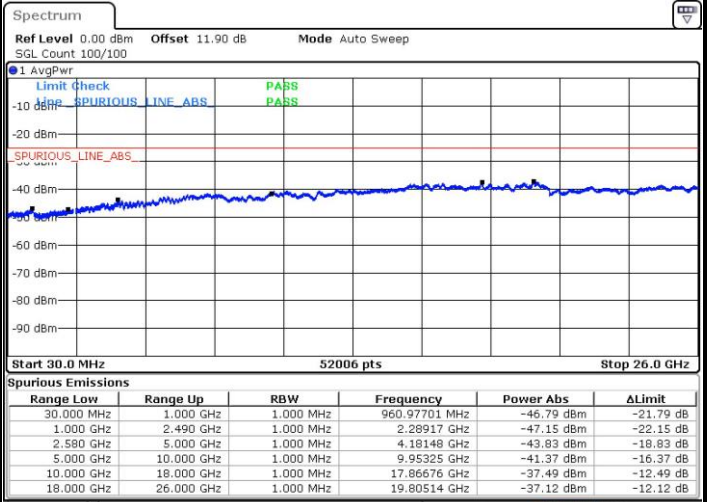
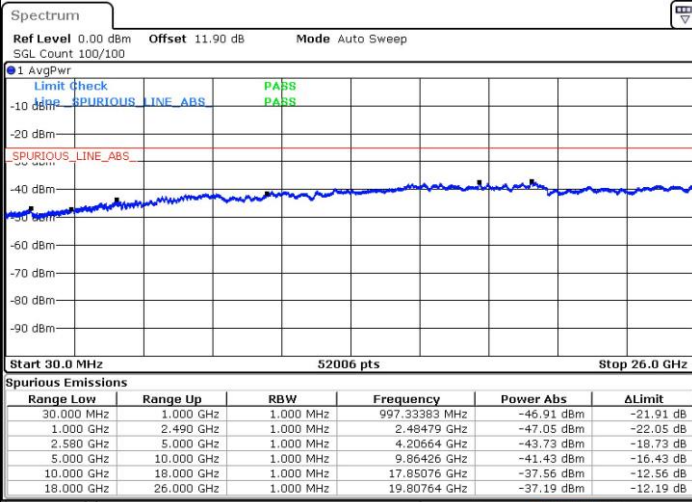




LTE Band 7 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

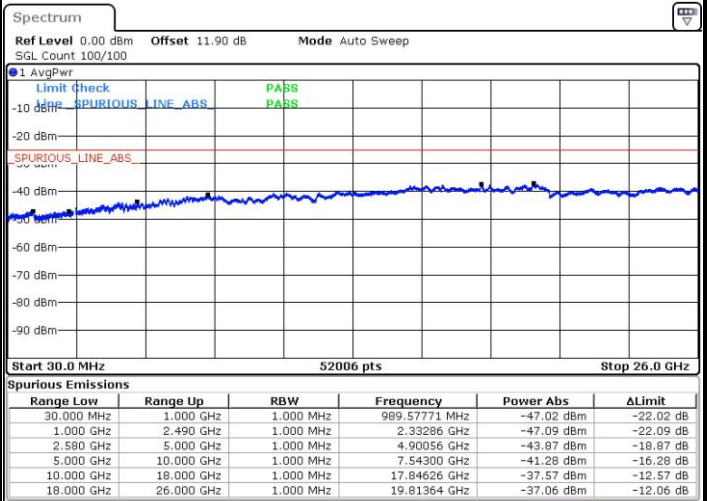
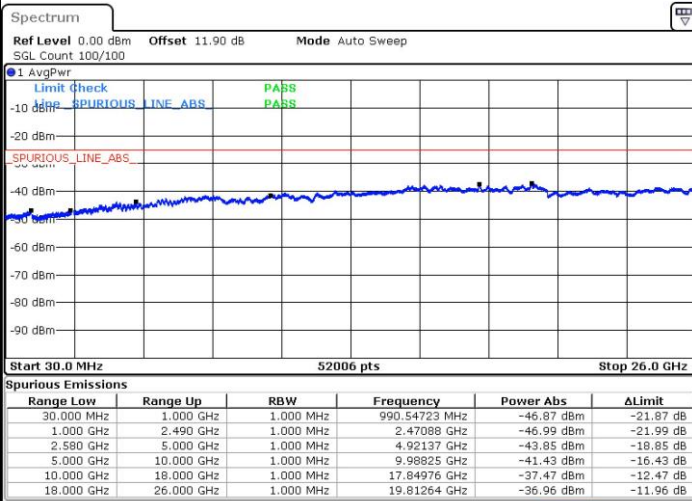


Date: 25 JUN 2019 19:53:58

Date: 25 JUN 2019 19:54:44

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 25 JUN 2019 19:58:26

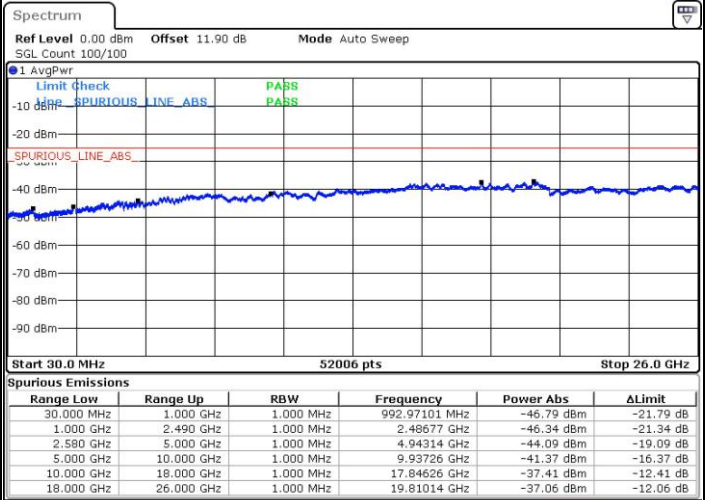
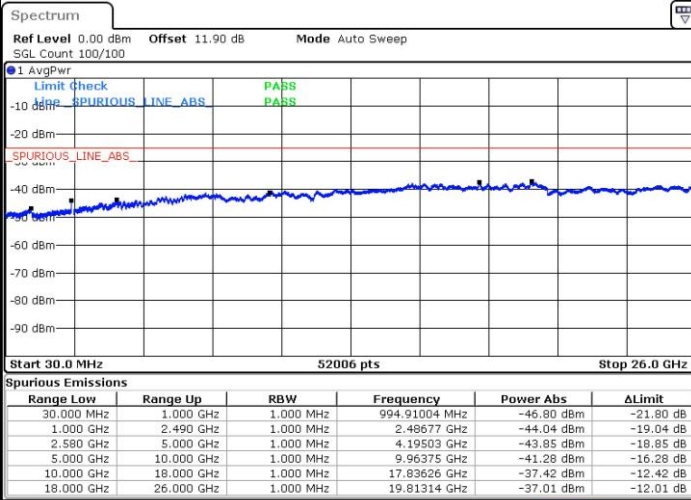
Date: 25 JUN 2019 19:59:12



LTE Band 7 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

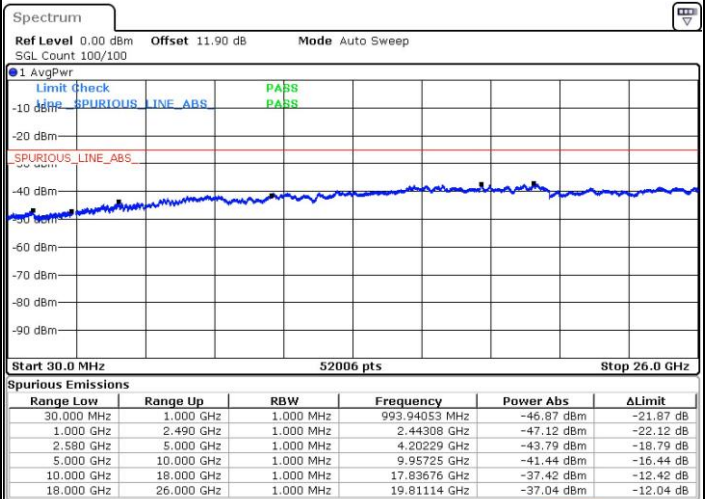
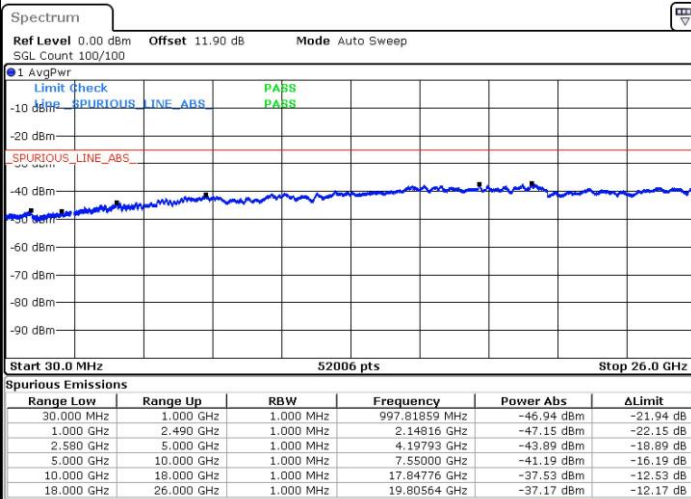


