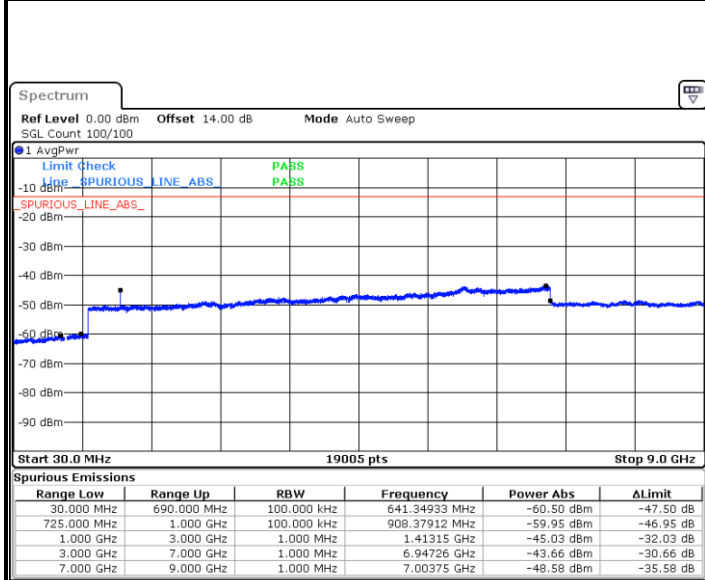




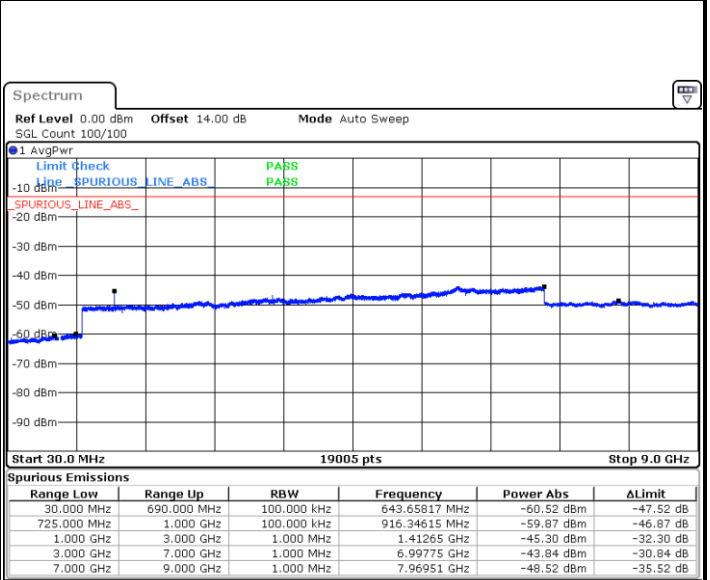
LTE Band 12 / 3MHz

Middle Channel / QPSK



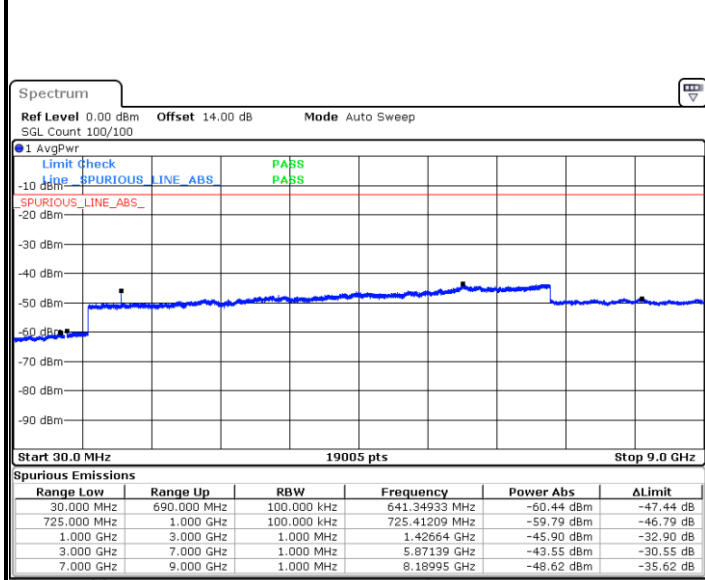
Date: 18.DEC.2020 01:16:24

Middle Channel / 16QAM



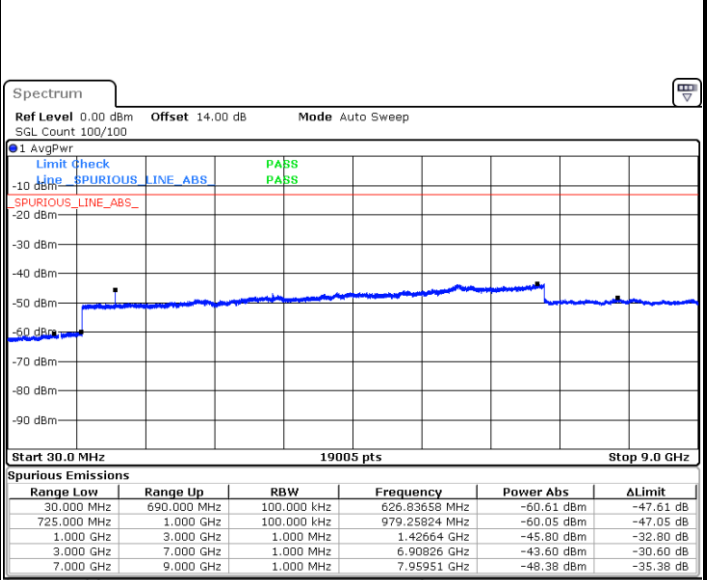
Date: 18.DEC.2020 01:15:15

Highest Channel / QPSK



Date: 18.DEC.2020 01:22:52

Highest Channel / 16QAM



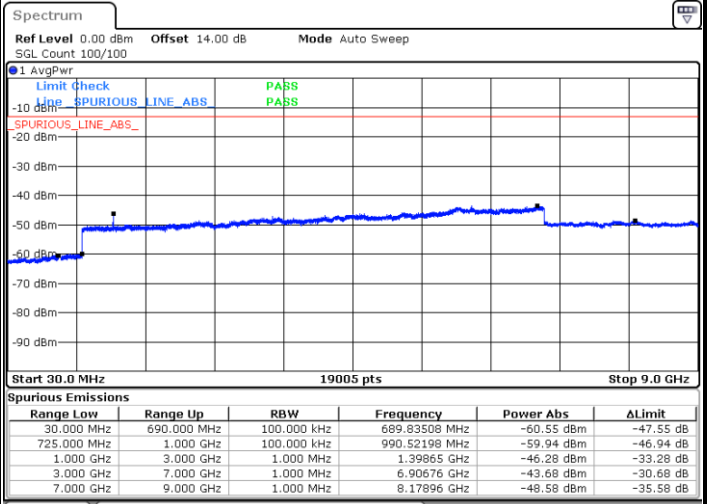
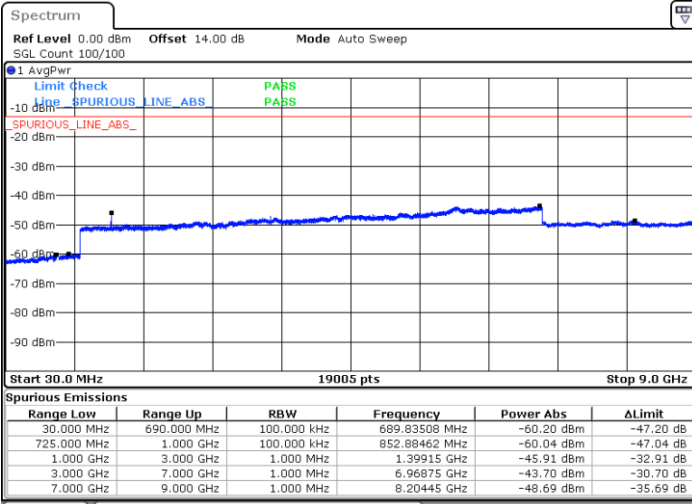
Date: 18.DEC.2020 01:24:01



LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

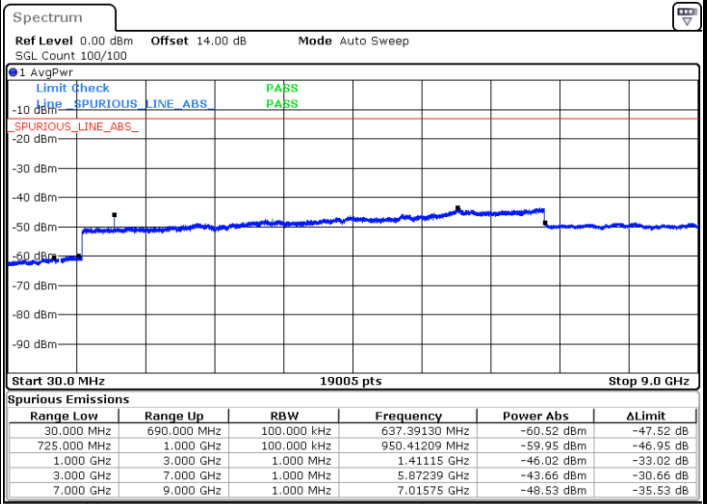
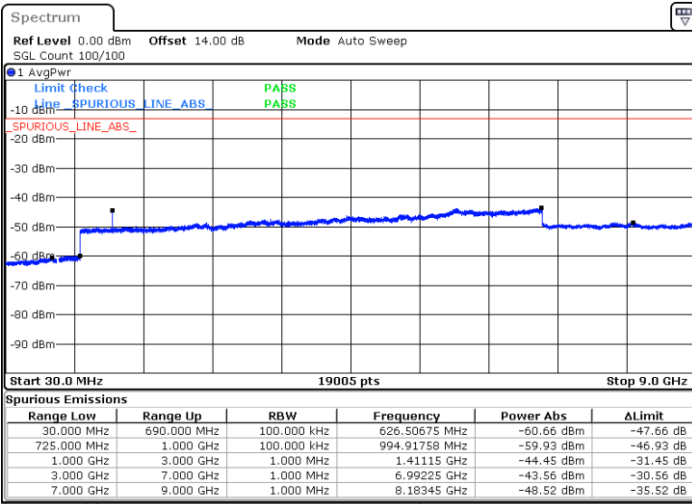


Date: 18.DEC.2020 01:48:46

Date: 18.DEC.2020 01:49:55

Middle Channel / QPSK

Middle Channel / 16QAM



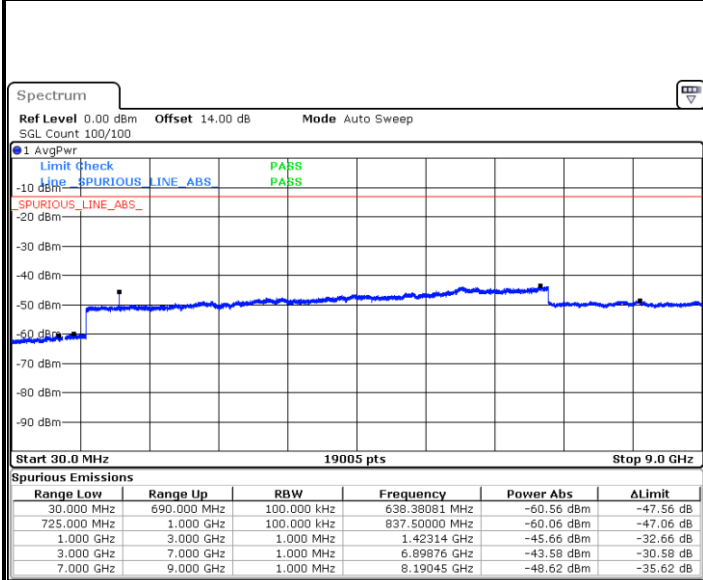
Date: 18.DEC.2020 01:52:57

Date: 18.DEC.2020 01:51:48



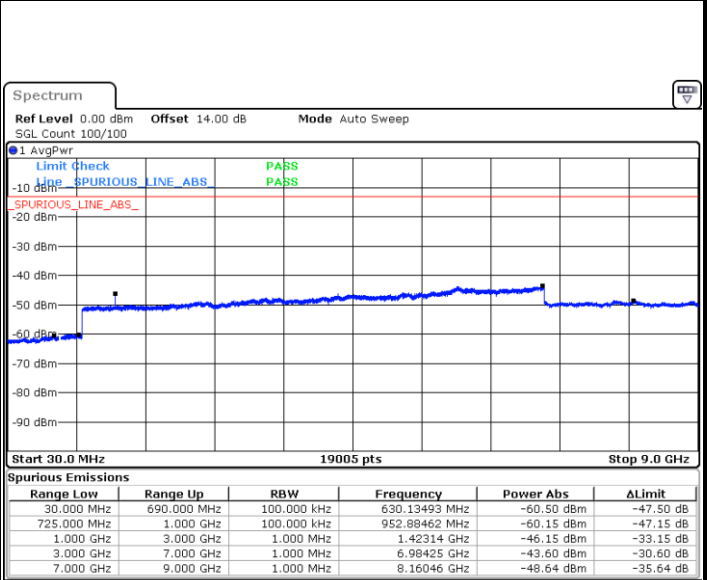
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 18.DEC.2020 02:00:35

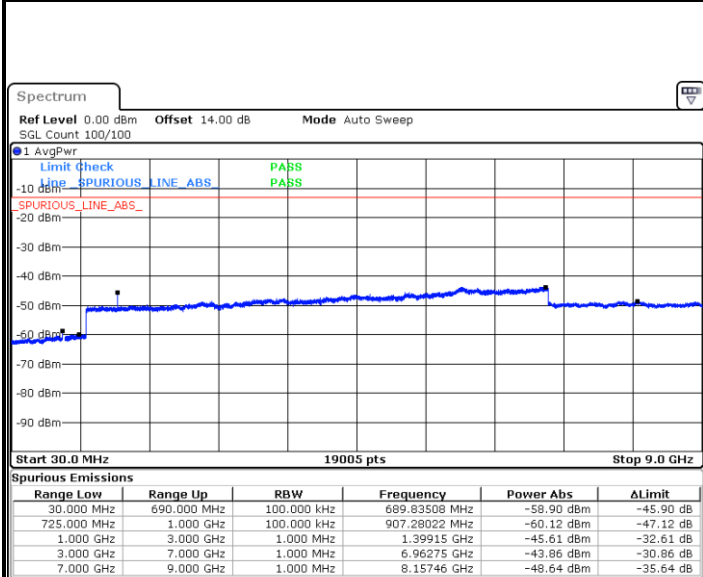
Highest Channel / 16QAM



Date: 18.DEC.2020 01:59:26

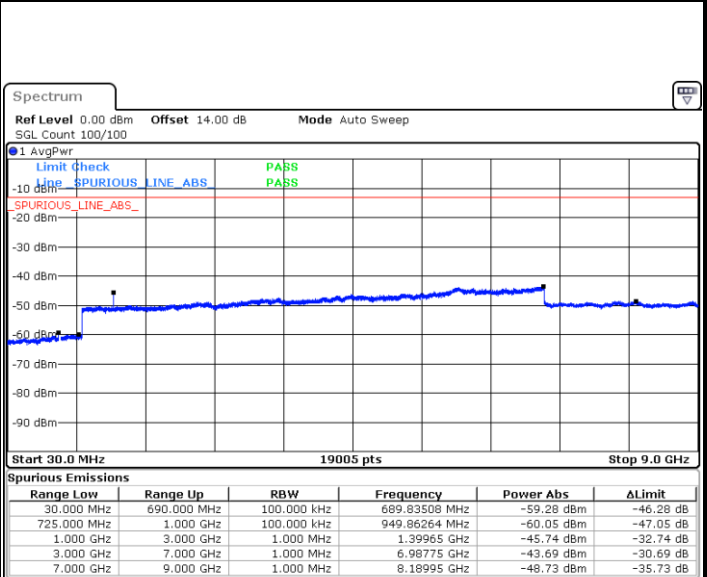
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 18.DEC.2020 02:07:03

