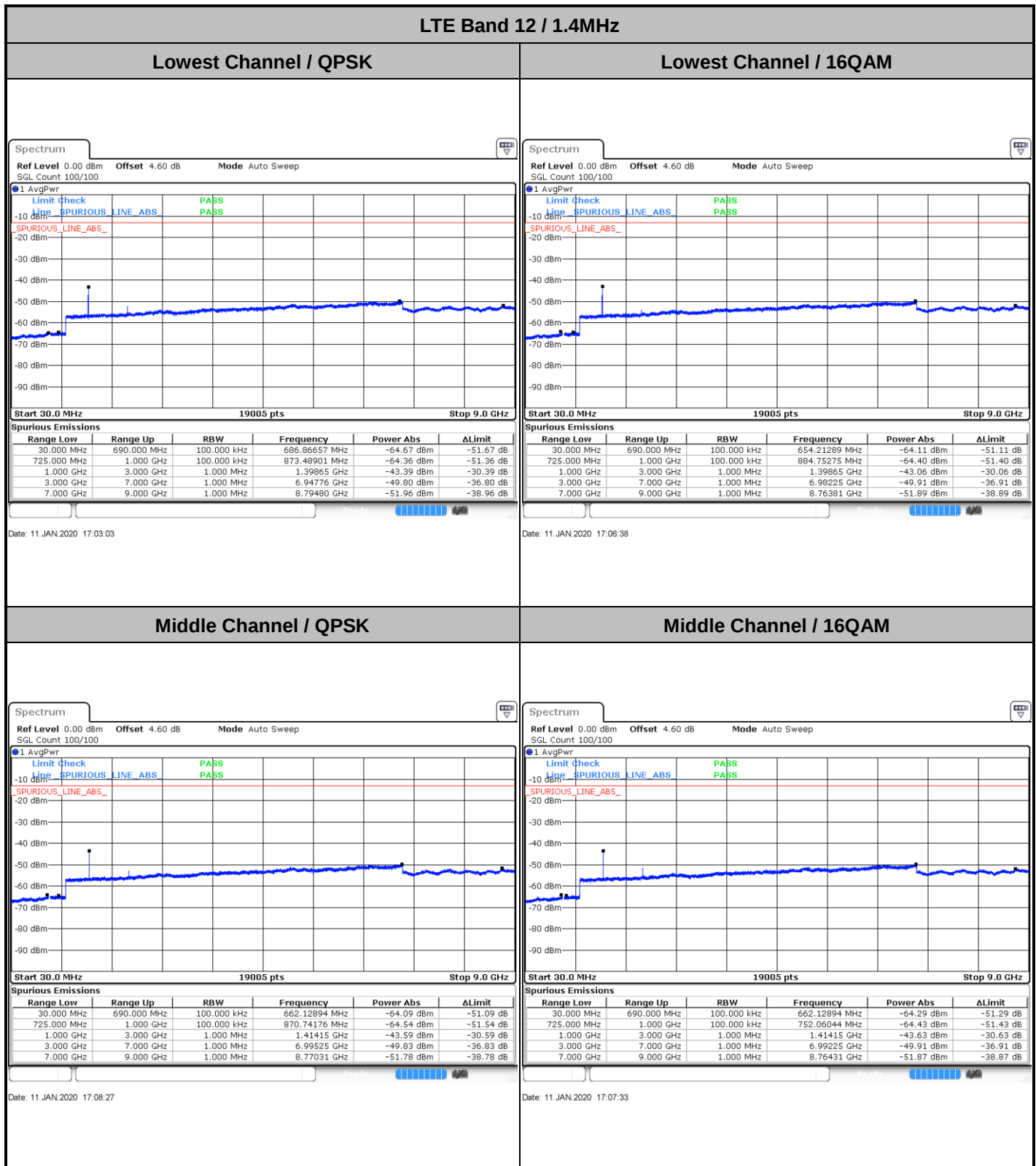




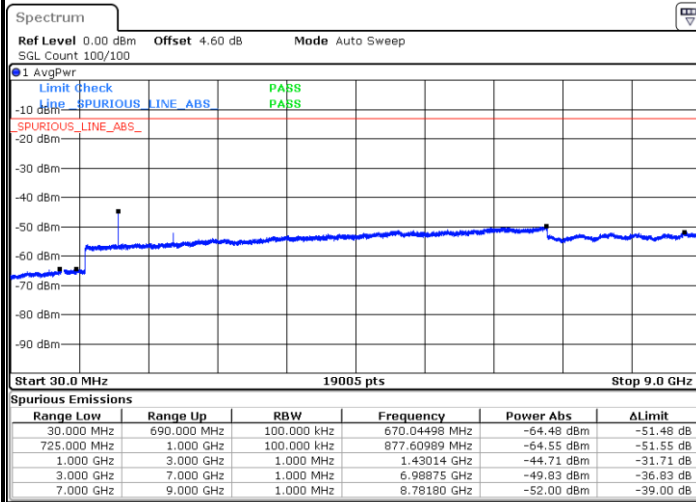
Conducted Spurious Emission





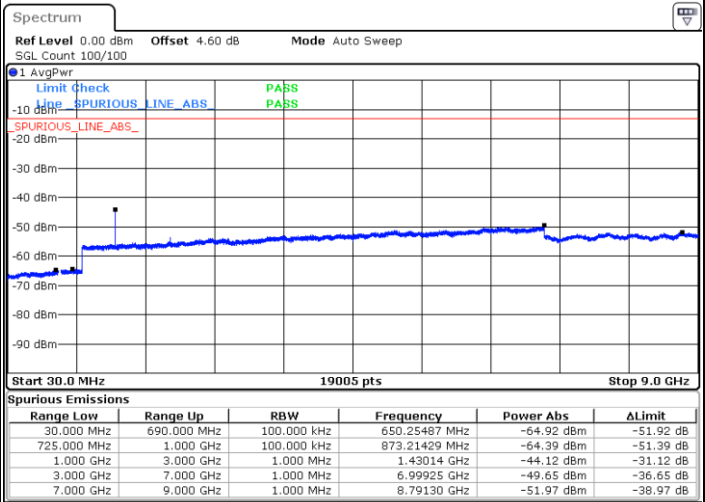
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 11.JAN.2020 17:09:22

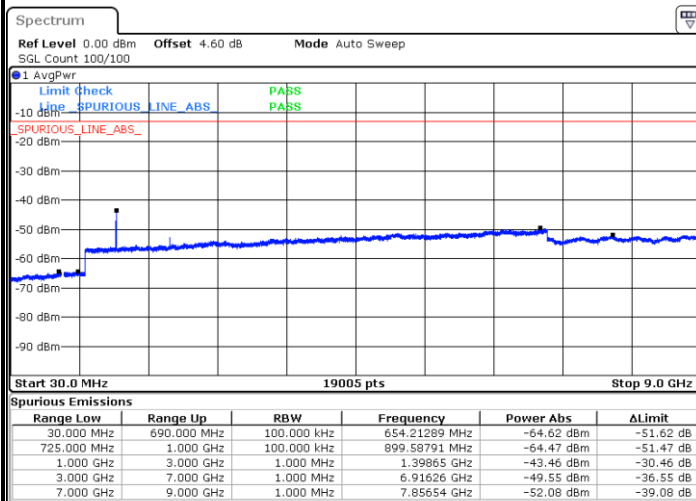
Highest Channel / 16QAM



Date: 11.JAN.2020 17:10:16

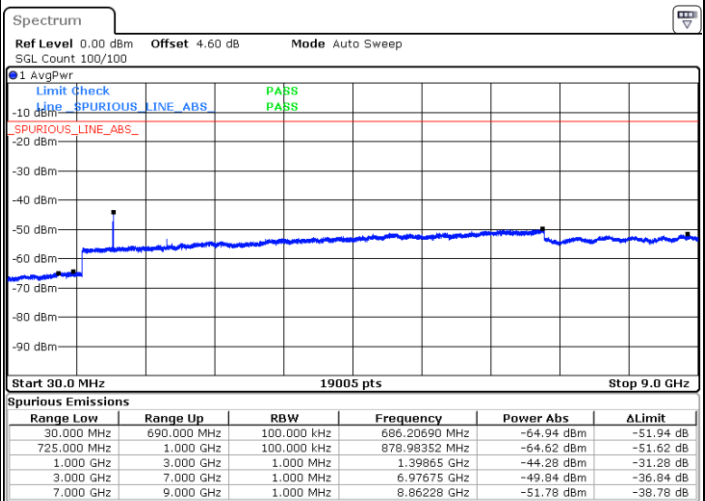
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 11.JAN.2020 17:22:11

