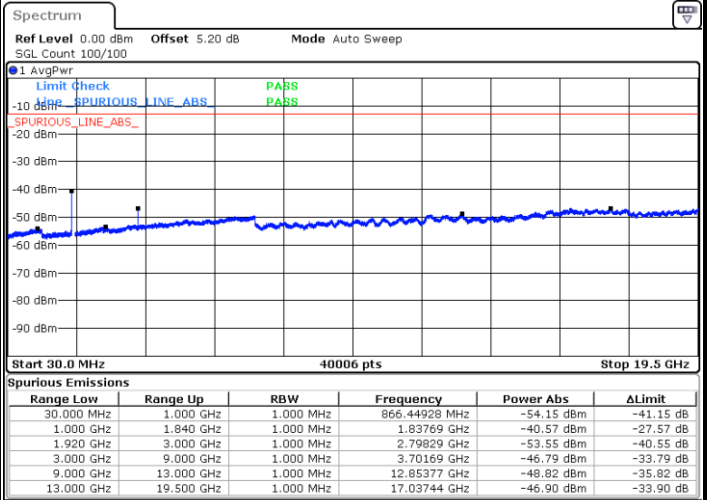
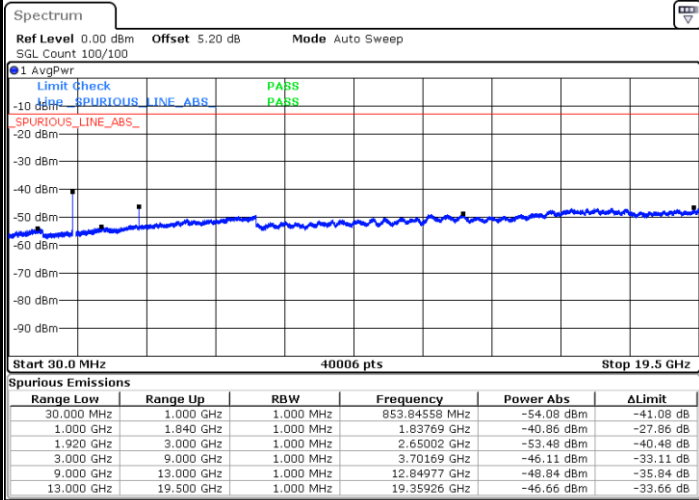




LTE Band 2 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

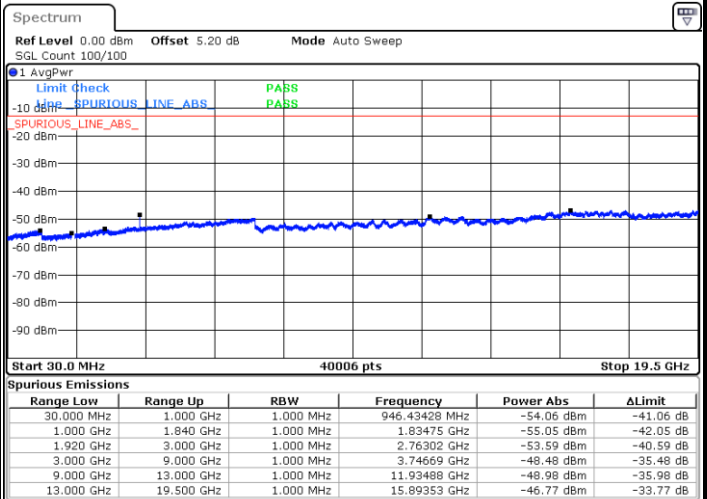
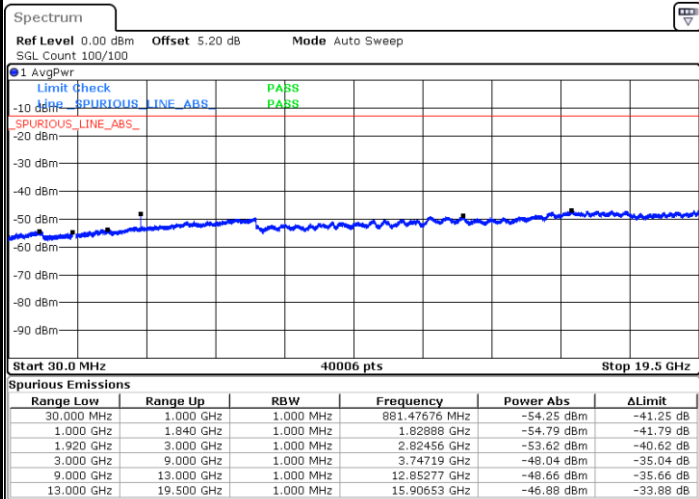


Date: 24 APR 2020 14:48:24

Date: 24 APR 2020 14:49:18

Middle Channel / QPSK

Middle Channel / 16QAM



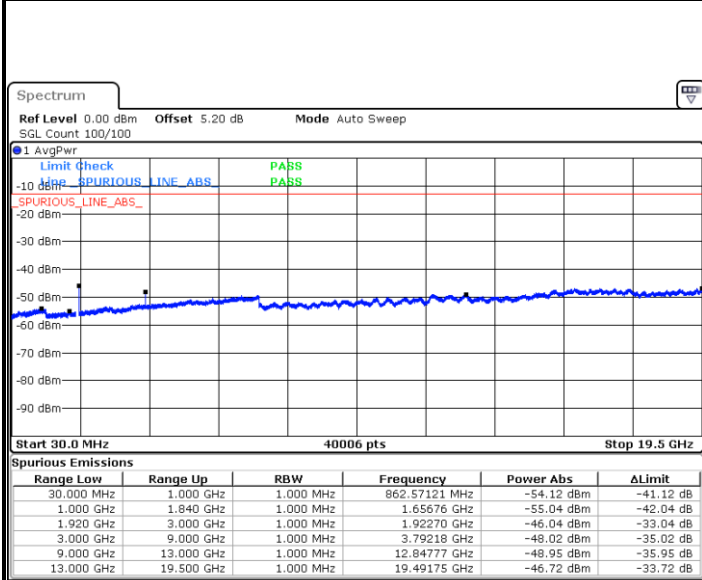
Date: 24 APR 2020 14:50:54

Date: 24 APR 2020 14:51:48



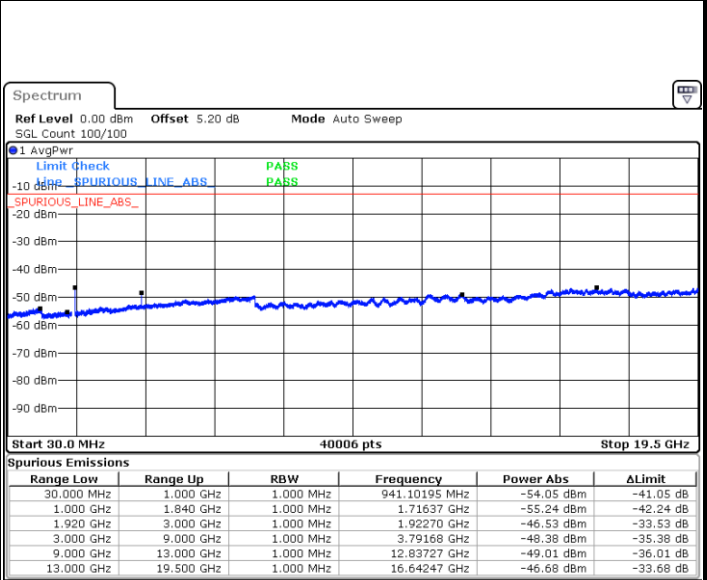
LTE Band 2 / 15MHz

Highest Channel / QPSK



Date: 24 APR 2020 14:57:54

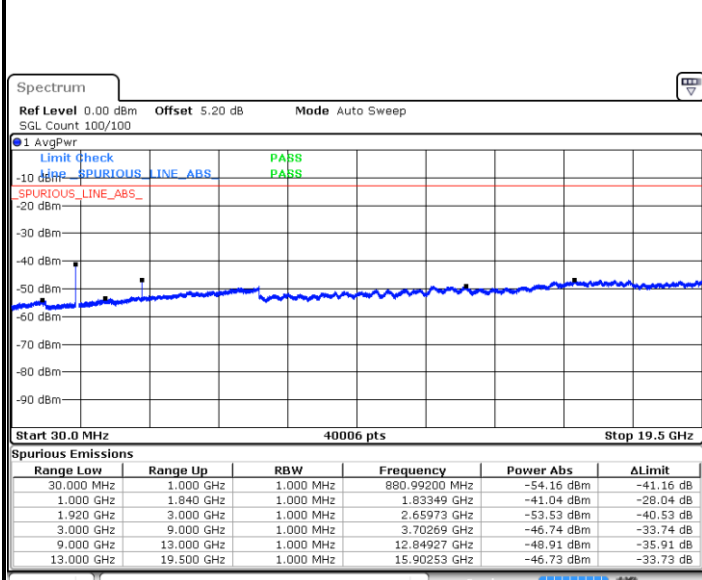
Highest Channel / 16QAM



Date: 24 APR 2020 14:58:49

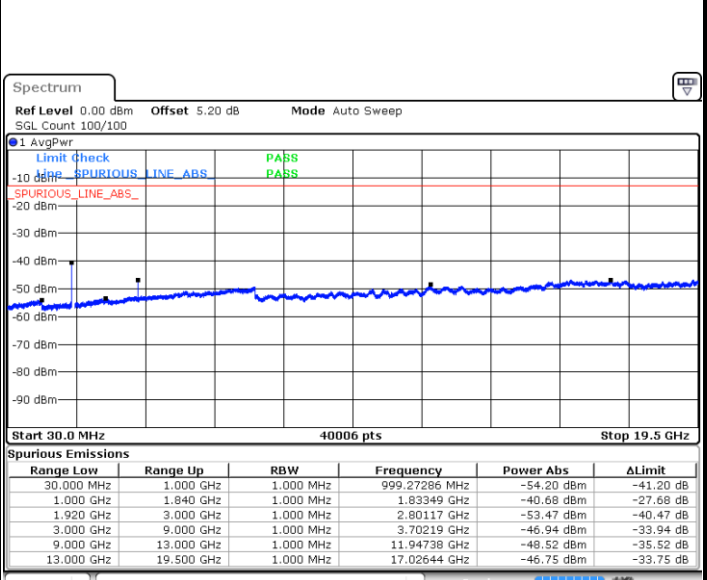
LTE Band 2 / 20MHz

Lowest Channel / QPSK



Date: 24 APR 2020 15:04:54

Lowest Channel / 16QAM



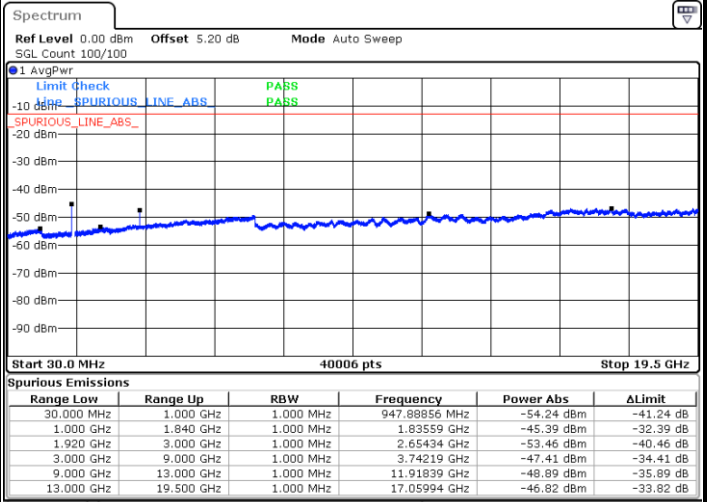
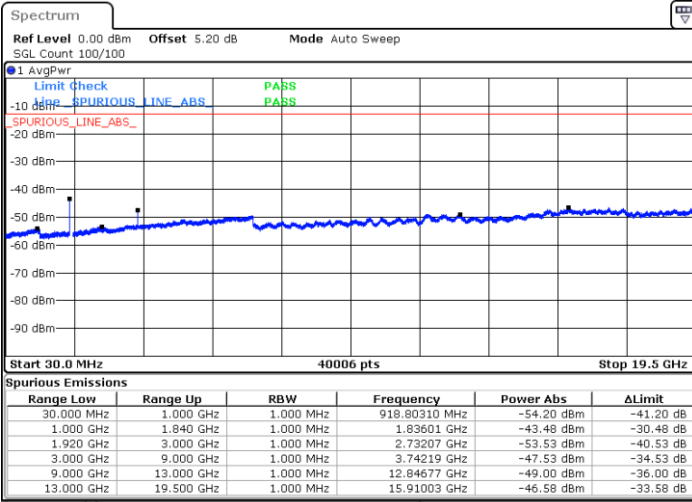
Date: 24 APR 2020 15:05:49



LTE Band 2 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

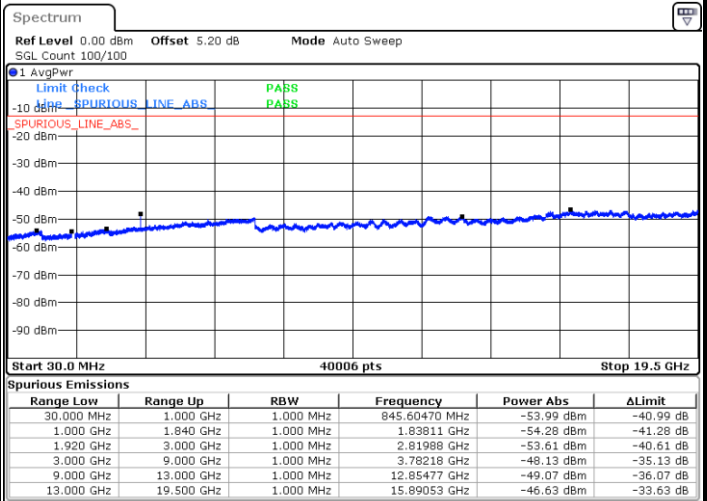
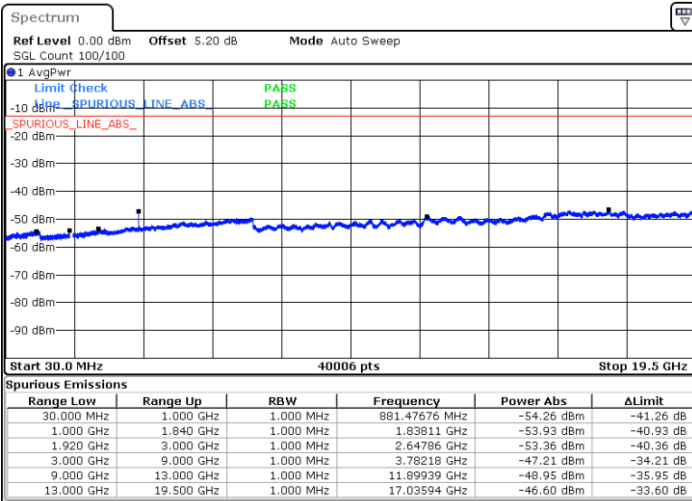


