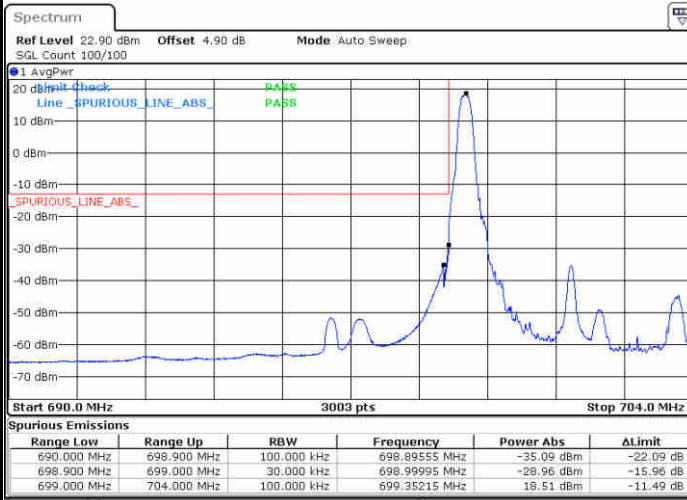




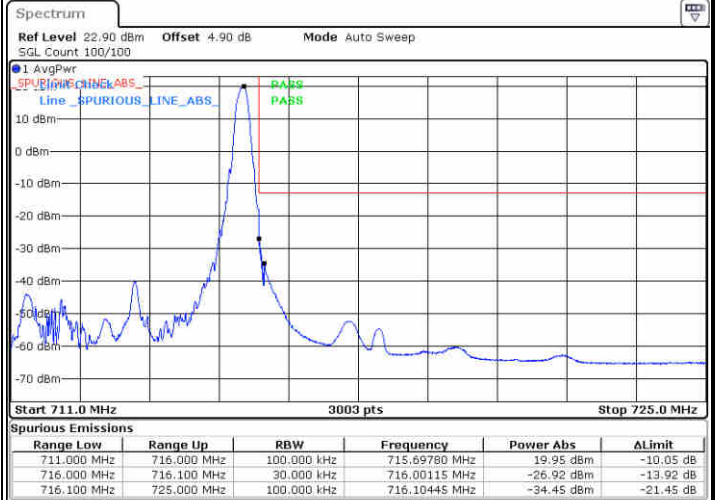
LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / 1RB



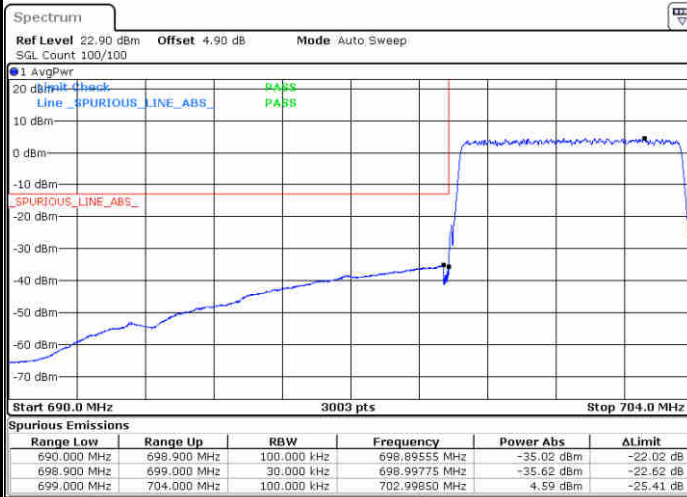
Date: 21.OCT.2019 19:35:13

Highest Band Edge / 1 RB



Date: 21.OCT.2019 19:30:35

Lowest Band Edge / Full RB



Date: 21.OCT.2019 19:36:21

Highest Band Edge / Full RB

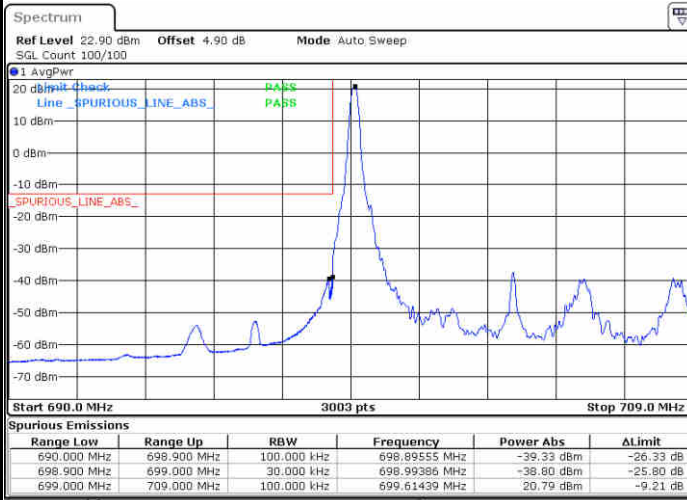


Date: 21.OCT.2019 19:29:26



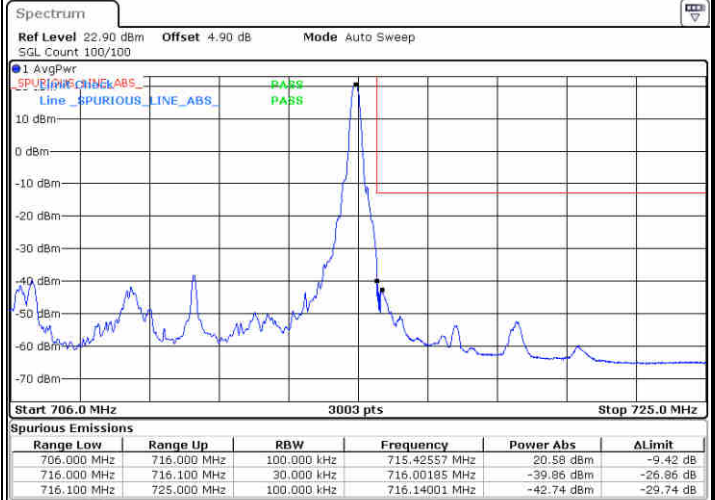
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



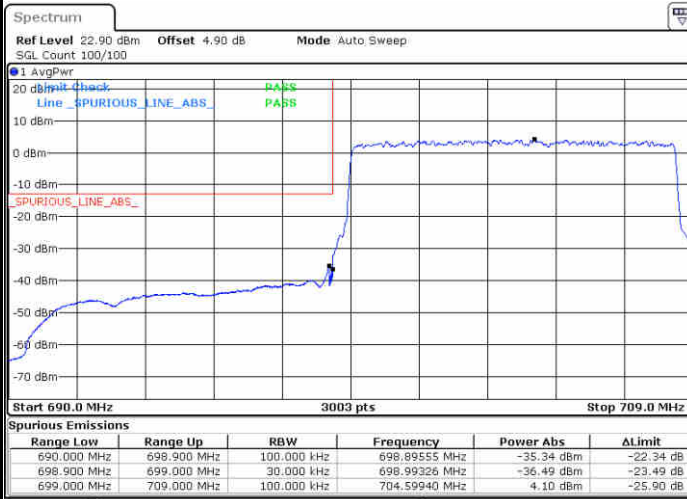
Date: 21.OCT.2019 19:03:56

Highest Band Edge / 1 RB



Date: 21.OCT.2019 19:09:39

Lowest Band Edge / Full RB



Date: 21.OCT.2019 19:05:05

Highest Band Edge / Full RB

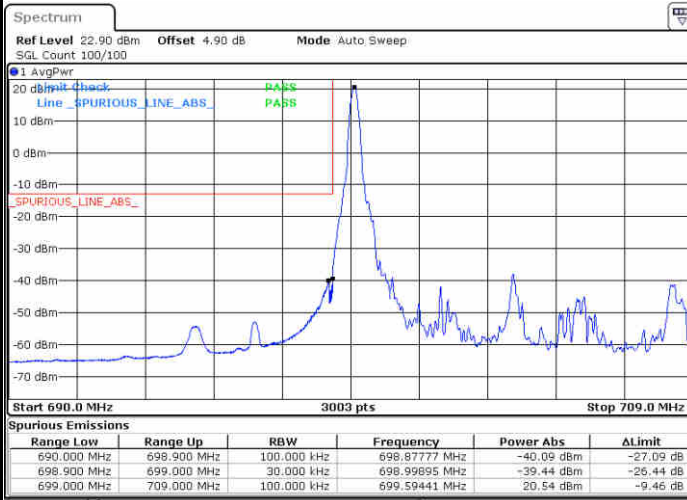


Date: 21.OCT.2019 19:08:31



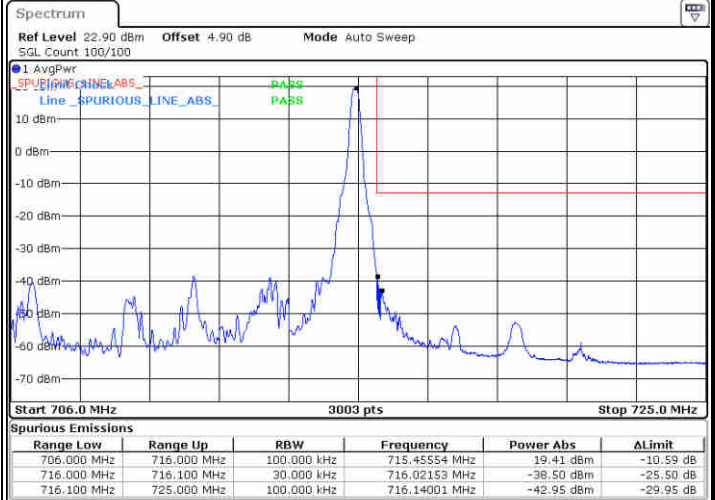
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



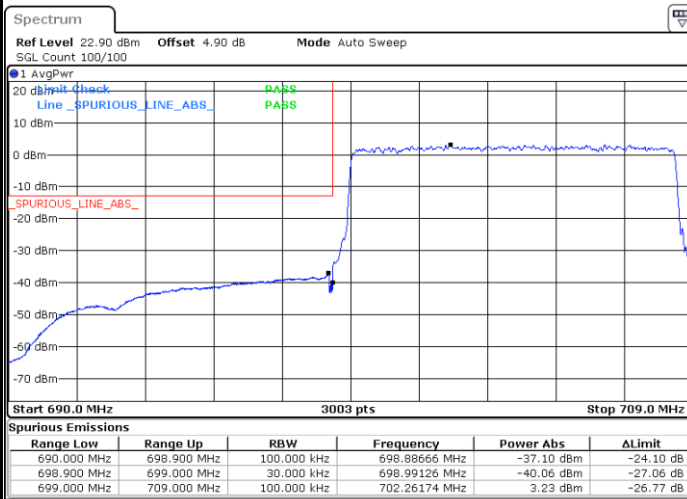
Date: 21.OCT.2019 19:02:48

Highest Band Edge / 1 RB



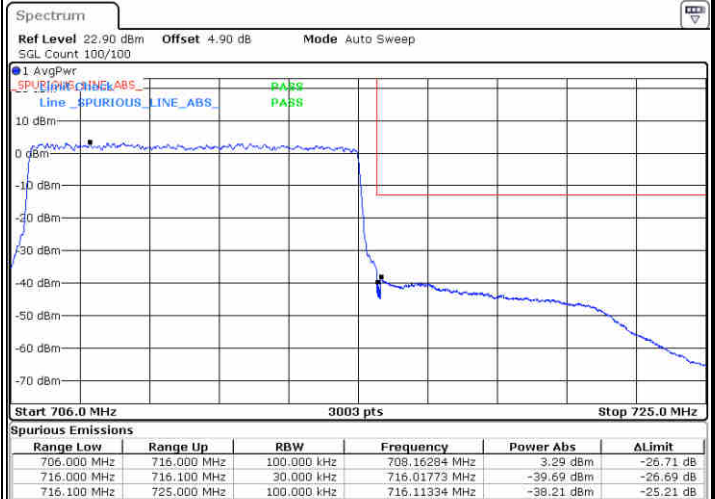
Date: 21.OCT.2019 19:10:48

Lowest Band Edge / Full RB



Date: 21.OCT.2019 19:06:13

Highest Band Edge / Full RB

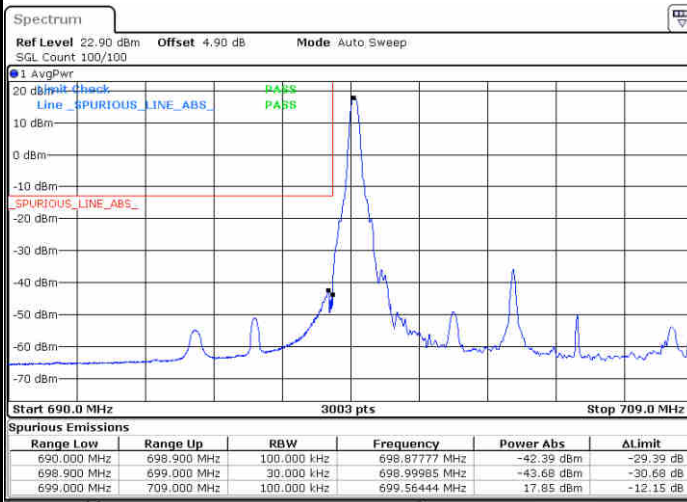


Date: 21.OCT.2019 19:07:22



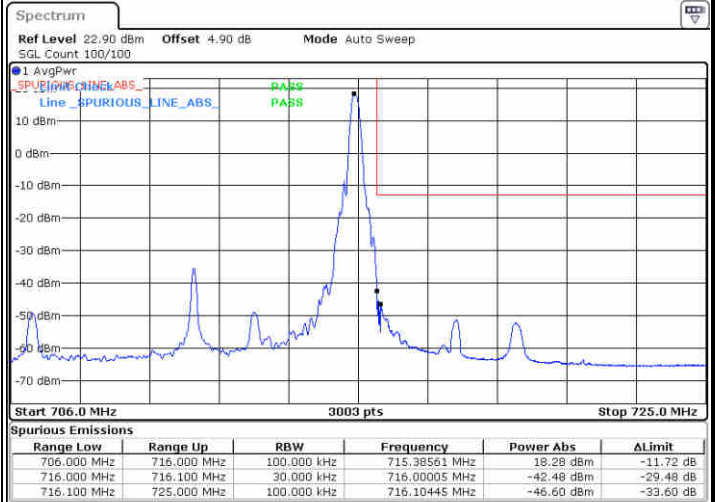
LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



