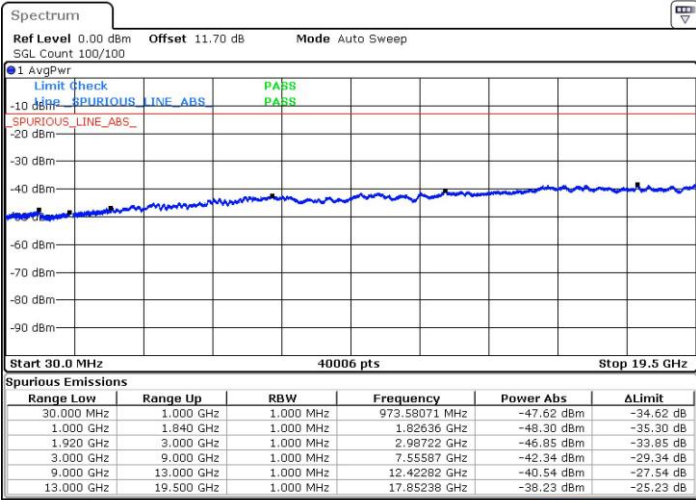




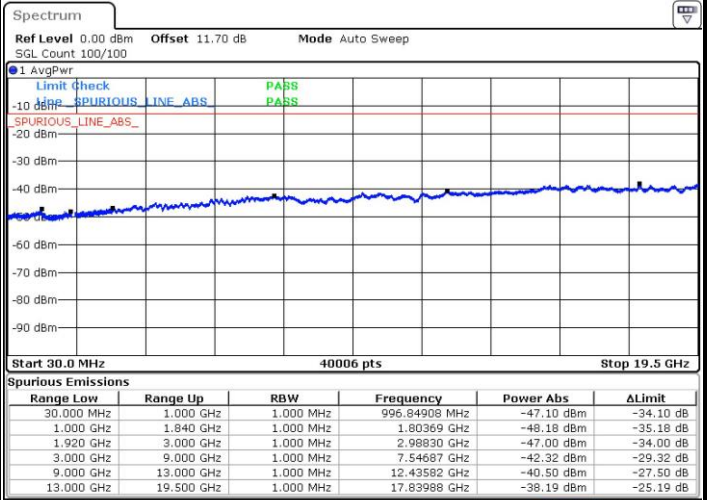
LTE Band 2 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

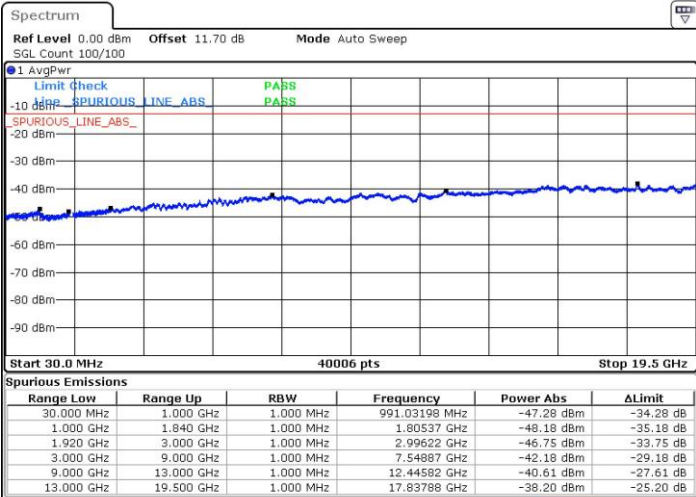


Date: 11.MAY.2019 00:06:16



Date: 11.MAY.2019 00:07:20

Highest Channel / 64QAM



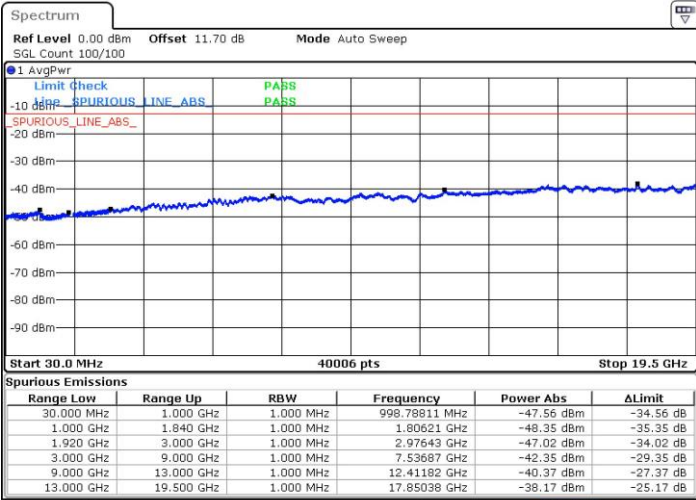
Date: 11.MAY.2019 00:09:39



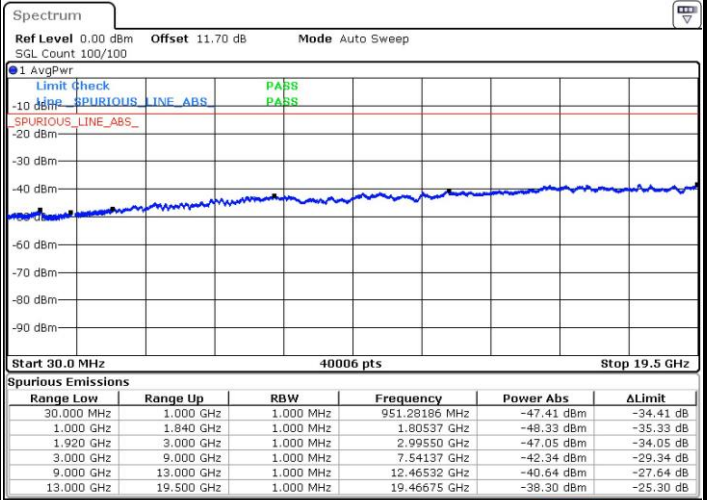
LTE Band 2 / 15MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

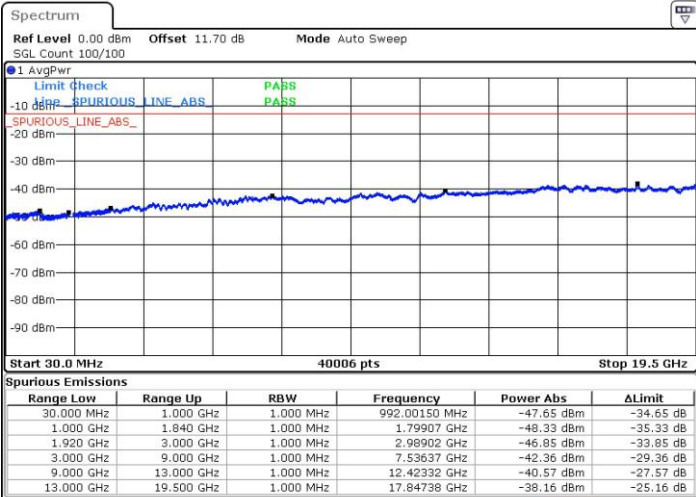


Date: 11.MAY.2019 00:11:58



Date: 11.MAY.2019 00:13:02

Highest Channel / 64QAM



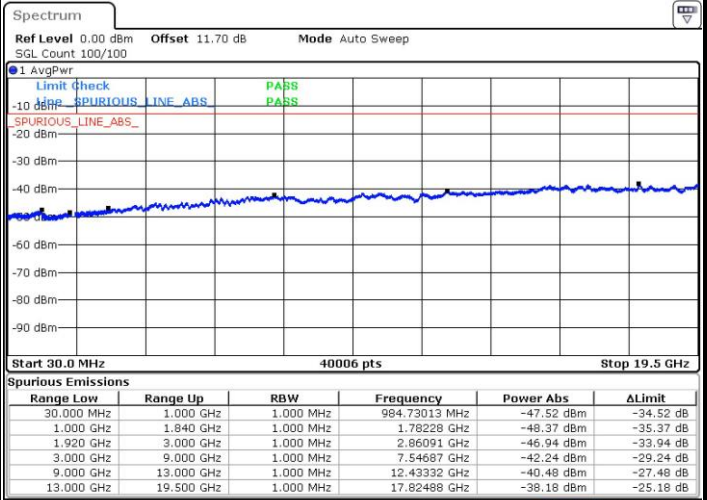
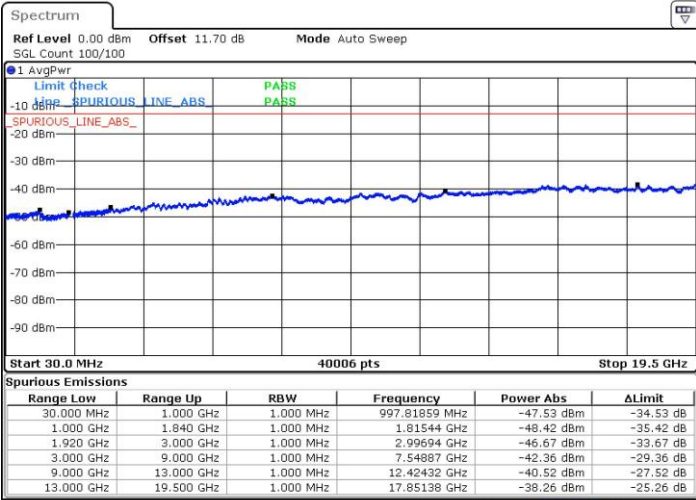
Date: 11.MAY.2019 00:15:21



LTE Band 2 / 20MHz

Lowest Channel / 64QAM

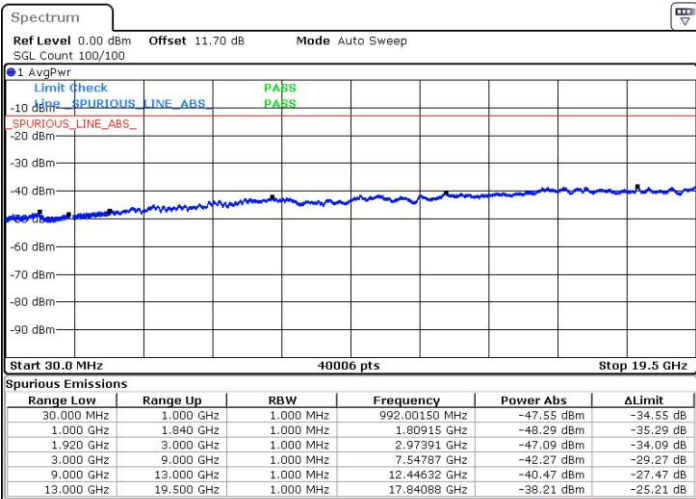
Middle Channel / 64QAM



Date: 11.MAY.2019 00:17:40

Date: 11.MAY.2019 00:18:45

Highest Channel / 64QAM



Date: 11.MAY.2019 00:21:03



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	0.0068	PASS
40	Normal Voltage	0.0002	
30	Normal Voltage	0.0001	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0066	
0	Normal Voltage	0.0070	
-10	Normal Voltage	0.0006	
-20	Normal Voltage	0.0071	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0062	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0002	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.4 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



