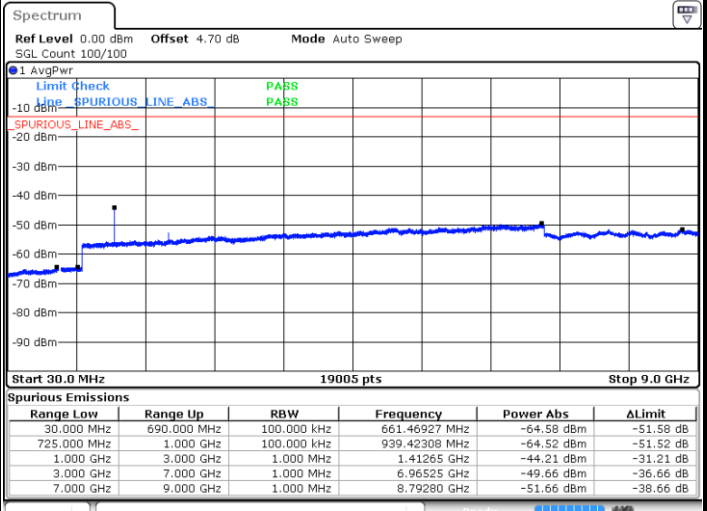
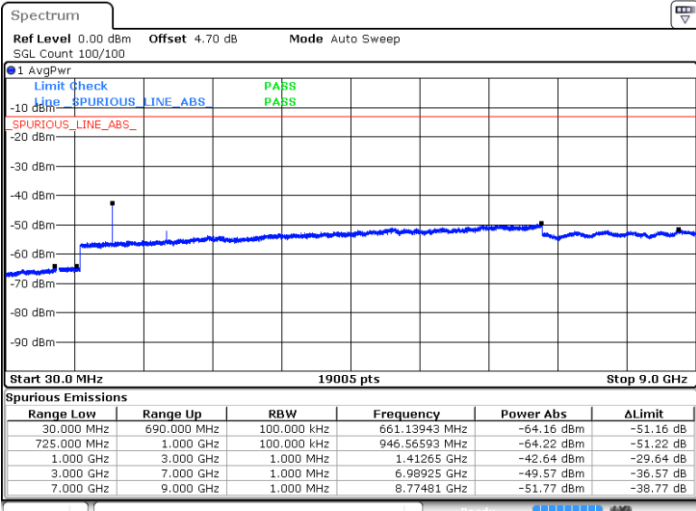




LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

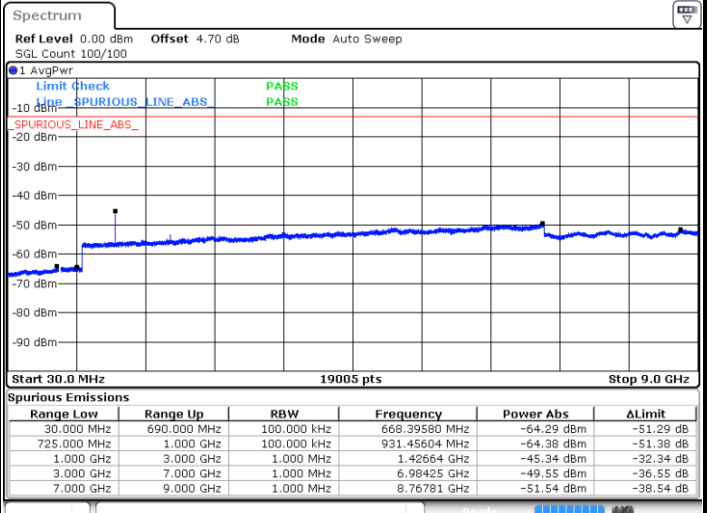
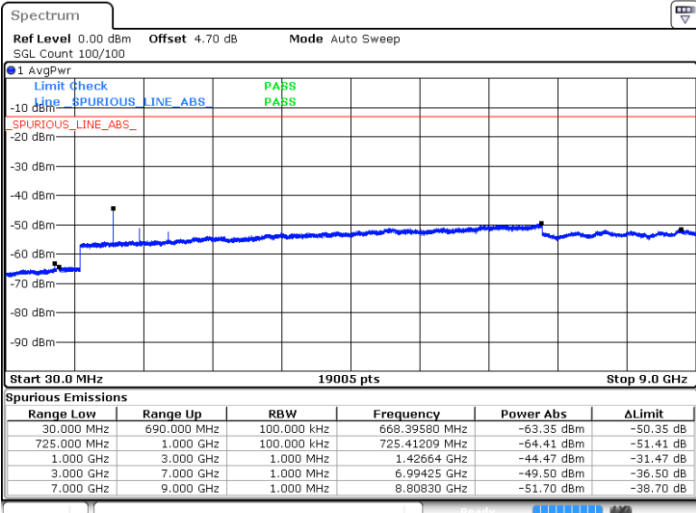


Date: 27. JAN 2020 16:46:33

Date: 27. JAN 2020 16:45:38

Highest Channel / QPSK

Highest Channel / 16QAM



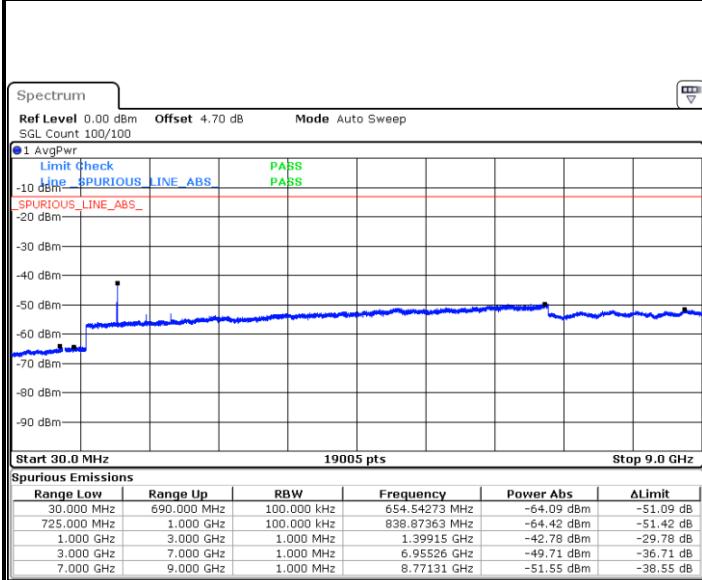
Date: 27. JAN 2020 16:47:27

Date: 27. JAN 2020 16:48:22



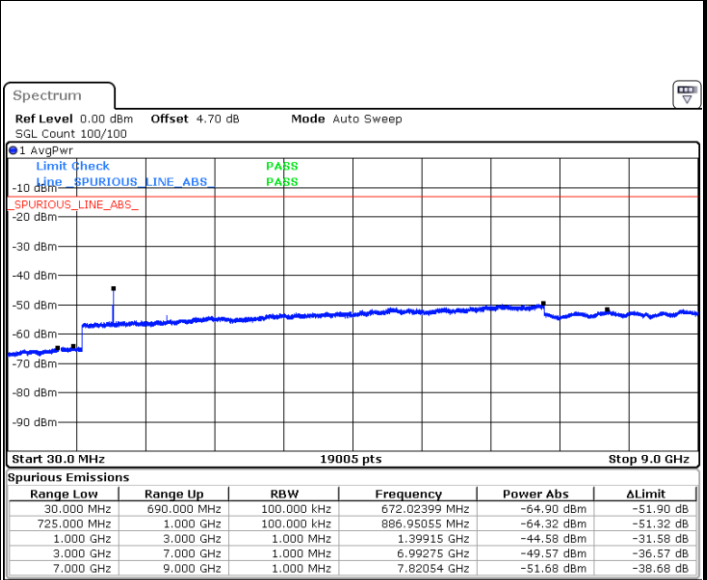
LTE Band 12 / 5MHz

Lowest Channel / QPSK



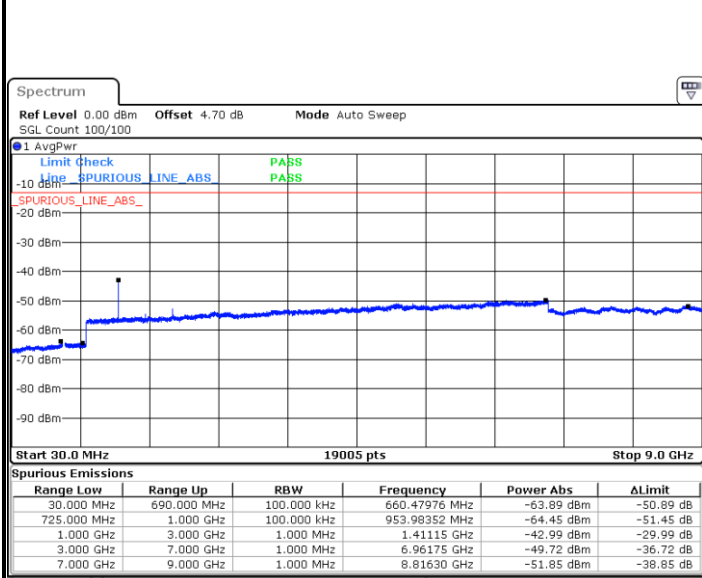
Date: 27. JAN 2020 17:00:21

Lowest Channel / 16QAM



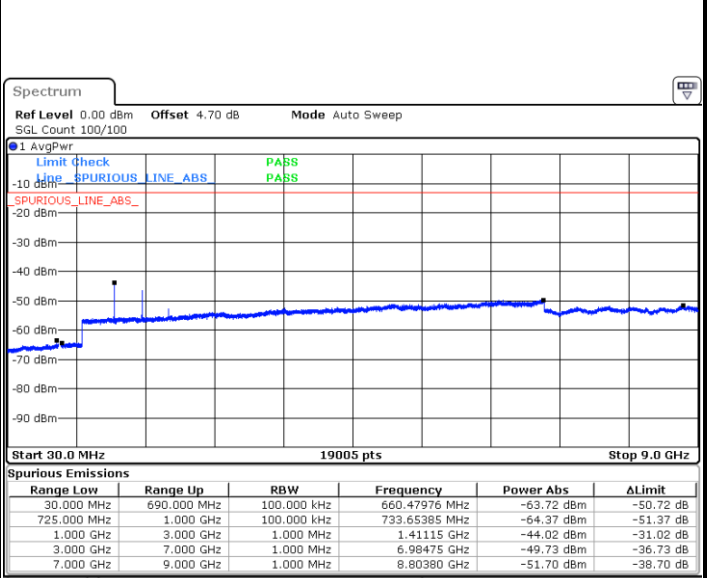
Date: 27. JAN 2020 17:01:16

Middle Channel / QPSK



Date: 27. JAN 2020 17:03:05

Middle Channel / 16QAM

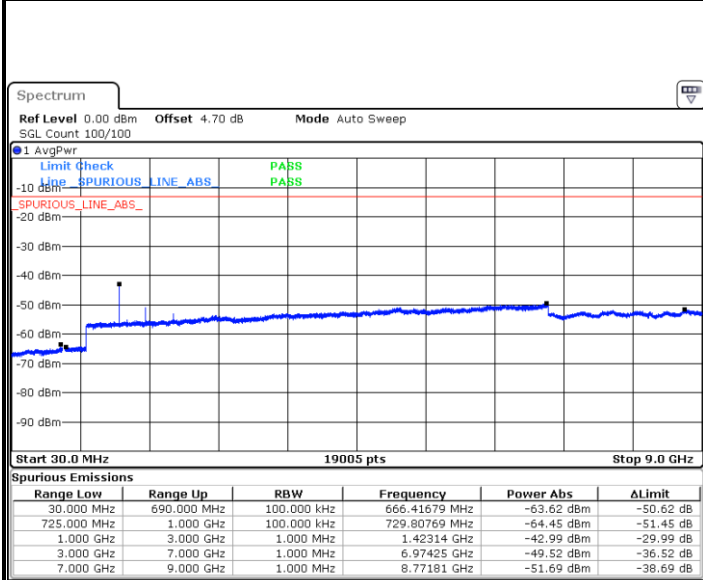


Date: 27. JAN 2020 17:02:10



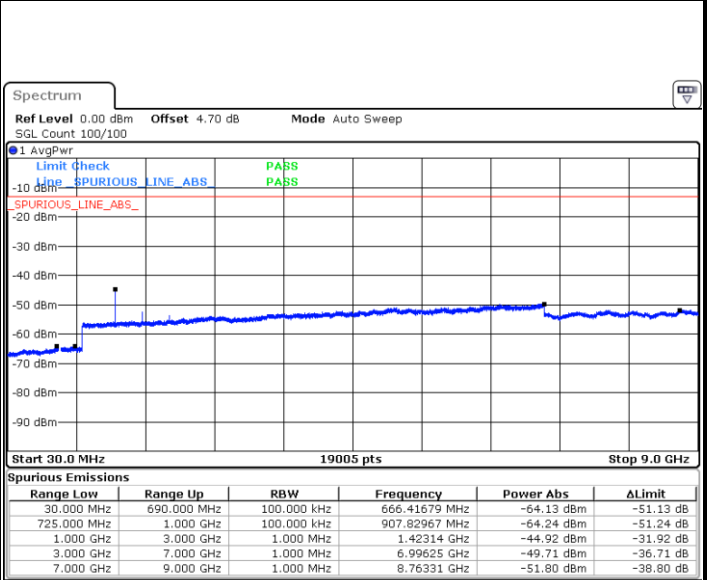
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 27. JAN 2020 17:04:00

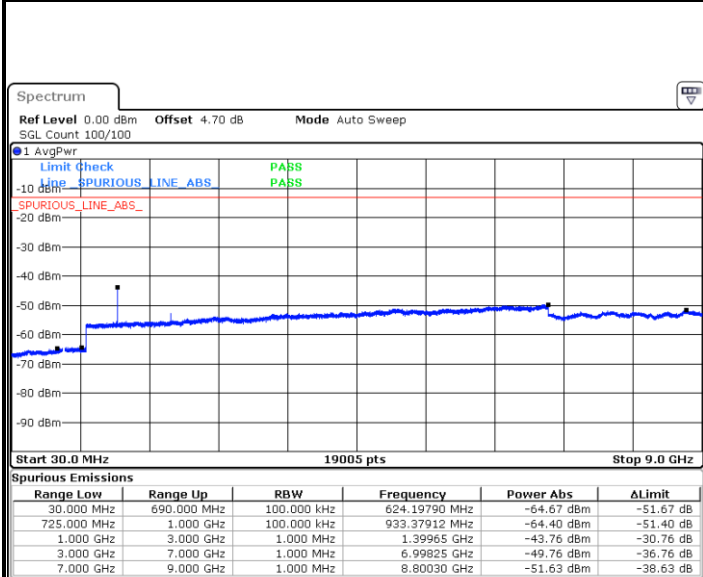
Highest Channel / 16QAM



Date: 27. JAN 2020 17:04:54

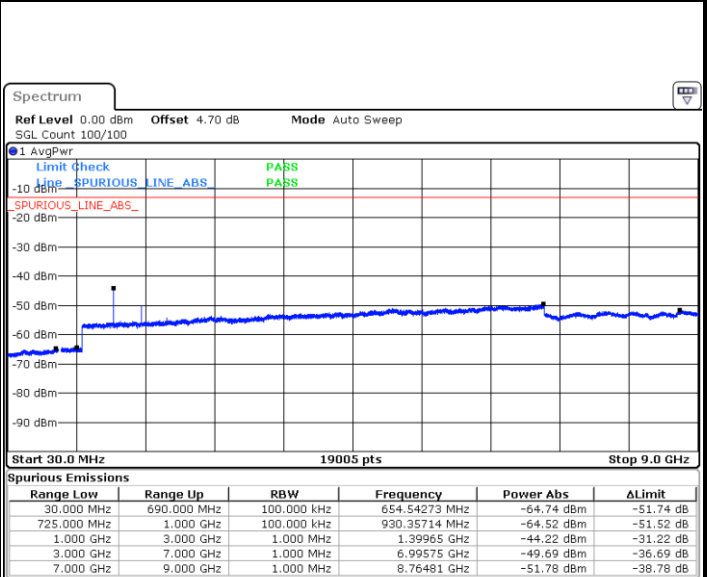
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 27. JAN 2020 17:23:57