Lowest Channel / 16QAM

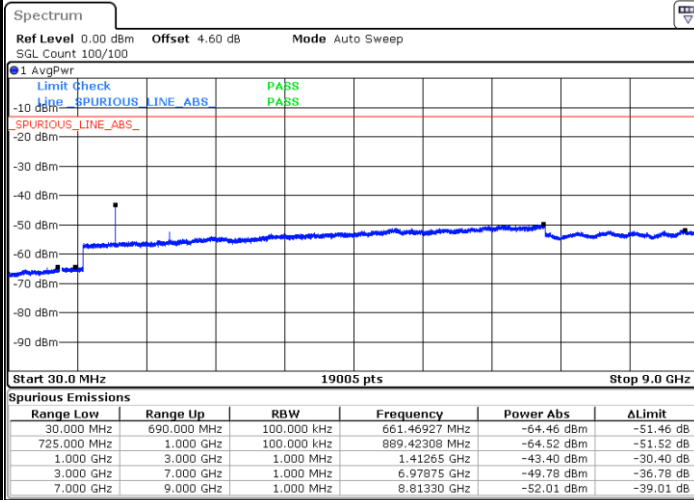


Date: 11.JAN.2020 17:23:05



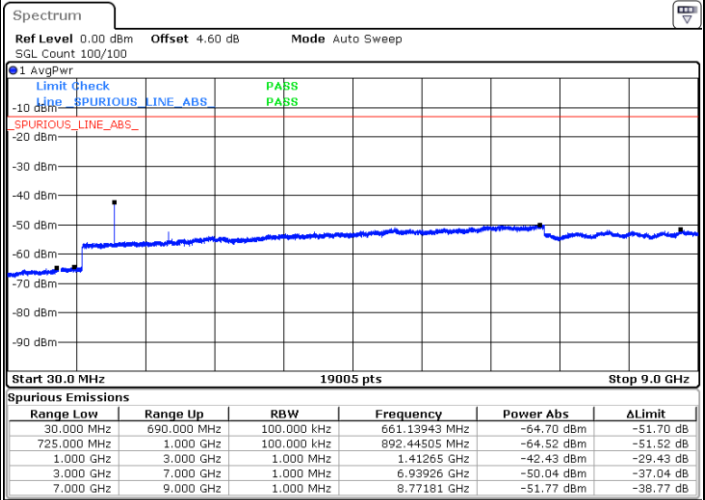
LTE Band 12 / 3MHz

Middle Channel / QPSK



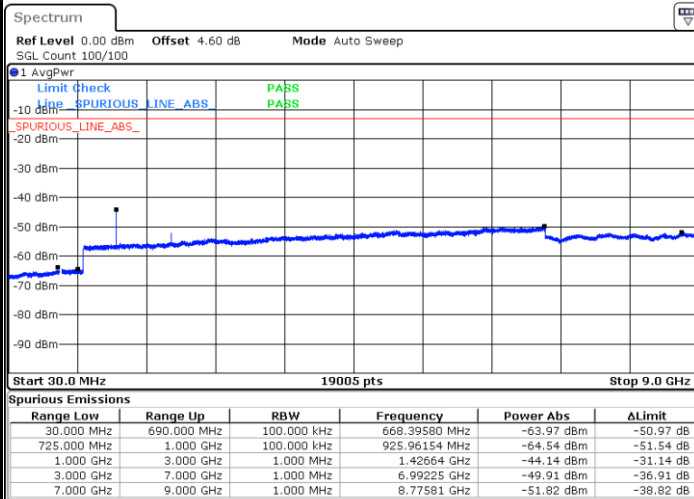
Date: 11.JAN.2020 17:24:54

Middle Channel / 16QAM



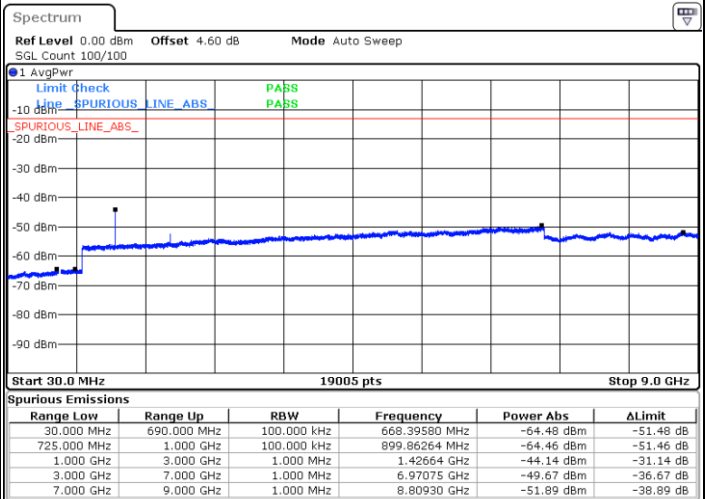
Date: 11.JAN.2020 17:24:00

Highest Channel / QPSK



Date: 11.JAN.2020 17:25:48

Highest Channel / 16QAM

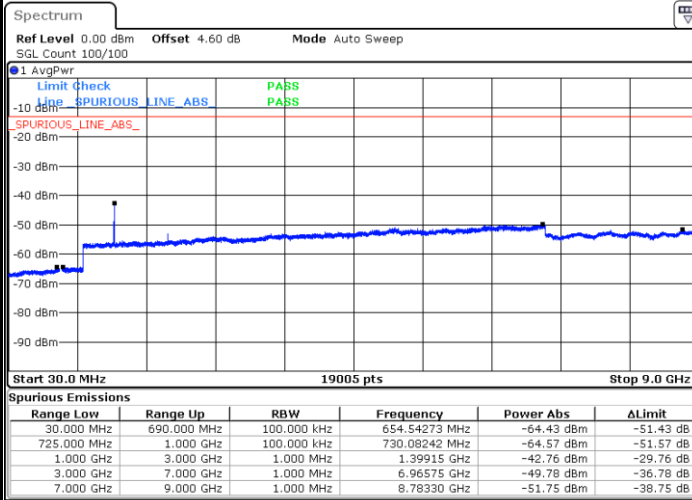


Date: 11.JAN.2020 17:26:43



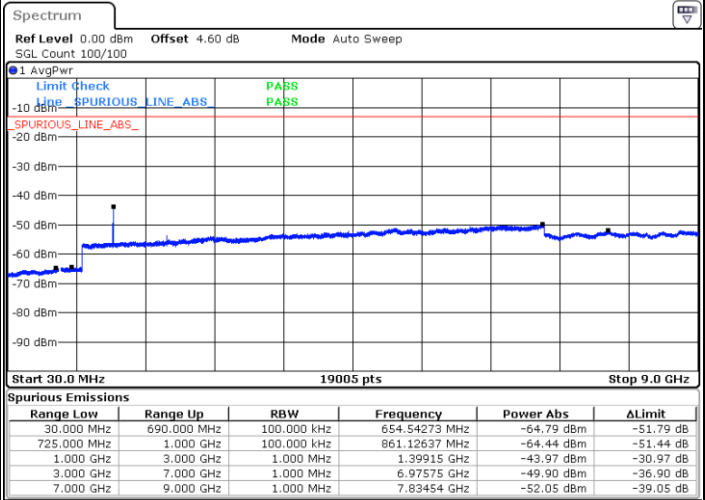
LTE Band 12 / 5MHz

Lowest Channel / QPSK



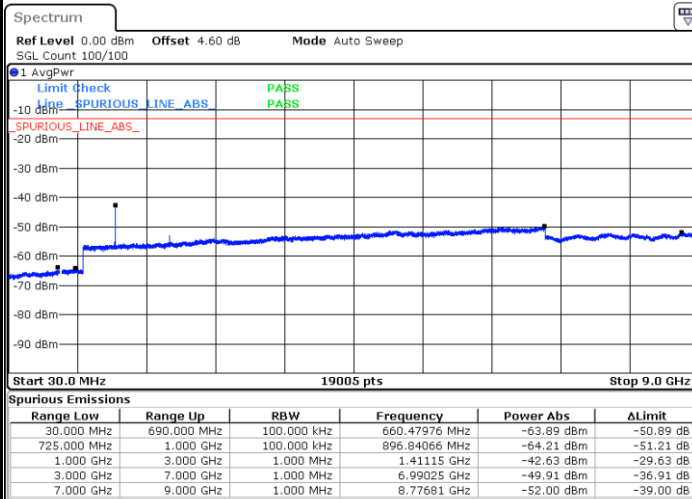
Date: 11.JAN.2020 17:38:38

Lowest Channel / 16QAM



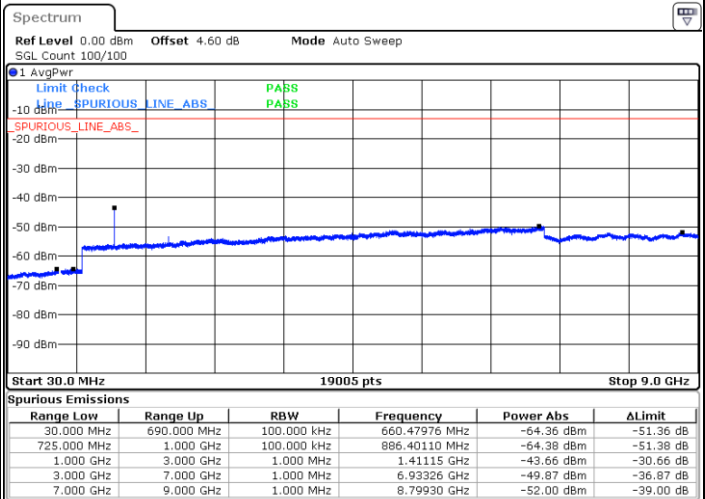
Date: 11.JAN.2020 17:39:32

Middle Channel / QPSK



Date: 11.JAN.2020 17:41:21

Middle Channel / 16QAM

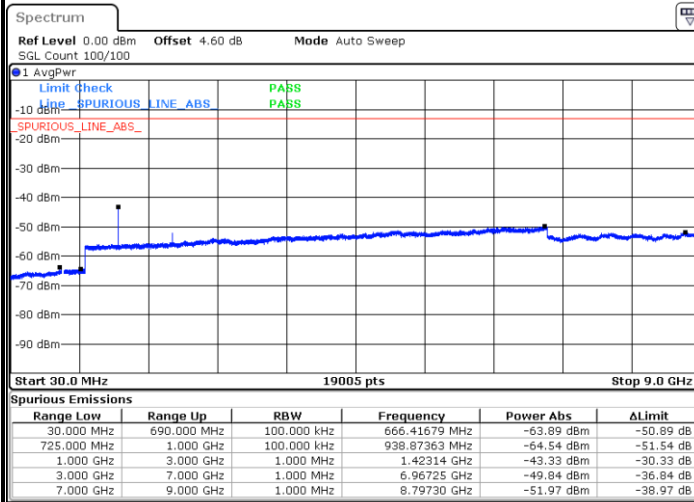


Date: 11.JAN.2020 17:40:26



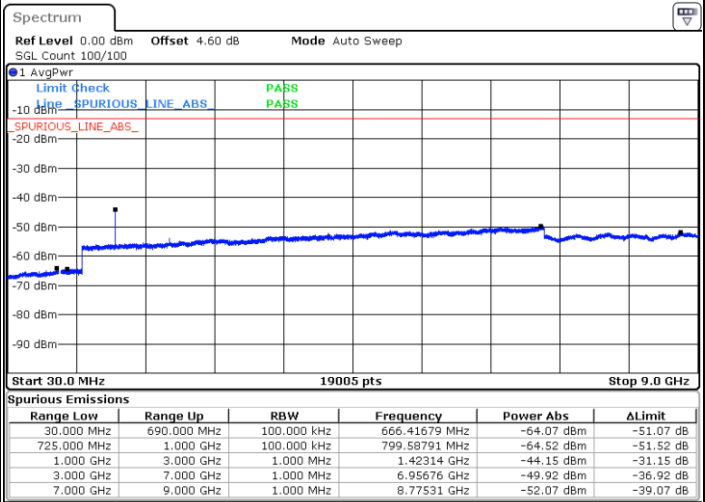
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 11.JAN.2020 17:42:15

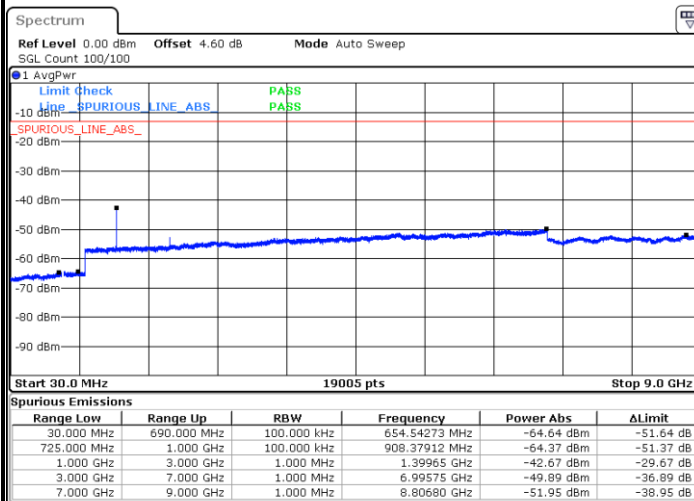
Highest Channel / 16QAM



Date: 11.JAN.2020 17:43:09

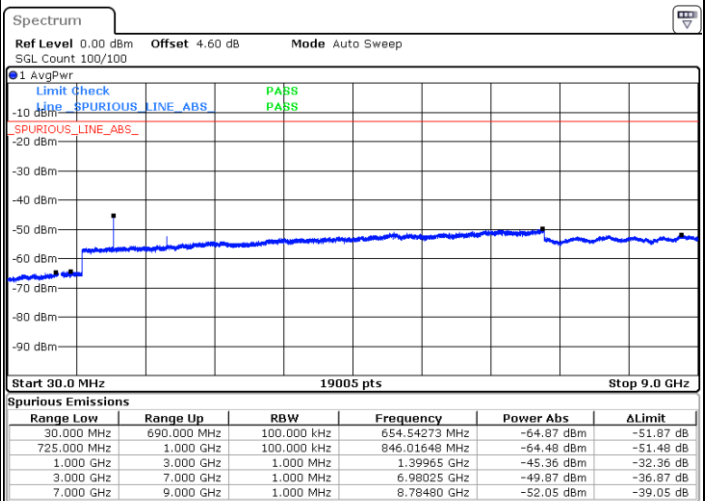
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 11.JAN.2020 17:55:04

Lowest Channel / 16QAM

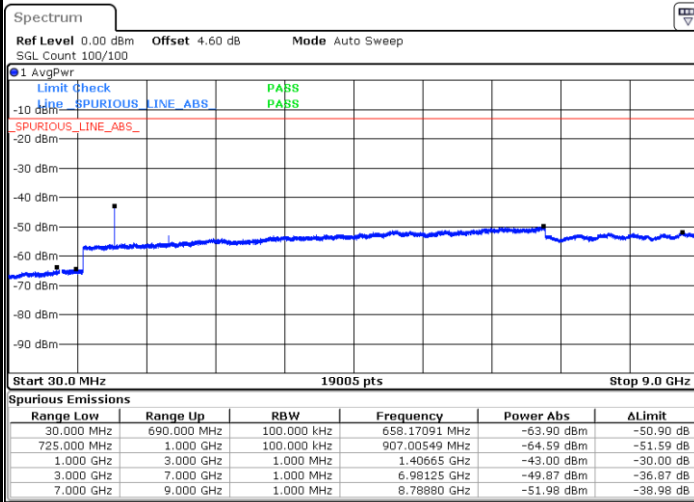


Date: 11.JAN.2020 17:55:59



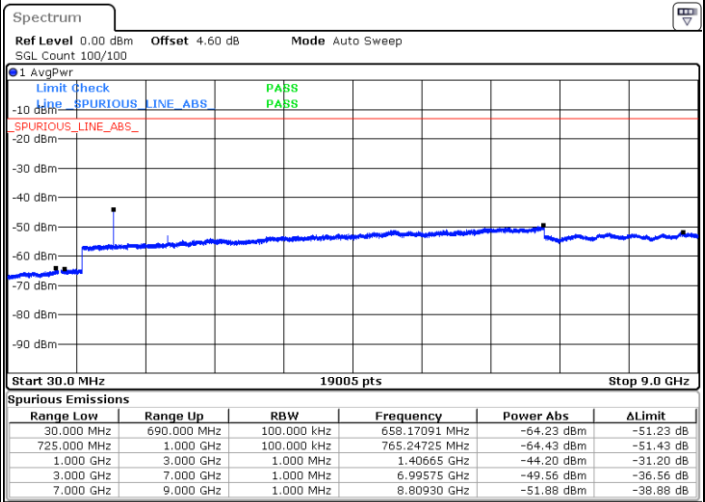
LTE Band 12 / 10MHz

Middle Channel / QPSK



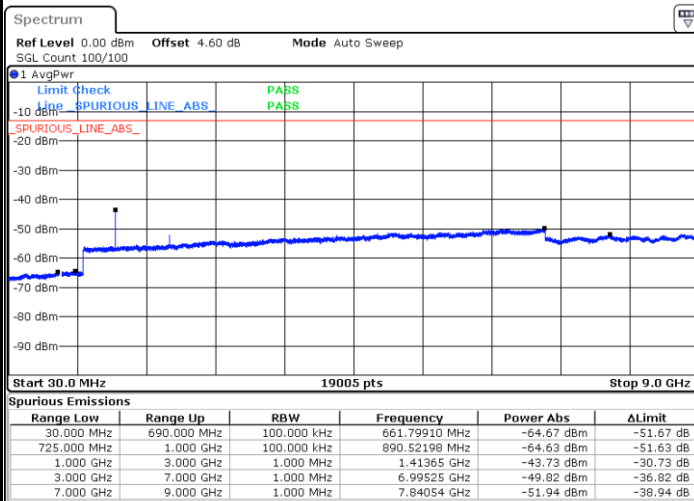
Date: 11.JAN.2020 17:57:47

Middle Channel / 16QAM



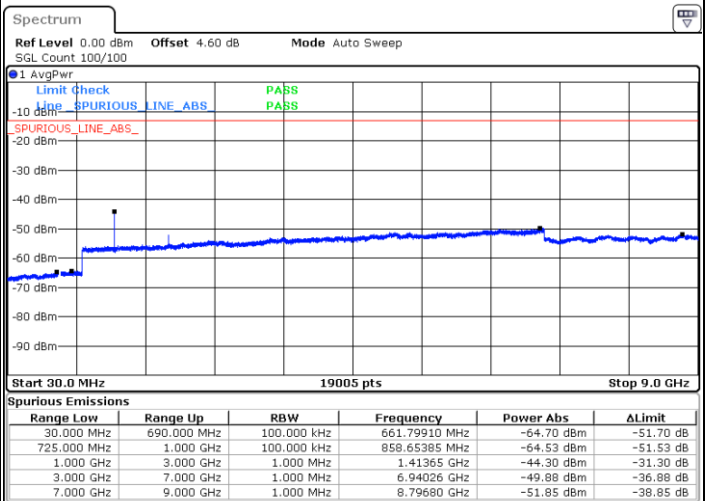
Date: 11.JAN.2020 17:56:53

Highest Channel / QPSK



Date: 11.JAN.2020 17:58:42

Highest Channel / 16QAM

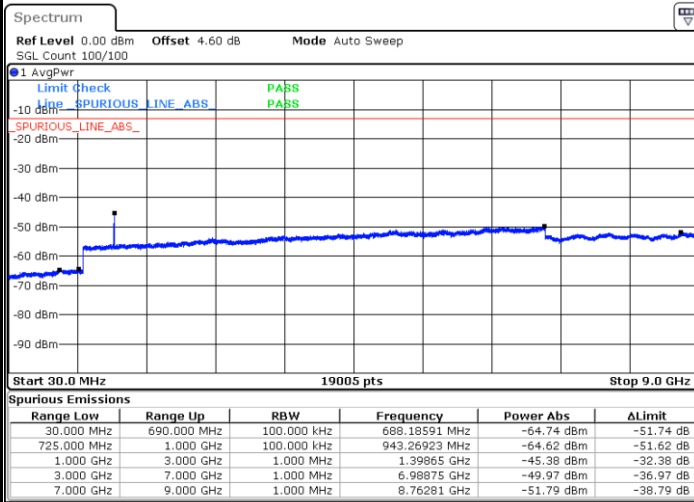


Date: 11.JAN.2020 17:59:36



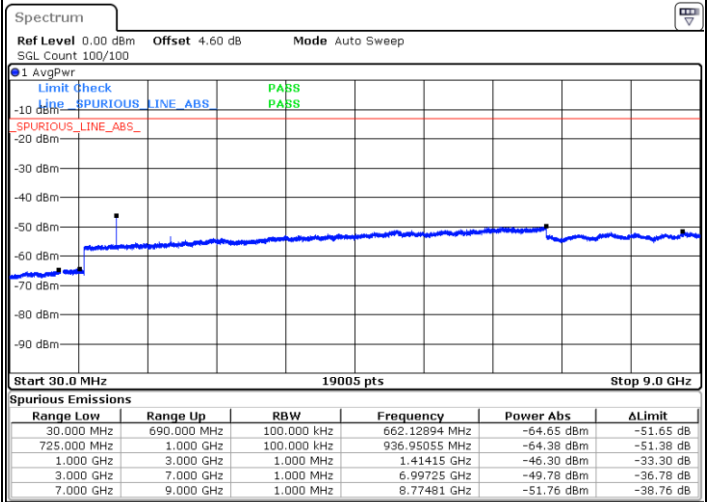
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM



