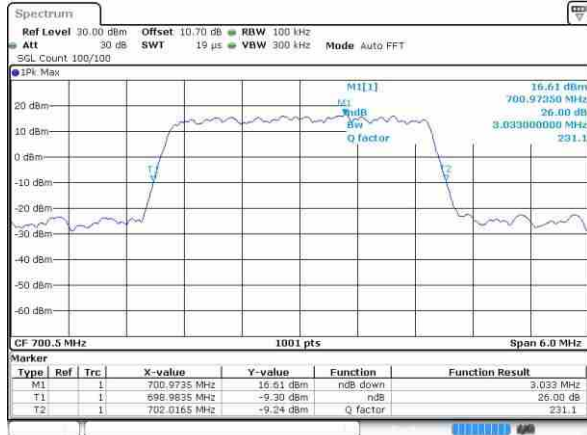


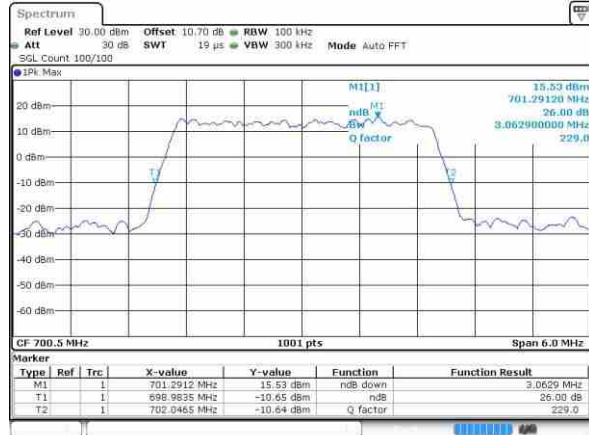


LTE Band 12

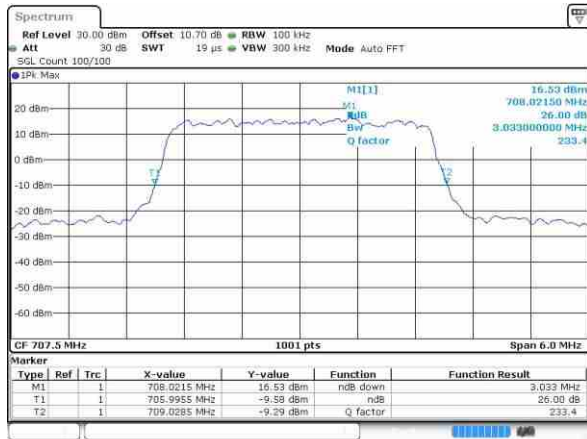
Lowest Channel / 3MHz / QPSK



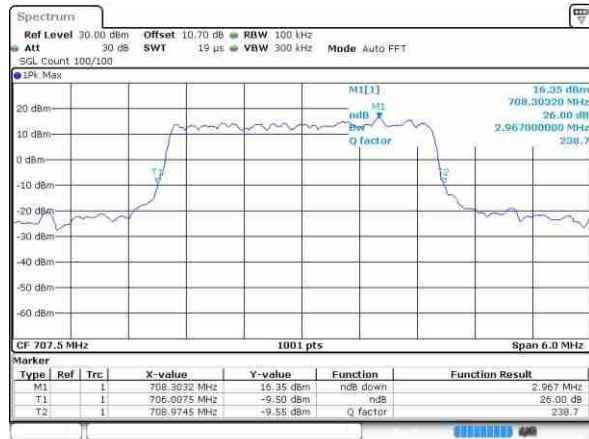
Lowest Channel / 3MHz / 16QAM



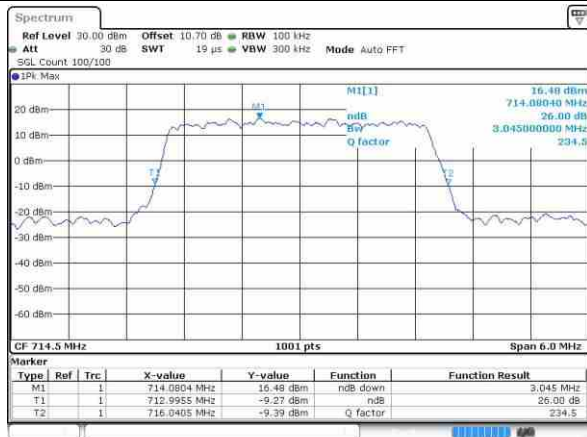
Middle Channel / 3MHz / QPSK



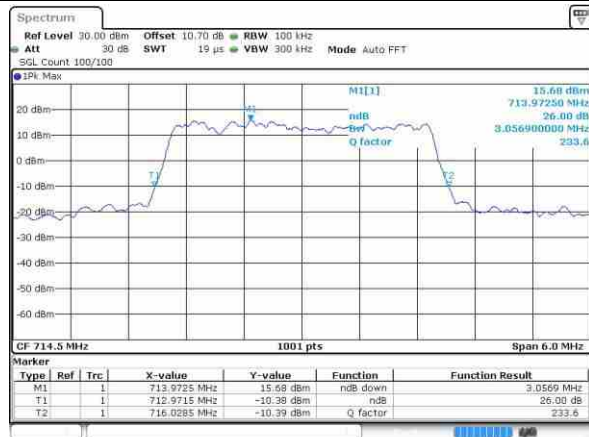
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK



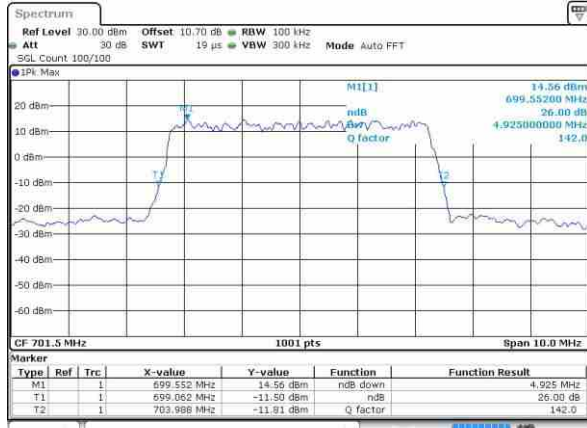
Highest Channel / 3MHz / 16QAM



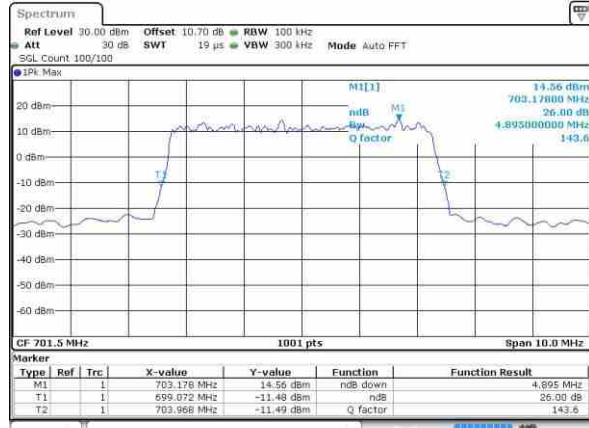


LTE Band 12

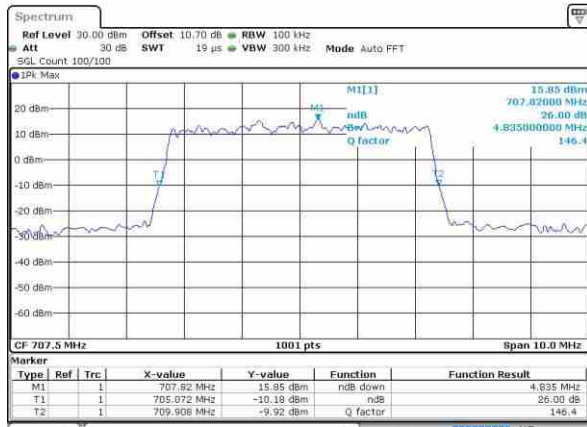
Lowest Channel / 5MHz / QPSK



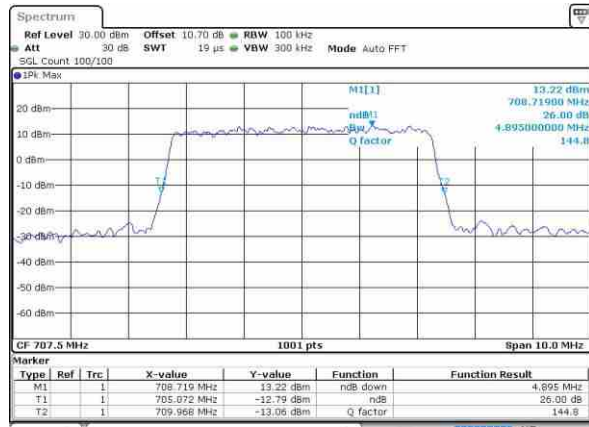
Lowest Channel / 5MHz / 16QAM



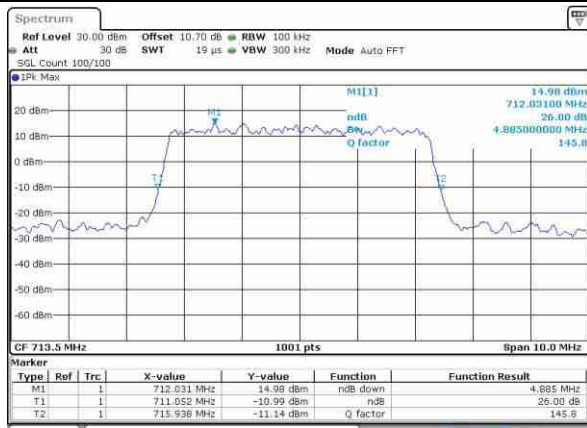
Middle Channel / 5MHz / QPSK



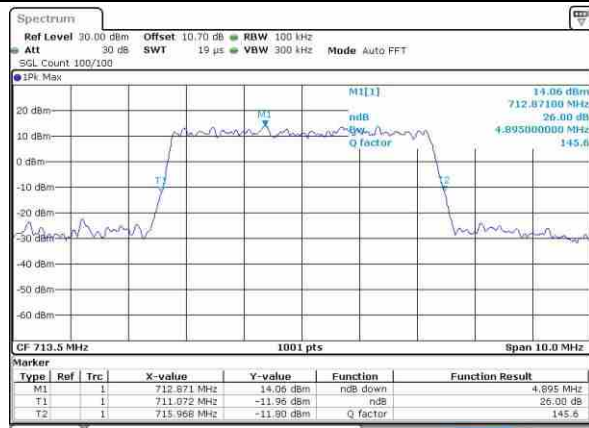
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



