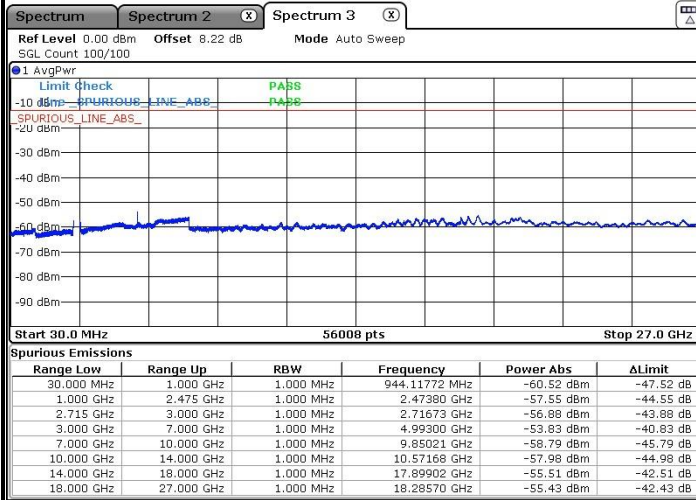




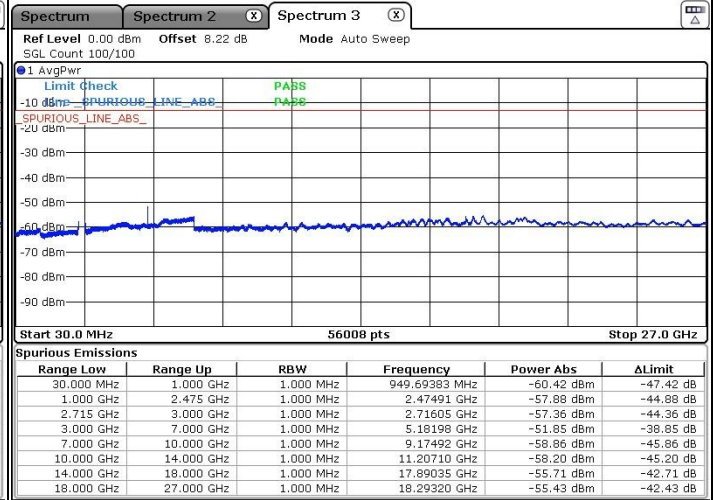
LTE Band 41 / 5MHz

Lowest Channel / 64QAM



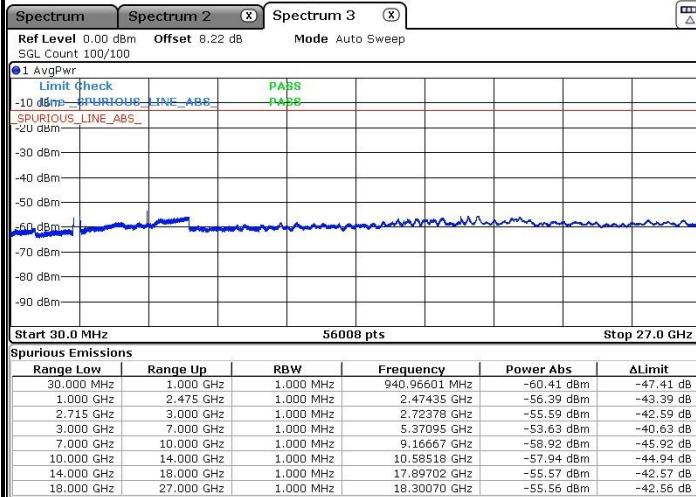
Date: 30.JUL.2019 19:52:47

Middle Channel / 64QAM



Date: 30.JUL.2019 19:57:05

Highest Channel / 64QAM

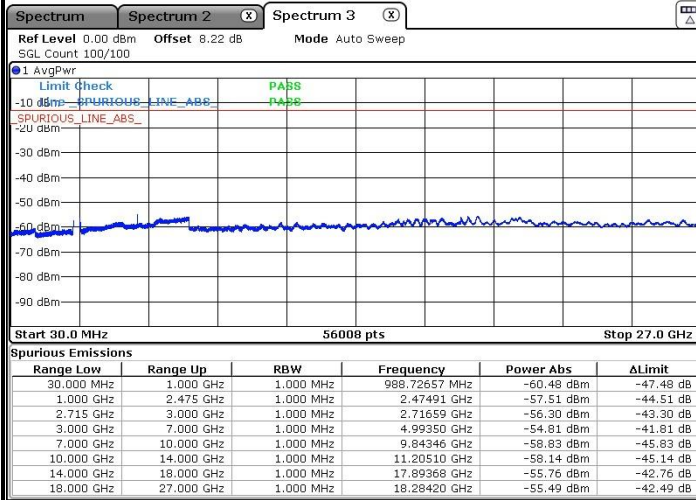


Date: 30.JUL.2019 20:13:49



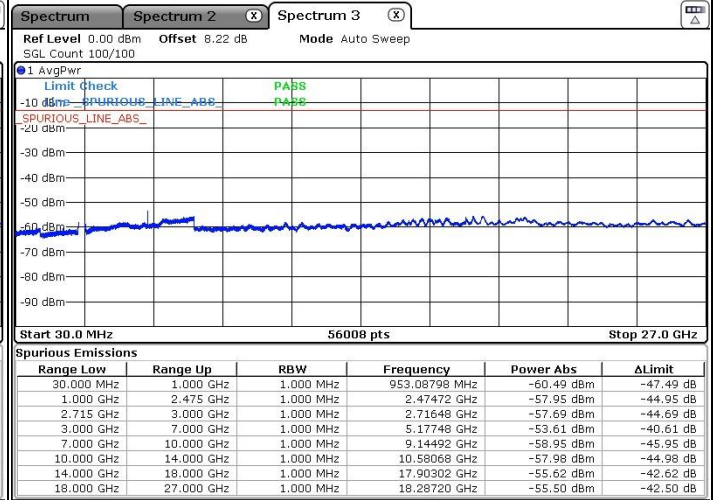
LTE Band 41 / 10MHz

Lowest Channel / 64QAM



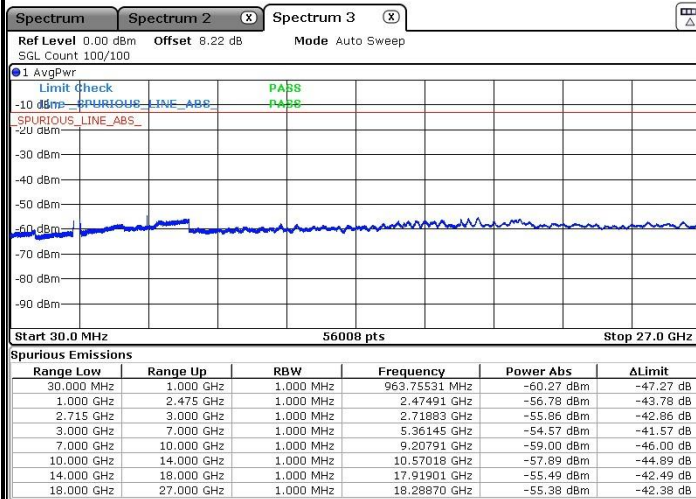
Date: 30 JUL 2019 20:44:06

Middle Channel / 64QAM



Date: 30 JUL 2019 20:48:42

Highest Channel / 64QAM

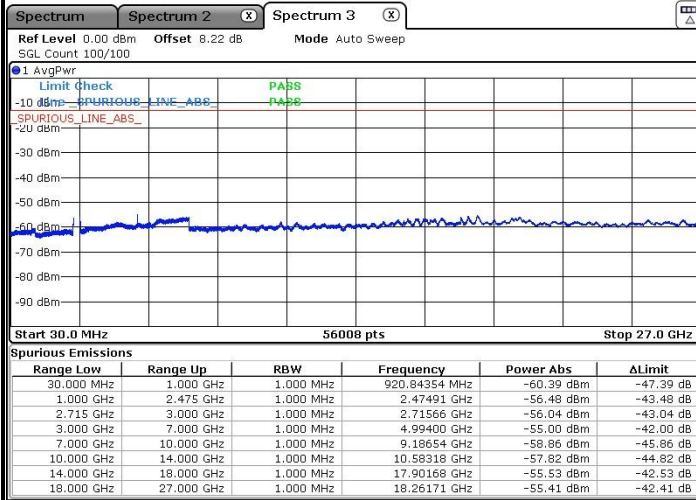


Date: 30 JUL 2019 20:53:30



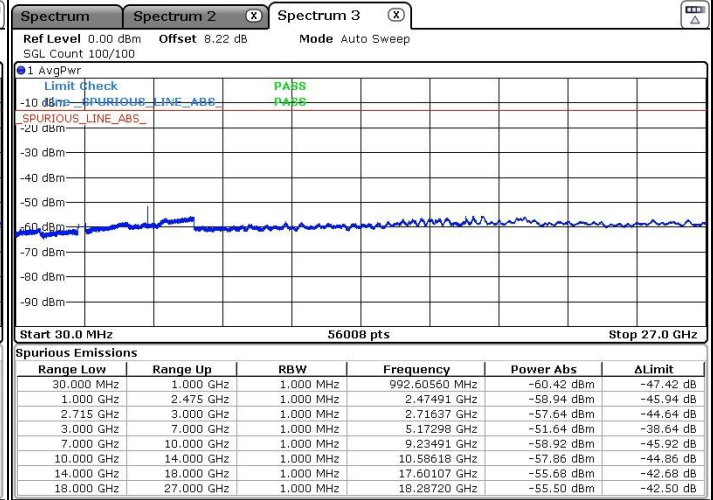
LTE Band 41 / 15MHz

Lowest Channel / 64QAM



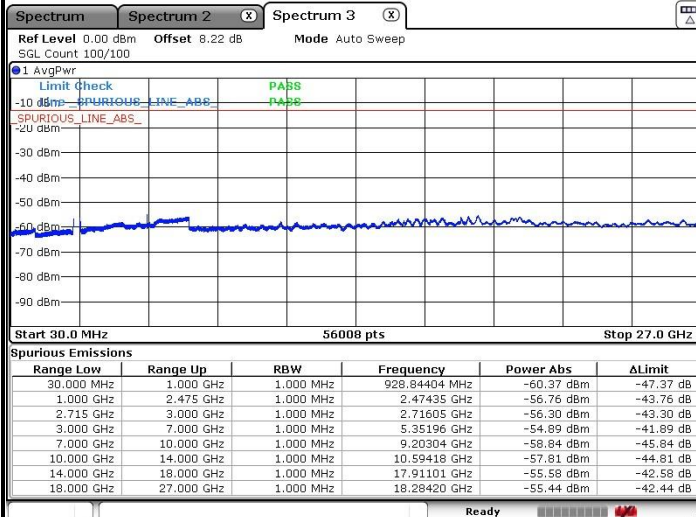
Date: 30.JUL.2019 21:06:32

Middle Channel / 64QAM



Date: 30.JUL.2019 21:10:50

Highest Channel / 64QAM

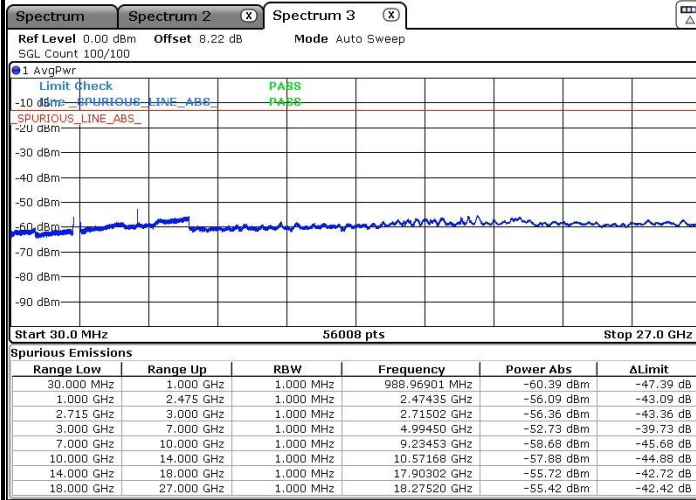


Date: 30.JUL.2019 21:14:58



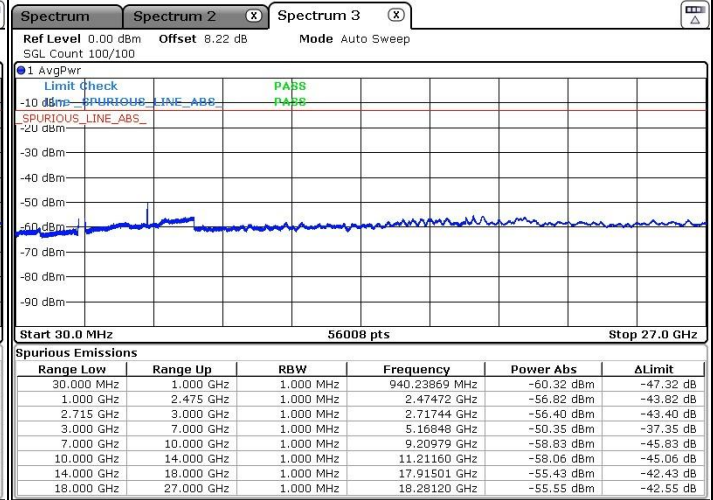
LTE Band 41 / 20MHz

Lowest Channel / 64QAM



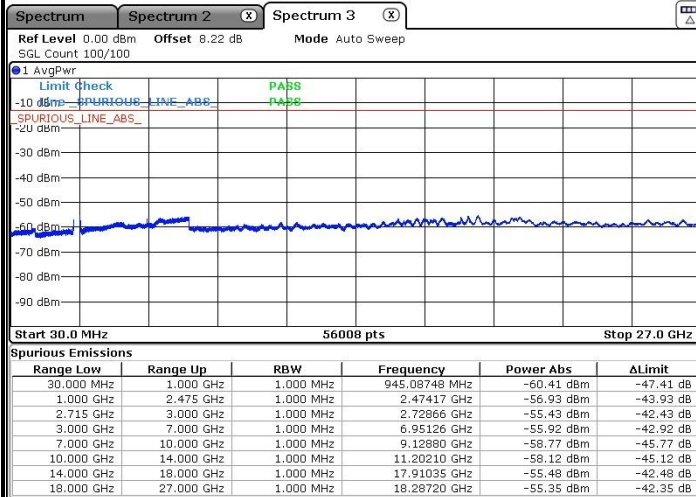
Date: 30.JUL.2019 21:28:07

Middle Channel / 64QAM



Date: 30.JUL.2019 21:32:19

Highest Channel / 64QAM



Date: 30.JUL.2019 21:36:08



A.1.7 Frequency Stability

Test Conditions		LTE Band 41 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0005	PASS
40	Normal Voltage	0.0022	
30	Normal Voltage	0.0021	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0013	
-10	Normal Voltage	0.0007	
-20	Normal Voltage	0.0005	
-30	Normal Voltage	0.0013	
20	Maximum Voltage	0.0015	
20	Normal Voltage	0.0009	
20	Battery End Point	0.0010	

Note:

1. Normal Voltage =120 V. ; Battery End Point (BEP) =90 V. ; Maximum Voltage =264 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



A.2 MIMO Antenna 1

A.2.1 Conducted Output Power(Average power)

LTE Band 41 Maximum Average Power [dBm]							Limit [dBm]	Test Result
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest		
20	1	0	QPSK	19.01	18.53	18.43	33.01	Pass
20	1	99		18.58	18.58	18.67		
20	18	0		18.59	18.01	18.22		
20	18	82		18.11	18.35	18.28		
20	100	0		17.99	18.16	18.36		