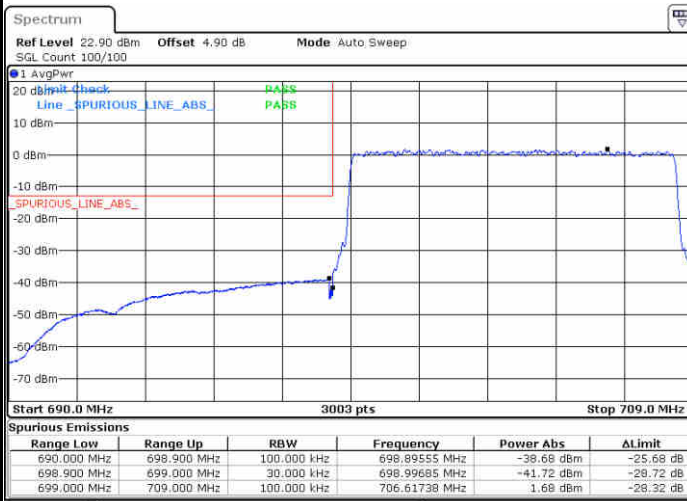
Date: 21.OCT.2019 19:46:09

Highest Band Edge / 1 RB



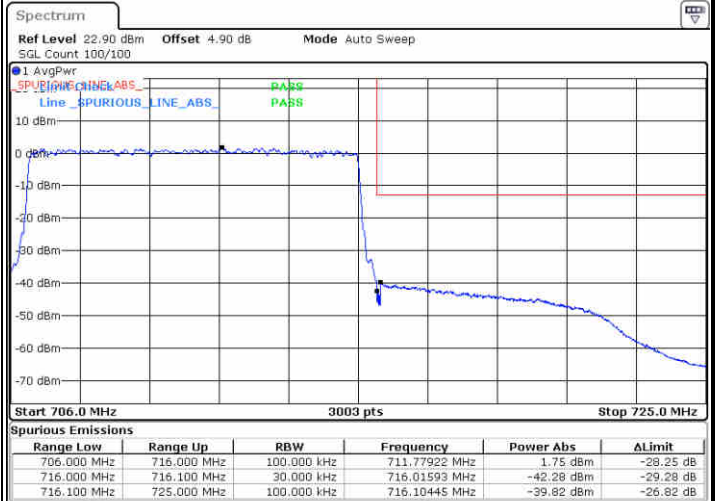
Date: 21.OCT.2019 19:45:00

Lowest Band Edge / Full RB



Date: 21.OCT.2019 19:47:17

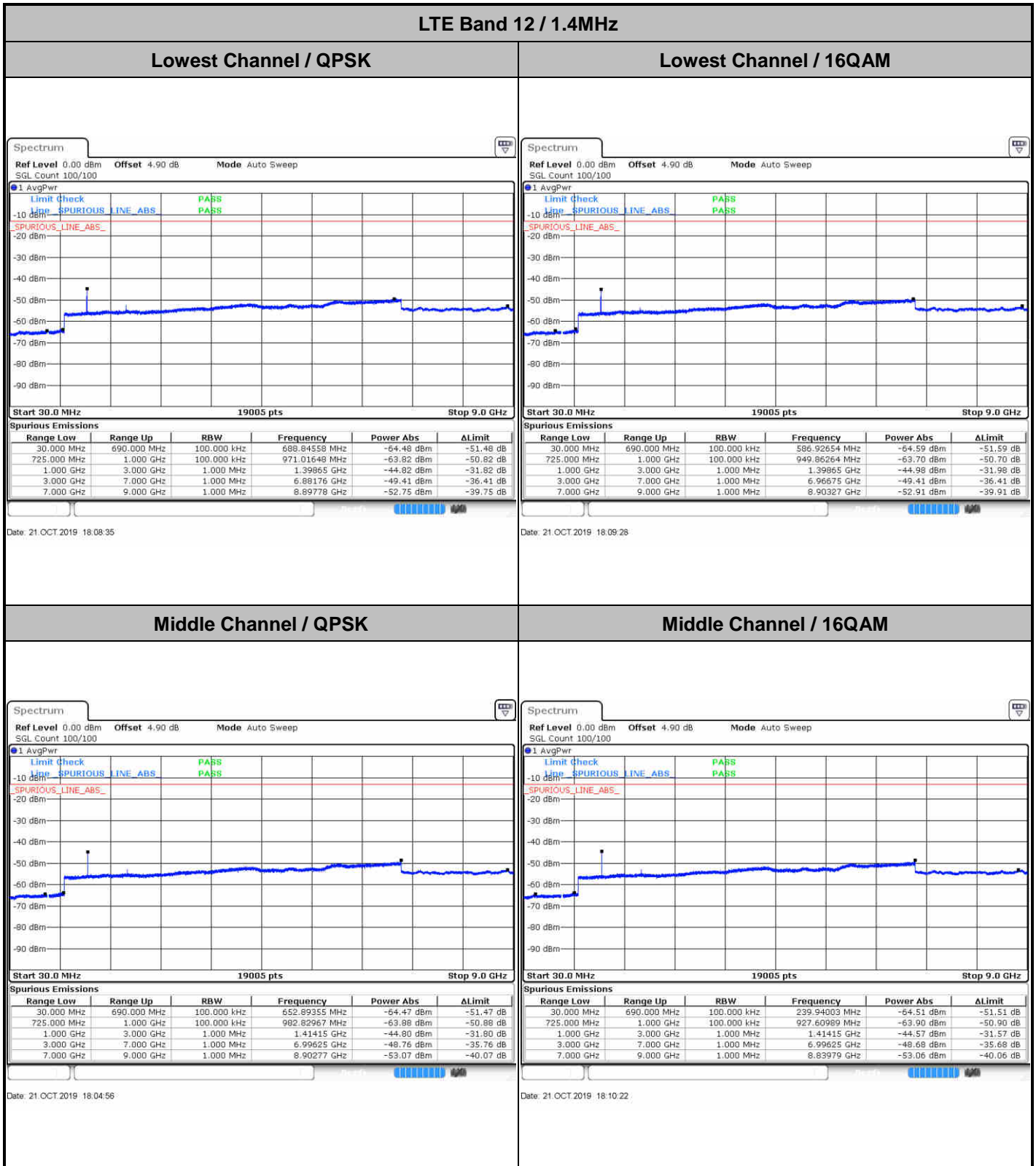
Highest Band Edge / Full RB



Date: 21.OCT.2019 19:43:51



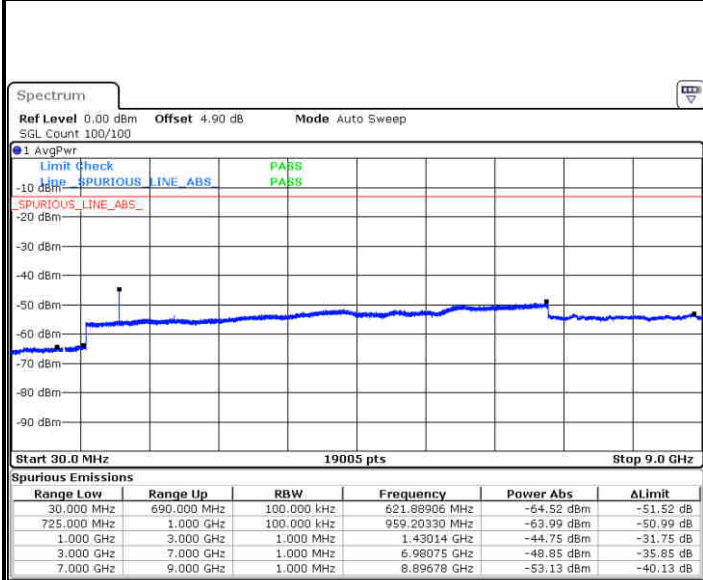
Conducted Spurious Emission





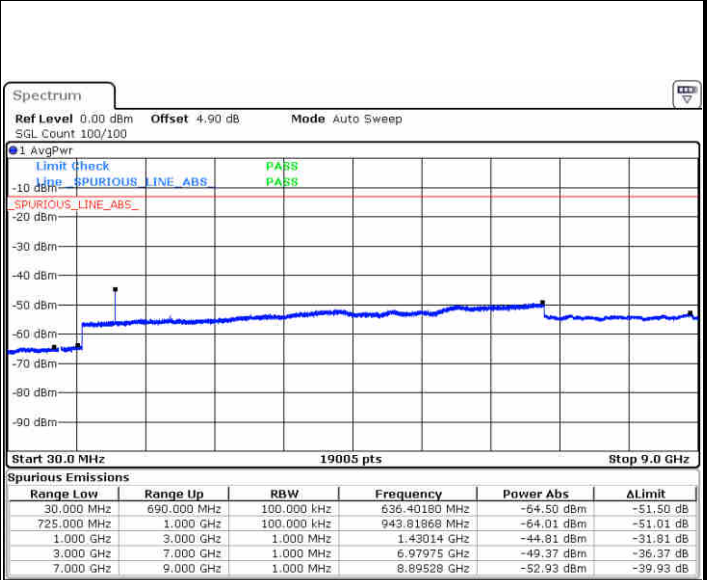
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 21.OCT.2019 18:11:15

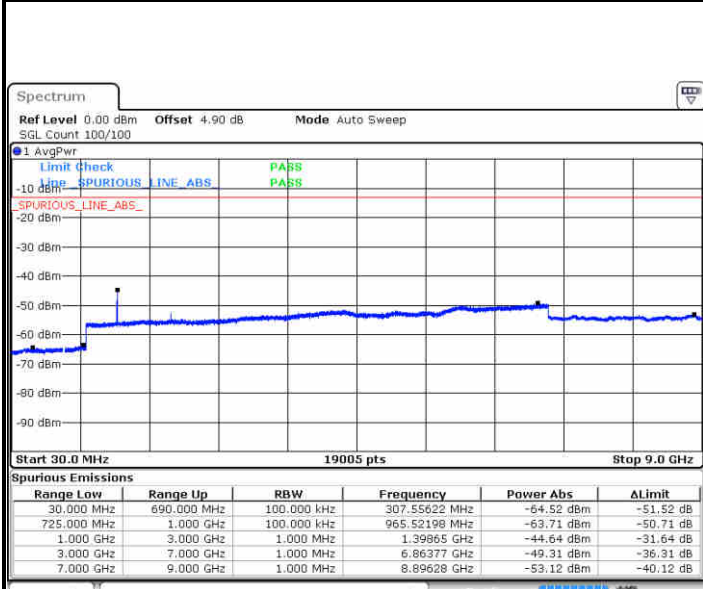
Highest Channel / 16QAM



Date: 21.OCT.2019 18:12:09

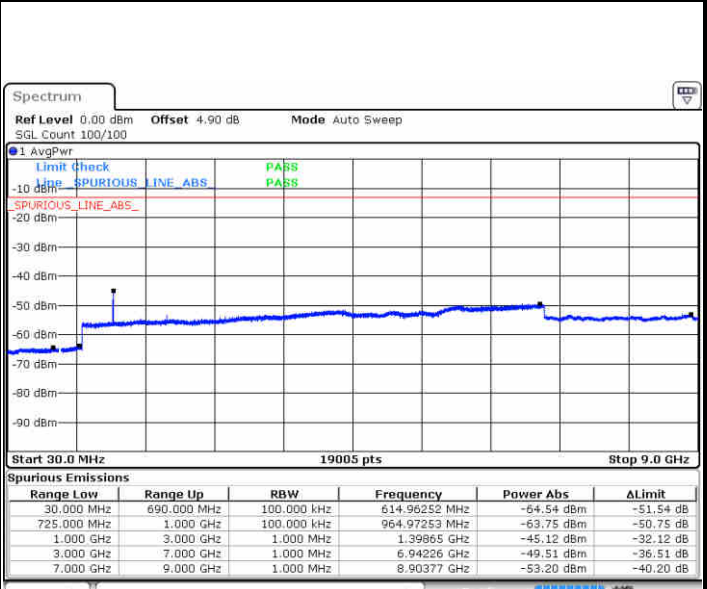
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 21.OCT.2019 18:24:12

Lowest Channel / 16QAM



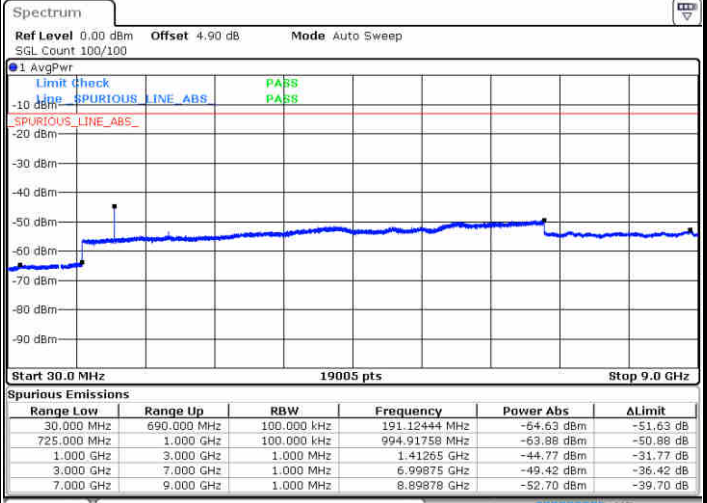
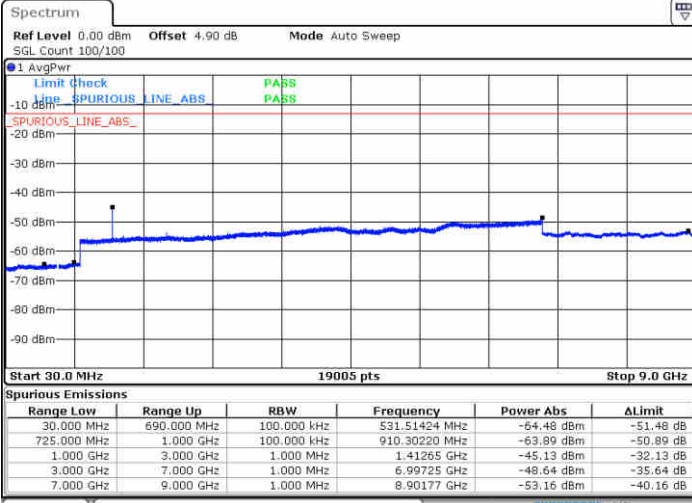
Date: 21.OCT.2019 18:25:05



LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

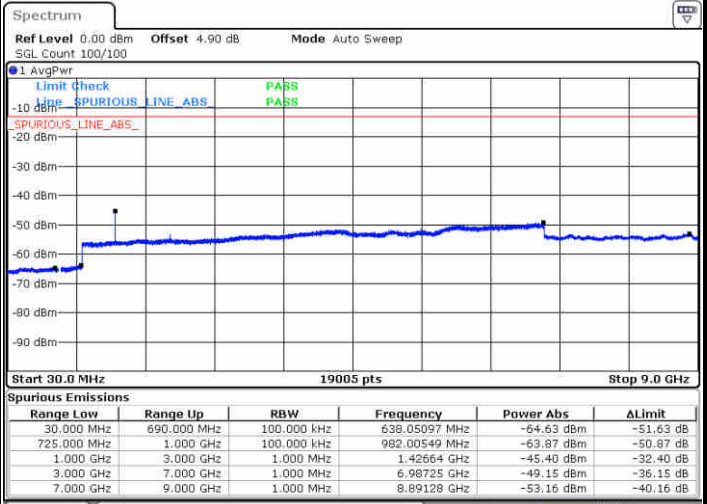
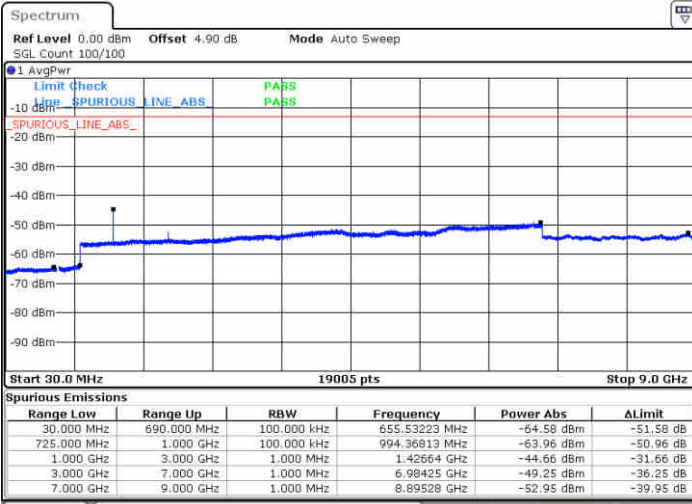


Date: 21.OCT.2019 18:26:52

Date: 21.OCT.2019 18:25:59

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 21.OCT.2019 18:27:46

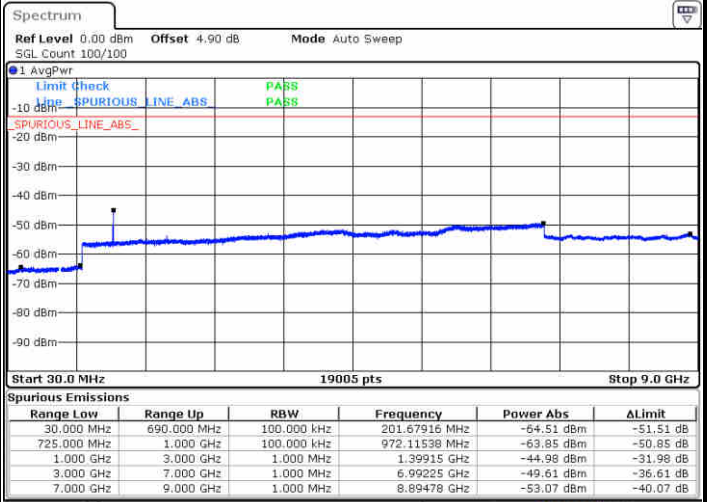
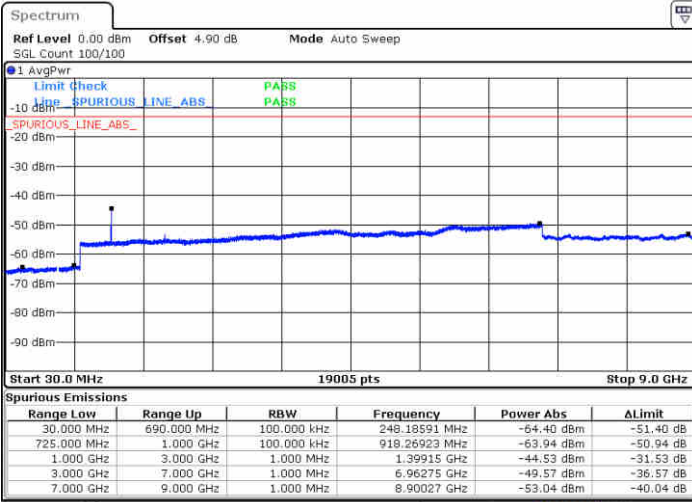
Date: 21.OCT.2019 18:28:39



LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

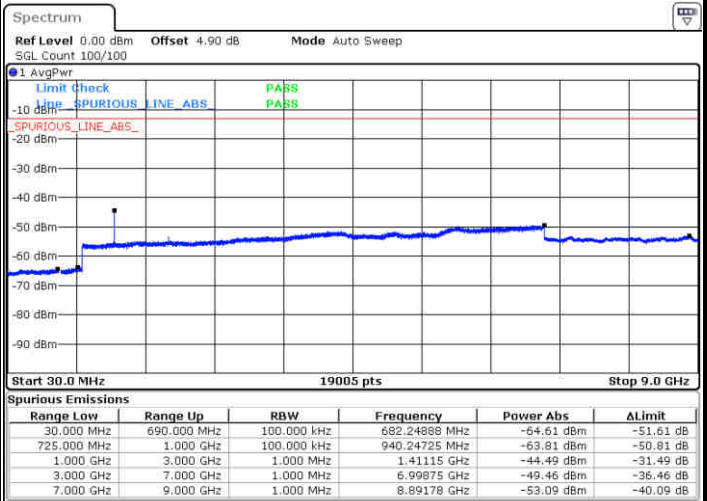
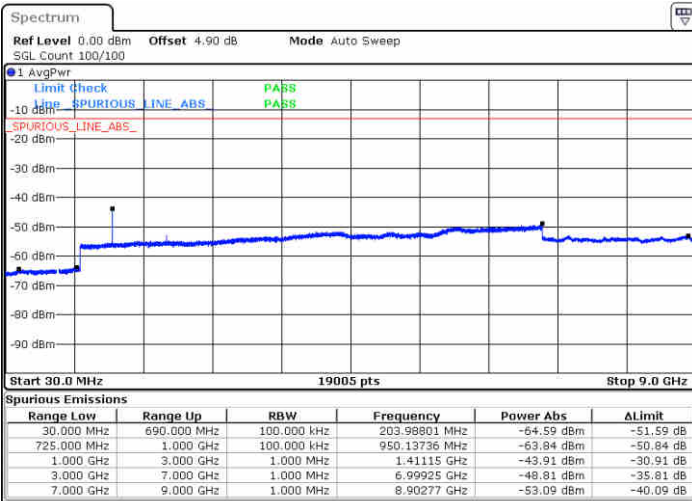