Date: 24 APR 2020 15:07:24

Date: 24 APR 2020 15:08:19

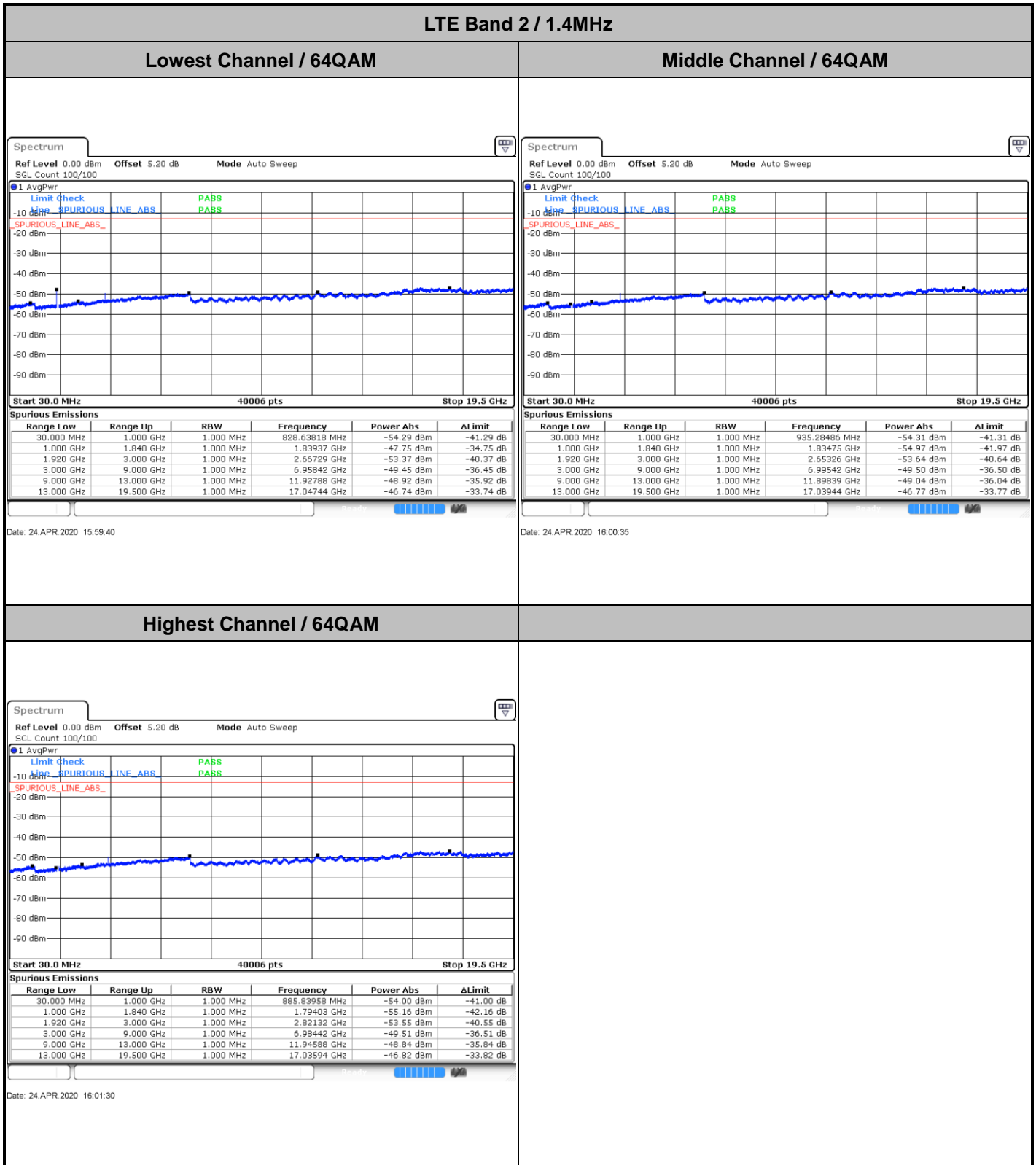
Highest Channel / QPSK

Highest Channel / 16QAM



Date: 24 APR 2020 15:14:24

Date: 24 APR 2020 15:15:19

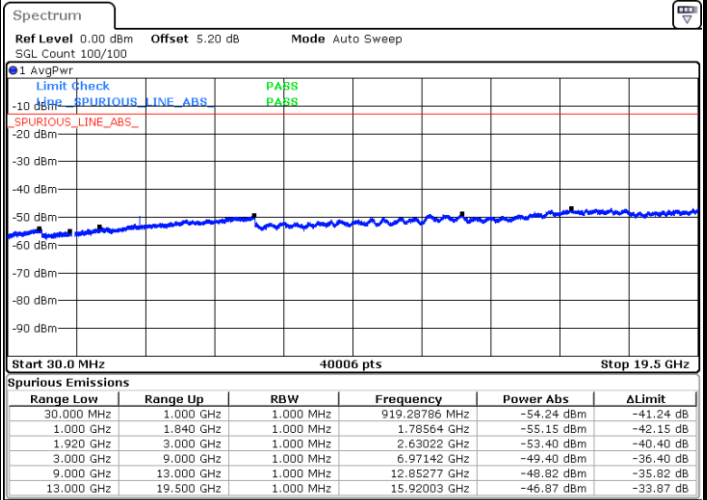
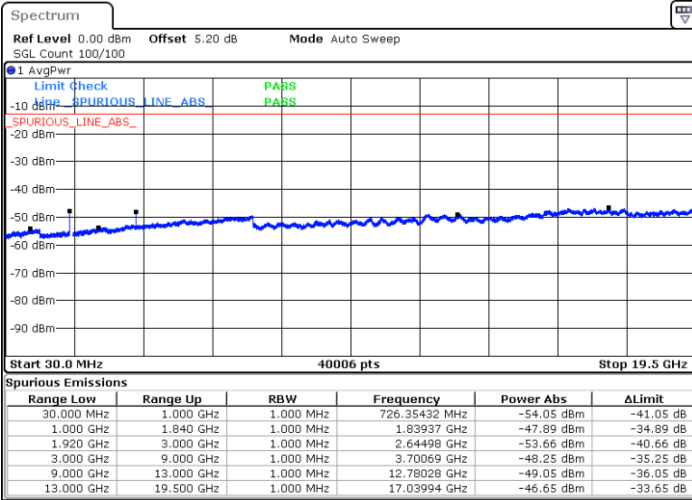




LTE Band 2 / 3MHz

Lowest Channel / 64QAM

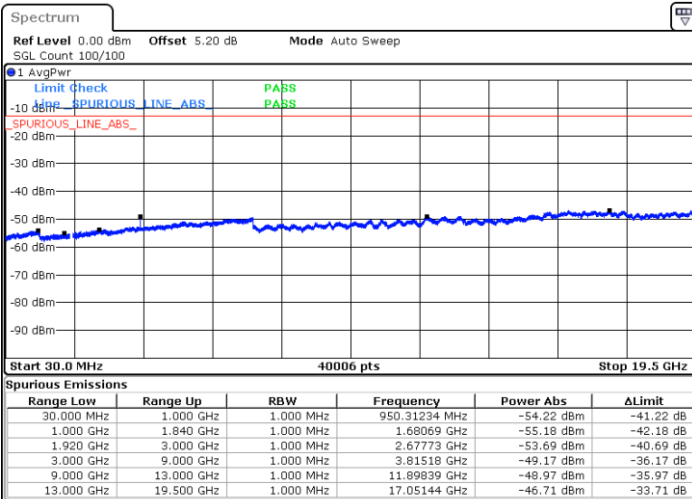
Middle Channel / 64QAM



Date: 24 APR 2020 16:02:25

Date: 24 APR 2020 16:03:20

Highest Channel / 64QAM



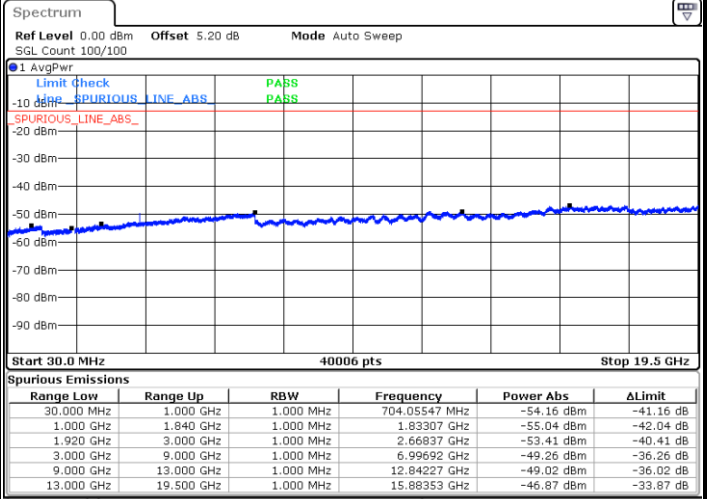
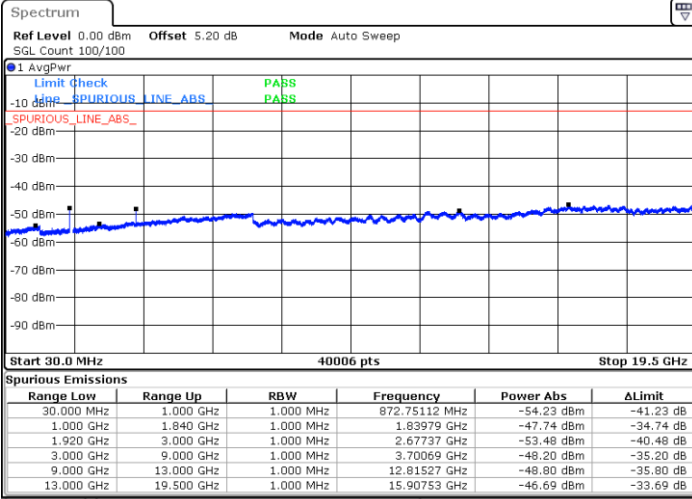
Date: 24 APR 2020 16:04:15



LTE Band 2 / 5MHz

Lowest Channel / 64QAM

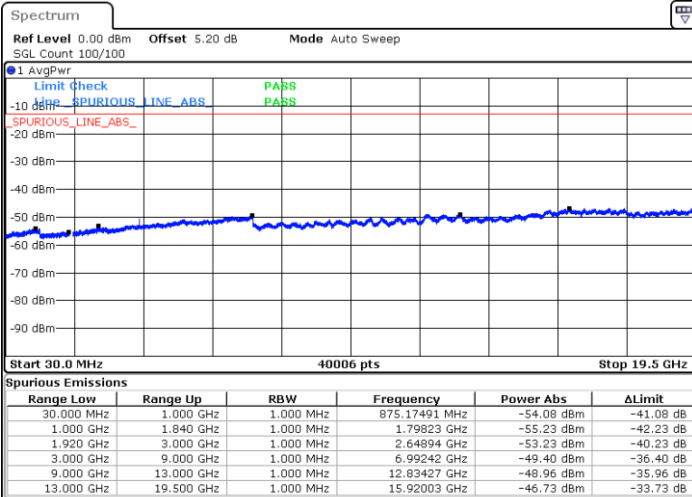
Middle Channel / 64QAM



Date: 24 APR 2020 16:05:09

Date: 24 APR 2020 16:06:04

Highest Channel / 64QAM



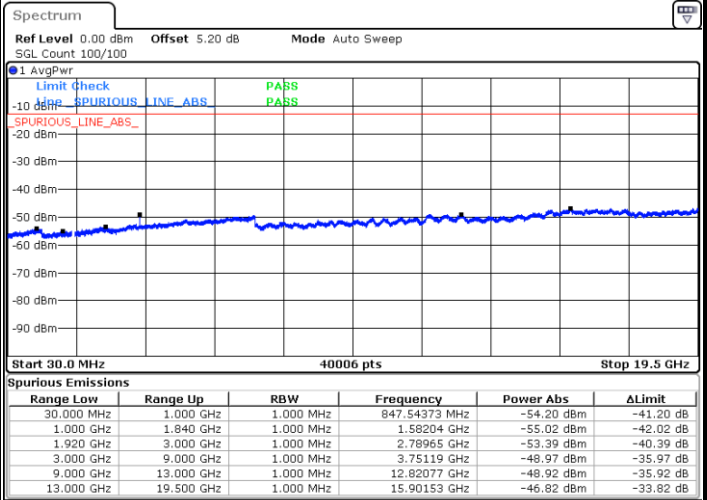
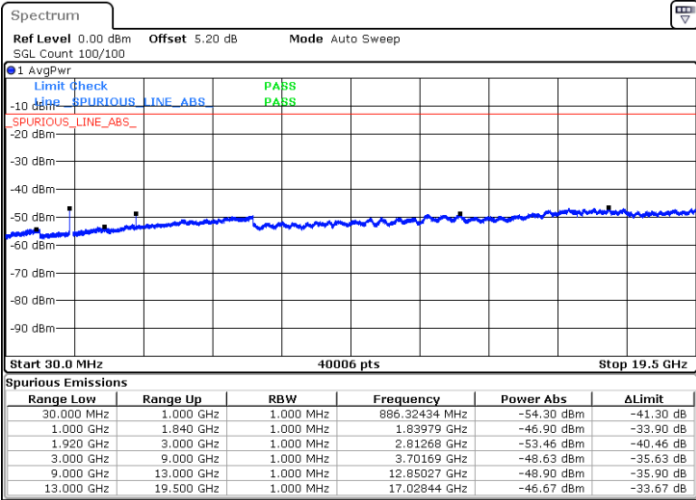
Date: 24 APR 2020 16:06:59