20	1	0	16-QAM	18.76	18.48	19.41		
20	1	99		18.49	18.52	18.56		
20	18	0		18.57	17.97	18.18		
20	18	82		18.10	18.31	18.24		
20	100	0		17.99	18.12	18.29		
20	1	0	64-QAM	19.04	18.71	18.68		
20	1	99		18.79	18.77	18.54		
20	18	0		18.56	17.93	18.16		
20	18	82		18.05	18.28	18.21		
20	100	0		17.96	18.09	18.32		
15	1	0	QPSK	18.21	18.03	18.38		
15	1	74		17.89	18.33	18.31		
15	16	0		17.60	17.71	17.91		
15	16	59		17.97	18.16	18.19		
15	75	0		17.77	17.95	18.13		
15	1	0	16-QAM	18.07	17.96	18.21		
15	1	74		17.82	18.23	18.18		
15	16	0		17.57	17.66	17.86		
15	16	59		17.94	18.15	18.17		
15	75	0		17.76	17.91	18.14		
15	1	0	64-QAM	18.32	18.24	18.49		
15	1	74		18.11	18.56	18.42		
15	16	0		17.61	17.70	17.91		
15	16	59		17.94	18.17	18.16		
15	75	0		17.72	17.90	18.11		



LTE Band 41 Maximum Average Power [dBm]							Limit [dBm]	Test Result
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest		
10	1	0	QPSK	18.67	18.61	18.28	33.01	Pass
10	1	49		18.55	18.72	18.58		
10	12	0		18.49	18.40	18.22		
10	12	38		18.21	18.48	18.25		
10	50	0		18.15	18.19	18.41		
10	1	0	16-QAM	18.66	18.53	18.24		
10	1	49		18.51	18.64	18.56		
10	12	0		18.45	18.33	18.14		
10	12	38		18.17	18.46	18.21		
10	50	0		18.07	18.18	18.39		
10	1	0	64-QAM	18.94	18.83	18.62		
10	1	49		18.87	18.94	18.81		
10	12	0		18.47	18.37	18.16		
10	12	38		18.19	18.47	18.22		
10	50	0		18.07	18.12	18.36		
5	1	0	QPSK	18.54	18.15	18.07		
5	1	24		17.88	17.97	18.29		
5	8	0		18.69	18.43	18.49		
5	8	17		17.78	17.88	18.28		
5	25	0		18.07	17.89	18.08		
5	1	0	16-QAM	18.41	18.02	17.93		
5	1	24		17.76	17.86	18.19		
5	8	0		18.63	18.29	18.36		
5	8	17		18.57	17.77	18.22		
5	25	0		18.09	17.81	18.01		
5	1	0	64-QAM	18.71	18.38	17.99		
5	1	24		18.05	18.18	18.59		
5	8	0		18.82	18.31	18.37		
5	8	17		17.69	17.79	18.25		
5	25	0		18.01	17.78	18.06		



A.2.2 Peak-to-Average Ratio

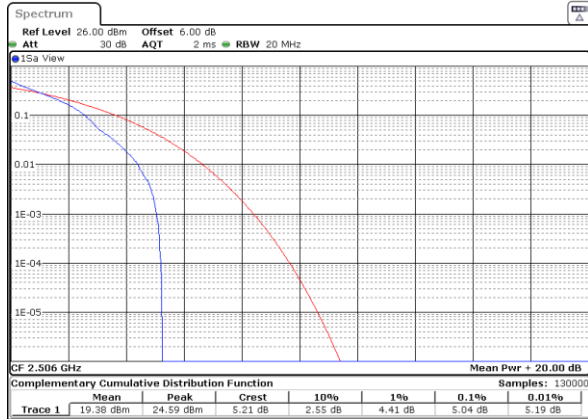
Mode	LTE Band 41 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.04	5.65	6.03	6.09	PASS
Middle CH	5.65	6.49	6.93	6.41	
Highest CH	6.41	5.45	6.67	6.23	

Mode	LTE Band 41 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.28	6.55			PASS
Middle CH	6.43	6.41			
Highest CH	6.78	6.78			

