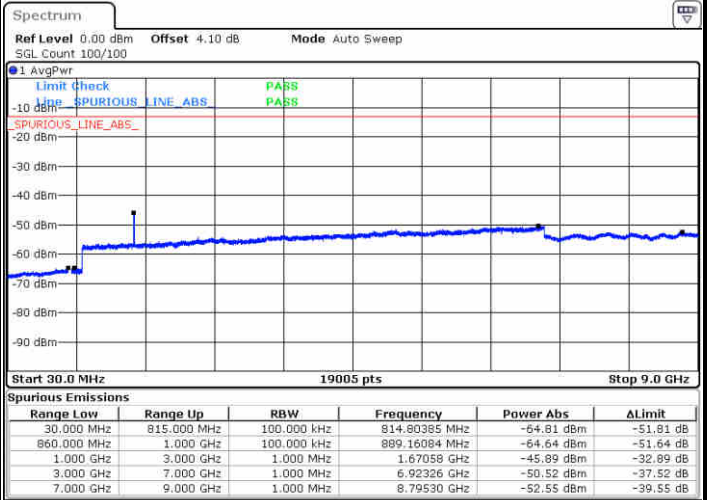
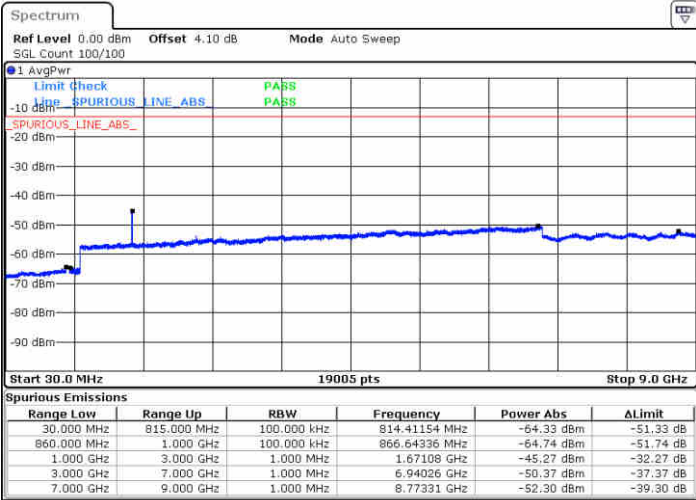




LTE Band 5 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

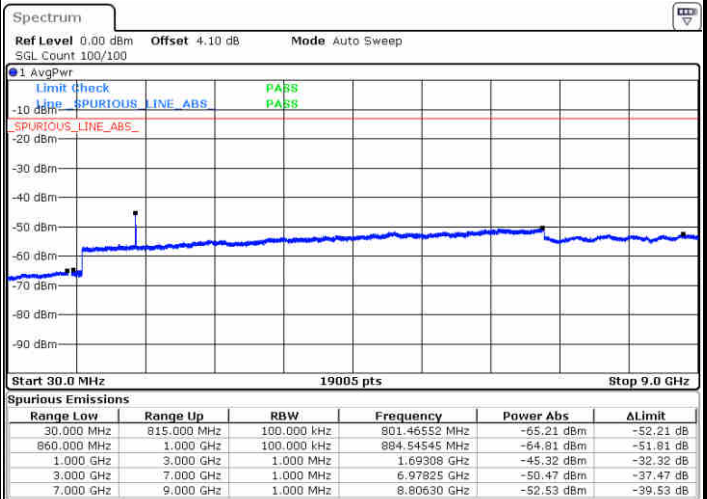
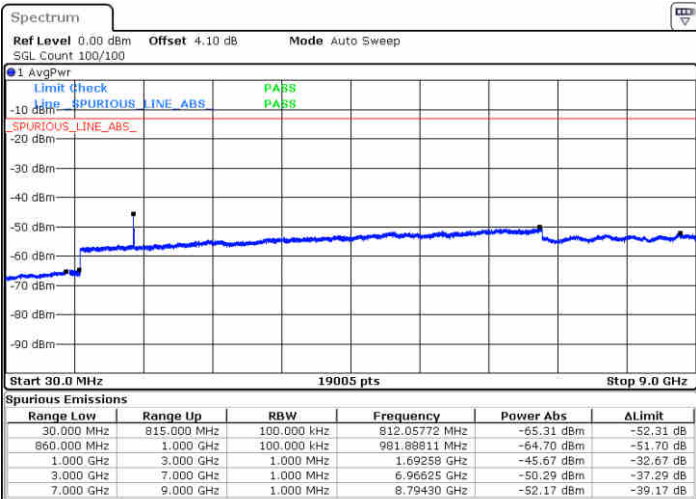


Date: 8. JAN 2020 16:37:13

Date: 8. JAN 2020 16:38:07

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 8. JAN 2020 16:46:12

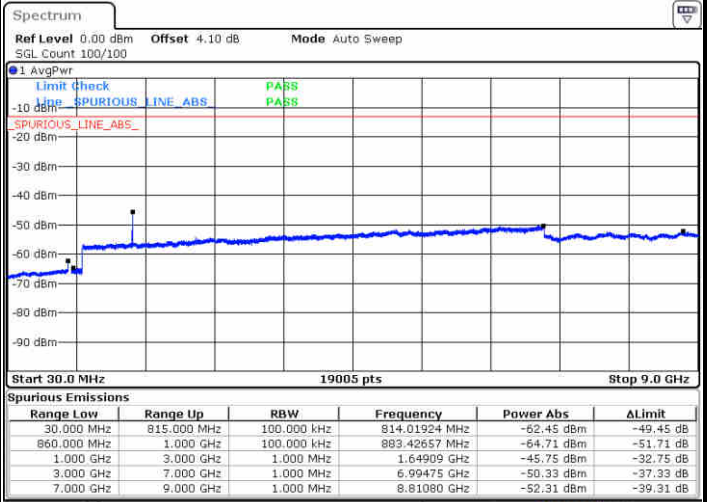
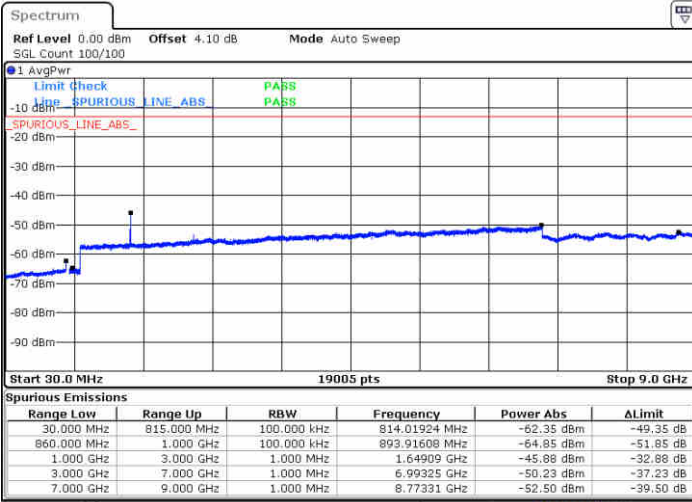
Date: 8. JAN 2020 16:47:06



LTE Band 5 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

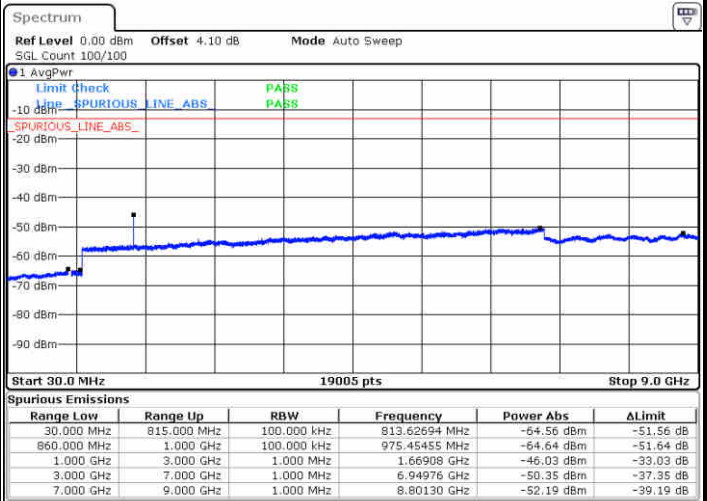
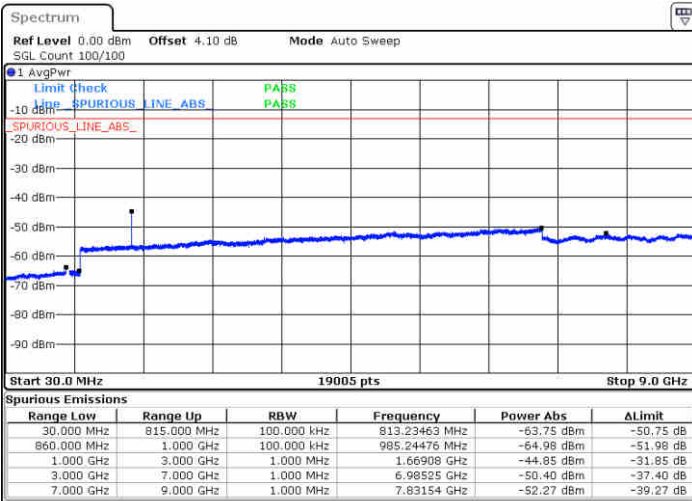


Date: 8. JAN 2020 16:25:43

Date: 8. JAN 2020 15:19:09

Middle Channel / QPSK

Middle Channel / 16QAM



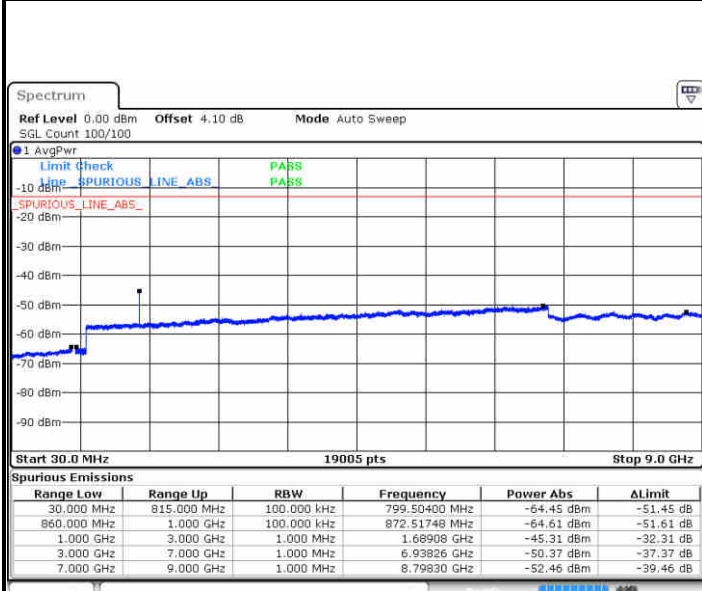
Date: 8. JAN 2020 15:20:43

Date: 8. JAN 2020 15:21:37



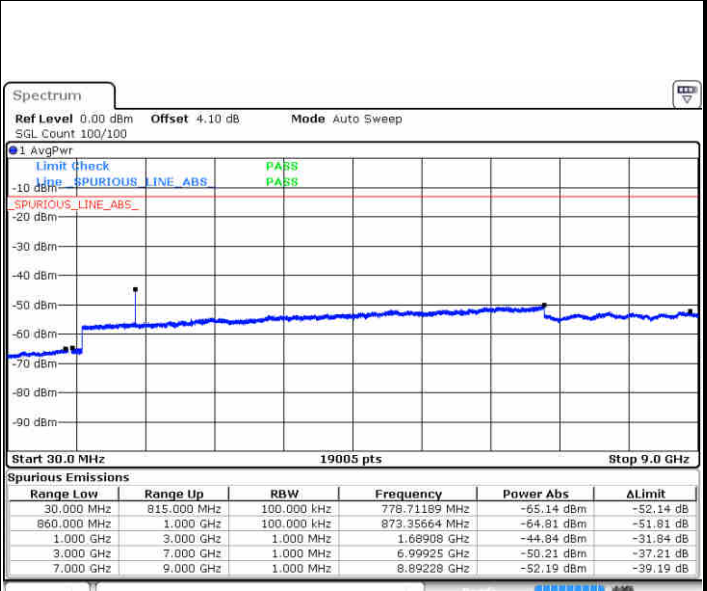
LTE Band 5 / 5MHz

Highest Channel / QPSK



Date: 8 JAN 2020 15:29:41

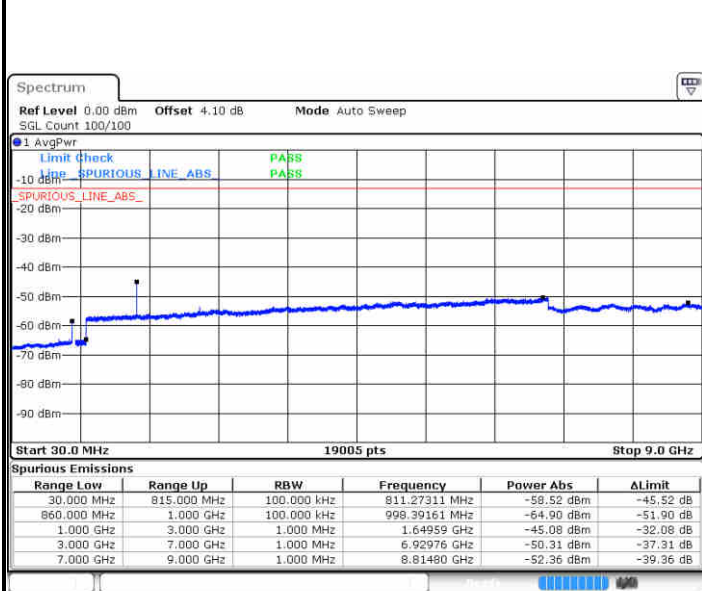
Highest Channel / 16QAM



Date: 8 JAN 2020 15:30:35

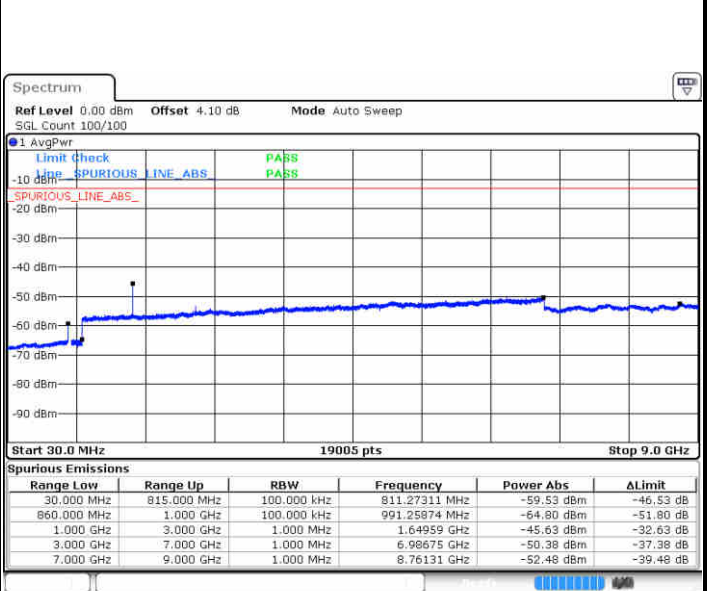
LTE Band 5 / 10MHz

Lowest Channel / QPSK



Date: 8 JAN 2020 15:38:39

Lowest Channel / 16QAM



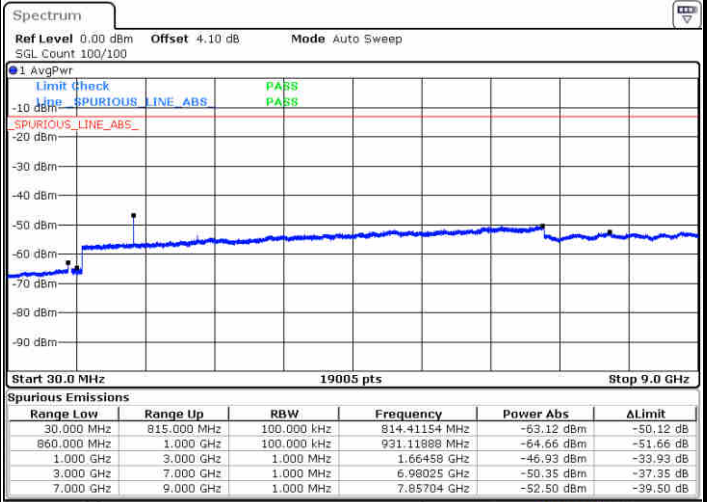
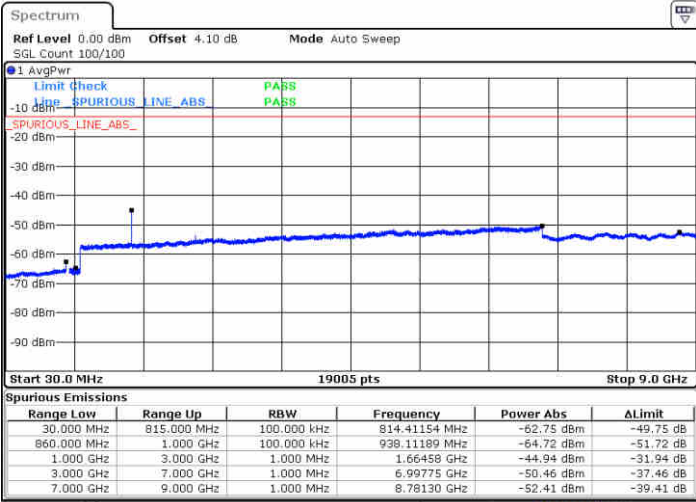
Date: 8 JAN 2020 15:39:33