LTE Band 2 / 10MHz

Lowest Channel / 64QAM

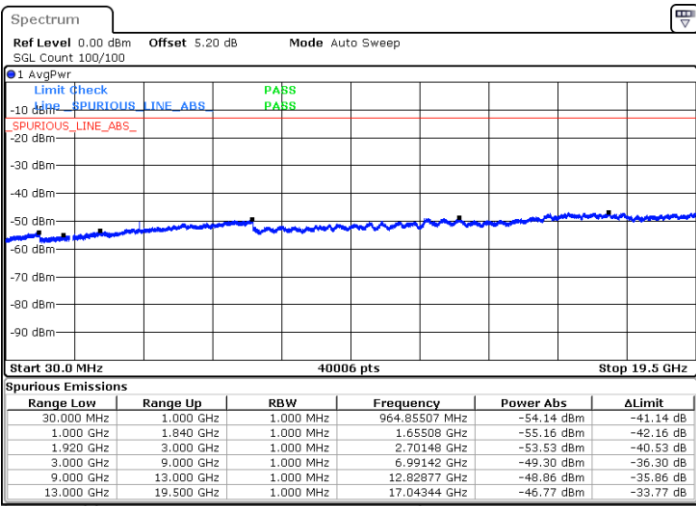
Middle Channel / 64QAM



Date: 24 APR 2020 16:10:28

Date: 24 APR 2020 16:11:22

Highest Channel / 64QAM

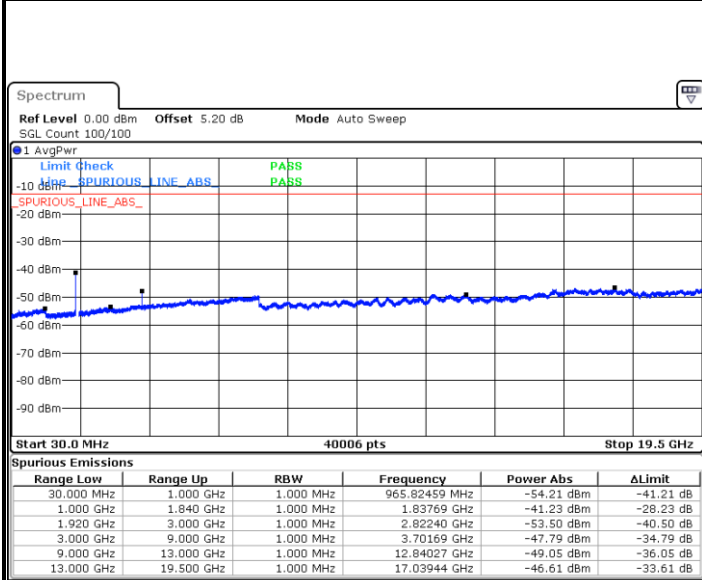


Date: 24 APR 2020 16:12:17



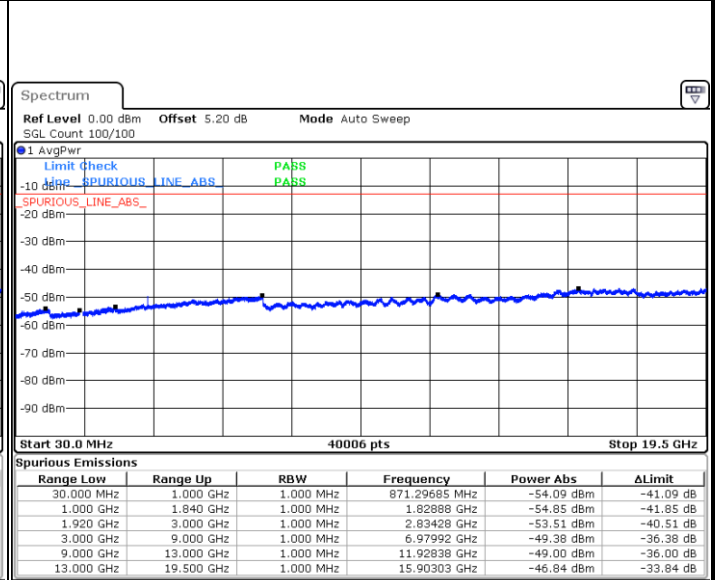
**LTE Band 2 / 15MHz**

**Lowest Channel / 64QAM**



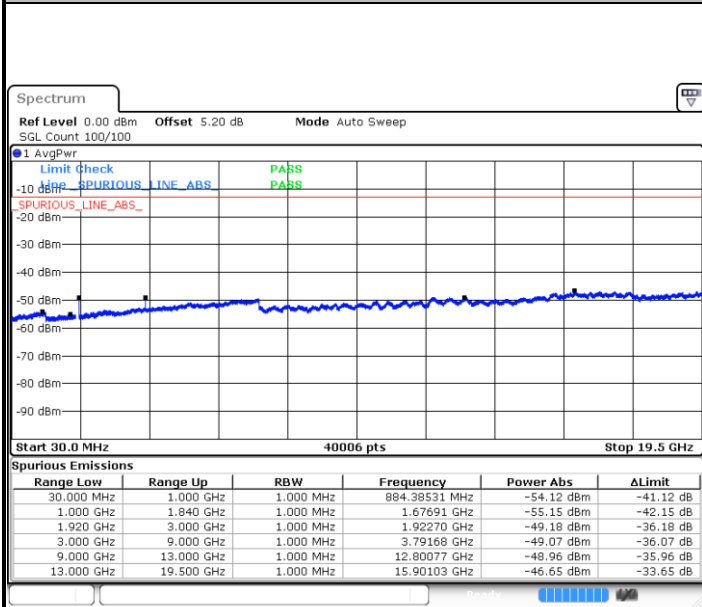
Date: 24 APR 2020 16:13:12

**Middle Channel / 64QAM**



Date: 24 APR 2020 16:14:07

**Highest Channel / 64QAM**



Date: 24 APR 2020 16:15:02

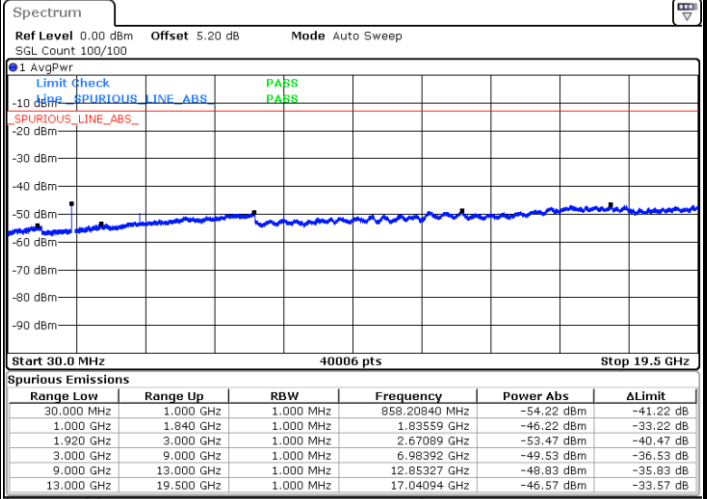
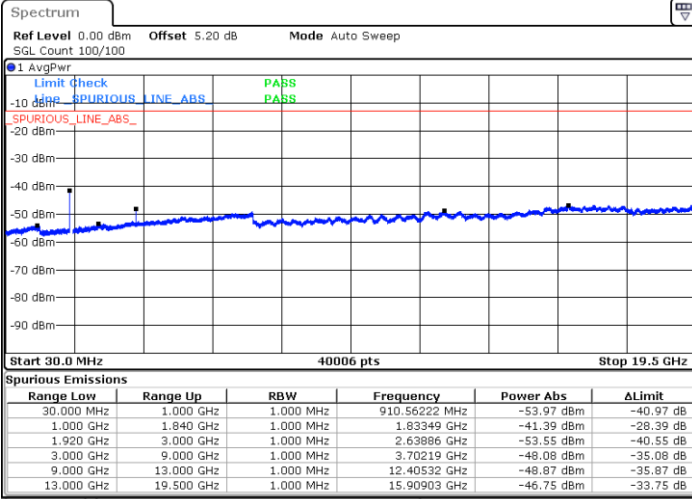




LTE Band 2 / 20MHz

Lowest Channel / 64QAM

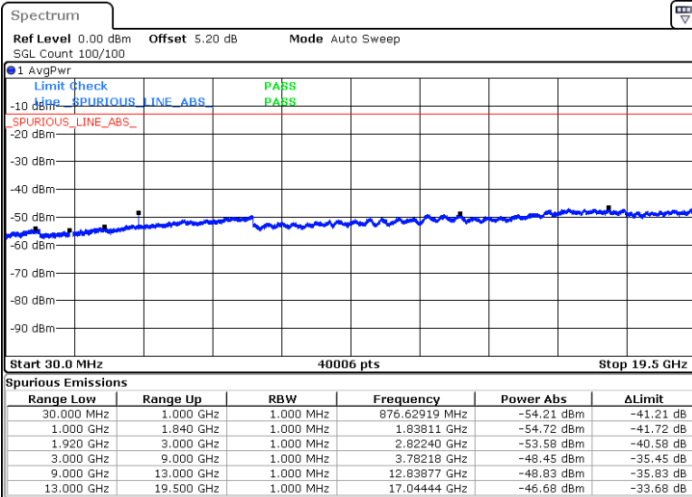
Middle Channel / 64QAM



Date: 24 APR 2020 16:15:57

Date: 24 APR 2020 16:16:51

Highest Channel / 64QAM



Date: 24 APR 2020 16:17:46



### Frequency Stability

Test Conditions		LTE Band 2 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0004	PASS
40	Normal Voltage	0.0025	
30	Normal Voltage	0.0007	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0016	
0	Normal Voltage	0.0009	
-10	Normal Voltage	0.0016	
-20	Normal Voltage	0.0024	
-30	Normal Voltage	0.0028	
20	Maximum Voltage	0.0002	
20	Normal Voltage	0.0007	
20	Battery End Point	0.0012	

**Note:**

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.2V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



# LTE Band 4

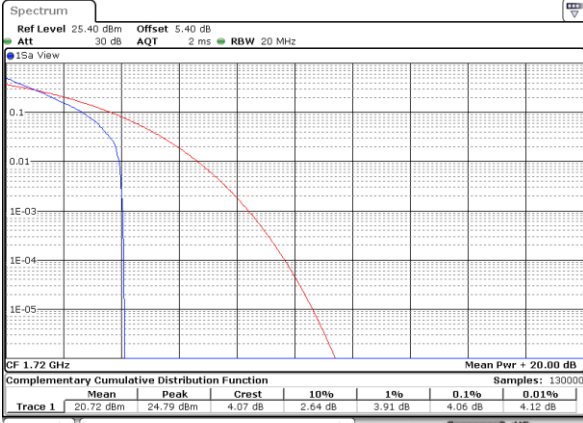
## Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.06	4.58	4.78	5.54	PASS
Middle CH	4.23	4.58	4.96	5.54	
Highest CH	3.80	4.41	4.64	5.36	
Mode	LTE Band 4 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.68	6.14	-	-	PASS
Middle CH	6.14	6.06	-	-	
Highest CH	5.51	5.91	-	-	



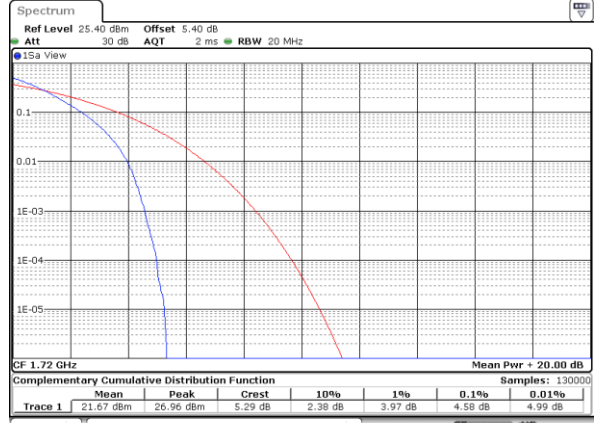
LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB



