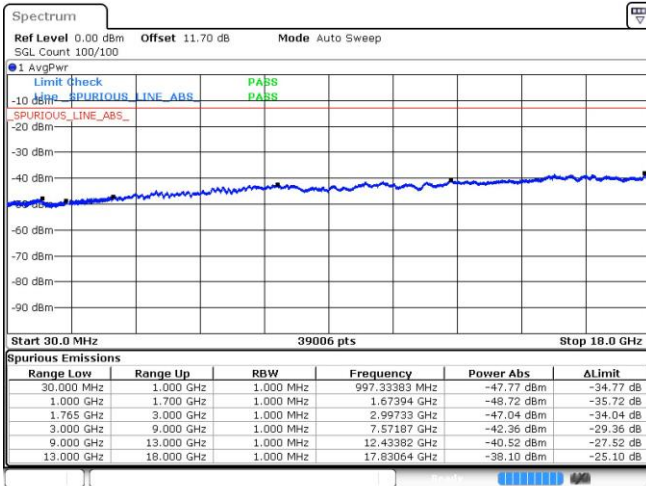


Conducted Spurious Emission

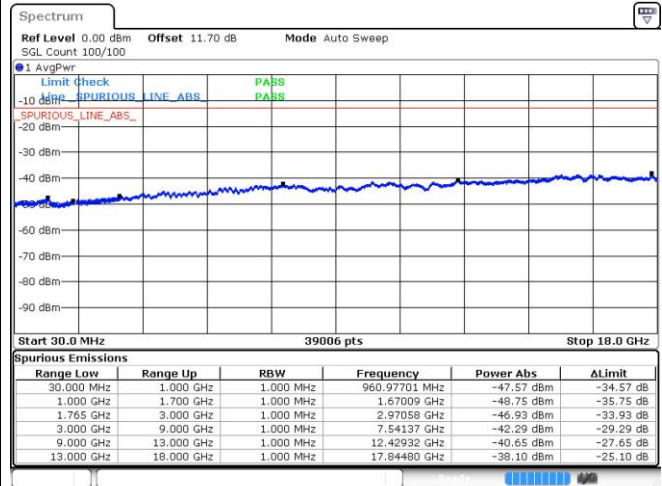
LTE Band 4 / 1.4MHz

Lowest Channel / QPSK

Highest Channel / QPSK

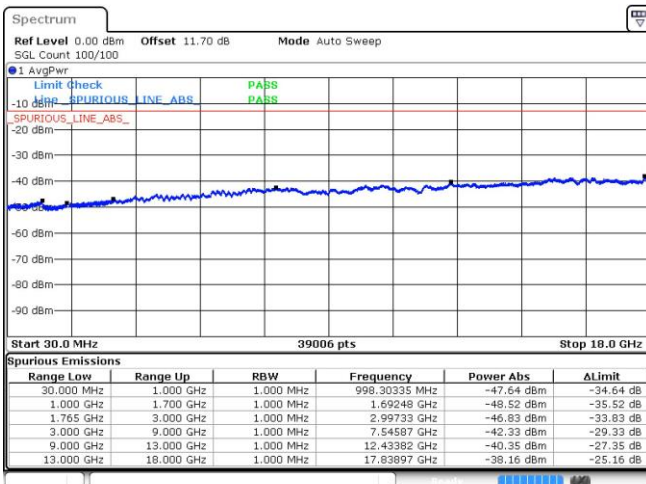


Date: 18.MAY.2019 14:37:02



Date: 18.MAY.2019 14:45:41

Middle Channel / QPSK

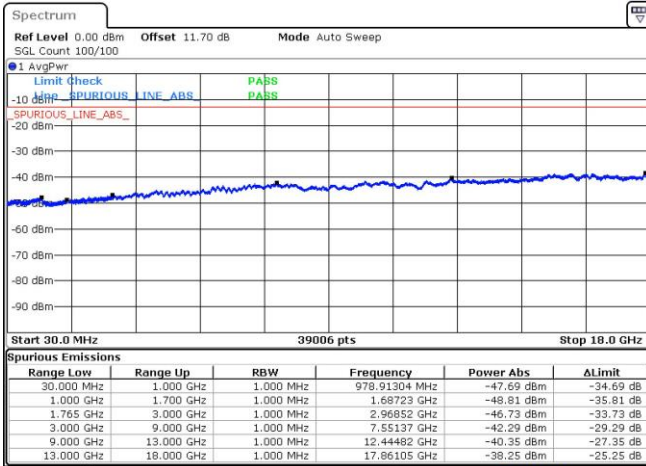


Date: 18.MAY.2019 14:39:12



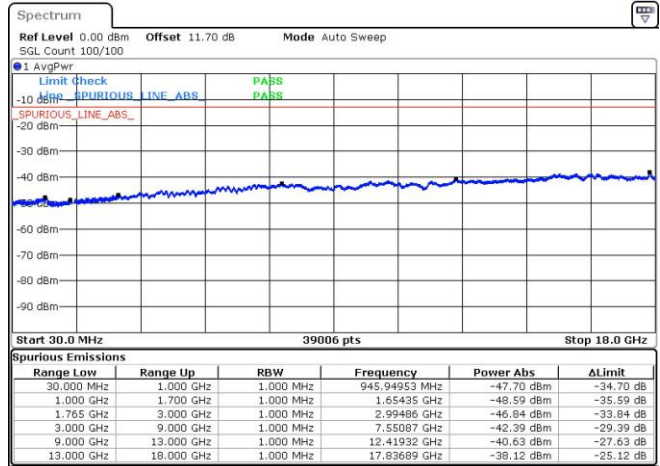
LTE Band 4 / 3MHz

Lowest Channel / QPSK



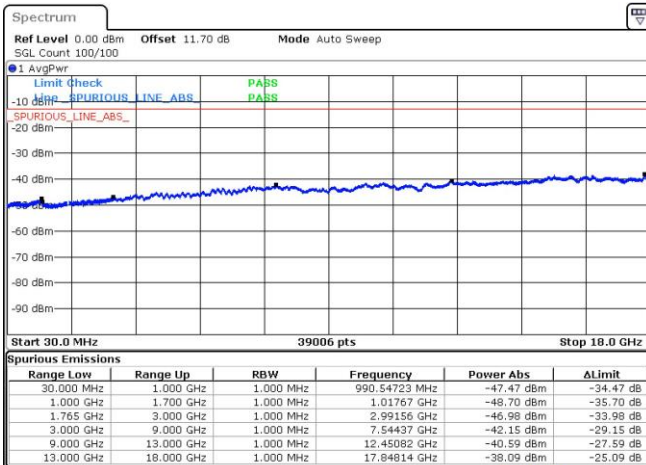
Date: 18.MAY.2019 13:23:04

Highest Channel / QPSK



Date: 18.MAY.2019 13:31:30

Middle Channel / QPSK

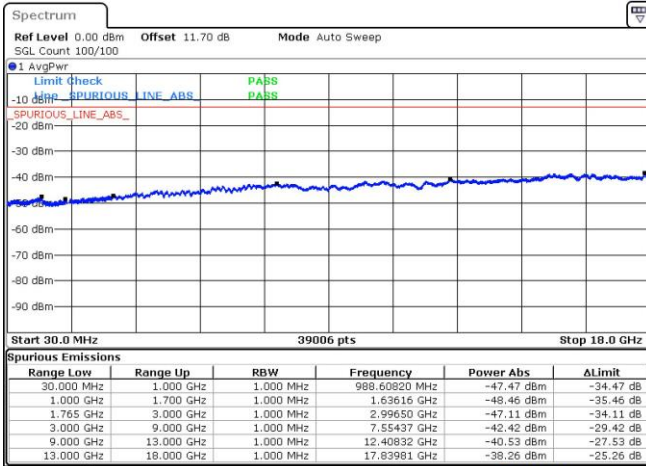


Date: 18.MAY.2019 13:25:14



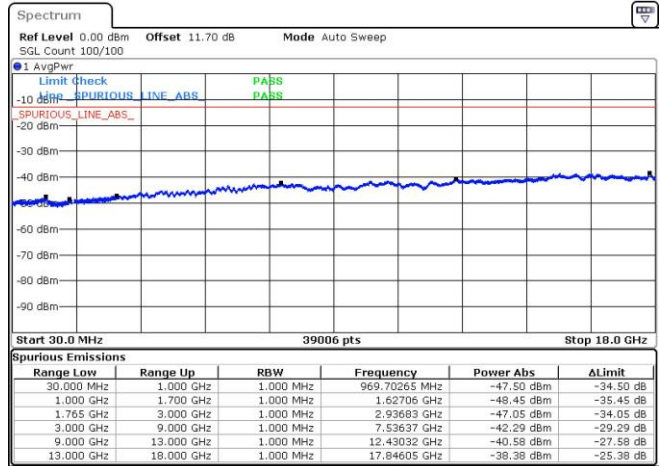
LTE Band 4 / 5MHz

Lowest Channel / QPSK



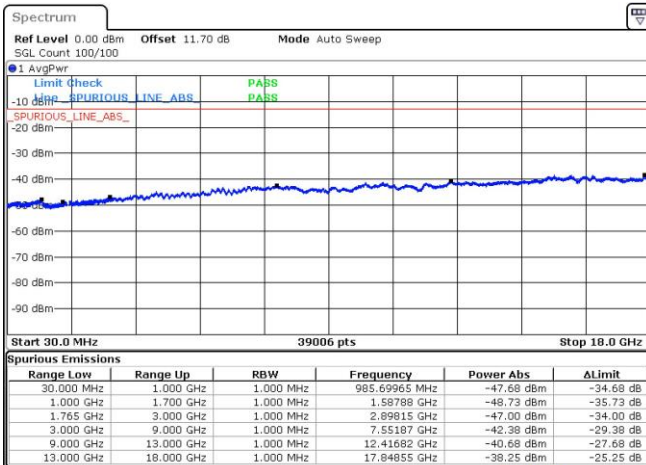
Date: 18.MAY.2019 13:37:49

Highest Channel / QPSK



Date: 18.MAY.2019 13:46:16

Middle Channel / QPSK

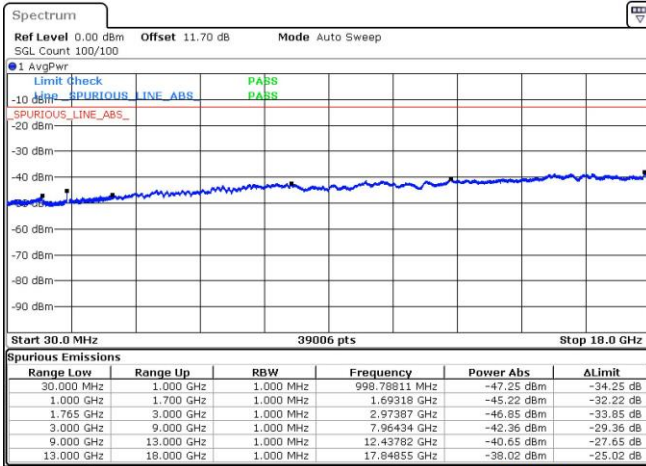


Date: 18.MAY.2019 13:39:59



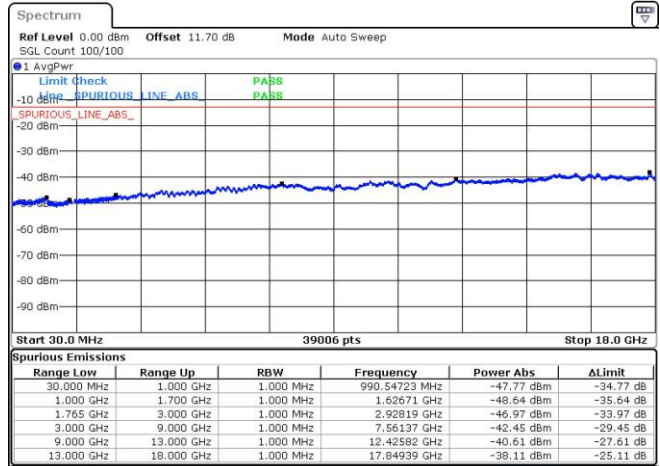
LTE Band 4 / 10MHz

Lowest Channel / QPSK



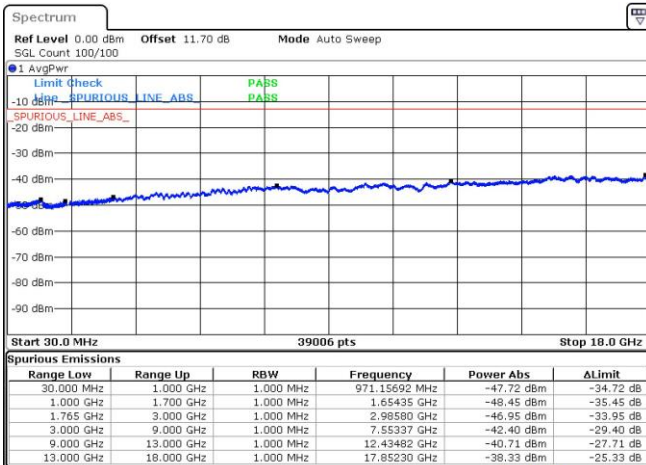
Date: 18.MAY.2019 13:52:35