LTE Band 5 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

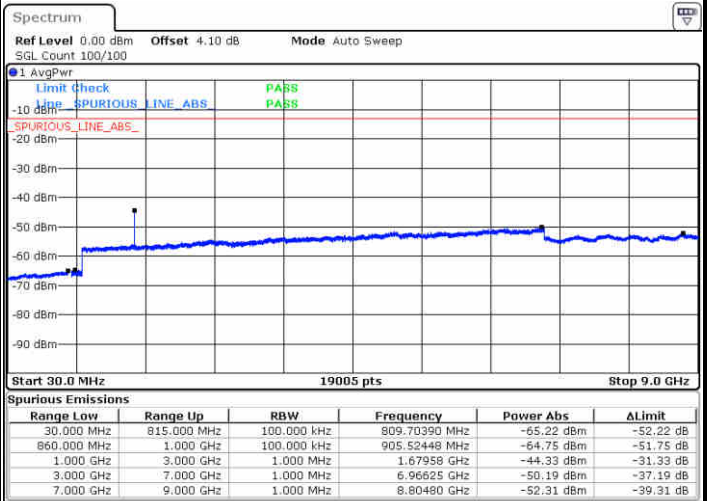
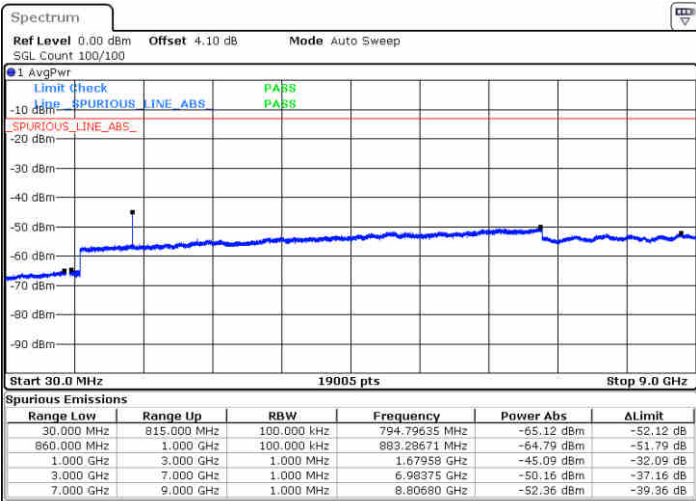


Date: 8. JAN 2020 15:41:07

Date: 8. JAN 2020 15:42:02

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 8. JAN 2020 15:50:06

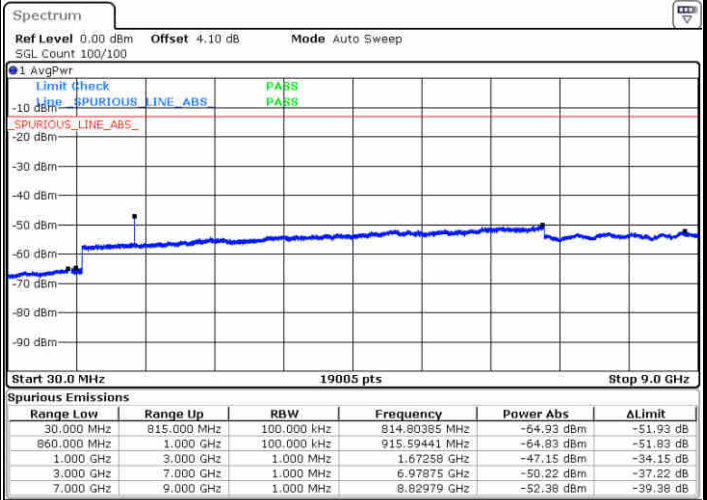
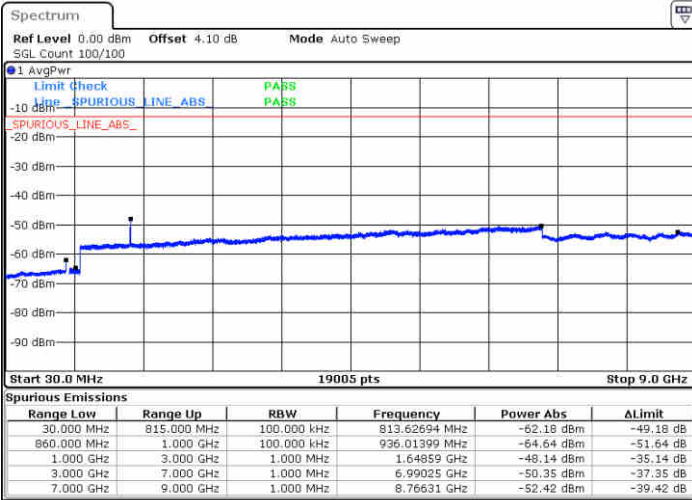
Date: 8. JAN 2020 15:51:00



LTE Band 5 / 1.4MHz

Lowest Channel / 64QAM

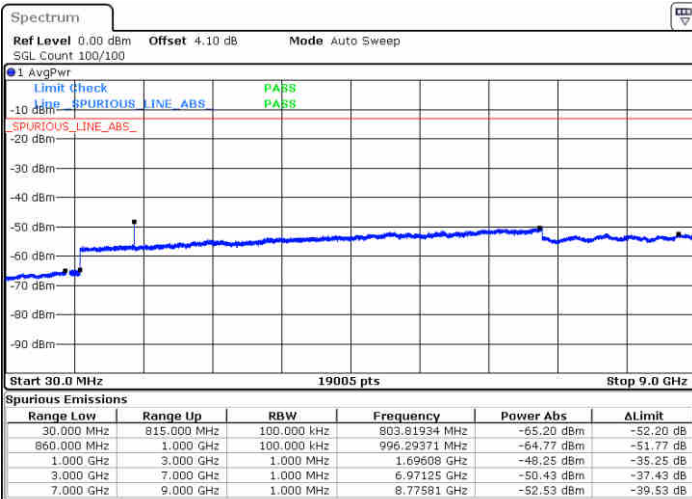
Middle Channel / 64QAM



Date: 8. JAN 2020 13:57:09

Date: 8. JAN 2020 14:02:50

Highest Channel / 64QAM



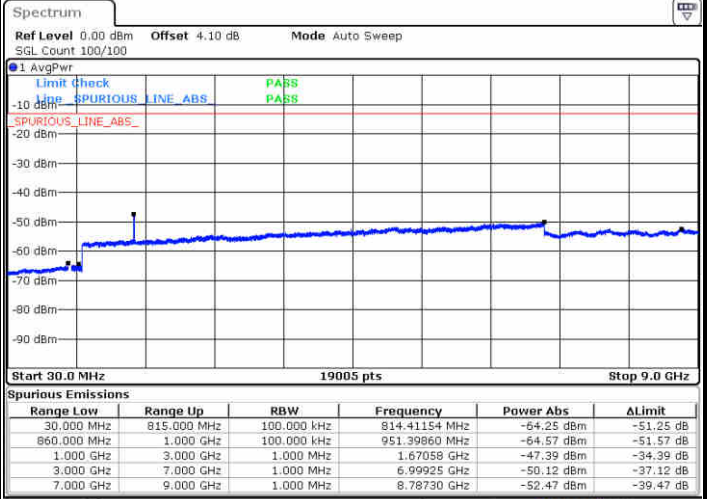
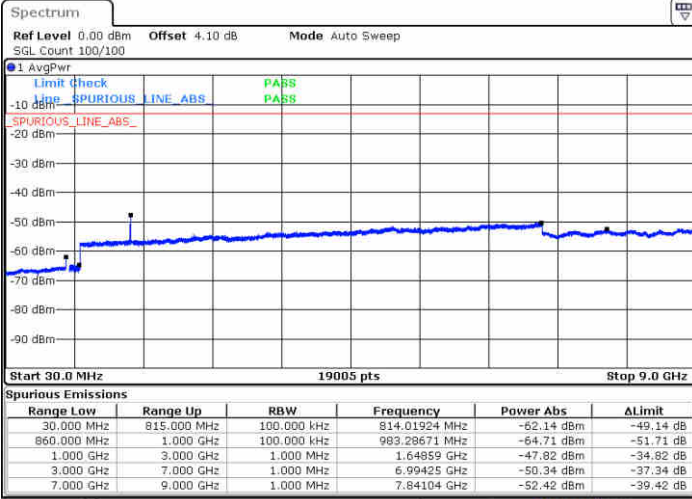
Date: 8. JAN 2020 14:07:39



LTE Band 5 / 3MHz

Lowest Channel / 64QAM

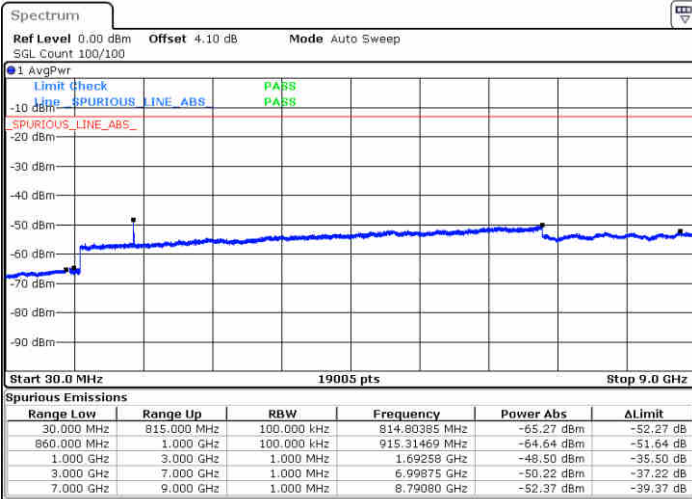
Middle Channel / 64QAM



Date: 8. JAN 2020 14:12:08

Date: 8. JAN 2020 14:13:02

Highest Channel / 64QAM



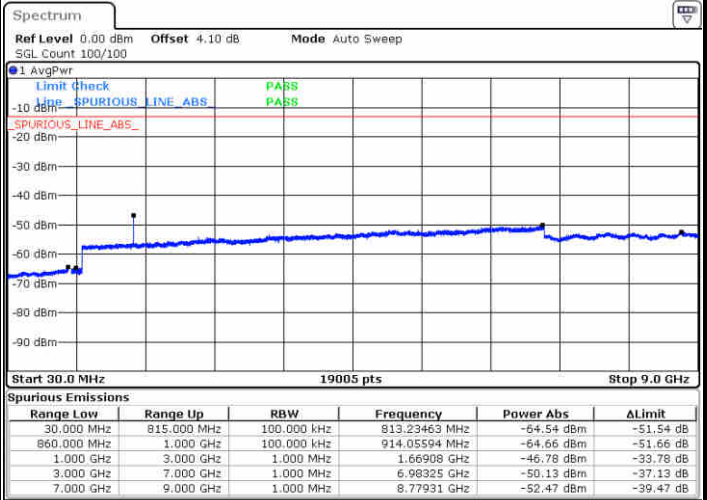
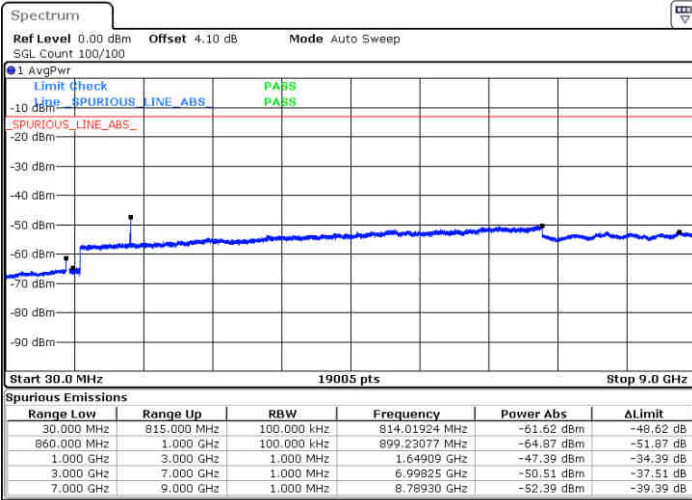
Date: 8. JAN 2020 14:17:52



LTE Band 5 / 5MHz

Lowest Channel / 64QAM

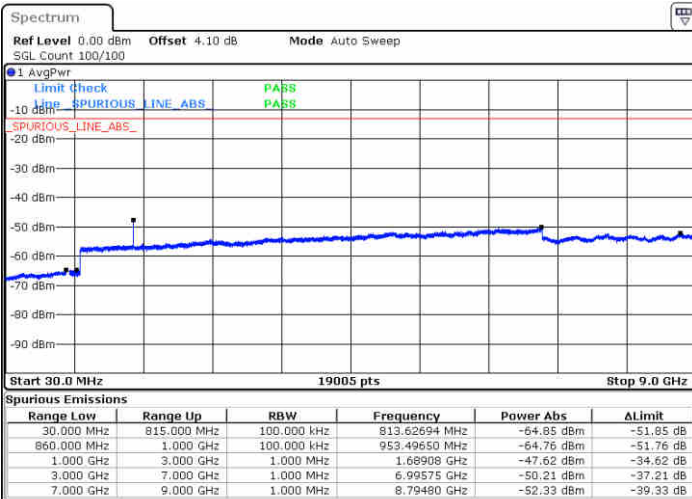
Middle Channel / 64QAM



Date: 8. JAN 2020 14:22:21

Date: 8. JAN 2020 14:23:15

Highest Channel / 64QAM



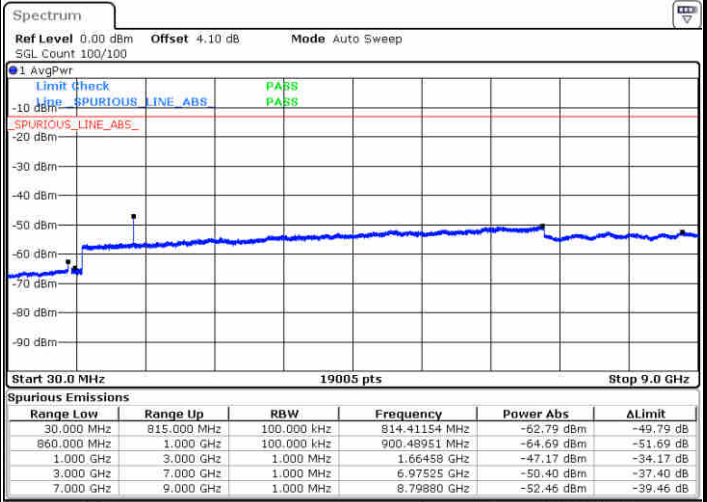
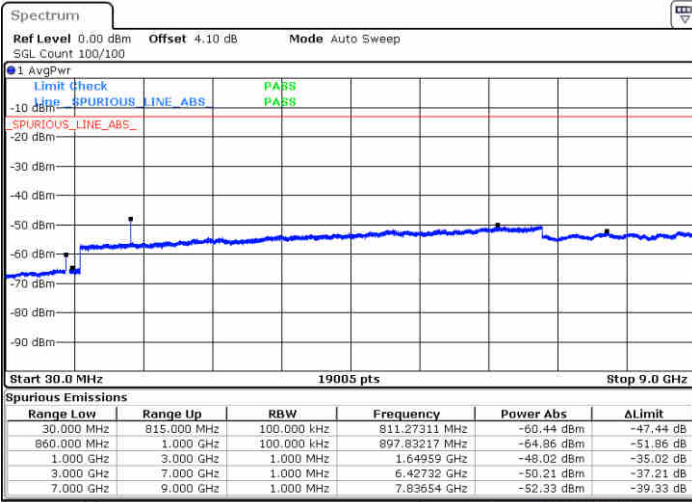
Date: 8. JAN 2020 14:28:04



LTE Band 5 / 10MHz

Lowest Channel / 64QAM

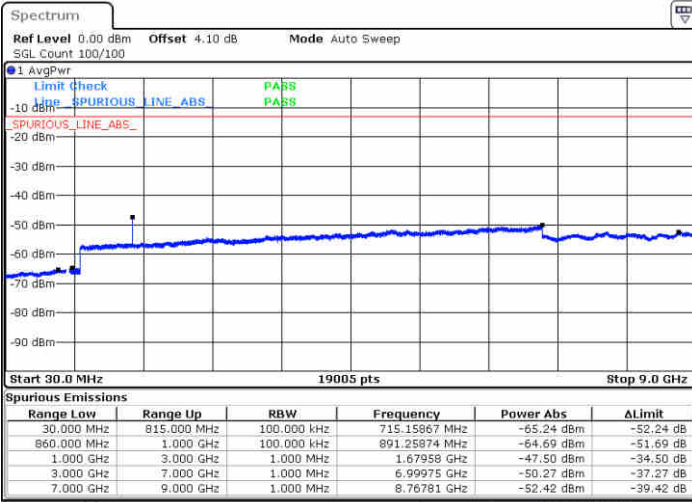
Middle Channel / 64QAM



Date: 8. JAN 2020 14:32:33

Date: 8. JAN 2020 14:33:28

Highest Channel / 64QAM



Date: 8. JAN 2020 14:38:17



Frequency Stability

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0021	PASS
40	Normal Voltage	0.0038	
30	Normal Voltage	0.0040	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0056	
0	Normal Voltage	0.0059	
-10	Normal Voltage	0.0051	
-20	Normal Voltage	0.0023	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0051	
20	Normal Voltage	0.0060	
20	Battery End Point	0.0012	

Note: Normal Voltage =12 V. ; Battery End Point (BEP) =4.5 V. ; Maximum Voltage =14 V.