# LTE Band 4

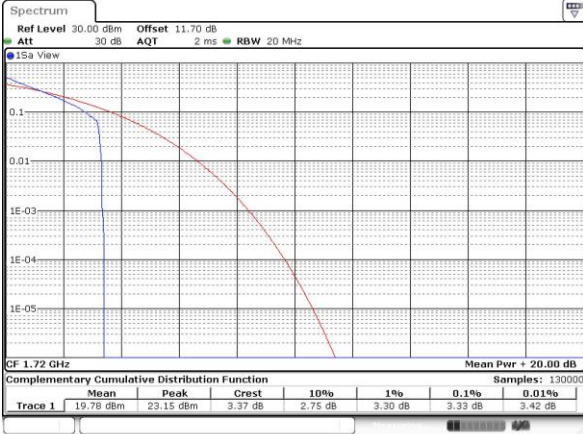
## Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.33	4.67	4.7	6	<b>PASS</b>
Middle CH	3.68	4.78	5.42	6.14	
Highest CH	3.65	4.61	5.19	5.94	
Mode	LTE Band 4 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.17	6.58	-	-	<b>PASS</b>
Middle CH	6.38	6.67	-	-	
Highest CH	7.01	6.55	-	-	



LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB



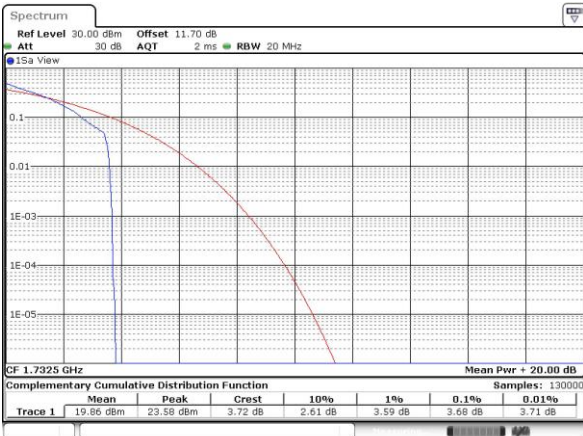
Date: 13 MAY 2019 08:03:53

Lowest Channel / Full RB



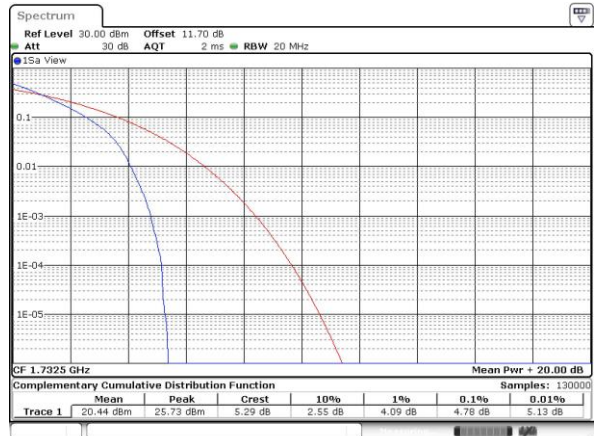
Date: 13 MAY 2019 08:04:07

Middle Channel / 1RB



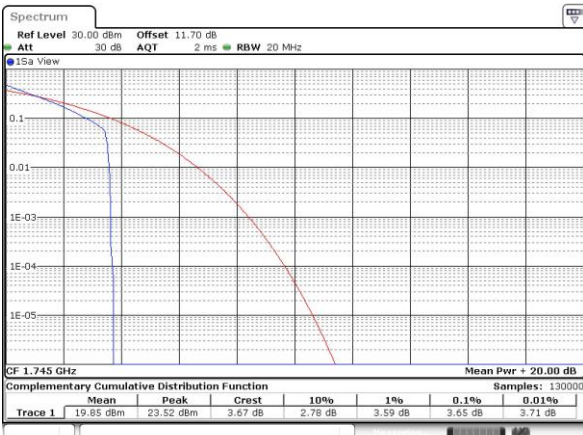
Date: 13 MAY 2019 08:04:18

Middle Channel / Full RB



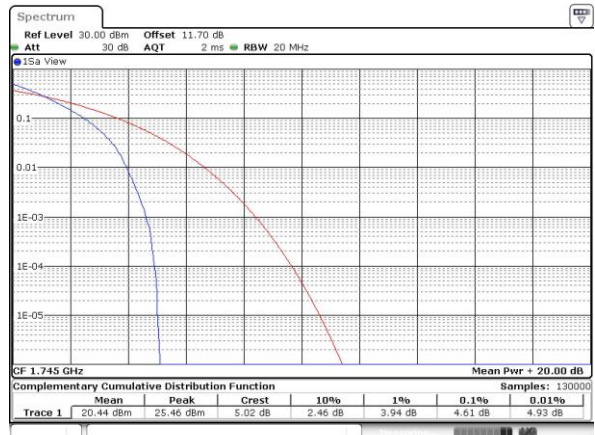
Date: 13 MAY 2019 08:04:29

Highest Channel / 1RB



Date: 13 MAY 2019 08:04:41

Highest Channel / Full RB

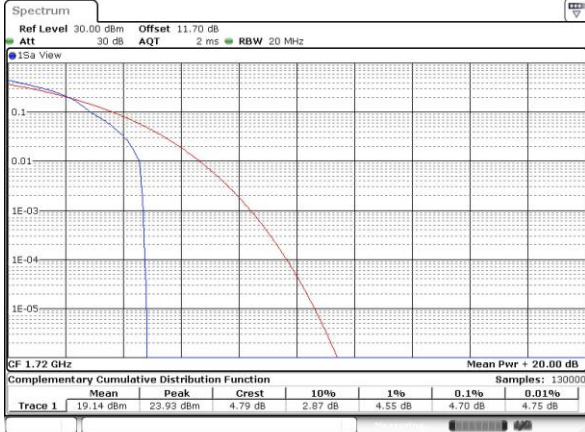


Date: 13 MAY 2019 08:04:53



LTE Band 4 / 20MHz / 16QAM

Lowest Channel / 1RB



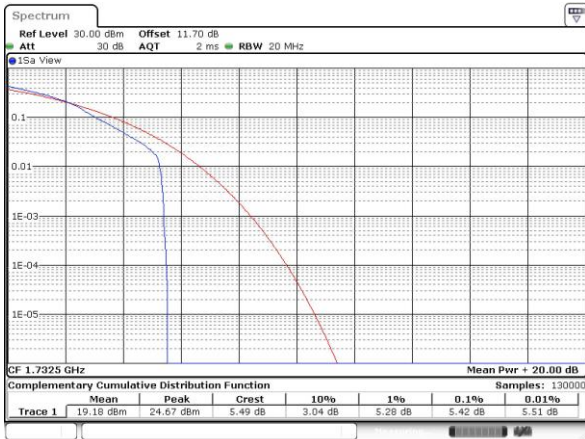
Date: 13 MAY 2019 08:01:38

Lowest Channel / Full RB



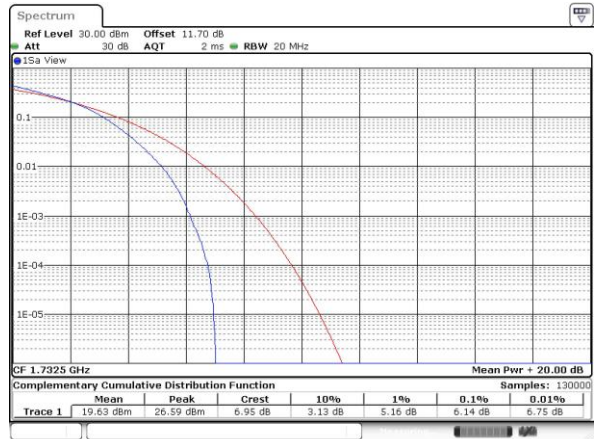
Date: 13 MAY 2019 08:01:52

Middle Channel / 1RB



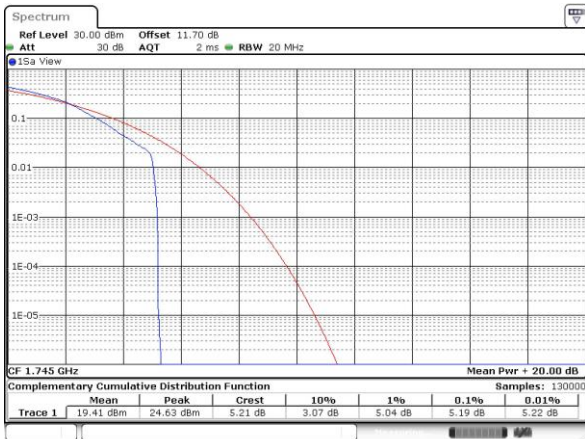
Date: 13 MAY 2019 08:02:22

Middle Channel / Full RB



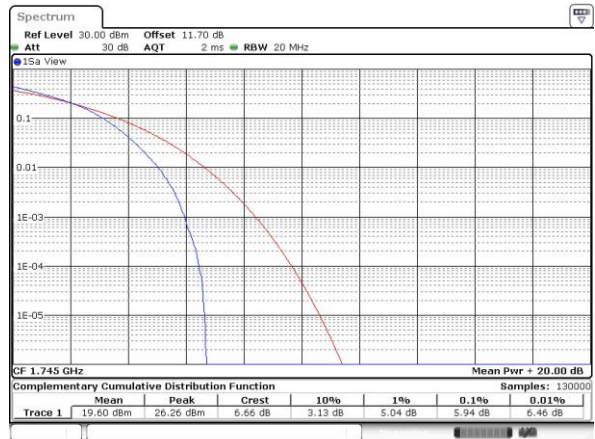
Date: 13 MAY 2019 08:02:38

Highest Channel / 1RB



Date: 13 MAY 2019 08:03:14

Highest Channel / Full RB



Date: 13 MAY 2019 08:03:33



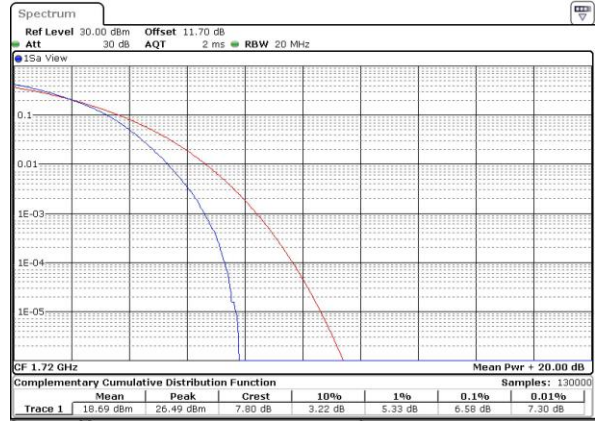
LTE Band 4 / 20MHz / 64QAM

Lowest Channel / 1RB



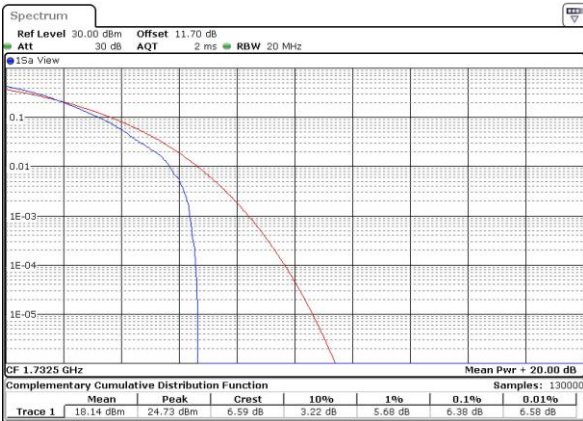
Date: 13 MAY 2019 08:05:05

Lowest Channel / Full RB



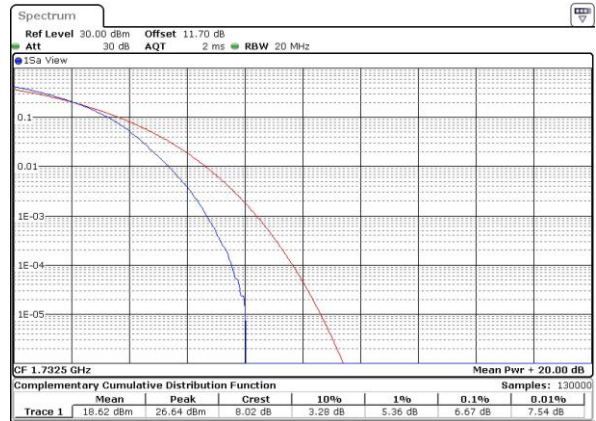
Date: 13 MAY 2019 08:05:18

Middle Channel / 1RB



Date: 13 MAY 2019 08:05:44

Middle Channel / Full RB



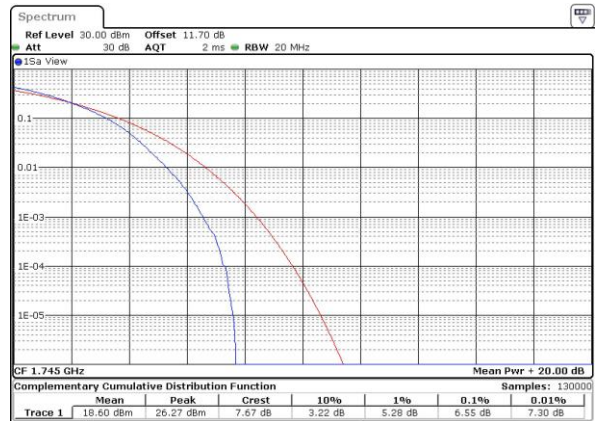
Date: 13 MAY 2019 08:06:18

Highest Channel / 1RB



Date: 13 MAY 2019 08:06:41

Highest Channel / Full RB



Date: 13 MAY 2019 08:06:54





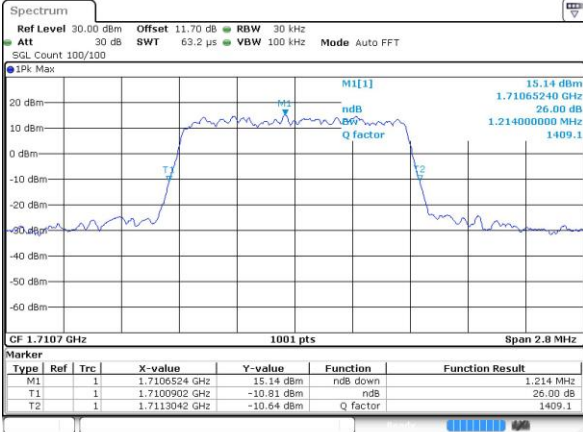
**26dB Bandwidth**

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	1.21	1.23	3.06	3.05	4.93	4.95	9.85	9.75	14.33	14.45	18.74	19.06
Middle CH	1.24	1.23	3.03	2.97	4.88	4.99	9.77	9.75	14.27	14.57	19.34	18.70
Highest CH	1.22	1.22	3.04	3.03	4.90	4.88	9.79	9.79	14.39	14.42	19.10	19.18
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.23	-	2.95	-	4.93	-	9.73	-	14.27	-	18.82	-
Middle CH	1.23	-	2.96	-	4.84	-	9.77	-	14.24	-	19.06	-
Highest CH	1.21	-	2.96	-	4.97	-	9.89	-	14.12	-	18.90	-



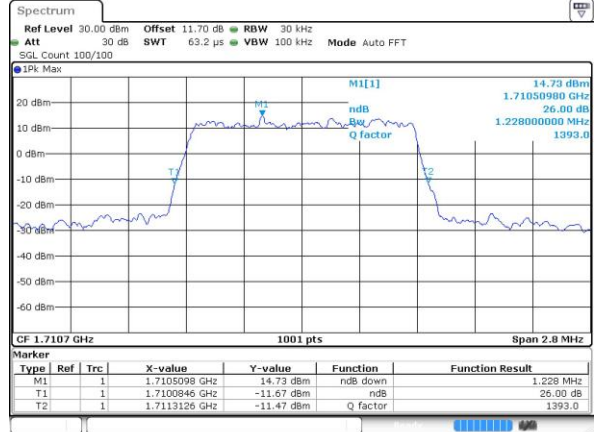
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