Date: 25 JUN 2019 20:08:33

Date: 25 JUN 2019 20:09:18

Middle Channel / QPSK

Middle Channel / 16QAM



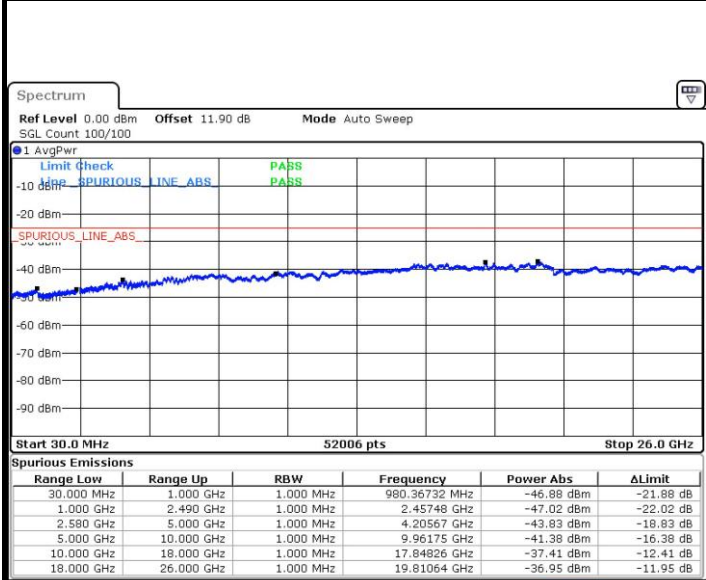
Date: 25 JUN 2019 20:10:51

Date: 25 JUN 2019 20:11:36



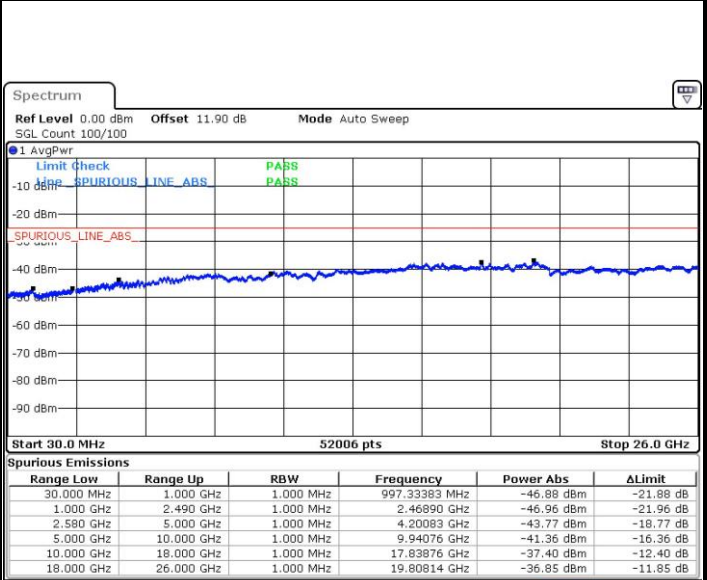
LTE Band7 / 15MHz

Highest Channel / QPSK



Date: 25 JUN 2019 20:15:19

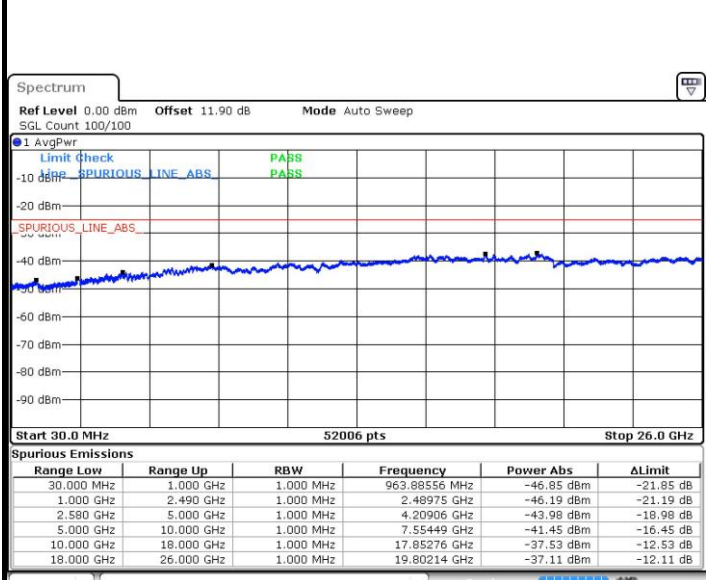
Highest Channel / 16QAM



Date: 25 JUN 2019 20:16:05

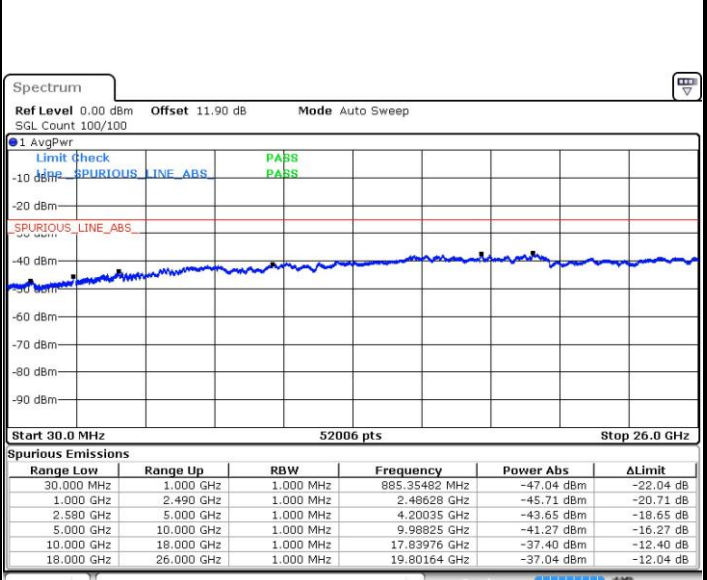
LTE Band 7 / 20MHz

Lowest Channel / QPSK



Date: 25 JUN 2019 20:25:25

Lowest Channel / 16QAM



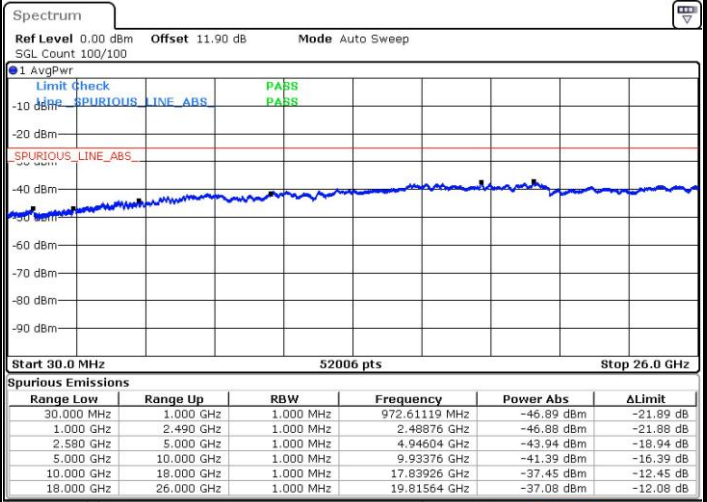
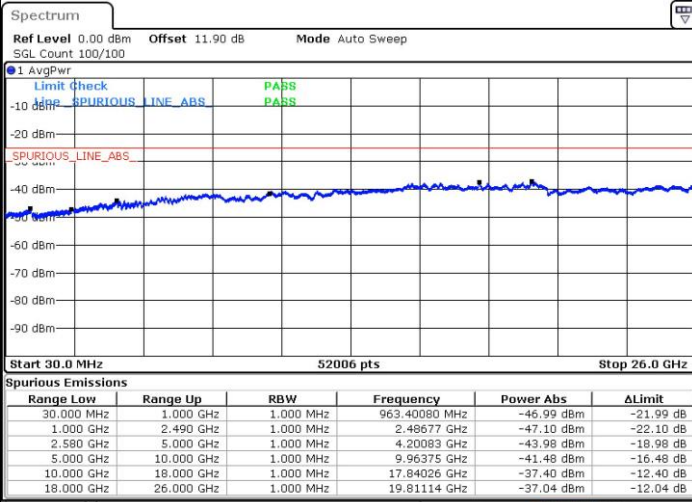
Date: 25 JUN 2019 20:26:10



LTE Band 7 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

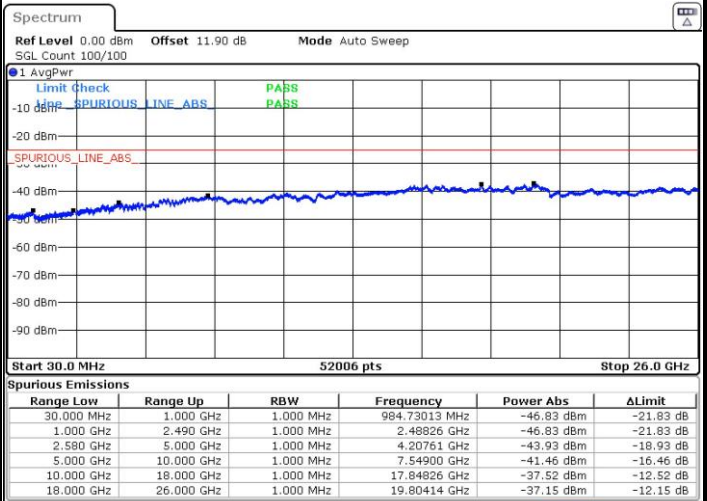
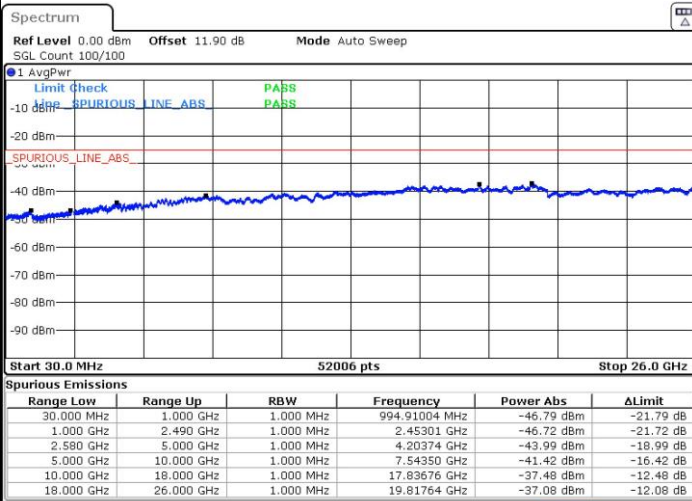