Lowest Channel / 16QAM

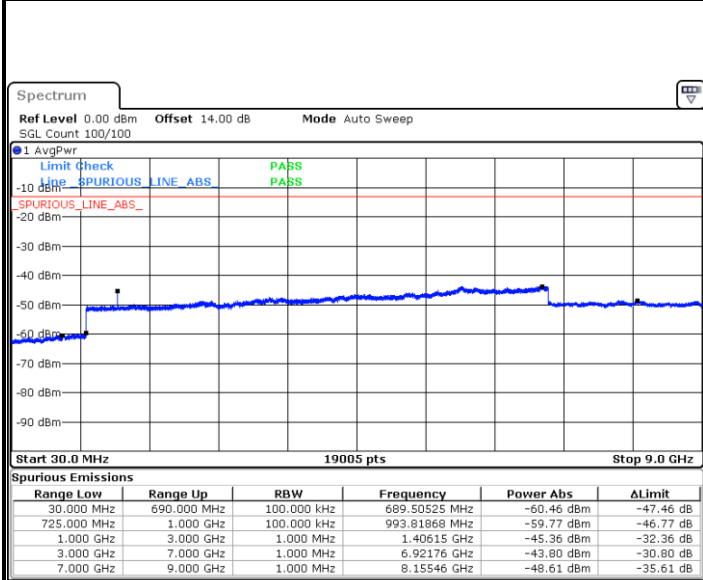


Date: 18.DEC.2020 02:08:12



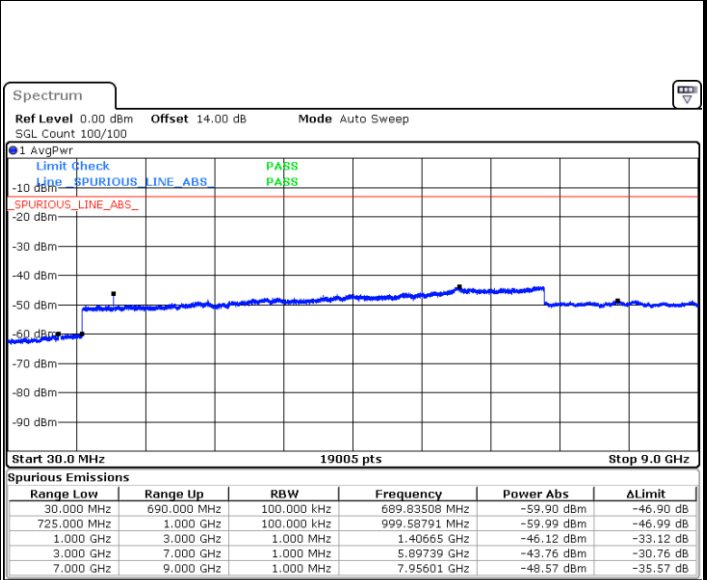
LTE Band 12 / 10MHz

Middle Channel / QPSK



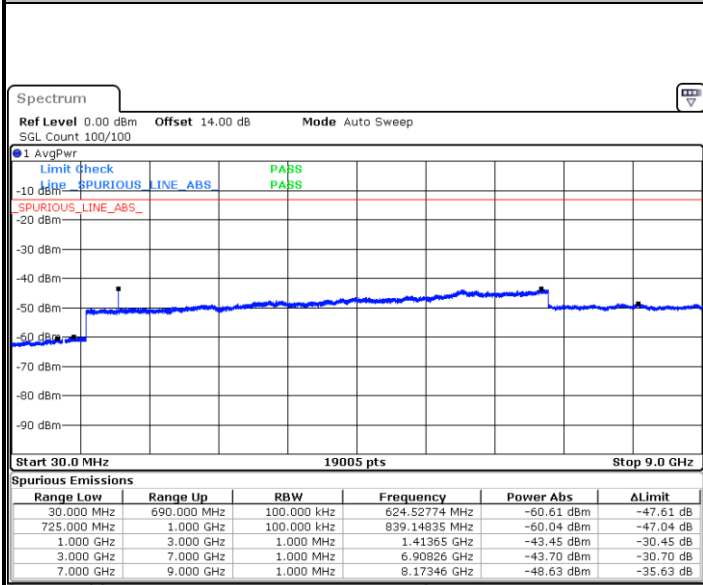
Date: 18.DEC.2020 02:11:14

Middle Channel / 16QAM



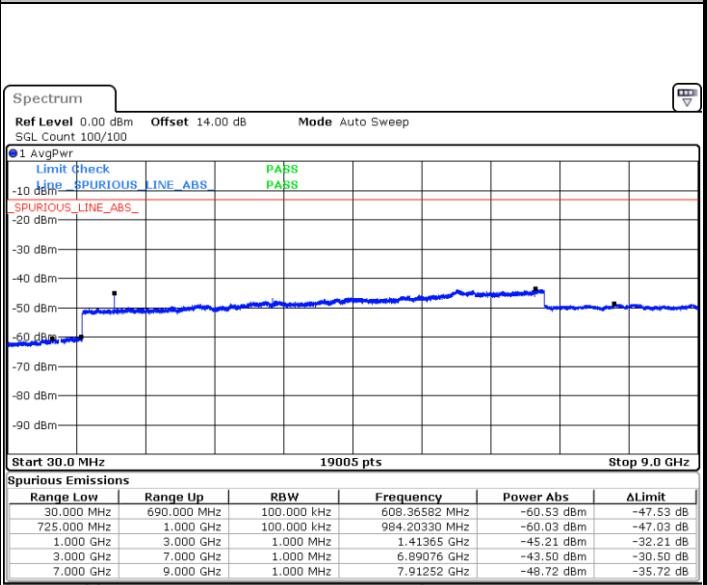
Date: 18.DEC.2020 02:10:05

Highest Channel / QPSK



Date: 18.DEC.2020 02:17:42

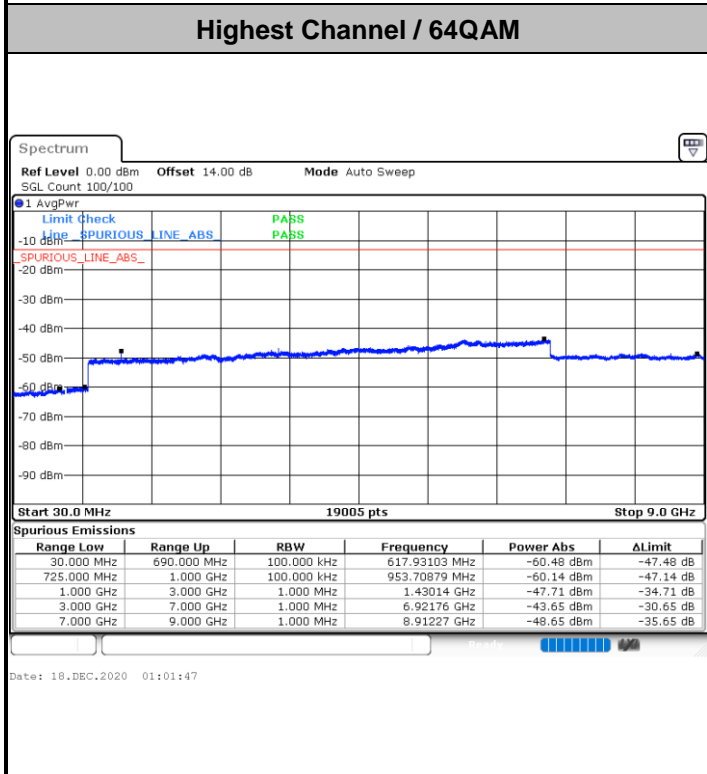
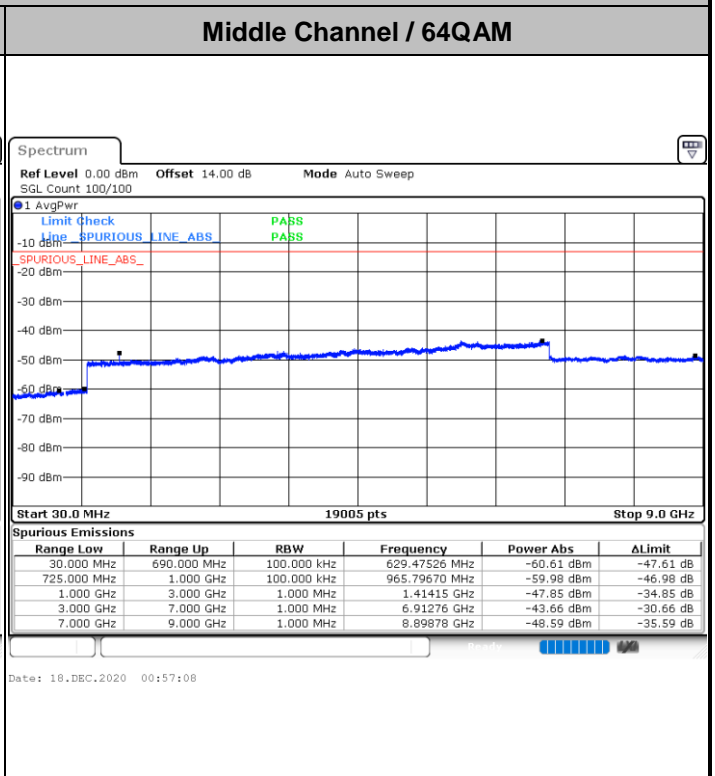
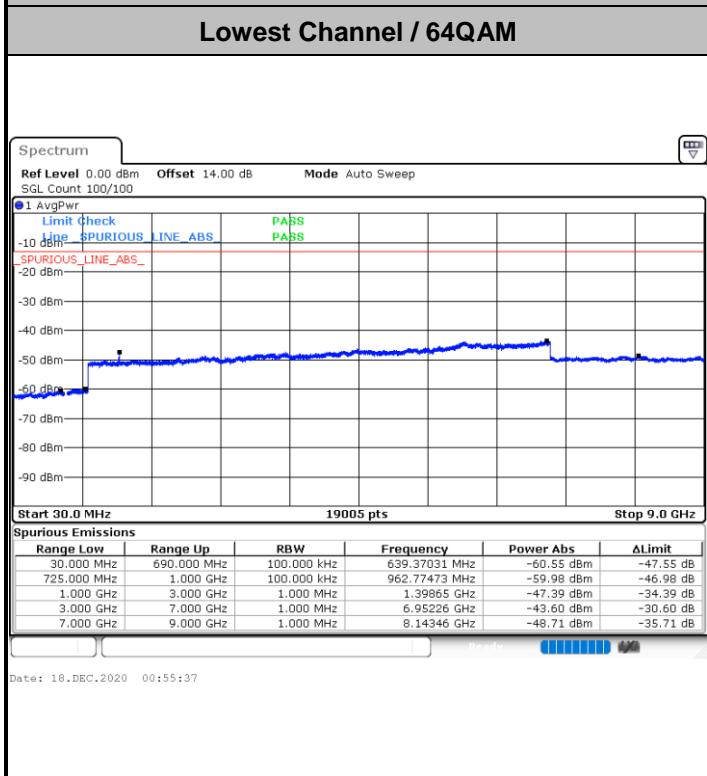
Highest Channel / 16QAM



Date: 18.DEC.2020 02:18:51



LTE Band 12 / 1.4MHz

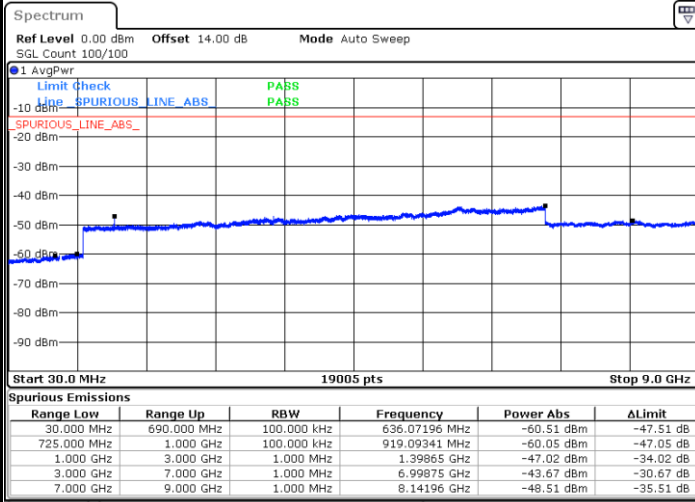




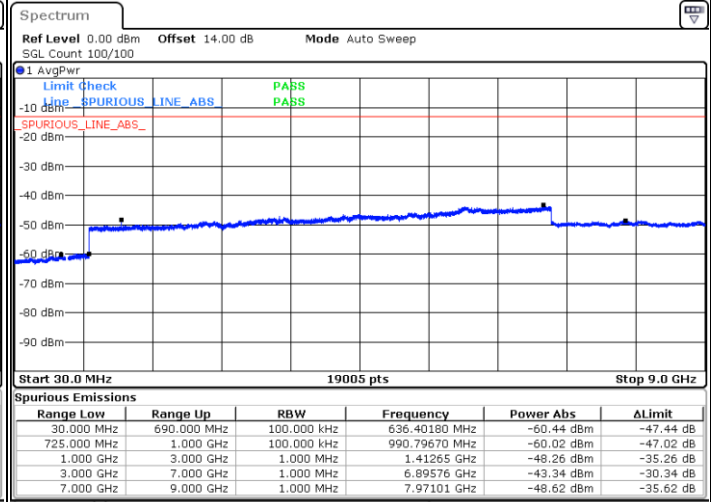
LTE Band 12 / 3MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