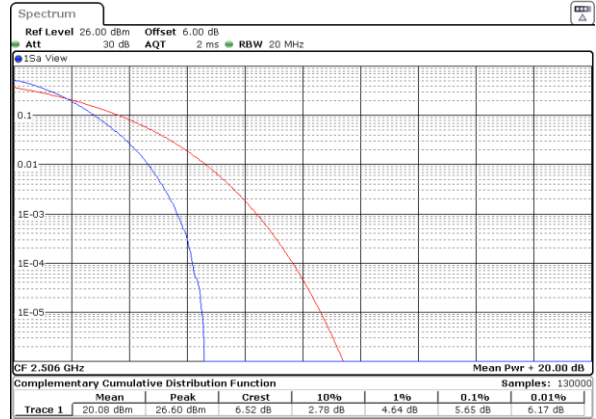


LTE Band 41 / 20MHz / QPSK

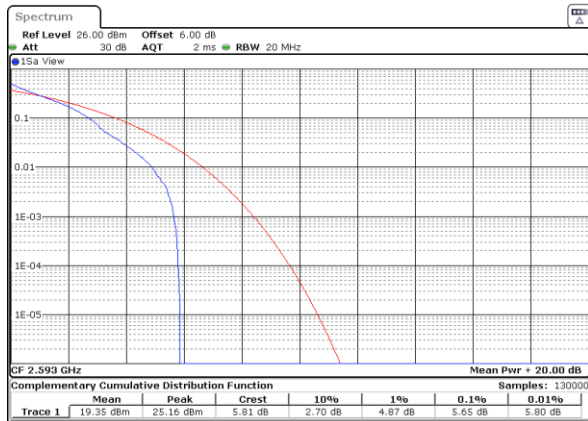
Lowest Channel / 1RB



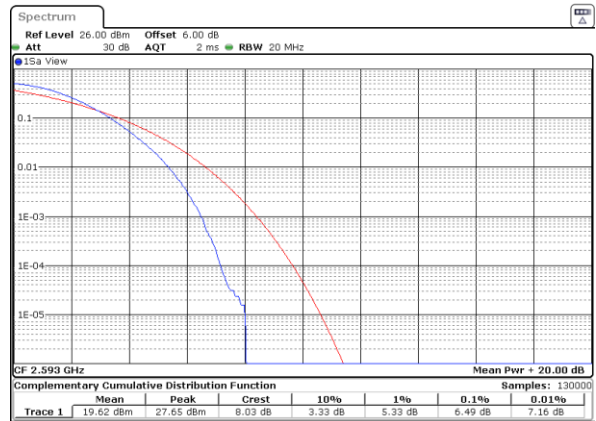
Lowest Channel / Full RB



Middle Channel / 1RB



Middle Channel / Full RB



Highest Channel / 1RB



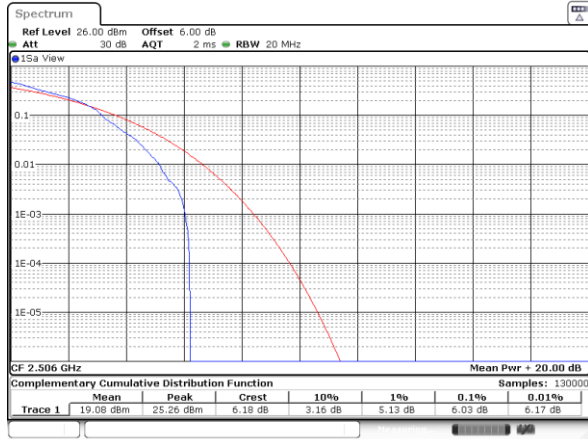
Highest Channel / Full RB



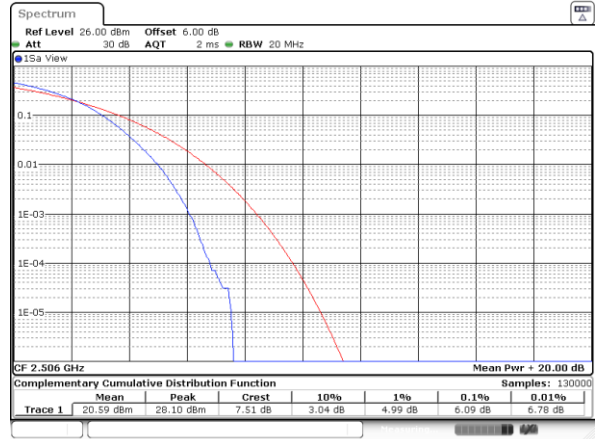


LTE Band 41 / 20MHz / 16QAM

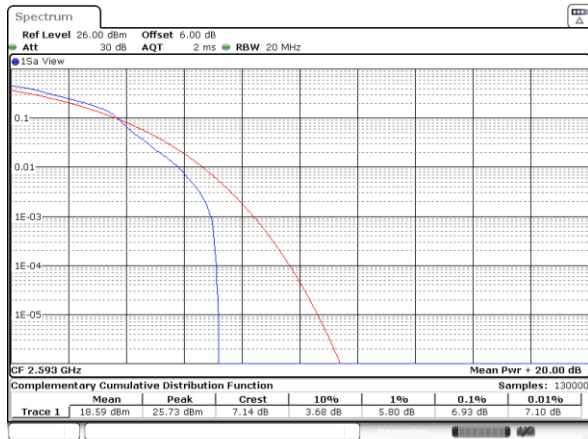
Lowest Channel / 1RB



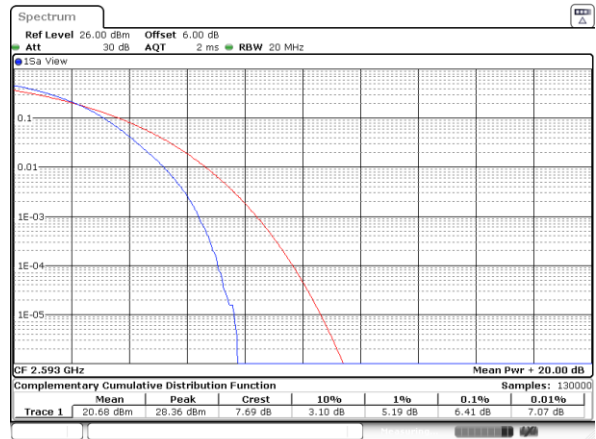
Lowest Channel / Full RB



Middle Channel / 1RB



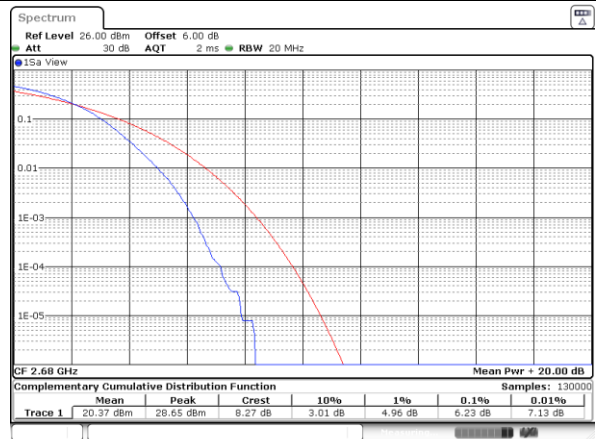
Middle Channel / Full RB

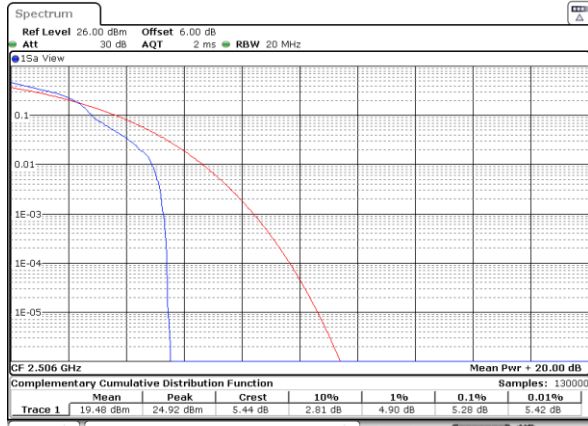


Highest Channel / 1RB

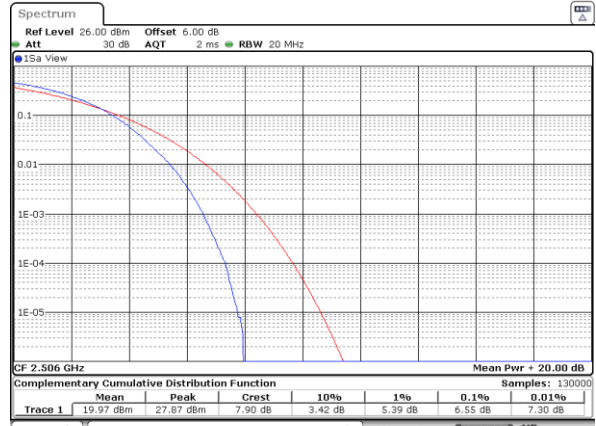


Highest Channel / Full RB

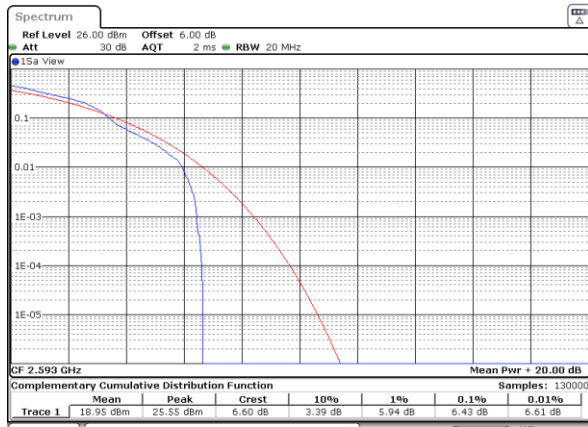


LTE Band 41 / 20MHz / 64QAM
Lowest Channel / 1RB


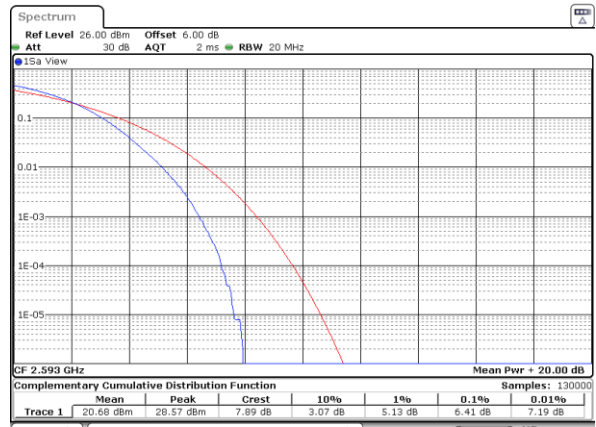
Date: 19 JUL 2019 21:10:17

Lowest Channel / Full RB


Date: 19 JUL 2019 21:08:06

Middle Channel / 1RB


Date: 19 JUL 2019 21:14:49

Middle Channel / Full RB


Date: 19 JUL 2019 21:13:22

Highest Channel / 1RB


Date: 19 JUL 2019 21:18:48

Highest Channel / Full RB


Date: 19 JUL 2019 21:17:45

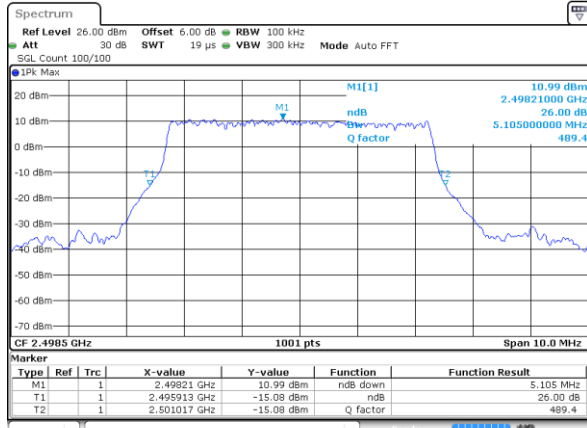
**A.2.3 26dB Bandwidth**

Mode	LTE Band 41 : 26dB BW(MHz)											
BW	5MHz		10MHz		15MHz		20MHz		5MHz	10MHz	15MHz	20MHz
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM	64QAM	64QAM
Lowest CH	5.105	4.825	9.970	9.990	14.356	14.296	20.100	20.300	5.145	9.770	14.326	20.100
Middle CH	4.915	5.145	9.790	9.630	14.326	14.116	20.100	20.100	5.185	9.910	14.326	20.420
Highest CH	4.805	5.155	9.690	9.770	14.116	14.296	20.180	20.100	5.015	9.730	14.176	20.220