Date: 25 JUN 2019 20:27:43

Date: 25 JUN 2019 20:28:28

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 29 JUN 2019 08:43:16

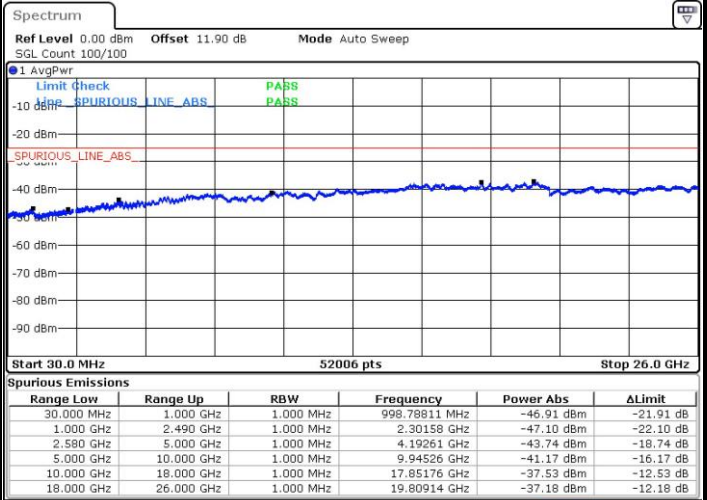
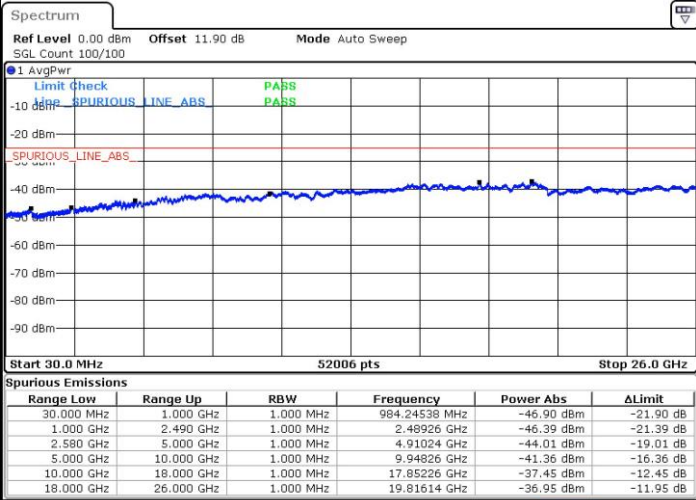
Date: 29 JUN 2019 08:44:00



LTE Band 7 / 5MHz

Lowest Channel / 64QAM

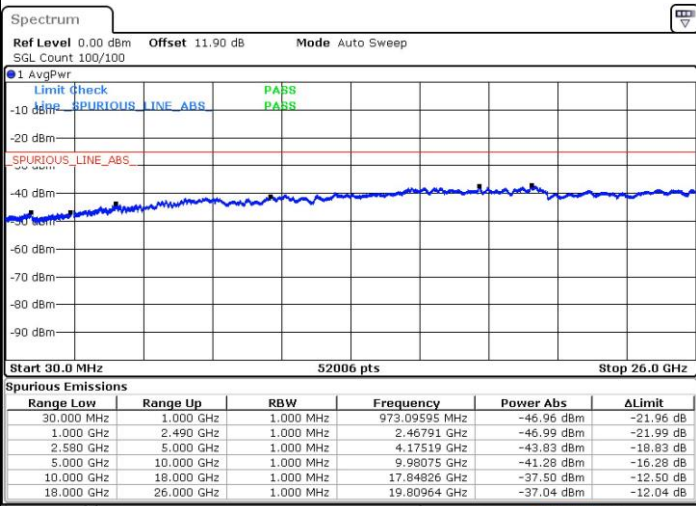
Middle Channel / 64QAM



Date: 25 JUN 2019 19:44:31

Date: 25 JUN 2019 19:45:41

Highest Channel / 64QAM



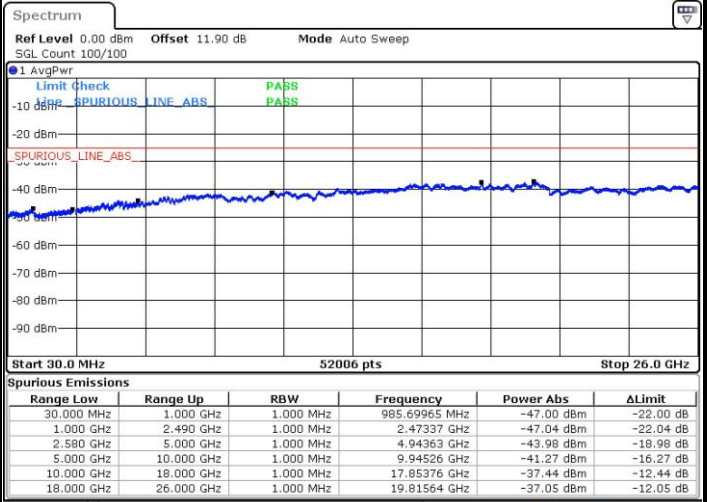
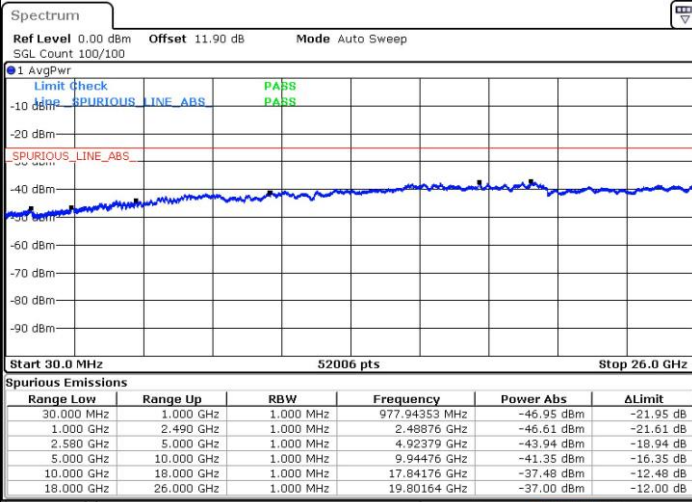
Date: 25 JUN 2019 19:47:54



LTE Band 7 / 10MHz

Lowest Channel / 64QAM

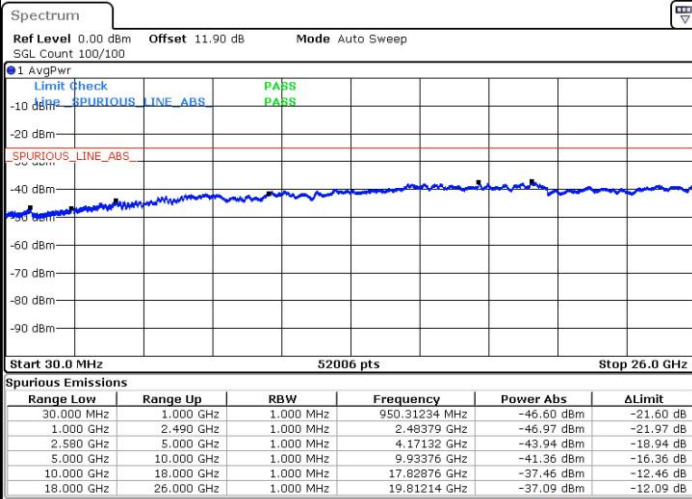
Middle Channel / 64QAM



Date: 25 JUN 2019 20:01:26

Date: 25 JUN 2019 20:02:35

Highest Channel / 64QAM



Date: 25 JUN 2019 20:04:49

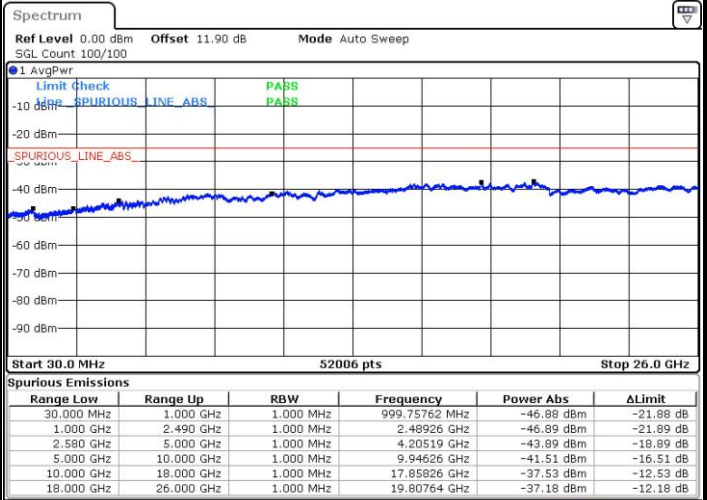
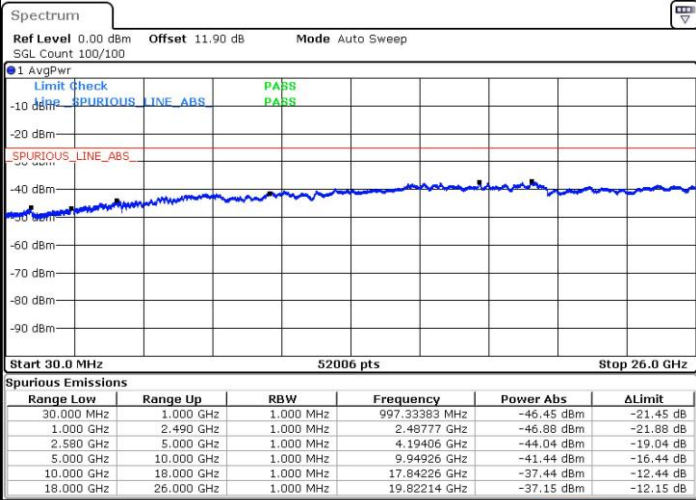




