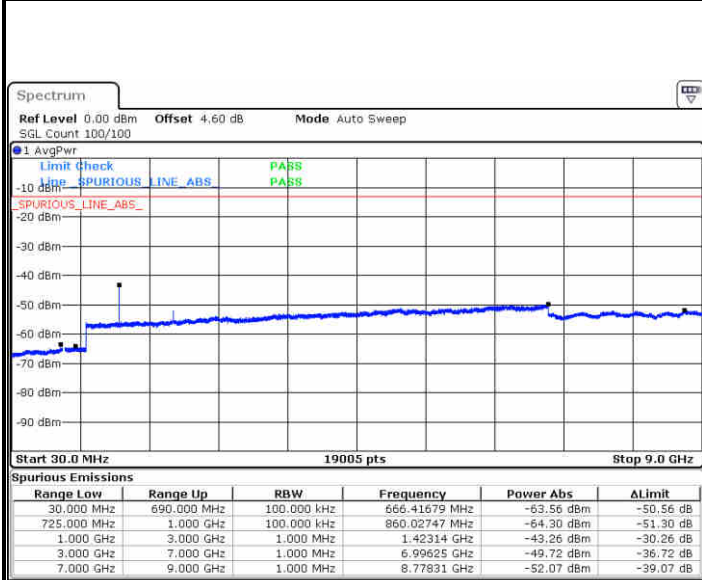
Date: 16 JAN 2020 18:12:30

Date: 16 JAN 2020 18:11:36



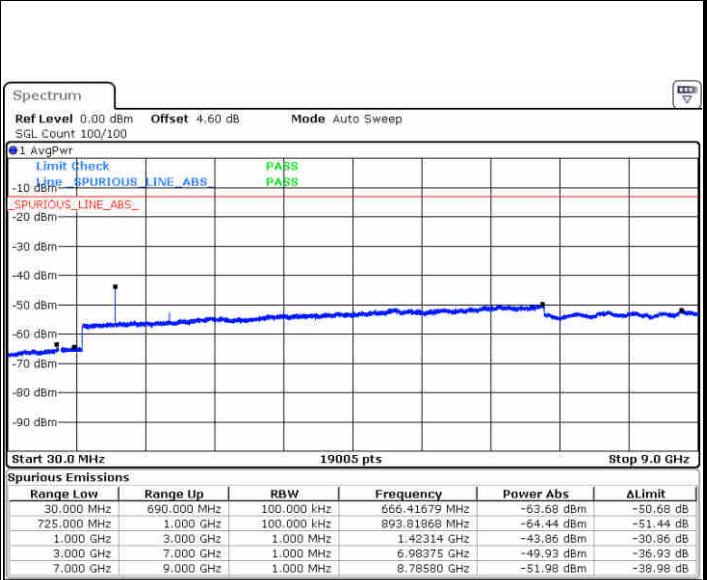
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 16 JAN 2020 18:13:25

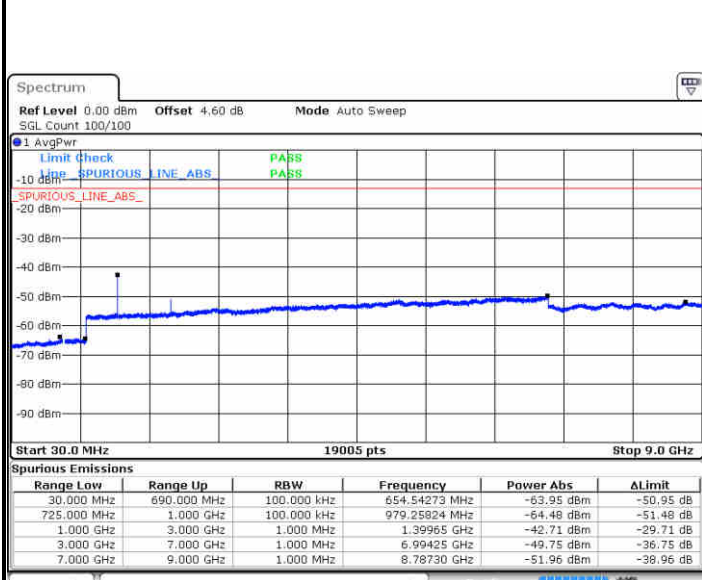
Highest Channel / 16QAM



Date: 16 JAN 2020 18:14:19

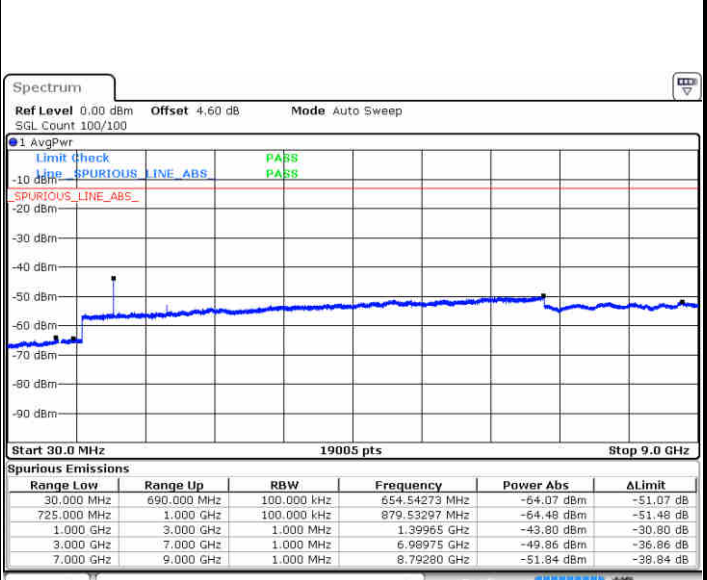
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 16 JAN 2020 17:32:31

Lowest Channel / 16QAM



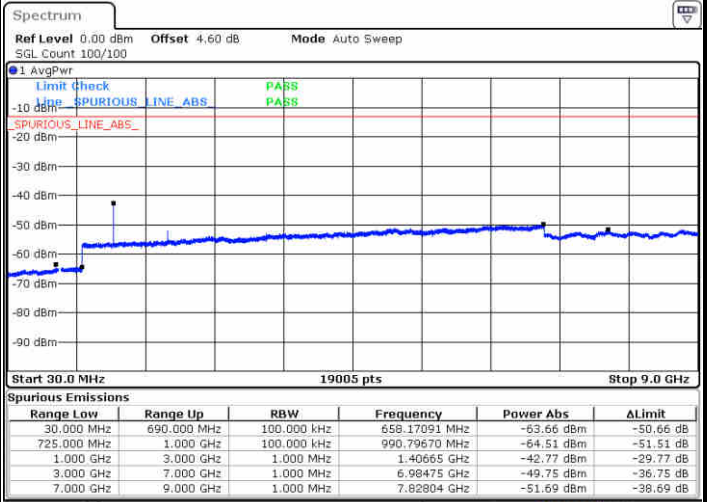
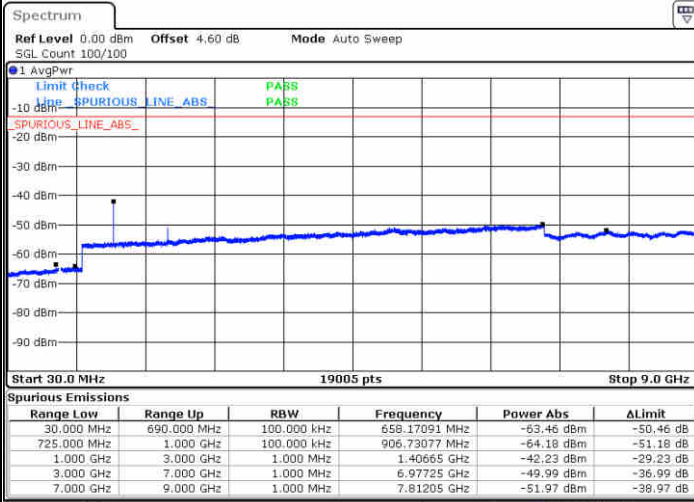
Date: 16 JAN 2020 18:52:26



