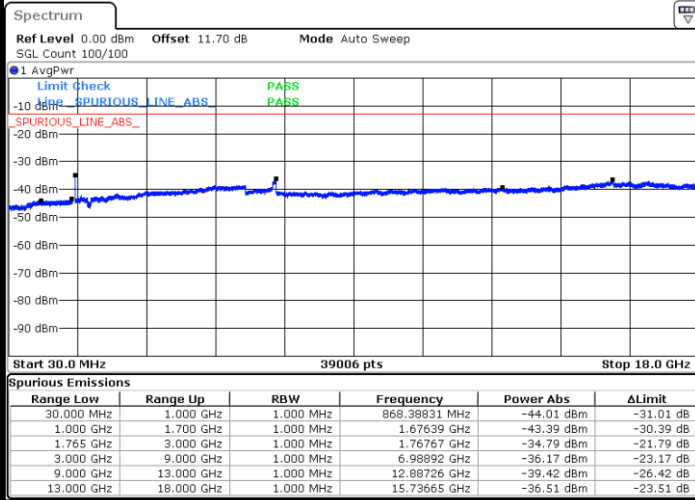




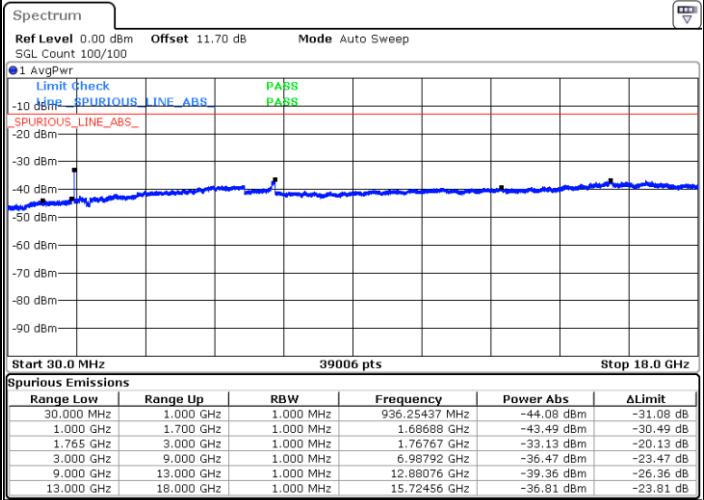
LTE Band 4 / 15MHz

Highest Channel / QPSK



Date: 19.DEC.2019 14:08:48

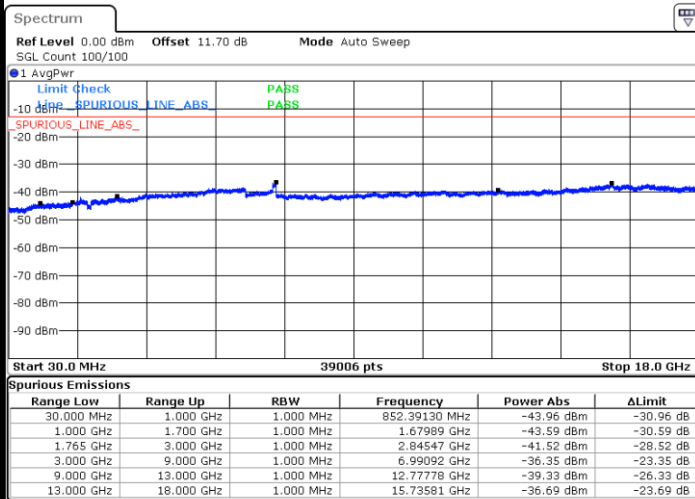
Highest Channel / 16QAM



Date: 19.DEC.2019 14:09:53

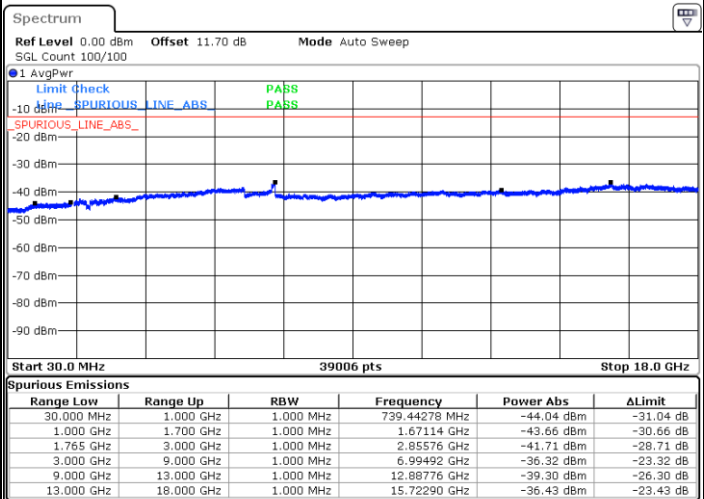
LTE Band 4 / 20MHz

