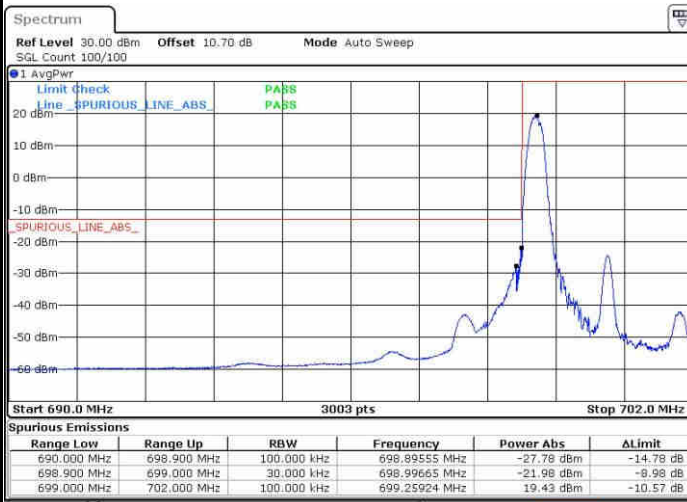




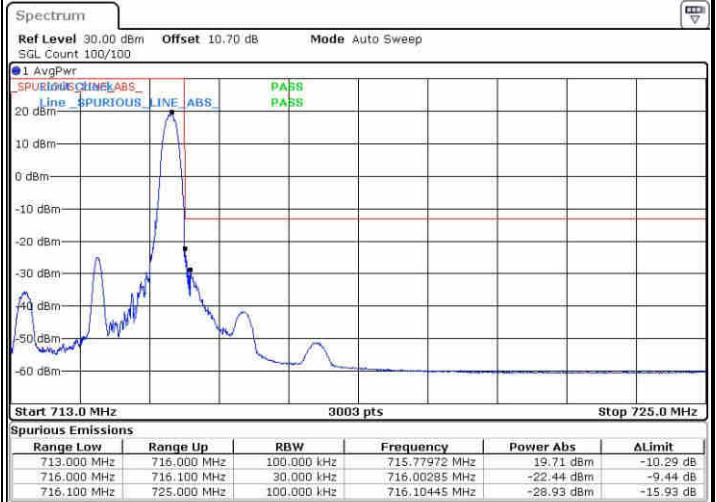
LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



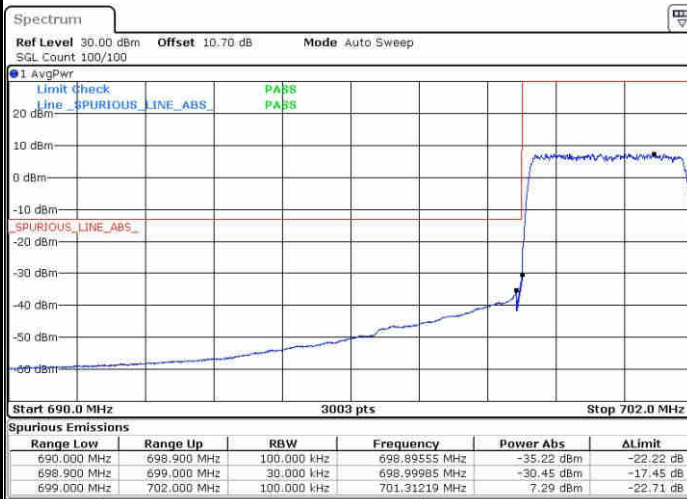
Date: 27 APR 2019 04:34:38

Highest Band Edge / 1 RB



Date: 27 APR 2019 04:38:50

Lowest Band Edge / Full RB



Date: 27 APR 2019 04:33:37

Highest Band Edge / Full RB

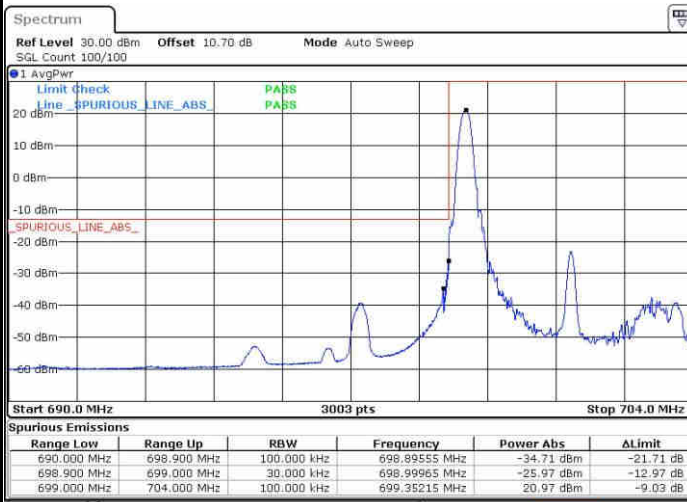


Date: 27 APR 2019 04:37:49



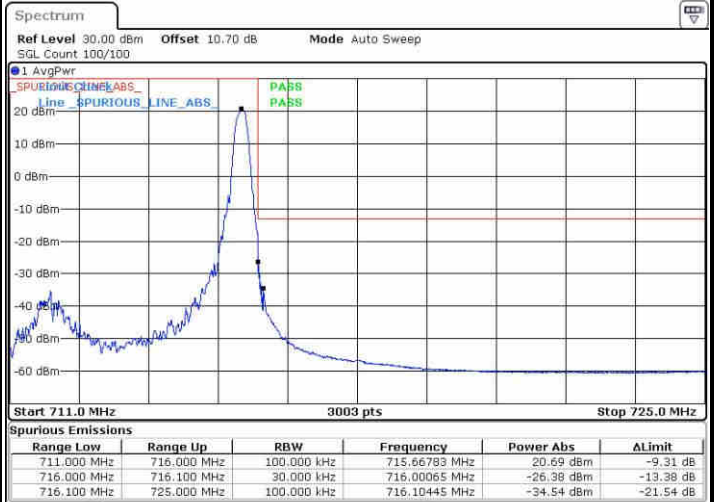
LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1 RB



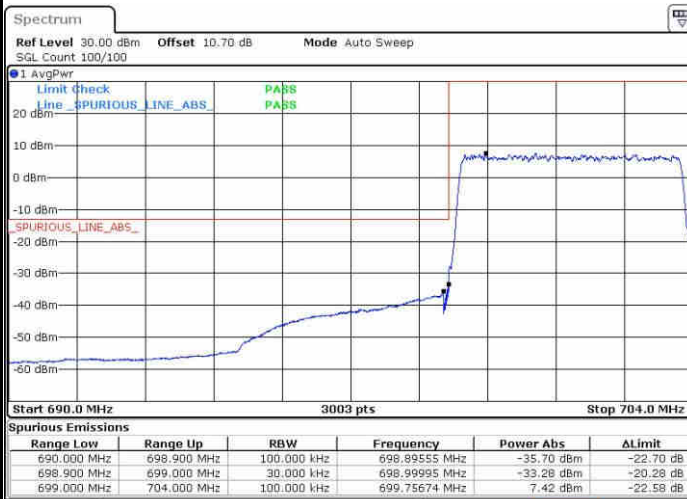
Date: 27 APR 2019 04:51:44

Highest Band Edge / 1 RB



Date: 27 APR 2019 04:58:07

Lowest Band Edge / Full RB



Date: 27 APR 2019 04:48:41

Highest Band Edge / Full RB

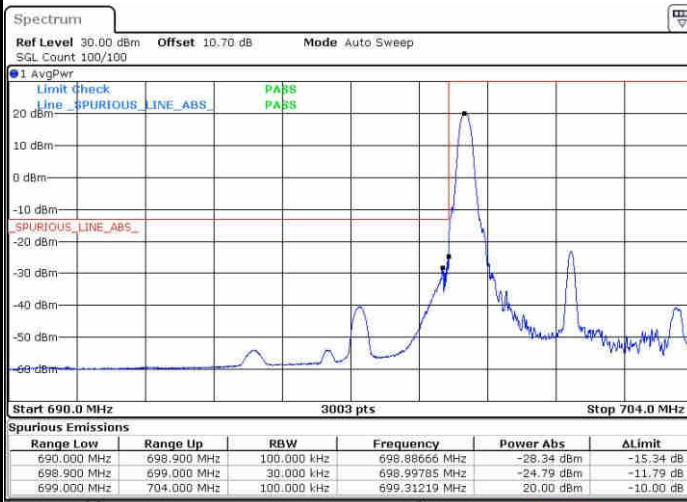


Date: 27 APR 2019 04:57:04



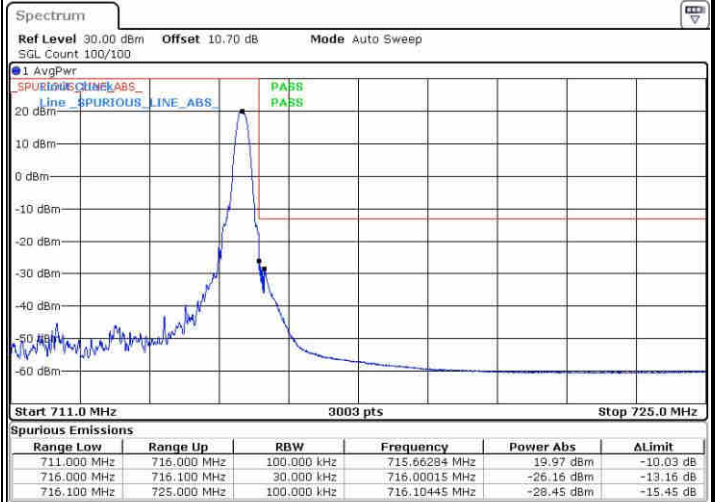
LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / 1RB



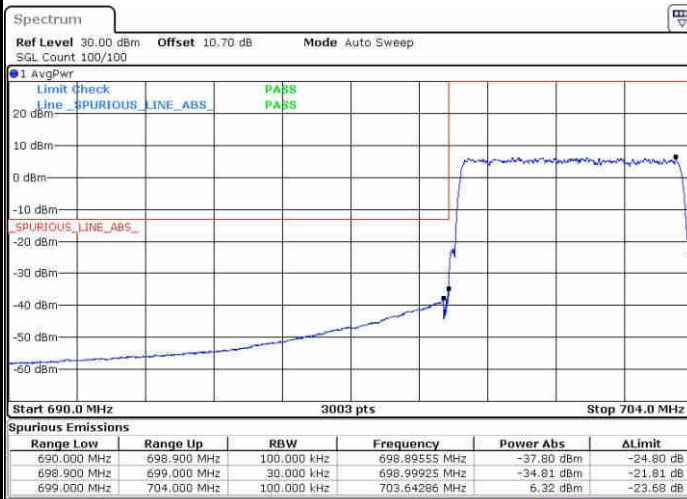
Date: 27 APR 2019 04:50:43

Highest Band Edge / 1 RB



Date: 27 APR 2019 05:00:08

Lowest Band Edge / Full RB



Date: 27 APR 2019 04:49:42

Highest Band Edge / Full RB

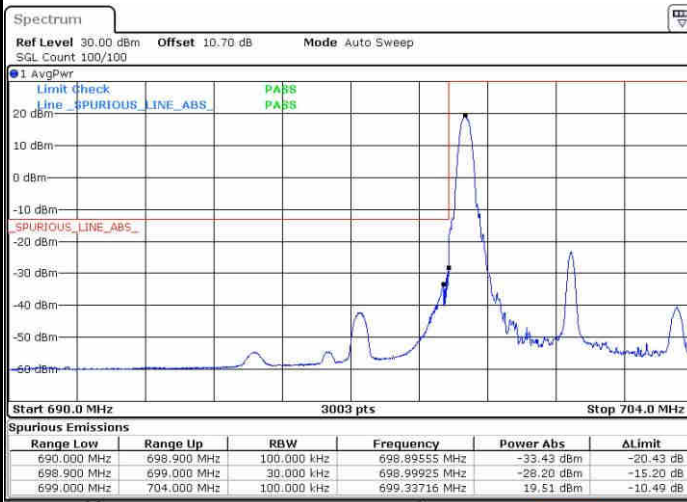


Date: 27 APR 2019 04:58:06



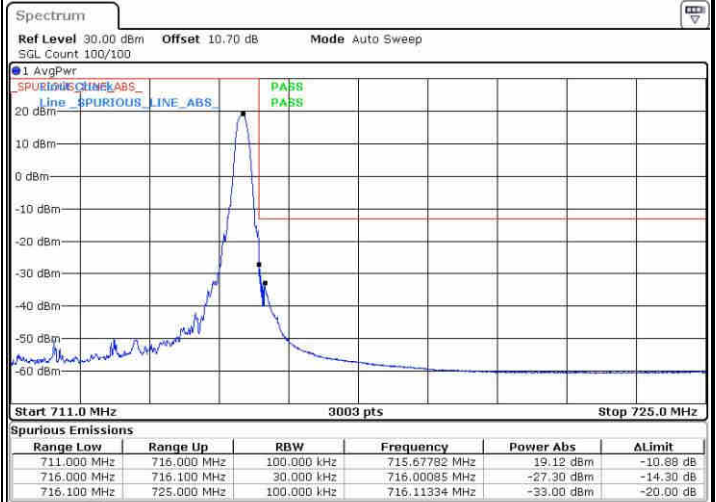
LTE Band 12 / 5MHz / 64QAM

Lowest Band Edge / 1RB



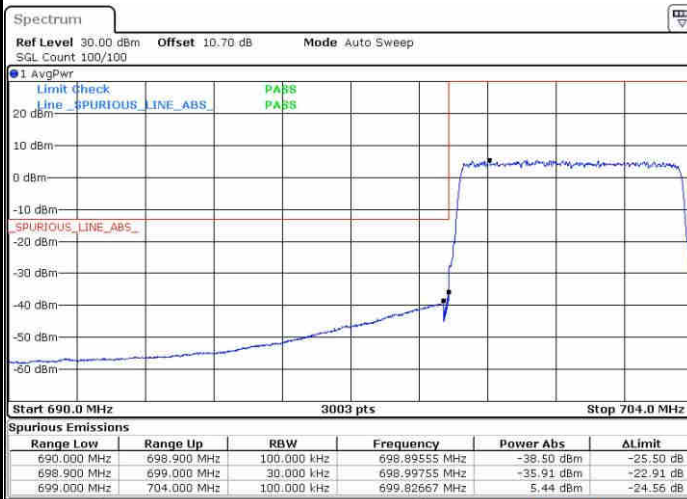
Date: 27 APR 2019 04:41:58

Highest Band Edge / 1 RB



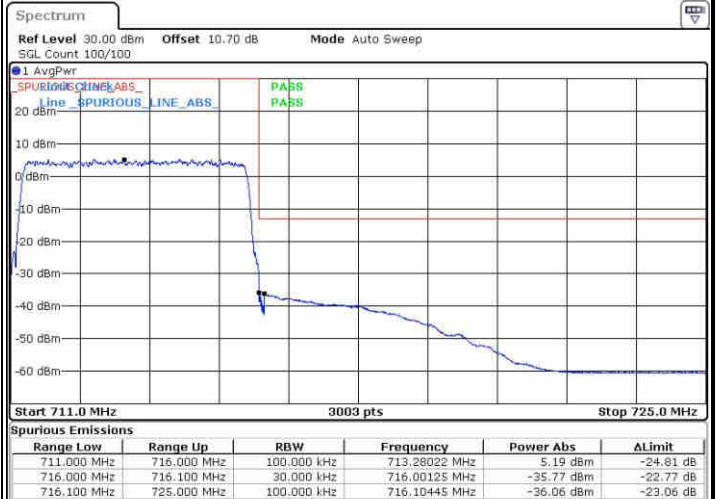
Date: 27 APR 2019 04:46:09

Lowest Band Edge / Full RB



Date: 27 APR 2019 04:40:57

Highest Band Edge / Full RB

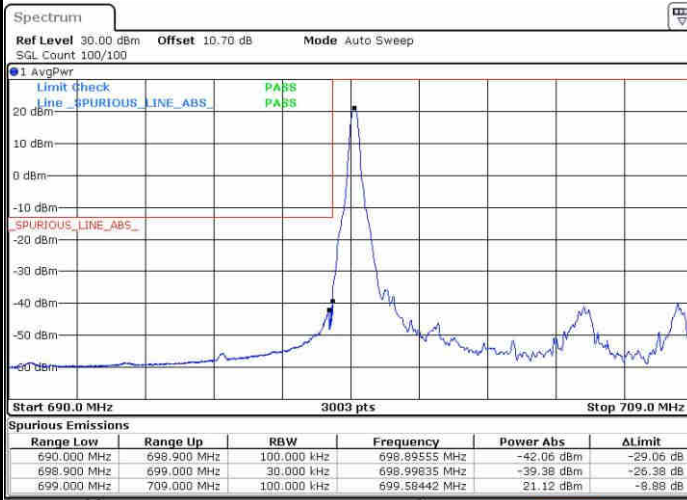


Date: 27 APR 2019 04:45:08



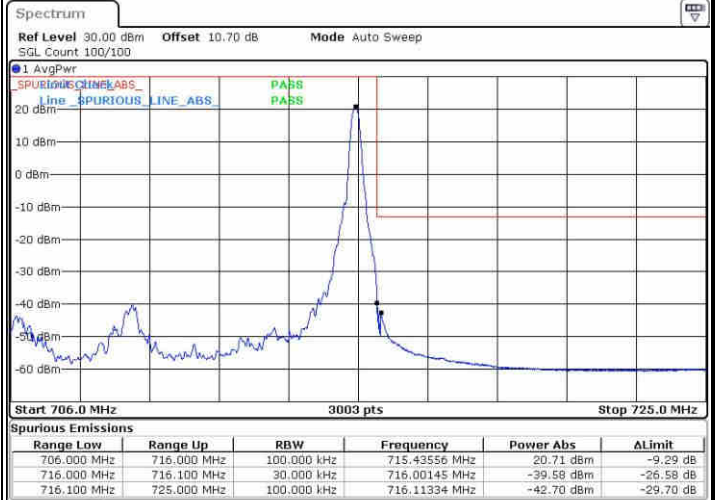
LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1 RB