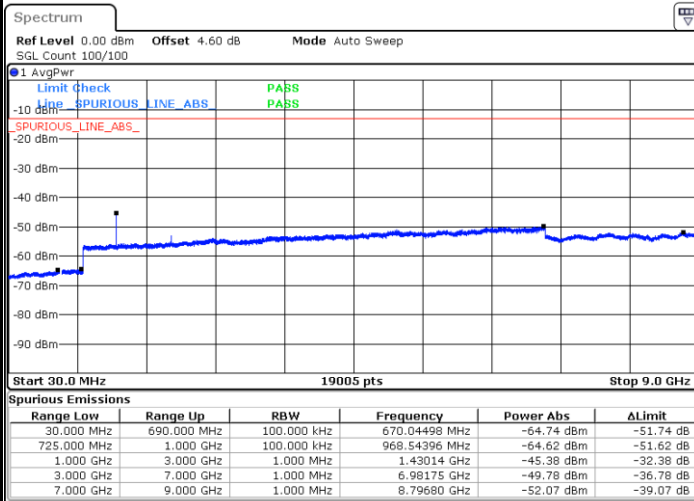
Date: 11.JAN.2020 18:15:00

Middle Channel / 64QAM



Date: 11.JAN.2020 18:15:55

Highest Channel / 64QAM

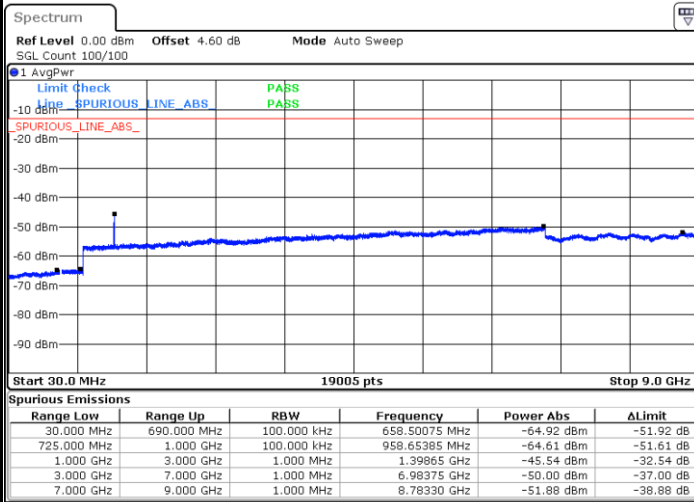


Date: 11.JAN.2020 18:16:49



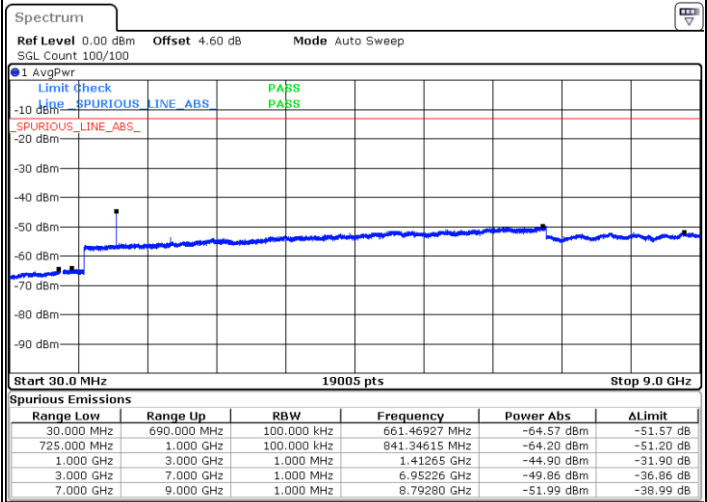
LTE Band 12 / 3MHz

Lowest Channel / 64QAM



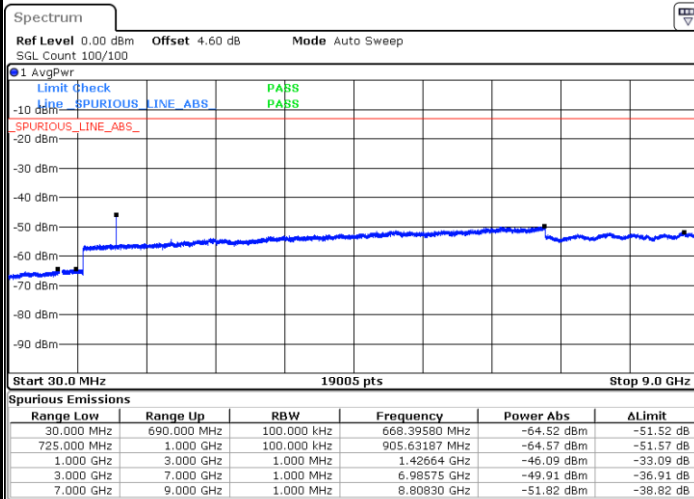
Date: 11.JAN.2020 18:17:43

Middle Channel / 64QAM



Date: 11.JAN.2020 18:18:38

Highest Channel / 64QAM

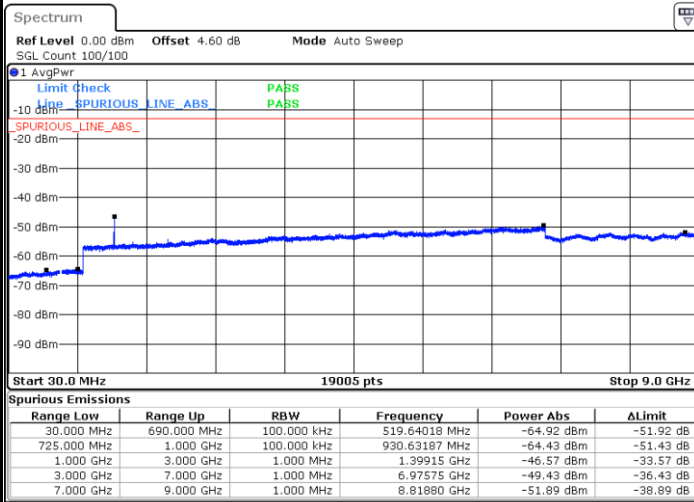


Date: 11.JAN.2020 18:19:32



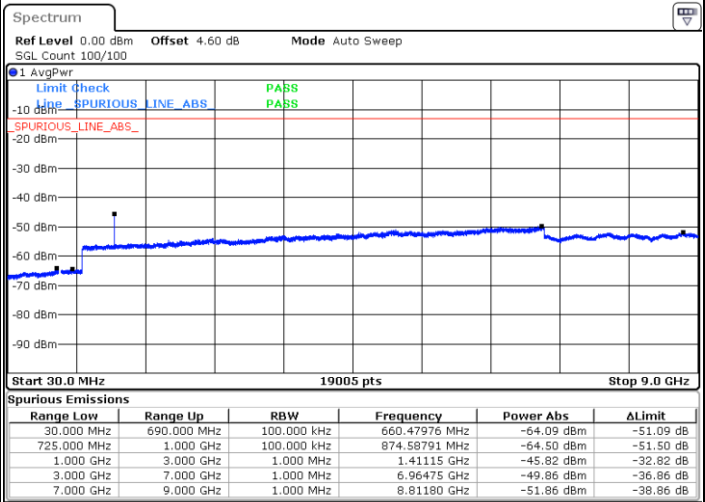
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



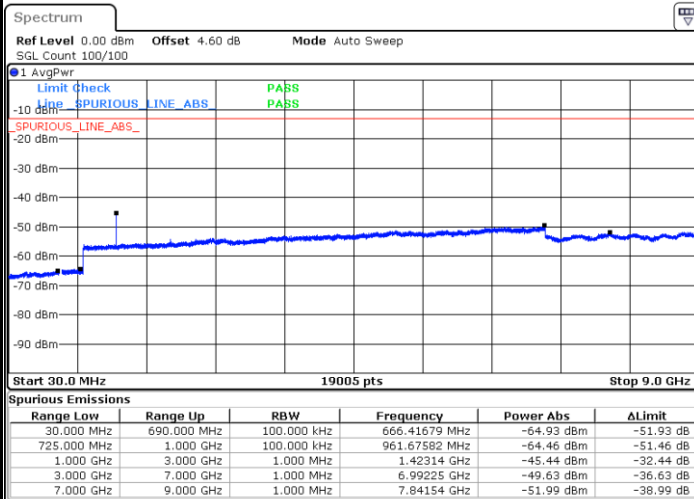
Date: 11.JAN.2020 18:31:27

Middle Channel / 64QAM



Date: 11.JAN.2020 18:32:21

Highest Channel / 64QAM

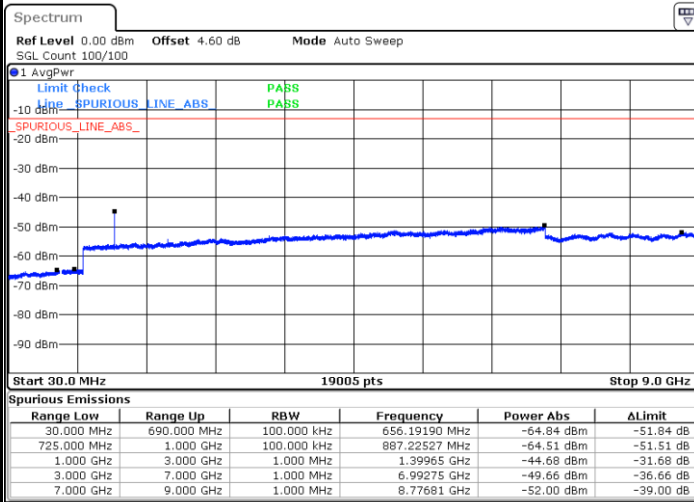


Date: 11.JAN.2020 18:33:15



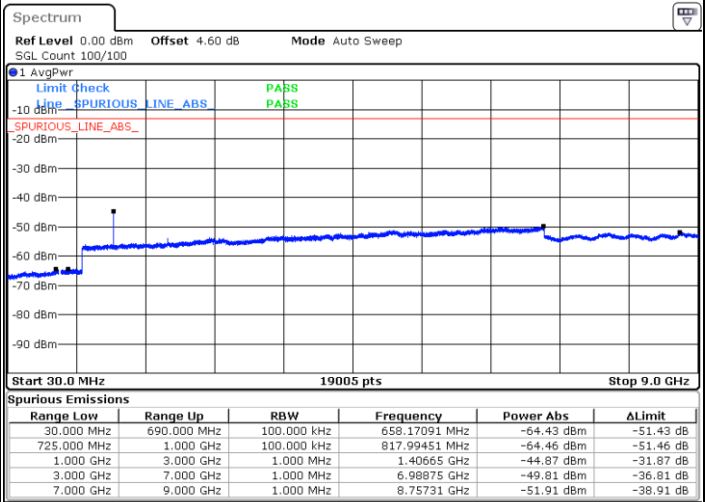
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



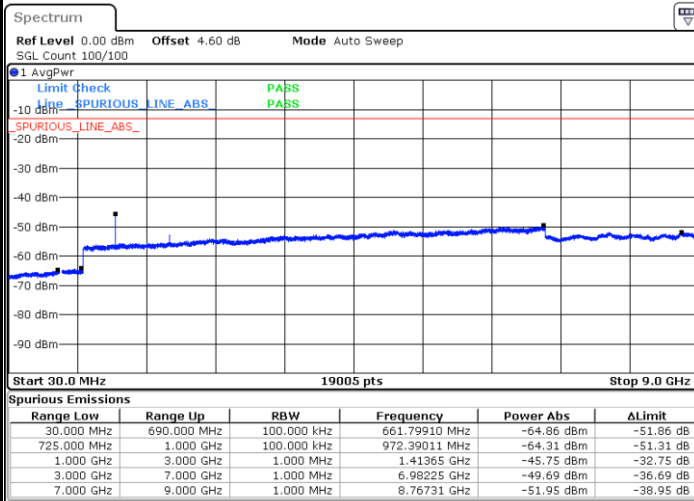
Date: 11.JAN.2020 18:34:10

Middle Channel / 64QAM



Date: 11.JAN.2020 18:35:04

Highest Channel / 64QAM



Date: 11.JAN.2020 18:35:59

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	0.0021	PASS
40	Normal Voltage	0.0034	
30	Normal Voltage	0.0070	
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	0.0000	
20	Battery End Point	0.0106	

Note:

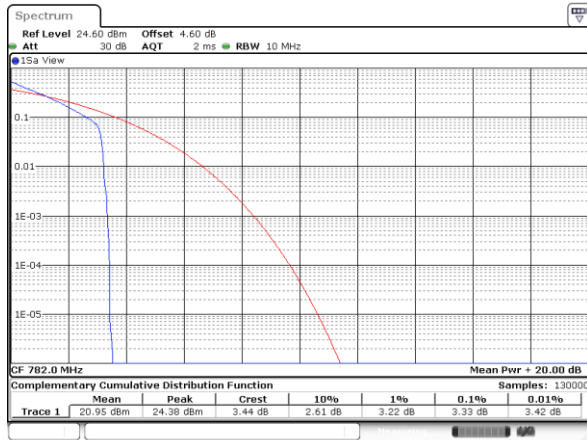
1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.3 V. ; Maximum Voltage =4.3 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