Lowest Channel / QPSK



Date: 19.DEC.2019 14:27:20

Lowest Channel / 16QAM



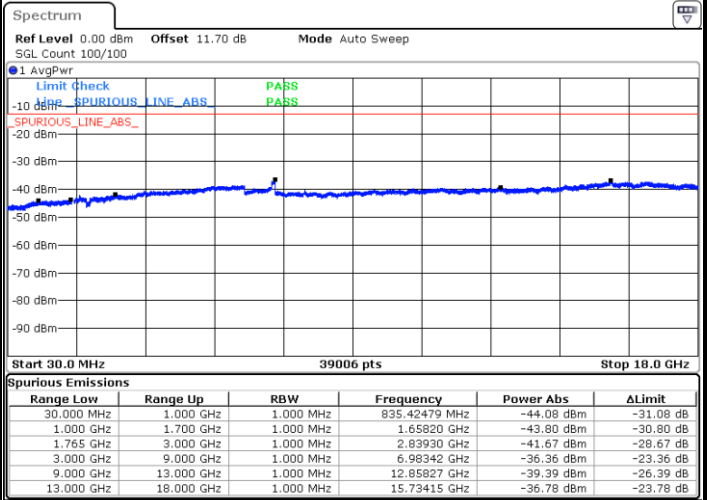
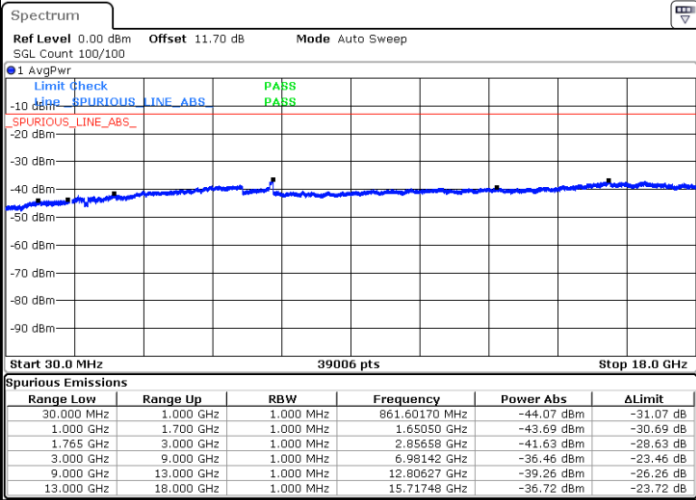
Date: 19.DEC.2019 14:28:25



LTE Band 4 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

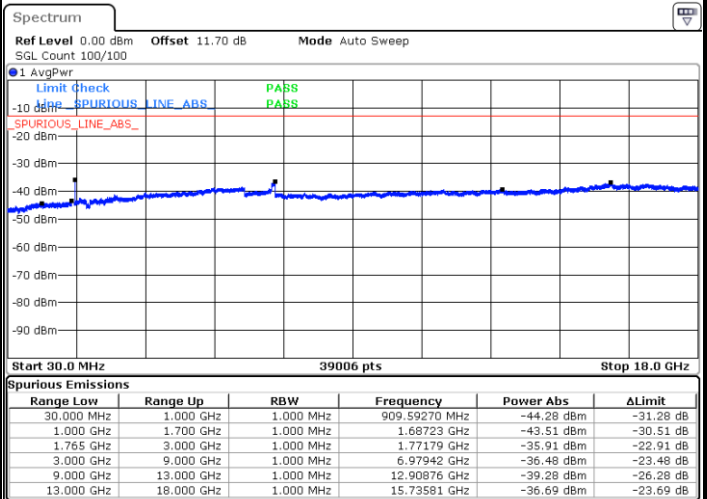
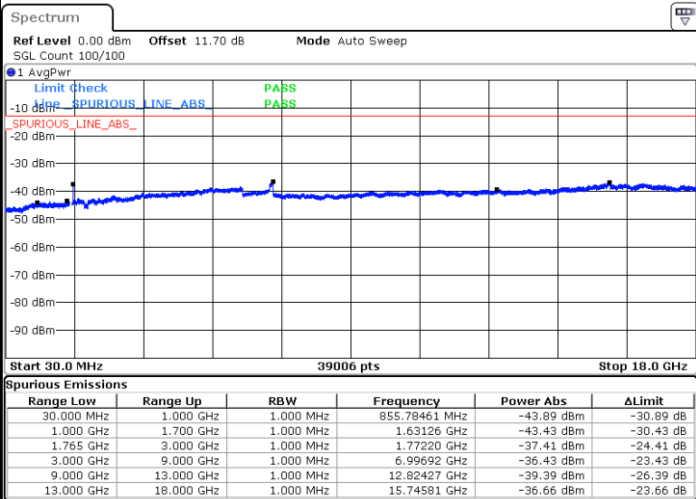


