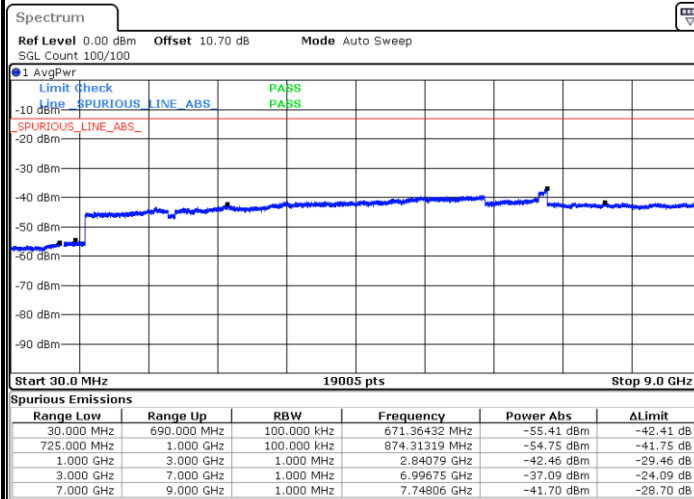




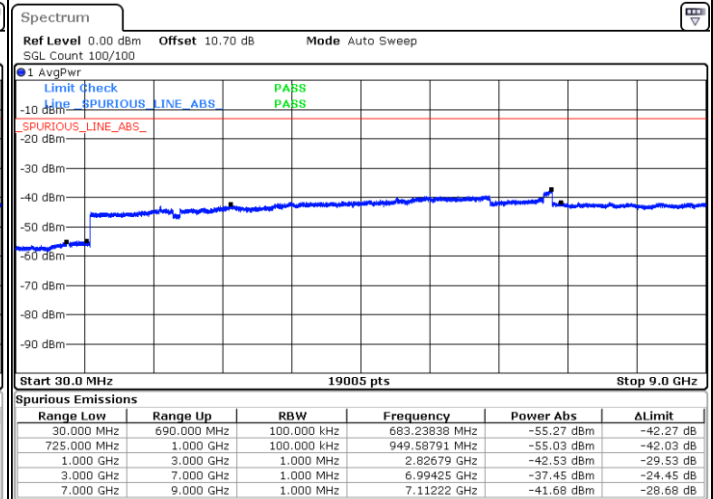
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 22.DEC.2019 18:03:55

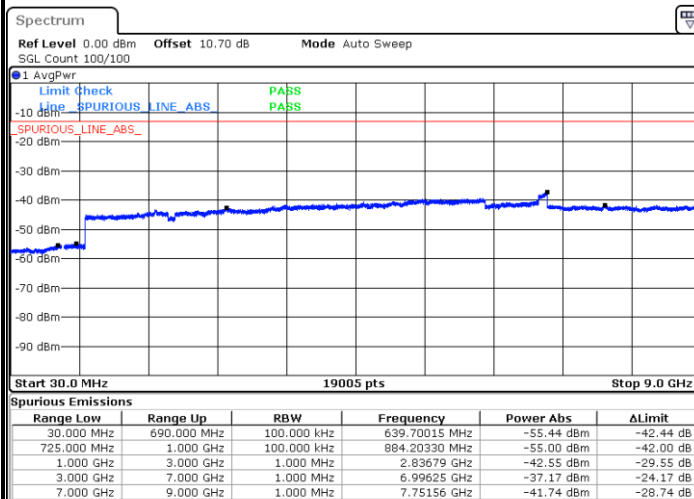
Highest Channel / 16QAM



Date: 22.DEC.2019 18:04:50

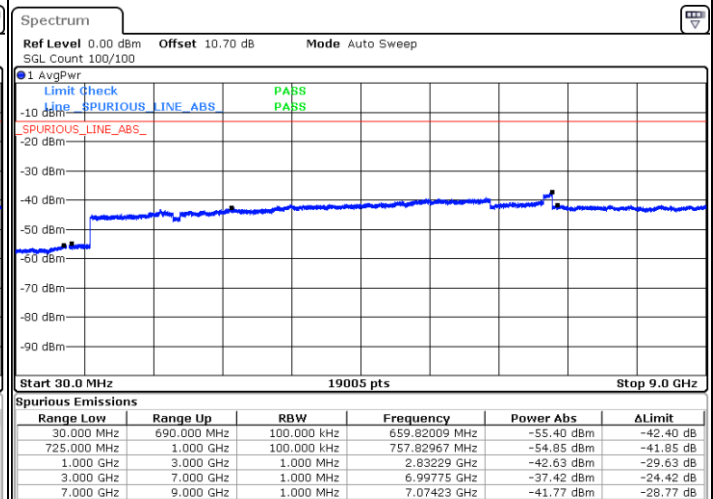
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 22.DEC.2019 18:17:35

