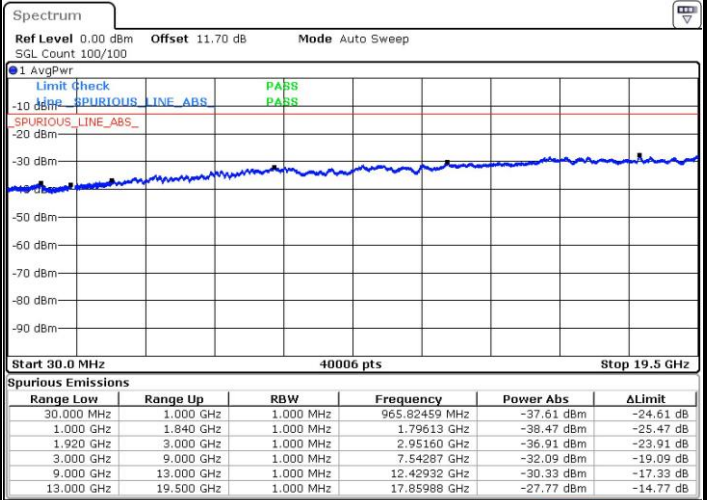
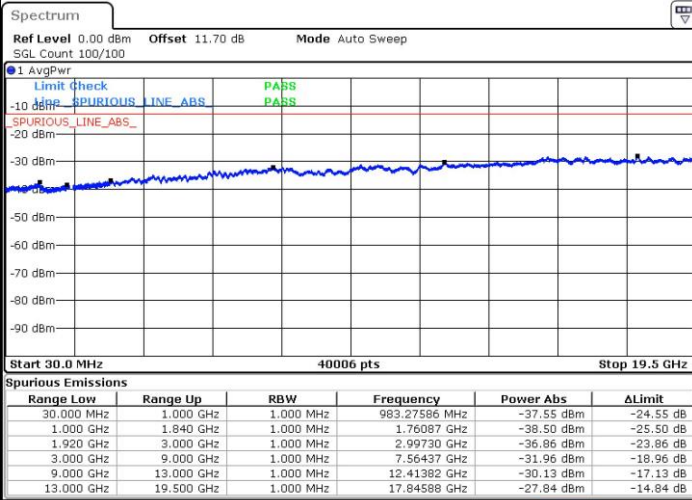




LTE Band 2 / 5MHz

Lowest Channel / 64QAM

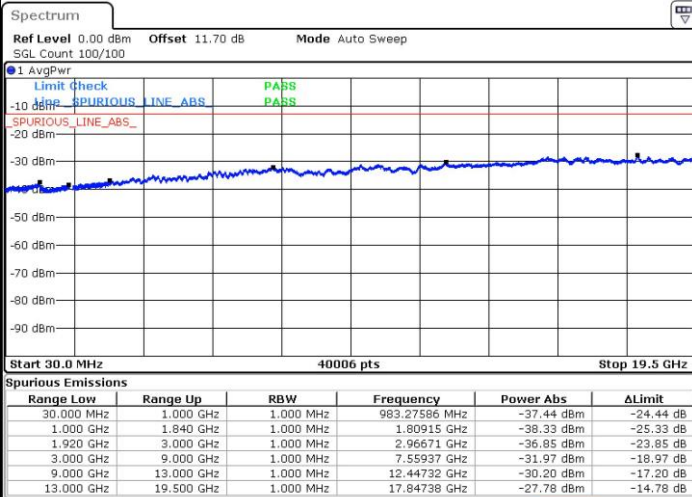
Middle Channel / 64QAM



Date: 14.SEP.2018 00:04:17

Date: 14.SEP.2018 00:05:20

Highest Channel / 64QAM



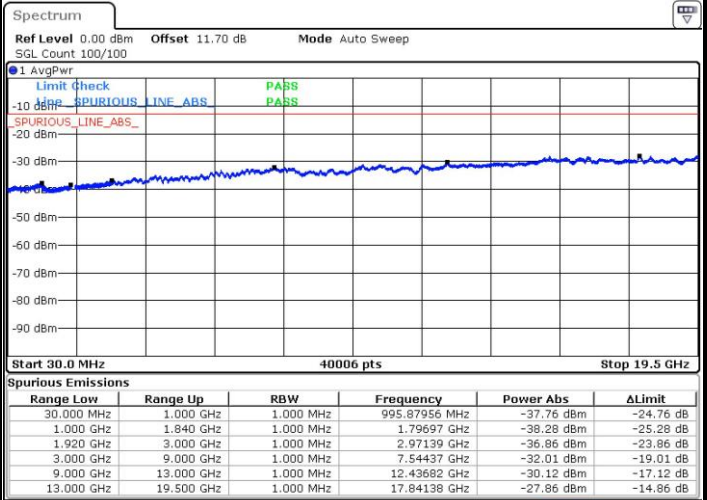
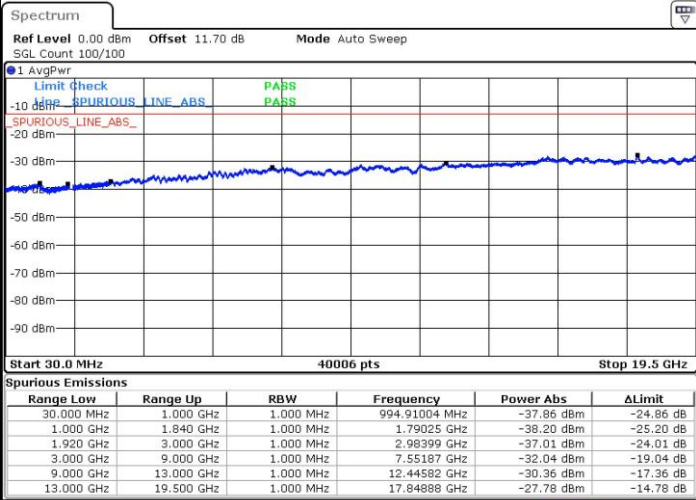
Date: 14.SEP.2018 00:07:33



LTE Band 2 / 10MHz

Lowest Channel / 64QAM

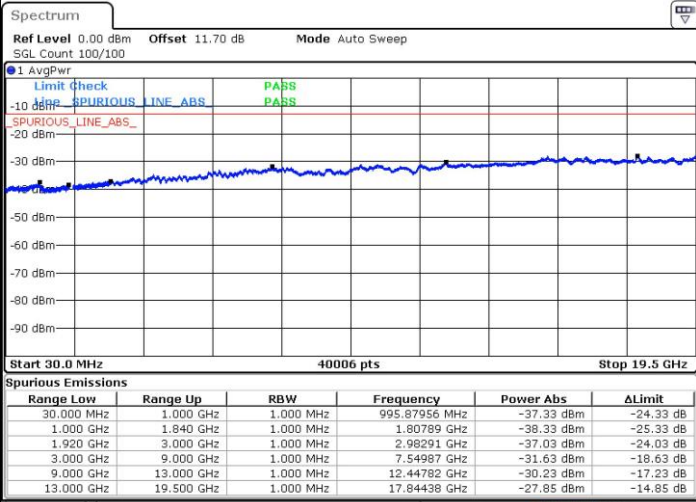
Middle Channel / 64QAM



Date: 14.SEP.2018 00:09:46

Date: 14.SEP.2018 00:10:49

Highest Channel / 64QAM



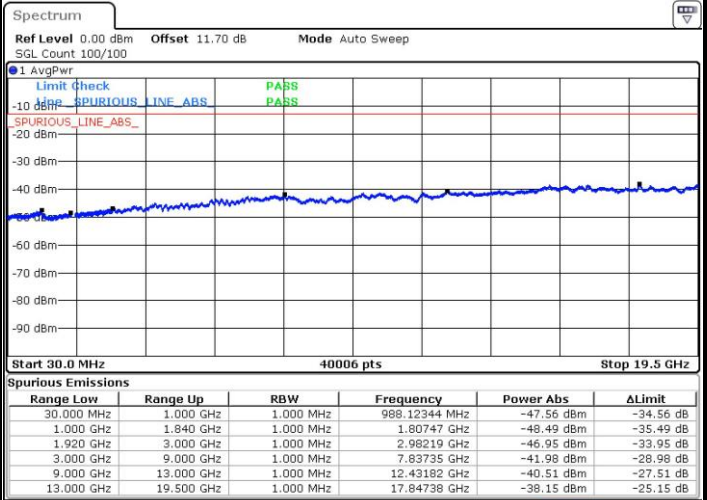
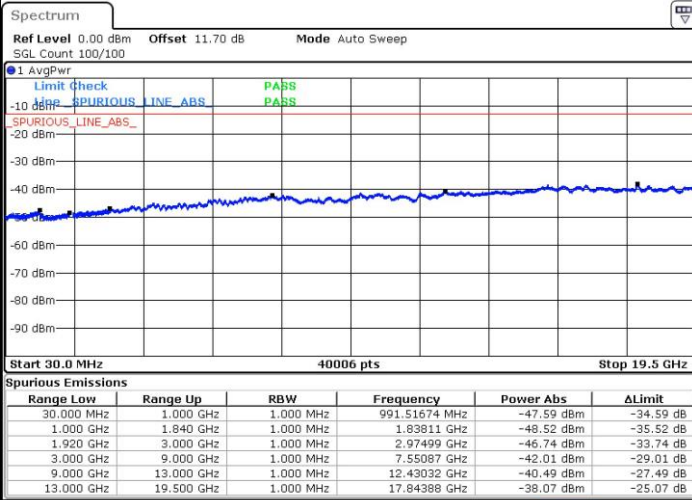
Date: 14.SEP.2018 00:13:03