Date: 19.DEC.2019 14:30:24

Date: 19.DEC.2019 14:31:28

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 19.DEC.2019 14:38:53

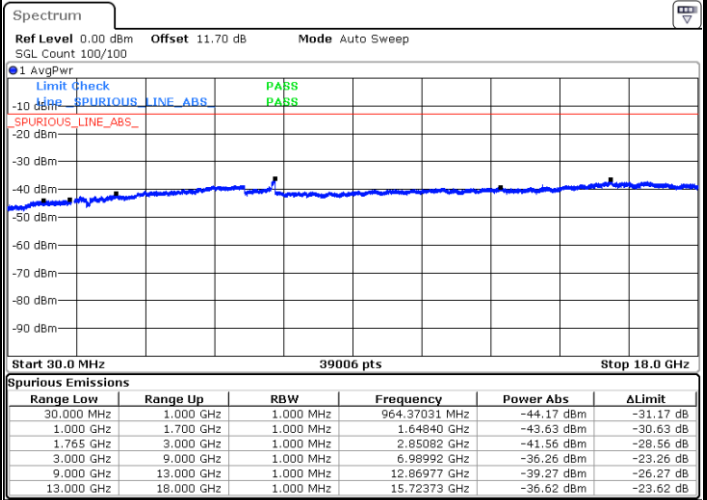
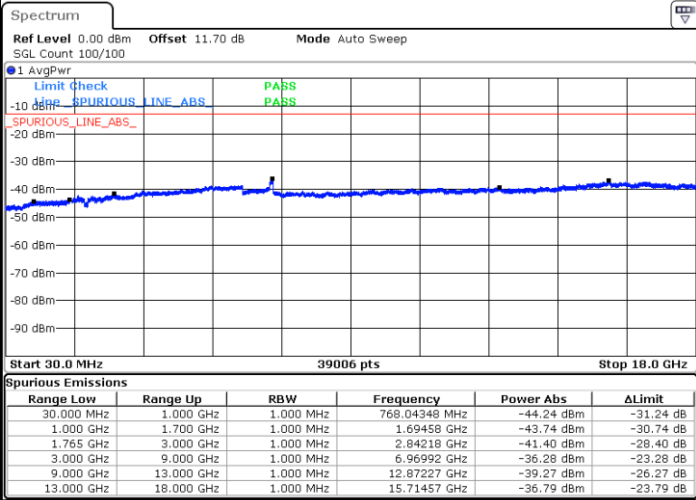
Date: 19.DEC.2019 14:39:58