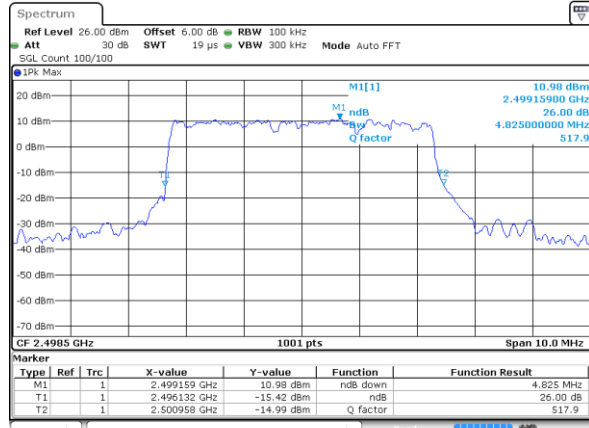
LTE Band 41

Lowest Channel / 5MHz / QPSK



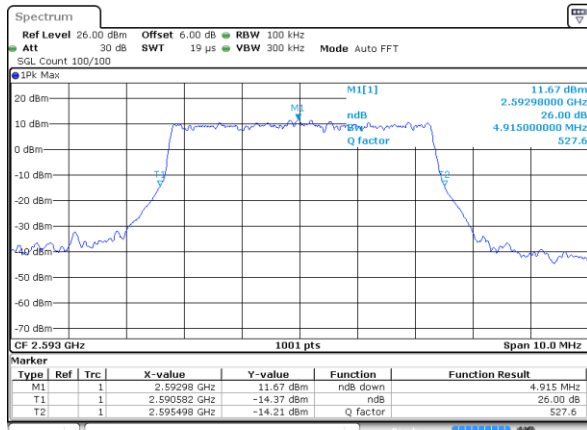
Date: 18 JUL 2019 17:05:14

Lowest Channel / 5MHz / 16QAM



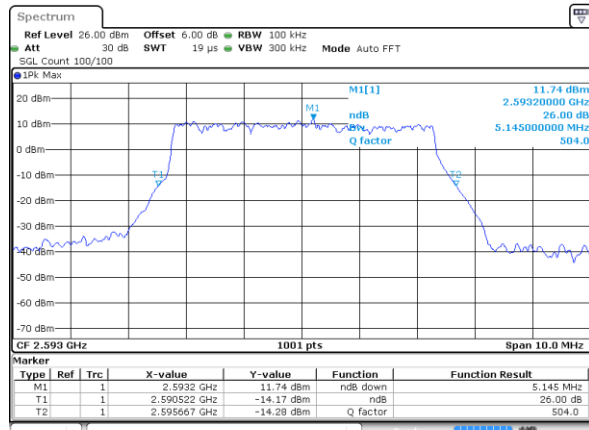
Date: 18 JUL 2019 17:06:10

Middle Channel / 5MHz / QPSK



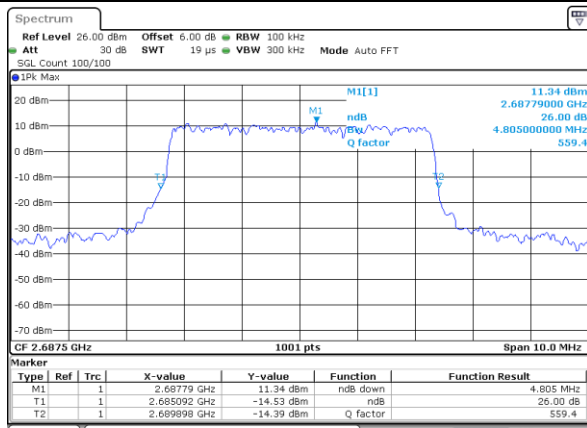
Date: 18 JUL 2019 17:28:10

Middle Channel / 5MHz / 16QAM



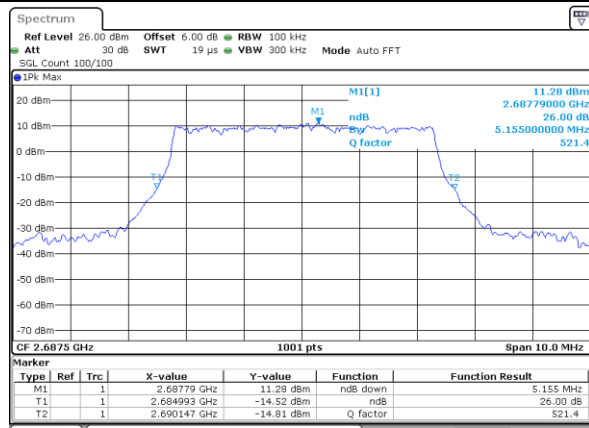
Date: 18 JUL 2019 17:28:45

Highest Channel / 5MHz / QPSK



Date: 18 JUL 2019 17:36:45

Highest Channel / 5MHz / 16QAM

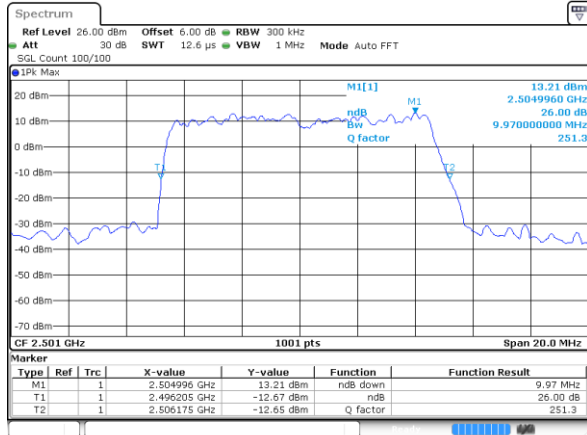


Date: 18 JUL 2019 17:37:44



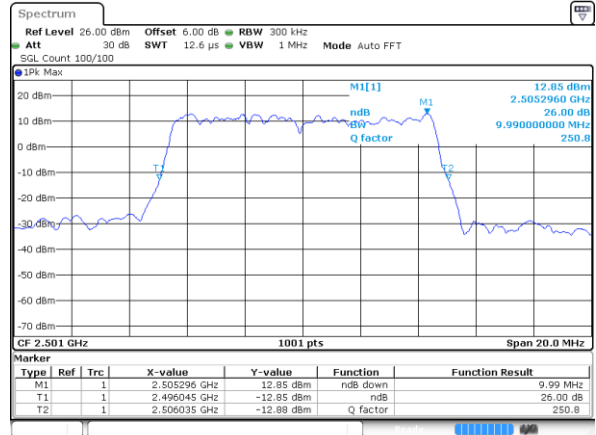
LTE Band 41

Lowest Channel / 10MHz / QPSK



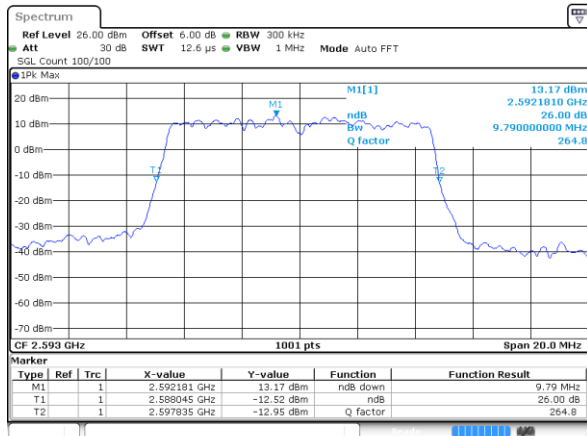
Date: 18 JUL 2019 17:57:03

Lowest Channel / 10MHz / 16QAM



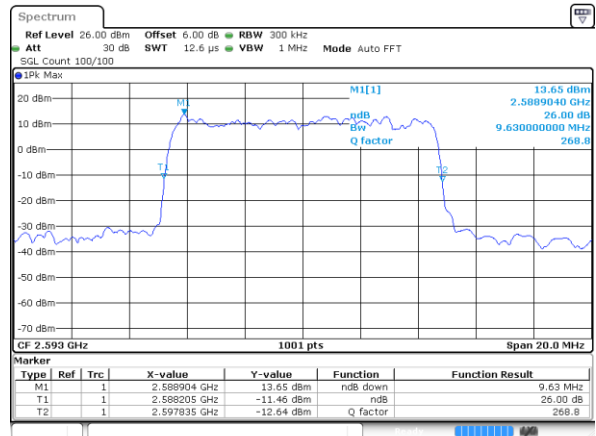
Date: 18 JUL 2019 18:00:14

Middle Channel / 10MHz / QPSK



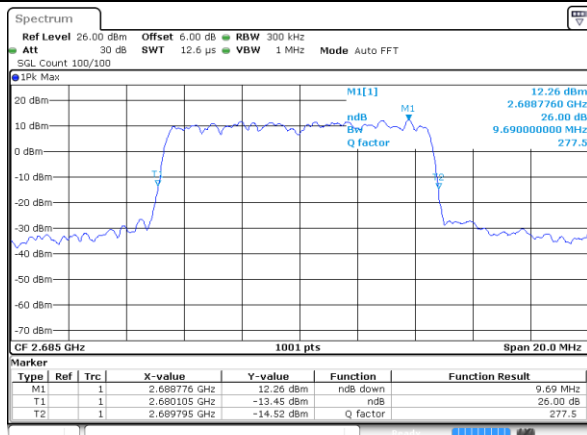
Date: 18 JUL 2019 18:52:08

Middle Channel / 10MHz / 16QAM



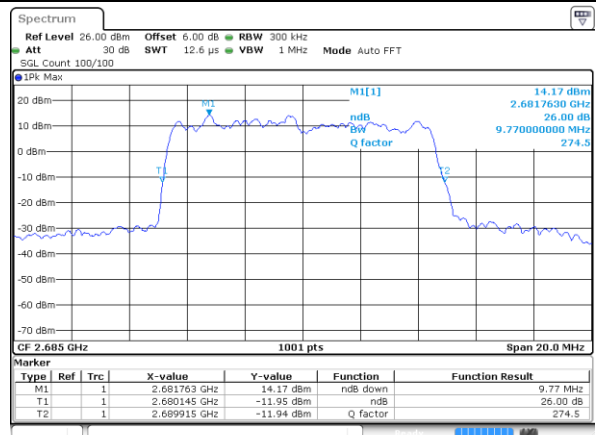
Date: 18 JUL 2019 18:53:04

Highest Channel / 10MHz / QPSK



Date: 18 JUL 2019 19:36:42

Highest Channel / 10MHz / 16QAM

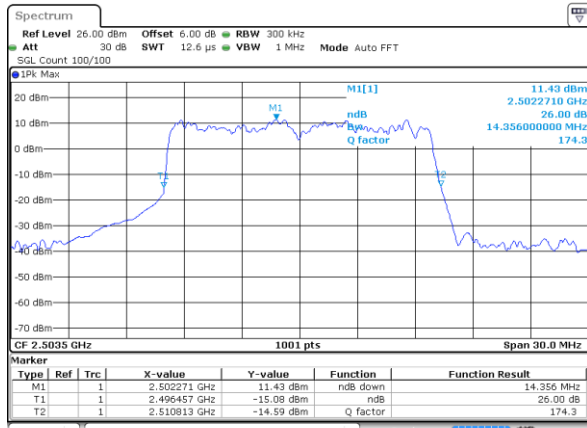


Date: 18 JUL 2019 19:39:42



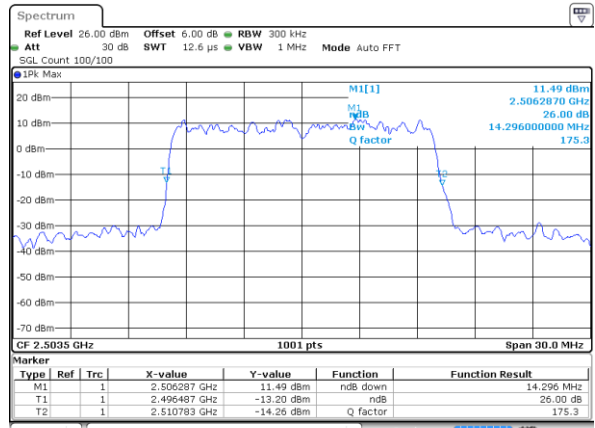
LTE Band 41

Lowest Channel / 15MHz / QPSK