Highest Channel / QPSK



Date: 18.MAY.2019 14:01:01

Middle Channel / QPSK

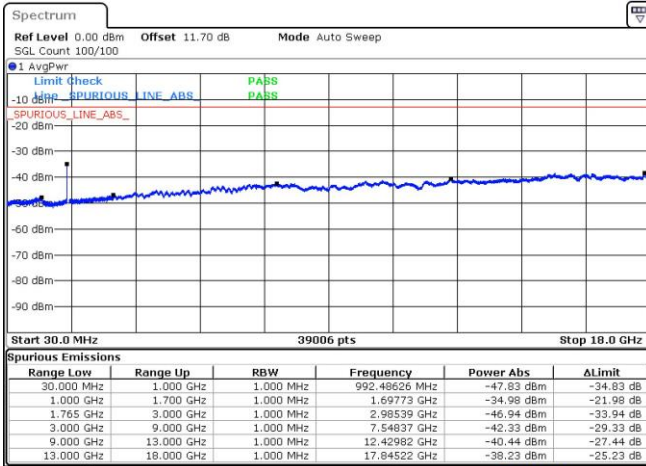


Date: 18.MAY.2019 13:54:45



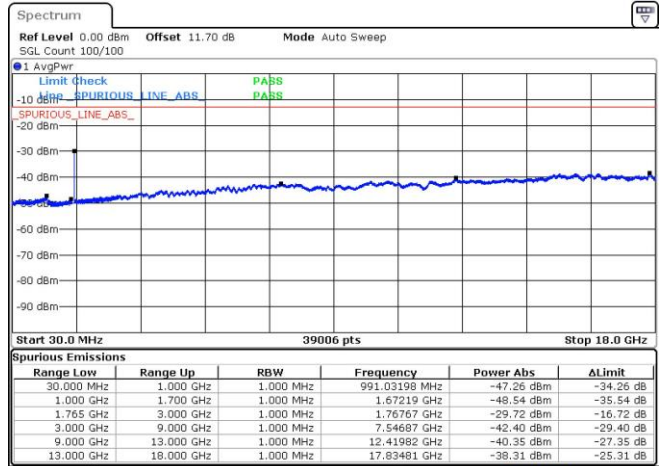
LTE Band 4 / 15MHz

Lowest Channel / QPSK



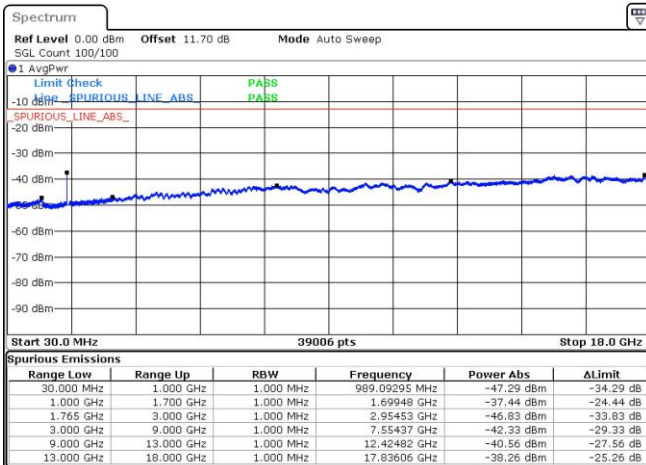
Date: 18.MAY.2019 14:07:20

Highest Channel / QPSK



Date: 18.MAY.2019 14:15:46

Middle Channel / QPSK

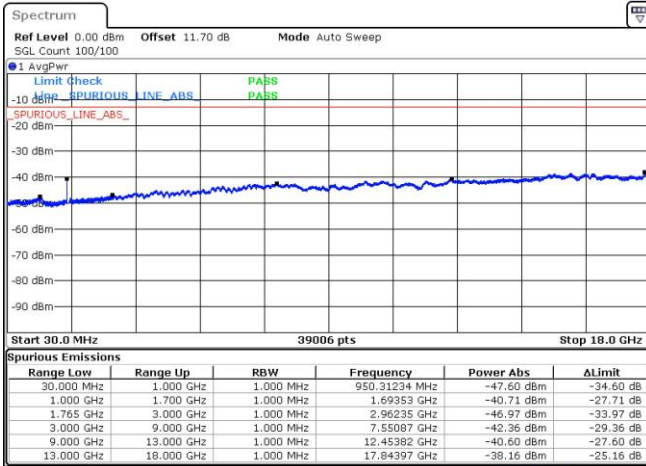


Date: 18.MAY.2019 14:09:29



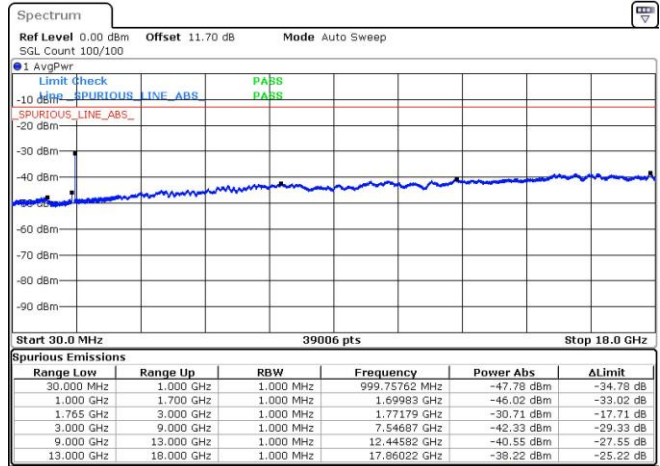
LTE Band 4 / 20MHz

Lowest Channel / QPSK



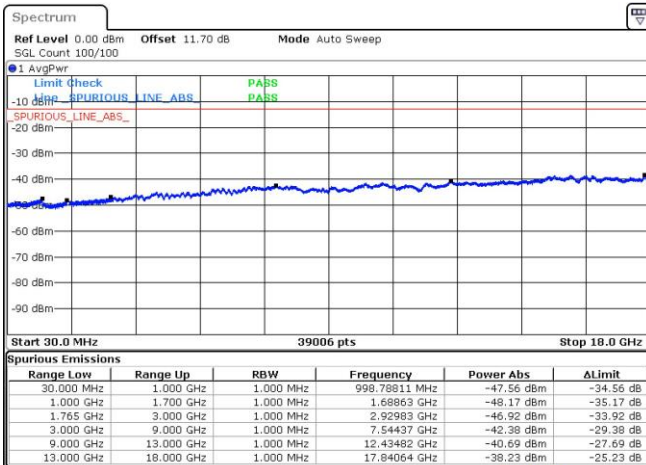
Date: 18.MAY.2019 14:22:04

Highest Channel / QPSK



Date: 18.MAY.2019 14:30:31

Middle Channel / QPSK



Date: 18.MAY.2019 14:24:14

Frequency Stability

Test Conditions		LTE Band 4 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0006	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0018	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0018	
0	Normal Voltage	0.0002	
-10	Normal Voltage	0.0016	
-20	Normal Voltage	0.0015	
-30	Normal Voltage	0.0017	
20	Maximum Voltage	0.0010	
20	Normal Voltage	0.0004	
20	Battery End Point	0.0023	