LTE Band 4 / 1.4MHz

Lowest Channel / 64QAM

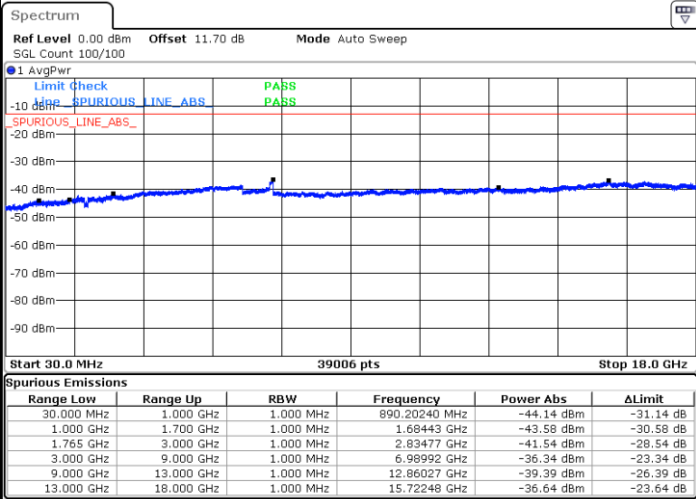
Middle Channel / 64QAM



Date: 19.DEC.2019 12:13:53

Date: 19.DEC.2019 12:15:25

Highest Channel / 64QAM

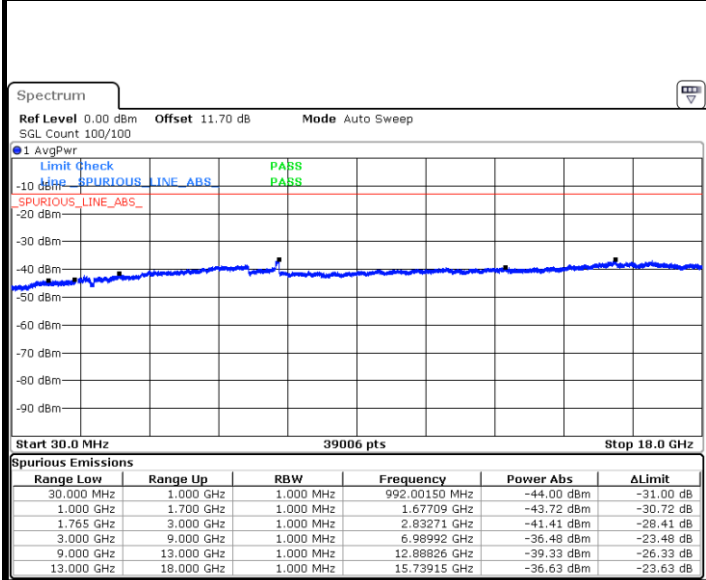


Date: 19.DEC.2019 12:19:39



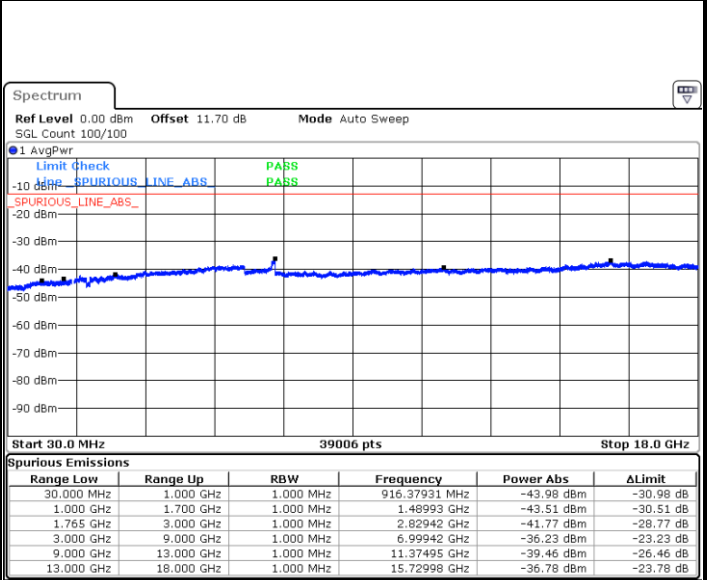