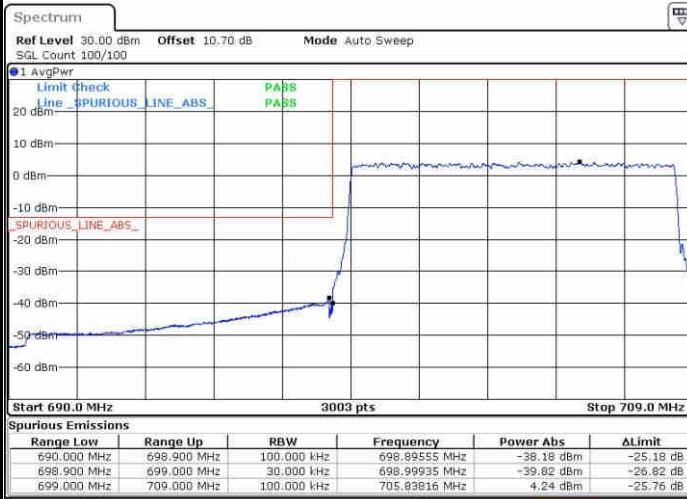
Date: 27 APR 2019 05:06:23

Highest Band Edge / 1 RB



Date: 27 APR 2019 05:14:51

Lowest Band Edge / Full RB



Date: 27 APR 2019 05:03:20

Highest Band Edge / Full RB

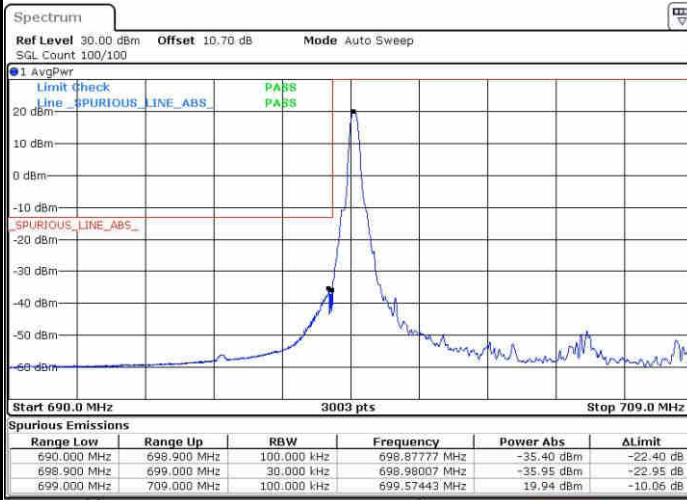


Date: 27 APR 2019 05:11:48



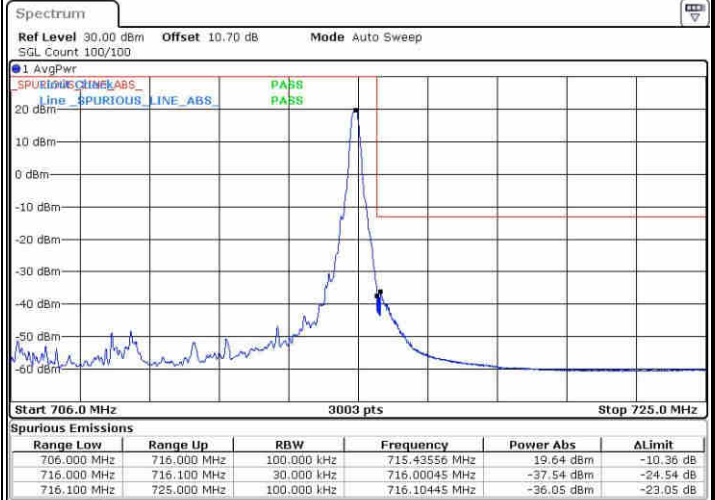
LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



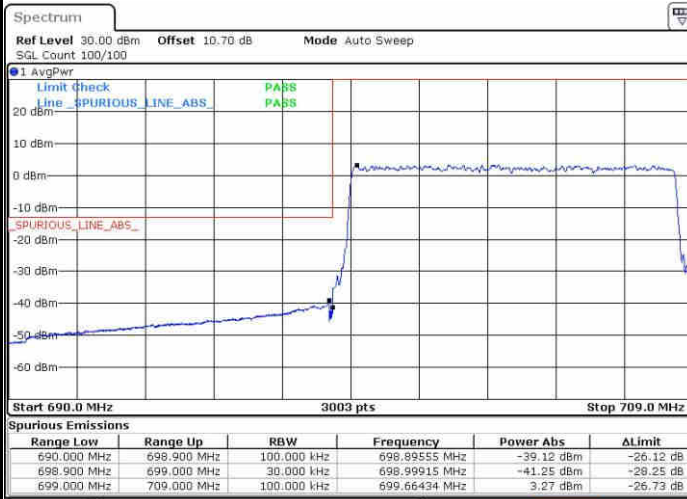
Date: 27 APR 2019 05:05:22

Highest Band Edge / 1 RB



Date: 27 APR 2019 05:13:50

Lowest Band Edge / Full RB



Date: 27 APR 2019 05:04:21

Highest Band Edge / Full RB

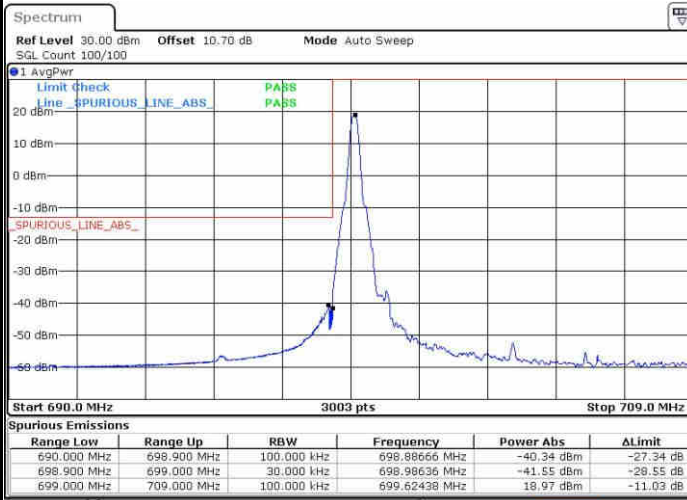


Date: 27 APR 2019 05:12:48



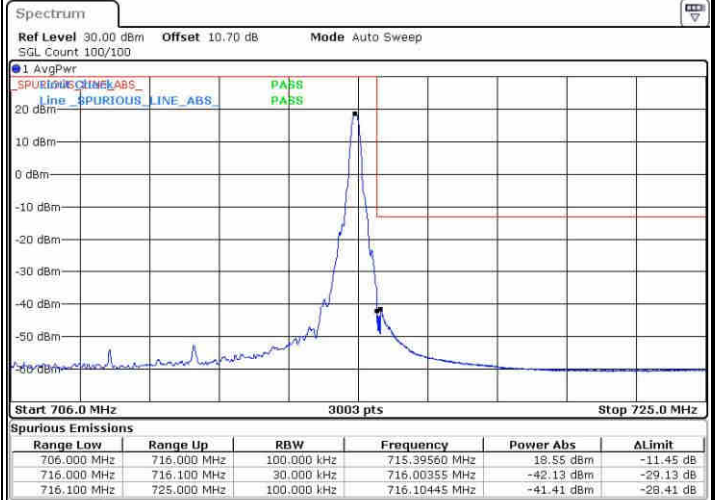
LTE Band 12 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



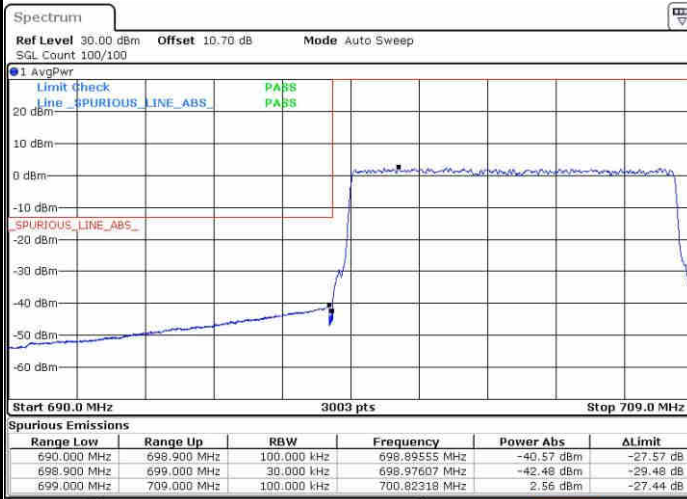
Date: 27 APR 2019 05:18:40

Highest Band Edge / 1 RB



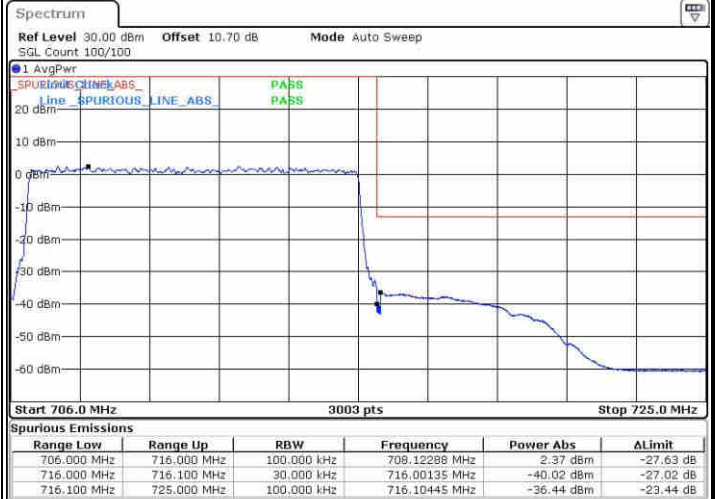
Date: 27 APR 2019 05:22:51

Lowest Band Edge / Full RB



Date: 27 APR 2019 05:17:39

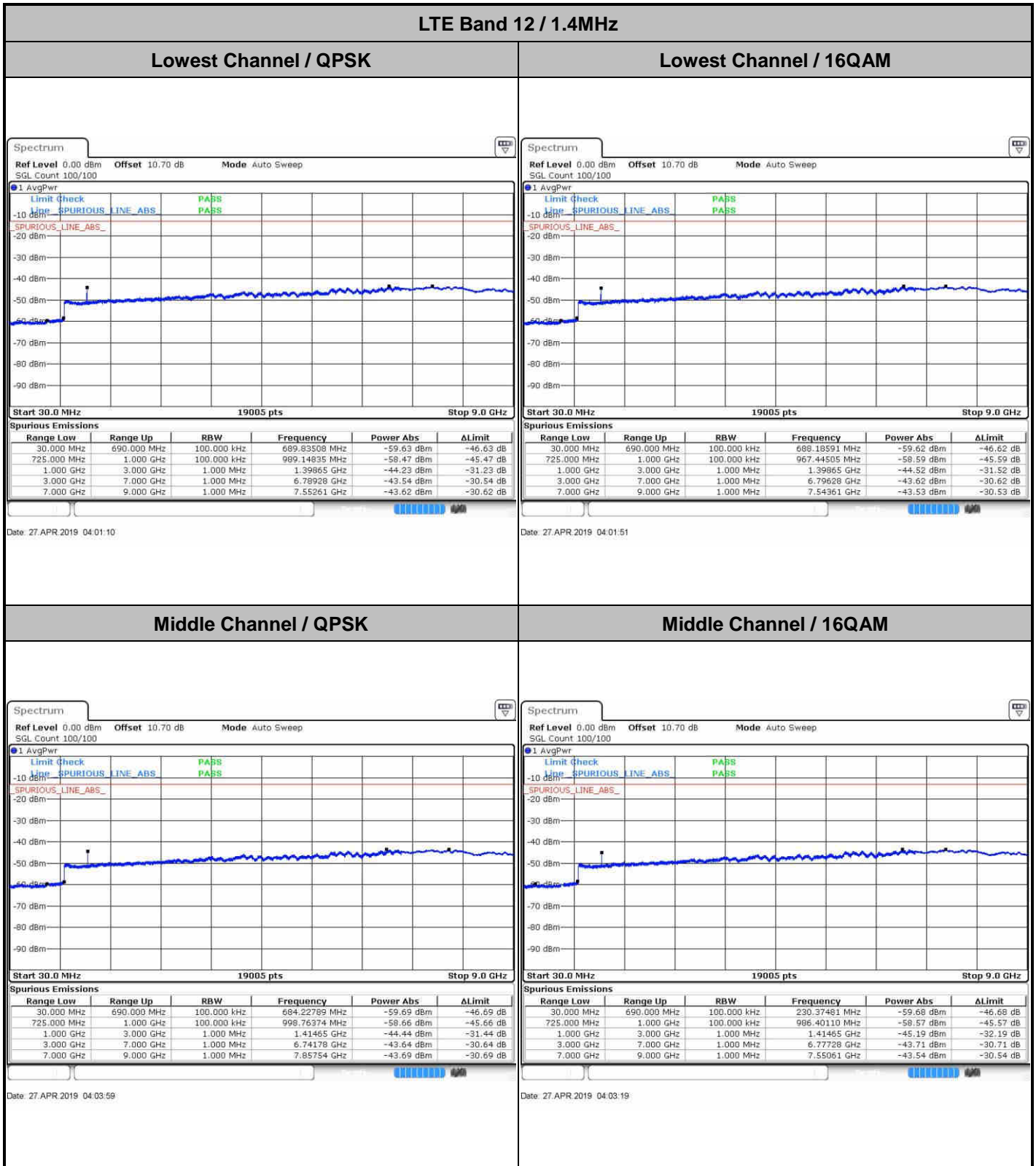
Highest Band Edge / Full RB



Date: 27 APR 2019 05:21:50



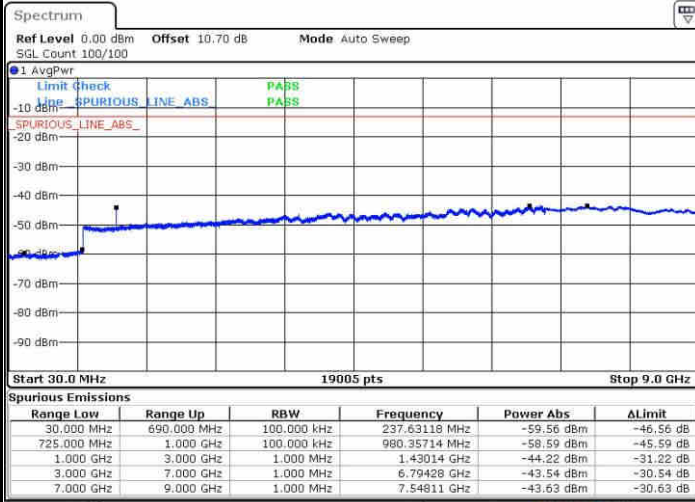
Conducted Spurious Emission





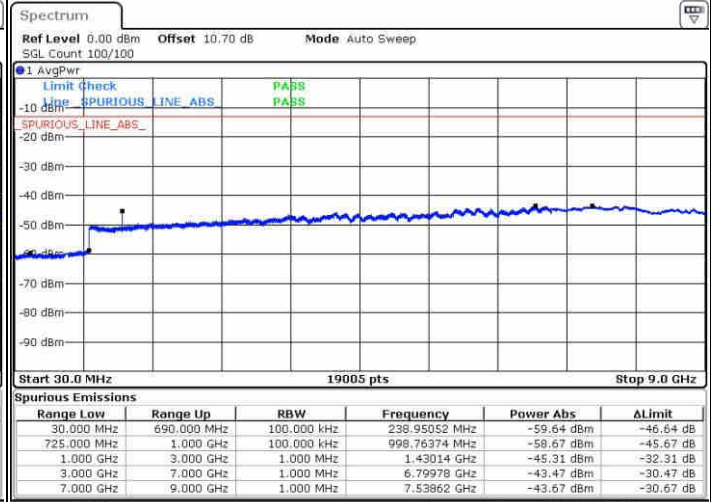
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 27 APR 2019 04:09:33