LTE Band 12

Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.68	4.72	5.22	5.91	PASS
Middle CH	3.62	4.64	5.28	5.88	
Highest CH	3.59	4.72	5.59	5.91	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	6.78	6.58	PASS		
Middle CH	6.90	6.52			
Highest CH	6.75	6.52			



LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



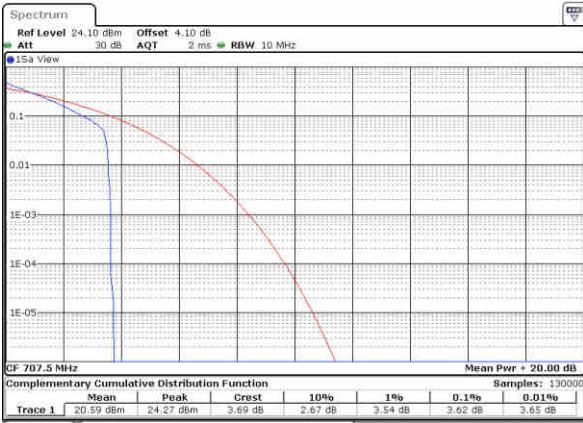
Date: 8 JAN 2020 16:47:52

Lowest Channel / Full RB



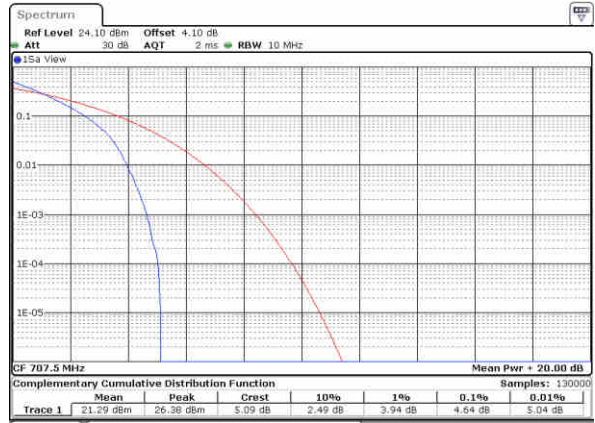
Date: 8 JAN 2020 16:48:01

Middle Channel / 1RB



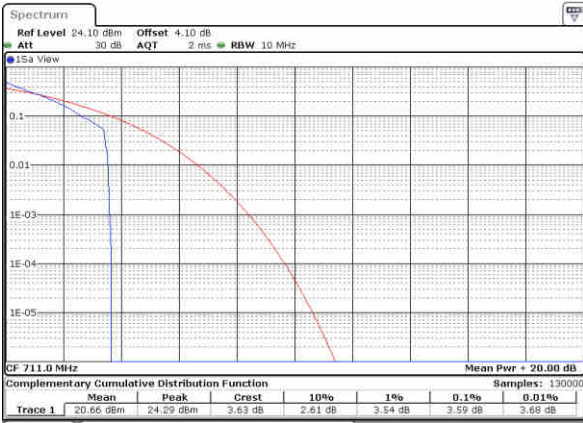
Date: 8 JAN 2020 16:48:39

Middle Channel / Full RB



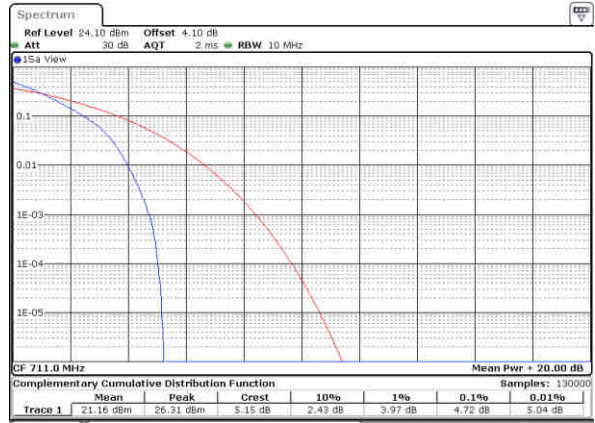
Date: 8 JAN 2020 16:48:29

Highest Channel / 1RB



Date: 8 JAN 2020 16:49:08

Highest Channel / Full RB



Date: 8 JAN 2020 16:49:19



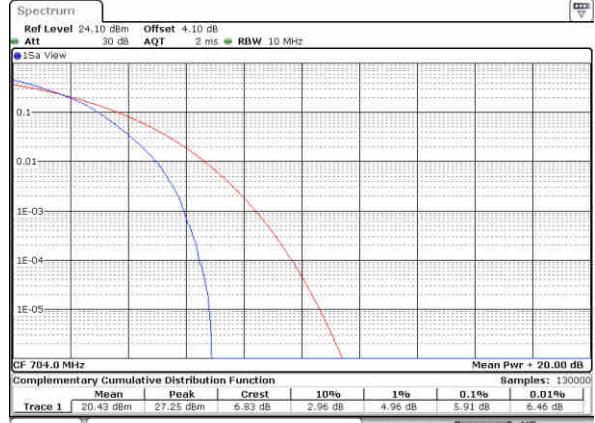
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



Date: 8 JAN 2020 16:47:43

Lowest Channel / Full RB



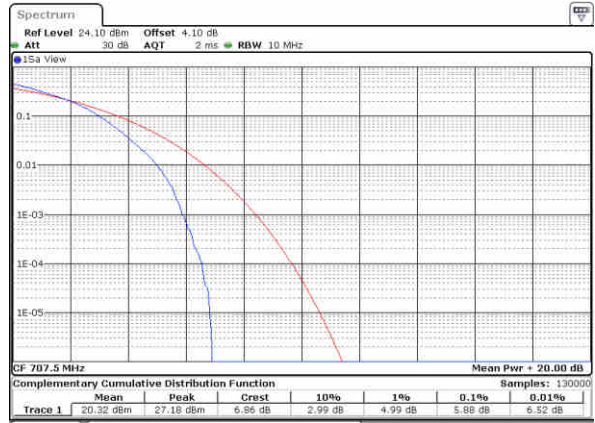
Date: 8 JAN 2020 16:48:10

Middle Channel / 1RB



Date: 8 JAN 2020 16:48:49

Middle Channel / Full RB



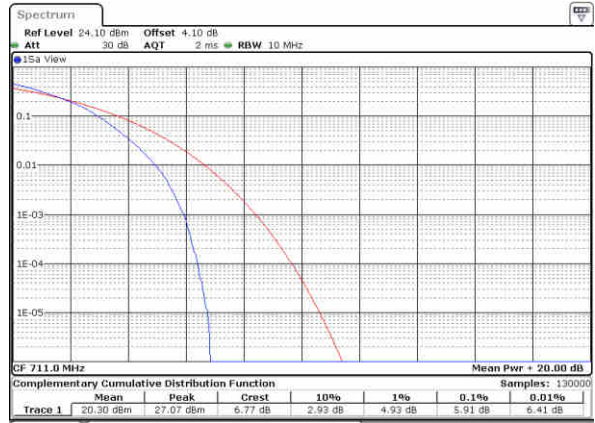
Date: 8 JAN 2020 16:48:20

Highest Channel / 1RB



Date: 8 JAN 2020 16:48:58

Highest Channel / Full RB

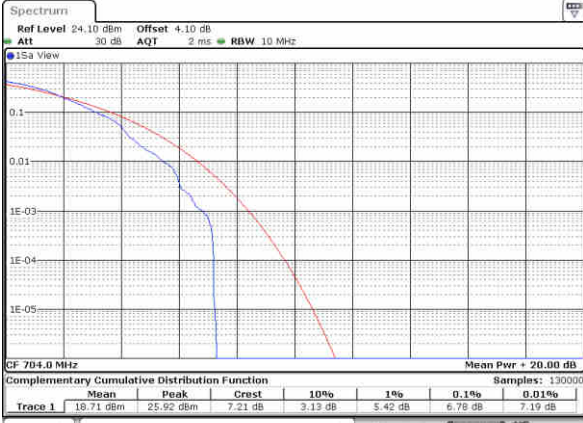


Date: 8 JAN 2020 16:48:28



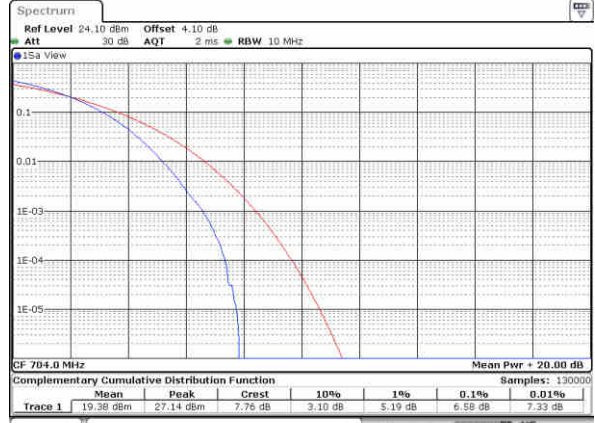
LTE Band 12 / 10MHz / 64QAM

Lowest Channel / 1RB



Date: 8 JAN 2020 16:50:14

Lowest Channel / Full RB



Date: 8 JAN 2020 16:46:52

Middle Channel / 1RB



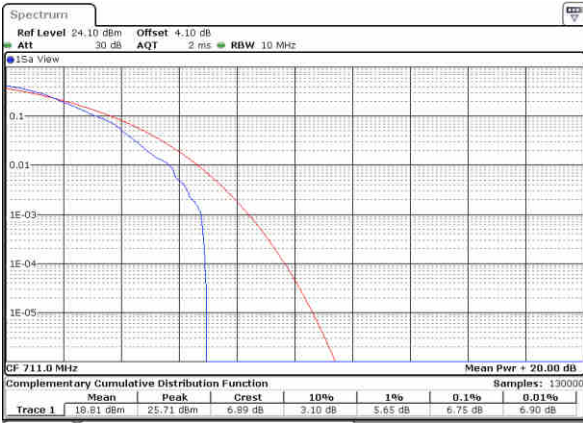
Date: 8 JAN 2020 16:50:45

Middle Channel / Full RB



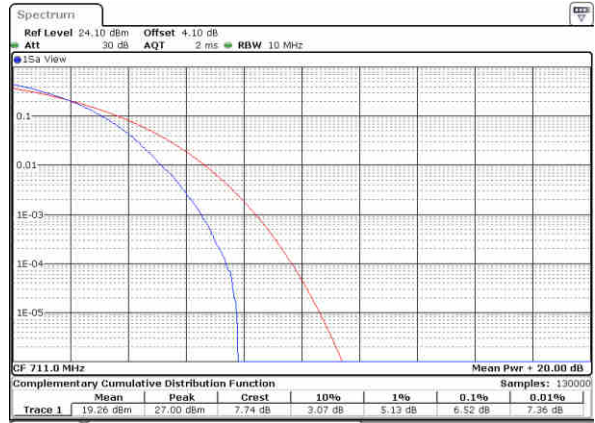
Date: 8 JAN 2020 16:47:01

Highest Channel / 1RB



Date: 8 JAN 2020 16:47:25

Highest Channel / Full RB



Date: 8 JAN 2020 16:47:34



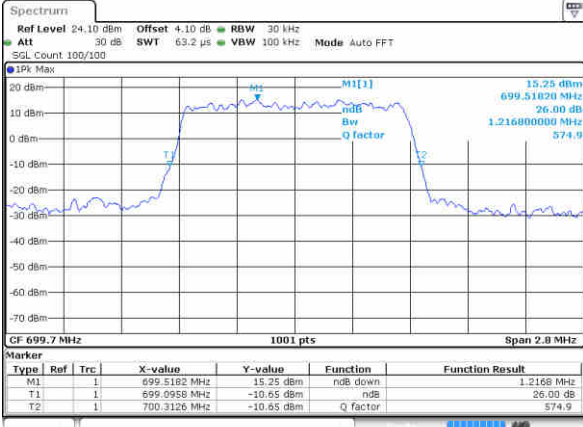
26dB Bandwidth

Mode	LTE Band 12 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		1.4MHz	3MHz	5MHz	10MHz
BW												
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM	64QAM	64QAM
Lowest CH	1.2168	1.2224	3.027	3.0509	4.905	4.875	9.75	9.85	1.2224	2.973	4.895	10.01
Middle CH	1.2336	1.2392	3.0749	3.021	4.865	4.845	9.71	9.69	1.2196	3.0749	4.915	9.75
Highest CH	1.228	1.2224	2.991	3.015	4.905	4.965	9.87	9.89	1.2336	3.003	4.895	9.85

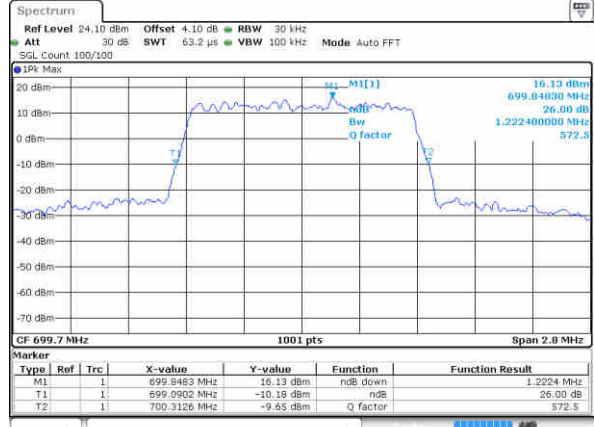


LTE Band 12

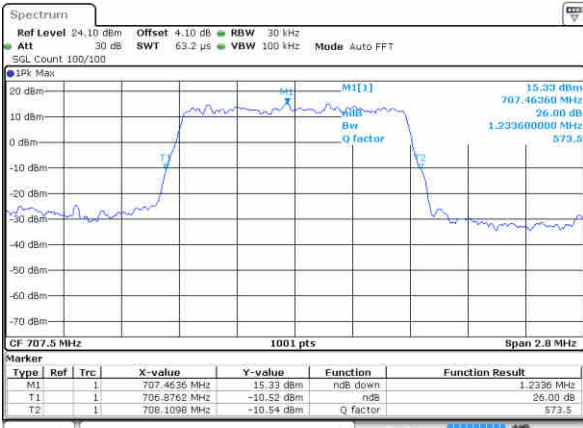
Lowest Channel / 1.4MHz / QPSK



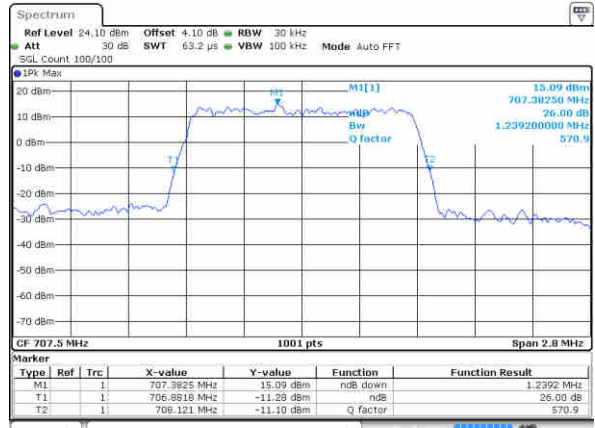
Lowest Channel / 1.4MHz / 16QAM



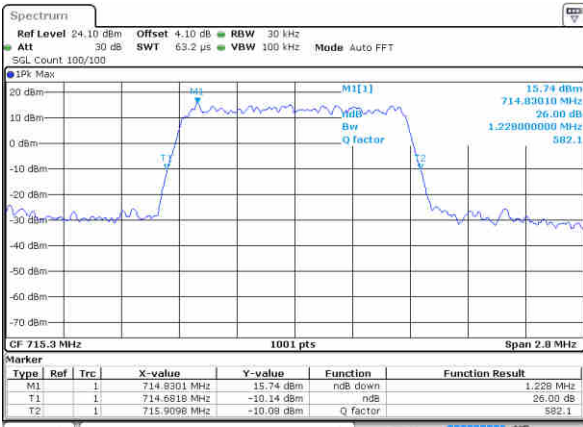
Middle Channel / 1.4MHz / QPSK



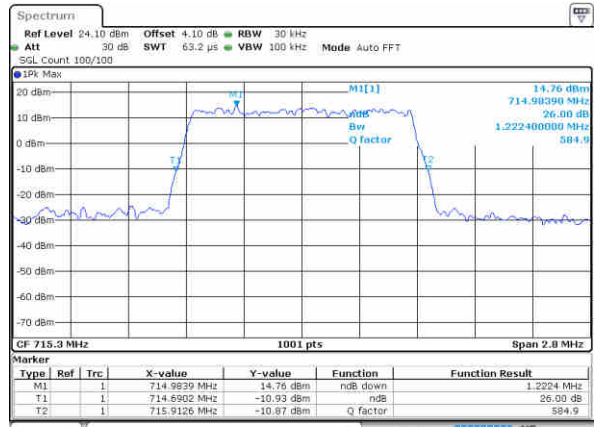
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK



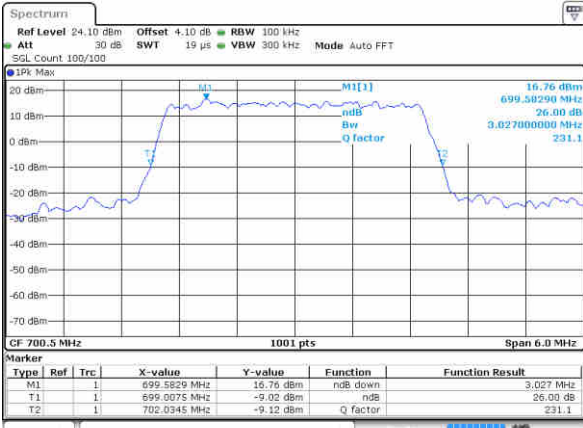
Highest Channel / 1.4MHz / 16QAM





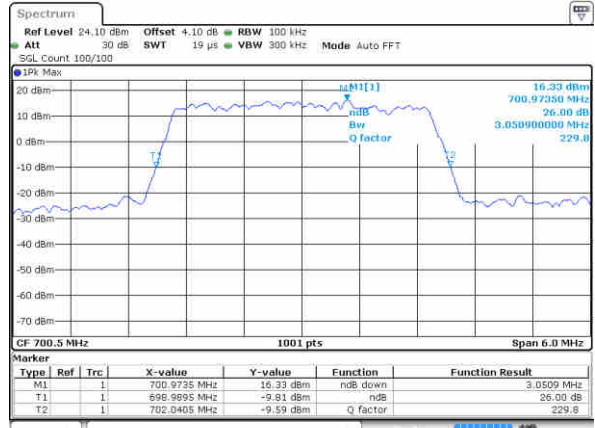
LTE Band 12

Lowest Channel / 3MHz / QPSK



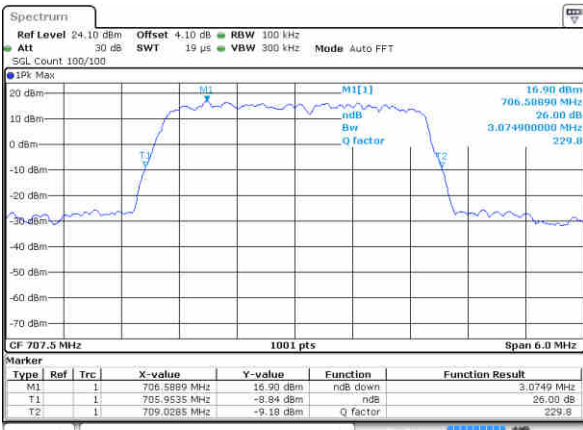
Date: 8 JAN 2020 17:09:34

Lowest Channel / 3MHz / 16QAM



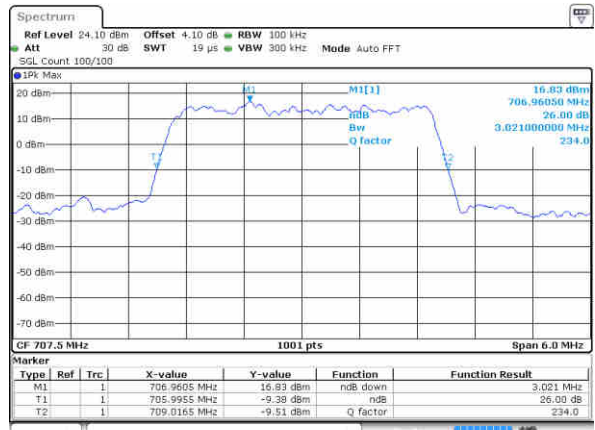
Date: 8 JAN 2020 17:09:24

Middle Channel / 3MHz / QPSK



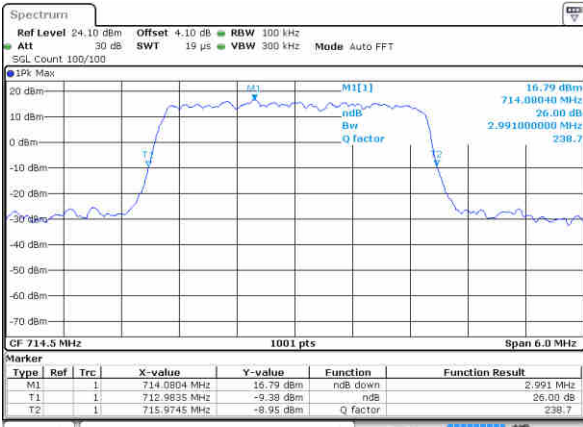
Date: 8 JAN 2020 17:09:04

Middle Channel / 3MHz / 16QAM



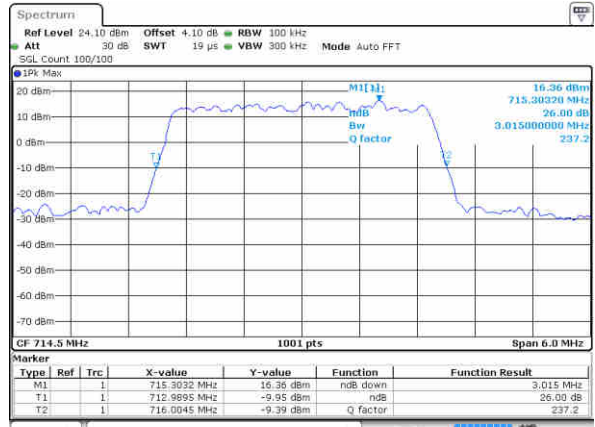
Date: 8 JAN 2020 17:09:14

Highest Channel / 3MHz / QPSK



Date: 8 JAN 2020 17:08:54

Highest Channel / 3MHz / 16QAM

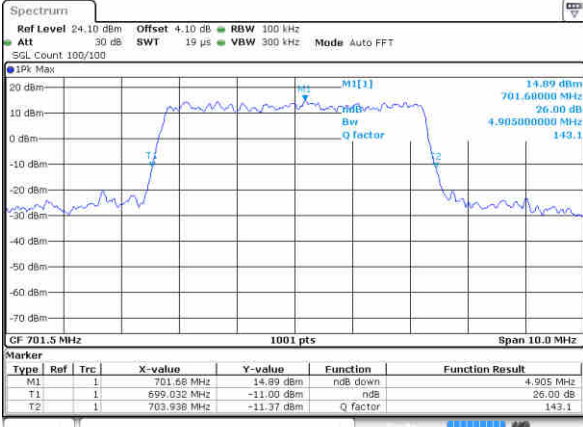


Date: 8 JAN 2020 17:08:44



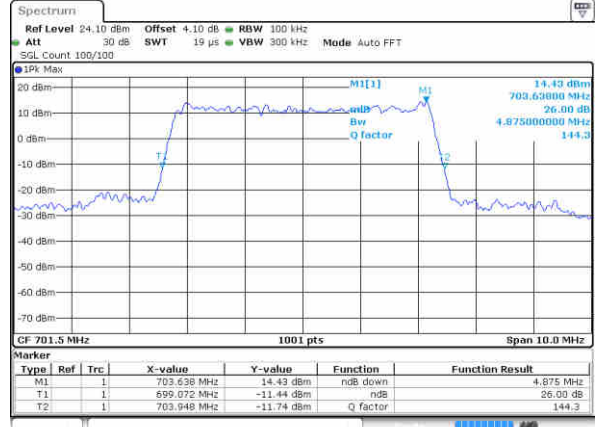
LTE Band 12

Lowest Channel / 5MHz / QPSK



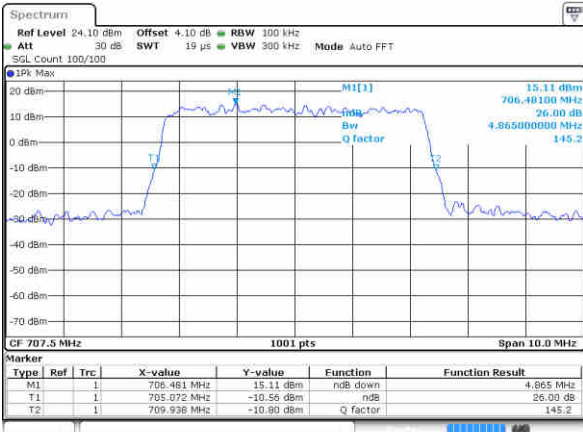
Date: 8 JAN 2020 17:23:17

Lowest Channel / 5MHz / 16QAM



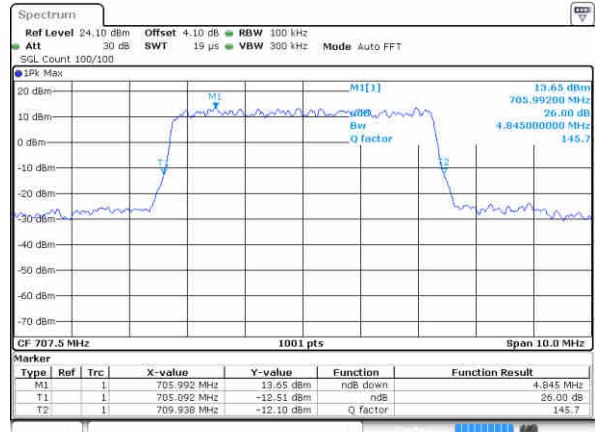
Date: 8 JAN 2020 17:23:07

Middle Channel / 5MHz / QPSK



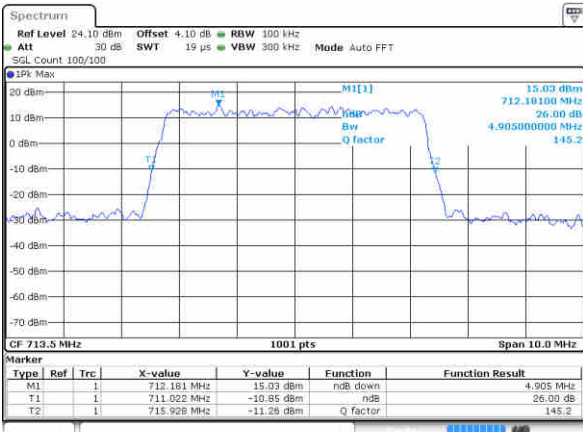
Date: 8 JAN 2020 17:22:47

Middle Channel / 5MHz / 16QAM



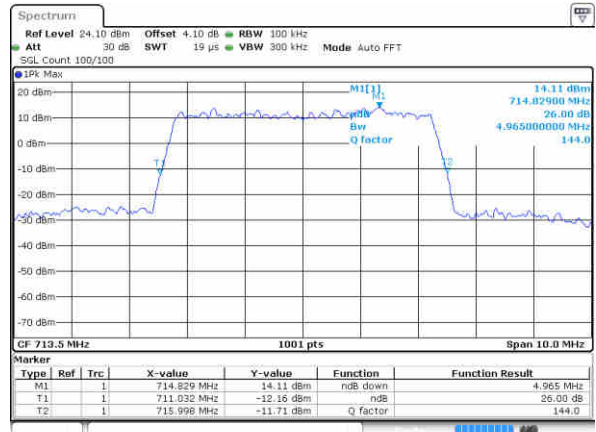
Date: 8 JAN 2020 17:22:57

Highest Channel / 5MHz / QPSK



Date: 8 JAN 2020 17:22:37

Highest Channel / 5MHz / 16QAM

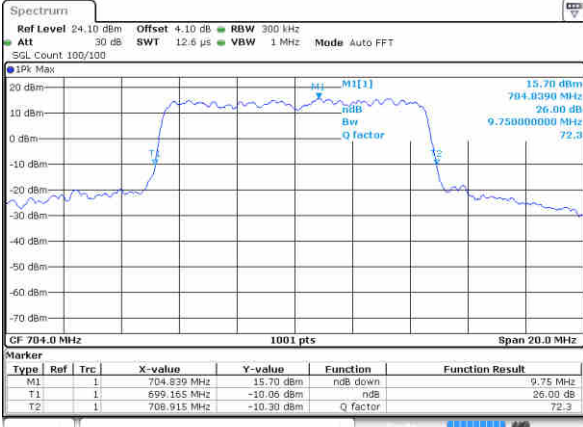


Date: 8 JAN 2020 17:22:27



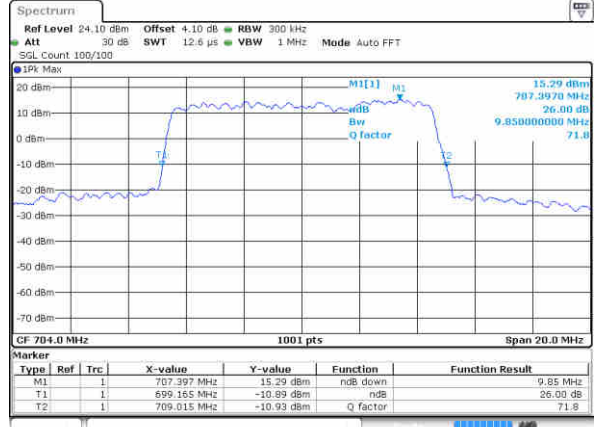
LTE Band 12

Lowest Channel / 10MHz / QPSK



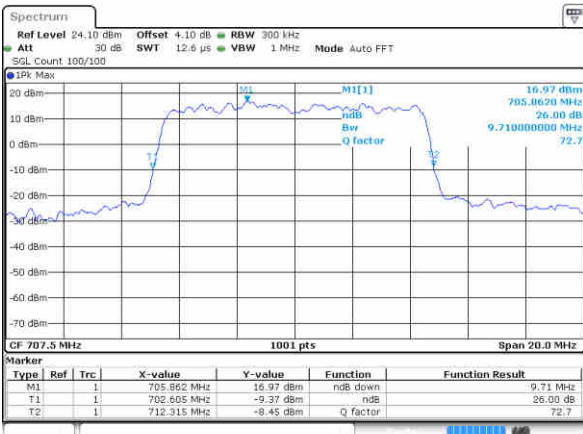
Date: 8 JAN 2020 17:39:43

Lowest Channel / 10MHz / 16QAM



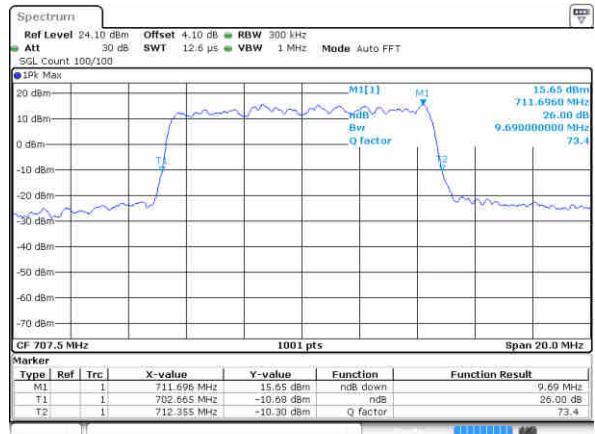
Date: 8 JAN 2020 17:39:33

Middle Channel / 10MHz / QPSK



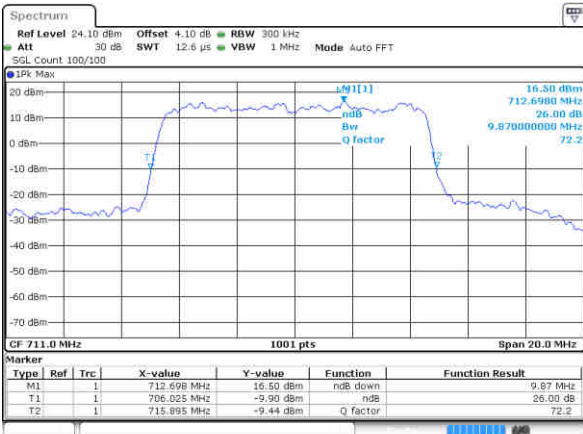
Date: 8 JAN 2020 17:39:13

Middle Channel / 10MHz / 16QAM



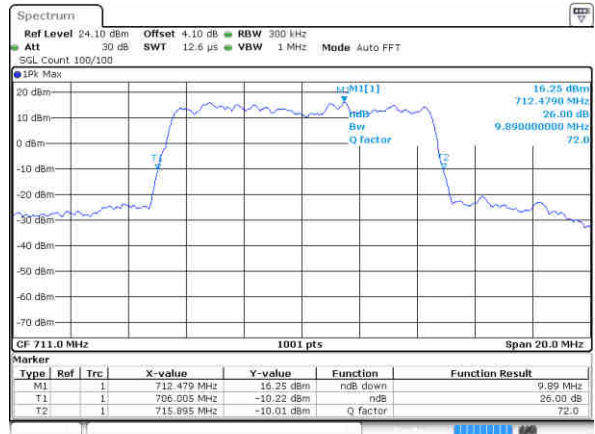
Date: 8 JAN 2020 17:39:23

Highest Channel / 10MHz / QPSK



Date: 8 JAN 2020 17:39:03

Highest Channel / 10MHz / 16QAM

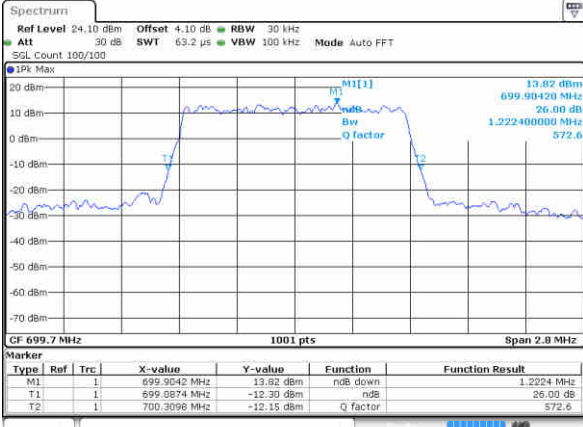


Date: 8 JAN 2020 17:38:53



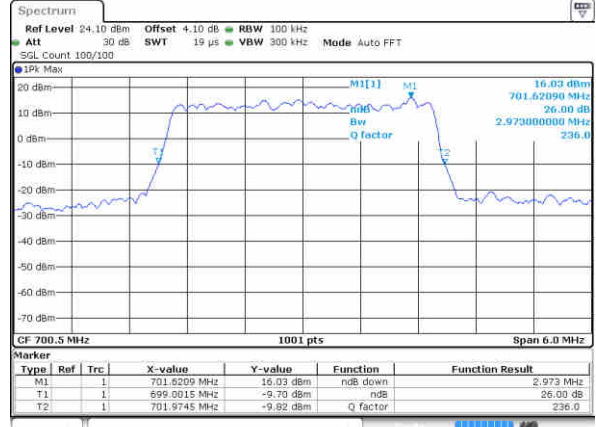
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