LTE Band 7 / 15MHz

Lowest Channel / 64QAM

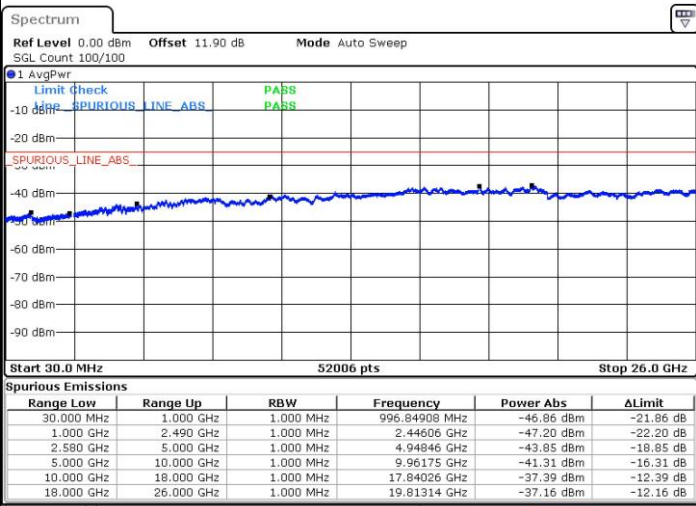
Middle Channel / 64QAM



Date: 25 JUN 2019 20:18:19

Date: 25 JUN 2019 20:19:28

Highest Channel / 64QAM



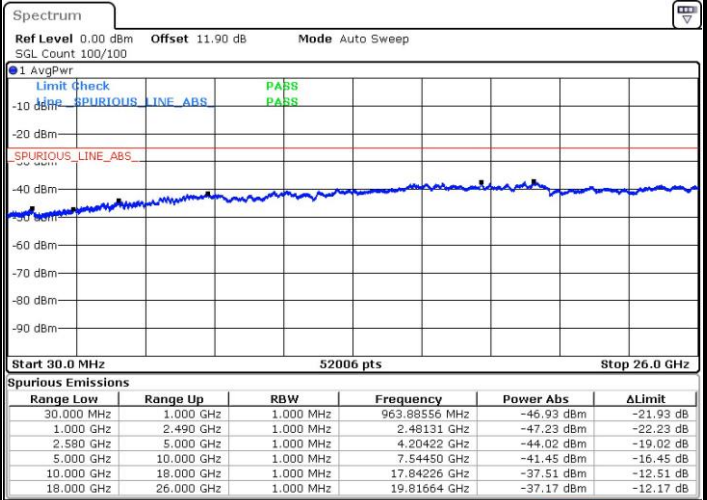
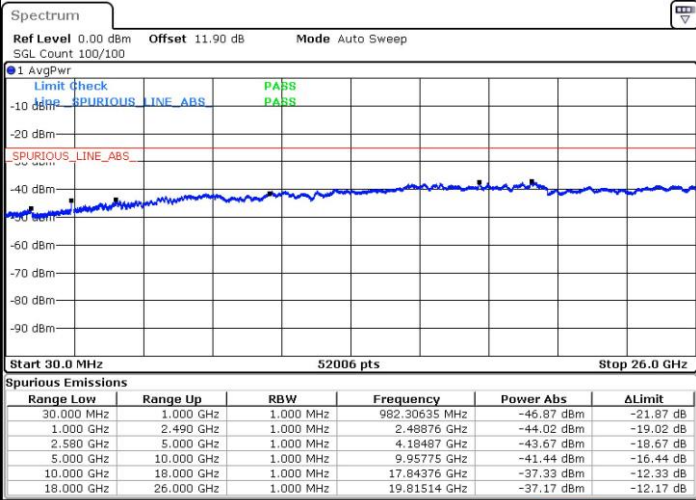
Date: 25 JUN 2019 20:21:42



LTE Band 7 / 20MHz

Lowest Channel / 64QAM

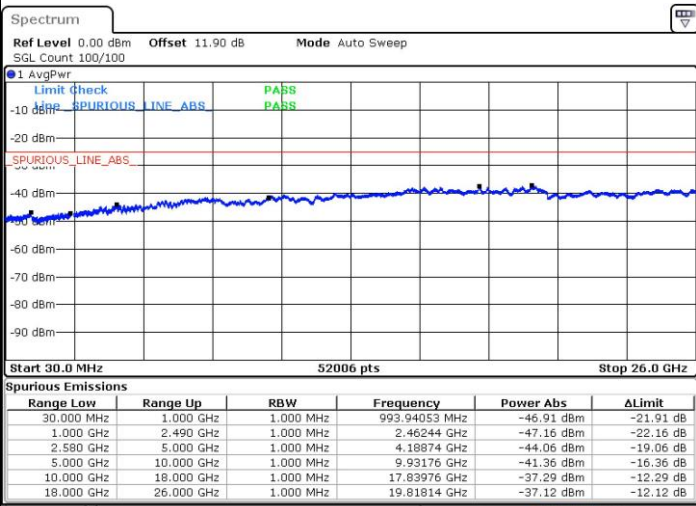
Middle Channel / 64QAM



Date: 25 JUN 2019 20:35:12

Date: 25 JUN 2019 20:36:21

Highest Channel / 64QAM



Date: 25 JUN 2019 20:38:36





Frequency Stability

Test Conditions		LTE Band 7 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0008	PASS
40	Normal Voltage	0.0099	
30	Normal Voltage	0.0103	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0072	
0	Normal Voltage	0.0073	
-10	Normal Voltage	0.0079	
-20	Normal Voltage	0.0077	
-30	Normal Voltage	0.0083	
20	Maximum Voltage	0.0078	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0080	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.25 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



## LTE Band 12

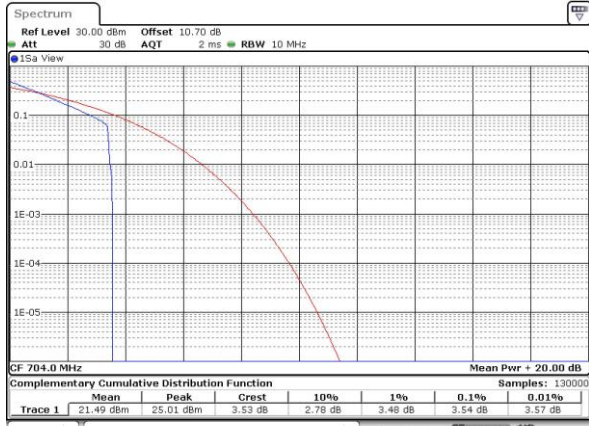
### Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.54	4.87	4.41	5.83	PASS
Middle CH	3.77	4.90	3.94	5.94	
Highest CH	3.62	5.13	4.09	5.86	
Mode	LTE Band 12 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.10	6.35	-	-	PASS
Middle CH	5.16	6.29	-	-	
Highest CH	5.33	6.41	-	-	



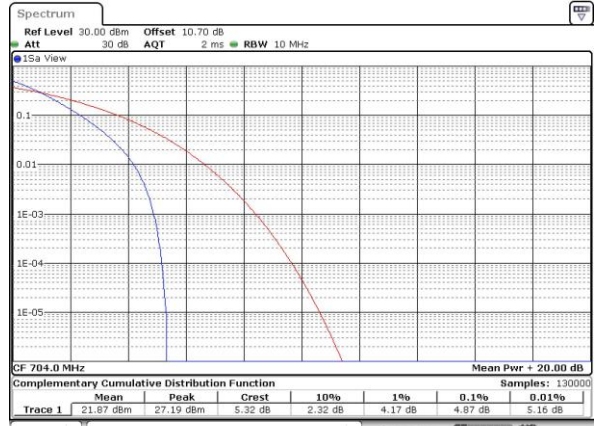
LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



Date: 26 JUN 2019 04:29:31

Lowest Channel / Full RB



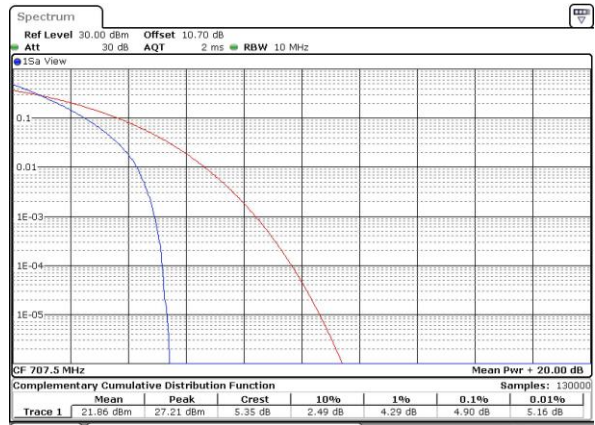
Date: 26 JUN 2019 04:29:20

Middle Channel / 1RB



Date: 26 JUN 2019 04:29:42

Middle Channel / Full RB



Date: 26 JUN 2019 04:30:11

Highest Channel / 1RB



Date: 26 JUN 2019 04:30:52

Highest Channel / Full RB



Date: 26 JUN 2019 04:30:41



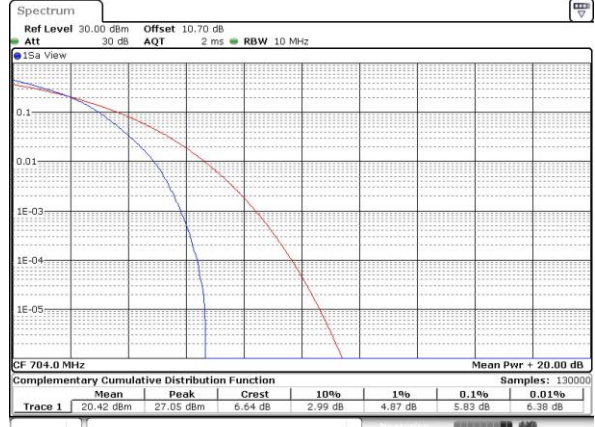
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