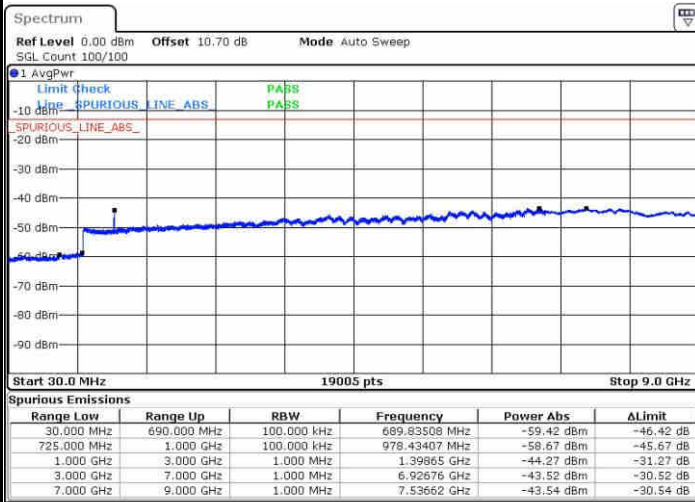
Highest Channel / 16QAM



Date: 27 APR 2019 04:10:14

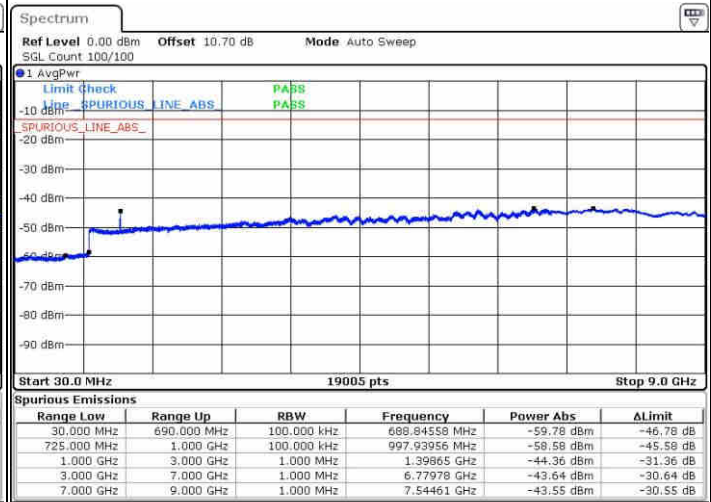
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 27 APR 2019 04:23:08

Lowest Channel / 16QAM



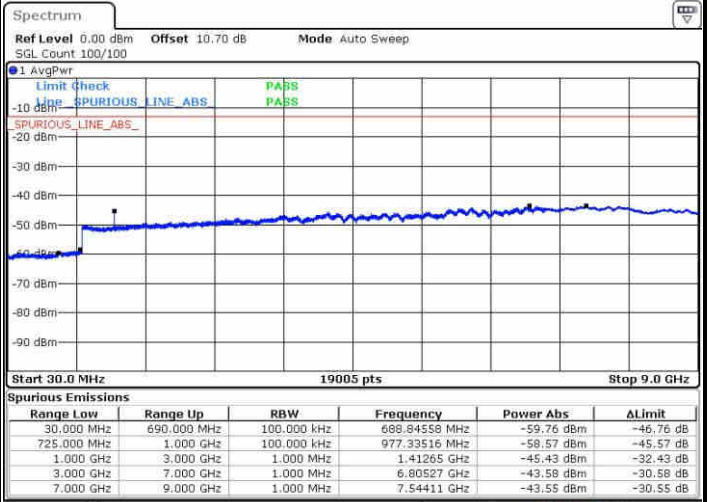
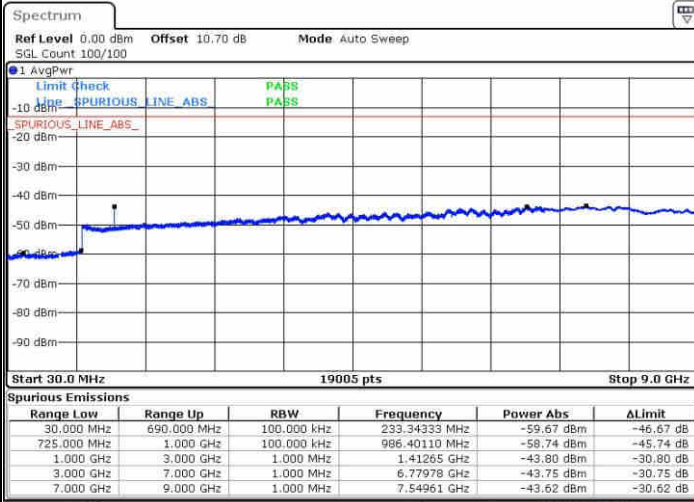
Date: 27 APR 2019 04:23:49



LTE Band 12 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

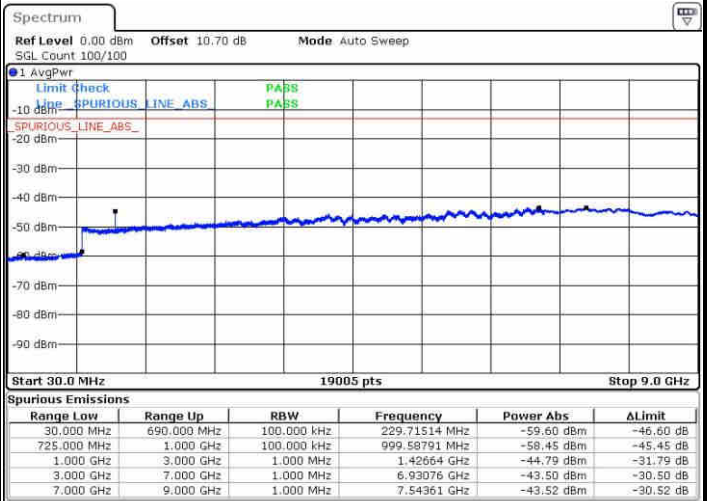
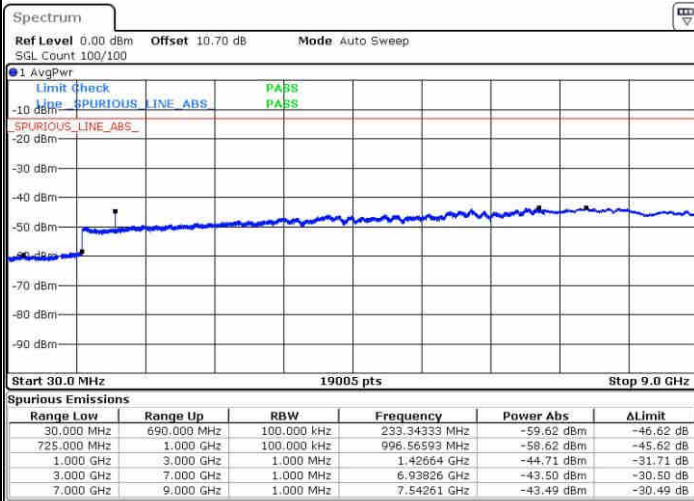


Date: 27.APR.2019 04:25:57

Date: 27.APR.2019 04:25:16

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 27.APR.2019 04:31:31

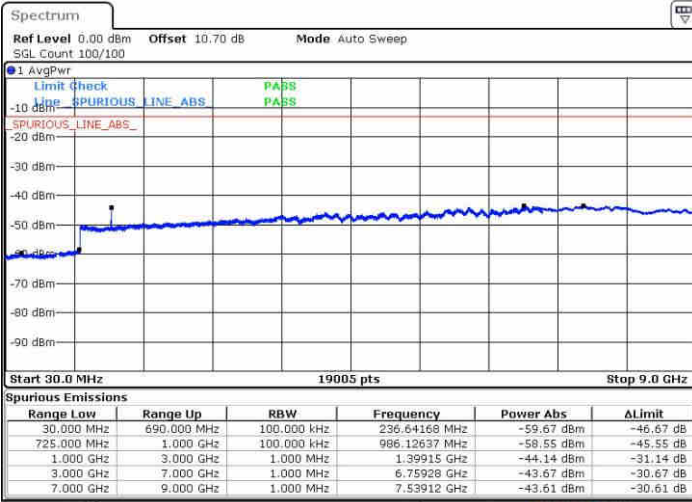
Date: 27.APR.2019 04:32:12



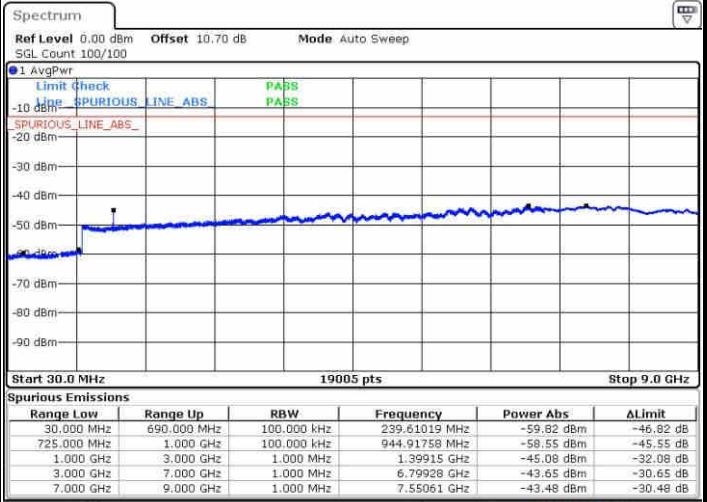
LTE Band 12 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



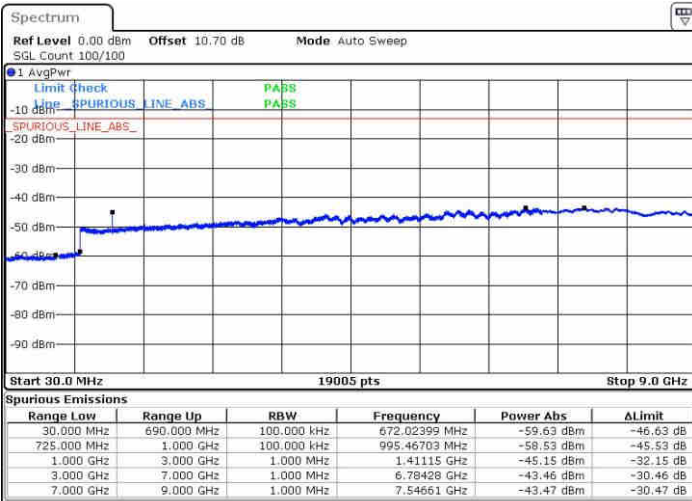
Date: 27.APR.2019 04:52:25



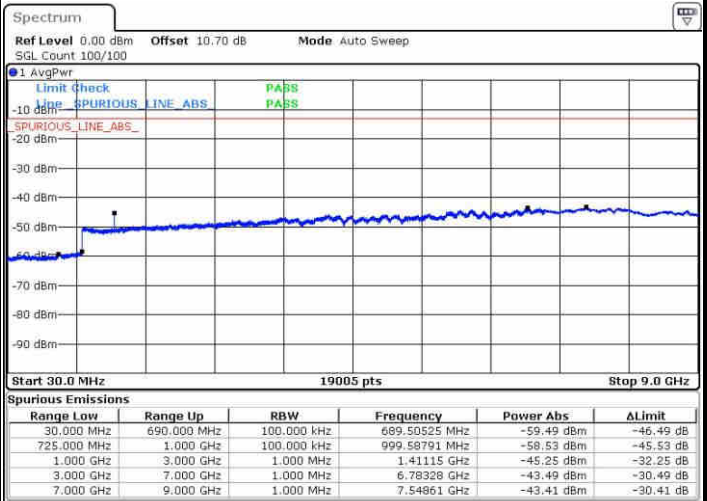
Date: 27.APR.2019 04:53:07

Middle Channel / QPSK

Middle Channel / 16QAM



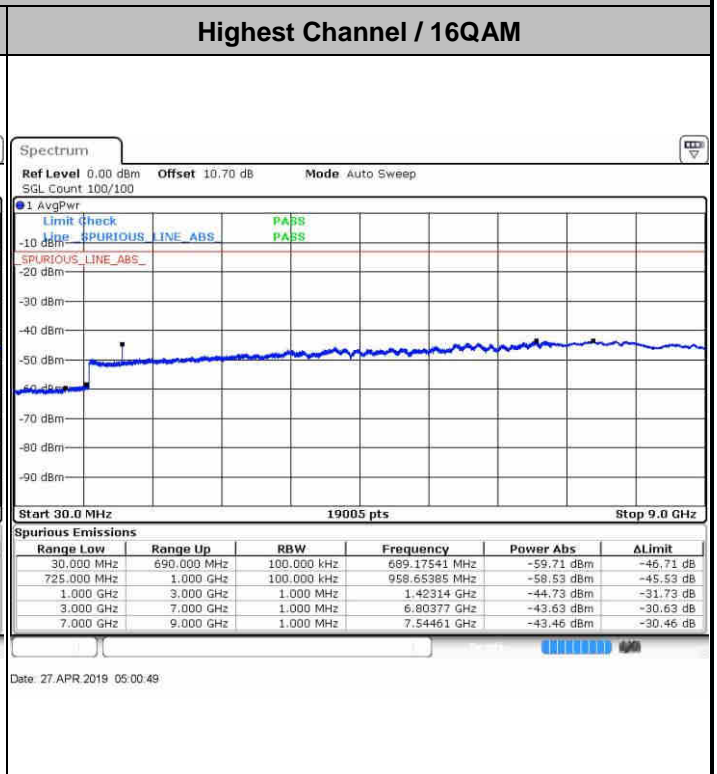
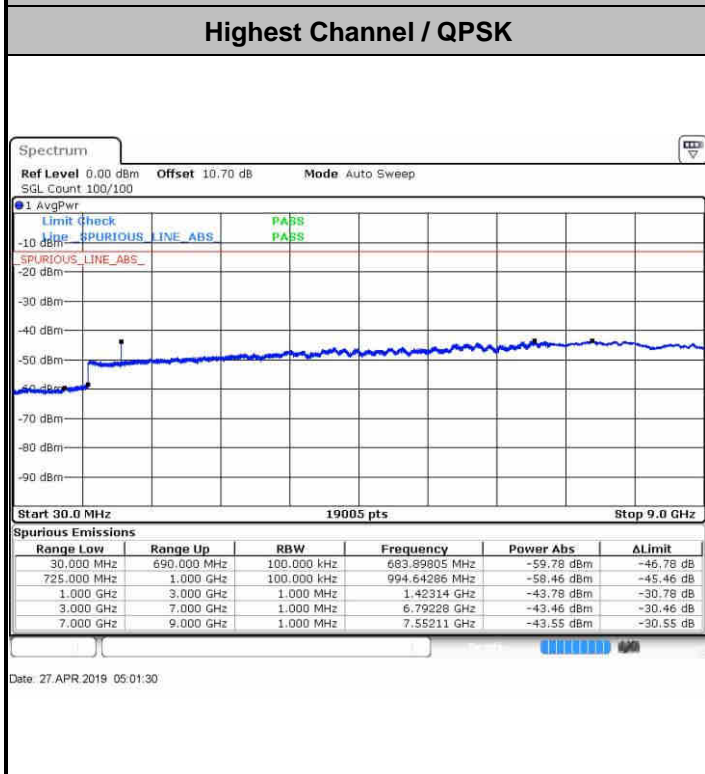
Date: 27.APR.2019 04:55:15



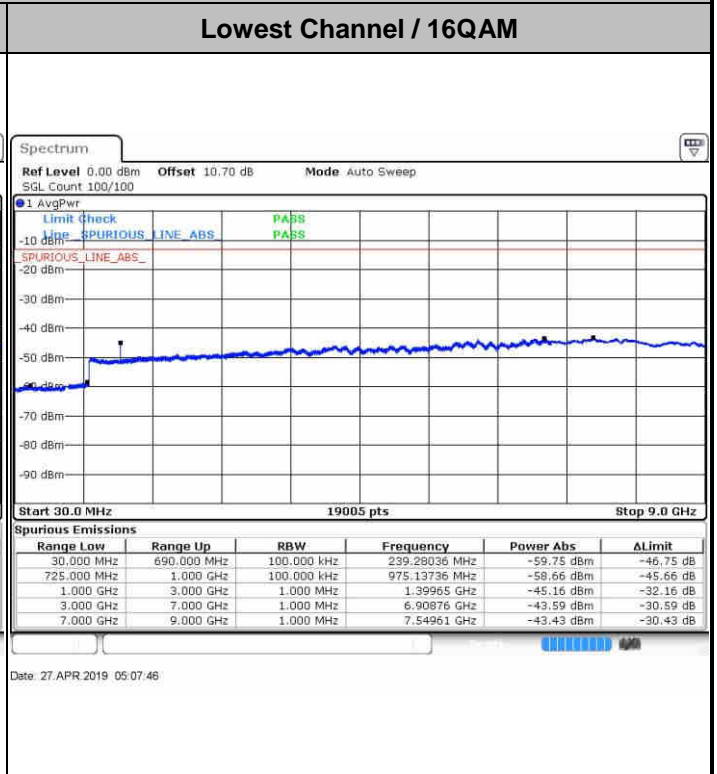
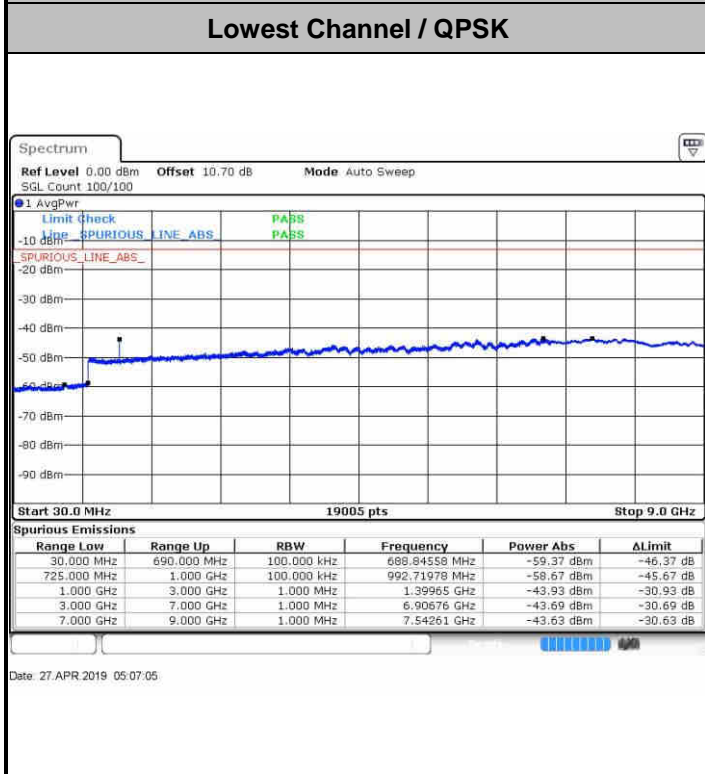
Date: 27.APR.2019 04:54:35