Lowest Channel / 16QAM

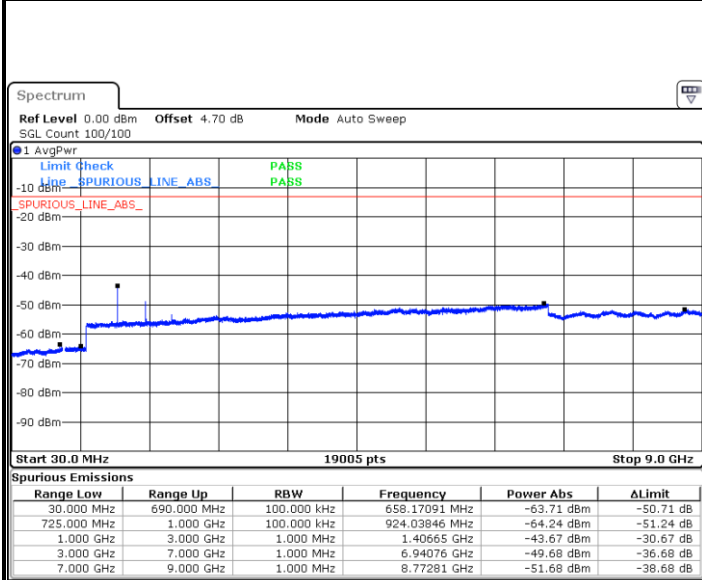


Date: 27. JAN 2020 17:24:51



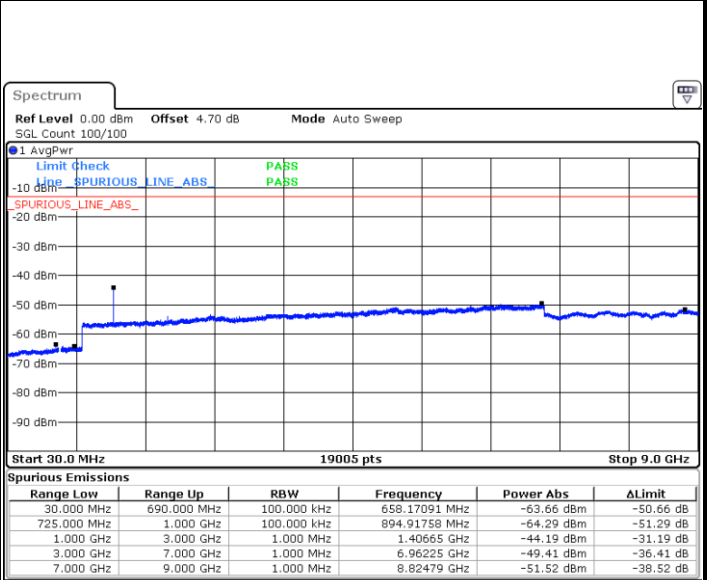
LTE Band 12 / 10MHz

Middle Channel / QPSK



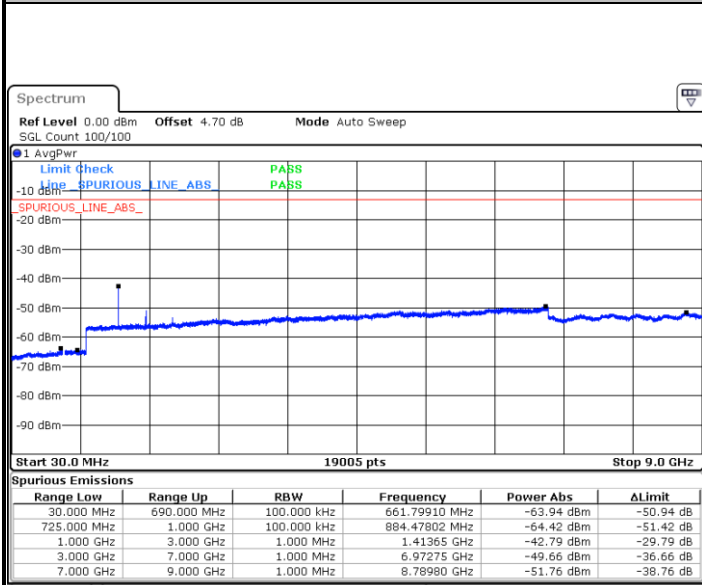
Date: 27. JAN 2020 17:26:41

Middle Channel / 16QAM



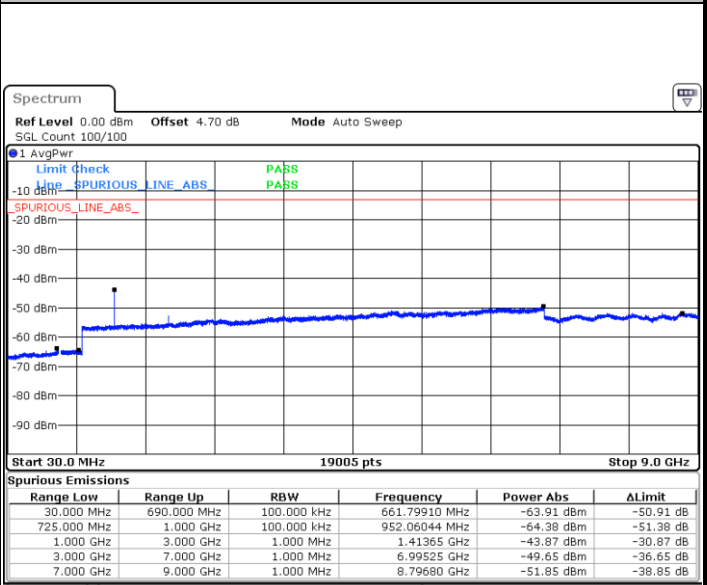
Date: 27. JAN 2020 17:25:46

Highest Channel / QPSK



Date: 27. JAN 2020 17:27:36

Highest Channel / 16QAM



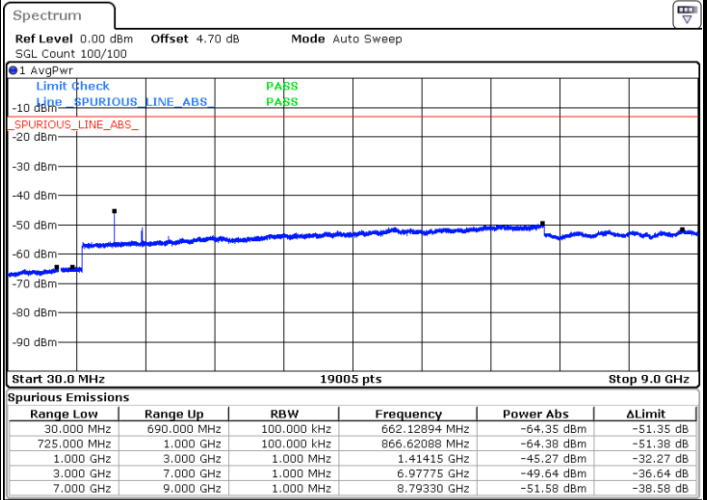
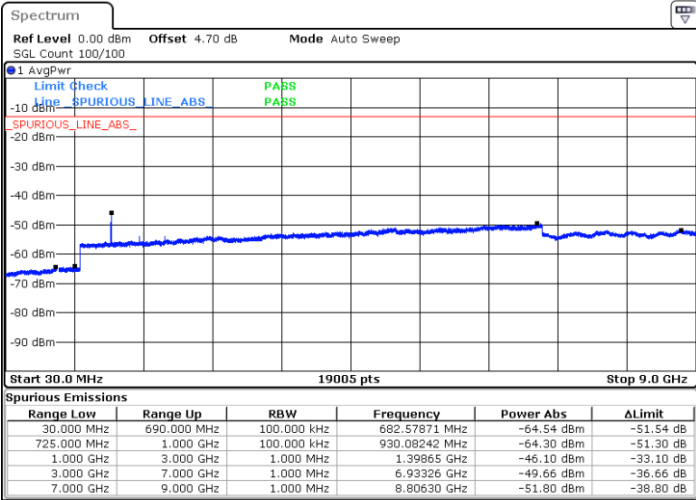
Date: 27. JAN 2020 17:28:30



LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM

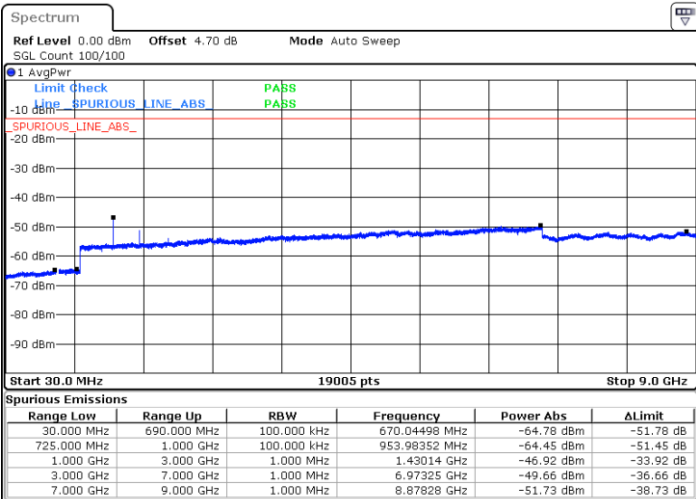
Middle Channel / 64QAM



Date: 27. JAN 2020 17:43:59

Date: 27. JAN 2020 17:44:53

Highest Channel / 64QAM



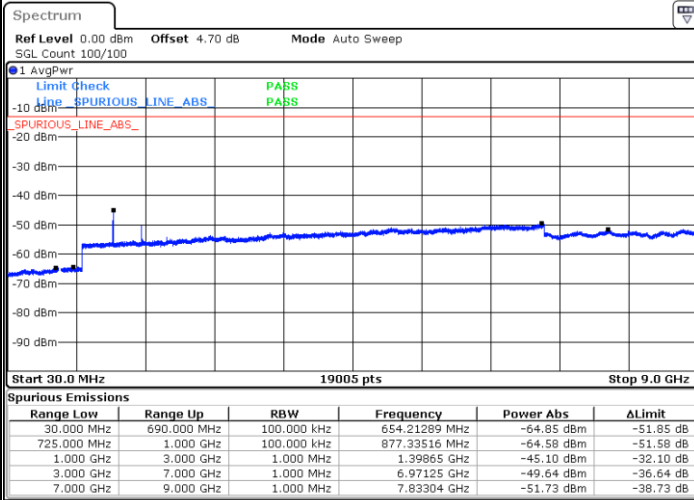
Date: 27. JAN 2020 17:45:48



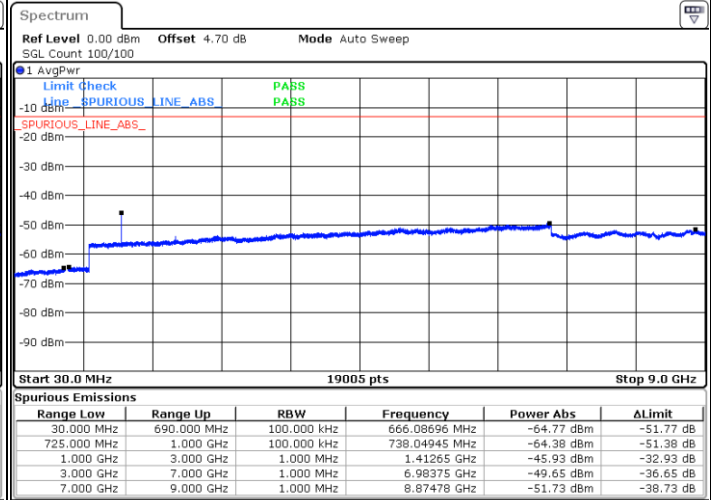
LTE Band 12 / 3MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

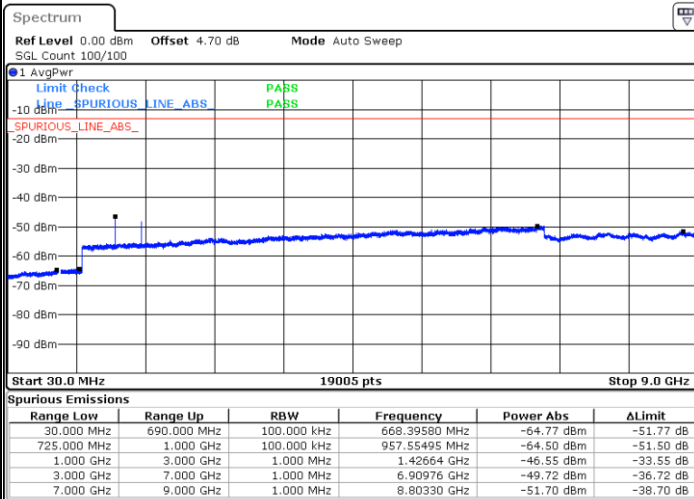


Date: 27. JAN 2020 17:46:43



Date: 27. JAN 2020 17:47:38

Highest Channel / 64QAM

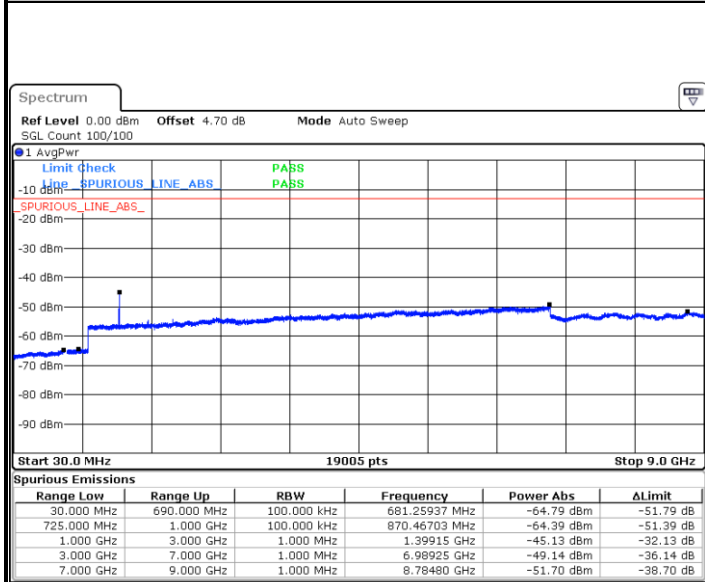


Date: 27. JAN 2020 17:48:33



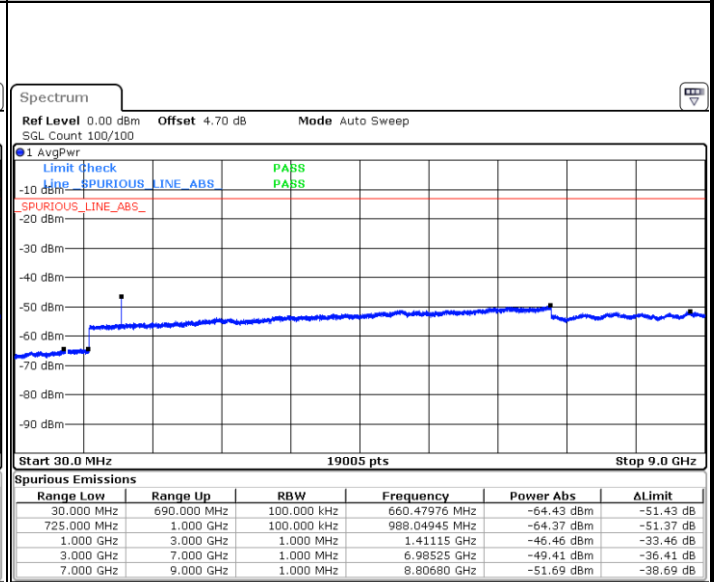
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