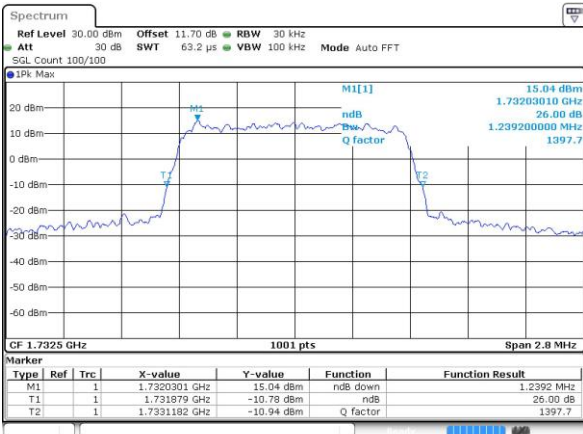
Date: 13 MAY 2019 07:40:59

Lowest Channel / 1.4MHz / 16QAM



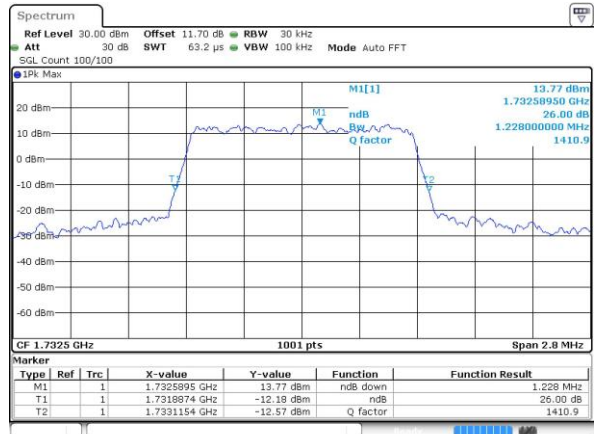
Date: 13 MAY 2019 07:41:11

Middle Channel / 1.4MHz / QPSK



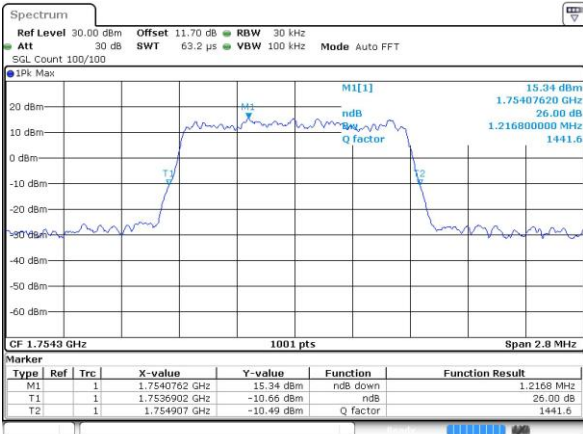
Date: 13 MAY 2019 07:50:30

Middle Channel / 1.4MHz / 16QAM



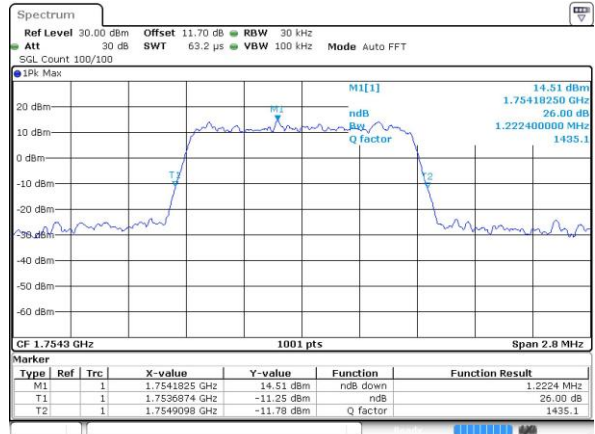
Date: 13 MAY 2019 07:50:41

Highest Channel / 1.4MHz / QPSK



Date: 13 MAY 2019 07:52:40

Highest Channel / 1.4MHz / 16QAM

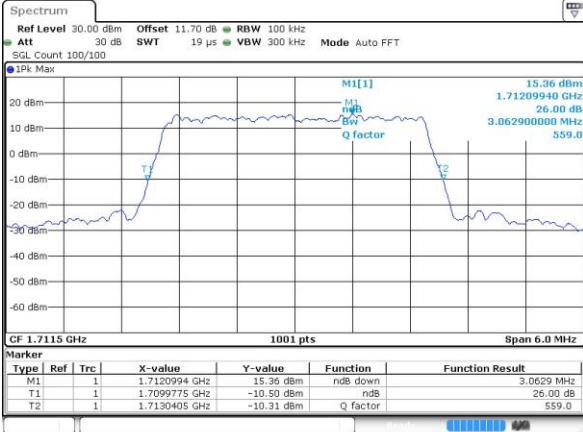


Date: 13 MAY 2019 07:52:52



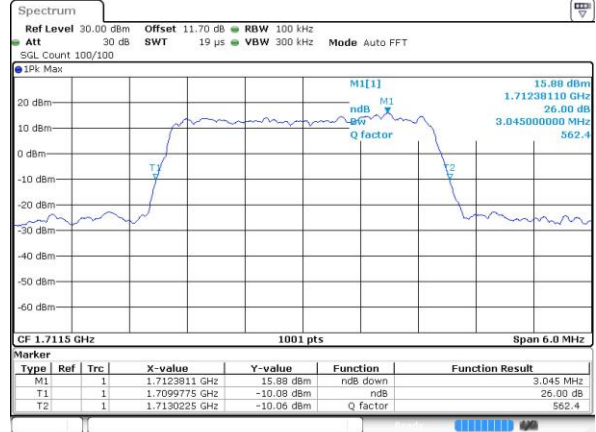
LTE Band 4

Lowest Channel / 3MHz / QPSK



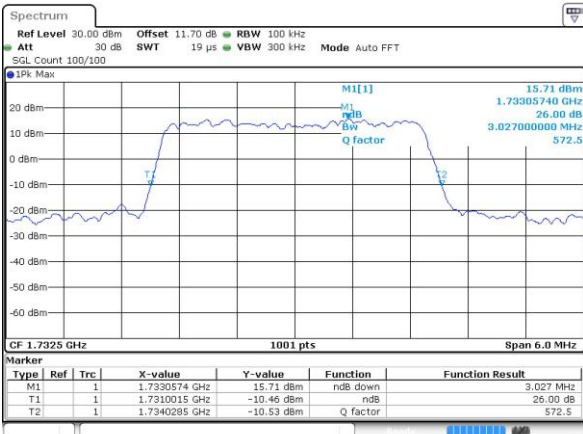
Date: 13 MAY 2019 05:42:09

Lowest Channel / 3MHz / 16QAM



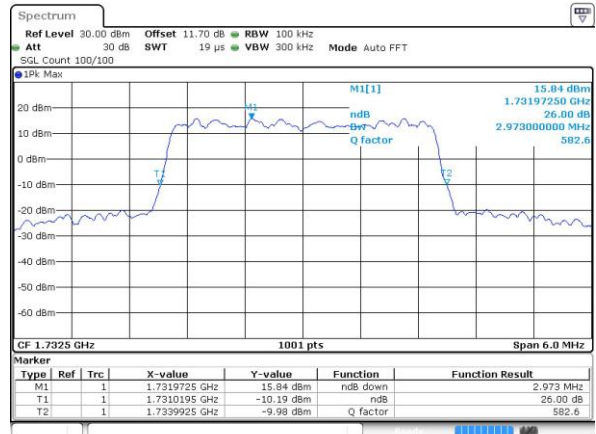
Date: 13 MAY 2019 05:42:21

Middle Channel / 3MHz / QPSK



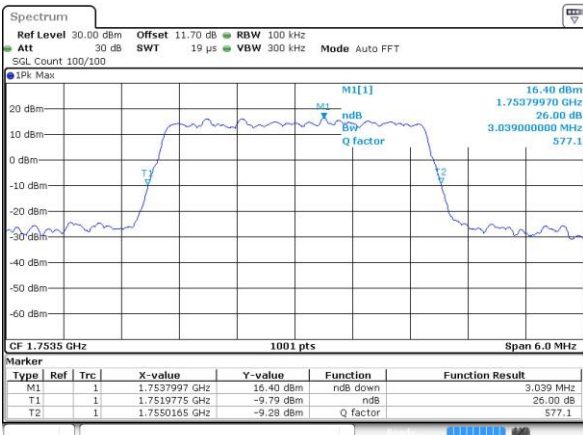
Date: 13 MAY 2019 05:48:25

Middle Channel / 3MHz / 16QAM



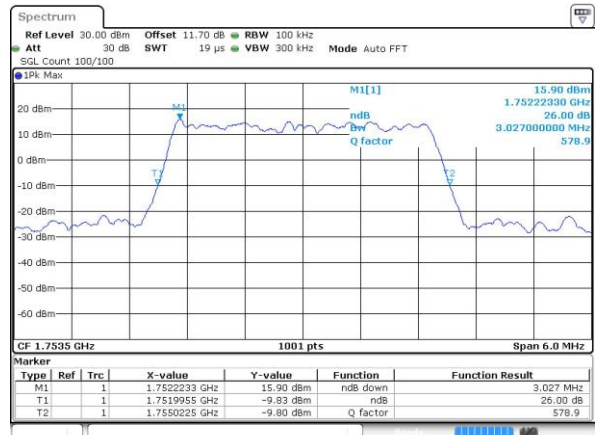
Date: 13 MAY 2019 05:48:37

Highest Channel / 3MHz / QPSK



Date: 13 MAY 2019 05:50:35

Highest Channel / 3MHz / 16QAM

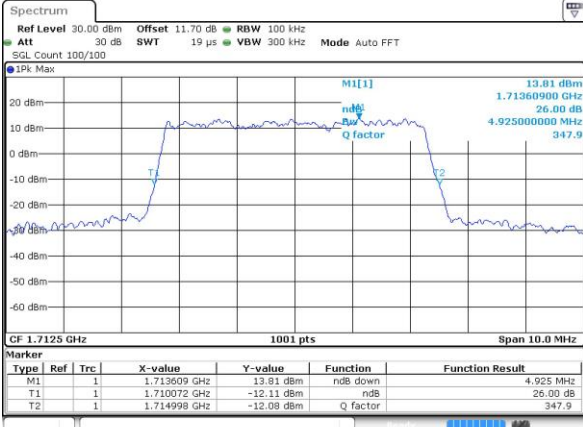


Date: 13 MAY 2019 05:50:47