LTE Band 12 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

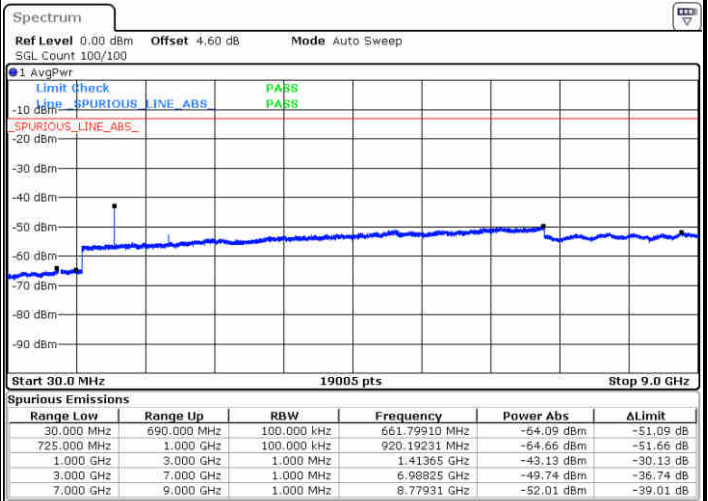
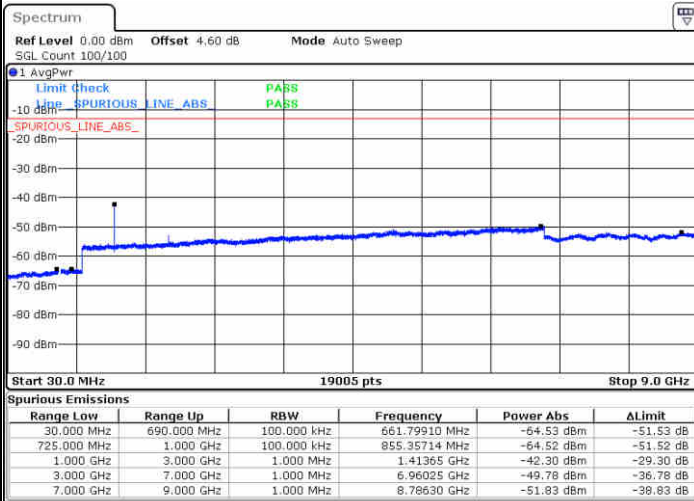


Date: 16 JAN 2020 18:54:15

Date: 16 JAN 2020 18:53:21

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 16 JAN 2020 18:55:09

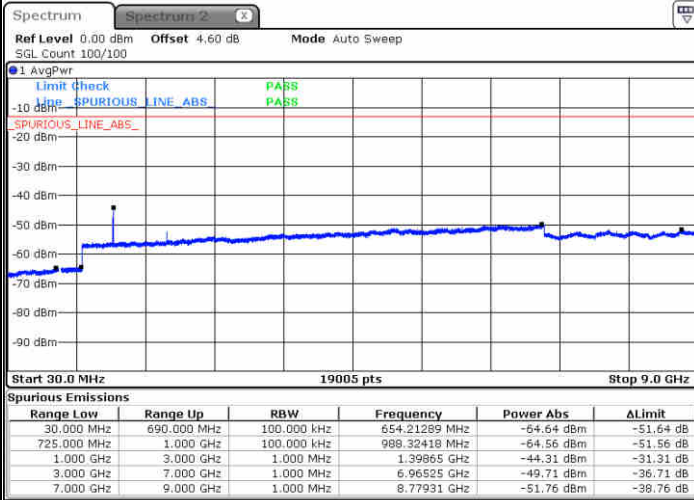
Date: 16 JAN 2020 18:56:04



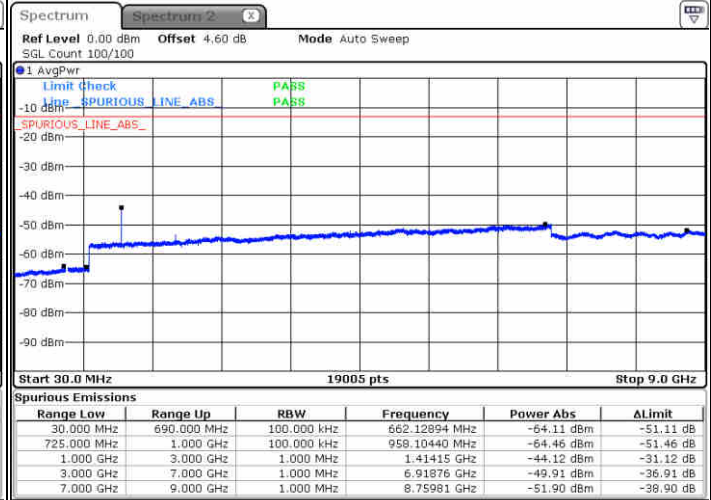
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

