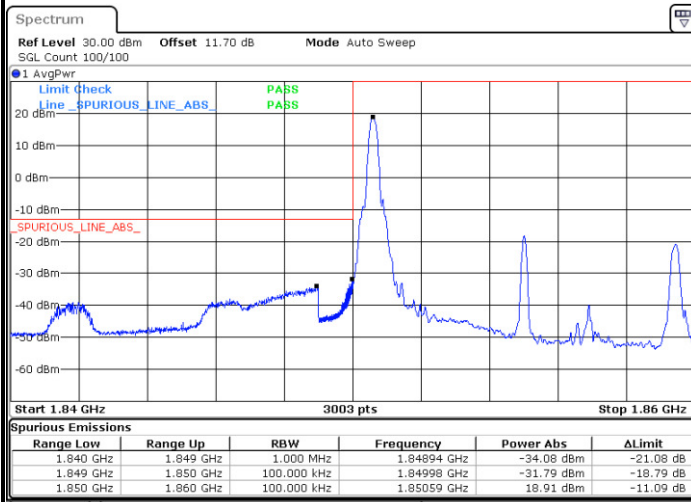




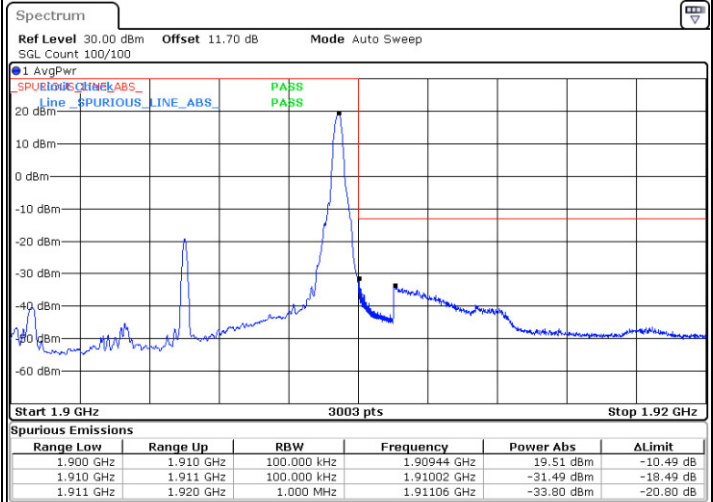
LTE Band 2 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



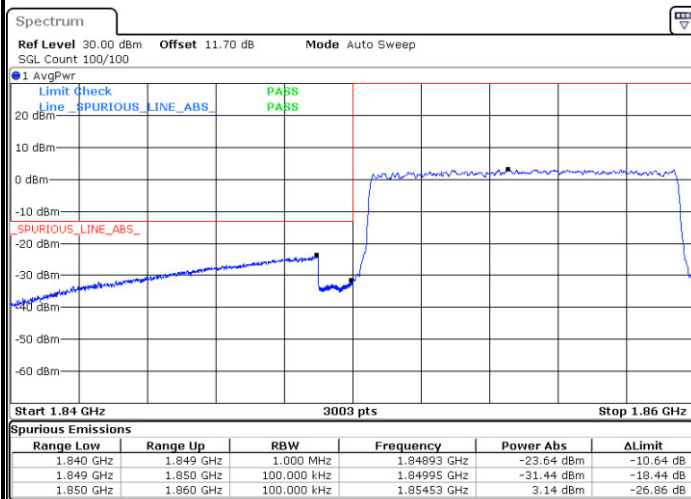
Date: 3. JAN.2018 15:59:56

Highest Band Edge / 1 RB



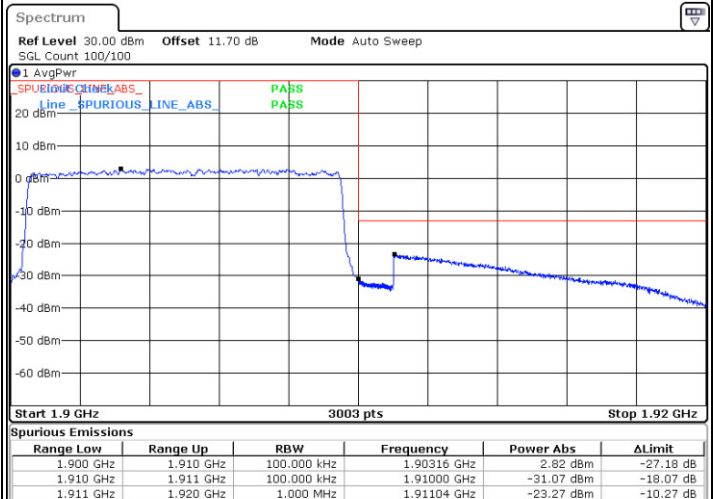
Date: 3. JAN.2018 16:09:27

Lowest Band Edge / Full RB



Date: 3. JAN.2018 16:02:13

Highest Band Edge / Full RB

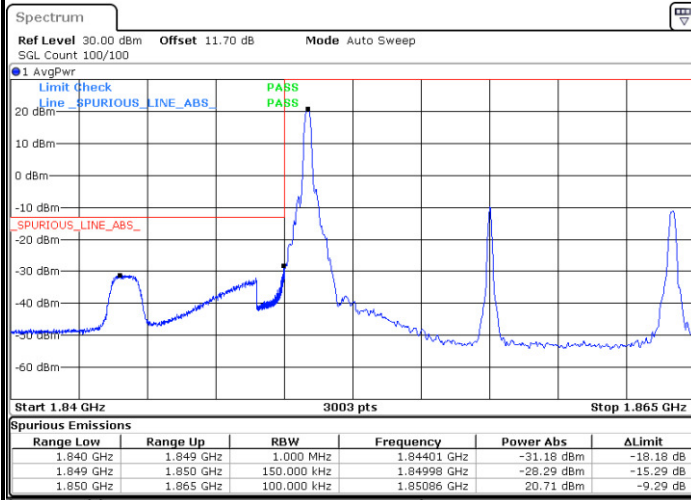


Date: 3. JAN.2018 16:11:44

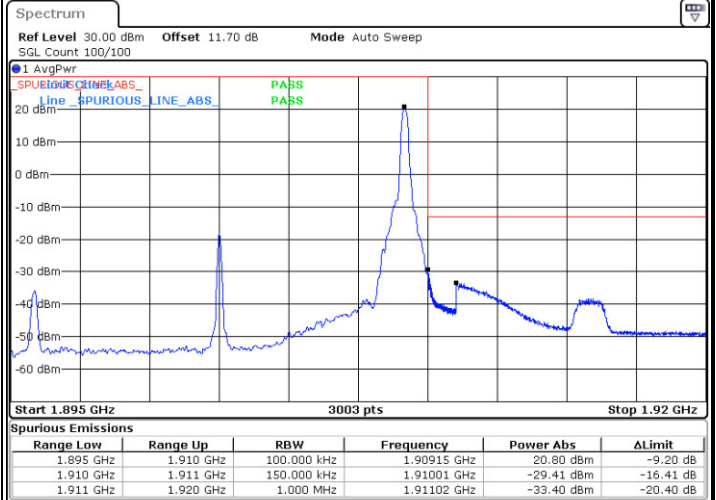


LTE Band 2 / 15MHz / QPSK

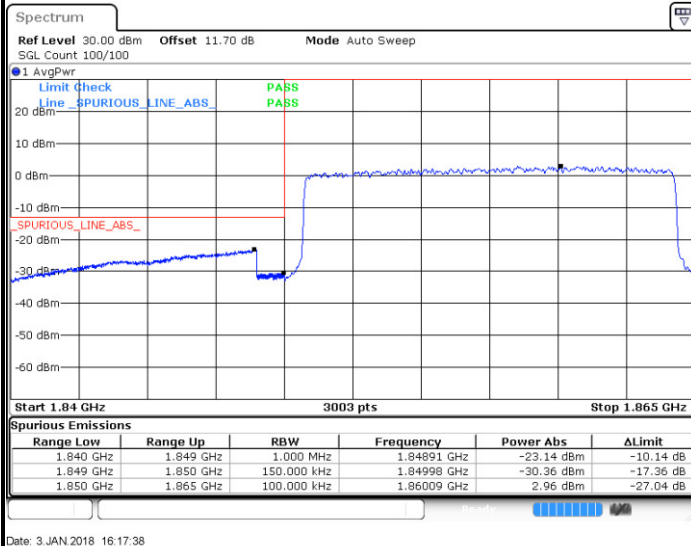
Lowest Band Edge / 1 RB



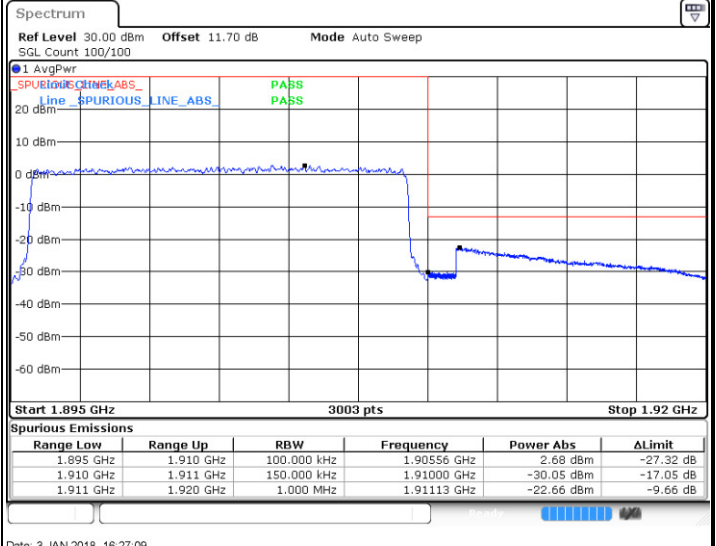
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



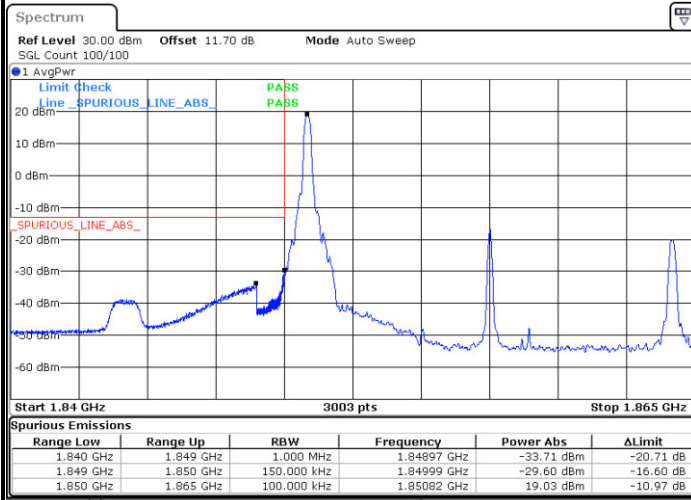
Highest Band Edge / Full RB



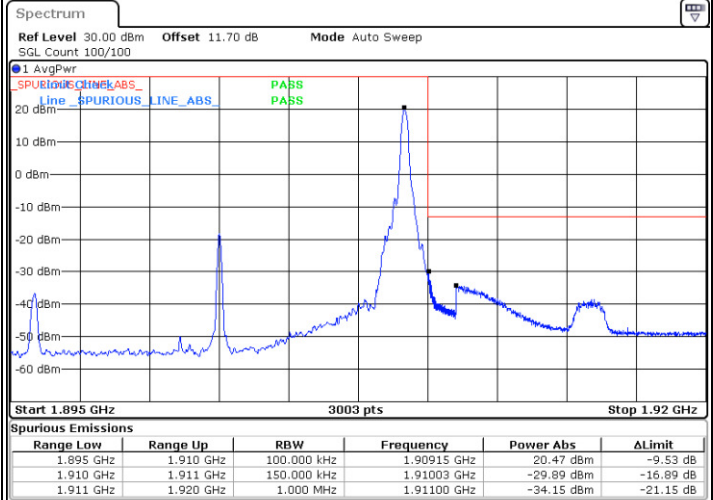


LTE Band 2 / 15MHz / 16QAM

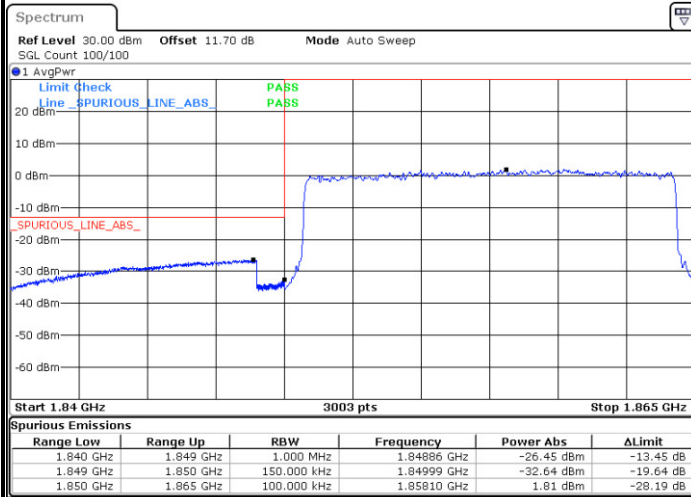
Lowest Band Edge / 1 RB



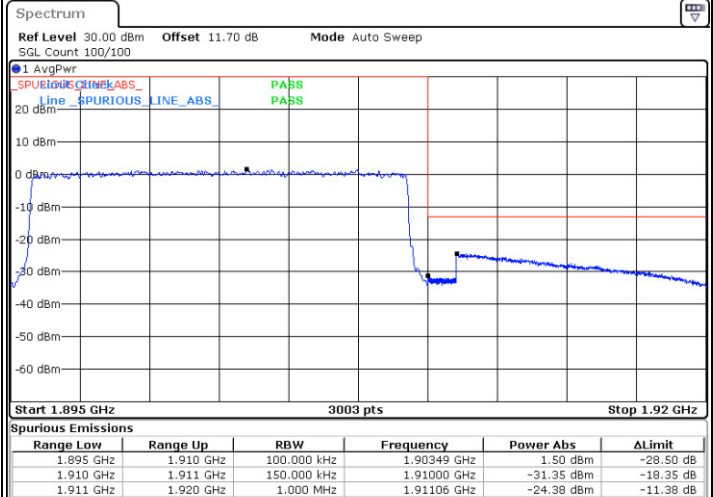
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