LTE Band 12 / 5MHz



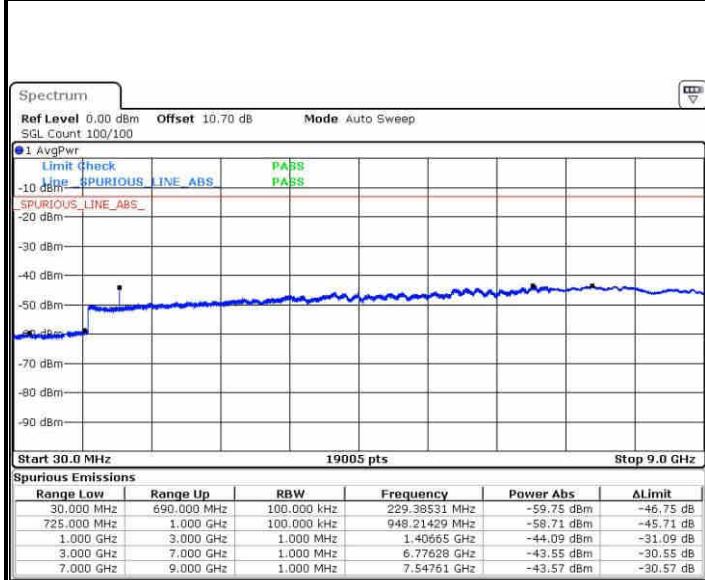
LTE Band 12 / 10MHz





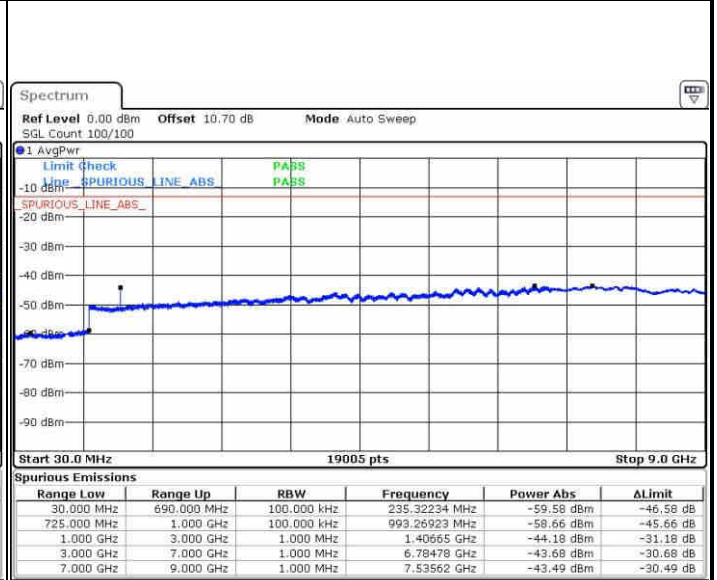
LTE Band 12 / 10MHz

Middle Channel / QPSK



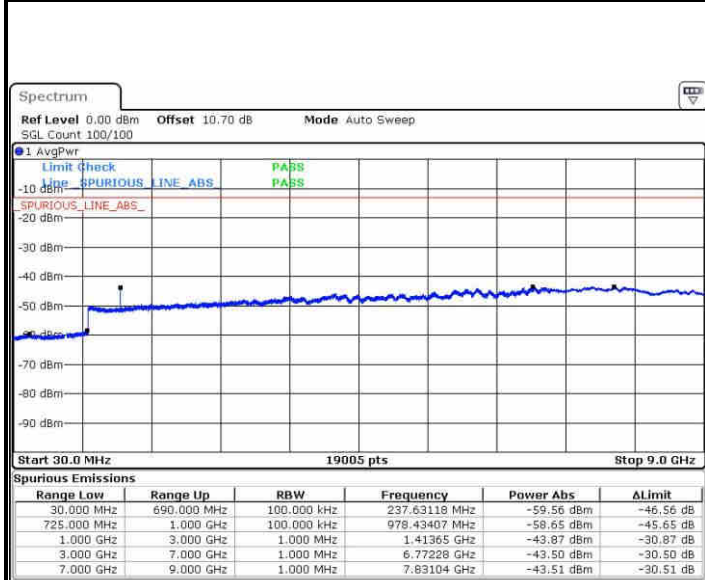
Date: 27.APR.2019 05:09:54

Middle Channel / 16QAM



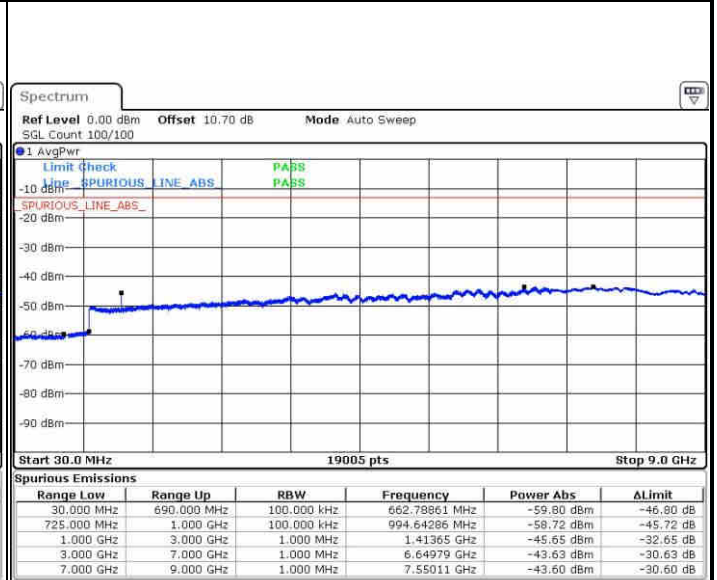
Date: 27.APR.2019 05:09:14

Highest Channel / QPSK



Date: 27.APR.2019 05:15:33

Highest Channel / 16QAM



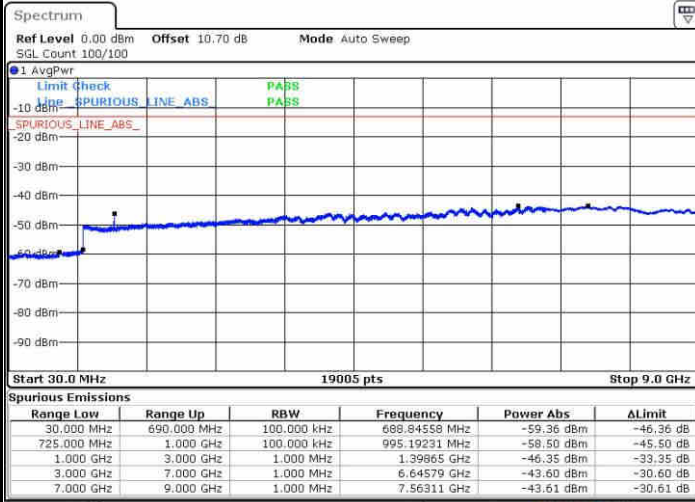
Date: 27.APR.2019 05:16:14



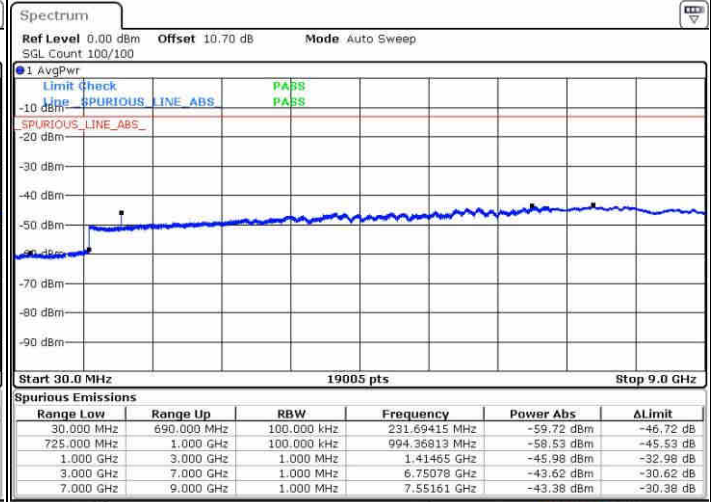
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

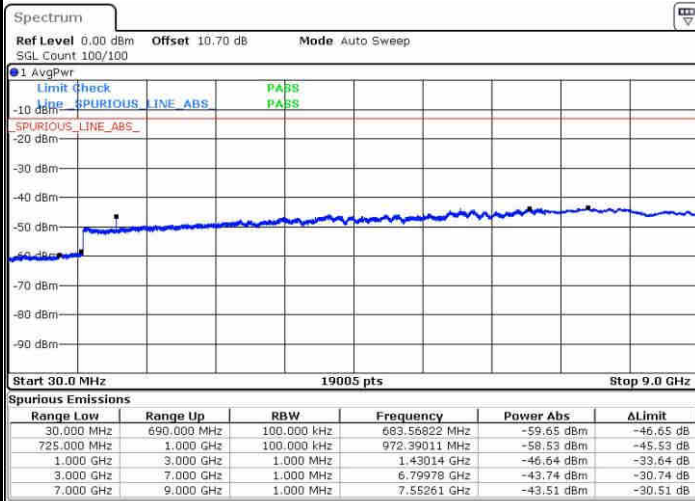


Date: 27.APR.2019 04:13:22



Date: 27.APR.2019 04:14:26

Highest Channel / 64QAM



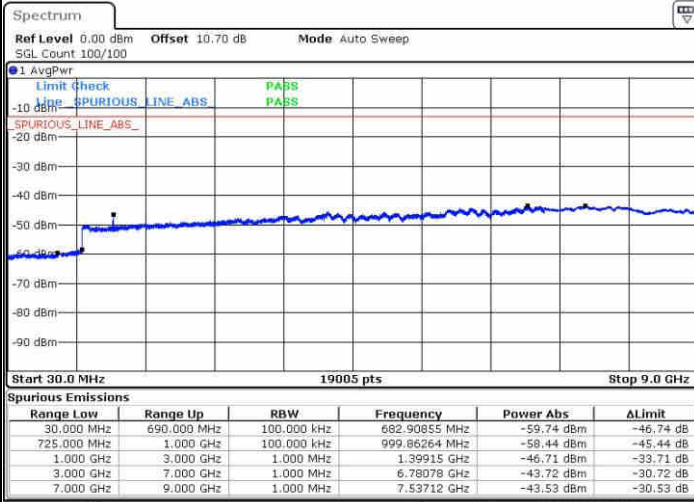
Date: 27.APR.2019 04:17:33



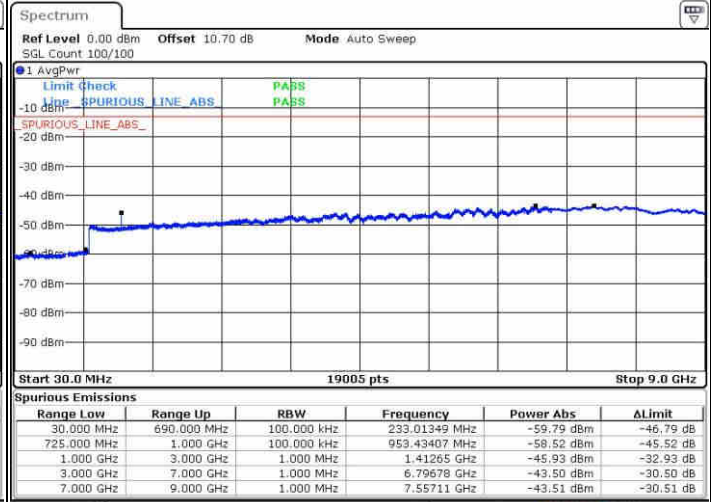
LTE Band 12 / 3MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

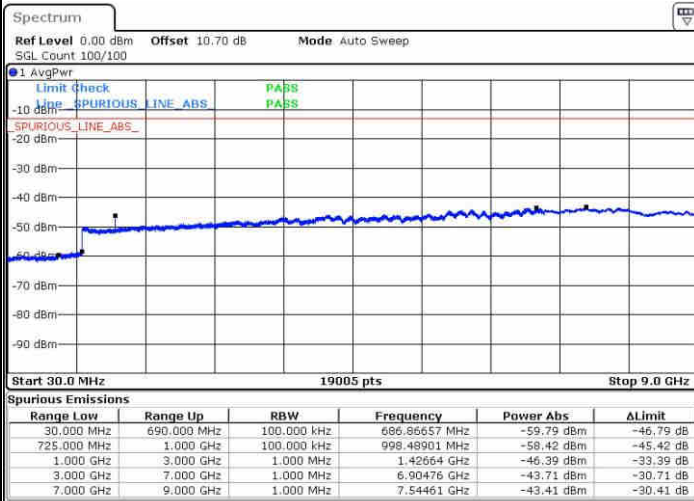


Date: 27 APR 2019 04:35:20



Date: 27 APR 2019 04:36:24

Highest Channel / 64QAM



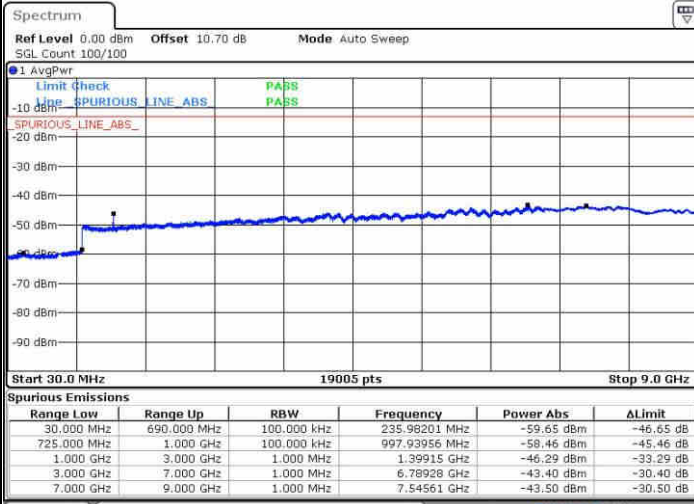
Date: 27 APR 2019 04:39:31



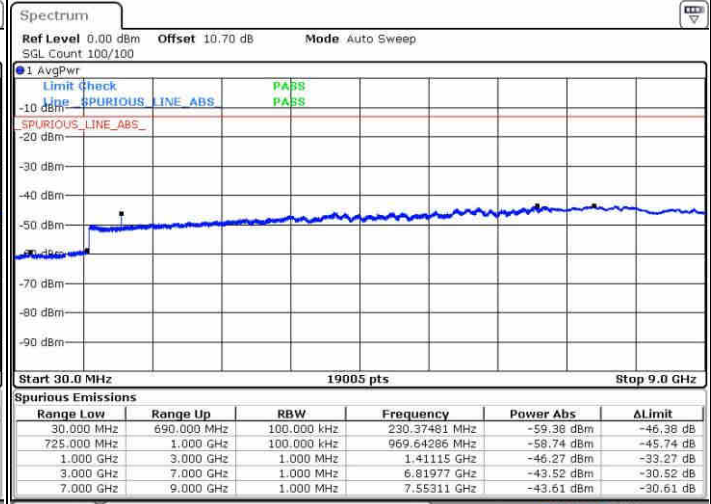
LTE Band 12 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

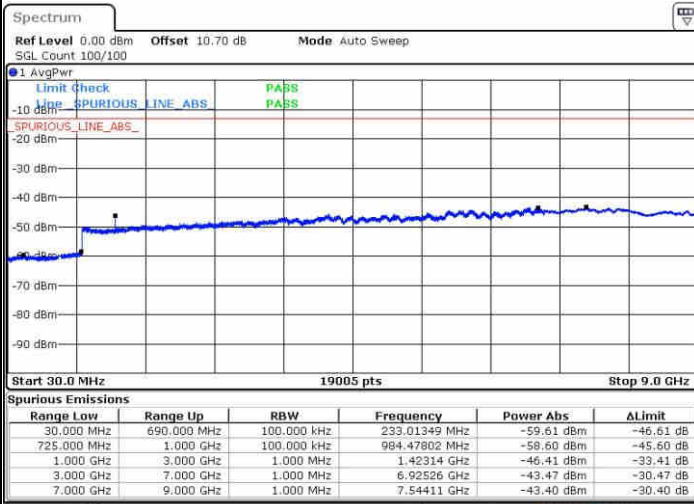


Date: 27.APR.2019 04:42:39



Date: 27.APR.2019 04:43:43

Highest Channel / 64QAM



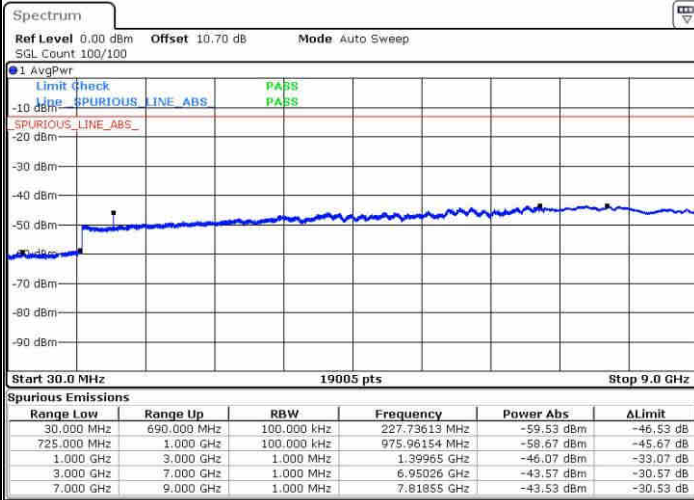
Date: 27.APR.2019 04:46:51



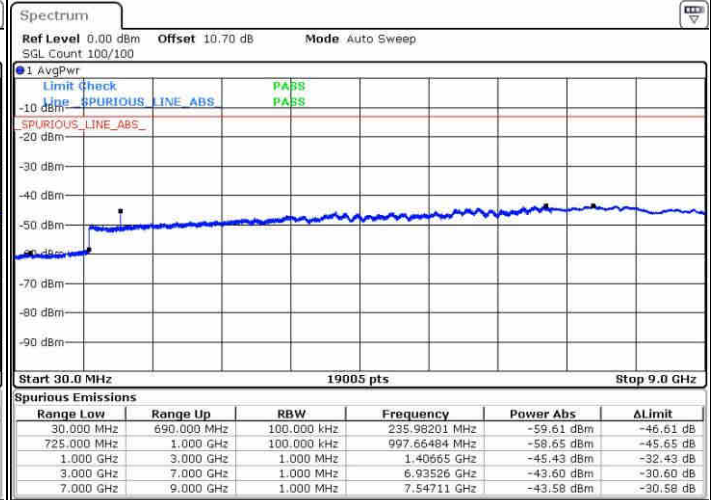
LTE Band 12 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