Date: 21.OCT.2019 18:40:42

Date: 21.OCT.2019 18:41:35

Middle Channel / QPSK

Middle Channel / 16QAM



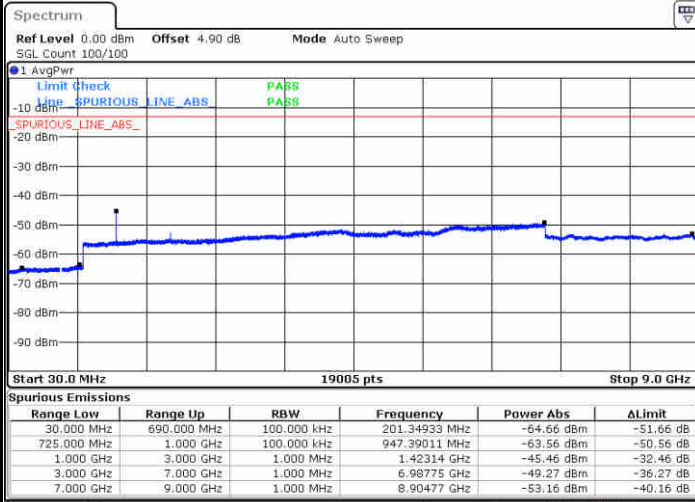
Date: 21.OCT.2019 18:43:22

Date: 21.OCT.2019 18:42:29



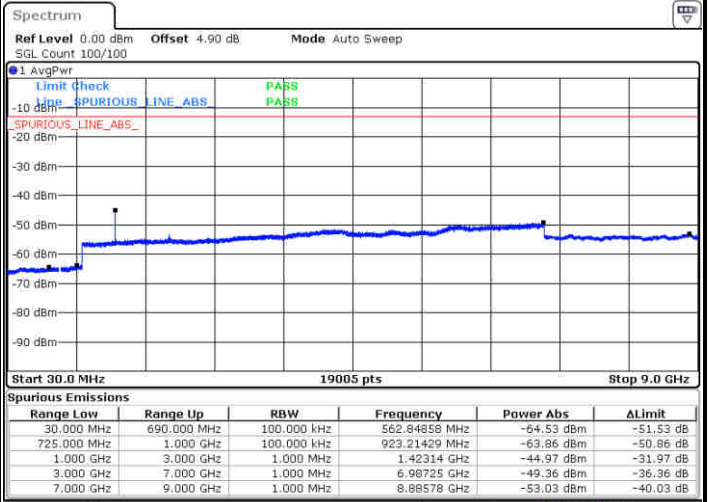
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 21.OCT.2019 18:44:16

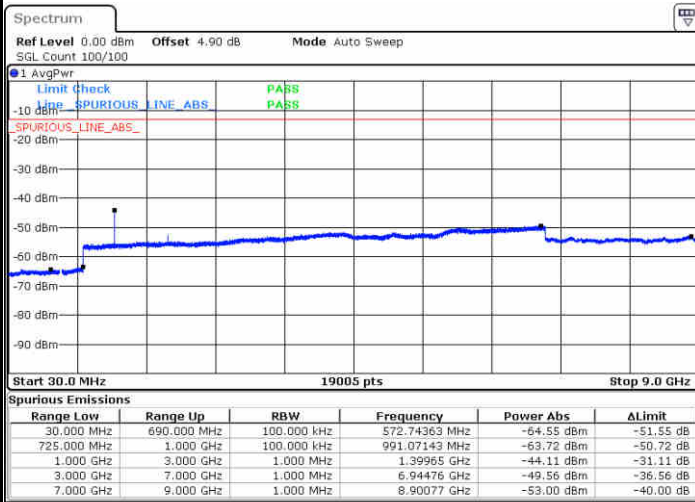
Highest Channel / 16QAM



Date: 21.OCT.2019 18:45:09

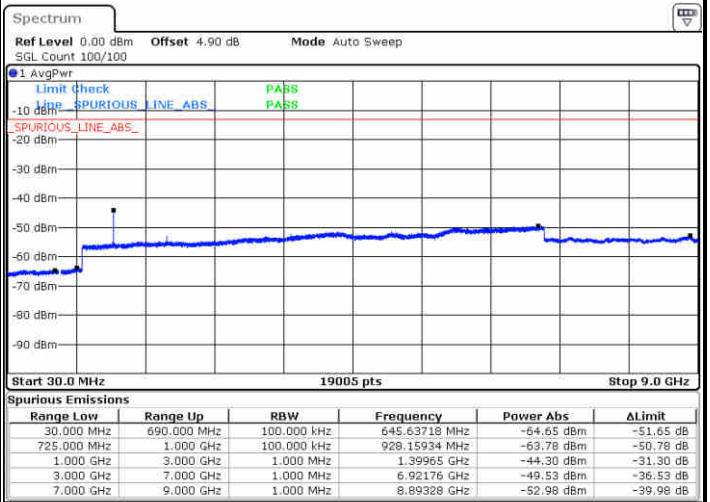
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 21.OCT.2019 18:57:12

Lowest Channel / 16QAM



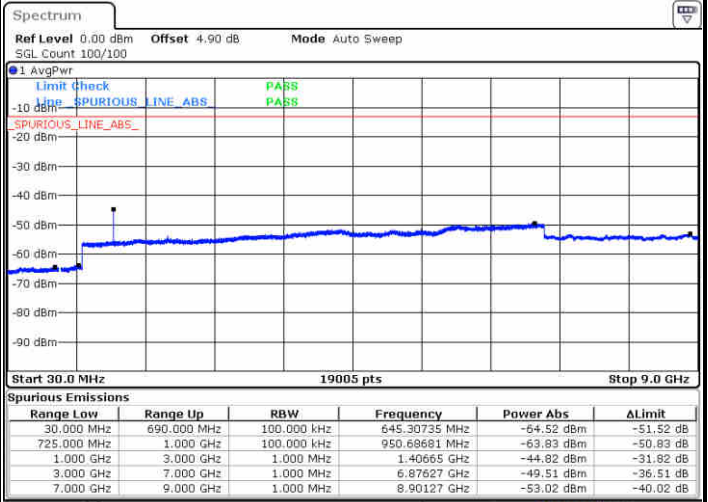
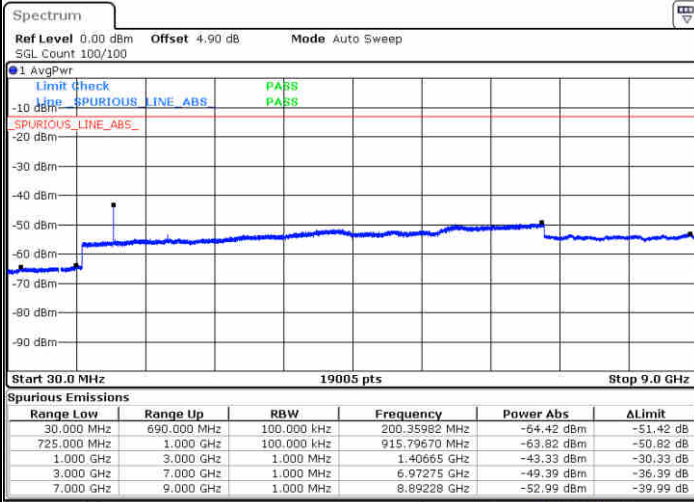
Date: 21.OCT.2019 18:58:05



LTE Band 12 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

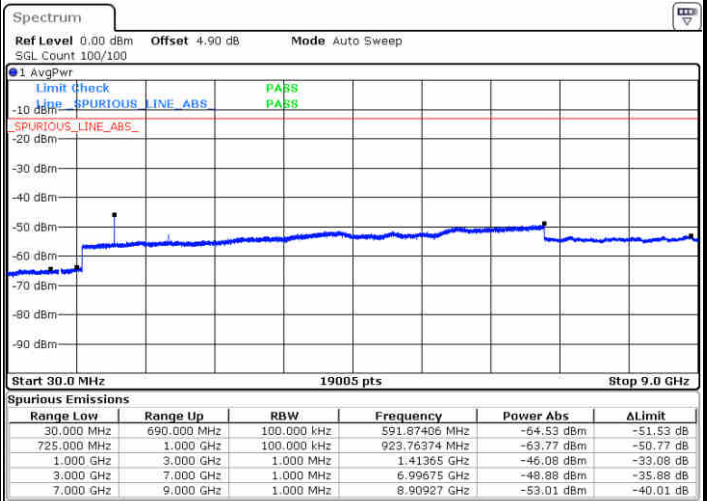
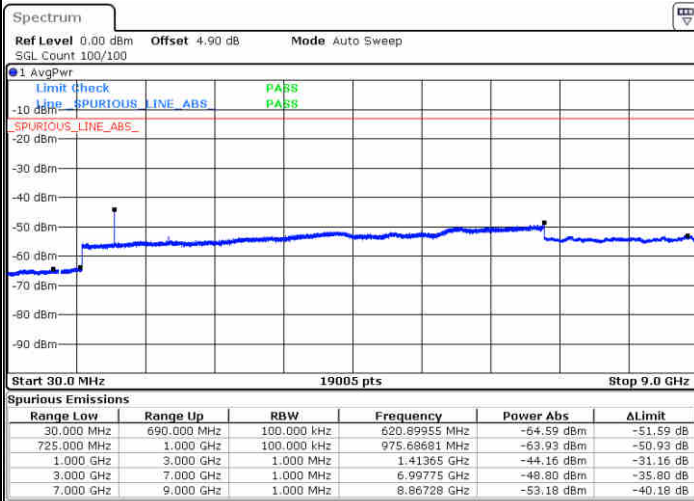


Date: 21.OCT.2019 18:59:52

Date: 21.OCT.2019 18:58:59

Highest Channel / QPSK

Highest Channel / 16QAM



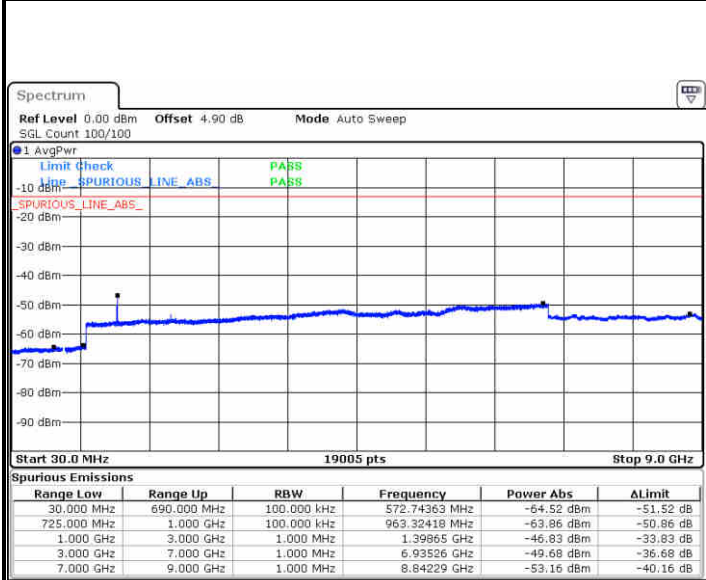
Date: 21.OCT.2019 19:00:46

Date: 21.OCT.2019 19:01:39



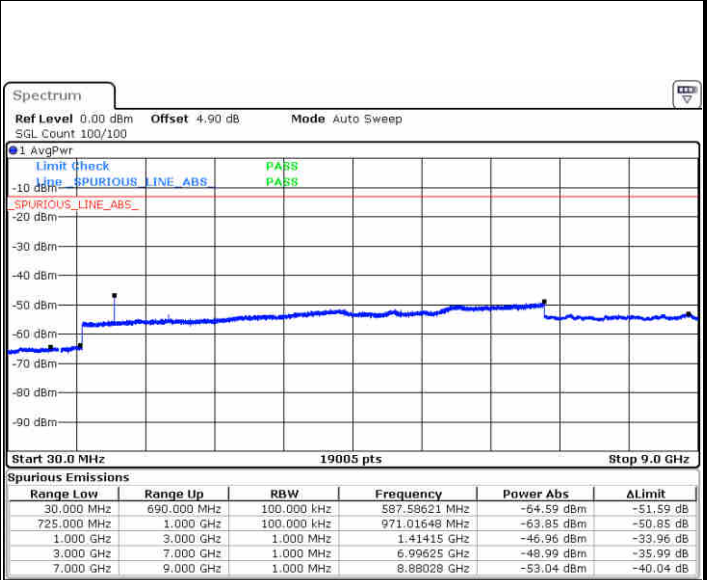
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM



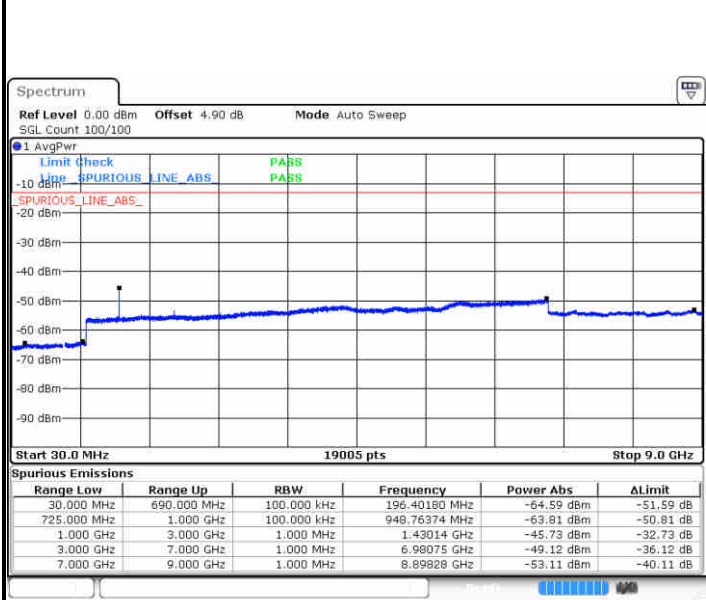
Date: 21.OCT.2019 19:17:17

Middle Channel / 64QAM



Date: 21.OCT.2019 19:18:10

Highest Channel / 64QAM

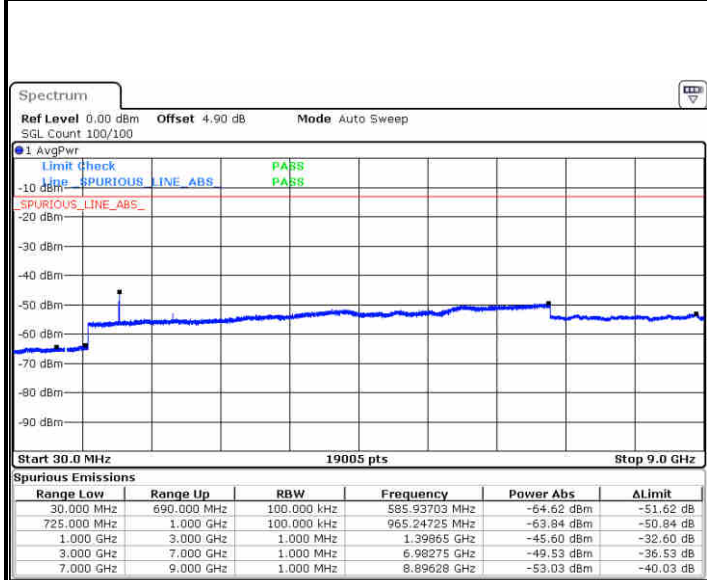


Date: 21.OCT.2019 19:19:04



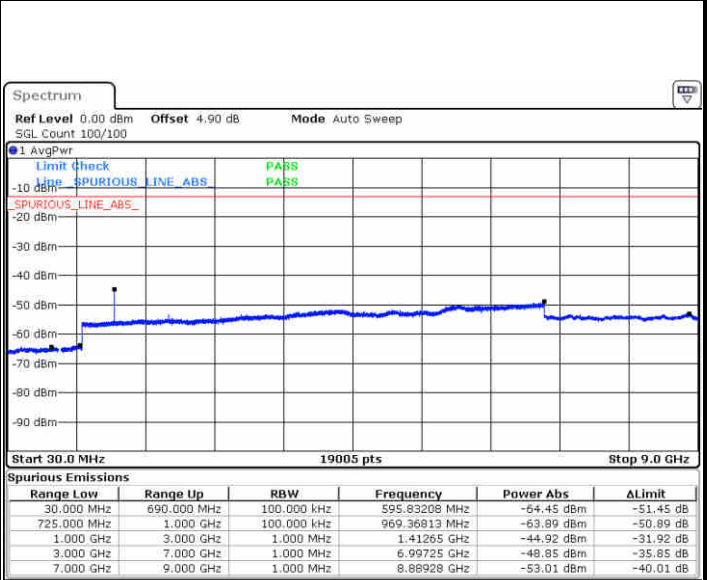
LTE Band 12 / 3MHz

Lowest Channel / 64QAM



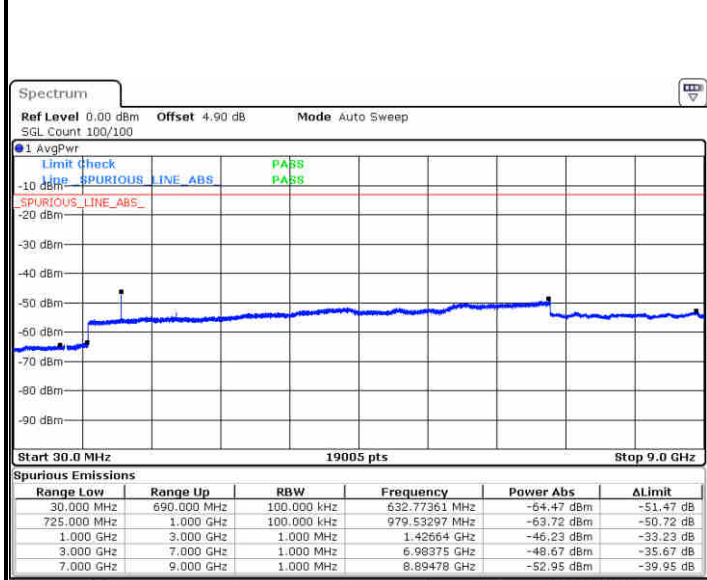
Date: 21.OCT.2019 19:19:57

Middle Channel / 64QAM



Date: 21.OCT.2019 19:20:51

Highest Channel / 64QAM

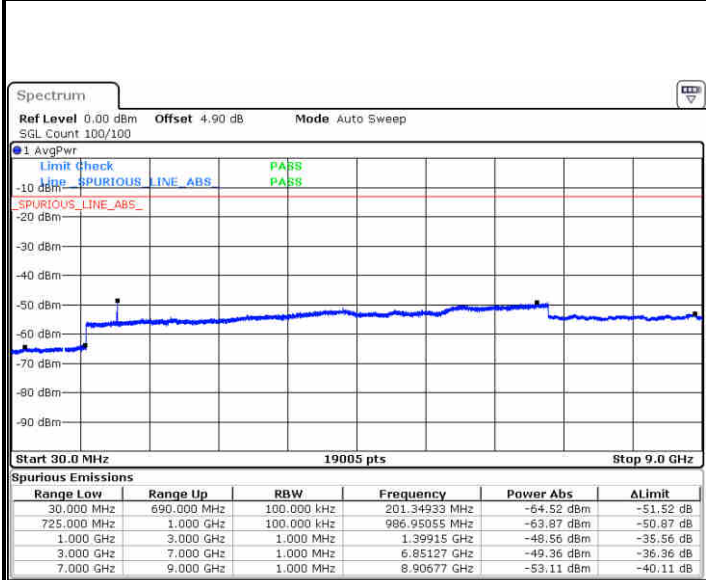


Date: 21.OCT.2019 19:21:44



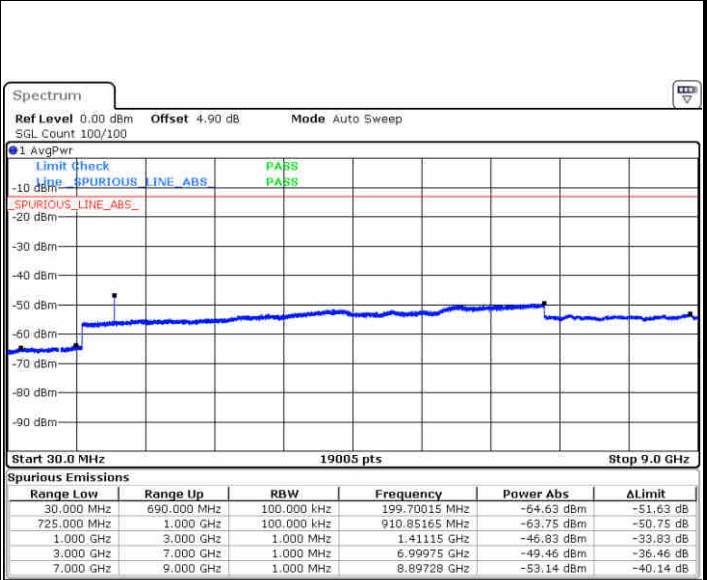
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