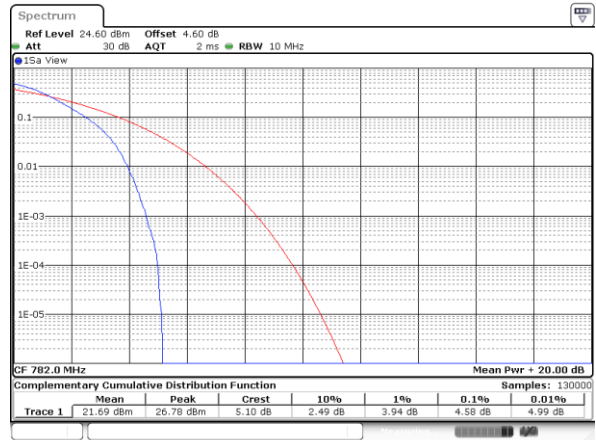
LTE Band 13

Peak-to-Average Ratio

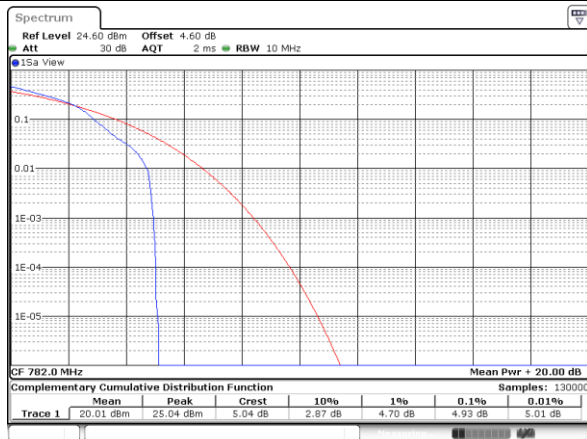
Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH		-	-	-	PASS
Middle CH	3.33	4.58	4.93	5.77	
Highest CH	-	-	-	-	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH			PASS		
Middle CH	5.94	6.32			
Highest CH					

LTE Band 13 / 10MHz / QPSK
Middle Channel / 1RB


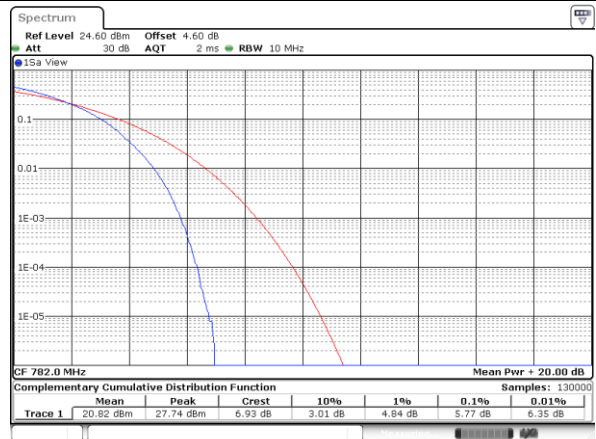
Date: 11 JAN 2020 15:49:32

Middle Channel / Full RB


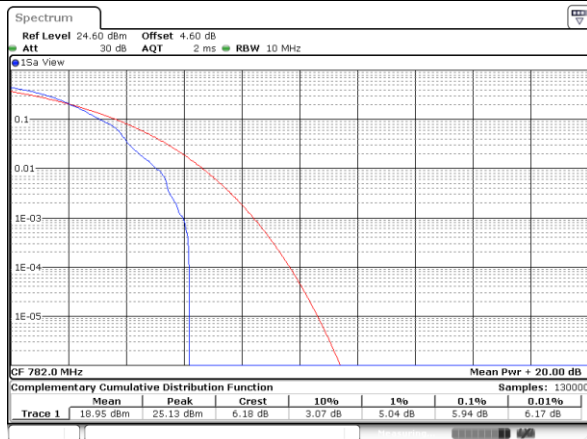
Date: 11 JAN 2020 15:49:59

LTE Band 13 / 10MHz / 16QAM
Middle Channel / 1RB


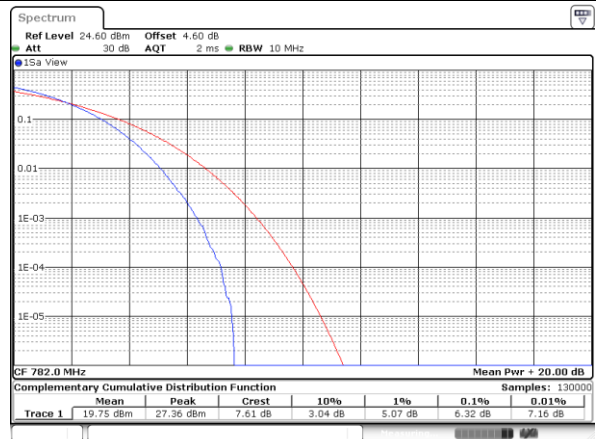
Date: 11 JAN 2020 15:49:41

Middle Channel / Full RB


Date: 11 JAN 2020 15:49:50

LTE Band 13 / 10MHz / 64QAM
Middle Channel / 1RB


Date: 11 JAN 2020 17:01:25

Middle Channel / Full RB


Date: 11 JAN 2020 17:01:36



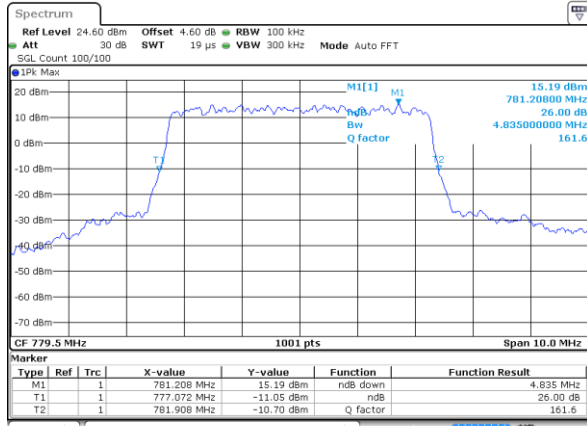
26dB Bandwidth

Mode	LTE Band 13 : 26dB BW(MHz)											
BW	5MHz		10MHz		5MHz	10MHz						
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM						
Lowest CH	4.835	4.885			4.865							
Middle CH	4.995	4.905	9.71	9.75	4.885	9.83						
Highest CH	4.835	4.865			4.825							

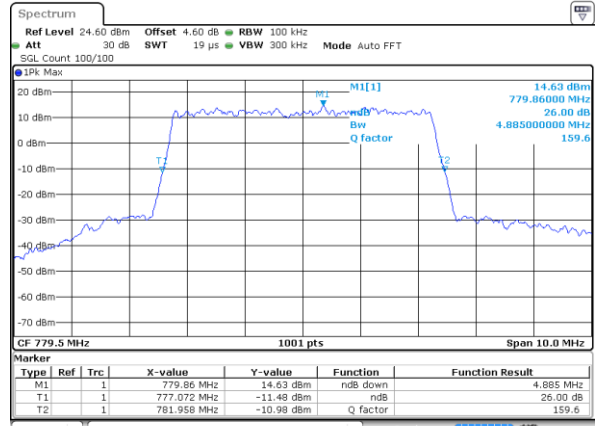


LTE Band 13

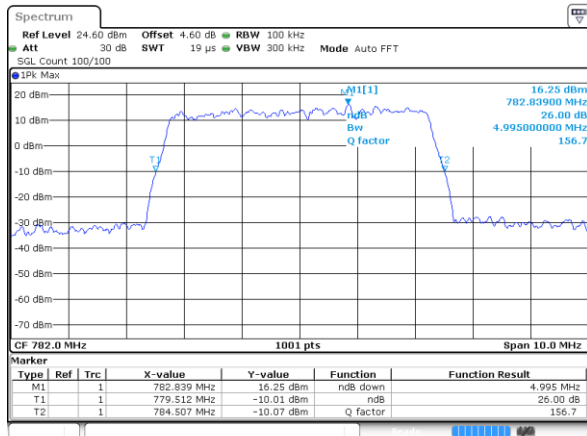
Lowest Channel / 5MHz / QPSK



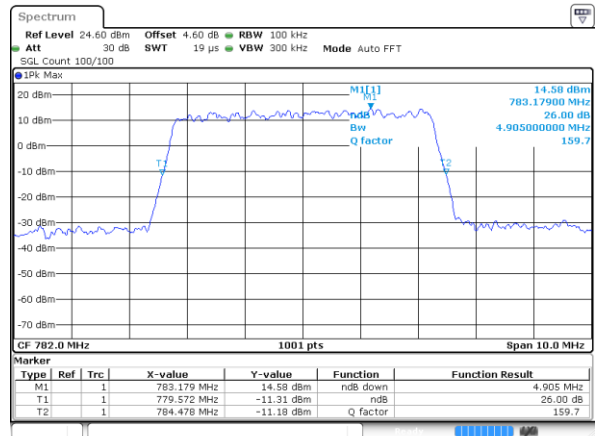
Lowest Channel / 5MHz / 16QAM



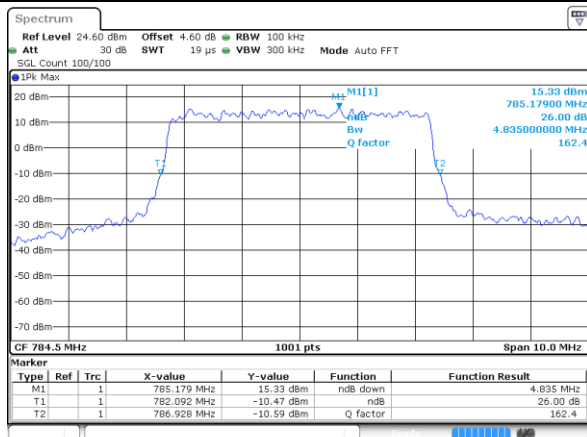
Middle Channel / 5MHz / QPSK



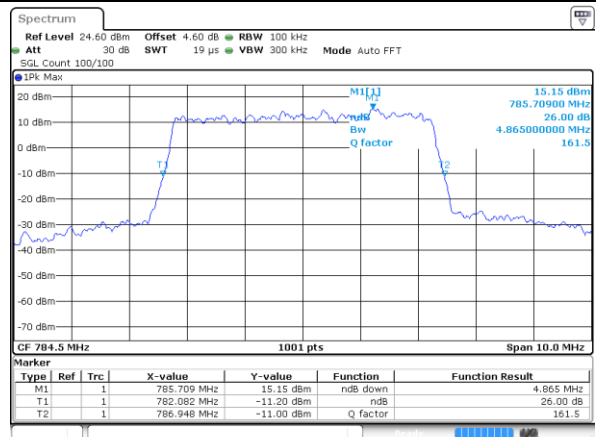
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



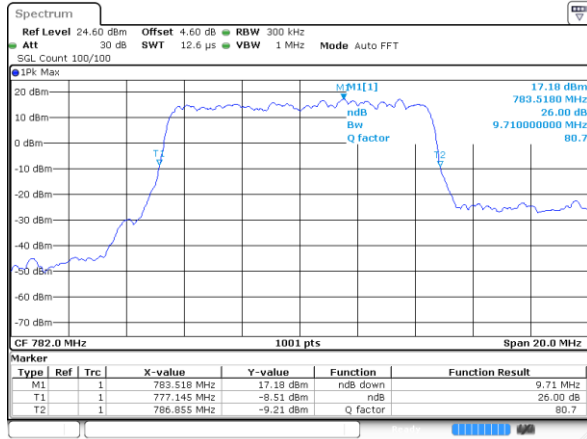
Highest Channel / 5MHz / 16QAM





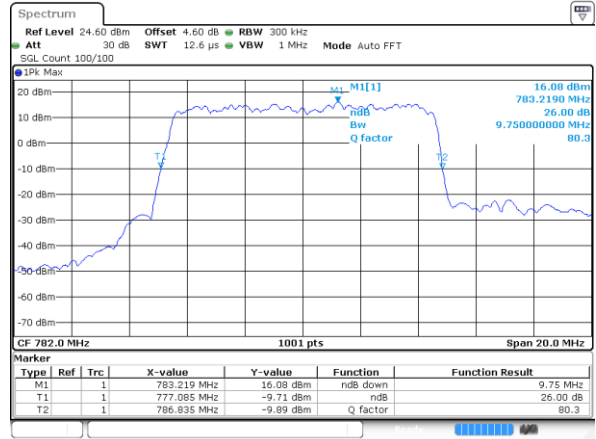
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 11 JAN 2020 15:39:15

Middle Channel / 10MHz / 16QAM

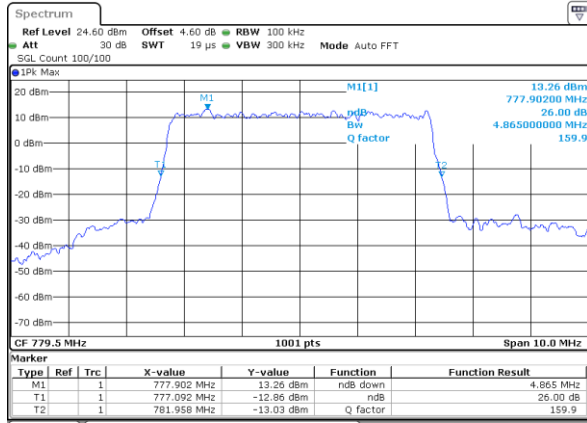


Date: 11 JAN 2020 15:39:05



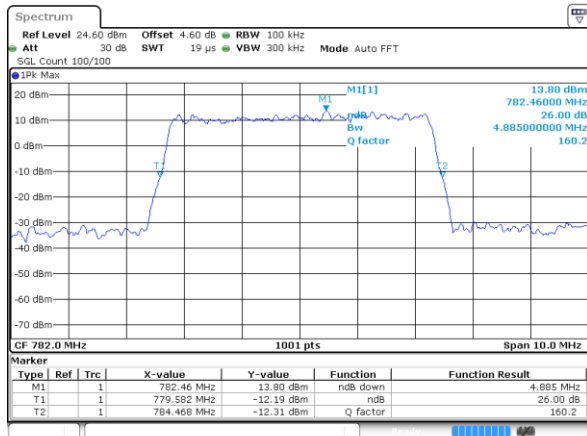
LTE Band 13

Lowest Channel / 5MHz / 64QAM



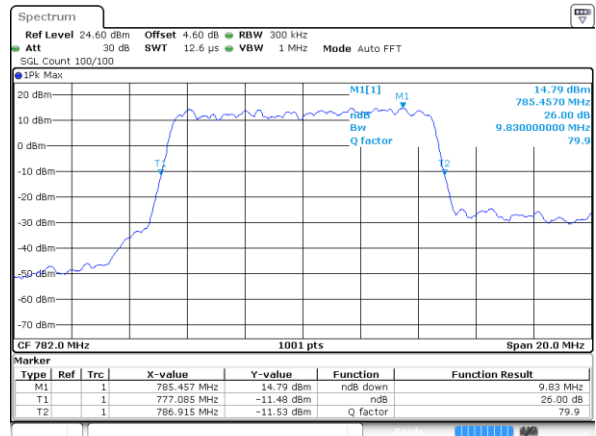
Date: 11 JAN 2020 15:50:39

Middle Channel / 5MHz / 64QAM



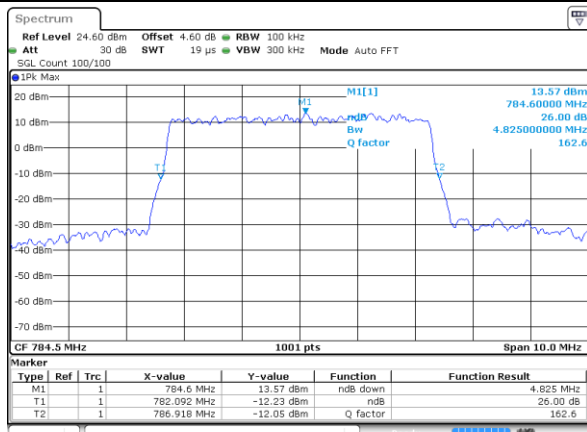
Date: 11 JAN 2020 15:50:49

Middle Channel / 10MHz / 64QAM



Date: 11 JAN 2020 16:00:32

Highest Channel / 5MHz / 64QAM



Date: 11 JAN 2020 15:50:59

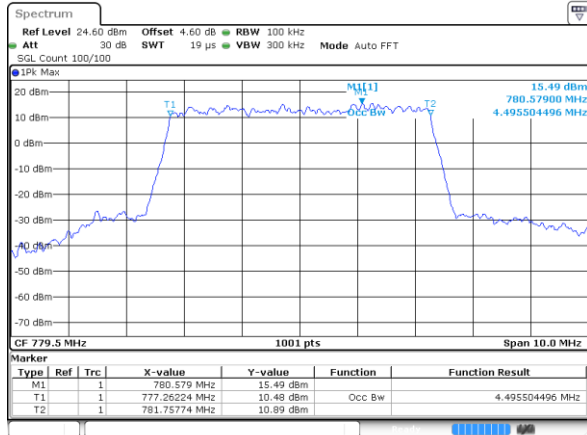
**Occupied Bandwidth**

Mode	LTE Band 13 : 99%OBW(MHz)					
BW	5MHz		10MHz		5MHz	10MHz
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM
Lowest CH	4.50	4.49			4.49	
Middle CH	4.49	4.51	9.03	9.03	4.51	9.01
Highest CH	4.47	4.47			4.49	