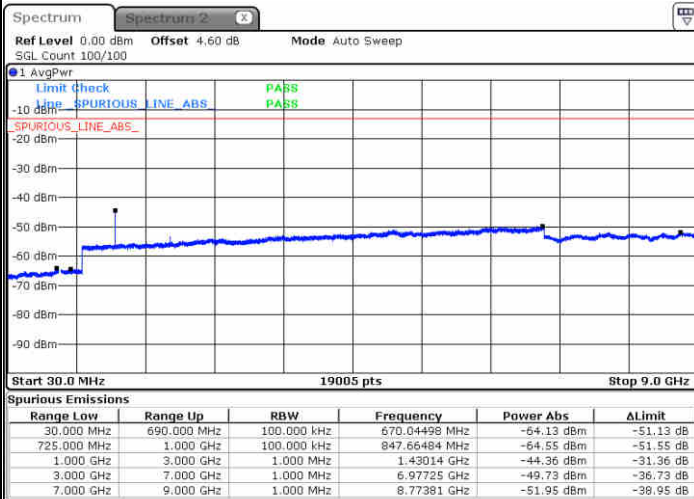


Date: 16 JAN 2020 19:48:20



Date: 16 JAN 2020 19:49:15

Highest Channel / 64QAM

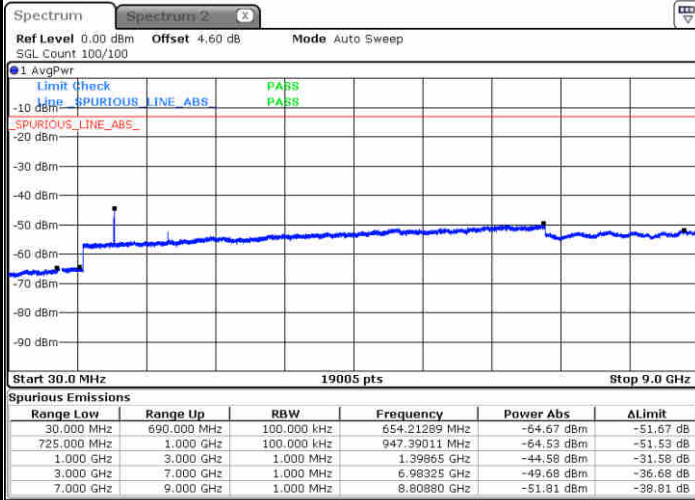


Date: 16 JAN 2020 19:50:09



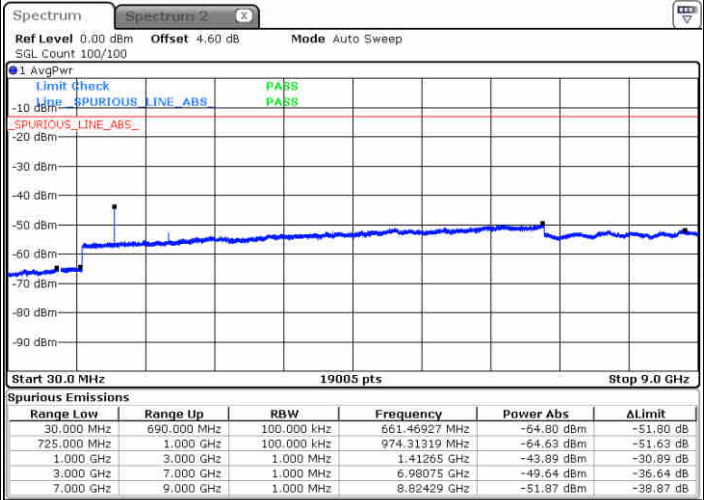
LTE Band 12 / 3MHz

Lowest Channel / 64QAM



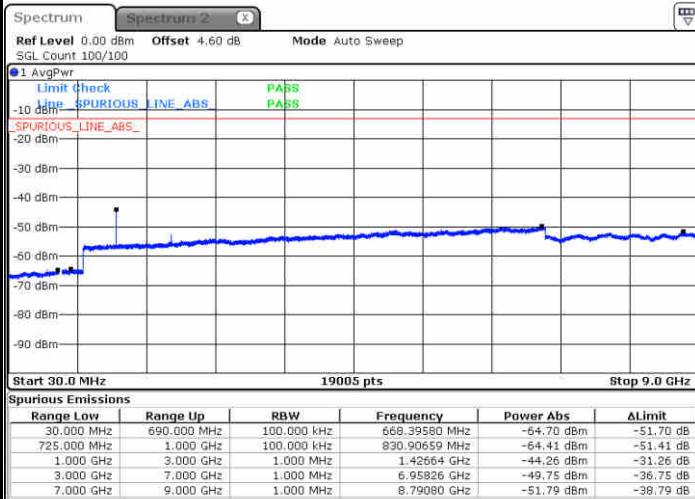
Date: 16 JAN 2020 19:51:03

Middle Channel / 64QAM



Date: 16 JAN 2020 19:51:58

Highest Channel / 64QAM



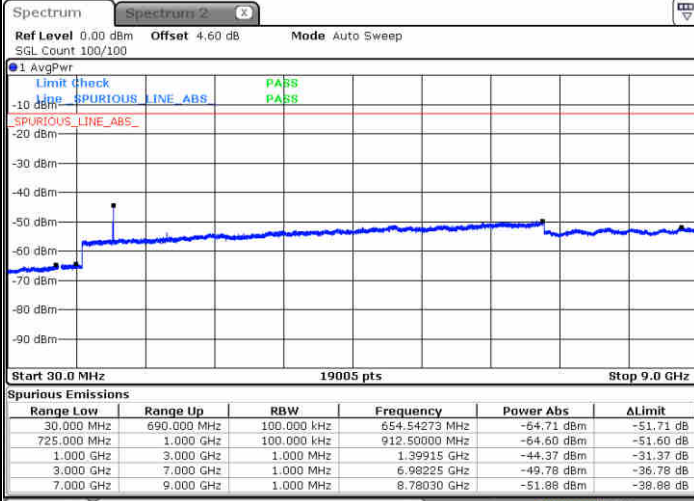
Date: 16 JAN 2020 19:52:52



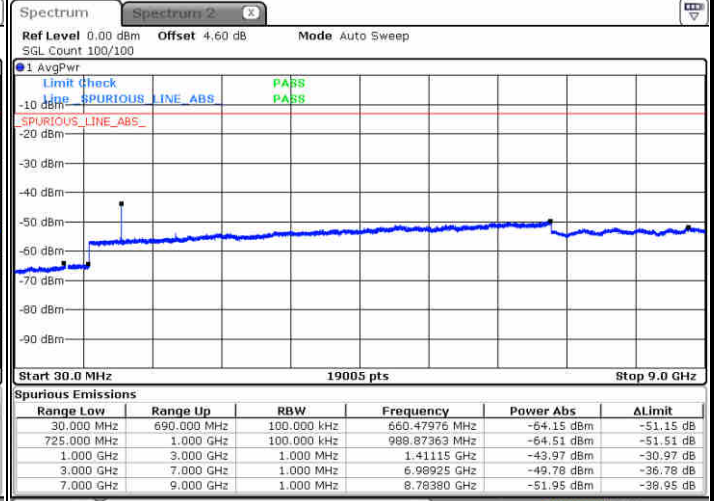
LTE Band 12 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