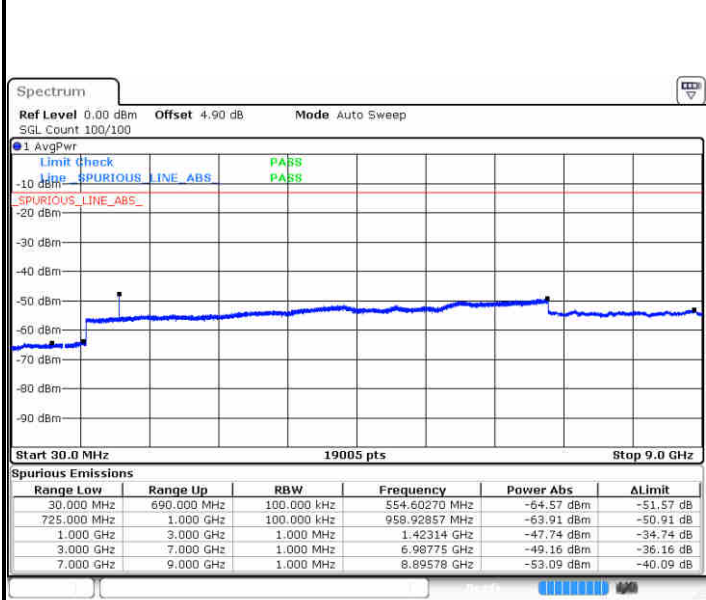
Date: 21.OCT.2019 19:37:16

Middle Channel / 64QAM



Date: 21.OCT.2019 19:38:09

Highest Channel / 64QAM

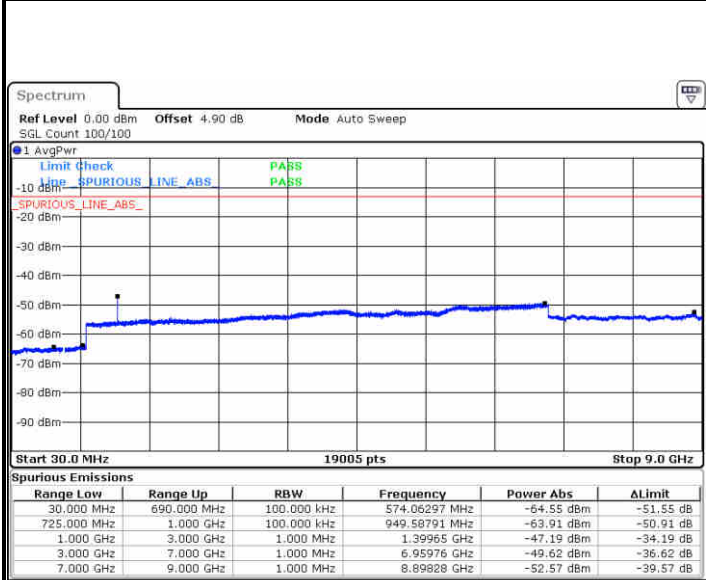


Date: 21.OCT.2019 19:39:03



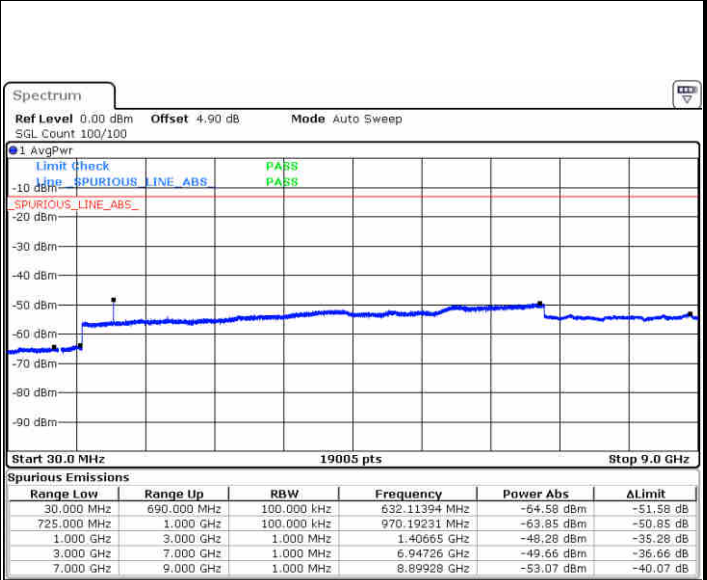
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



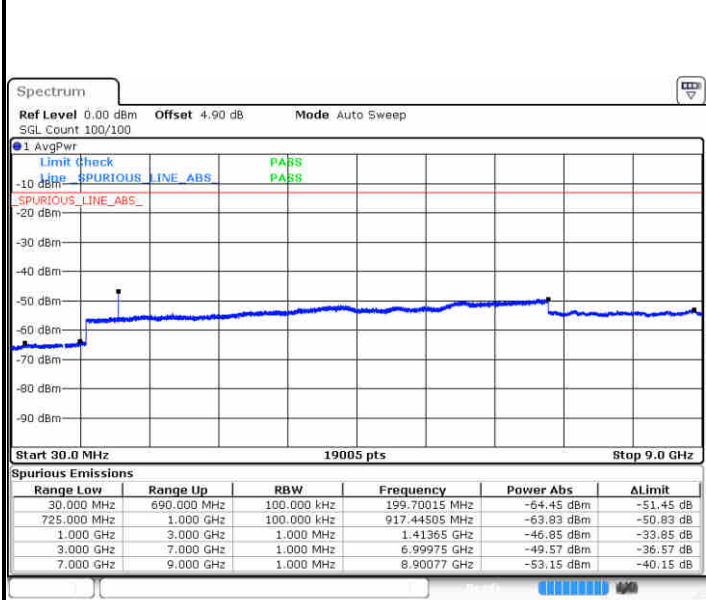
Date: 21.OCT.2019 19:39:56

Middle Channel / 64QAM



Date: 21.OCT.2019 19:40:50

Highest Channel / 64QAM



Date: 21.OCT.2019 19:41:43



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	0.0006	PASS
40	Normal Voltage	0.0018	
30	Normal Voltage	0.0085	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0096	
0	Normal Voltage	0.0000	
-10	Normal Voltage	0.0017	
-20	Normal Voltage	0.0071	
-30	Normal Voltage	0.0059	
20	Maximum Voltage	0.0017	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0099	

Note:

1. Normal Voltage =3.8 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.



LTE Band 13

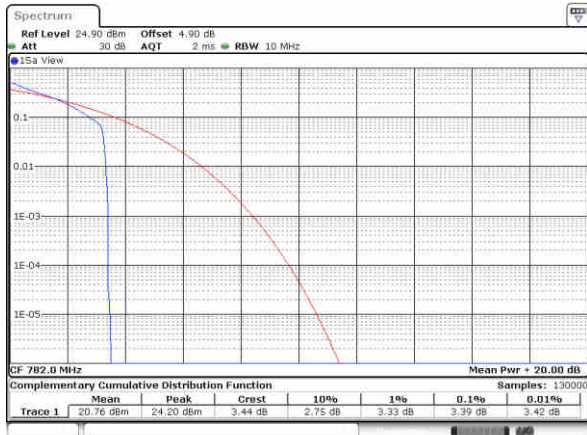
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH		-	-	-	PASS
Middle CH	3.39	4.78	4.70	6.09	
Highest CH	-	-	-	-	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH			PASS		
Middle CH	4.87	6.09			
Highest CH					



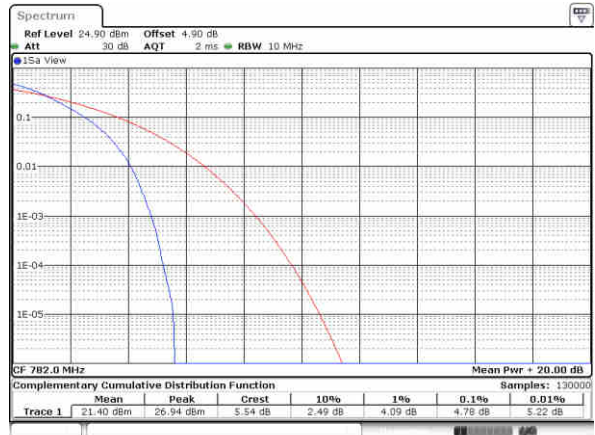
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 20.OCT.2019 06:37:01

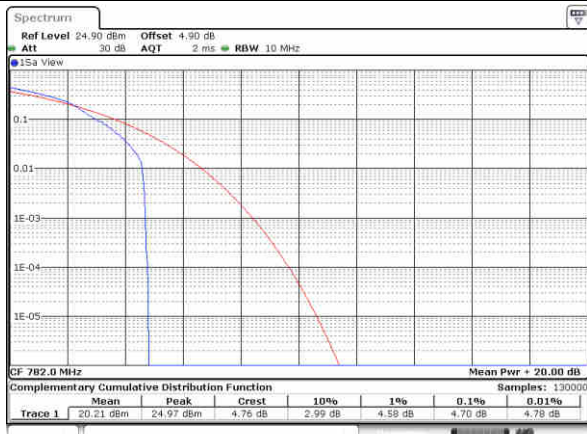
Middle Channel / Full RB



Date: 20.OCT.2019 06:38:18

LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 20.OCT.2019 06:35:04

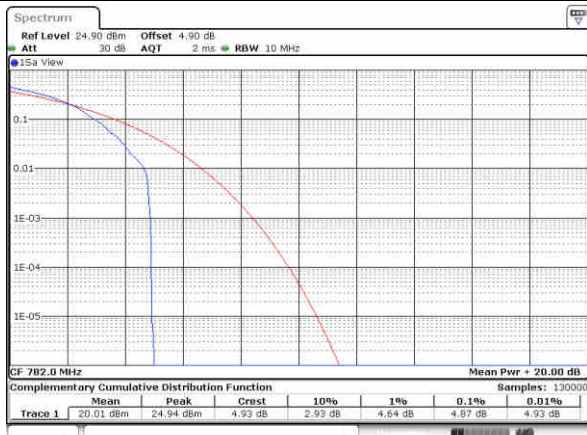
Middle Channel / Full RB



Date: 20.OCT.2019 06:38:29

LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 20.OCT.2019 06:35:16

Middle Channel / Full RB



Date: 20.OCT.2019 06:38:41



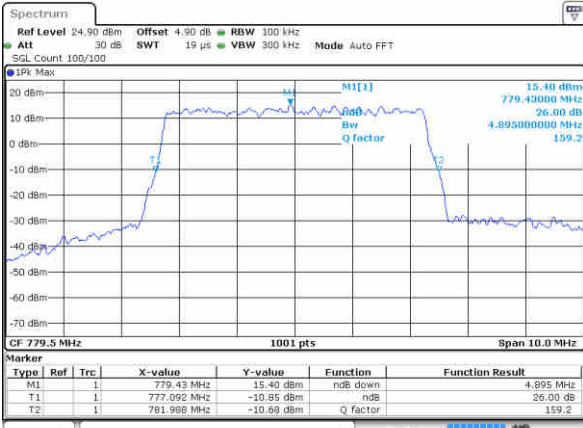
26dB Bandwidth

Mode	LTE Band 13 : 26dB BW(MHz)										
	5MHz		10MHz		5MHz	10MHz					
BW											
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM					
Lowest CH	4.895	4.955			4.905						
Middle CH	4.915	4.885	9.71	9.79	4.975	9.69					
Highest CH	4.855	4.855			4.905						



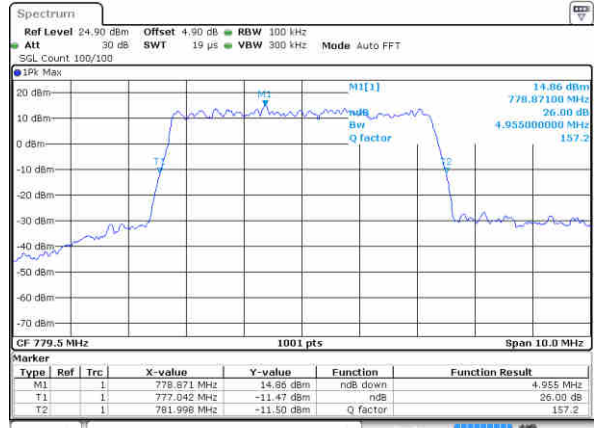
LTE Band 13

Lowest Channel / 5MHz / QPSK



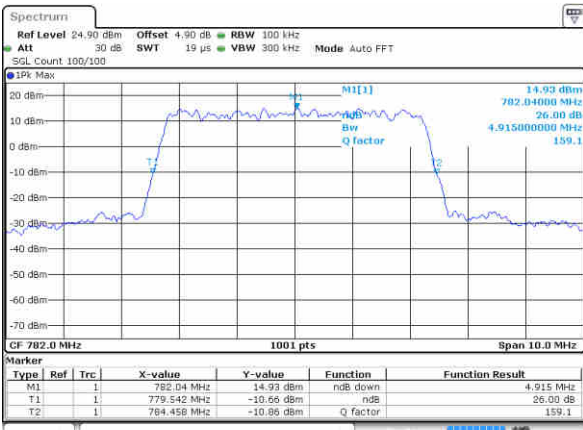
Date: 20.OCT.2019 06:44:08

Lowest Channel / 5MHz / 16QAM



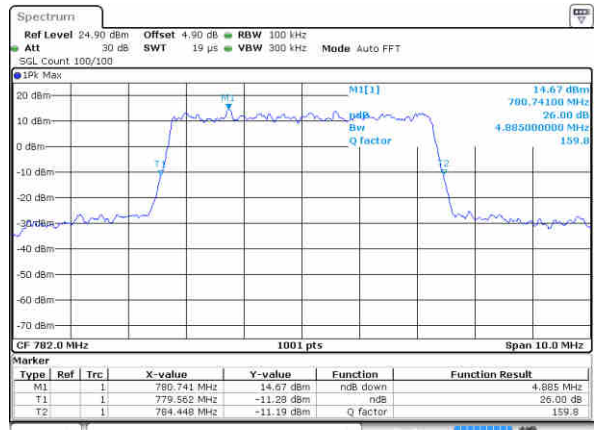
Date: 20.OCT.2019 06:44:16

Middle Channel / 5MHz / QPSK



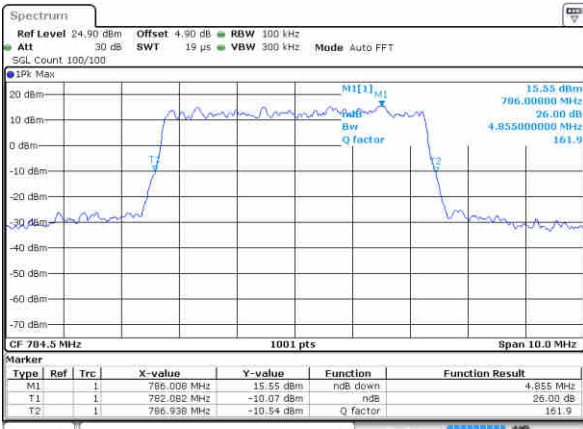
Date: 20.OCT.2019 06:51:17

Middle Channel / 5MHz / 16QAM



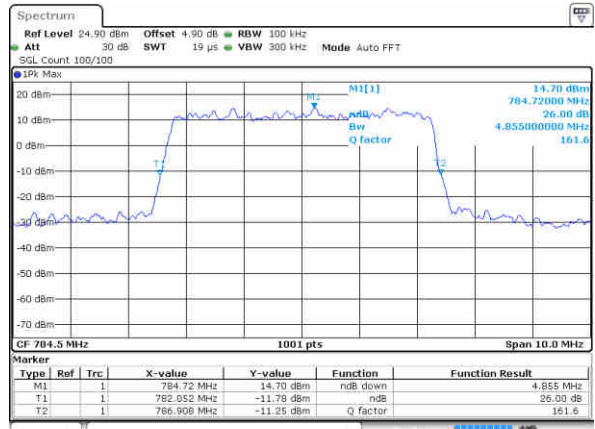
Date: 20.OCT.2019 06:51:27

Highest Channel / 5MHz / QPSK



Date: 20.OCT.2019 06:52:07

Highest Channel / 5MHz / 16QAM

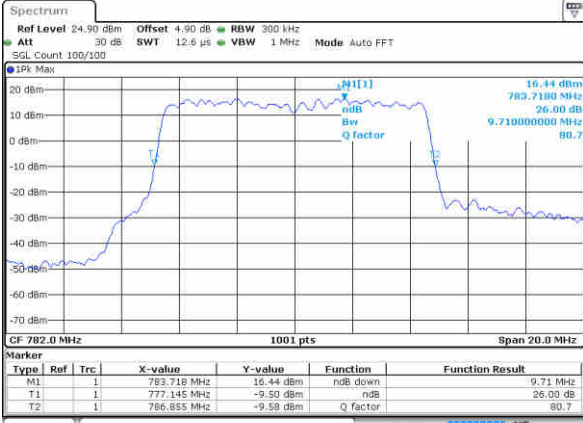


Date: 20.OCT.2019 06:51:57



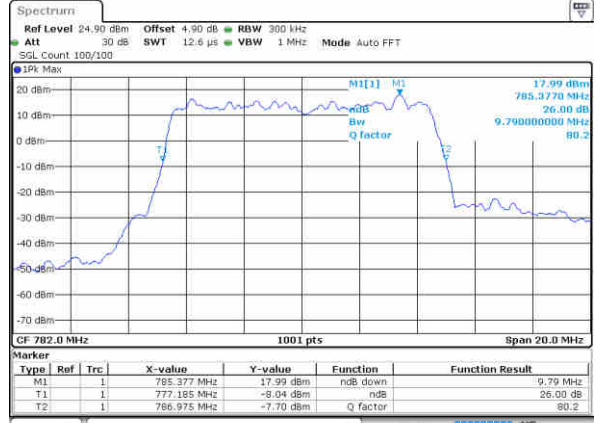
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 20.OCT.2019 06:59:18