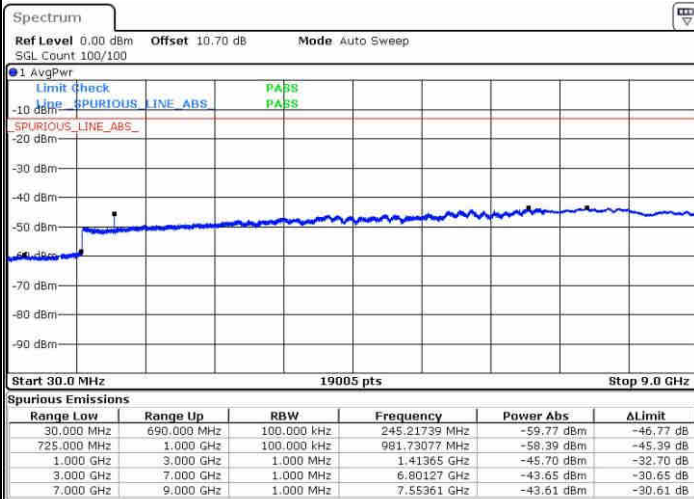


Date: 27.APR.2019 05:19:21



Date: 27.APR.2019 05:20:26

Highest Channel / 64QAM



Date: 27.APR.2019 05:23:33



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	0.0196	
30	Normal Voltage	0.0116	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0175	
-10	Normal Voltage	0.0004	
-20	Normal Voltage	0.0137	
-30	Normal Voltage	0.0040	
20	Maximum Voltage	0.0031	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0172	

Note:

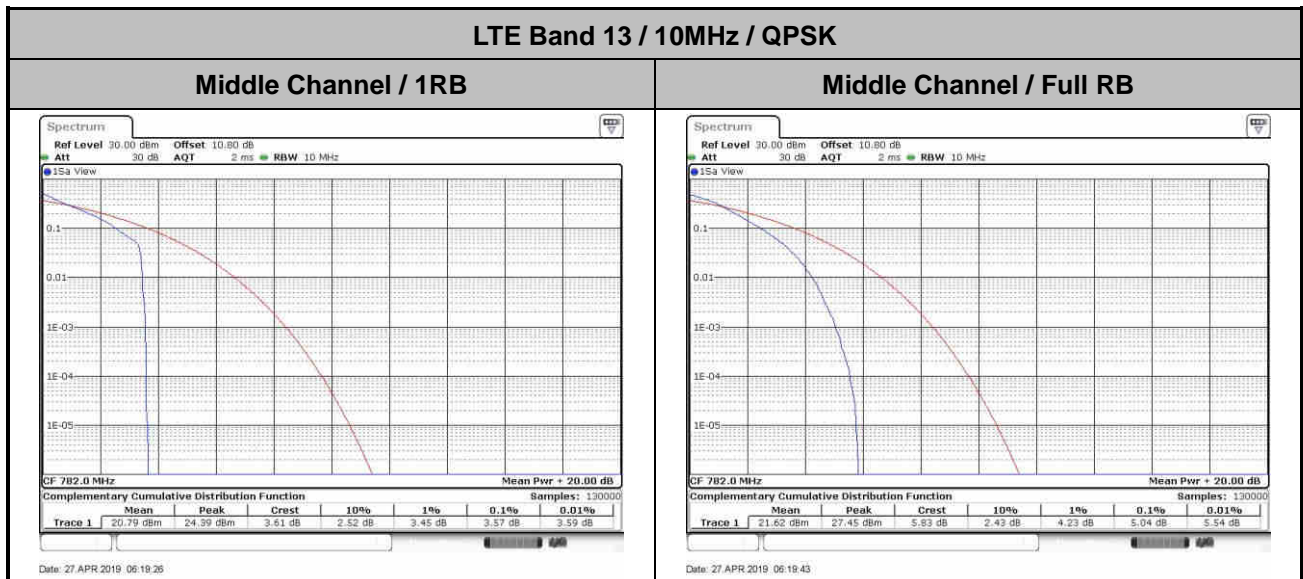
1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



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	3.57	5.04	4.32	5.88	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.04	6.49	-	-	
Highest CH	-	-	-	-	





LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 27 APR 2019 06:19:02

Middle Channel / Full RB



Date: 27 APR 2019 06:19:14

LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 27 APR 2019 06:18:40

Middle Channel / Full RB



Date: 27 APR 2019 06:18:52



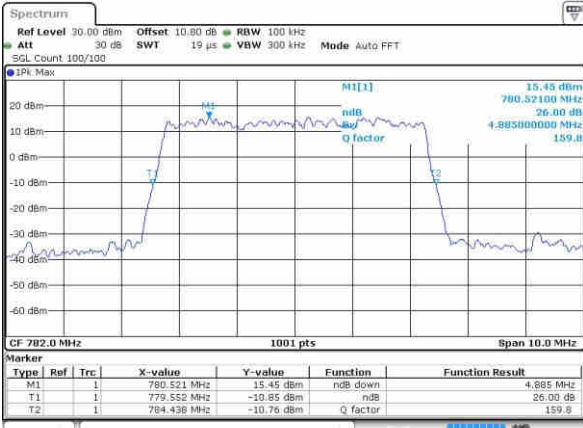
26dB Bandwidth

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	-	-	-	-	4.95	4.84	-	-	-	-	-	-
Middle CH	-	-	-	-	4.89	4.88	9.77	9.87	-	-	-	-
Highest CH	-	-	-	-	4.95	4.92	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.89	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.96	-	9.87	-	-	-	-	-
Highest CH	-	-	-	-	4.82	-	-	-	-	-	-	-



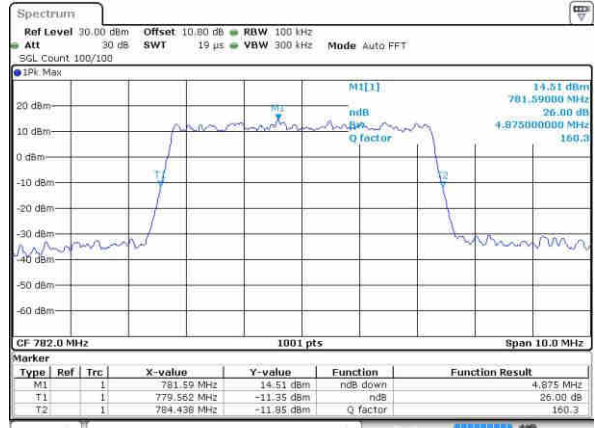
LTE Band 13

Middle Channel / 5MHz / QPSK



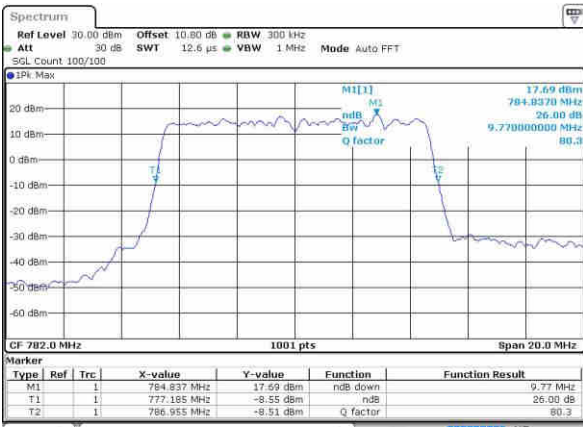
Date: 27 APR 2019 05:40:23

Middle Channel / 5MHz / 16QAM



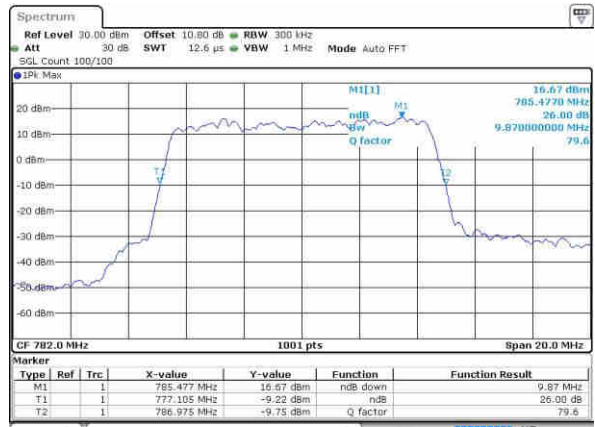
Date: 27 APR 2019 05:40:34

Middle Channel / 10MHz / QPSK



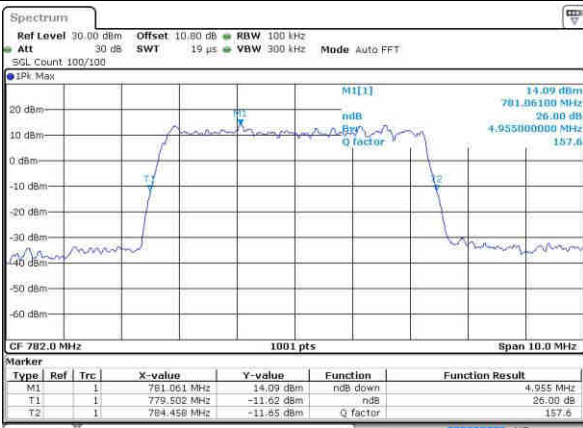
Date: 27 APR 2019 06:00:38

Middle Channel / 10MHz / 16QAM



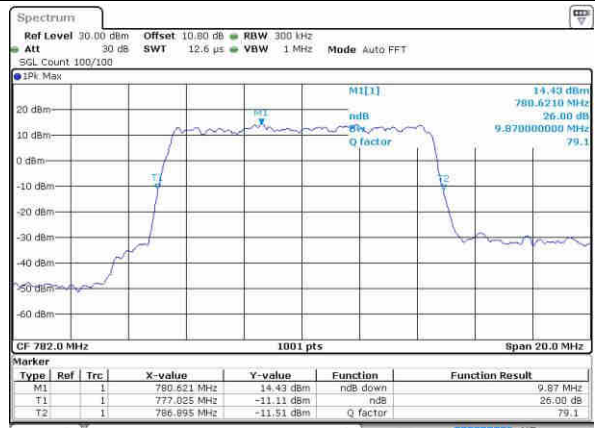
Date: 27 APR 2019 06:00:28

Middle Channel / 5MHz / 64QAM



Date: 27 APR 2019 05:55:13

Middle Channel / 10MHz / 64QAM



Date: 27 APR 2019 06:12:27



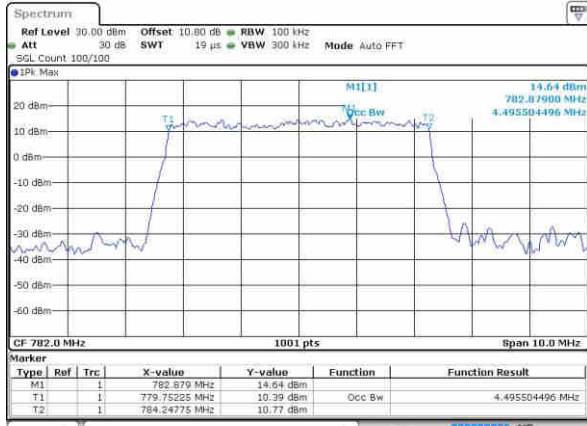
Occupied Bandwidth

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	4.52	9.09	8.99	-	-	-	-
Highest CH	-	-	-	-	4.48	4.48	-	-	-	-	-	-
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	-	8.99	-	-	-	-	-
Highest CH	-	-	-	-	4.49	-	-	-	-	-	-	-



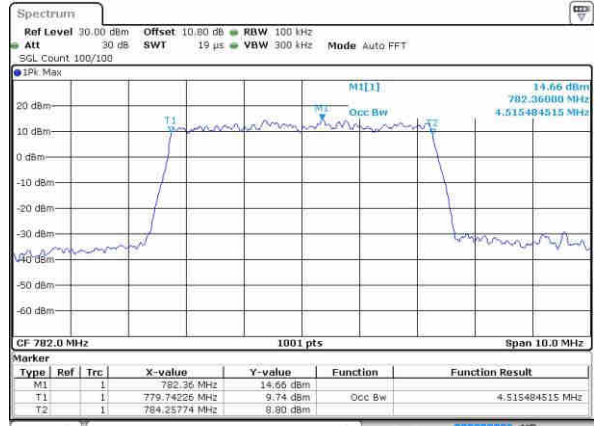
LTE Band 13

Middle Channel / 5MHz / QPSK



Date: 27 APR 2019 05:40:58

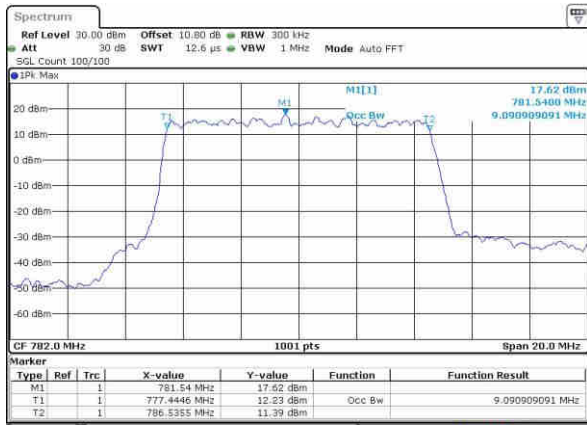
Middle Channel / 5MHz / 16QAM



Date: 27 APR 2019 05:40:46

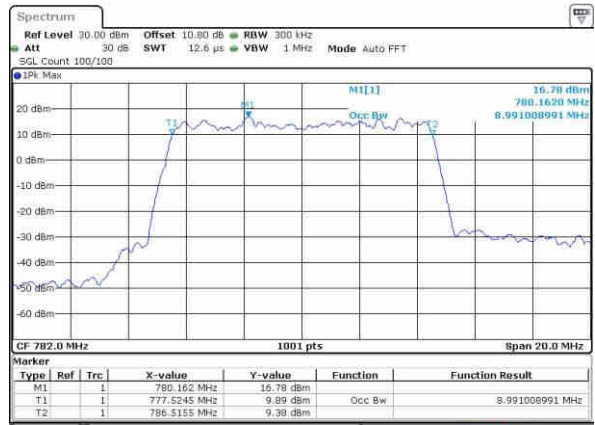
LTE Band 13

Middle Channel / 10MHz / QPSK



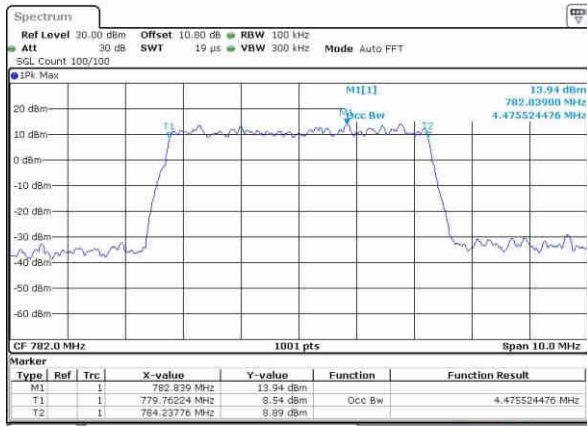
Date: 27 APR 2019 06:00:04

Middle Channel / 10MHz / 16QAM



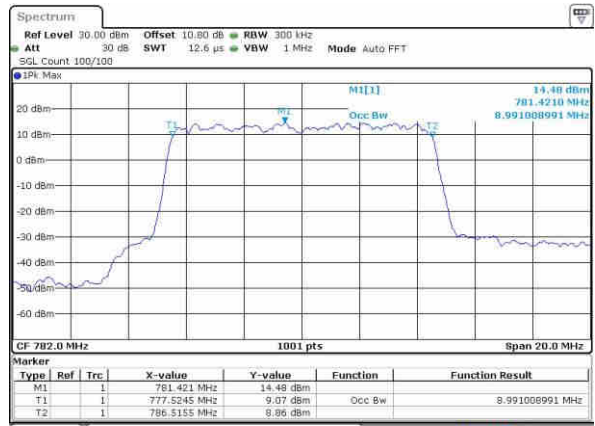
Date: 27 APR 2019 06:00:16

Middle Channel / 5MHz / 64QAM



Date: 27 APR 2019 05:55:25

Middle Channel / 10MHz / 64QAM



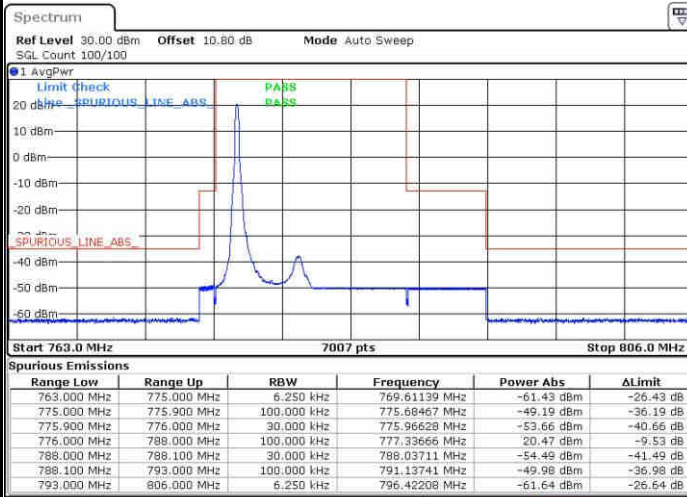
Date: 27 APR 2019 06:12:15



Conducted Band Edge

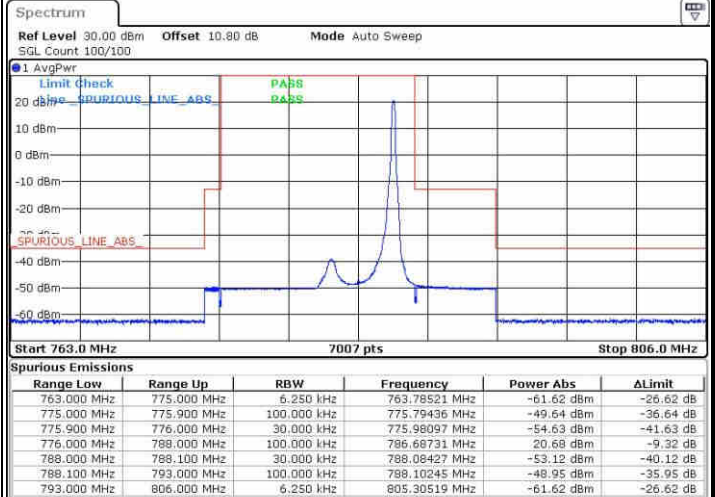
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB



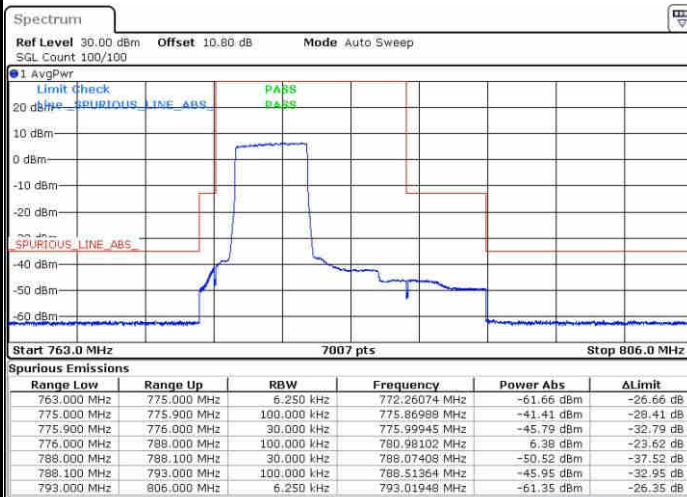
Date: 27 APR 2019 05:37:28

Highest Band Edge / 1 RB



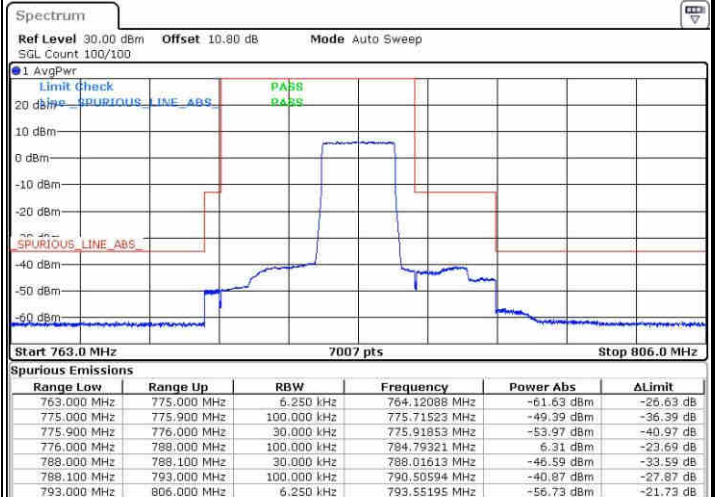
Date: 27 APR 2019 05:48:31

Lowest Band Edge / Full RB



Date: 27 APR 2019 05:32:24

Highest Band Edge / Full RB



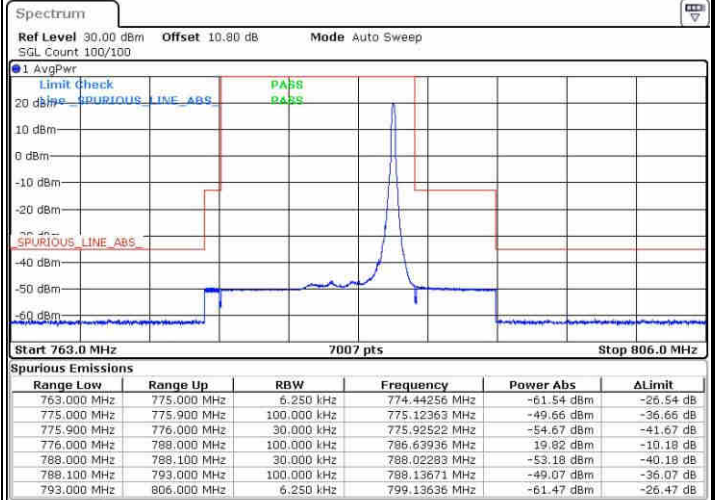
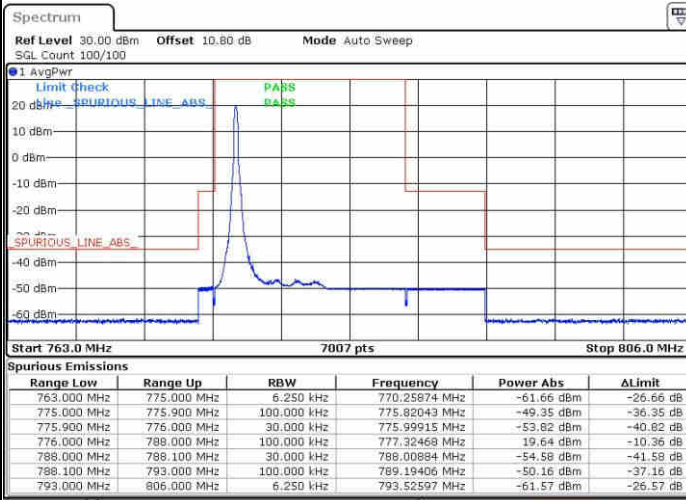
Date: 27 APR 2019 05:43:27



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

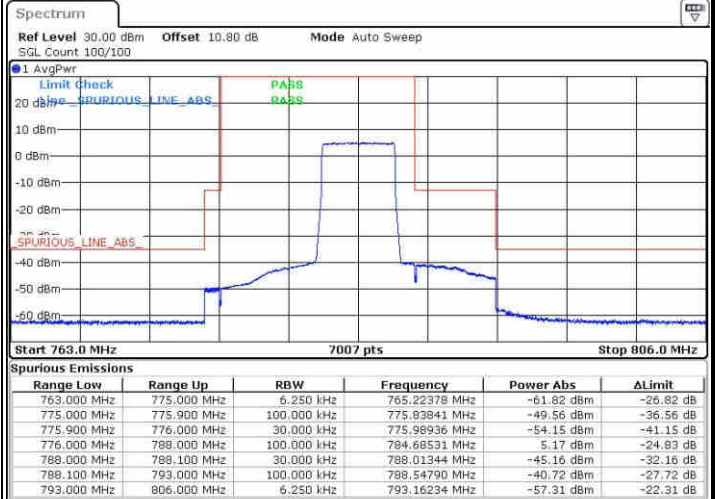
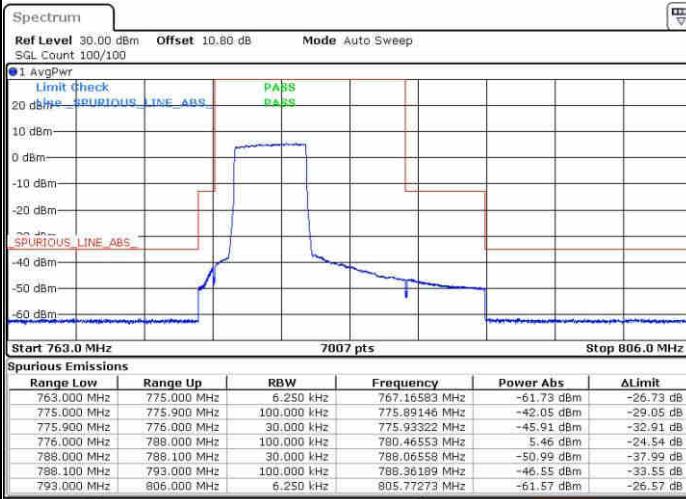


Date: 27 APR 2019 05:35:47

Date: 27 APR 2019 05:46:50

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 27 APR 2019 05:34:06

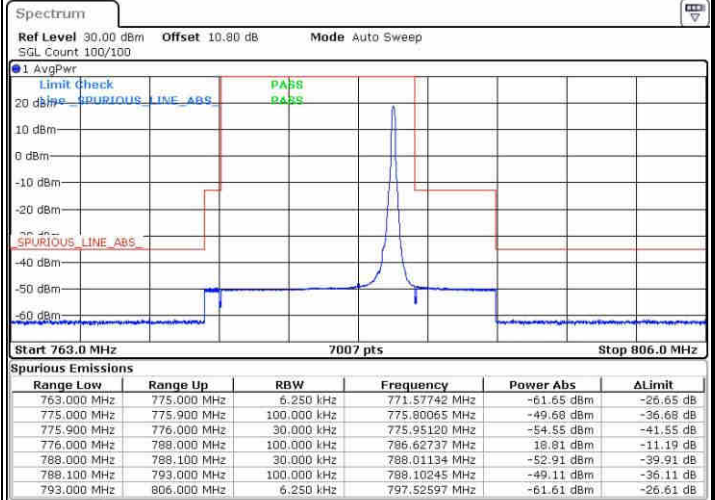
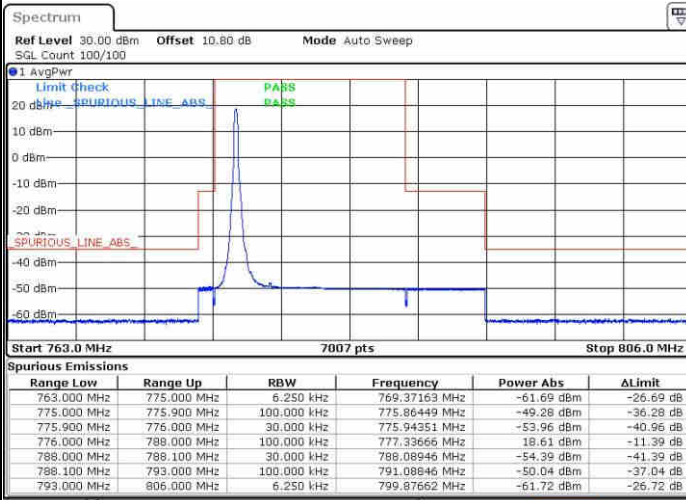
Date: 27 APR 2019 05:45:08



LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

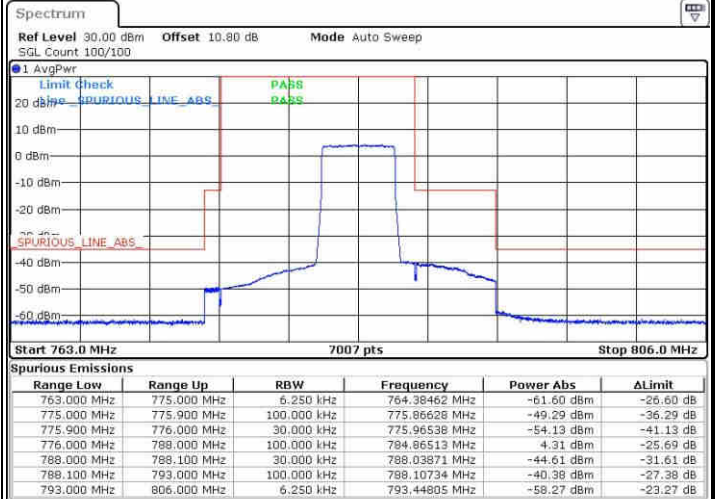
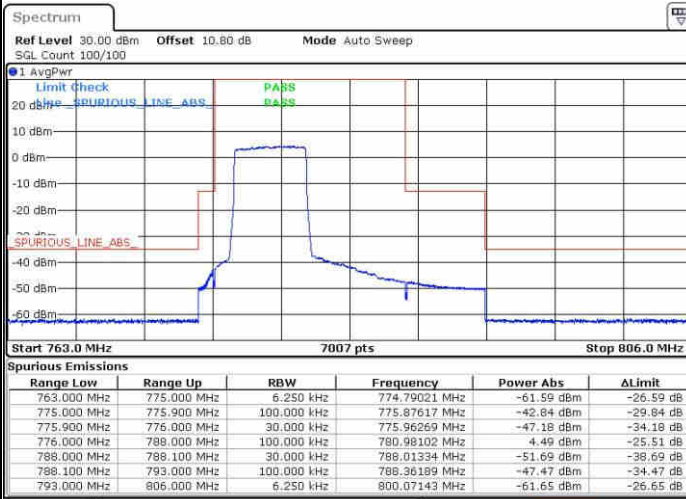


Date: 27 APR 2019 05:53:40

Date: 27 APR 2019 05:59:11

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



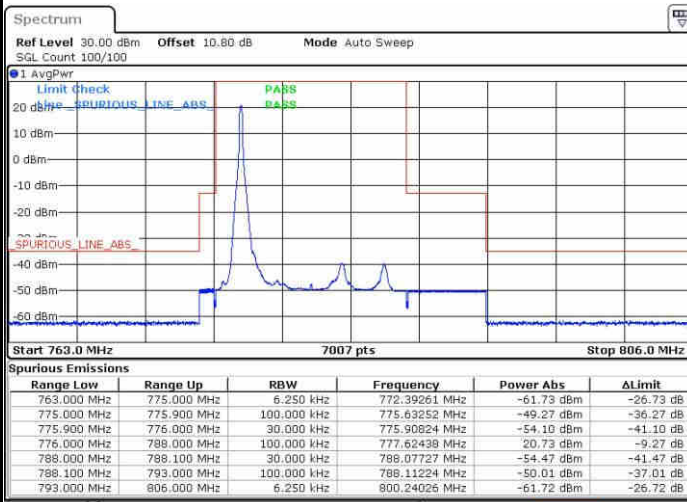
Date: 27 APR 2019 05:51:58

Date: 27 APR 2019 05:57:28



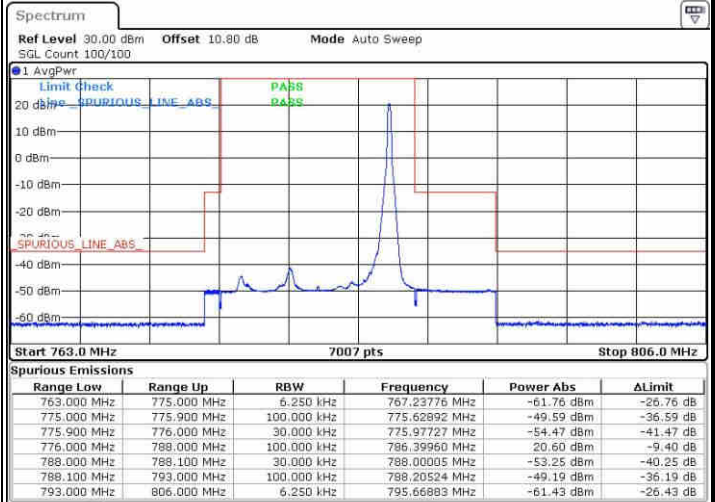
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