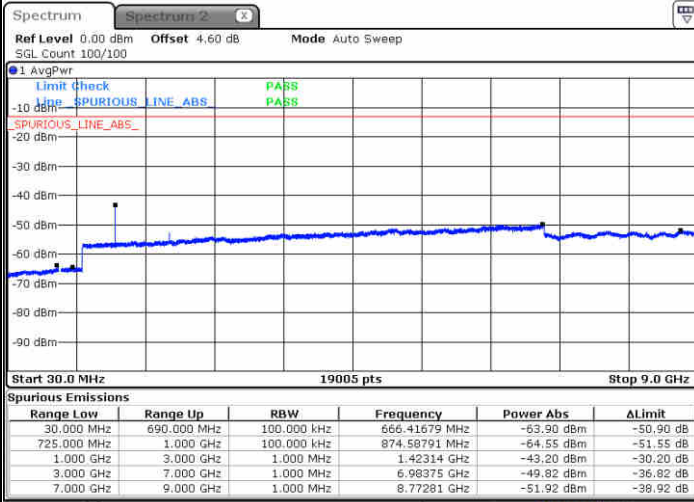


Date: 16 JAN 2020 20 04:45



Date: 16 JAN 2020 20 05:39

Highest Channel / 64QAM



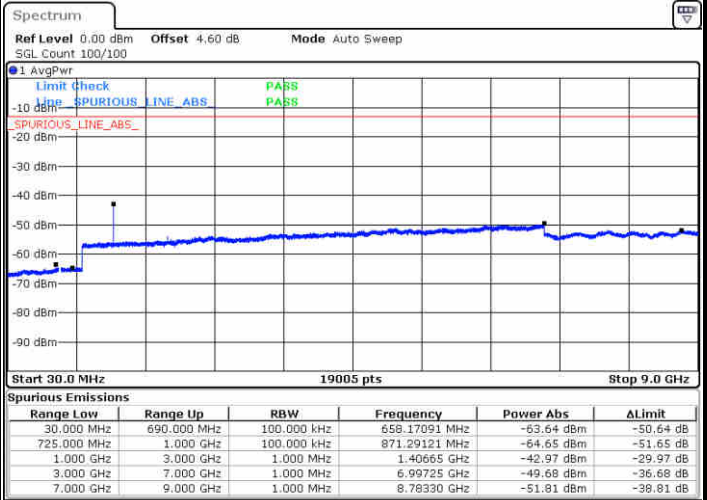
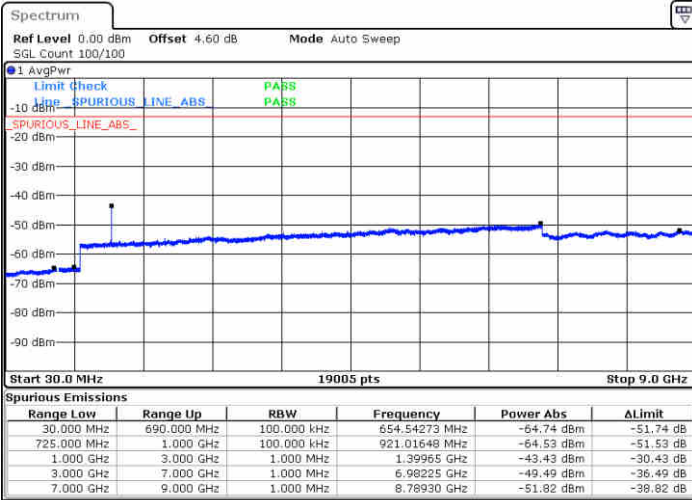
Date: 16 JAN 2020 20 06:34



LTE Band 12 / 10MHz

Lowest Channel / 64QAM

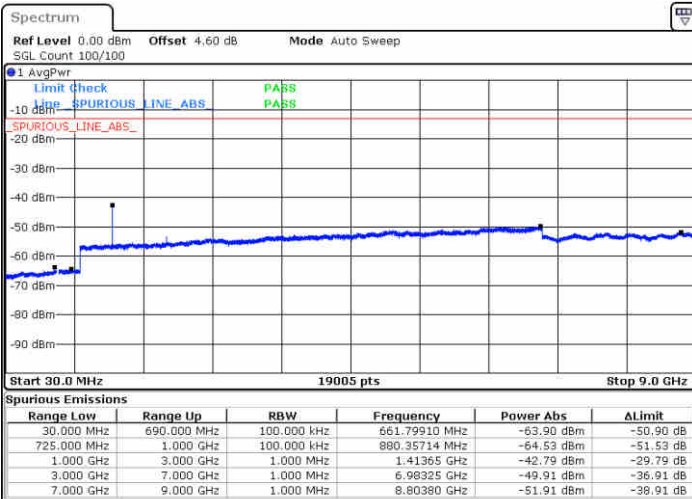
Middle Channel / 64QAM



Date: 17.JAN.2020 09:20:21

Date: 17.JAN.2020 09:21:15

Highest Channel / 64QAM



Date: 17.JAN.2020 09:22:10



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	0.0031	PASS
40	Normal Voltage	0.0044	
30	Normal Voltage	0.0050	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0102	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0023	
-20	Normal Voltage	0.0076	
-30	Normal Voltage	0.0068	
20	Maximum Voltage	0.0011	
20	Normal Voltage	0.0007	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.40 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

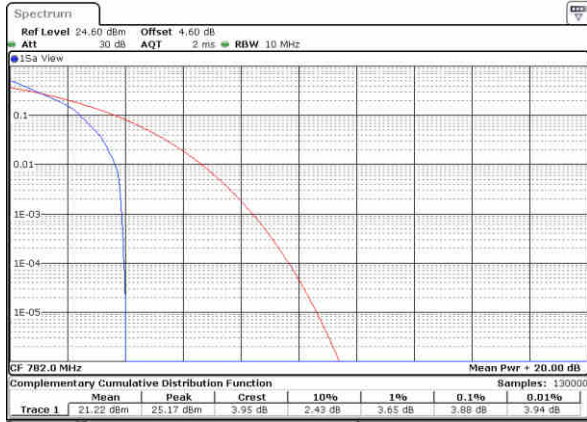
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.88	4.78	4.78	5.68	
Highest CH	-	-	-	-	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	-	-	PASS		
Middle CH	4.84	5.65			
Highest CH	-	-			



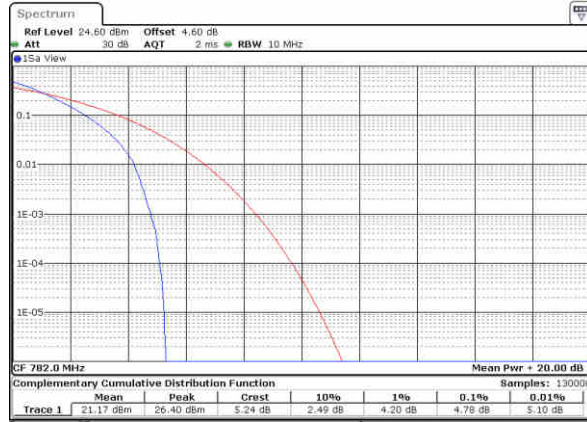
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 16 JAN 2020 16:57:33

Middle Channel / Full RB



Date: 16 JAN 2020 16:58:02

LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 16 JAN 2020 16:57:42

Middle Channel / Full RB



Date: 16 JAN 2020 16:57:51

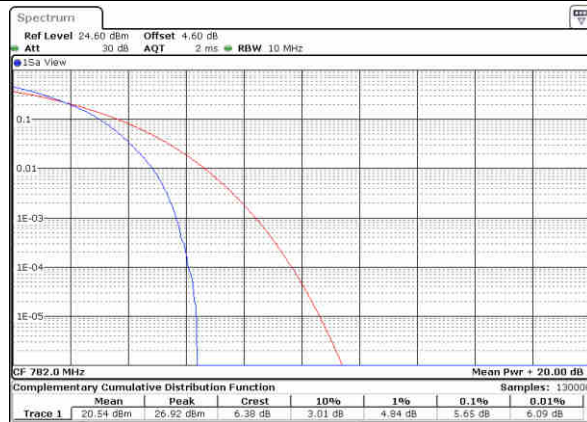
LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 16 JAN 2020 17:30:44