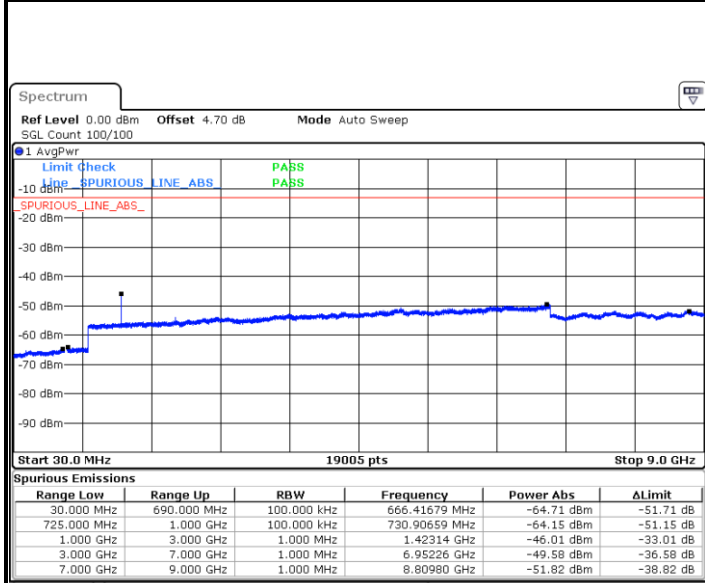
Date: 27. JAN 2020 18:00:31

Middle Channel / 64QAM



Date: 27. JAN 2020 18:01:25

Highest Channel / 64QAM



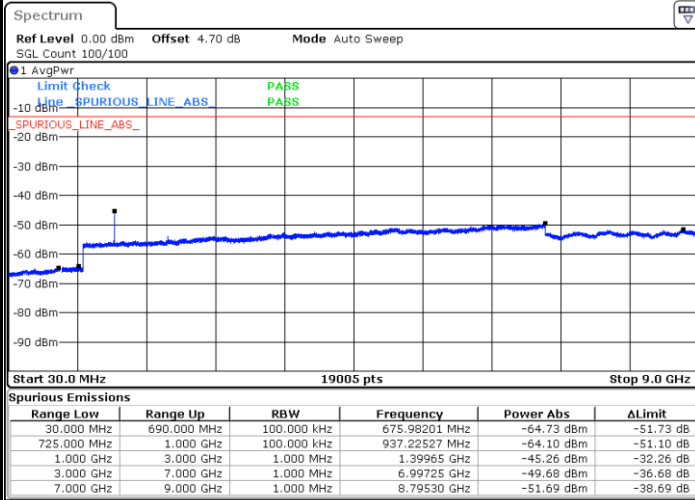
Date: 27. JAN 2020 18:02:20



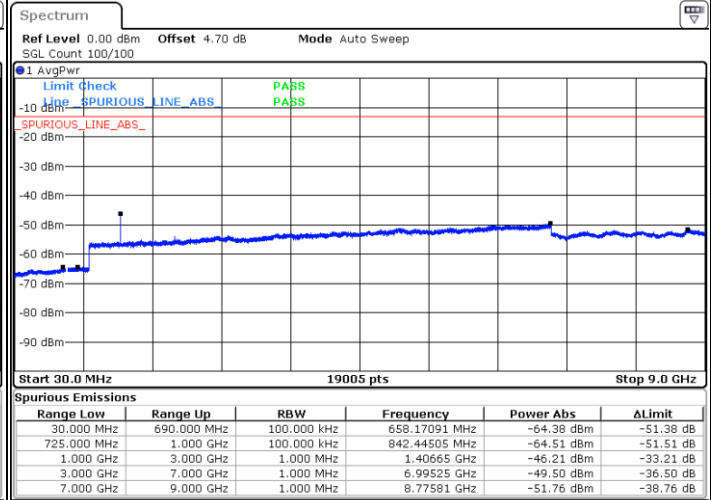
LTE Band 12 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

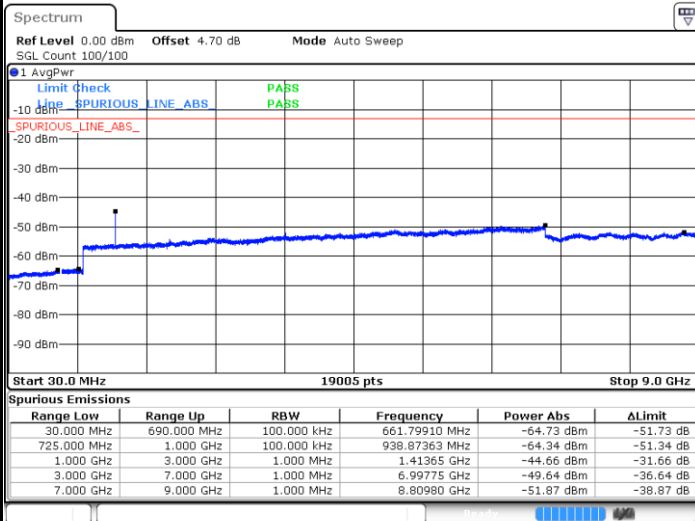


Date: 27. JAN 2020 18:03:15



Date: 27. JAN 2020 18:04:10

Highest Channel / 64QAM



Date: 27. JAN 2020 18:05:04



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	0.0023	PASS
40	Normal Voltage	0.0022	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0019	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0026	
-30	Normal Voltage	0.0022	
20	Maximum Voltage	0.0011	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0004	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

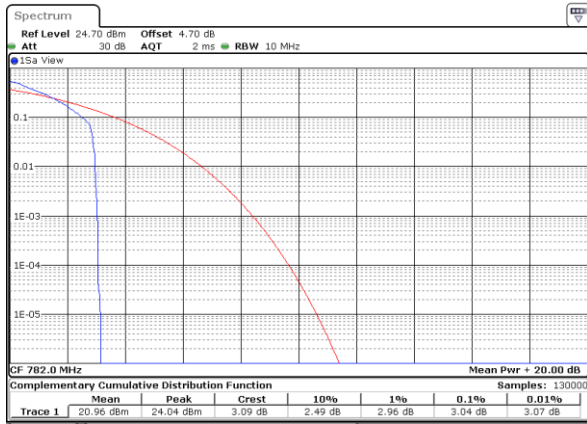
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.04	4.61	4.14	5.86	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.48	6.43	-	-	
Highest CH	-	-	-	-	



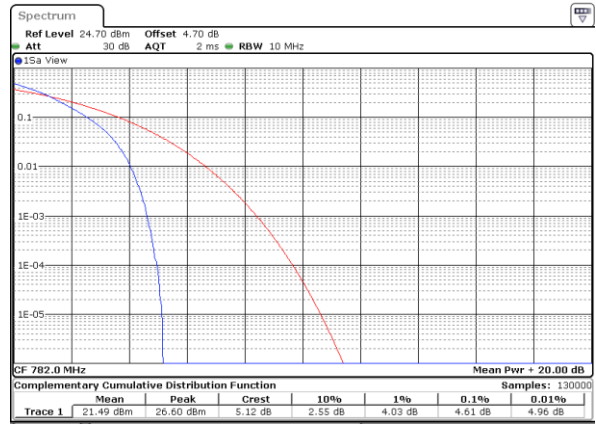
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 27 JAN 2020 19 01 07

Middle Channel / Full RB



Date: 27 JAN 2020 19 10 42

LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 27 JAN 2020 19 10 23

Middle Channel / Full RB



Date: 27 JAN 2020 19 10 33

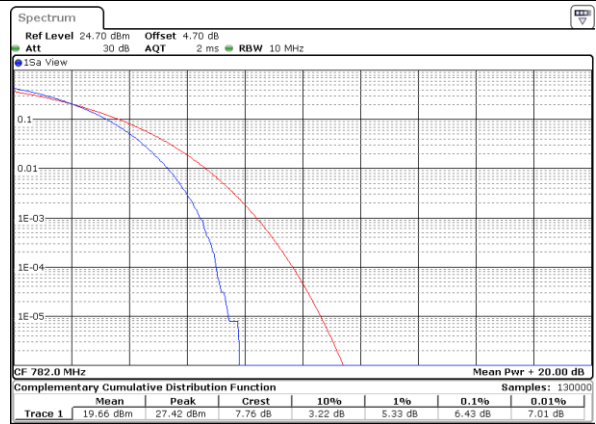
LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 27 JAN 2020 19 35 33

Middle Channel / Full RB



Date: 27 JAN 2020 19 35 47



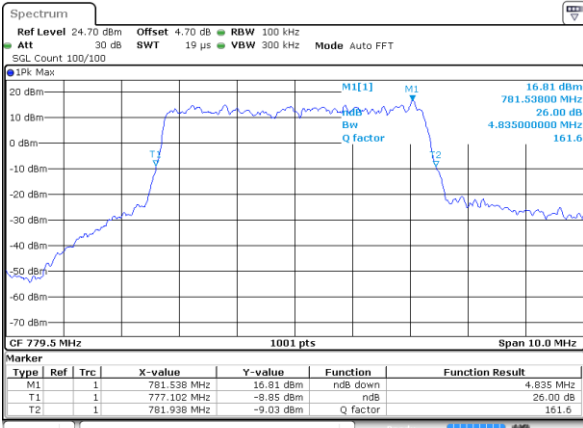
26dB Bandwidth

Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.84	4.93	-	-	-	-	-	-
Middle CH	-	-	-	-	4.89	4.95	9.71	9.91	-	-	-	-
Highest CH	-	-	-	-	4.95	4.82	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.86	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.95	-	9.75	-	-	-	-	-
Highest CH	-	-	-	-	4.85	-	-	-	-	-	-	-