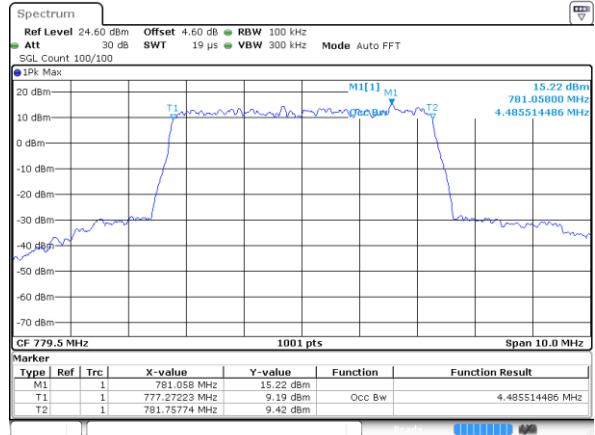
LTE Band 13

Lowest Channel / 5MHz / QPSK



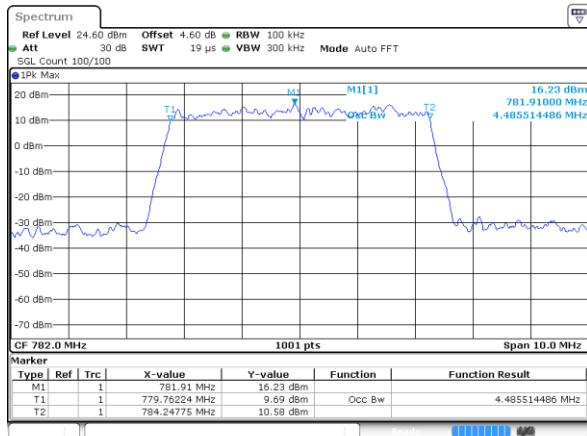
Date: 11 JAN 2020 15:17:10

Lowest Channel / 5MHz / 16QAM



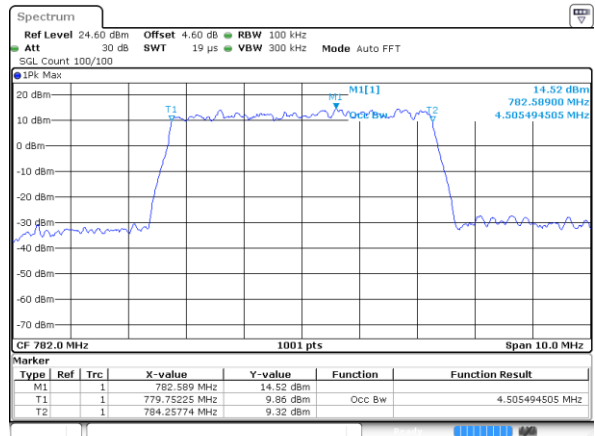
Date: 11 JAN 2020 15:17:00

Middle Channel / 5MHz / QPSK



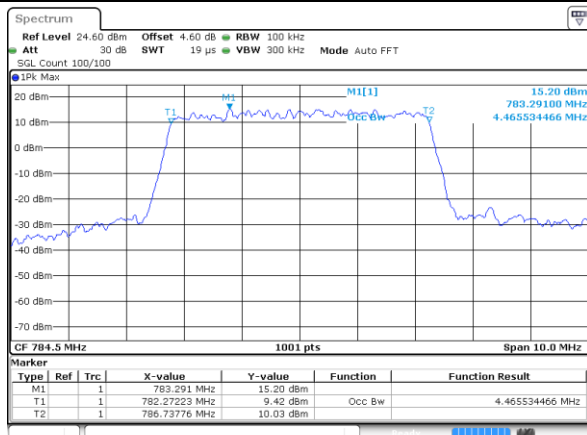
Date: 11 JAN 2020 15:25:04

Middle Channel / 5MHz / 16QAM



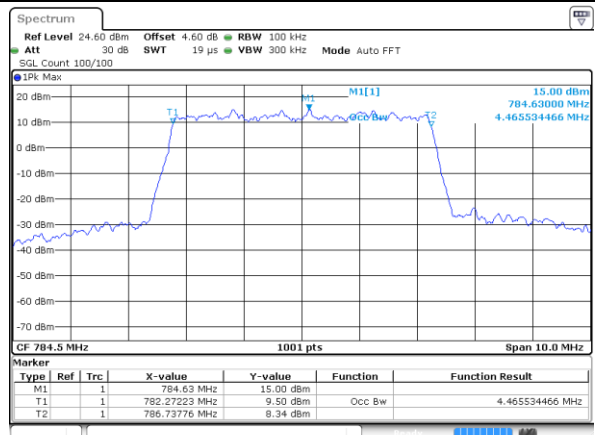
Date: 11 JAN 2020 15:25:14

Highest Channel / 5MHz / QPSK



Date: 11 JAN 2020 15:27:33

Highest Channel / 5MHz / 16QAM

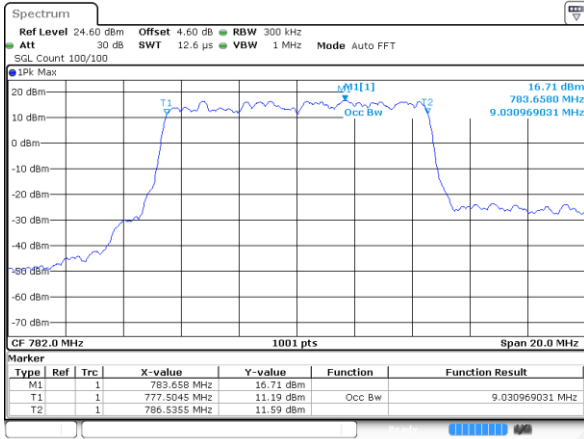


Date: 11 JAN 2020 15:28:47



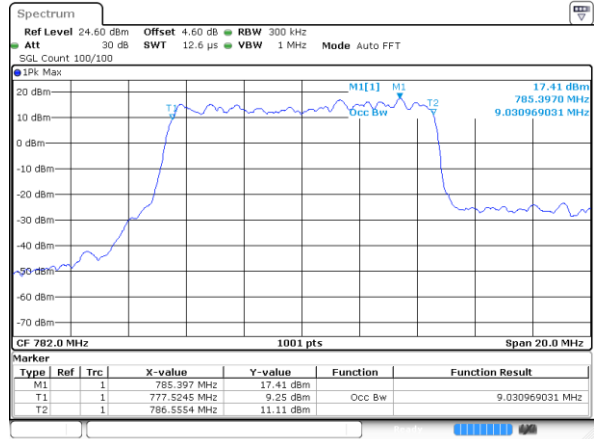
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 11 JAN 2020 15:39:25

Middle Channel / 10MHz / 16QAM

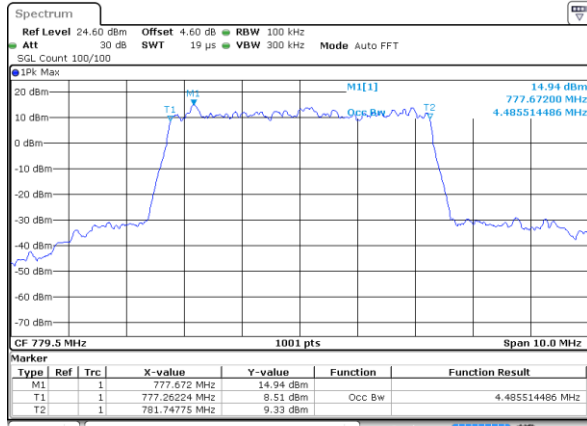


Date: 11 JAN 2020 15:39:35

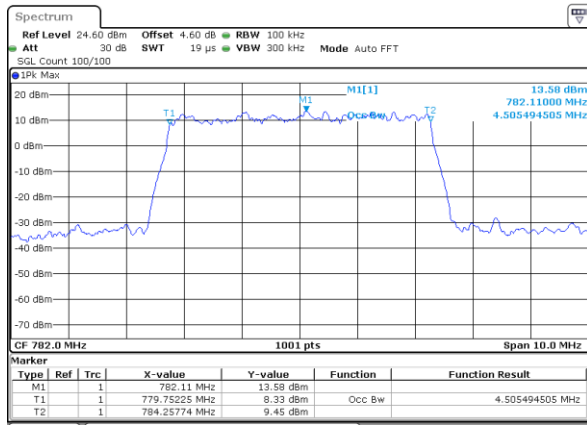


LTE Band 13

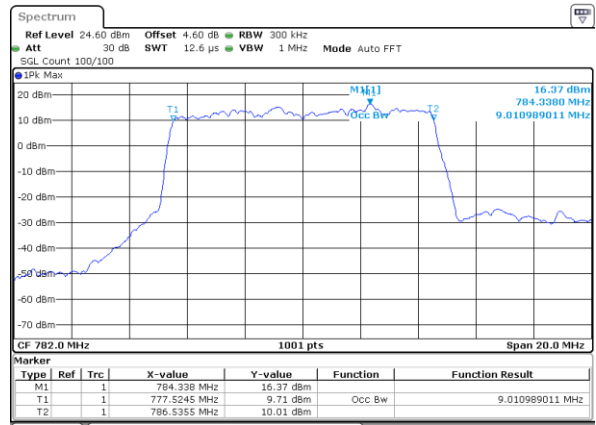
Lowest Channel / 5MHz / 64QAM



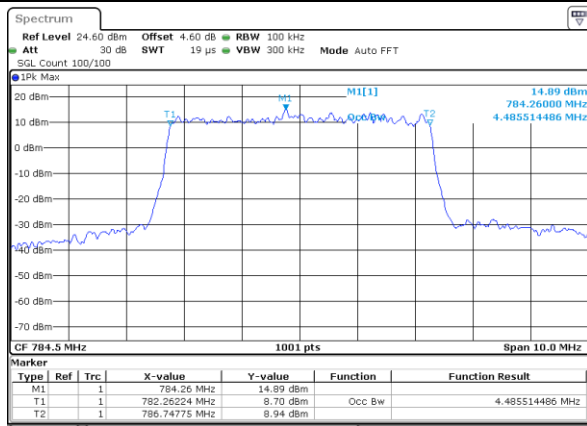
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

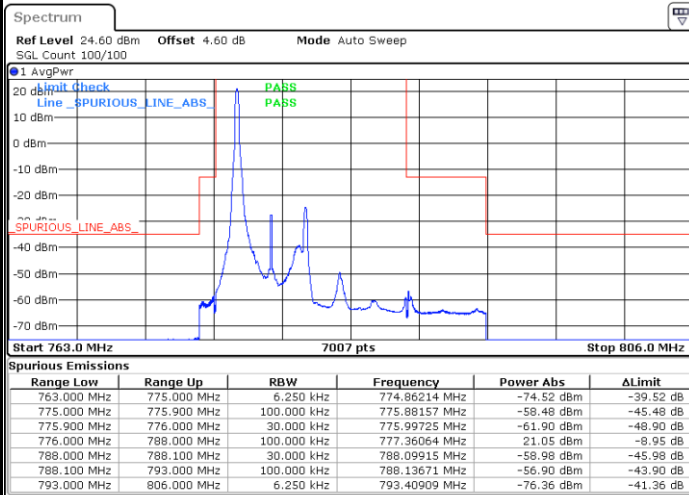




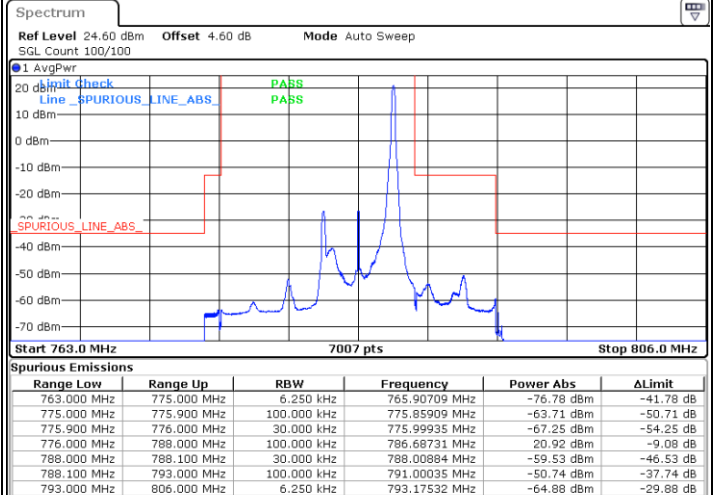
Conducted Band Edge

LTE Band 13 / 5MHz / QPSK

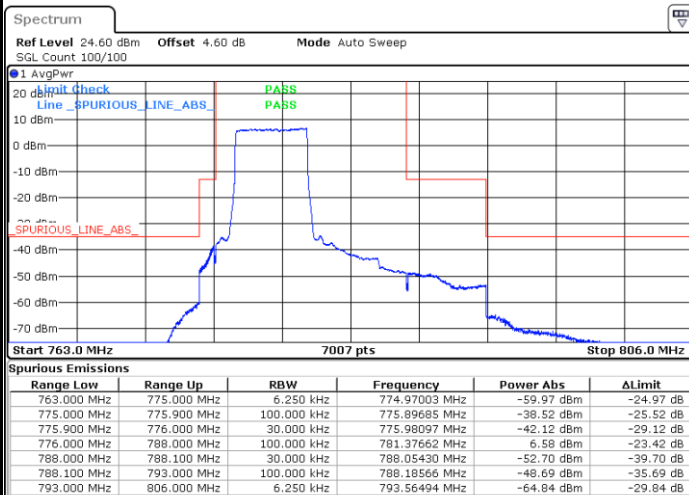
Lowest Band Edge / 1 RB



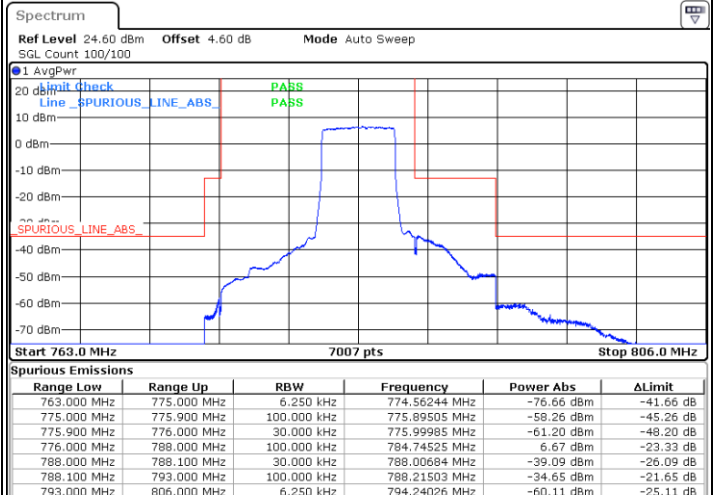
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