Middle Channel / Full RB



Date: 16 JAN 2020 17:31:32



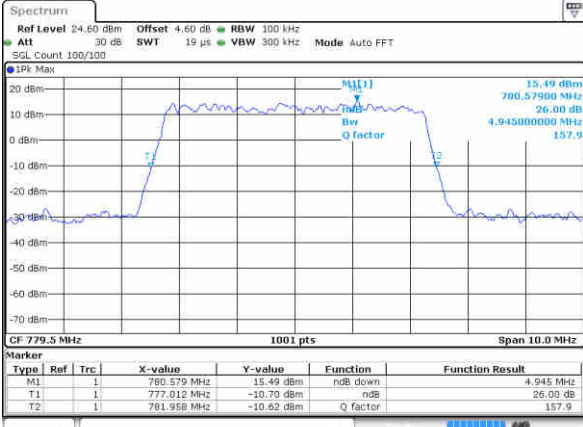
26dB Bandwidth

Mode	LTE Band 13 : 26dB BW(MHz)											
BW	5MHz		10MHz		5MHz		10MHz		-	-	-	-
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM	-	64QAM	-	-	-	-	-
Lowest CH	4.95	4.92	-	-	4.92	-	-	-	-	-	-	-
Middle CH	4.88	4.90	9.91	9.97	4.95	-	9.63	-	-	-	-	-
Highest CH	5.00	5.05	-	-	4.90	-	-	-	-	-	-	-



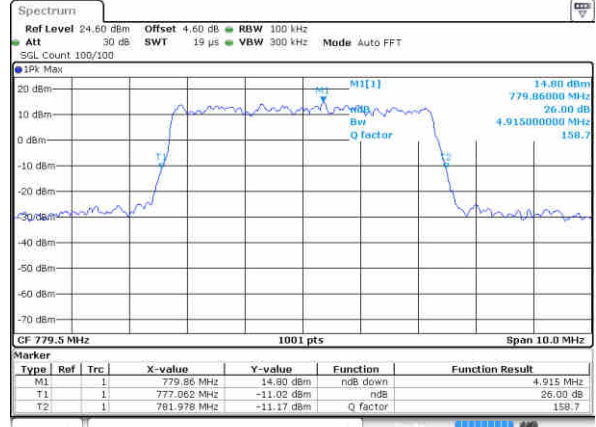
LTE Band 13

Lowest Channel / 5MHz / QPSK



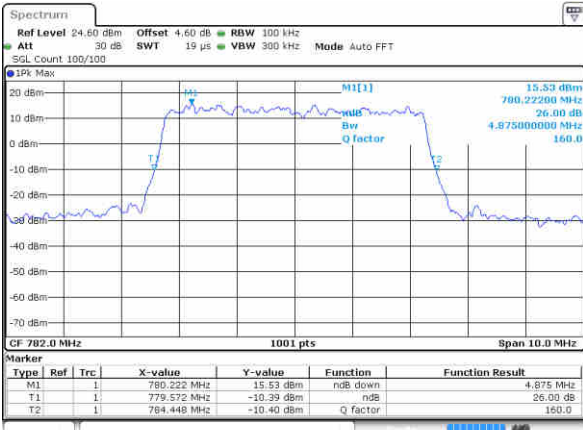
Date: 16 JAN 2020 16:25:21

Lowest Channel / 5MHz / 16QAM



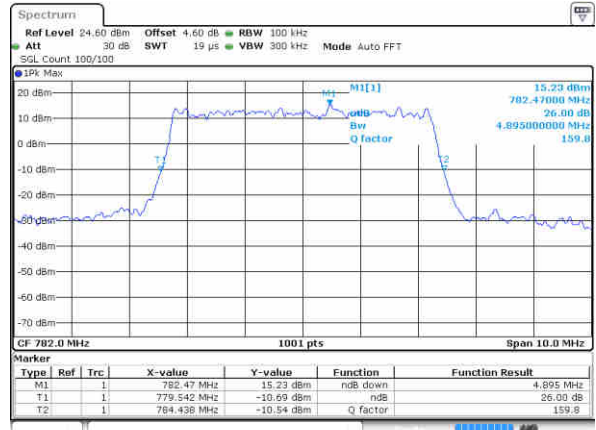
Date: 16 JAN 2020 16:25:31

Middle Channel / 5MHz / QPSK



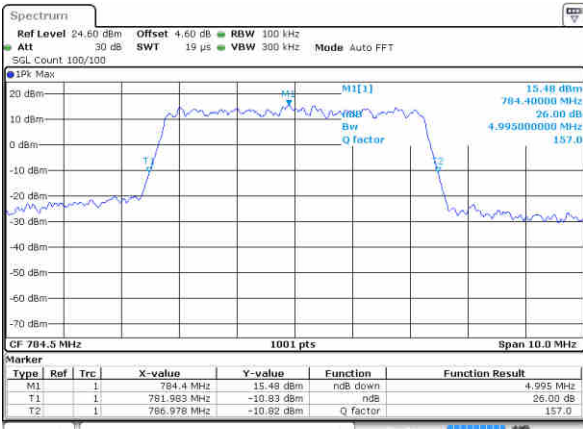
Date: 16 JAN 2020 16:34:20

Middle Channel / 5MHz / 16QAM



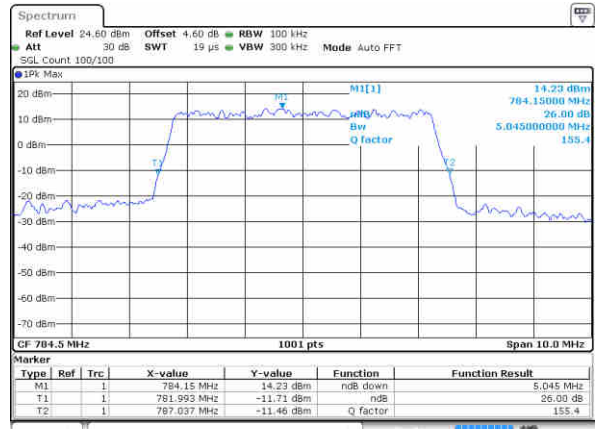
Date: 16 JAN 2020 16:34:29

Highest Channel / 5MHz / QPSK



Date: 16 JAN 2020 16:36:58

Highest Channel / 5MHz / 16QAM

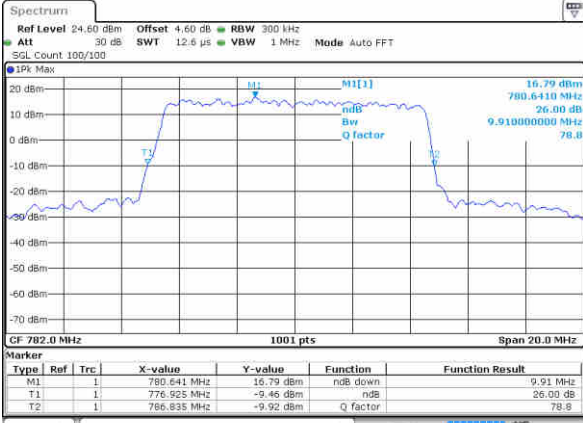


Date: 16 JAN 2020 16:36:48



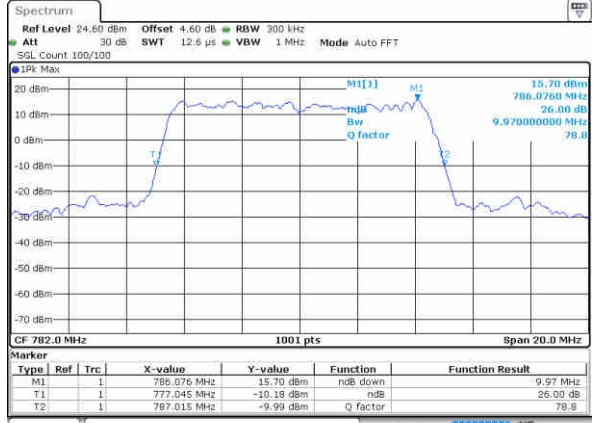
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 16 JAN 2020 16:45:56