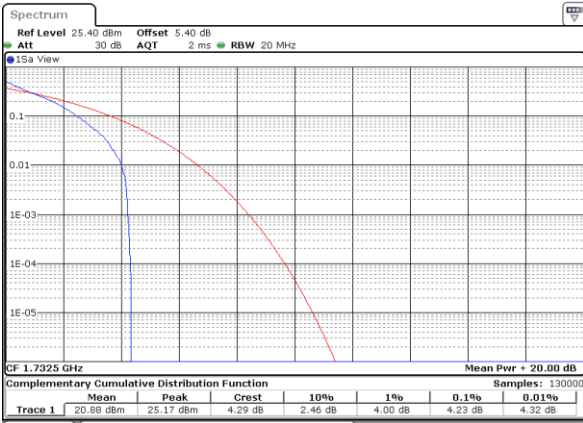
Date: 24 APR 2020 23:29:41

Lowest Channel / Full RB



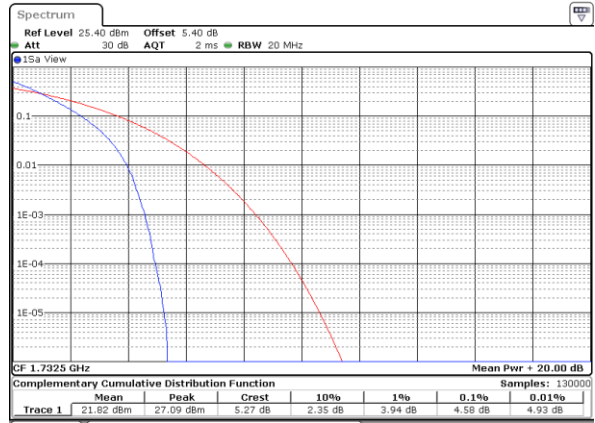
Date: 24 APR 2020 23:29:50

Middle Channel / 1RB



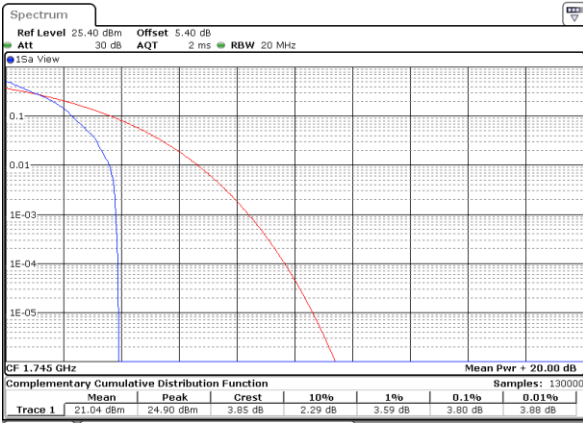
Date: 24 APR 2020 23:30:08

Middle Channel / Full RB



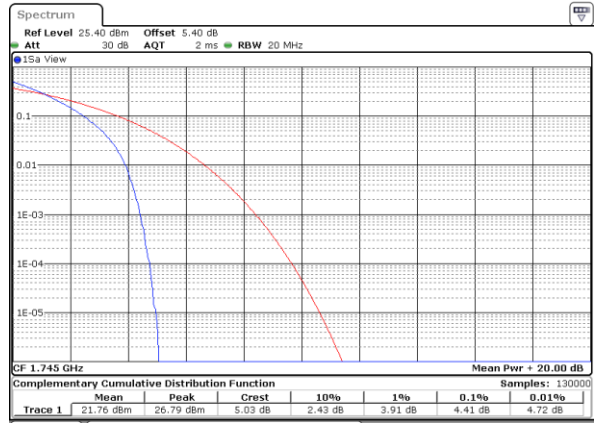
Date: 24 APR 2020 23:29:59

Highest Channel / 1RB



Date: 24 APR 2020 23:30:17

Highest Channel / Full RB

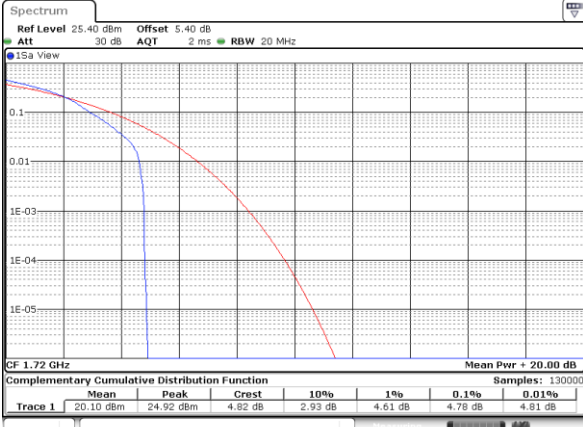


Date: 24 APR 2020 23:30:25



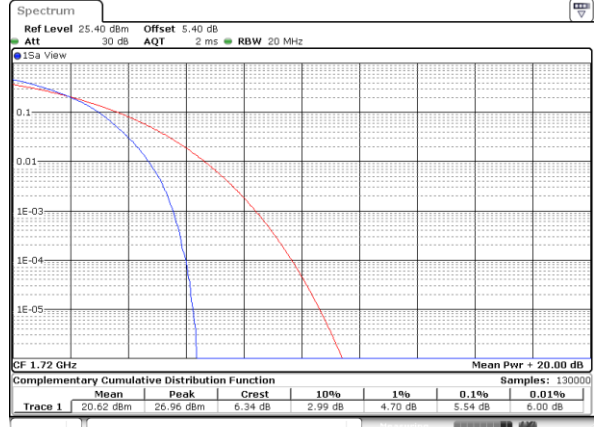
LTE Band 4 / 20MHz / 16QAM

Lowest Channel / 1RB



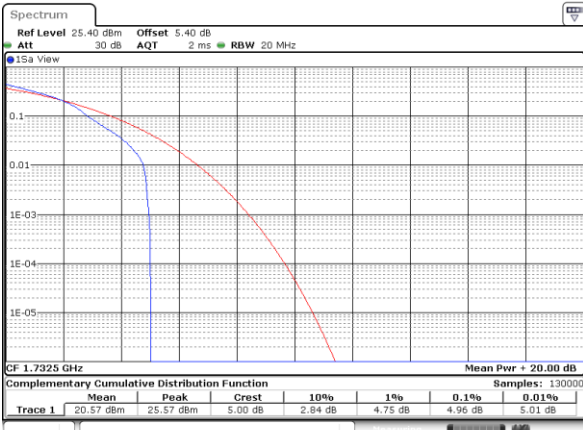
Date: 24 APR 2020 23:28:48

Lowest Channel / Full RB



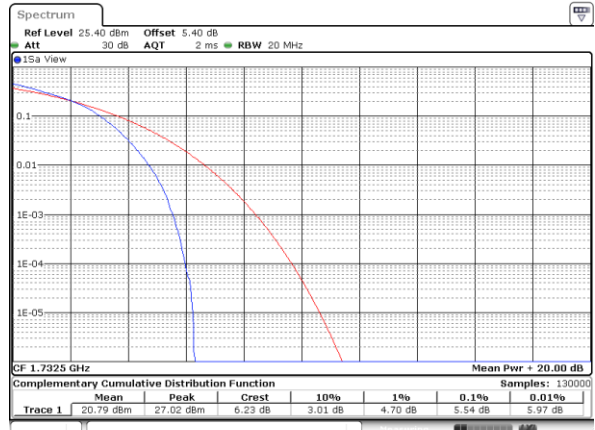
Date: 24 APR 2020 23:28:57

Middle Channel / 1RB



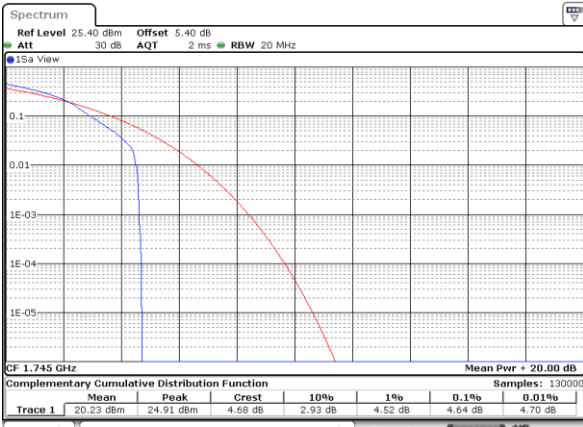
Date: 24 APR 2020 23:29:06

Middle Channel / Full RB



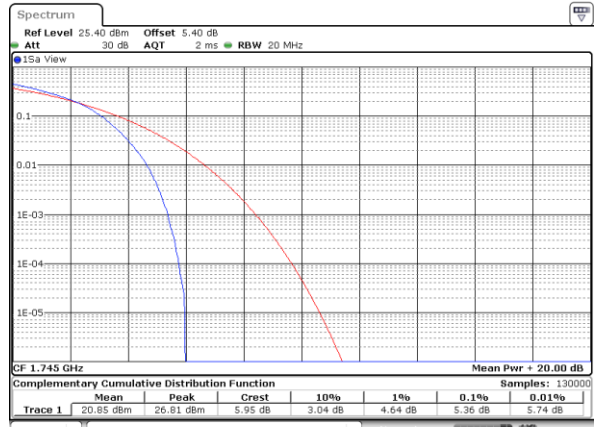
Date: 24 APR 2020 23:29:15

Highest Channel / 1RB



Date: 24 APR 2020 23:29:23

Highest Channel / Full RB

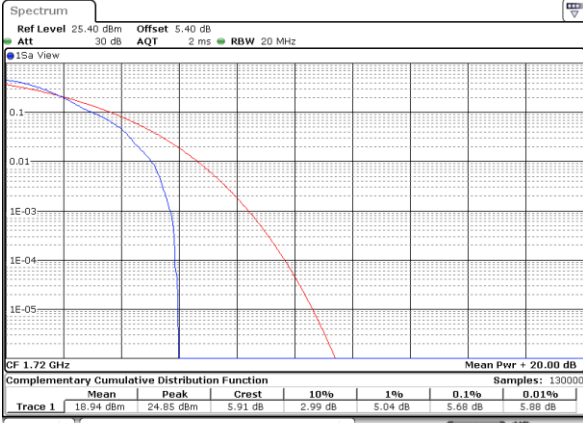


Date: 24 APR 2020 23:29:32



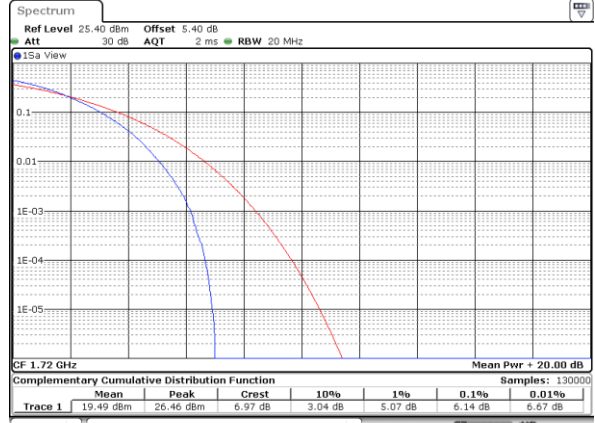
LTE Band 4 / 20MHz / 64QAM

Lowest Channel / 1RB



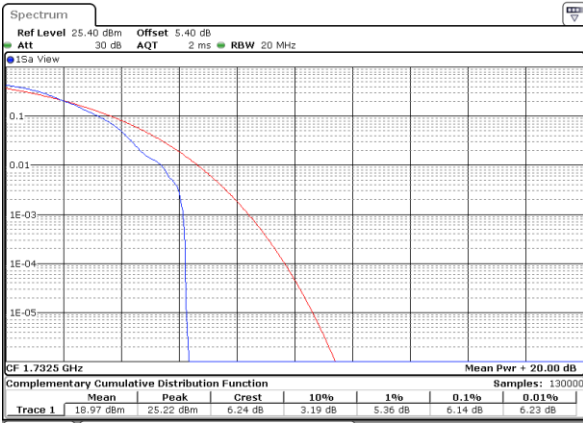
Date: 24 APR 2020 23:27:55

Lowest Channel / Full RB



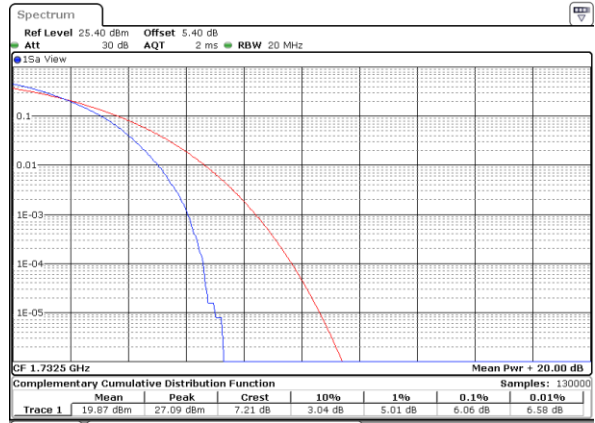
Date: 24 APR 2020 23:28:05

Middle Channel / 1RB



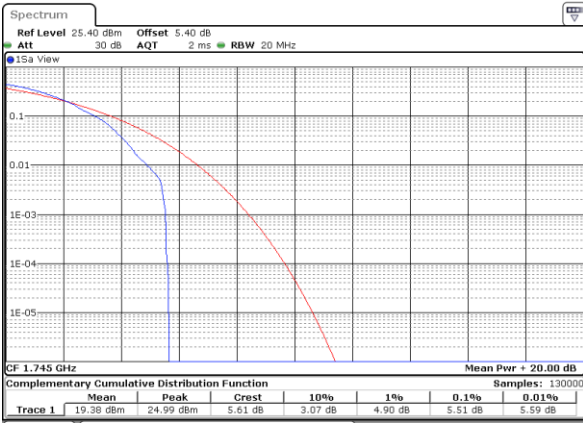
Date: 24 APR 2020 23:28:13

Middle Channel / Full RB



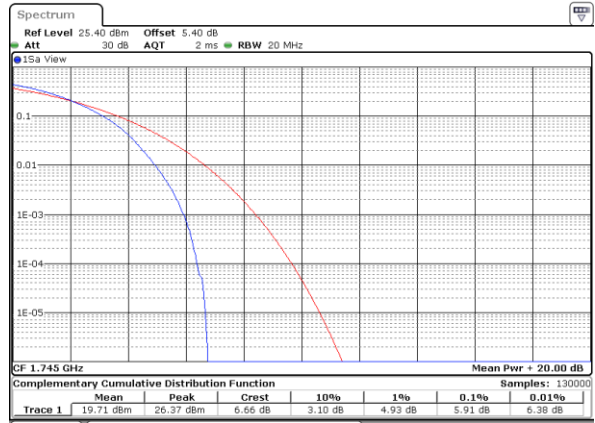
Date: 24 APR 2020 23:28:22

Highest Channel / 1RB



Date: 24 APR 2020 23:28:31

Highest Channel / Full RB



Date: 24 APR 2020 23:28:40



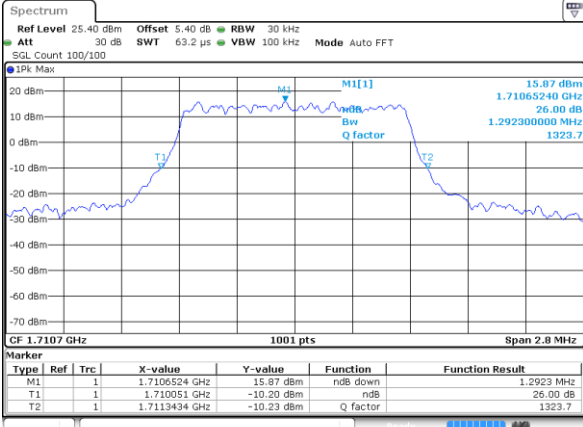
**26dB Bandwidth**

Mode	LTE Band 4 : 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	1.29	1.25	2.98	2.97	4.96	4.90	9.95	9.65	14.27	14.66	20.10	20.02
Middle CH	1.28	1.27	3.05	3.01	4.88	4.92	9.79	9.69	14.30	14.48	20.18	20.30
Highest CH	1.29	1.27	3.02	3.03	4.98	4.94	9.71	9.77	14.33	14.48	20.10	20.06
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.31		2.99		4.84		9.67		14.45		20.14	
Middle CH	1.28		3.03		4.95		10.07		14.57		20.18	
Highest CH	1.26		2.97		4.96		9.87		14.54		20.14	



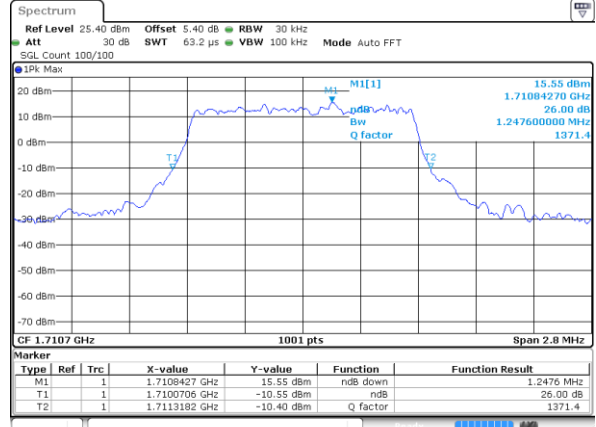
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