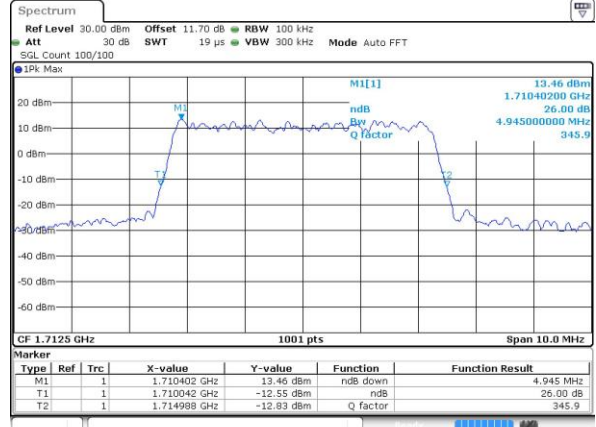
LTE Band 4

Lowest Channel / 5MHz / QPSK



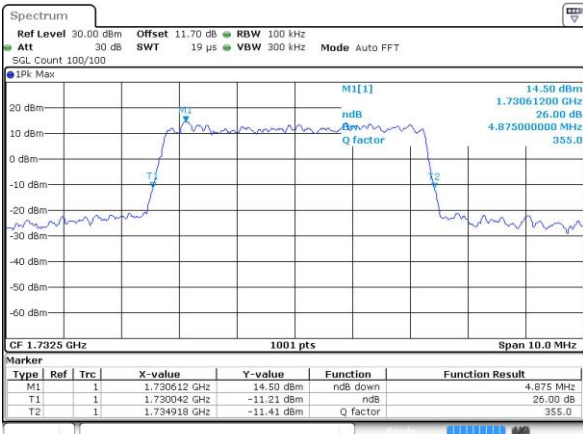
Date: 13 MAY 2019 05:56:53

Lowest Channel / 5MHz / 16QAM



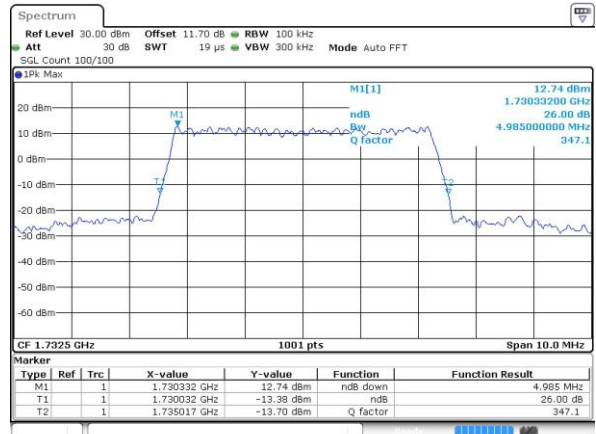
Date: 13 MAY 2019 05:57:05

Middle Channel / 5MHz / QPSK



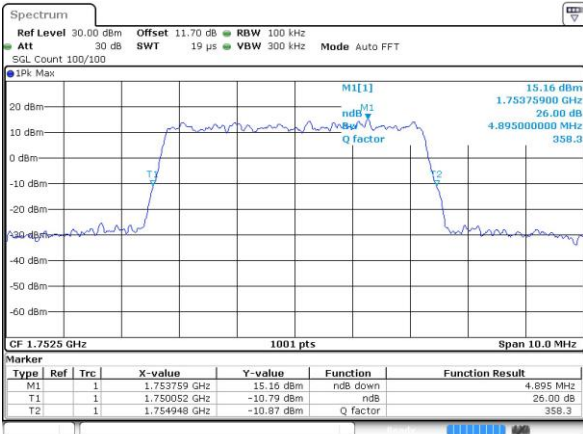
Date: 13 MAY 2019 06:03:08

Middle Channel / 5MHz / 16QAM



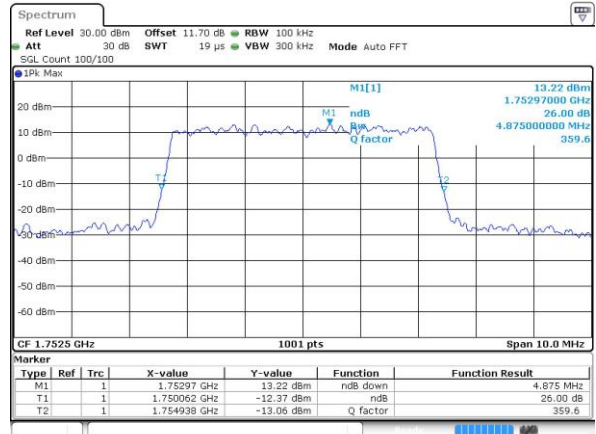
Date: 13 MAY 2019 06:03:20

Highest Channel / 5MHz / QPSK



Date: 13 MAY 2019 06:05:18

Highest Channel / 5MHz / 16QAM

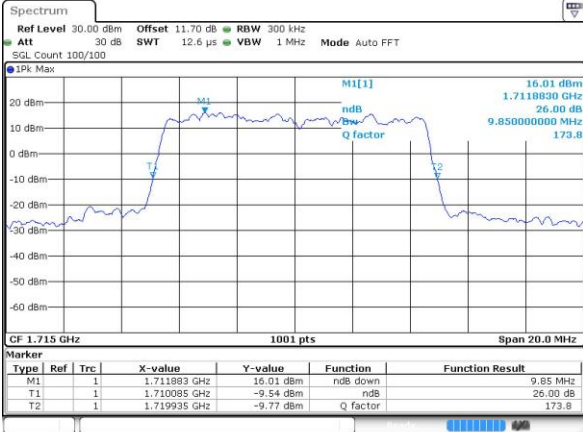


Date: 13 MAY 2019 06:05:31



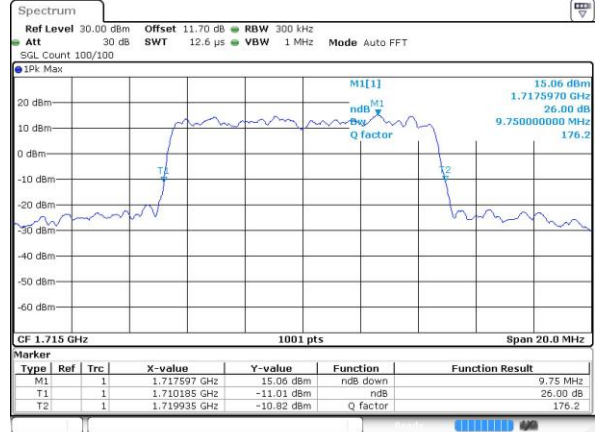
LTE Band 4

Lowest Channel / 10MHz / QPSK



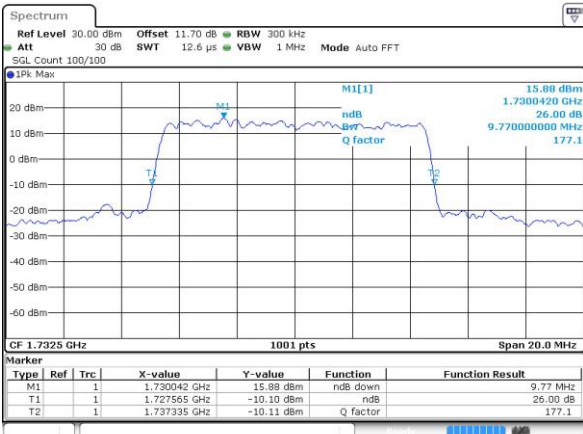
Date: 13 MAY 2019 06:11:36

Lowest Channel / 10MHz / 16QAM



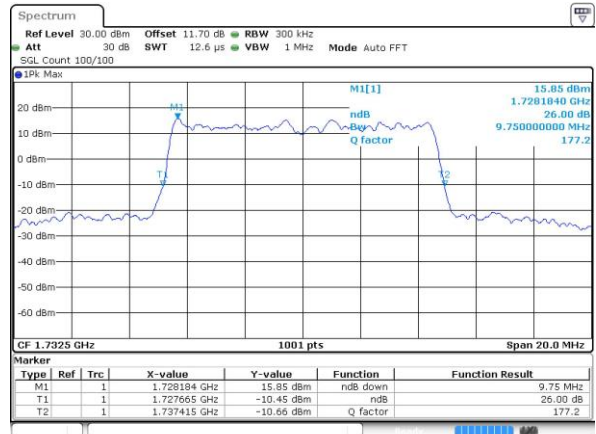
Date: 13 MAY 2019 06:11:49

Middle Channel / 10MHz / QPSK



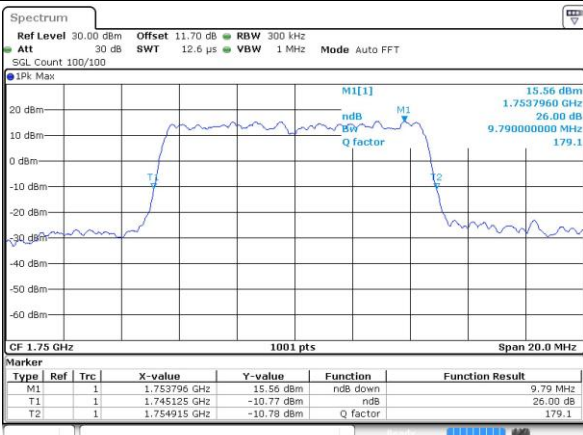
Date: 13 MAY 2019 06:17:52

Middle Channel / 10MHz / 16QAM



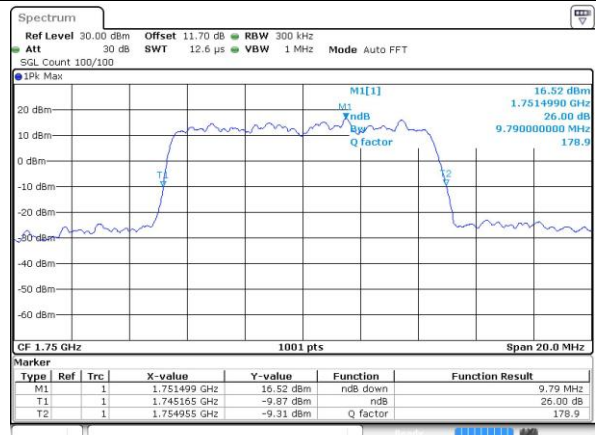
Date: 13 MAY 2019 06:18:04

Highest Channel / 10MHz / QPSK



Date: 13 MAY 2019 06:20:03