LTE Band 2 / 15MHz

Lowest Channel / 64QAM

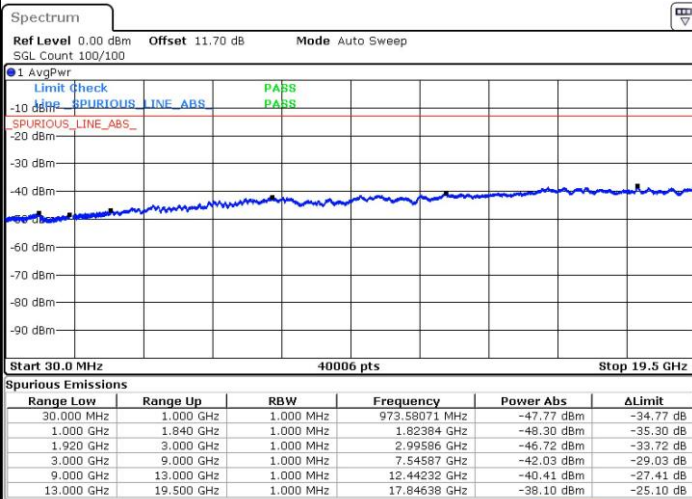
Middle Channel / 64QAM



Date: 14.SEP.2018 00:15:16

Date: 14.SEP.2018 00:16:19

Highest Channel / 64QAM

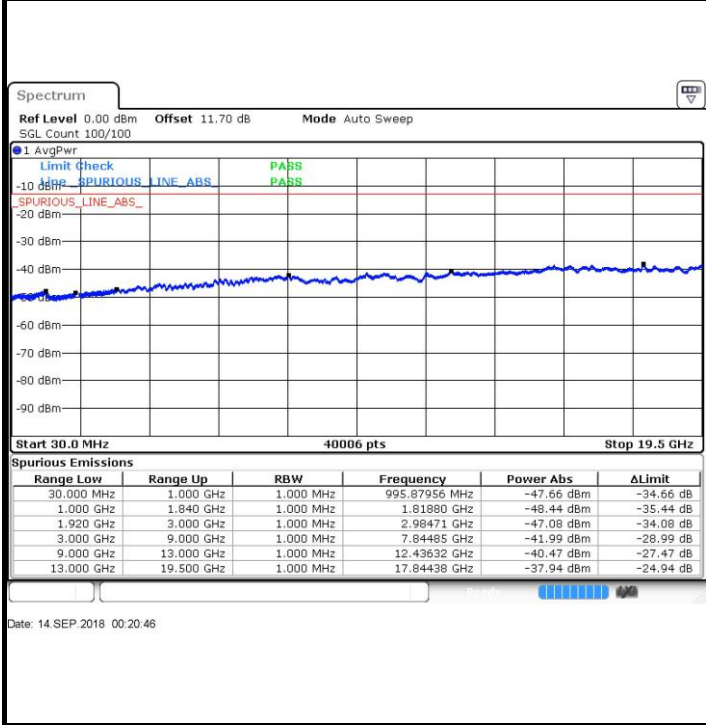


Date: 14.SEP.2018 00:18:32

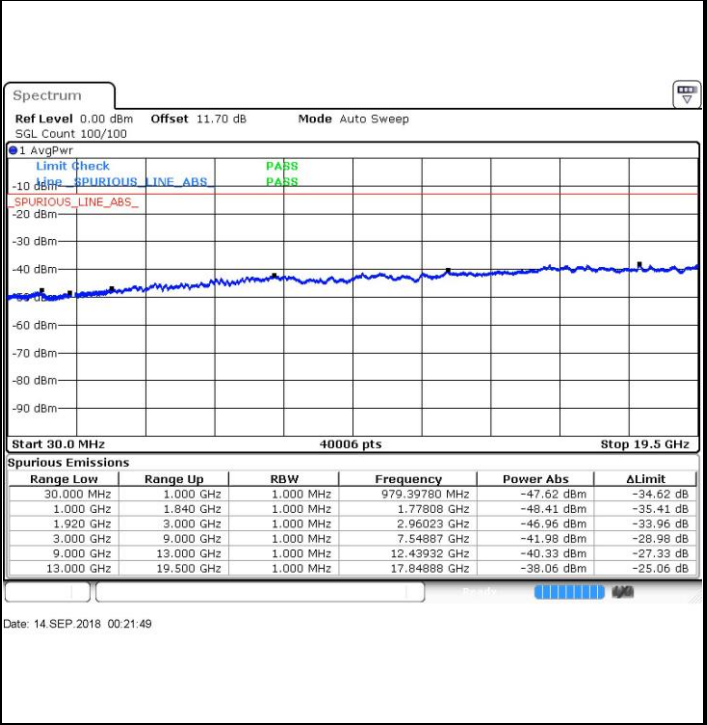


**LTE Band 2 / 20MHz**

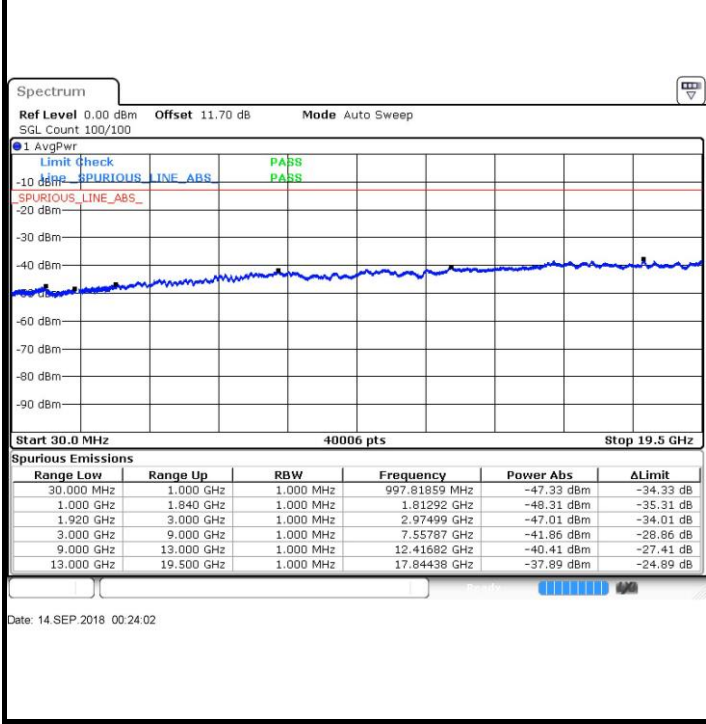
**Lowest Channel / 64QAM**



**Middle Channel / 64QAM**



**Highest Channel / 64QAM**



**Highest Channel / 64QAM**





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	0.0005	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0001	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0051	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0004	
-20	Normal Voltage	0.0044	
-30	Normal Voltage	0.0004	
20	Maximum Voltage	0.0005	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
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	3.57	4.49	4.38	5.83	<b>PASS</b>
Middle CH	3.3	4.52	4.61	5.65	
Highest CH	3.51	4.46	4.35	5.74	
Mode	LTE Band 4 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.54	6.55	-	-	<b>PASS</b>
Middle CH	6.03	6.52	-	-	
Highest CH	5.48	6.38	-	-	



LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB



Date: 14.SEP.2018 11:04:56

Lowest Channel / Full RB



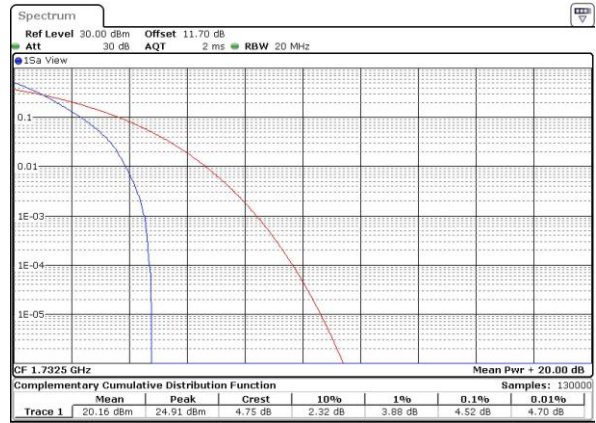
Date: 14.SEP.2018 11:05:06

Middle Channel / 1RB



Date: 14.SEP.2018 11:05:17

Middle Channel / Full RB



Date: 14.SEP.2018 11:05:28

Highest Channel / 1RB



Date: 14.SEP.2018 11:05:42

Highest Channel / Full RB

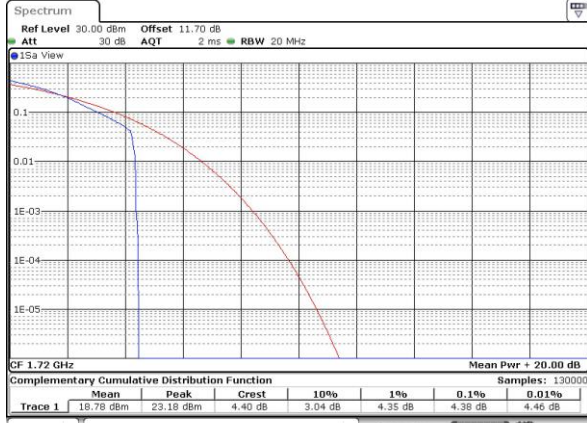


Date: 14.SEP.2018 11:06:30



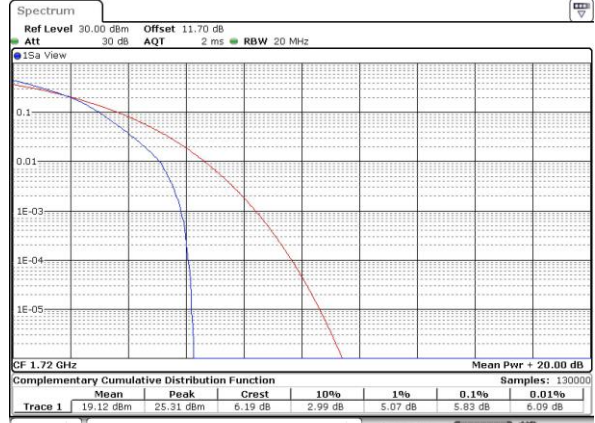
LTE Band 4 / 20MHz / 16QAM

Lowest Channel / 1RB



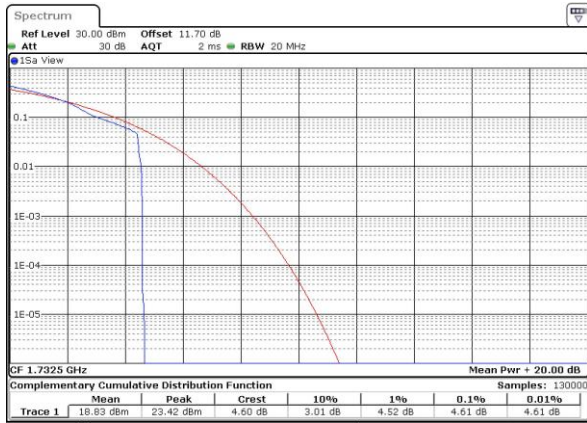
Date: 14.SEP.2018 11:03:43

Lowest Channel / Full RB



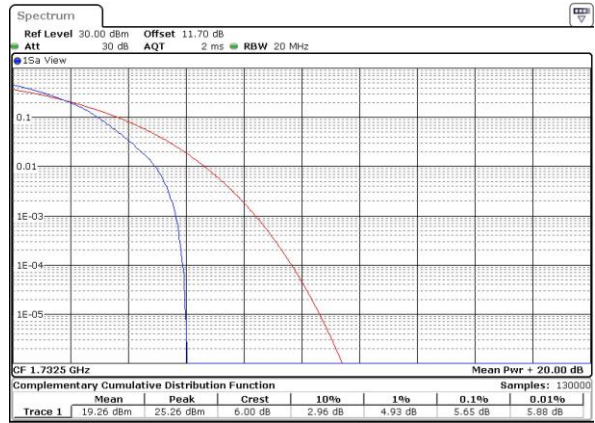
Date: 14.SEP.2018 11:03:59

Middle Channel / 1RB



Date: 14.SEP.2018 11:04:10

Middle Channel / Full RB



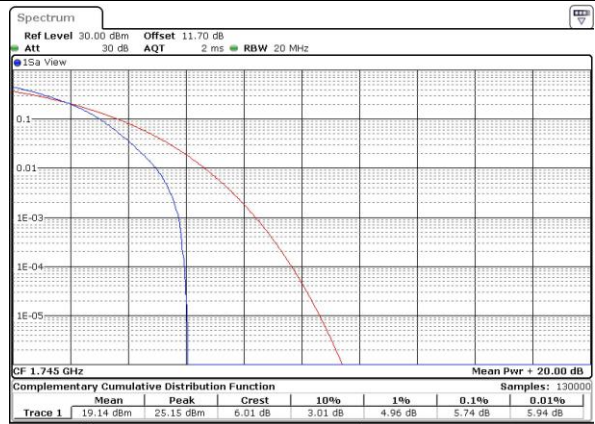
Date: 14.SEP.2018 11:04:21

Highest Channel / 1RB



Date: 14.SEP.2018 11:04:33

Highest Channel / Full RB



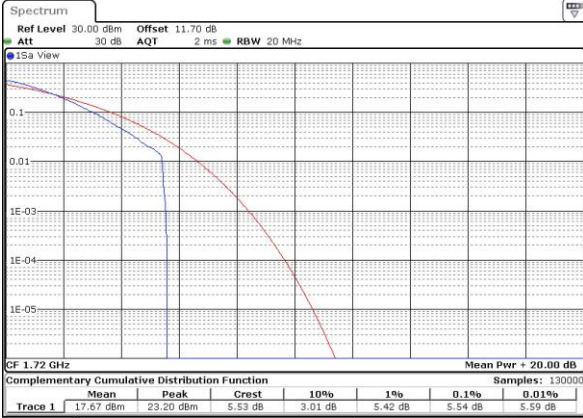
Date: 14.SEP.2018 11:04:45





LTE Band 4 / 20MHz / 64QAM

Lowest Channel / 1RB



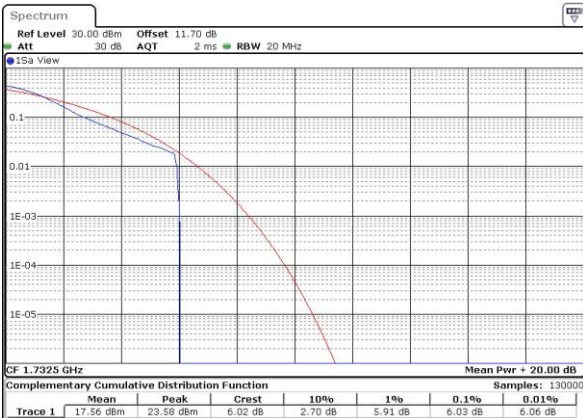
Date: 14.SEP.2018 11:06:45

Lowest Channel / Full RB



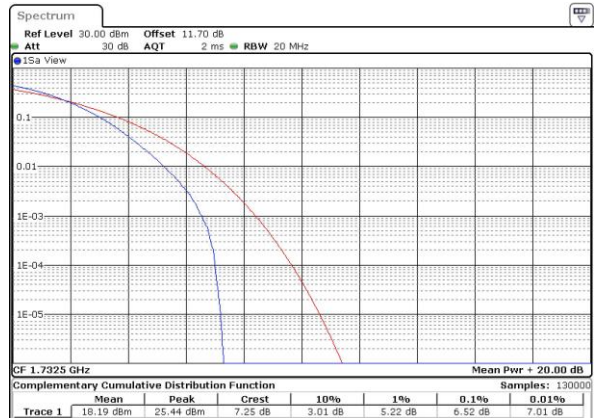
Date: 14.SEP.2018 11:06:56

Middle Channel / 1RB



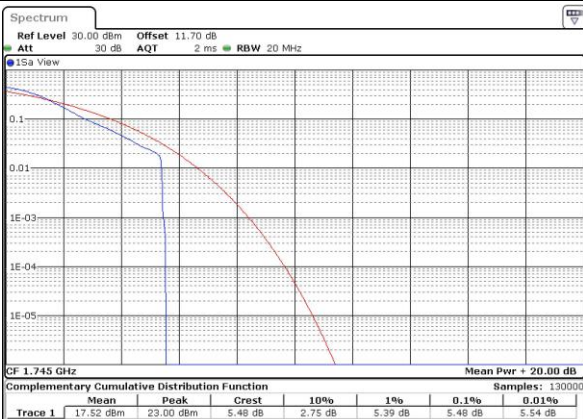
Date: 14.SEP.2018 11:07:53

Middle Channel / Full RB



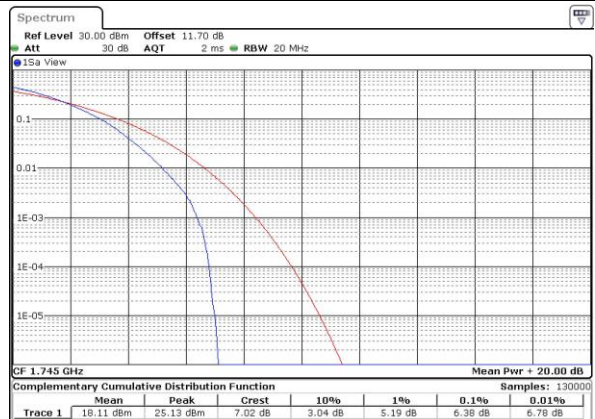
Date: 14.SEP.2018 11:08:03

Highest Channel / 1RB



Date: 14.SEP.2018 11:08:13

Highest Channel / Full RB



Date: 14.SEP.2018 11:08:23



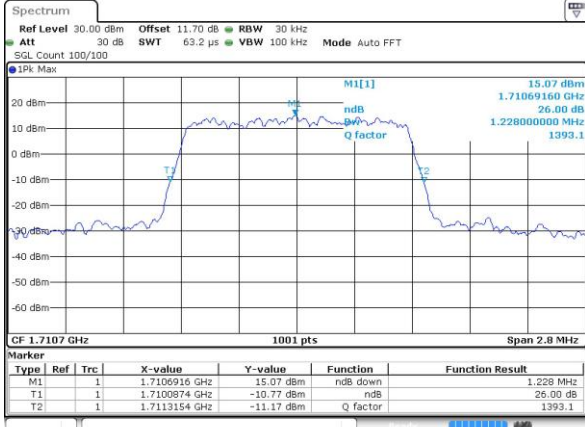
26dB Bandwidth

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	1.23	1.24	2.99	3.03	4.92	4.88	9.73	9.87	14.21	14.36	20.18	20.26
Middle CH	1.22	1.23	3.03	3.03	4.91	4.99	9.93	9.75	14.63	14.48	20.06	20.22
Highest CH	1.23	1.22	3.00	3.02	4.94	4.92	9.71	9.71	14.36	14.51	20.06	20.10
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	-	2.99	-	4.92	-	9.71	-	14.66	-	20.22	-
Middle CH	1.21	-	3.03	-	4.88	-	9.79	-	14.39	-	20.14	-
Highest CH	1.24	-	3.01	-	4.83	-	9.73	-	14.18	-	20.34	-



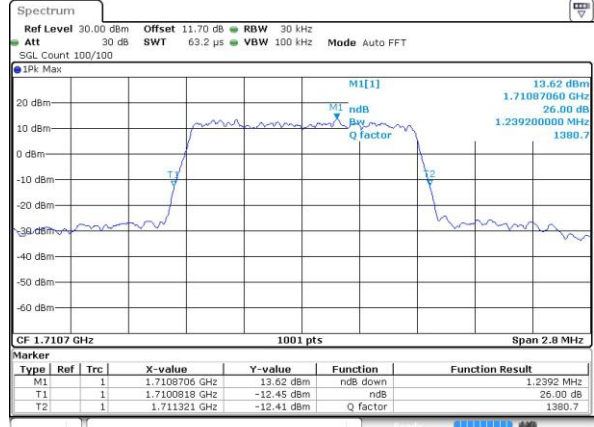
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