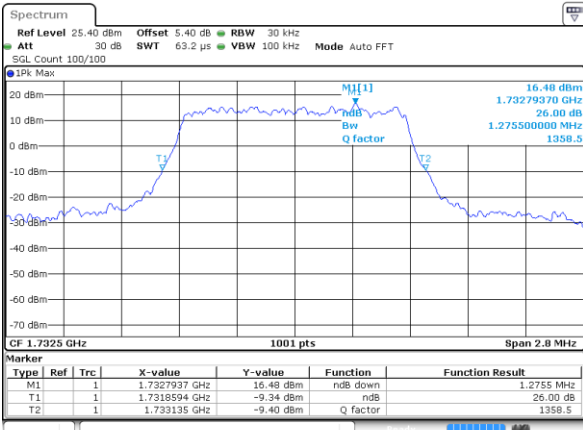
Date: 24 APR 2020 20:44:01

Lowest Channel / 1.4MHz / 16QAM



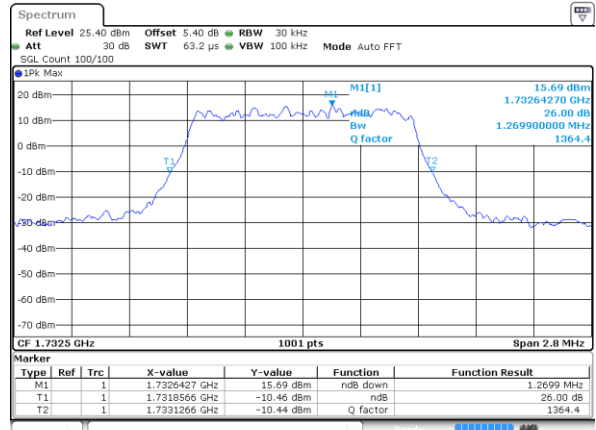
Date: 24 APR 2020 20:44:11

Middle Channel / 1.4MHz / QPSK



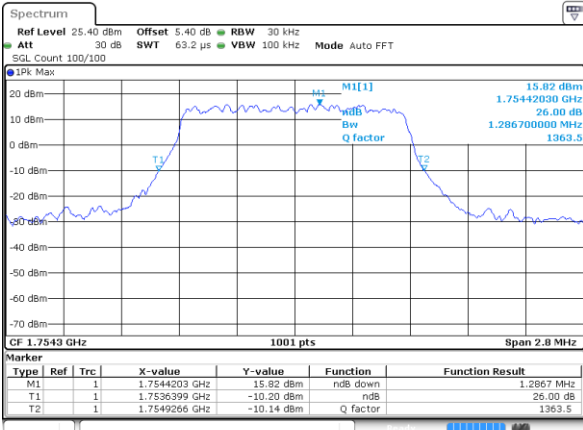
Date: 24 APR 2020 20:53:52

Middle Channel / 1.4MHz / 16QAM



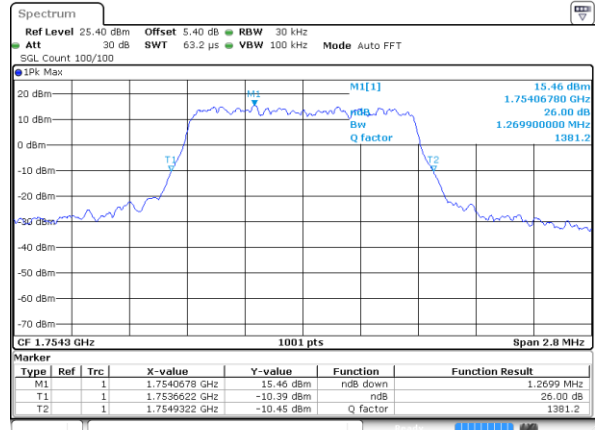
Date: 24 APR 2020 20:54:03

Highest Channel / 1.4MHz / QPSK



Date: 24 APR 2020 20:58:21

Highest Channel / 1.4MHz / 16QAM



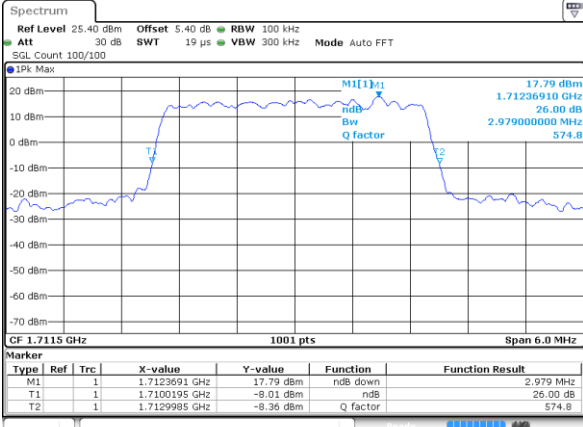
Date: 24 APR 2020 20:58:31





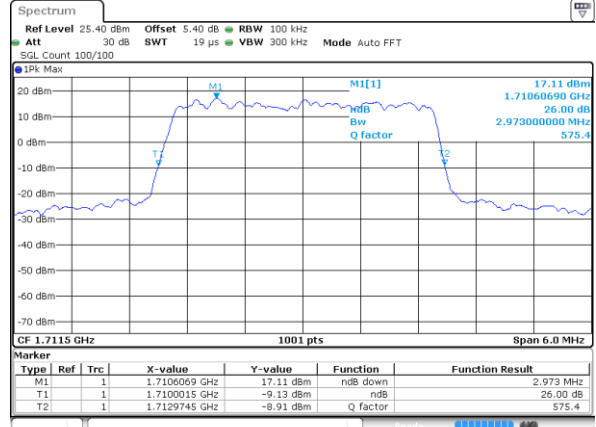
LTE Band 4

Lowest Channel / 3MHz / QPSK



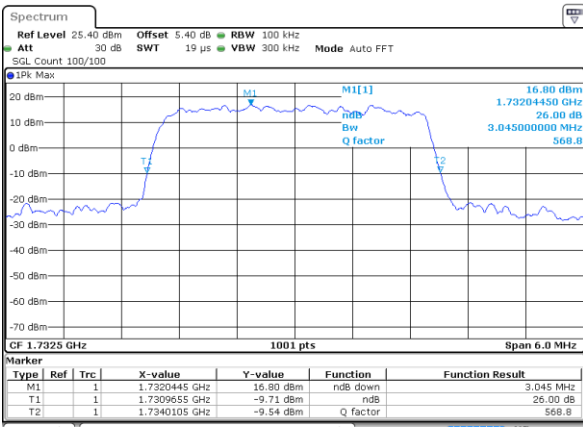
Date: 24 APR 2020 21:07:54

Lowest Channel / 3MHz / 16QAM



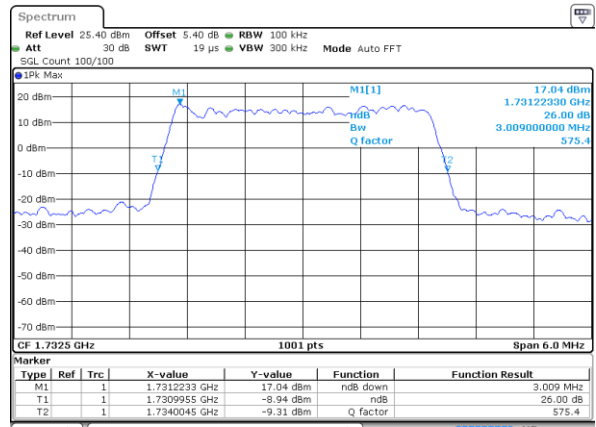
Date: 24 APR 2020 21:08:04

Middle Channel / 3MHz / QPSK



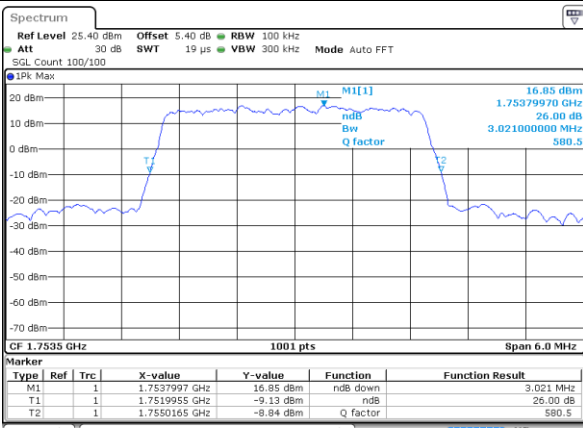
Date: 24 APR 2020 21:14:52

Middle Channel / 3MHz / 16QAM



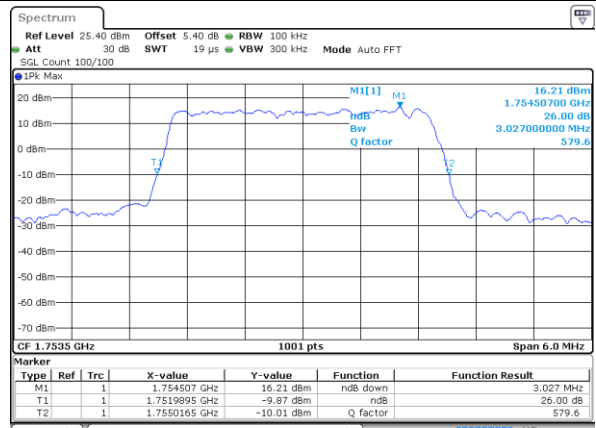
Date: 24 APR 2020 21:15:02

Highest Channel / 3MHz / QPSK



Date: 24 APR 2020 21:17:21

Highest Channel / 3MHz / 16QAM

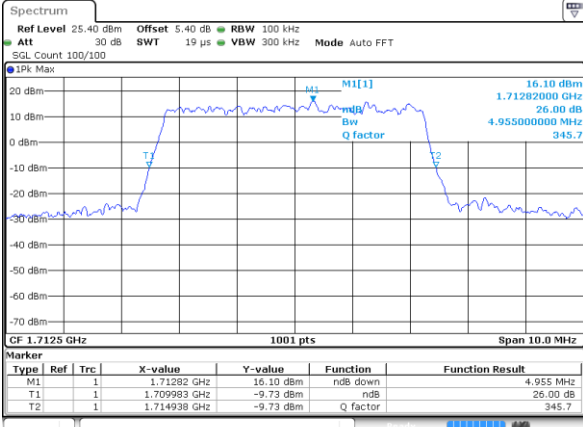


Date: 24 APR 2020 21:17:31



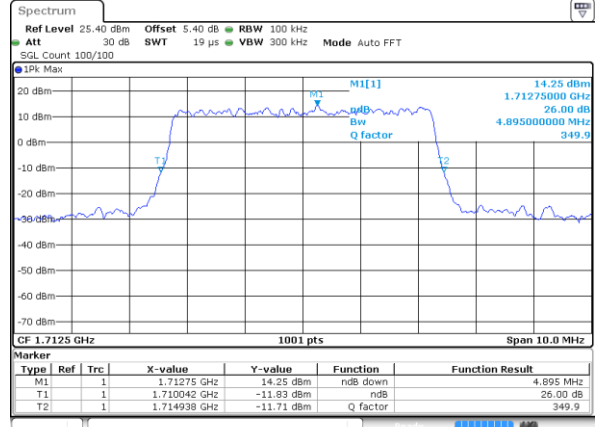
LTE Band 4

Lowest Channel / 5MHz / QPSK



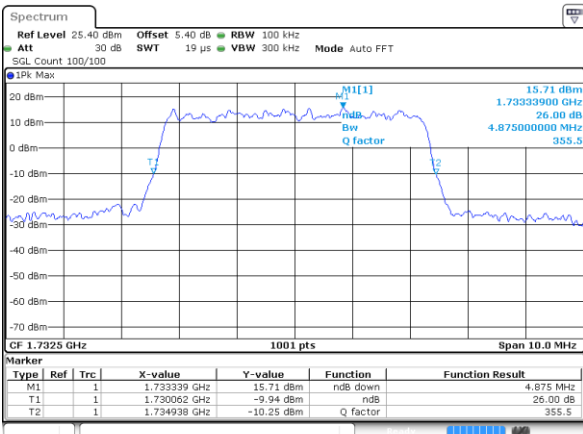
Date: 24 APR 2020 21:24:19

Lowest Channel / 5MHz / 16QAM



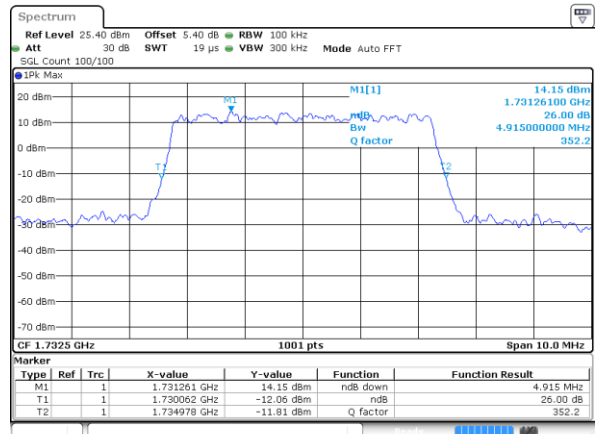
Date: 24 APR 2020 21:24:29

Middle Channel / 5MHz / QPSK



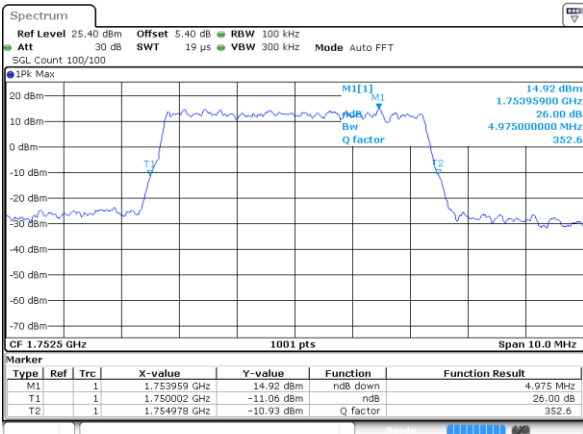
Date: 24 APR 2020 21:31:17

Middle Channel / 5MHz / 16QAM



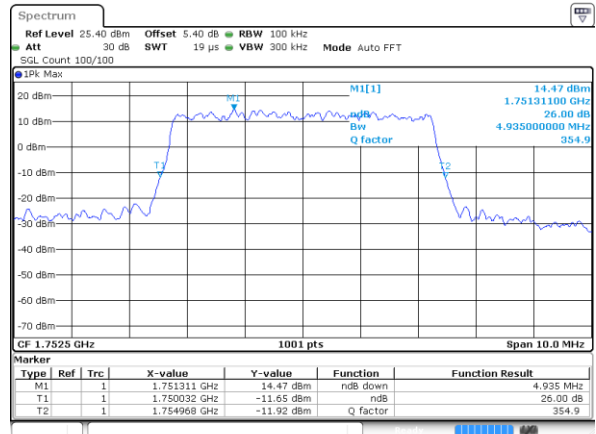
Date: 24 APR 2020 21:31:27

Highest Channel / 5MHz / QPSK



Date: 24 APR 2020 21:33:46

Highest Channel / 5MHz / 16QAM

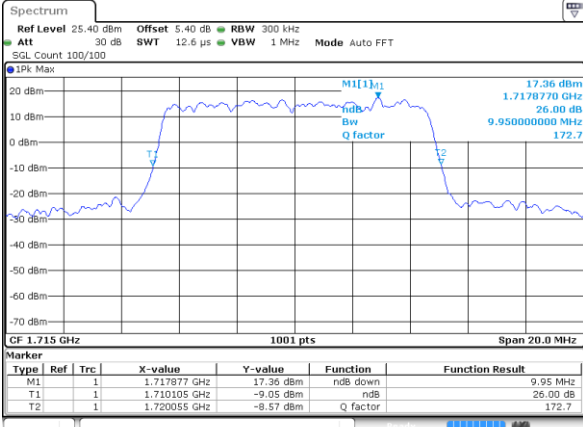


Date: 24 APR 2020 21:33:56



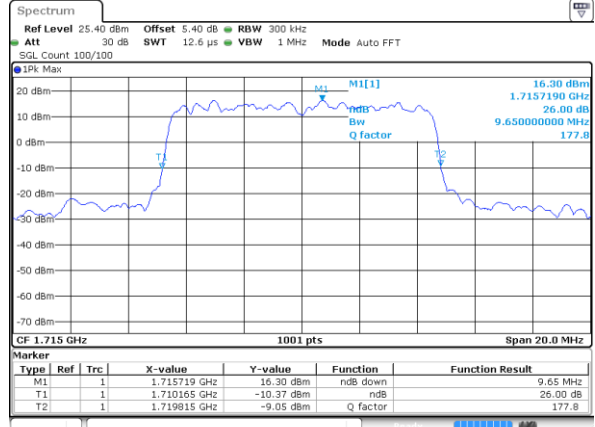
LTE Band 4

Lowest Channel / 10MHz / QPSK



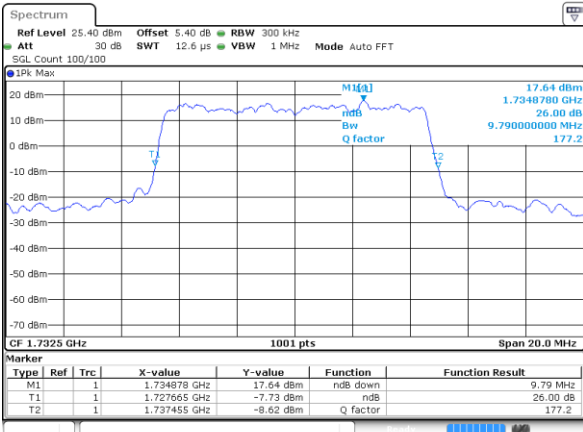
Date: 24 APR 2020 21:40:44

Lowest Channel / 10MHz / 16QAM



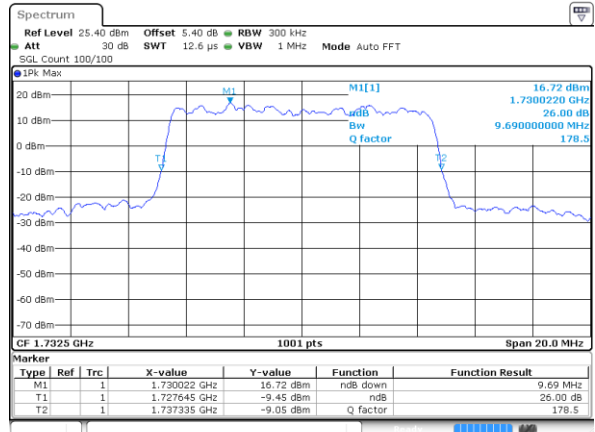