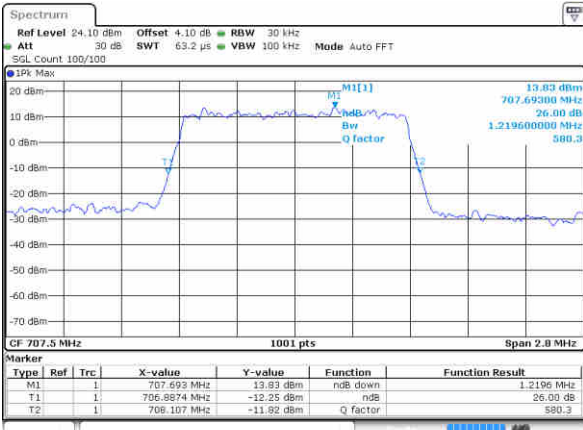
Date: 8 JAN 2020 17:54:29

Lowest Channel / 3MHz / 64QAM



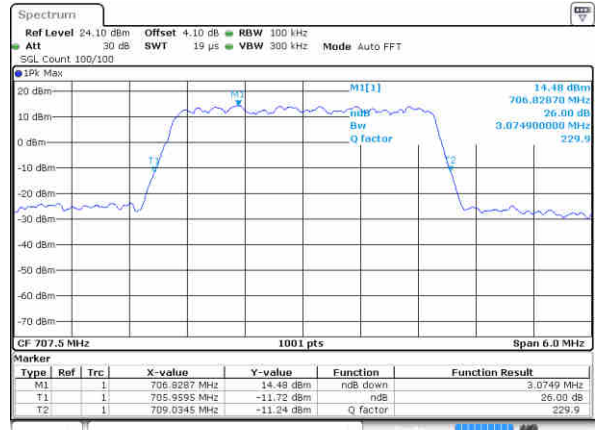
Date: 8 JAN 2020 16:05:25

Middle Channel / 1.4MHz / 64QAM



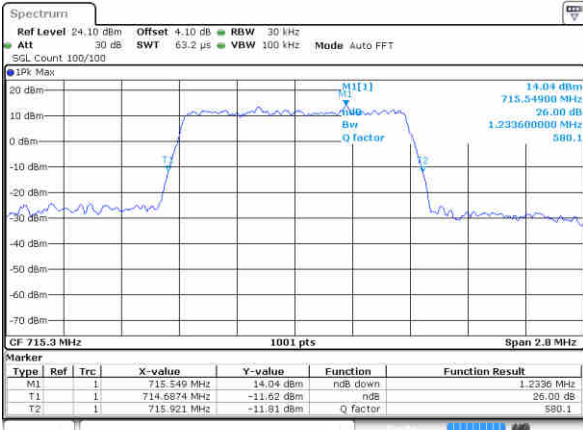
Date: 8 JAN 2020 17:54:49

Middle Channel / 3MHz / 64QAM



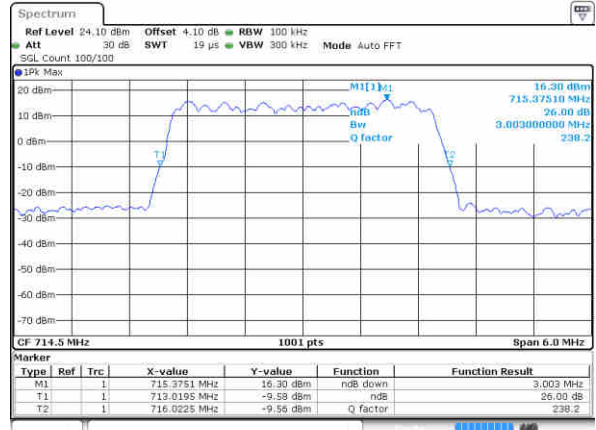
Date: 8 JAN 2020 16:05:45

Highest Channel / 1.4MHz / 64QAM



Date: 8 JAN 2020 17:55:09

Highest Channel / 3MHz / 64QAM

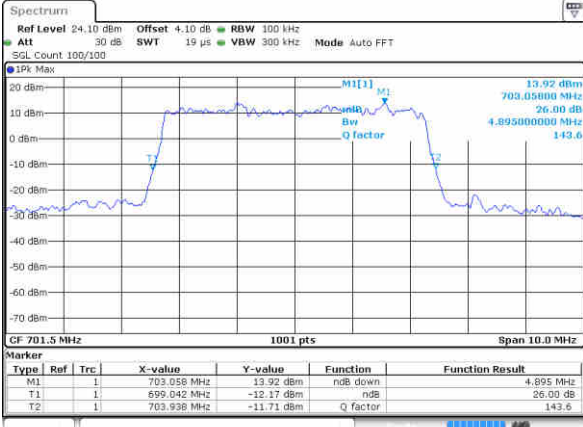


Date: 8 JAN 2020 16:06:05



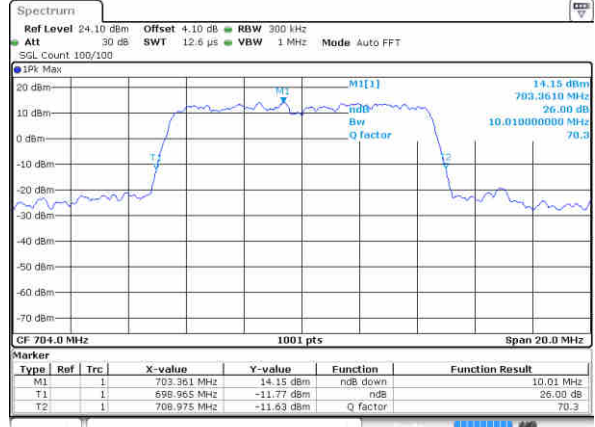
LTE Band 12

Lowest Channel / 5MHz / 64QAM



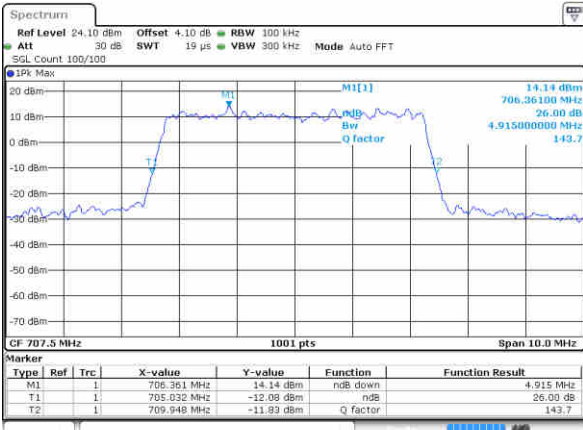
Date: 8 JAN 2020 16:10:55

Lowest Channel / 10MHz / 64QAM



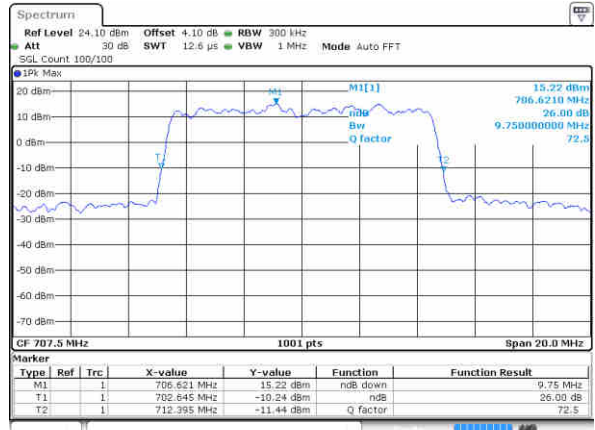
Date: 8 JAN 2020 16:21:51

Middle Channel / 5MHz / 64QAM



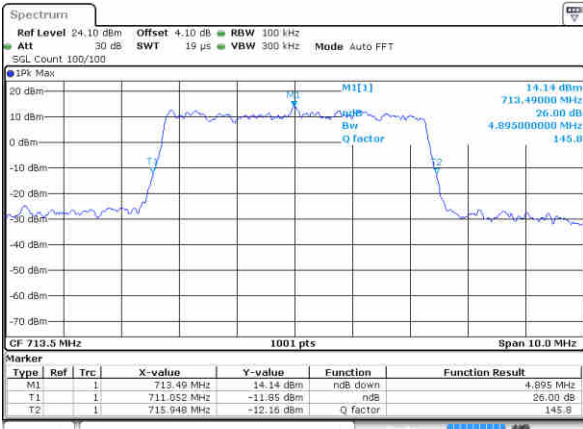
Date: 8 JAN 2020 16:11:15

Middle Channel / 10MHz / 64QAM



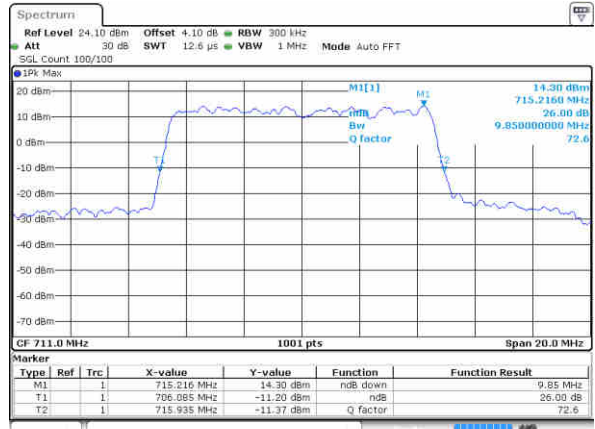
Date: 8 JAN 2020 16:22:11

Highest Channel / 5MHz / 64QAM



Date: 8 JAN 2020 16:11:35

Highest Channel / 10MHz / 64QAM



Date: 8 JAN 2020 16:22:31



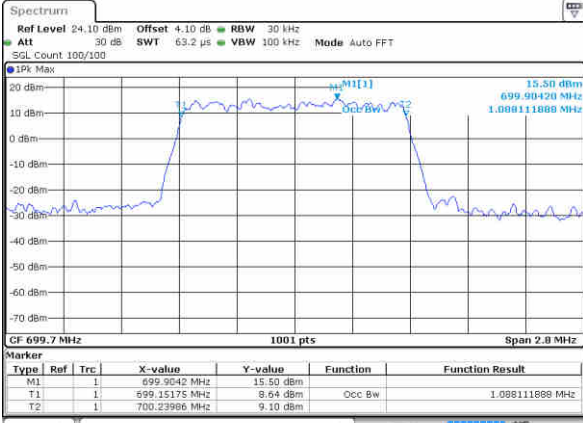
Occupied Bandwidth

Mode	LTE Band 12 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		1.4MHz	3MHz	5MHz	10MHz
BW												
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM	64QAM	64QAM
Lowest CH	1.09	1.09	2.72	2.70	4.51	4.50	9.03	9.01	1.09	2.72	4.49	9.05
Middle CH	1.09	1.09	2.72	2.72	4.49	4.51	9.01	9.01	1.09	2.72	4.49	8.99
Highest CH	1.08	1.09	2.70	2.70	4.47	4.48	9.01	9.01	1.09	2.73	4.49	8.97



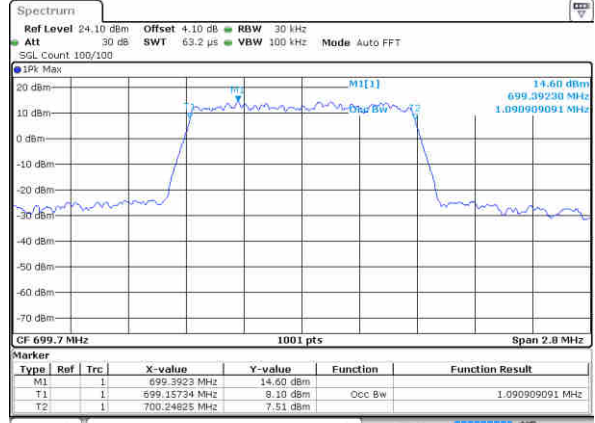
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