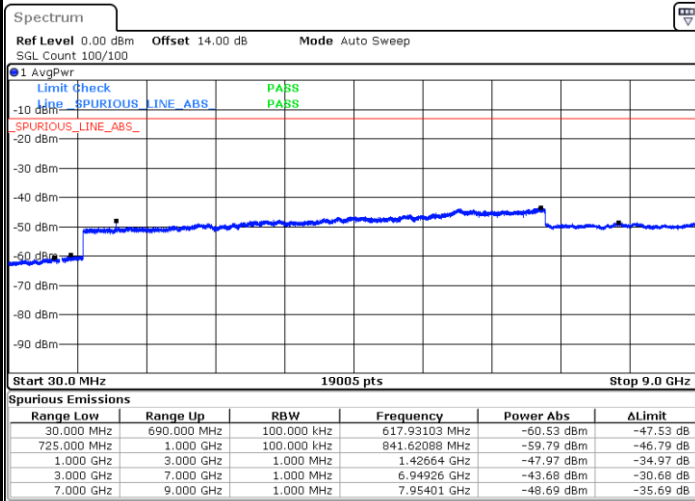


Date: 18.DEC.2020 01:27:50



Date: 18.DEC.2020 01:29:20

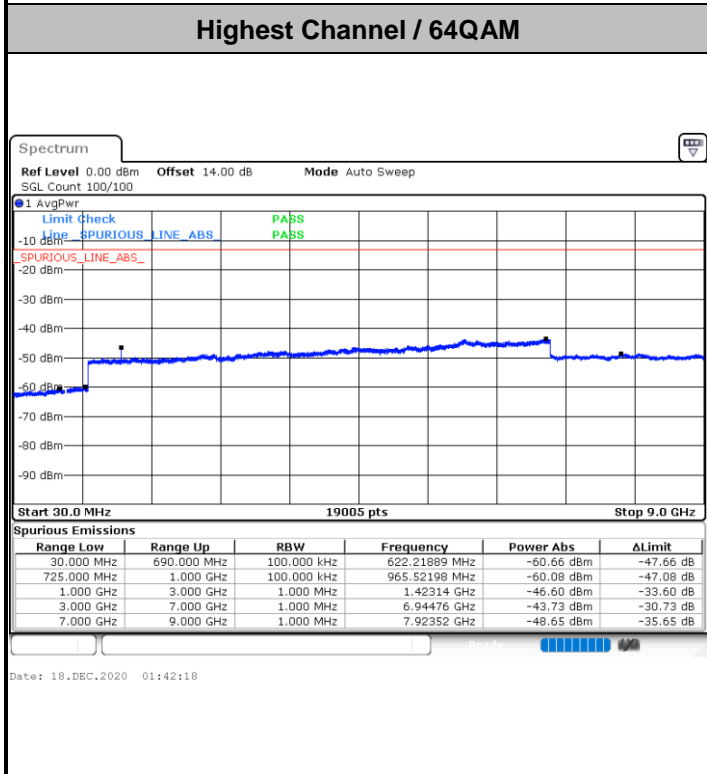
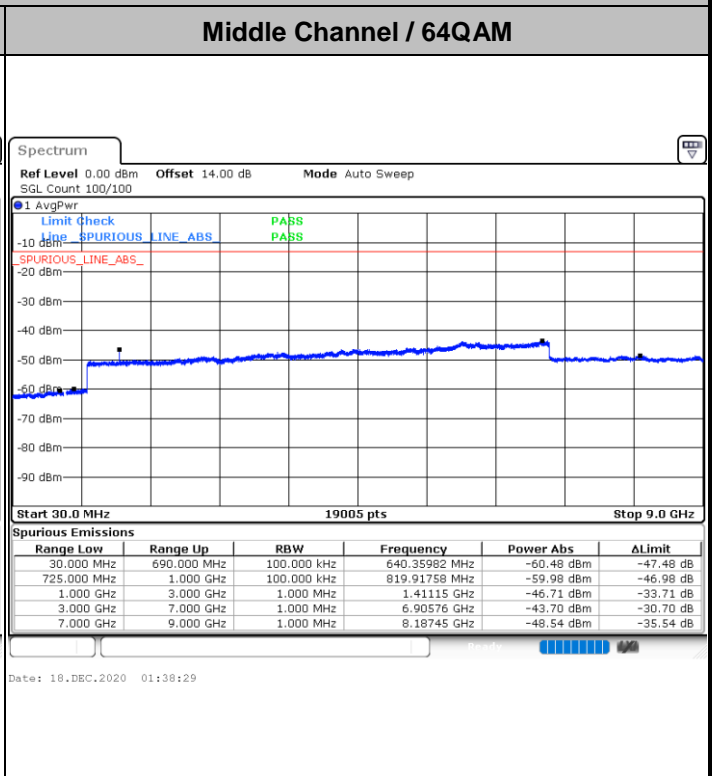
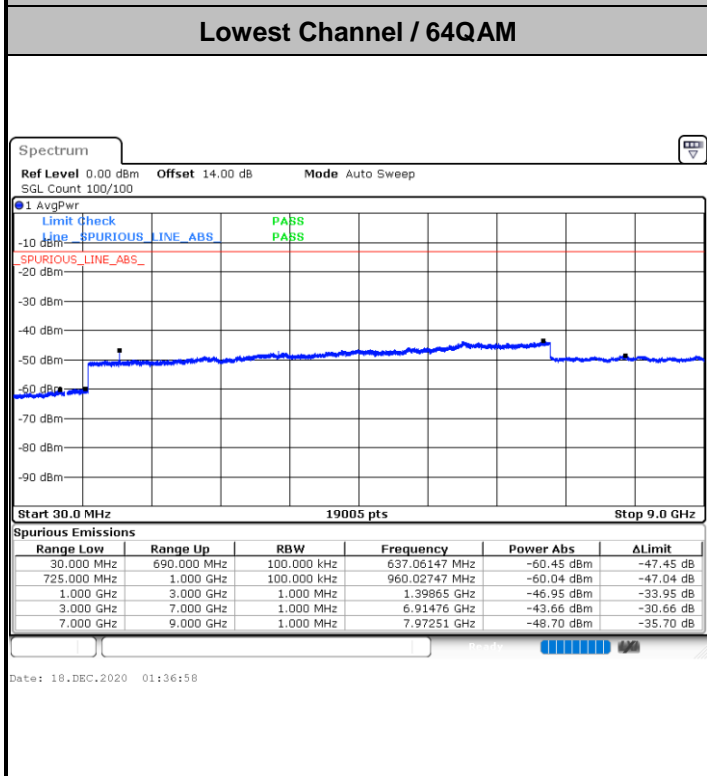
Highest Channel / 64QAM



Date: 18.DEC.2020 01:33:09



LTE Band 12 / 5MHz

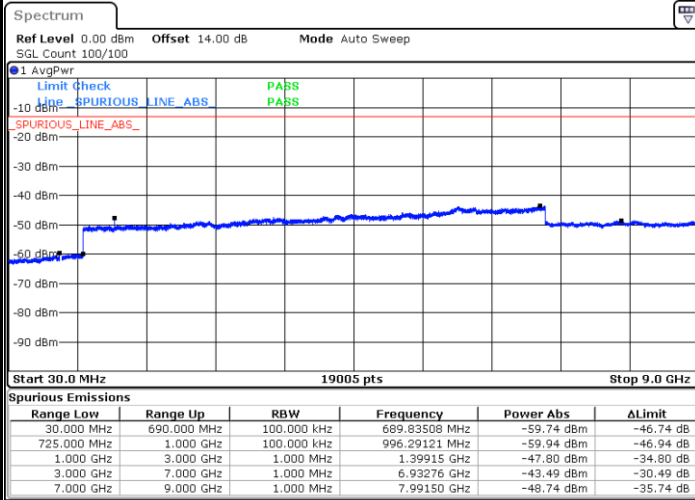




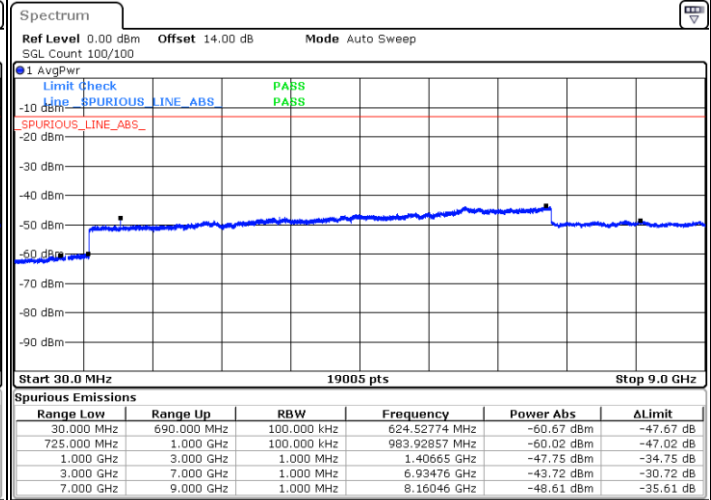
LTE Band 12 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

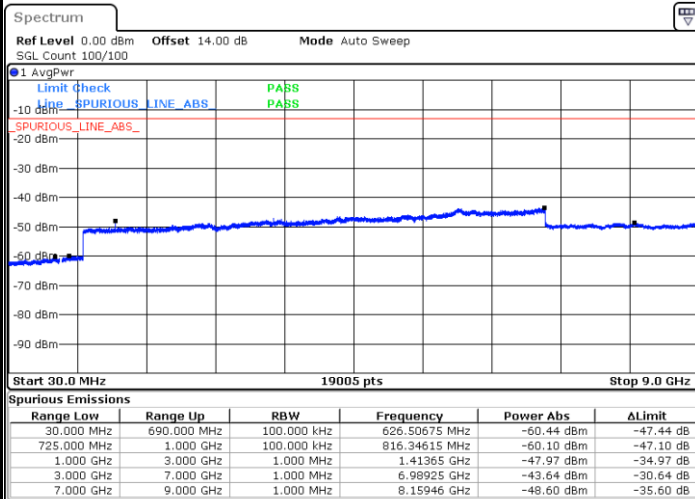


Date: 18.DEC.2020 02:22:40



Date: 18.DEC.2020 02:24:11

Highest Channel / 64QAM



Date: 18.DEC.2020 02:28:00



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	0.0071	
30	Normal Voltage	0.0051	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0004	
-10	Normal Voltage	0.0027	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0010	

Note:

1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.14 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

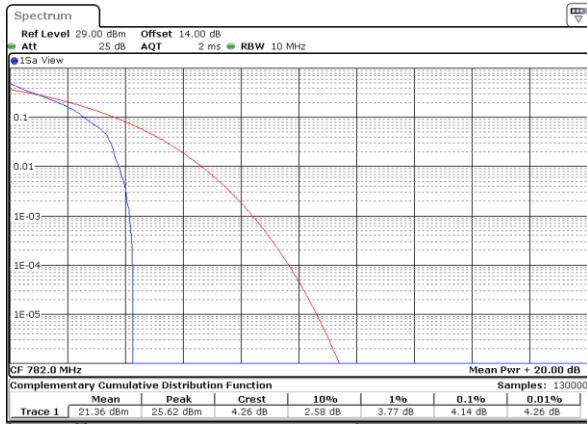
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.14	5.22	5.01	6.23	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.68	6.35	-	-	
Highest CH	-	-	-	-	



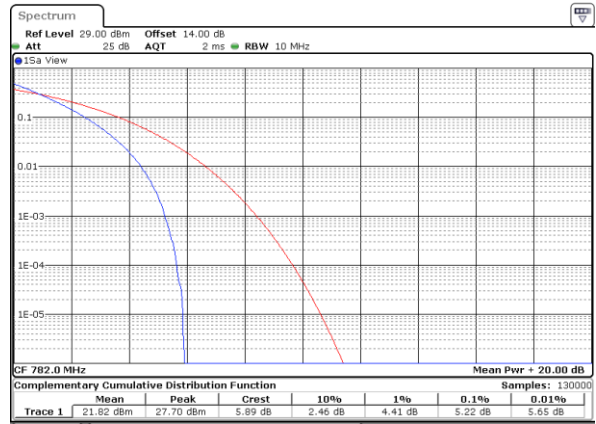
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 19_DEC.2020 12:30:32

Middle Channel / Full RB



Date: 19_DEC.2020 12:30:51

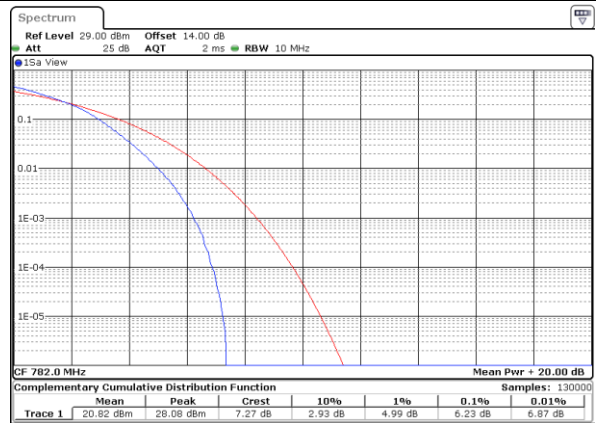
LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 19_DEC.2020 12:29:55

Middle Channel / Full RB



Date: 19_DEC.2020 12:30:17

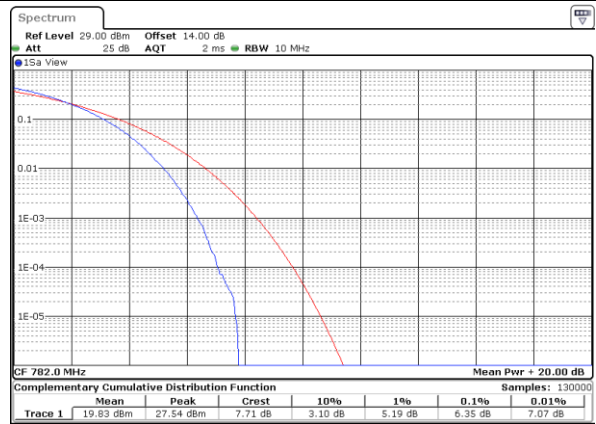
LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 19_DEC.2020 12:29:31

Middle Channel / Full RB



Date: 19_DEC.2020 12:29:43



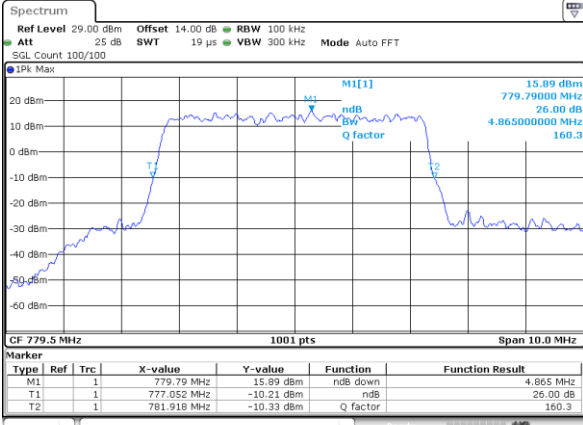
26dB Bandwidth

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	-	-	-	-	4.87	4.82	-	-	-	-	-	-
Middle CH	-	-	-	-	4.92	4.81	9.69	9.85	-	-	-	-
Highest CH	-	-	-	-	4.82	4.84	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.87	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.83	-	9.65	-	-	-	-	-
Highest CH	-	-	-	-	4.94	-	-	-	-	-	-	-