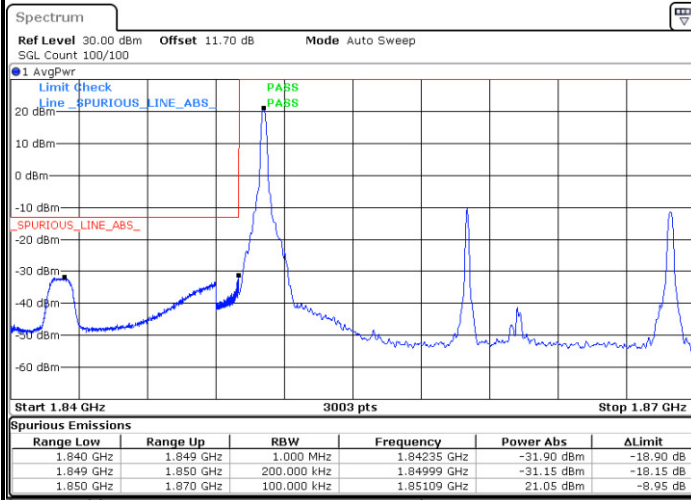
Highest Band Edge / Full RB



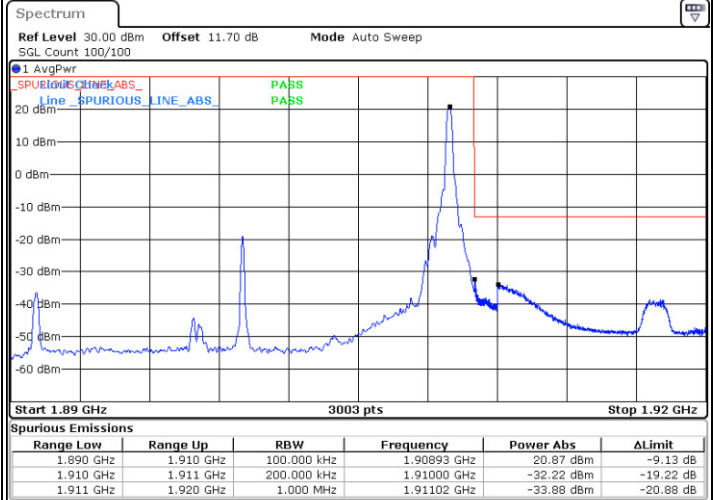


LTE Band 2 / 20MHz / QPSK

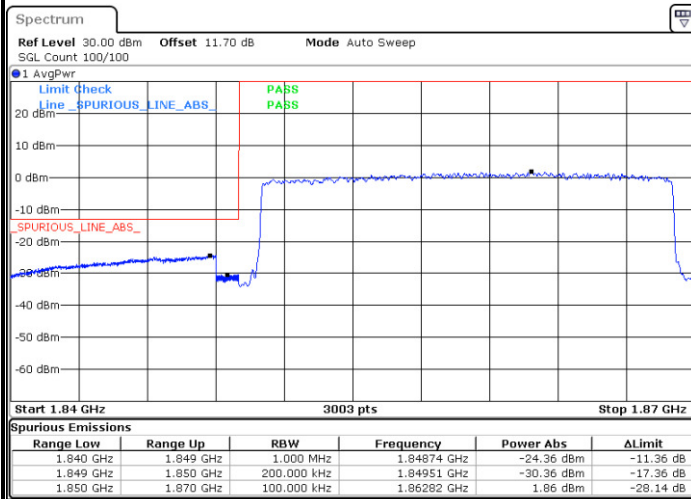
Lowest Band Edge / 1 RB



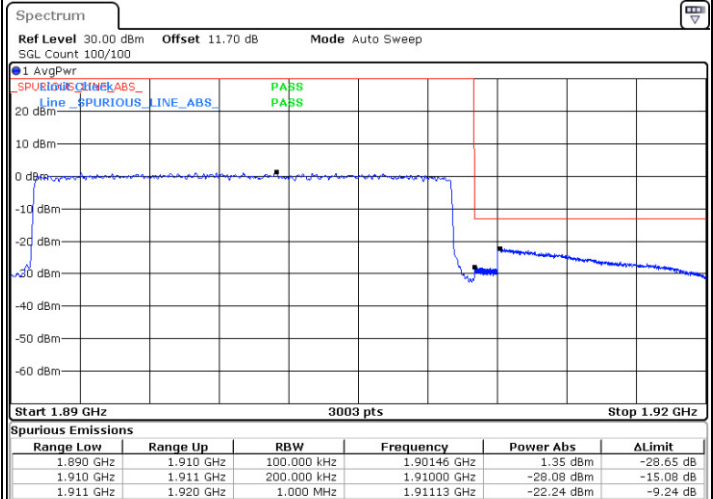
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



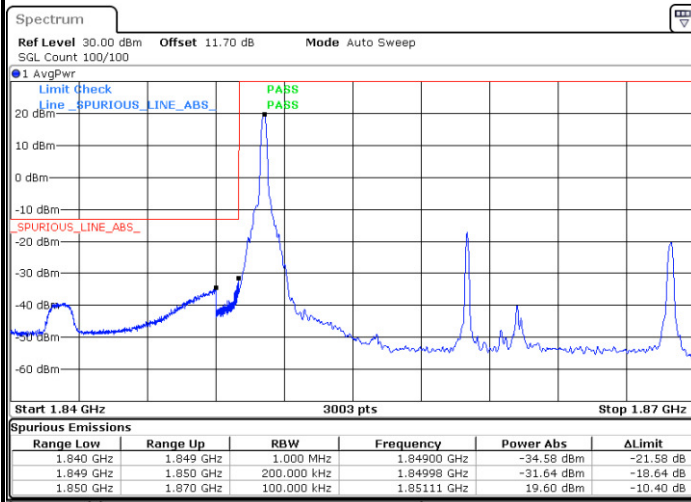
Highest Band Edge / Full RB



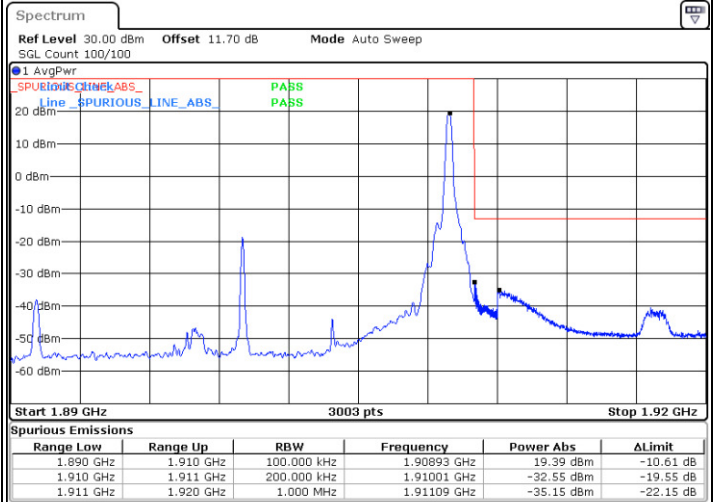


LTE Band 2 / 20MHz / 16QAM

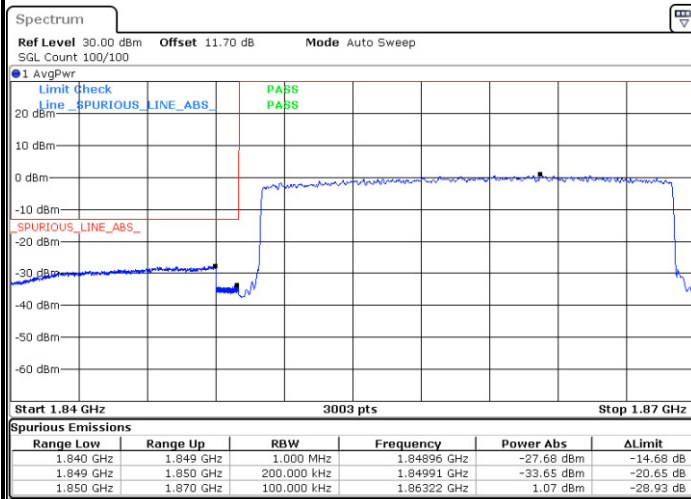
Lowest Band Edge / 1 RB



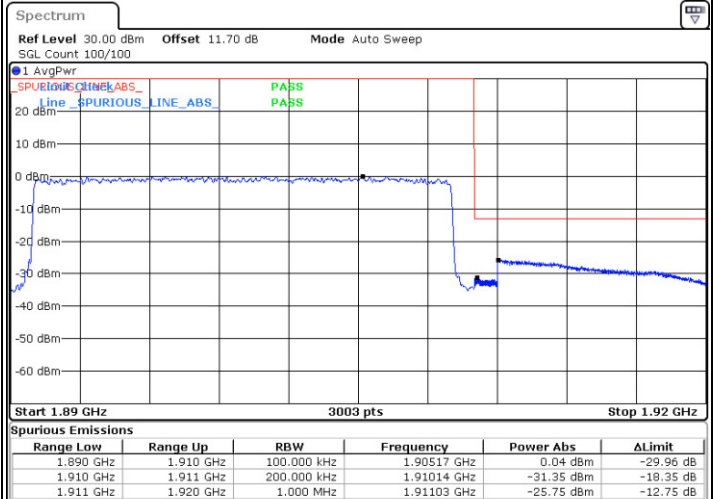
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB



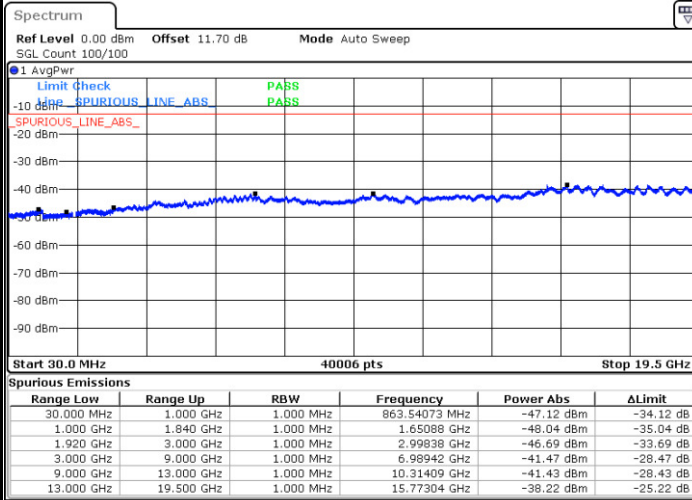


Conducted Spurious Emission



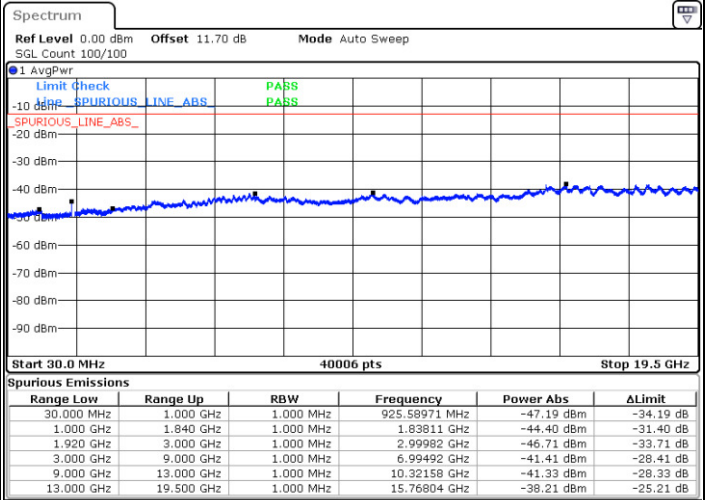
LTE Band 2 / 1.4MHz

Lowest Channel / QPSK



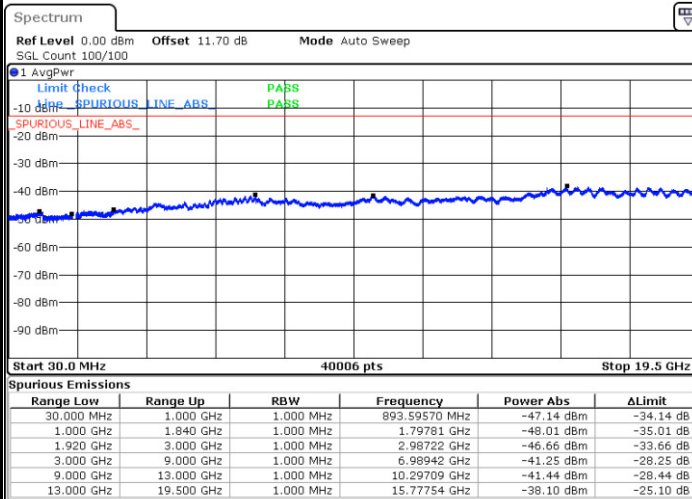
Date: 3.JAN.2018 16:53:30

Lowest Channel / 16QAM



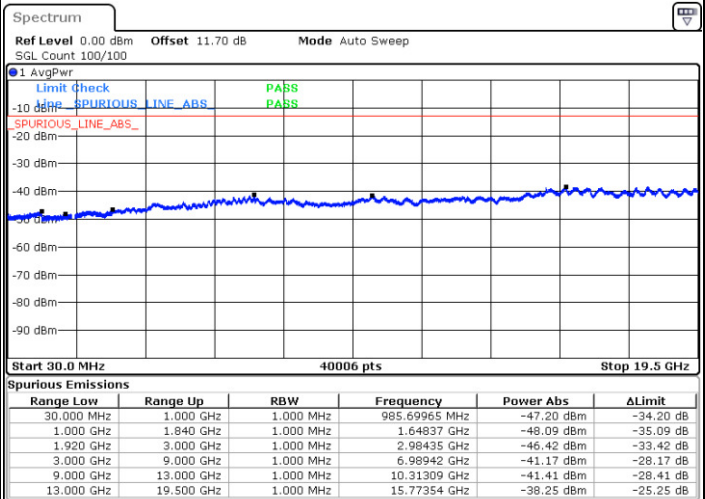
Date: 3.JAN.2018 16:54:24

Middle Channel / QPSK



Date: 3.JAN.2018 16:55:58

Middle Channel / 16QAM

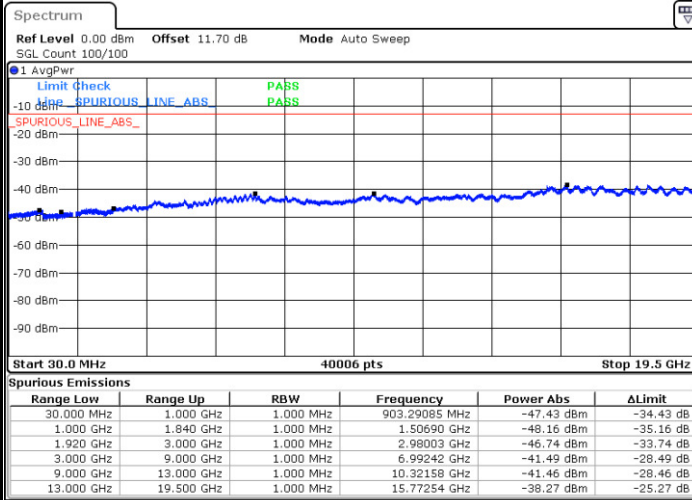


Date: 3.JAN.2018 16:56:52



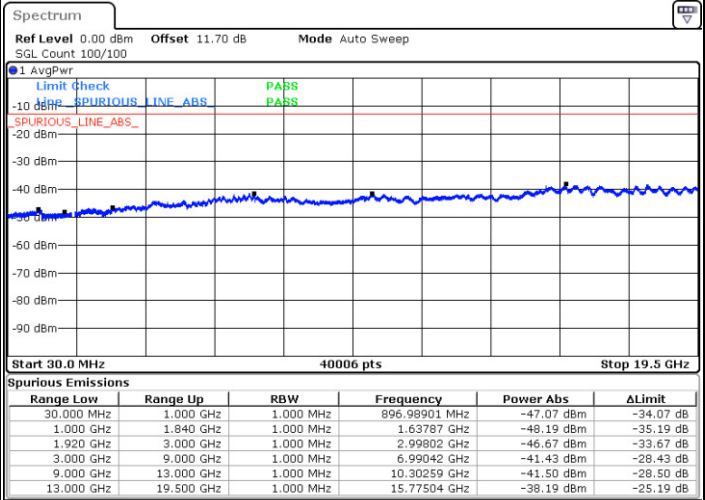
LTE Band 2 / 1.4MHz

Highest Channel / QPSK



Date: 3.JAN.2018 17:03:01

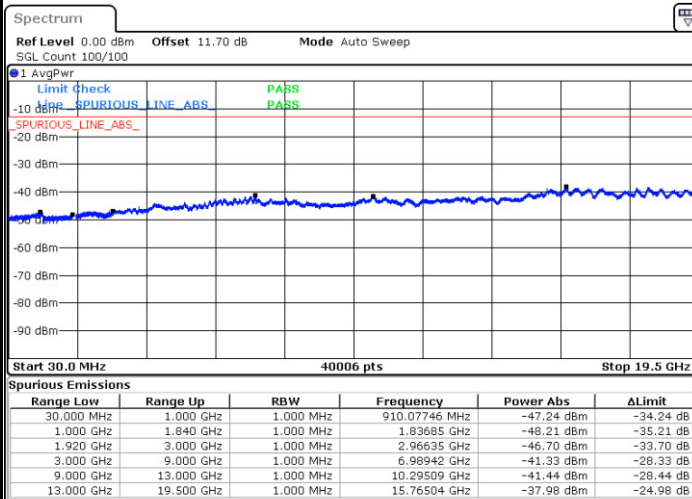
Highest Channel / 16QAM



Date: 3.JAN.2018 17:03:55

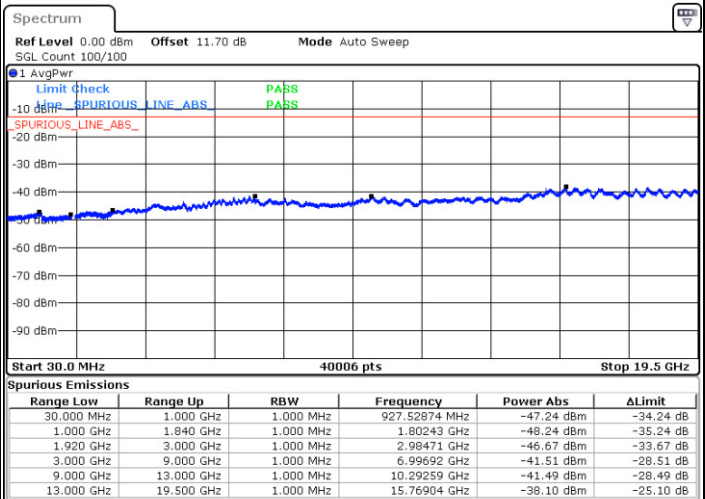
LTE Band 2 / 3MHz

Lowest Channel / QPSK



Date: 3.JAN.2018 15:17:30

Lowest Channel / 16QAM

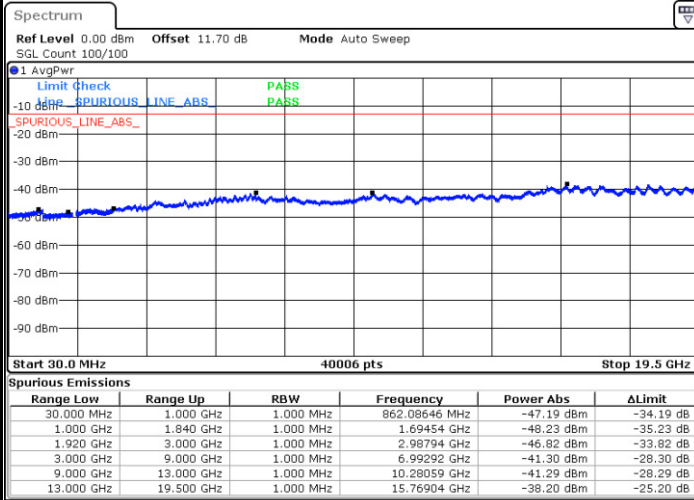


Date: 3.JAN.2018 15:18:24



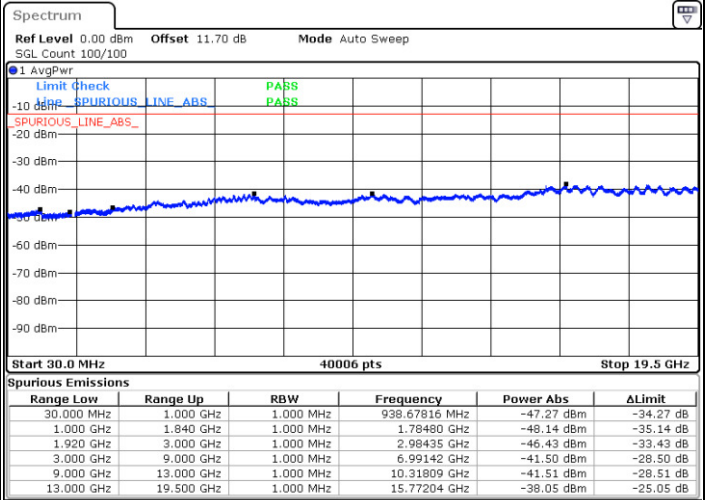
LTE Band 2 / 3MHz

Middle Channel / QPSK



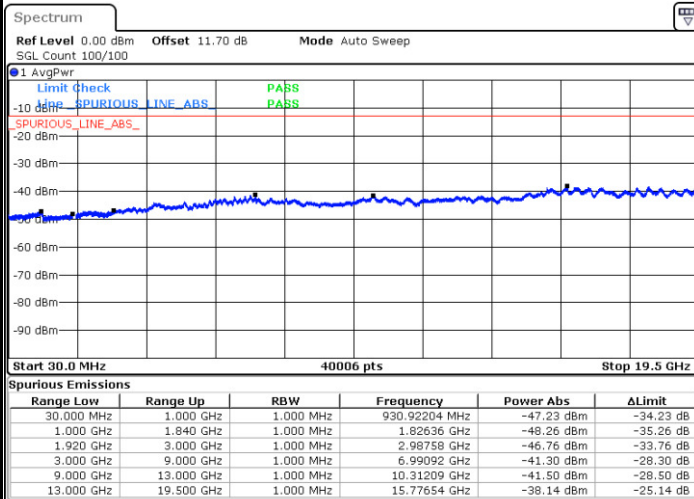
Date: 3.JAN.2018 15:19:58

Middle Channel / 16QAM



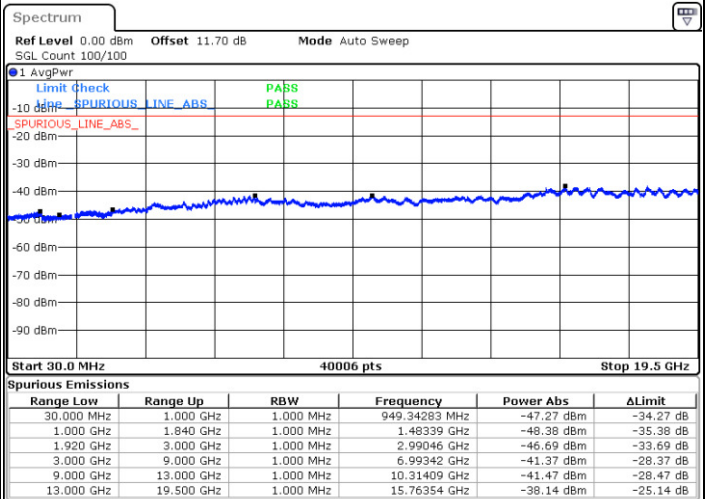
Date: 3.JAN.2018 15:20:52

Highest Channel / QPSK



Date: 3.JAN.2018 15:27:01

Highest Channel / 16QAM

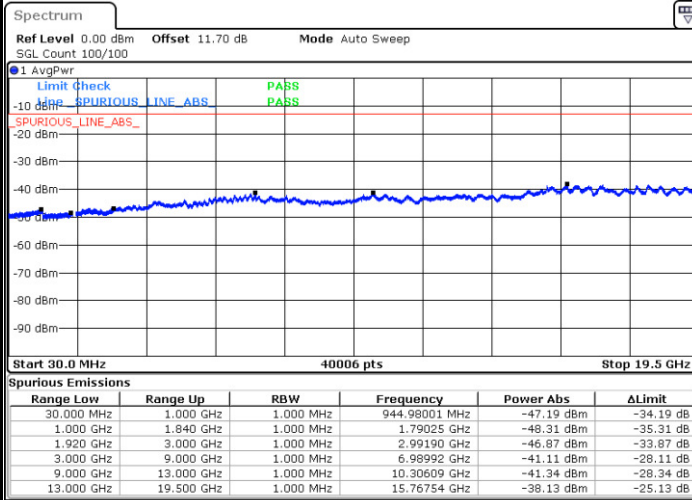


Date: 3.JAN.2018 15:27:55



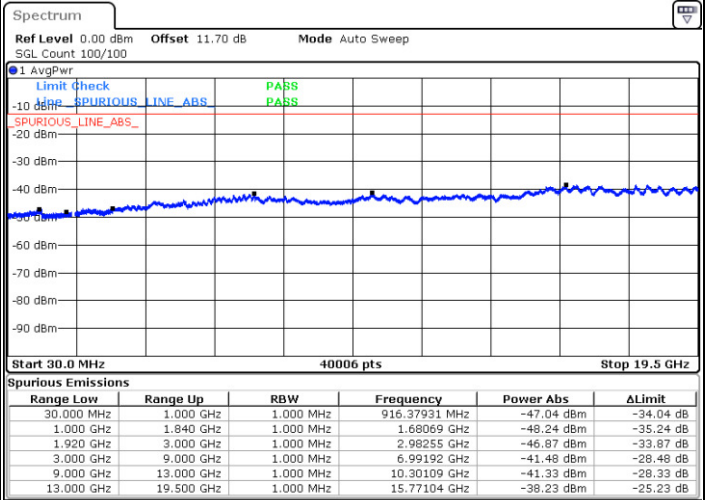
LTE Band 2 / 5MHz

Lowest Channel / QPSK



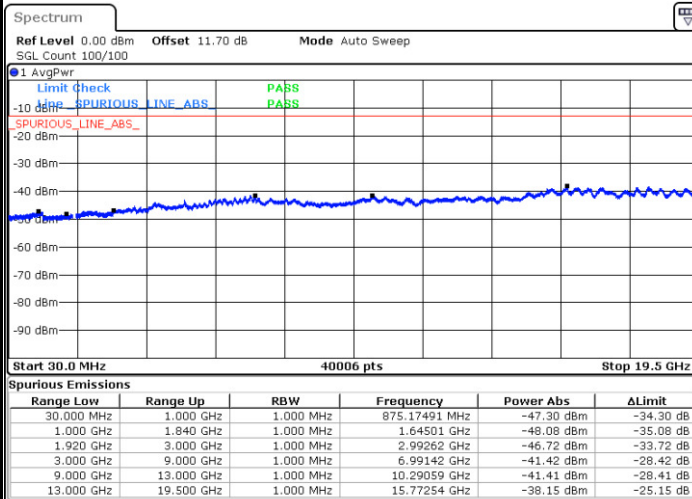