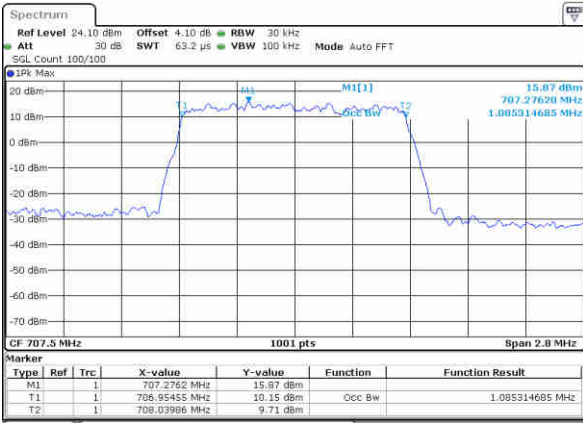
Date: 8 JAN 2020 16:51:18

Lowest Channel / 1.4MHz / 16QAM



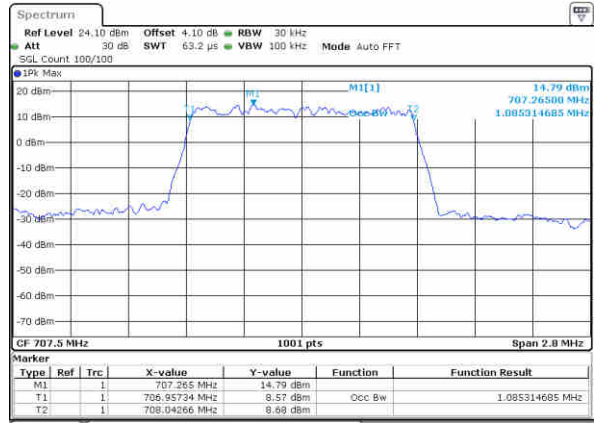
Date: 8 JAN 2020 16:51:28

Middle Channel / 1.4MHz / QPSK



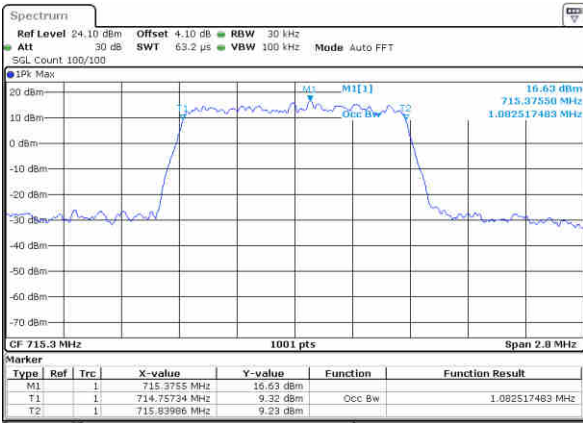
Date: 8 JAN 2020 16:51:48

Middle Channel / 1.4MHz / 16QAM



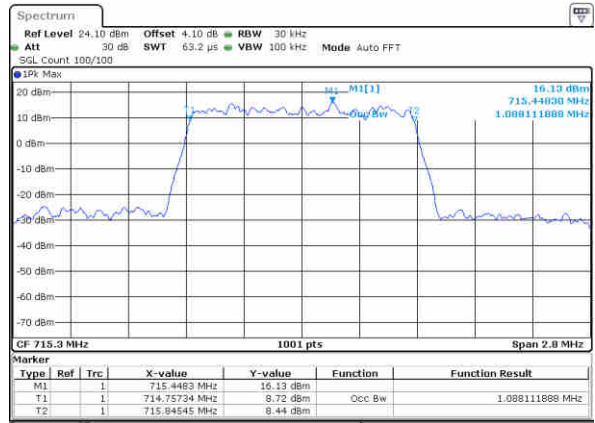
Date: 8 JAN 2020 16:51:38

Highest Channel / 1.4MHz / QPSK



Date: 8 JAN 2020 16:51:58

Highest Channel / 1.4MHz / 16QAM

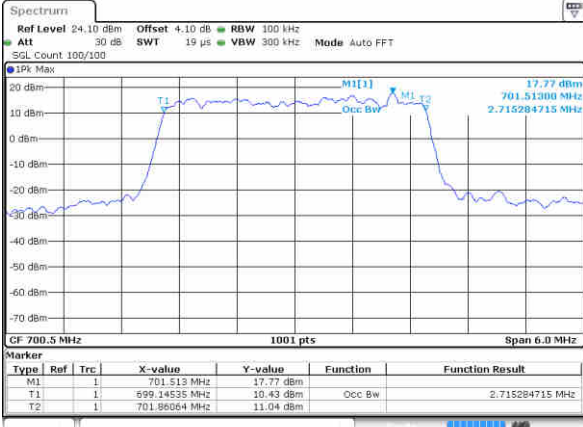


Date: 8 JAN 2020 16:52:08



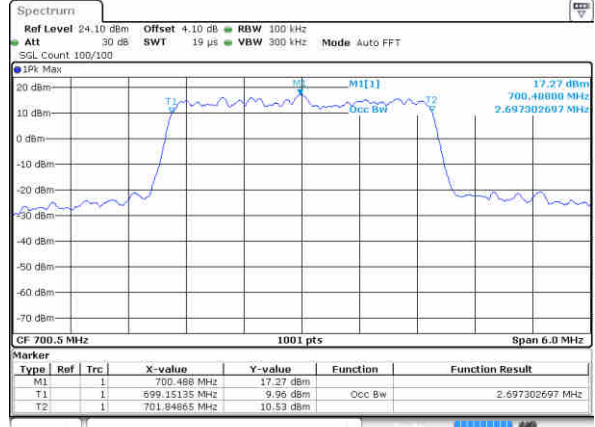
LTE Band 12

Lowest Channel / 3MHz / QPSK



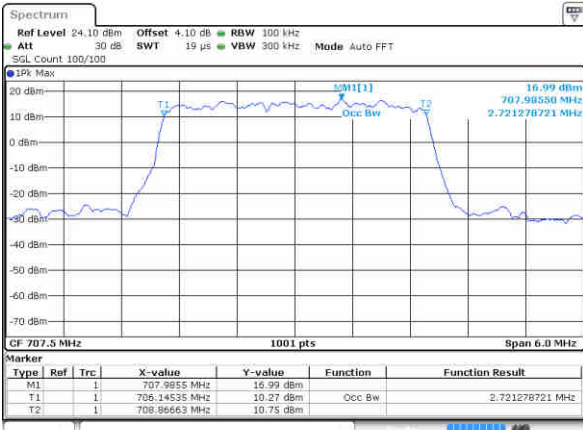
Date: 8 JAN 2020 17:07:44

Lowest Channel / 3MHz / 16QAM



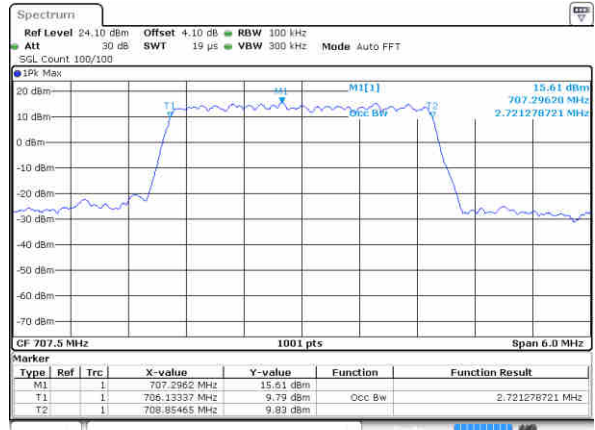
Date: 8 JAN 2020 17:07:54

Middle Channel / 3MHz / QPSK



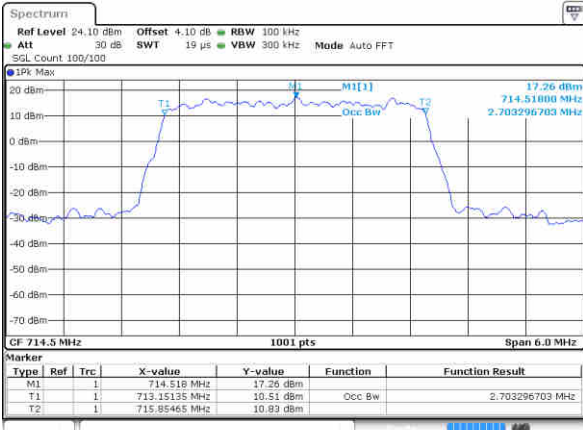
Date: 8 JAN 2020 17:08:14

Middle Channel / 3MHz / 16QAM



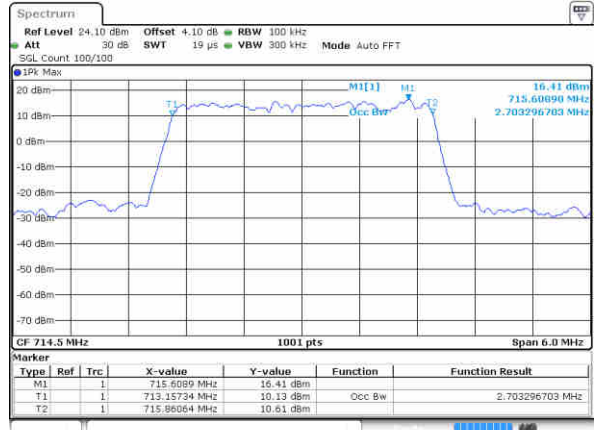
Date: 8 JAN 2020 17:08:04

Highest Channel / 3MHz / QPSK



Date: 8 JAN 2020 17:08:24

Highest Channel / 3MHz / 16QAM

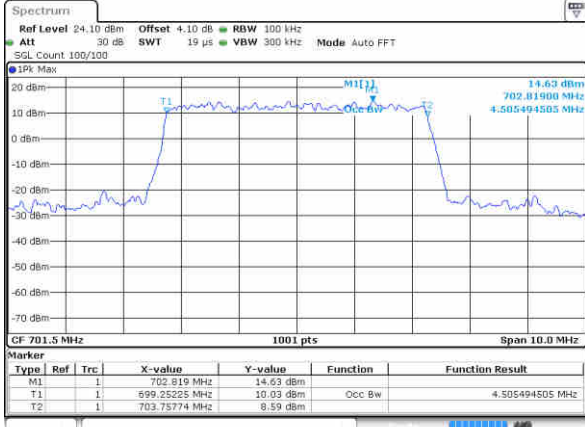


Date: 8 JAN 2020 17:08:34



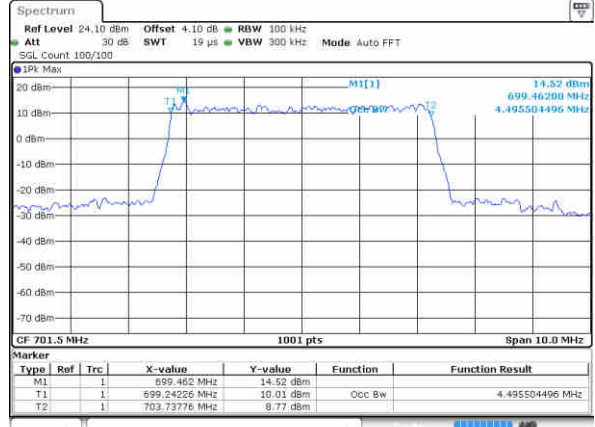
LTE Band 12

Lowest Channel / 5MHz / QPSK



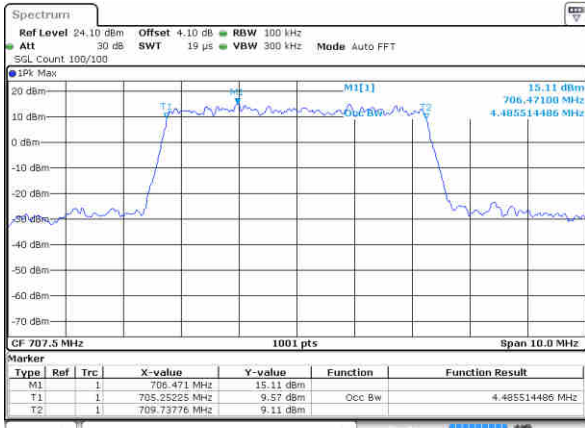
Date: 8 JAN 2020 17:21:27

Lowest Channel / 5MHz / 16QAM



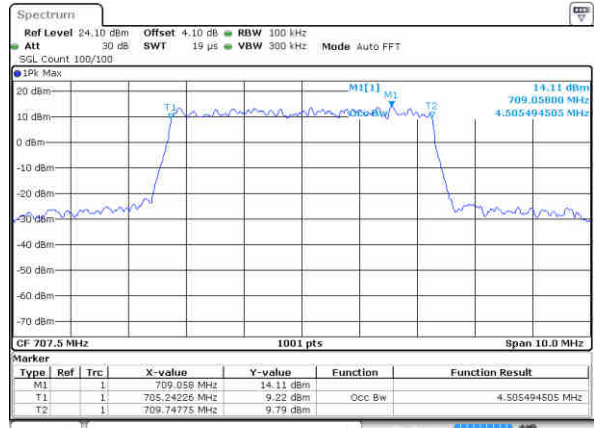
Date: 8 JAN 2020 17:21:37

Middle Channel / 5MHz / QPSK



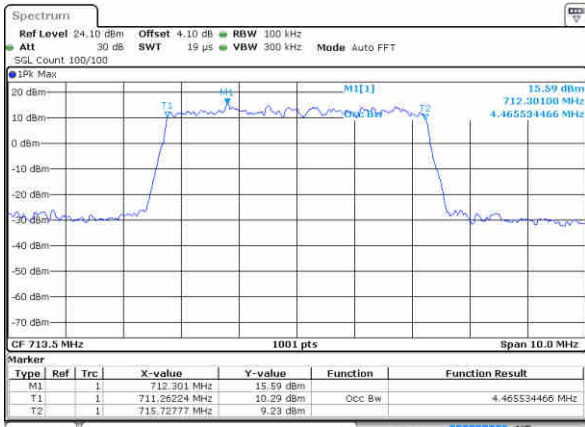
Date: 8 JAN 2020 17:21:57

Middle Channel / 5MHz / 16QAM



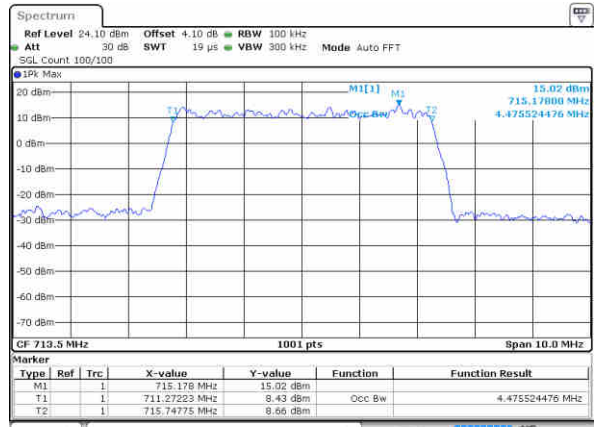
Date: 8 JAN 2020 17:21:47

Highest Channel / 5MHz / QPSK



Date: 8 JAN 2020 17:22:07

Highest Channel / 5MHz / 16QAM

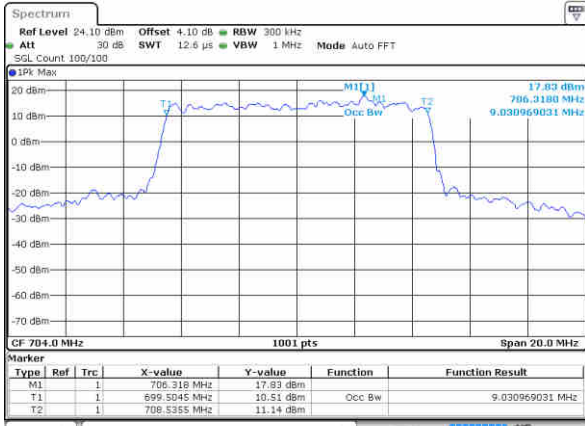


Date: 8 JAN 2020 17:22:17



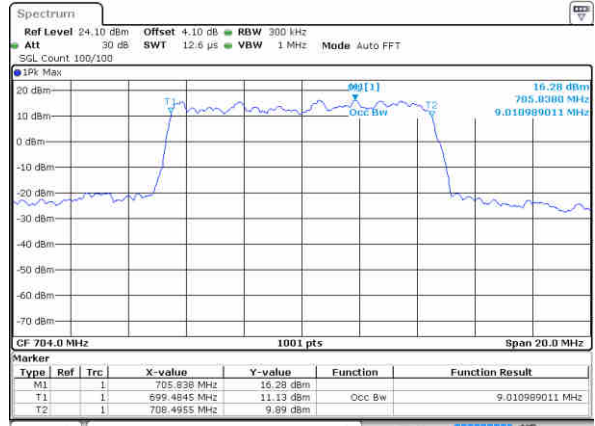
LTE Band 12

Lowest Channel / 10MHz / QPSK



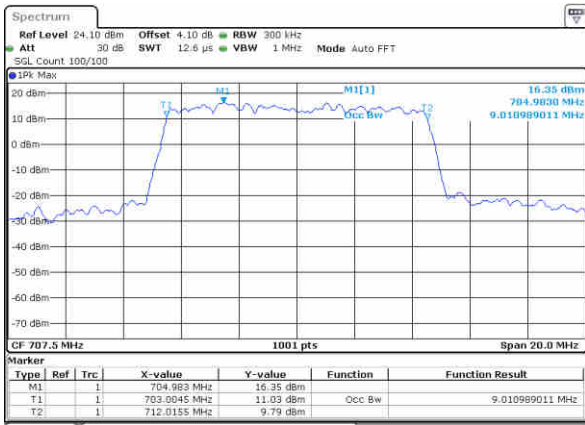
Date: 8 JAN 2020 17:37:53

Lowest Channel / 10MHz / 16QAM



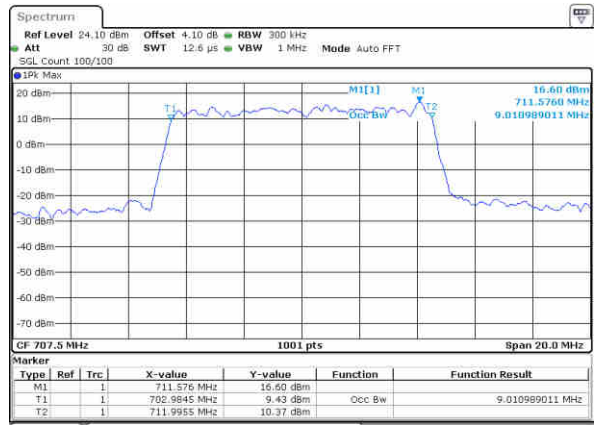
Date: 8 JAN 2020 17:38:03

Middle Channel / 10MHz / QPSK



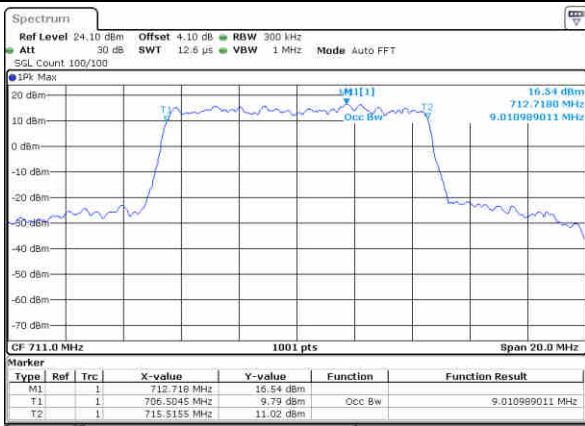
Date: 8 JAN 2020 17:38:23

Middle Channel / 10MHz / 16QAM



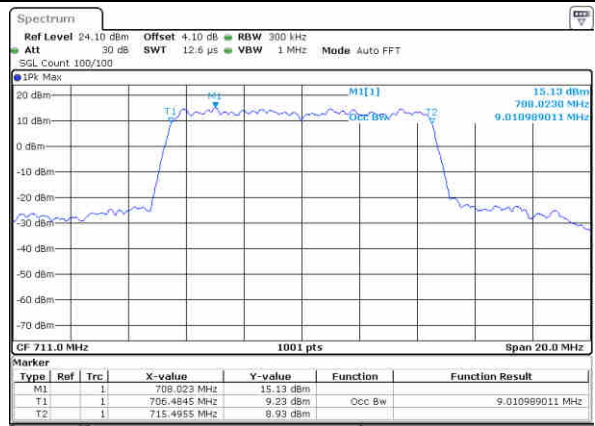
Date: 8 JAN 2020 17:38:13

Highest Channel / 10MHz / QPSK



Date: 8 JAN 2020 17:38:33

Highest Channel / 10MHz / 16QAM

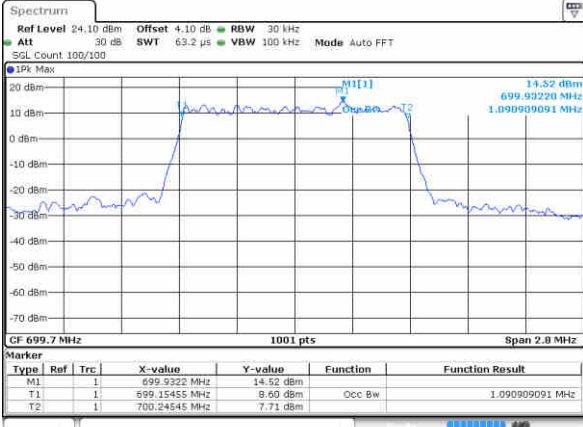


Date: 8 JAN 2020 17:38:43



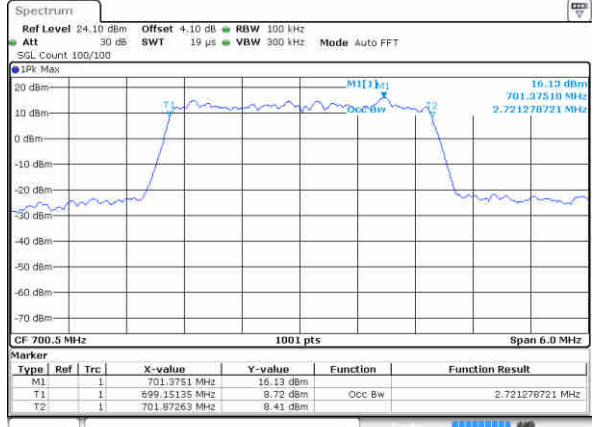
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