Middle Channel / 10MHz / 16QAM

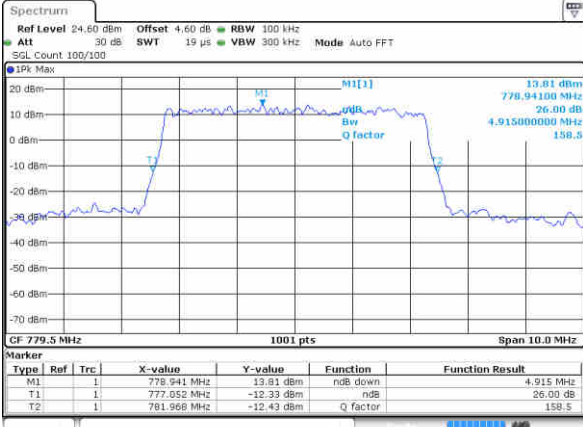


Date: 16 JAN 2020 16:45:46



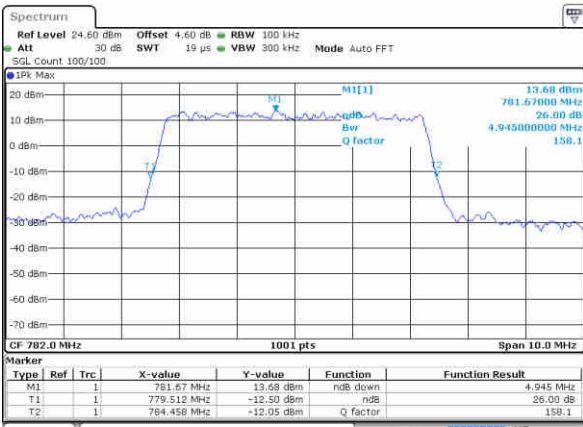
LTE Band 13

Lowest Channel / 5MHz / 64QAM



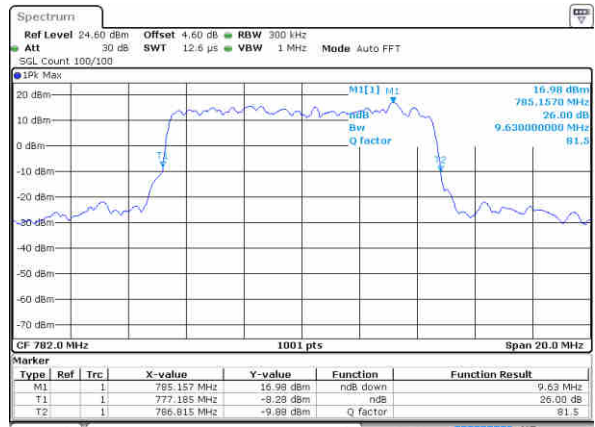
Date: 16 JAN 2020 16:58:41

Middle Channel / 5MHz / 64QAM



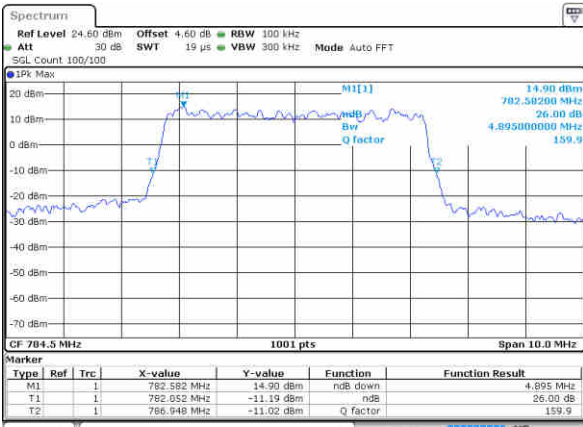
Date: 16 JAN 2020 16:58:51

Middle Channel / 10MHz / 64QAM



Date: 16 JAN 2020 17:08:34

Highest Channel / 5MHz / 64QAM



Date: 16 JAN 2020 16:59:01



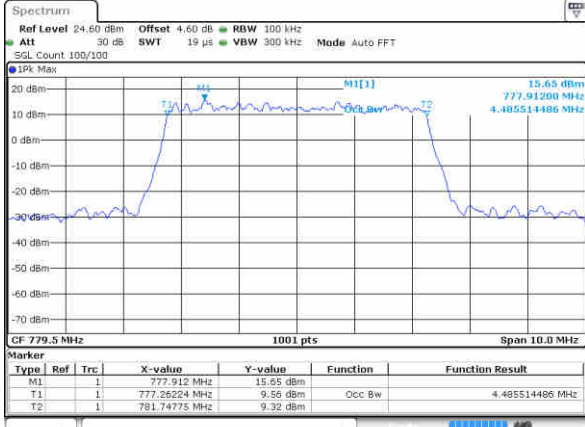
Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	5MHz		10MHz		5MHz		10MHz		-		-	
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM	-	64QAM	-	-	-	-	-
Lowest CH	4.49	4.50	-	-	4.50	-	-	-	-	-	-	-
Middle CH	4.49	4.49	9.05	9.03	4.50	-	8.97	-	-	-	-	-
Highest CH	4.48	4.48	-	-	4.49	-	-	-	-	-	-	-