Lowest Channel / 16QAM

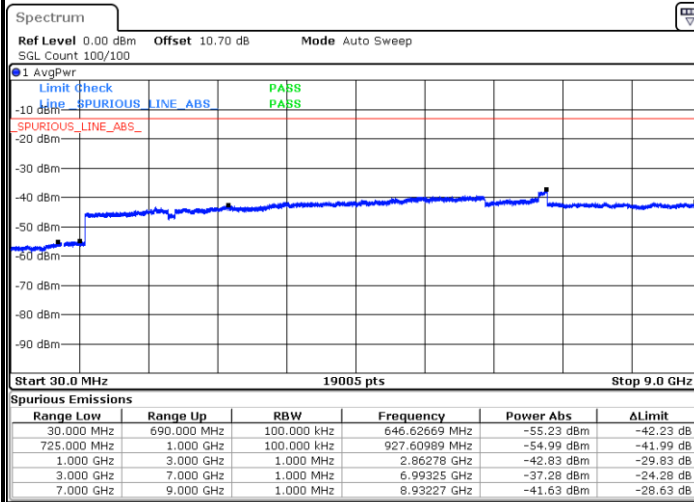


Date: 22.DEC.2019 18:18:30



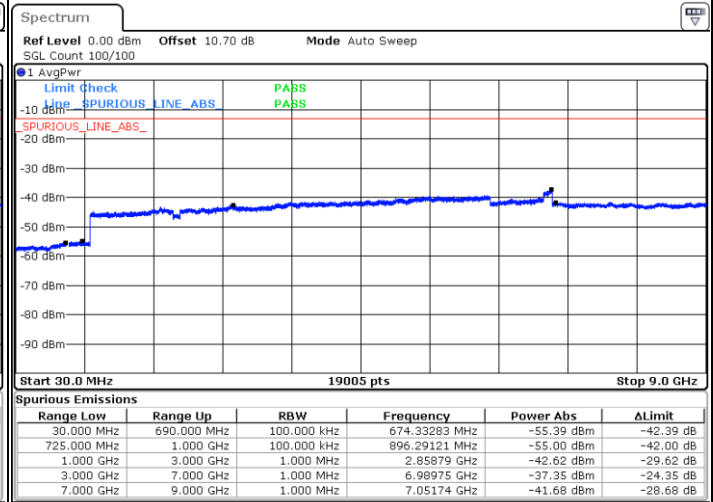
LTE Band 12 / 3MHz

Middle Channel / QPSK



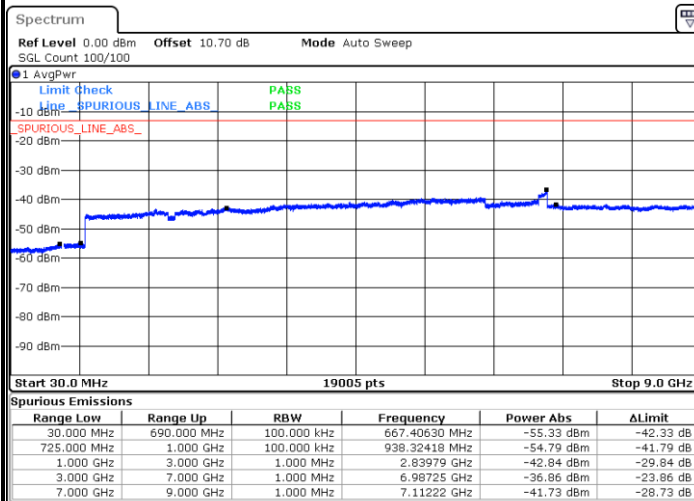
Date: 22.DEC.2019 18:20:57

Middle Channel / 16QAM



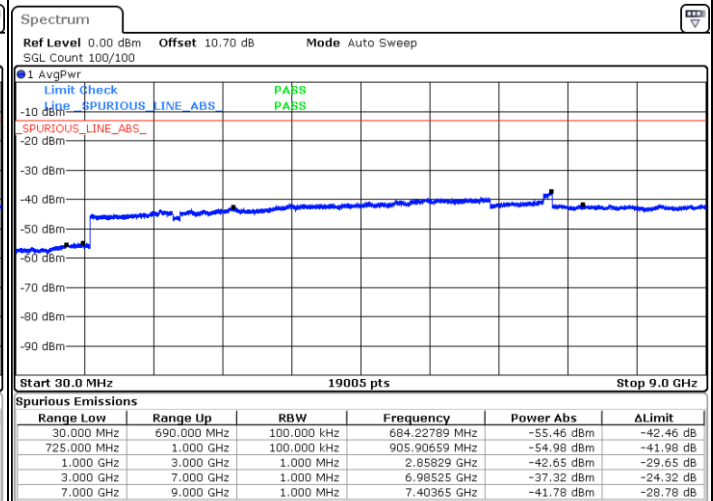
Date: 22.DEC.2019 20:20:16

Highest Channel / QPSK



Date: 22.DEC.2019 18:26:11

Highest Channel / 16QAM

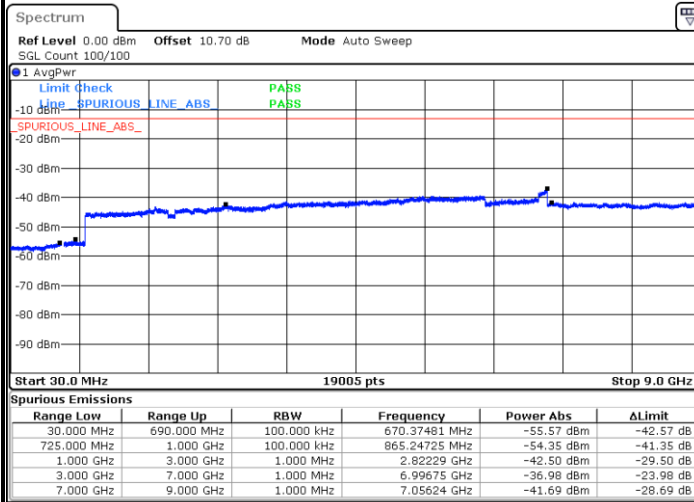


Date: 22.DEC.2019 18:27:06



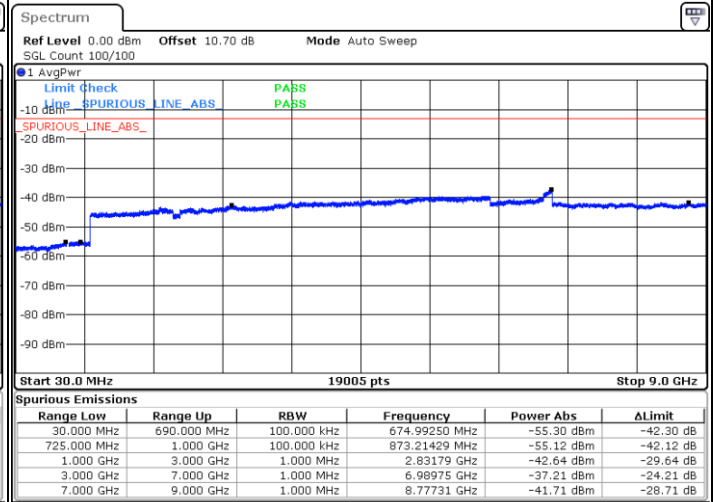
LTE Band 12 / 5MHz

Lowest Channel / QPSK



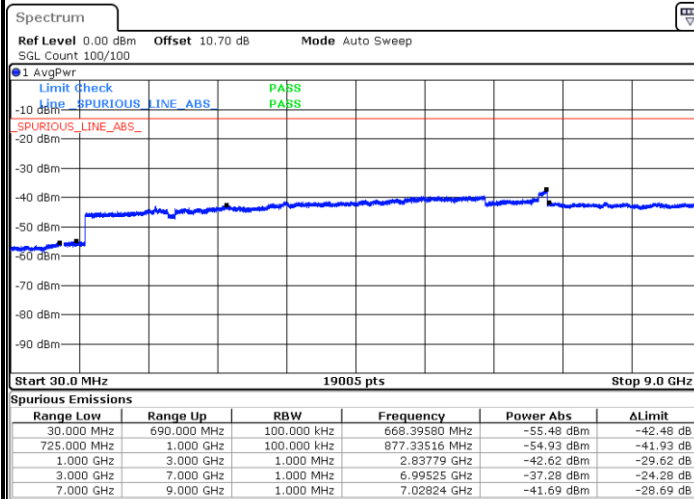
Date: 22.DEC.2019 18:47:20

Lowest Channel / 16QAM



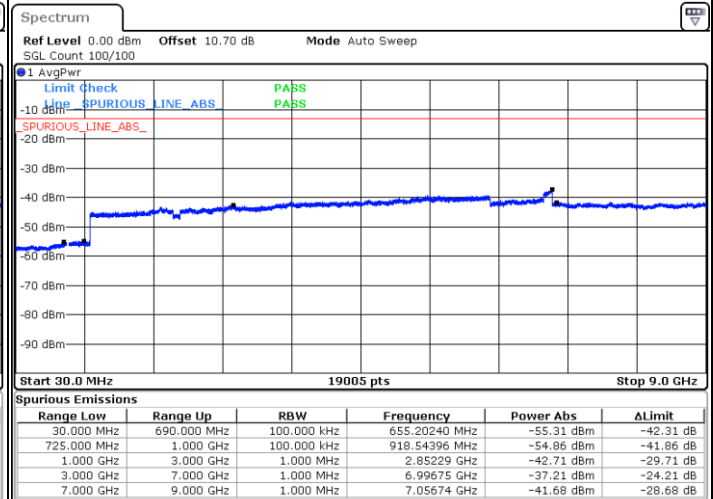
Date: 22.DEC.2019 18:48:15

Middle Channel / QPSK



Date: 22.DEC.2019 18:50:57

Middle Channel / 16QAM

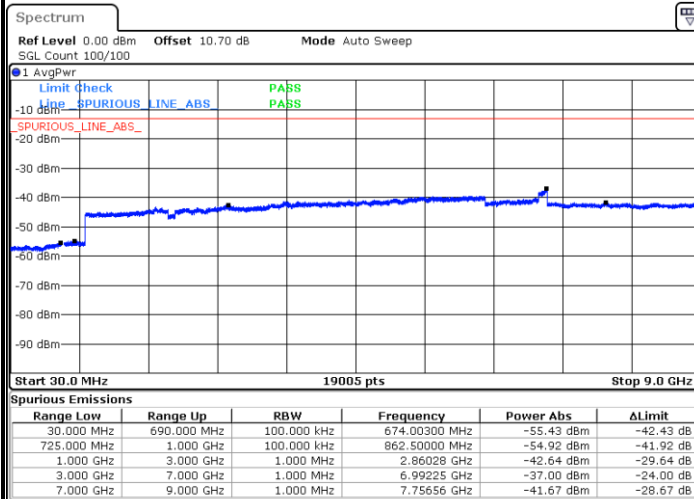


Date: 22.DEC.2019 18:50:02



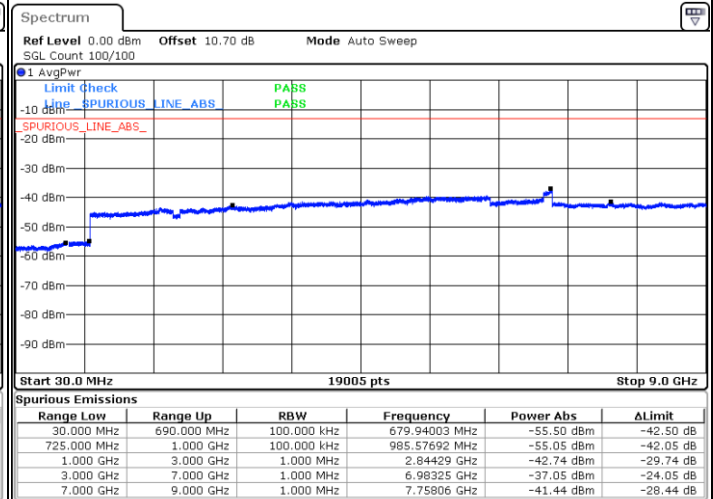
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 22.DEC.2019 18:57:05

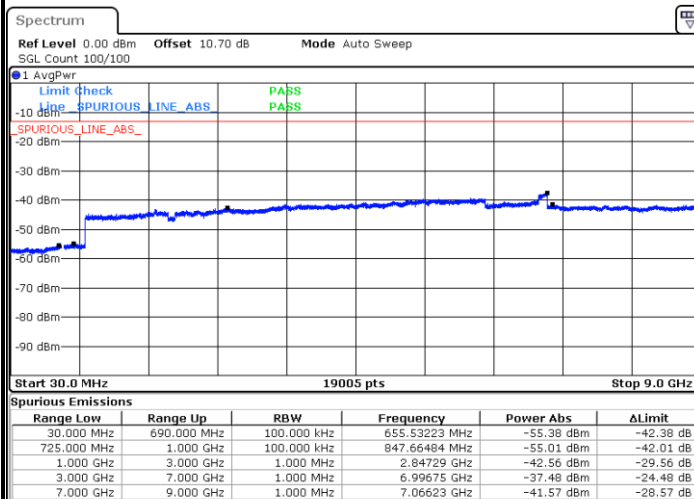
Highest Channel / 16QAM



Date: 22.DEC.2019 18:56:10

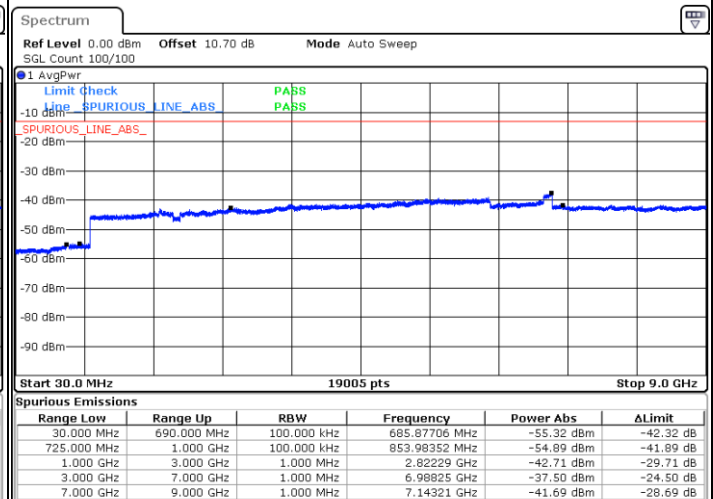
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 22.DEC.2019 19:02:22

Lowest Channel / 16QAM

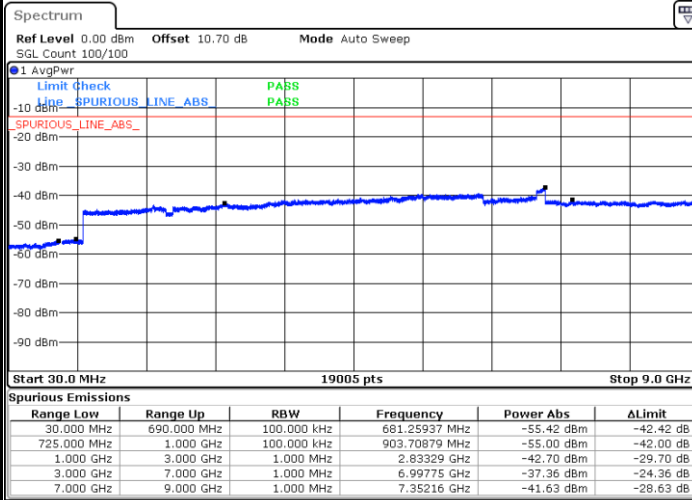


Date: 22.DEC.2019 19:03:16



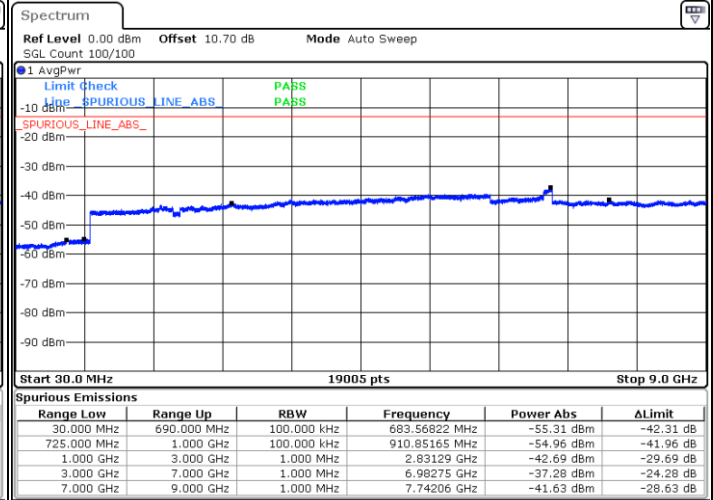
LTE Band 12 / 10MHz

Middle Channel / QPSK



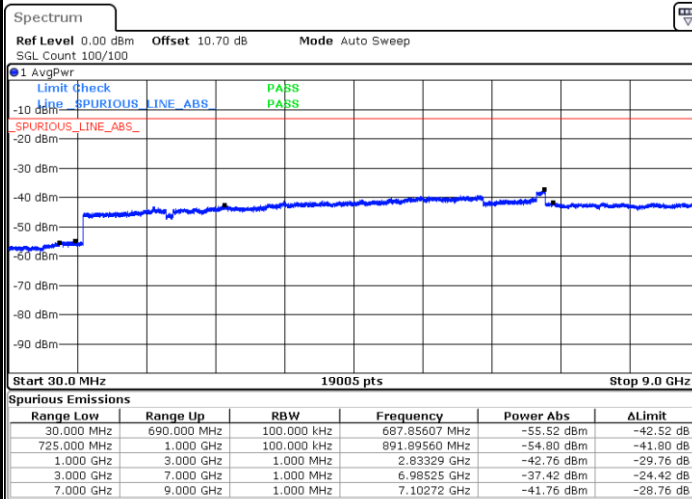
Date: 22.DEC.2019 19:05:58

Middle Channel / 16QAM



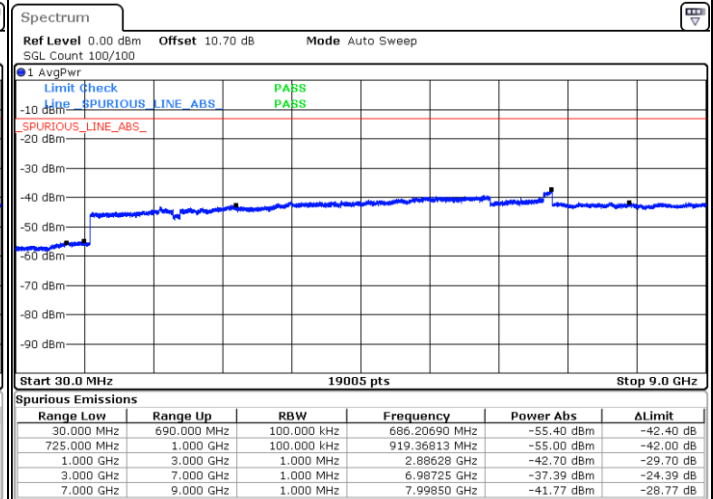
Date: 22.DEC.2019 19:05:04

Highest Channel / QPSK



Date: 22.DEC.2019 19:11:12

Highest Channel / 16QAM

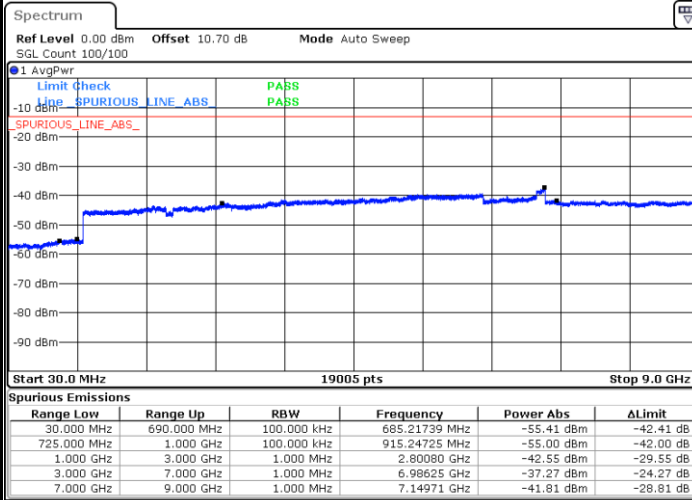


Date: 22.DEC.2019 19:12:07



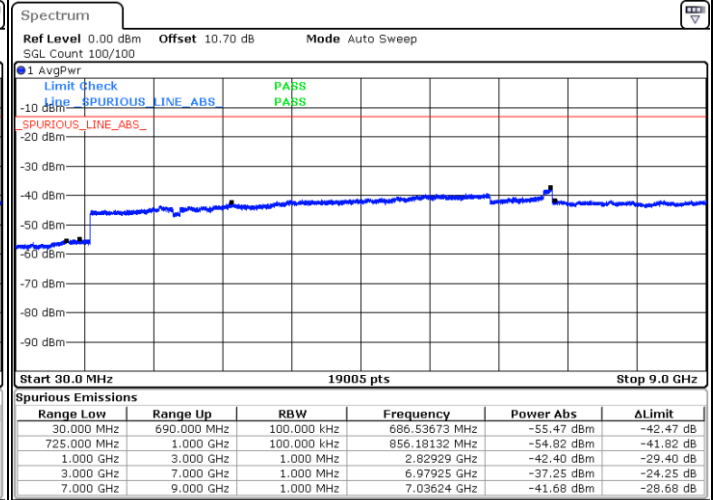
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM