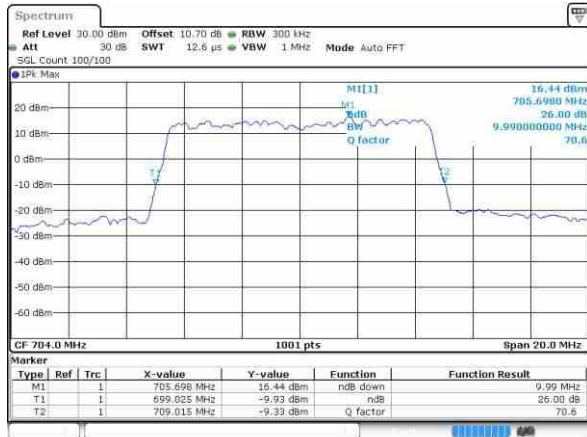
Highest Channel / 5MHz / 16QAM





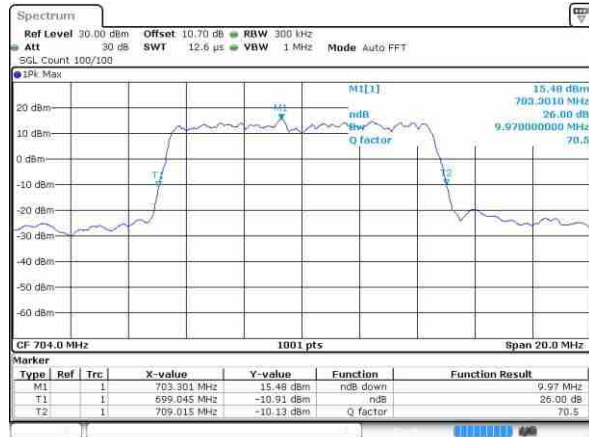
LTE Band 12

Lowest Channel / 10MHz / QPSK



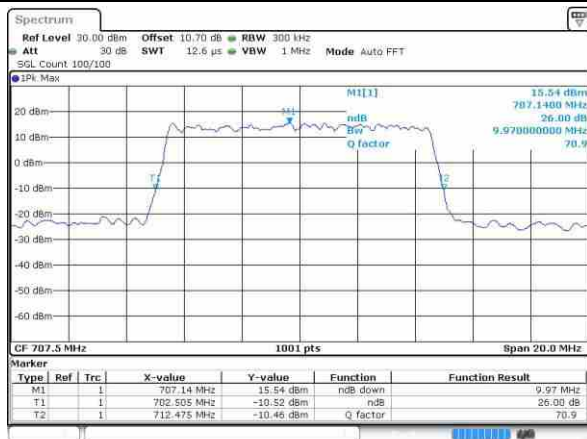
Date: 25 FEB 2019 01:12:45

Lowest Channel / 10MHz / 16QAM



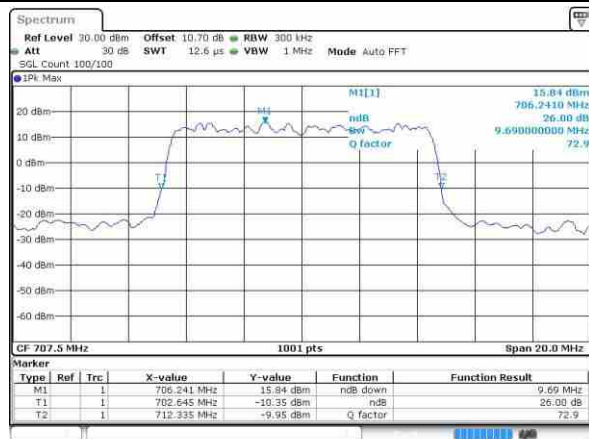
Date: 25 FEB 2019 01:12:34

Middle Channel / 10MHz / QPSK



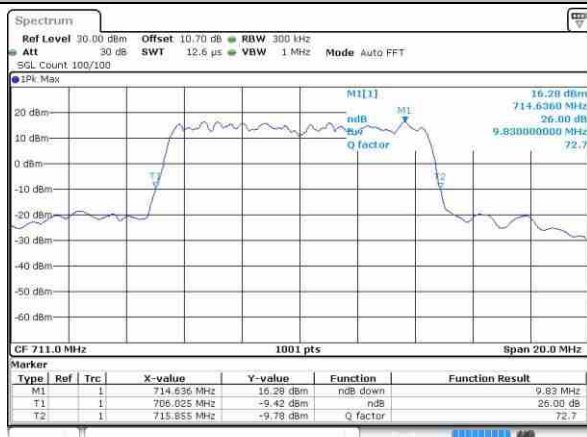
Date: 25 FEB 2019 01:18:40

Middle Channel / 10MHz / 16QAM



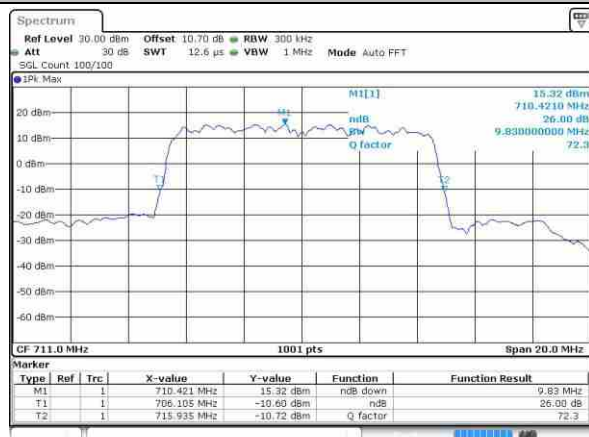
Date: 25 FEB 2019 01:18:51

Highest Channel / 10MHz / QPSK



Date: 25 FEB 2019 01:21:17

Highest Channel / 10MHz / 16QAM

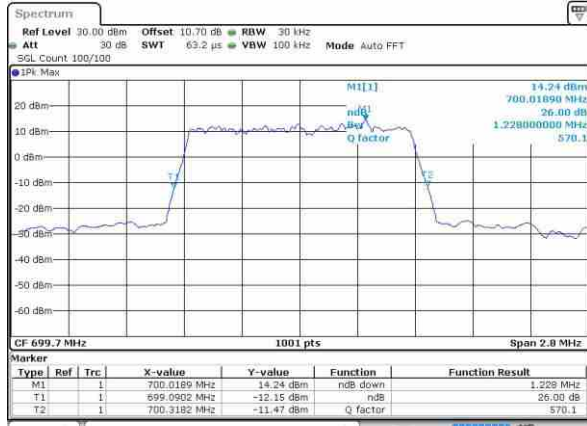


Date: 25 FEB 2019 01:21:08

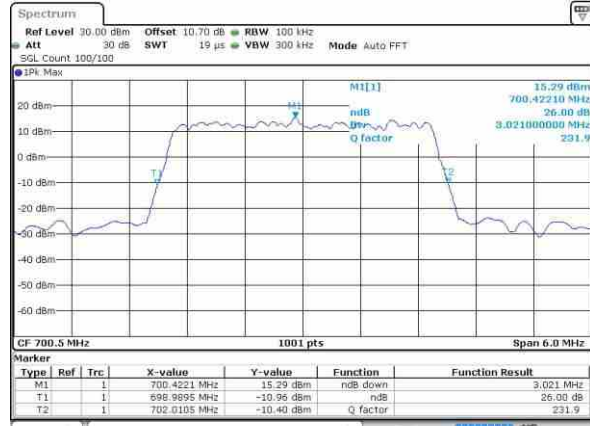


LTE Band 12

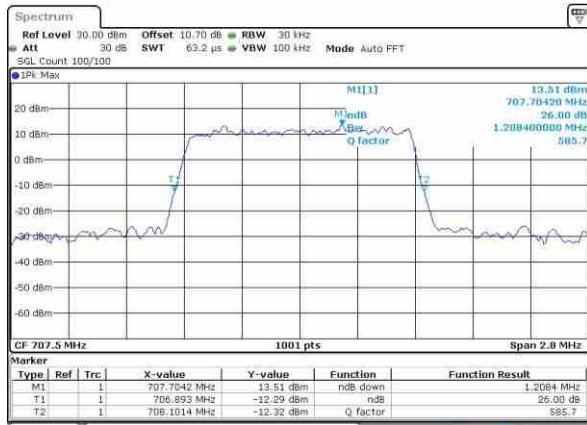
Lowest Channel / 1.4MHz / 64QAM



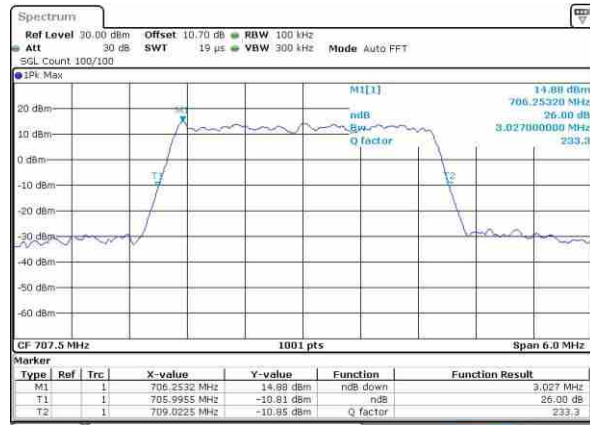
Lowest Channel / 3MHz / 64QAM



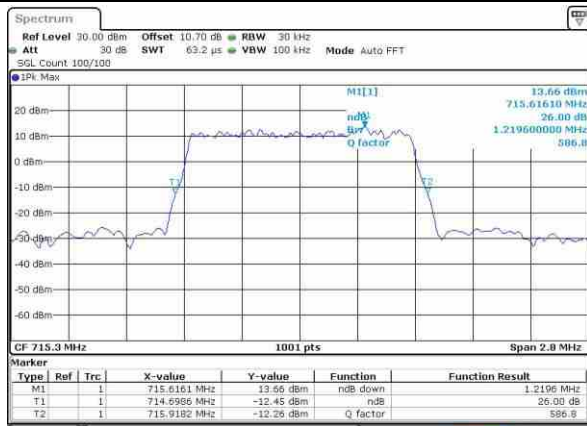
Middle Channel / 1.4MHz / 64QAM



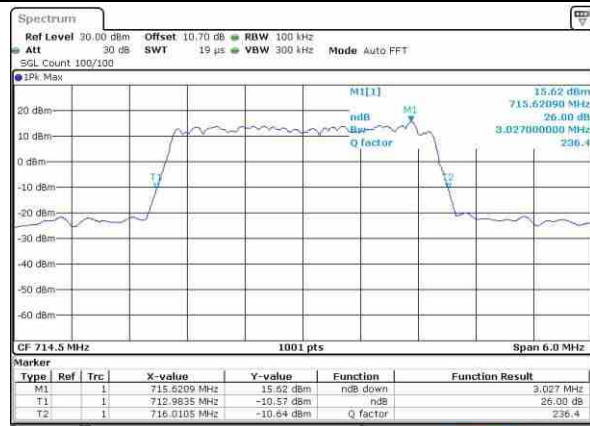
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM



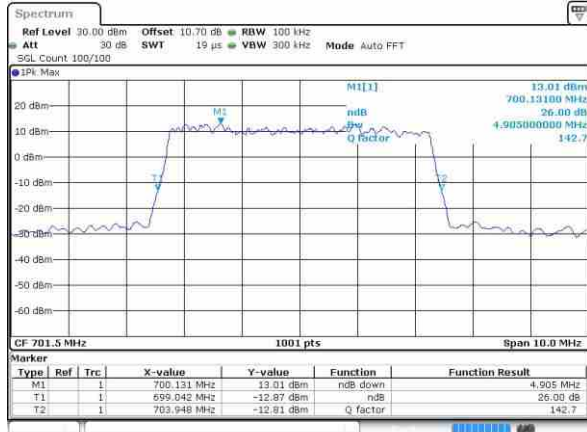
Highest Channel / 3MHz / 64QAM



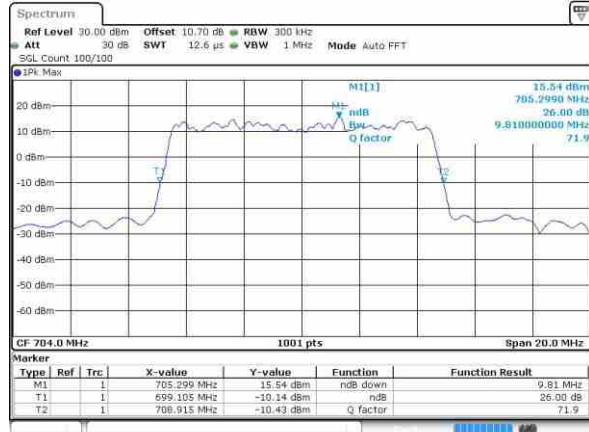


LTE Band 12

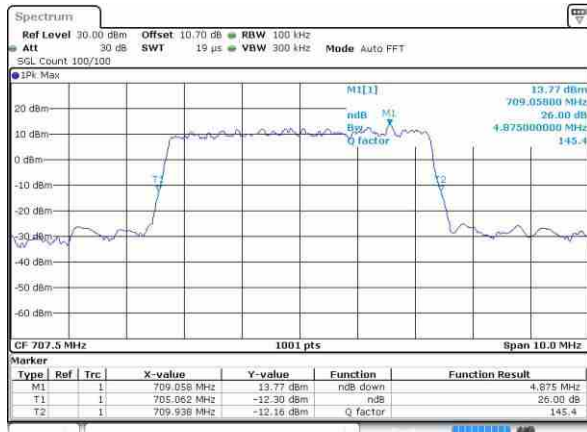
Lowest Channel / 5MHz / 64QAM



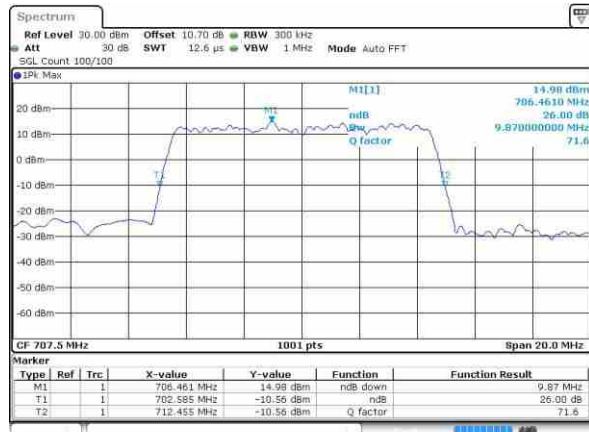
Lowest Channel / 10MHz / 64QAM



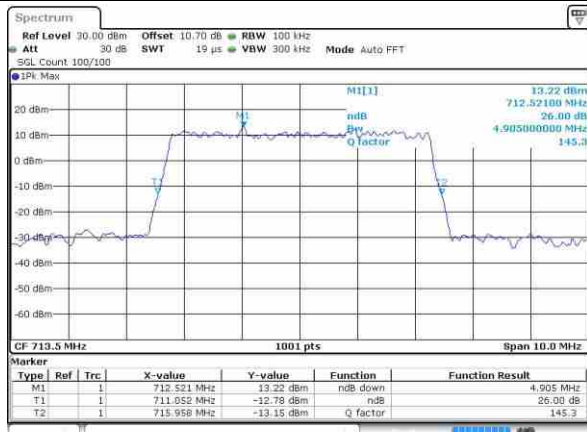
Middle Channel / 5MHz / 64QAM



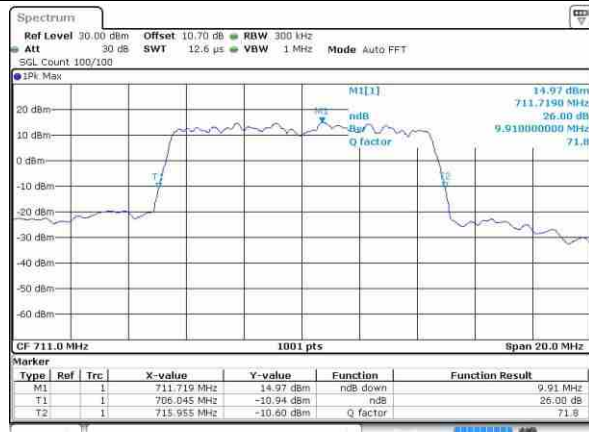
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



Highest Channel / 10MHz / 64QAM



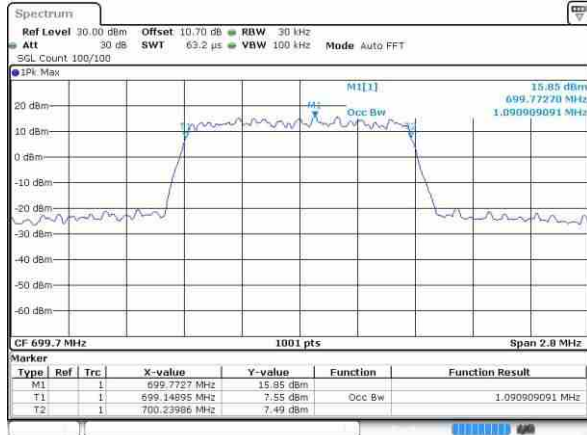
**Occupied Bandwidth**

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	1.08	2.72	2.72	4.48	4.5	9.05	9.01	-	-	-	-
Middle CH	1.09	1.1	2.71	2.72	4.5	4.47	9.03	8.99	-	-	-	-
Highest CH	1.1	1.09	2.72	2.73	4.49	4.48	9.03	9.03	-	-	-	-
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	-	2.71	-	4.48	-	8.99	-	-	-	-	-
Middle CH	1.09	-	2.73	-	4.48	-	9.03	-	-	-	-	-
Highest CH	1.09	-	2.71	-	4.53	-	9.05	-	-	-	-	-

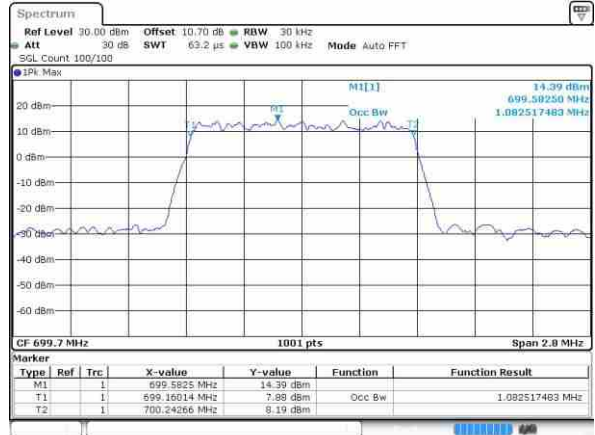


LTE Band 12

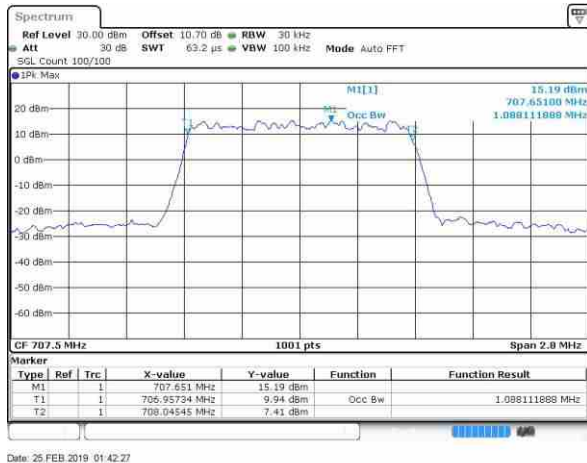
Lowest Channel / 1.4MHz / QPSK



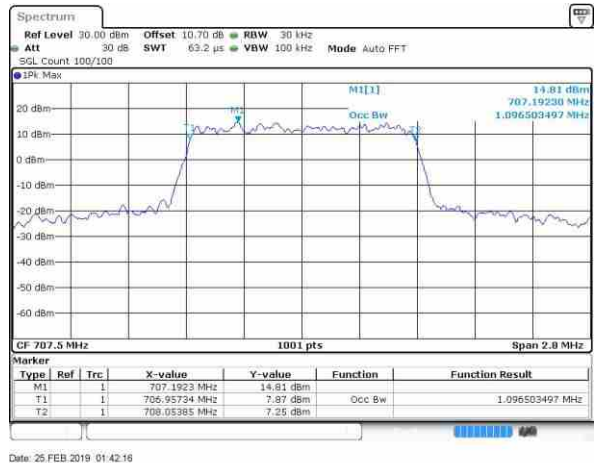
Lowest Channel / 1.4MHz / 16QAM



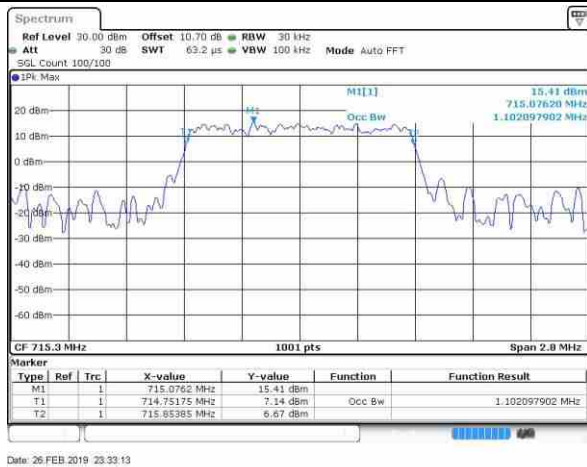
Middle Channel / 1.4MHz / QPSK



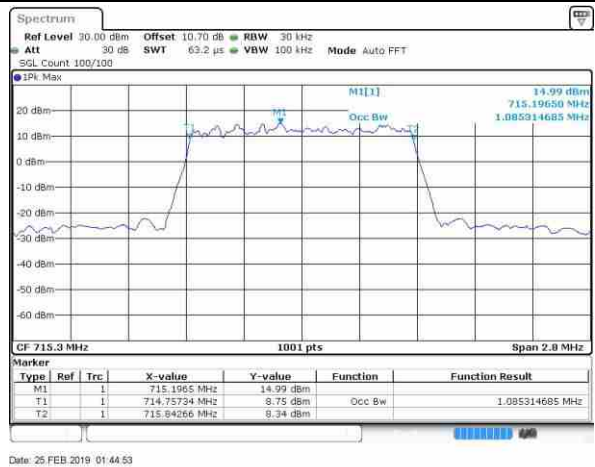
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK