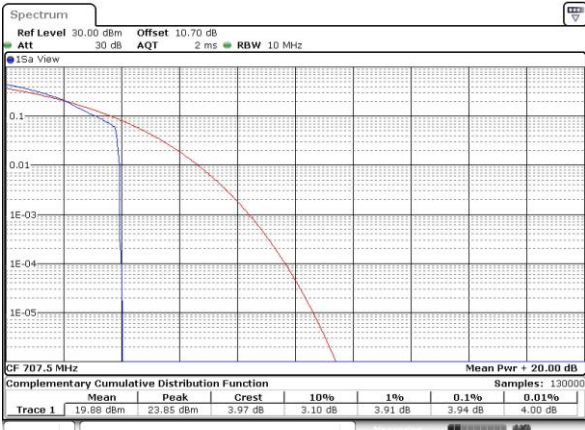
Date: 26 JUN 2019 04:27:49

Lowest Channel / Full RB



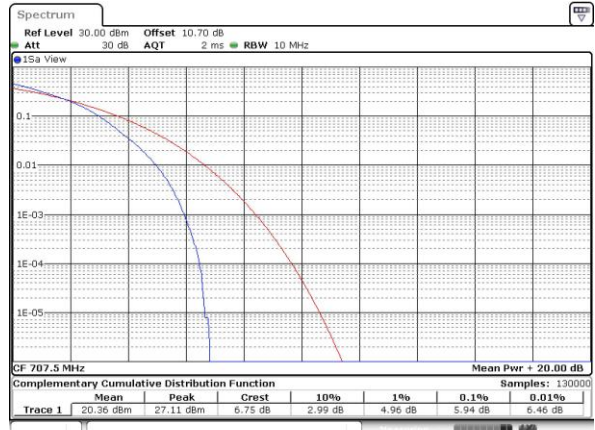
Date: 26 JUN 2019 04:27:33

Middle Channel / 1RB



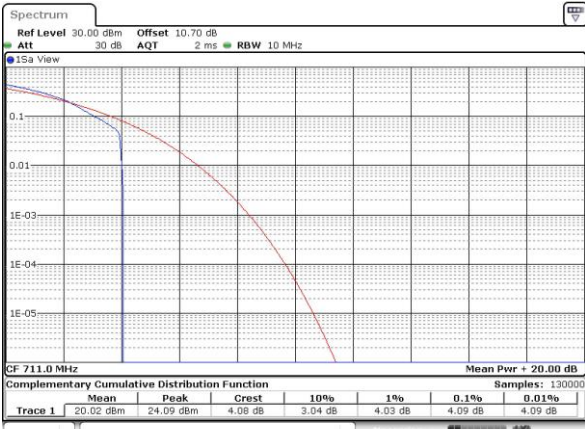
Date: 26 JUN 2019 04:28:04

Middle Channel / Full RB



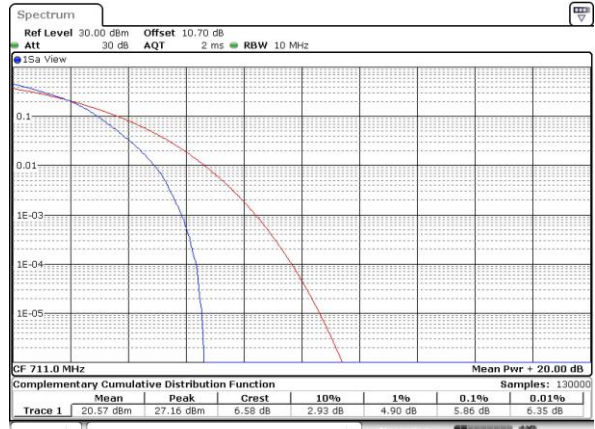
Date: 26 JUN 2019 04:28:16

Highest Channel / 1RB



Date: 26 JUN 2019 04:29:09

Highest Channel / Full RB



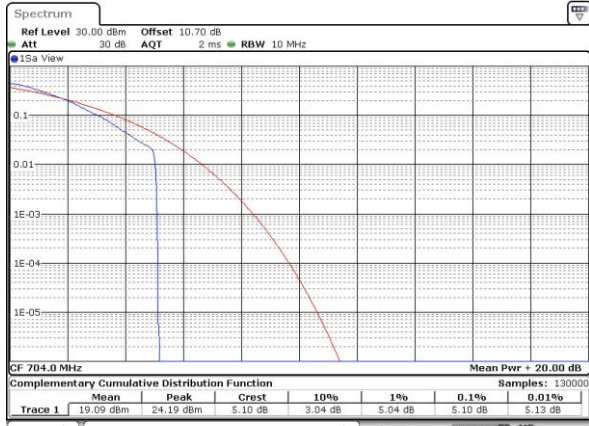
Date: 26 JUN 2019 04:28:58





LTE Band 12 / 10MHz / 64QAM

Lowest Channel / 1RB



Date: 26 JUN 2019 04:26:20

Lowest Channel / Full RB



Date: 26 JUN 2019 04:26:08

Middle Channel / 1RB



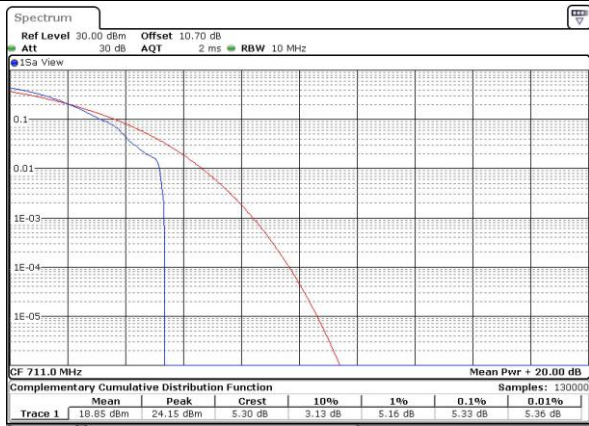
Date: 26 JUN 2019 04:26:34

Middle Channel / Full RB



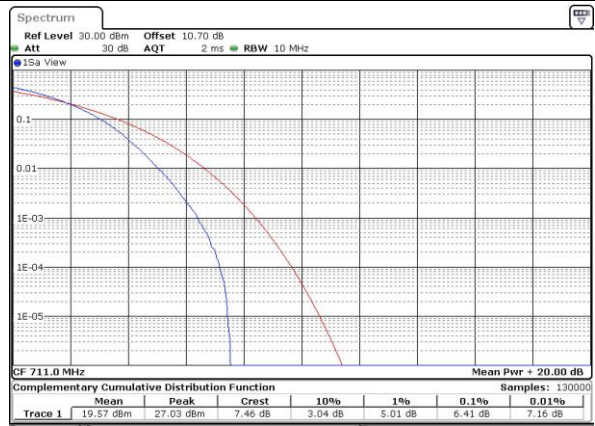
Date: 26 JUN 2019 04:26:52

Highest Channel / 1RB



Date: 26 JUN 2019 04:27:19

Highest Channel / Full RB



Date: 26 JUN 2019 04:27:05



**26dB Bandwidth**

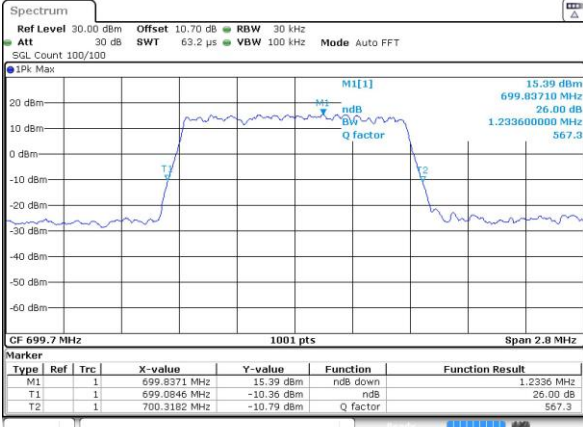
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.23	1.23	3.00	3.05	4.94	4.90	9.75	9.69	-	-	-	-
Middle CH	1.24	1.24	3.06	3.02	4.92	4.82	9.83	9.81	-	-	-	-
Highest CH	1.22	1.22	3.01	3.02	4.92	4.88	9.77	9.73	-	-	-	-
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.22	-	2.99	-	4.99	-	9.83	-	-	-	-	-
Middle CH	1.23	-	3.02	-	4.90	-	9.83	-	-	-	-	-
Highest CH	1.24	-	3.01	-	4.87	-	9.81	-	-	-	-	-





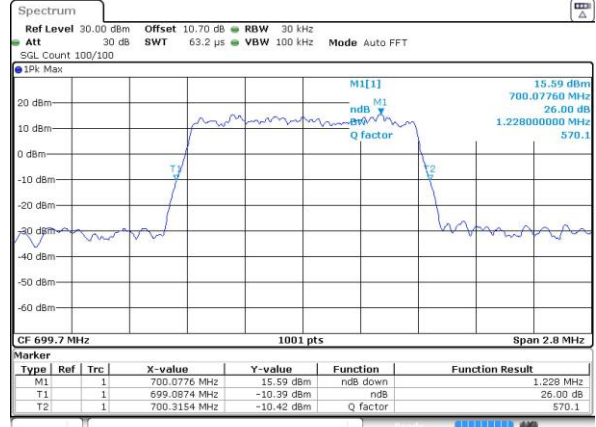
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