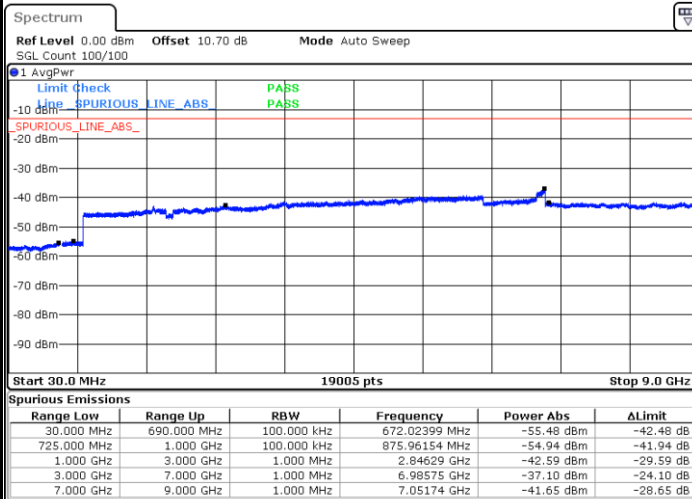
Date: 22.DEC.2019 18:07:55

Middle Channel / 64QAM



Date: 22.DEC.2019 18:09:17

Highest Channel / 64QAM

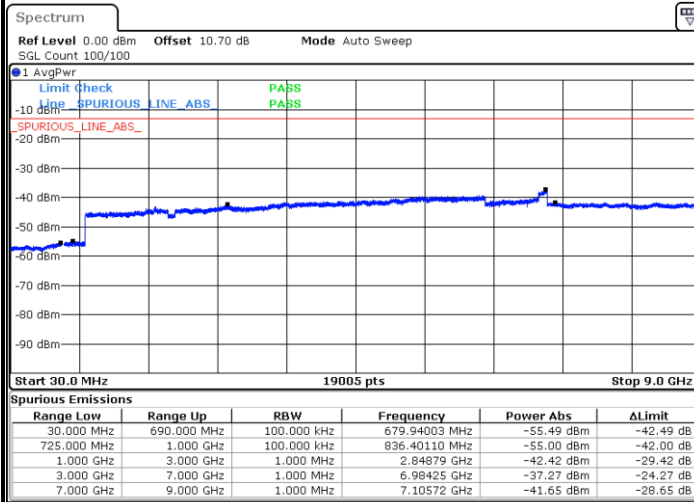


Date: 22.DEC.2019 18:12:21



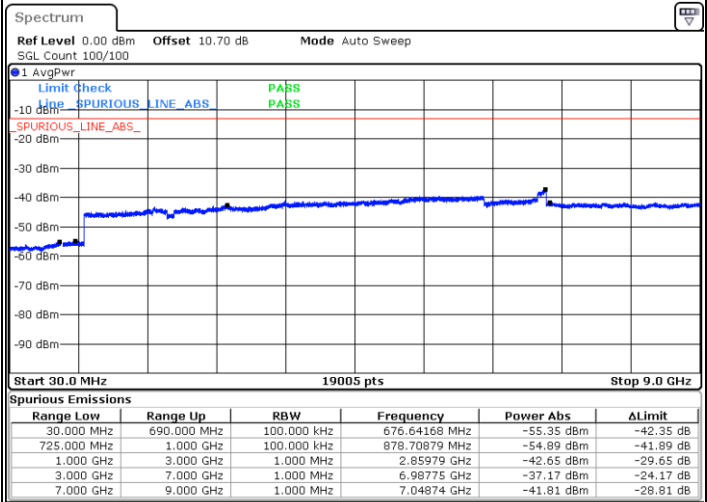
LTE Band 12 / 3MHz

Lowest Channel / 64QAM



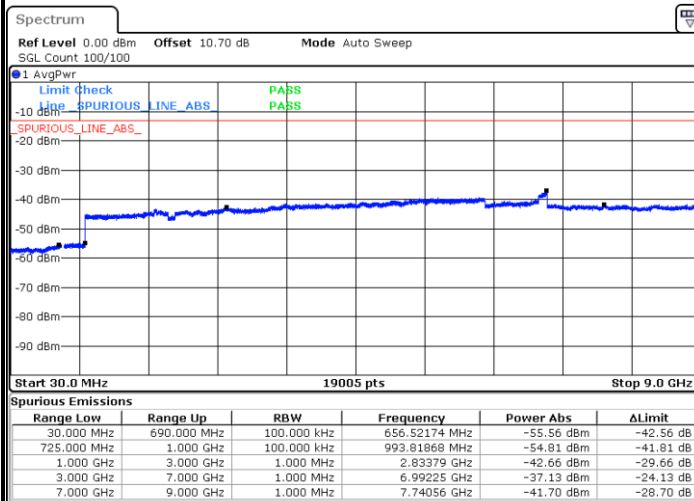
Date: 22.DEC.2019 18:30:10

Middle Channel / 64QAM



Date: 22.DEC.2019 18:31:31

Highest Channel / 64QAM

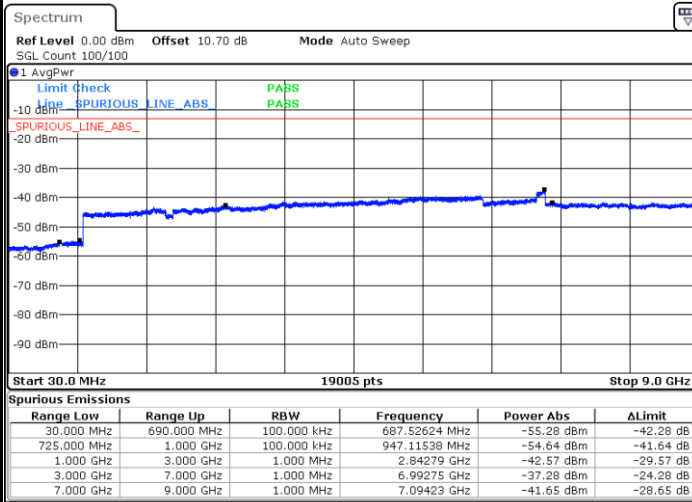


Date: 22.DEC.2019 18:34:35



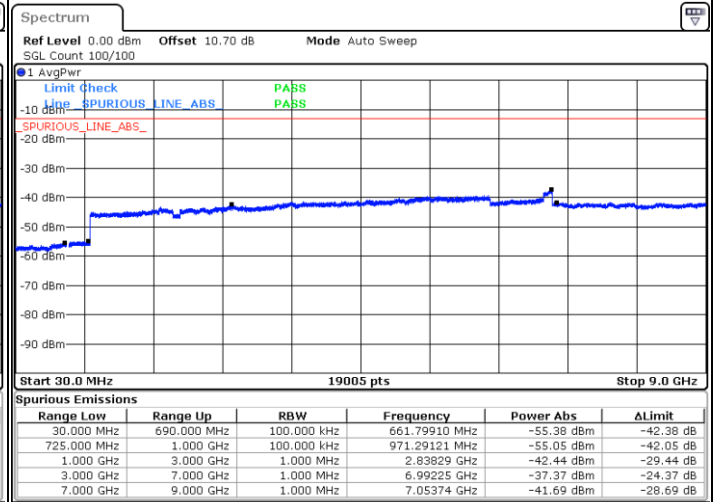
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



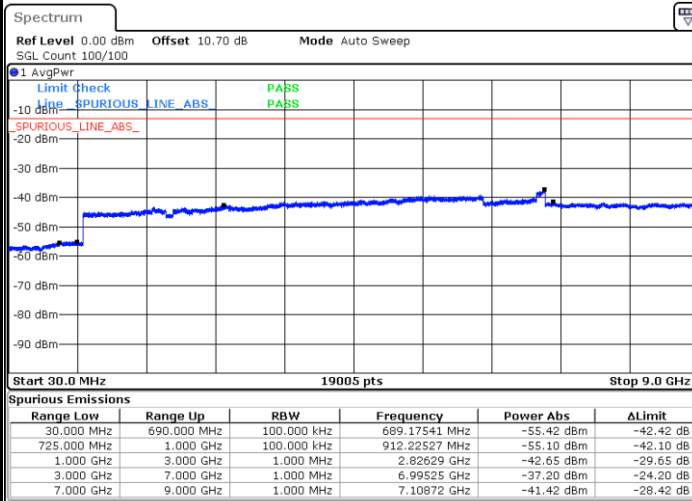
Date: 22.DEC.2019 18:37:40

Middle Channel / 64QAM



Date: 22.DEC.2019 18:39:01

Highest Channel / 64QAM

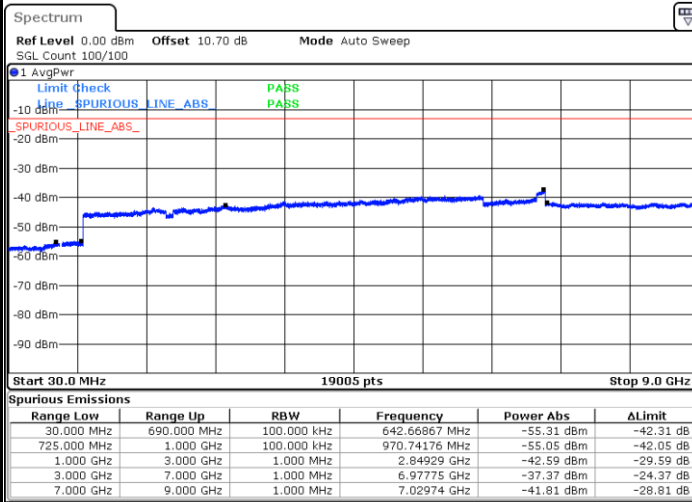


Date: 22.DEC.2019 18:42:05



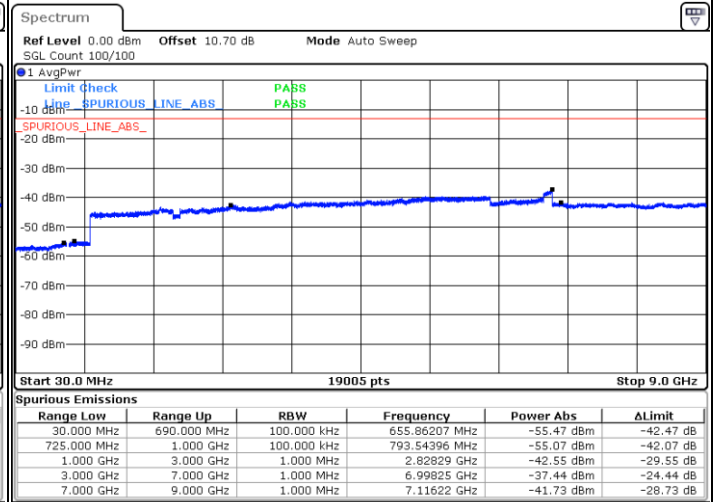
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



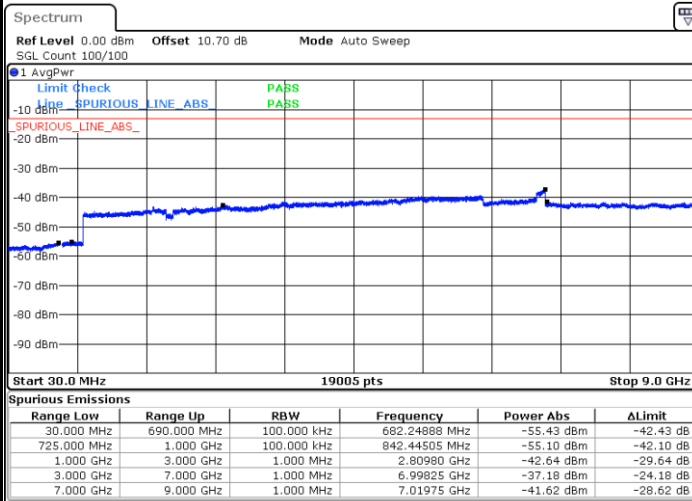
Date: 22.DEC.2019 19:15:11

Middle Channel / 64QAM



Date: 22.DEC.2019 19:16:32

Highest Channel / 64QAM



Date: 22.DEC.2019 19:19:36

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	0.0003	PASS
40	Normal Voltage	0.0061	
30	Normal Voltage	0.0078	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0017	
0	Normal Voltage	0.0048	
-10	Normal Voltage	0.0014	
-20	Normal Voltage	0.0065	
-30	Normal Voltage	0.0147	
20	Maximum Voltage	0.0093	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0216	

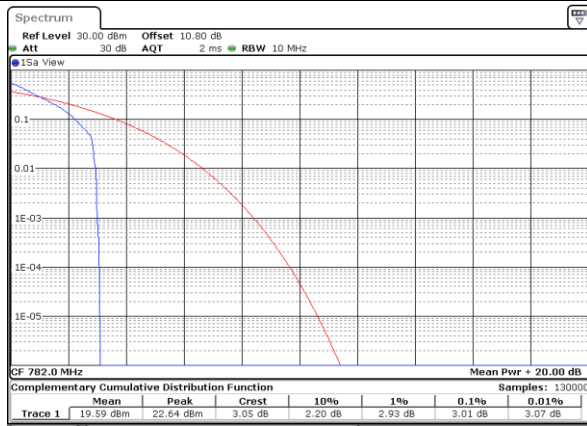
Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.35 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

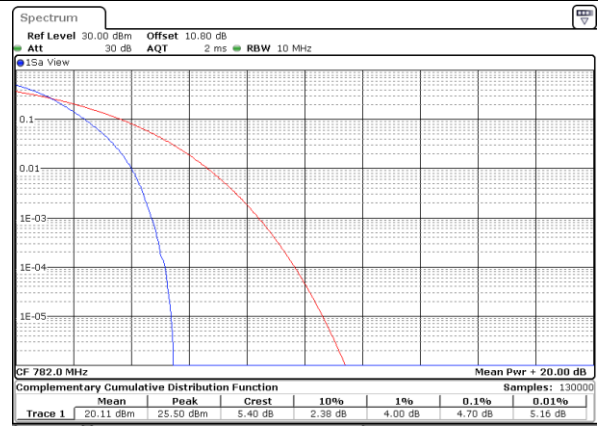
LTE Band 13

Peak-to-Average Ratio

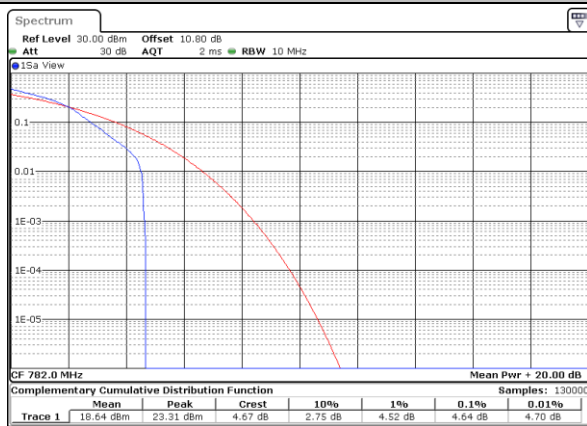
Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.01	4.70	4.64	5.65	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.86	6.12	-	-	
Highest CH	-	-	-	-	