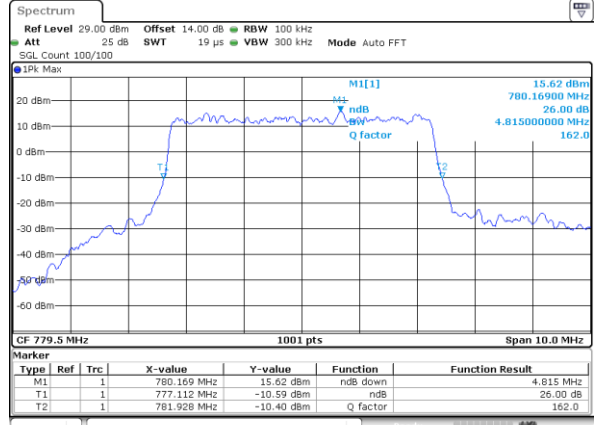
LTE Band 13

Lowest Channel / 5MHz / QPSK



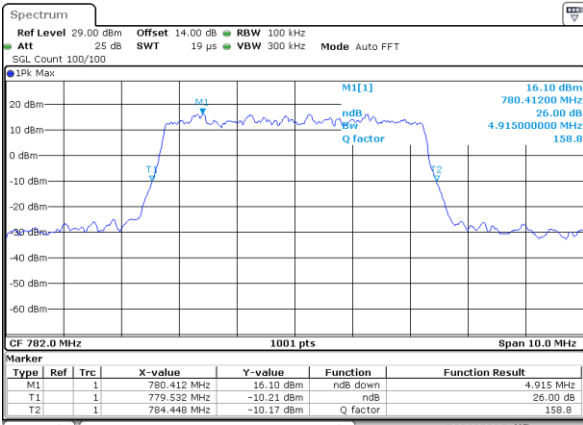
Date: 19_DEC.2020 11:13:16

Lowest Channel / 5MHz / 16QAM



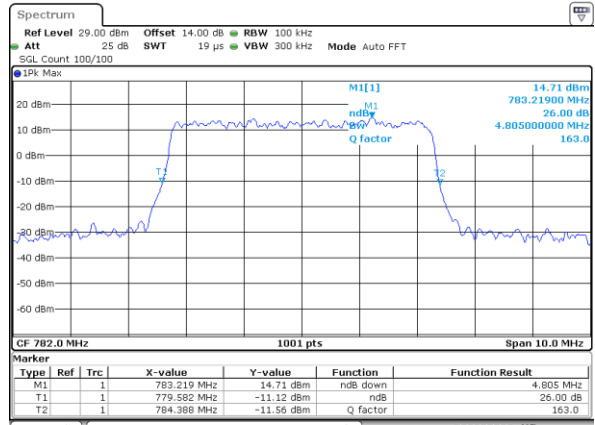
Date: 19_DEC.2020 11:13:05

Middle Channel / 5MHz / QPSK



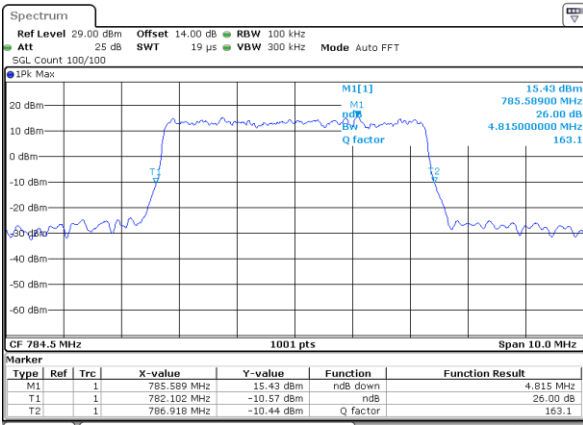
Date: 19_DEC.2020 11:24:58

Middle Channel / 5MHz / 16QAM



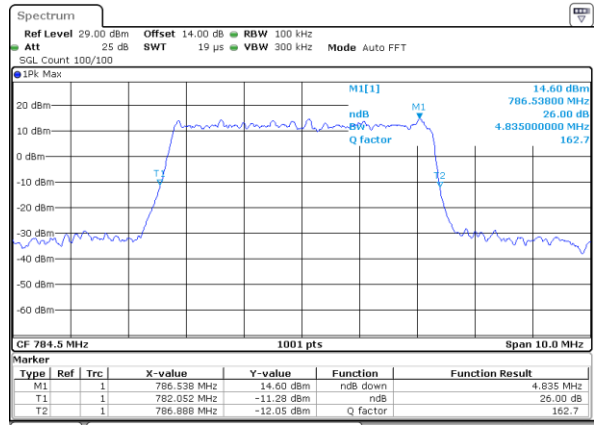
Date: 19_DEC.2020 11:25:09

Highest Channel / 5MHz / QPSK



Date: 19_DEC.2020 11:26:15

Highest Channel / 5MHz / 16QAM

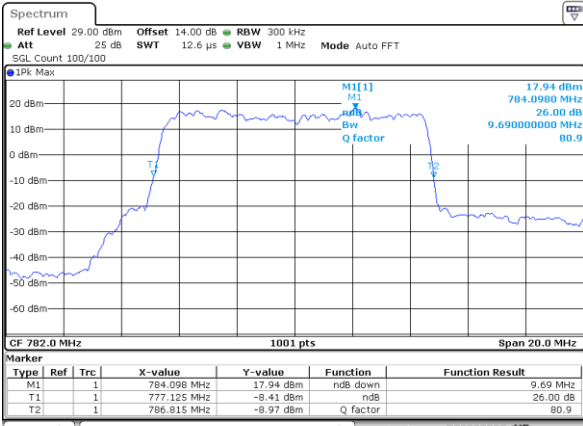


Date: 19_DEC.2020 11:26:04



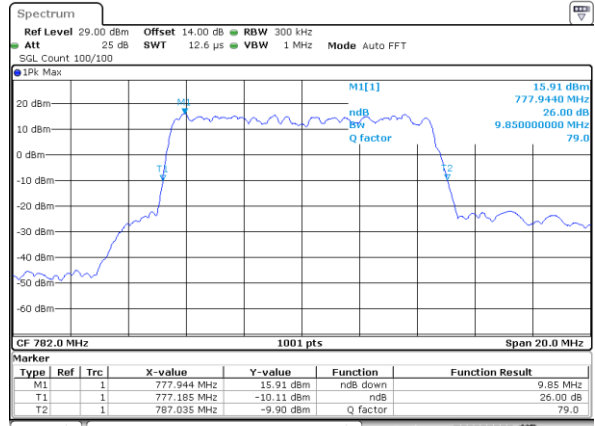
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 19, DEC, 2020 11:58:53

Middle Channel / 10MHz / 16QAM

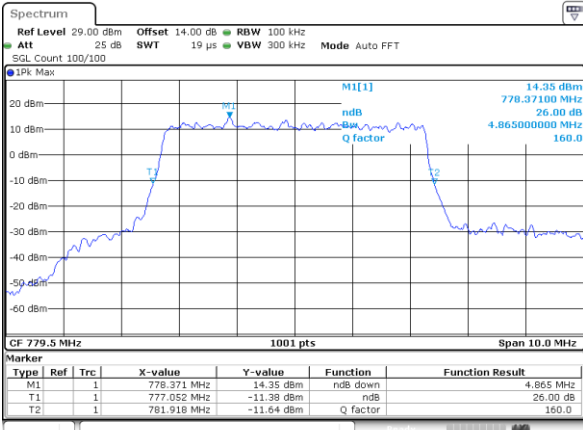


Date: 19, DEC, 2020 11:58:42

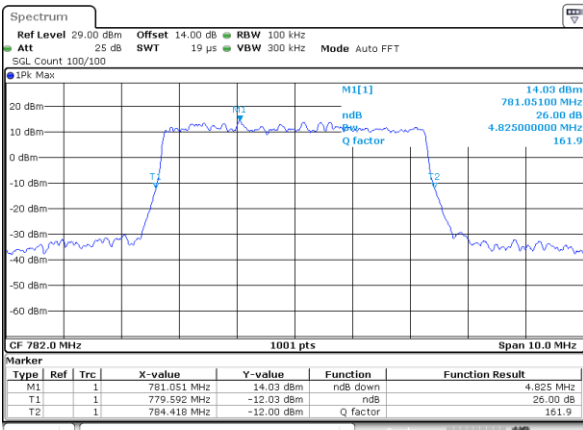


LTE Band 13

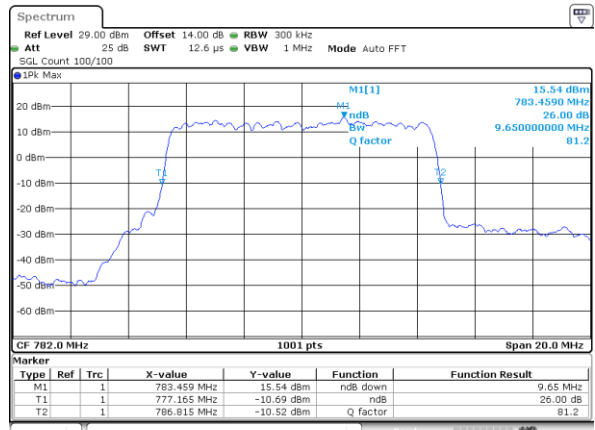
Lowest Channel / 5MHz / 64QAM



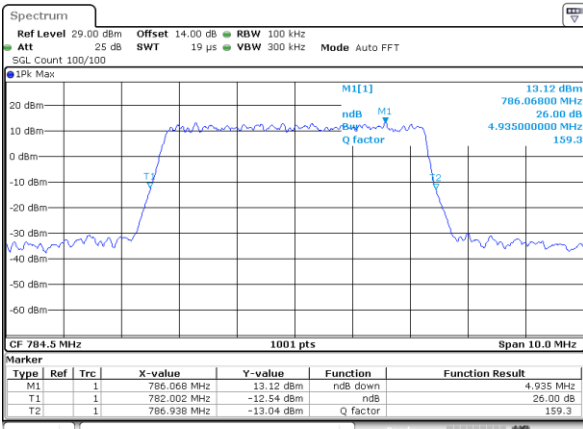
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM





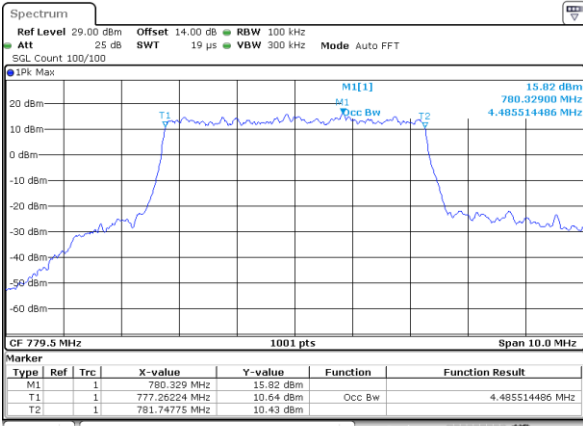
Occupied Bandwidth

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	4.48	-	-	-	-	-	-
Middle CH	-	-	-	-	4.50	4.48	9.01	9.01	-	-	-	-
Highest CH	-	-	-	-	4.51	4.49	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.50	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	-	9.01	-	-	-	-	-
Highest CH	-	-	-	-	4.51	-	-	-	-	-	-	-



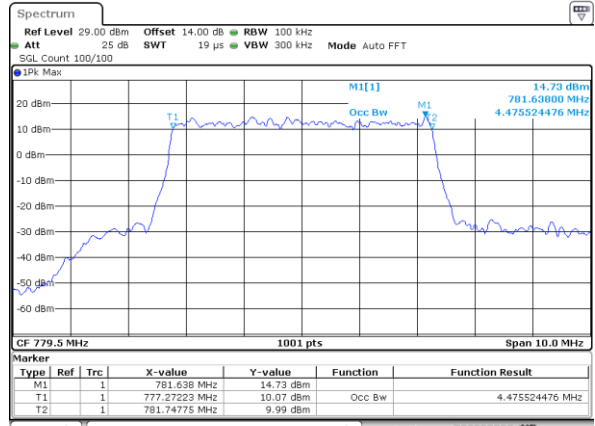
LTE Band 13

Lowest Channel / 5MHz / QPSK



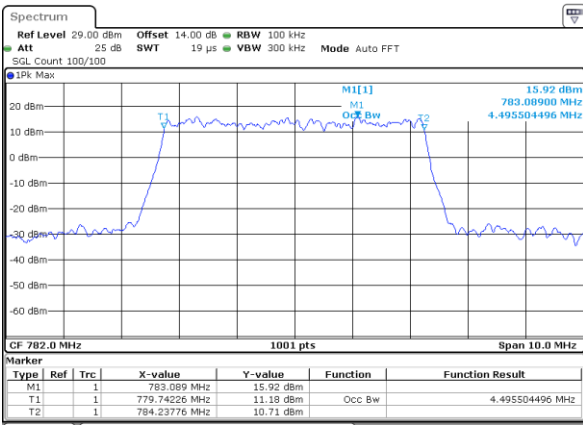
Date: 19_DEC.2020 12:38:01

Lowest Channel / 5MHz / 16QAM



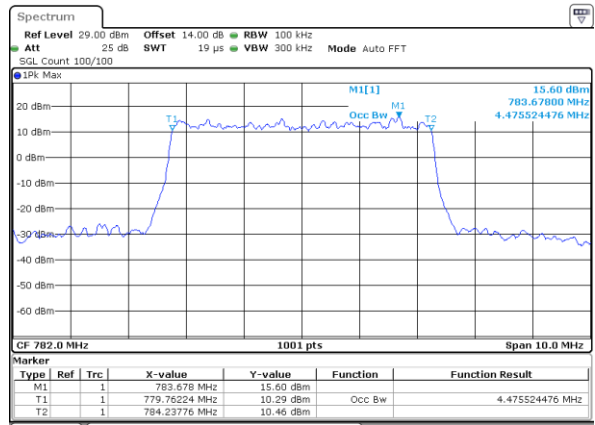
Date: 19_DEC.2020 11:12:54

Middle Channel / 5MHz / QPSK



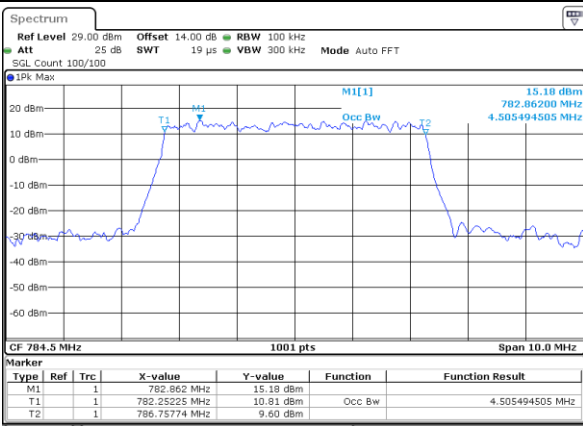
Date: 19_DEC.2020 11:25:01

Middle Channel / 5MHz / 16QAM



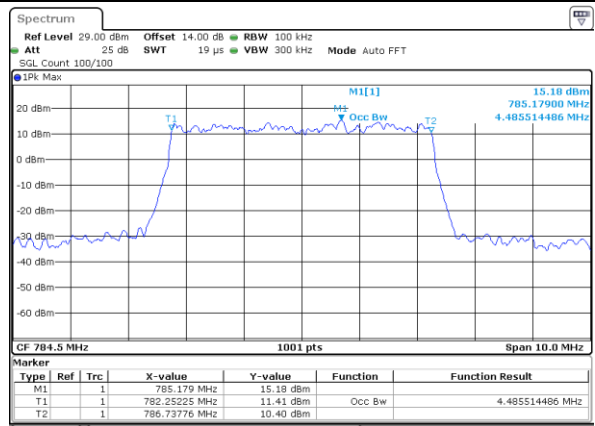
Date: 19_DEC.2020 11:25:02

Highest Channel / 5MHz / QPSK



Date: 19_DEC.2020 11:25:42

Highest Channel / 5MHz / 16QAM

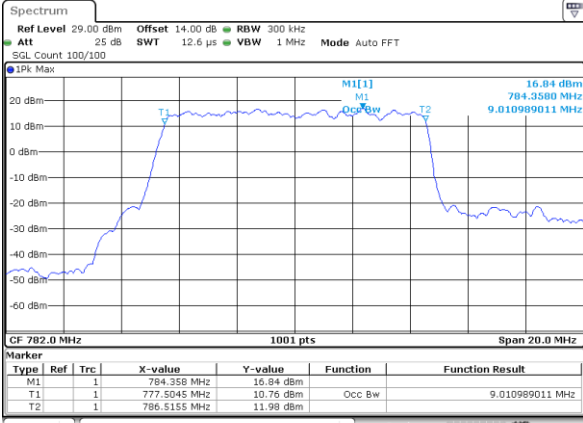


Date: 19_DEC.2020 11:25:53



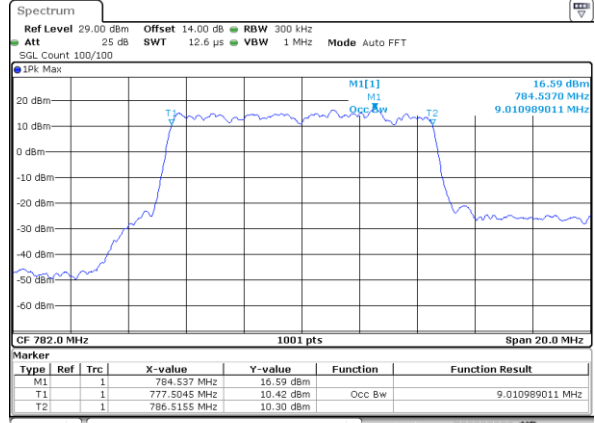
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 19, DEC, 2020 11:58:19