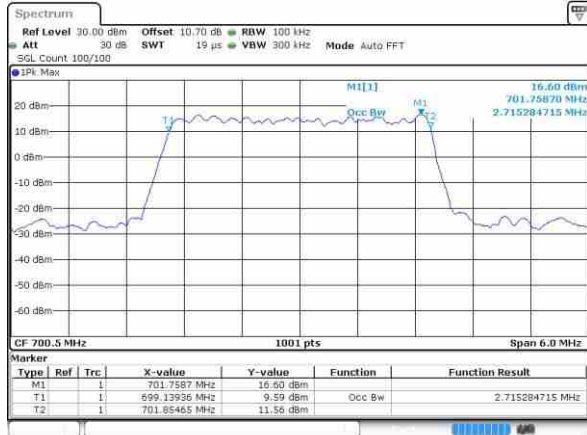
Highest Channel / 1.4MHz / 16QAM





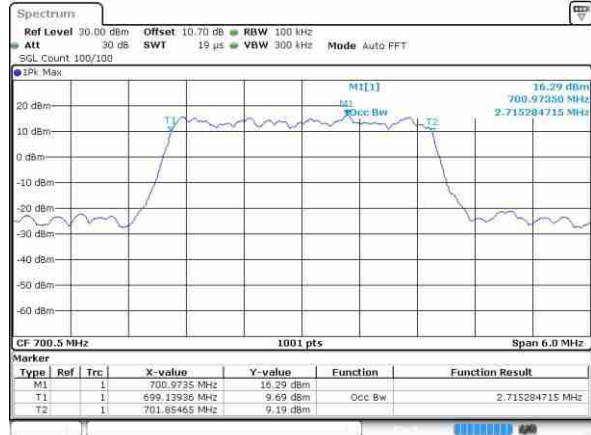
LTE Band 12

Lowest Channel / 3MHz / QPSK



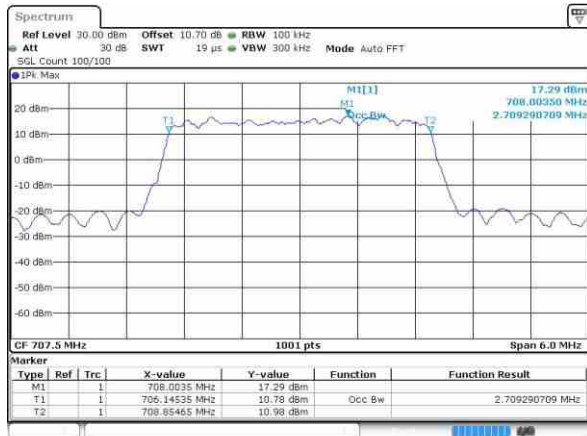
Date: 25 FEB 2019 00:42:54

Lowest Channel / 3MHz / 16QAM



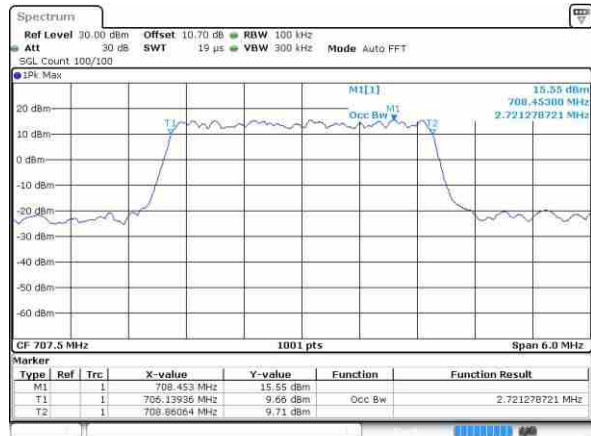
Date: 25 FEB 2019 00:43:08

Middle Channel / 3MHz / QPSK



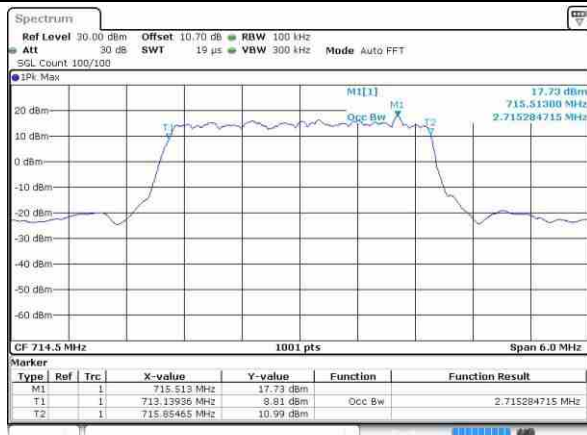
Date: 25 FEB 2019 00:49:12

Middle Channel / 3MHz / 16QAM



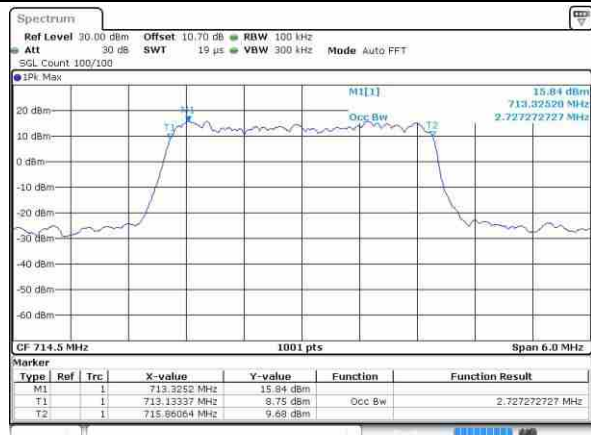
Date: 25 FEB 2019 00:49:01

Highest Channel / 3MHz / QPSK



Date: 25 FEB 2019 00:51:28

Highest Channel / 3MHz / 16QAM

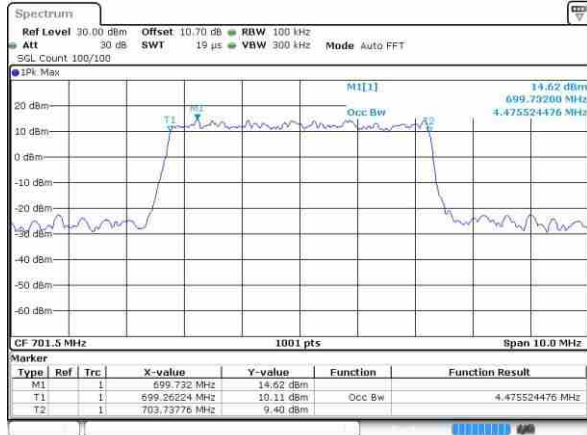


Date: 25 FEB 2019 00:51:38



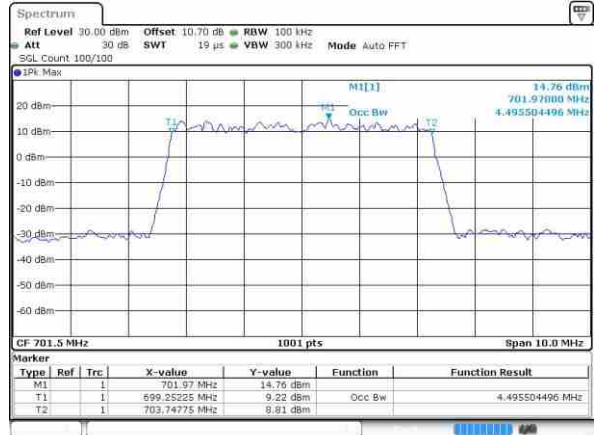
LTE Band 12

Lowest Channel / 5MHz / QPSK



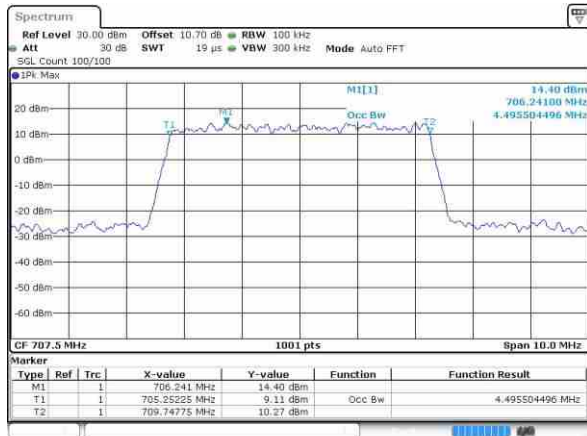
Date: 25 FEB 2019 00:57:32

Lowest Channel / 5MHz / 16QAM



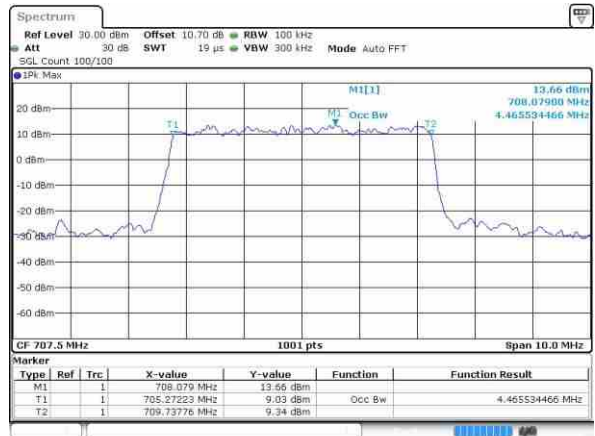
Date: 25 FEB 2019 00:57:44

Middle Channel / 5MHz / QPSK



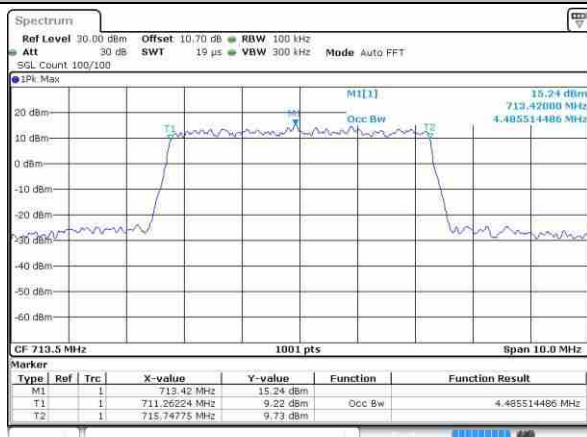
Date: 25 FEB 2019 01:03:50

Middle Channel / 5MHz / 16QAM



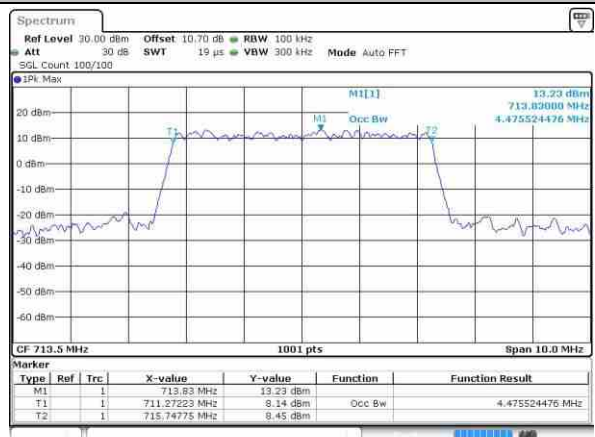
Date: 25 FEB 2019 01:03:39

Highest Channel / 5MHz / QPSK



Date: 25 FEB 2019 01:06:05

Highest Channel / 5MHz / 16QAM

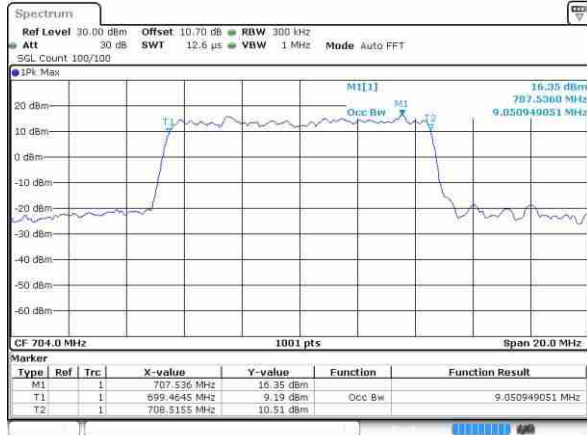


Date: 25 FEB 2019 01:06:16

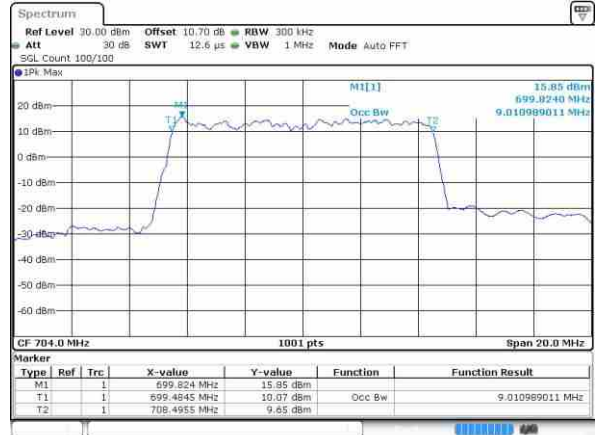


LTE Band 12

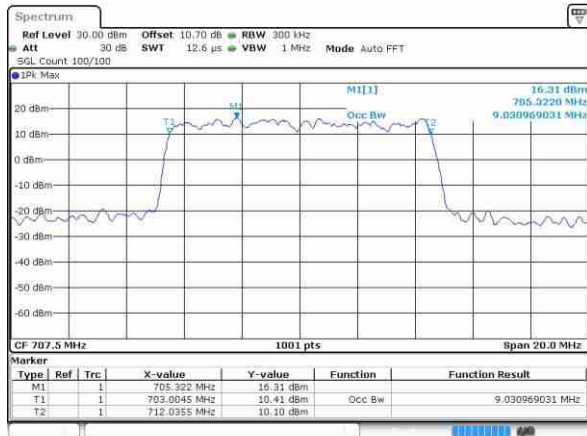
Lowest Channel / 10MHz / QPSK



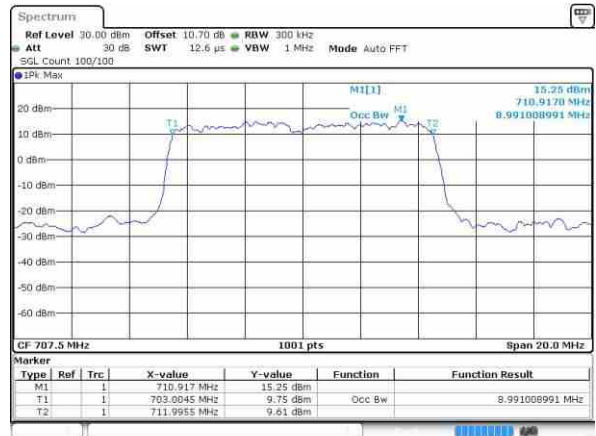
Lowest Channel / 10MHz / 16QAM



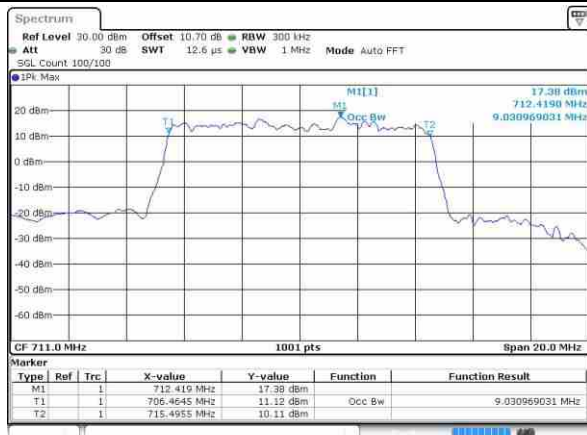
Middle Channel / 10MHz / QPSK



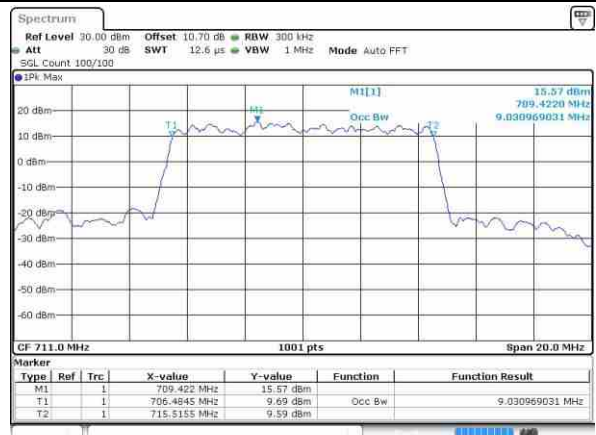
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