Note:

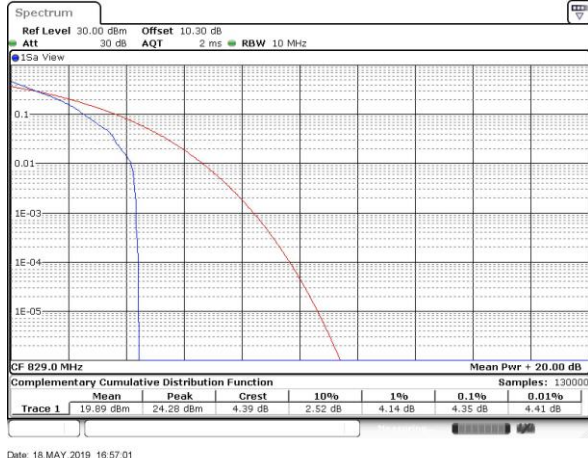
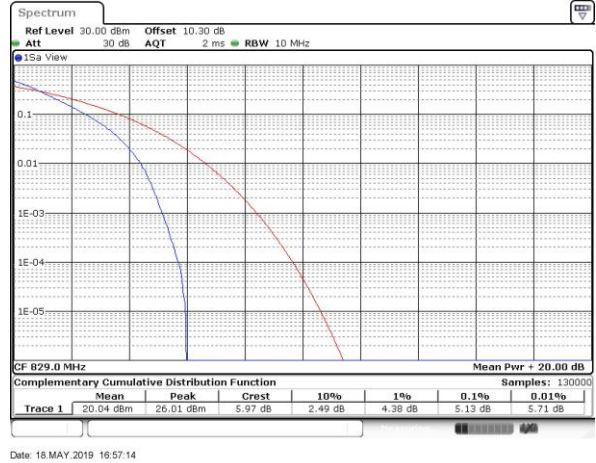
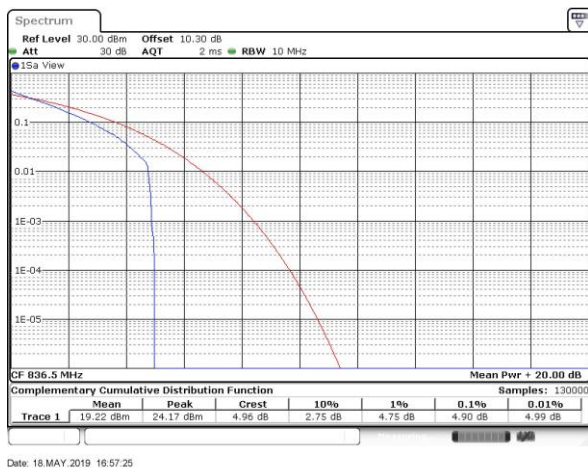
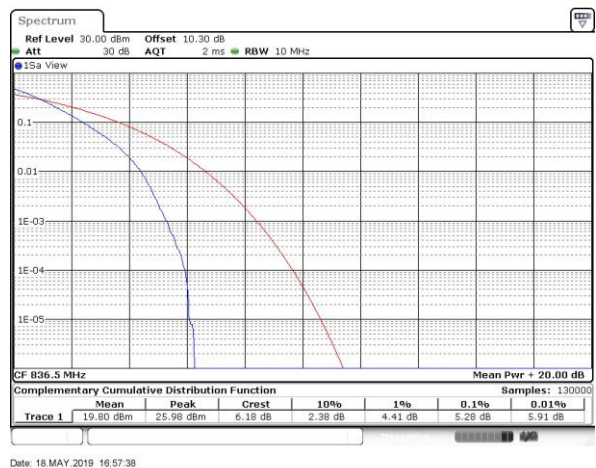
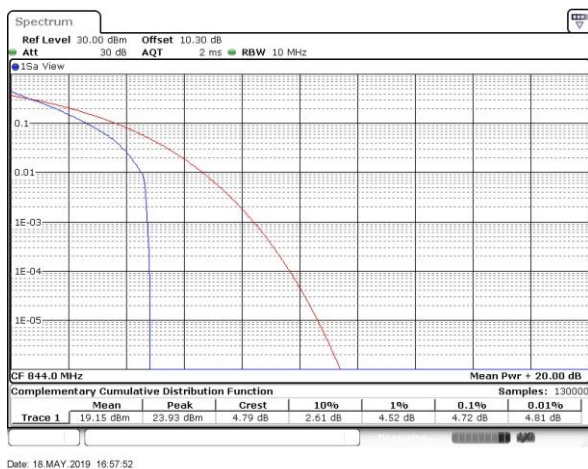
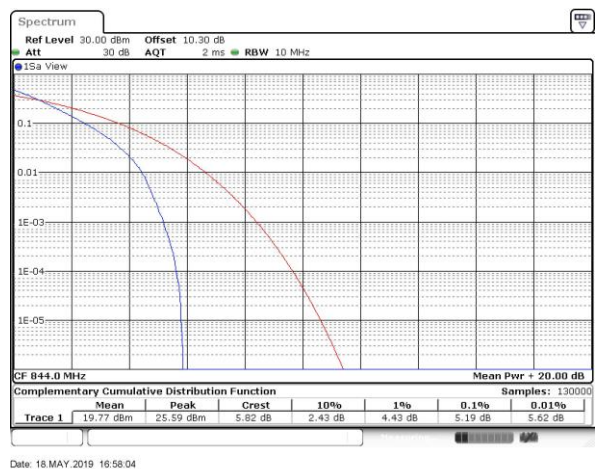
1. Normal Voltage =14.0 V. ; Battery End Point (BEP) =14.0 V. ; Maximum Voltage =16.0 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 5

Peak-to-Average Ratio

Mode	LTE Band 5 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.35	5.13	-	-	PASS
Middle CH	4.9	5.28	-	-	
Highest CH	4.72	5.19	-	-	

LTE Band 5 / 10MHz / QPSK
Lowest Channel / 1RB

Lowest Channel / Full RB

Middle Channel / 1RB

Middle Channel / Full RB

Highest Channel / 1RB

Highest Channel / Full RB




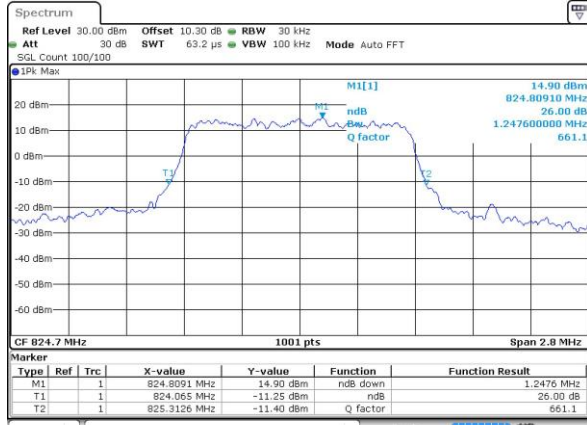
26dB Bandwidth

Mode	LTE Band 5 : 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	-	2.96	-	4.98	-	9.77	-	-	-	-	-
Middle CH	1.26	-	3.00	-	5.00	-	9.65	-	-	-	-	-
Highest CH	1.27	-	2.99	-	4.93	-	9.91	-	-	-	-	-