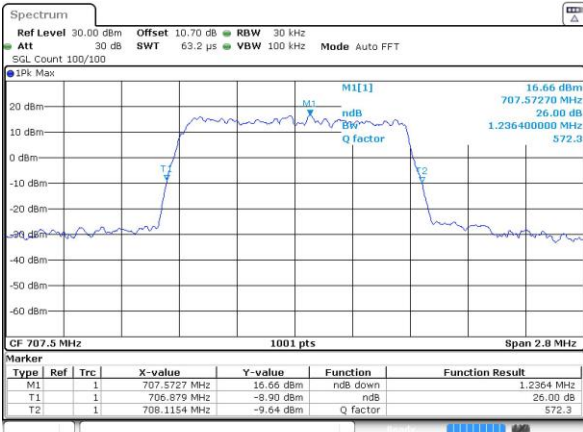
Date: 29 JUN 2019 06:13:51

Lowest Channel / 1.4MHz / 16QAM



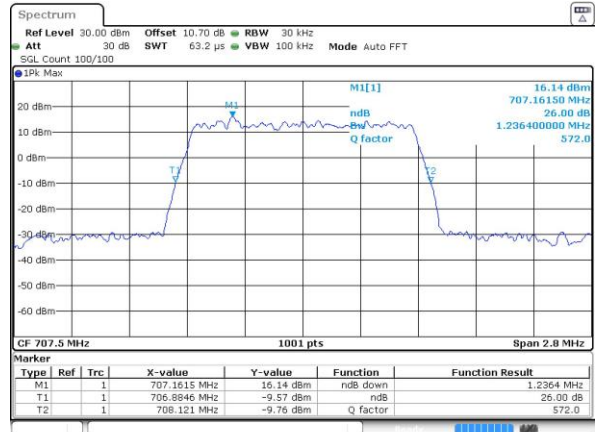
Date: 29 JUN 2019 06:13:39

Middle Channel / 1.4MHz / QPSK



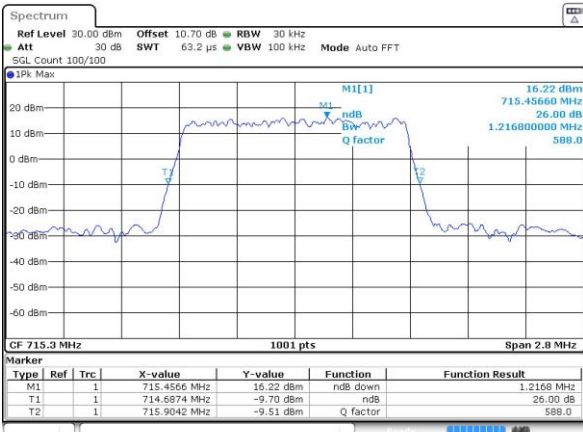
Date: 29 JUN 2019 06:14:26

Middle Channel / 1.4MHz / 16QAM



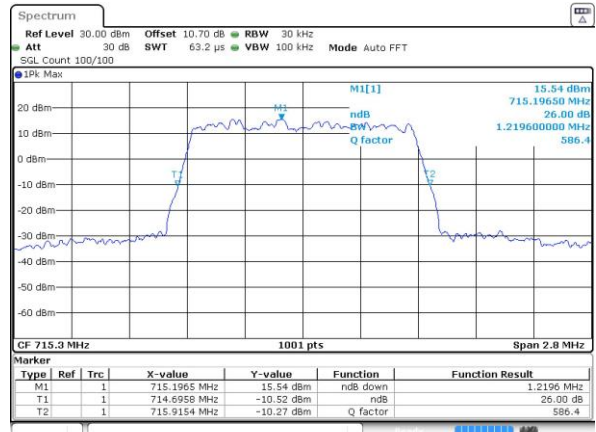
Date: 29 JUN 2019 06:14:38

Highest Channel / 1.4MHz / QPSK



Date: 29 JUN 2019 06:15:27

Highest Channel / 1.4MHz / 16QAM

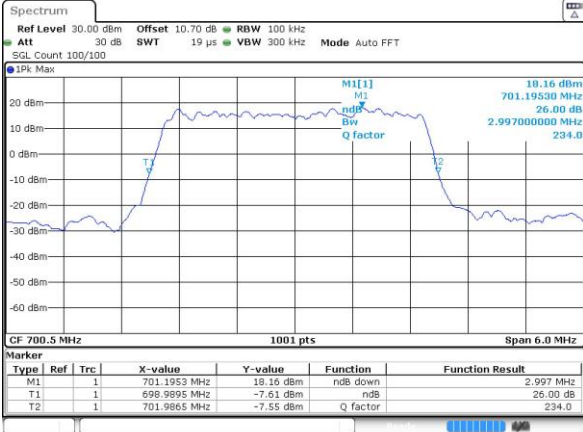


Date: 29 JUN 2019 06:15:14



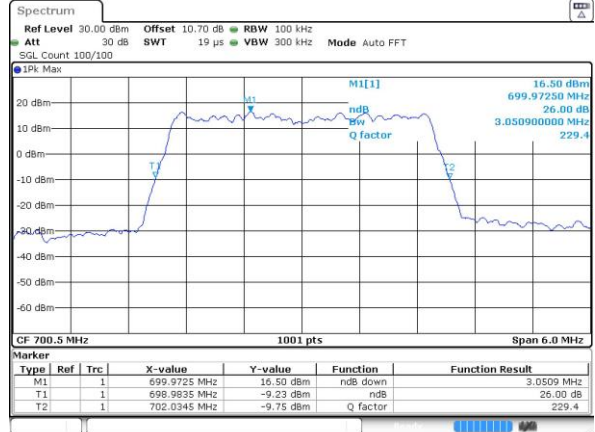
LTE Band 12

Lowest Channel / 3MHz / QPSK



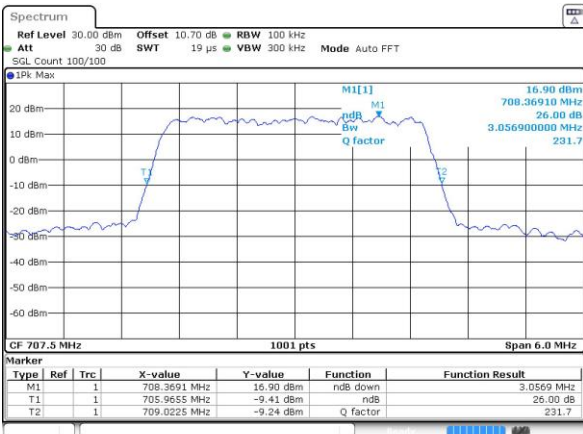
Date: 29 JUN 2019 06 01:53

Lowest Channel / 3MHz / 16QAM



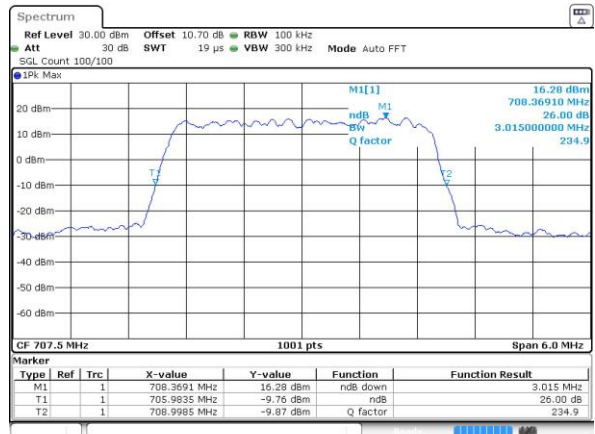
Date: 29 JUN 2019 06 01:41

Middle Channel / 3MHz / QPSK



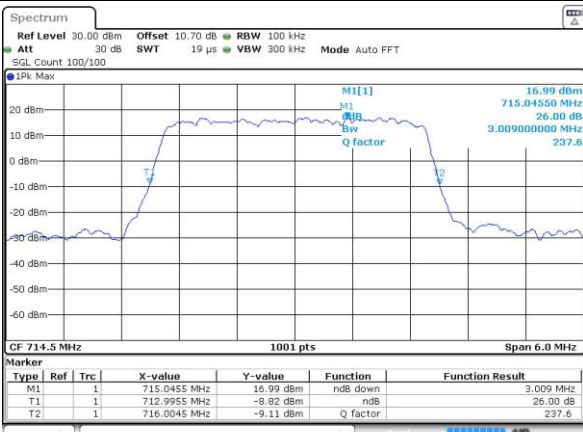
Date: 29 JUN 2019 06 02:29

Middle Channel / 3MHz / 16QAM



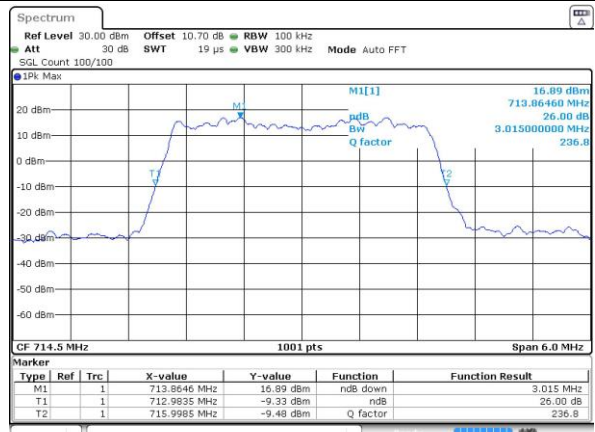
Date: 29 JUN 2019 06 02:40

Highest Channel / 3MHz / QPSK



Date: 29 JUN 2019 06 03:29

Highest Channel / 3MHz / 16QAM

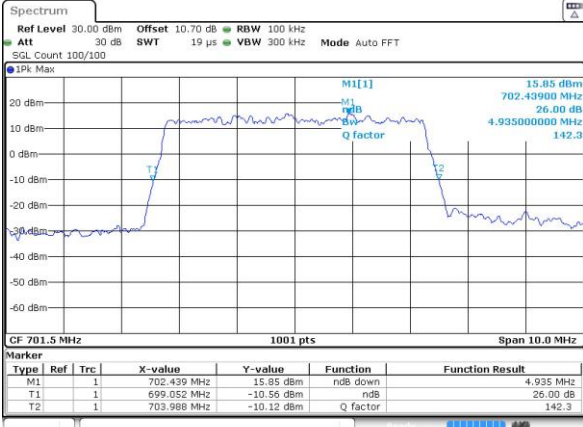


Date: 29 JUN 2019 06 03:17



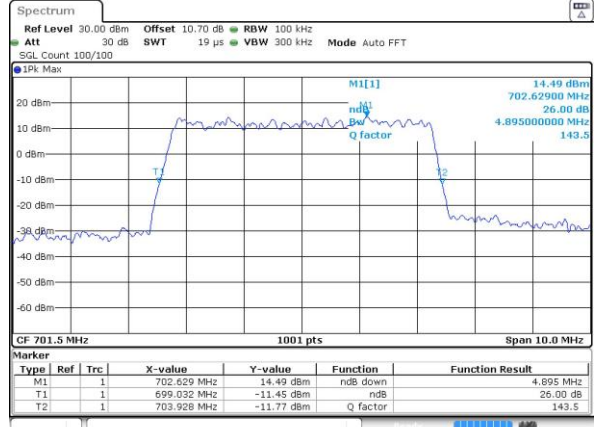
LTE Band 12

Lowest Channel / 5MHz / QPSK



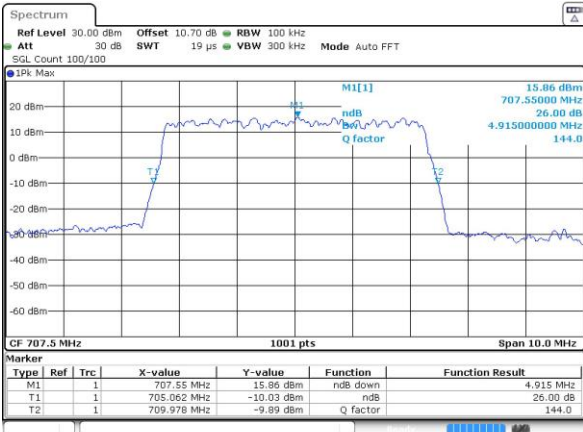
Date: 29 JUN 2019 06 06 43

Lowest Channel / 5MHz / 16QAM