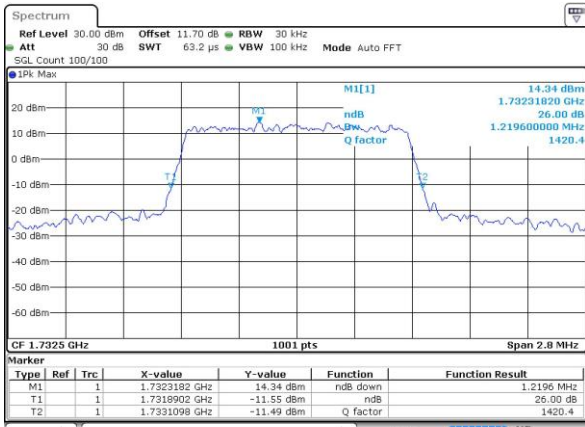
Date: 14 SEP 2018 10:48:29

Lowest Channel / 1.4MHz / 16QAM



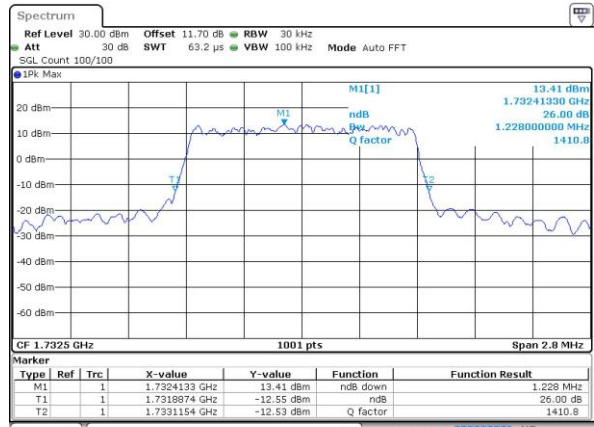
Date: 14 SEP 2018 10:48:40

Middle Channel / 1.4MHz / QPSK



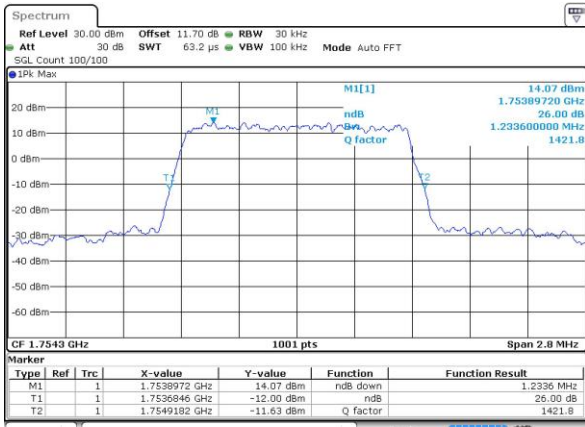
Date: 14 SEP 2018 10:54:49

Middle Channel / 1.4MHz / 16QAM



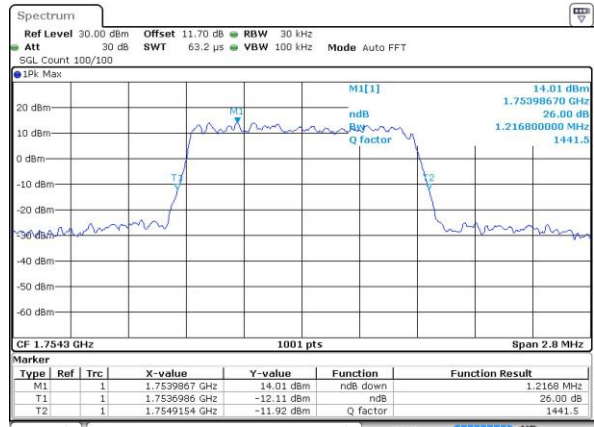
Date: 14 SEP 2018 10:55:00

Highest Channel / 1.4MHz / QPSK



Date: 14 SEP 2018 10:56:56

Highest Channel / 1.4MHz / 16QAM

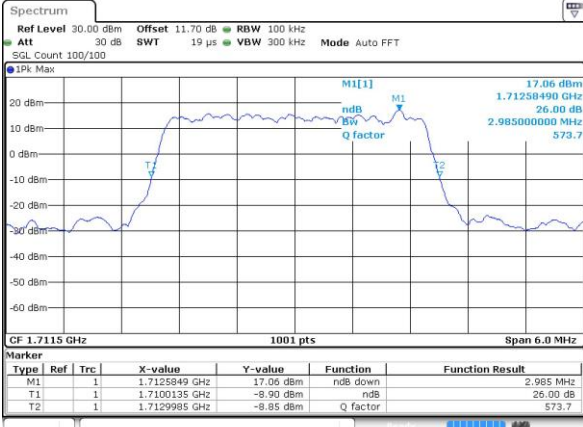


Date: 14 SEP 2018 10:57:08



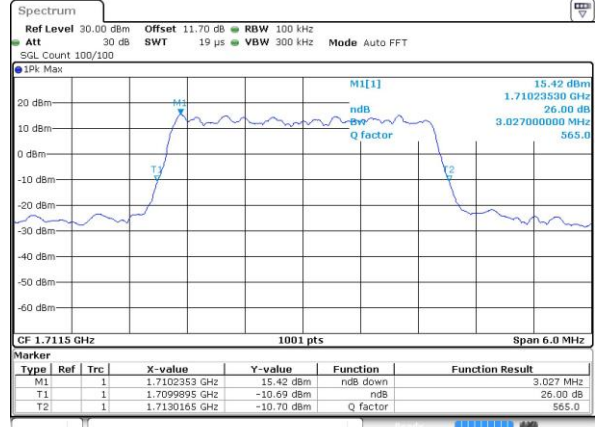
LTE Band 4

Lowest Channel / 3MHz / QPSK



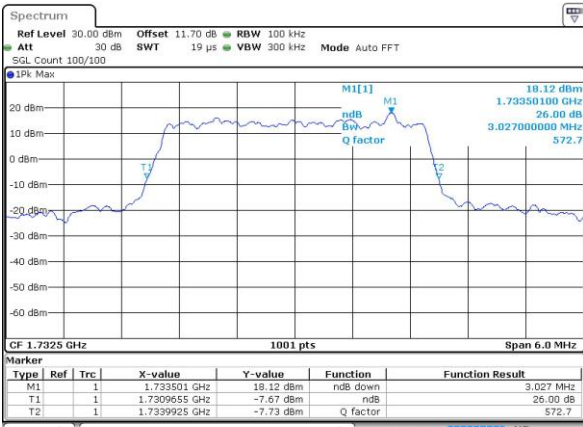
Date: 14 SEP 2018 01:29:06

Lowest Channel / 3MHz / 16QAM



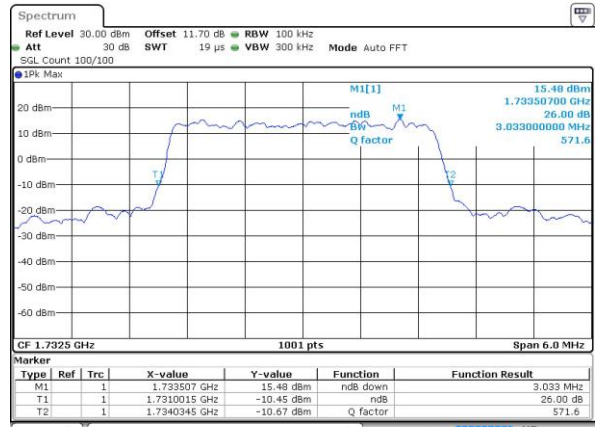
Date: 14 SEP 2018 01:29:17

Middle Channel / 3MHz / QPSK



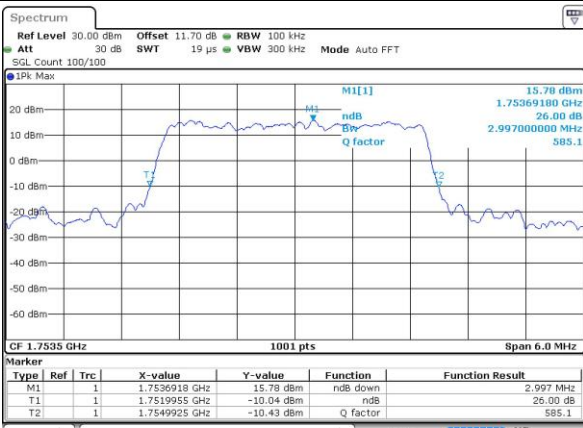
Date: 14 SEP 2018 01:35:59

Middle Channel / 3MHz / 16QAM



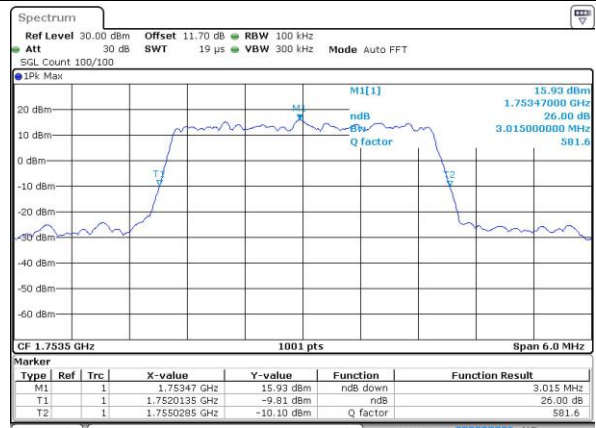
Date: 14 SEP 2018 01:36:11

Highest Channel / 3MHz / QPSK



Date: 14 SEP 2018 01:38:06

Highest Channel / 3MHz / 16QAM

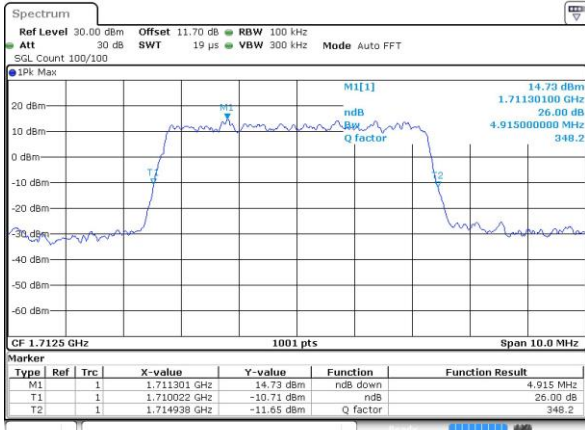


Date: 14 SEP 2018 01:38:17



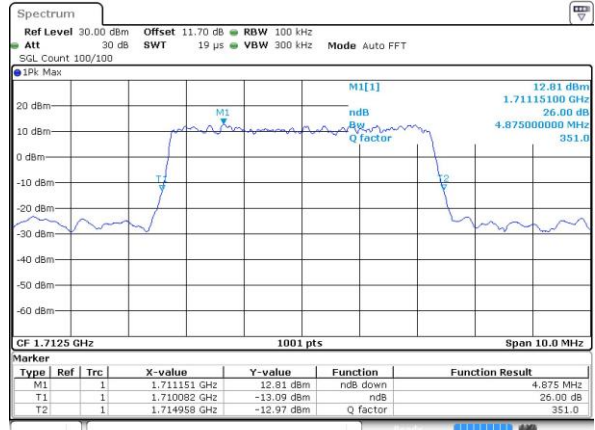
LTE Band 4

Lowest Channel / 5MHz / QPSK



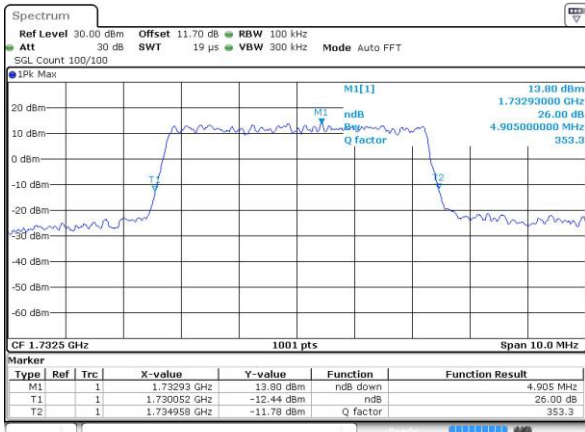
Date: 14 SEP 2018 01:43:53