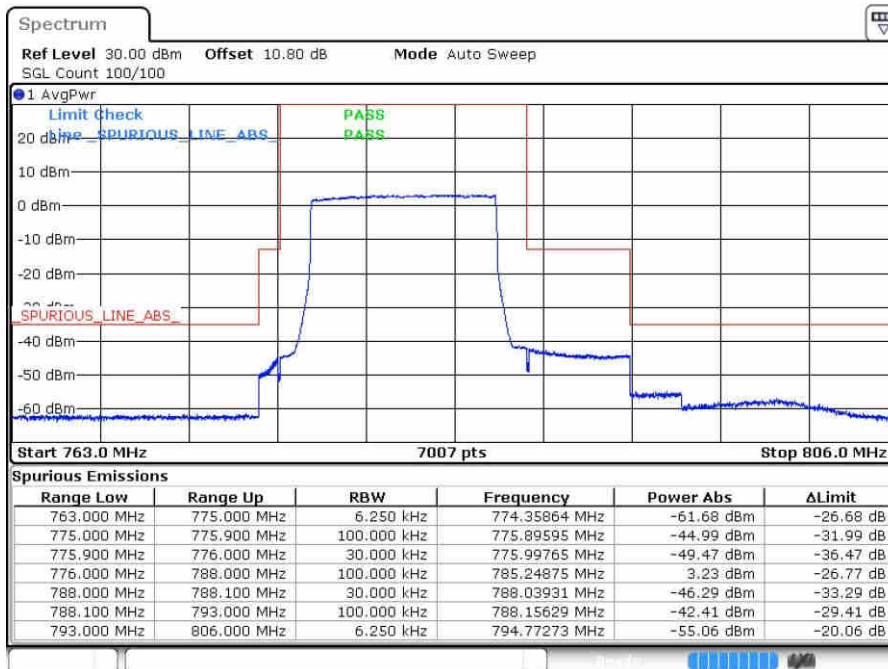
Date: 27.APR.2019 06:07:21

Highest Band Edge / 1 RB



Date: 27.APR.2019 06:09:01

Band Edge / Full RB

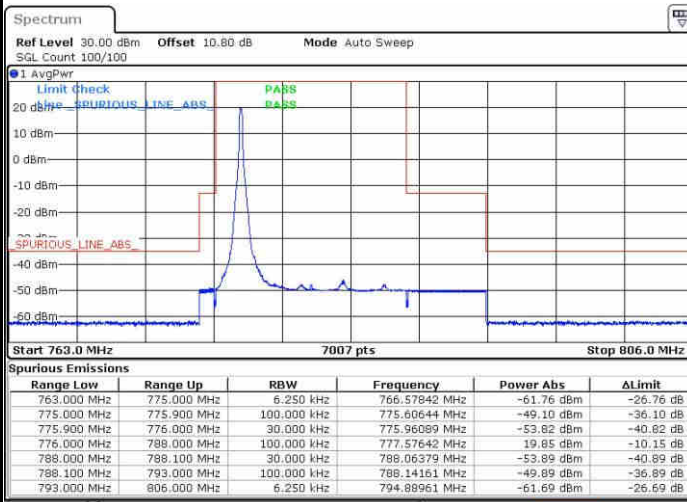


Date: 27.APR.2019 06:02:19



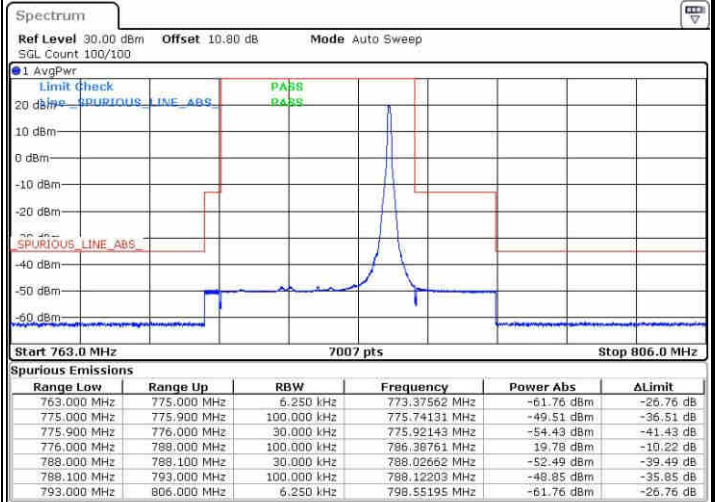
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



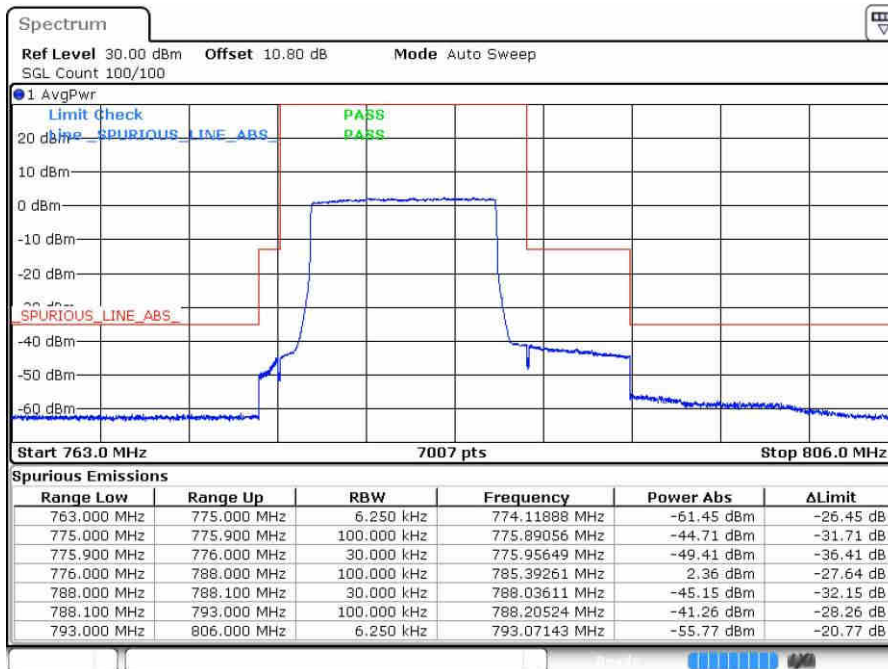
Date: 27.APR.2019 06:05:40

Highest Band Edge / 1 RB



Date: 27.APR.2019 06:10:42

Band Edge / Full RB

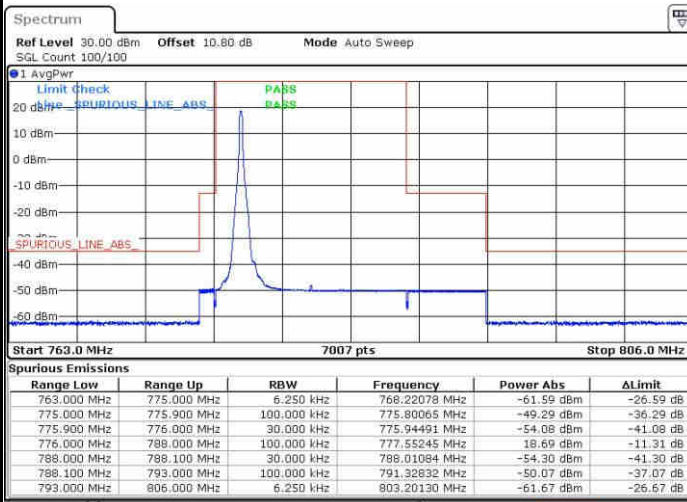


Date: 27.APR.2019 06:04:00



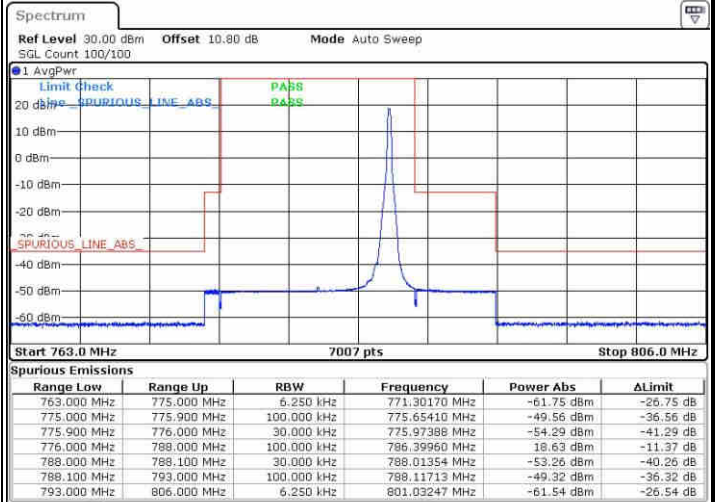
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