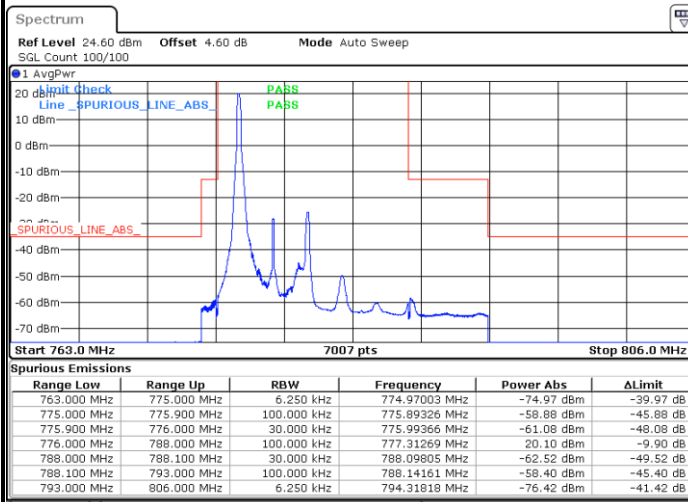
Highest Band Edge / Full RB





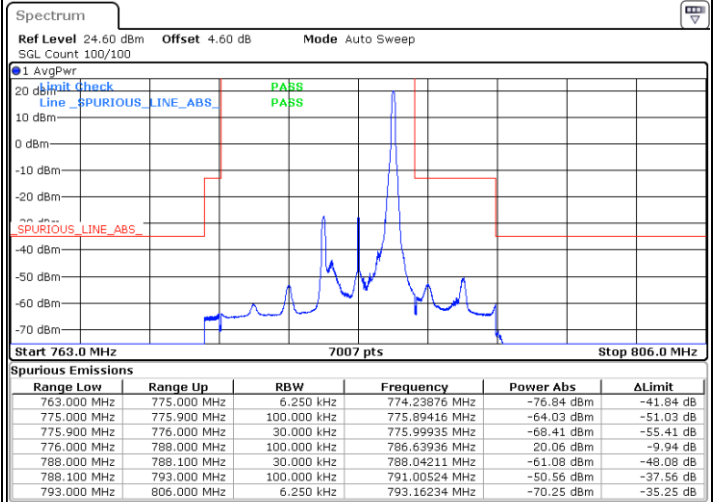
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



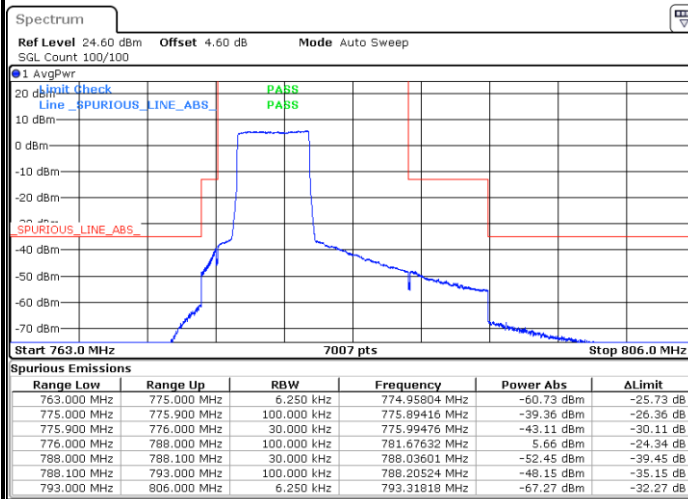
Date: 11 JAN 2020 15:23:41

Highest Band Edge / 1 RB



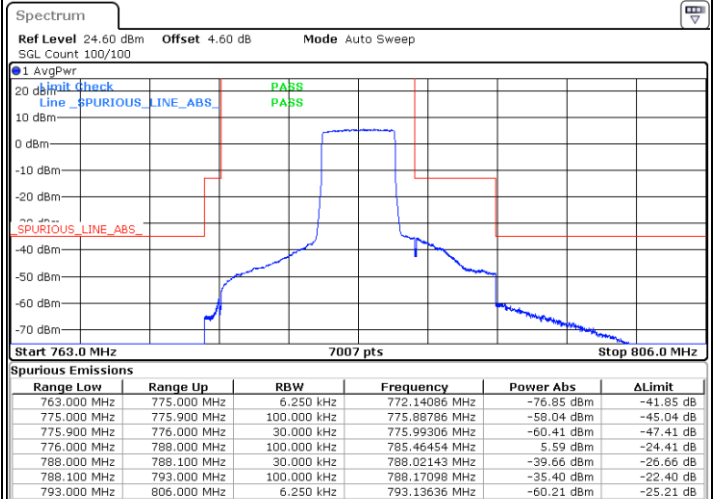
Date: 11 JAN 2020 15:35:18

Lowest Band Edge / Full RB



Date: 11 JAN 2020 15:18:48

Highest Band Edge / Full RB

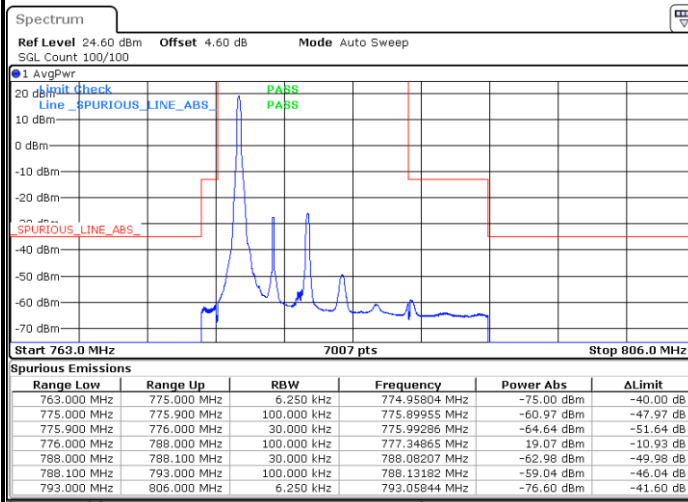


Date: 11 JAN 2020 15:30:25

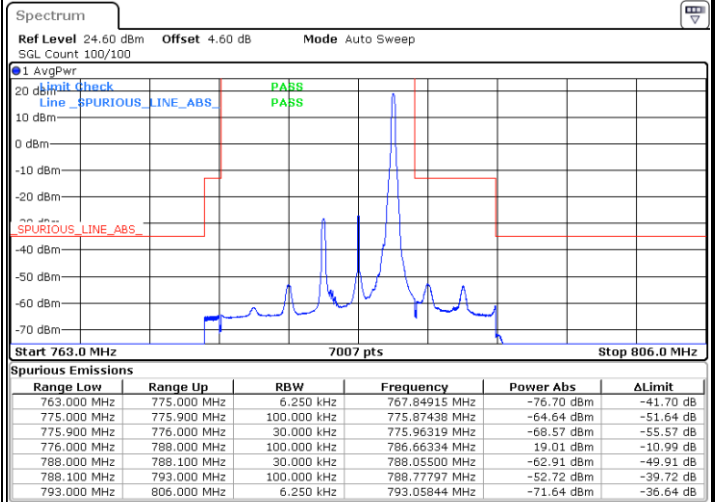


LTE Band 13 / 5MHz / 64QAM

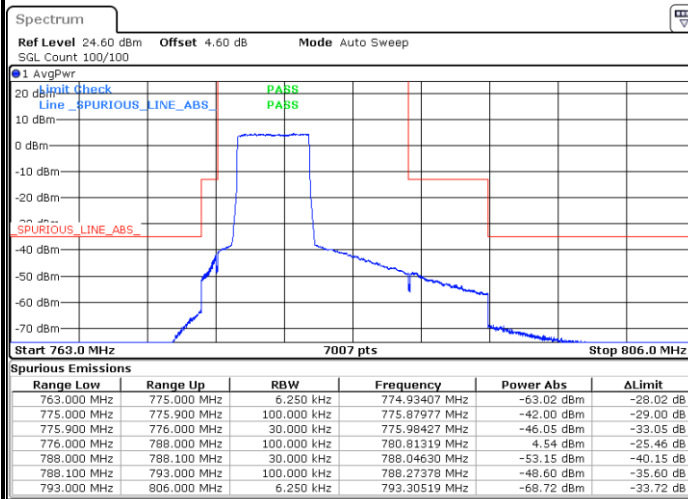
Lowest Band Edge / 1 RB



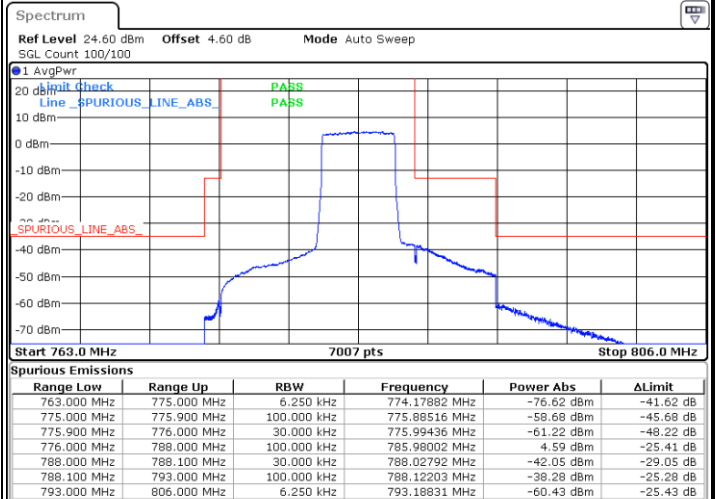
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



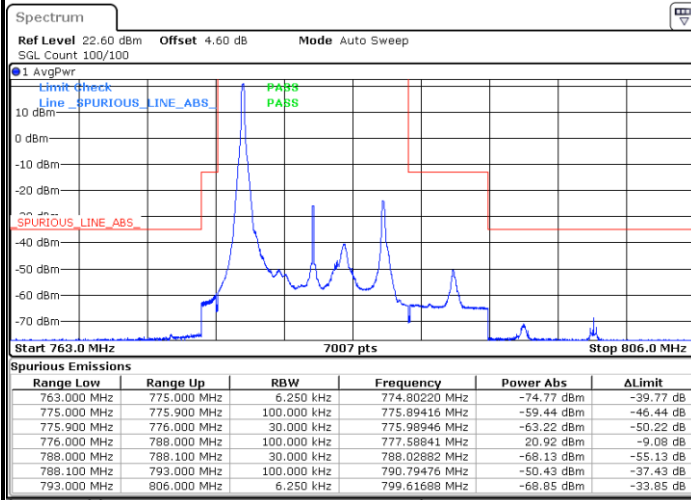
Highest Band Edge / Full RB





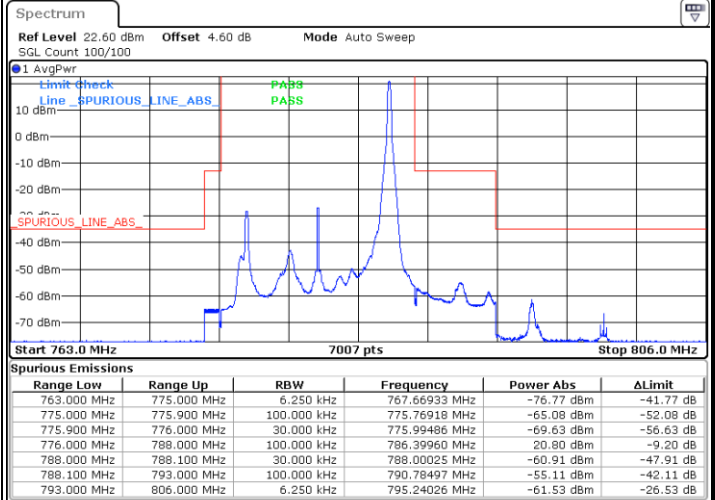
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