Lowest Channel / 5MHz / 16QAM



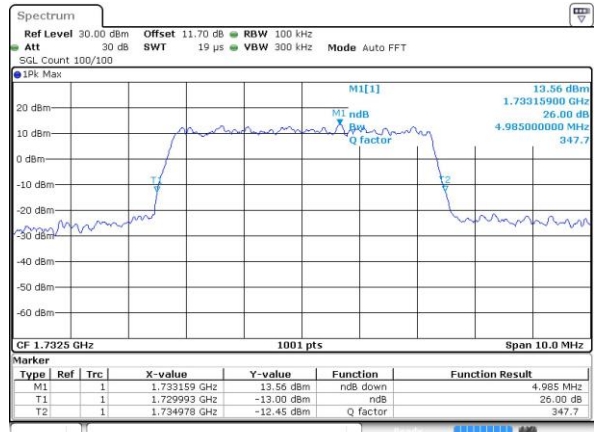
Date: 14 SEP 2018 01:44:04

Middle Channel / 5MHz / QPSK



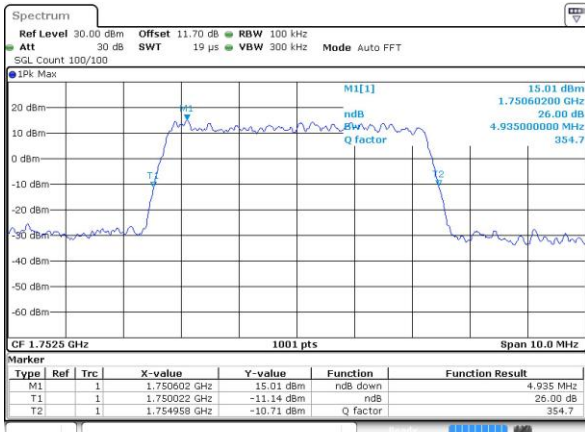
Date: 14 SEP 2018 01:49:39

Middle Channel / 5MHz / 16QAM



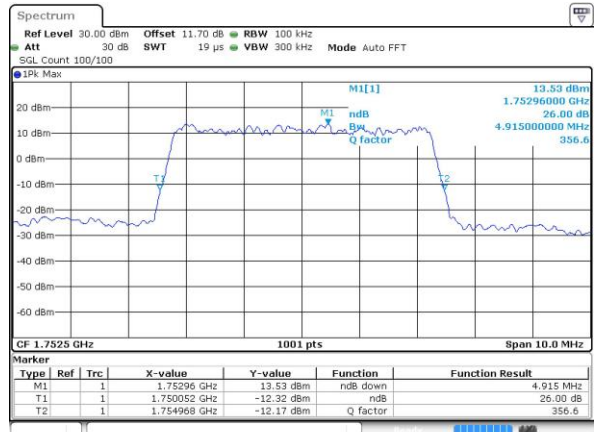
Date: 14 SEP 2018 01:49:51

Highest Channel / 5MHz / QPSK



Date: 14 SEP 2018 01:51:46

Highest Channel / 5MHz / 16QAM

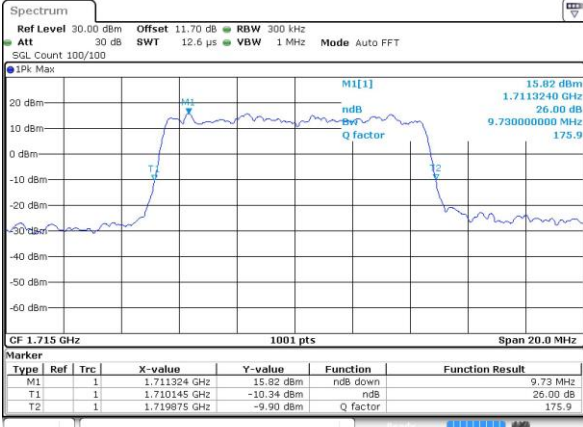


Date: 14 SEP 2018 01:51:58



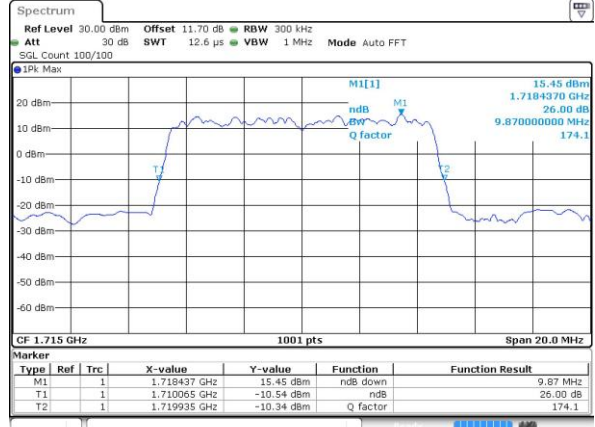
LTE Band 4

Lowest Channel / 10MHz / QPSK



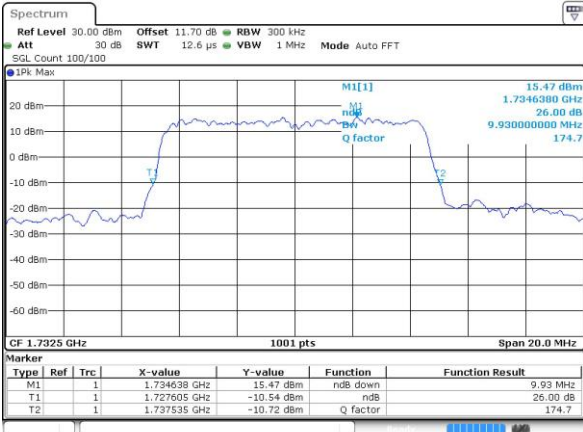
Date: 14 SEP 2018 01:57:33

Lowest Channel / 10MHz / 16QAM



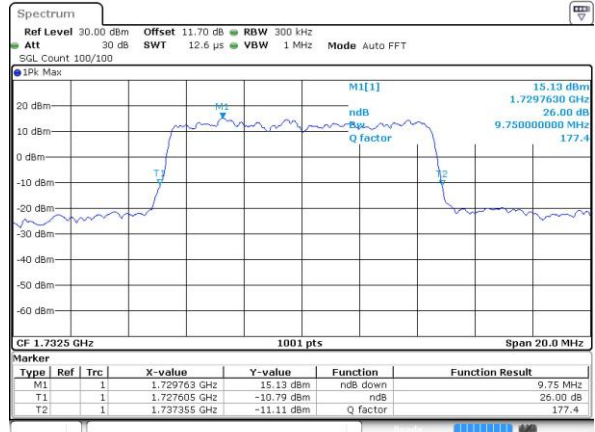
Date: 14 SEP 2018 01:57:45

Middle Channel / 10MHz / QPSK



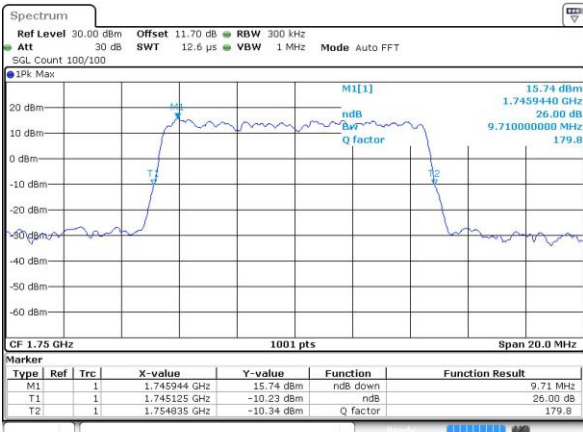
Date: 14 SEP 2018 02:03:20

Middle Channel / 10MHz / 16QAM



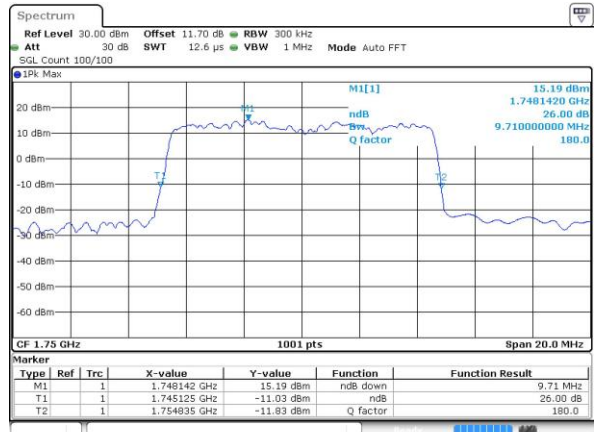
Date: 14 SEP 2018 02:03:32

Highest Channel / 10MHz / QPSK



Date: 14 SEP 2018 02:05:27

Highest Channel / 10MHz / 16QAM

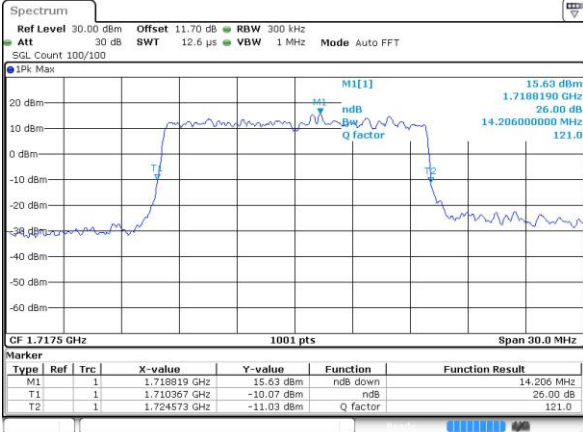


Date: 14 SEP 2018 02:05:38



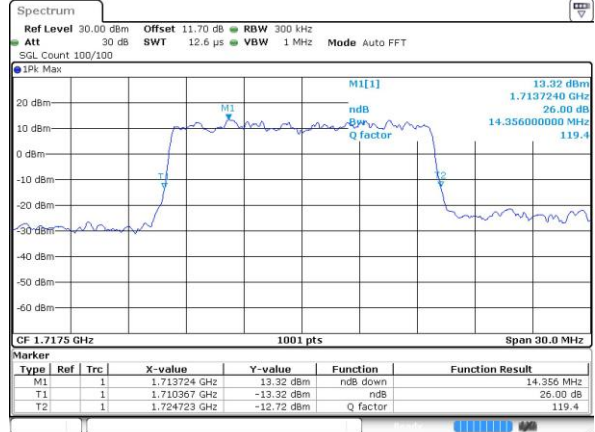
LTE Band 4

Lowest Channel / 15MHz / QPSK



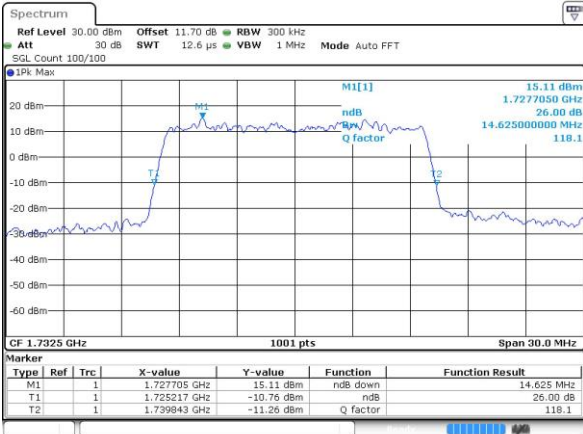
Date: 14 SEP 2018 02:11:14

Lowest Channel / 15MHz / 16QAM



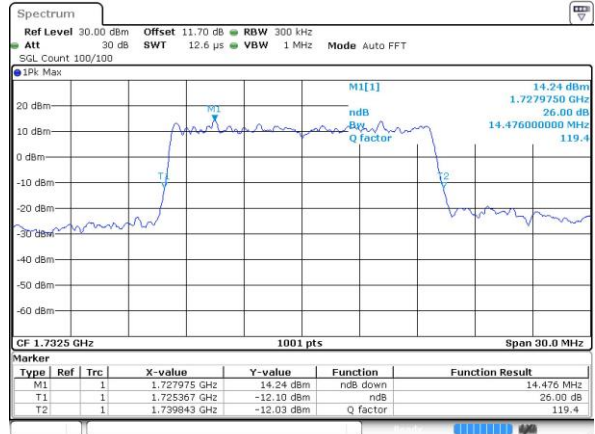
Date: 14 SEP 2018 02:11:26