Date: 3.JAN.2018 15:34:05

Lowest Channel / 16QAM



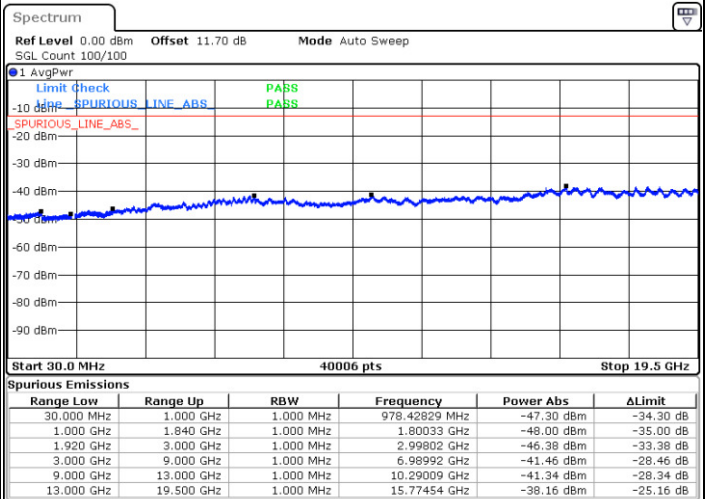
Date: 3.JAN.2018 15:34:59

Middle Channel / QPSK



Date: 3.JAN.2018 15:36:33

Middle Channel / 16QAM

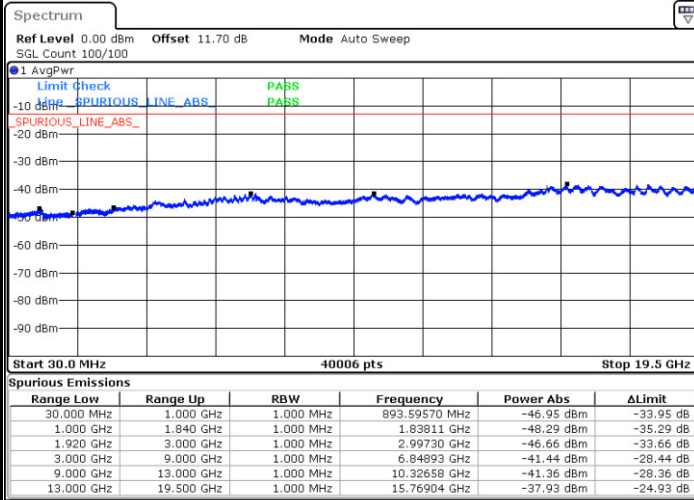


Date: 3.JAN.2018 15:37:27



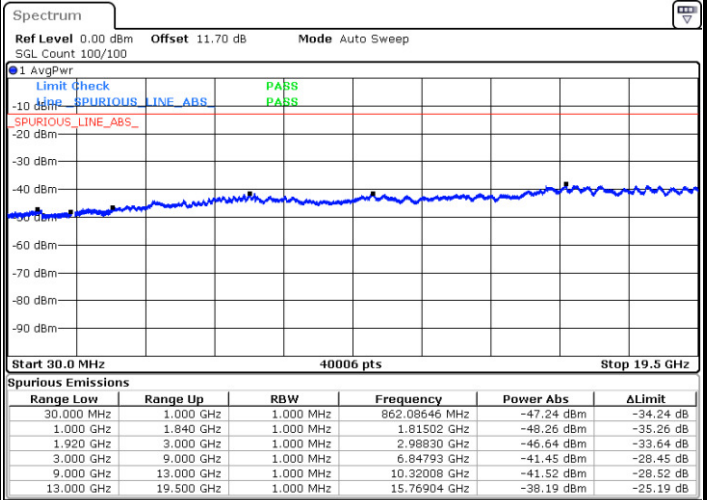
LTE Band 2 / 5MHz

Highest Channel / QPSK



Date: 3.JAN.2018 15:56:05

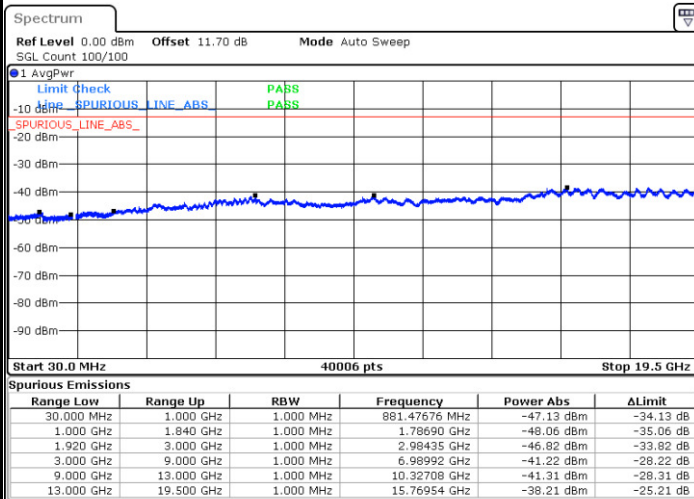
Highest Channel / 16QAM



Date: 3.JAN.2018 15:56:59

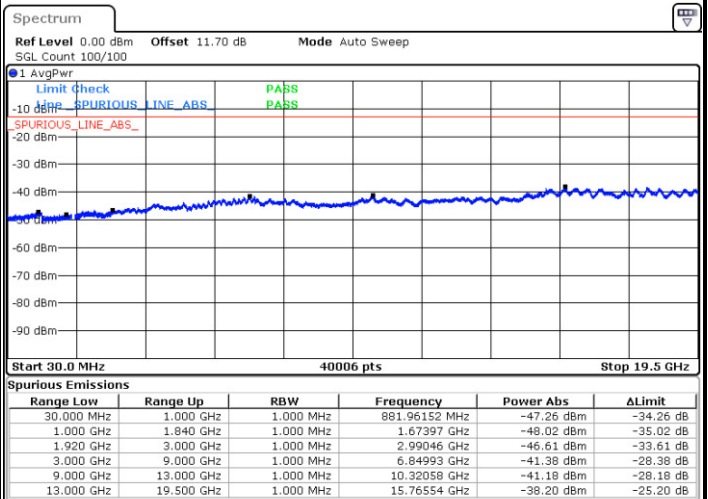
LTE Band 2 / 10MHz

Lowest Channel / QPSK



Date: 3.JAN.2018 16:03:08

Lowest Channel / 16QAM

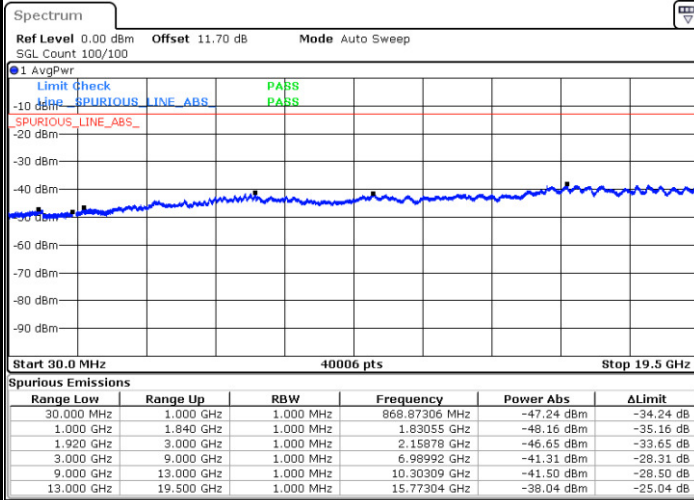


Date: 3.JAN.2018 16:04:02



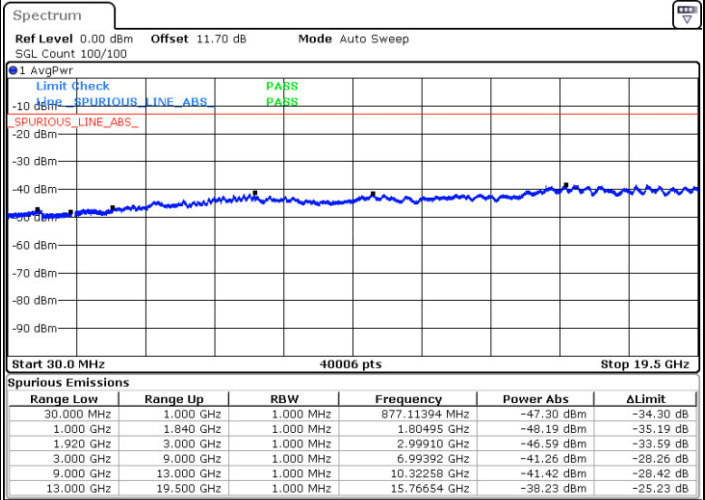
LTE Band 2 / 10MHz

Middle Channel / QPSK



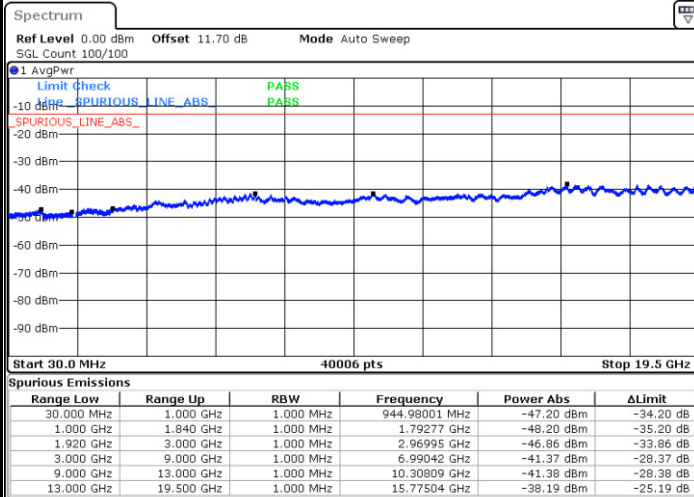
Date: 3.JAN.2018 16:05:36

Middle Channel / 16QAM



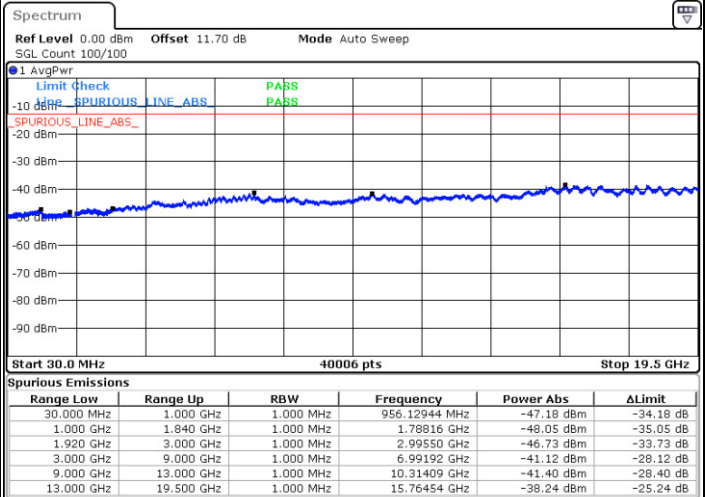
Date: 3.JAN.2018 16:06:30

Highest Channel / QPSK



Date: 3.JAN.2018 16:12:39

Highest Channel / 16QAM

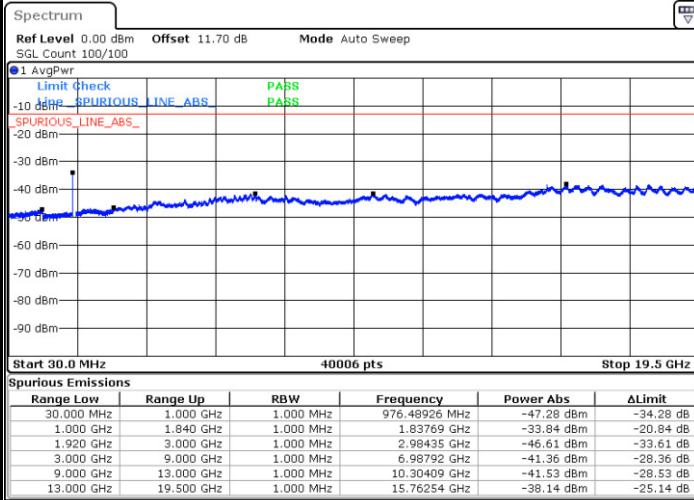


Date: 3.JAN.2018 16:13:33



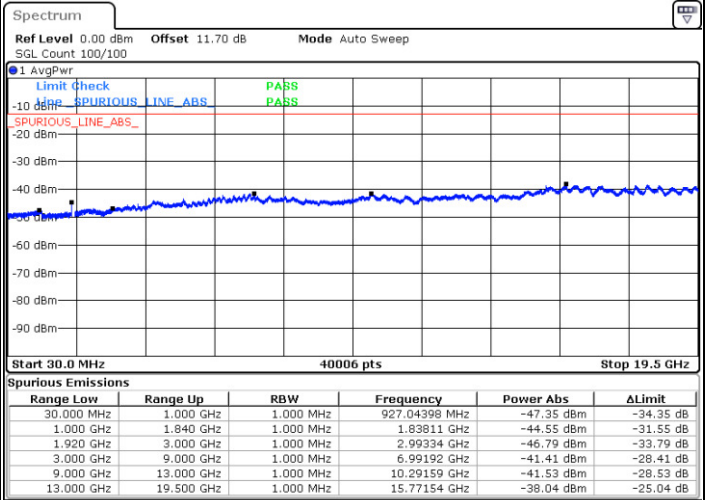
LTE Band 2 / 15MHz

Lowest Channel / QPSK



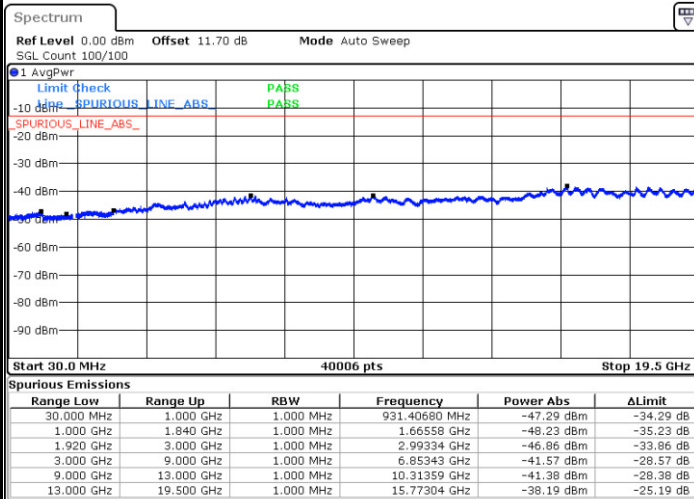
Date: 3.JAN.2018 16:19:42

Lowest Channel / 16QAM



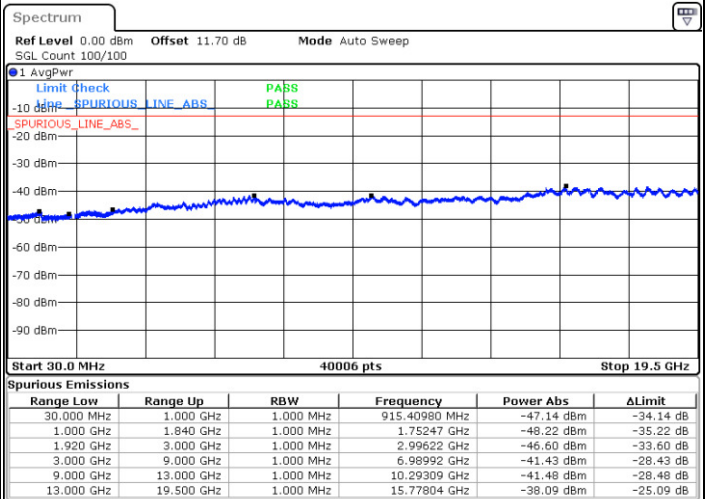
Date: 3.JAN.2018 16:20:36

Middle Channel / QPSK



Date: 3.JAN.2018 16:22:10

Middle Channel / 16QAM