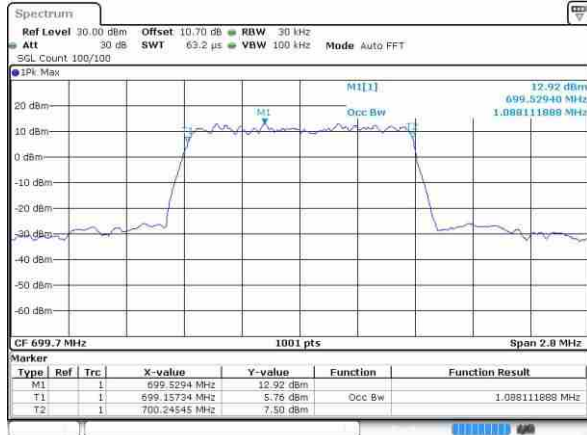
Highest Channel / 10MHz / 16QAM



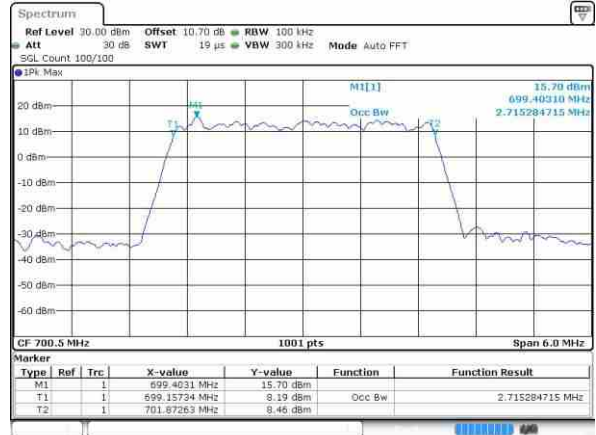


LTE Band 12

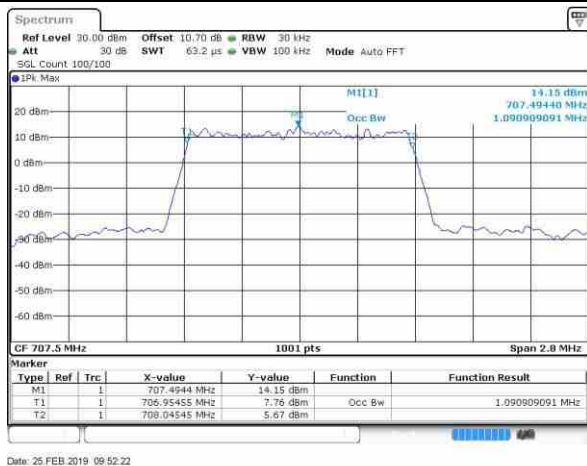
Lowest Channel / 1.4MHz / 64QAM



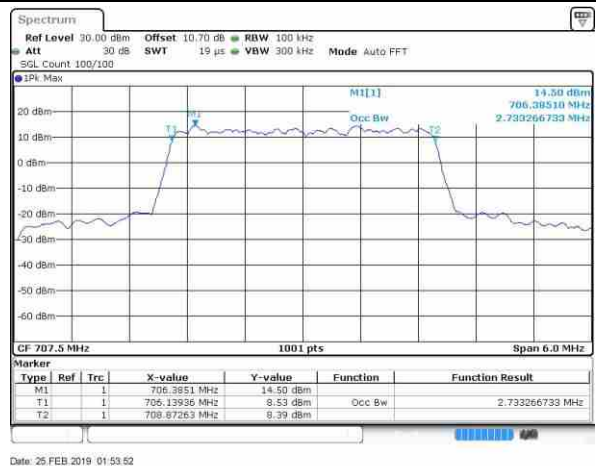
Lowest Channel / 3MHz / 64QAM



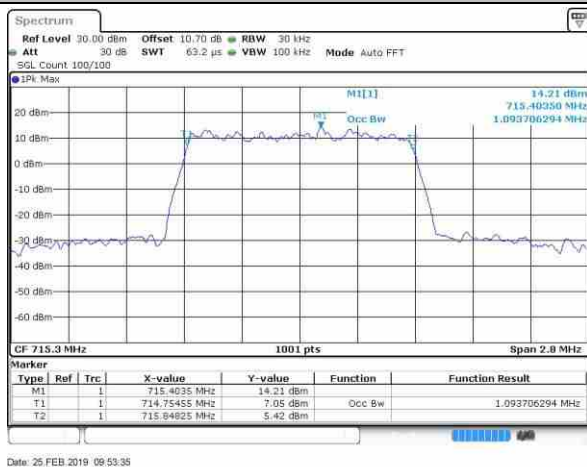
Middle Channel / 1.4MHz / 64QAM



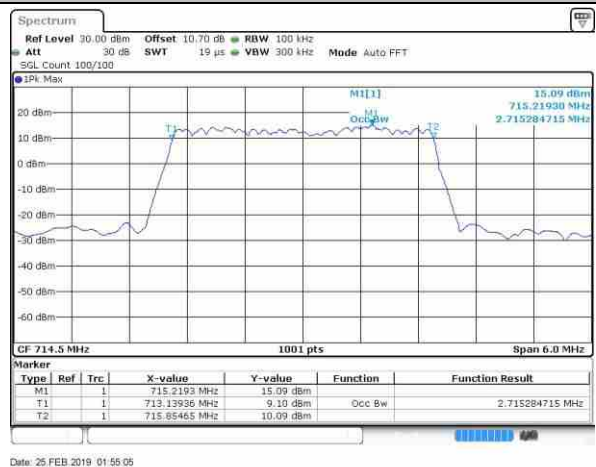
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM



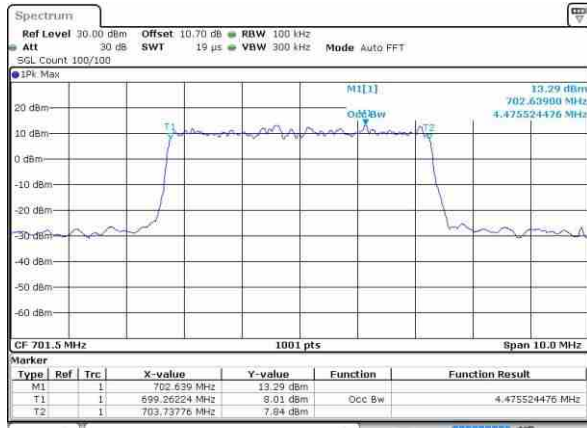
Highest Channel / 3MHz / 64QAM



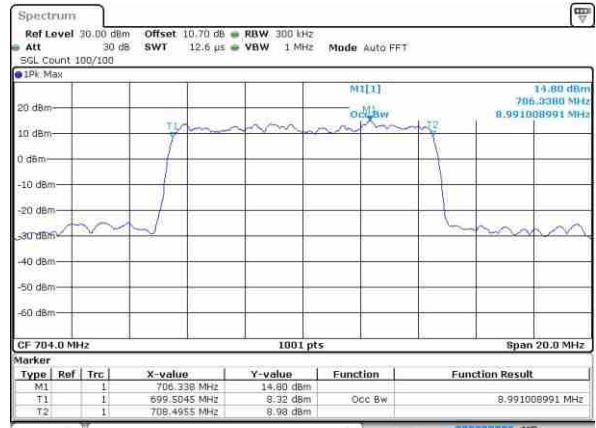


LTE Band 12

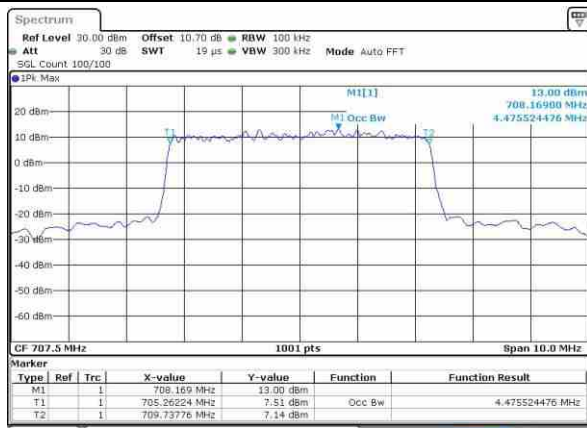
Lowest Channel / 5MHz / 64QAM



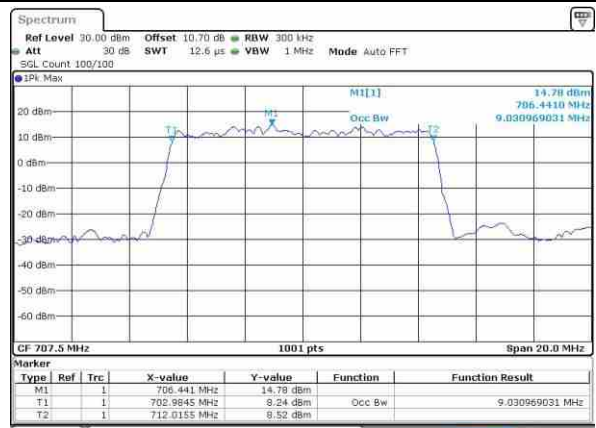
Lowest Channel / 10MHz / 64QAM



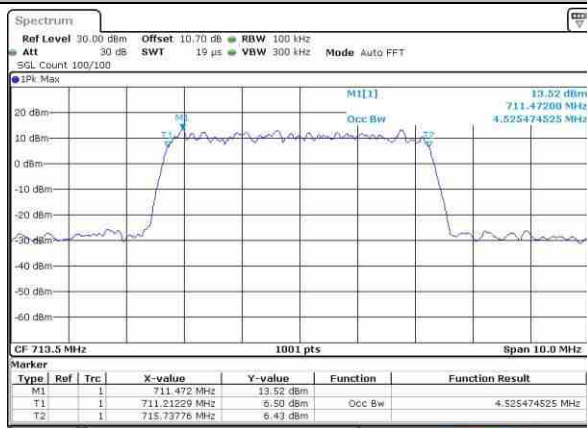
Middle Channel / 5MHz / 64QAM



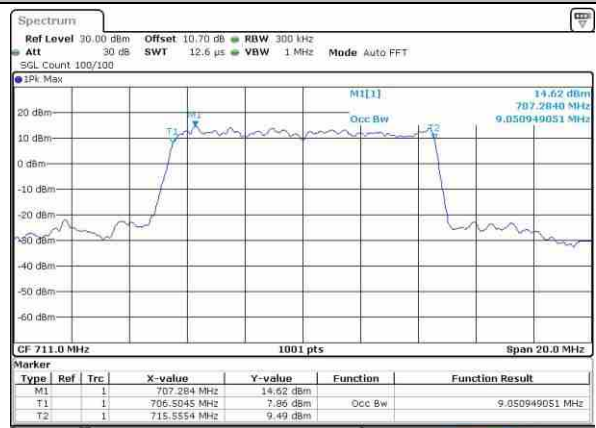
Middle Channel / 10MHz / 64QAM

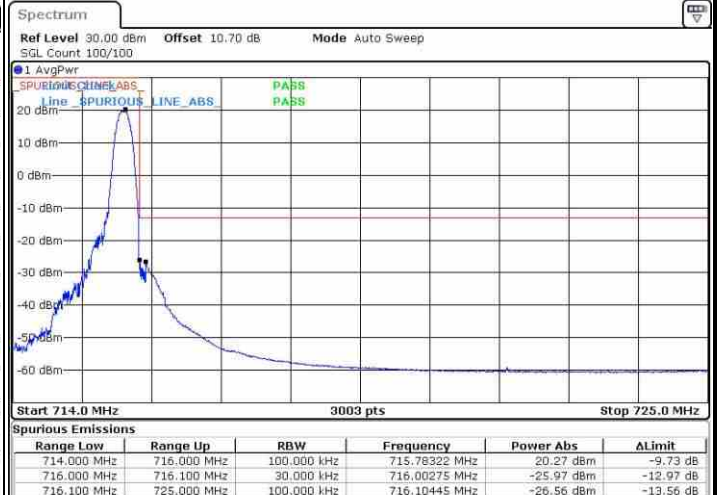


Highest Channel / 5MHz / 64QAM



Highest Channel / 10MHz / 64QAM



**Conducted Band Edge****LTE Band 12 / 1.4MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



LTE Band 12 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB





LTE Band 12 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



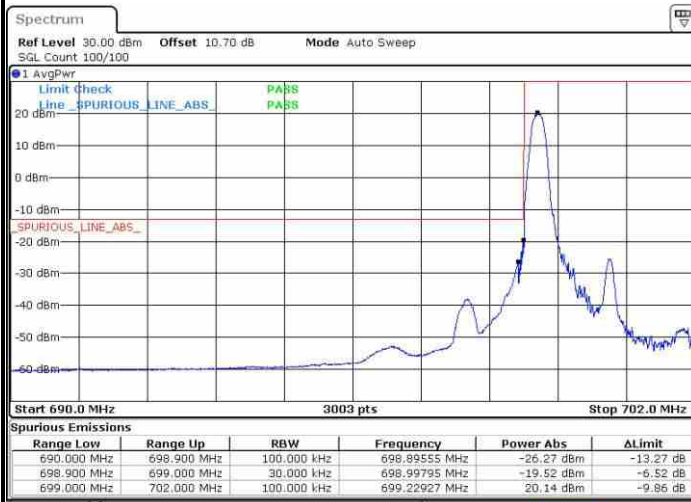
Highest Band Edge / Full RB





LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB



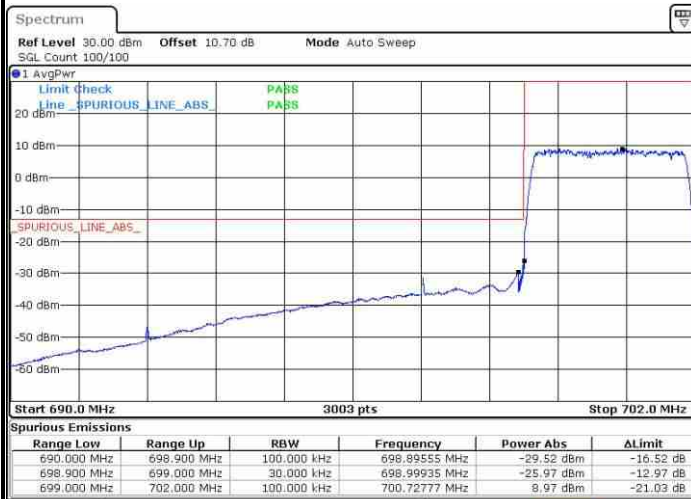
Date: 25.FEB.2019 10:08:51

Highest Band Edge / 1 RB



Date: 25.FEB.2019 00:55:40

Lowest Band Edge / Full RB



Date: 25.FEB.2019 00:44:23

Highest Band Edge / Full RB

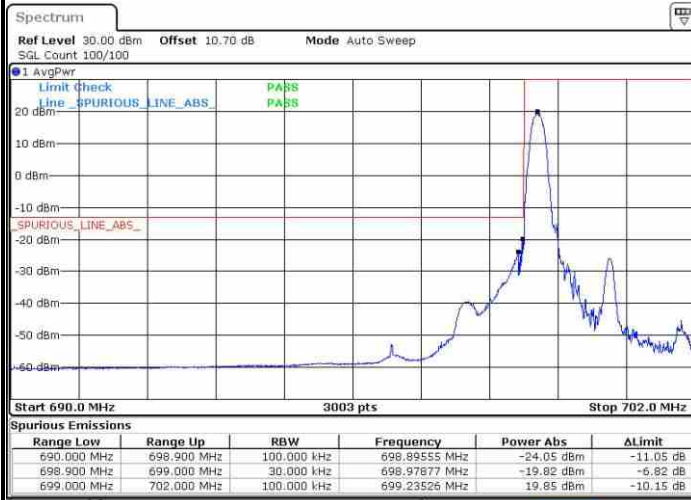


Date: 25.FEB.2019 00:52:55

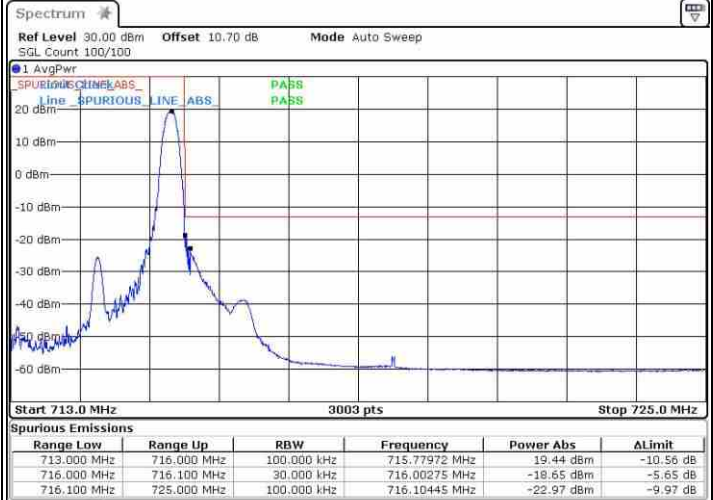


LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



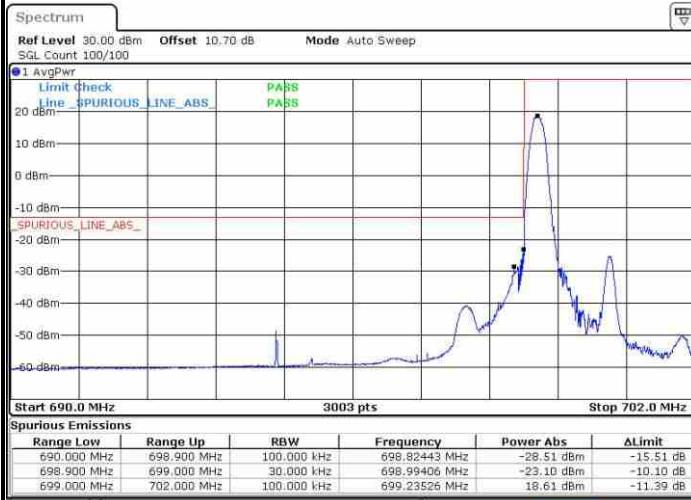
Highest Band Edge / Full RB





LTE Band 12 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



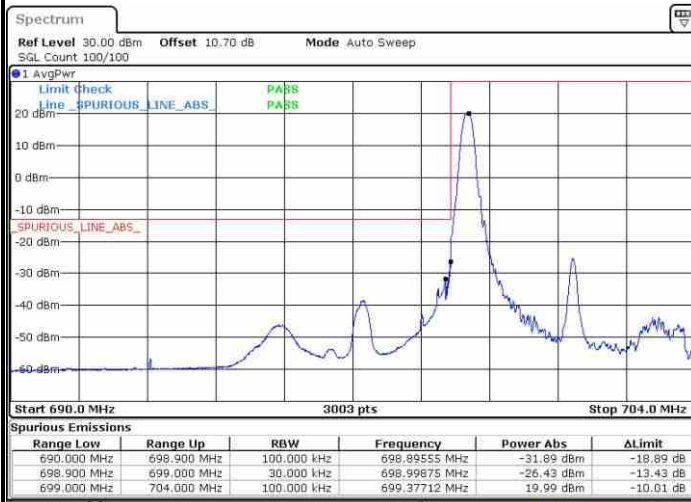
Highest Band Edge / Full RB





LTE Band 12 / 5MHz / QPSK

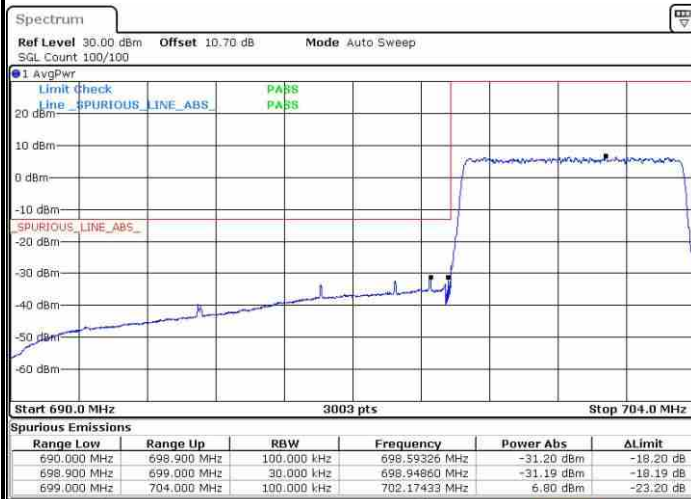
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