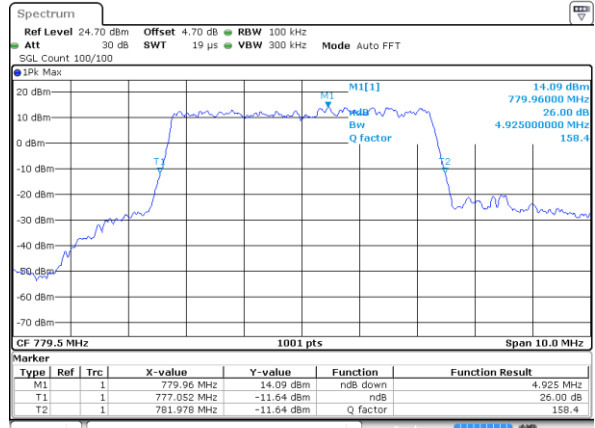
LTE Band 13

Lowest Channel / 5MHz / QPSK



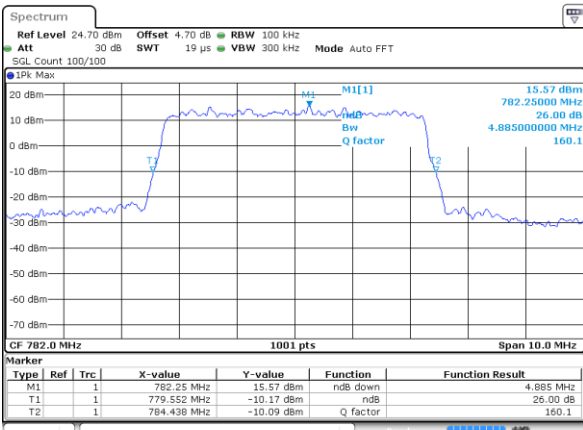
Date: 27 JAN 2020 18:19:29

Lowest Channel / 5MHz / 16QAM



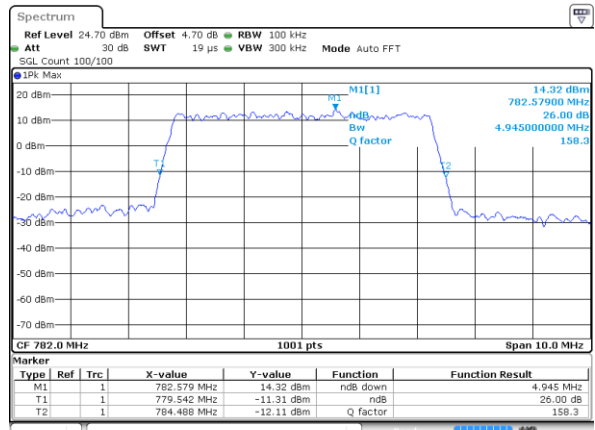
Date: 27 JAN 2020 18:19:40

Middle Channel / 5MHz / QPSK



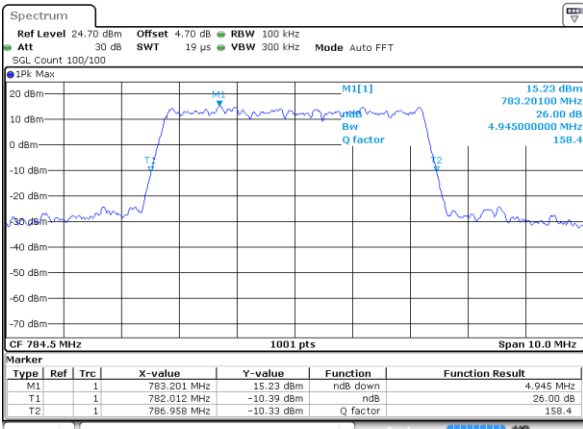
Date: 27 JAN 2020 18:28:31

Middle Channel / 5MHz / 16QAM



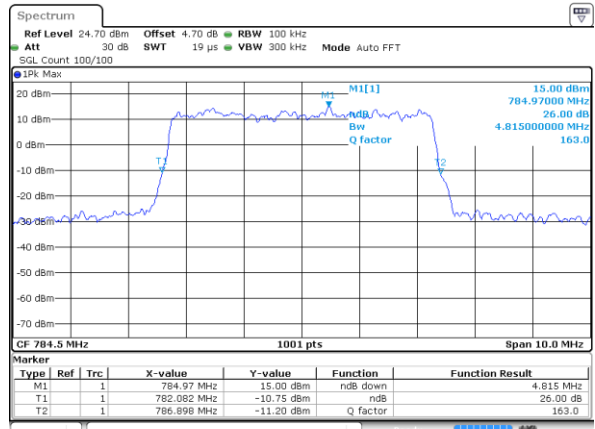
Date: 27 JAN 2020 18:28:41

Highest Channel / 5MHz / QPSK



Date: 27 JAN 2020 18:31:10

Highest Channel / 5MHz / 16QAM

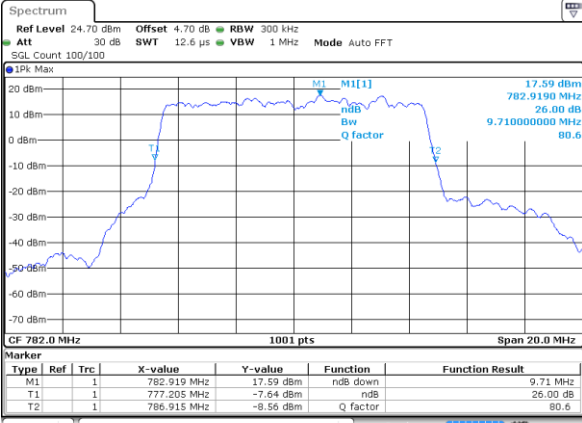


Date: 27 JAN 2020 18:31:00



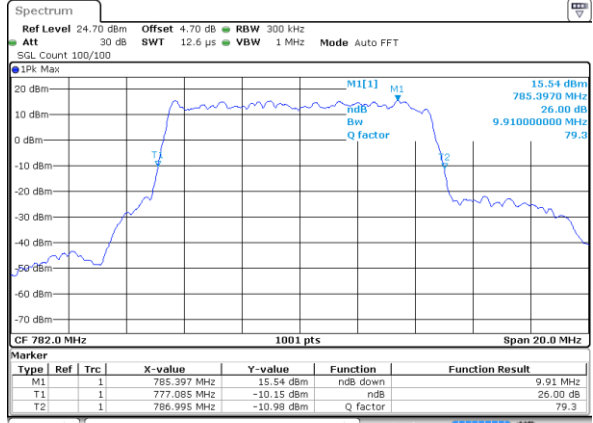
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 27 JAN 2020 18:42:00

Middle Channel / 10MHz / 16QAM

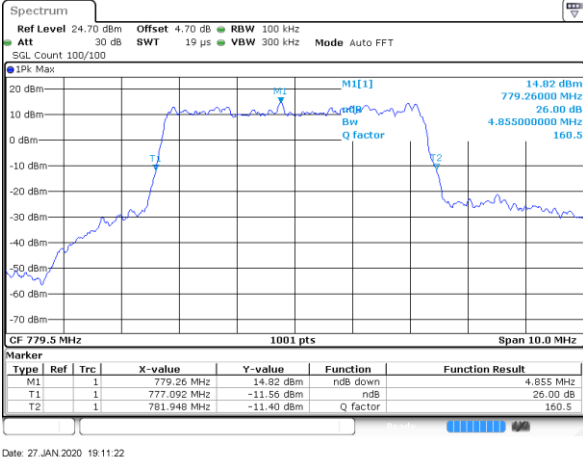


Date: 27 JAN 2020 18:41:50



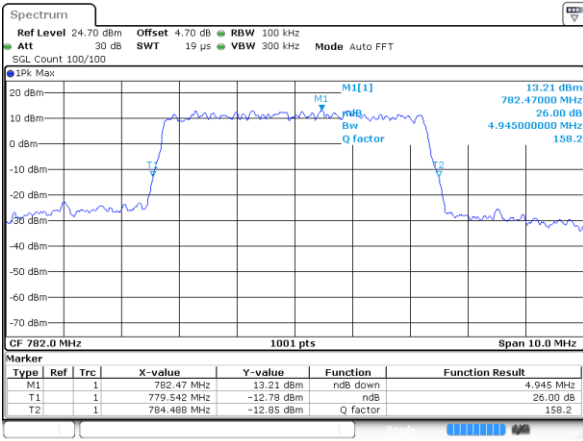
LTE Band 13

Lowest Channel / 5MHz / 64QAM



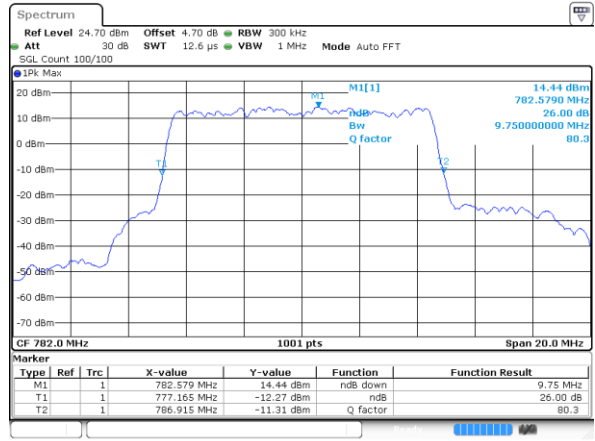
Date: 27 JAN 2020 19:11:22

Middle Channel / 5MHz / 64QAM



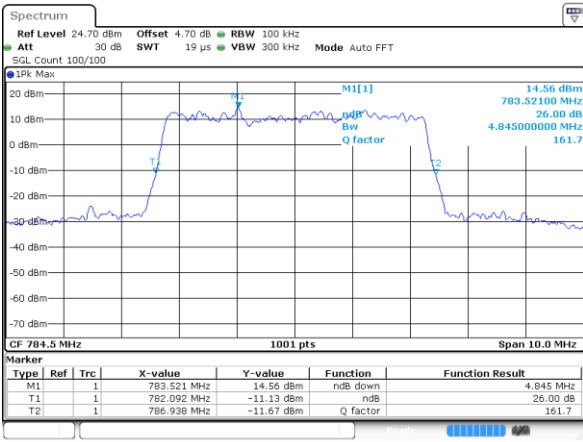
Date: 27 JAN 2020 19:11:33

Middle Channel / 10MHz / 64QAM



Date: 27 JAN 2020 19:21:18

Highest Channel / 5MHz / 64QAM



Date: 27 JAN 2020 19:11:43



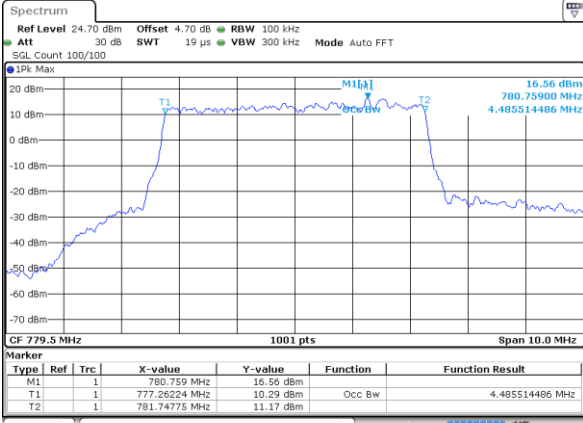
Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.49	4.52	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.50	8.99	9.03	-	-	-	-
Highest CH	-	-	-	-	4.50	4.50	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.49	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.50	-	9.07	-	-	-	-	-
Highest CH	-	-	-	-	4.51	-	-	-	-	-	-	-



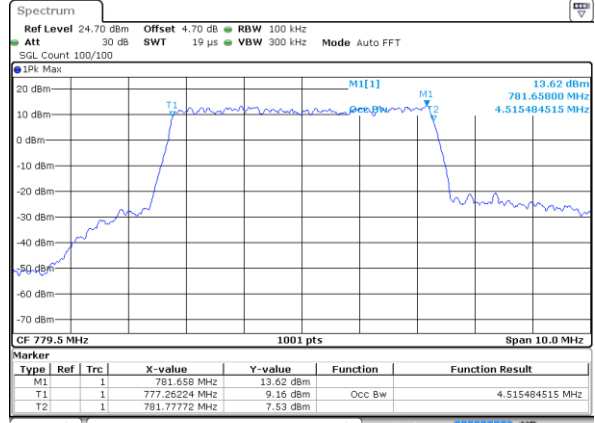
LTE Band 13

Lowest Channel / 5MHz / QPSK



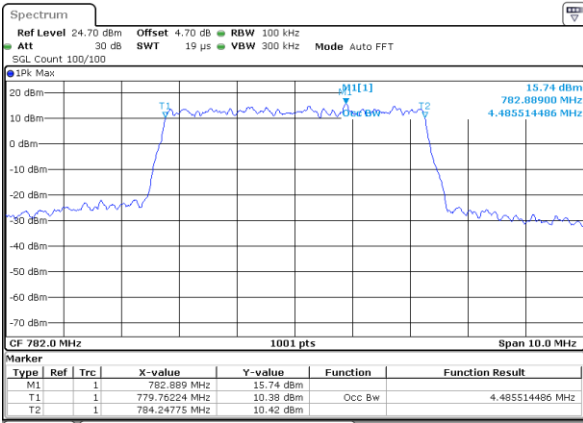
Date: 27 JAN 2020 18:20:00

Lowest Channel / 5MHz / 16QAM



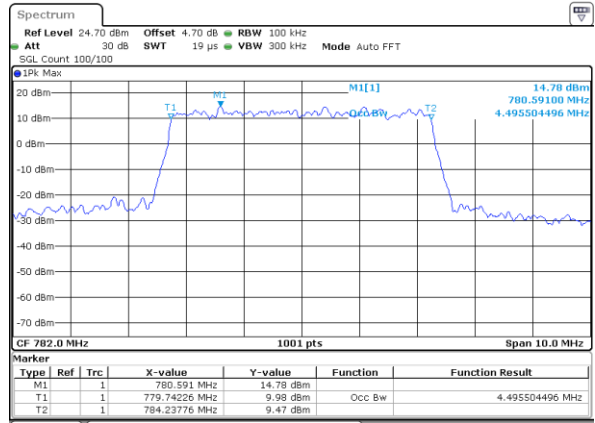
Date: 27 JAN 2020 18:19:50

Middle Channel / 5MHz / QPSK



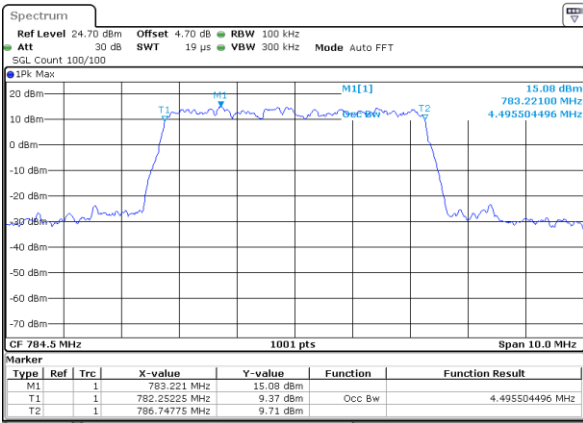
Date: 27 JAN 2020 18:28:51

Middle Channel / 5MHz / 16QAM



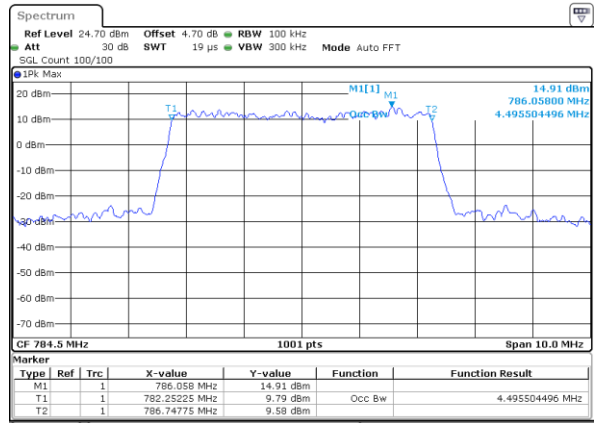
Date: 27 JAN 2020 18:29:01

Highest Channel / 5MHz / QPSK



Date: 27 JAN 2020 18:31:21

Highest Channel / 5MHz / 16QAM

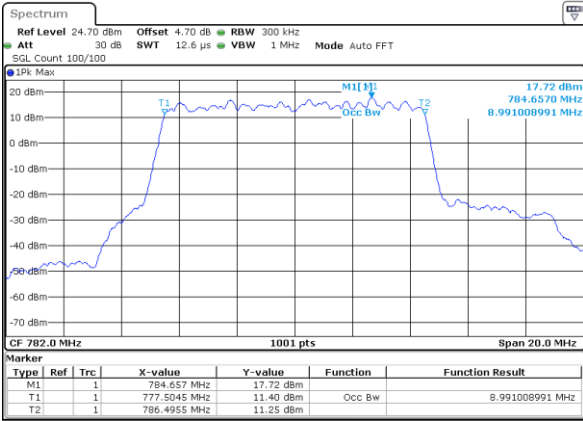


Date: 27 JAN 2020 18:31:31



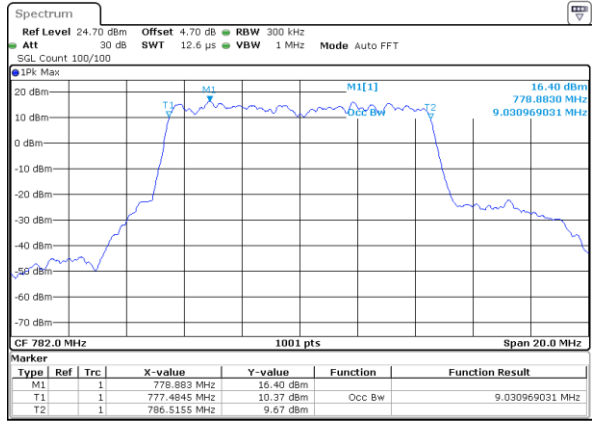
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 27 JAN 2020 18:42:11