Middle Channel / 10MHz / 16QAM

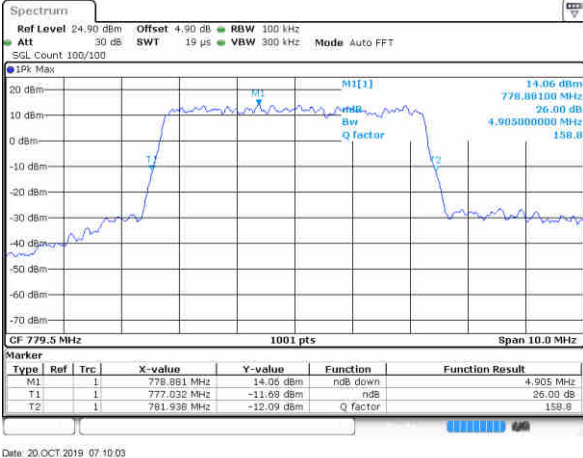


Date: 20.OCT.2019 06:59:08



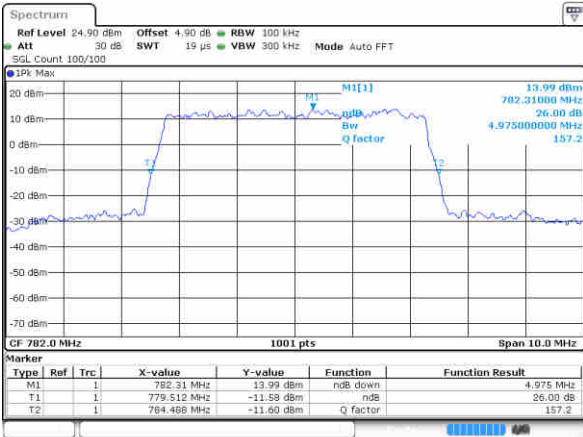
LTE Band 13

Lowest Channel / 5MHz / 64QAM



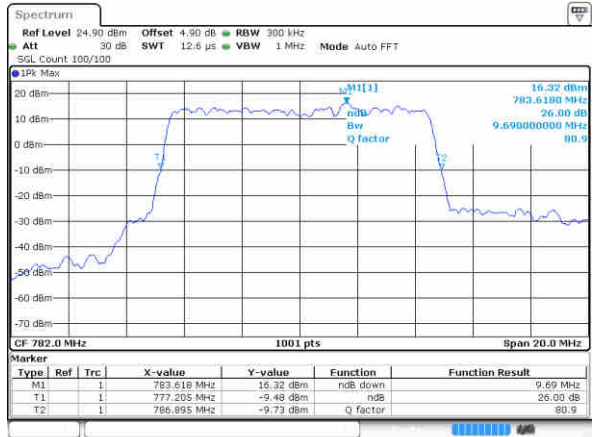
Date: 20.OCT.2019 07:10:03

Middle Channel / 5MHz / 64QAM



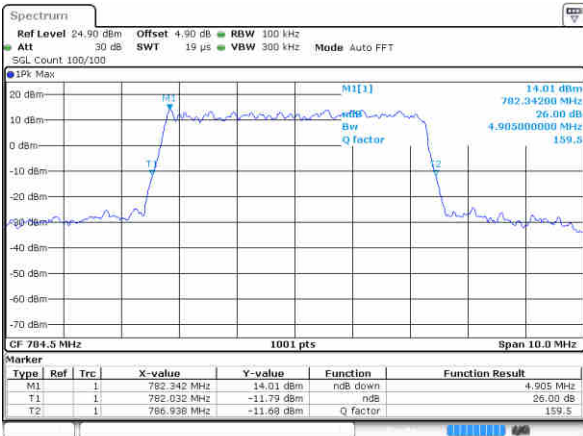
Date: 20.OCT.2019 07:10:14

Middle Channel / 10MHz / 64QAM



Date: 20.OCT.2019 07:17:14

Highest Channel / 5MHz / 64QAM



Date: 20.OCT.2019 07:10:23



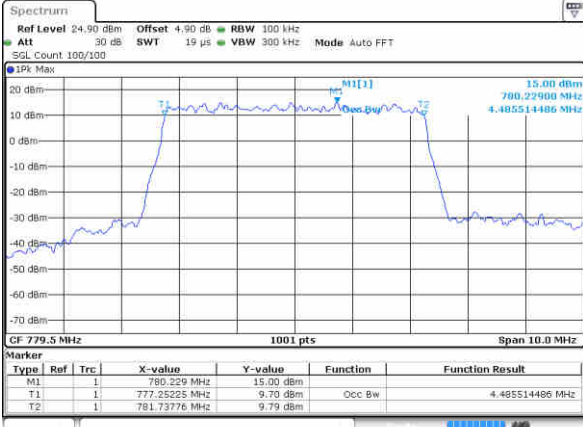
Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	5MHz		10MHz		5MHz	10MHz						
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM						
Lowest CH	4.49	4.48			4.50							
Middle CH	4.50	4.52	9.05	9.03	4.50	9.03						
Highest CH	4.50	4.48			4.50							



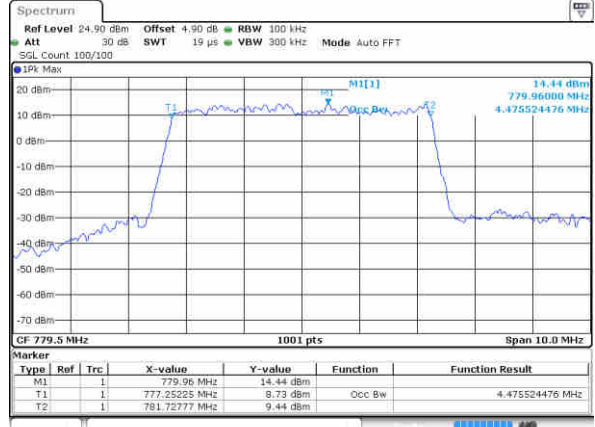
LTE Band 13

Lowest Channel / 5MHz / QPSK



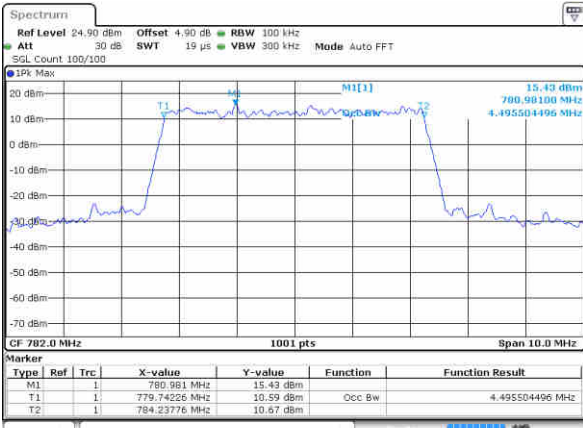
Date: 20.OCT.2019 06:44:37

Lowest Channel / 5MHz / 16QAM



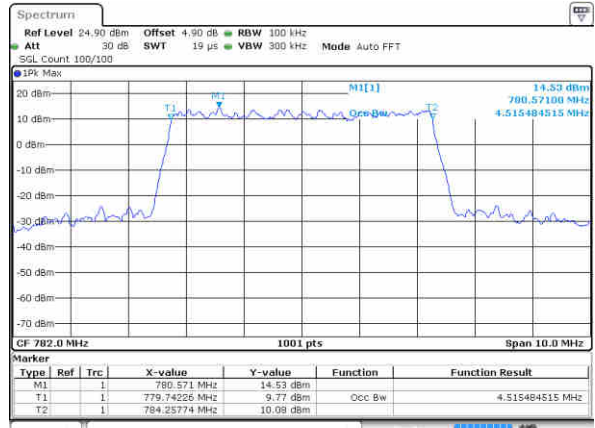
Date: 20.OCT.2019 06:44:27

Middle Channel / 5MHz / QPSK



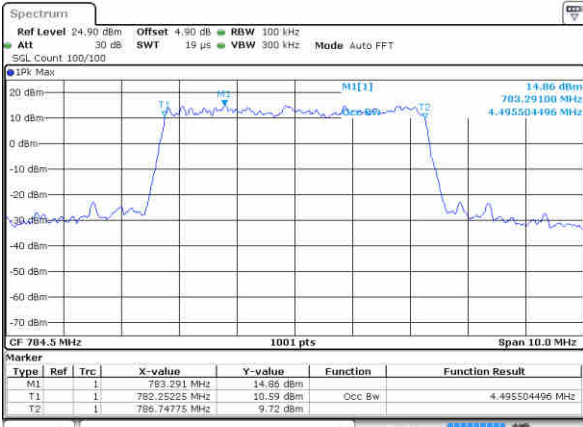
Date: 20.OCT.2019 06:51:37

Middle Channel / 5MHz / 16QAM



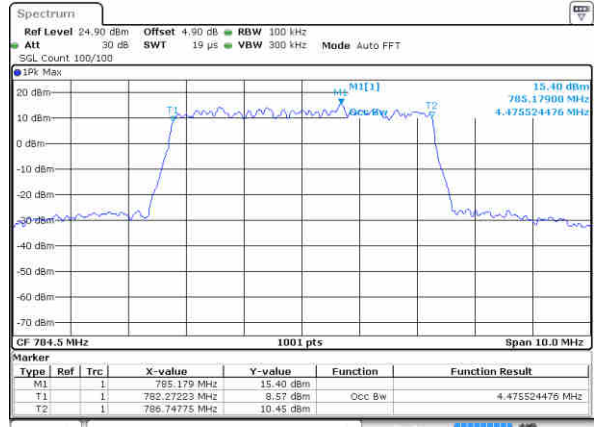
Date: 20.OCT.2019 06:51:47

Highest Channel / 5MHz / QPSK



Date: 20.OCT.2019 06:52:17

Highest Channel / 5MHz / 16QAM

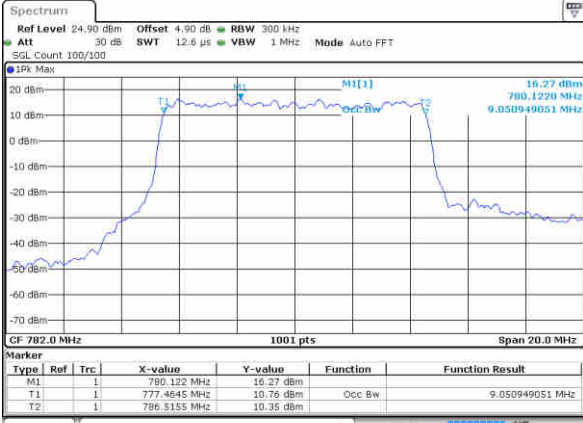


Date: 20.OCT.2019 06:52:27



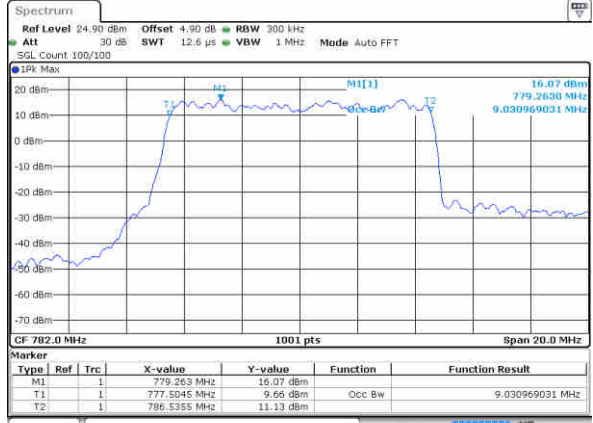
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 20.OCT.2019 06:59:28

Middle Channel / 10MHz / 16QAM

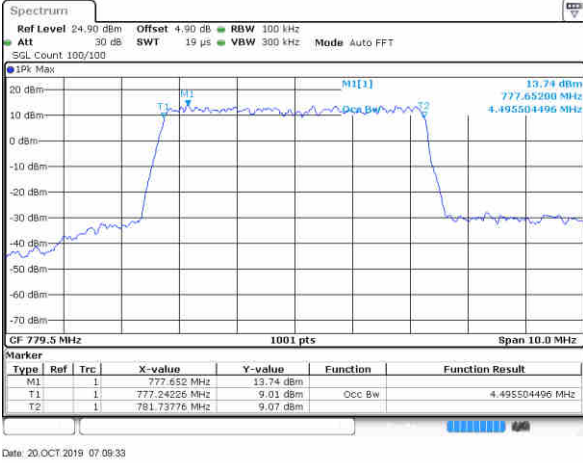


Date: 20.OCT.2019 06:59:38

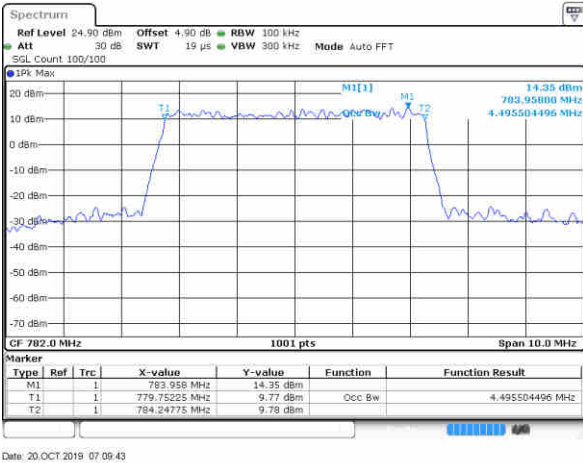


LTE Band 13

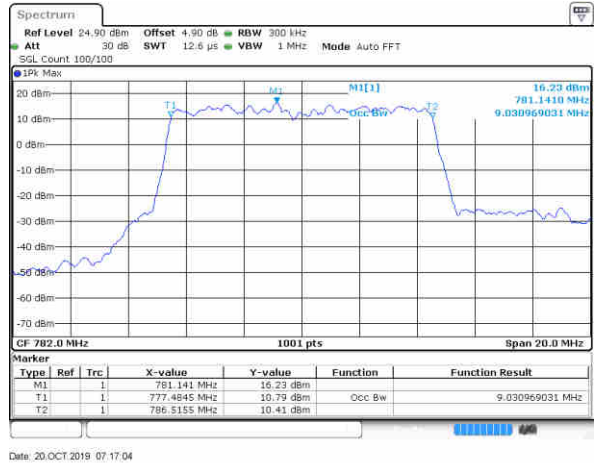
Lowest Channel / 5MHz / 64QAM



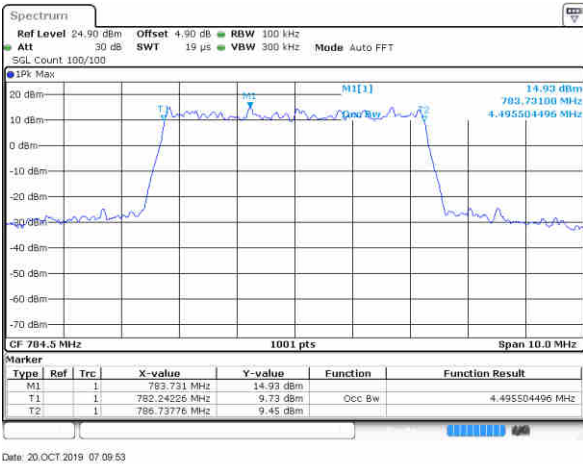
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