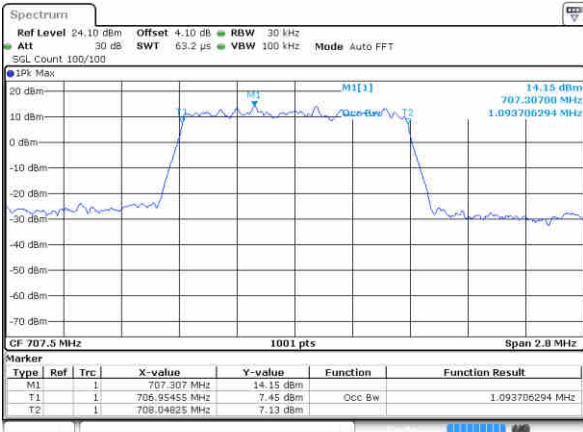
Date: 8 JAN 2020 17:54:19

Lowest Channel / 3MHz / 64QAM



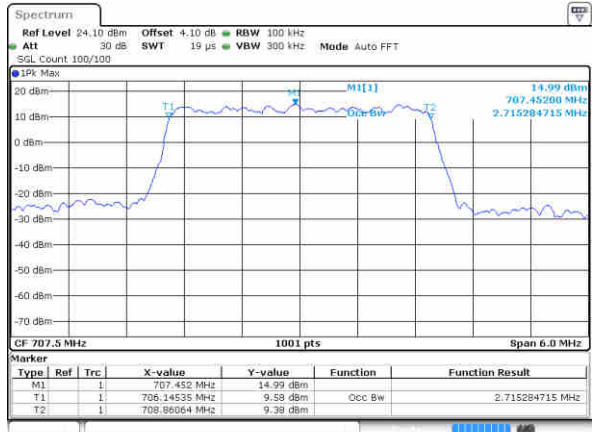
Date: 8 JAN 2020 18:05:15

Middle Channel / 1.4MHz / 64QAM



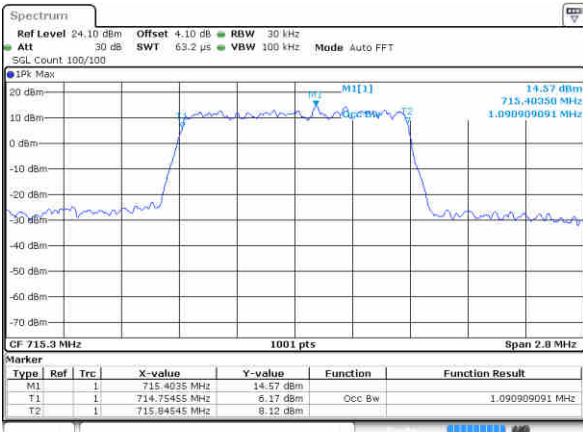
Date: 8 JAN 2020 17:54:39

Middle Channel / 3MHz / 64QAM



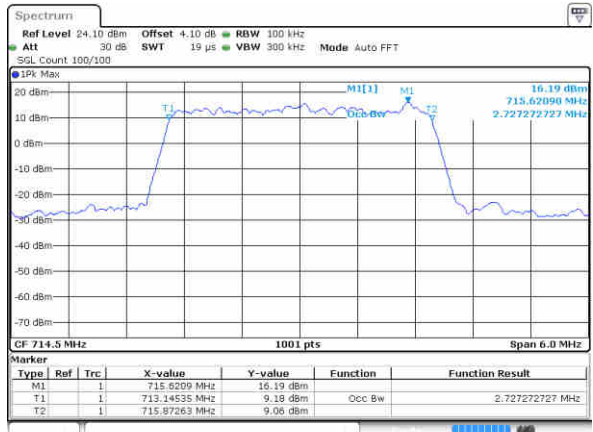
Date: 8 JAN 2020 18:05:35

Highest Channel / 1.4MHz / 64QAM



Date: 8 JAN 2020 17:54:59

Highest Channel / 3MHz / 64QAM

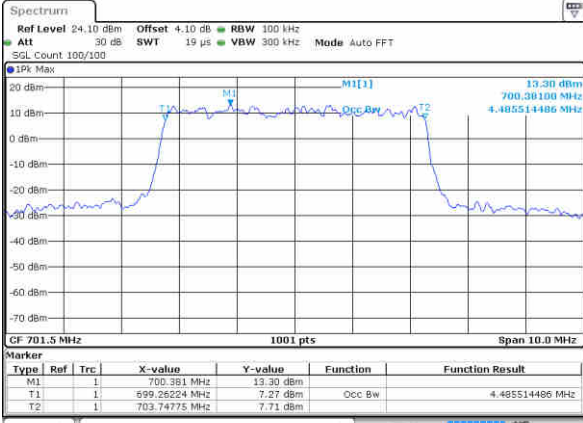


Date: 8 JAN 2020 18:05:55



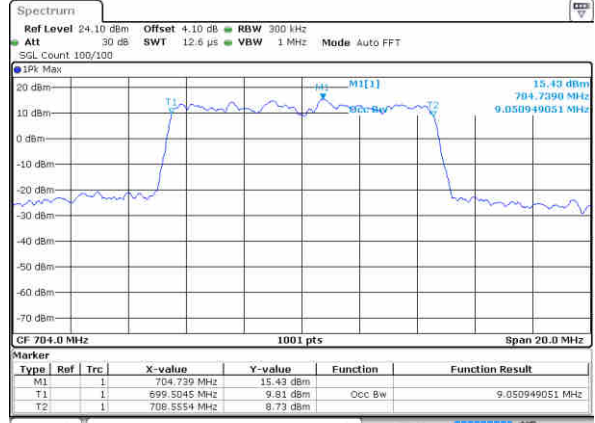
LTE Band 12

Lowest Channel / 5MHz / 64QAM



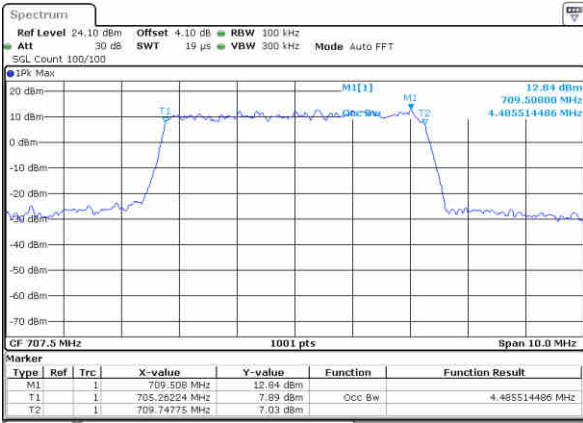
Date: 8 JAN 2020 16:10:45

Lowest Channel / 10MHz / 64QAM



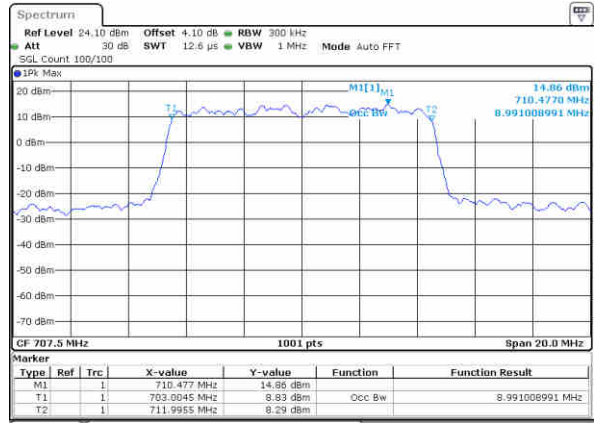
Date: 8 JAN 2020 16:21:41

Middle Channel / 5MHz / 64QAM



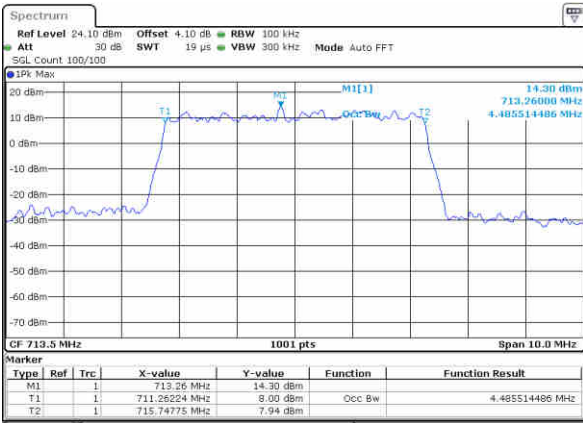
Date: 8 JAN 2020 16:11:05

Middle Channel / 10MHz / 64QAM



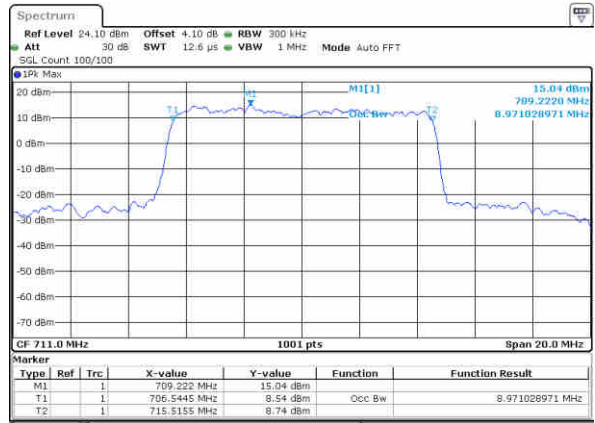
Date: 8 JAN 2020 16:22:01

Highest Channel / 5MHz / 64QAM



Date: 8 JAN 2020 16:11:25

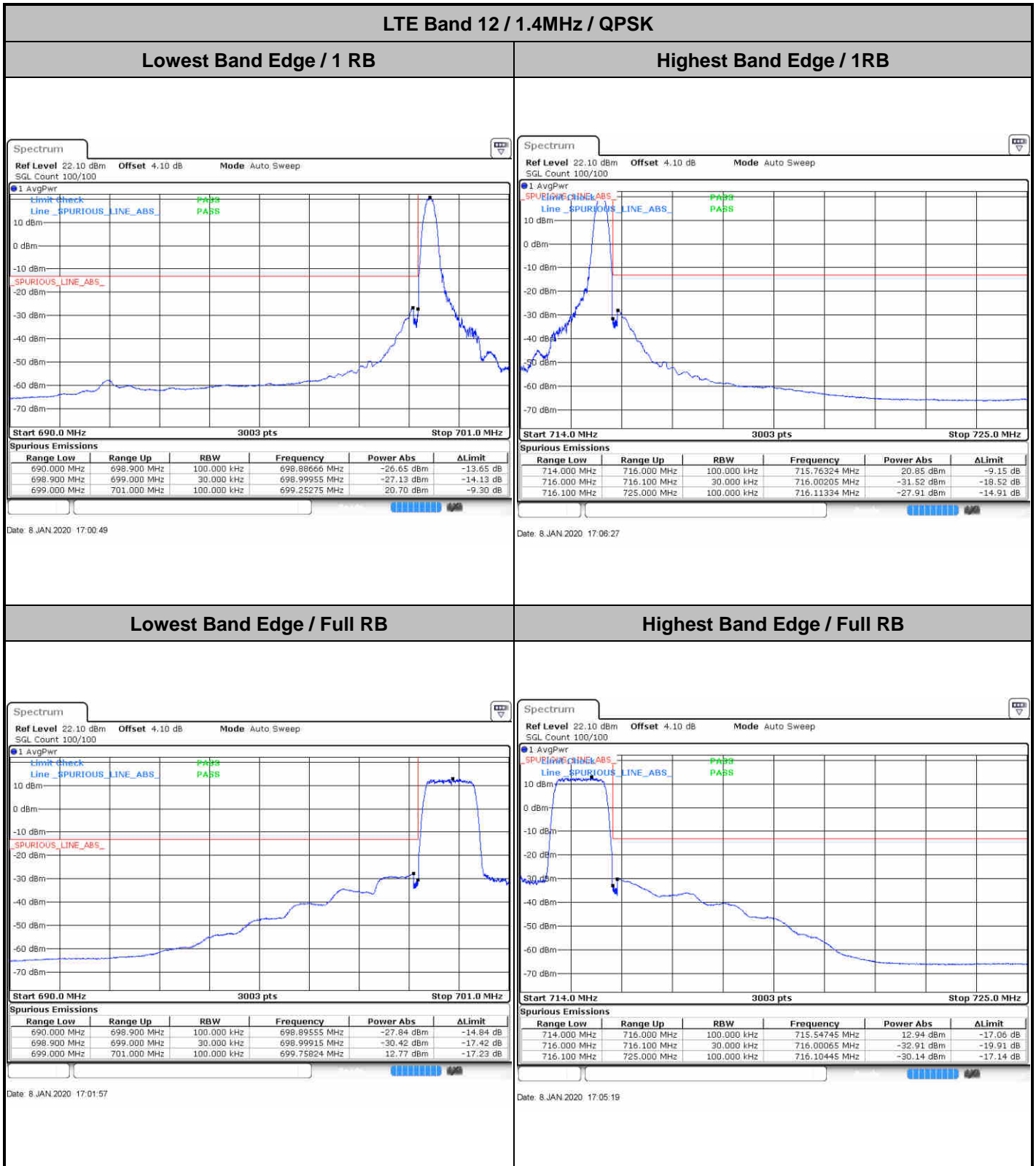
Highest Channel / 10MHz / 64QAM



Date: 8 JAN 2020 16:22:21



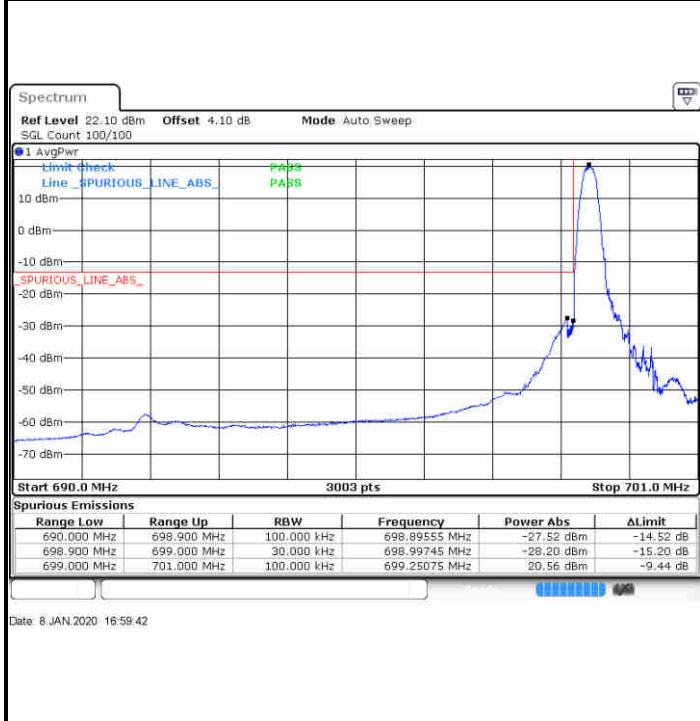
Conducted Band Edge



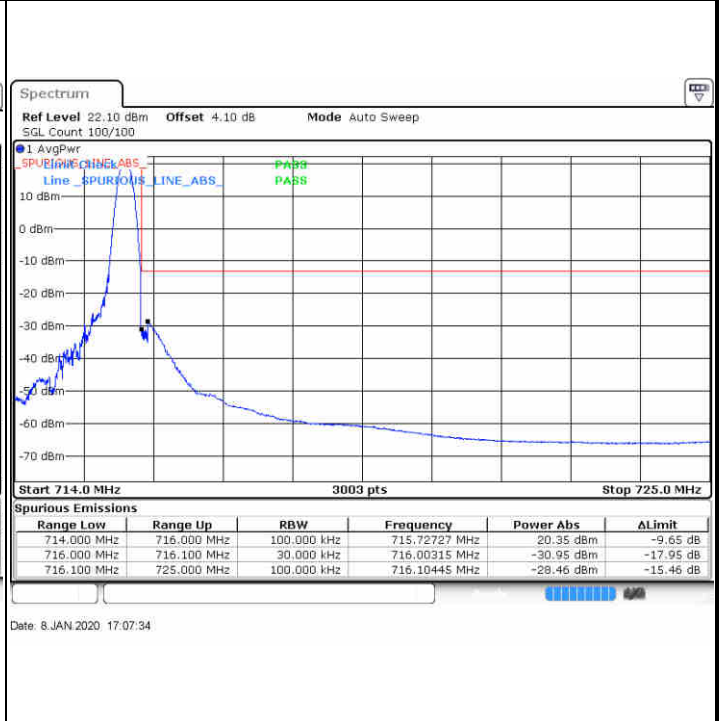


LTE Band 12 / 1.4MHz / 16QAM

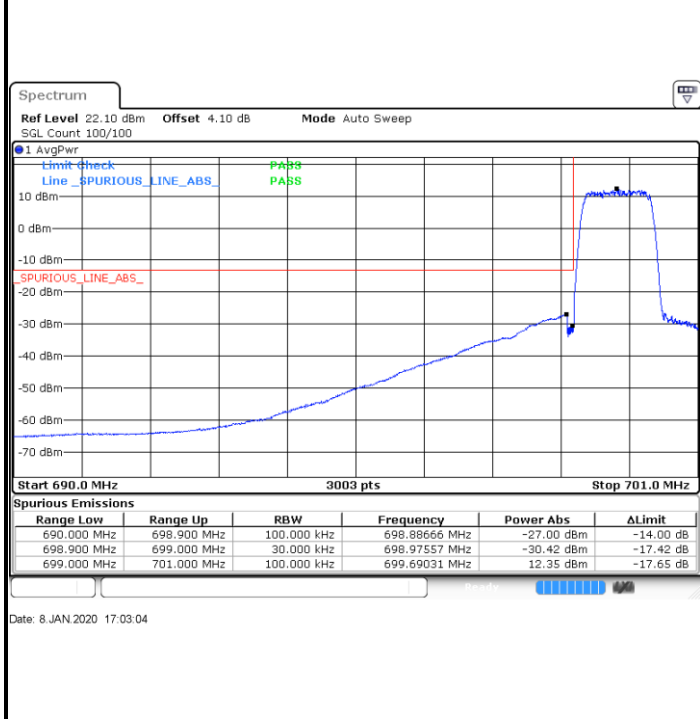
Lowest Band Edge / 1 RB



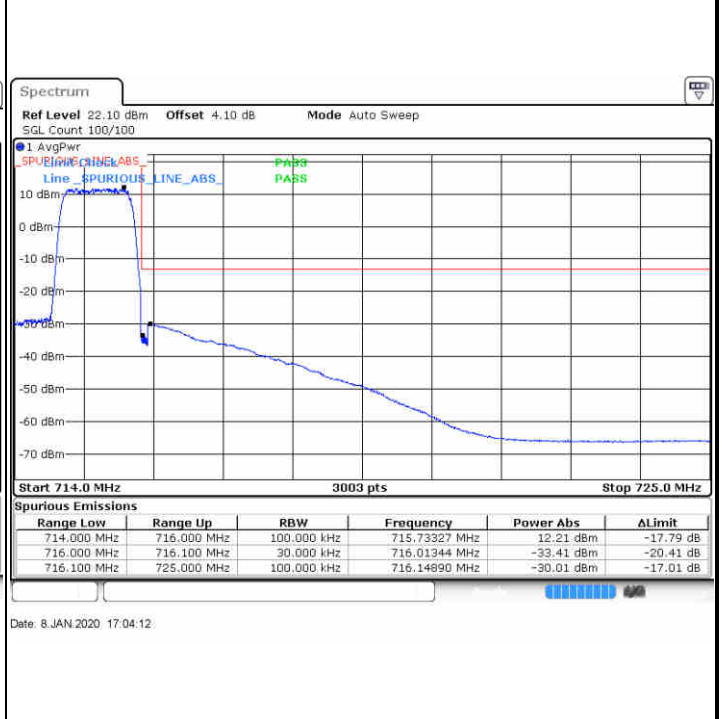
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