Middle Channel / 15MHz / QPSK



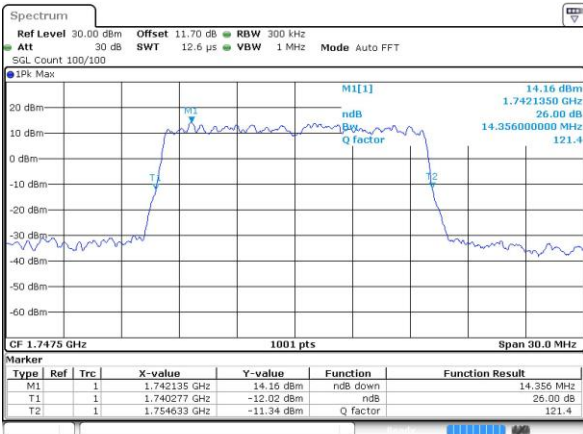
Date: 14 SEP 2018 02:17:01

Middle Channel / 15MHz / 16QAM



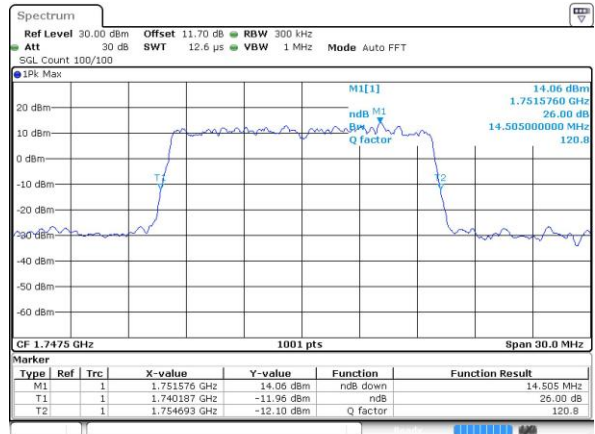
Date: 14 SEP 2018 02:17:12

Highest Channel / 15MHz / QPSK



Date: 14 SEP 2018 02:19:07

Highest Channel / 15MHz / 16QAM

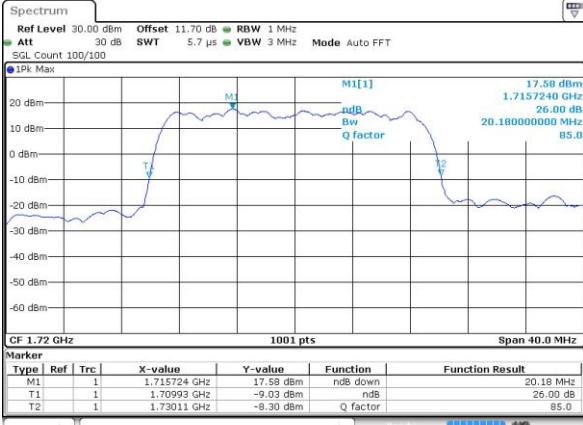


Date: 14 SEP 2018 02:19:18



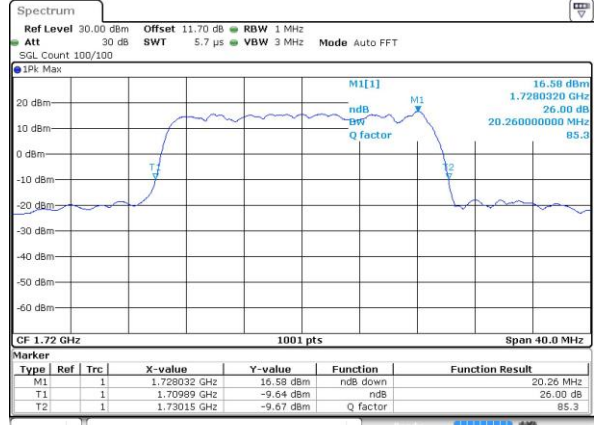
LTE Band 4

Lowest Channel / 20MHz / QPSK



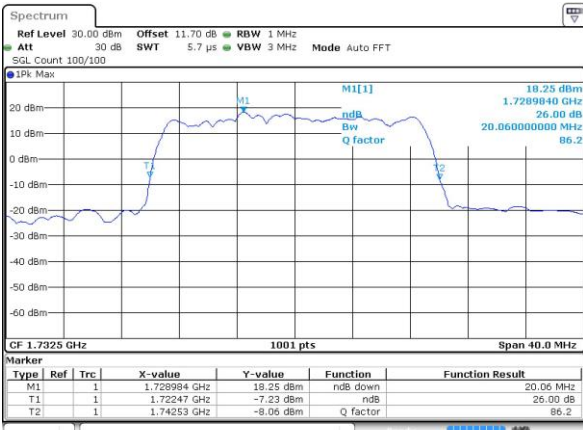
Date: 14 SEP 2018 02:24:53

Lowest Channel / 20MHz / 16QAM



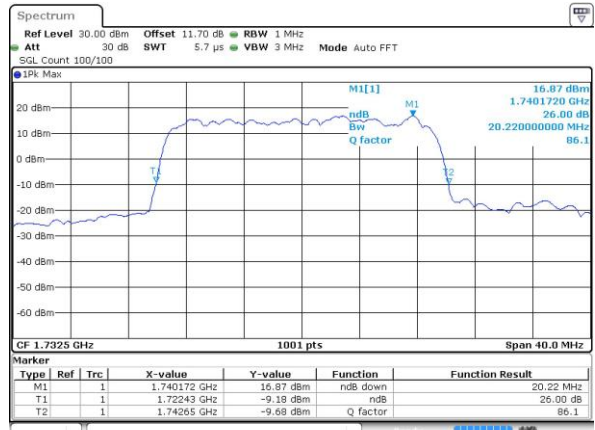
Date: 14 SEP 2018 02:25:04

Middle Channel / 20MHz / QPSK



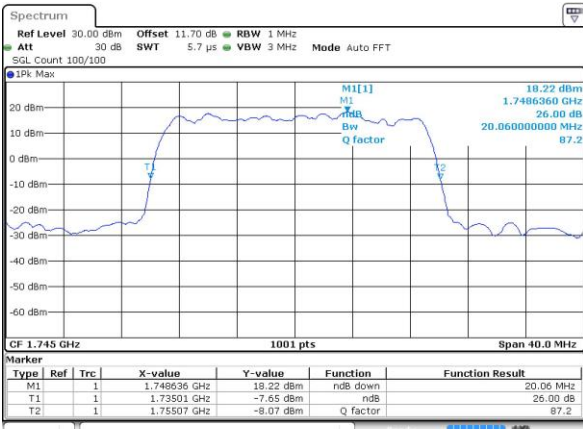
Date: 14 SEP 2018 02:30:39

Middle Channel / 20MHz / 16QAM



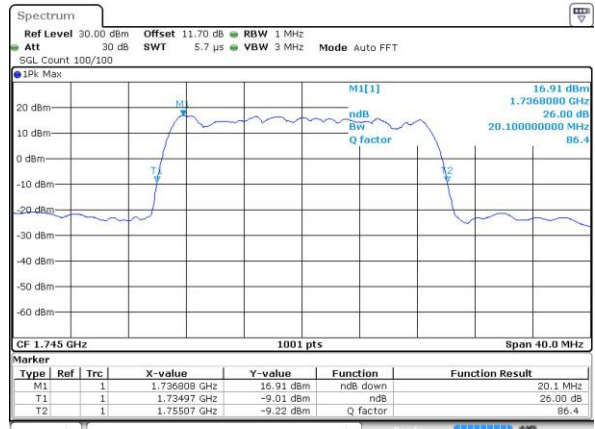
Date: 14 SEP 2018 02:30:51

Highest Channel / 20MHz / QPSK



Date: 14 SEP 2018 02:32:46

Highest Channel / 20MHz / 16QAM



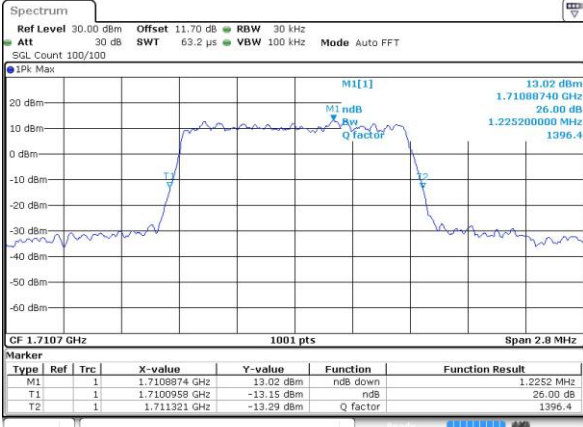
Date: 14 SEP 2018 02:32:57





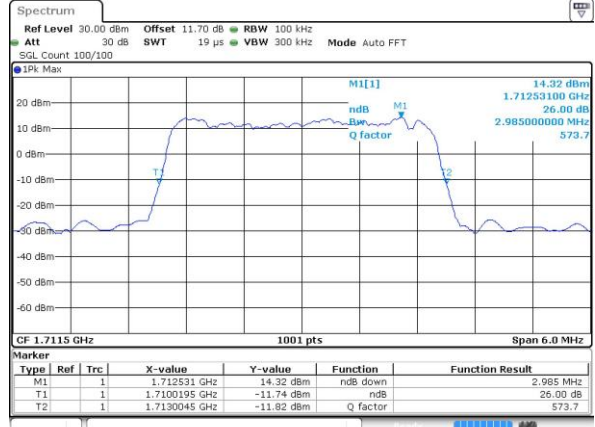
LTE Band 4

Lowest Channel / 1.4MHz / 64QAM



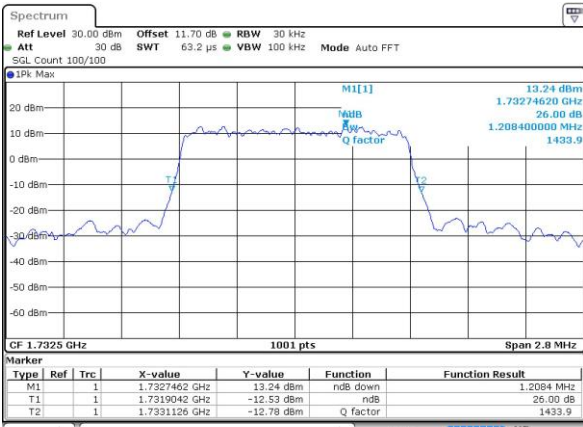
Date: 14 SEP 2018 10:40:55

Lowest Channel / 3MHz / 64QAM



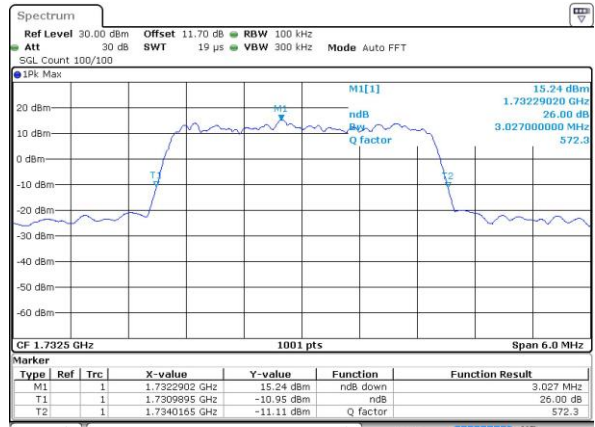
Date: 14 SEP 2018 02:38:21

Middle Channel / 1.4MHz / 64QAM



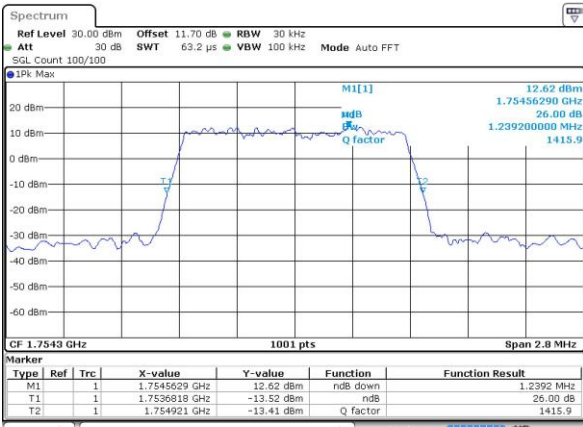