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


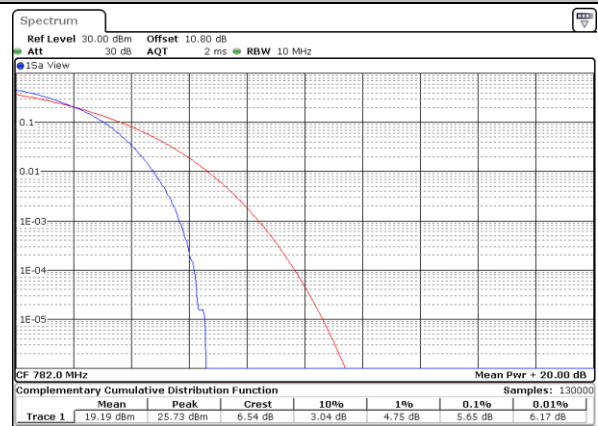
Date: 21.DEC.2019 00:42:24

Middle Channel / Full RB


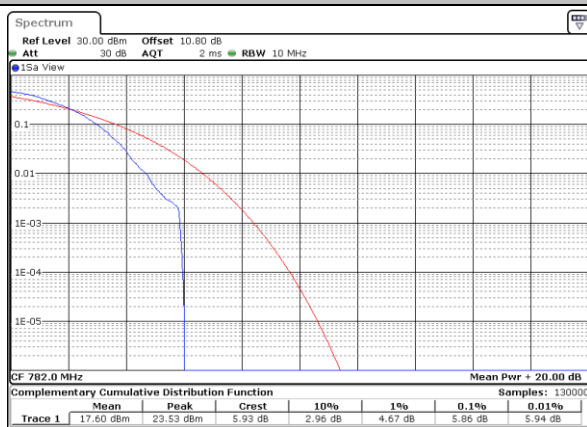
Date: 21.DEC.2019 00:42:45

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


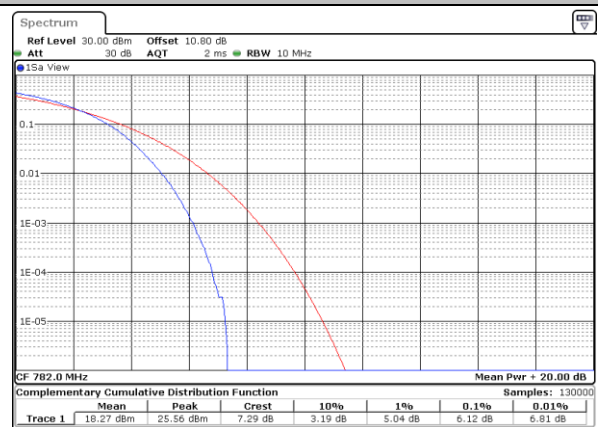
Date: 21.DEC.2019 00:42:00

Middle Channel / Full RB


Date: 21.DEC.2019 00:42:12

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


Date: 21.DEC.2019 00:41:33

Middle Channel / Full RB


Date: 21.DEC.2019 00:41:47

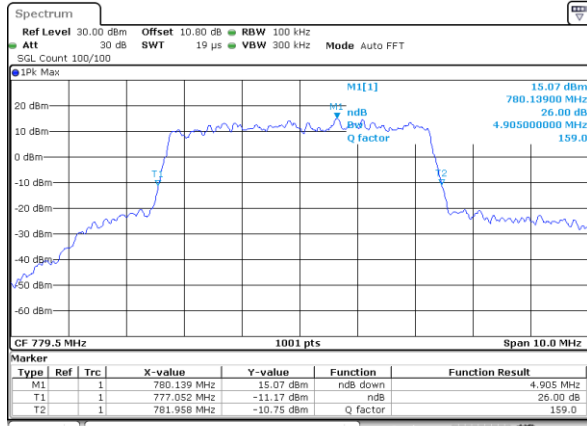
**26dB Bandwidth**

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	-	-	-	-	4.91	4.80	-	-	-	-	-	-
Middle CH	-	-	-	-	4.91	4.83	9.71	9.71	-	-	-	-
Highest CH	-	-	-	-	4.90	4.83	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.84	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.95	-	9.81	-	-	-	-	-
Highest CH	-	-	-	-	4.84	-	-	-	-	-	-	-



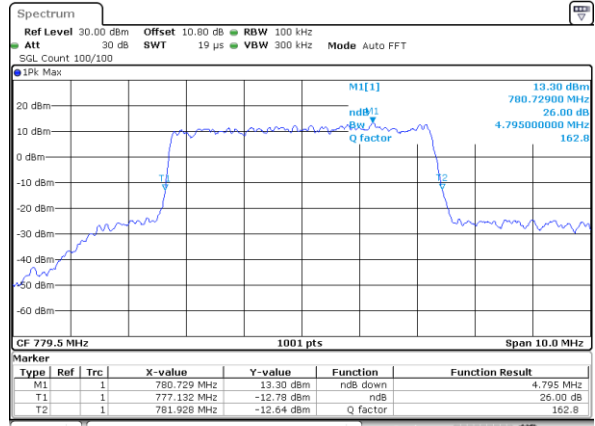
LTE Band 13

Lowest Channel / 5MHz / QPSK



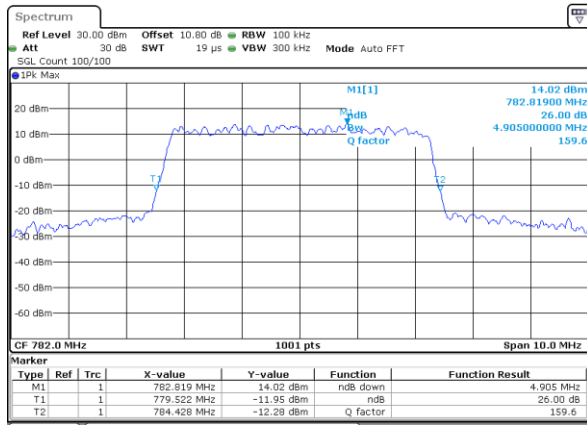
Date: 20, DEC, 2019 23:42:27

Lowest Channel / 5MHz / 16QAM



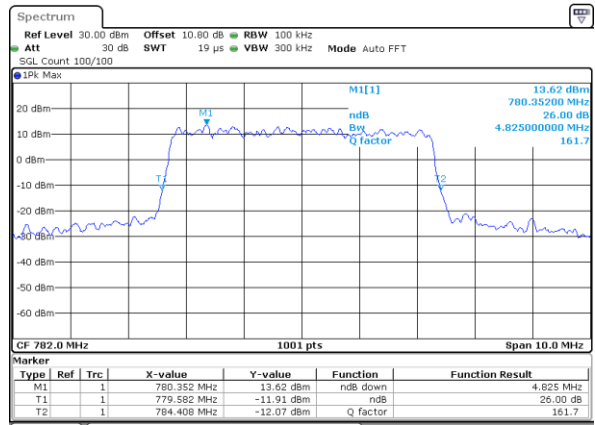
Date: 20, DEC, 2019 23:35:45

Middle Channel / 5MHz / QPSK



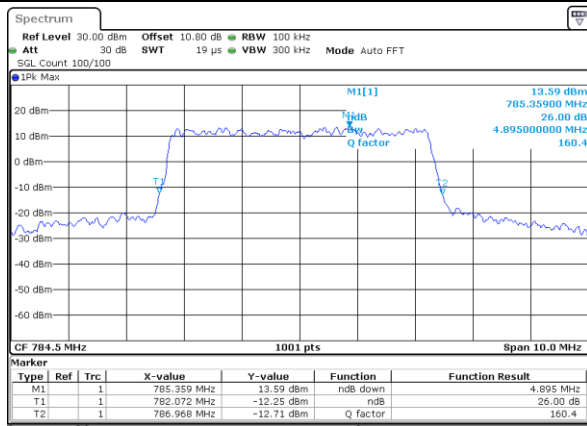
Date: 20, DEC, 2019 23:53:45

Middle Channel / 5MHz / 16QAM



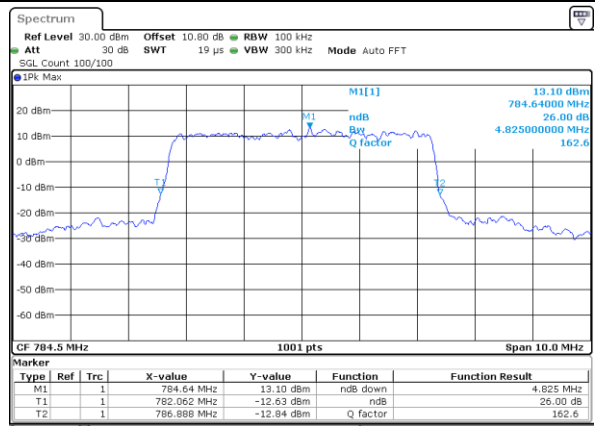
Date: 20, DEC, 2019 23:53:58

Highest Channel / 5MHz / QPSK



Date: 20, DEC, 2019 23:55:19

Highest Channel / 5MHz / 16QAM

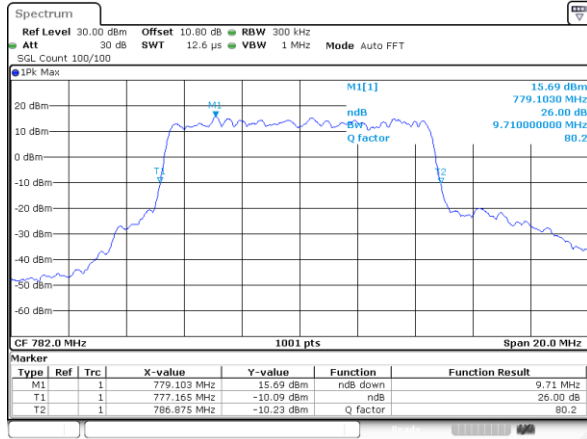


Date: 20, DEC, 2019 23:55:05



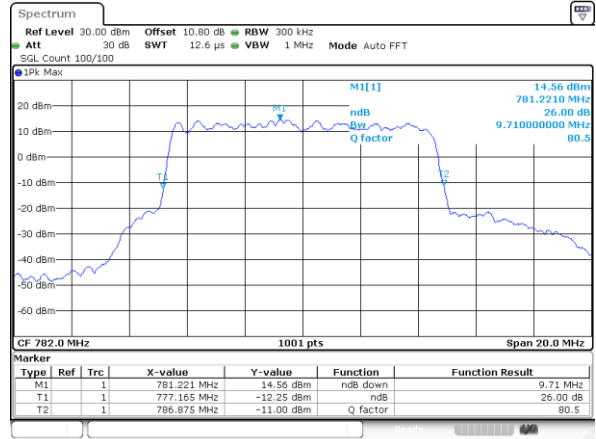
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 21.DEC.2019 00:16:27

Middle Channel / 10MHz / 16QAM

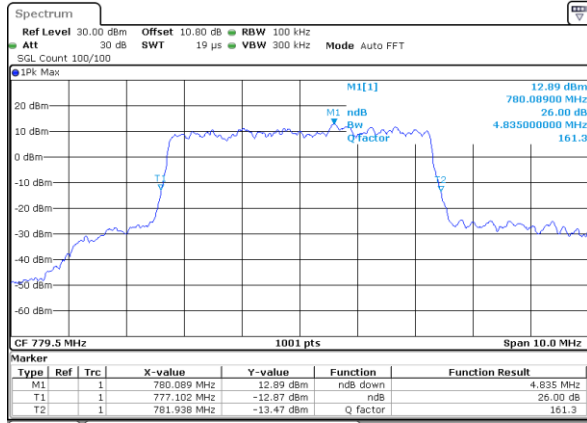


Date: 21.DEC.2019 00:16:14

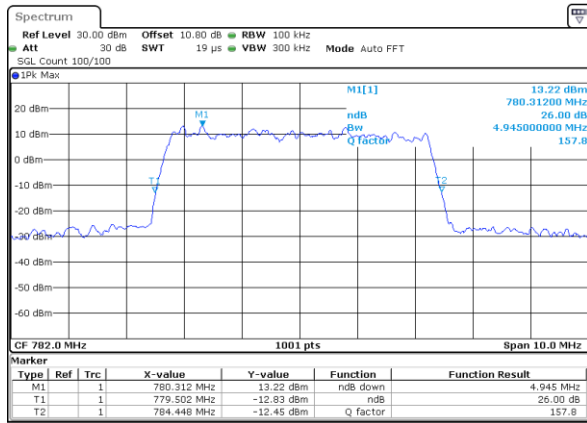


LTE Band 13

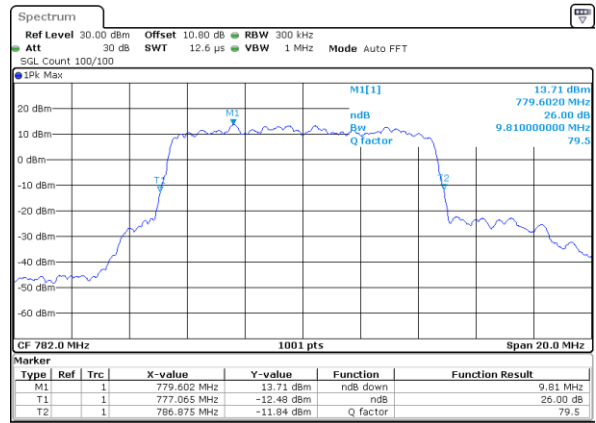
Lowest Channel / 5MHz / 64QAM



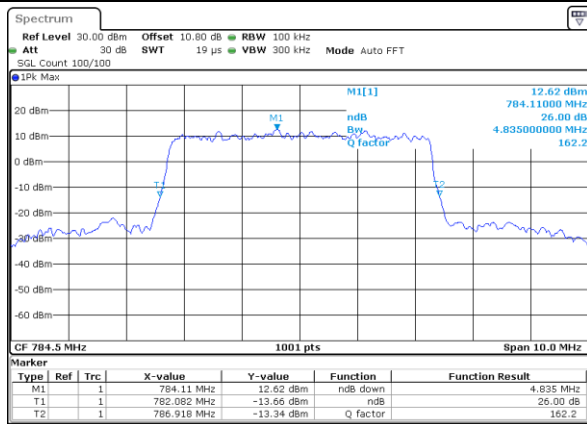
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



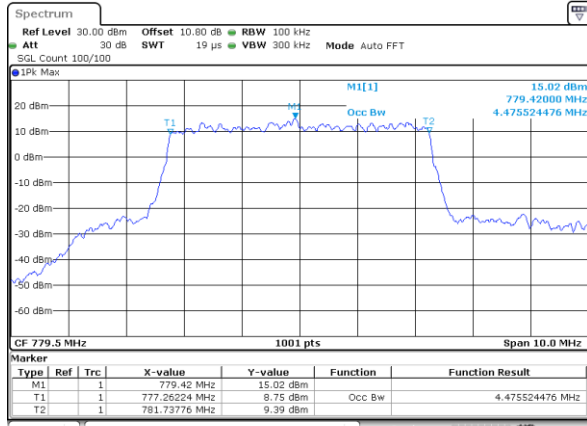
**Occupied Bandwidth**

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	-	-	-	-	4.48	4.48	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.47	8.97	9.01	-	-	-	-
Highest CH	-	-	-	-	4.49	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	-	-	-	-	4.47	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.48	-	9.01	-	-	-	-	-
Highest CH	-	-	-	-	4.49	-	-	-	-	-	-	-