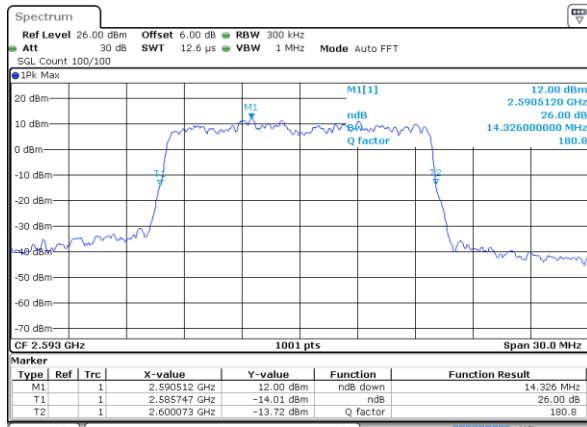
Date: 18 JUL 2019 19:58:36

Lowest Channel / 15MHz / 16QAM



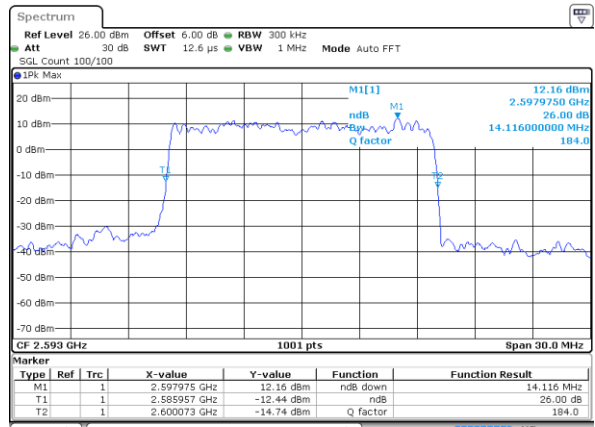
Date: 18 JUL 2019 19:59:21

Middle Channel / 15MHz / QPSK



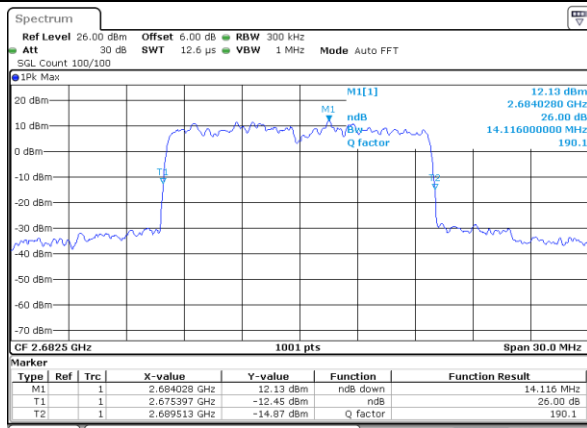
Date: 18 JUL 2019 20:23:46

Middle Channel / 15MHz / 16QAM



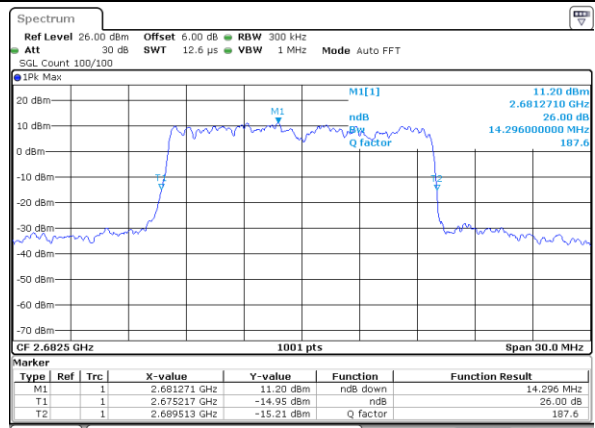
Date: 18 JUL 2019 20:24:25

Highest Channel / 15MHz / QPSK



Date: 18 JUL 2019 20:30:45

Highest Channel / 15MHz / 16QAM

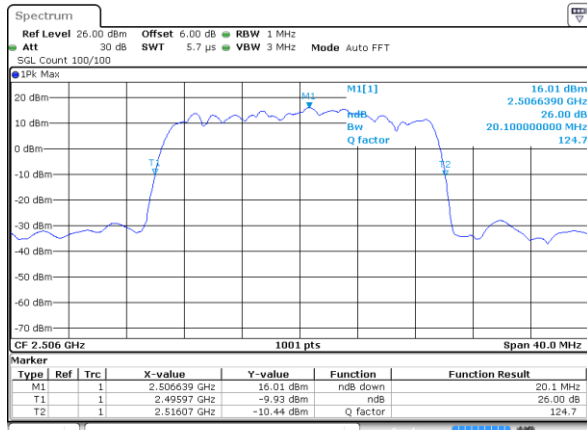


Date: 18 JUL 2019 20:31:25

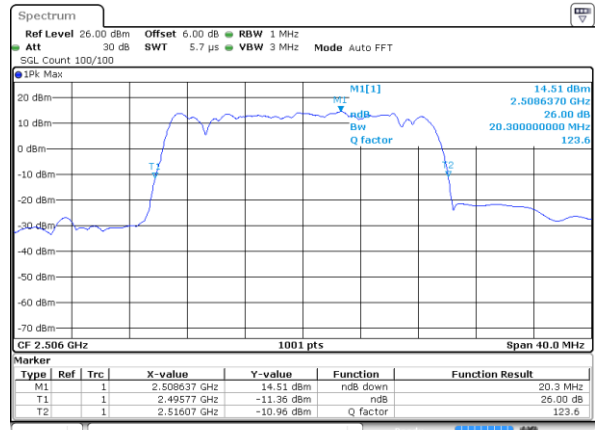


LTE Band 41

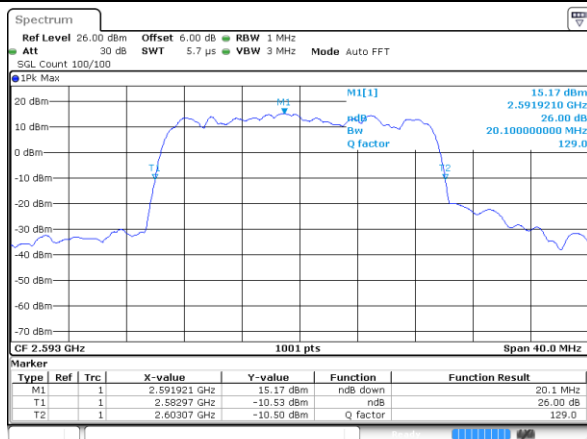
Lowest Channel / 20MHz / QPSK



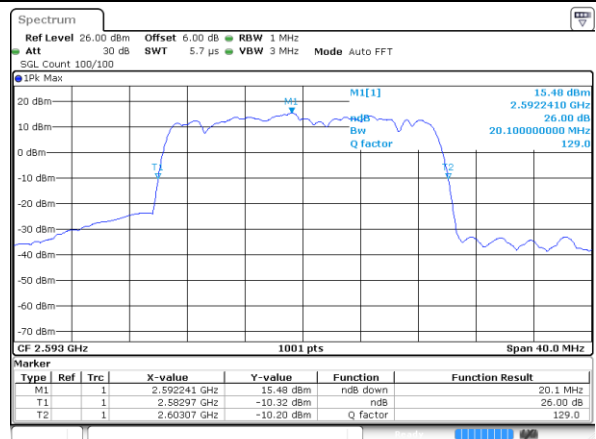
Lowest Channel / 20MHz / 16QAM



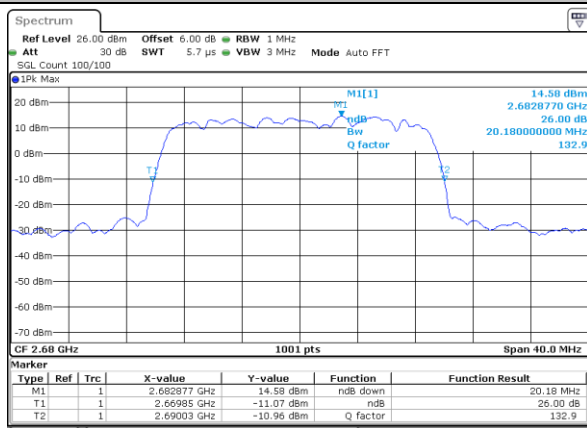
Middle Channel / 20MHz / QPSK



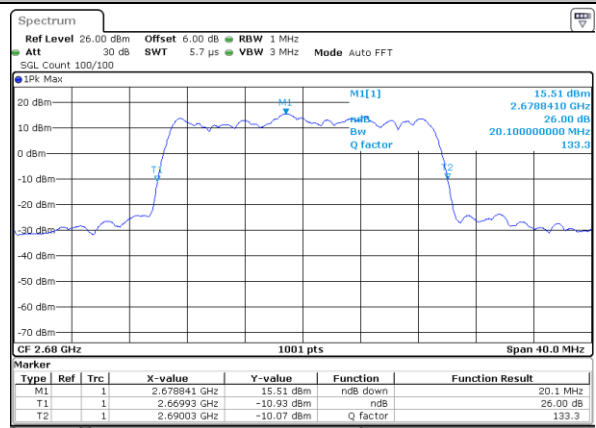
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



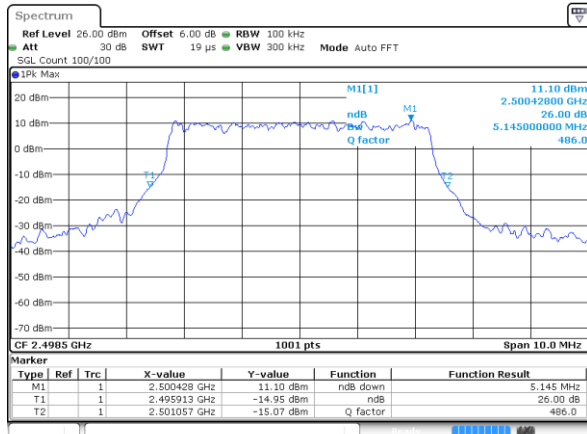
Highest Channel / 20MHz / 16QAM



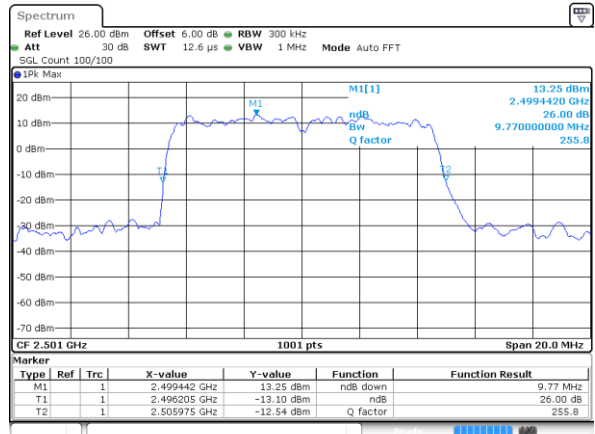


LTE Band 41

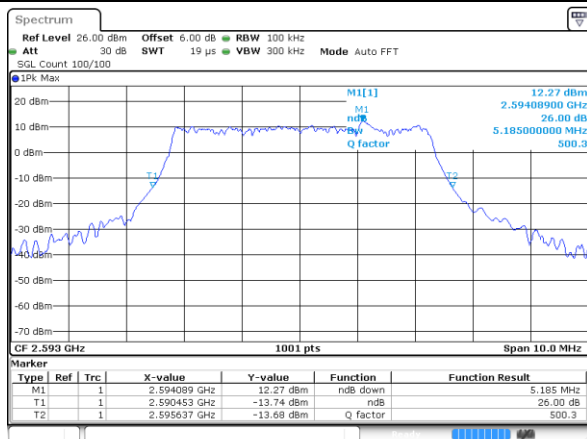
Lowest Channel / 5MHz / 64QAM



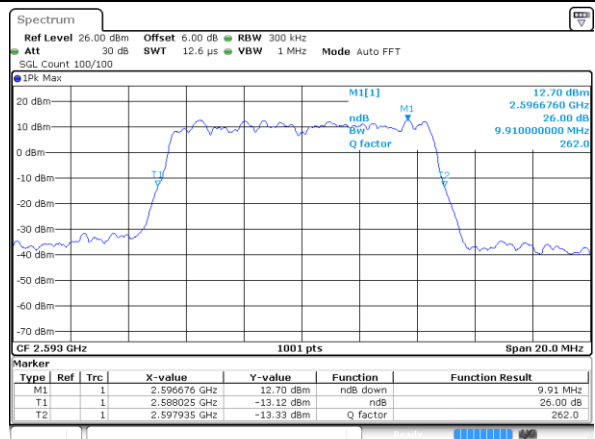
Lowest Channel / 10MHz / 64QAM



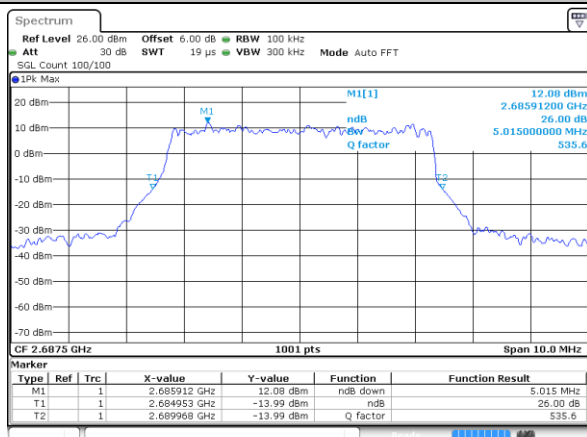
Middle Channel / 5MHz / 64QAM



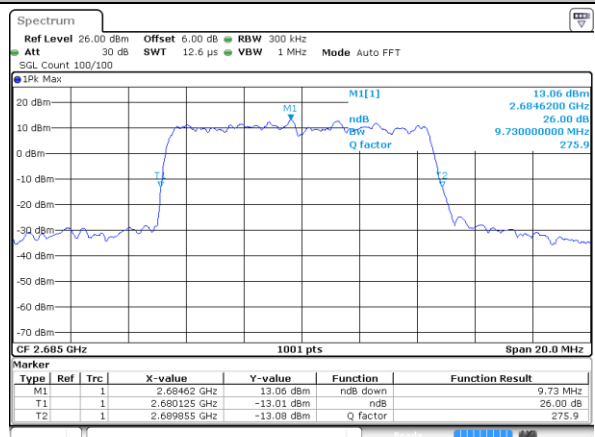
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