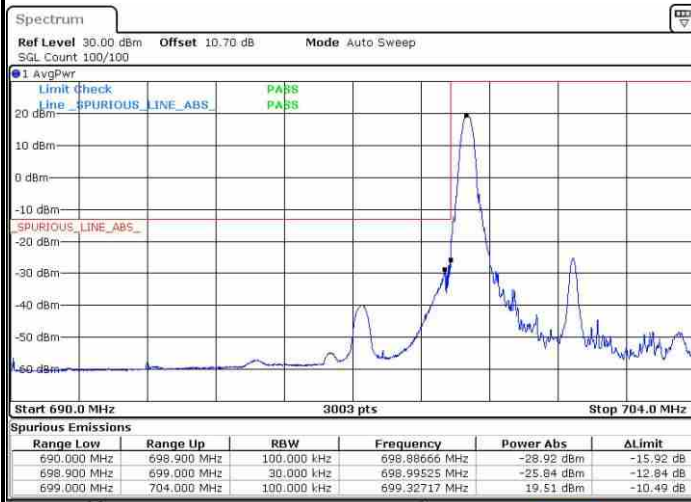
Highest Band Edge / Full RB



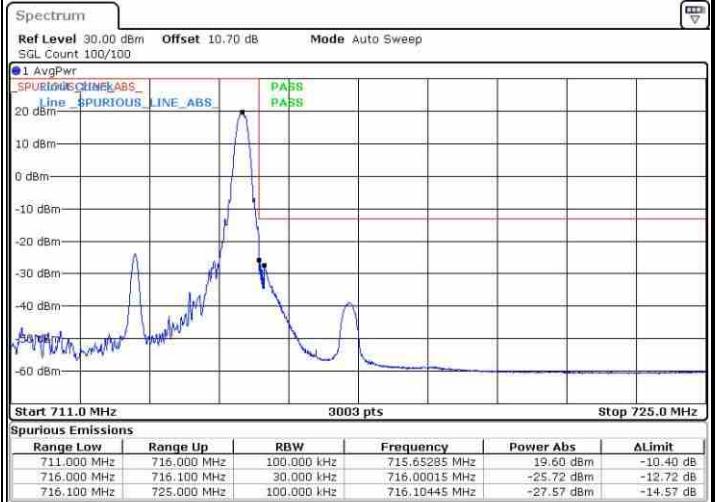


LTE Band 12 / 5MHz / 16QAM

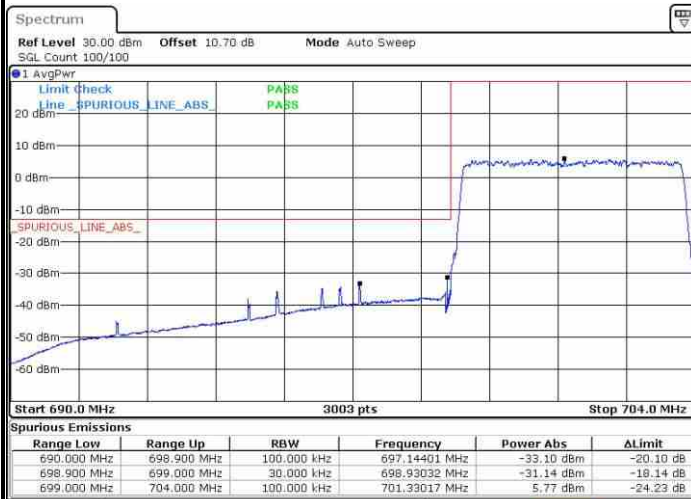
Lowest Band Edge / 1RB



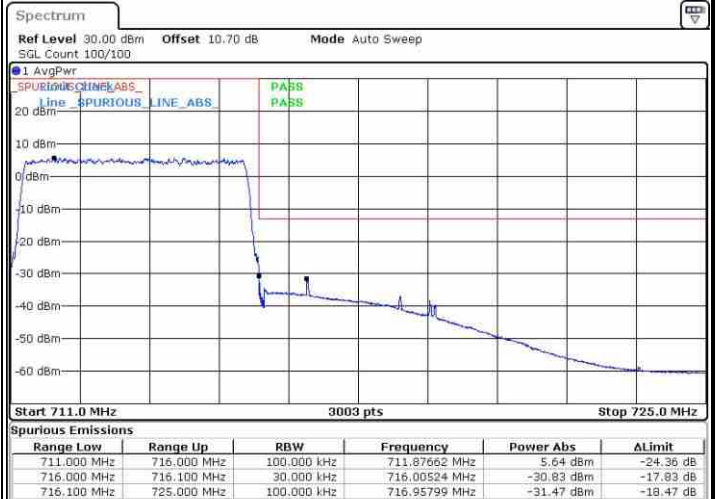
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



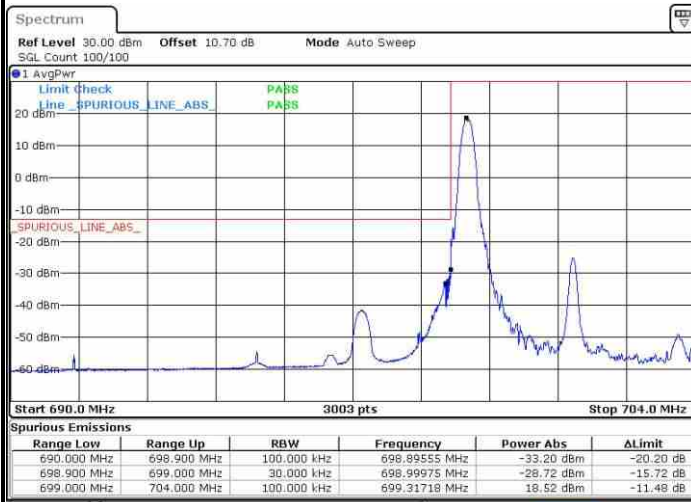
Highest Band Edge / Full RB



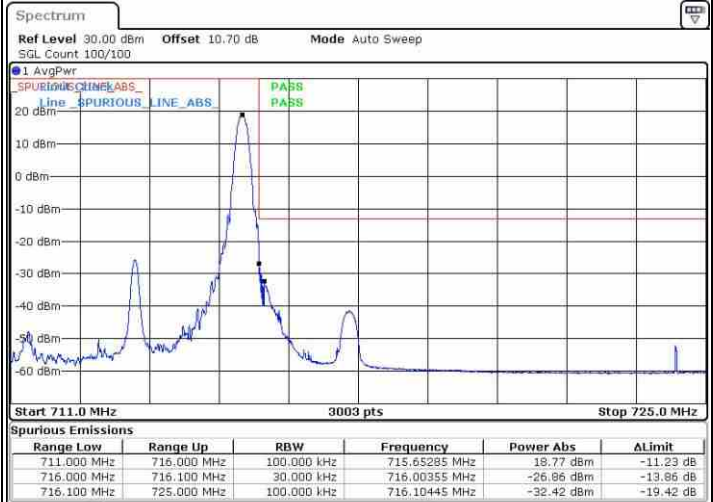


LTE Band 12 / 5MHz / 64QAM

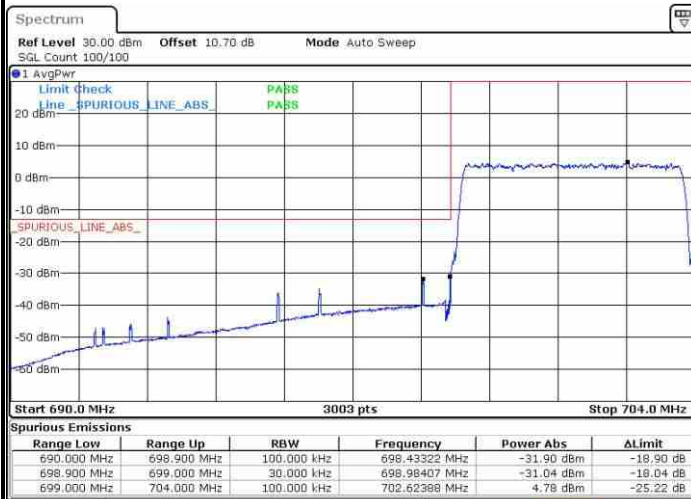
Lowest Band Edge / 1RB



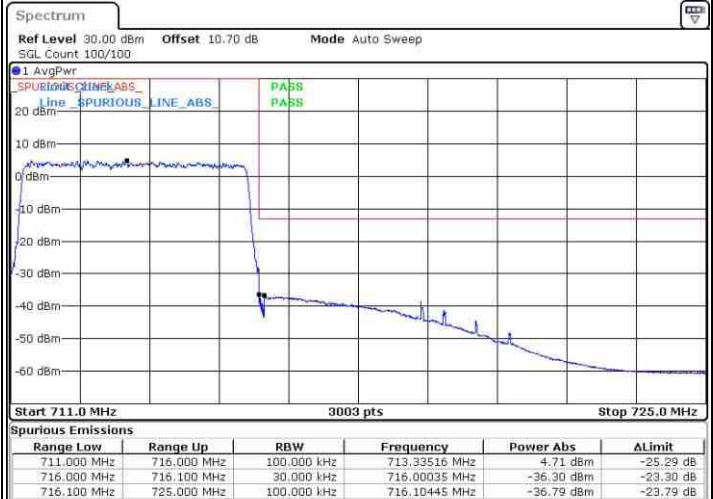
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



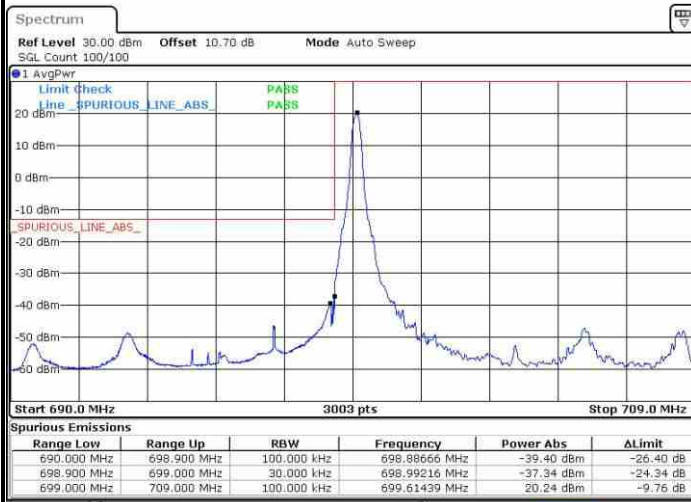
Highest Band Edge / Full RB



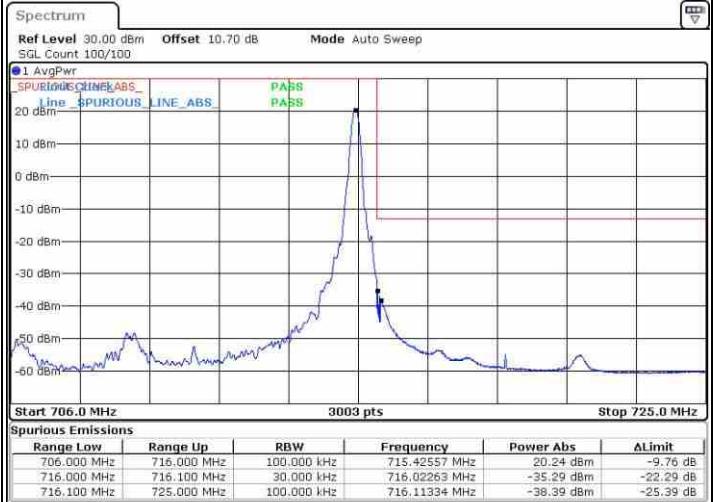


LTE Band 12 / 10MHz / QPSK

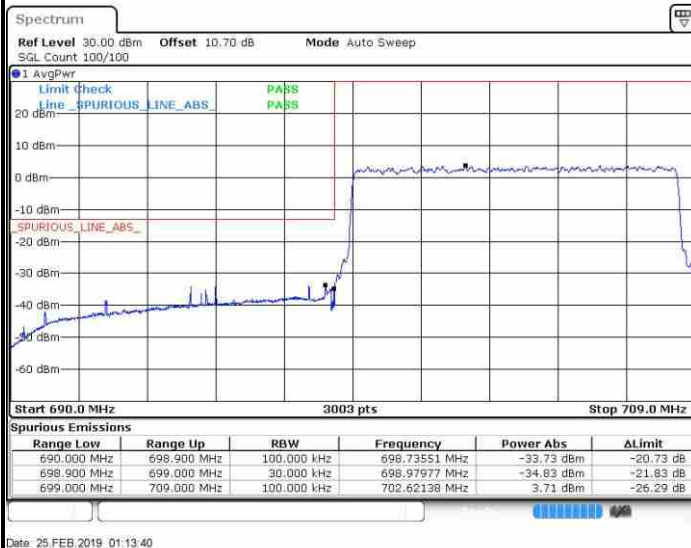
Lowest Band Edge / 1 RB



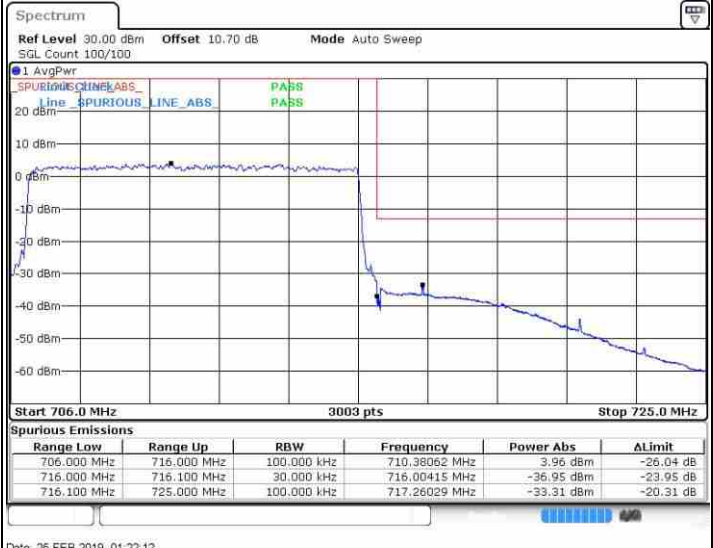
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



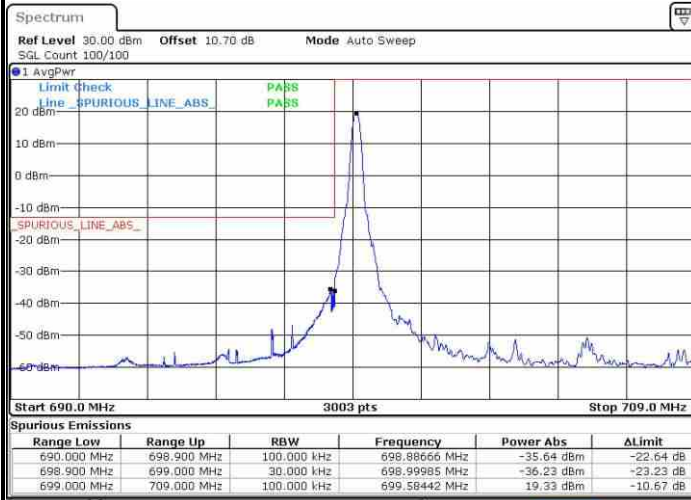
Highest Band Edge / Full RB



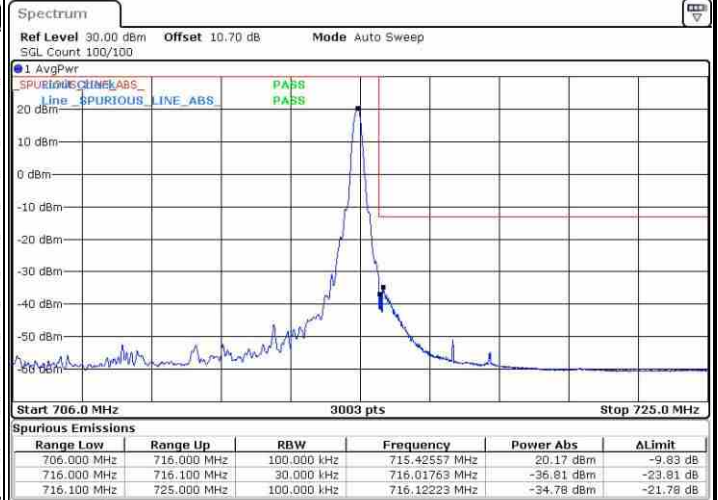


LTE Band 12 / 10MHz / 16QAM

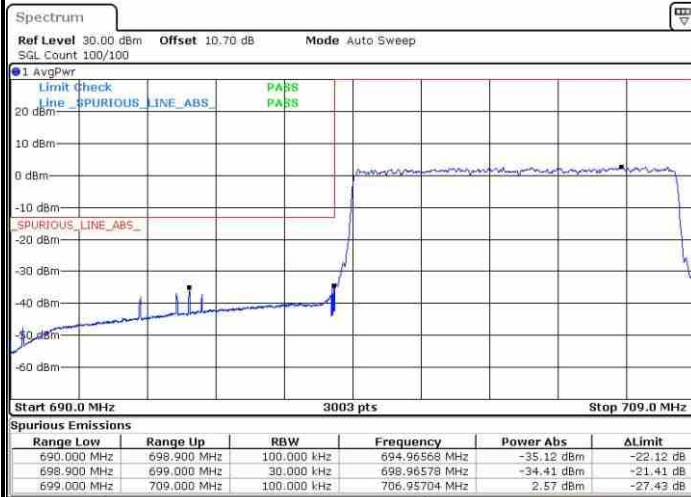
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