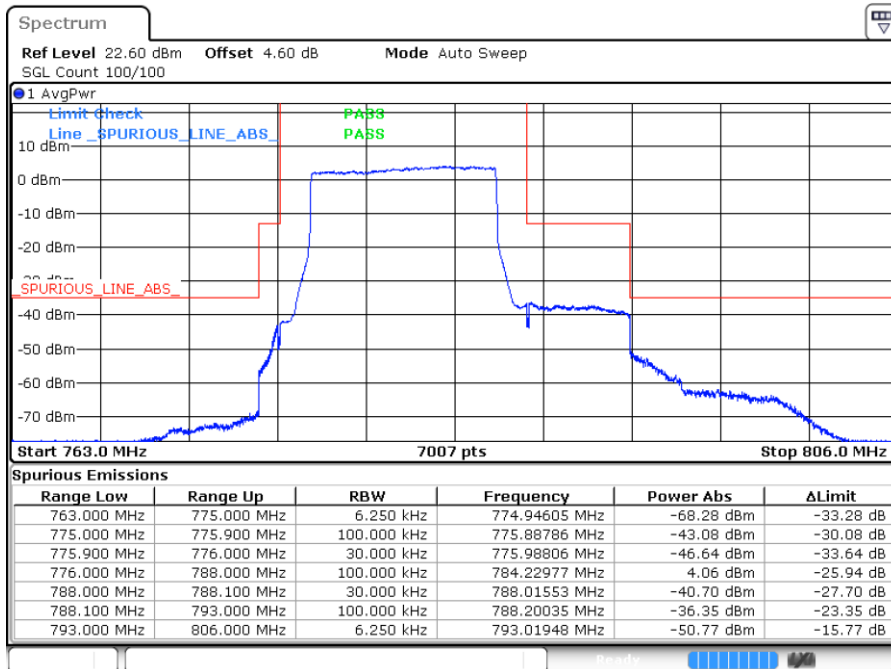
Date: 11 JAN 2020 15:42:50

Highest Band Edge / 1 RB



Date: 11 JAN 2020 15:49:21

Band Edge / Full RB

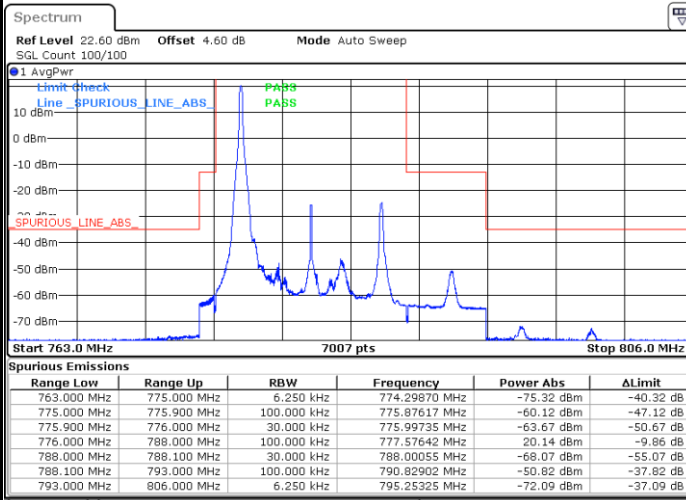


Date: 11 JAN 2020 15:44:28



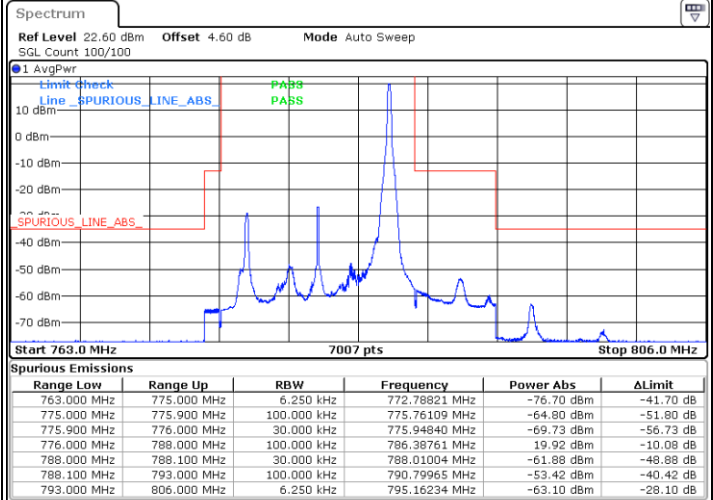
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



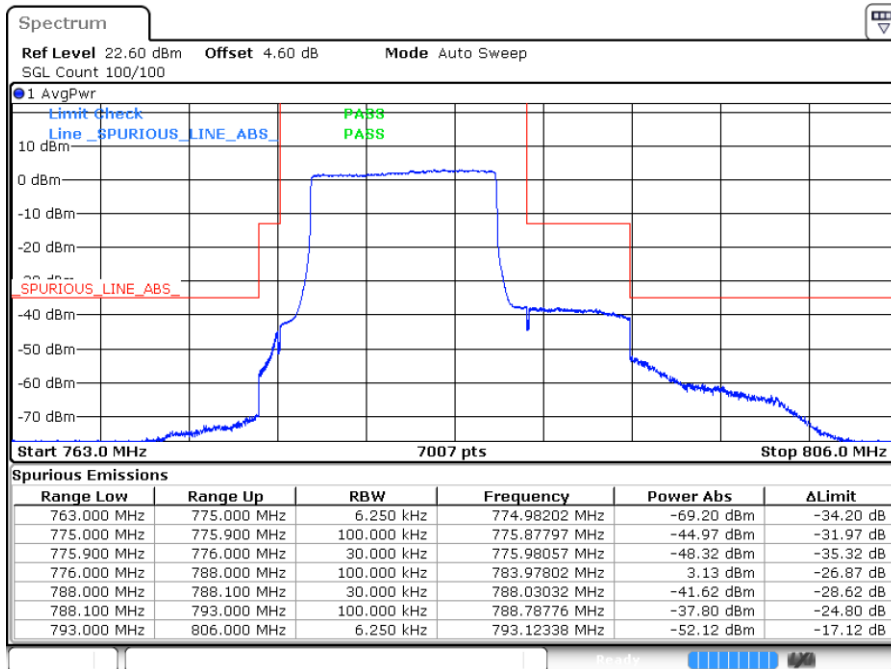
Date: 11 JAN 2020 15:41:13

Highest Band Edge / 1 RB



Date: 11 JAN 2020 15:47:43

Band Edge / Full RB

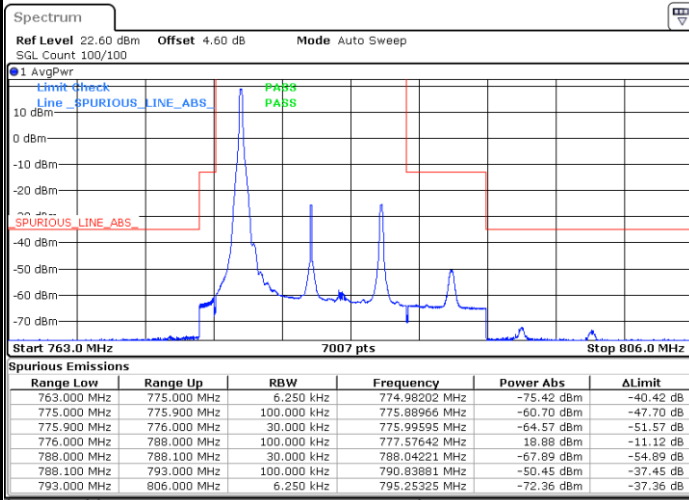


Date: 11 JAN 2020 15:46:05



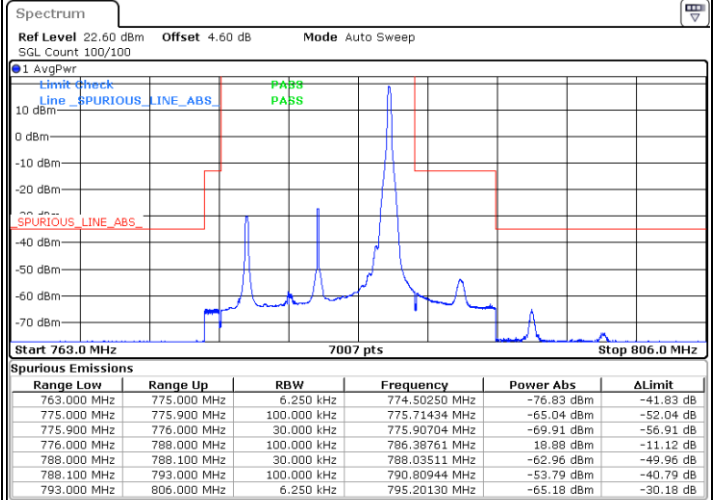
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