Highest Channel / 10MHz / 16QAM

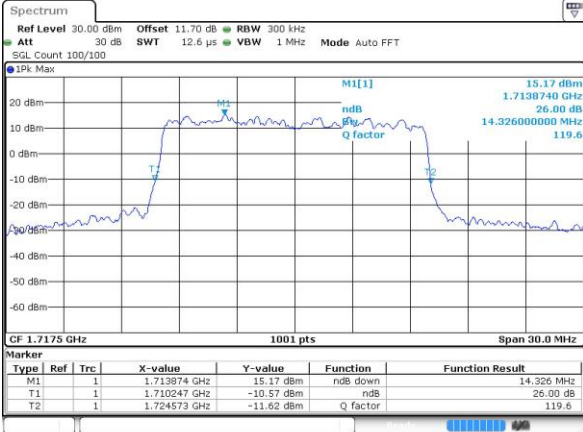


Date: 13 MAY 2019 06:20:15



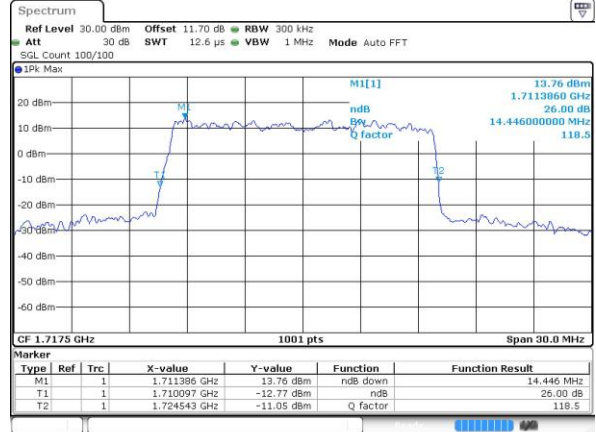
LTE Band 4

Lowest Channel / 15MHz / QPSK



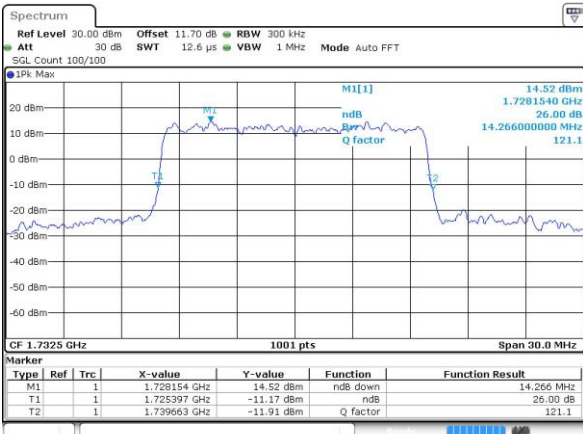
Date: 13 MAY 2019 06:26:20

Lowest Channel / 15MHz / 16QAM



Date: 13 MAY 2019 06:26:33

Middle Channel / 15MHz / QPSK



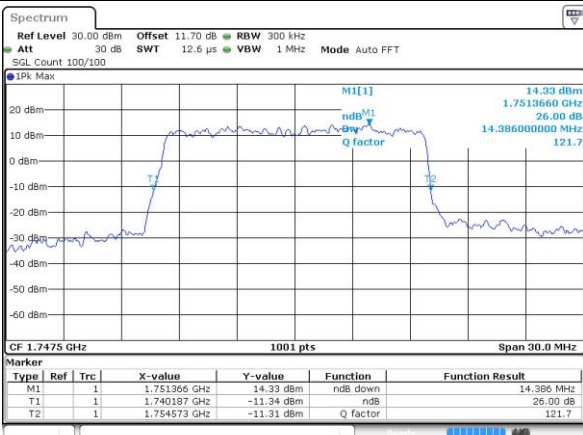
Date: 13 MAY 2019 06:32:36

Middle Channel / 15MHz / 16QAM



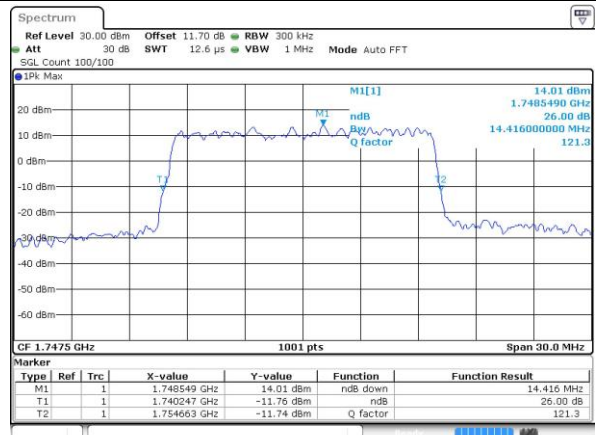
Date: 13 MAY 2019 06:32:48

Highest Channel / 15MHz / QPSK



Date: 13 MAY 2019 06:34:46

Highest Channel / 15MHz / 16QAM

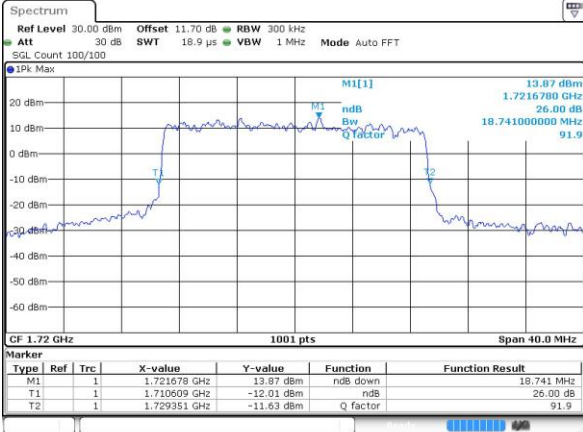


Date: 13 MAY 2019 06:34:59



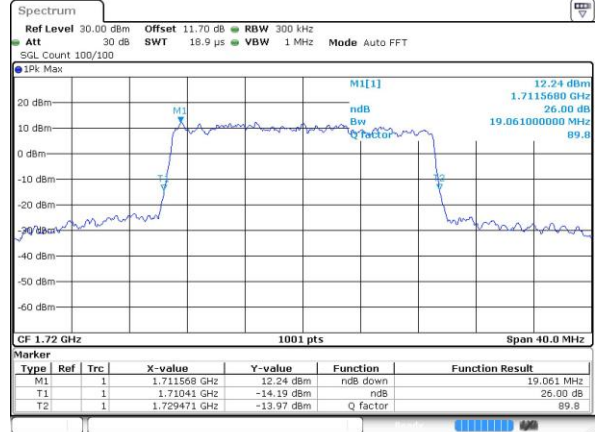
LTE Band 4

Lowest Channel / 20MHz / QPSK



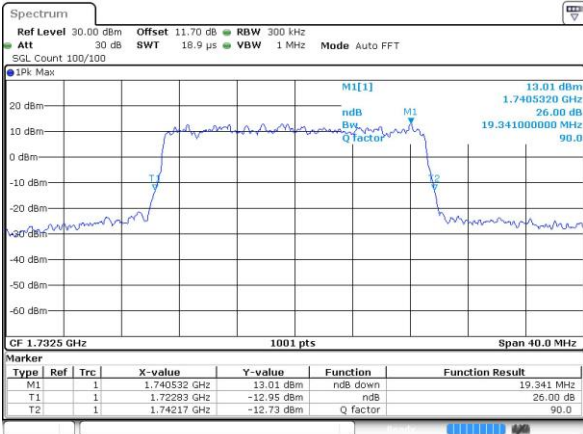
Date: 13 MAY 2019 06:41:04

Lowest Channel / 20MHz / 16QAM



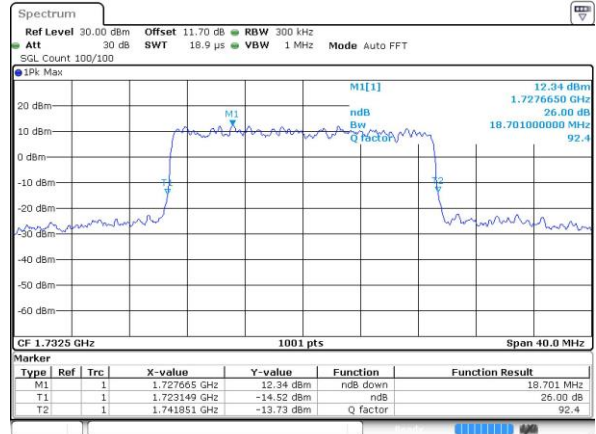
Date: 13 MAY 2019 06:41:16

Middle Channel / 20MHz / QPSK



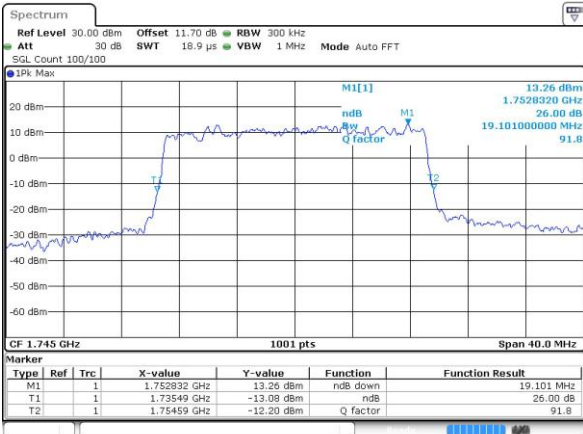
Date: 13 MAY 2019 06:47:20

Middle Channel / 20MHz / 16QAM



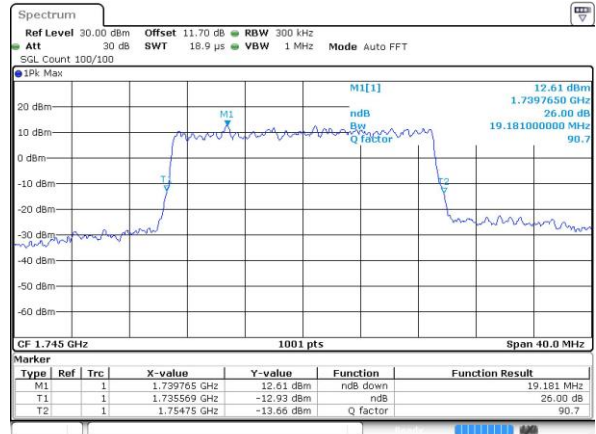
Date: 13 MAY 2019 06:47:32

Highest Channel / 20MHz / QPSK