**LTE Band 4 / 3MHz**

**Lowest Channel / 64QAM**



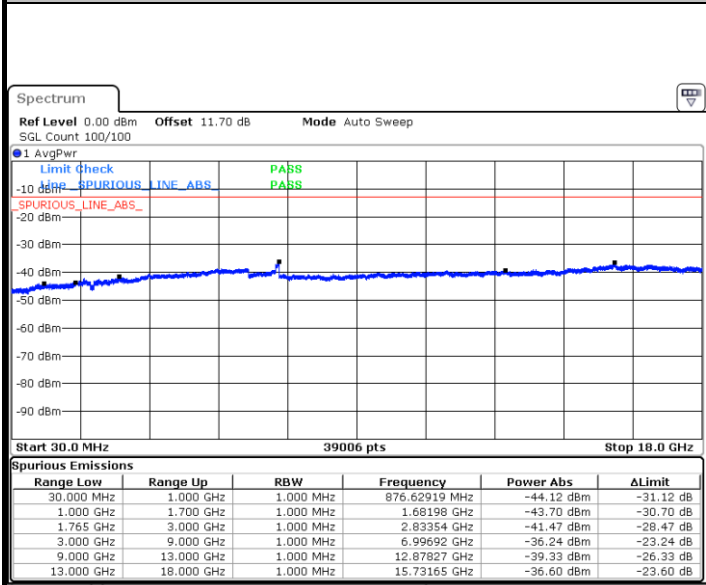
Date: 19.DEC.2019 12:43:59

**Middle Channel / 64QAM**



Date: 19.DEC.2019 12:45:30

**Highest Channel / 64QAM**



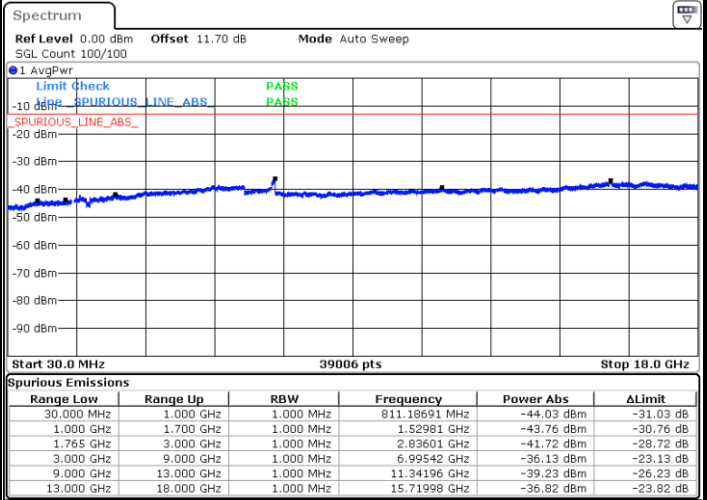
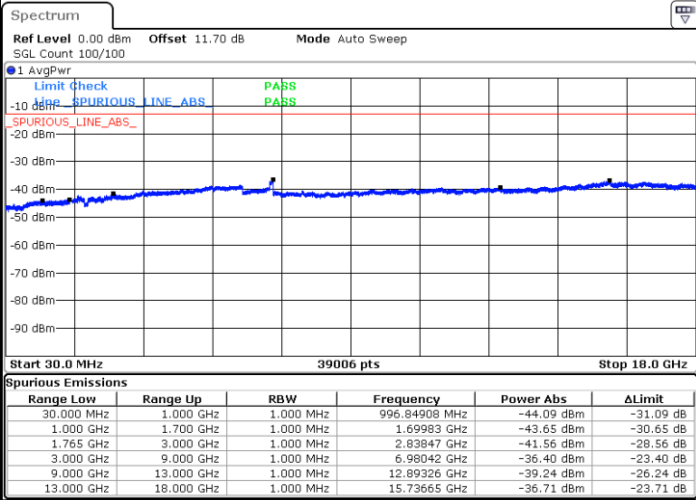
Date: 19.DEC.2019 12:49:45