Middle Channel / 10MHz / 16QAM

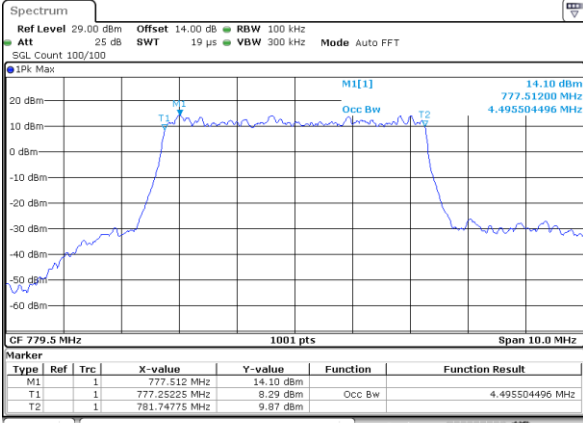


Date: 19, DEC, 2020 11:58:31



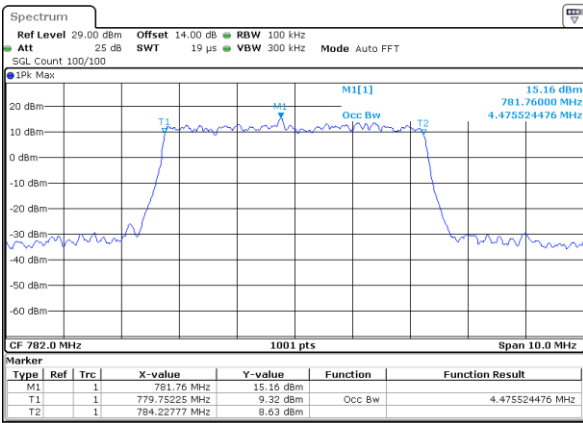
LTE Band 13

Lowest Channel / 5MHz / 64QAM



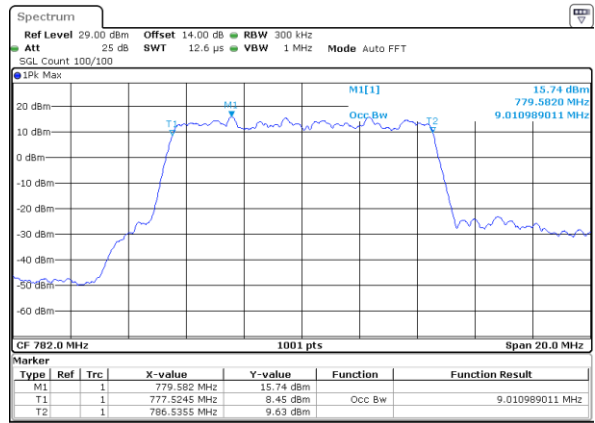
Date: 19_DEC.2020 11:35:34

Middle Channel / 5MHz / 64QAM



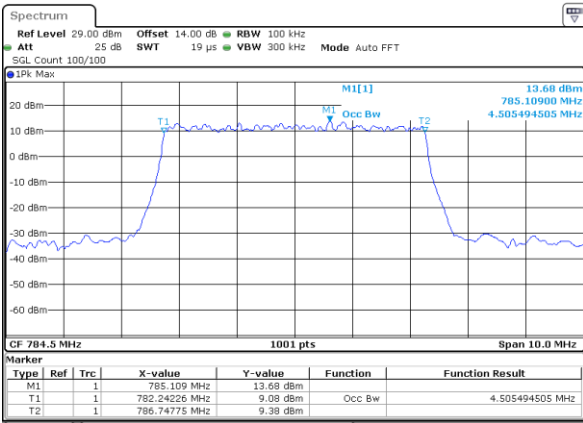
Date: 19_DEC.2020 11:41:53

Middle Channel / 10MHz / 64QAM



Date: 19_DEC.2020 12:11:31

Highest Channel / 5MHz / 64QAM



Date: 19_DEC.2020 11:42:04



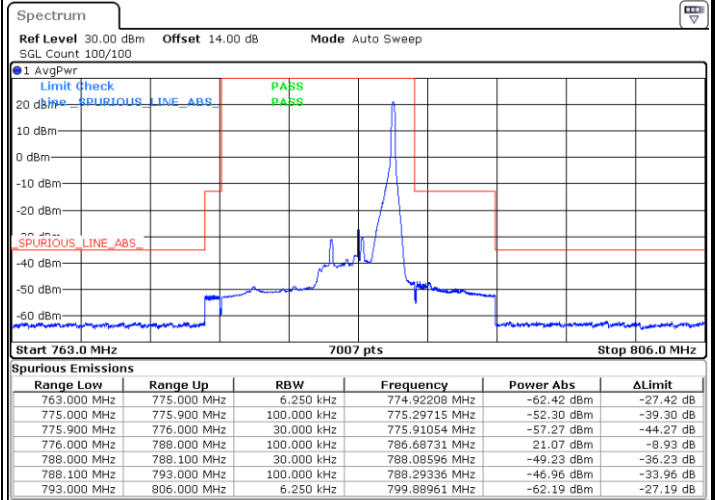
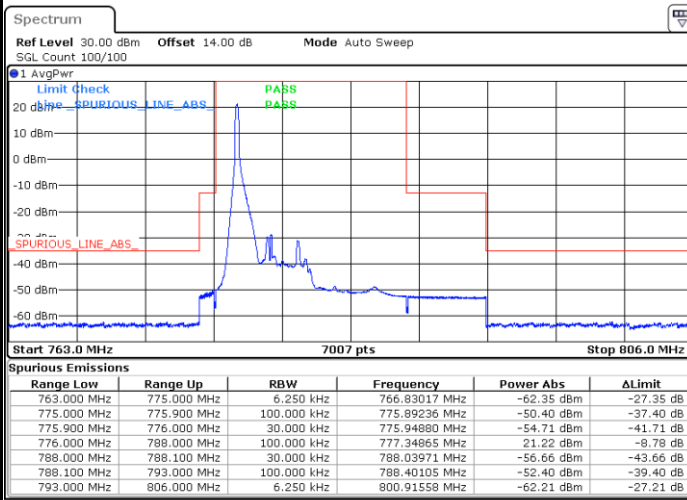
Conducted Band Edge



LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

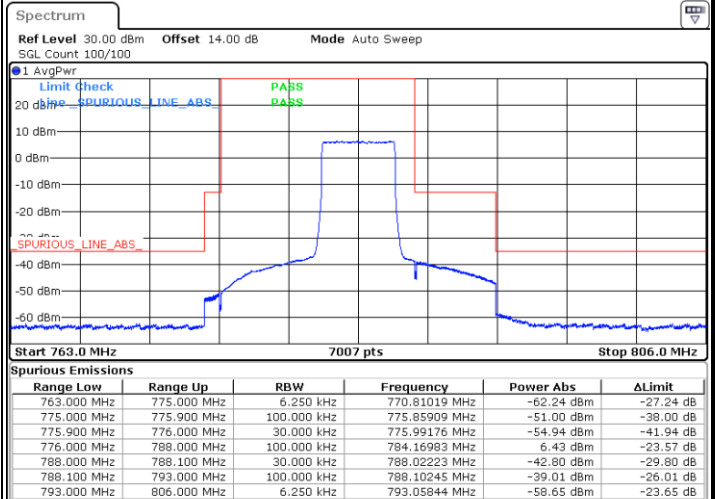
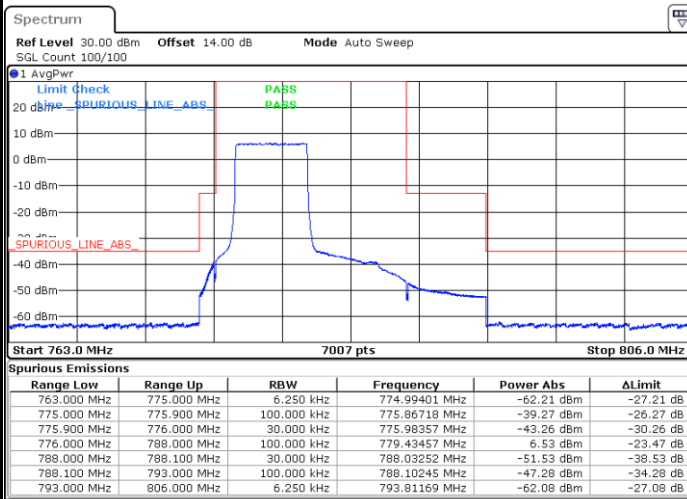


Date: 19.DEC.2020 11:20:00

Date: 19.DEC.2020 11:32:59

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 19.DEC.2020 11:14:57

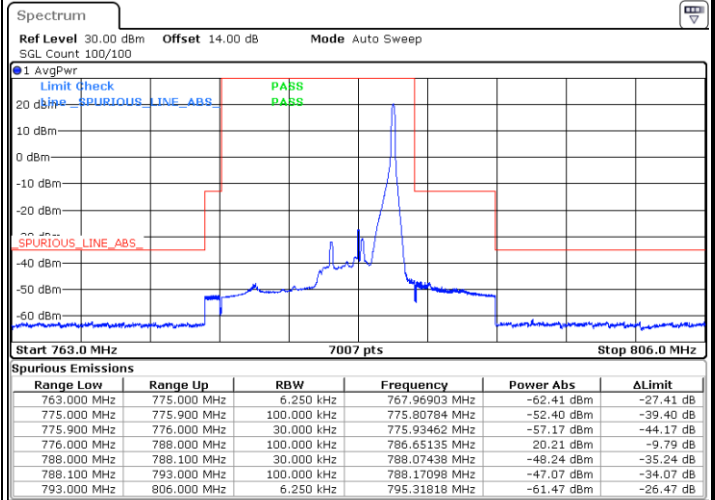
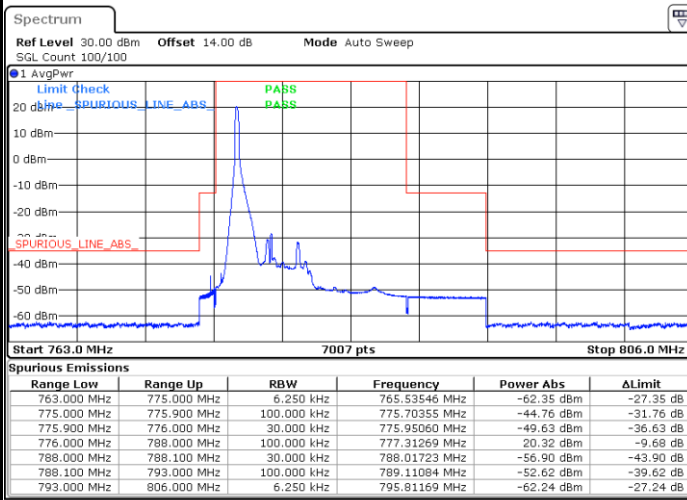
Date: 19.DEC.2020 11:27:56



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

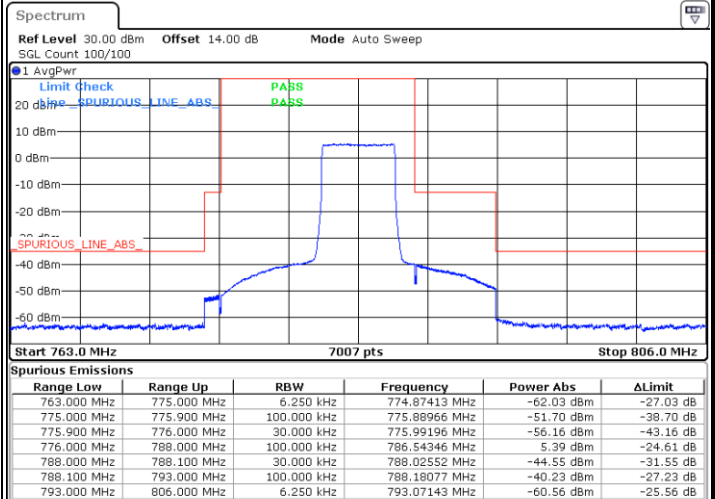
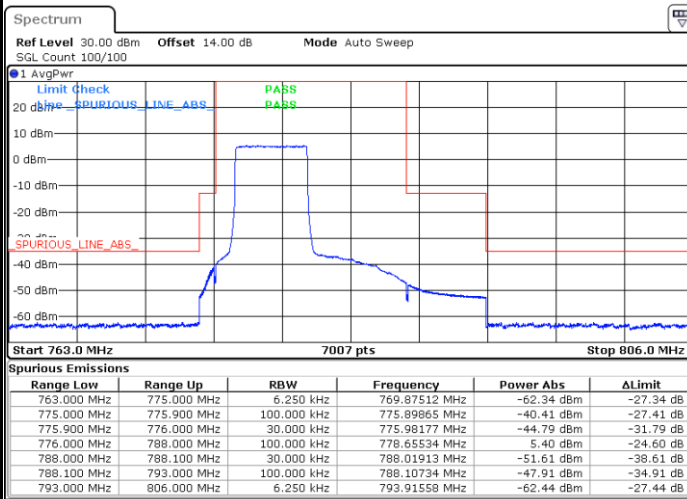


Date: 19.DEC.2020 11:18:19

Date: 19.DEC.2020 11:31:18

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 19.DEC.2020 11:16:37

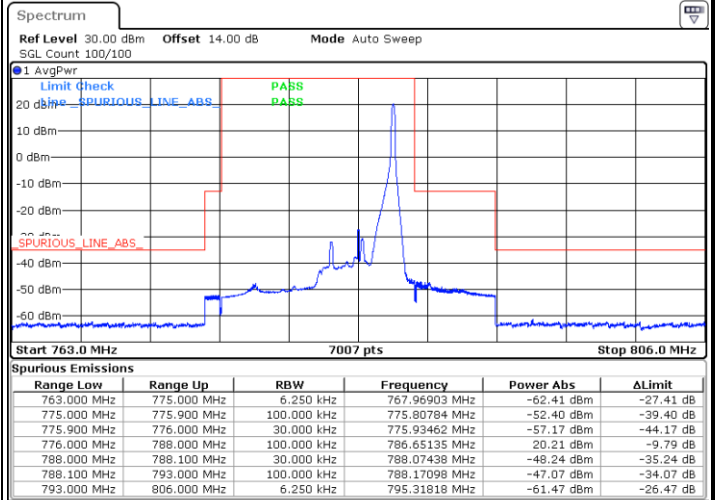
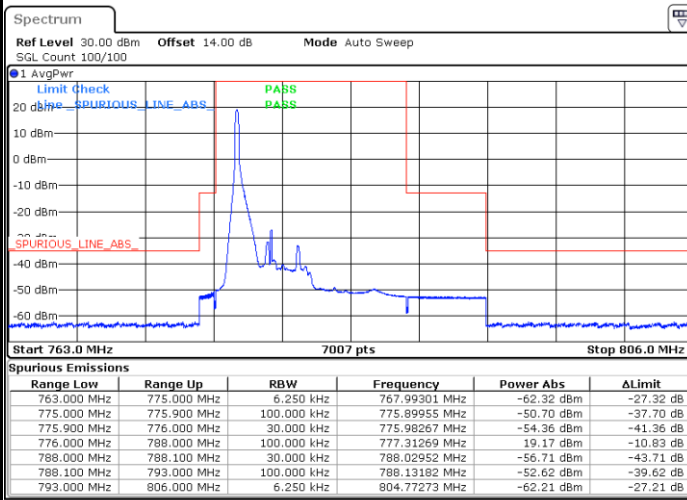
Date: 19.DEC.2020 11:29:37



LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

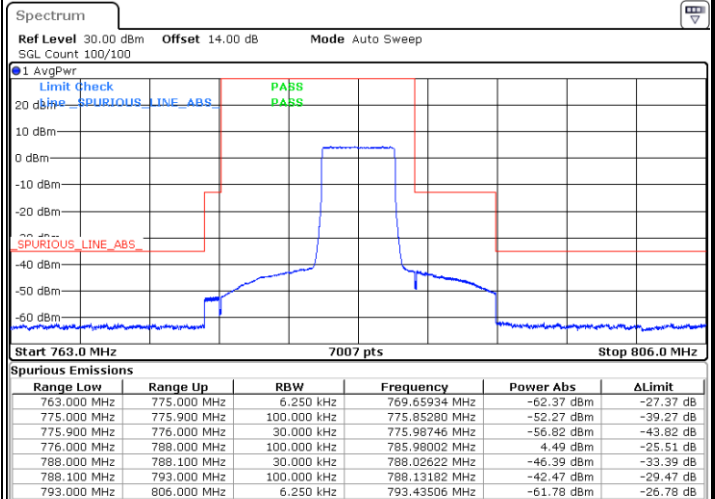
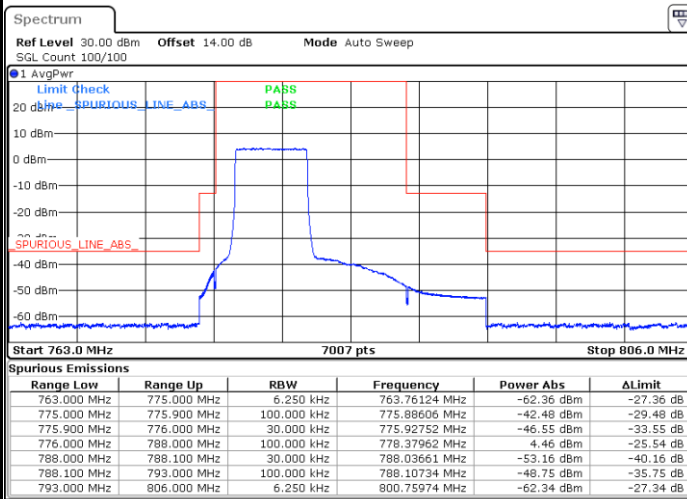


Date: 19.DEC.2020 11:39:07

Date: 19.DEC.2020 11:31:18

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 19.DEC.2020 11:37:26

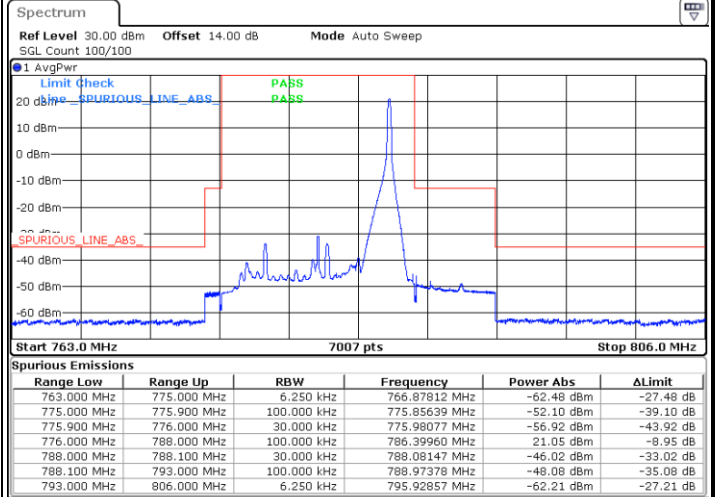
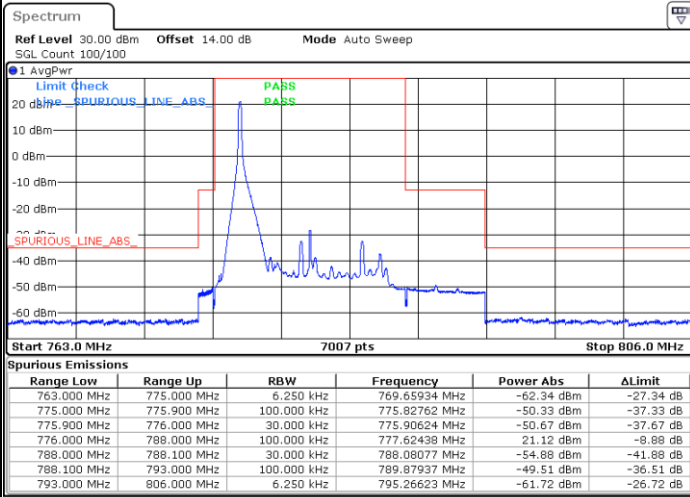
Date: 19.DEC.2020 11:43:56



LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB

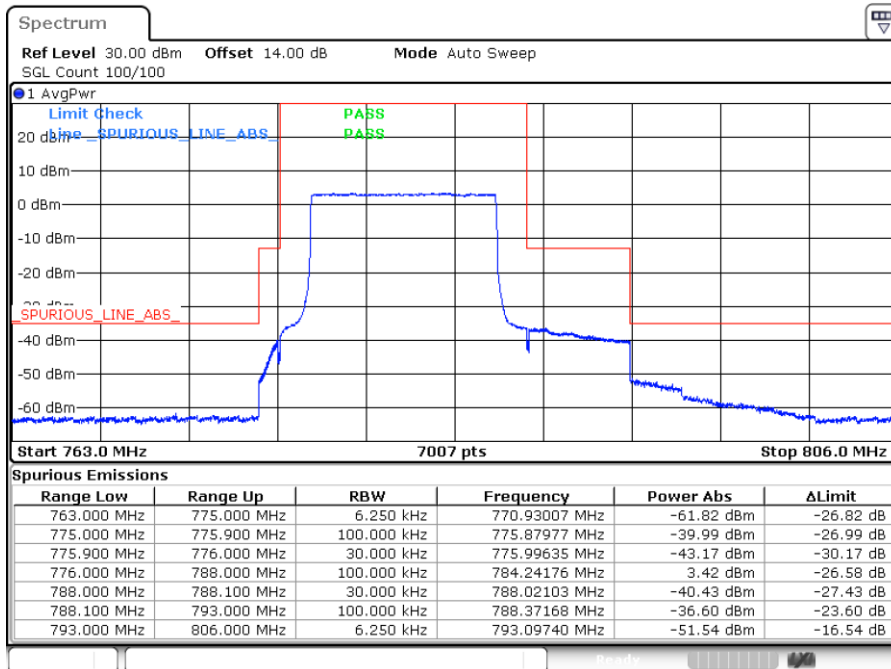
Highest Band Edge / 1 RB



Date: 19.DEC.2020 12:05:34

Date: 19.DEC.2020 12:07:15

Band Edge / Full RB



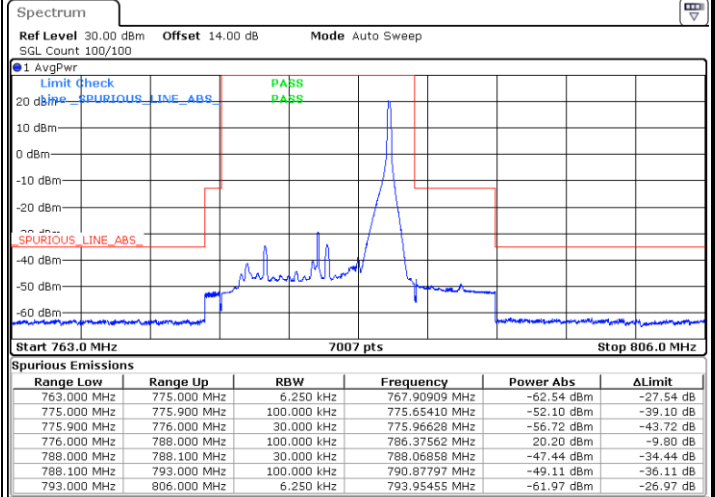
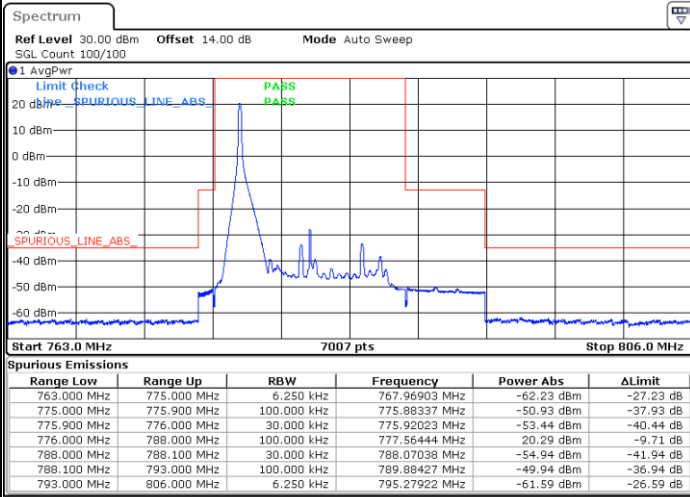
Date: 19.DEC.2020 12:00:33



LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

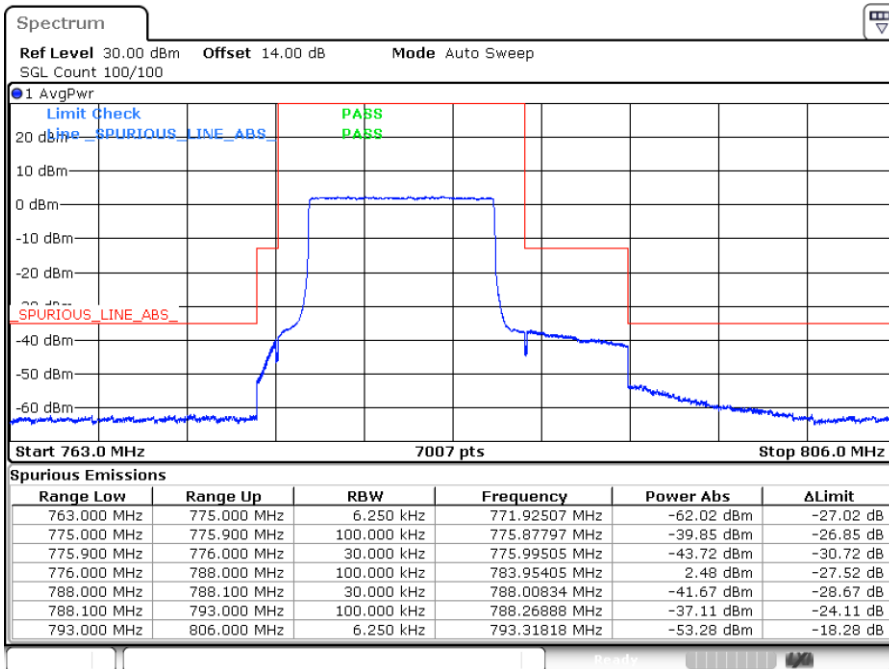
Highest Band Edge / 1 RB



Date: 19.DEC.2020 12:03:54

Date: 19.DEC.2020 12:08:56

Band Edge / Full RB

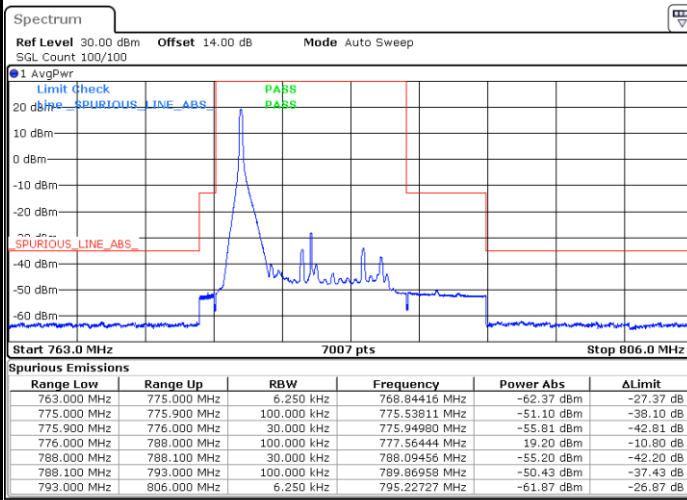


Date: 19.DEC.2020 12:02:13



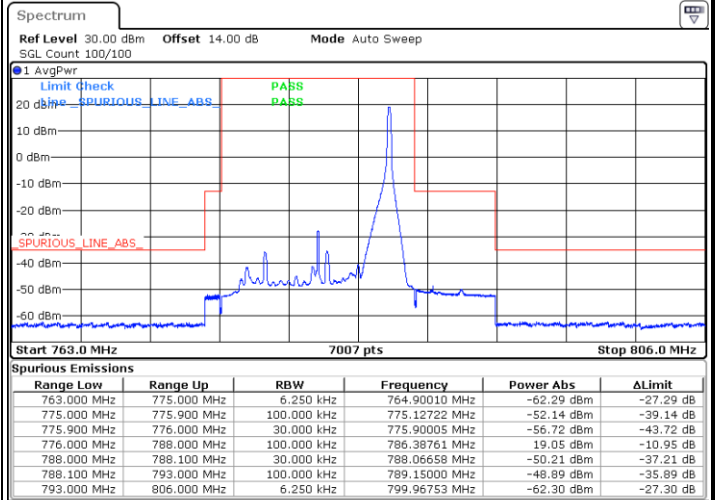
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