Middle Channel / 10MHz / 16QAM

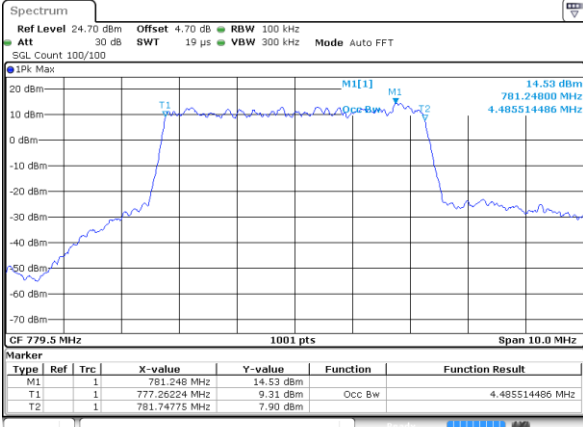


Date: 27 JAN 2020 18:42:21



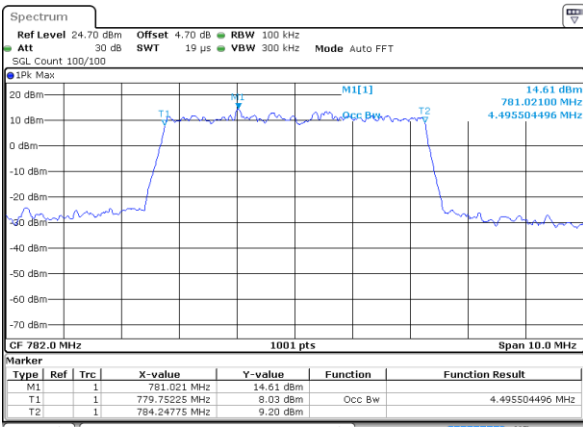
LTE Band 13

Lowest Channel / 5MHz / 64QAM



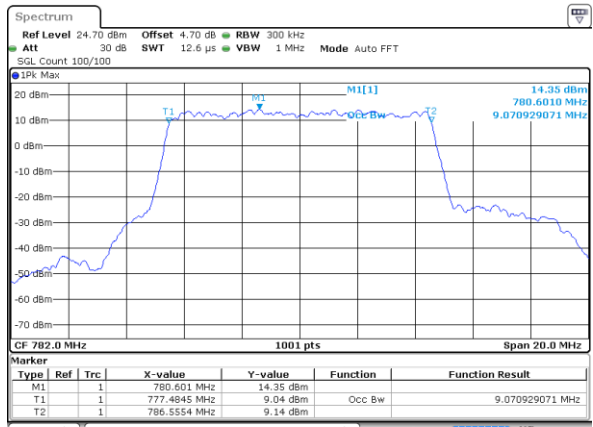
Date: 27 JAN 2020 19:10:52

Middle Channel / 5MHz / 64QAM



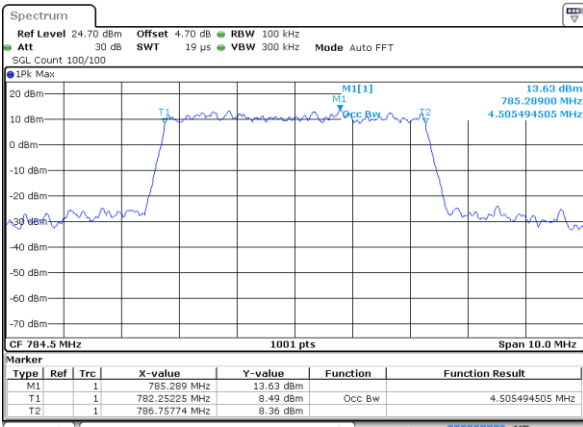
Date: 27 JAN 2020 19:11:02

Middle Channel / 10MHz / 64QAM



Date: 27 JAN 2020 19:21:08

Highest Channel / 5MHz / 64QAM



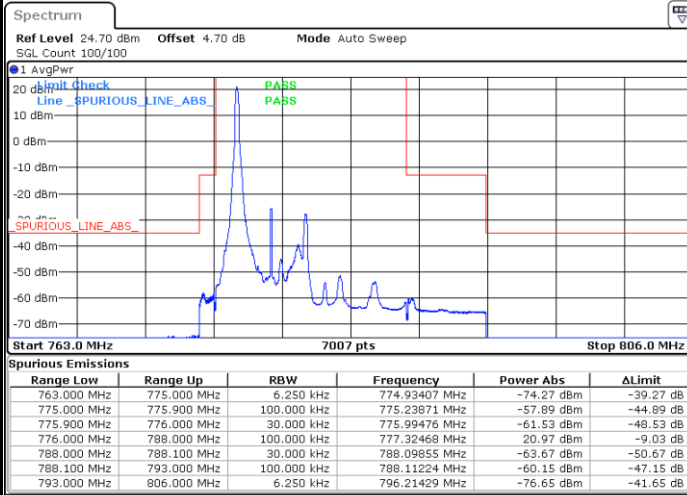
Date: 27 JAN 2020 19:11:12



Conducted Band Edge

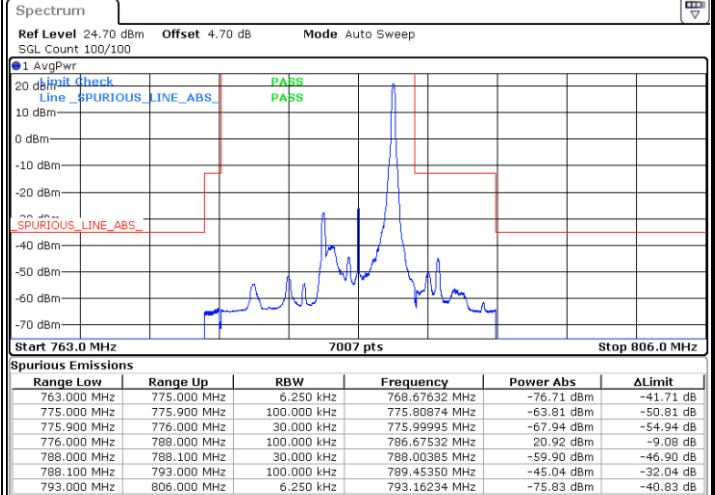
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB



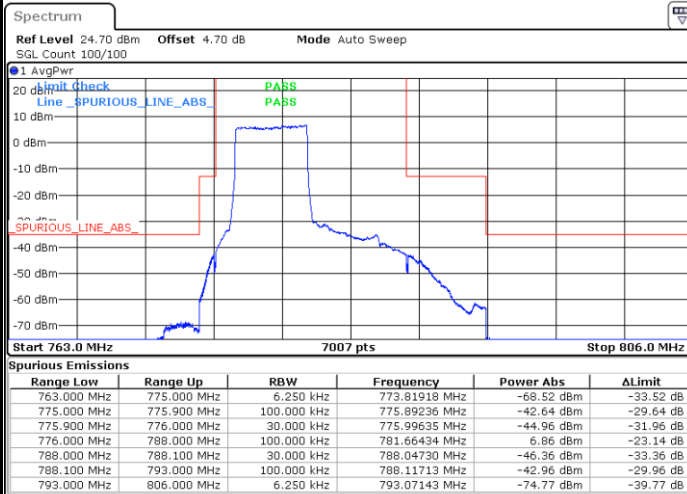
Date: 27.JAN.2020 18:24:54

Highest Band Edge / 1 RB



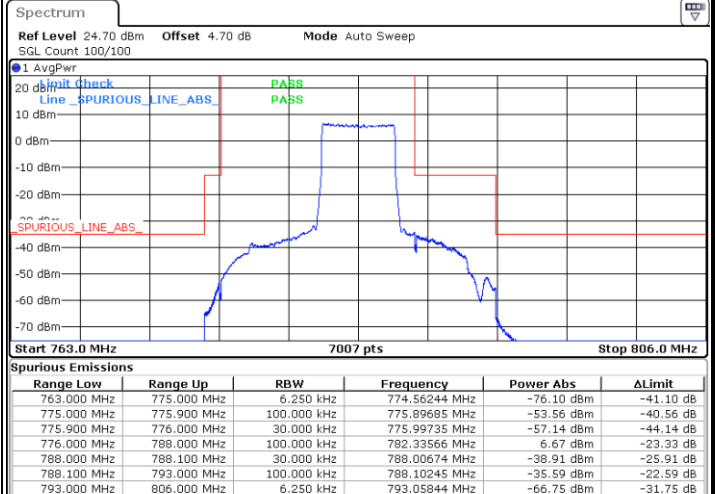
Date: 27.JAN.2020 18:36:25

Lowest Band Edge / Full RB



Date: 27.JAN.2020 18:23:16

Highest Band Edge / Full RB



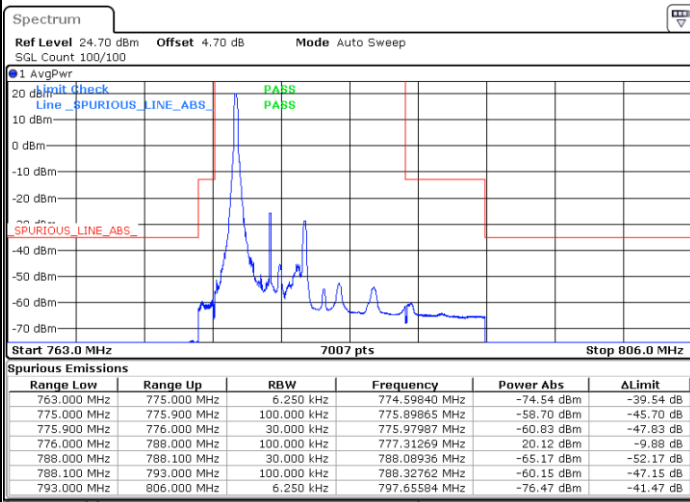
Date: 27.JAN.2020 18:34:47



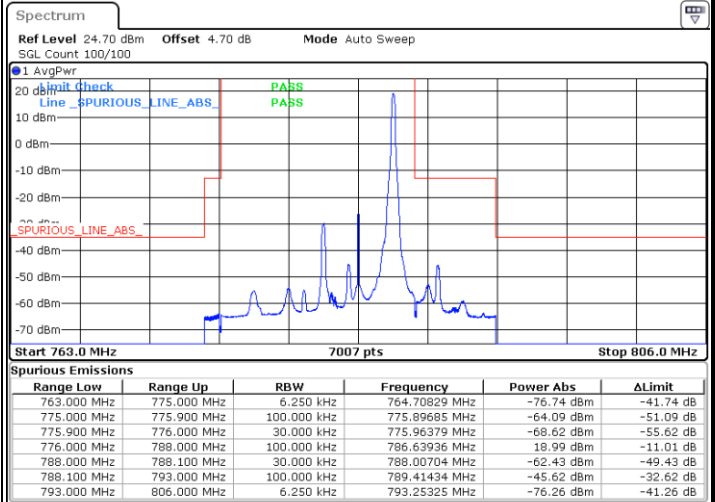
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



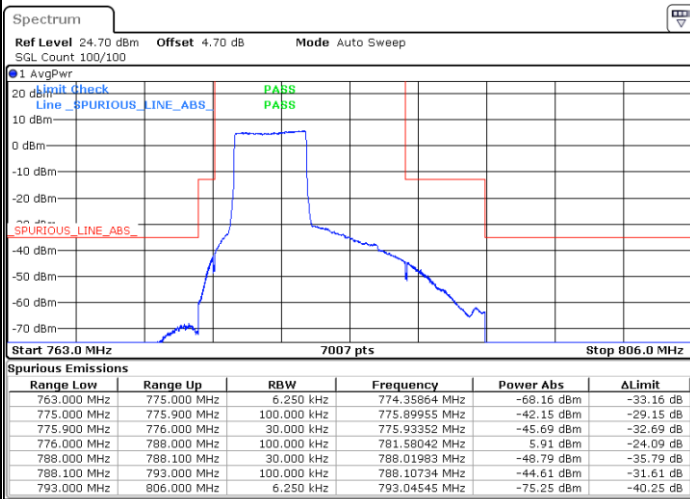
Date: 27. JAN 2020 18:26:32



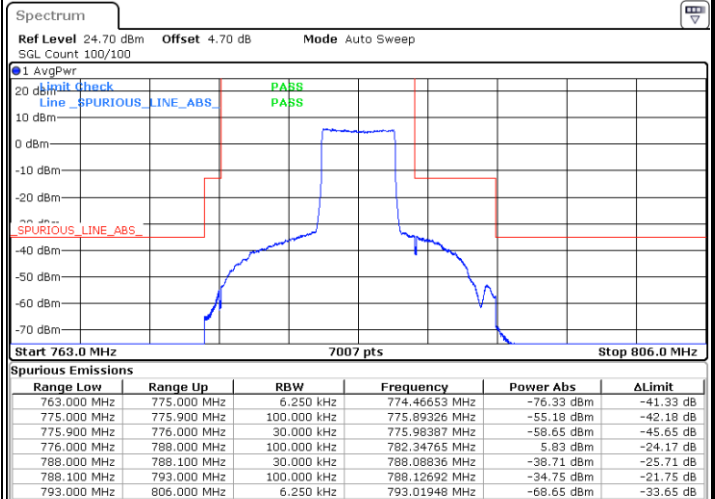
Date: 27. JAN 2020 19:18:14

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 27. JAN 2020 18:21:38



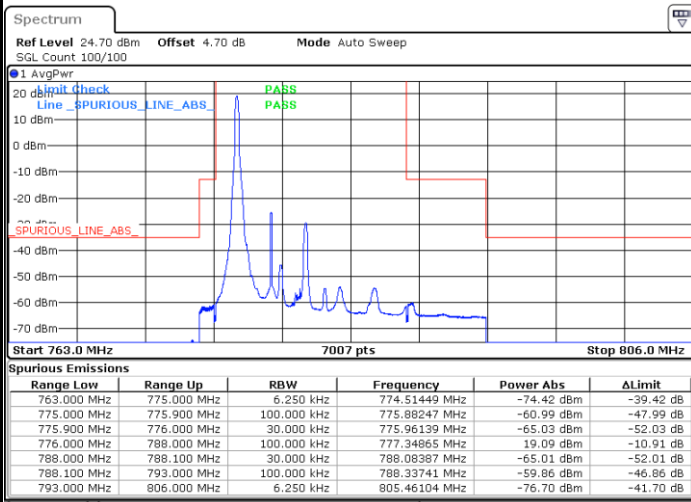
Date: 27. JAN 2020 18:33:09



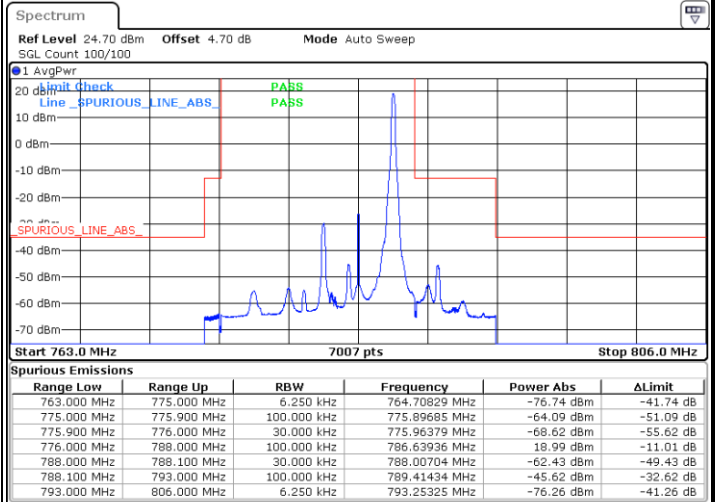
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