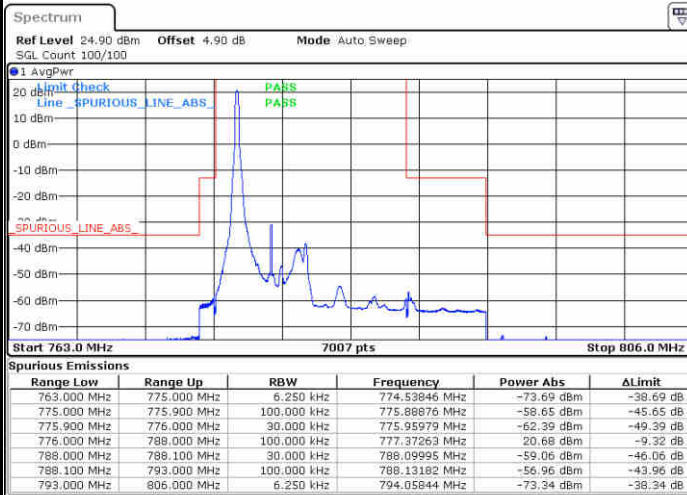




Conducted Band Edge

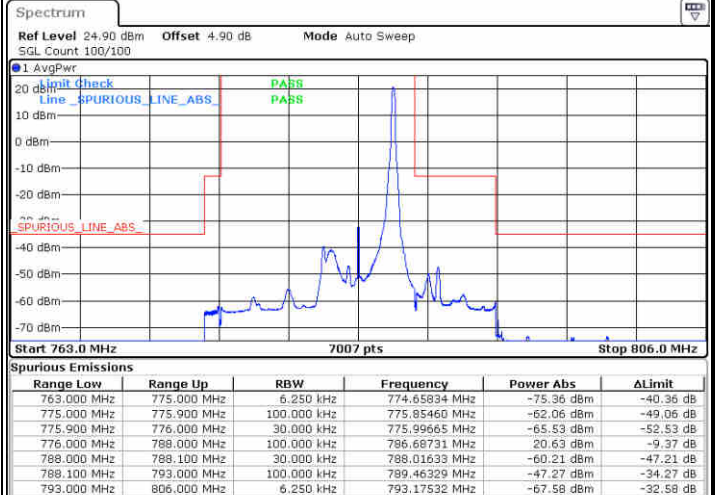
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB



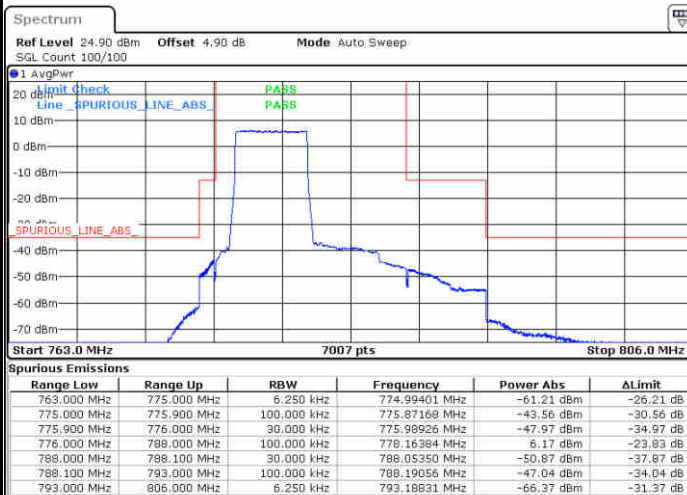
Date: 20.OCT.2019 06:49:30

Highest Band Edge / 1 RB



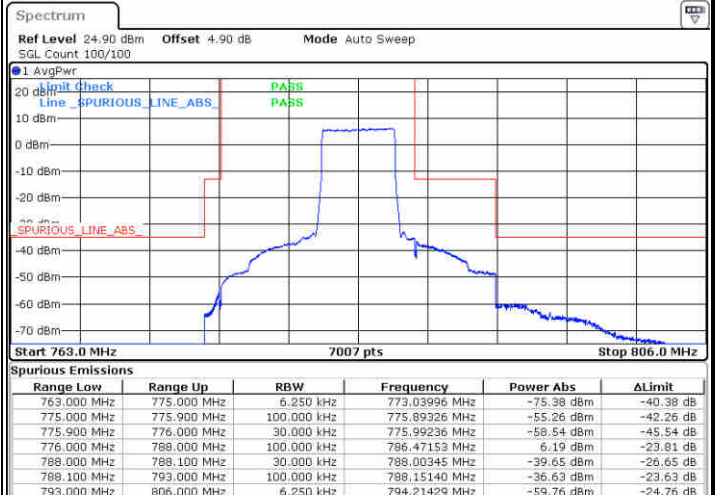
Date: 20.OCT.2019 06:57:20

Lowest Band Edge / Full RB



Date: 20.OCT.2019 06:47:52

Highest Band Edge / Full RB



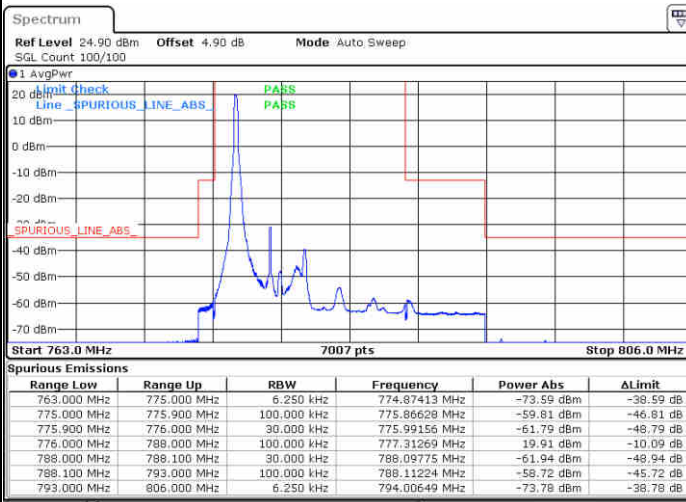
Date: 20.OCT.2019 06:55:43



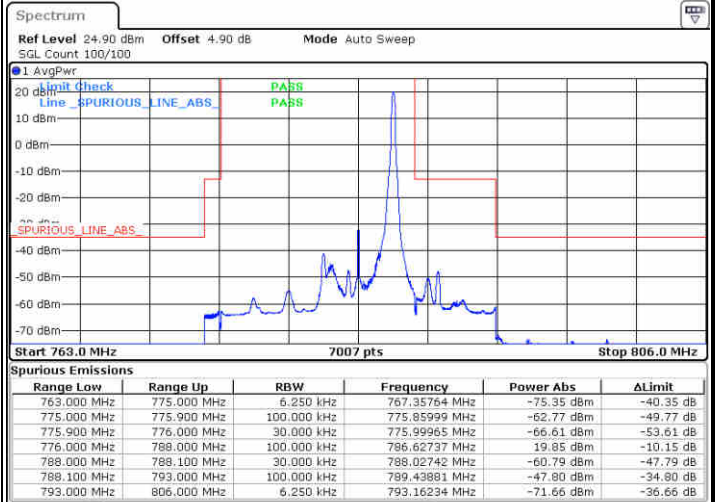
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



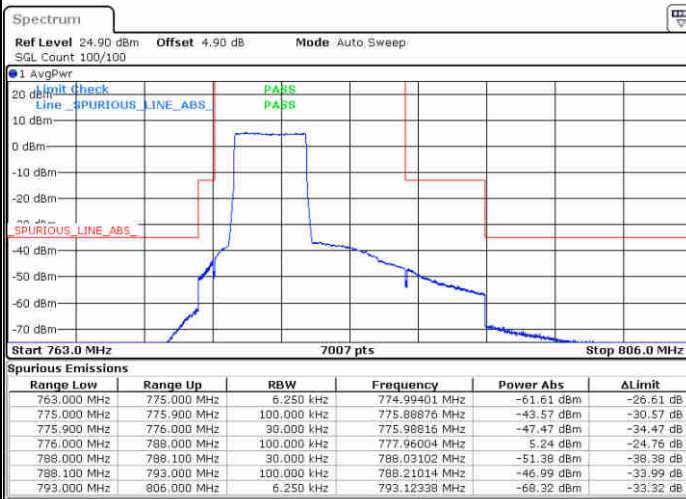
Date: 20.OCT.2019 08:51:07



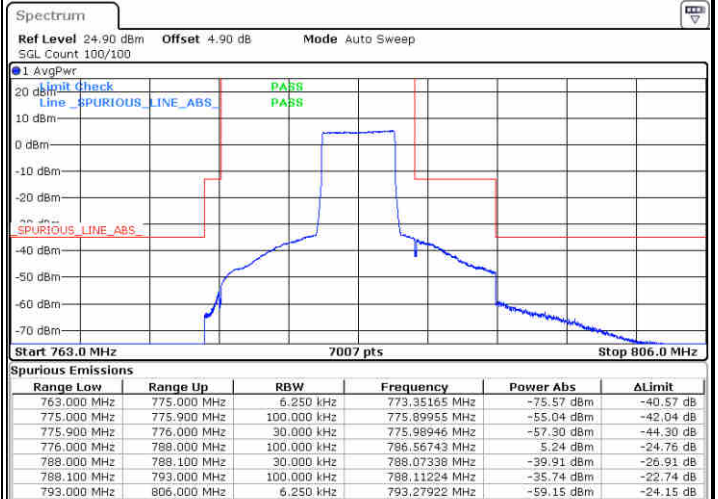
Date: 20.OCT.2019 08:58:58

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 20.OCT.2019 06:46:14



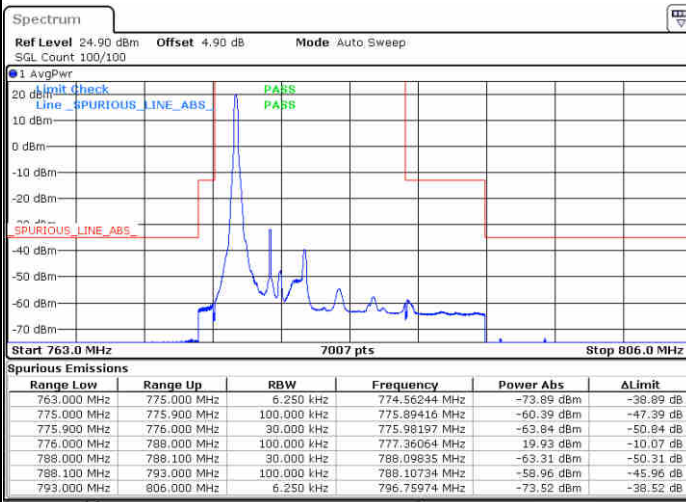
Date: 20.OCT.2019 08:54:05



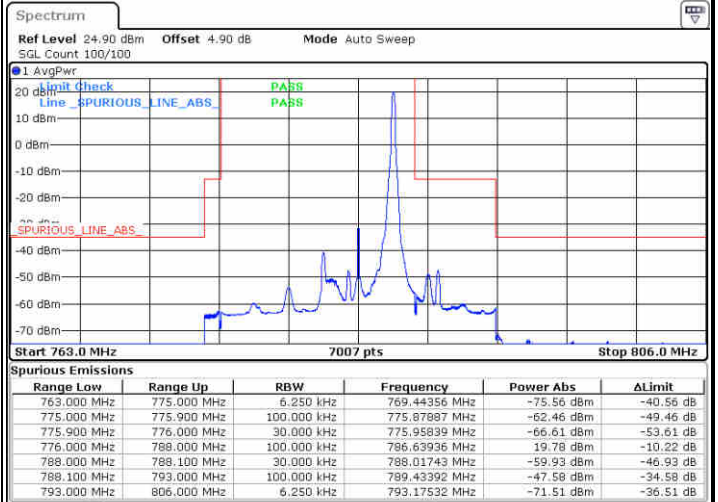
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



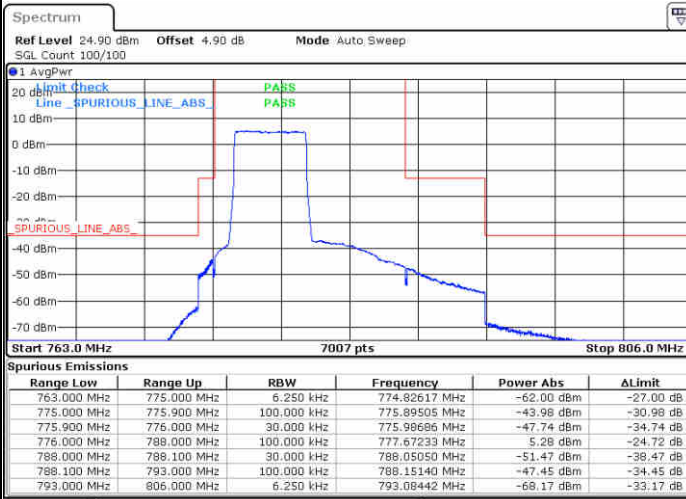
Date: 20.OCT.2019 07:12:01



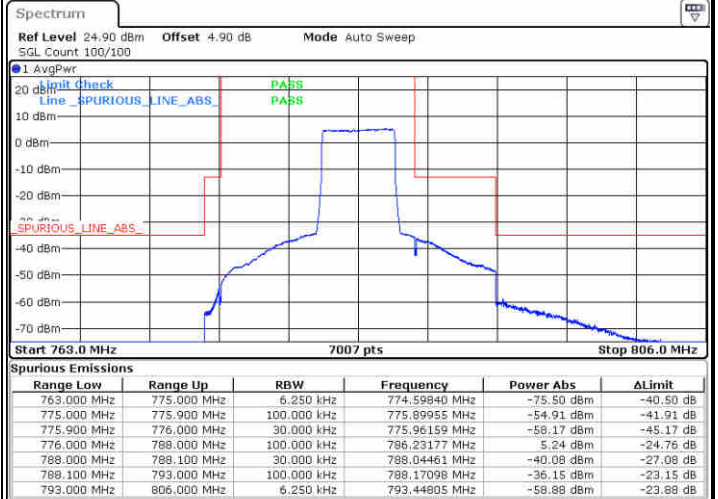
Date: 20.OCT.2019 07:16:54

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 20.OCT.2019 07:13:39

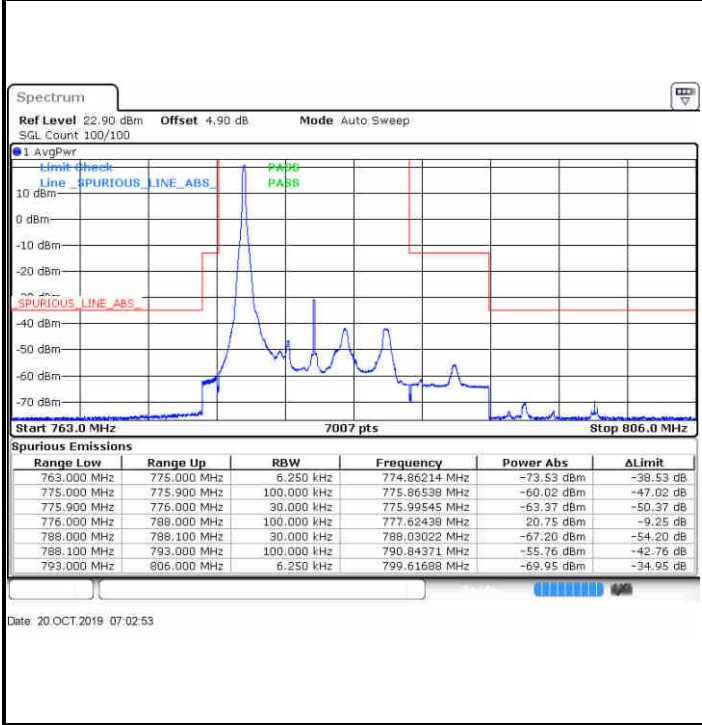


Date: 20.OCT.2019 07:15:17

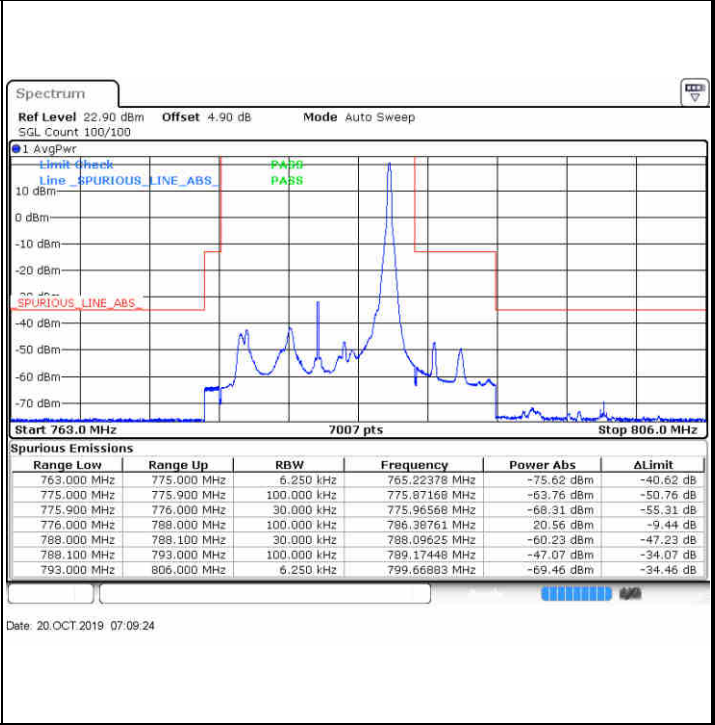


LTE Band 13 / 10MHz / QPSK

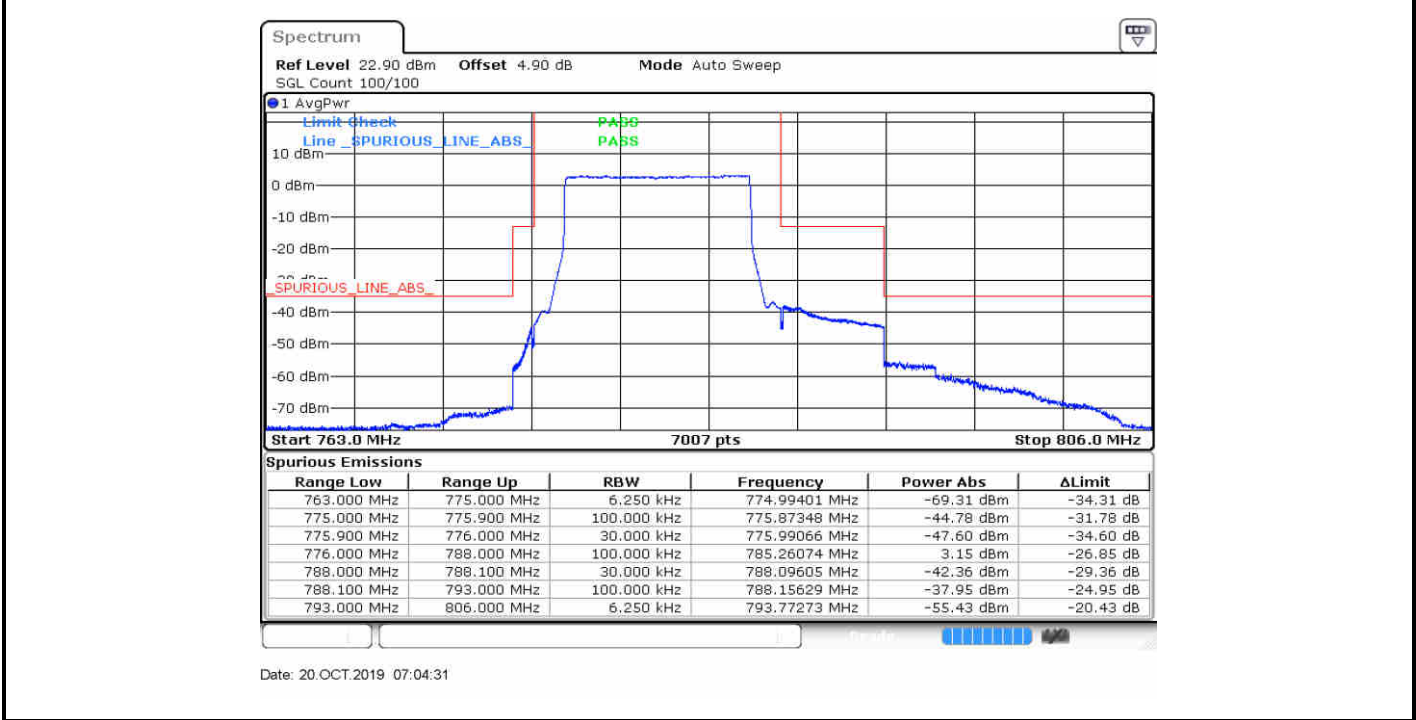
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