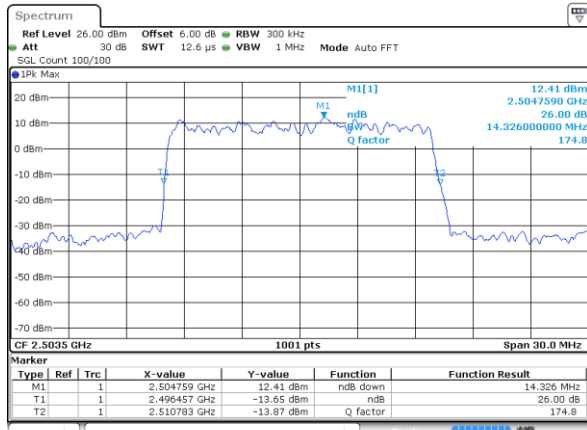
Highest Channel / 10MHz / 64QAM





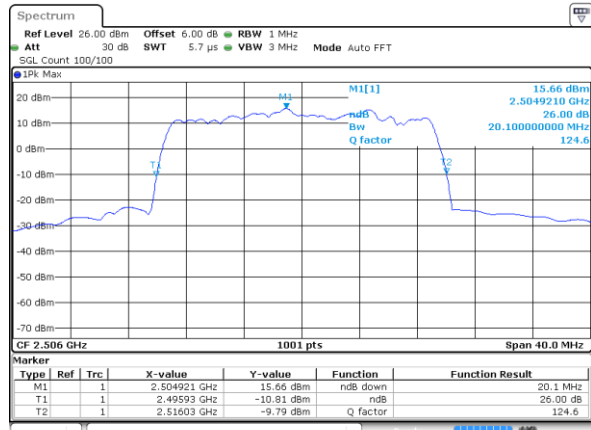
LTE Band 41

Lowest Channel / 15MHz / 64QAM



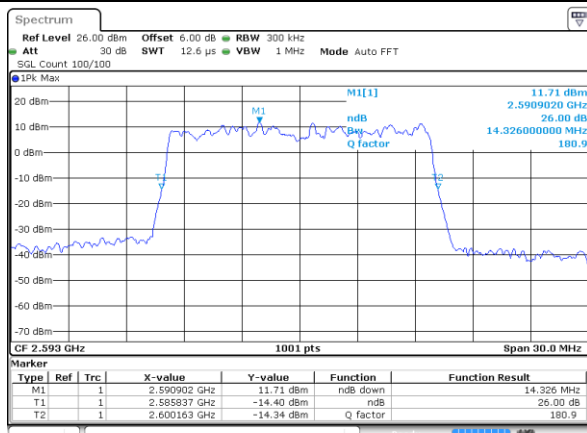
Date: 18 JUL 2019 20:00:08

Lowest Channel / 20MHz / 64QAM



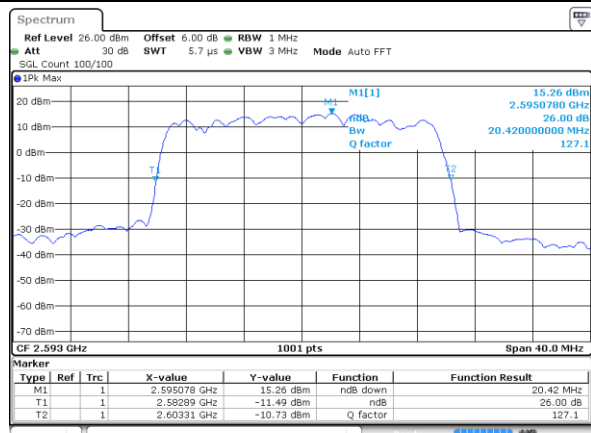
Date: 18 JUL 2019 20:40:26

Middle Channel / 15MHz / 64QAM



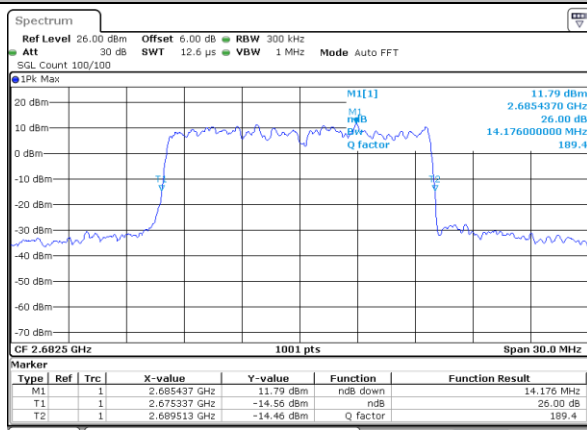
Date: 18 JUL 2019 20:24:58

Middle Channel / 20MHz / 64QAM



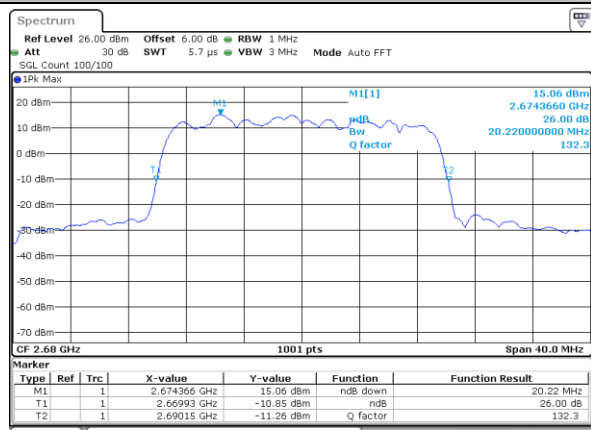
Date: 18 JUL 2019 20:48:12

Highest Channel / 15MHz / 64QAM



Date: 18 JUL 2019 20:32:01

Highest Channel / 20MHz / 64QAM



Date: 18 JUL 2019 20:57:24

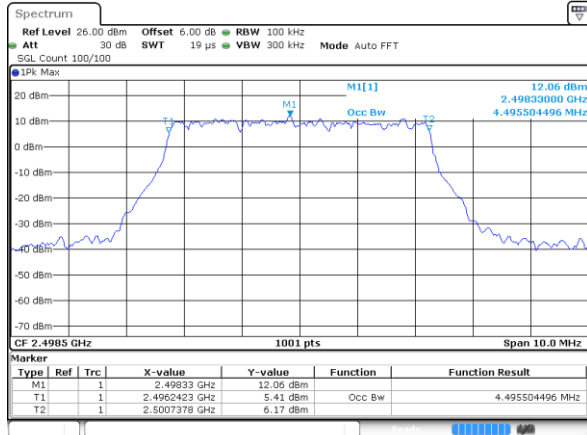
**A.2.4 Occupied Bandwidth**

Mode	LTE Band 41 : 99%OBW(MHz)											
BW	5MHz		10MHz		15MHz		20MHz		5MHz	10MHz	15MHz	20MHz
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM	64QAM	64QAM
Lowest CH	4.50	4.50	9.05	9.07	13.52	13.46	18.42	18.62	4.51	9.03	13.43	18.50
Middle CH	4.51	4.50	9.05	9.03	13.43	13.46	18.30	18.54	4.53	9.03	13.40	18.18
Highest CH	4.54	4.52	9.07	9.05	13.37	13.46	18.38	18.34	4.52	9.05	13.40	18.50

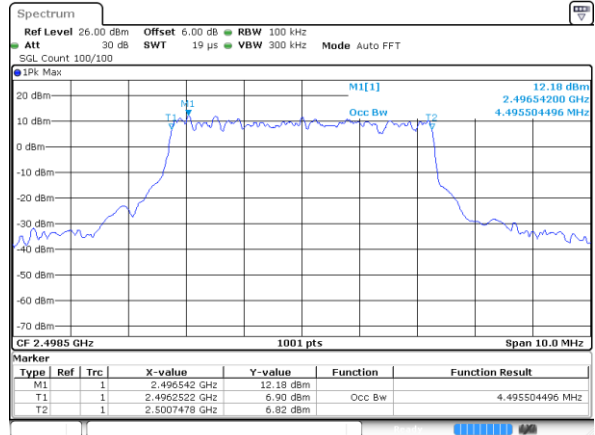


LTE Band 41

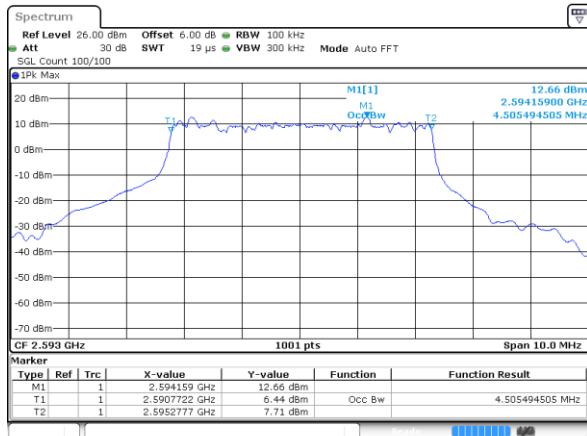
Lowest Channel / 5MHz / QPSK



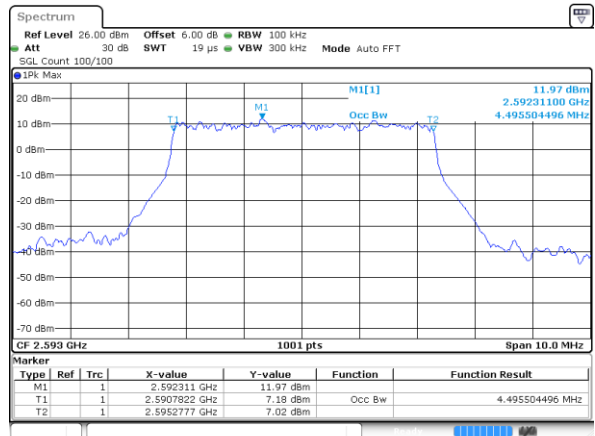
Lowest Channel / 5MHz / 16QAM



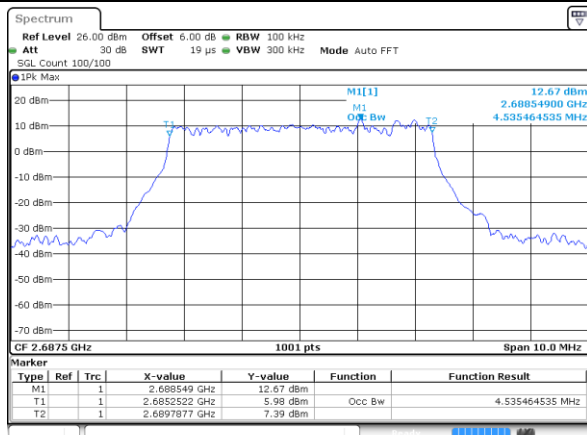
Middle Channel / 5MHz / QPSK



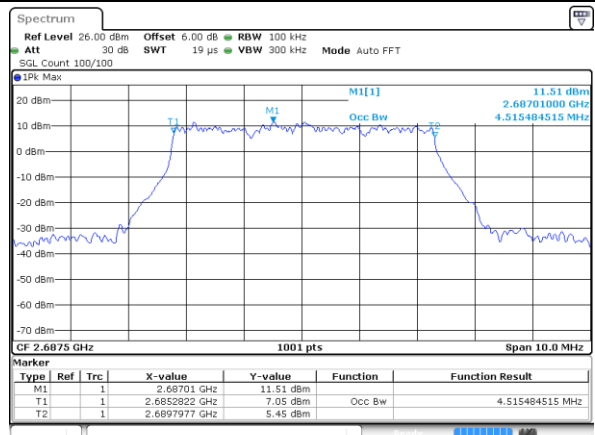
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



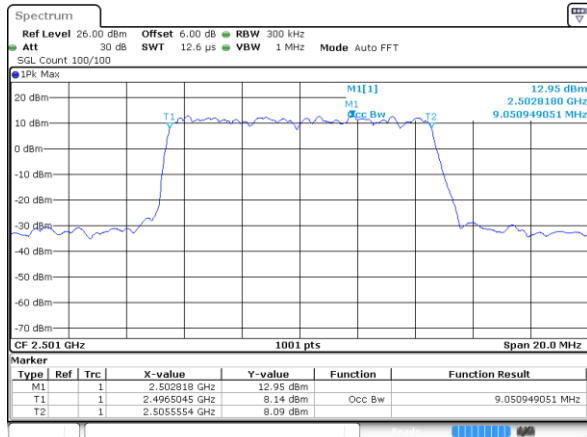
Highest Channel / 5MHz / 16QAM



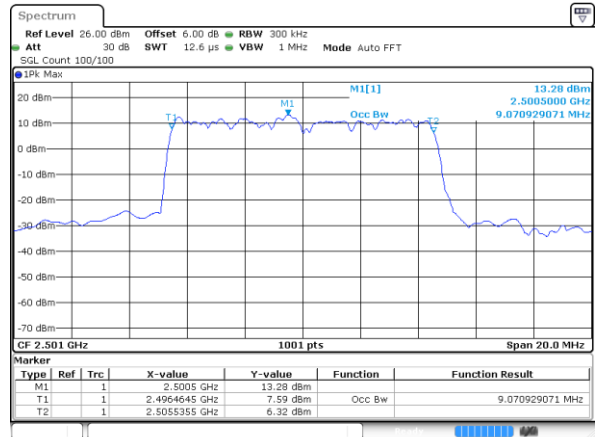


LTE Band 41

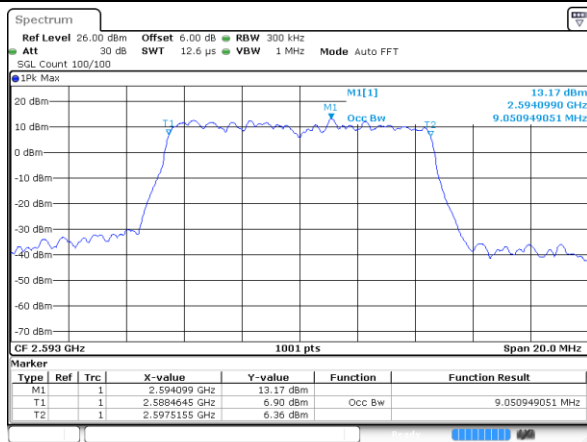
Lowest Channel / 10MHz / QPSK



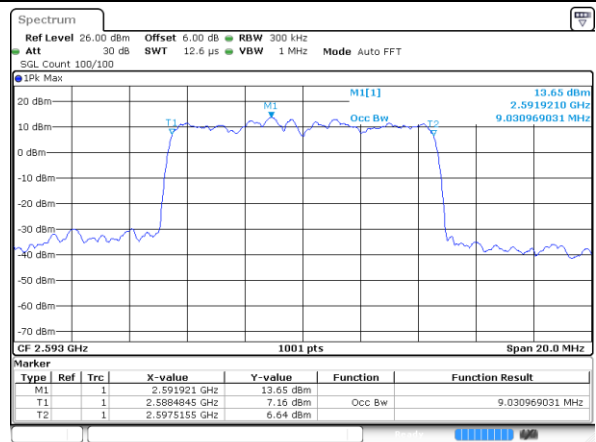
Lowest Channel / 10MHz / 16QAM



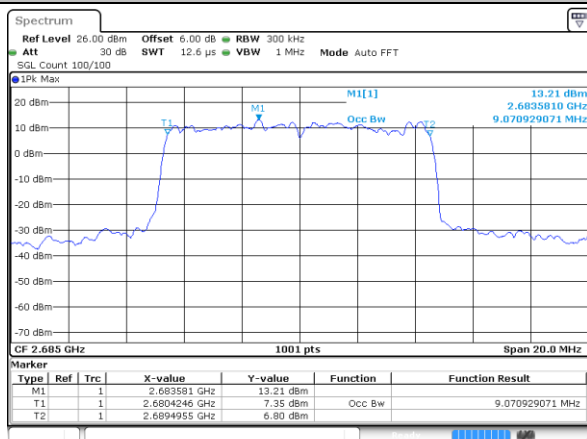
Middle Channel / 10MHz / QPSK



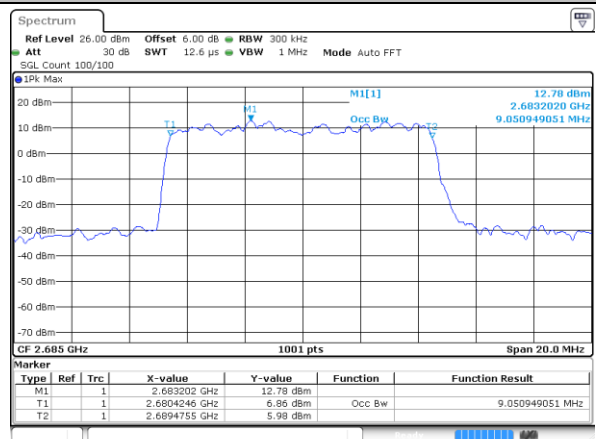
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