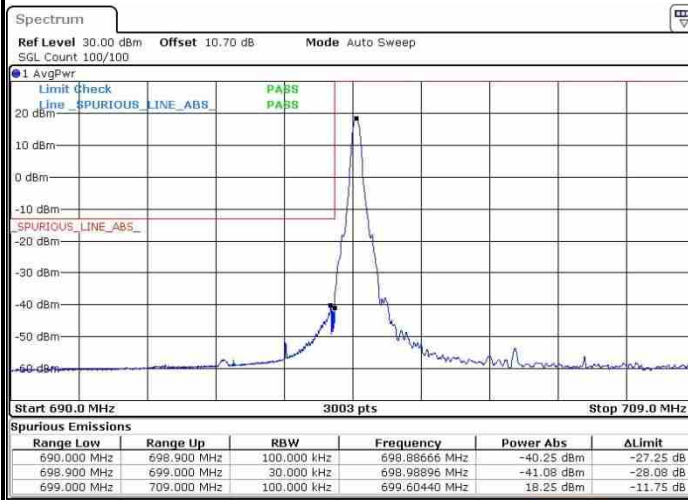
Highest Band Edge / Full RB



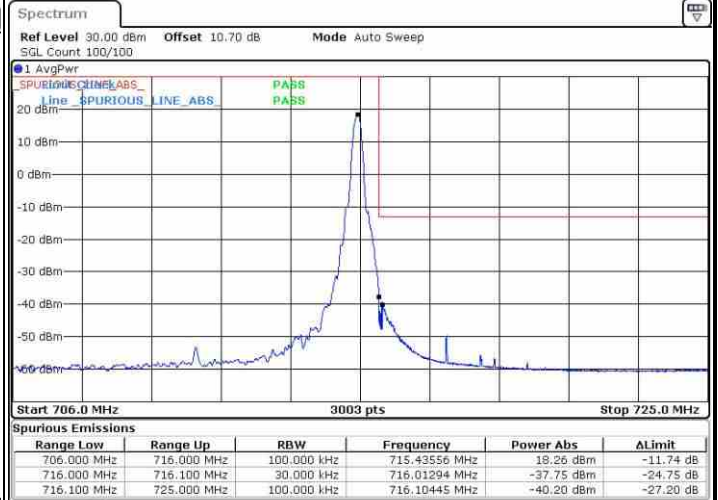


LTE Band 12 / 10MHz / 64QAM

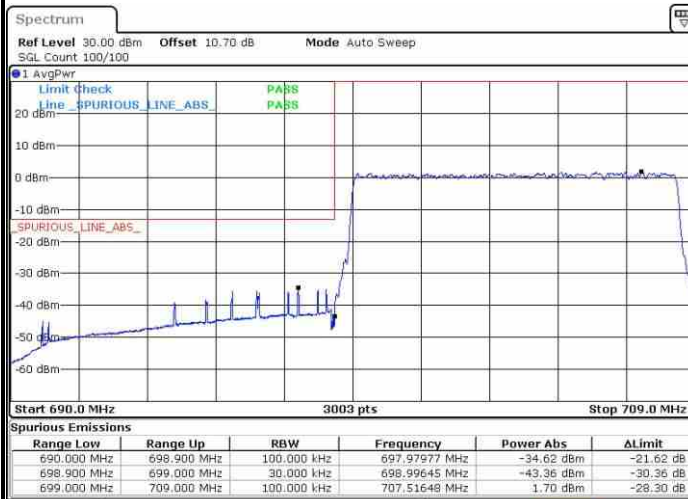
Lowest Band Edge / 1 RB



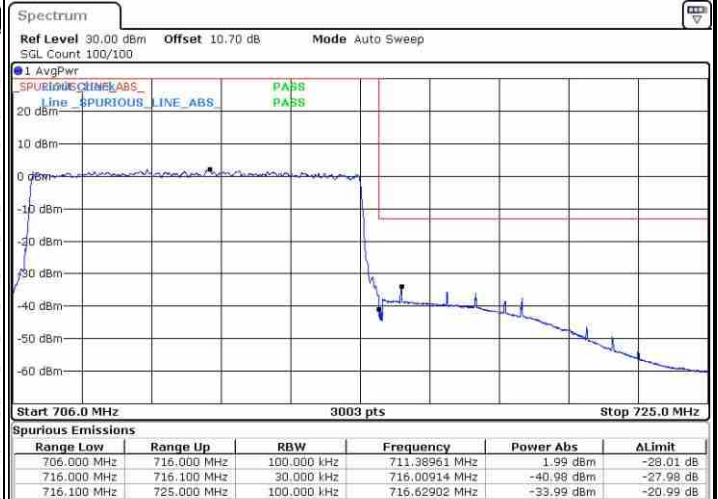
Highest Band Edge / 1 RB

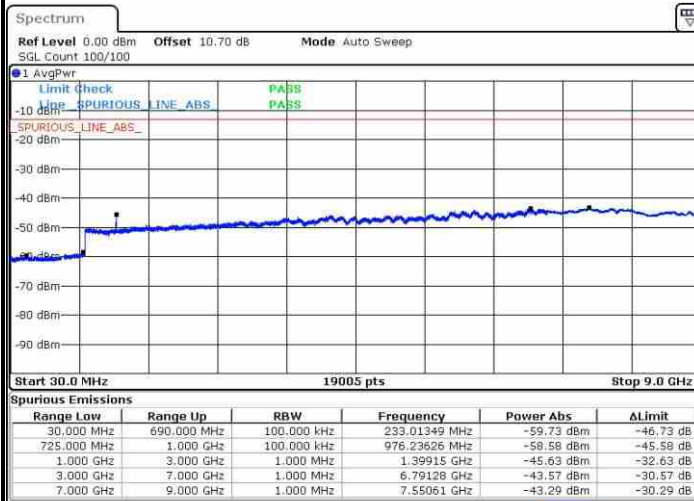


Lowest Band Edge / Full RB

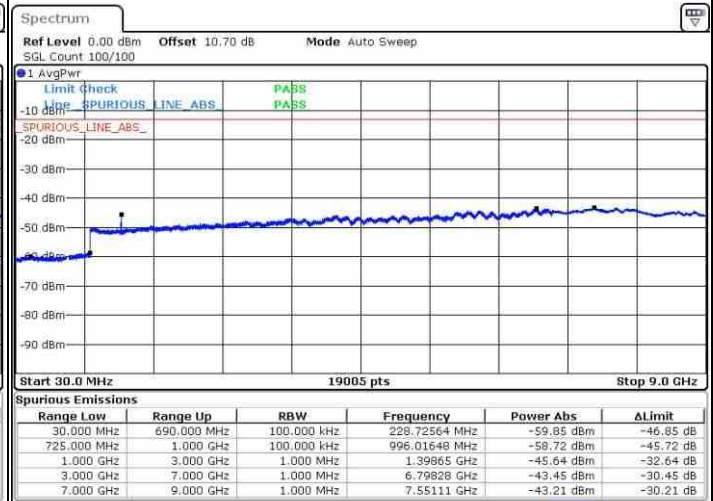


Highest Band Edge / Full RB

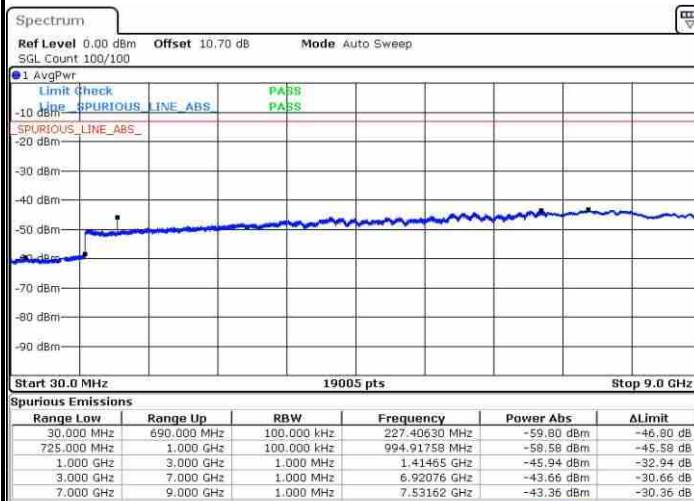


**Conducted Spurious Emission****LTE Band 12 / 1.4MHz****Lowest Channel / QPSK**

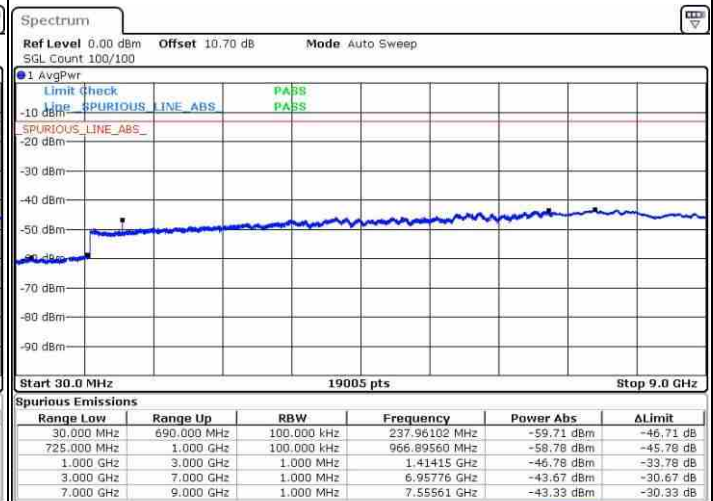
Date: 25 FEB 2019 01:41:14

Lowest Channel / 16QAM

Date: 25 FEB 2019 01:42:05

Middle Channel / QPSK

Date: 25 FEB 2019 01:44:31

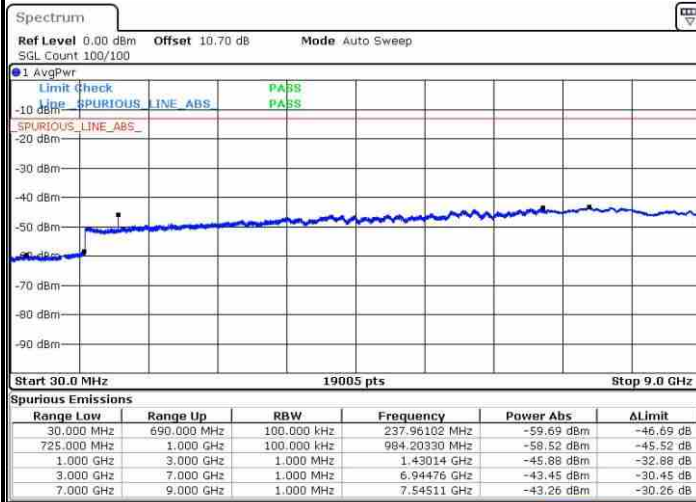
Middle Channel / 16QAM

Date: 25 FEB 2019 01:43:41



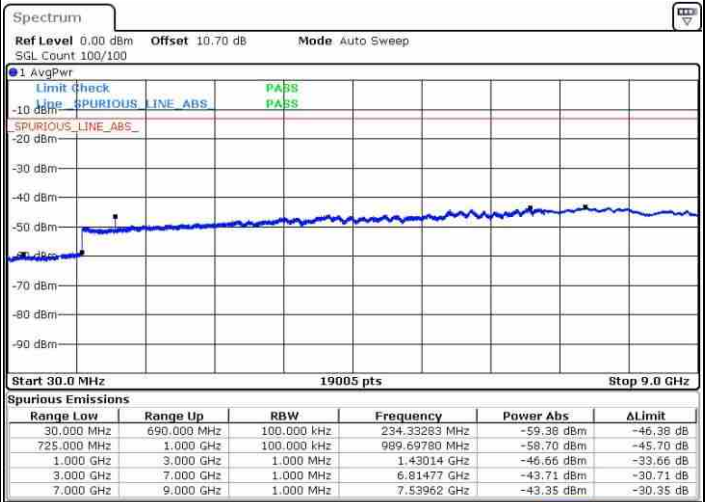
LTE Band 12 / 1.4MHz

Highest Channel / QPSK



Date: 25 FEB 2019 01:49:47

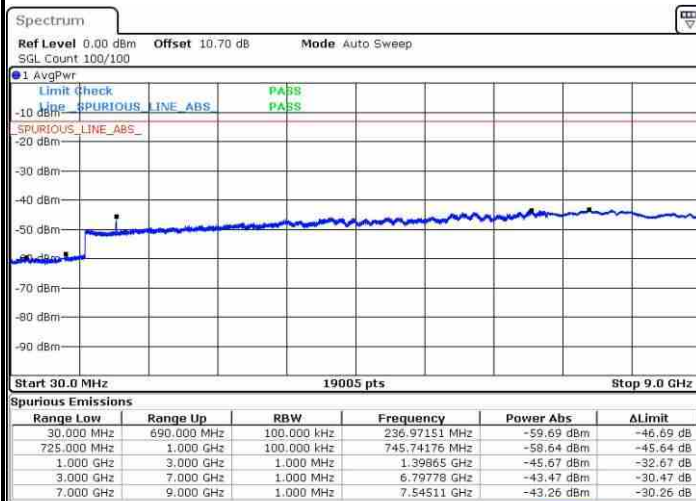
Highest Channel / 16QAM



Date: 25 FEB 2019 01:50:37

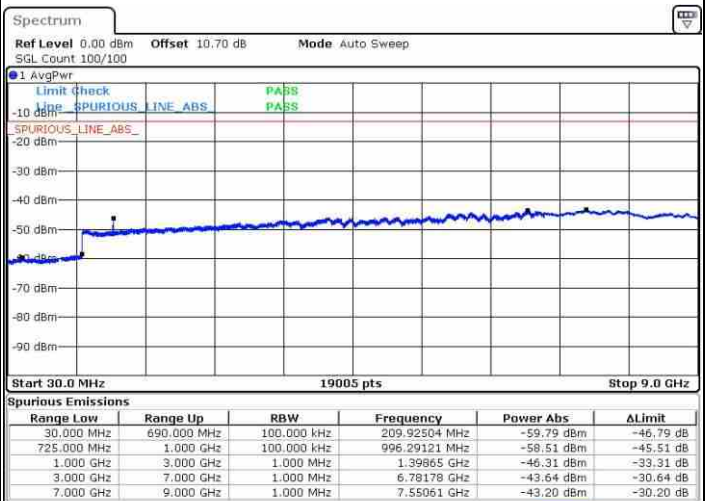
LTE Band 12 / 3MHz

Lowest Channel / QPSK



Date: 25 FEB 2019 00:47:59

Lowest Channel / 16QAM

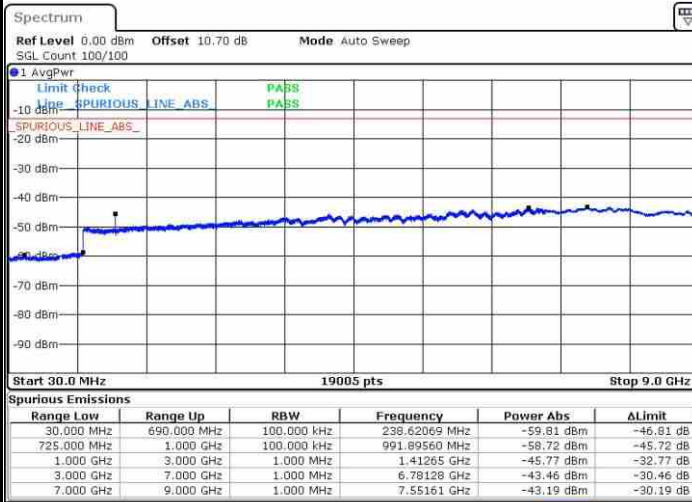


Date: 25 FEB 2019 00:48:49



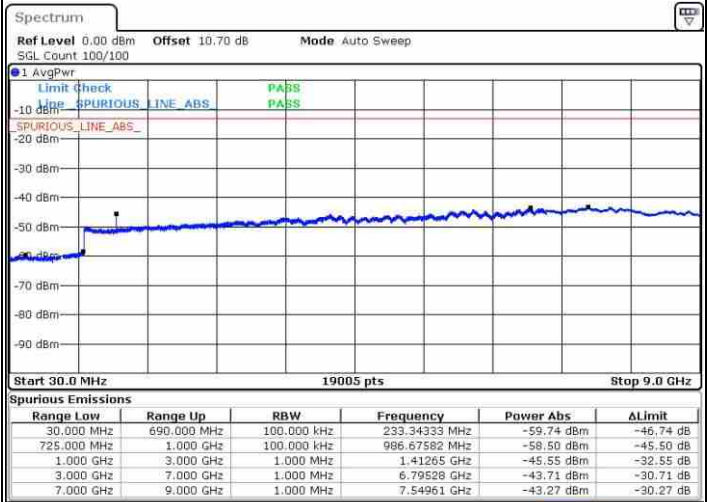
LTE Band 12 / 3MHz

Middle Channel / QPSK



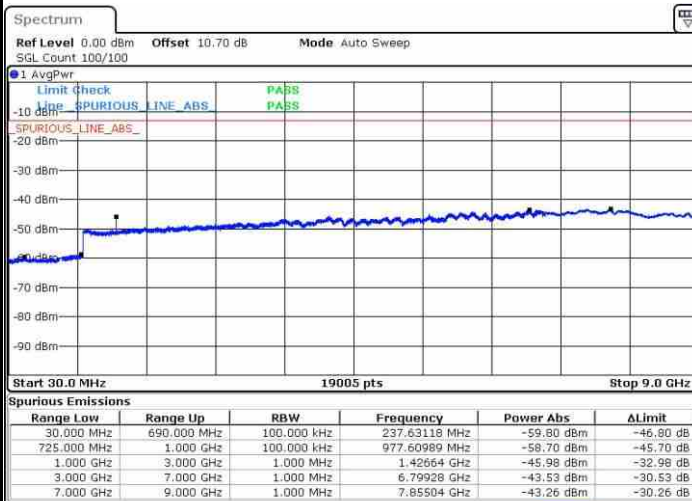
Date: 25 FEB 2019 00:51:15

Middle Channel / 16QAM



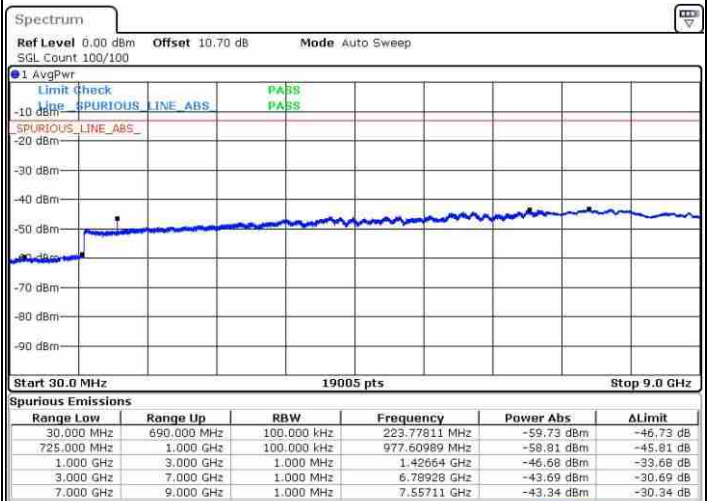
Date: 25 FEB 2019 00:50:25

Highest Channel / QPSK



Date: 25 FEB 2019 00:56:31

Highest Channel / 16QAM

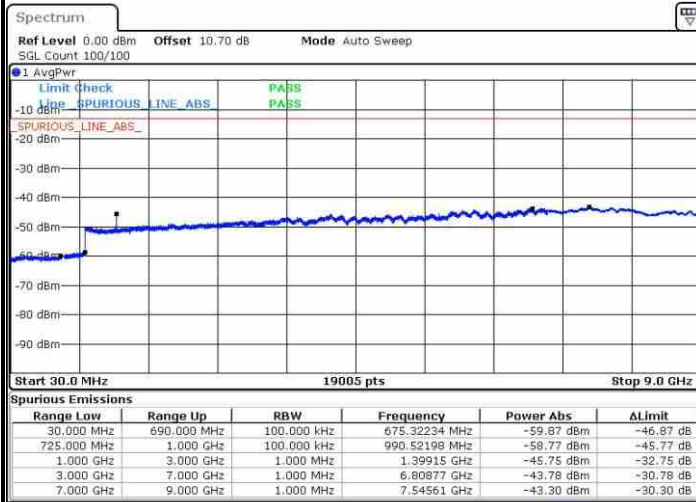


Date: 25 FEB 2019 00:57:21



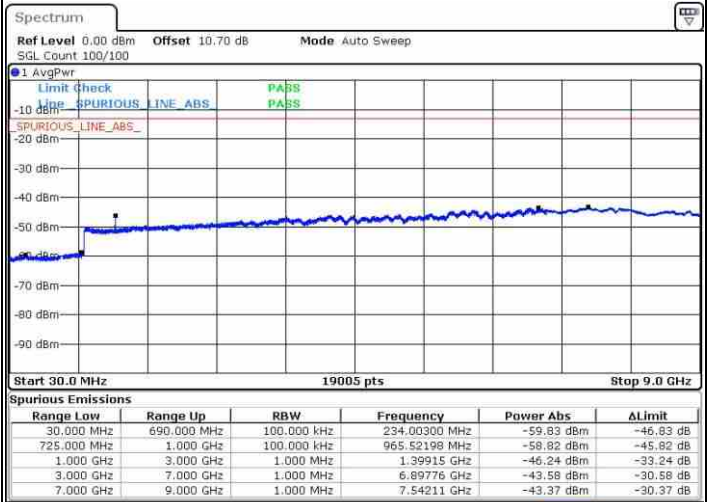
LTE Band 12 / 5MHz

Lowest Channel / QPSK



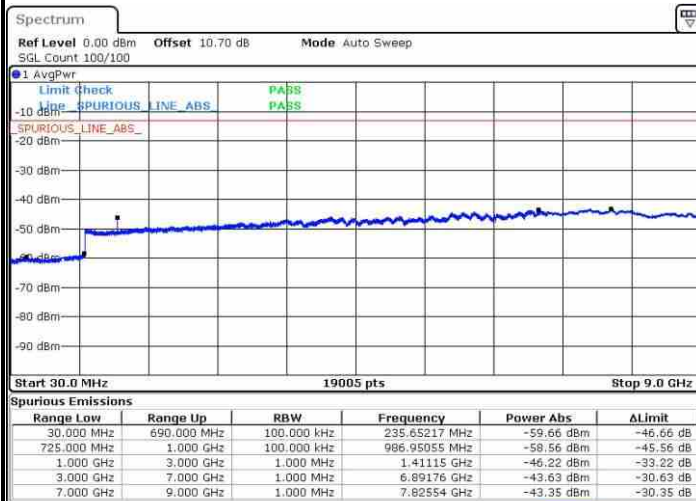
Date: 25 FEB 2019 01:02:37

Lowest Channel / 16QAM