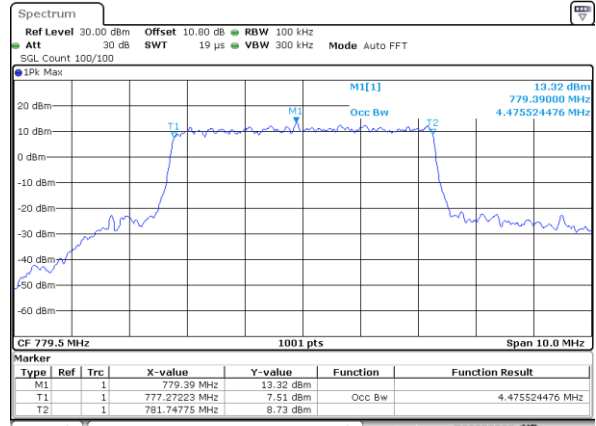
LTE Band 13

Lowest Channel / 5MHz / QPSK



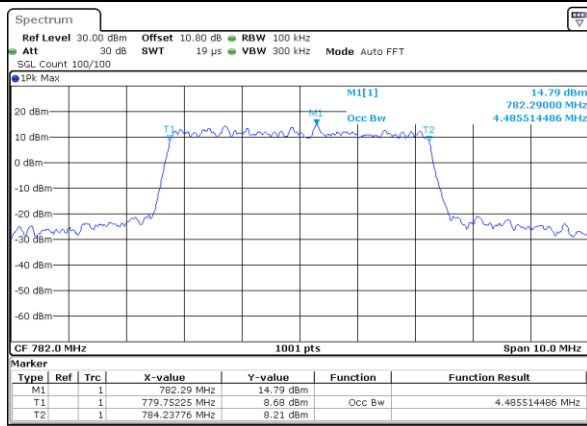
Date: 20, DEC, 2019 23:35:17

Lowest Channel / 5MHz / 16QAM



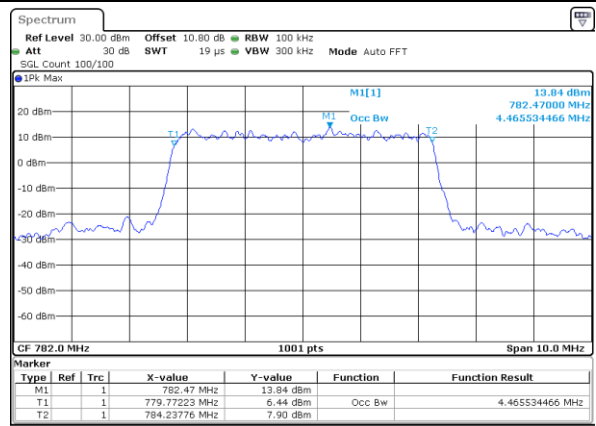
Date: 20, DEC, 2019 23:35:31

Middle Channel / 5MHz / QPSK



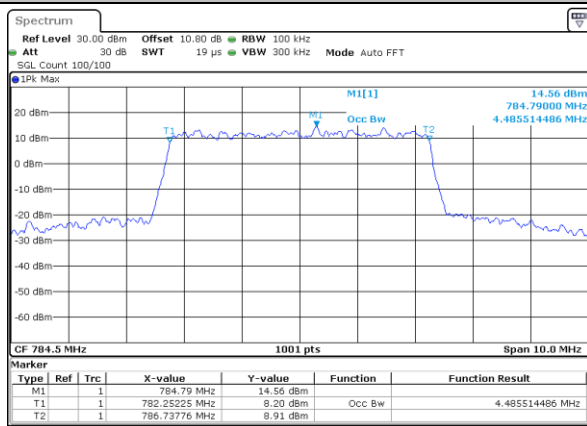
Date: 20, DEC, 2019 23:54:25

Middle Channel / 5MHz / 16QAM



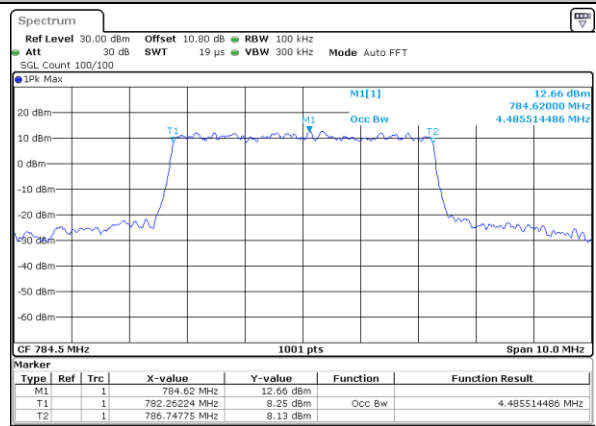
Date: 20, DEC, 2019 23:54:11

Highest Channel / 5MHz / QPSK



Date: 20, DEC, 2019 23:54:38

Highest Channel / 5MHz / 16QAM

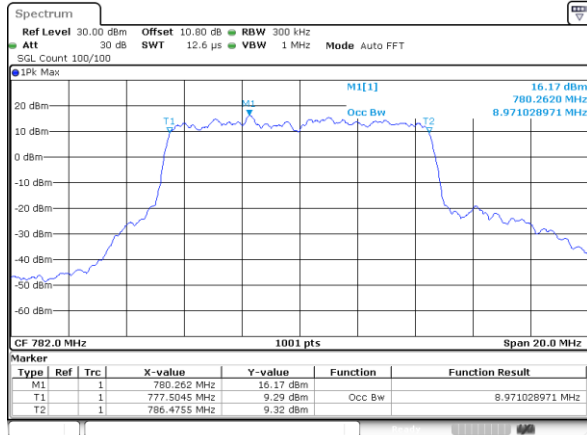


Date: 20, DEC, 2019 23:54:52



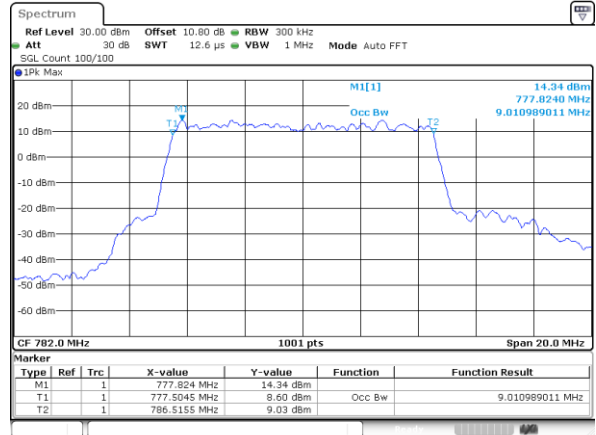
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 21.DEC.2019 00:15:40