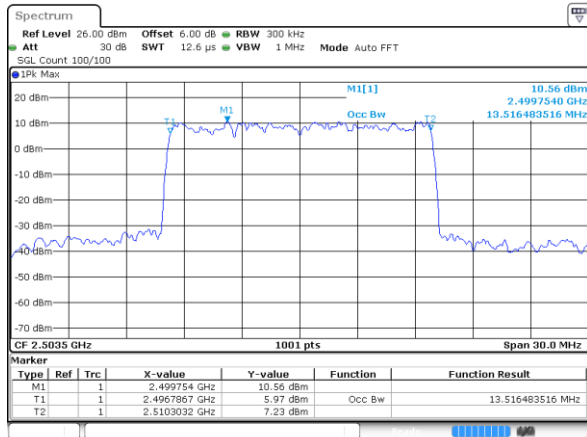
Highest Channel / 10MHz / 16QAM





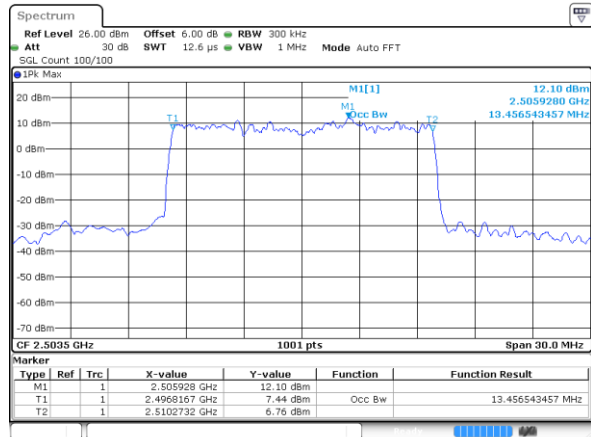
LTE Band 41

Lowest Channel / 15MHz / QPSK



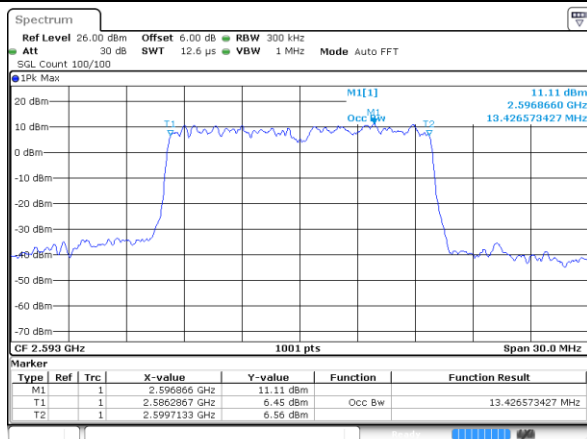
Date: 18 JUL 2019 19:58:27

Lowest Channel / 15MHz / 16QAM



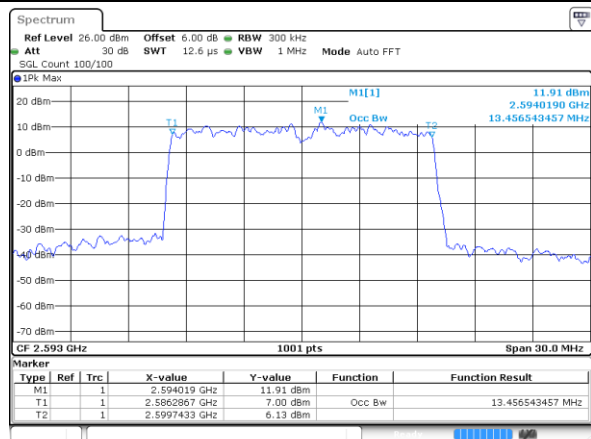
Date: 18 JUL 2019 19:59:11

Middle Channel / 15MHz / QPSK



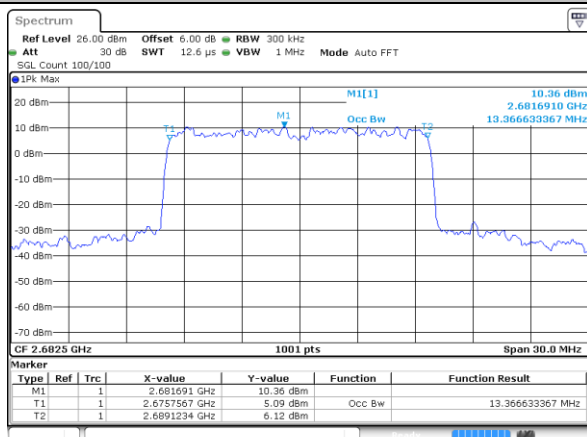
Date: 18 JUL 2019 20:23:36

Middle Channel / 15MHz / 16QAM



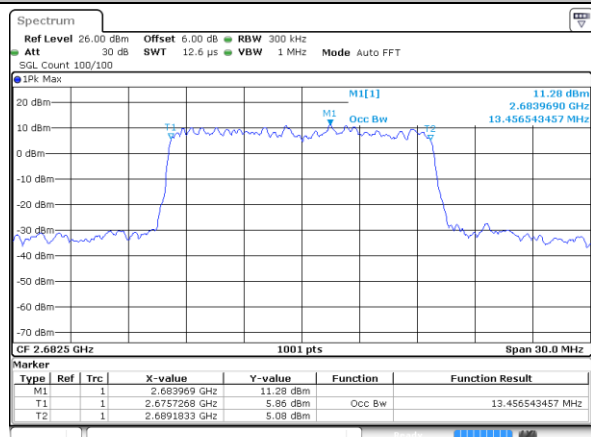
Date: 18 JUL 2019 20:24:14

Highest Channel / 15MHz / QPSK



Date: 18 JUL 2019 20:30:37

Highest Channel / 15MHz / 16QAM

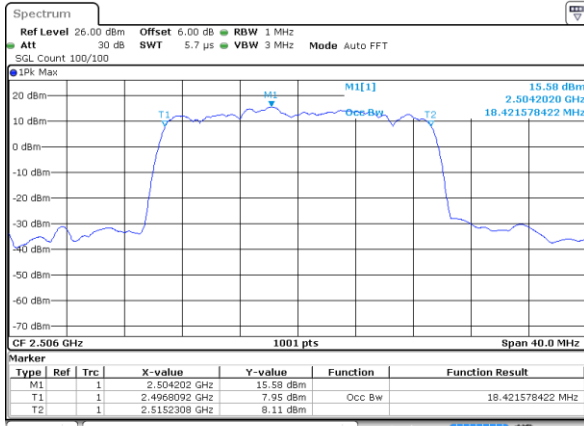


Date: 18 JUL 2019 20:31:17



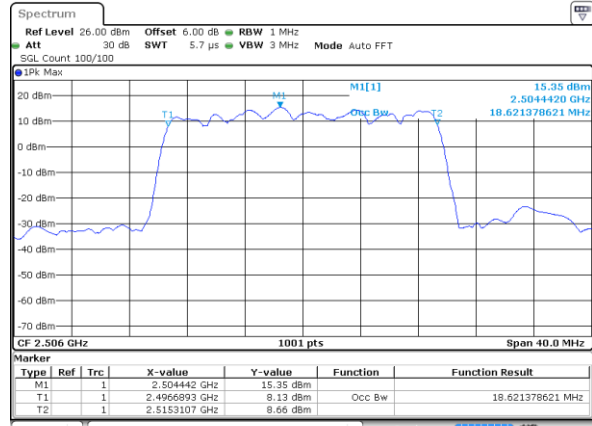
LTE Band 41

Lowest Channel / 20MHz / QPSK



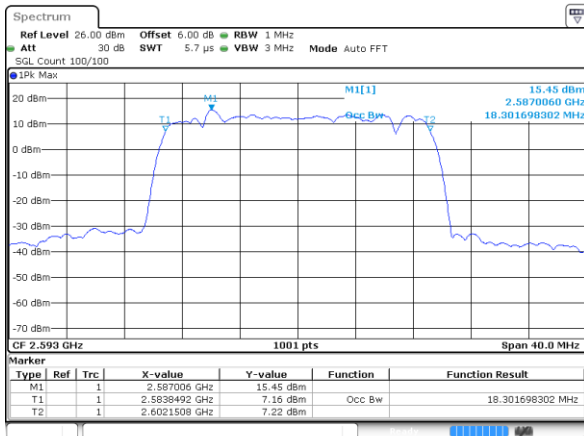
Date: 18 JUL 2019 20:38:48

Lowest Channel / 20MHz / 16QAM



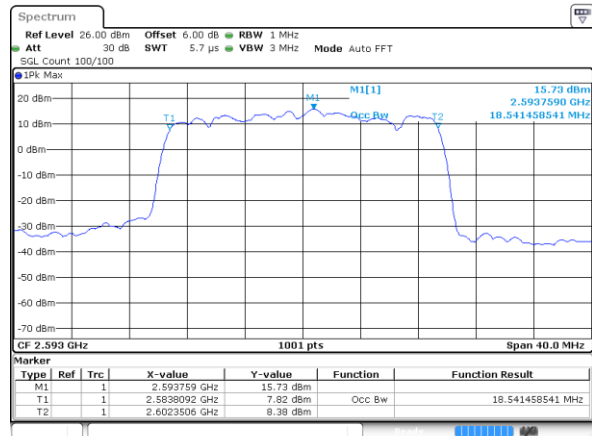
Date: 18 JUL 2019 20:39:32

Middle Channel / 20MHz / QPSK



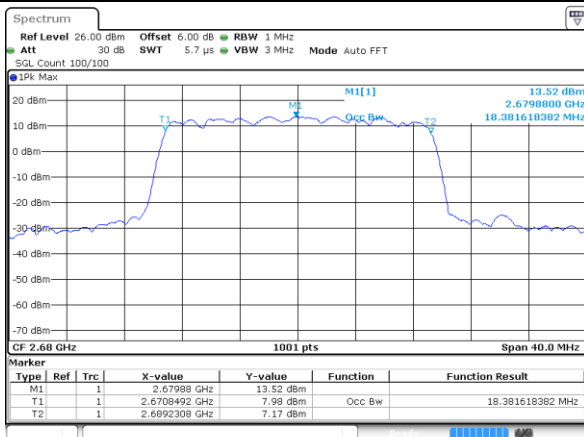
Date: 18 JUL 2019 20:47:10

Middle Channel / 20MHz / 16QAM



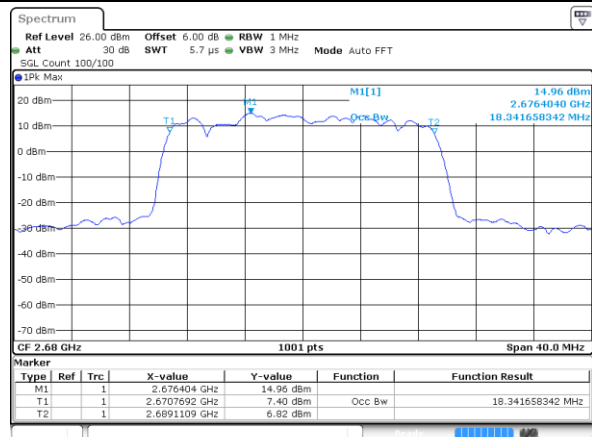
Date: 18 JUL 2019 20:47:41

Highest Channel / 20MHz / QPSK