LTE Band 4 / 5MHz

Lowest Channel / 64QAM

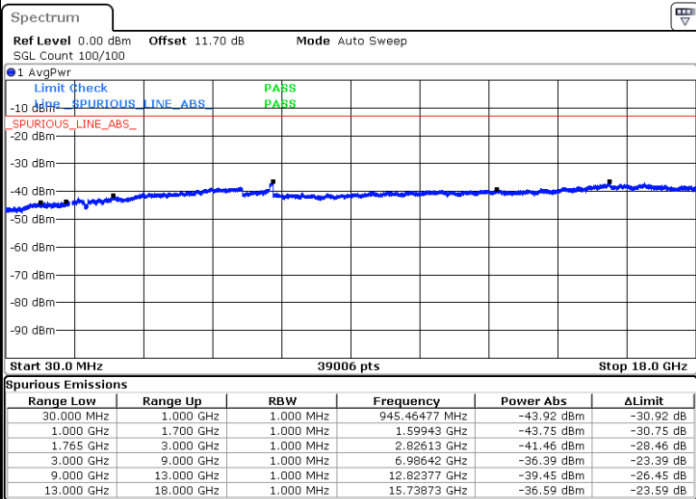
Middle Channel / 64QAM



Date: 19.DEC.2019 12:54:00

Date: 19.DEC.2019 12:55:31

Highest Channel / 64QAM



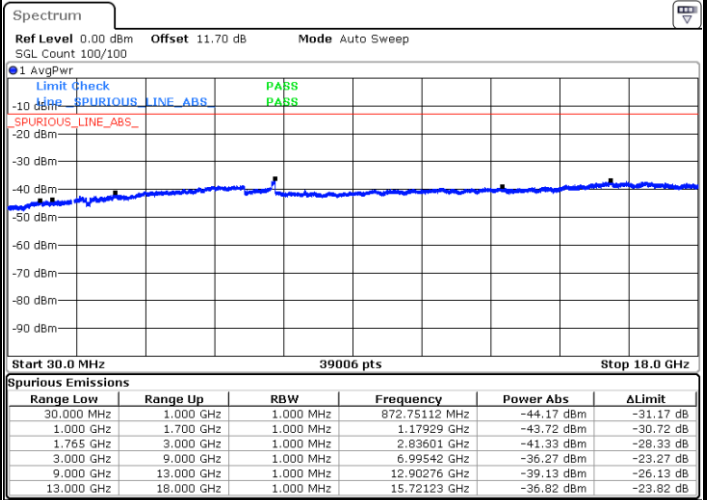
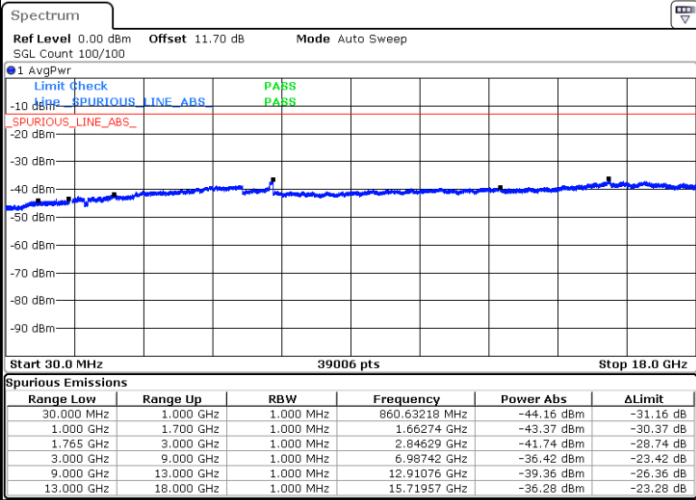
Date: 19.DEC.2019 12:59:46



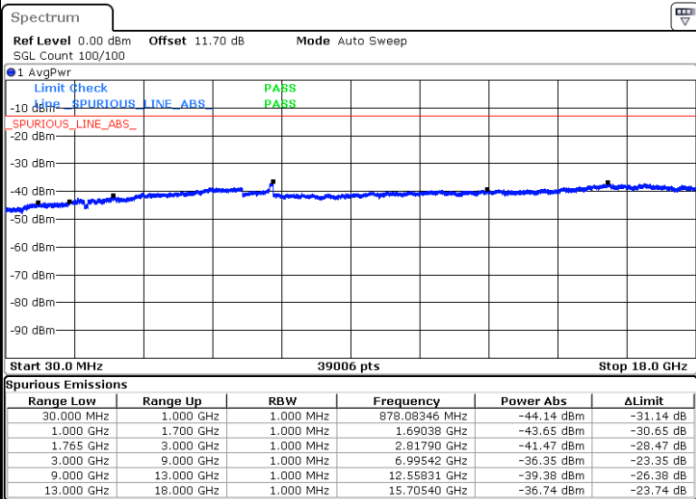
LTE Band 4 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM



Highest Channel / 64QAM

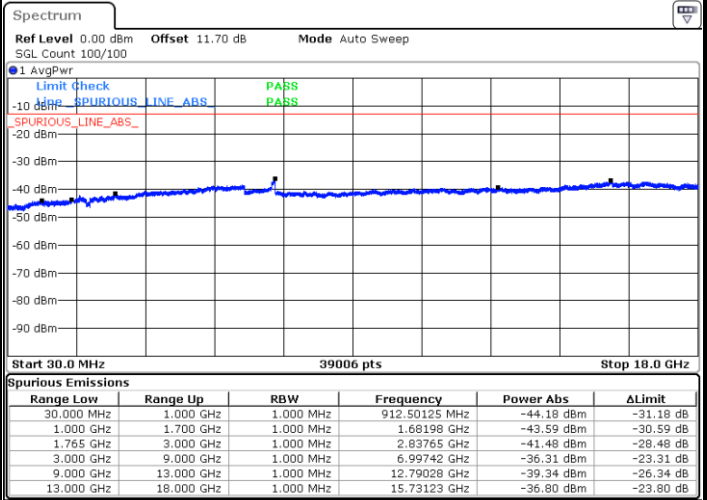
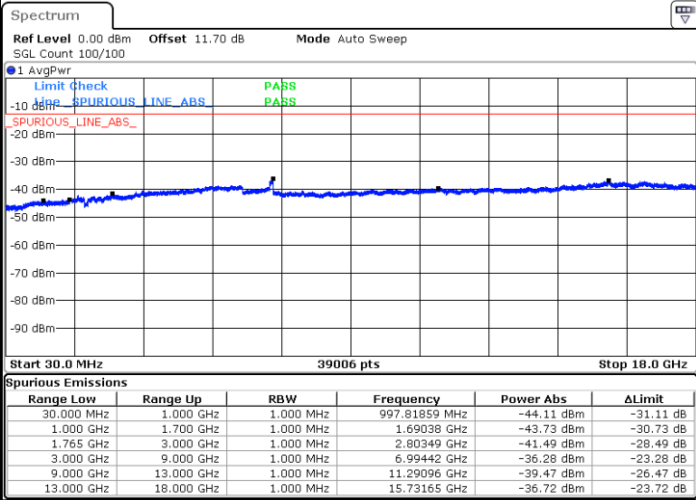