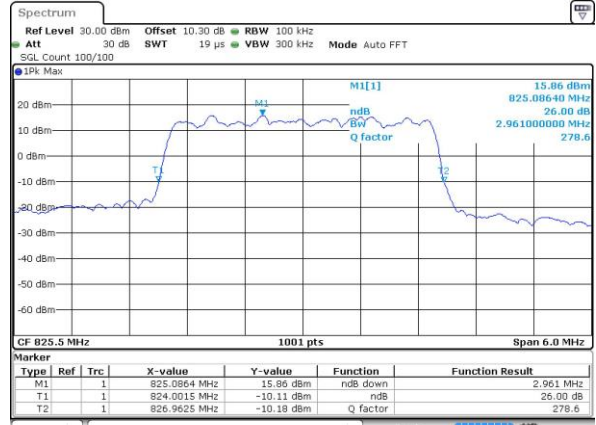


LTE Band 5

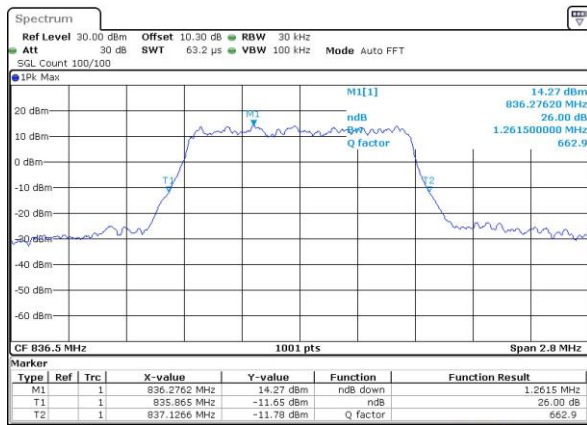
Lowest Channel / 1.4MHz / QPSK



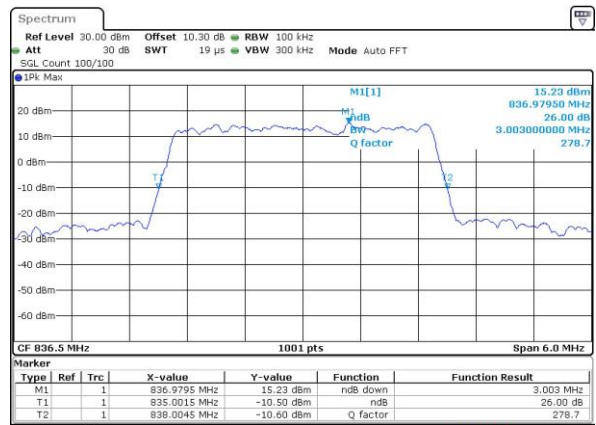
Lowest Channel / 3MHz / QPSK



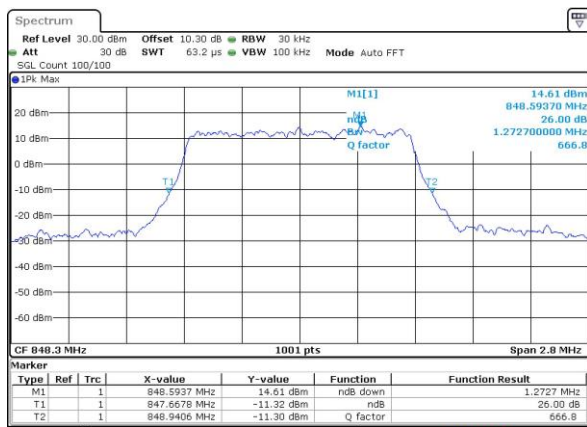
Middle Channel / 1.4MHz / QPSK



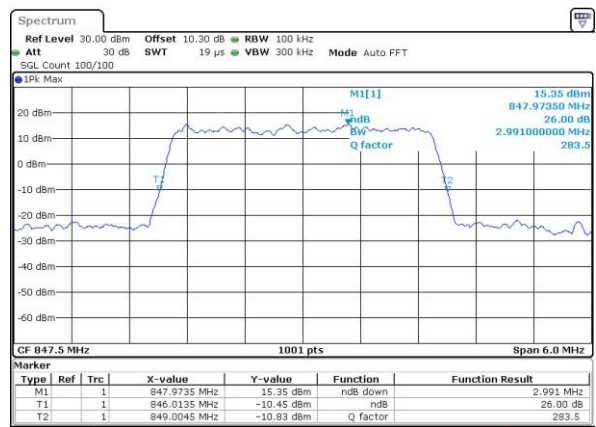
Middle Channel / 3MHz / QPSK

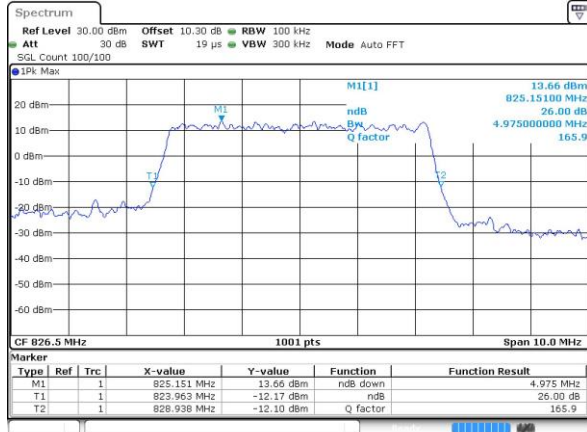


Highest Channel / 1.4MHz / QPSK

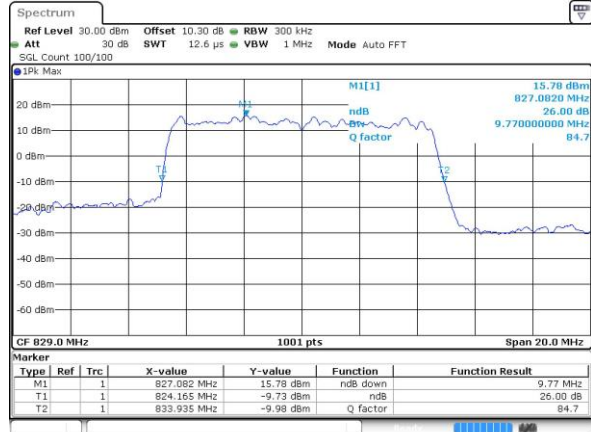


Highest Channel / 3MHz / QPSK

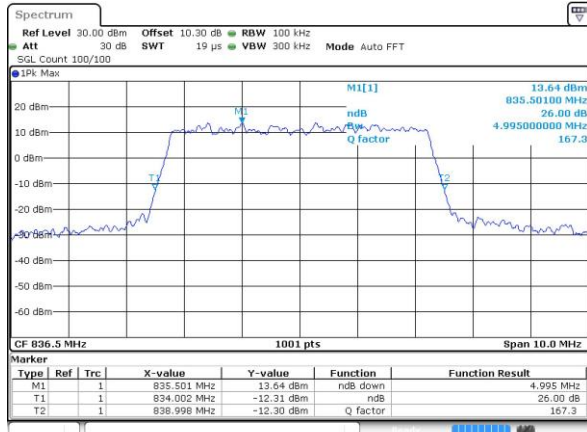


LTE Band 5
Lowest Channel / 5MHz / QPSK


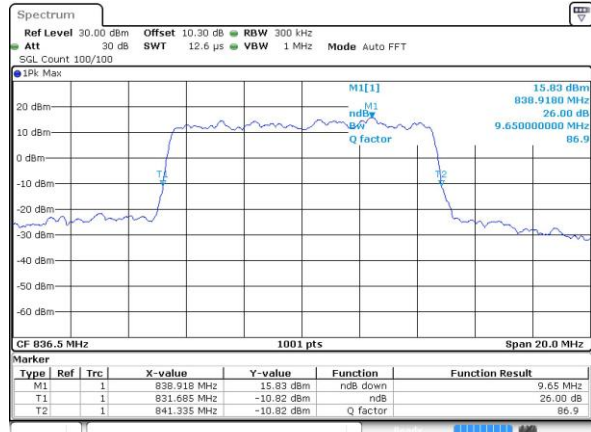
Date: 18 MAY 2019 15:56:03

Lowest Channel / 10MHz / QPSK


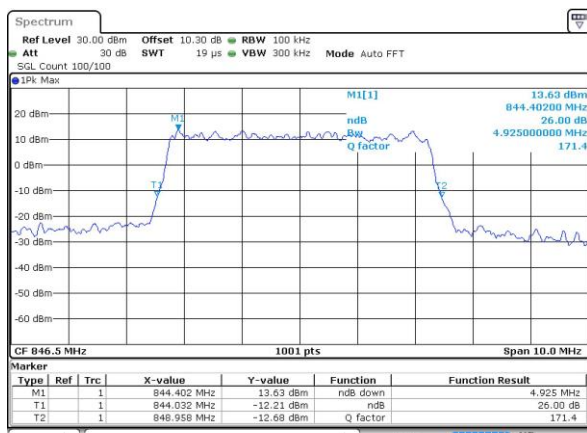
Date: 18 MAY 2019 16:16:06

Middle Channel / 5MHz / QPSK


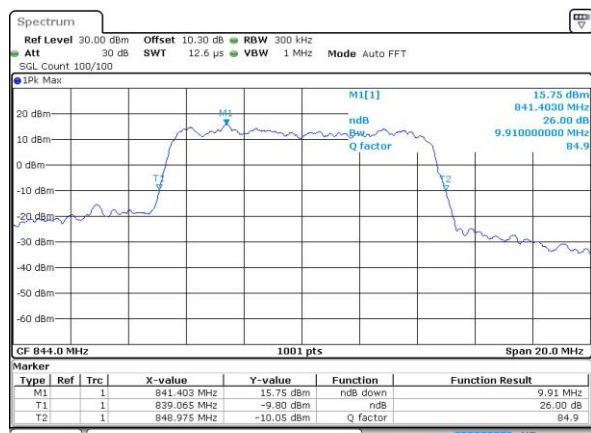
Date: 18 MAY 2019 16:04:58

Middle Channel / 10MHz / QPSK


Date: 18 MAY 2019 16:25:01

Highest Channel / 5MHz / QPSK


Date: 18 MAY 2019 16:07:08

Highest Channel / 10MHz / QPSK


Date: 18 MAY 2019 16:27:11



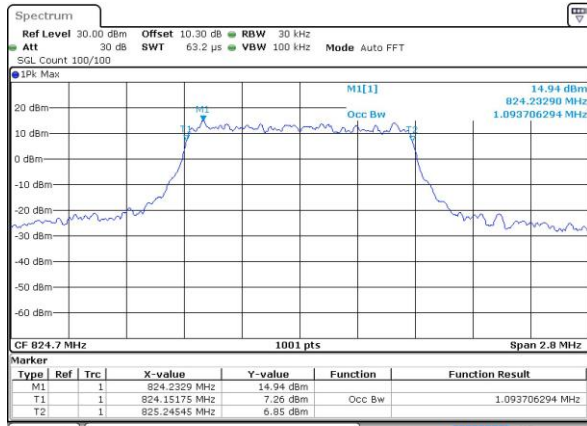
Occupied Bandwidth

Mode	LTE Band 5 : 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	-	2.72	-	4.52	-	9.03	-	-	-	-	-
Middle CH	1.09	-	2.73	-	4.49	-	8.95	-	-	-	-	-
Highest CH	1.09	-	2.72	-	4.5	-	9.01	-	-	-	-	-