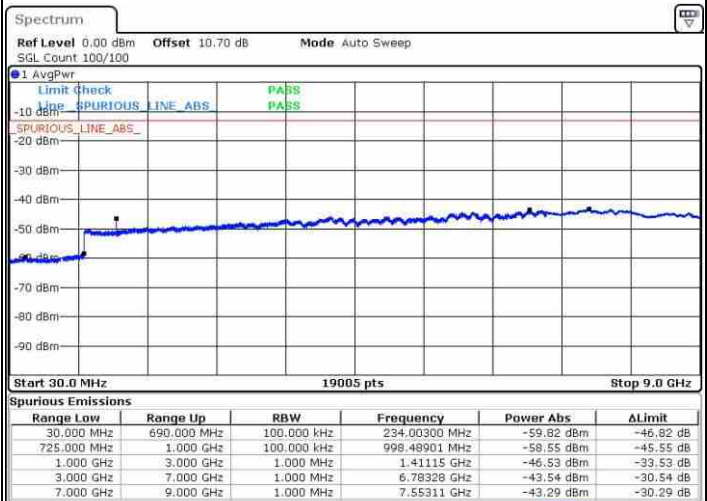
Date: 25 FEB 2019 01:03:27

Middle Channel / QPSK



Date: 25 FEB 2019 01:05:53

Middle Channel / 16QAM

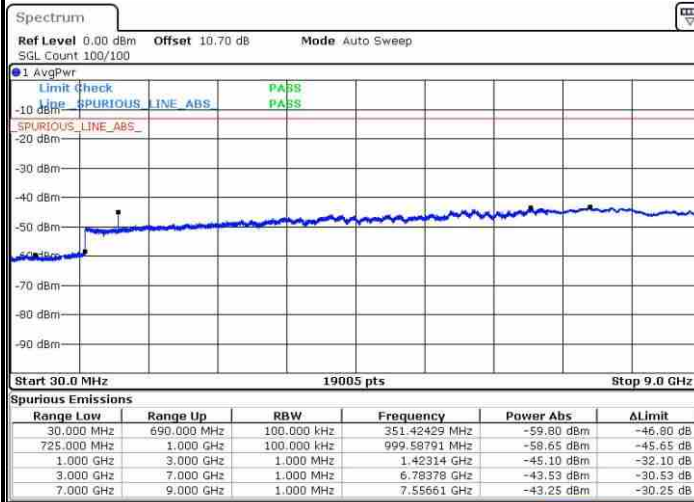


Date: 25 FEB 2019 01:05:03



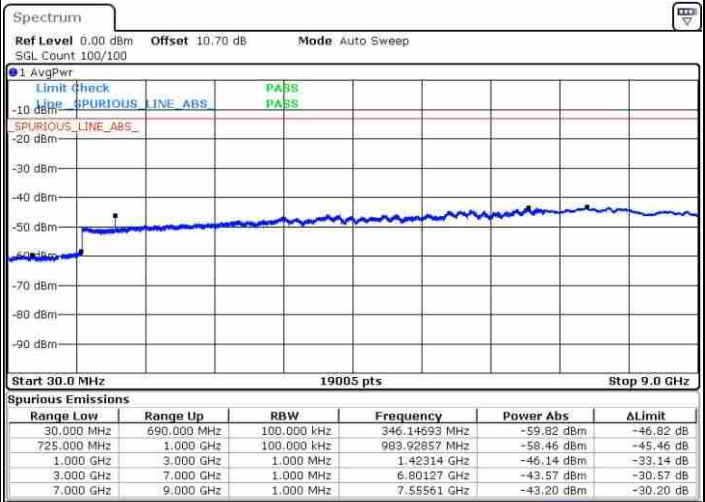
LTE Band 12 / 5MHz

Highest Channel / QPSK



Date: 25 FEB 2019 01:12:00

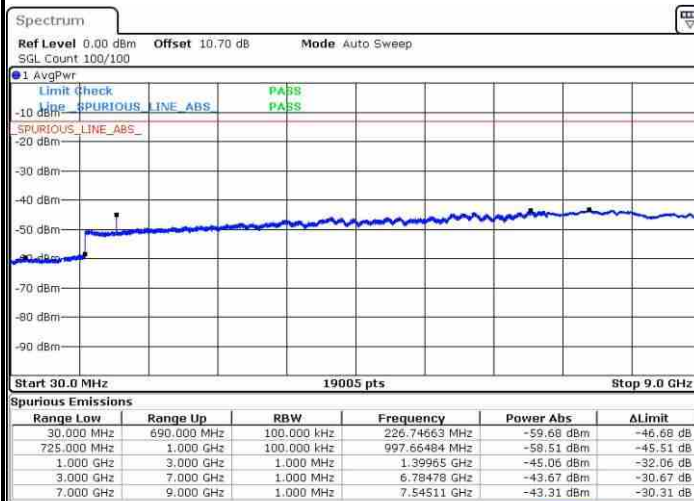
Highest Channel / 16QAM



Date: 25 FEB 2019 01:11:10

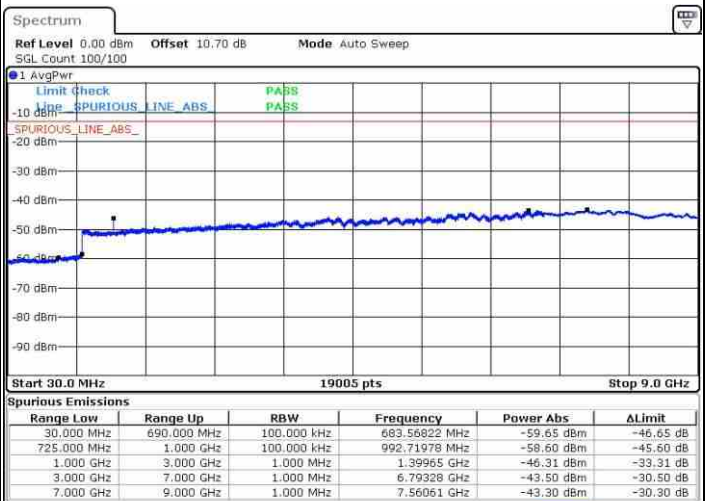
LTE Band 12 / 10MHz

Lowest Channel / QPSK



Date: 25 FEB 2019 01:17:16

Lowest Channel / 16QAM

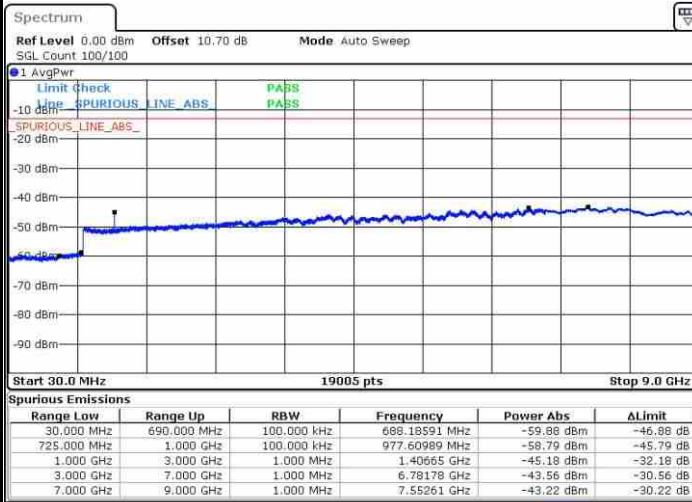


Date: 25 FEB 2019 01:18:06



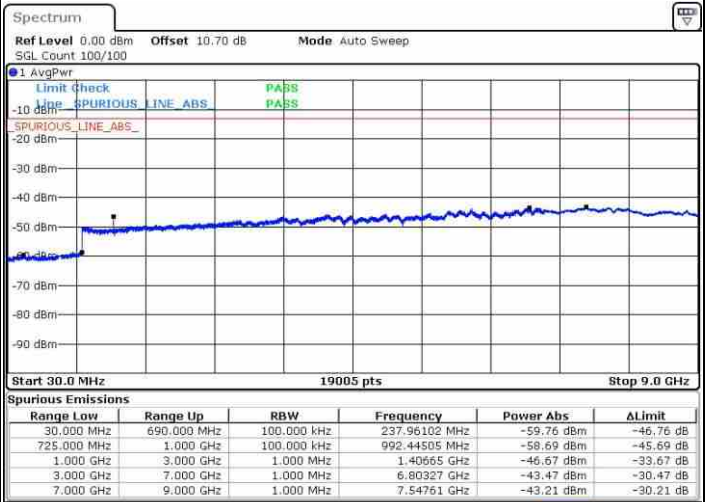
LTE Band 12 / 10MHz

Middle Channel / QPSK



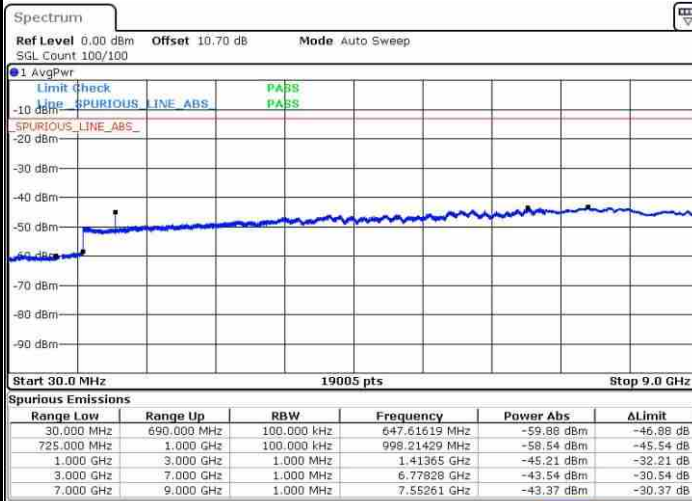
Date: 25 FEB 2019 01:20:32

Middle Channel / 16QAM



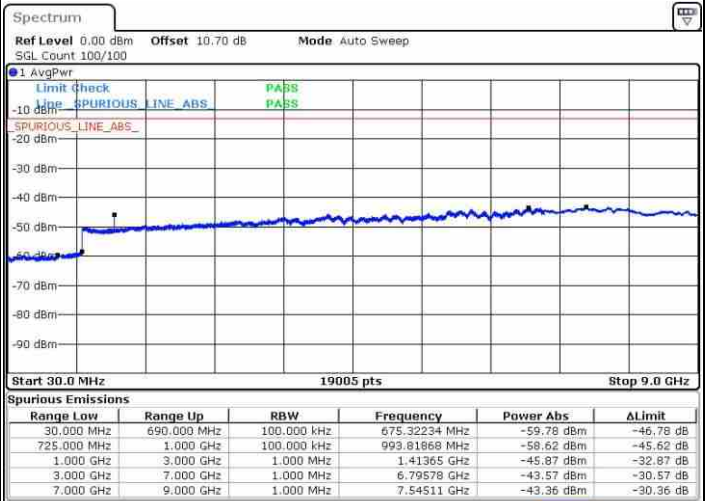
Date: 25 FEB 2019 01:19:42

Highest Channel / QPSK



Date: 25 FEB 2019 01:33:42

Highest Channel / 16QAM

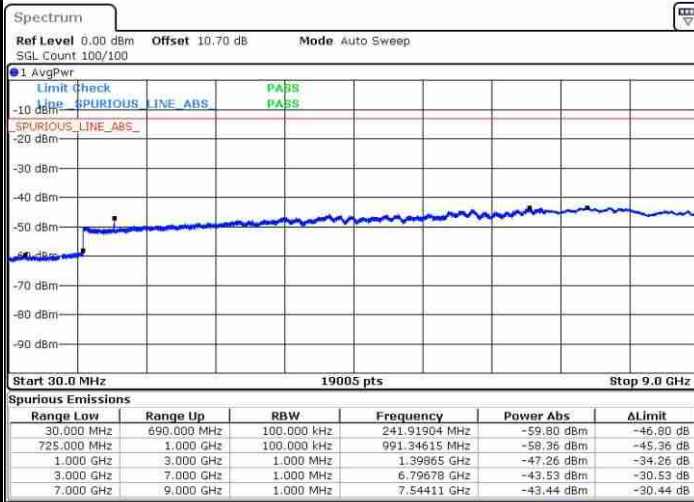


Date: 25 FEB 2019 01:34:32



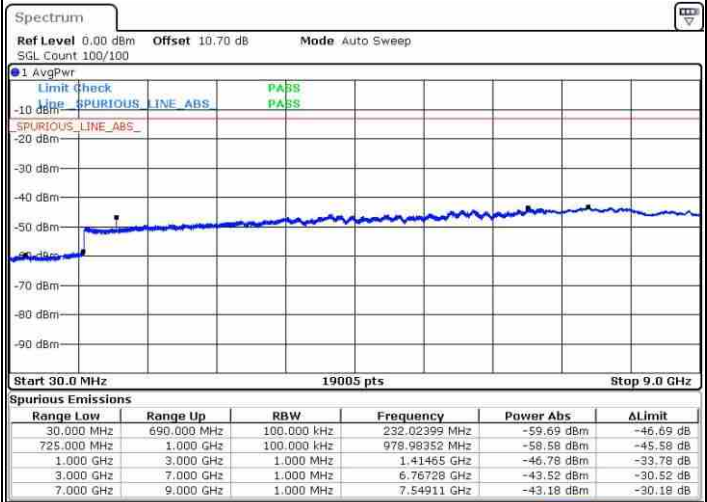
LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM



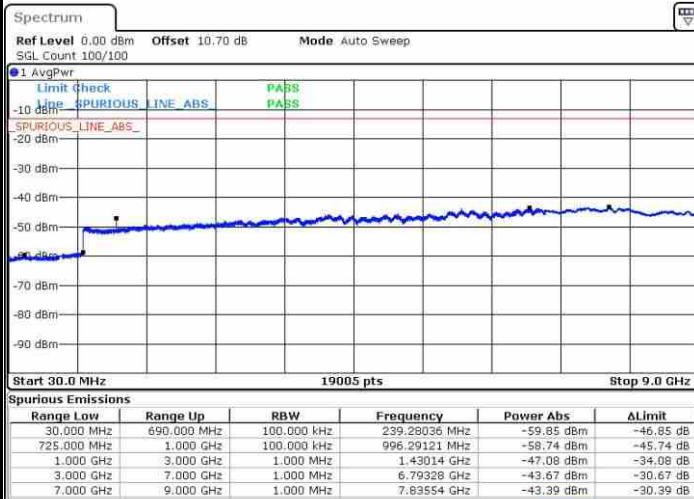
Date: 25 FEB 2019 09:52:10

Middle Channel / 64QAM



Date: 25 FEB 2019 09:53:23

Highest Channel / 64QAM

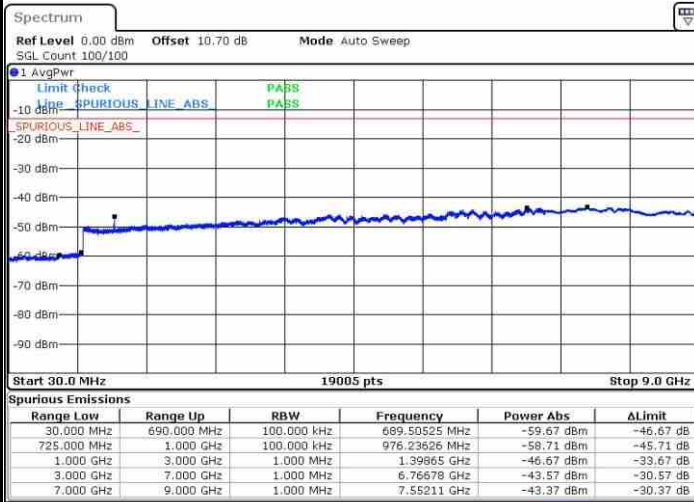


Date: 25 FEB 2019 09:56:27



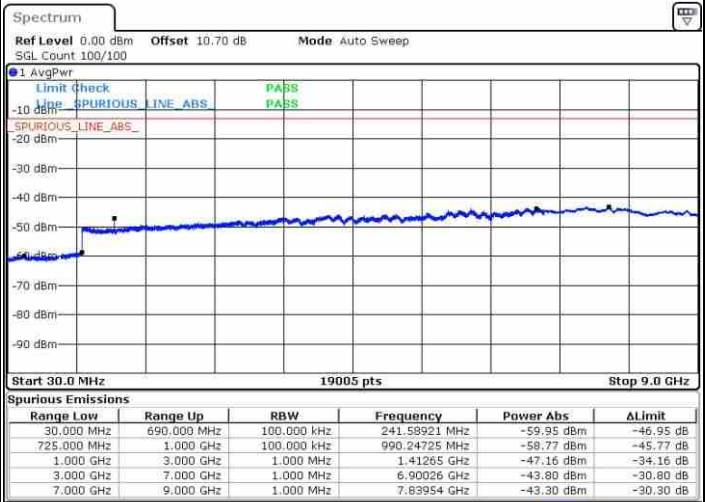
LTE Band 12 / 3MHz

Lowest Channel / 64QAM



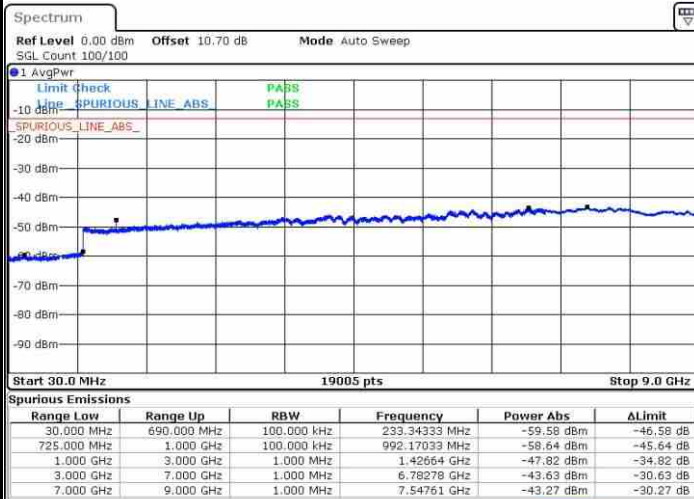
Date: 25 FEB 2019 01:53:41

Middle Channel / 64QAM



Date: 25 FEB 2019 01:54:54

Highest Channel / 64QAM

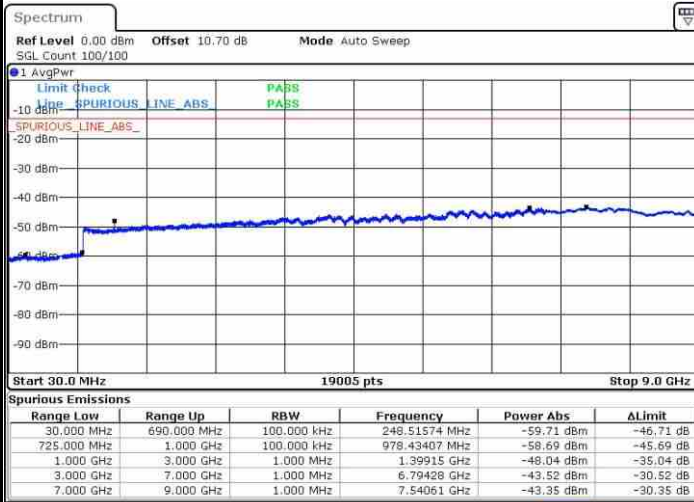


Date: 25 FEB 2019 01:57:57



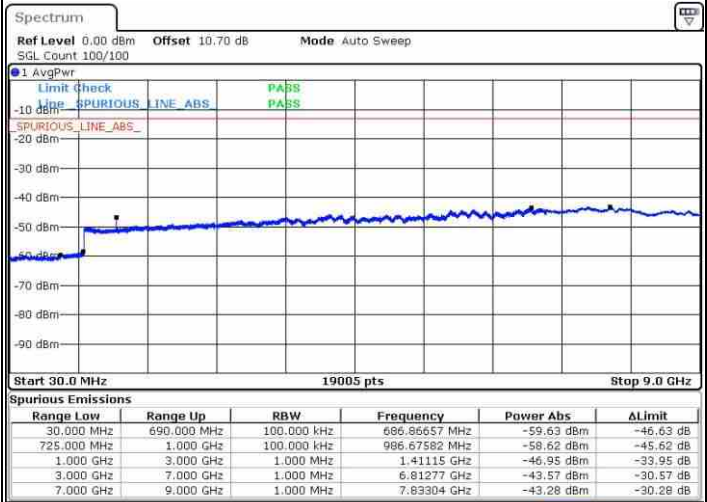
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



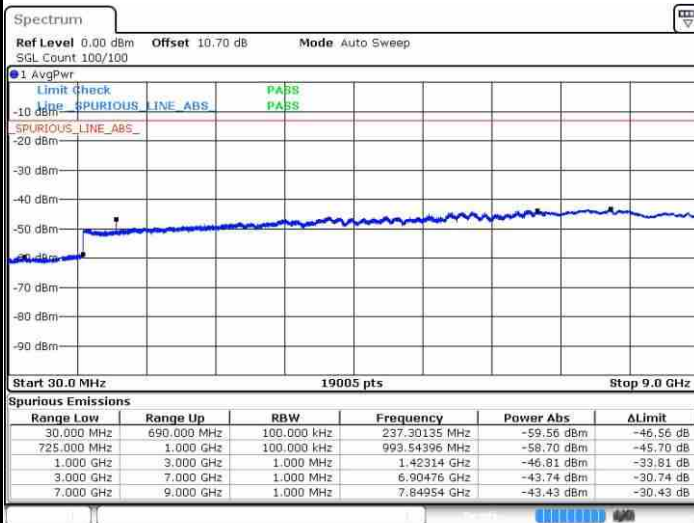