Date: 13 MAY 2019 06:49:31

Highest Channel / 20MHz / 16QAM

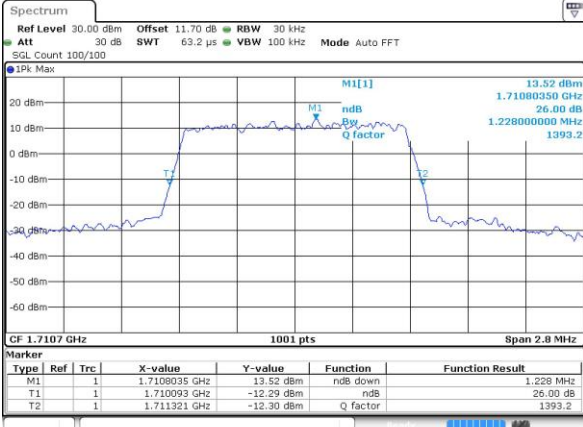


Date: 13 MAY 2019 06:49:43



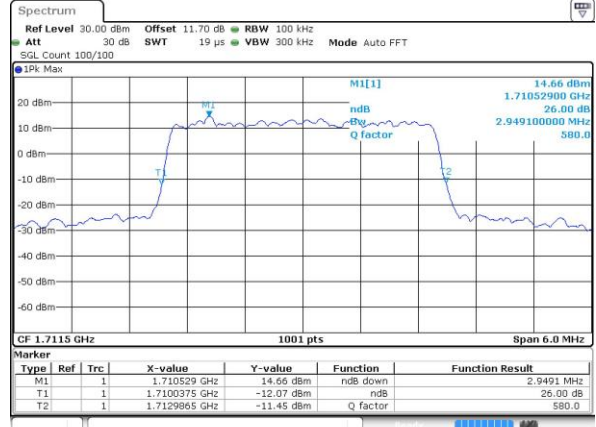
LTE Band 4

Lowest Channel / 1.4MHz / 64QAM



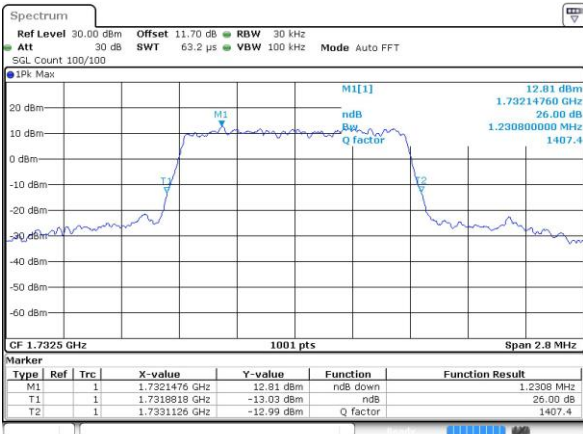
Date: 13 MAY 2019 07:33:12

Lowest Channel / 3MHz / 64QAM



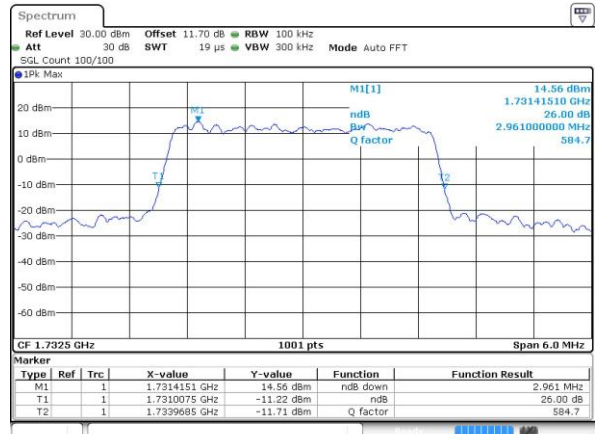
Date: 13 MAY 2019 08:55:36

Middle Channel / 1.4MHz / 64QAM



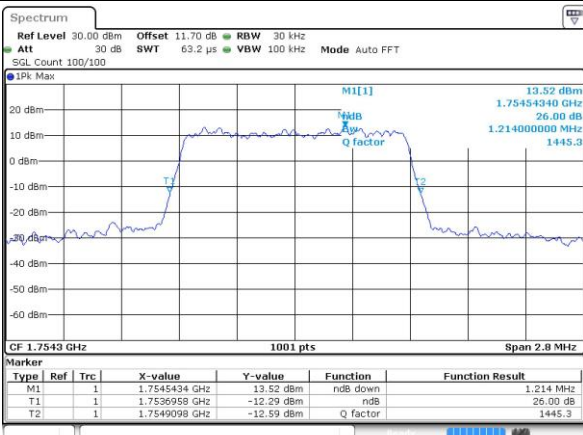
Date: 13 MAY 2019 07:36:26

Middle Channel / 3MHz / 64QAM



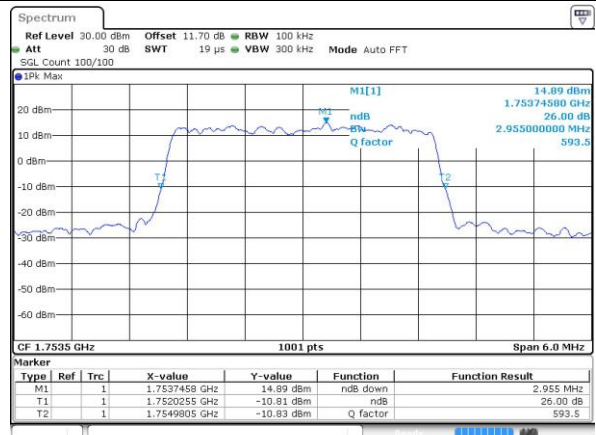
Date: 13 MAY 2019 06:58:43

Highest Channel / 1.4MHz / 64QAM



Date: 13 MAY 2019 07:37:31

Highest Channel / 3MHz / 64QAM



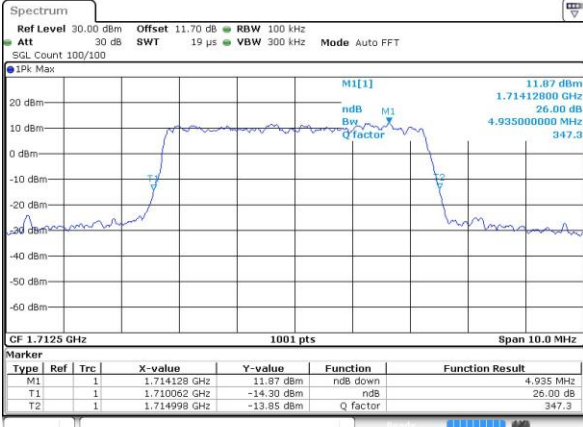
Date: 13 MAY 2019 08:58:49



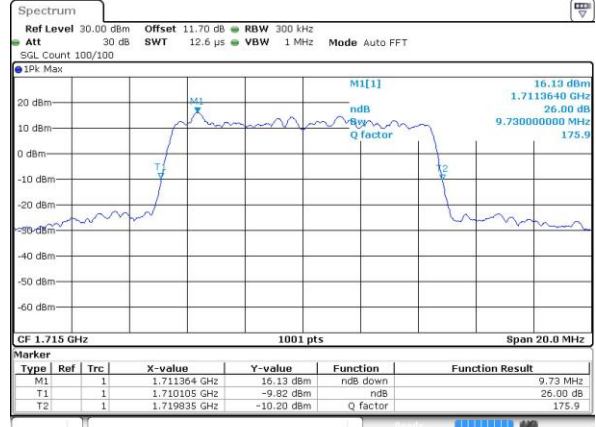


LTE Band 4

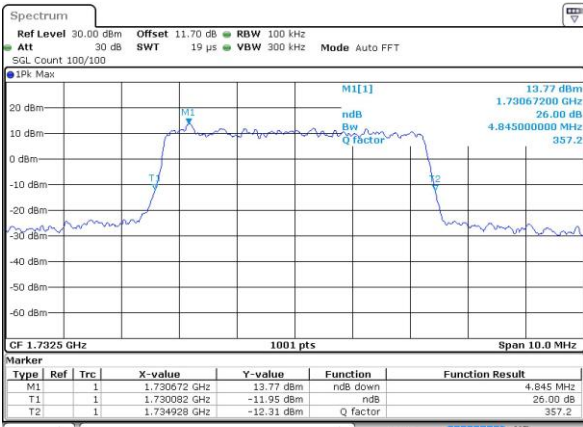
Lowest Channel / 5MHz / 64QAM



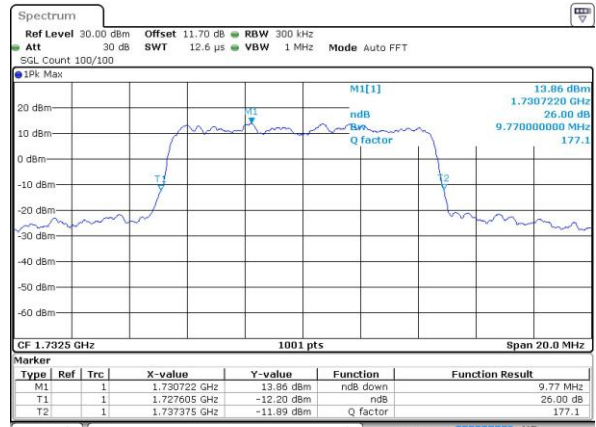
Lowest Channel / 10MHz / 64QAM



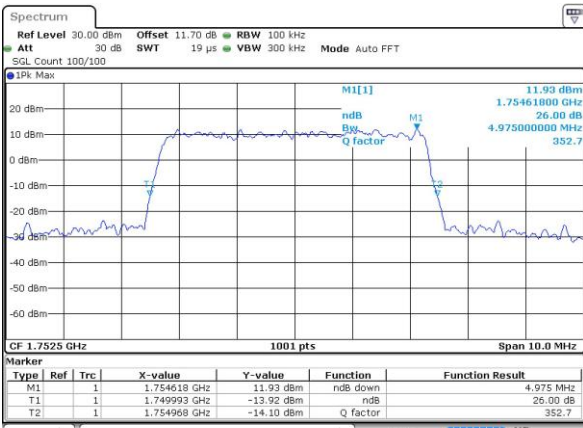
Middle Channel / 5MHz / 64QAM



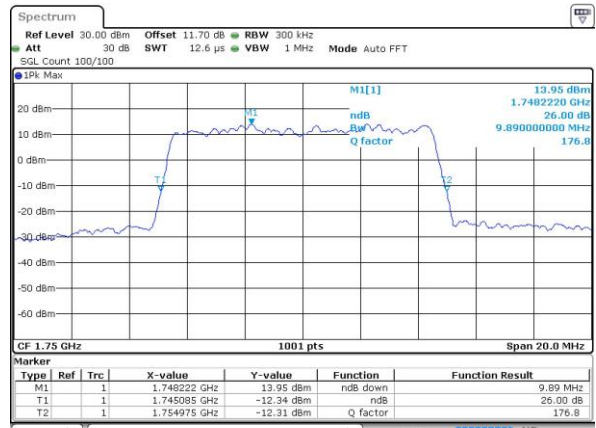
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