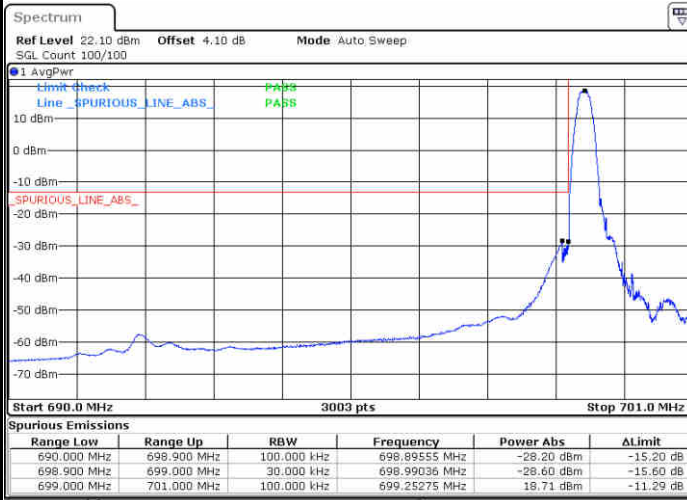
Highest Band Edge / Full RB





LTE Band 12 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



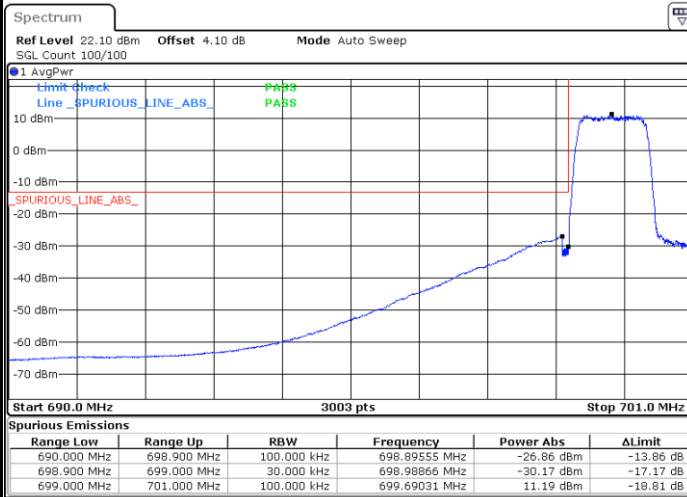
Date: 8 JAN 2020 17:58:32

Highest Band Edge / 1 RB



Date: 8 JAN 2020 17:58:17

Lowest Band Edge / Full RB



Date: 8 JAN 2020 17:59:39

Highest Band Edge / Full RB

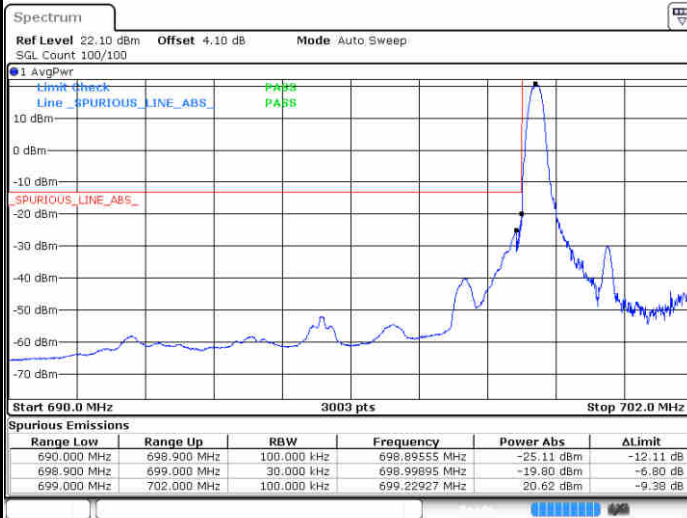


Date: 8 JAN 2020 17:57:24



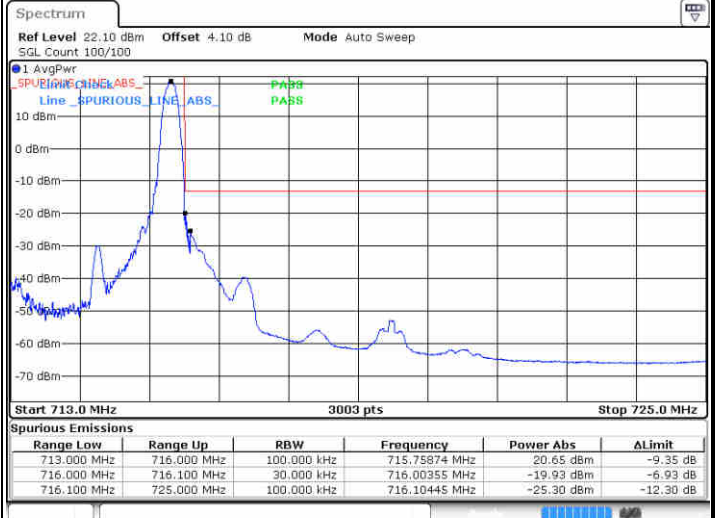
LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



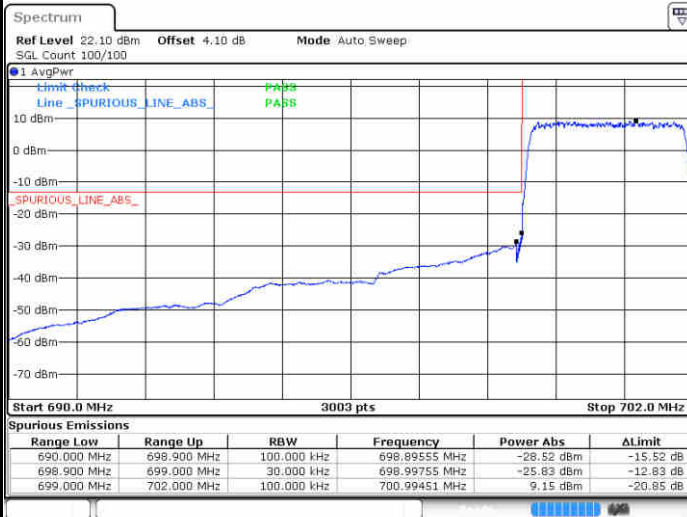
Date: 8 JAN 2020 17:14:32

Highest Band Edge / 1 RB



Date: 8 JAN 2020 17:20:10

Lowest Band Edge / Full RB



Date: 8 JAN 2020 17:15:40

Highest Band Edge / Full RB

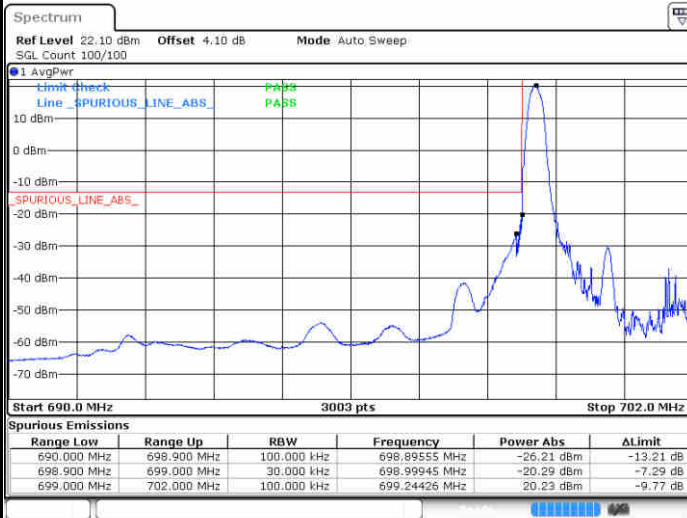


Date: 8 JAN 2020 17:19:02



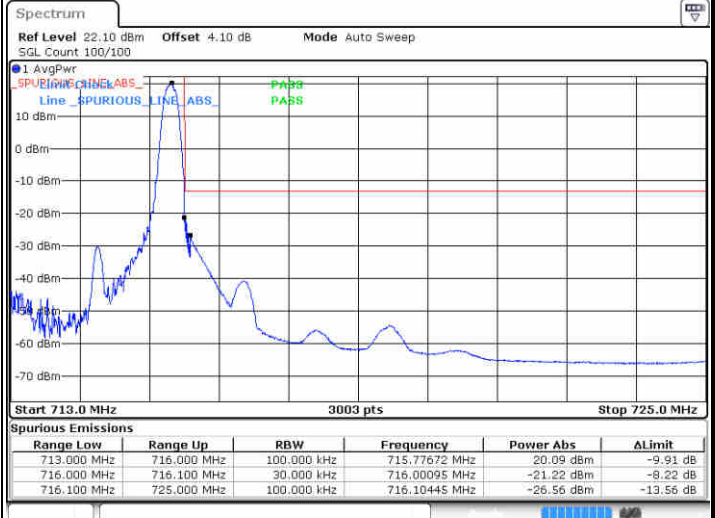
LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



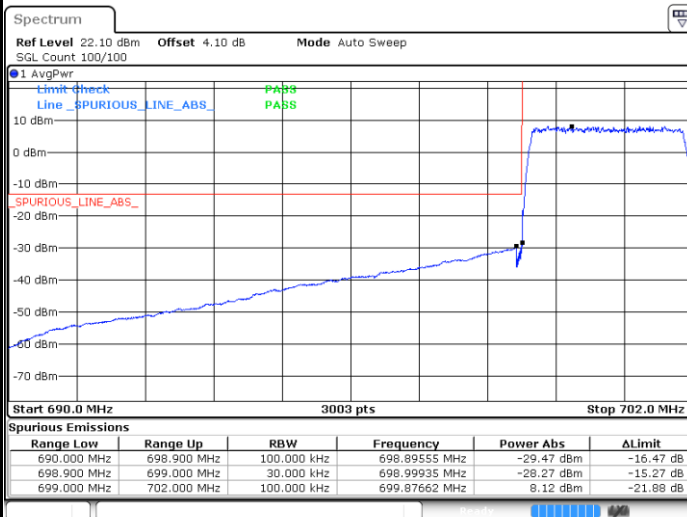
Date: 8 JAN 2020 17:13:25

Highest Band Edge / 1 RB



Date: 8 JAN 2020 17:21:17

Lowest Band Edge / Full RB



Date: 8 JAN 2020 17:16:47

Highest Band Edge / Full RB

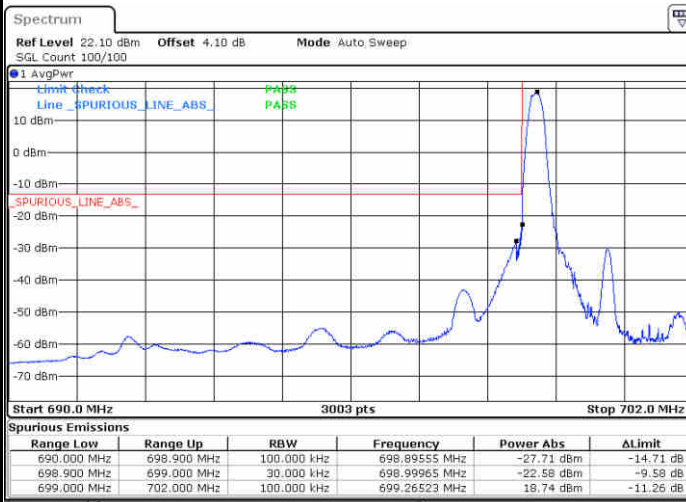


Date: 8 JAN 2020 17:17:55



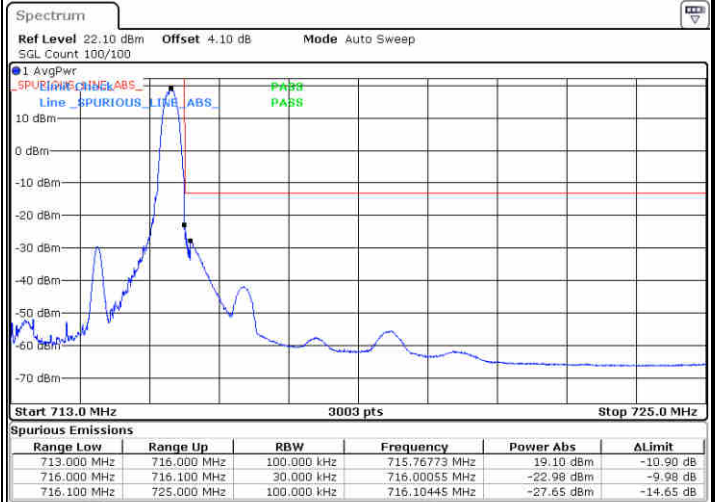
LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



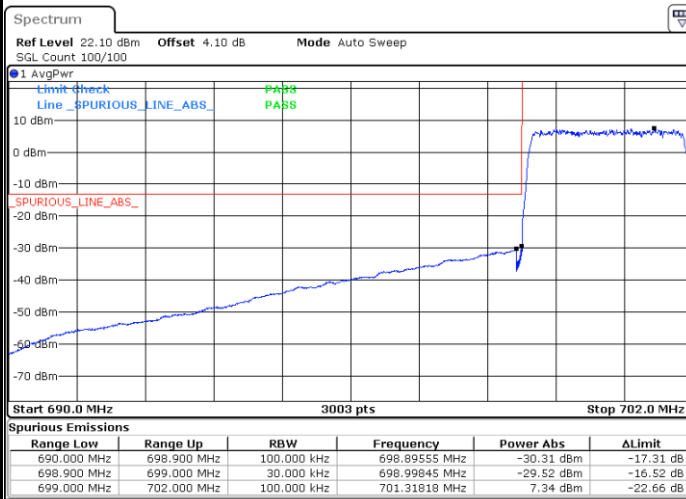
Date: 8 JAN 2020 18:07:13

Highest Band Edge / 1 RB



Date: 8 JAN 2020 18:10:35

Lowest Band Edge / Full RB



Date: 8 JAN 2020 18:08:20

Highest Band Edge / Full RB

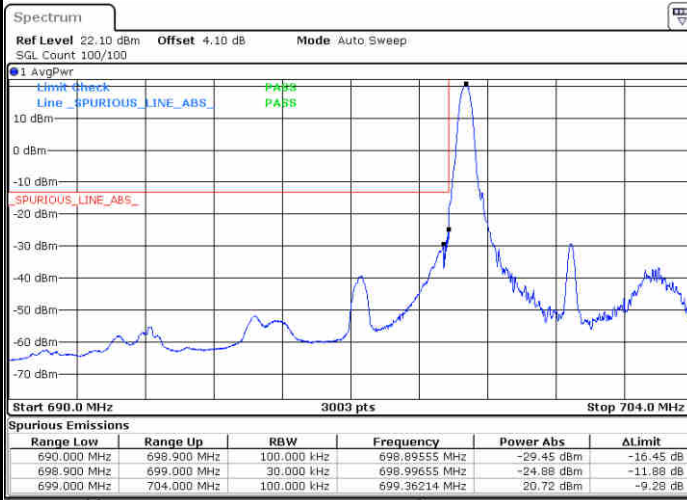


Date: 8 JAN 2020 18:09:28



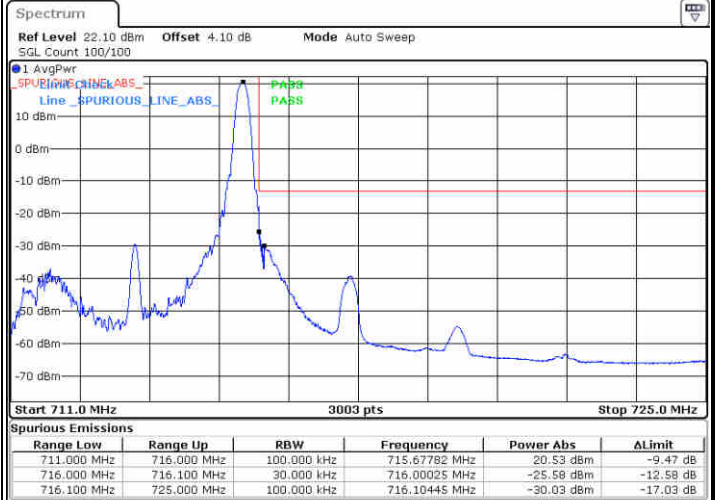
LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1 RB



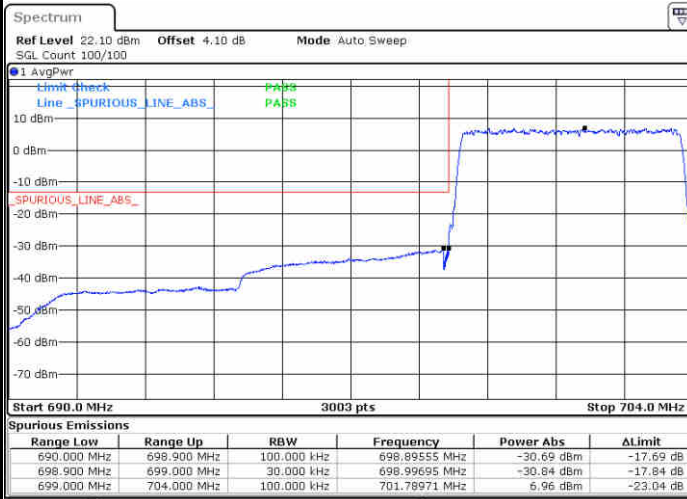
Date: 8 JAN 2020 17:30:58

Highest Band Edge / 1 RB



Date: 8 JAN 2020 17:36:36

Lowest Band Edge / Full RB



Date: 8 JAN 2020 17:32:06

Highest Band Edge / Full RB



Date: 8 JAN 2020 17:35:28