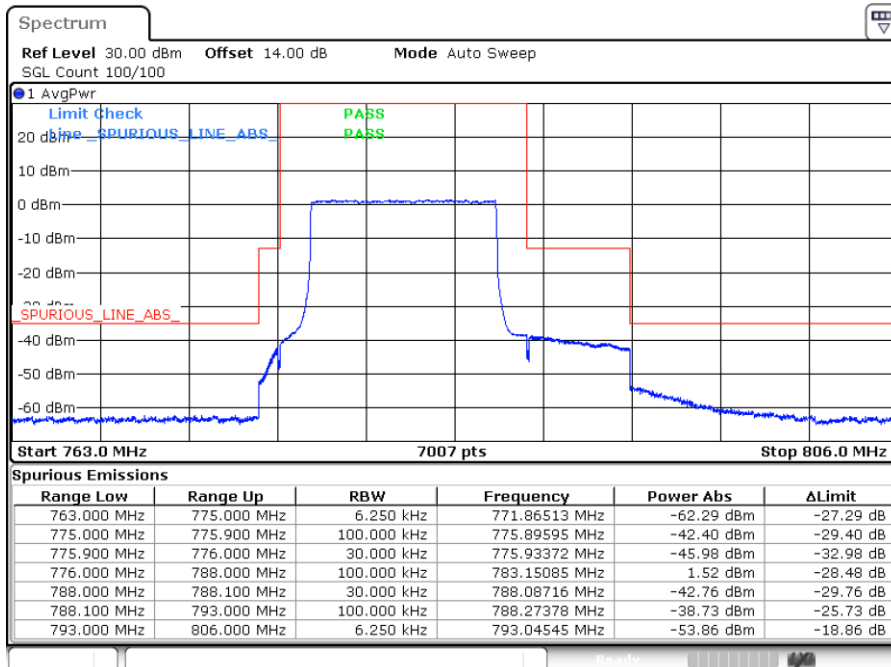
Date: 19.DEC.2020 12:15:02

Highest Band Edge / 1 RB



Date: 19.DEC.2020 12:16:43

Band Edge / Full RB



Date: 19.DEC.2020 12:13:22

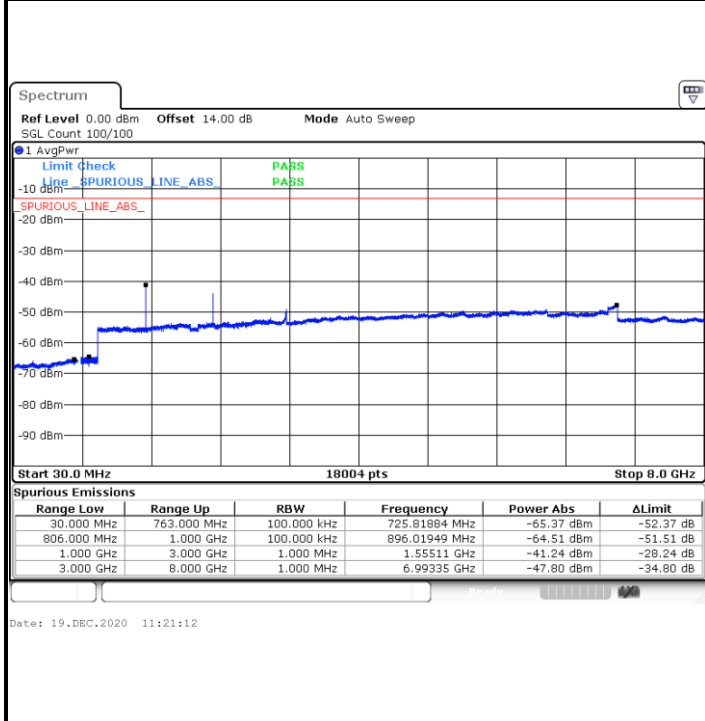


Conducted Spurious Emission

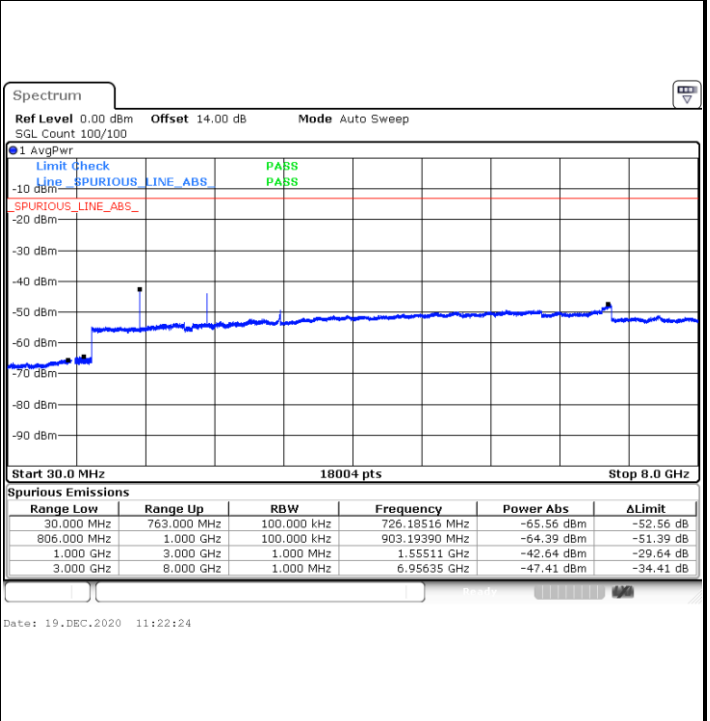


LTE Band 13 / 5MHz

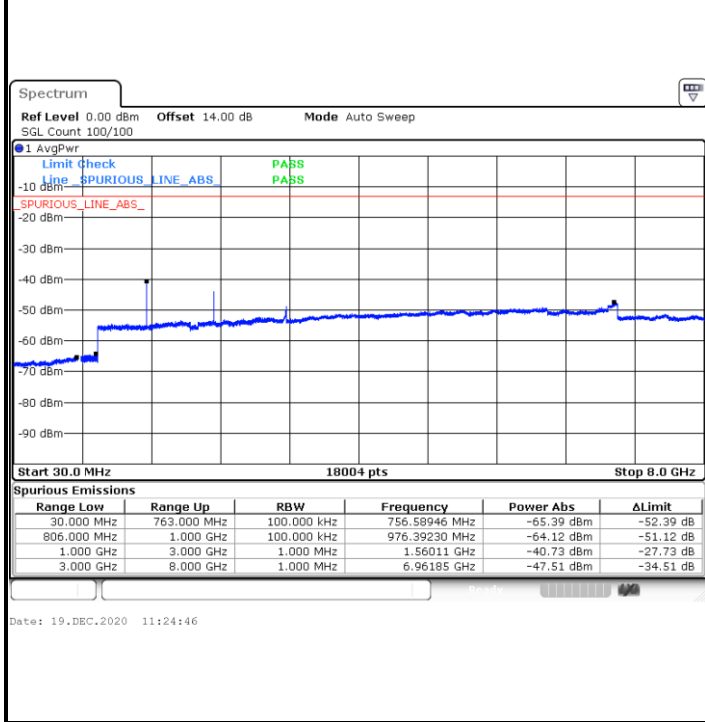
Lowest Channel / QPSK



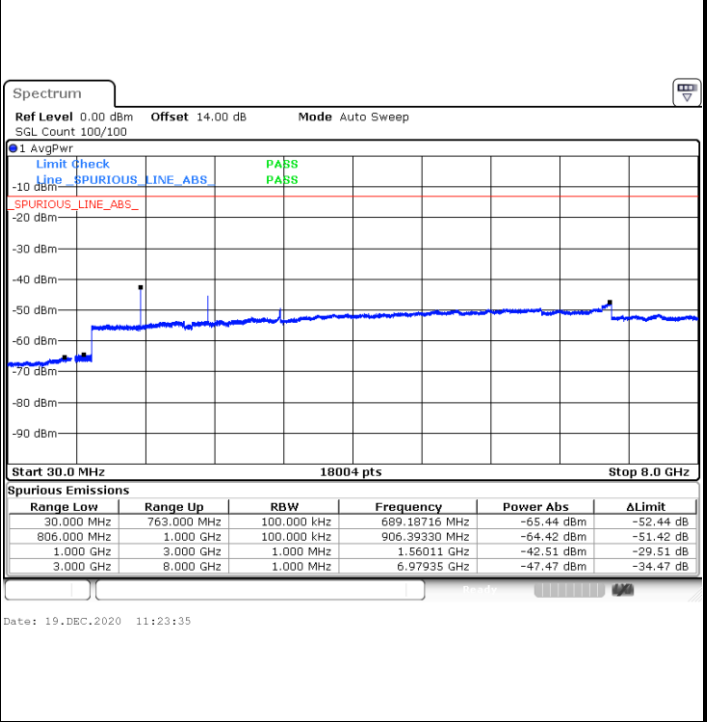
Lowest Channel / 16QAM



Middle Channel / QPSK



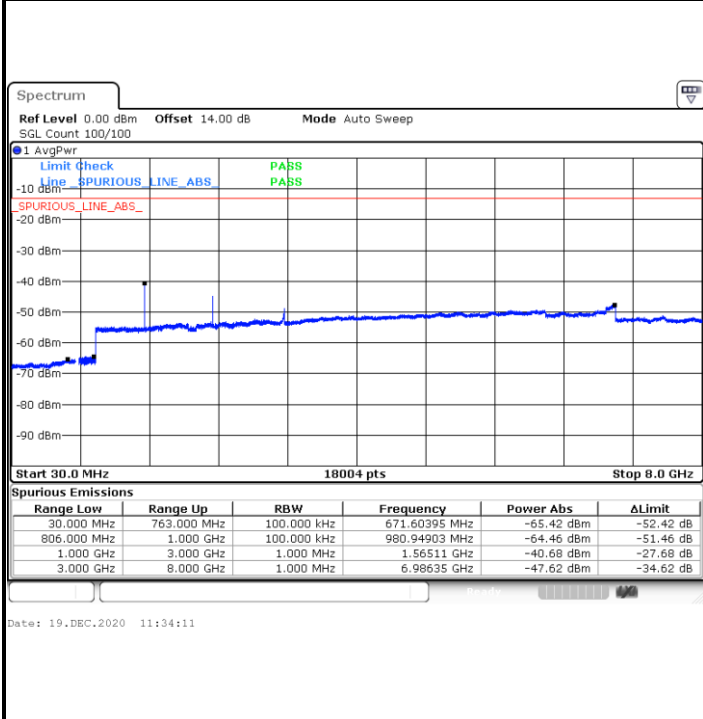
Middle Channel / 16QAM



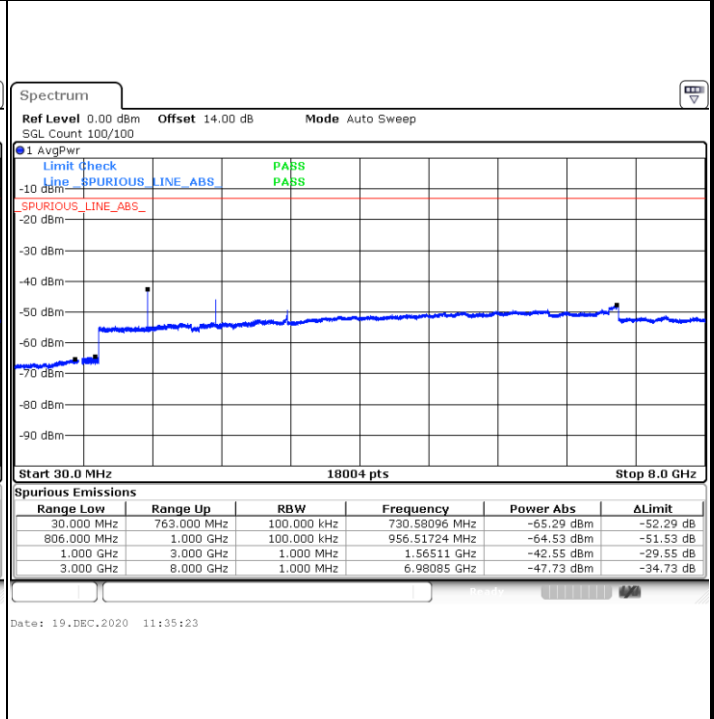


LTE Band 13 / 5MHz

Highest Channel / QPSK

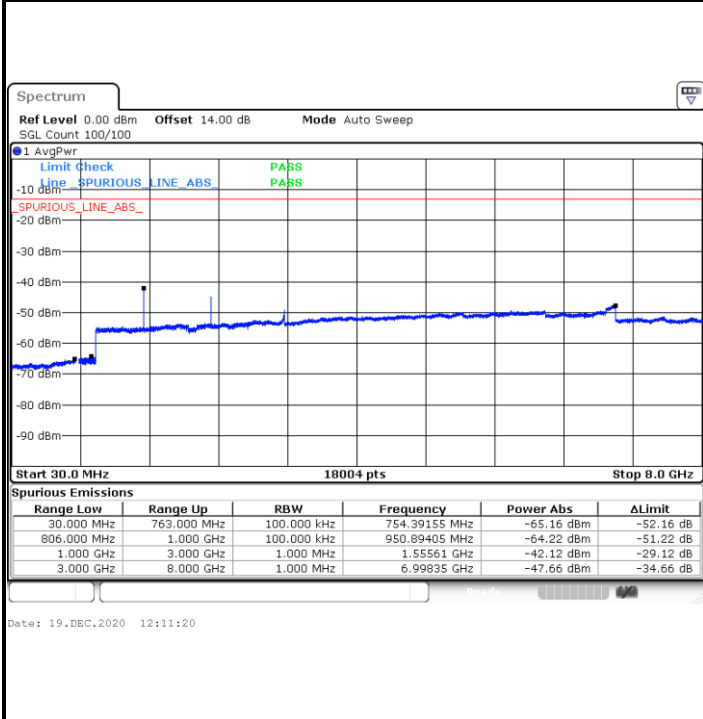


Highest Channel / 16QAM

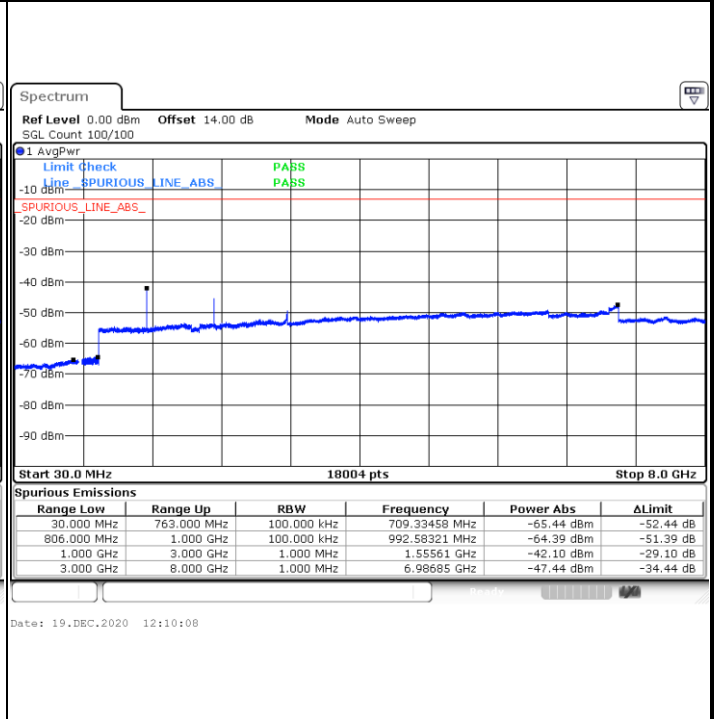


LTE Band 13 / 10MHz

Middle Channel / QPSK



Middle Channel / 16QAM

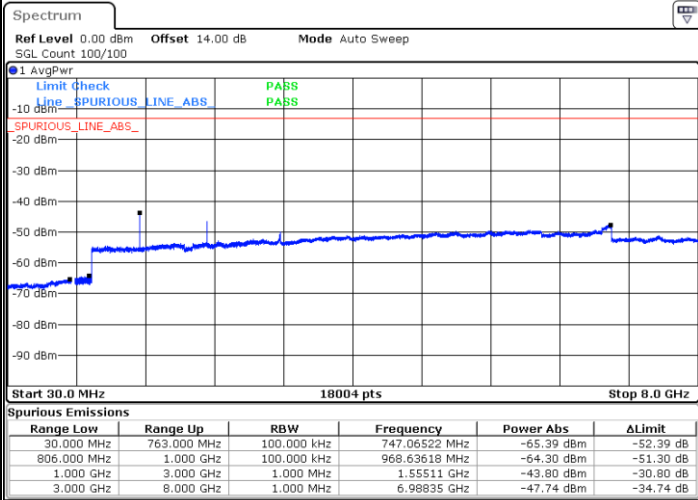




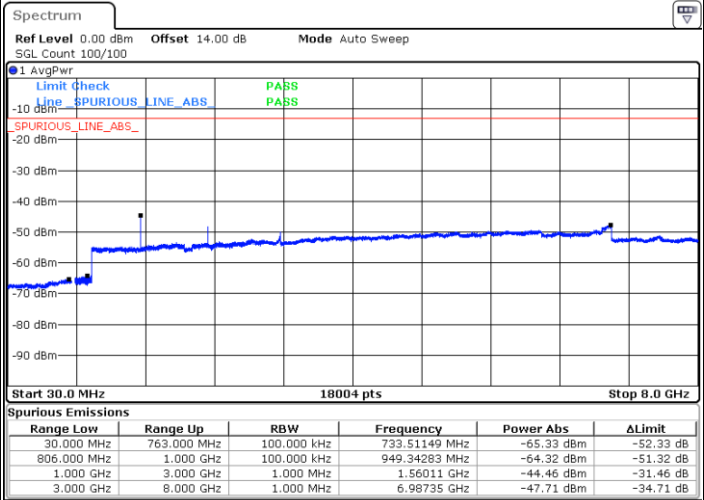
LTE Band 13 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