Date: 14 SEP 2018 10:44:04

Middle Channel / 3MHz / 64QAM



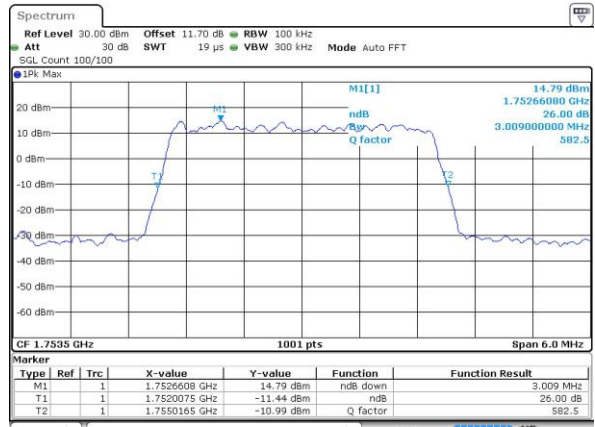
Date: 14 SEP 2018 02:41:14

Highest Channel / 1.4MHz / 64QAM



Date: 14 SEP 2018 10:45:08

Highest Channel / 3MHz / 64QAM

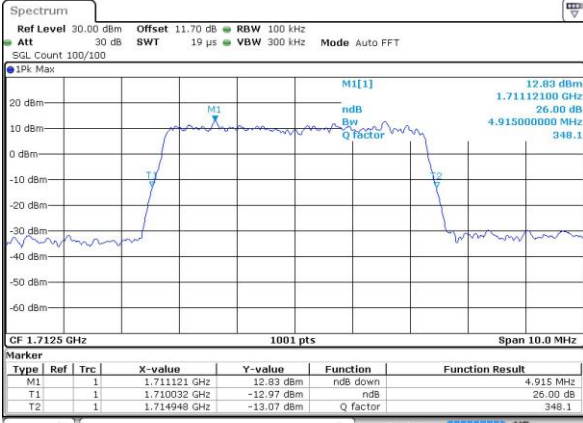


Date: 14 SEP 2018 02:42:17



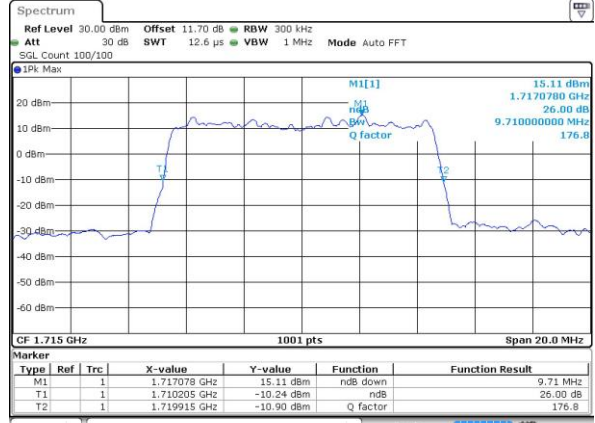
LTE Band 4

Lowest Channel / 5MHz / 64QAM



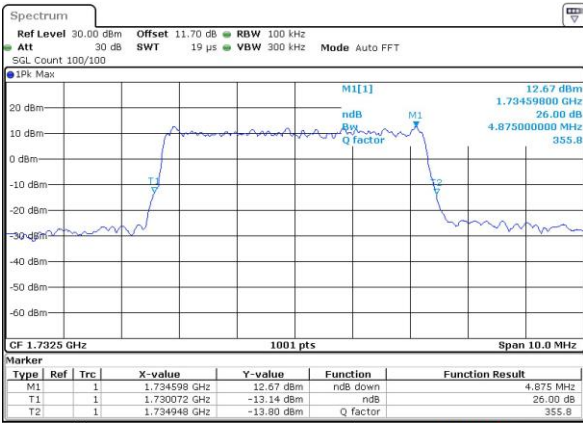
Date: 14 SEP 2018 02:45:10

Lowest Channel / 10MHz / 64QAM



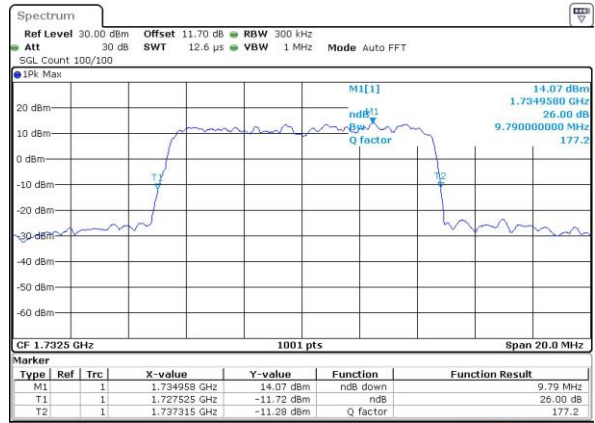
Date: 14 SEP 2018 02:51:59

Middle Channel / 5MHz / 64QAM



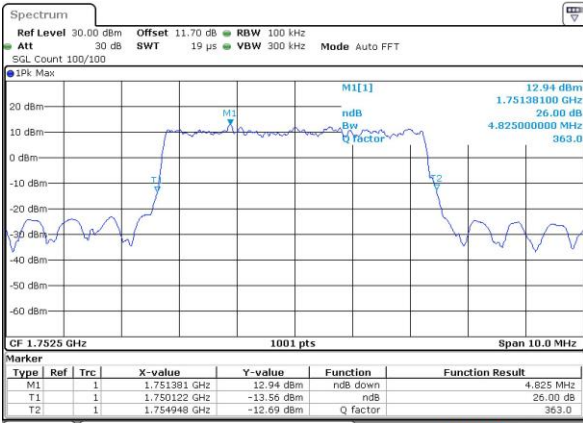
Date: 14 SEP 2018 02:48:03

Middle Channel / 10MHz / 64QAM



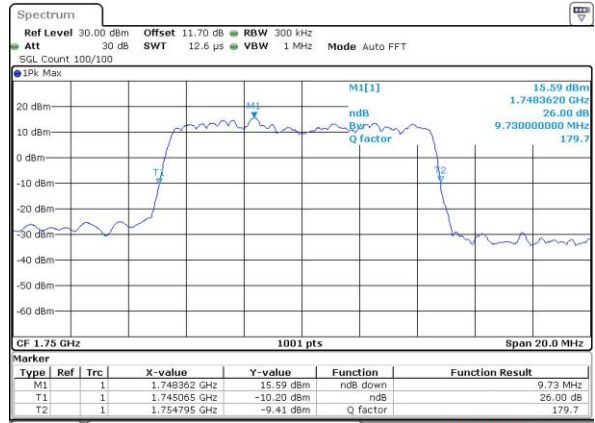
Date: 14 SEP 2018 02:54:53

Highest Channel / 5MHz / 64QAM



Date: 14 SEP 2018 02:49:06

Highest Channel / 10MHz / 64QAM

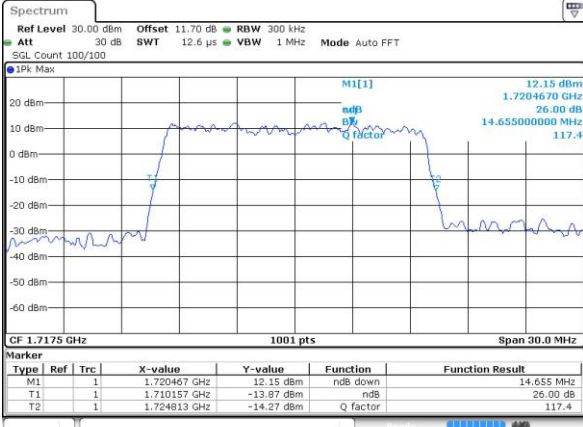


Date: 14 SEP 2018 02:55:56



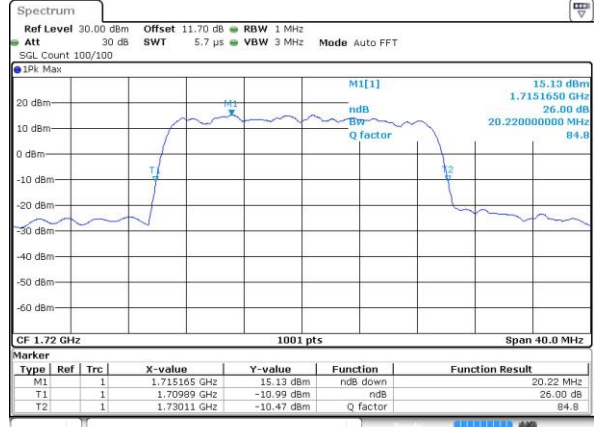
LTE Band 4

Lowest Channel / 15MHz / 64QAM



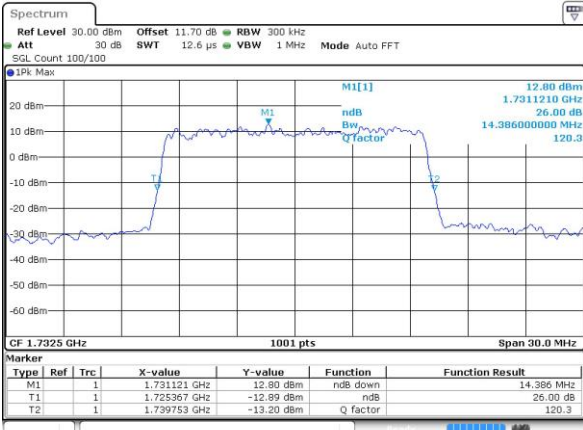
Date: 14 SEP 2018 02:58:49

Lowest Channel / 20MHz / 64QAM



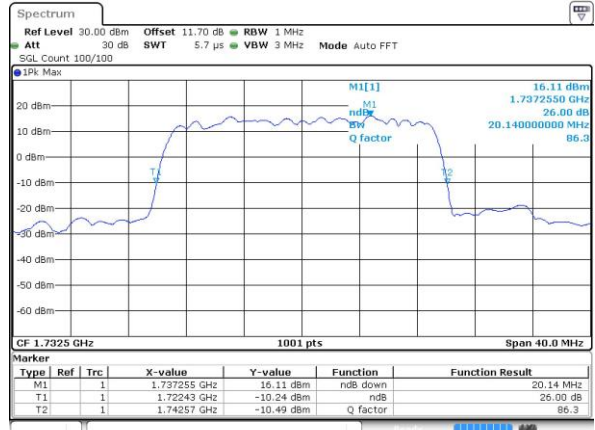
Date: 14 SEP 2018 03:05:38

Middle Channel / 15MHz / 64QAM



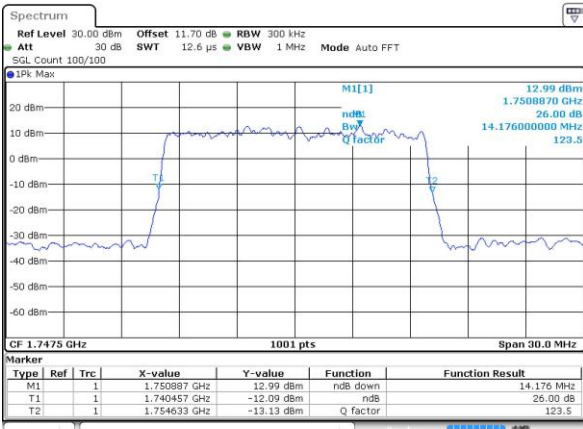
Date: 14 SEP 2018 03:01:42

Middle Channel / 20MHz / 64QAM