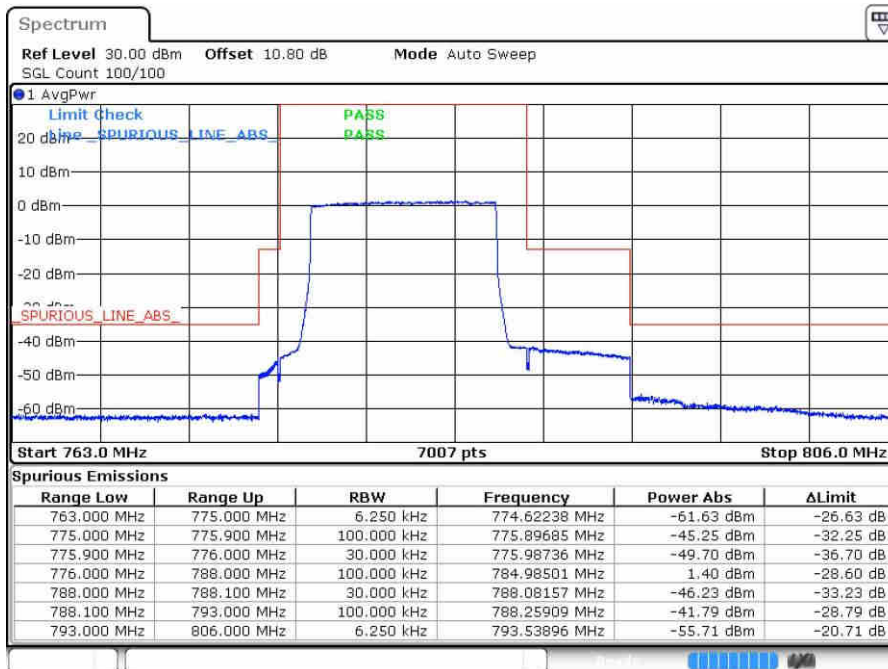
Date: 27.APR.2019 06:15:47

Highest Band Edge / 1 RB



Date: 27.APR.2019 06:17:28

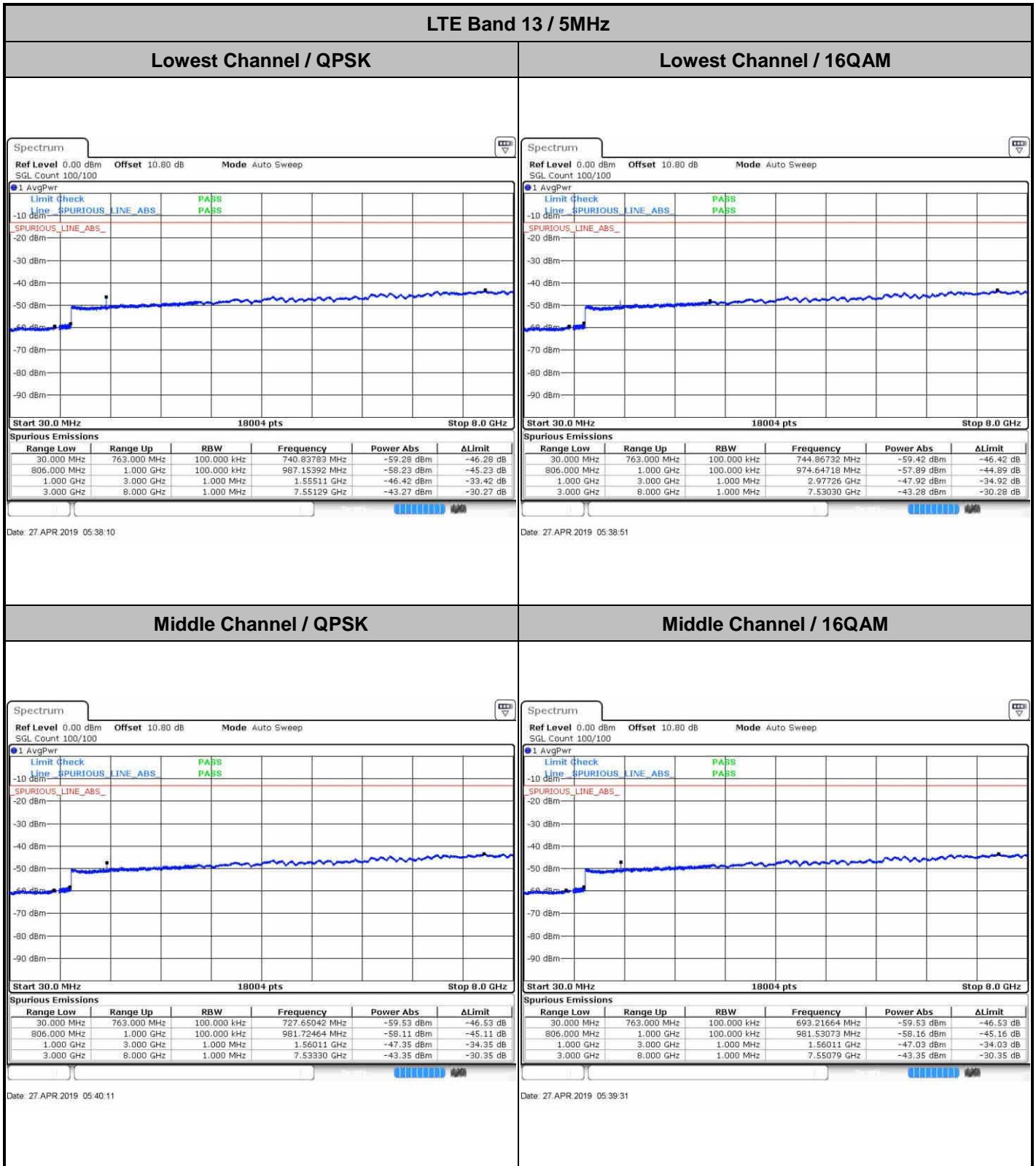
Band Edge / Full RB



Date: 27.APR.2019 06:14:07



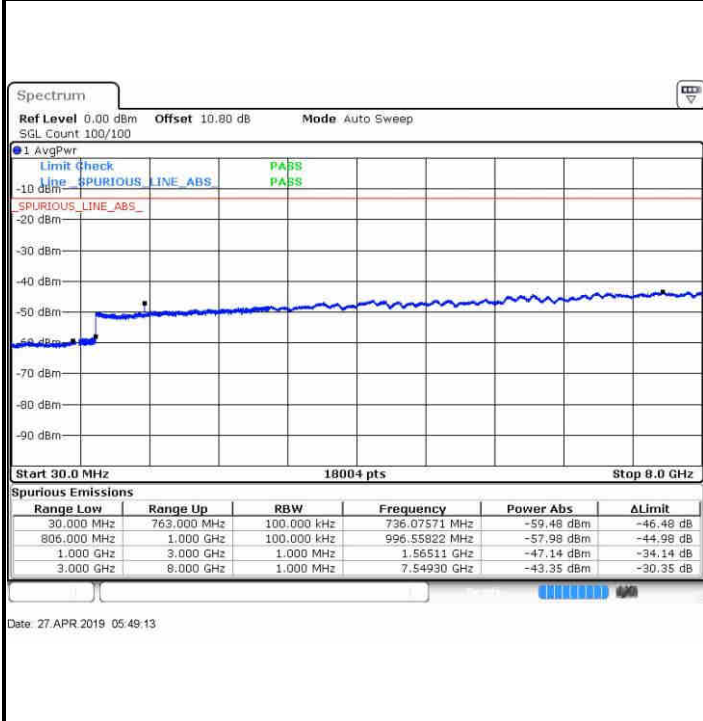
Conducted Spurious Emission



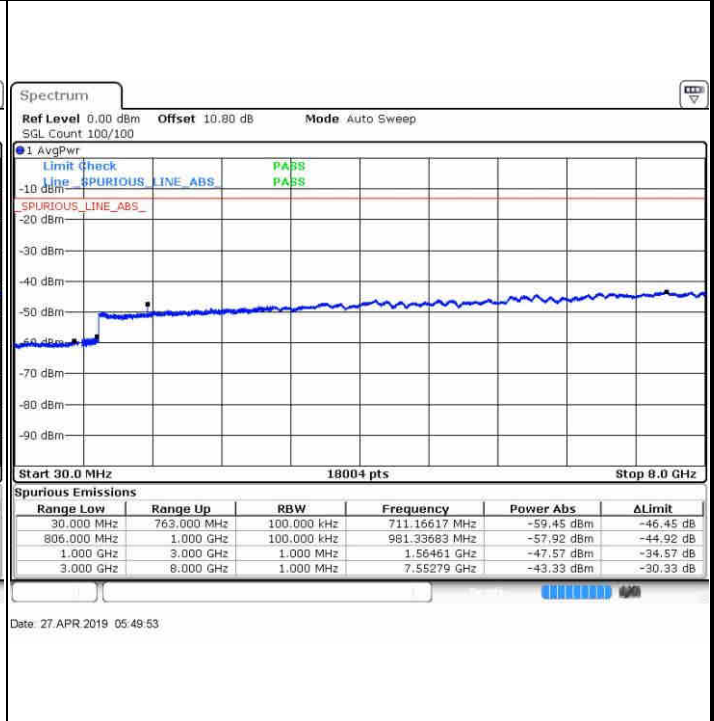


LTE Band 13 / 5MHz

Highest Channel / QPSK

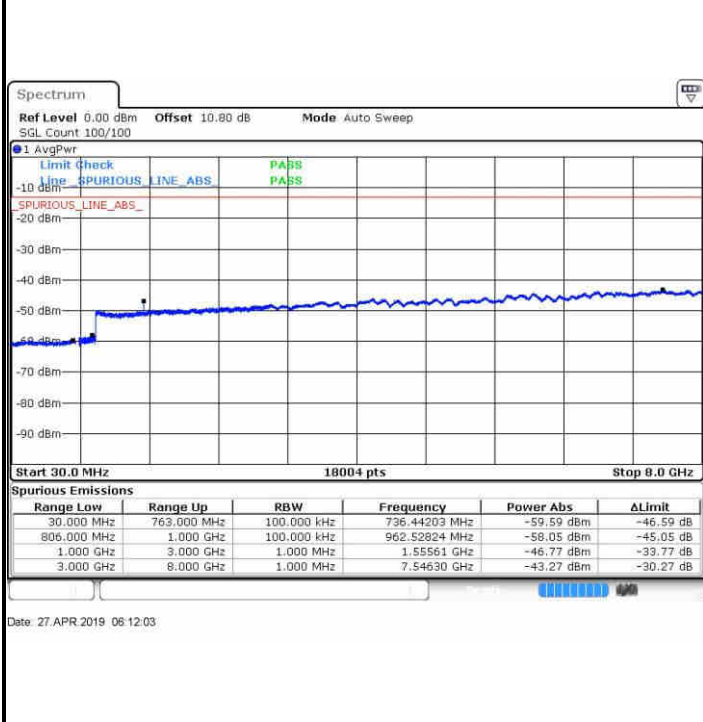


Highest Channel / 16QAM

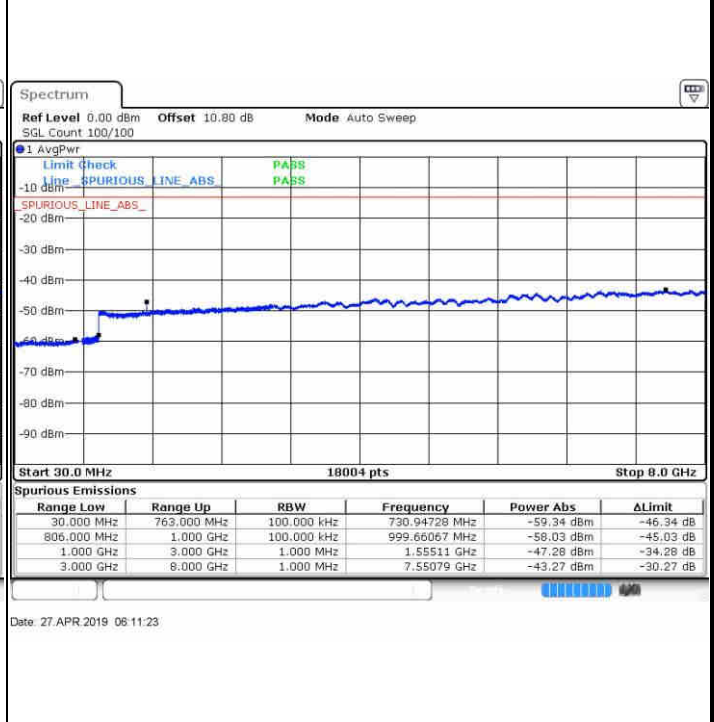


LTE Band 13 / 10MHz

Middle Channel / QPSK



Middle Channel / 16QAM

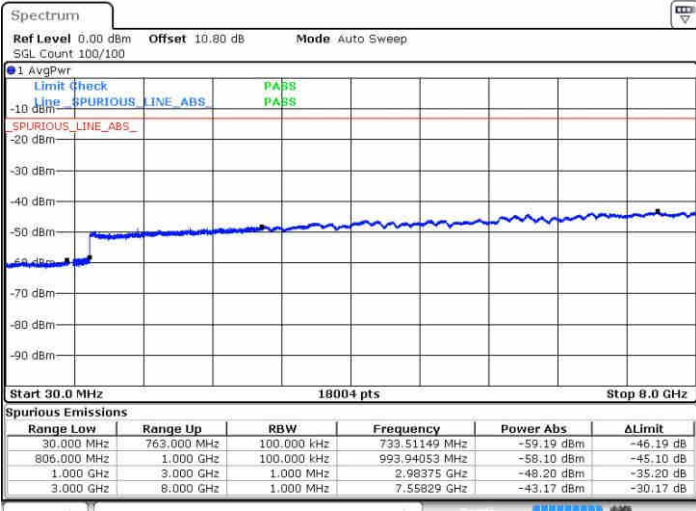




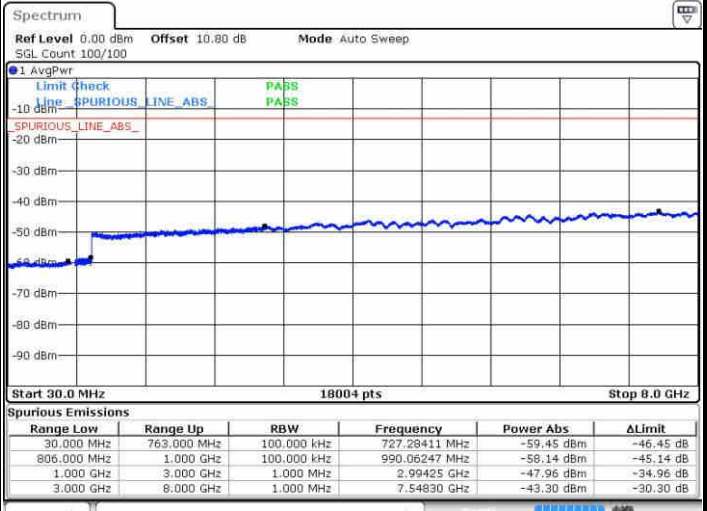
LTE Band 13 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

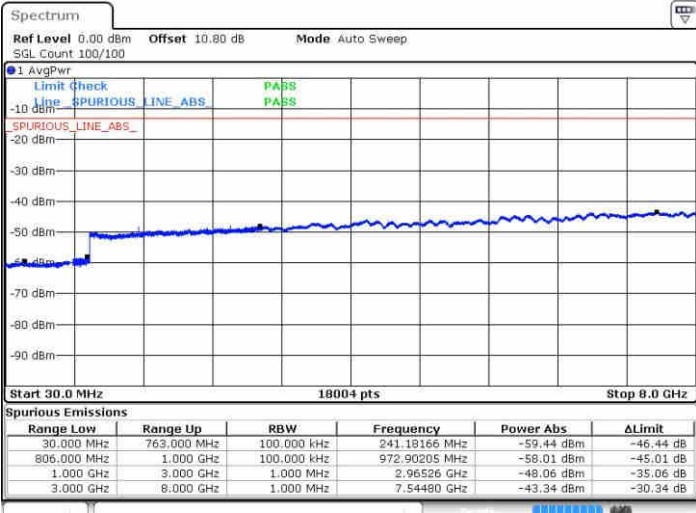


Date: 27.APR.2019 05:54:21



Date: 27.APR.2019 05:55:02

Highest Channel / 64QAM

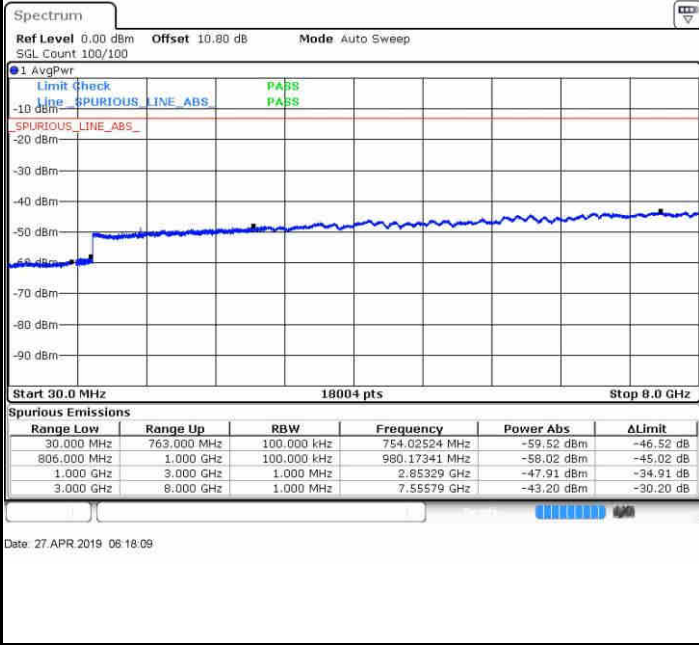


Date: 27.APR.2019 05:59:52



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	0.0182	PASS
40	Normal Voltage	0.0015	
30	Normal Voltage	0.0116	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0175	
0	Normal Voltage	0.0120	
-10	Normal Voltage	0.0148	
-20	Normal Voltage	0.0116	
-30	Normal Voltage	0.0132	
20	Maximum Voltage	0.0063	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0107	

Note:

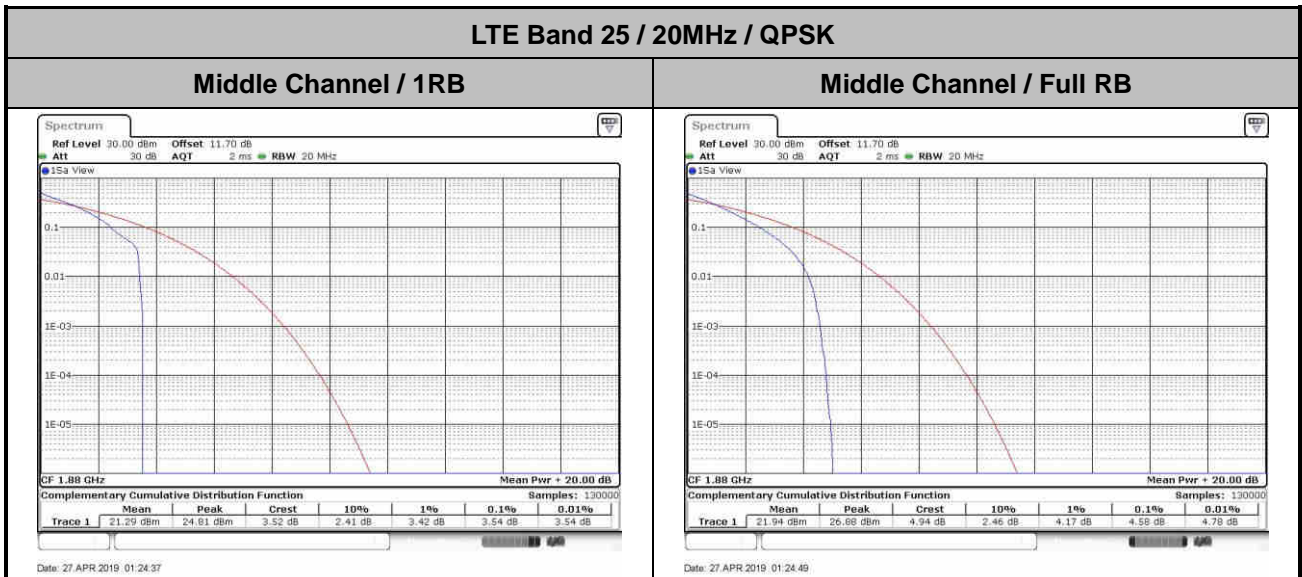
1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



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	3.59	4.55	4.23	5.68	PASS
Middle CH	3.54	4.58	4.09	5.71	
Highest CH	3.30	4.67	4.20	5.71	
Mode	LTE Band 25 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.39	6.43	-	-	PASS
Middle CH	5.16	6.32	-	-	
Highest CH	4.90	6.52	-	-	





LTE Band 25 / 20MHz / 16QAM

Middle Channel / 1RB



Date: 27 APR 2019 01:24:15

Middle Channel / Full RB



Date: 27 APR 2019 01:24:26

LTE Band 25 / 20MHz / 64QAM

Middle Channel / 1RB



Date: 27 APR 2019 01:22:34

Middle Channel / Full RB



Date: 27 APR 2019 01:22:47



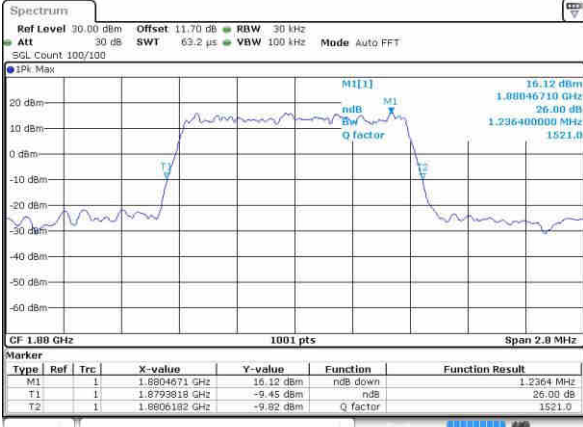
26dB Bandwidth

Mode	LTE Band 25 : 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	1.23	1.21	2.96	3.03	4.89	4.87	9.95	9.77	14.30	14.45	19.26	18.94
Middle CH	1.24	1.23	3.03	3.00	4.90	4.90	9.77	9.73	14.48	14.33	19.22	18.98
Highest CH	1.23	1.23	3.00	3.03	4.97	4.86	9.77	9.65	14.18	14.42	18.86	19.14
Mode	LTE Band 25 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.23	-	3.02	-	4.91	-	9.79	-	14.56	-	19.26	-
Middle CH	1.22	-	3.00	-	4.95	-	9.79	-	14.24	-	18.90	-
Highest CH	1.22	-	3.00	-	4.96	-	9.81	-	14.30	-	19.02	-



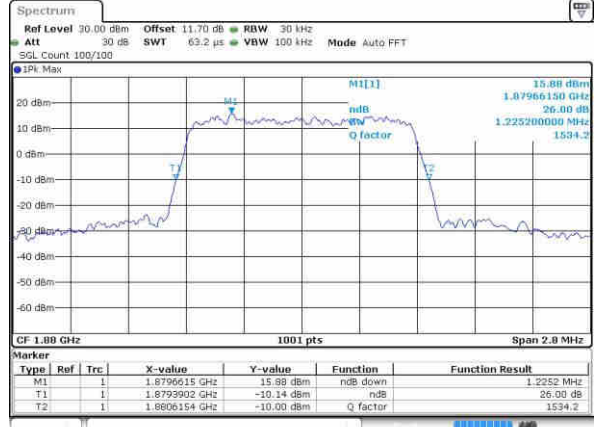
LTE Band 25

Middle Channel / 1.4MHz / QPSK



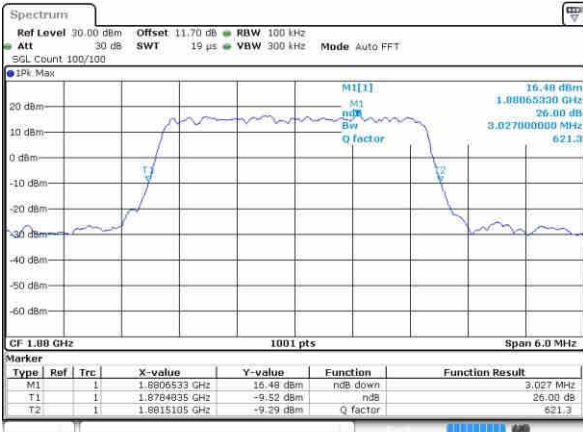
Date: 26 APR 2019 17:53:44

Middle Channel / 1.4MHz / 16QAM



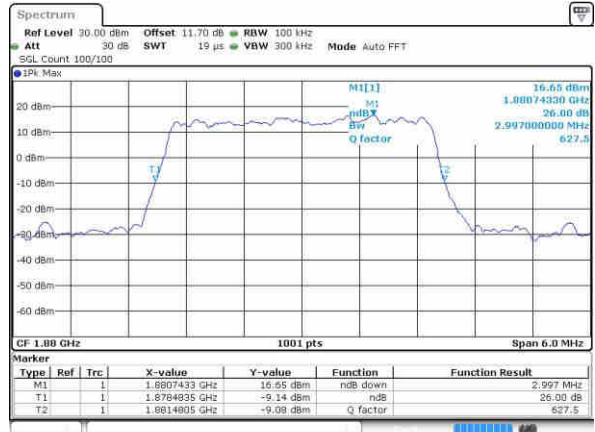
Date: 26 APR 2019 17:53:57

Middle Channel / 3MHz / QPSK



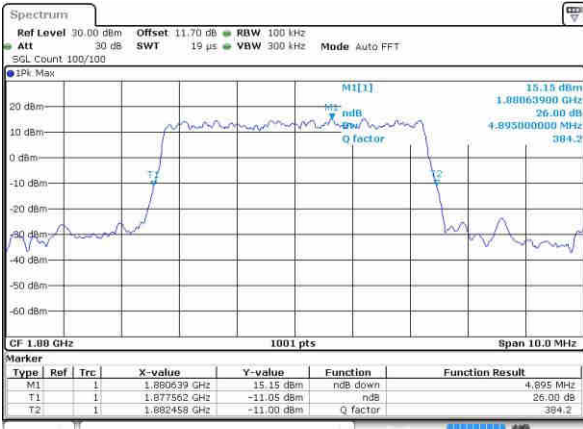
Date: 26 APR 2019 23:45:25

Middle Channel / 3MHz / 16QAM



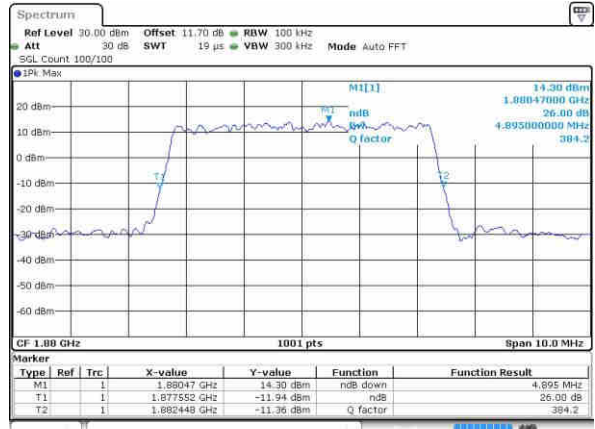
Date: 26 APR 2019 23:45:37

Middle Channel / 5MHz / QPSK



Date: 27 APR 2019 00:00:11

Middle Channel / 5MHz / 16QAM



Date: 27 APR 2019 00:00:24