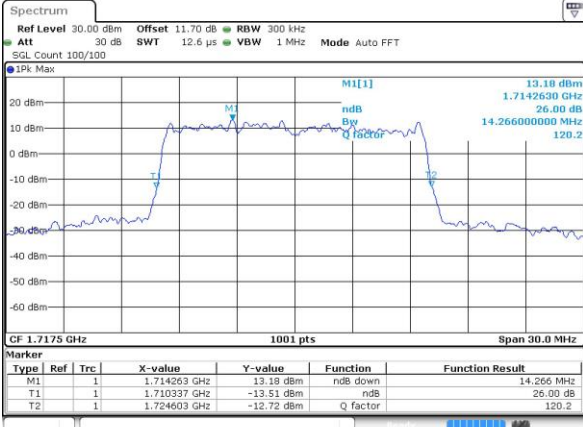
Highest Channel / 10MHz / 64QAM





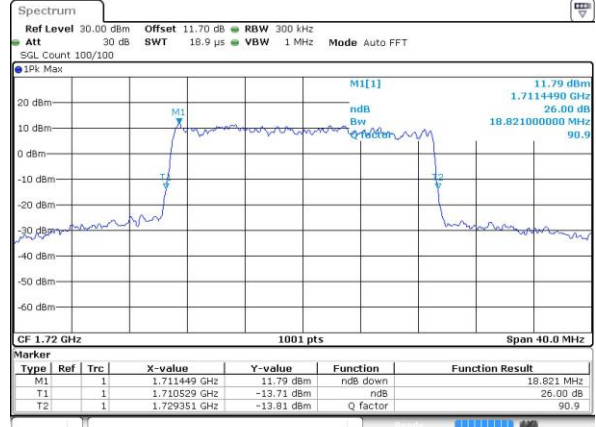
LTE Band 4

Lowest Channel / 15MHz / 64QAM



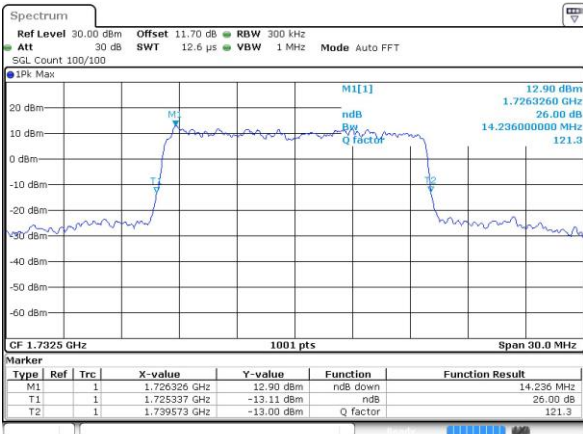
Date: 13 MAY 2019 07:17:41

Lowest Channel / 20MHz / 64QAM



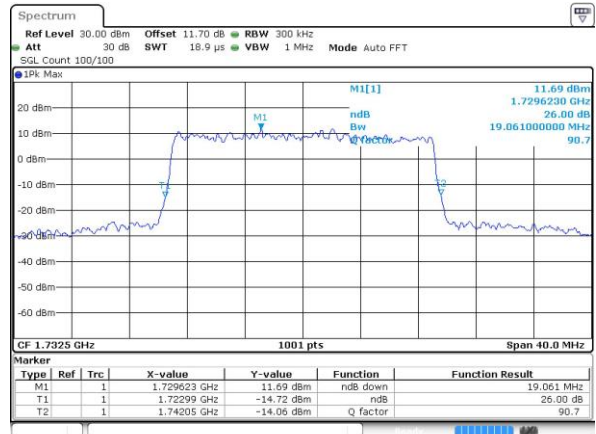
Date: 13 MAY 2019 07:25:03

Middle Channel / 15MHz / 64QAM



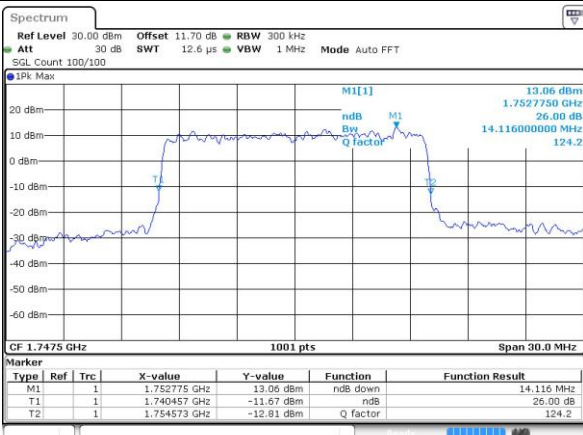
Date: 13 MAY 2019 07:20:49

Middle Channel / 20MHz / 64QAM



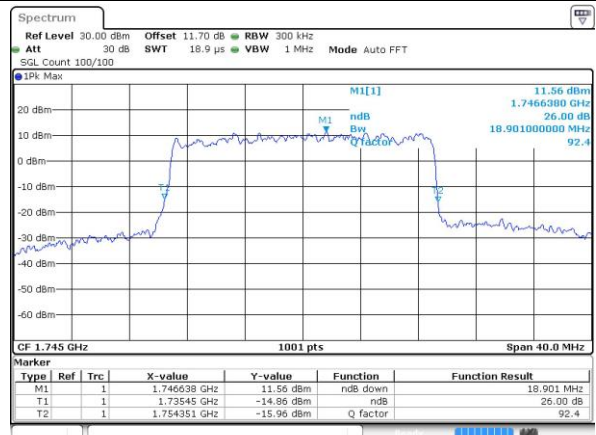
Date: 13 MAY 2019 07:28:10

Highest Channel / 15MHz / 64QAM



Date: 13 MAY 2019 07:21:54

Highest Channel / 20MHz / 64QAM



Date: 13 MAY 2019 07:29:16



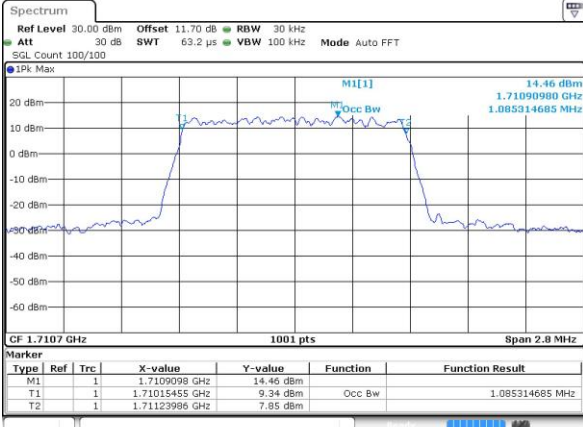
Occupied Bandwidth

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	1.08	2.72	2.72	4.51	4.49	9.07	8.99	13.46	13.46	17.82	17.86
Middle CH	1.1	1.09	2.72	2.72	4.49	4.5	9.05	9.01	13.52	13.43	17.94	17.82
Highest CH	1.1	1.1	2.73	2.72	4.49	4.5	9.01	9.01	13.46	13.46	17.86	17.94
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	-	4.50	-	9.01	-	13.46	-	17.90	-
Middle CH	1.09	-	2.71	-	4.50	-	8.99	-	13.40	-	17.98	-
Highest CH	1.09	-	2.71	-	4.48	-	9.01	-	13.43	-	17.86	-