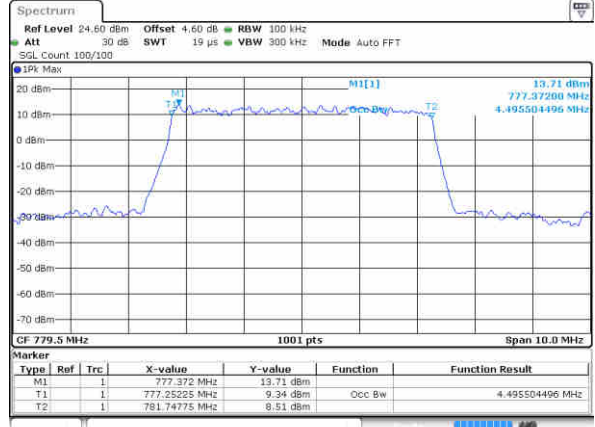
LTE Band 13

Lowest Channel / 5MHz / QPSK



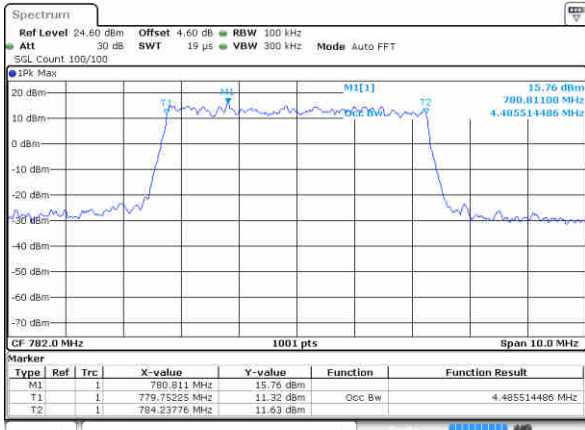
Date: 16 JAN 2020 16:25:51

Lowest Channel / 5MHz / 16QAM



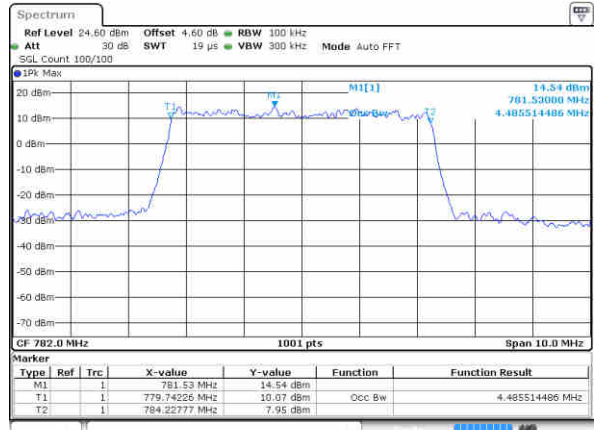
Date: 16 JAN 2020 16:25:41

Middle Channel / 5MHz / QPSK



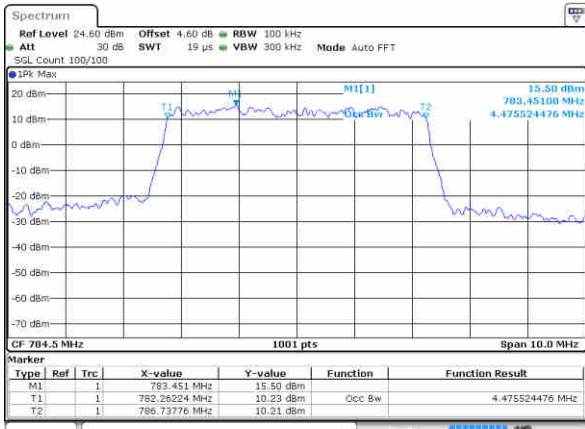
Date: 16 JAN 2020 16:34:39

Middle Channel / 5MHz / 16QAM



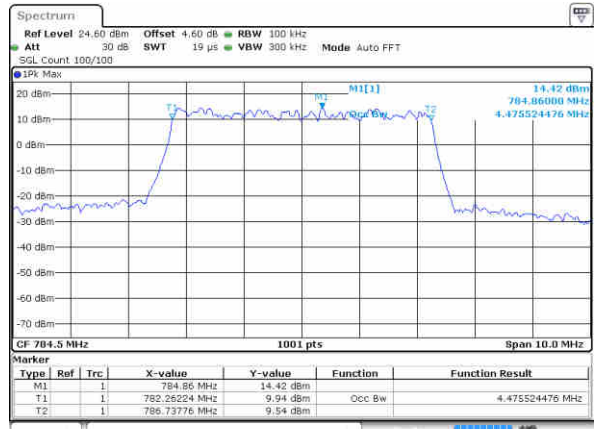
Date: 16 JAN 2020 16:34:49

Highest Channel / 5MHz / QPSK



Date: 16 JAN 2020 16:37:08

Highest Channel / 5MHz / 16QAM

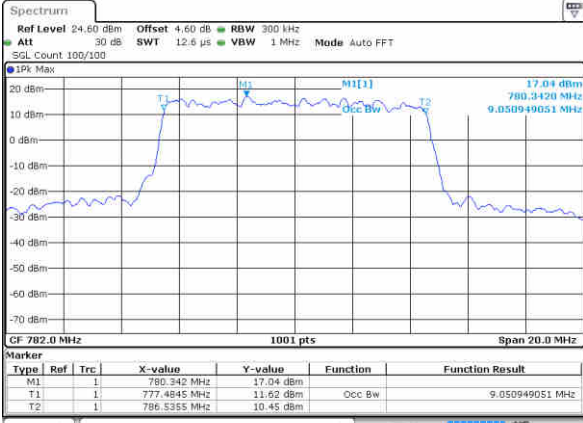


Date: 16 JAN 2020 16:37:18



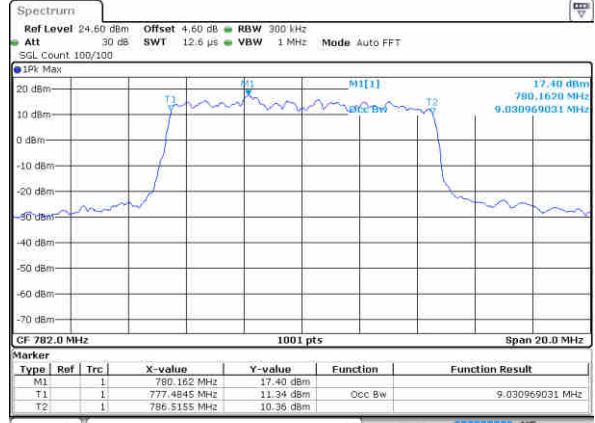
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 16 JAN 2020 16:46:06