Date: 24 APR 2020 21:40:54

Middle Channel / 10MHz / QPSK



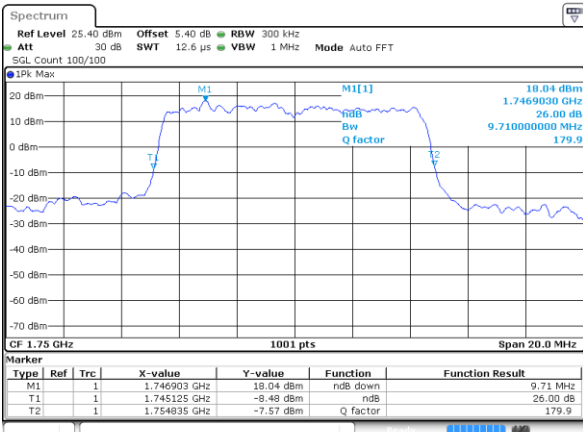
Date: 24 APR 2020 21:47:43

Middle Channel / 10MHz / 16QAM



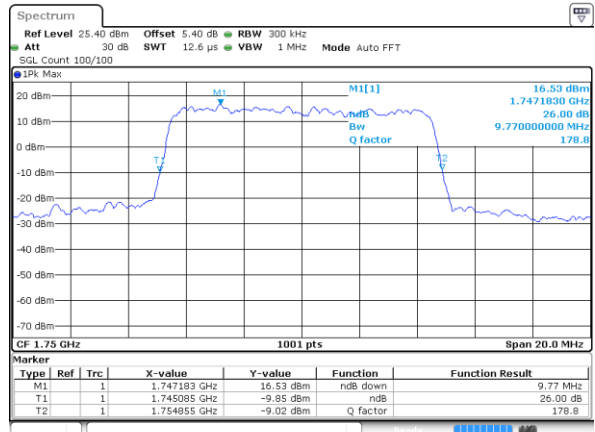
Date: 24 APR 2020 21:47:53

Highest Channel / 10MHz / QPSK



Date: 24 APR 2020 21:50:11

Highest Channel / 10MHz / 16QAM

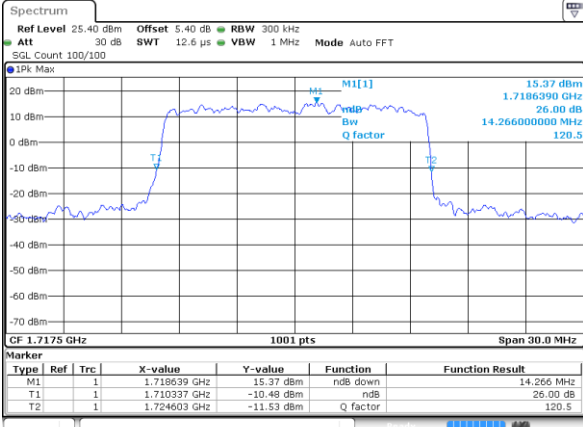


Date: 24 APR 2020 21:50:21



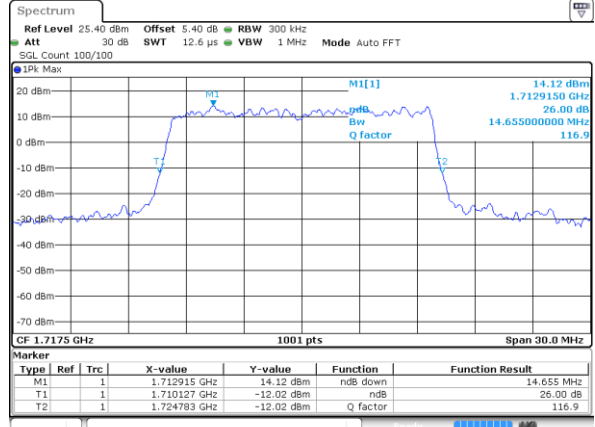
LTE Band 4

Lowest Channel / 15MHz / QPSK



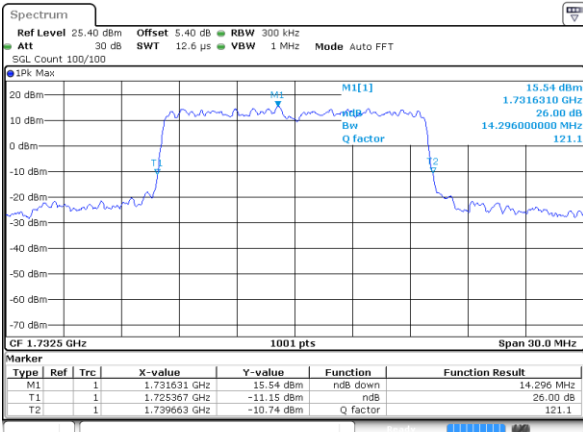
Date: 24 APR 2020 21:57:10

Lowest Channel / 15MHz / 16QAM



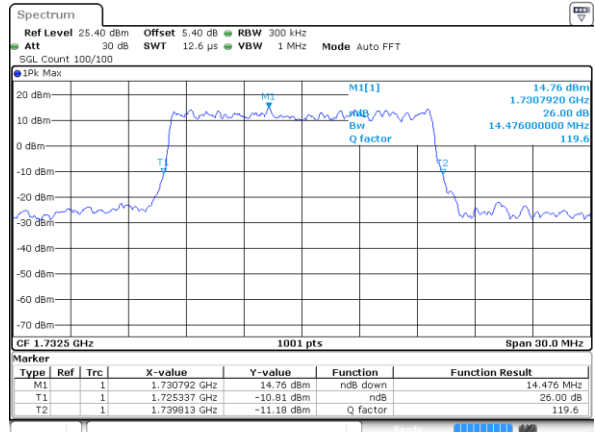
Date: 24 APR 2020 21:57:20

Middle Channel / 15MHz / QPSK



Date: 24 APR 2020 22:04:08

Middle Channel / 15MHz / 16QAM



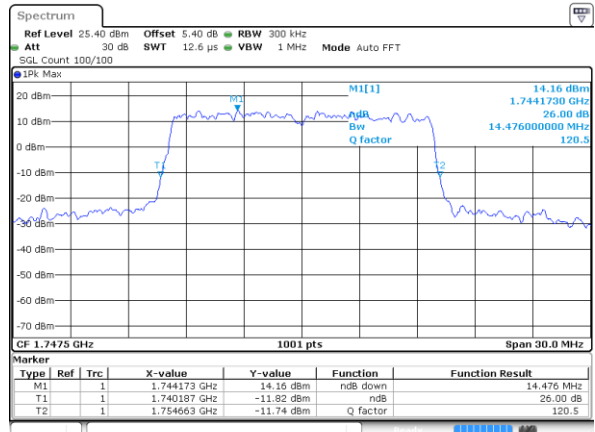
Date: 24 APR 2020 22:04:18

Highest Channel / 15MHz / QPSK



Date: 24 APR 2020 22:06:37

Highest Channel / 15MHz / 16QAM

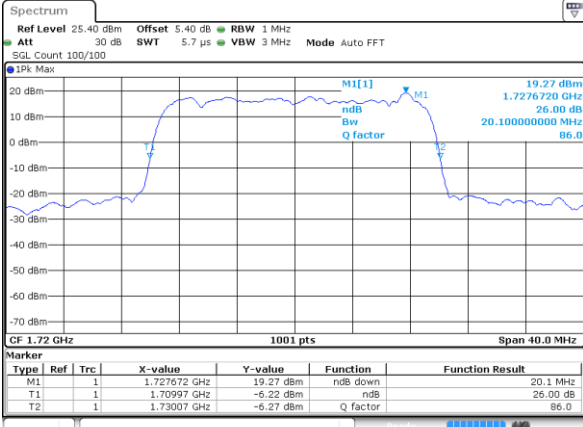


Date: 24 APR 2020 22:06:47



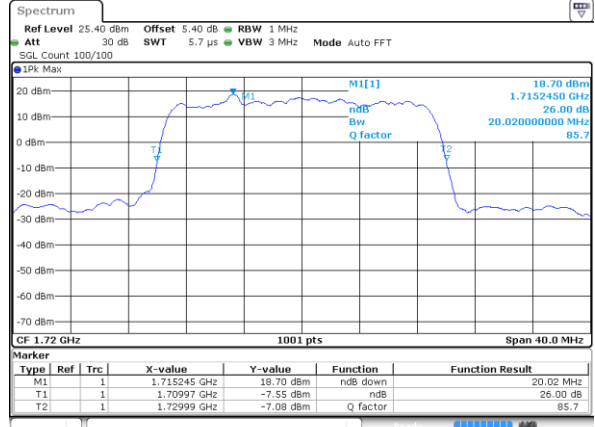
LTE Band 4

Lowest Channel / 20MHz / QPSK



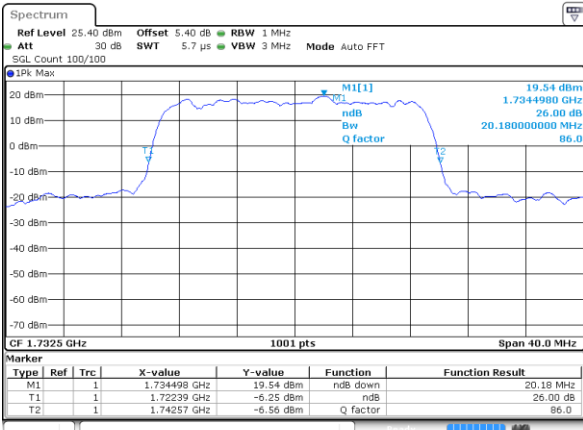
Date: 24 APR 2020 22:13:35

Lowest Channel / 20MHz / 16QAM



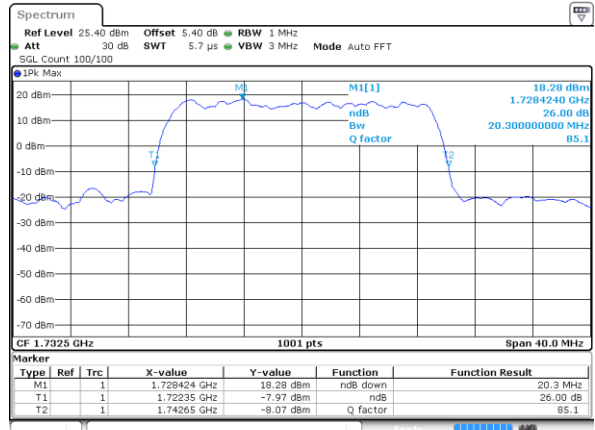
Date: 24 APR 2020 22:13:45

Middle Channel / 20MHz / QPSK



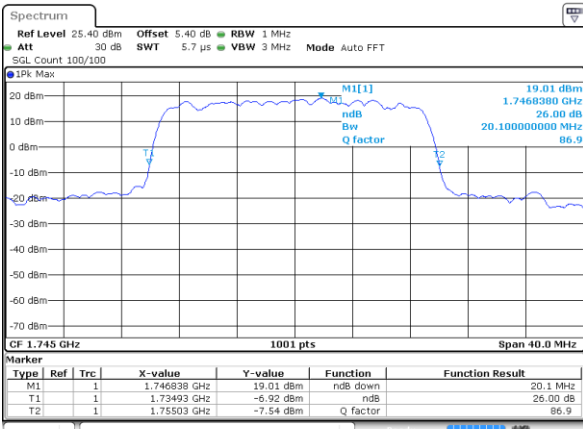
Date: 24 APR 2020 22:20:33

Middle Channel / 20MHz / 16QAM



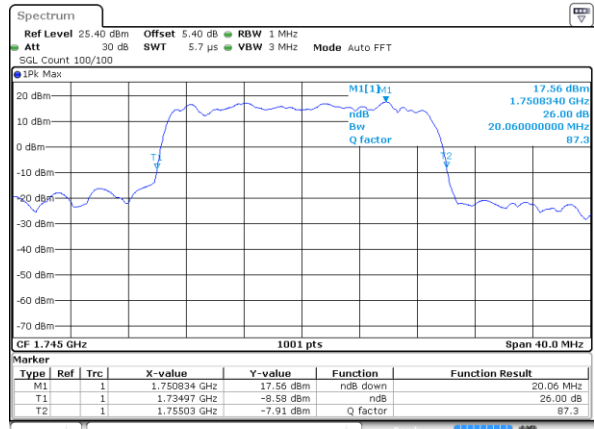
Date: 24 APR 2020 22:20:43

Highest Channel / 20MHz / QPSK



Date: 24 APR 2020 22:23:02

Highest Channel / 20MHz / 16QAM

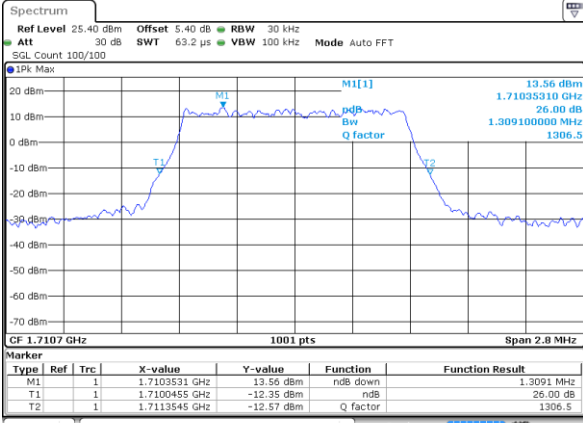


Date: 24 APR 2020 22:23:12



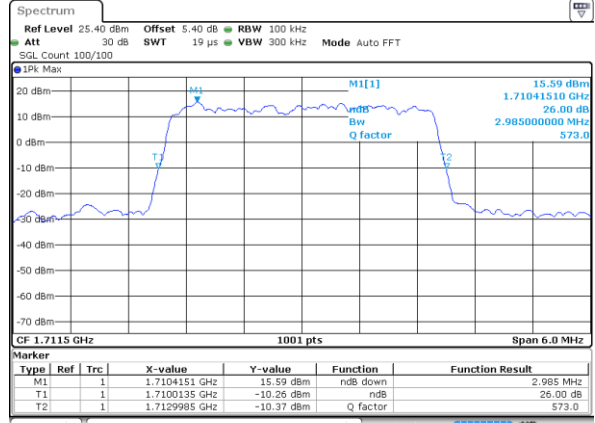
LTE Band 4

Lowest Channel / 1.4MHz / 64QAM



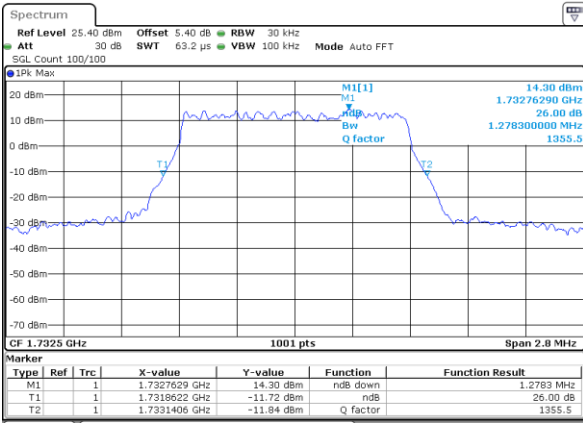
Date: 24 APR 2020 22:31:45

Lowest Channel / 3MHz / 64QAM



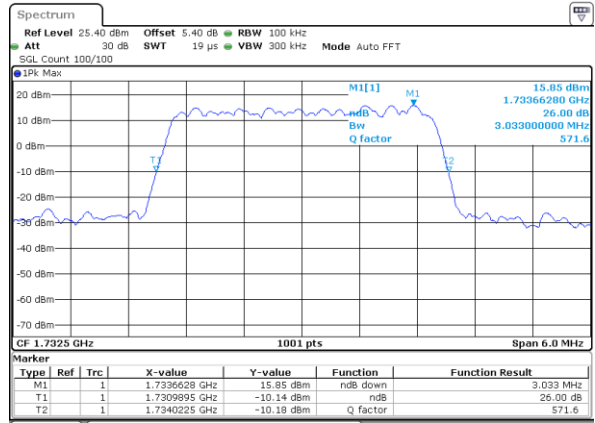
Date: 24 APR 2020 22:39:58

Middle Channel / 1.4MHz / 64QAM



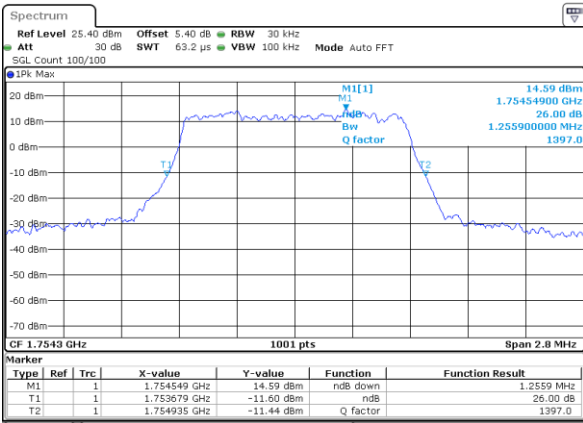
Date: 24 APR 2020 22:35:14

Middle Channel / 3MHz / 64QAM