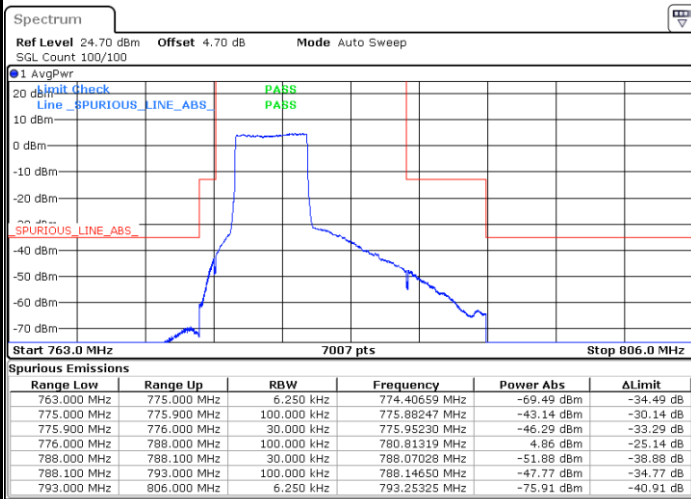
Date: 27. JAN 2020 19:13:21



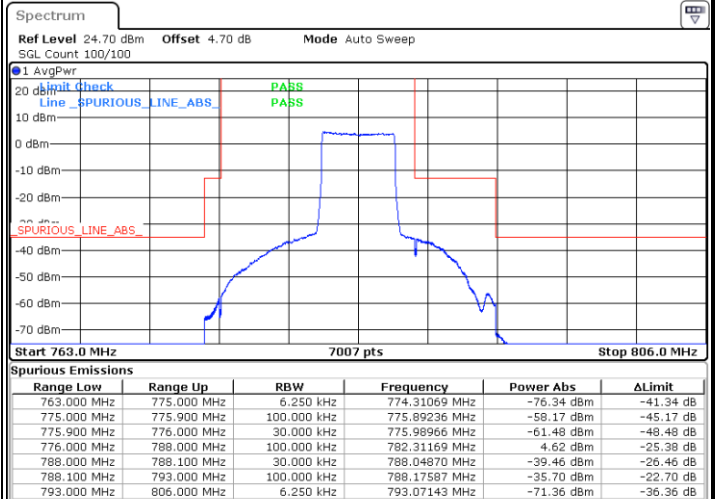
Date: 27. JAN 2020 19:18:14

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 27. JAN 2020 19:14:59

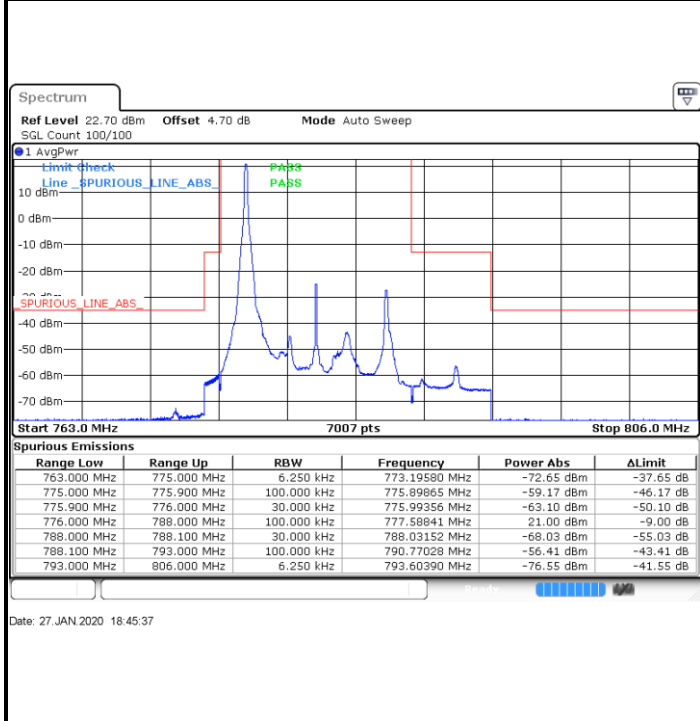


Date: 27. JAN 2020 19:16:37

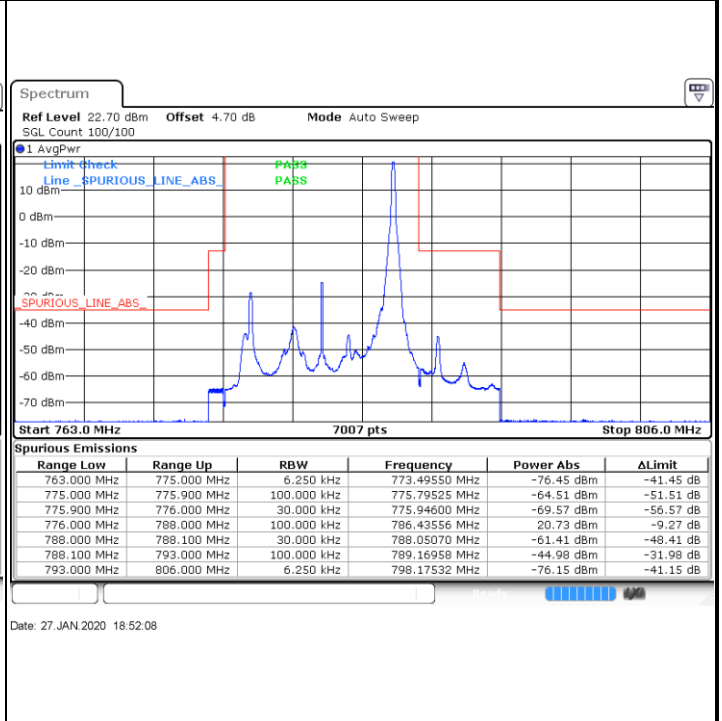


LTE Band 13 / 10MHz / QPSK

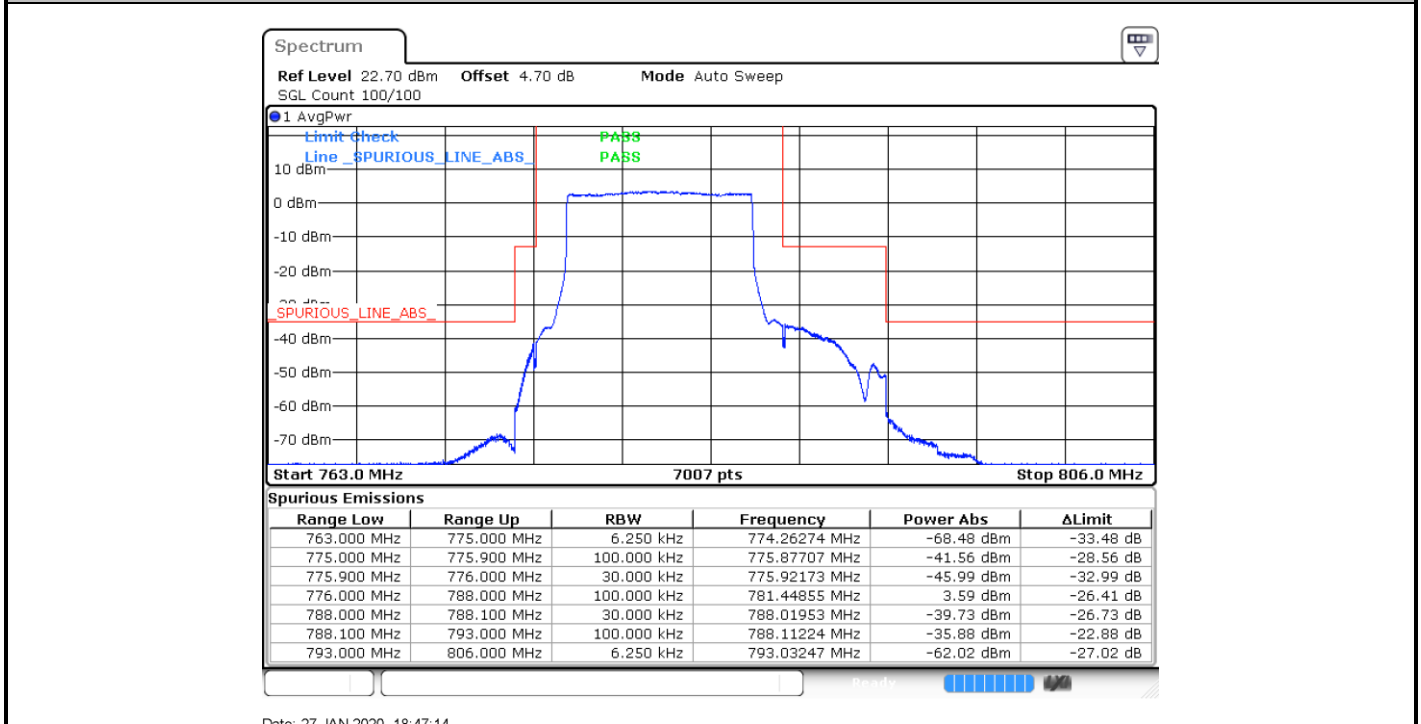
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



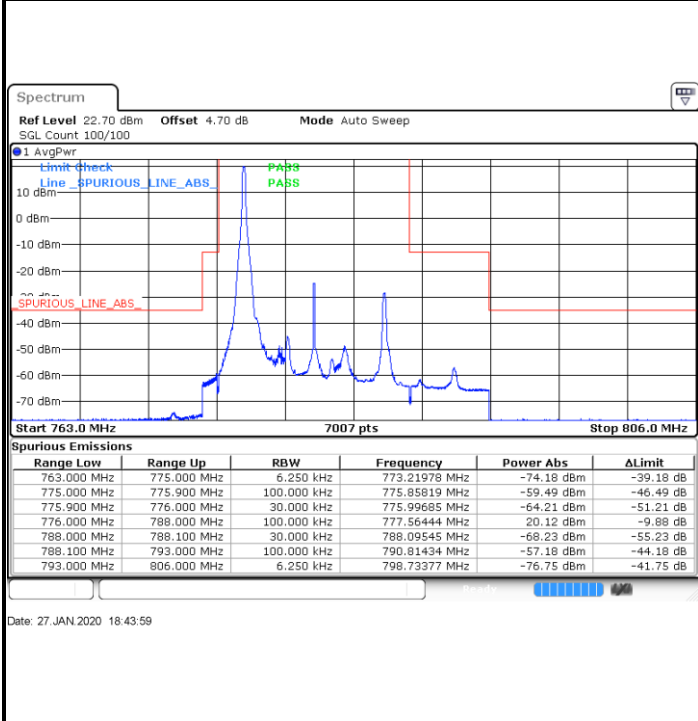
Band Edge / Full RB



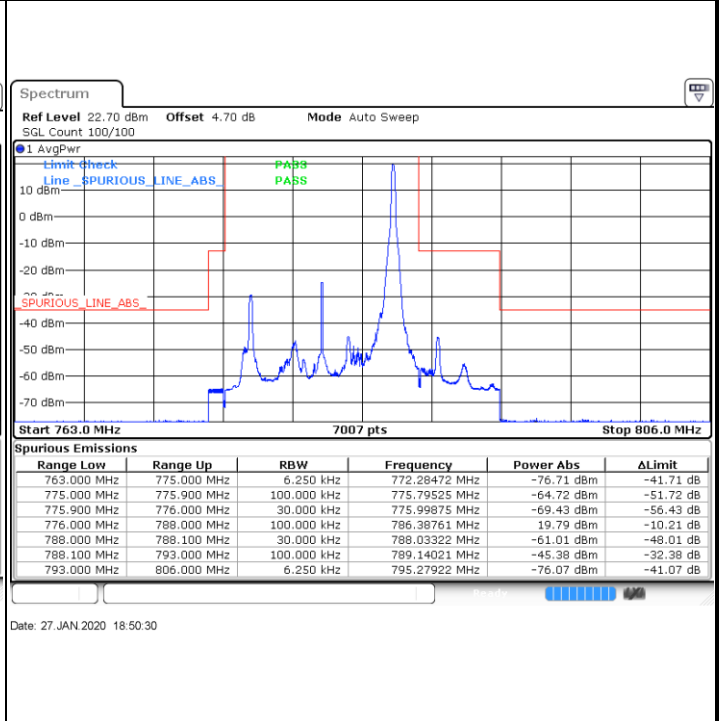


LTE Band 13 / 10MHz / 16QAM

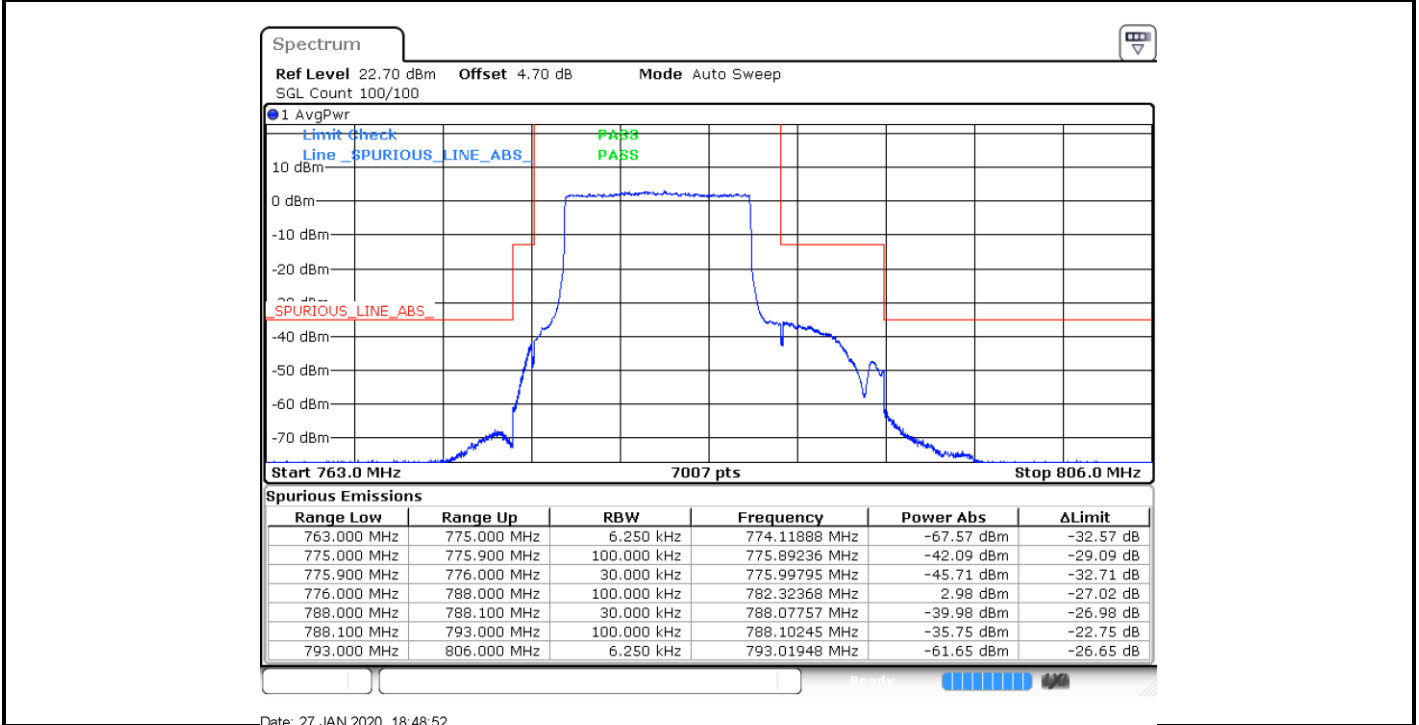
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