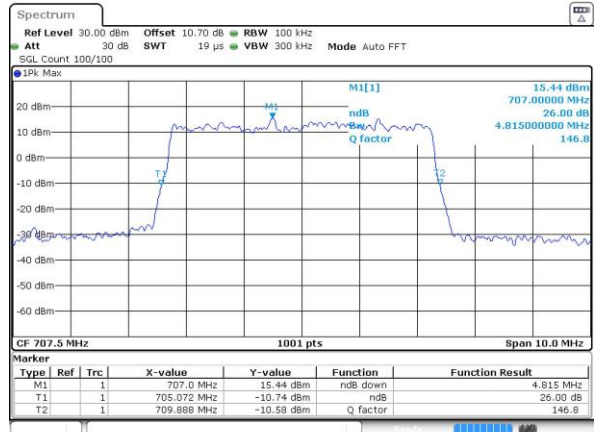
Date: 29 JUN 2019 06 06 30

Middle Channel / 5MHz / QPSK



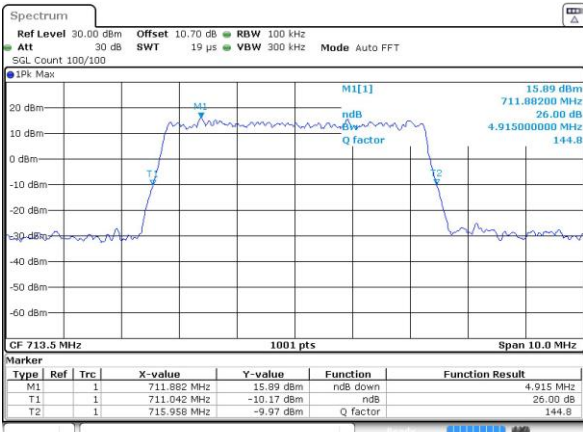
Date: 29 JUN 2019 06 07 18

Middle Channel / 5MHz / 16QAM



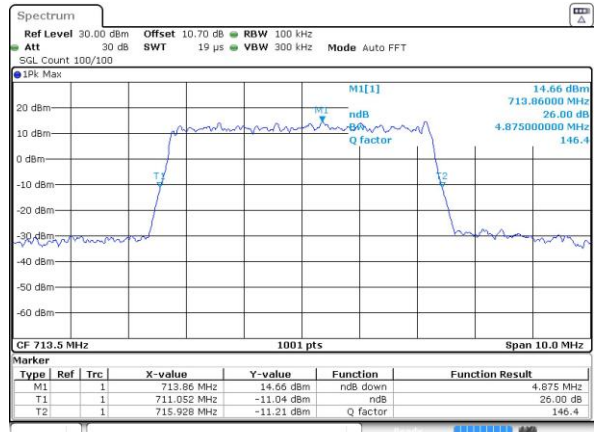
Date: 29 JUN 2019 06 07 30

Highest Channel / 5MHz / QPSK



Date: 29 JUN 2019 06 08 18

Highest Channel / 5MHz / 16QAM

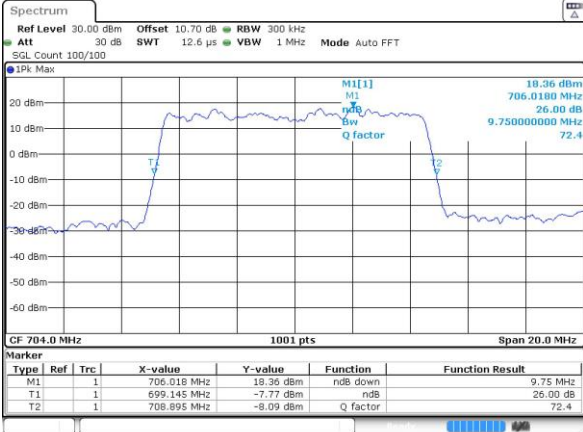


Date: 29 JUN 2019 06 08 06



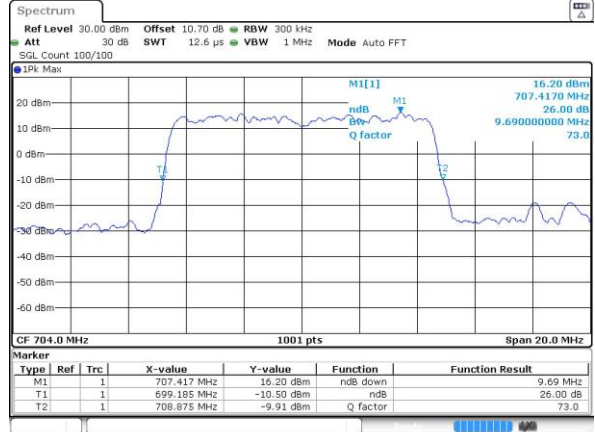
LTE Band 12

Lowest Channel / 10MHz / QPSK



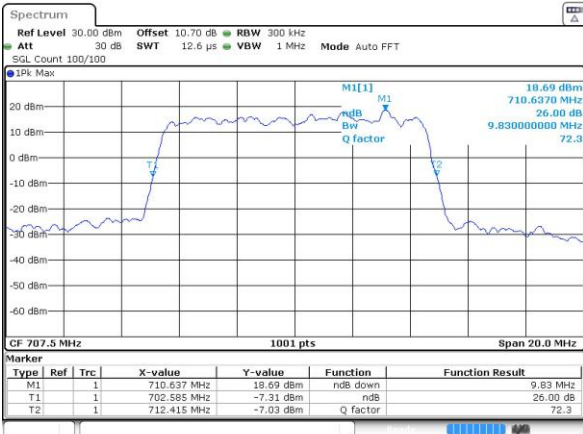
Date: 29 JUN 2019 06:09:08

Lowest Channel / 10MHz / 16QAM



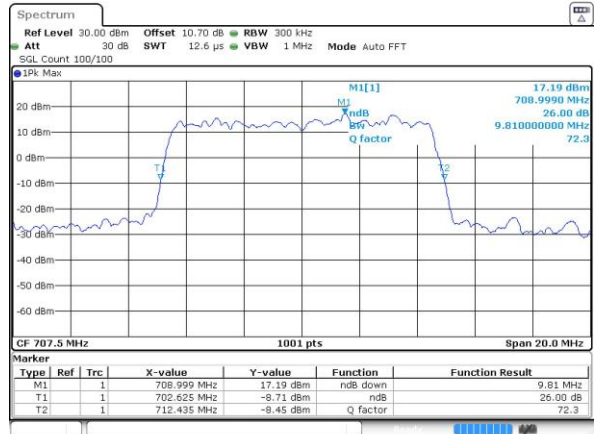
Date: 29 JUN 2019 06:08:56

Middle Channel / 10MHz / QPSK



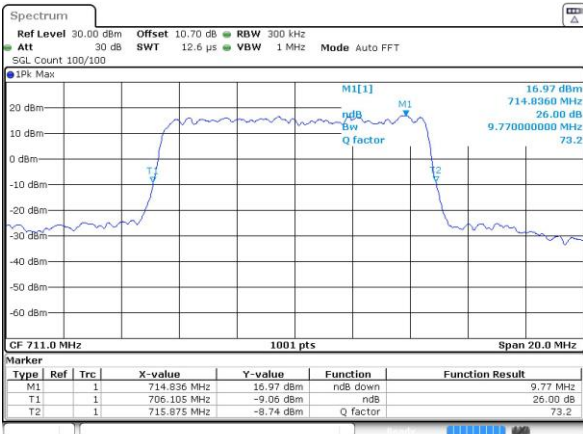
Date: 29 JUN 2019 06:09:44

Middle Channel / 10MHz / 16QAM



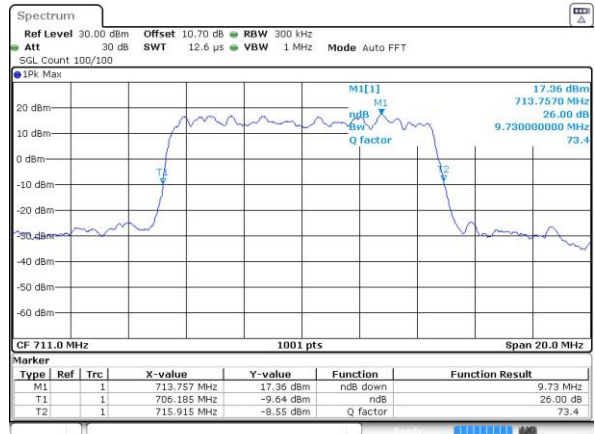
Date: 29 JUN 2019 06:09:55

Highest Channel / 10MHz / QPSK



Date: 29 JUN 2019 06:10:44

Highest Channel / 10MHz / 16QAM

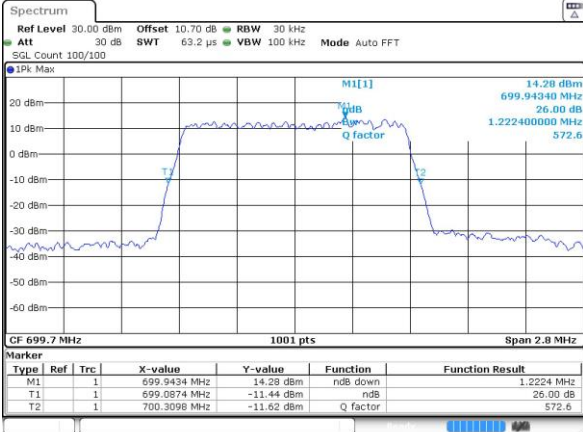


Date: 29 JUN 2019 06:10:32



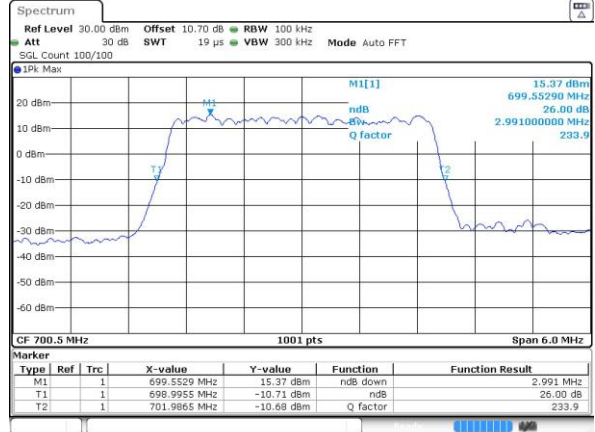
LTE Band 12

Lowest Channel / 1.4MHz / 64QAM



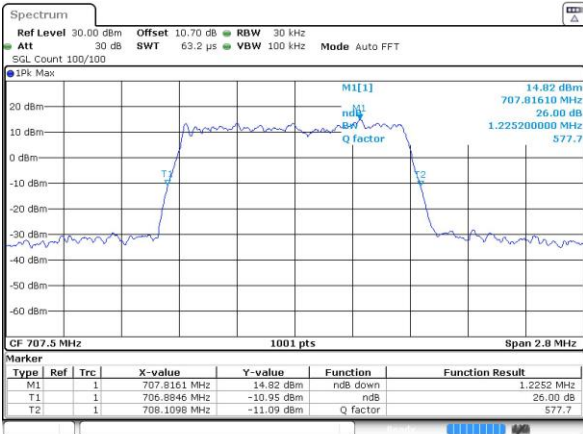
Date: 29 JUN 2019 06:15:51

Lowest Channel / 3MHz / 64QAM



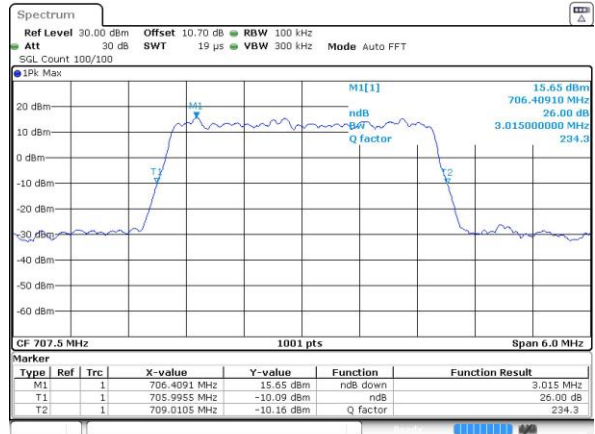
Date: 29 JUN 2019 06:03:53

Middle Channel / 1.4MHz / 64QAM