Date: 25 FEB 2019 02:01:00

Middle Channel / 64QAM



Date: 25 FEB 2019 02:02:13

Highest Channel / 64QAM

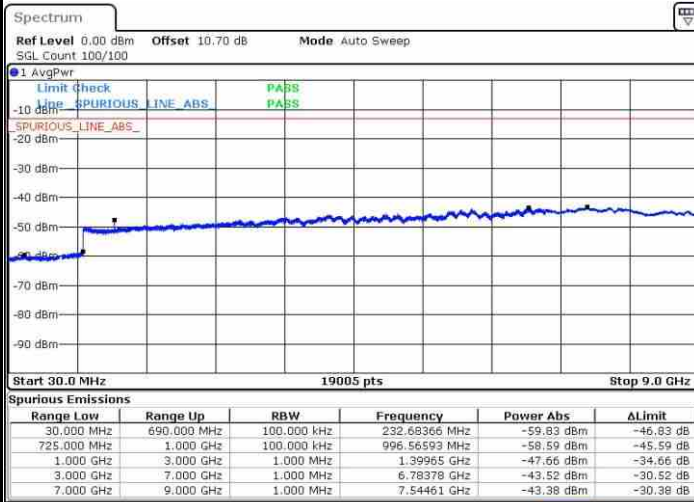


Date: 25 FEB 2019 09:33:29



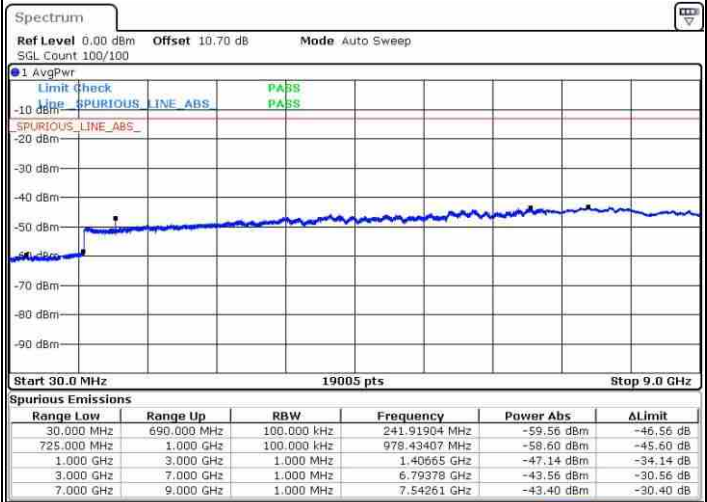
LTE Band 12 / 10MHz

Lowest Channel / 64QAM



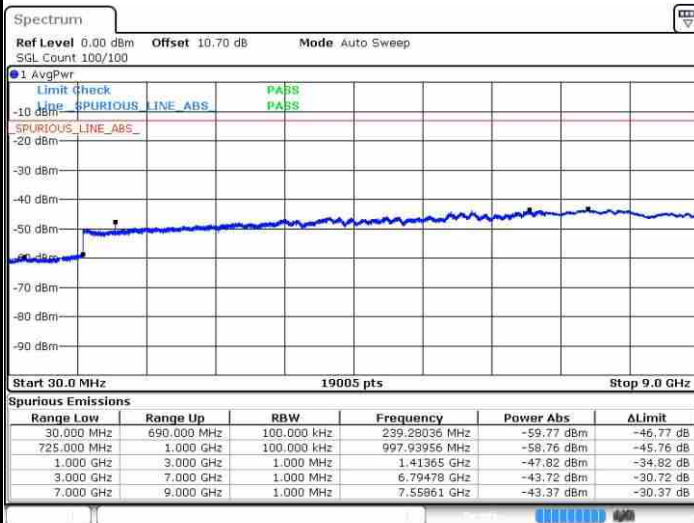
Date: 25 FEB 2019 09:36:33

Middle Channel / 64QAM



Date: 25 FEB 2019 09:37:46

Highest Channel / 64QAM



Date: 25 FEB 2019 09:40:49

Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0018	PASS
40	Normal Voltage	0.0105	
30	Normal Voltage	0.0090	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0088	
0	Normal Voltage	0.0030	
-10	Normal Voltage	0.0037	
-20	Normal Voltage	0.0014	
-30	Normal Voltage	0.0008	
20	Maximum Voltage	0.0037	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0035	

Note:

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



LTE Band 13

Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.42	4.55	4.41	5.42	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.16	6.03	-	-	
Highest CH	-	-	-	-	

LTE Band 13 / 10MHz / QPSK
Middle Channel / 1RB


Date: 25 FEB 2019 00:40:18

Middle Channel / Full RB


Date: 25 FEB 2019 00:40:28

LTE Band 13 / 10MHz / 16QAM
Middle Channel / 1RB


Date: 25 FEB 2019 00:39:58

Middle Channel / Full RB


Date: 25 FEB 2019 00:40:08

LTE Band 13 / 10MHz / 64QAM
Middle Channel / 1RB


Date: 25 FEB 2019 00:39:36

Middle Channel / Full RB


Date: 25 FEB 2019 00:39:48

**26dB Bandwidth**

Mode	LTE Band 13 : 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	-	-	-	-	4.95	4.87	-	-	-	-	-	-
Middle CH	-	-	-	-	4.91	4.96	9.77	9.79	-	-	-	-
Highest CH	-	-	-	-	4.83	4.81	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.88	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.92	-	9.87	-	-	-	-	-
Highest CH	-	-	-	-	4.91	-	-	-	-	-	-	-