Date: 18 JUL 2019 20:55:55

Highest Channel / 20MHz / 16QAM

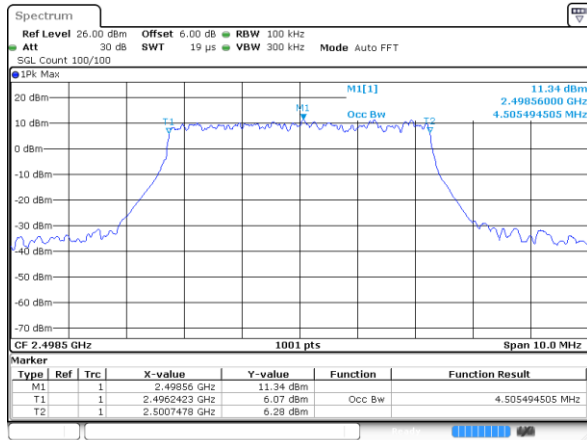


Date: 18 JUL 2019 20:56:29

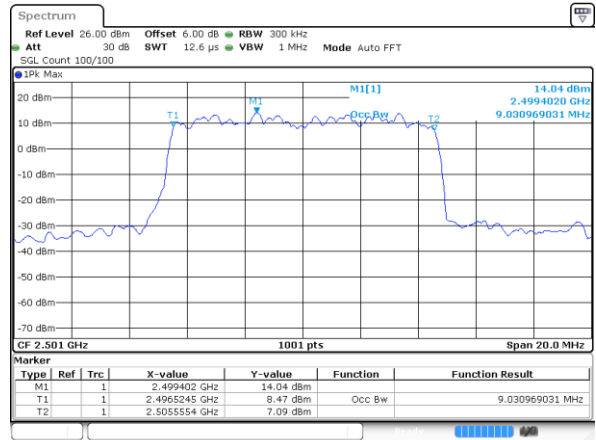


LTE Band 41

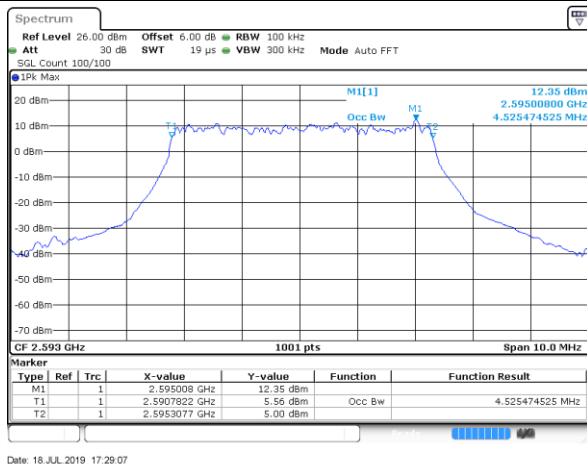
Lowest Channel / 5MHz / 64QAM



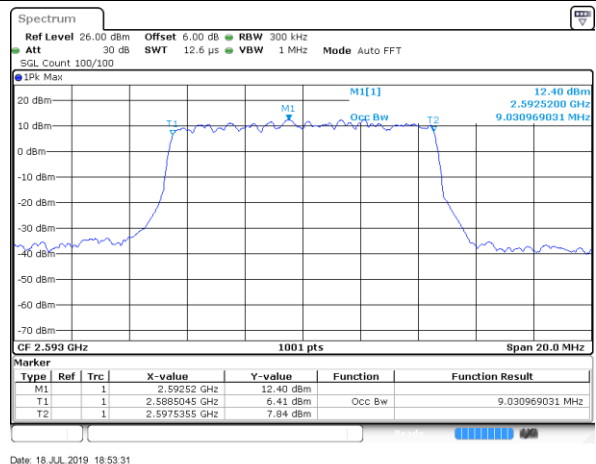
Lowest Channel / 10MHz / 64QAM



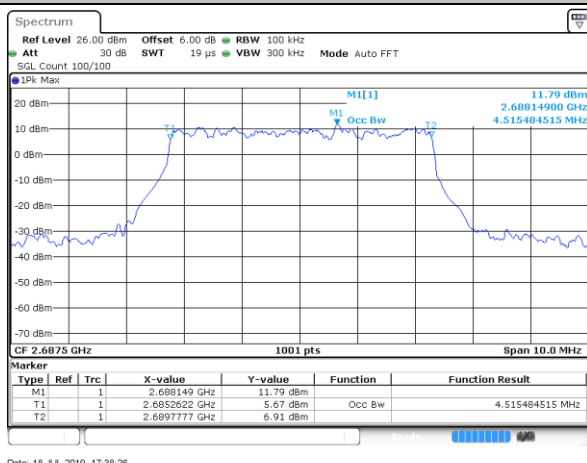
Middle Channel / 5MHz / 64QAM



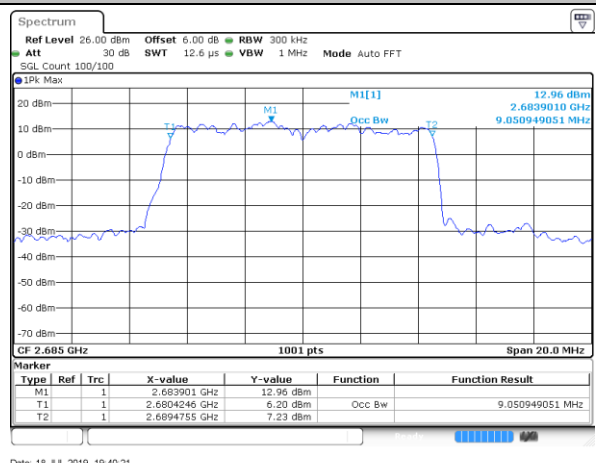
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



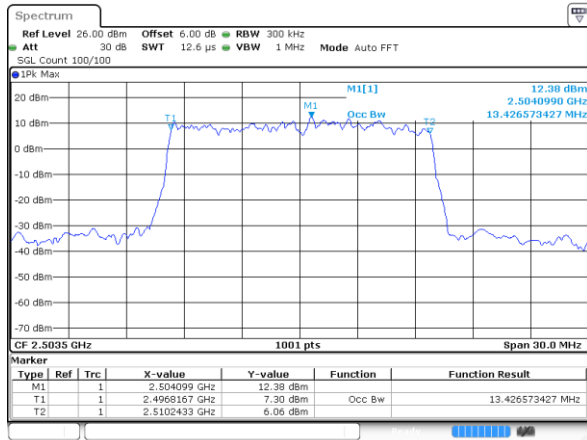
Highest Channel / 10MHz / 64QAM



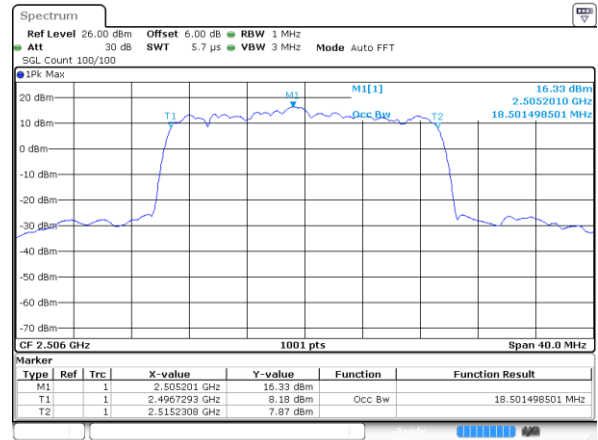


LTE Band 41

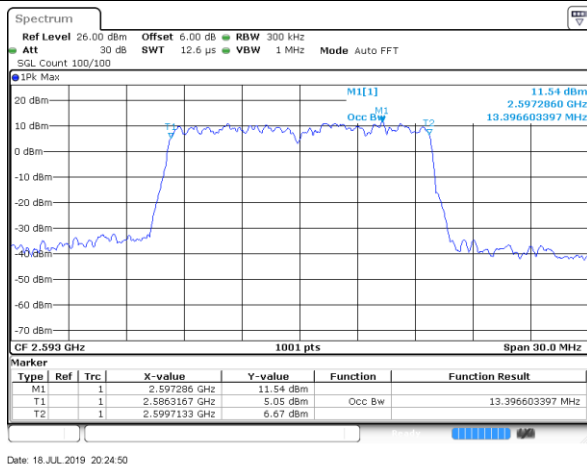
Lowest Channel / 15MHz / 64QAM



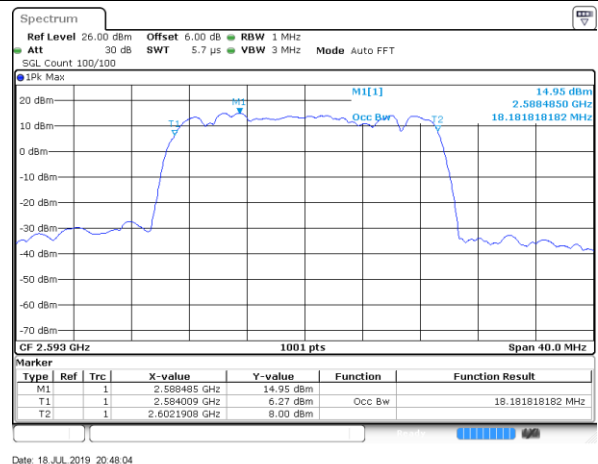
Lowest Channel / 20MHz / 64QAM



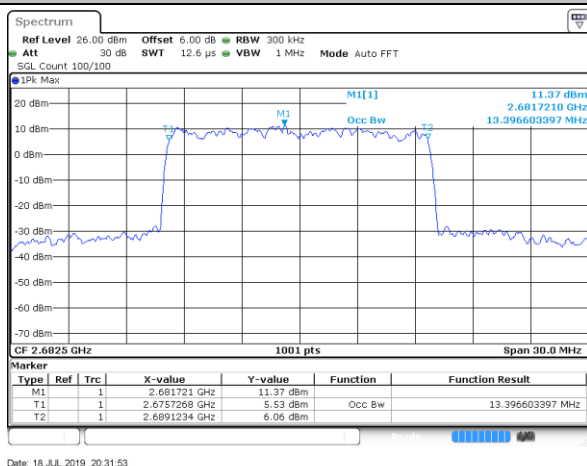
Middle Channel / 15MHz / 64QAM



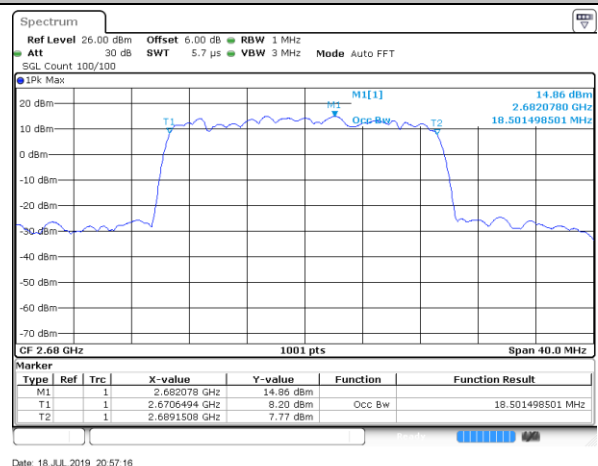
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM

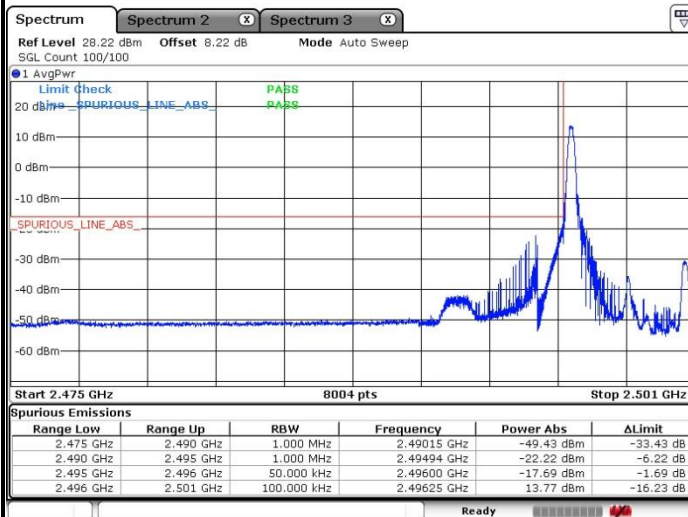




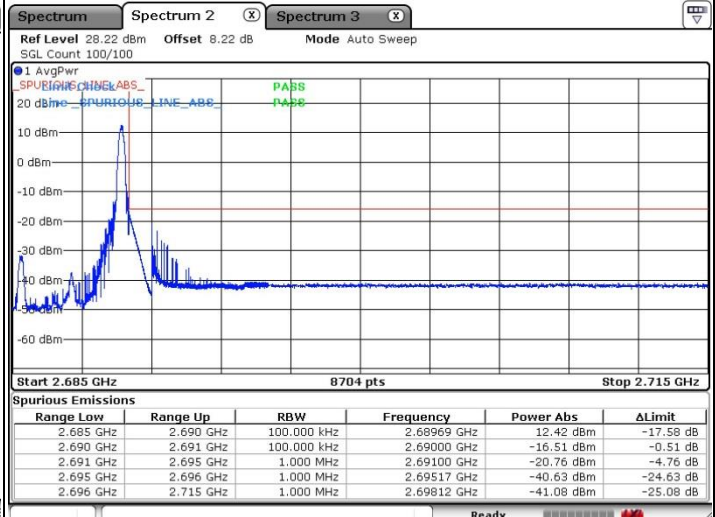
A.2.5 Conducted Band Edge

LTE Band 41 / 5MHz / QPSK

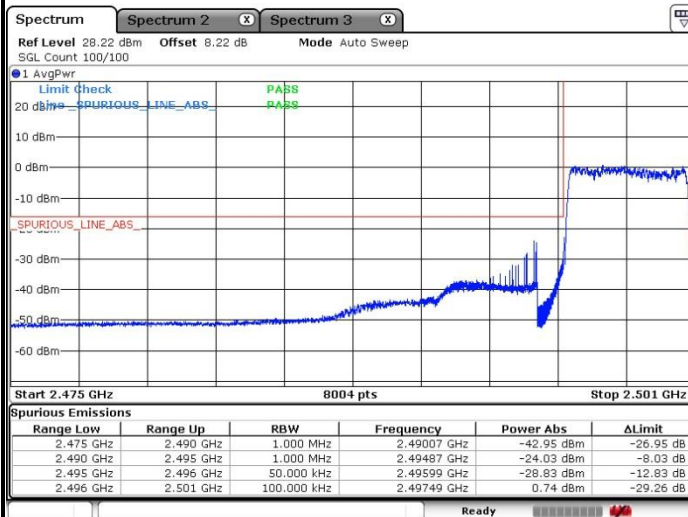
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