Middle Channel / 10MHz / 16QAM

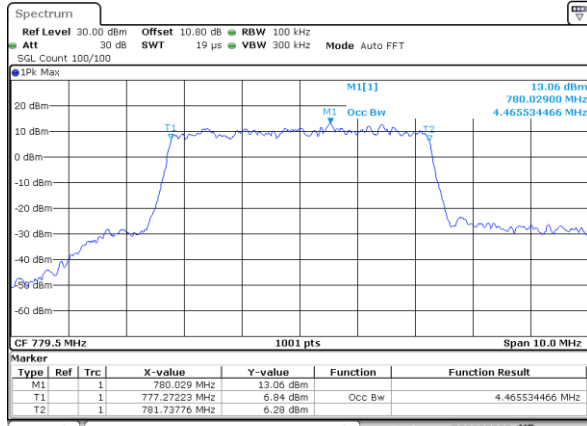


Date: 21.DEC.2019 00:16:01

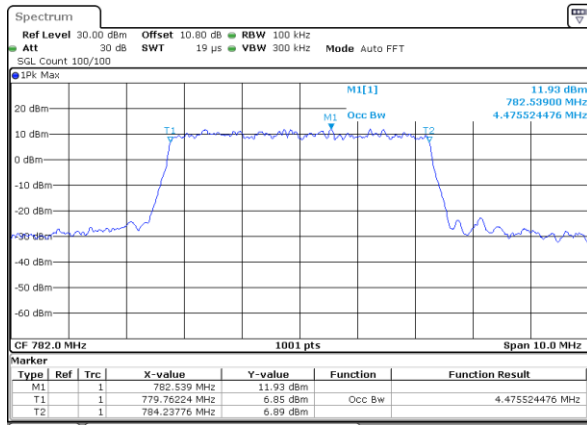


LTE Band 13

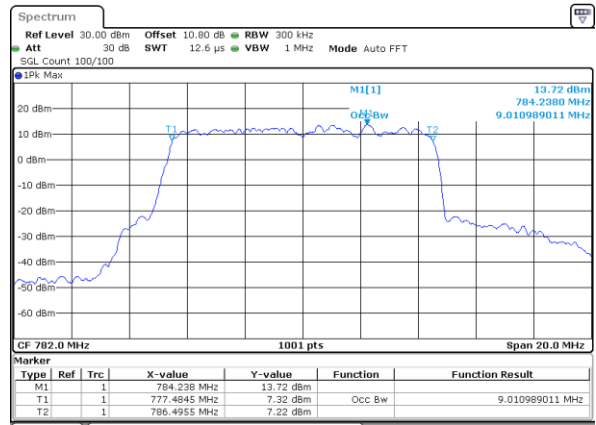
Lowest Channel / 5MHz / 64QAM



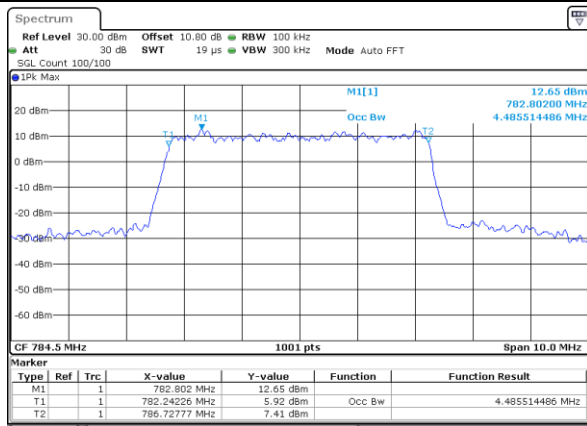
Middle Channel / 5MHz / 64QAM

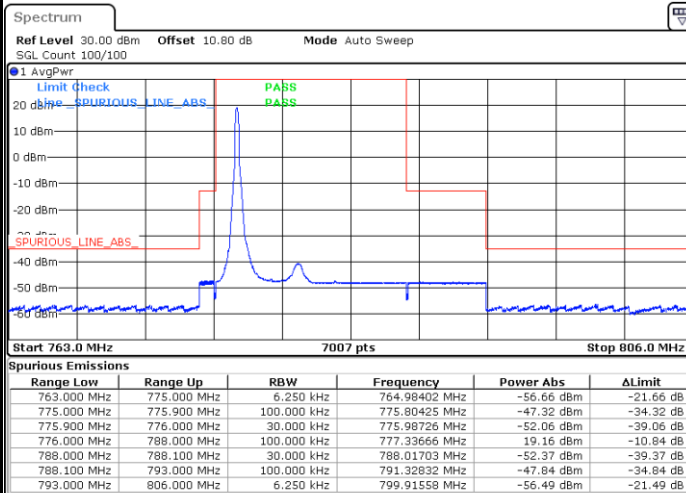


Middle Channel / 10MHz / 64QAM

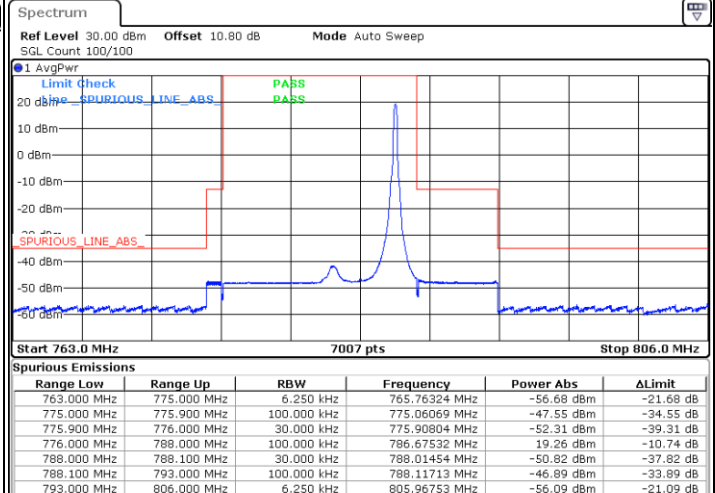


Highest Channel / 5MHz / 64QAM

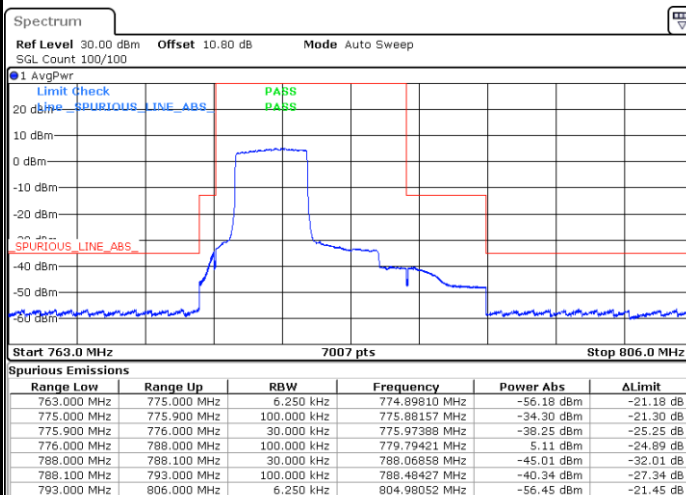


**Conducted Band Edge****LTE Band 13 / 5MHz / QPSK****Lowest Band Edge / 1 RB**

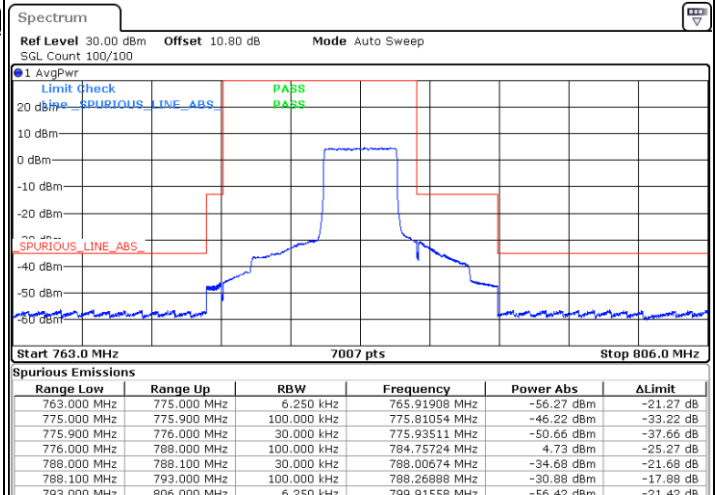
Date: 20.DEC.2019 23:49:14

Highest Band Edge / 1 RB

Date: 21.DEC.2019 00:02:05

Lowest Band Edge / Full RB

Date: 20.DEC.2019 23:44:09

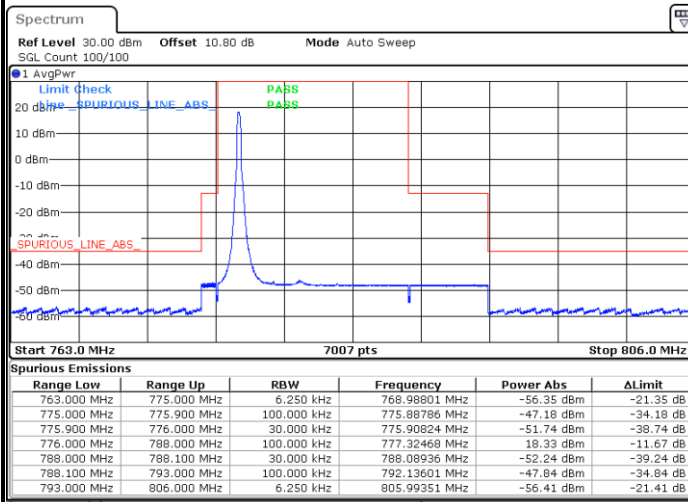
Highest Band Edge / Full RB

Date: 20.DEC.2019 23:57:01



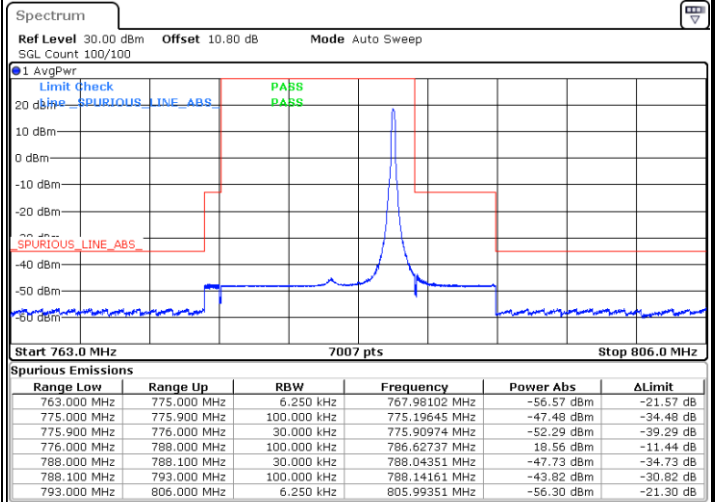
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



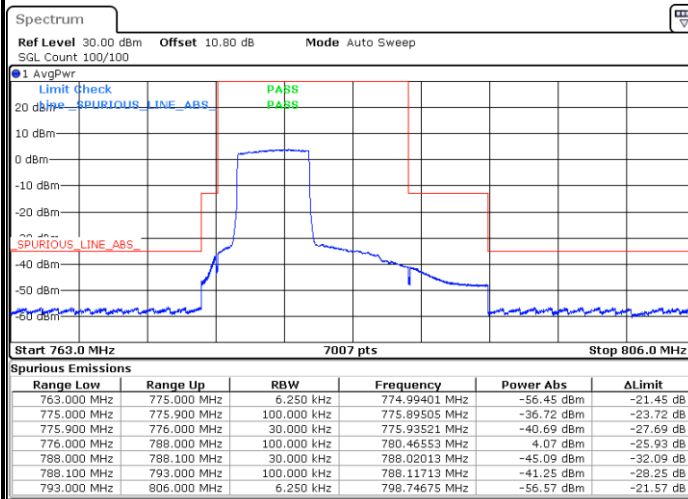
Date: 20.DEC.2019 23:47:32

Highest Band Edge / 1 RB



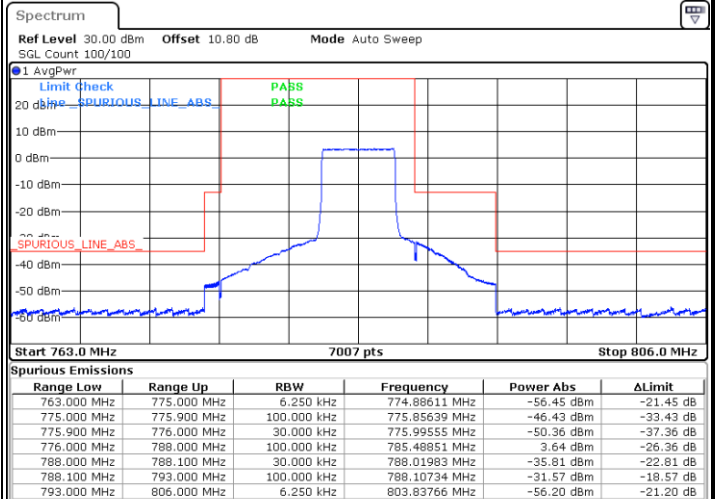
Date: 21.DEC.2019 00:00:24

Lowest Band Edge / Full RB



Date: 20.DEC.2019 23:45:51

Highest Band Edge / Full RB

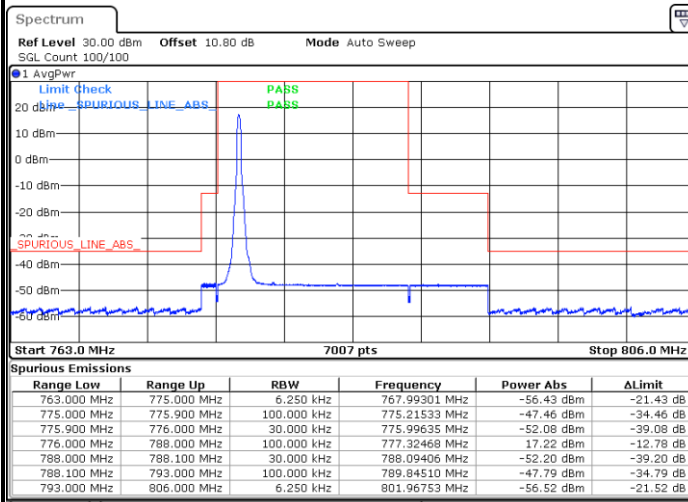


Date: 20.DEC.2019 23:58:42



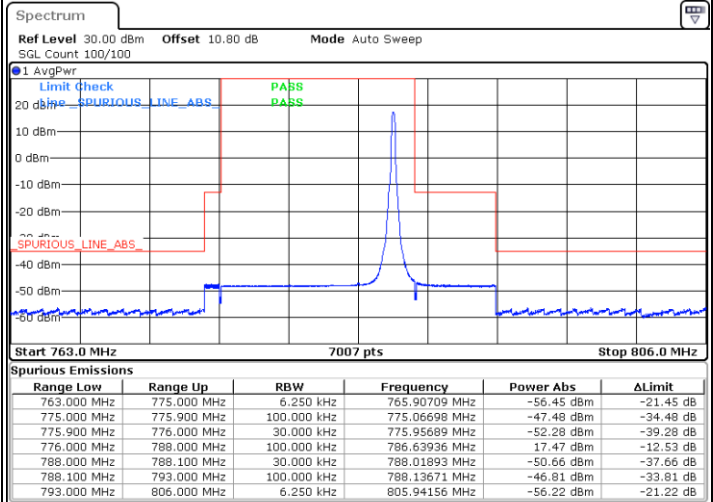
LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



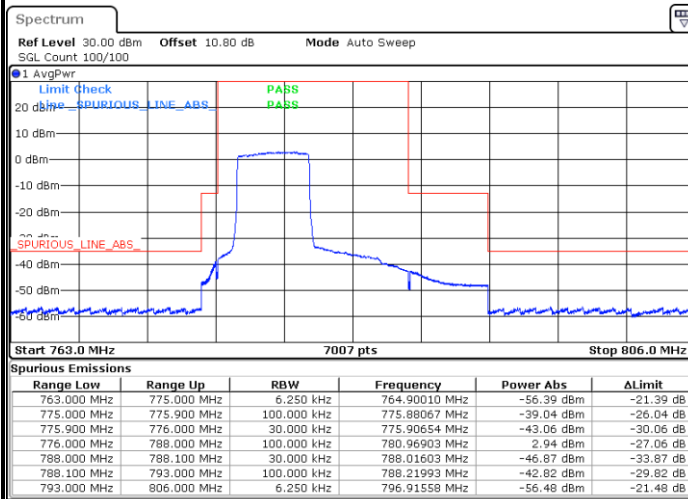
Date: 21.DEC.2019 00:08:05

Highest Band Edge / 1 RB



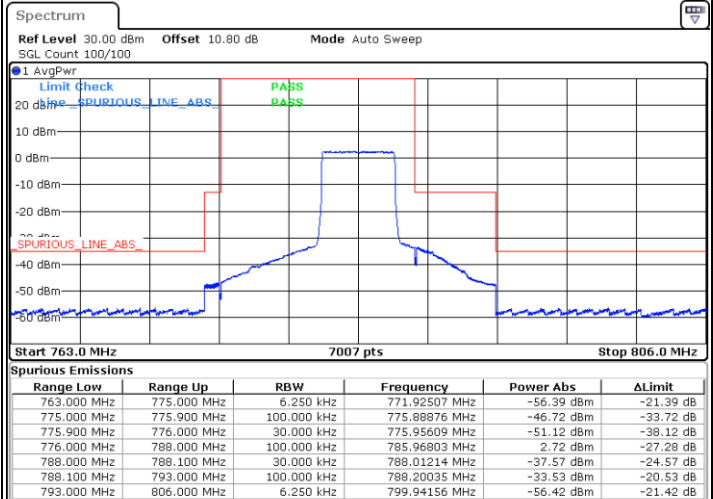
Date: 21.DEC.2019 00:14:29

Lowest Band Edge / Full RB



Date: 21.DEC.2019 00:06:24

Highest Band Edge / Full RB

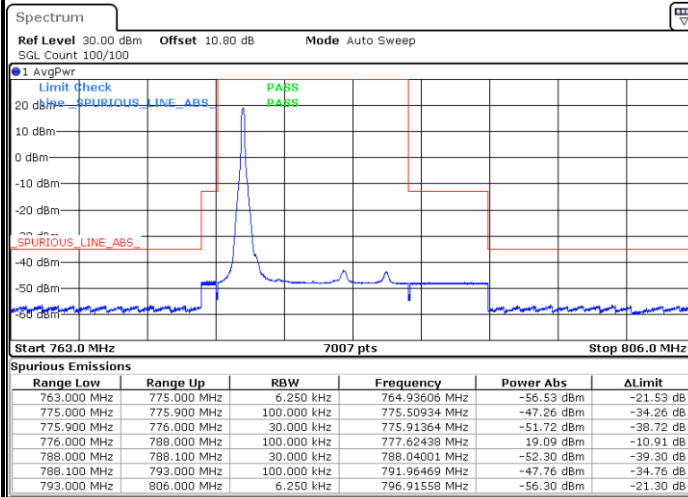


Date: 21.DEC.2019 00:12:48



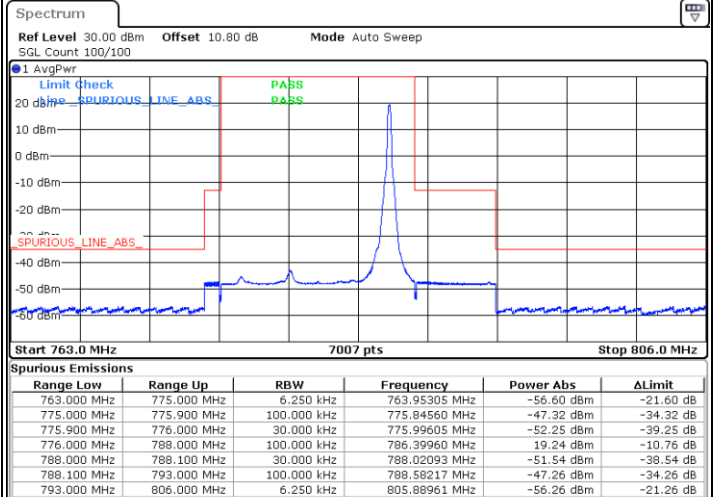
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