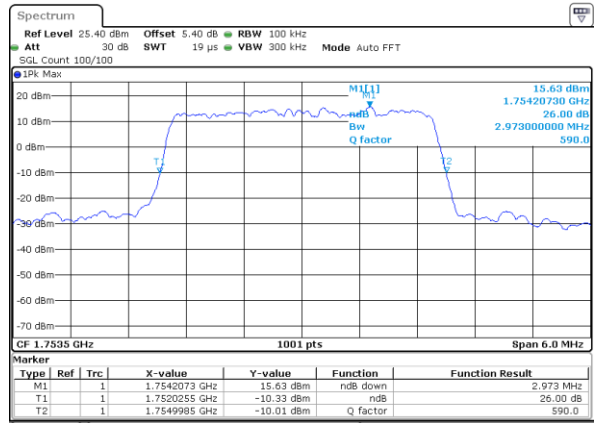
Date: 24 APR 2020 22:43:28

Highest Channel / 1.4MHz / 64QAM



Date: 24 APR 2020 22:36:28

Highest Channel / 3MHz / 64QAM

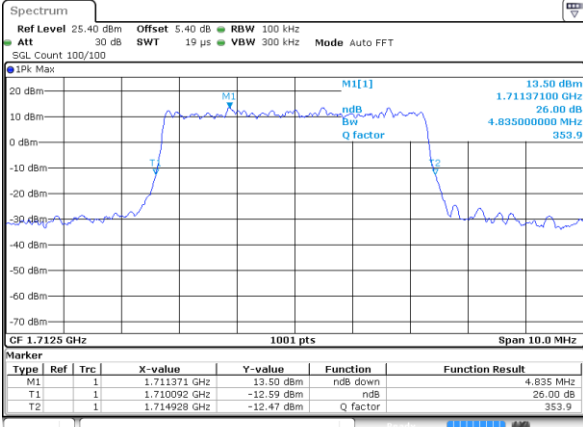


Date: 24 APR 2020 22:44:42



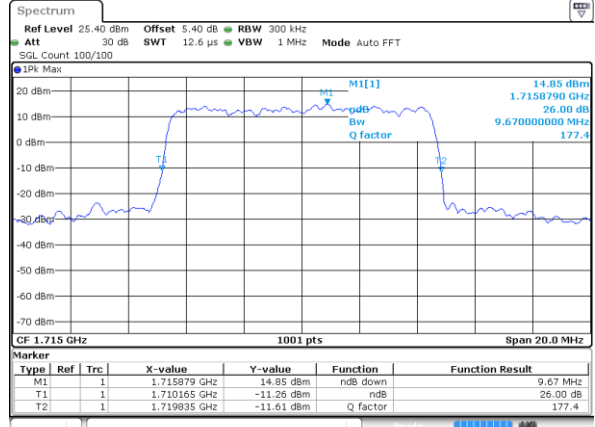
LTE Band 4

Lowest Channel / 5MHz / 64QAM



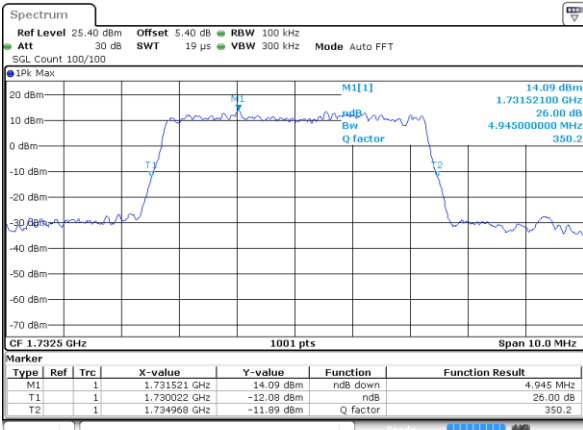
Date: 24 APR 2020 22:48:11

Lowest Channel / 10MHz / 64QAM



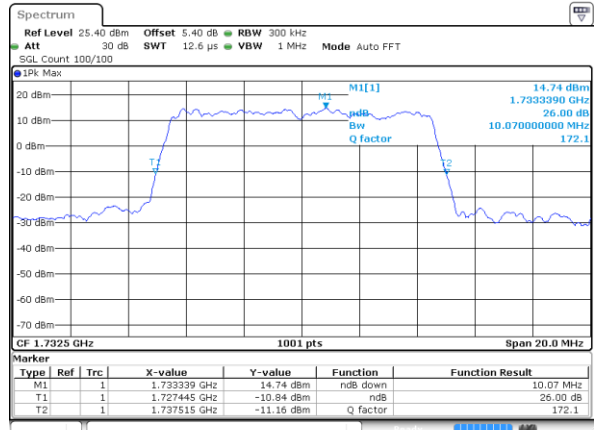
Date: 24 APR 2020 22:56:25

Middle Channel / 5MHz / 64QAM



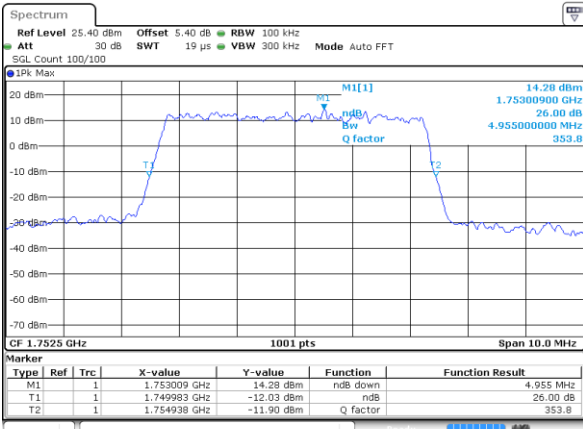
Date: 24 APR 2020 22:51:41

Middle Channel / 10MHz / 64QAM



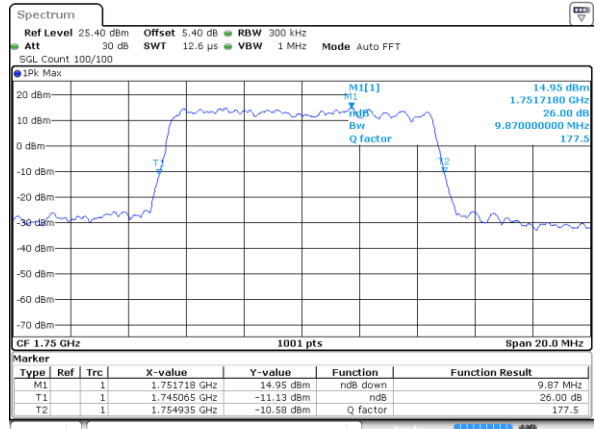
Date: 24 APR 2020 22:59:54

Highest Channel / 5MHz / 64QAM



Date: 24 APR 2020 22:52:56

Highest Channel / 10MHz / 64QAM

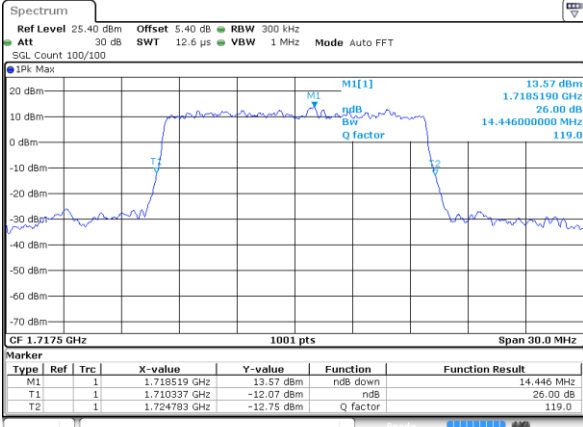


Date: 24 APR 2020 23:01:09



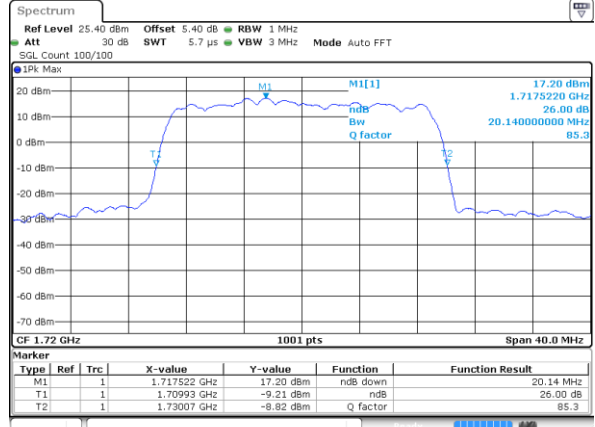
LTE Band 4

Lowest Channel / 15MHz / 64QAM



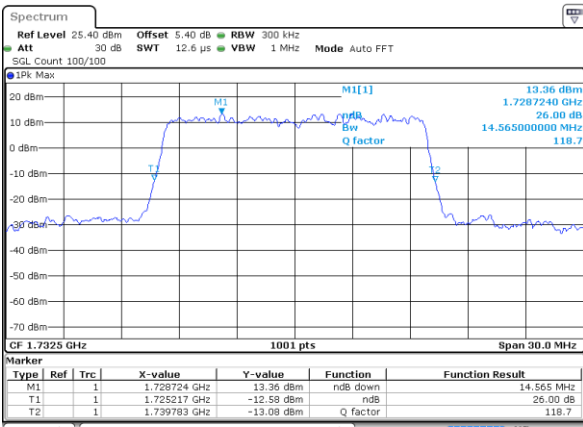
Date: 24 APR 2020 23 04 38

Lowest Channel / 20MHz / 64QAM



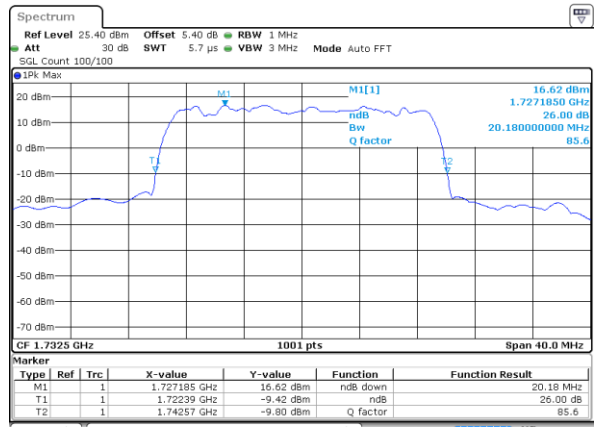
Date: 24 APR 2020 23 12 51

Middle Channel / 15MHz / 64QAM



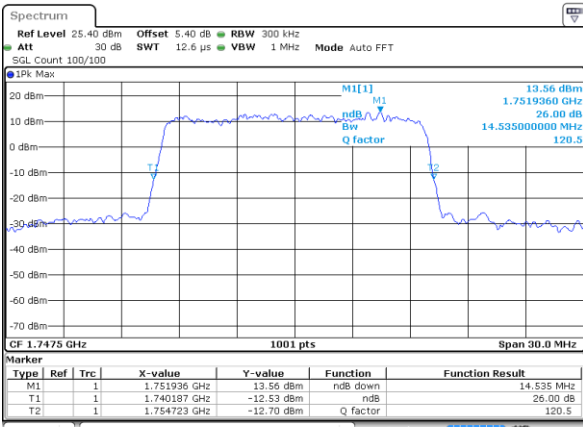
Date: 24 APR 2020 23 08 07

Middle Channel / 20MHz / 64QAM



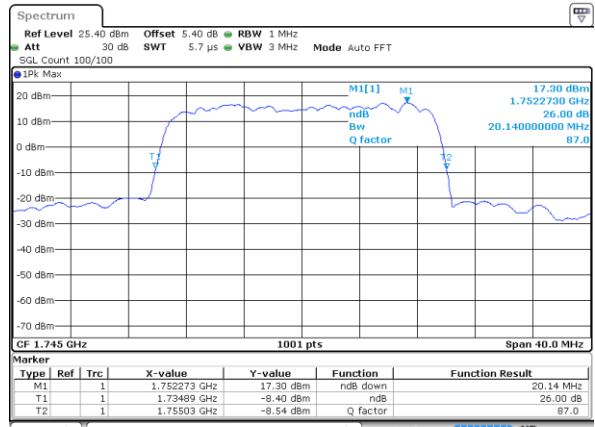
Date: 24 APR 2020 23 16 20

Highest Channel / 15MHz / 64QAM



Date: 24 APR 2020 23 09 21

Highest Channel / 20MHz / 64QAM



Date: 24 APR 2020 23 17 35





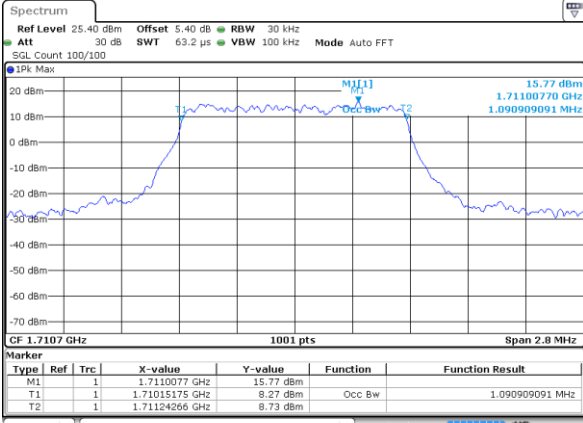
### Occupied Bandwidth

Mode	LTE Band 4 : 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	1.09	1.10	2.72	2.73	4.52	4.49	8.97	9.01	13.46	13.46	18.22	18.34
Middle CH	1.09	1.09	2.71	2.70	4.49	4.51	9.07	9.03	13.49	13.49	18.26	18.22
Highest CH	1.09	1.09	2.72	2.73	4.49	4.48	9.03	9.01	13.37	13.40	18.26	18.18
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09		2.72		4.49		9.03		13.46		18.18	
Middle CH	1.09		2.70		4.49		8.99		13.46		18.54	
Highest CH	1.09		2.72		4.50		9.01		13.40		18.46	