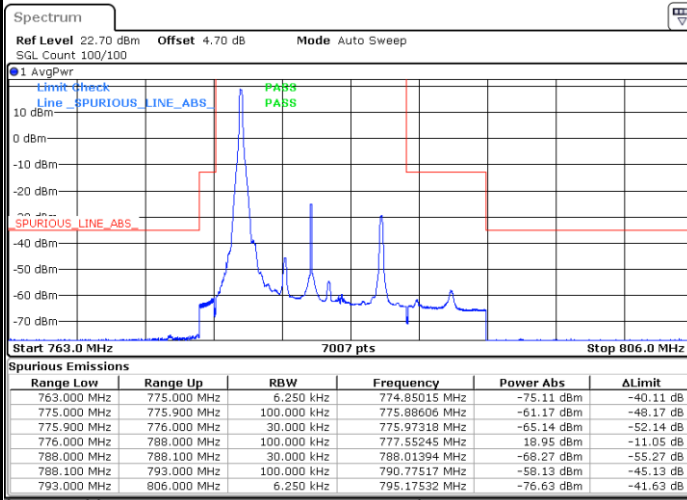
Band Edge / Full RB





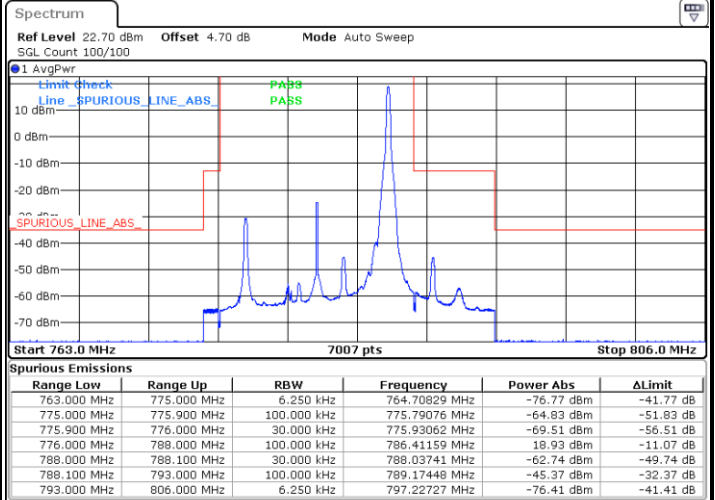
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



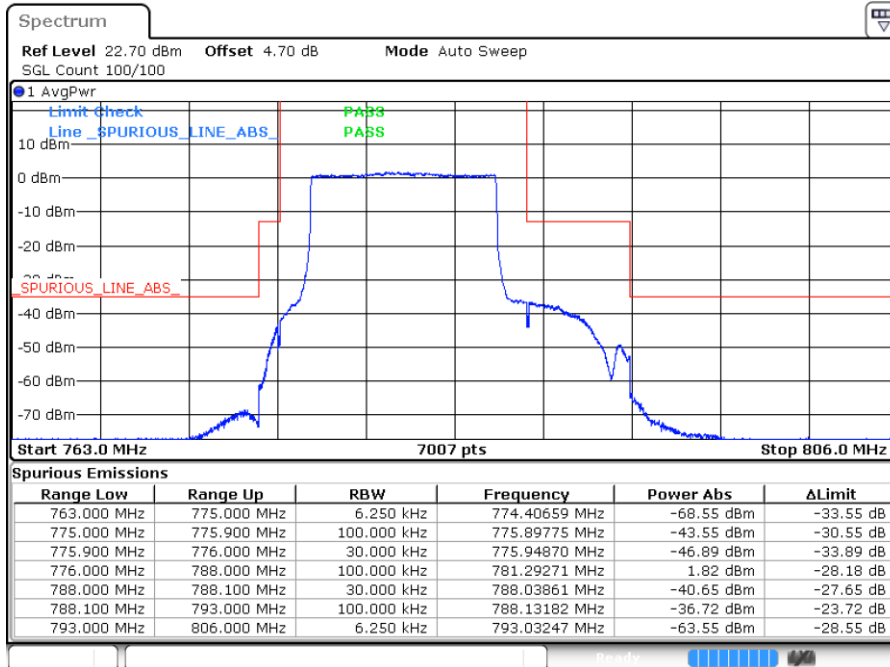
Date: 27 JAN 2020 19:22:56

Highest Band Edge / 1 RB



Date: 27 JAN 2020 19:24:34

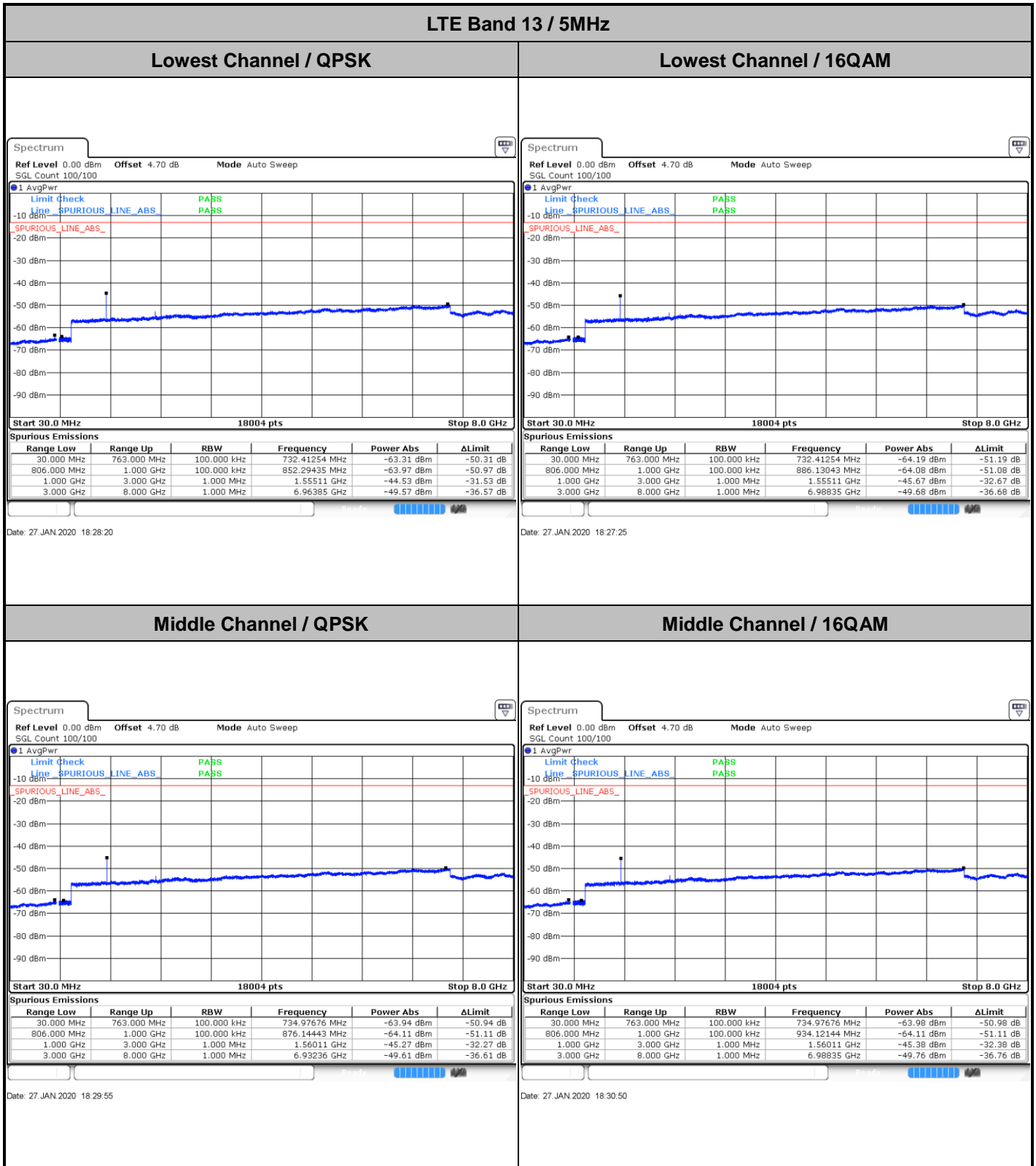
Band Edge / Full RB



Date: 27 JAN 2020 19:26:12



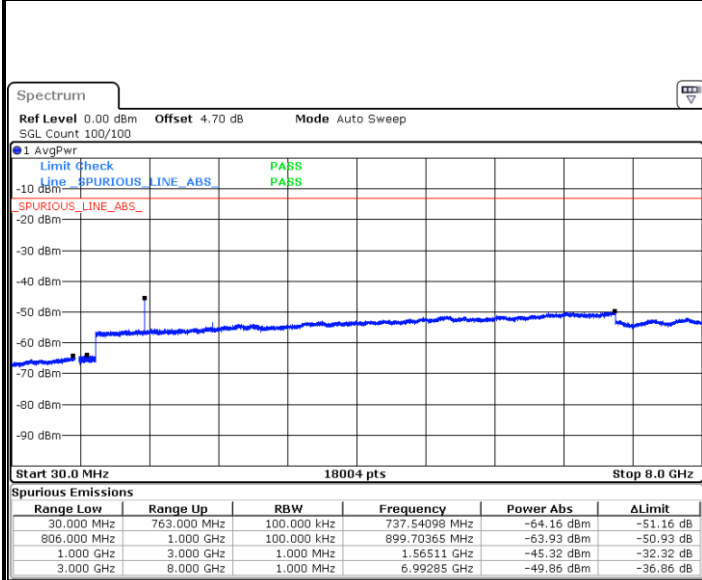
Conducted Spurious Emission





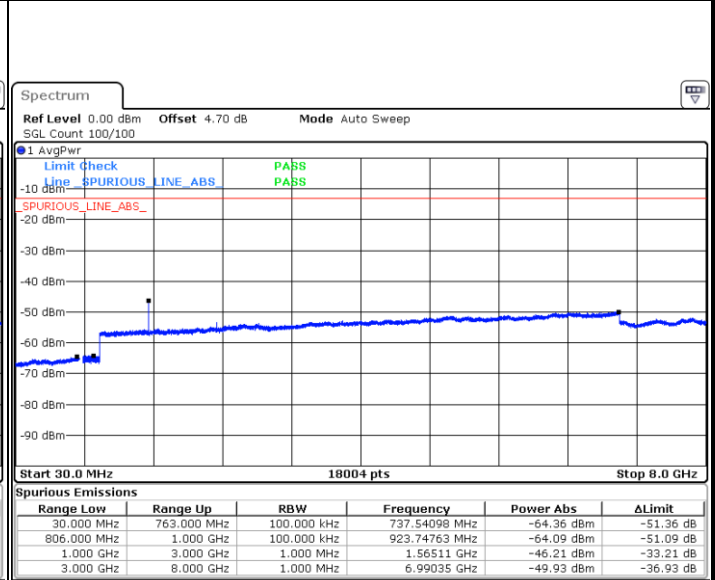
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 27. JAN 2020 18:39:51

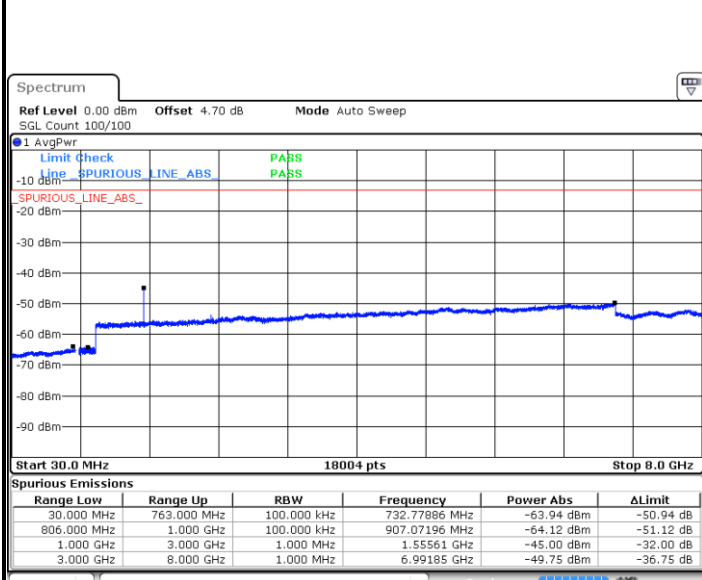
Highest Channel / 16QAM



Date: 27. JAN 2020 18:38:56

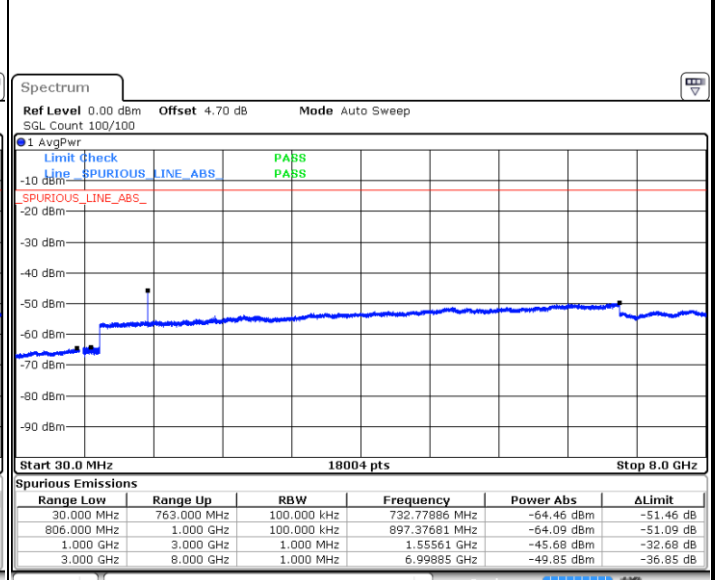
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 27. JAN 2020 18:40:45