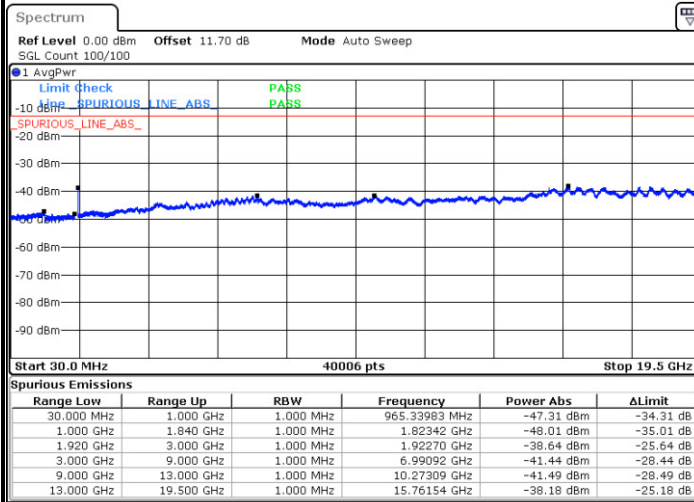


Date: 3.JAN.2018 16:23:04



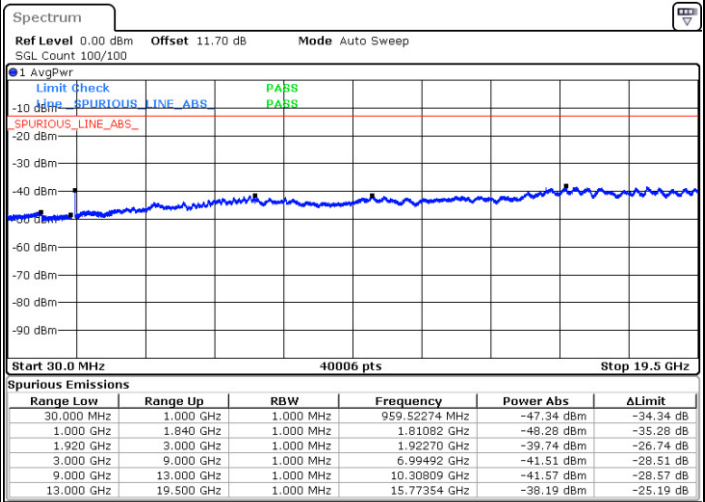
LTE Band 2 / 15MHz

Highest Channel / QPSK



Date: 3 JAN 2018 16:29:12

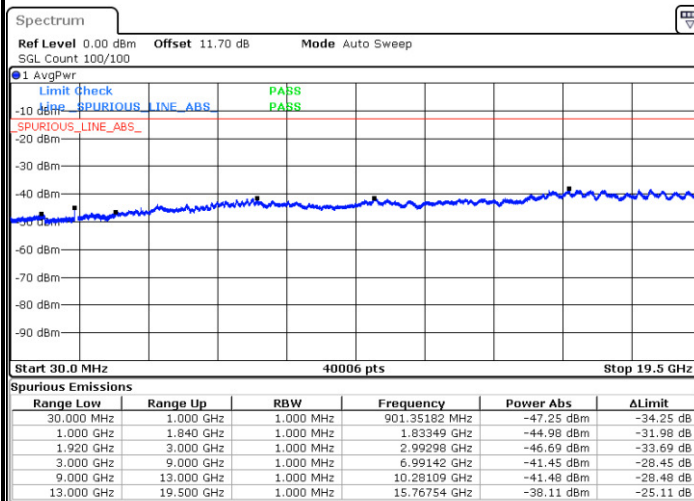
Highest Channel / 16QAM



Date: 3 JAN 2018 16:30:06

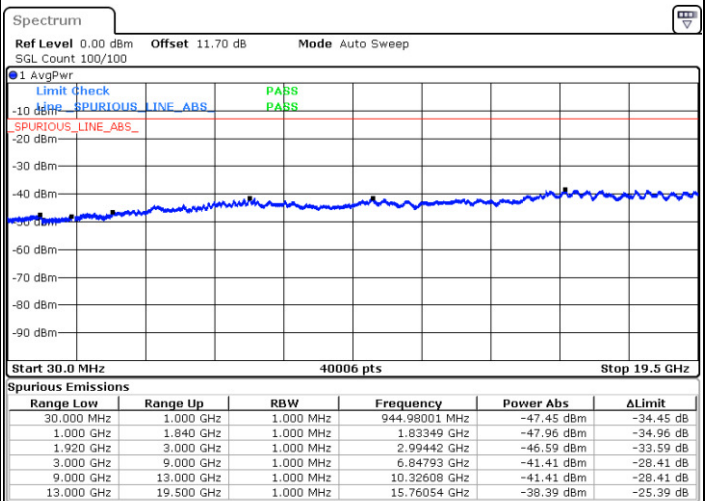
LTE Band 2 / 20MHz

Lowest Channel / QPSK



Date: 3 JAN 2018 16:36:15

Lowest Channel / 16QAM

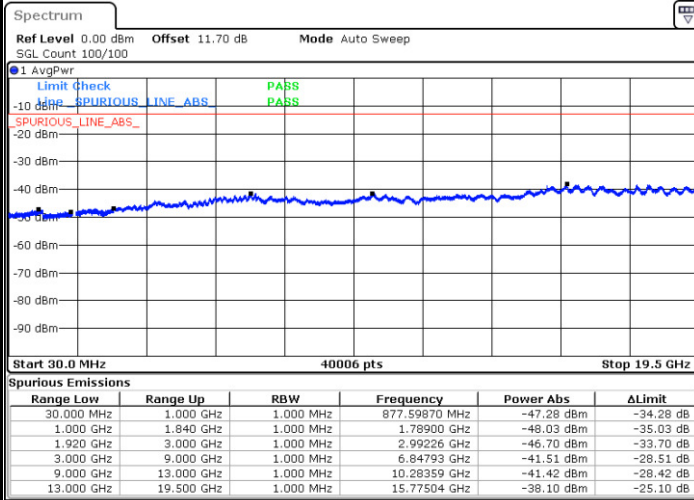


Date: 3 JAN 2018 16:37:09



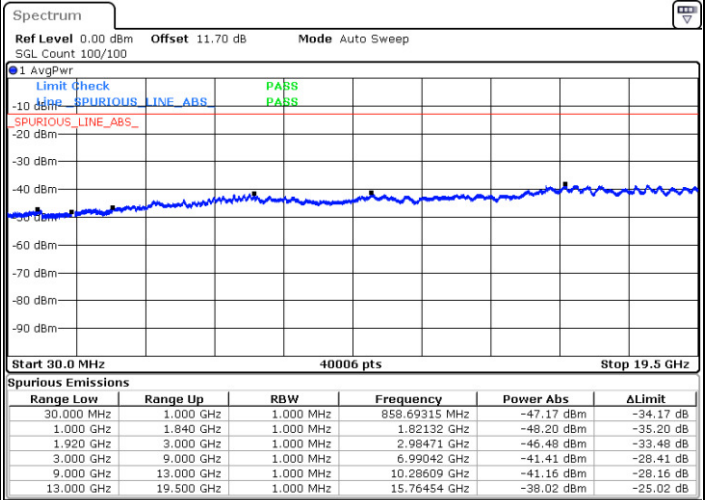
LTE Band 2 / 20MHz

Middle Channel / QPSK



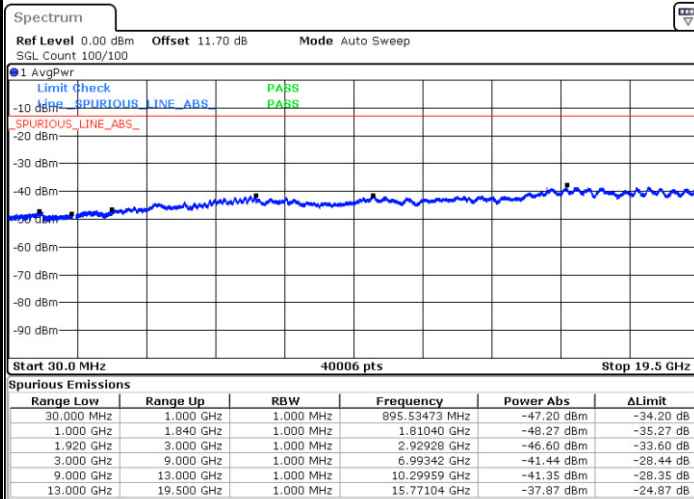
Date: 3.JAN.2018 16:38:43

Middle Channel / 16QAM



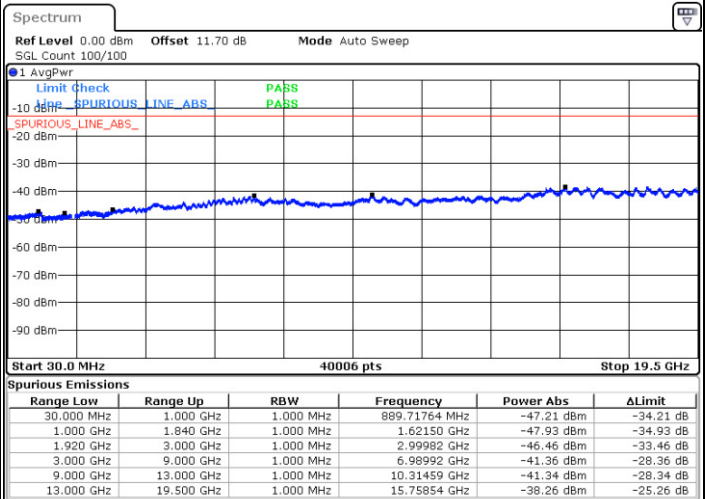
Date: 3.JAN.2018 16:39:37

Highest Channel / QPSK



Date: 3.JAN.2018 16:45:46

Highest Channel / 16QAM



Date: 3.JAN.2018 16:46:40

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	0.0002	PASS
40	Normal Voltage	0.0012	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0020	
-10	Normal Voltage	0.0001	
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0002	
20	Maximum Voltage	0.0007	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0005	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 4

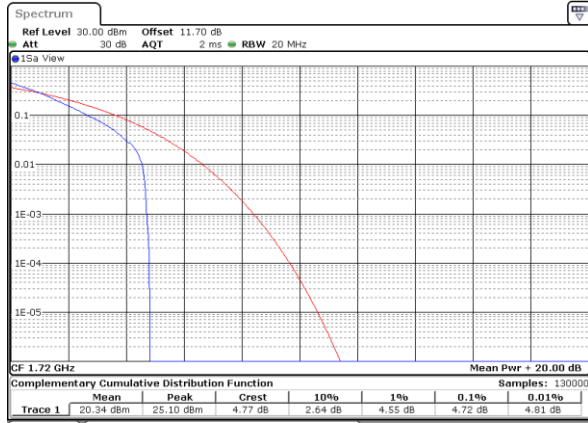
Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.72	4.7	5.51	5.8	PASS
Middle CH	4.35	4.78	4.96	5.62	
Highest CH	4.35	4.93	5.54	6	