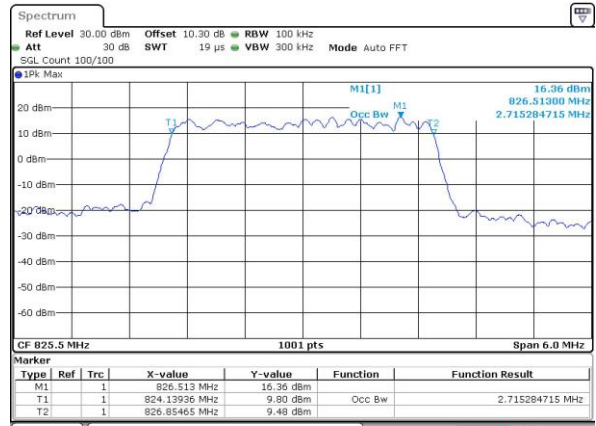


LTE Band 5

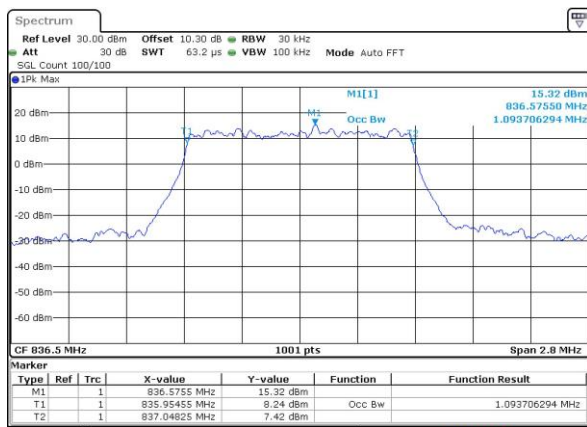
Lowest Channel / 1.4MHz / QPSK



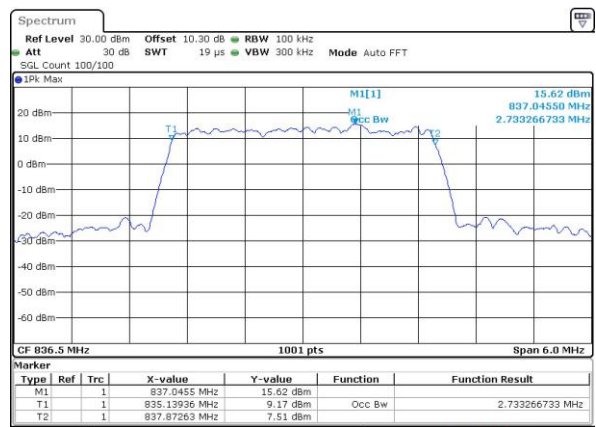
Lowest Channel / 3MHz / QPSK



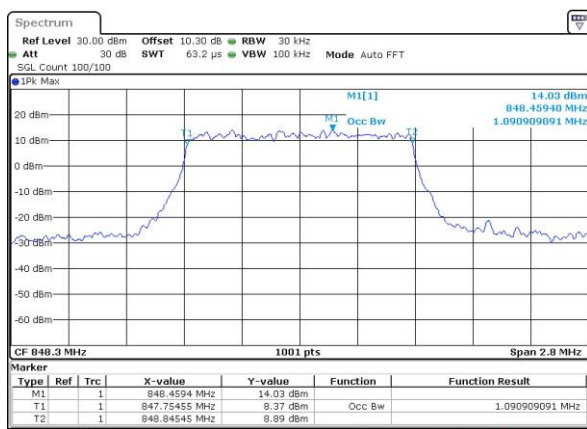
Middle Channel / 1.4MHz / QPSK



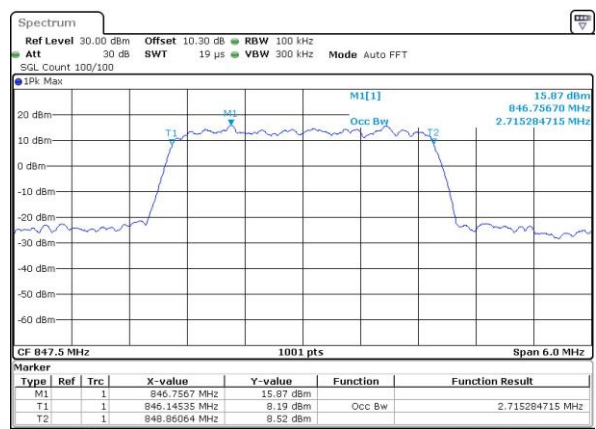
Middle Channel / 3MHz / QPSK



Highest Channel / 1.4MHz / QPSK



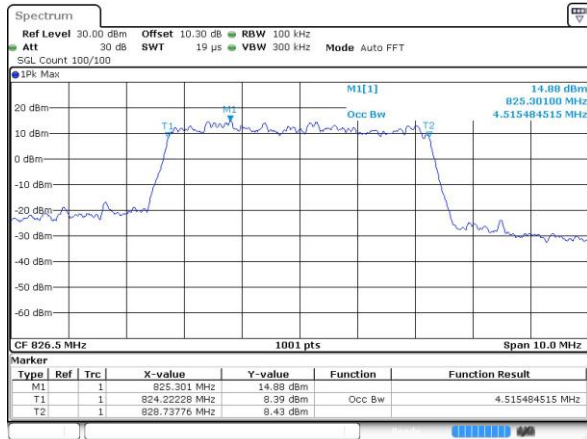
Highest Channel / 3MHz / QPSK



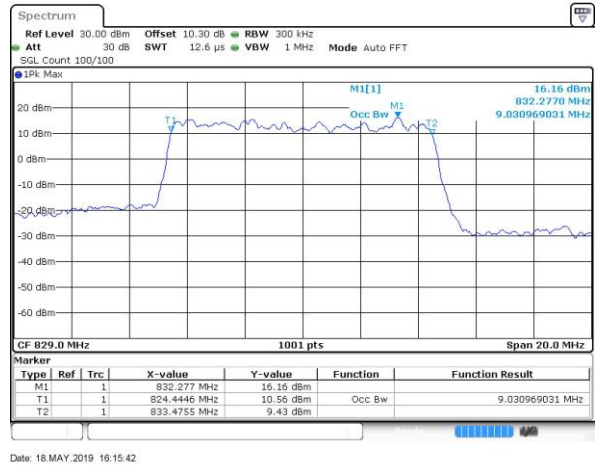


LTE Band 5

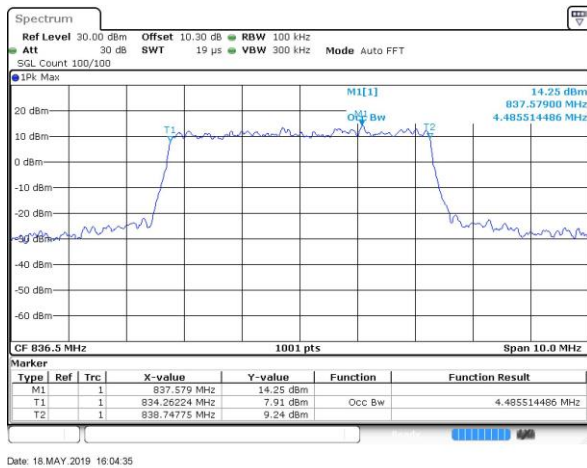
Lowest Channel / 5MHz / QPSK



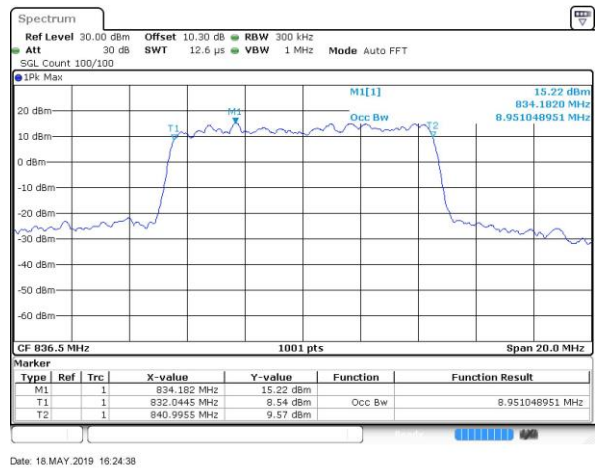
Lowest Channel / 10MHz / QPSK



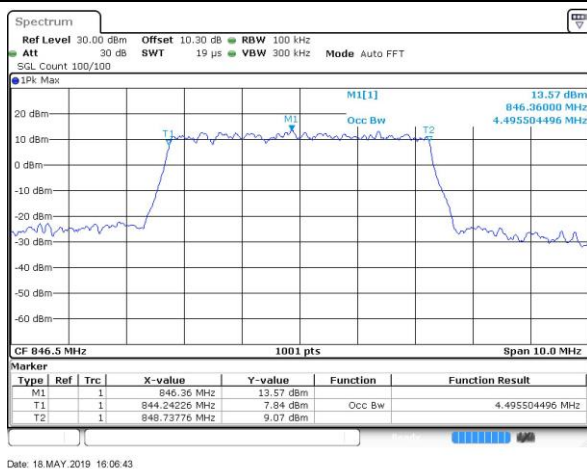
Middle Channel / 5MHz / QPSK



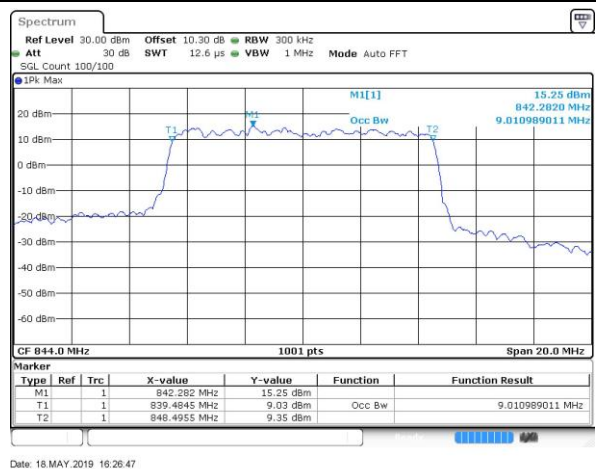