Middle Channel / 10MHz / 16QAM

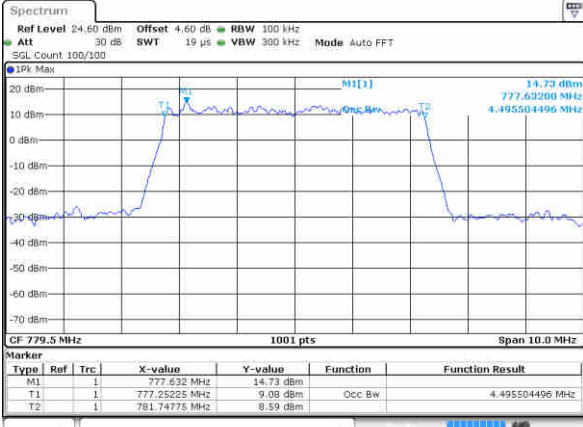


Date: 16 JAN 2020 16:46:16



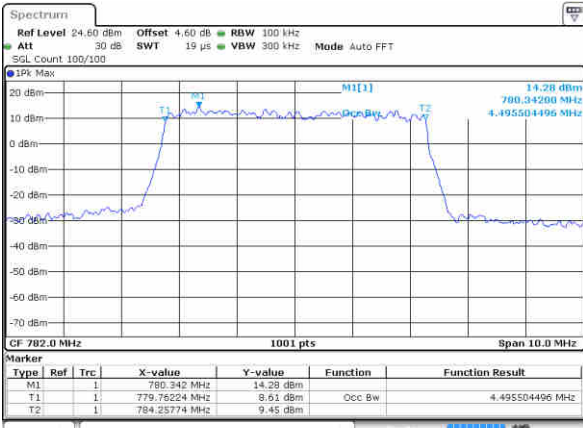
LTE Band 13

Lowest Channel / 5MHz / 64QAM



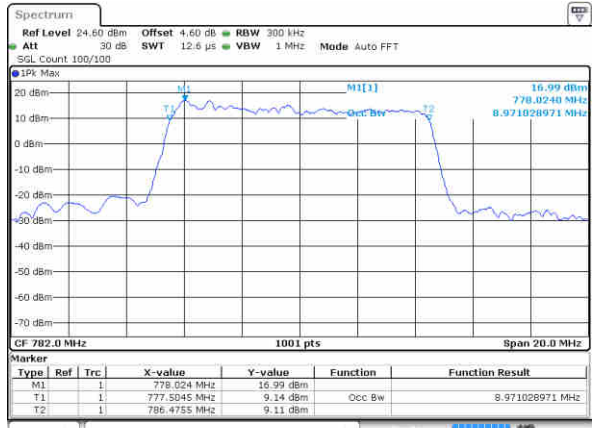
Date: 16 JAN 2020 16:58:12

Middle Channel / 5MHz / 64QAM



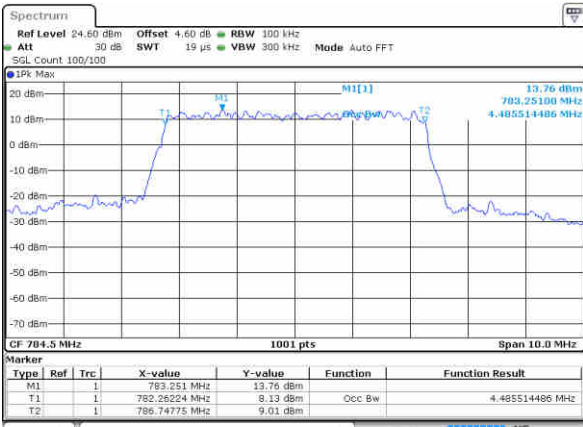
Date: 16 JAN 2020 16:58:21

Middle Channel / 10MHz / 64QAM



Date: 16 JAN 2020 17:08:24

Highest Channel / 5MHz / 64QAM



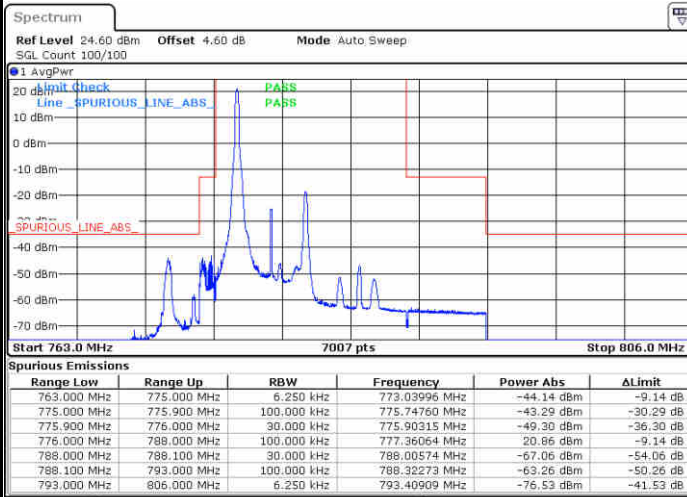
Date: 16 JAN 2020 16:58:31



Conducted Band Edge

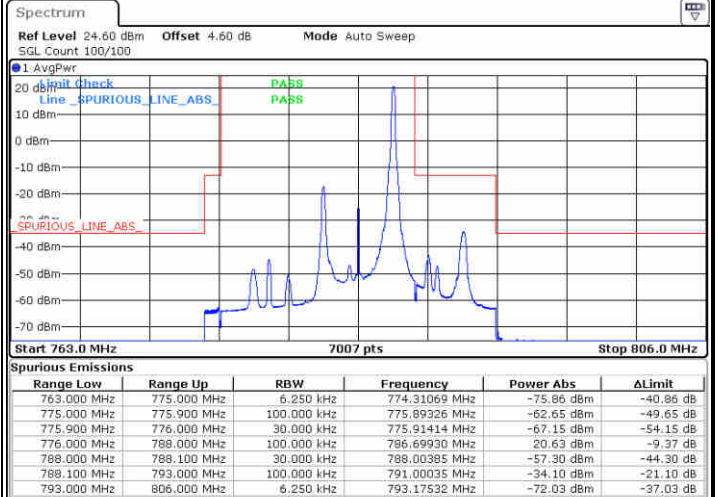
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB



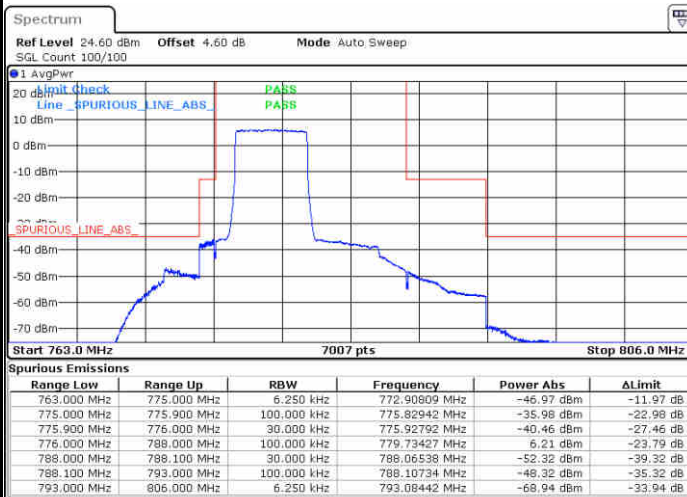
Date: 16 JAN 2020 16:30:44

Highest Band Edge / 1 RB



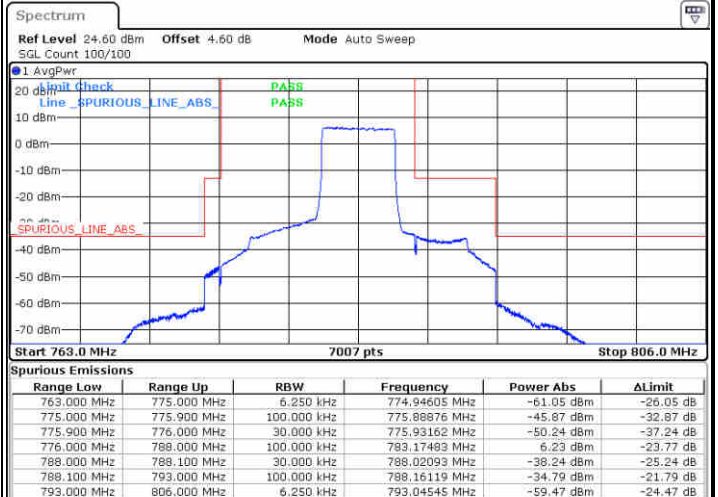
Date: 16 JAN 2020 16:42:11

Lowest Band Edge / Full RB



Date: 16 JAN 2020 16:29:07

Highest Band Edge / Full RB



Date: 16 JAN 2020 16:40:33