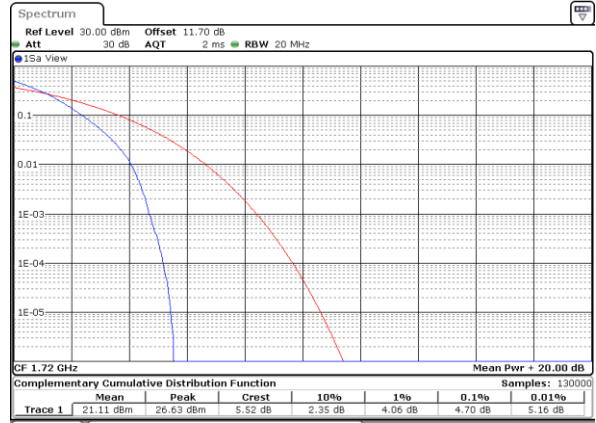


LTE Band 4 / 20MHz / QPSK

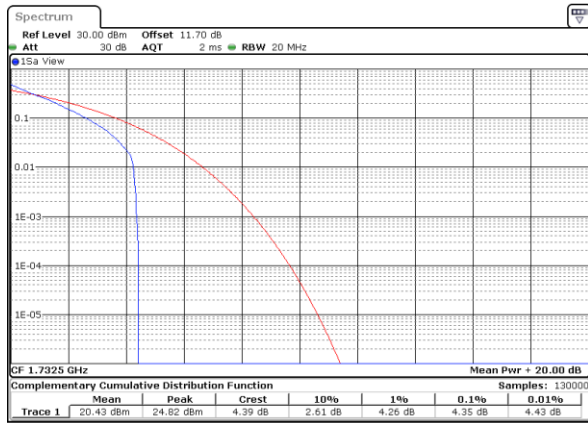
Lowest Channel / 1RB



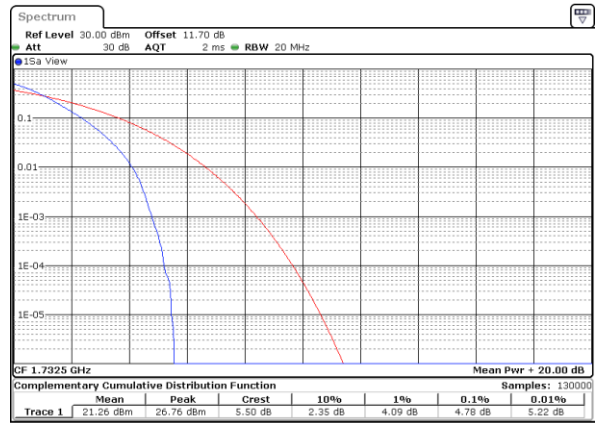
Lowest Channel / Full RB



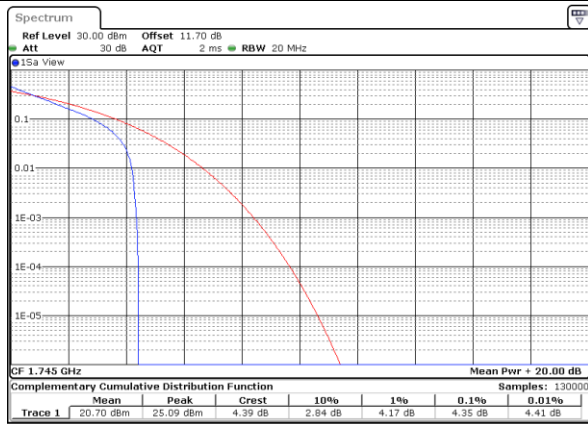
Middle Channel / 1RB



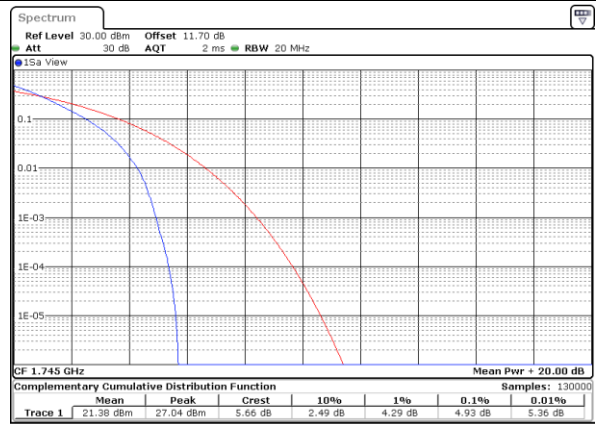
Middle Channel / Full RB

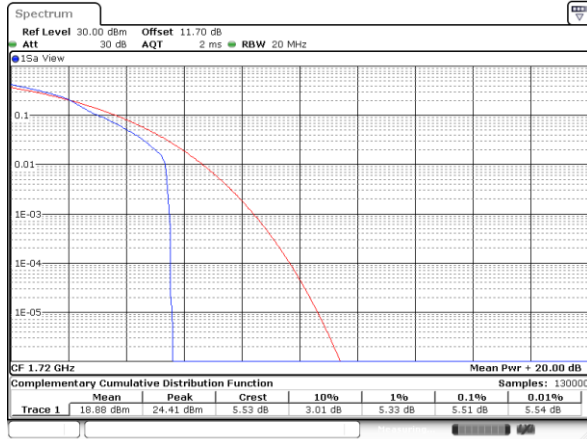
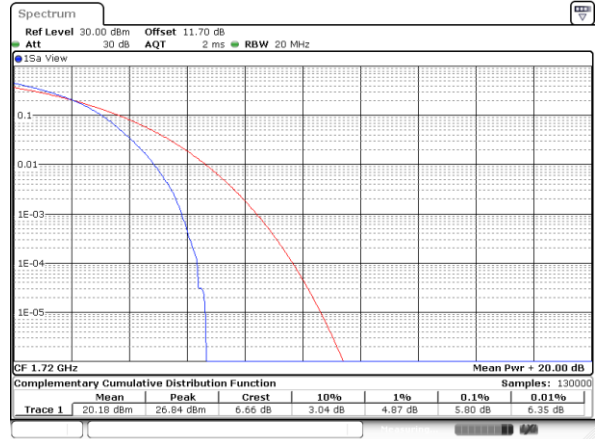
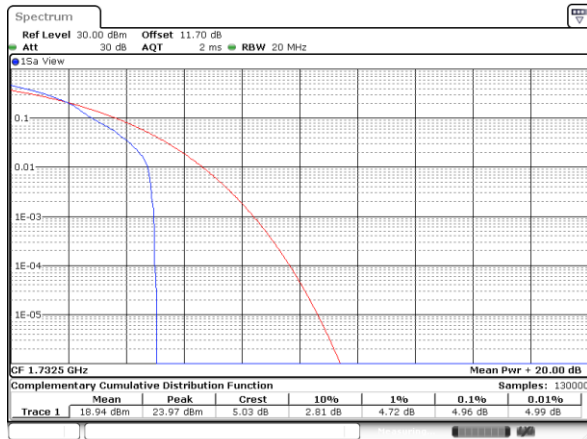
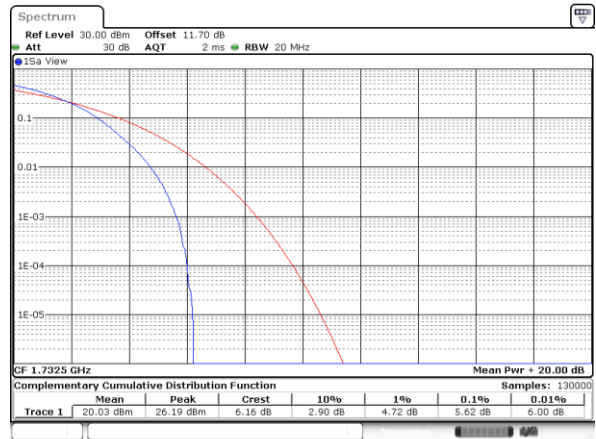
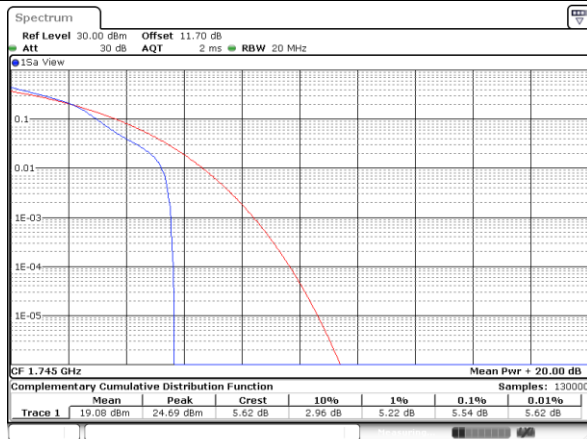
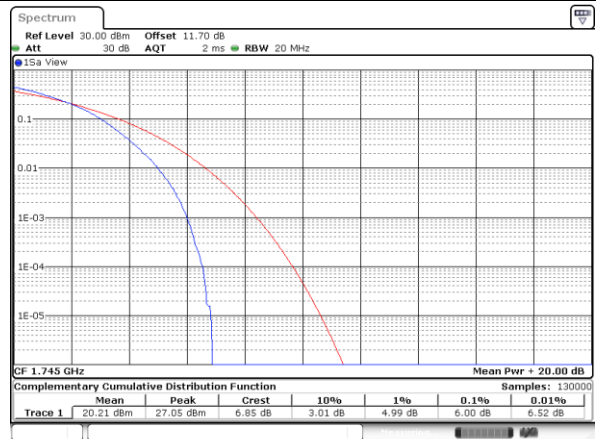


Highest Channel / 1RB



Highest Channel / Full RB



LTE Band 4 / 20MHz / 16QAM
Lowest Channel / 1RB

Lowest Channel / Full RB

Middle Channel / 1RB

Middle Channel / Full RB

Highest Channel / 1RB

Highest Channel / Full RB


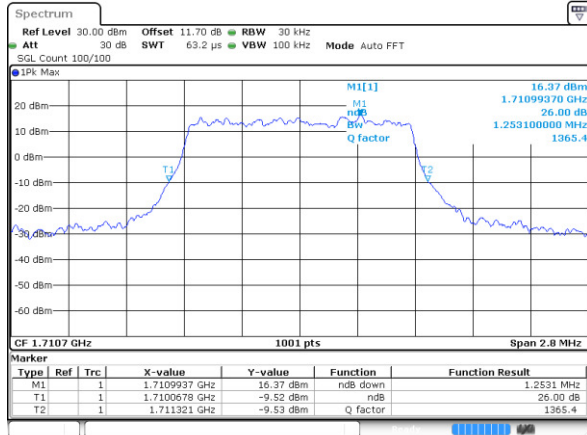
**26dB Bandwidth**

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	1.25	1.27	3.03	2.99	4.99	4.90	9.63	9.79	14.21	14.69	20.14	20.02
Middle CH	1.27	1.28	3.05	2.96	4.97	4.82	9.87	9.77	14.36	14.36	20.18	20.14
Highest CH	1.27	1.27	3.00	3.04	4.97	4.99	9.75	9.67	14.39	14.24	20.10	20.10



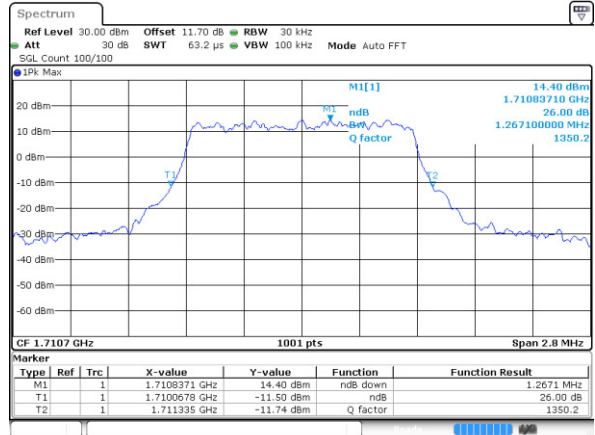
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