LTE Band 4 / 15MHz

Lowest Channel / 64QAM

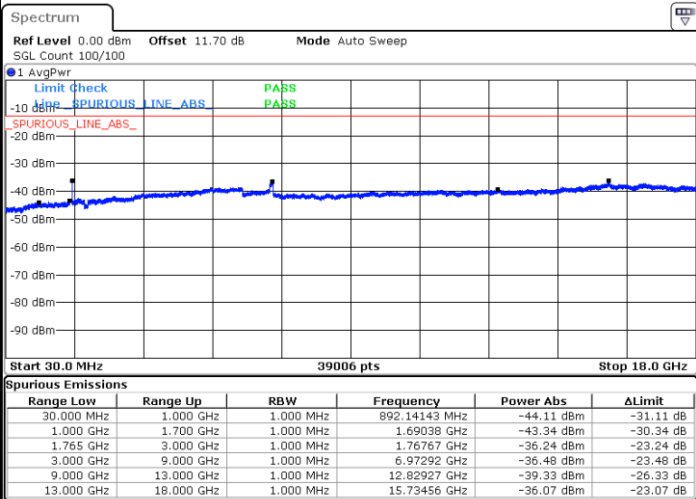
Middle Channel / 64QAM



Date: 19.DEC.2019 14:14:08

Date: 19.DEC.2019 14:15:40

Highest Channel / 64QAM



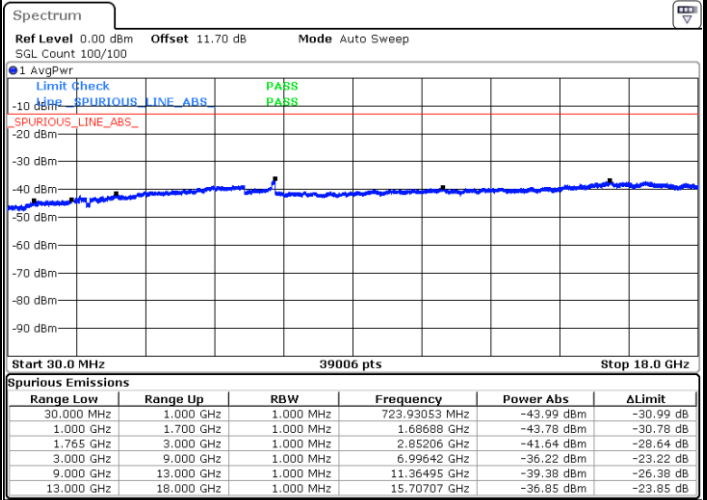
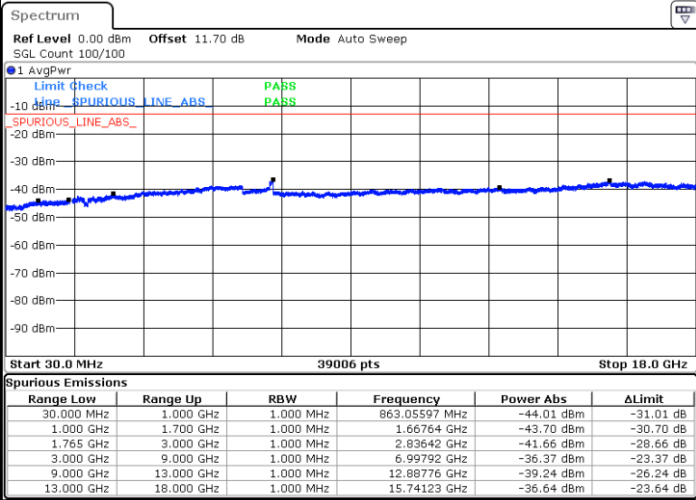
Date: 19.DEC.2019 14:19:55