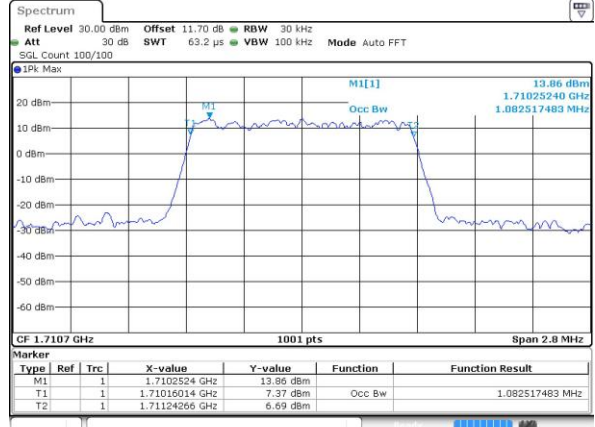
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



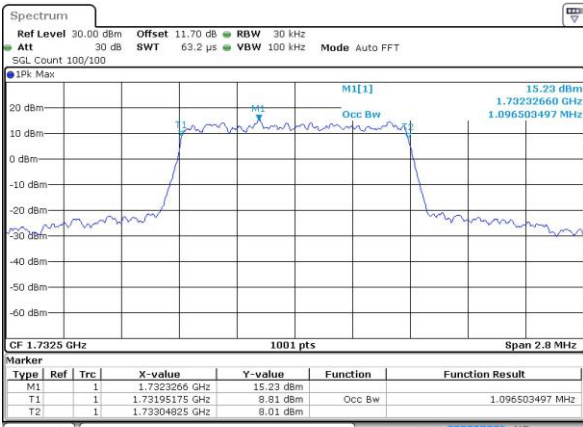
Date: 13 MAY 2019 07:40:34

Lowest Channel / 1.4MHz / 16QAM



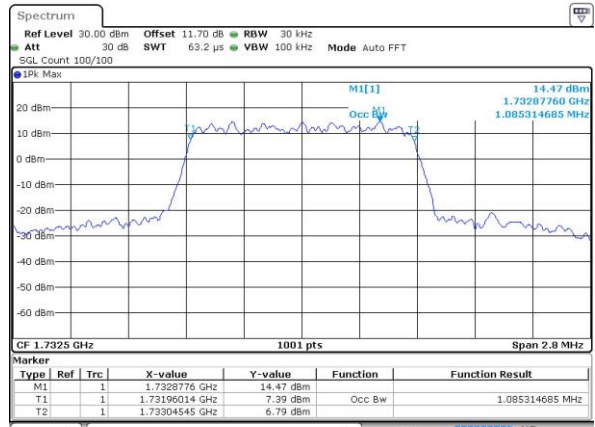
Date: 13 MAY 2019 07:40:46

Middle Channel / 1.4MHz / QPSK



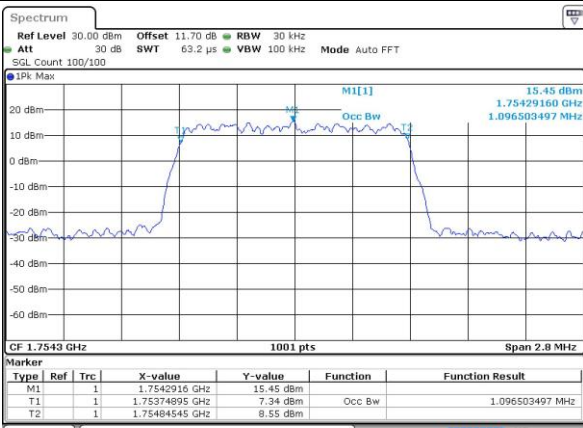
Date: 13 MAY 2019 07:50:06

Middle Channel / 1.4MHz / 16QAM



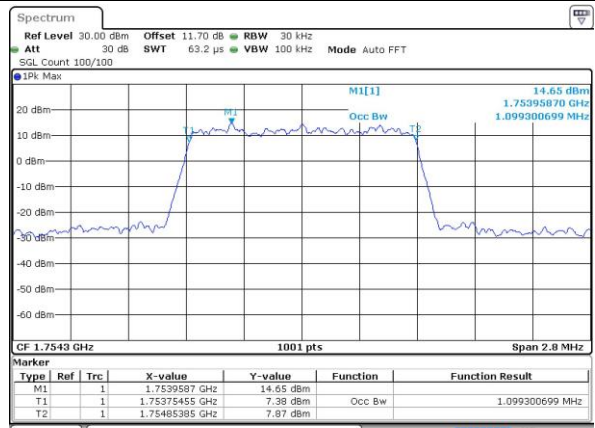
Date: 13 MAY 2019 07:50:18

Highest Channel / 1.4MHz / QPSK



Date: 13 MAY 2019 07:52:15

Highest Channel / 1.4MHz / 16QAM

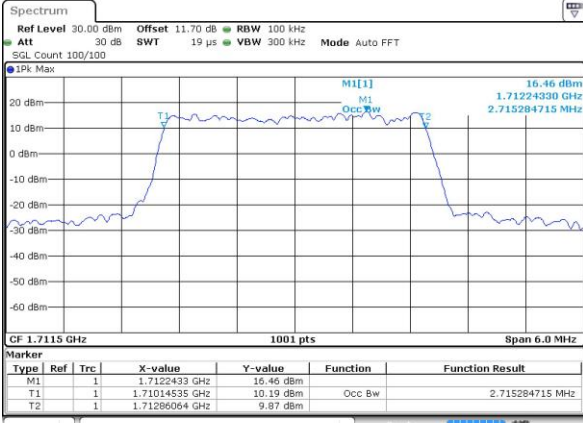


Date: 13 MAY 2019 07:52:27



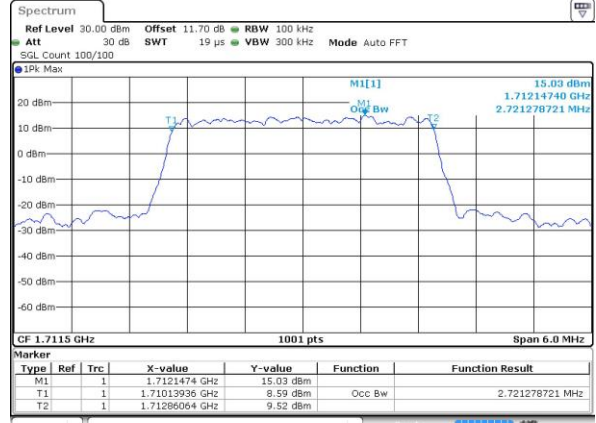
LTE Band 4

Lowest Channel / 3MHz / QPSK



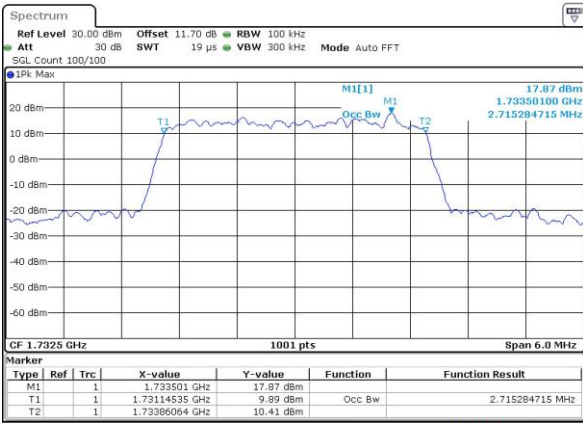
Date: 13 MAY 2019 05:41:44

Lowest Channel / 3MHz / 16QAM



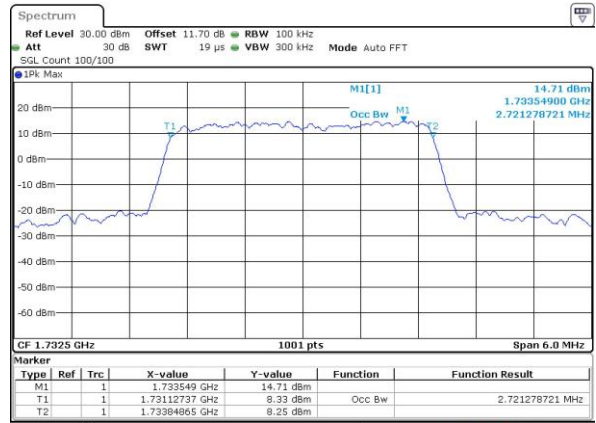
Date: 13 MAY 2019 05:41:56

Middle Channel / 3MHz / QPSK



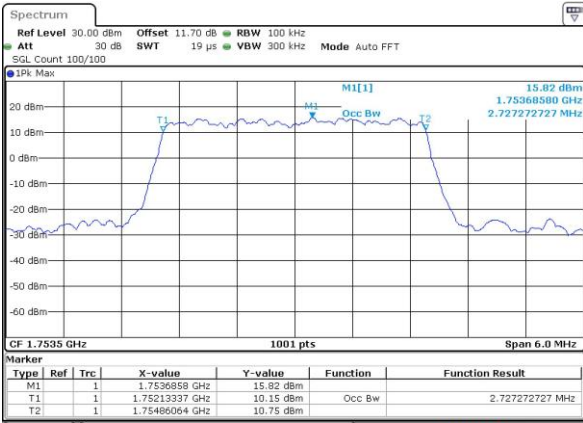
Date: 13 MAY 2019 05:48:01

Middle Channel / 3MHz / 16QAM



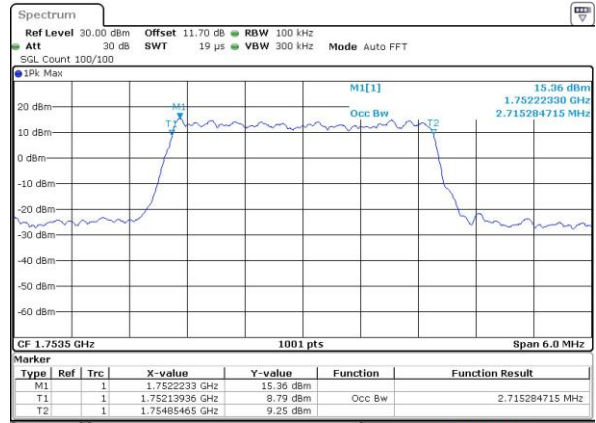
Date: 13 MAY 2019 05:48:13

Highest Channel / 3MHz / QPSK



Date: 13 MAY 2019 05:50:10

Highest Channel / 3MHz / 16QAM



Date: 13 MAY 2019 05:50:23