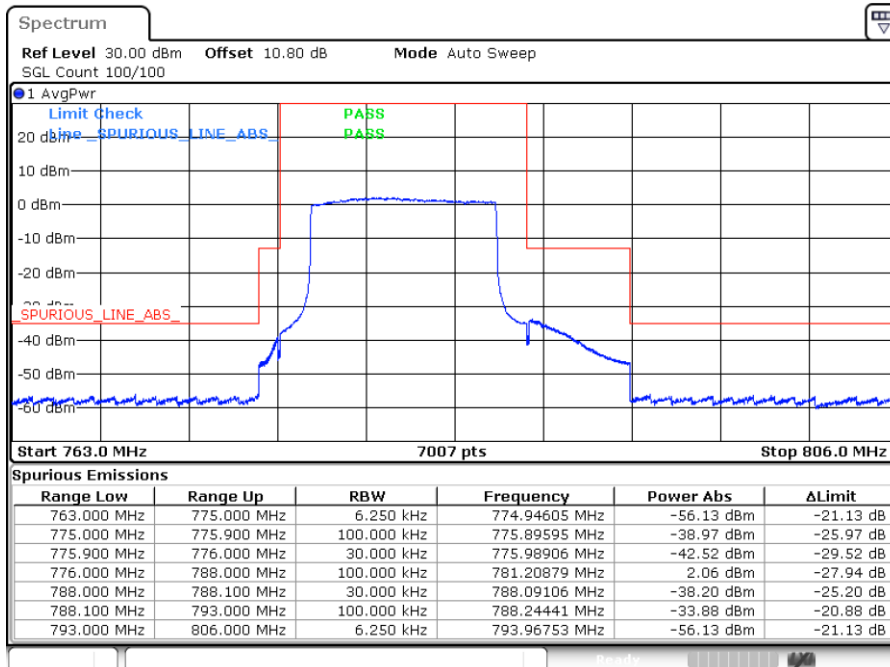
Date: 21.DEC.2019 00:23:10

Highest Band Edge / 1 RB



Date: 21.DEC.2019 00:24:51

Band Edge / Full RB

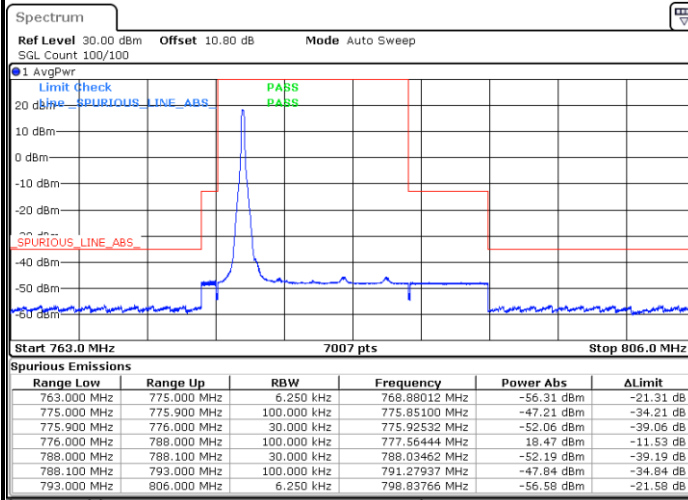


Date: 21.DEC.2019 00:18:08



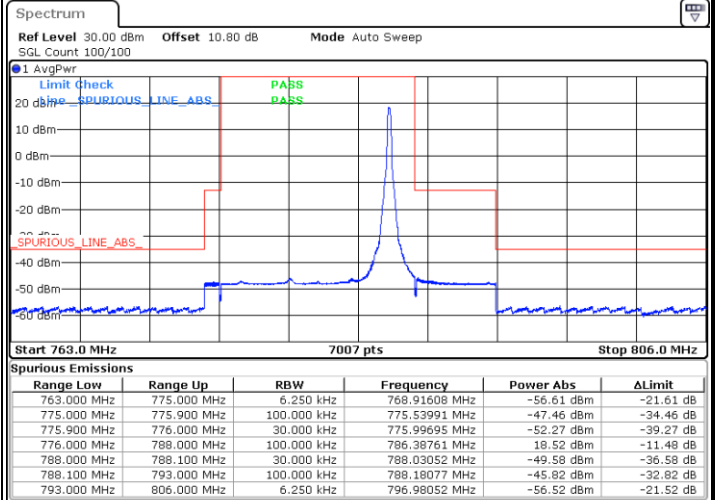
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



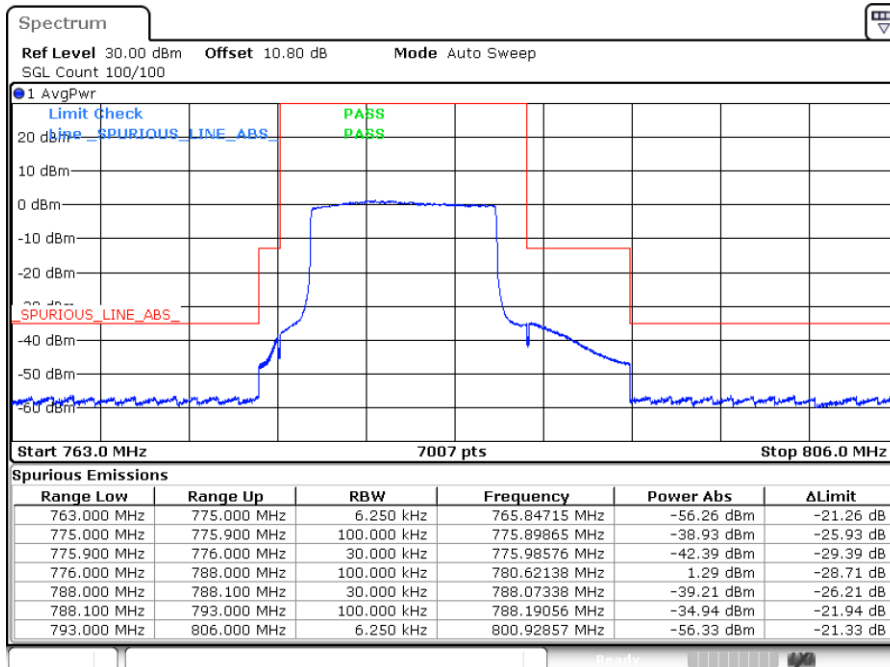
Date: 21.DEC.2019 00:21:29

Highest Band Edge / 1 RB



Date: 21.DEC.2019 00:26:31

Band Edge / Full RB

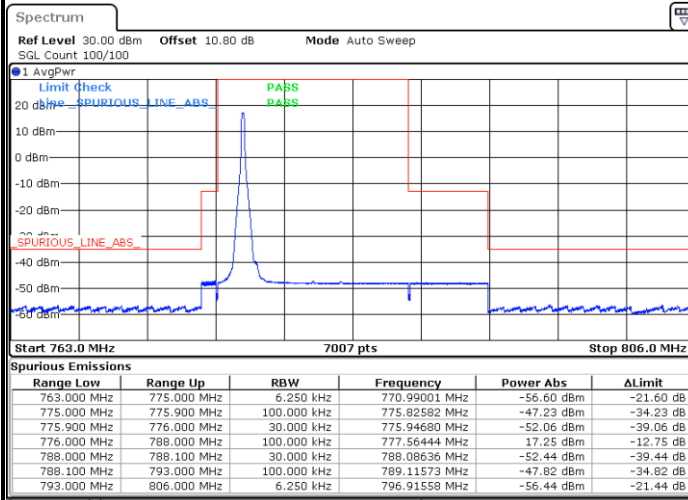


Date: 21.DEC.2019 00:19:49



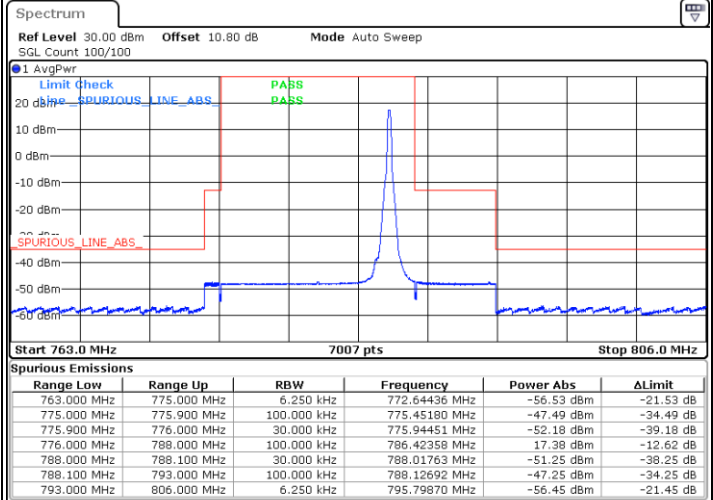
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



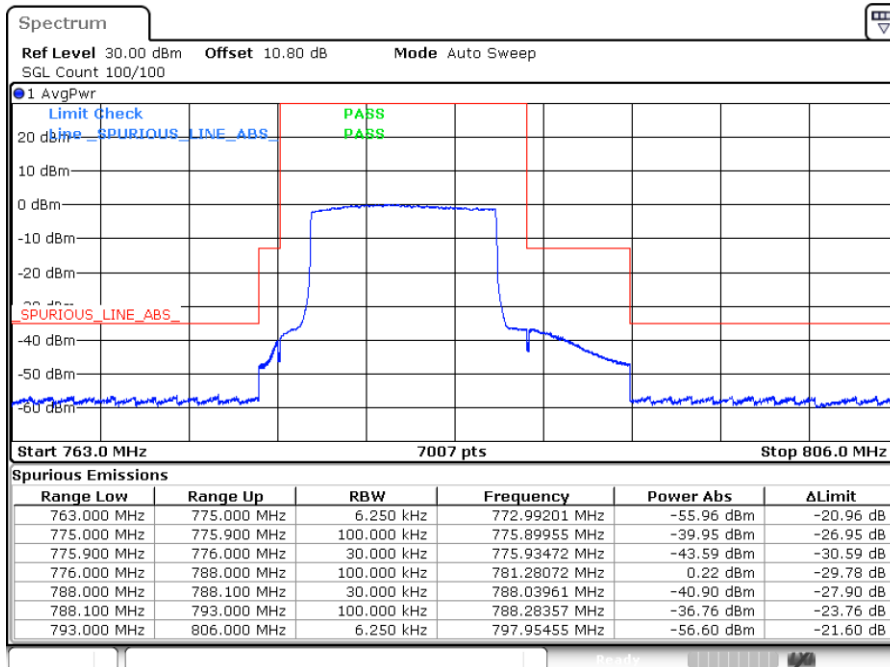
Date: 21.DEC.2019 00:32:27

Highest Band Edge / 1 RB

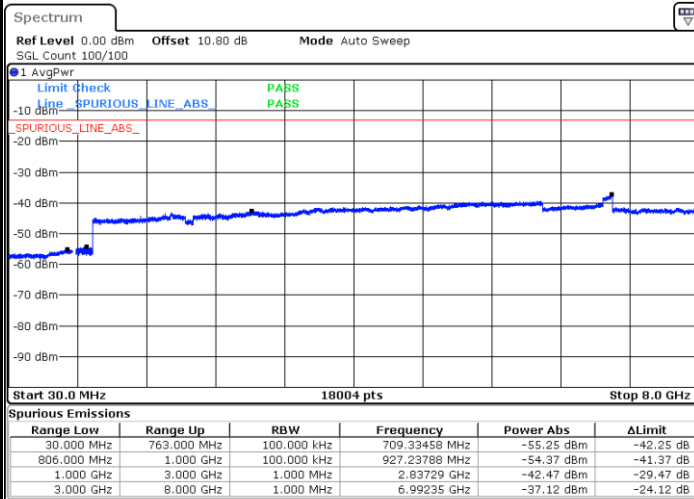
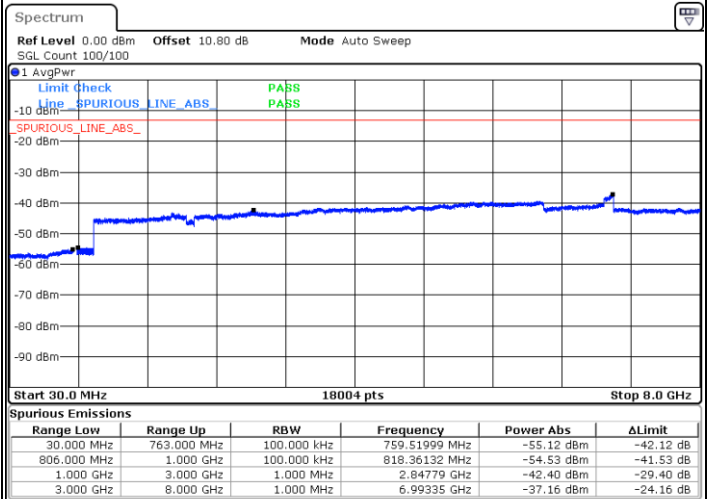
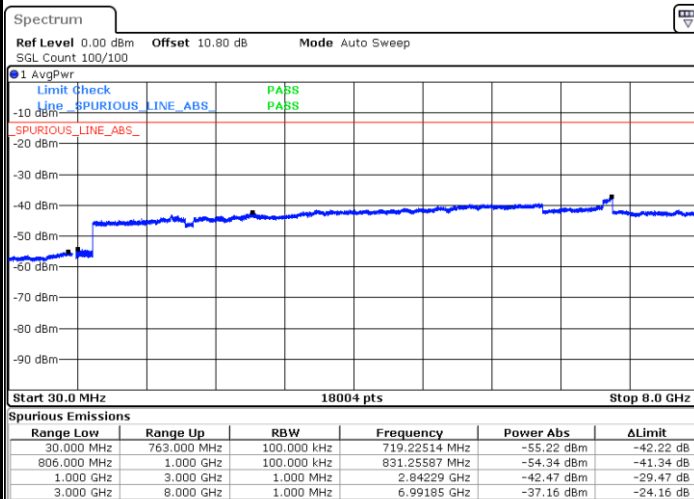
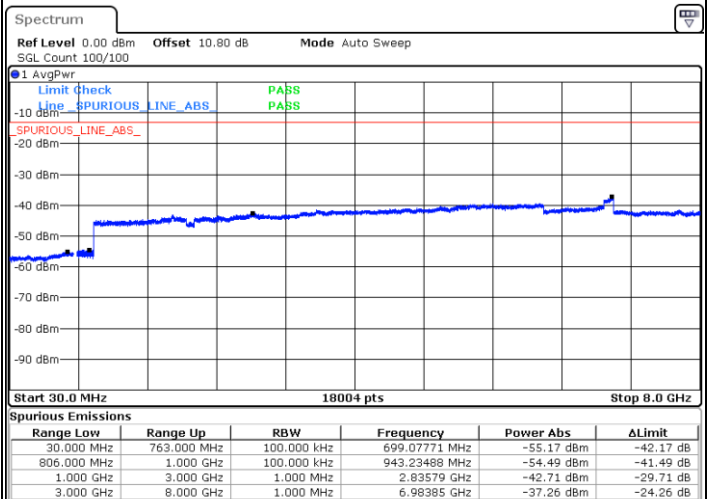


Date: 21.DEC.2019 00:34:08

Band Edge / Full RB



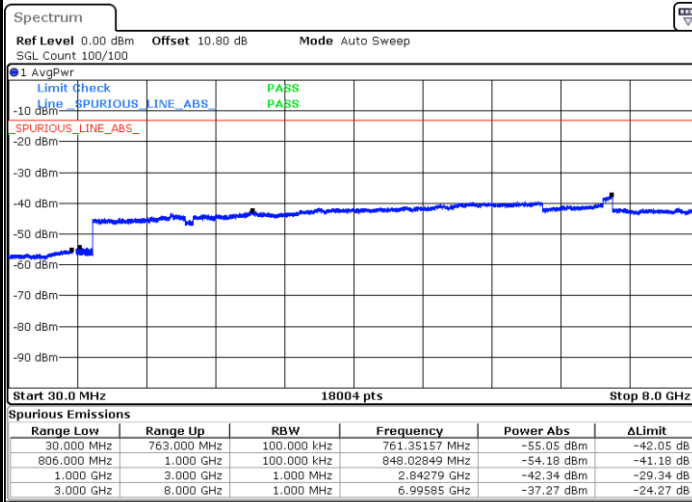
Date: 21.DEC.2019 00:30:47

**Conducted Spurious Emission****LTE Band 13 / 5MHz****Lowest Channel / QPSK****Lowest Channel / 16QAM****Middle Channel / QPSK****Middle Channel / 16QAM**