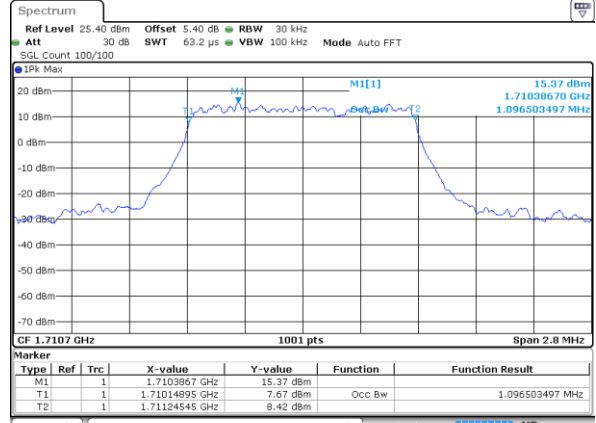
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



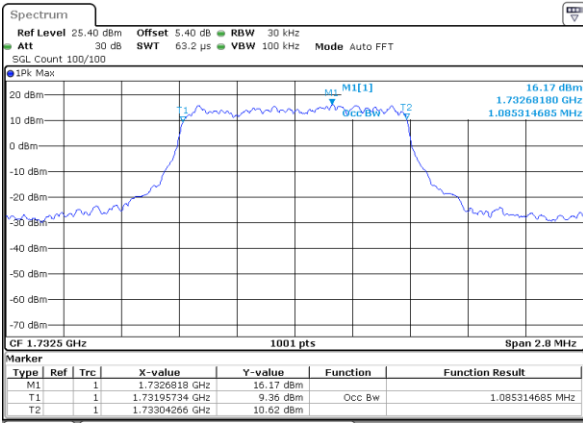
Date: 24 APR 2020 20:43:41

Lowest Channel / 1.4MHz / 16QAM



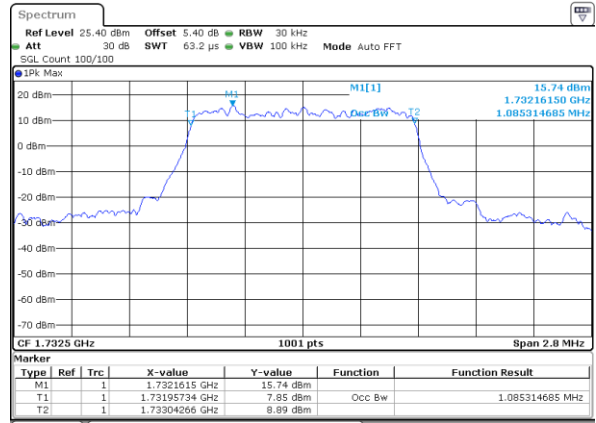
Date: 24 APR 2020 20:43:51

Middle Channel / 1.4MHz / QPSK



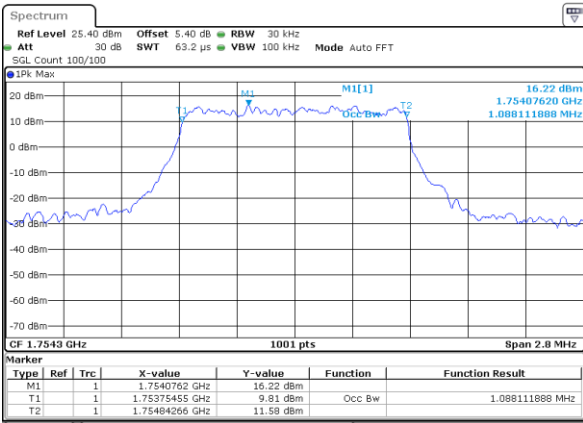
Date: 24 APR 2020 23:31:16

Middle Channel / 1.4MHz / 16QAM



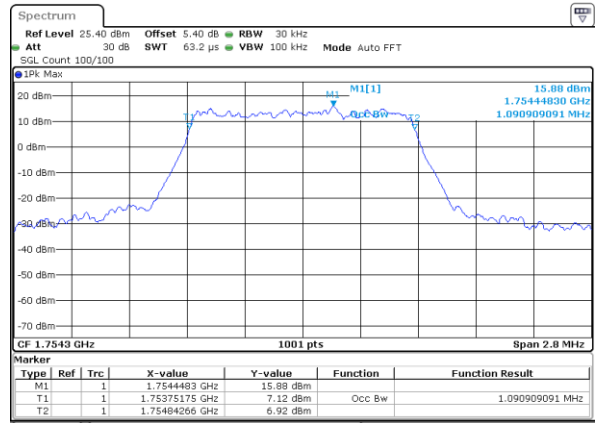
Date: 24 APR 2020 20:53:42

Highest Channel / 1.4MHz / QPSK



Date: 24 APR 2020 20:58:01

Highest Channel / 1.4MHz / 16QAM

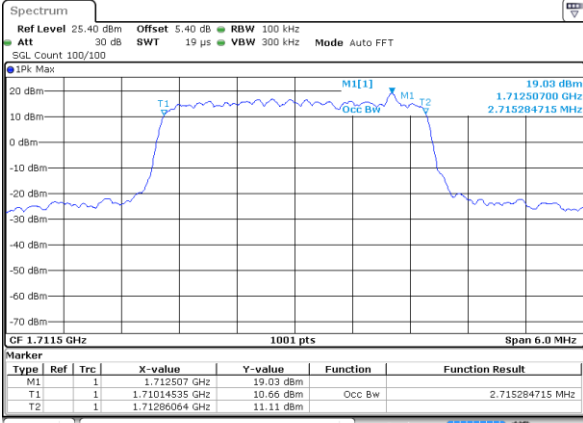


Date: 24 APR 2020 20:58:11



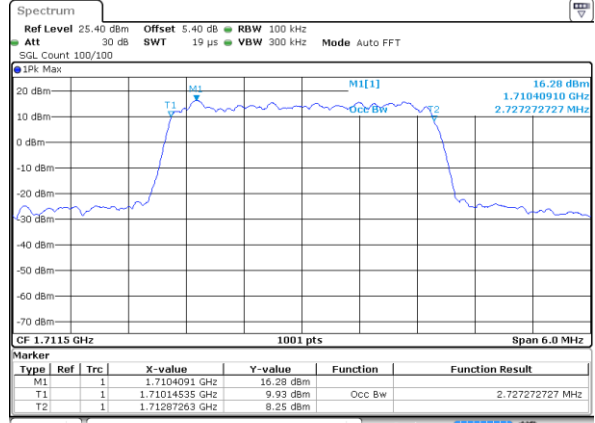
LTE Band 4

Lowest Channel / 3MHz / QPSK



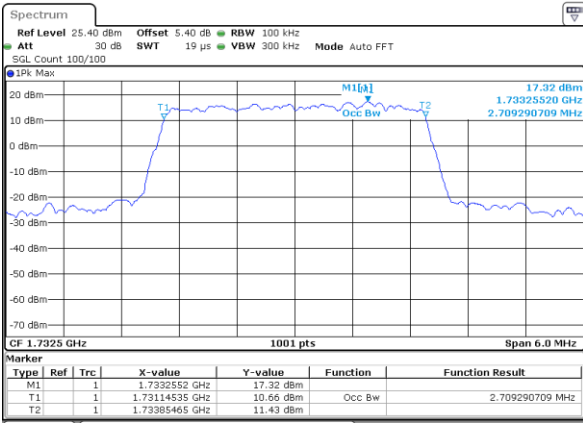
Date: 24 APR 2020 21:04:59

Lowest Channel / 3MHz / 16QAM



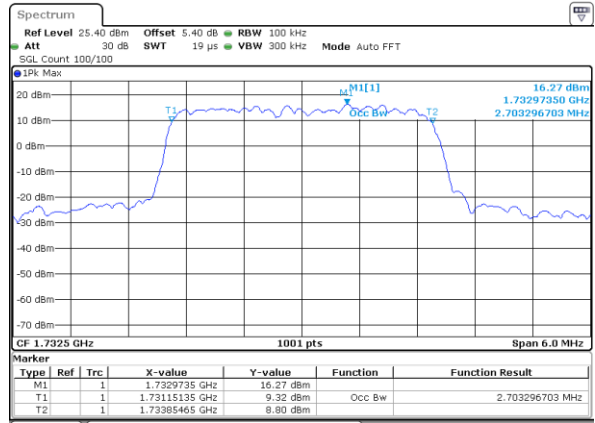
Date: 24 APR 2020 21:05:09

Middle Channel / 3MHz / QPSK



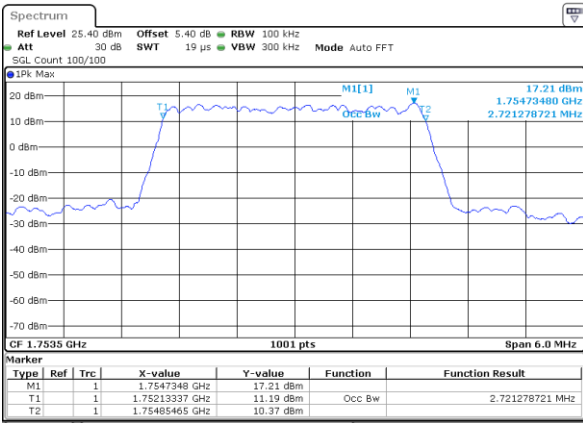
Date: 24 APR 2020 21:14:32

Middle Channel / 3MHz / 16QAM



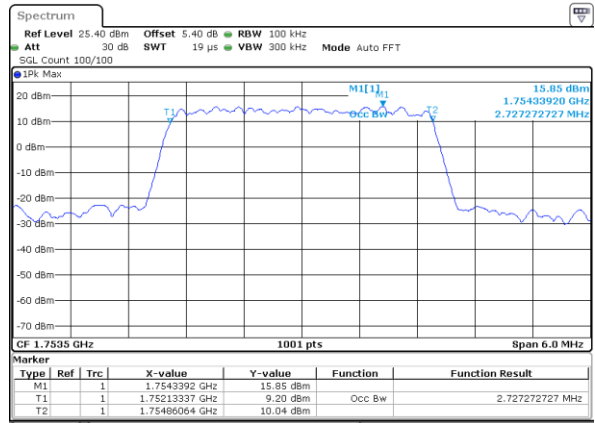
Date: 24 APR 2020 21:14:42

Highest Channel / 3MHz / QPSK



Date: 24 APR 2020 21:17:01

Highest Channel / 3MHz / 16QAM

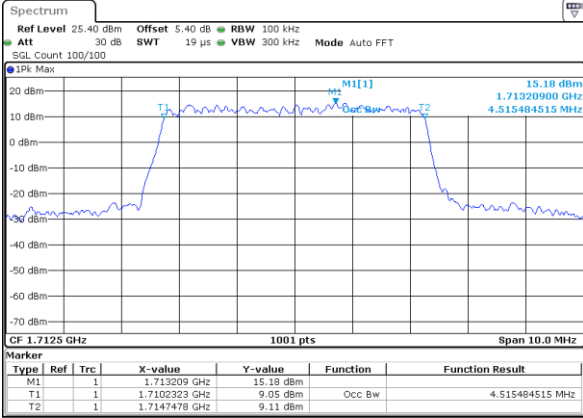


Date: 24 APR 2020 21:17:11



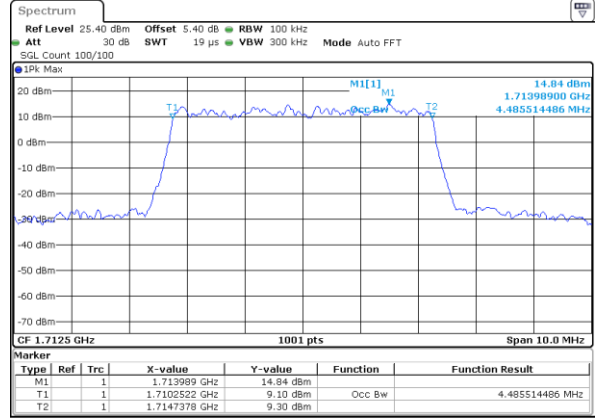
LTE Band 4

Lowest Channel / 5MHz / QPSK



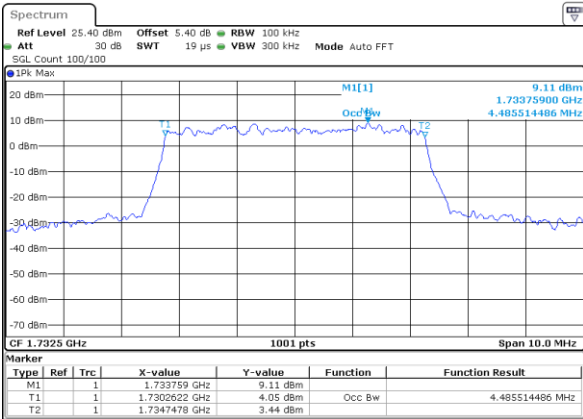
Date: 24 APR 2020 21:23:59

Lowest Channel / 5MHz / 16QAM



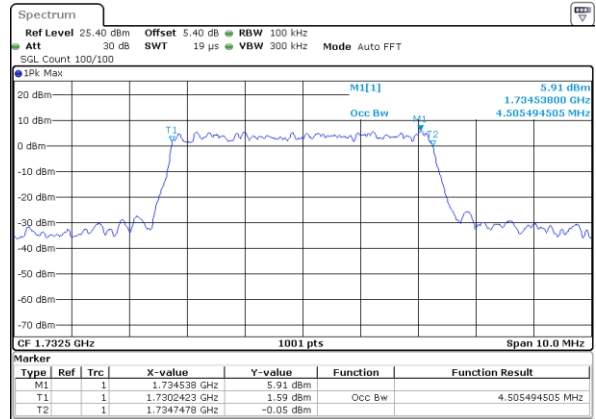
Date: 24 APR 2020 21:24:09

Middle Channel / 5MHz / QPSK



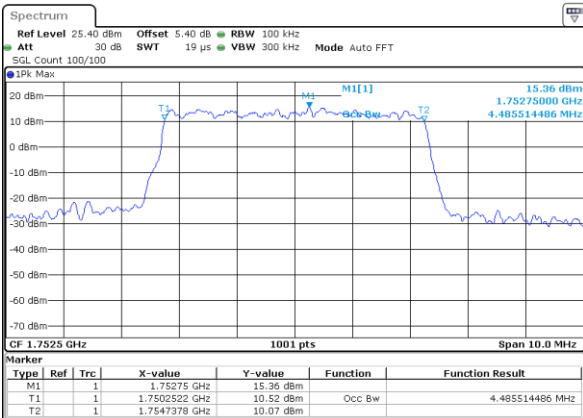
Date: 24 APR 2020 21:30:58

Middle Channel / 5MHz / 16QAM



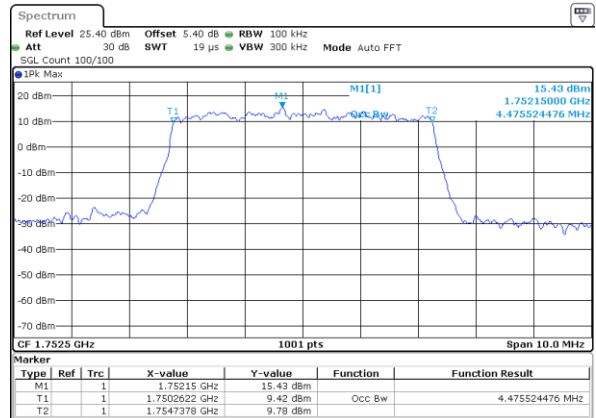
Date: 24 APR 2020 21:31:07

Highest Channel / 5MHz / QPSK



Date: 24 APR 2020 21:33:26

Highest Channel / 5MHz / 16QAM



Date: 24 APR 2020 21:33:36