Middle Channel / 10MHz / QPSK

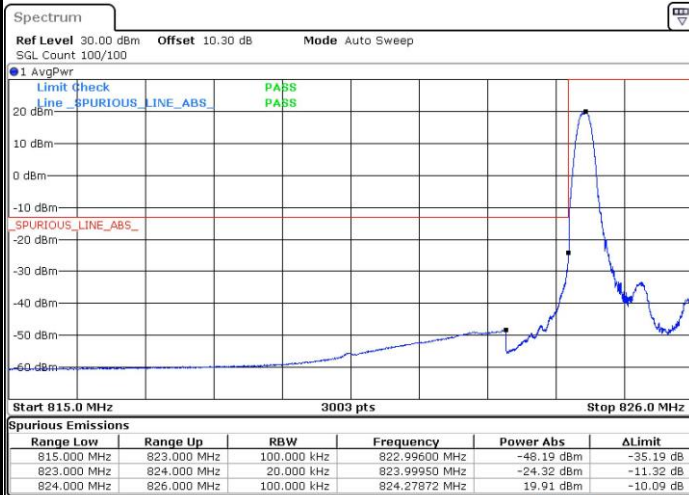
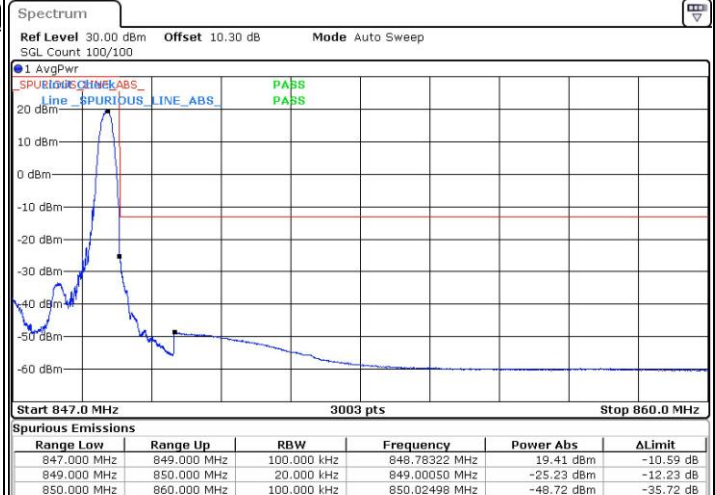


Highest Channel / 5MHz / QPSK



Highest Channel / 10MHz / QPSK

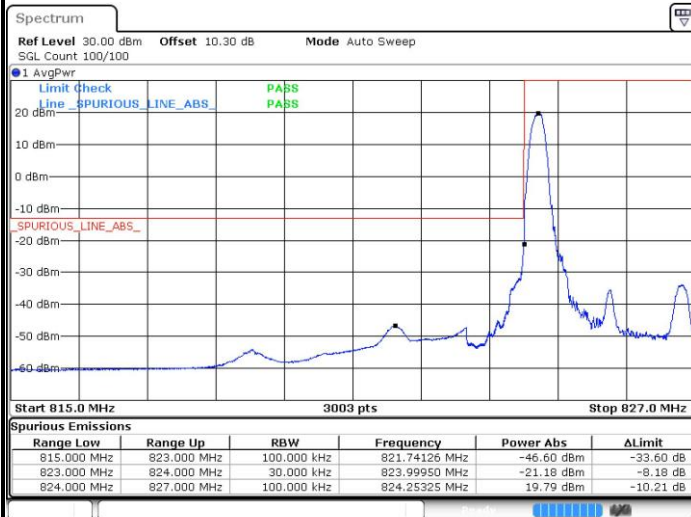


**Conducted Band Edge****LTE Band 5 / 1.4MHz / QPSK****Lowest Band Edge / 1RB****Highest Band Edge / 1RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**



LTE Band 5 / 3MHz / QPSK

Lowest Band Edge / 1RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



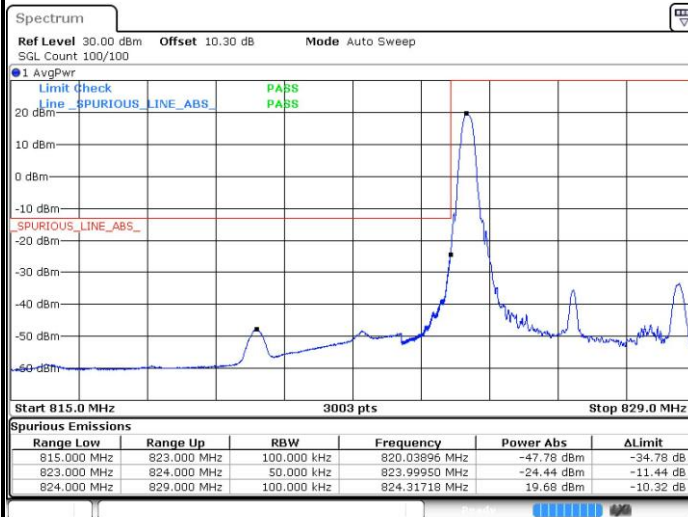
Highest Band Edge / Full RB



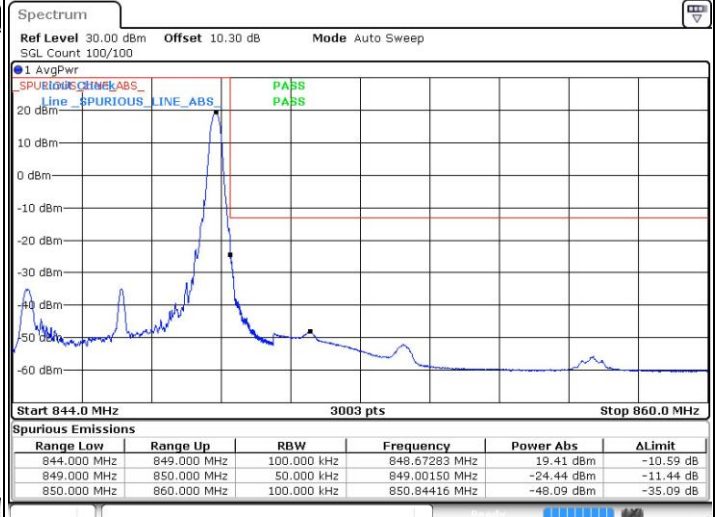


LTE Band 5 / 5MHz / QPSK

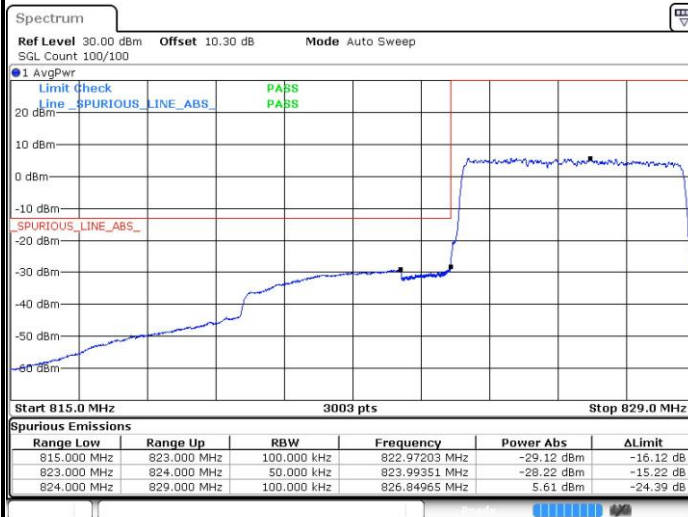
Lowest Band Edge / 1 RB



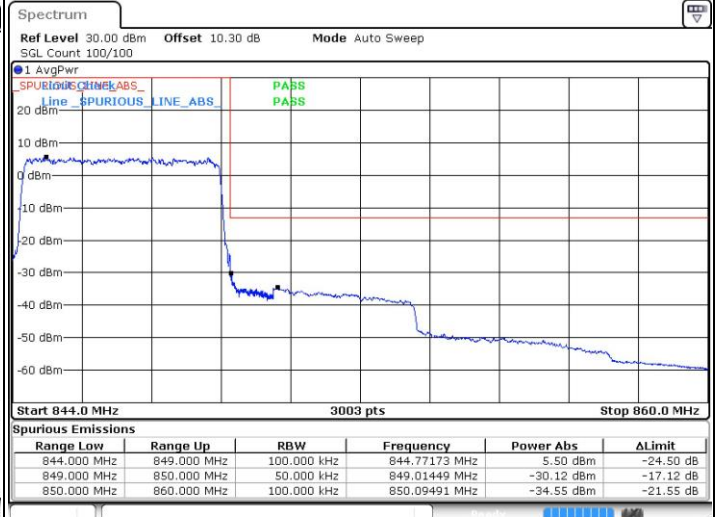
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