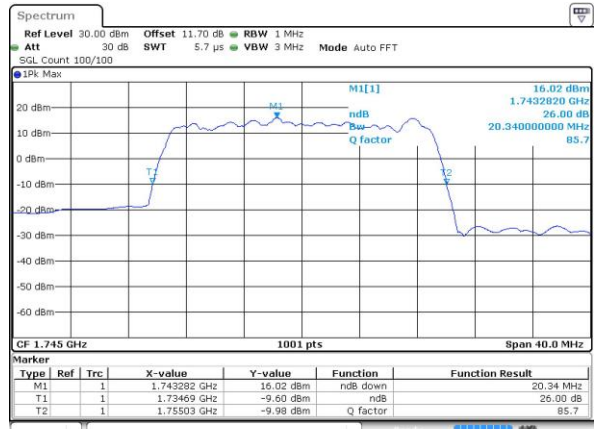
Date: 14 SEP 2018 03:08:32

Highest Channel / 15MHz / 64QAM



Date: 14 SEP 2018 03:02:45

Highest Channel / 20MHz / 64QAM



Date: 14 SEP 2018 10:37:15



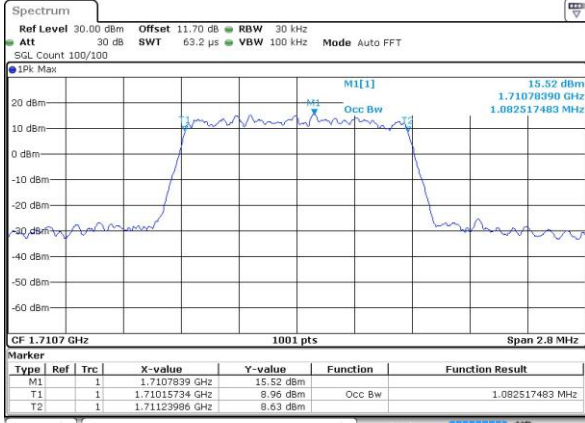
**Occupied Bandwidth**

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	1.08	1.09	2.7	2.72	4.47	4.51	9.11	9.05	13.4	13.43	18.34	18.54
Middle CH	1.09	1.09	2.72	2.73	4.49	4.5	8.99	9.03	13.49	13.46	18.22	18.26
Highest CH	1.1	1.1	2.71	2.72	4.49	4.51	9.13	9.05	13.37	13.43	18.38	18.22
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	-	2.73	-	4.52	-	9.03	-	13.40	-	18.42	-
Middle CH	1.09	-	2.73	-	4.56	-	9.01	-	13.46	-	18.42	-
Highest CH	1.09	-	2.72	-	4.50	-	9.03	-	13.40	-	18.30	-



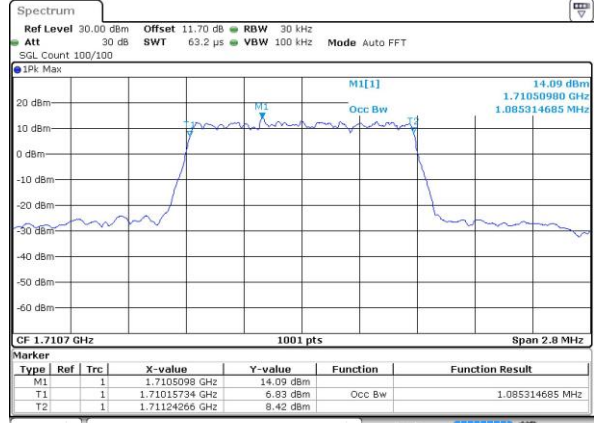
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



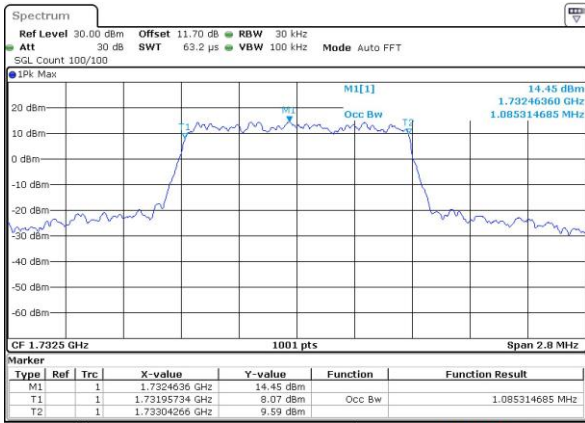
Date: 14 SEP 2018 10:48:06

Lowest Channel / 1.4MHz / 16QAM



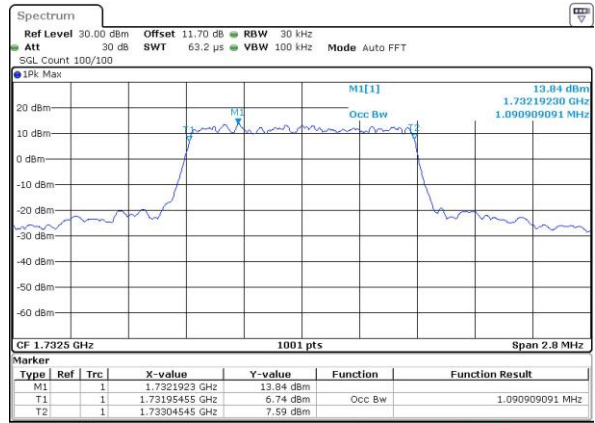
Date: 14 SEP 2018 10:48:17

Middle Channel / 1.4MHz / QPSK



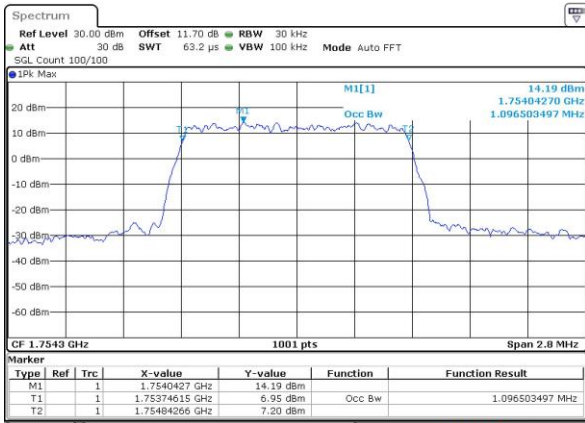
Date: 14 SEP 2018 10:54:26

Middle Channel / 1.4MHz / 16QAM



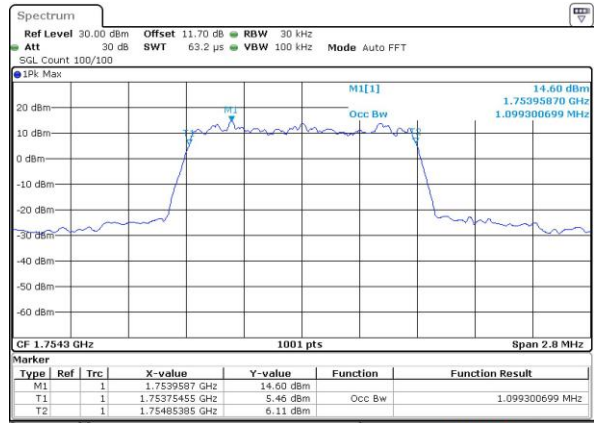
Date: 14 SEP 2018 10:54:37

Highest Channel / 1.4MHz / QPSK



Date: 14 SEP 2018 10:56:33

Highest Channel / 1.4MHz / 16QAM



Date: 14 SEP 2018 10:56:44