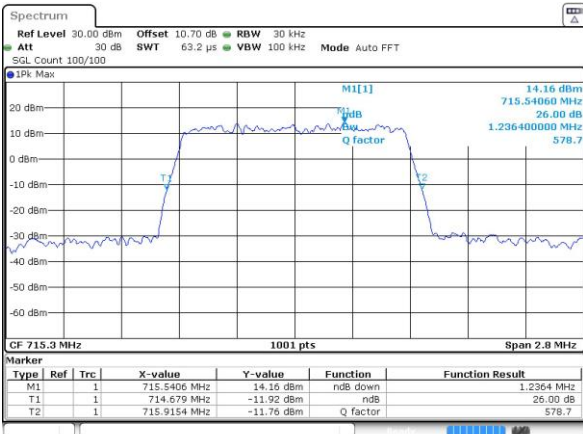
Date: 29 JUN 2019 06:16:15

Middle Channel / 3MHz / 64QAM



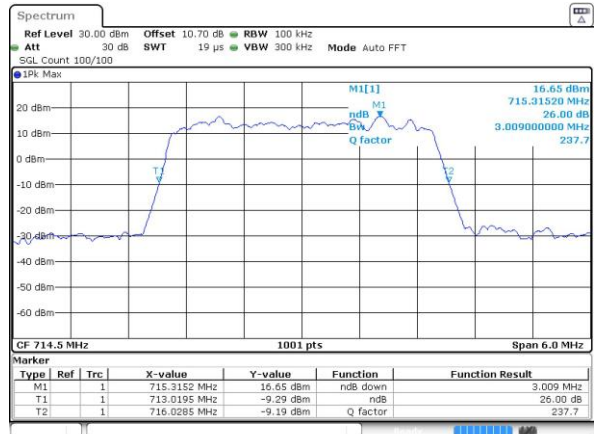
Date: 29 JUN 2019 06:04:17

Highest Channel / 1.4MHz / 64QAM



Date: 29 JUN 2019 06:16:39

Highest Channel / 3MHz / 64QAM



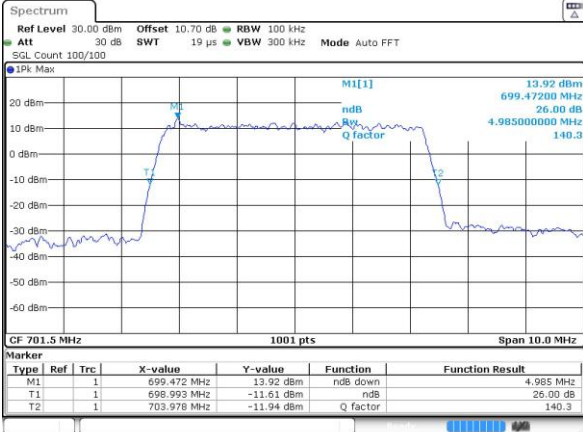
Date: 29 JUN 2019 06:04:41





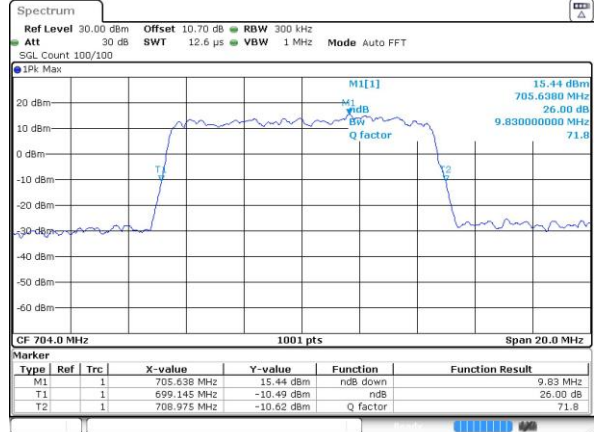
LTE Band 12

Lowest Channel / 5MHz / 64QAM



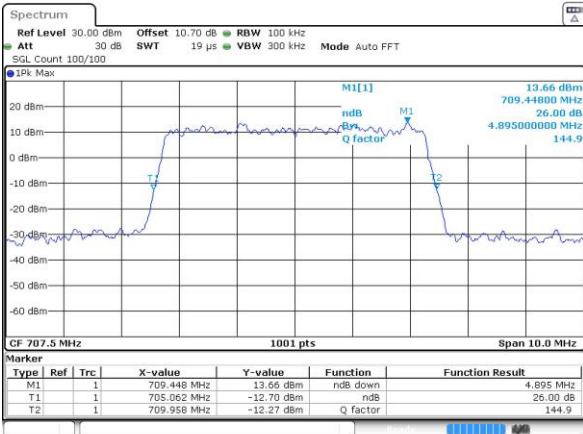
Date: 29 JUN 2019 06:05:06

Lowest Channel / 10MHz / 64QAM



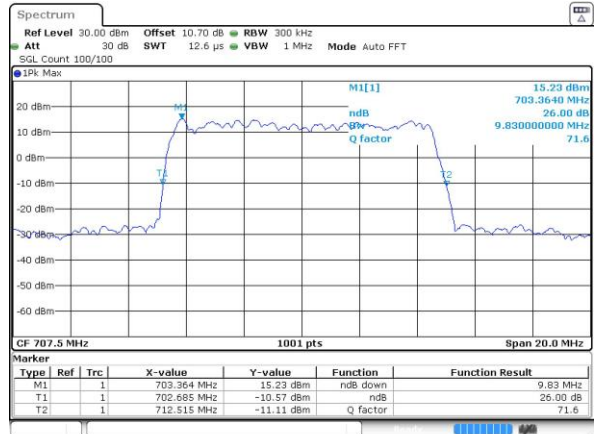
Date: 29 JUN 2019 06:11:08

Middle Channel / 5MHz / 64QAM



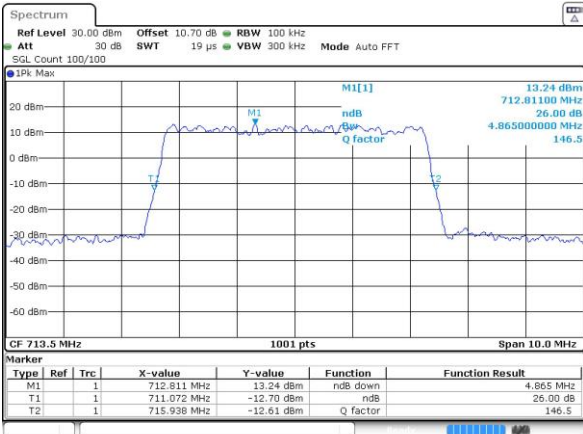
Date: 29 JUN 2019 06:05:29

Middle Channel / 10MHz / 64QAM



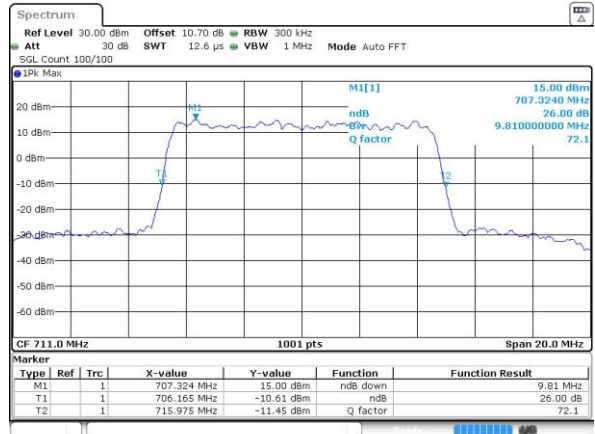
Date: 29 JUN 2019 06:11:32

Highest Channel / 5MHz / 64QAM



Date: 29 JUN 2019 06:05:54

Highest Channel / 10MHz / 64QAM



Date: 29 JUN 2019 06:11:56





Occupied Bandwidth

Mode	LTE Band 12 : 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	4.47	4.50	9.01	8.99	-	-	-	-
Middle CH	1.09	1.10	2.70	2.71	4.48	4.49	9.03	9.07	-	-	-	-
Highest CH	1.09	1.09	2.72	2.72	4.48	4.48	9.09	9.01	-	-	-	-
Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09	-	2.72	-	4.48	-	9.01	-	-	-	-	-
Middle CH	1.09	-	2.72	-	4.50	-	9.01	-	-	-	-	-
Highest CH	1.09	-	2.72	-	4.48	-	9.07	-	-	-	-	-