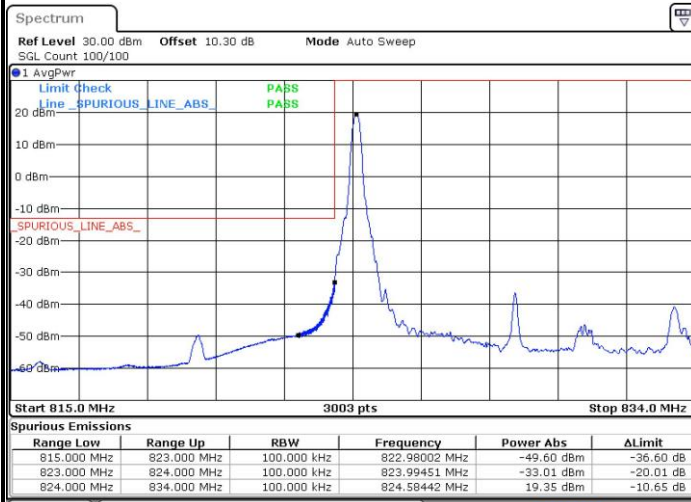
Highest Band Edge / Full RB



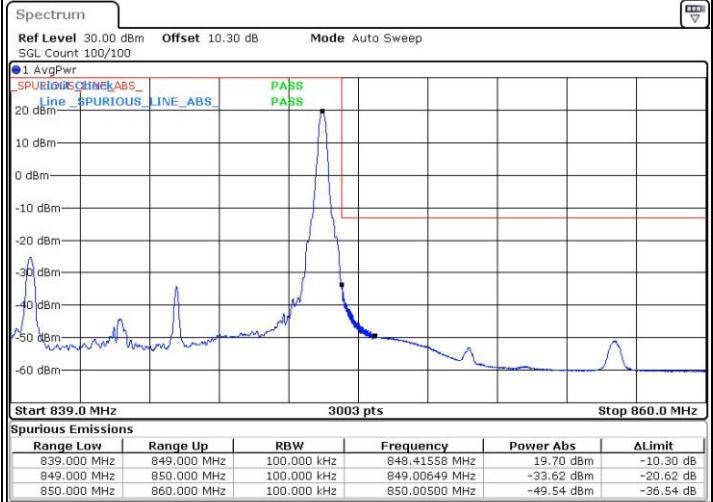


LTE Band 5 / 10MHz / QPSK

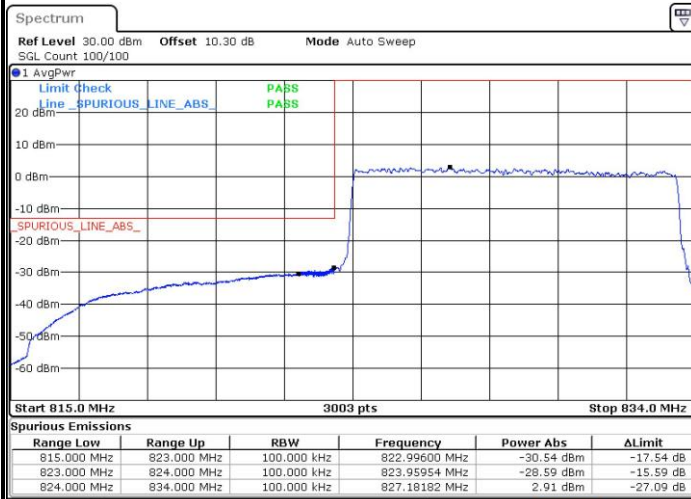
Lowest Band Edge / 1 RB



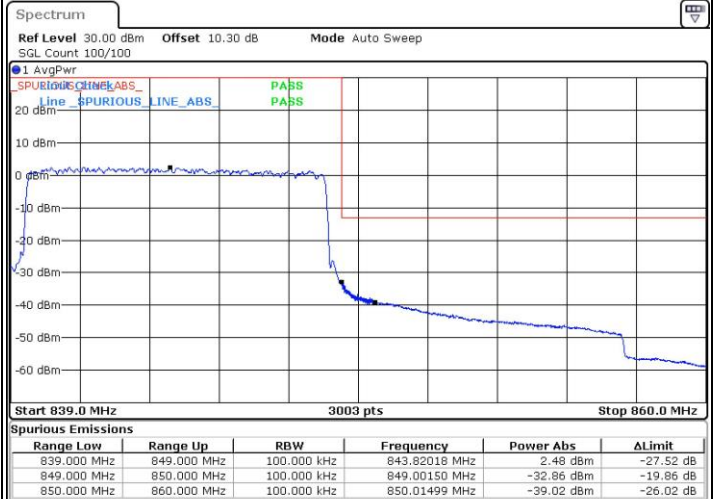
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