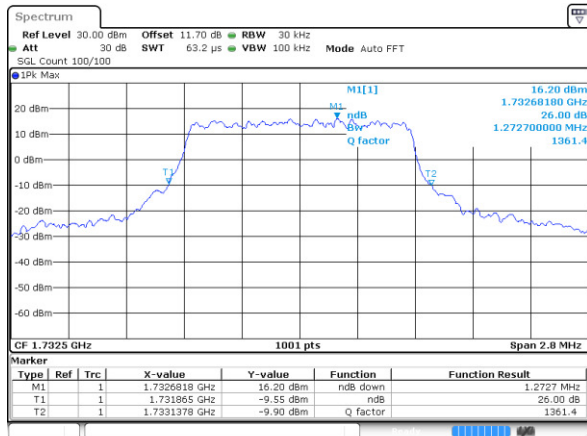
Date: 4 JAN 2018 13:35:58

Lowest Channel / 1.4MHz / 16QAM



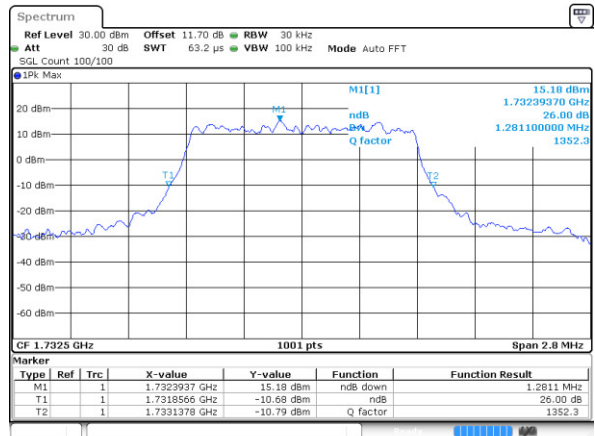
Date: 4 JAN 2018 13:36:08

Middle Channel / 1.4MHz / QPSK



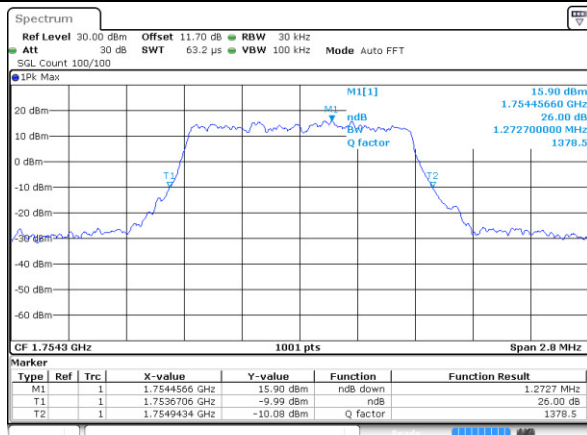
Date: 4 JAN 2018 13:43:11

Middle Channel / 1.4MHz / 16QAM



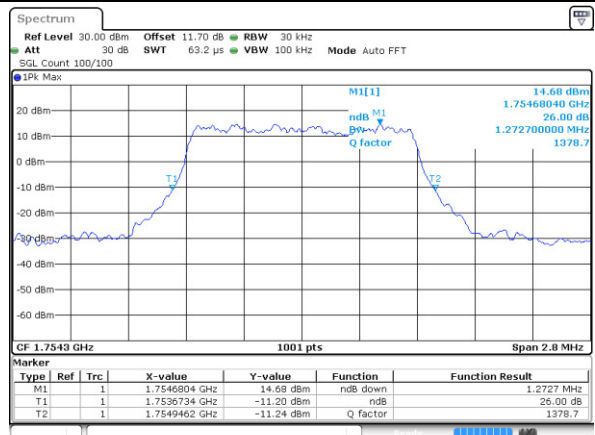
Date: 4 JAN 2018 13:43:21

Highest Channel / 1.4MHz / QPSK



Date: 4 JAN 2018 13:45:39

Highest Channel / 1.4MHz / 16QAM

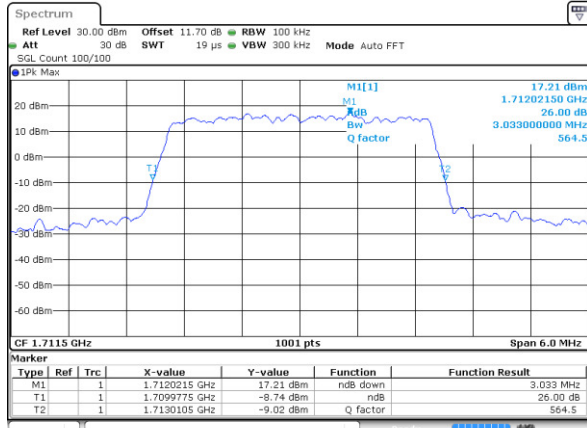


Date: 4 JAN 2018 13:45:49



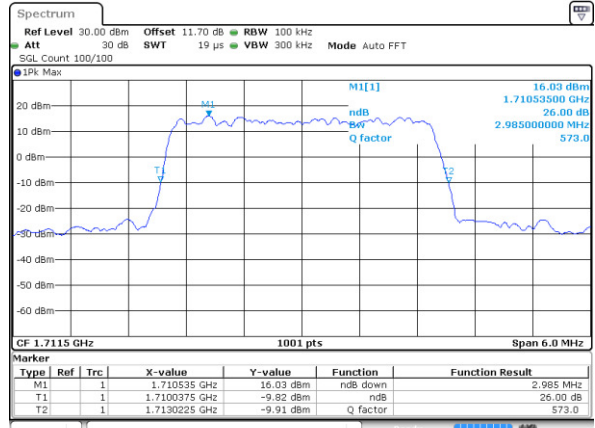
LTE Band 4

Lowest Channel / 3MHz / QPSK



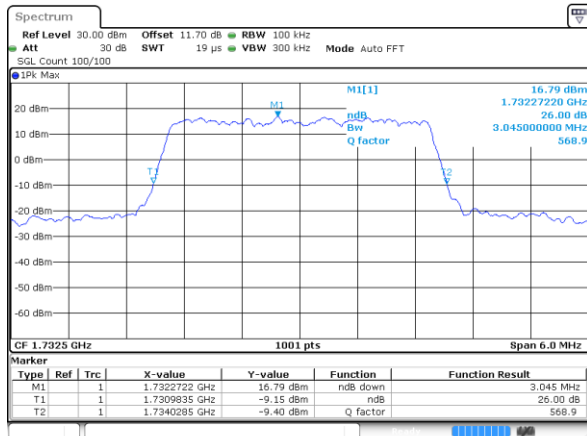
Date: 4 JAN 2018 11:58:24

Lowest Channel / 3MHz / 16QAM



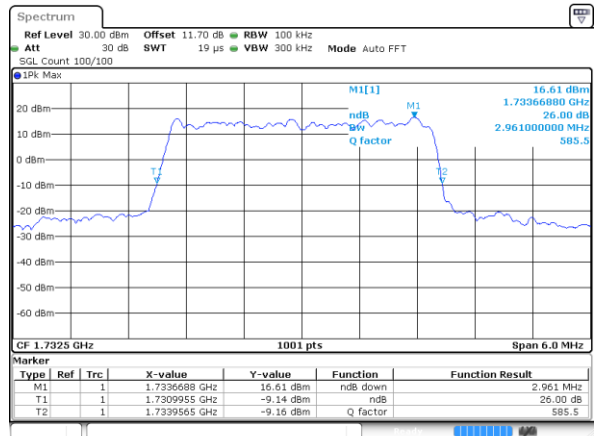
Date: 4 JAN 2018 11:58:34

Middle Channel / 3MHz / QPSK



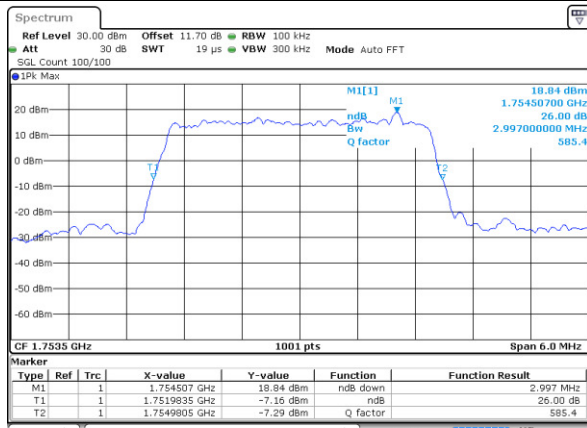
Date: 4 JAN 2018 12:05:27

Middle Channel / 3MHz / 16QAM



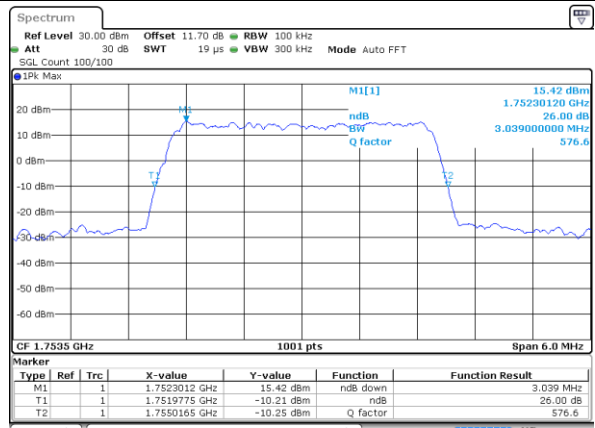
Date: 4 JAN 2018 12:05:37

Highest Channel / 3MHz / QPSK



Date: 4 JAN 2018 12:07:55

Highest Channel / 3MHz / 16QAM

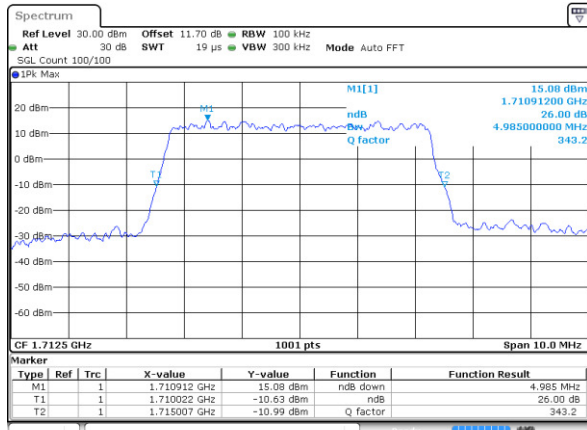


Date: 4 JAN 2018 12:08:05



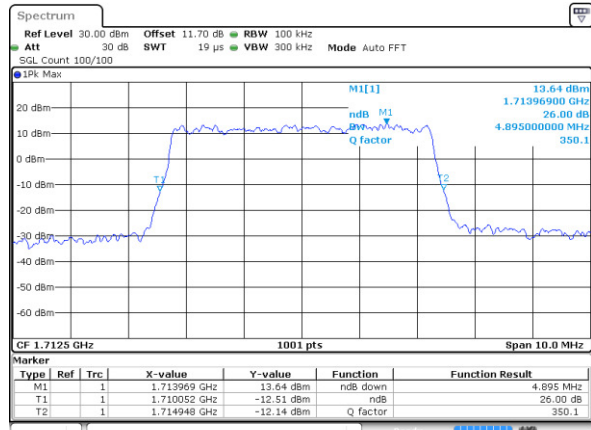
LTE Band 4

Lowest Channel / 5MHz / QPSK



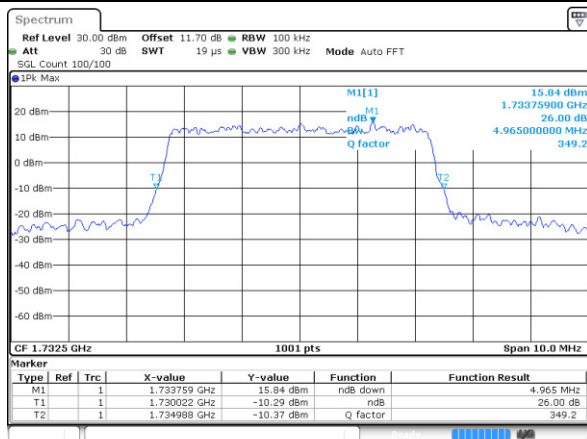
Date: 4 JAN 2018 12:14:58

Lowest Channel / 5MHz / 16QAM



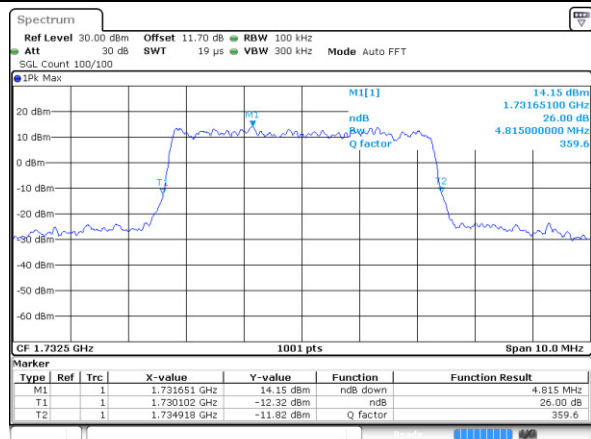
Date: 4 JAN 2018 12:15:08

Middle Channel / 5MHz / QPSK



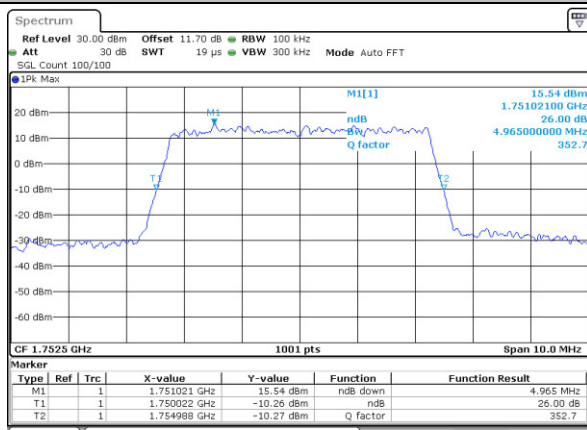
Date: 4 JAN 2018 12:22:01

Middle Channel / 5MHz / 16QAM



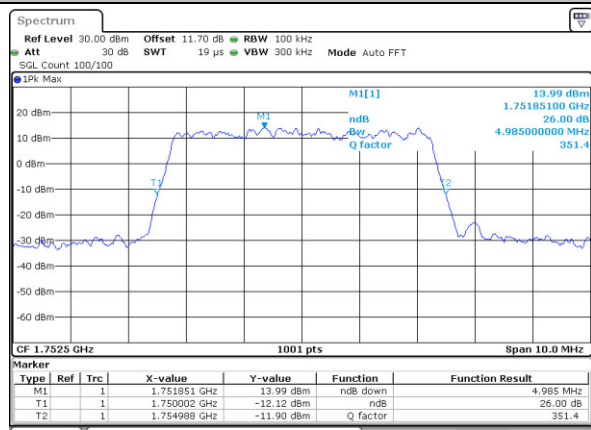
Date: 4 JAN 2018 12:22:12

Highest Channel / 5MHz / QPSK



Date: 4 JAN 2018 12:24:30

Highest Channel / 5MHz / 16QAM

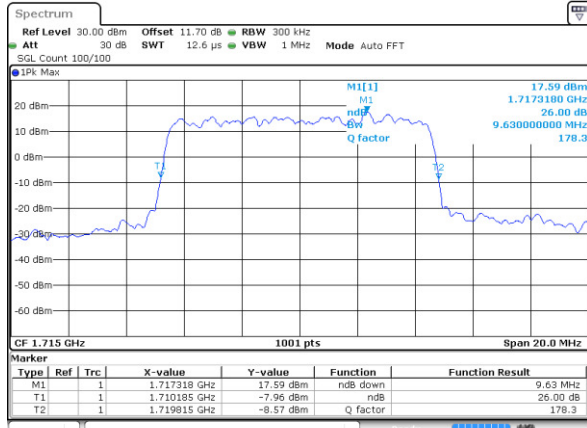


Date: 4 JAN 2018 12:24:41



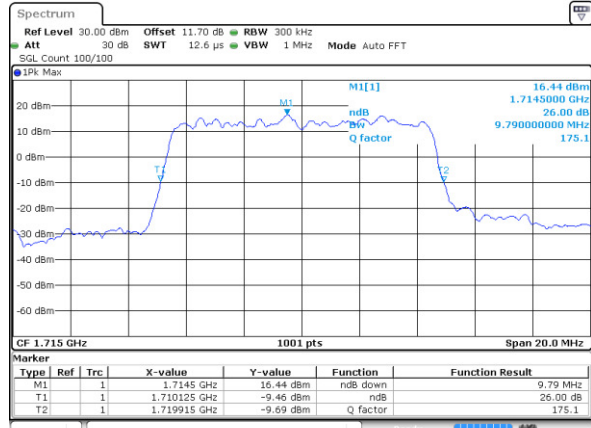
LTE Band 4

Lowest Channel / 10MHz / QPSK



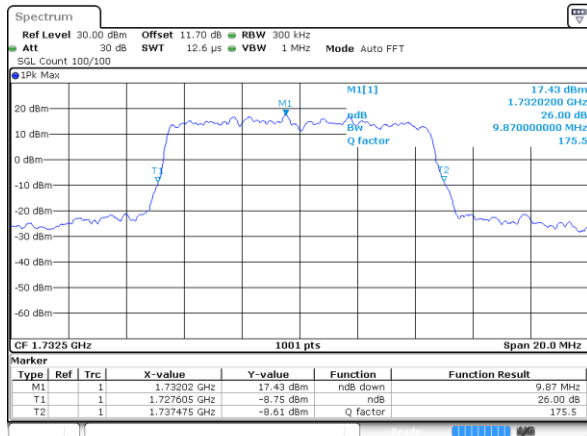
Date: 4 JAN 2018 12:31:34

Lowest Channel / 10MHz / 16QAM