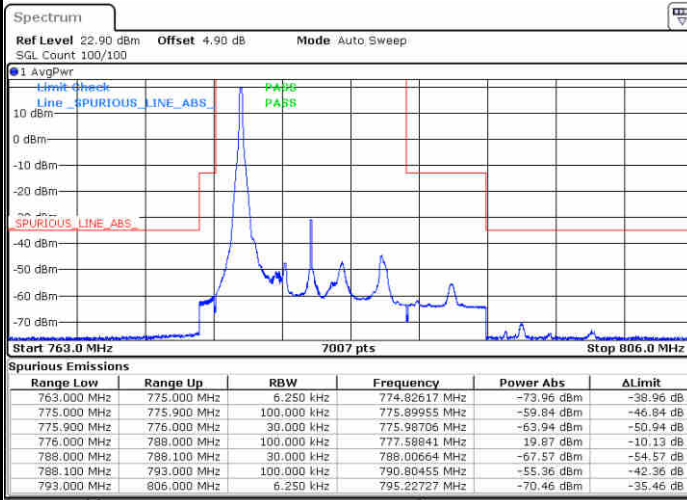
Band Edge / Full RB





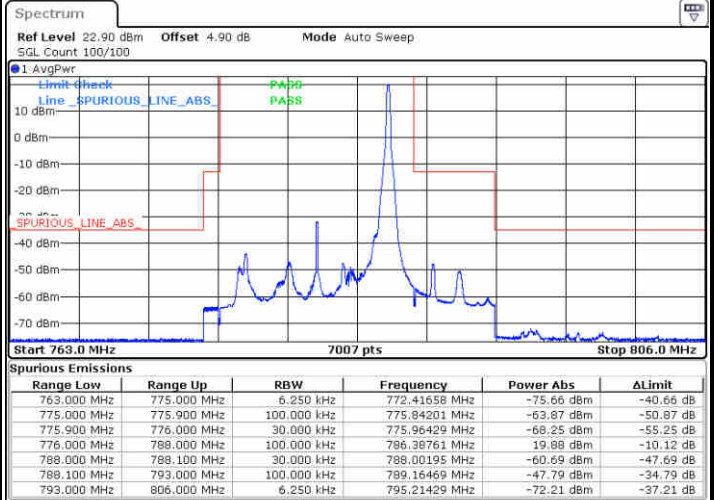
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



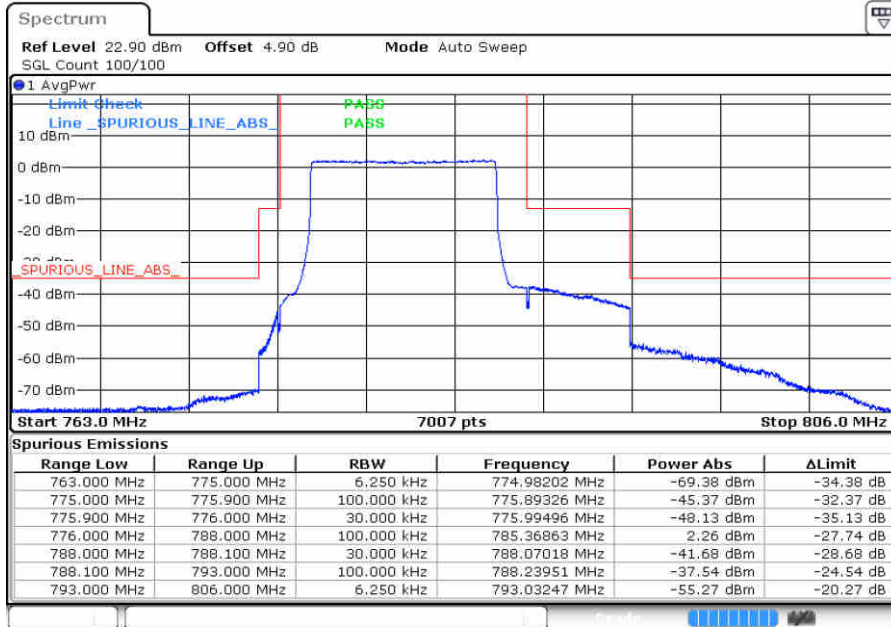
Date: 20.OCT.2019 07:01:16

Highest Band Edge / 1 RB



Date: 20.OCT.2019 07:07:46

Band Edge / Full RB

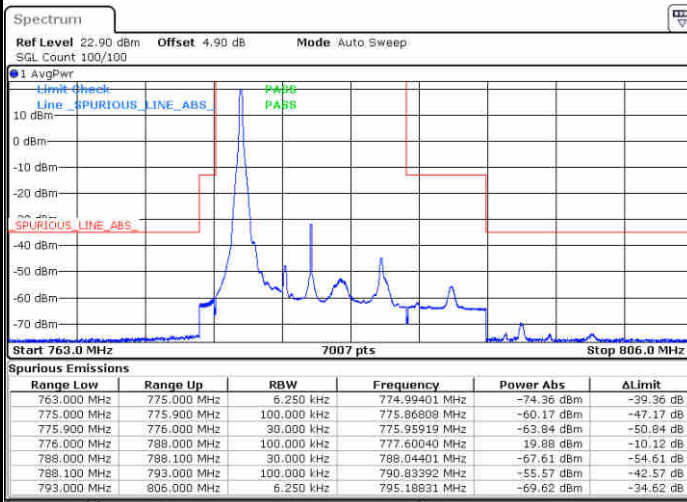


Date: 20.OCT.2019 07:06:08



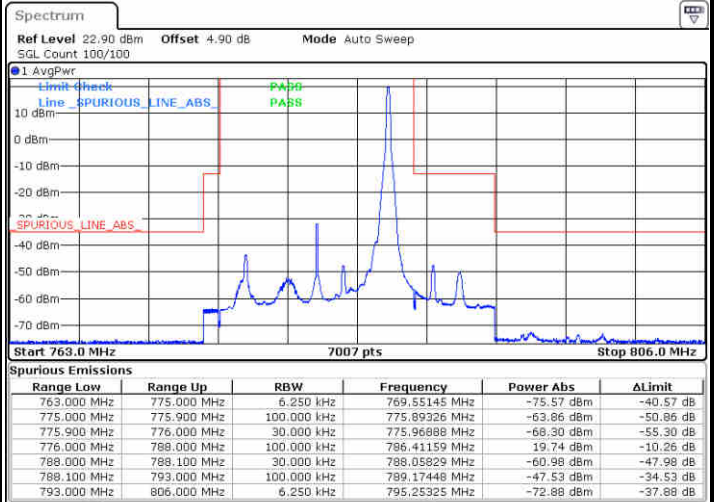
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