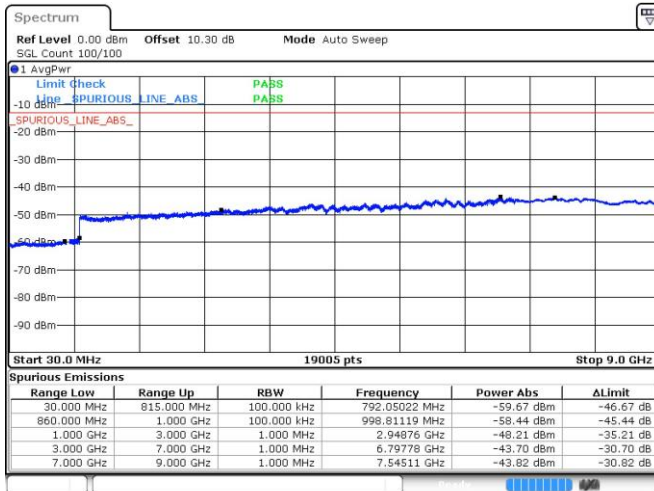




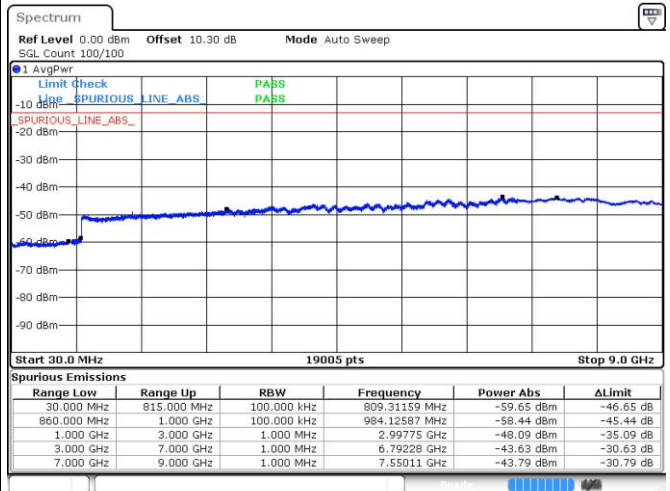
Conducted Spurious Emission

LTE Band 5 / 1.4MHz

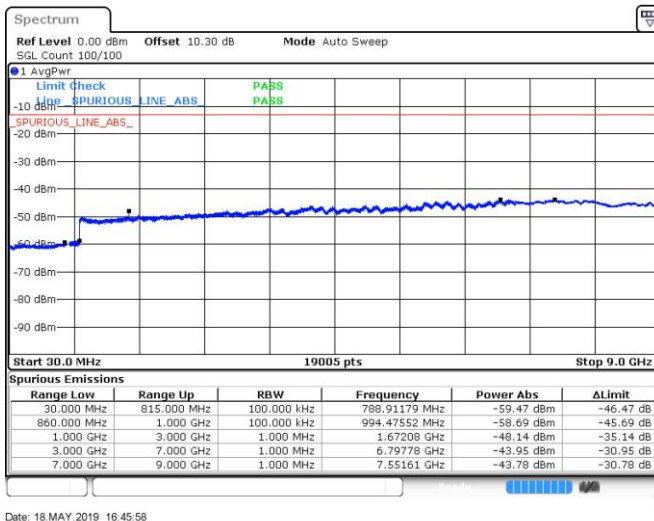
Lowest Channel / QPSK



Highest Channel / QPSK



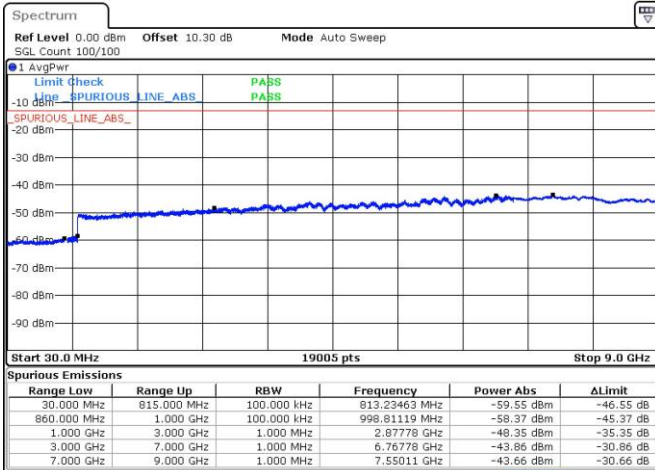
Middle Channel / QPSK





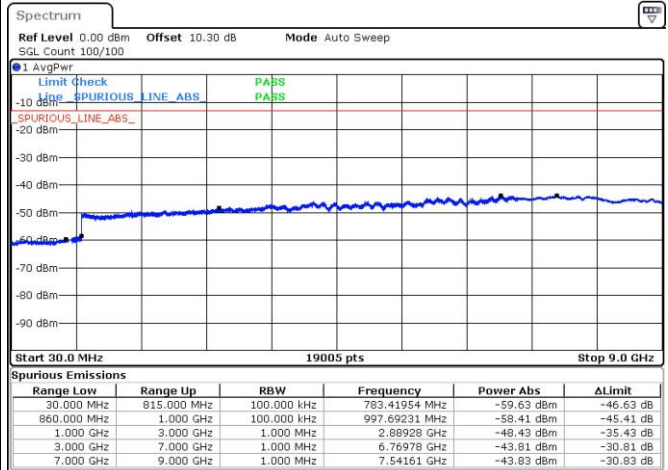
LTE Band 5 / 3MHz

Lowest Channel / QPSK



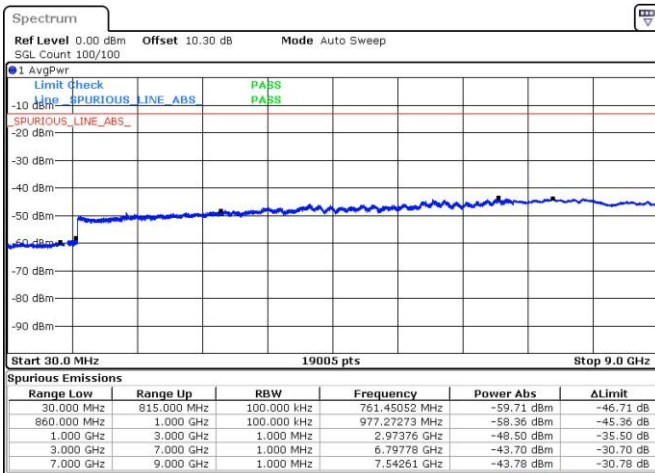
Date: 18 MAY 2019 15:43:38

Highest Channel / QPSK



Date: 18 MAY 2019 15:54:43

Middle Channel / QPSK

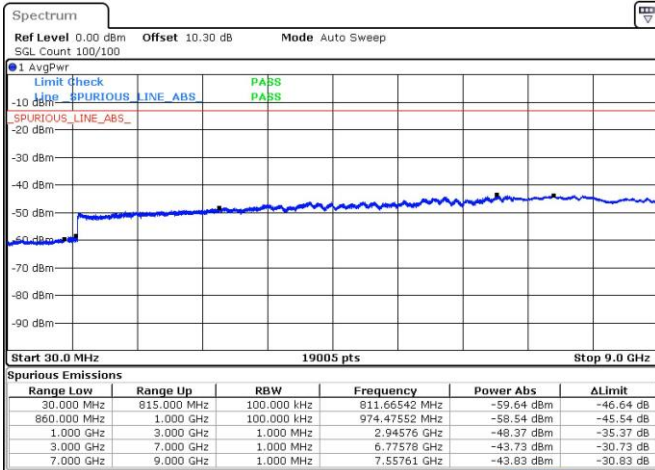


Date: 18 MAY 2019 15:45:47



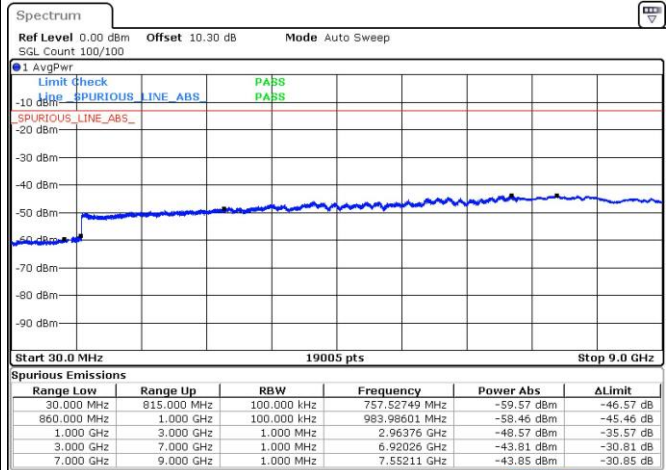
LTE Band 5 / 5MHz

Lowest Channel / QPSK



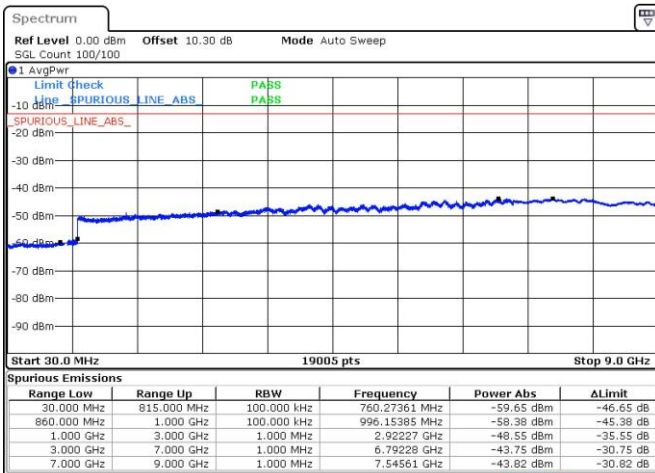
Date: 18 MAY 2019 16:03:41

Highest Channel / QPSK



Date: 18 MAY 2019 16:14:47

Middle Channel / QPSK

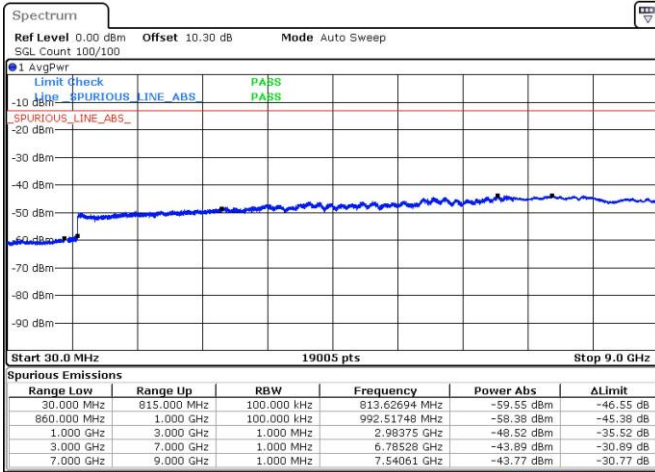


Date: 18 MAY 2019 16:05:51



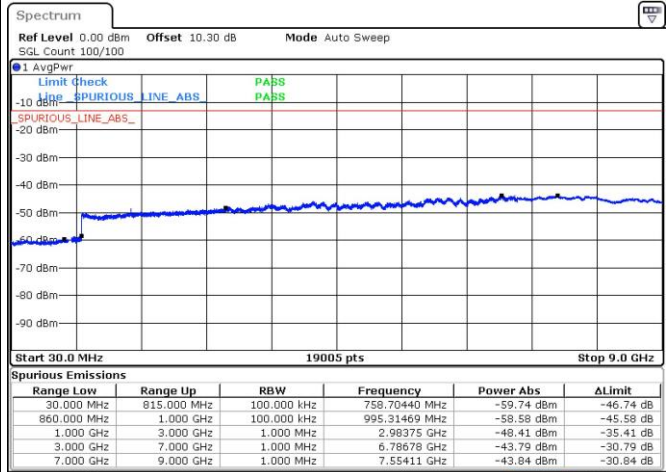
LTE Band 5 / 10MHz

Lowest Channel / QPSK



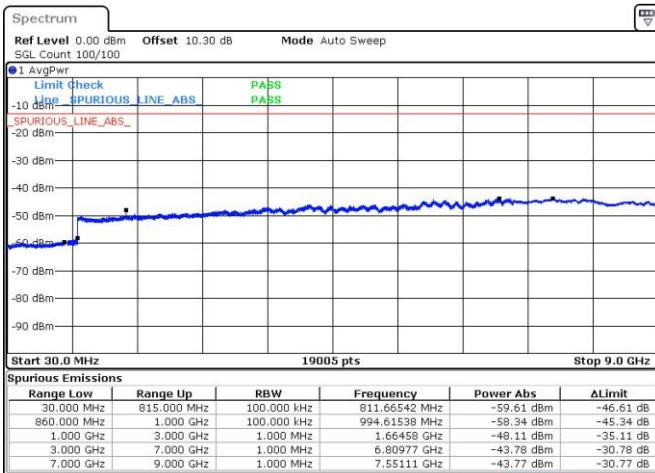
Date: 18 MAY 2019 16:23:45

Highest Channel / QPSK



Date: 18 MAY 2019 16:34:50

Middle Channel / QPSK



Date: 18 MAY 2019 16:25:54

Frequency Stability

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0007	PASS
40	Normal Voltage	0.0004	
30	Normal Voltage	0.0001	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0019	
0	Normal Voltage	0.0022	
-10	Normal Voltage	0.0025	
-20	Normal Voltage	0.0022	
-30	Normal Voltage	0.0037	
20	Maximum Voltage	0.0014	
20	Normal Voltage	0.0008	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage =14.0 V. ; Battery End Point (BEP) =14.0 V. ; Maximum Voltage =16.0 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

**LTE Band 7****Peak-to-Average Ratio**

Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.67	4.93	-	-	PASS
Middle CH	4.41	4.93	-	-	
Highest CH	4.78	4.81	-	-	