Middle Channel / 16QAM

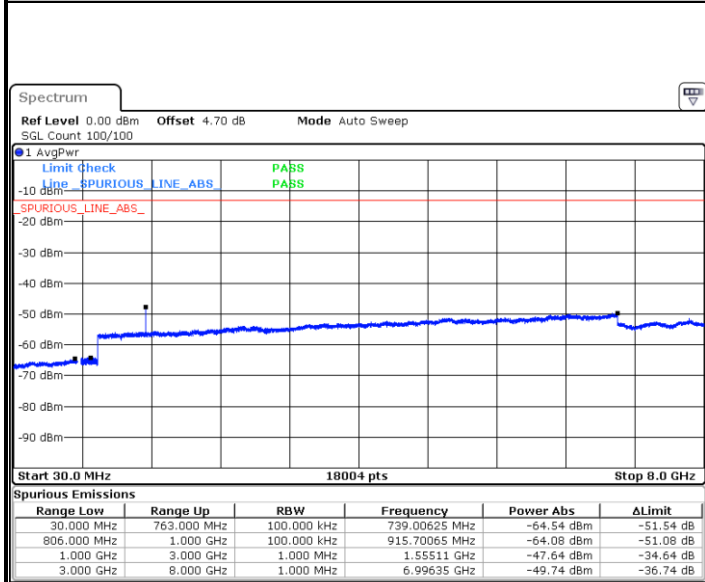


Date: 27. JAN 2020 18:41:40



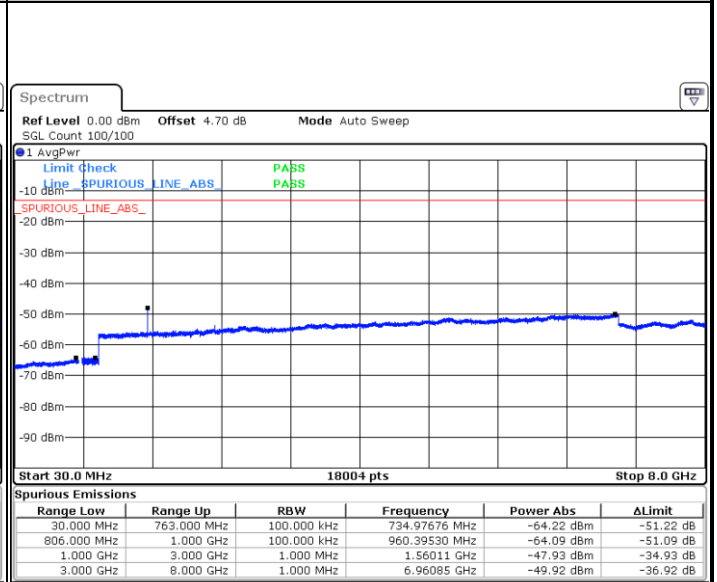
LTE Band 13 / 5MHz

Lowest Channel / 64QAM



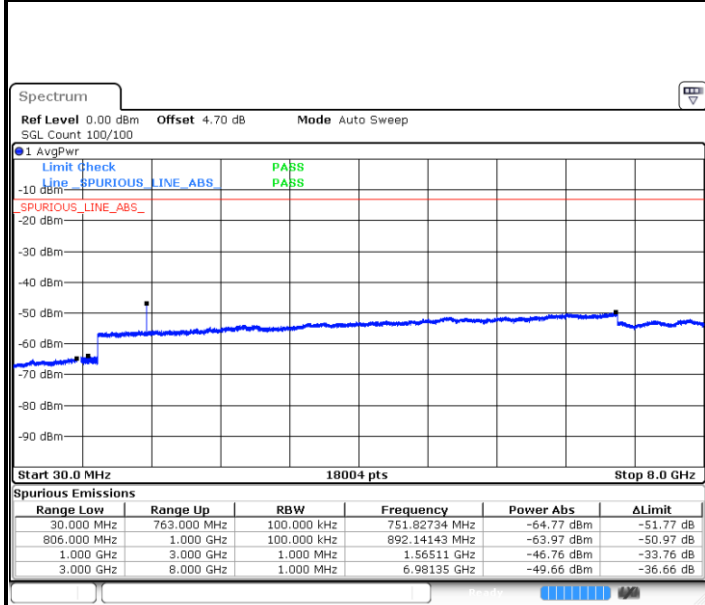
Date: 27. JAN 2020 19:19:08

Middle Channel / 64QAM



Date: 27. JAN 2020 19:20:03

Highest Channel / 64QAM

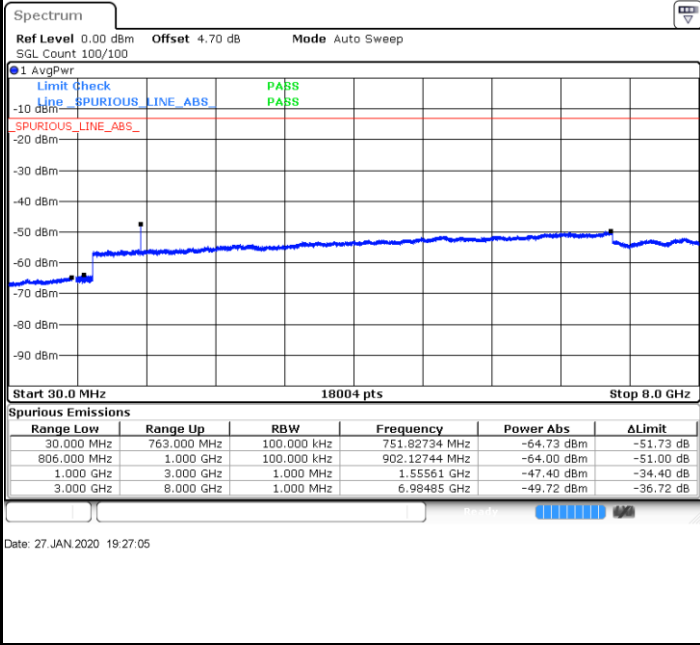


Date: 27. JAN 2020 19:20:57



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	0.0027	PASS
40	Normal Voltage	0.0020	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0019	
-10	Normal Voltage	0.0007	
-20	Normal Voltage	0.0021	
-30	Normal Voltage	0.0022	
20	Maximum Voltage	0.0011	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0004	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 25

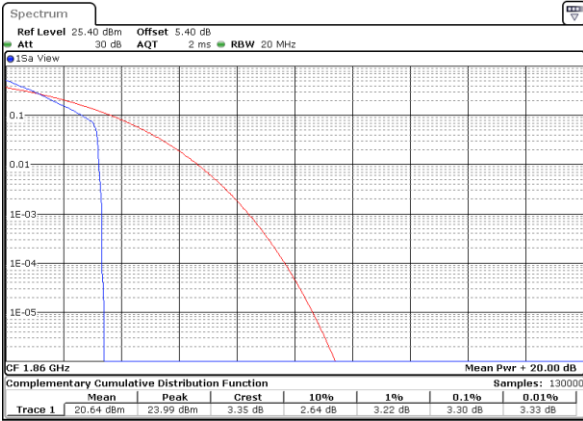
Peak-to-Average Ratio

Mode	LTE Band 25 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.30	4.20	4.64	5.25	PASS
Middle CH	3.25	4.58	4.61	5.88	
Highest CH	3.25	4.70	5.04	6.00	
Mode	LTE Band 25 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.91	5.83	-	-	PASS
Middle CH	5.59	6.09	-	-	
Highest CH	6.06	6.52	-	-	



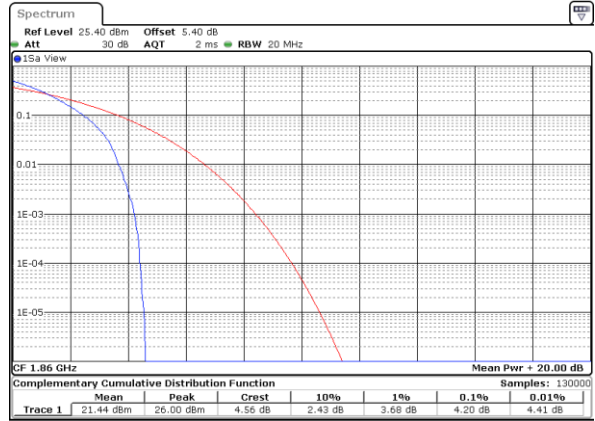
LTE Band 25 / 20MHz / QPSK

Lowest Channel / 1RB



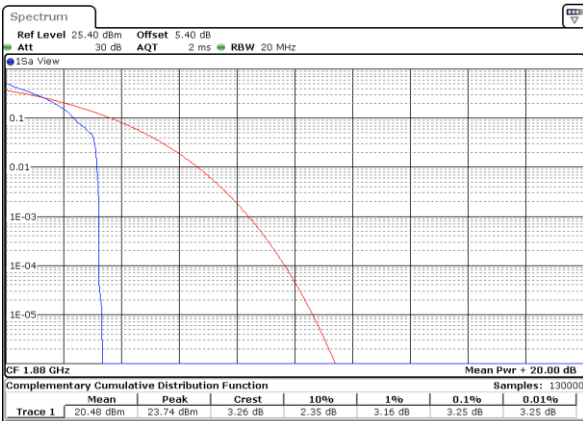
Date: 29 JAN 2020 15:46:24

Lowest Channel / Full RB



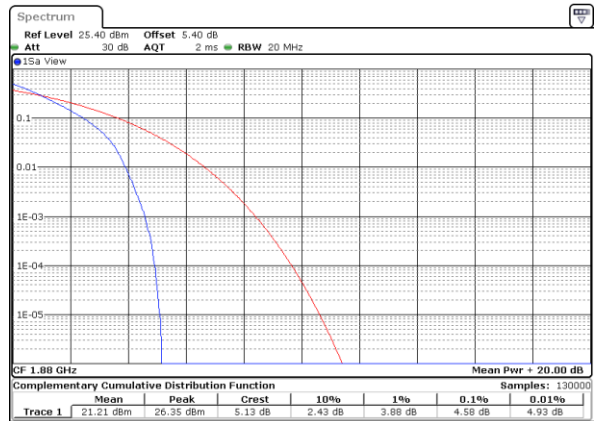
Date: 29 JAN 2020 15:47:10

Middle Channel / 1RB



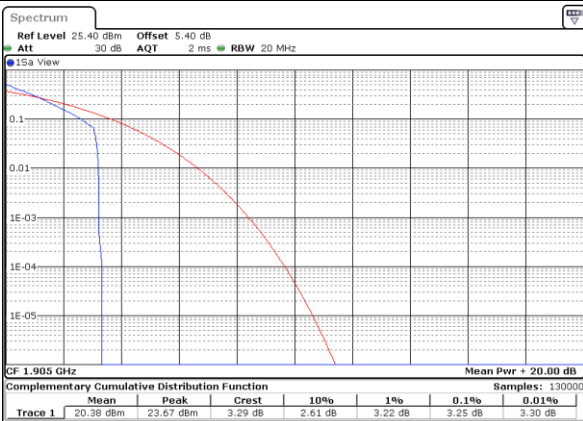
Date: 29 JAN 2020 15:48:10

Middle Channel / Full RB



Date: 29 JAN 2020 15:47:19

Highest Channel / 1RB



Date: 29 JAN 2020 15:48:20

Highest Channel / Full RB

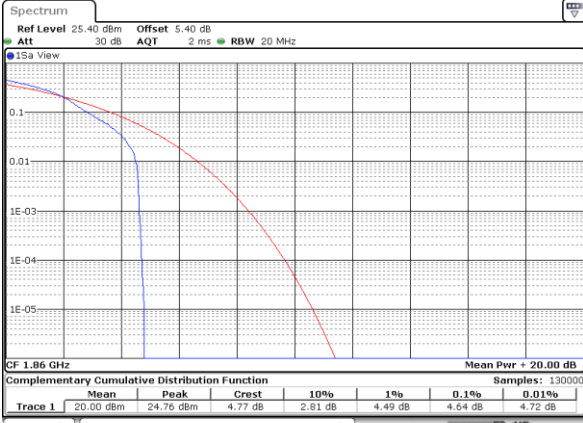


Date: 29 JAN 2020 15:49:58



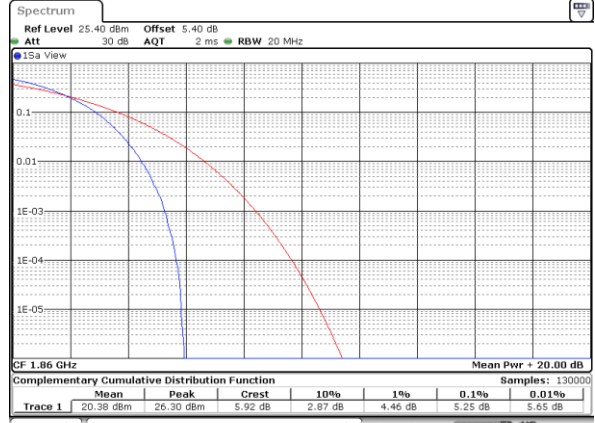
LTE Band 25 / 20MHz / 16QAM

Lowest Channel / 1RB



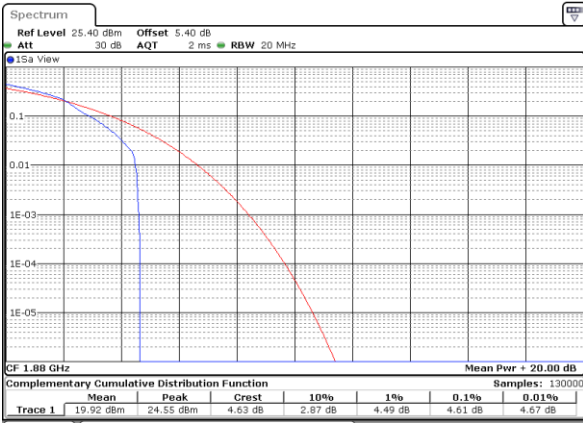
Date: 29 JAN 2020 15:46:33

Lowest Channel / Full RB



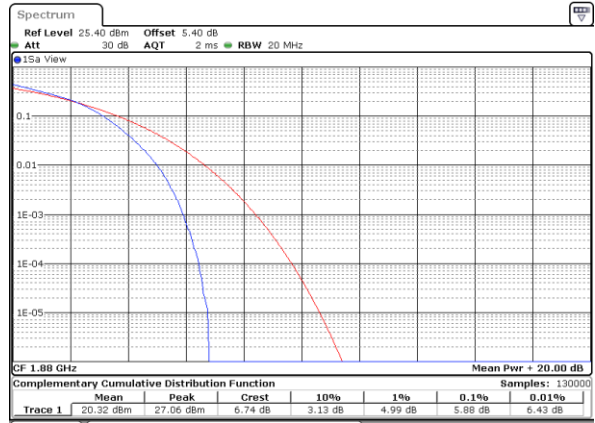
Date: 29 JAN 2020 15:47:01

Middle Channel / 1RB



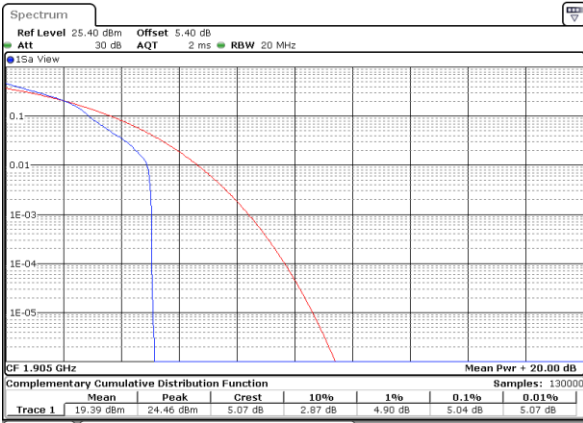
Date: 29 JAN 2020 15:48:01

Middle Channel / Full RB



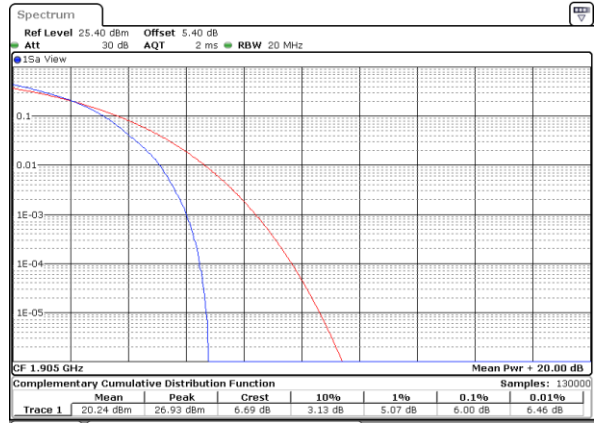
Date: 29 JAN 2020 15:47:32

Highest Channel / 1RB



Date: 29 JAN 2020 15:48:29

Highest Channel / Full RB



Date: 29 JAN 2020 15:50:13