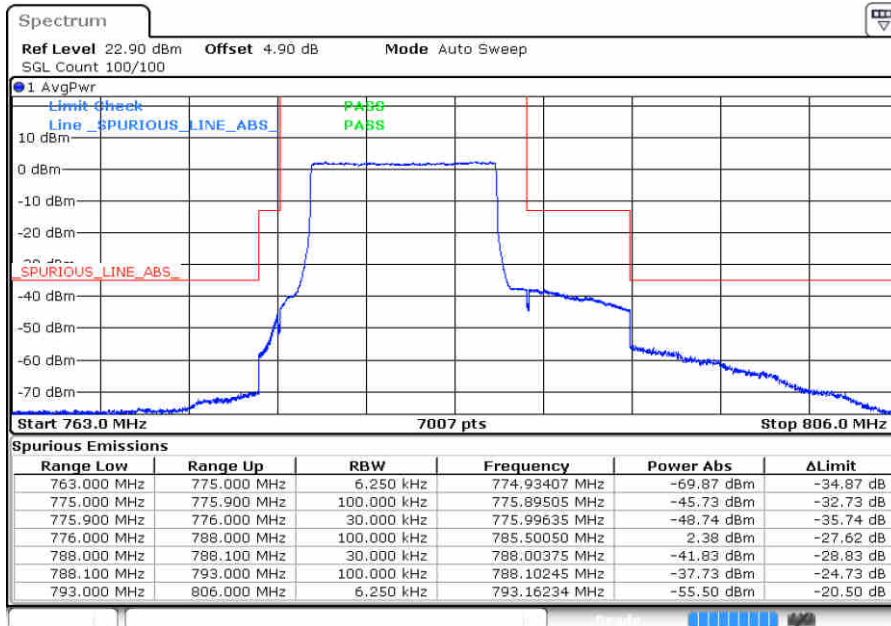
Date: 20.OCT.2019 07:18:52

Highest Band Edge / 1 RB



Date: 20.OCT.2019 07:20:29

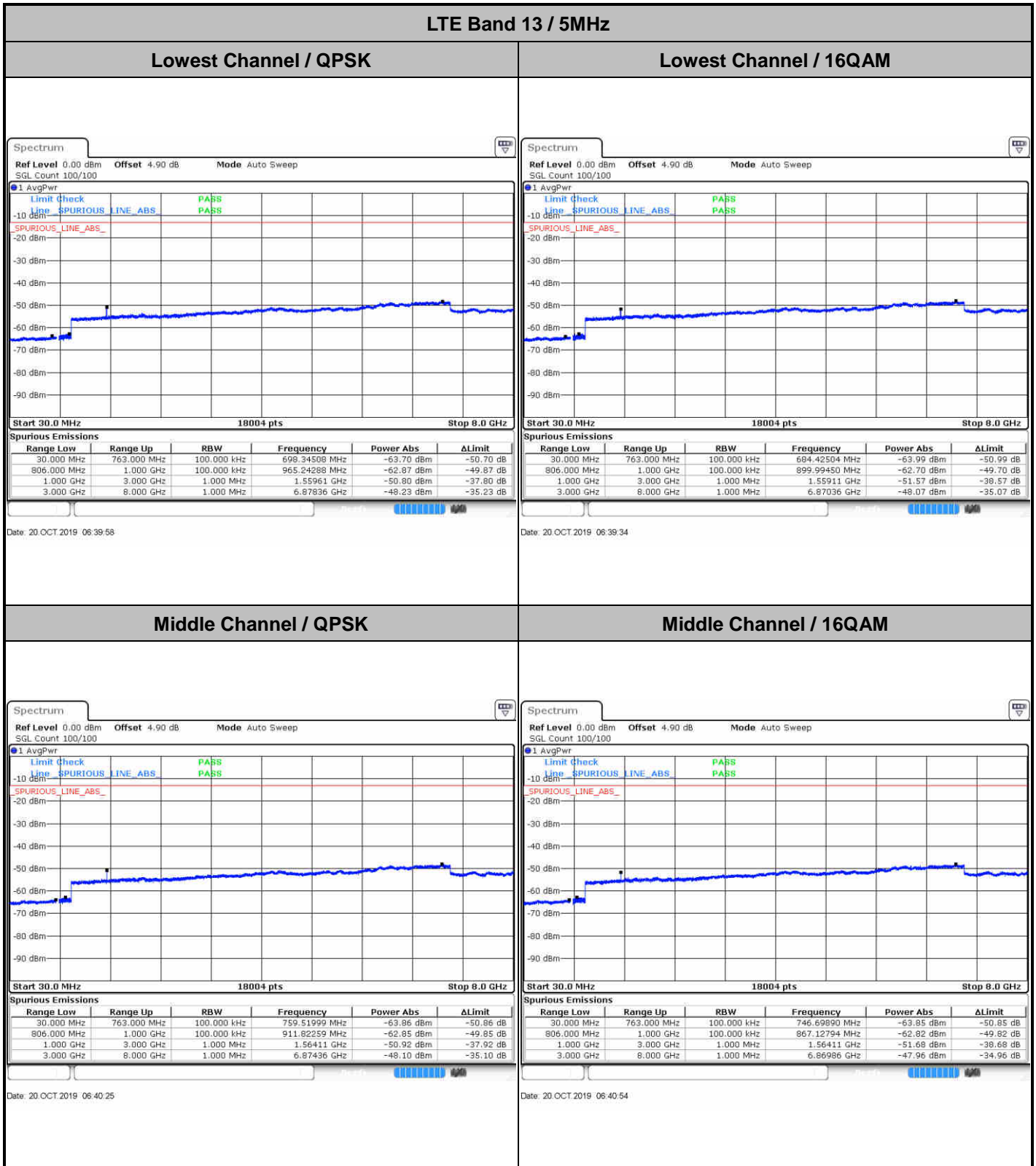
Band Edge / Full RB



Date: 20.OCT.2019 07:22:07



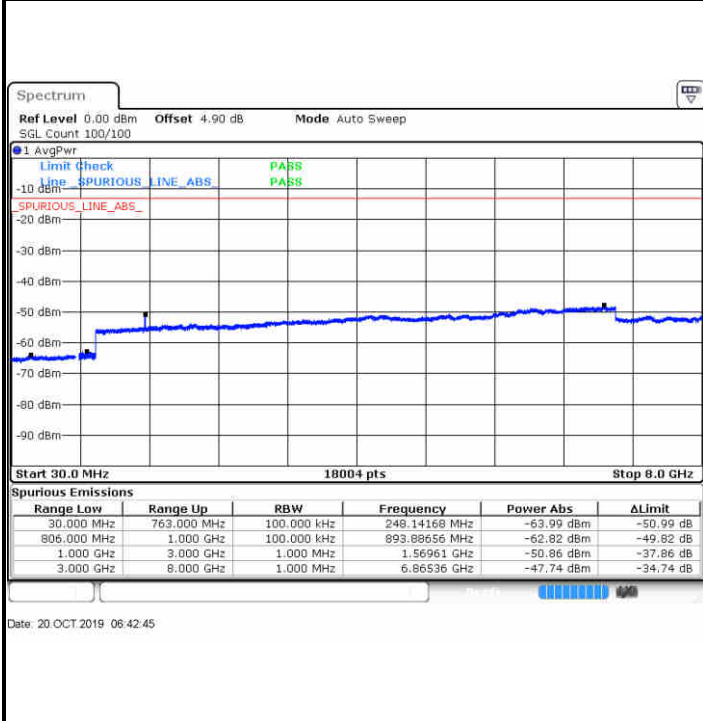
Conducted Spurious Emission



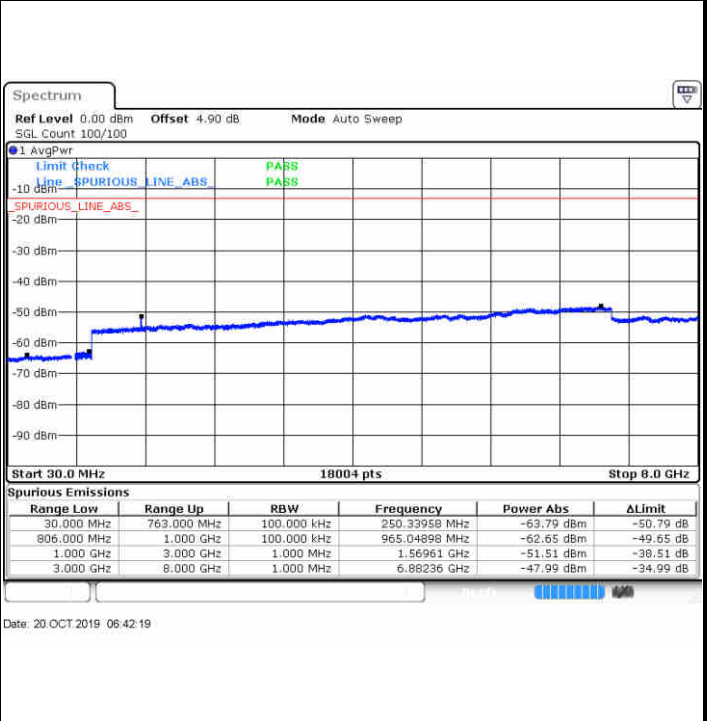


LTE Band 13 / 5MHz

Highest Channel / QPSK

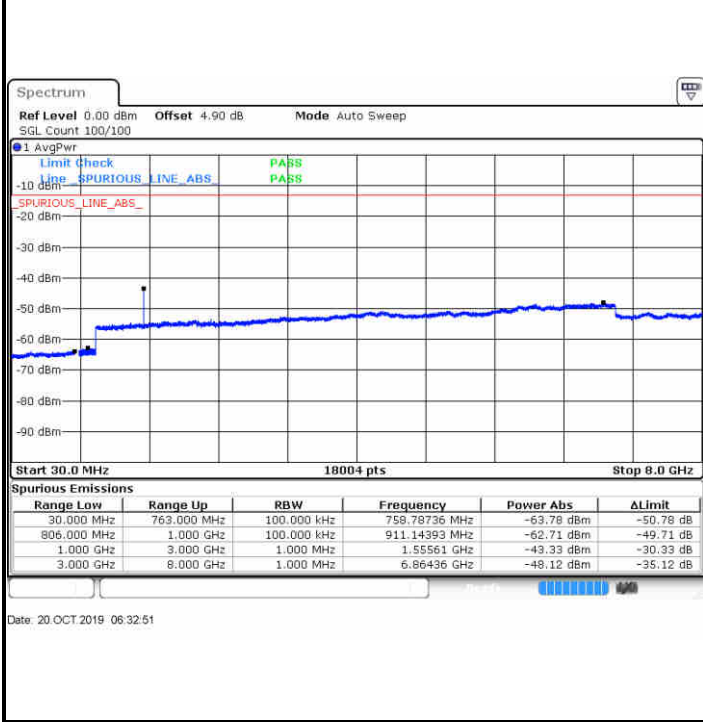


Highest Channel / 16QAM

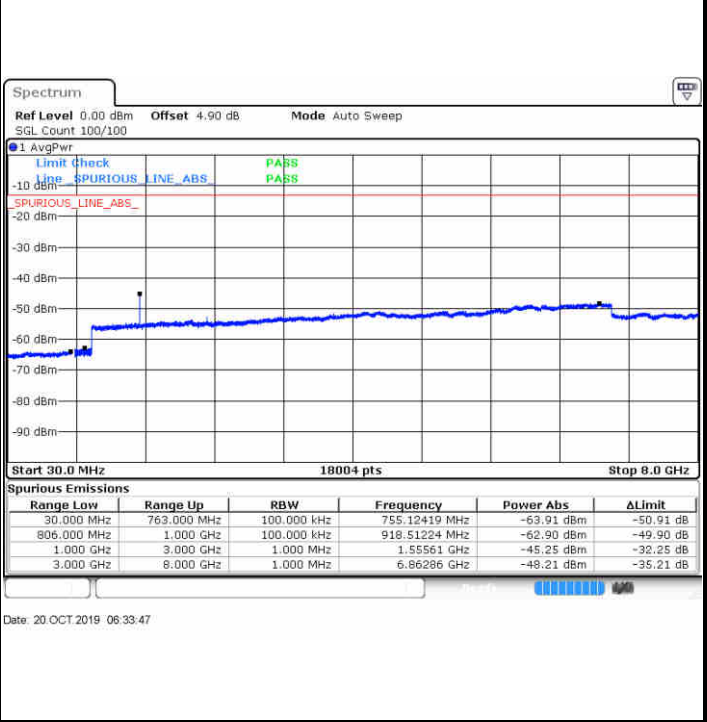


LTE Band 13 / 10MHz

Middle Channel / QPSK



Middle Channel / 16QAM

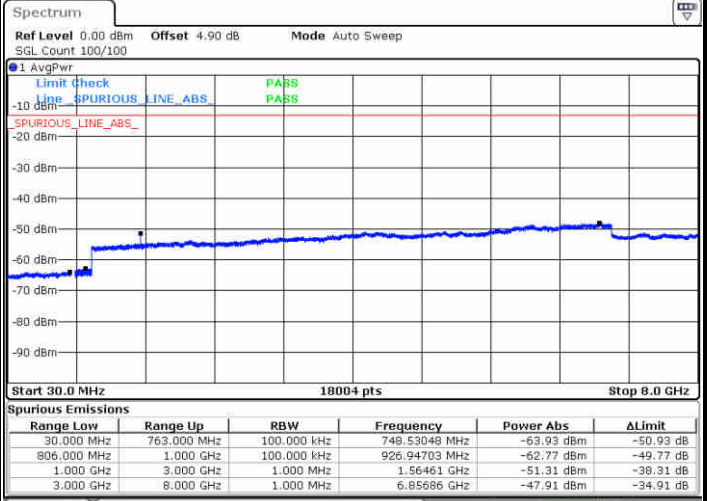
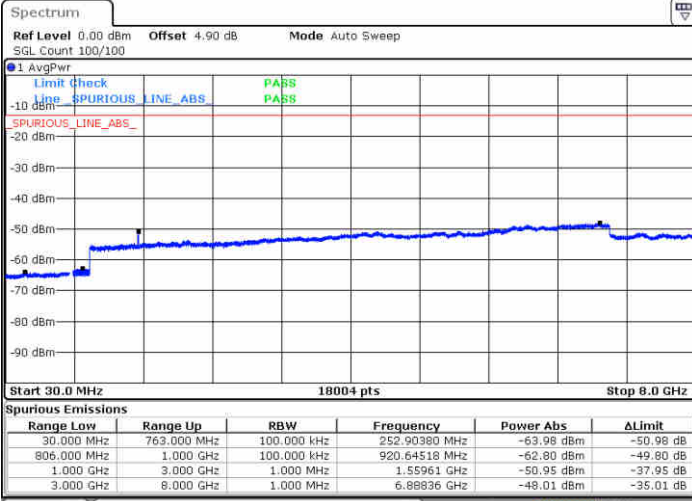




LTE Band 13 / 5MHz

Lowest Channel / 64QAM

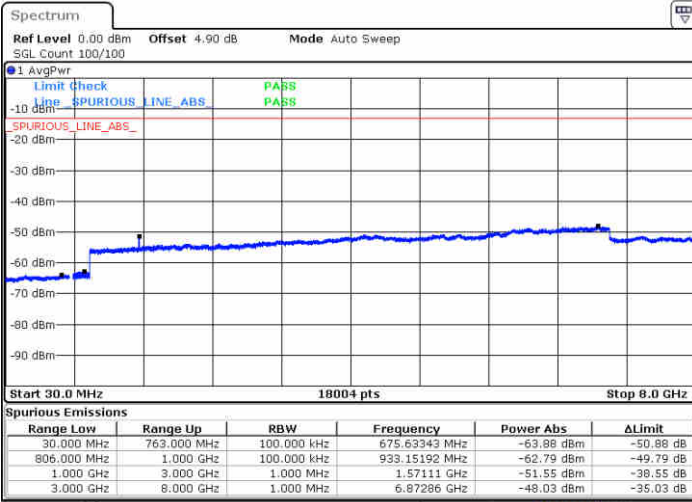
Middle Channel / 64QAM



Date: 20.OCT.2019 06:39:10

Date: 20.OCT.2019 06:41:24

Highest Channel / 64QAM

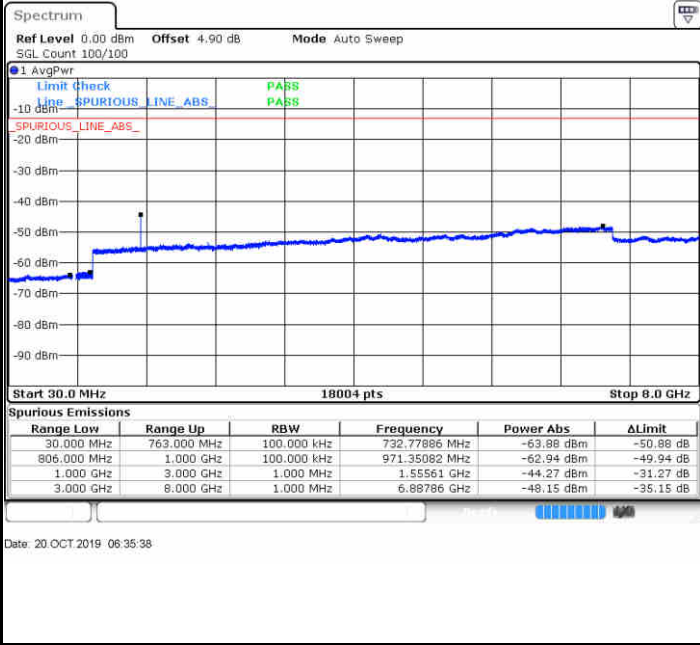


Date: 20.OCT.2019 06:41:53



LTE Band 13 / 10MHz

Middle Channel / 64QAM





Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0024	PASS
40	Normal Voltage	0.0014	
30	Normal Voltage	0.0057	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0034	
0	Normal Voltage	0.0055	
-10	Normal Voltage	0.0015	
-20	Normal Voltage	0.0078	
-30	Normal Voltage	0.0043	
20	Maximum Voltage	0.0016	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0035	

Note:

1. Normal Voltage =3.8 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.



LTE Band 25

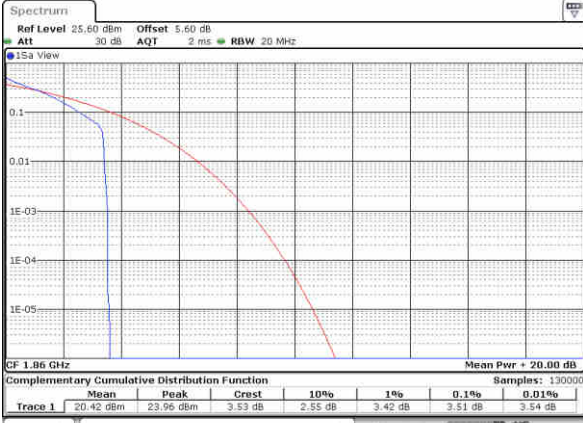
Peak-to-Average Ratio

Mode	LTE Band 25 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.51	4.81	5.45	6.12	PASS
Middle CH	3.71	4.67	5.16	6.06	
Highest CH	3.80	4.64	5.83	6.12	
Mode	LTE Band 25 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.64	6.67			PASS
Middle CH	6.64	6.52			
Highest CH	6.58	6.64			



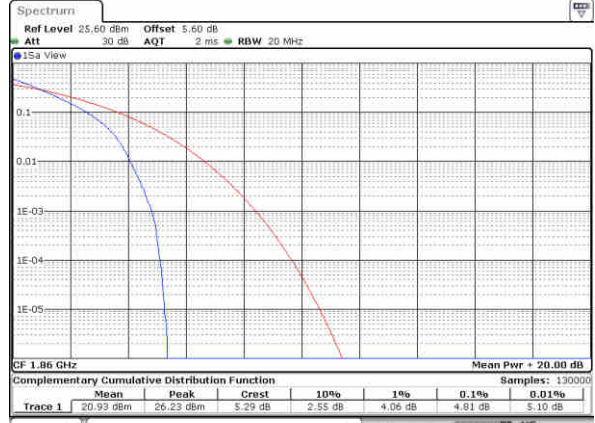
LTE Band 25 / 20MHz / QPSK

Lowest Channel / 1RB



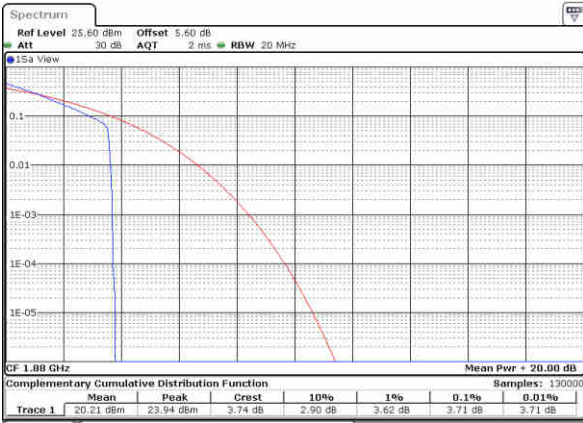
Date: 22.OCT.2019 02:29:38

Lowest Channel / Full RB



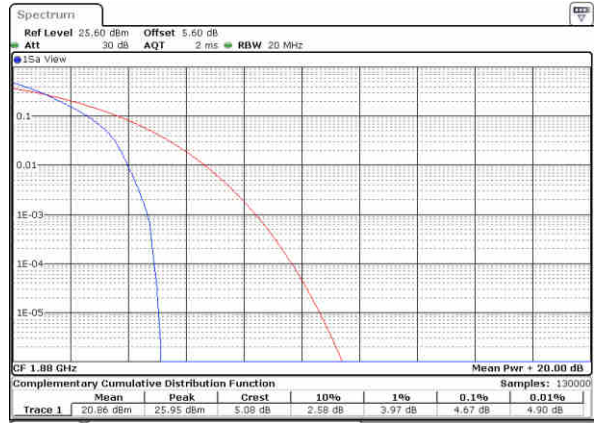
Date: 22.OCT.2019 02:30:42

Middle Channel / 1RB



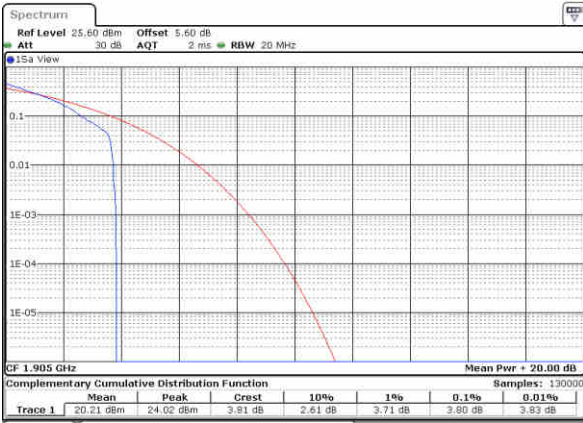
Date: 22.OCT.2019 02:31:45

Middle Channel / Full RB



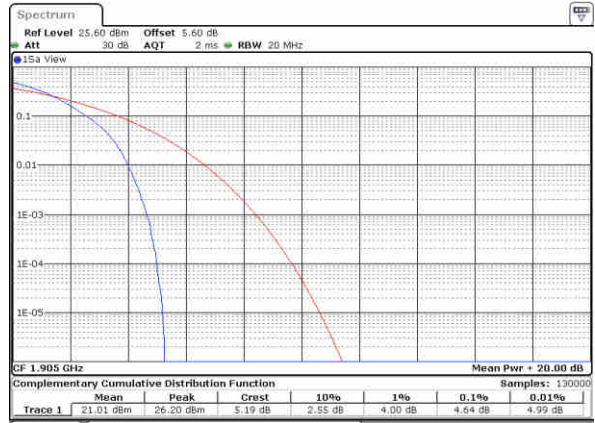
Date: 22.OCT.2019 02:30:53

Highest Channel / 1RB



Date: 22.OCT.2019 02:31:55

Highest Channel / Full RB



Date: 22.OCT.2019 02:32:51



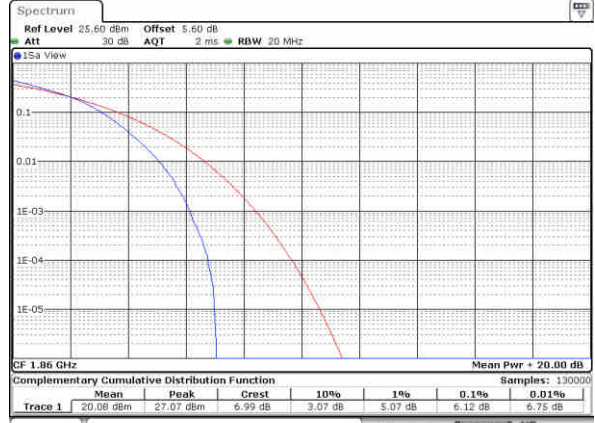
LTE Band 25 / 20MHz / 16QAM

Lowest Channel / 1RB



Date: 22.OCT.2019 02:29:51

Lowest Channel / Full RB



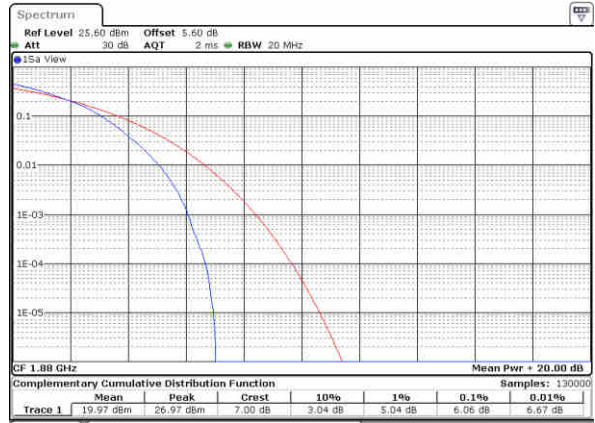
Date: 22.OCT.2019 02:30:29

Middle Channel / 1RB



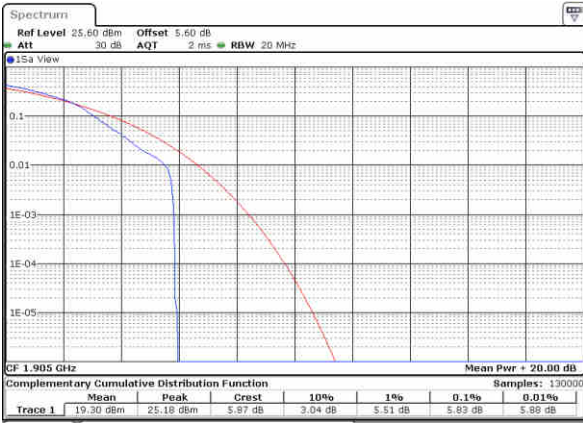
Date: 22.OCT.2019 02:31:31

Middle Channel / Full RB



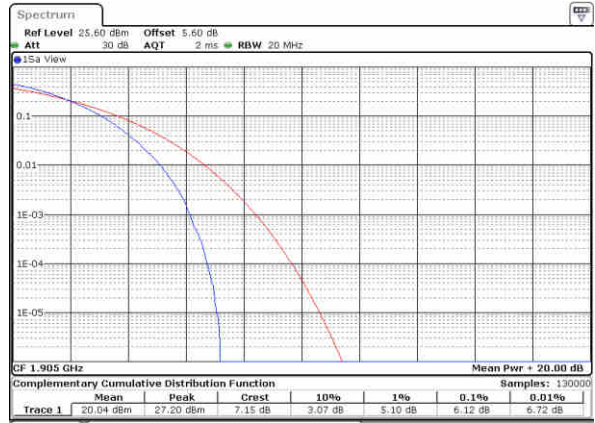
Date: 22.OCT.2019 02:31:04

Highest Channel / 1RB



Date: 22.OCT.2019 02:32:05

Highest Channel / Full RB



Date: 22.OCT.2019 02:32:39