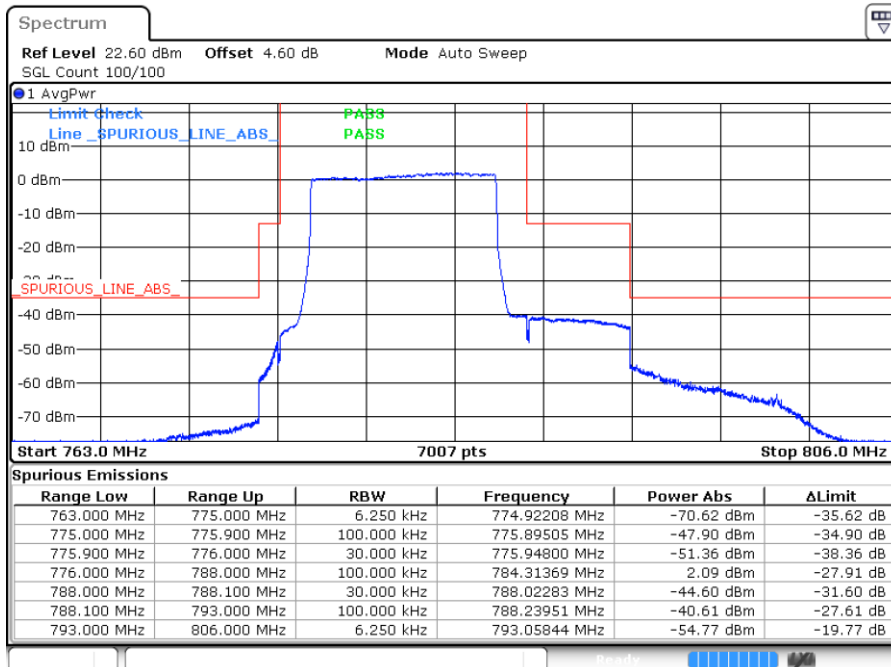
Date: 11 JAN 2020 16:02:10

Highest Band Edge / 1 RB



Date: 11 JAN 2020 16:03:48

Band Edge / Full RB



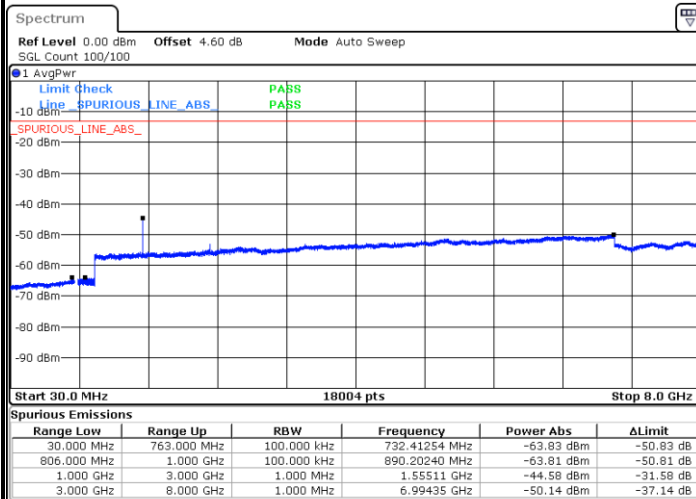
Date: 11 JAN 2020 16:05:25



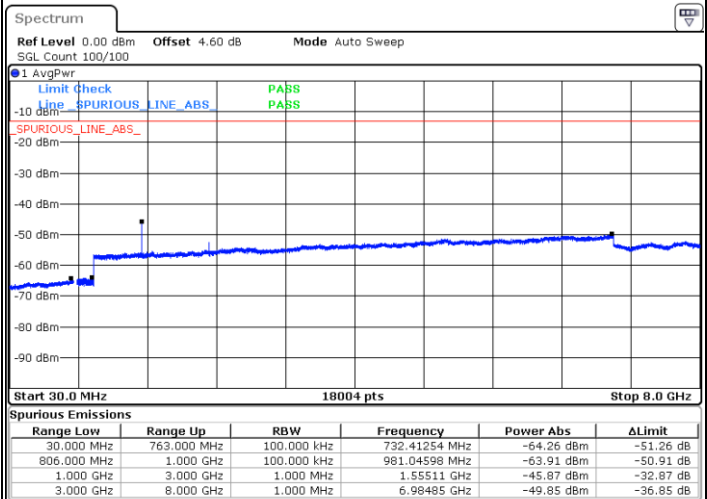
Conducted Spurious Emission

LTE Band 13 / 5MHz

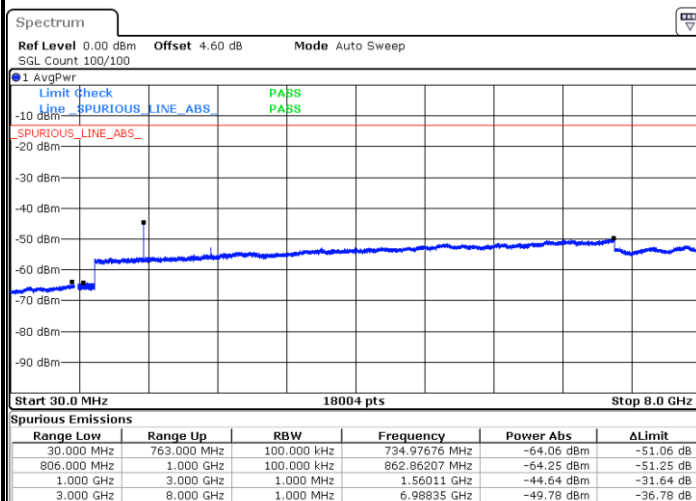
Lowest Channel / QPSK



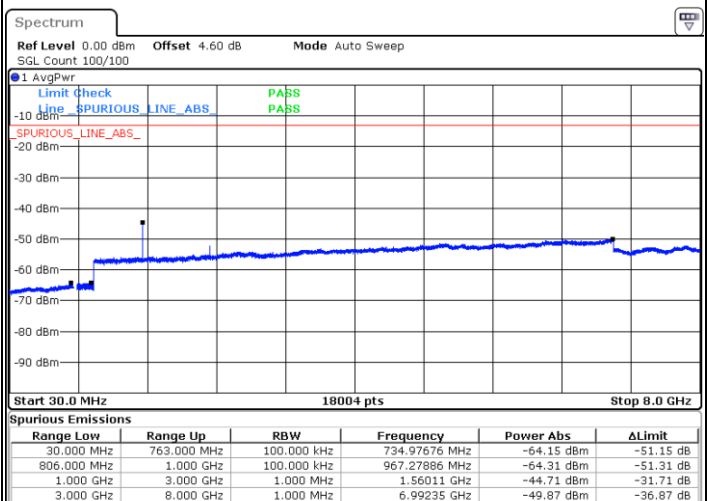
Lowest Channel / 16QAM



Middle Channel / QPSK



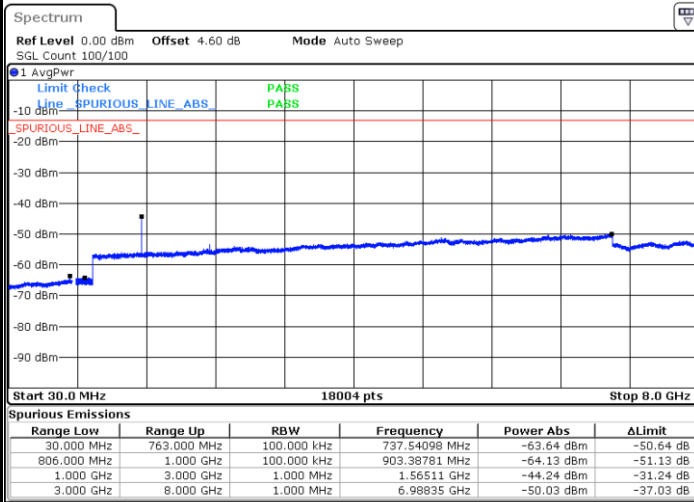
Middle Channel / 16QAM





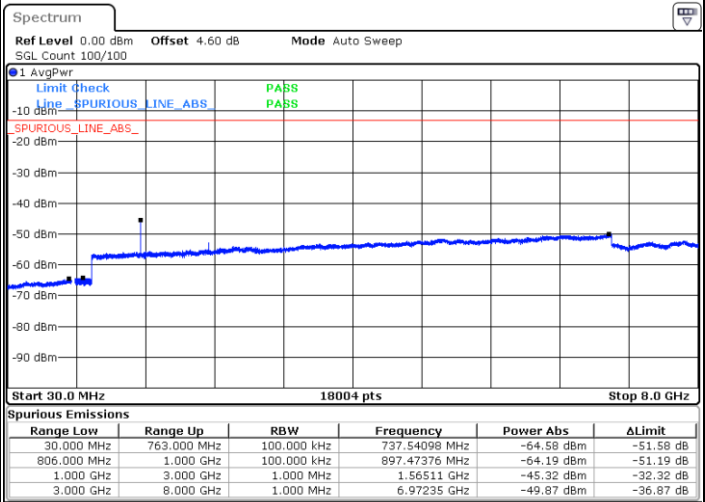
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 11.JAN.2020 15:37:06

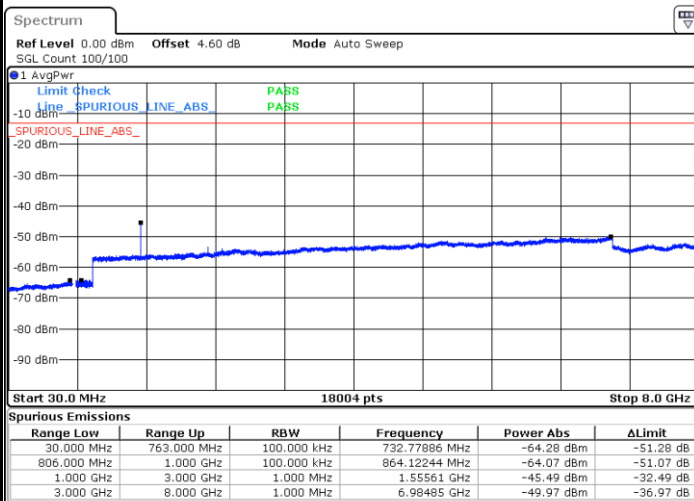
Highest Channel / 16QAM



Date: 11.JAN.2020 15:36:11

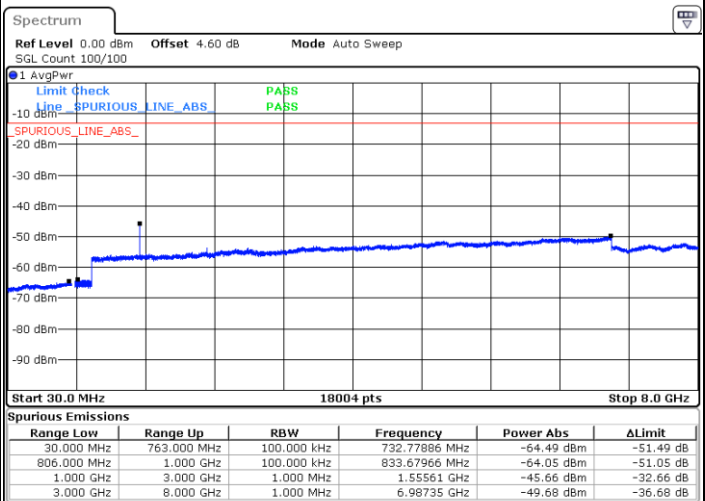
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 11.JAN.2020 15:38:00

Middle Channel / 16QAM

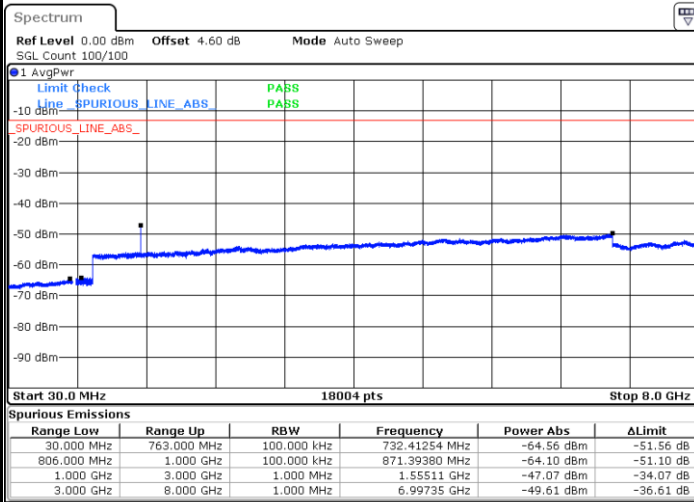


Date: 11.JAN.2020 15:38:54



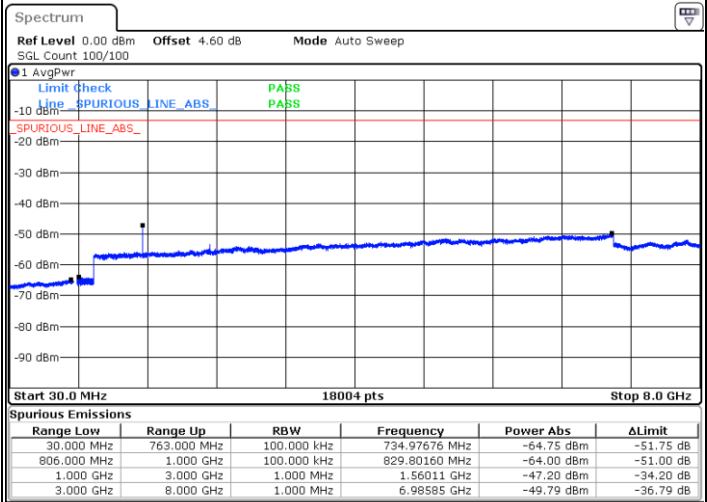
LTE Band 13 / 5MHz

Lowest Channel / 64QAM



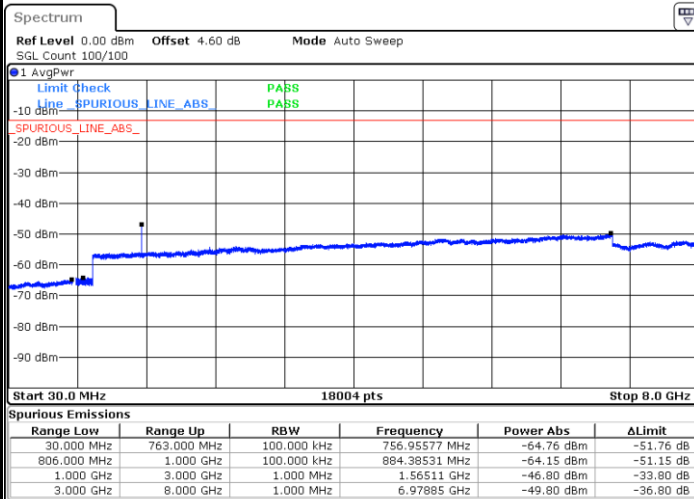
Date: 11.JAN.2020 15:58:23

Middle Channel / 64QAM



Date: 11.JAN.2020 15:59:17

Highest Channel / 64QAM

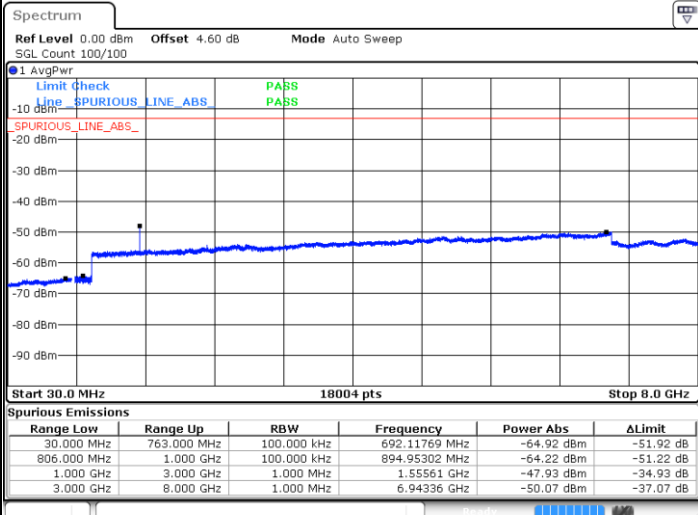


Date: 11.JAN.2020 16:00:11



LTE Band 13 / 10MHz

Middle Channel / 64QAM



Date: 11 JAN 2020 16:06:19

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	0.0034	PASS
40	Normal Voltage	0.0044	
30	Normal Voltage	0.0057	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0054	
0	Normal Voltage	0.0063	
-10	Normal Voltage	0.0010	
-20	Normal Voltage	0.0058	
-30	Normal Voltage	0.0066	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0046	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.3 V. ; Maximum Voltage =4.3 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 25

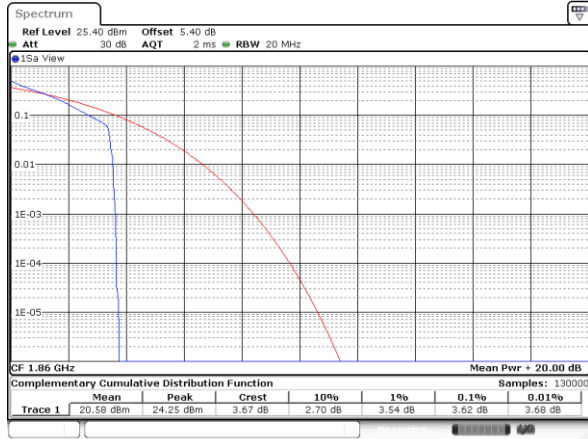
Peak-to-Average Ratio

Mode	LTE Band 25 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.62	4.46	5.22	5.88	PASS
Middle CH	3.54	4.70	5.07	6.09	
Highest CH	3.57	4.78	5.39	6.20	
Mode	LTE Band 25 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.78	6.35			PASS
Middle CH	6.26	6.58			
Highest CH	6.58	6.70			

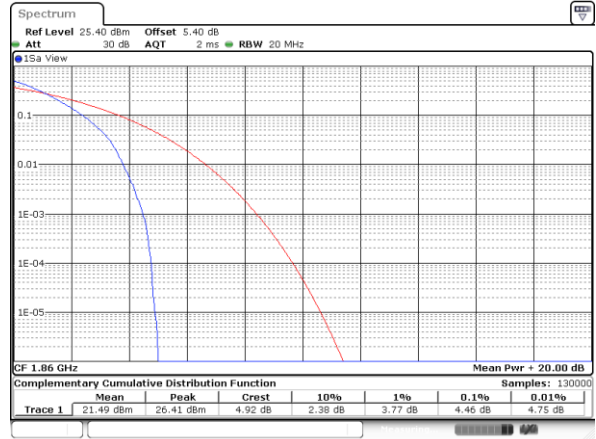


LTE Band 25 / 20MHz / QPSK

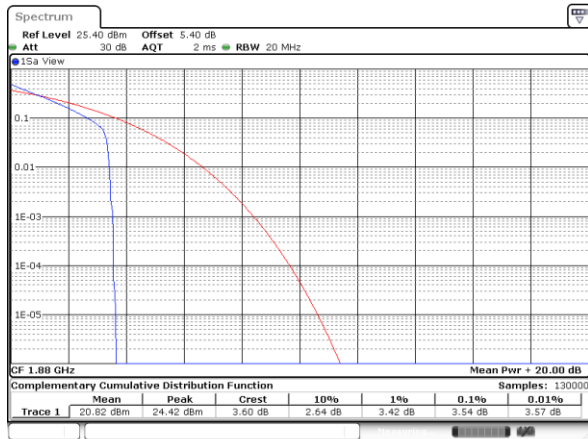
Lowest Channel / 1RB



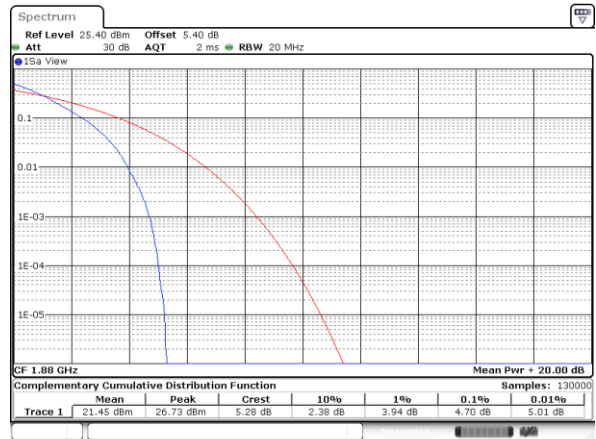
Lowest Channel / Full RB



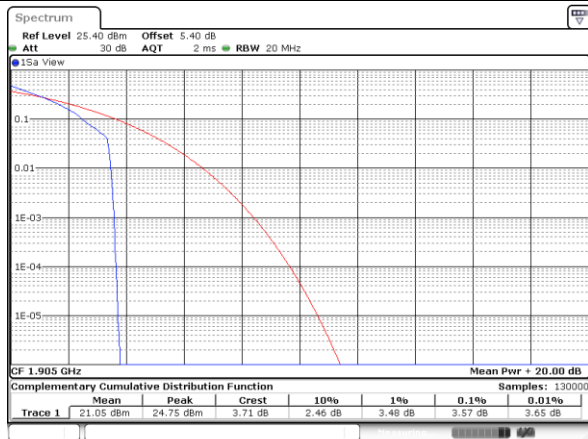
Middle Channel / 1RB



Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