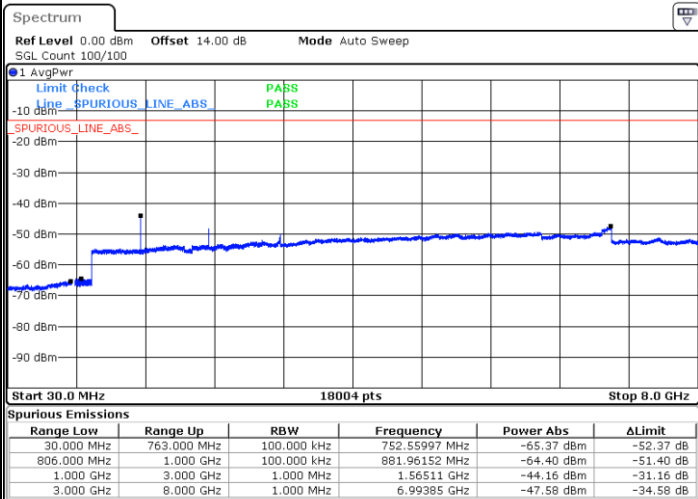


Date: 19.DEC.2020 11:40:19



Date: 19.DEC.2020 11:41:31

Highest Channel / 64QAM

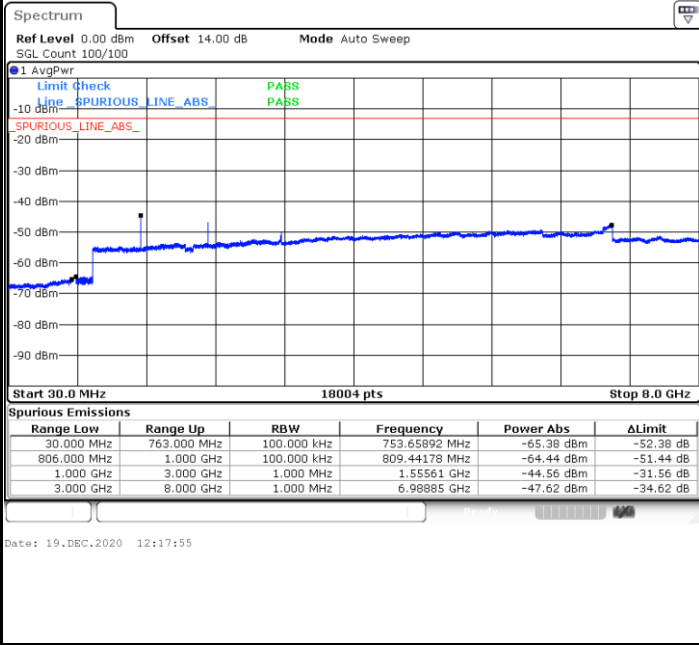


Date: 19.DEC.2020 12:37:36



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	0.0006	PASS
40	Normal Voltage	0.0015	
30	Normal Voltage	0.0020	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0224	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0237	
-30	Normal Voltage	0.0008	
20	Maximum Voltage	0.0013	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0235	

Note:

1. Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.14 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 41

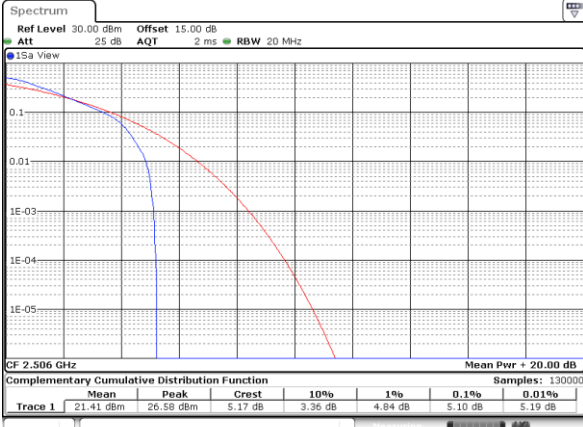
Peak-to-Average Ratio

Mode	LTE Band 41 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.10	5.97	6.20	6.43	PASS
Middle CH	6.23	6.29	7.30	6.32	
Highest CH	5.36	5.97	6.17	6.52	
Mode	LTE Band 41 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	7.13	6.06	-	-	PASS
Middle CH	6.90	7.01	-	-	
Highest CH	6.75	6.14	-	-	



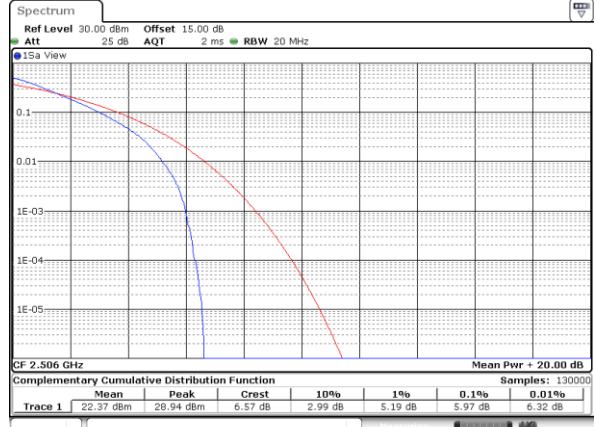
LTE Band 41 / 20MHz / QPSK

Lowest Channel / 1RB



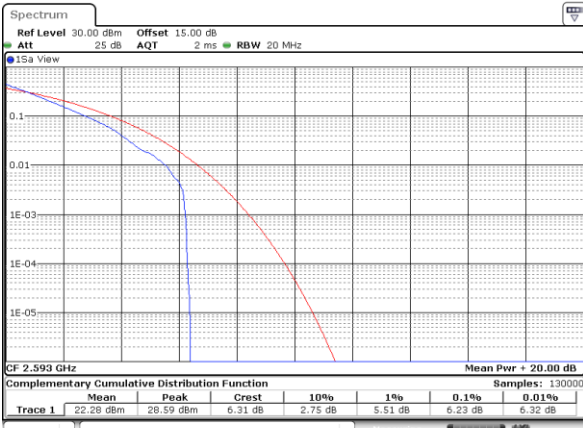
Date: 21.DEC.2020 00:46:40

Lowest Channel / Full RB



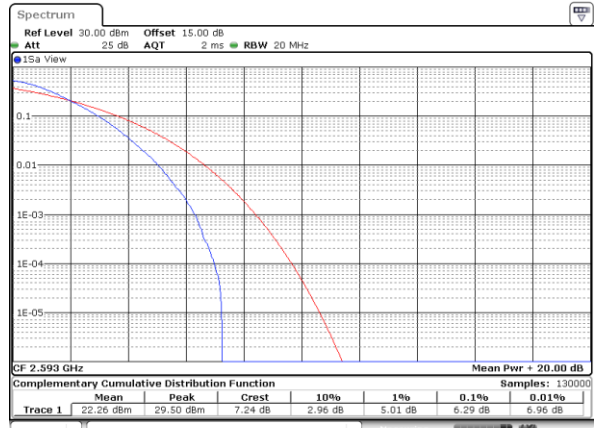
Date: 21.DEC.2020 00:11:20

Middle Channel / 1RB



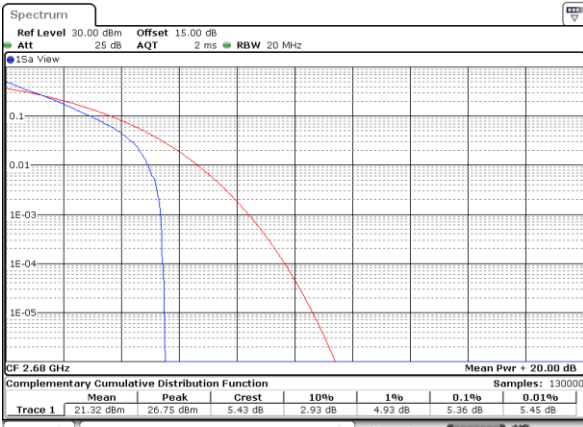
Date: 21.DEC.2020 00:42:03

Middle Channel / Full RB



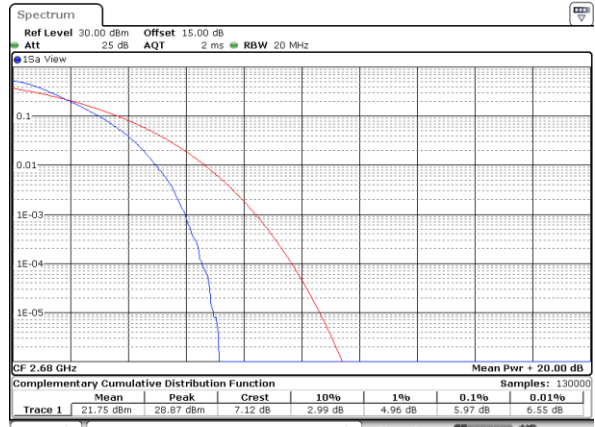
Date: 21.DEC.2020 00:12:120

Highest Channel / 1RB



Date: 21.DEC.2020 00:40:01

Highest Channel / Full RB

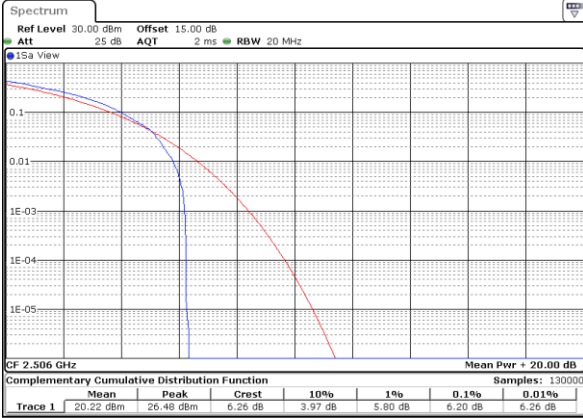


Date: 21.DEC.2020 00:12:9:20



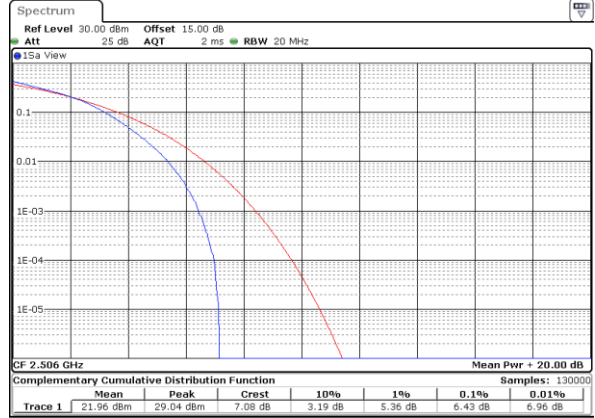
LTE Band 41 / 20MHz / 16QAM

Lowest Channel / 1RB



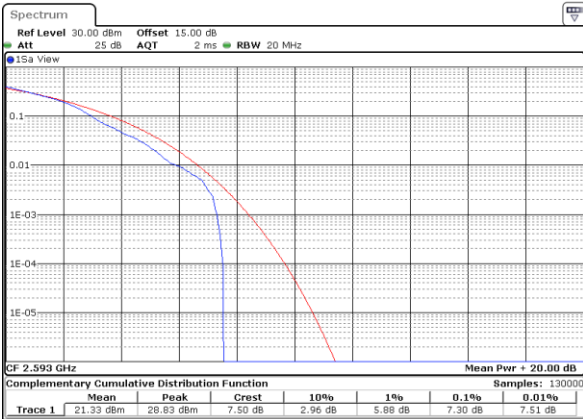
Date: 21.DEC.2020 00:46:24

Lowest Channel / Full RB



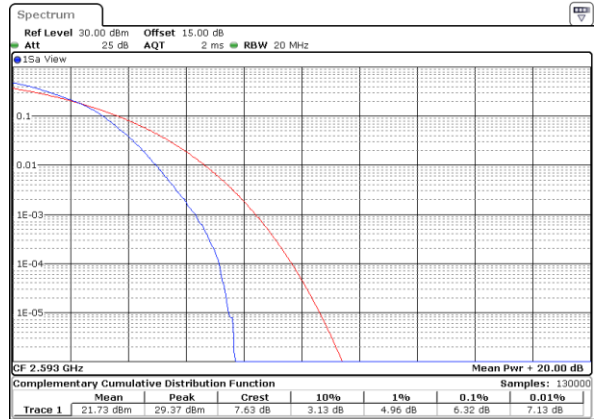
Date: 21.DEC.2020 00:19:54

Middle Channel / 1RB



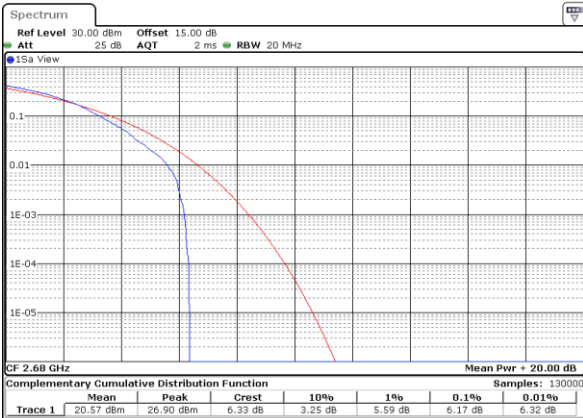
Date: 21.DEC.2020 00:42:39

Middle Channel / Full RB



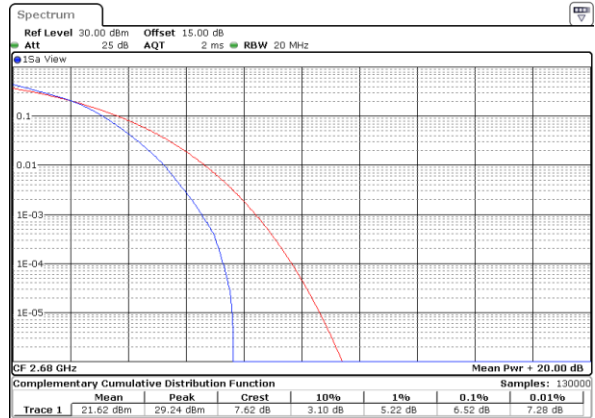
Date: 21.DEC.2020 00:25:57

Highest Channel / 1RB



Date: 21.DEC.2020 00:39:19

Highest Channel / Full RB



Date: 21.DEC.2020 00:13:13