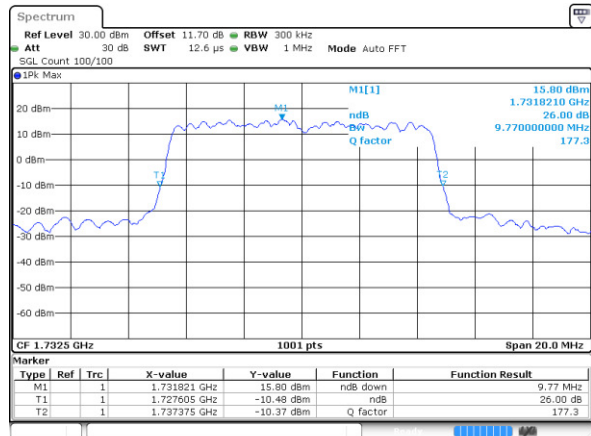
Date: 4 JAN 2018 12:31:43

Middle Channel / 10MHz / QPSK



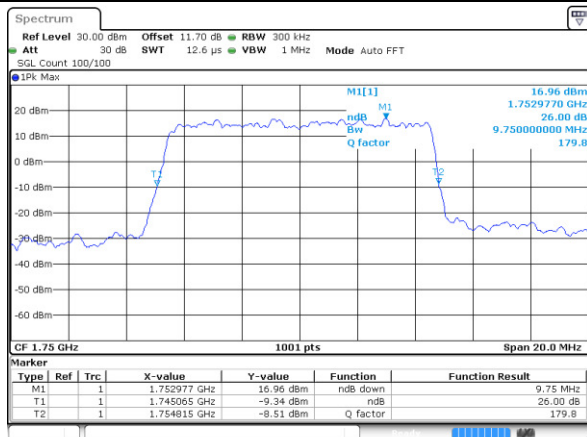
Date: 4 JAN 2018 12:38:36

Middle Channel / 10MHz / 16QAM



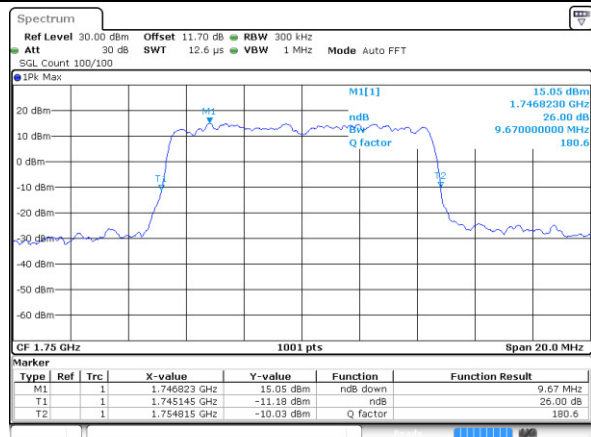
Date: 4 JAN 2018 12:38:46

Highest Channel / 10MHz / QPSK



Date: 4 JAN 2018 12:41:04

Highest Channel / 10MHz / 16QAM

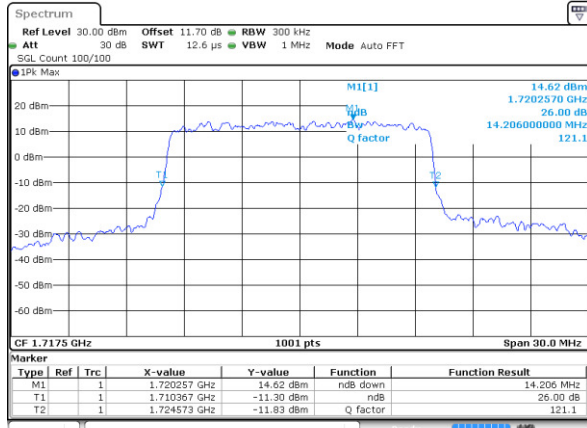


Date: 4 JAN 2018 12:41:14



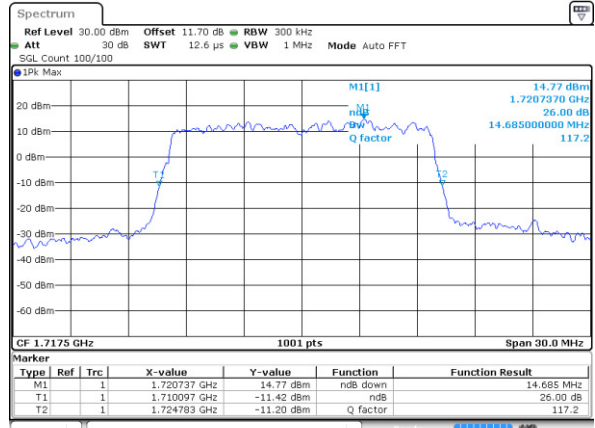
LTE Band 4

Lowest Channel / 15MHz / QPSK



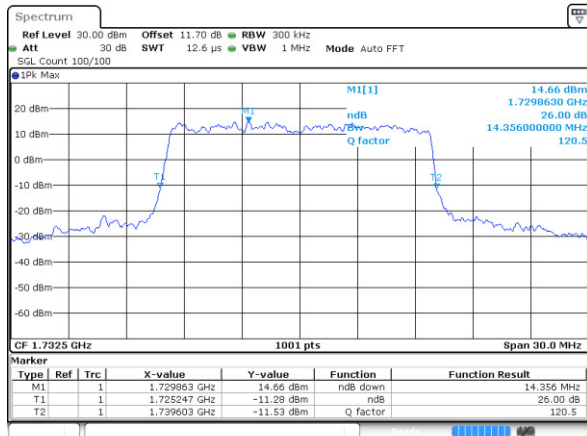
Date: 4 JAN 2018 12:48:07

Lowest Channel / 15MHz / 16QAM



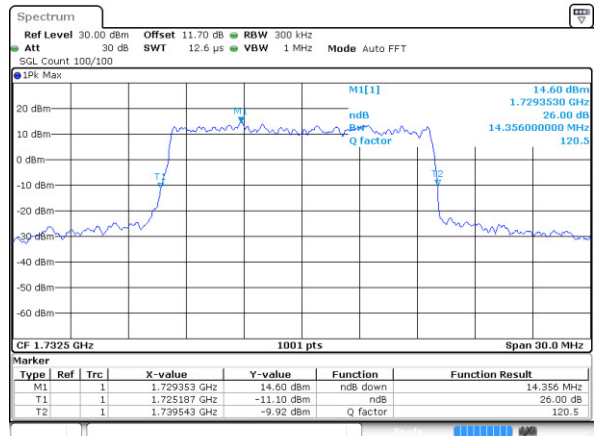
Date: 4 JAN 2018 12:48:17

Middle Channel / 15MHz / QPSK



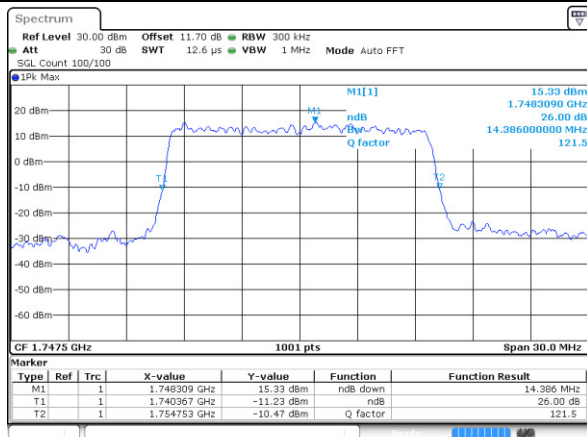
Date: 4 JAN 2018 12:55:10

Middle Channel / 15MHz / 16QAM



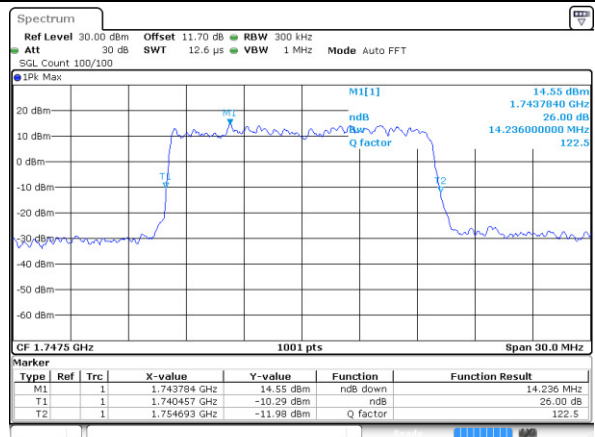
Date: 4 JAN 2018 12:55:20

Highest Channel / 15MHz / QPSK



Date: 4 JAN 2018 12:57:38

Highest Channel / 15MHz / 16QAM

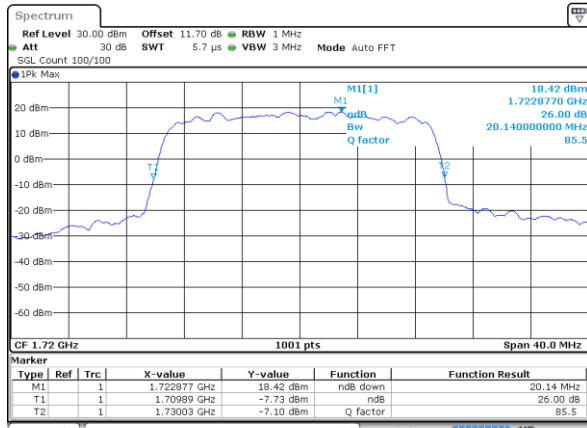


Date: 4 JAN 2018 12:57:48

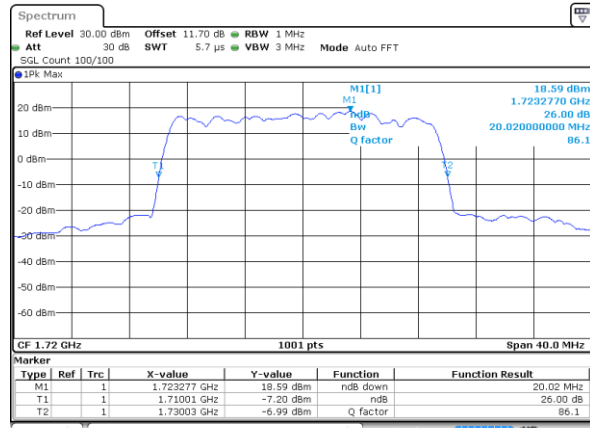


LTE Band 4

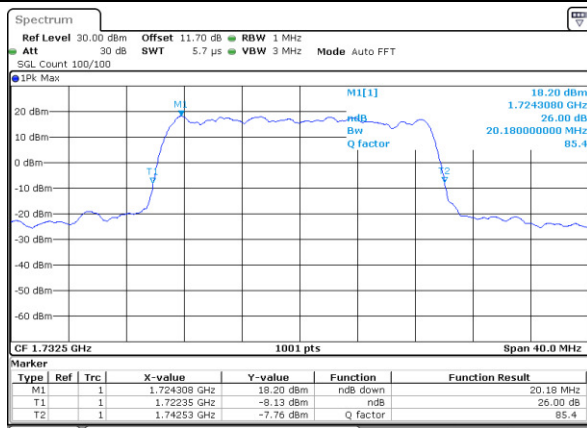
Lowest Channel / 20MHz / QPSK



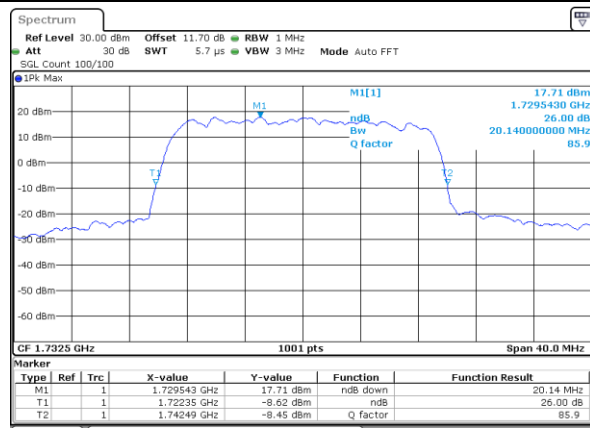
Lowest Channel / 20MHz / 16QAM



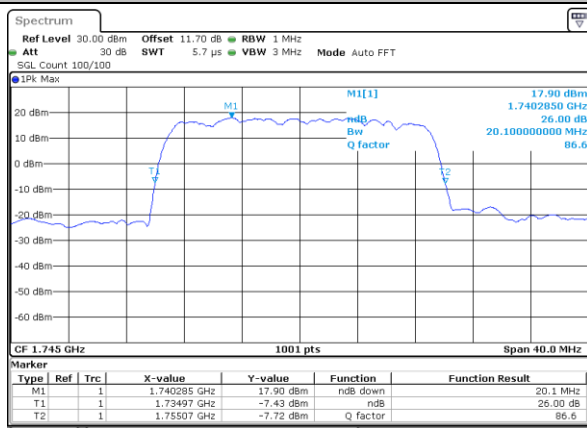
Middle Channel / 20MHz / QPSK



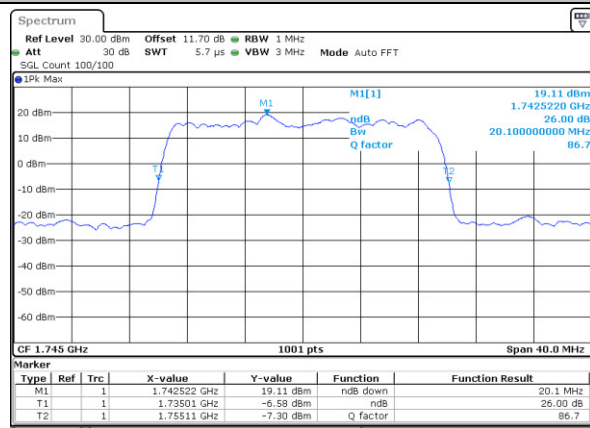
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK

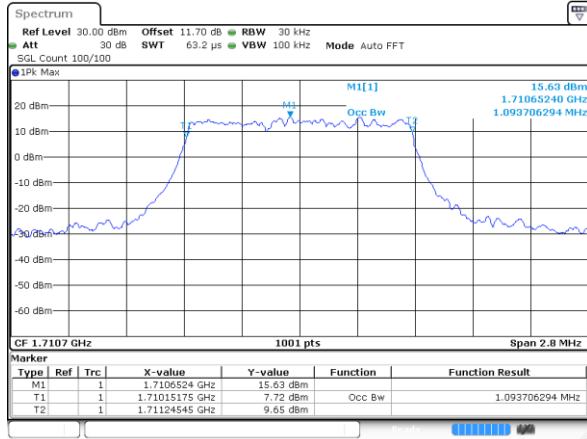
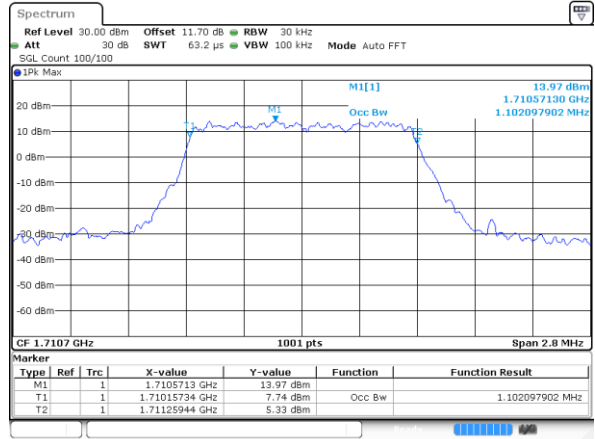
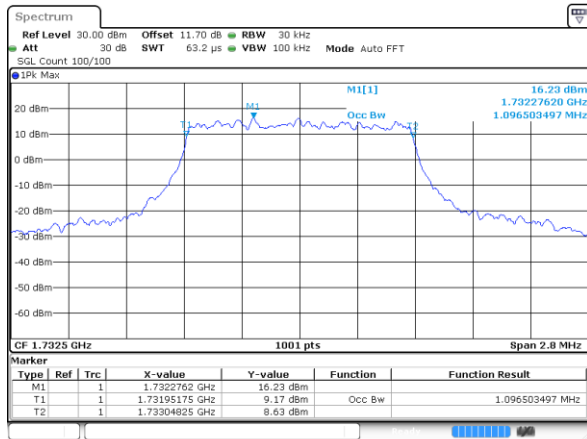
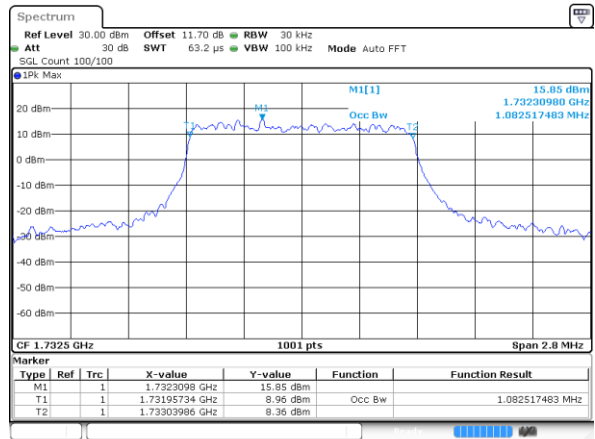
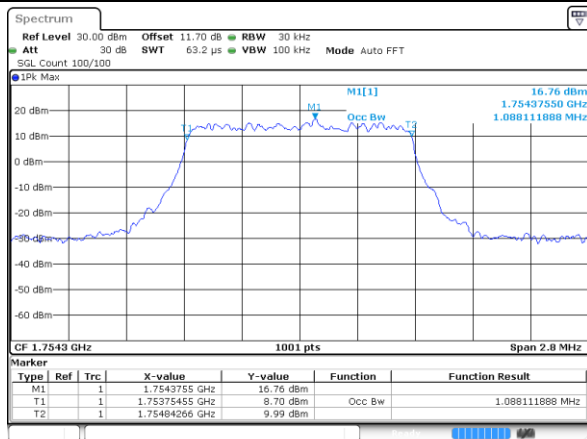


Highest Channel / 20MHz / 16QAM



**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	1.1	2.74	2.72	4.49	4.49	9.05	9.03	13.49	13.37	18.14	18.38
Middle CH	1.1	1.08	2.73	2.72	4.49	4.49	8.97	9.05	13.49	13.43	18.42	18.34
Highest CH	1.09	1.09	2.72	2.72	4.48	4.49	8.99	9.01	13.43	13.43	18.38	18.42

LTE Band 4
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