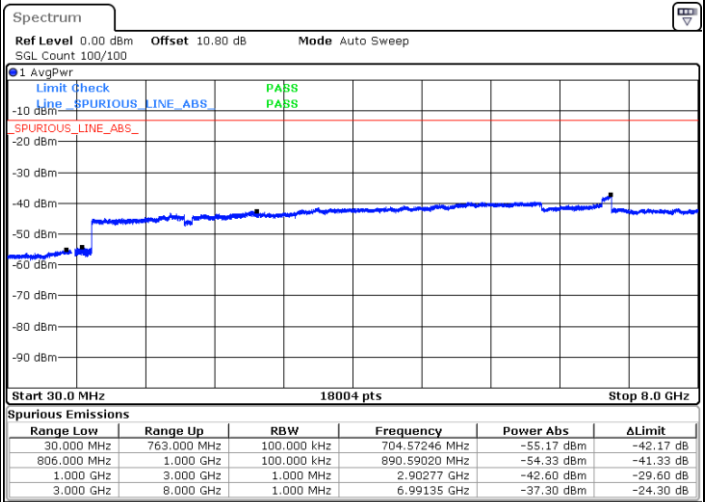
LTE Band 13 / 5MHz

Highest Channel / QPSK



Date: 21.DEC.2019 00:03:09

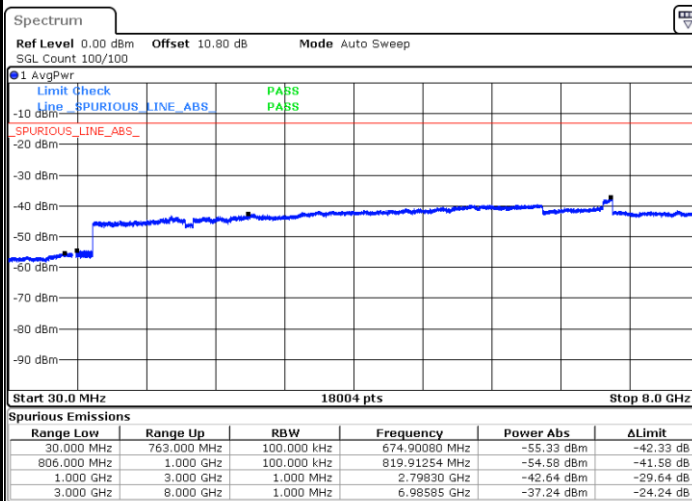
Highest Channel / 16QAM



Date: 21.DEC.2019 00:04:14

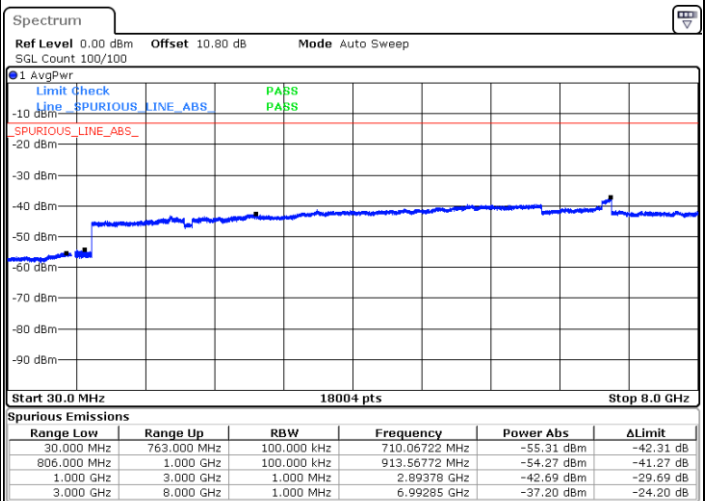
LTE Band 13 / 10MHz

Middle Channel / QPSK



Date: 21.DEC.2019 00:28:39

Middle Channel / 16QAM

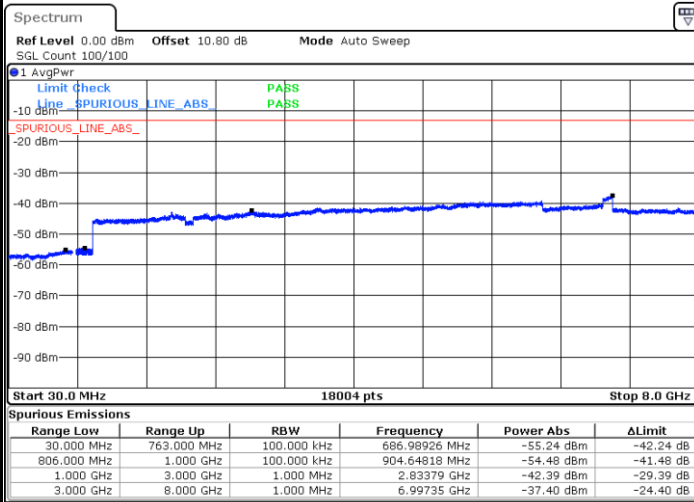


Date: 21.DEC.2019 00:27:34



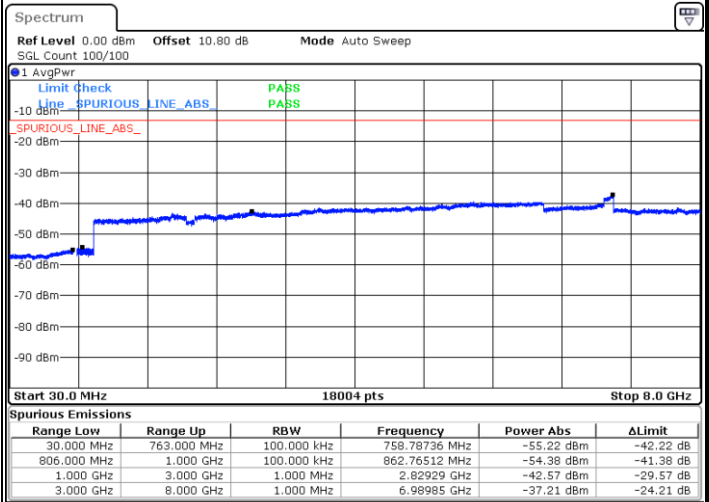
LTE Band 13 / 5MHz

Lowest Channel / 64QAM



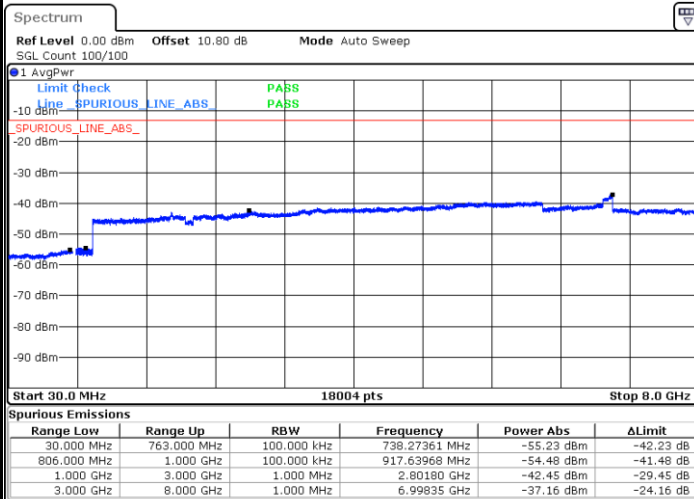
Date: 21.DEC.2019 00:09:09

Middle Channel / 64QAM



Date: 21.DEC.2019 00:10:13

Highest Channel / 64QAM

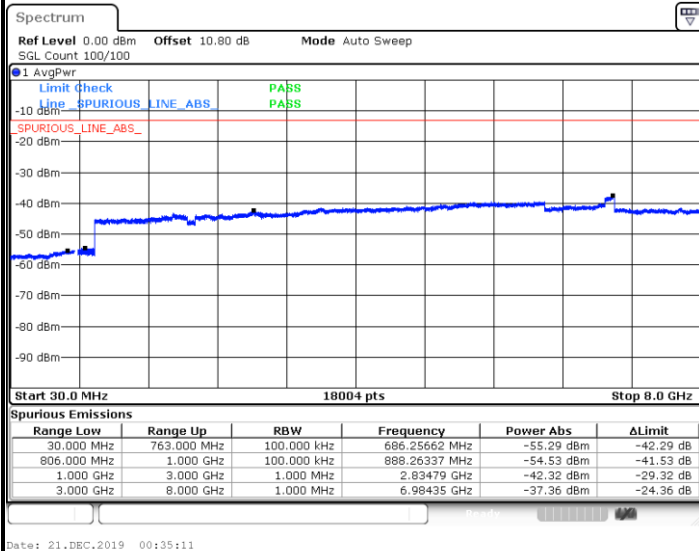


Date: 21.DEC.2019 00:15:33



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	0.0155	PASS
40	Normal Voltage	0.0102	
30	Normal Voltage	0.0082	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0010	
0	Normal Voltage	0.0005	
-10	Normal Voltage	0.0001	
-20	Normal Voltage	0.0182	
-30	Normal Voltage	0.0196	
20	Maximum Voltage	0.0202	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0105	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.35 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 17

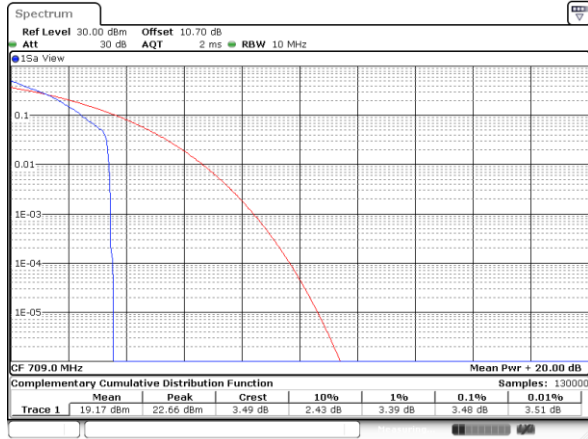
Peak-to-Average Ratio

Mode	LTE Band 17 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.48	4.70	4.29	5.68	PASS
Middle CH	3.39	4.81	5.04	5.74	
Highest CH	3.65	4.81	4.64	5.88	
Mode	LTE Band 17 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.14	6.46	-	-	PASS
Middle CH	5.94	6.38	-	-	
Highest CH	5.94	6.52	-	-	

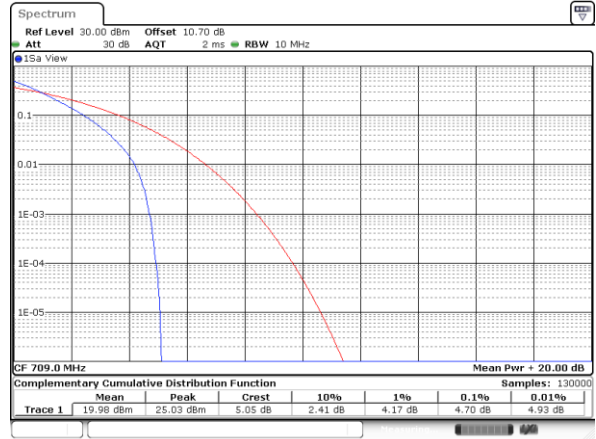


LTE Band 17 / 10MHz / QPSK

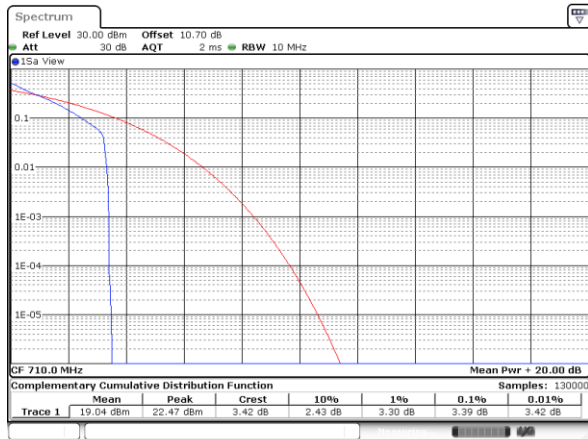
Lowest Channel / 1RB



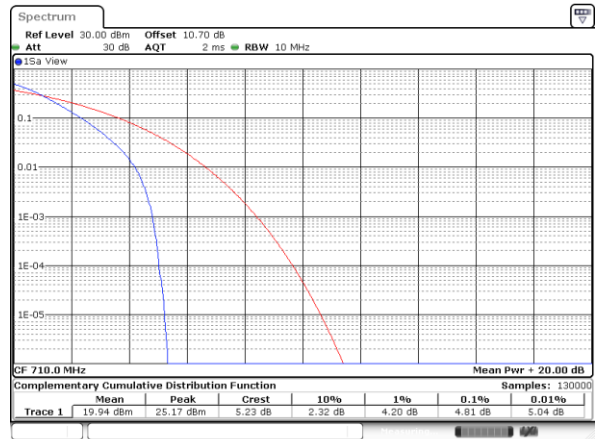
Lowest Channel / Full RB



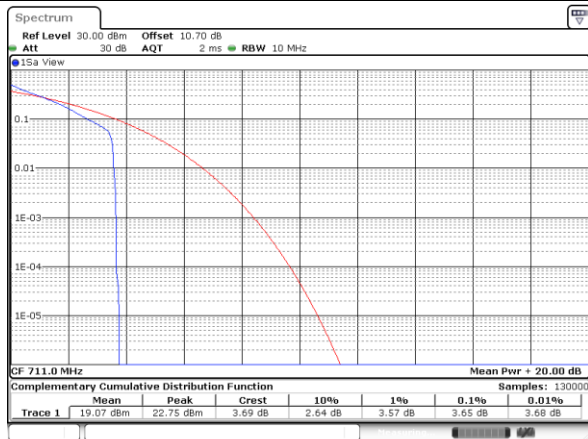
Middle Channel / 1RB



Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