LTE Band 4 / 20MHz

Lowest Channel / 64QAM

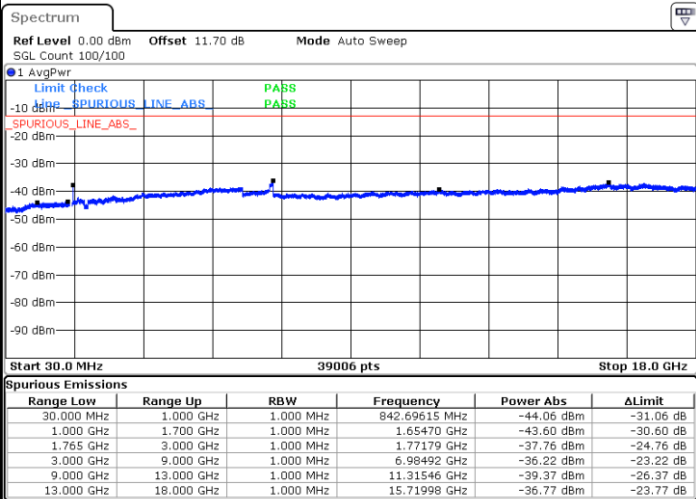
Middle Channel / 64QAM



Date: 19.DEC.2019 14:44:13

Date: 19.DEC.2019 14:45:44

Highest Channel / 64QAM



Date: 19.DEC.2019 14:49:58





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	0.0008	PASS
40	Normal Voltage	0.0043	
30	Normal Voltage	0.0006	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0032	
0	Normal Voltage	0.0003	
-10	Normal Voltage	0.0032	
-20	Normal Voltage	0.0027	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0042	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0032	

Note:

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



# LTE Band 41

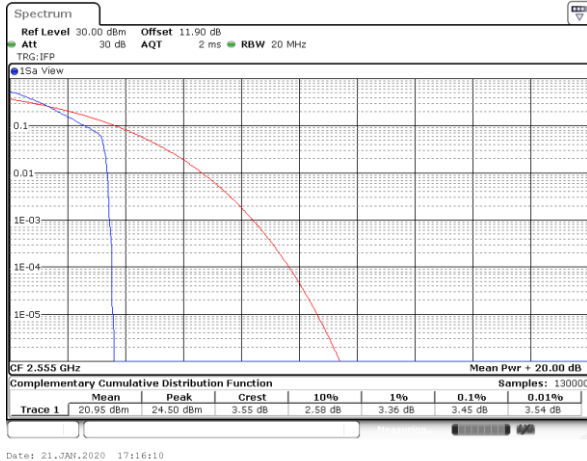
## Peak-to-Average Ratio

Mode	LTE Band 41 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.45	4.49	5.01	5.83	PASS
Middle CH	3.30	4.38	4.81	5.68	
Highest CH	3.88	4.81	5.71	6.23	
Mode	LTE Band 41 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.12	6.32	-	-	PASS
Middle CH	5.97	6.20	-	-	
Highest CH	6.81	6.75	-	-	



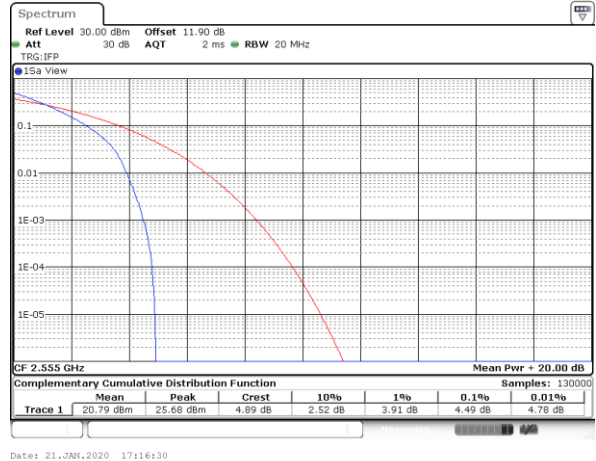
LTE Band 41 / 20MHz / QPSK

Lowest Channel / 1RB



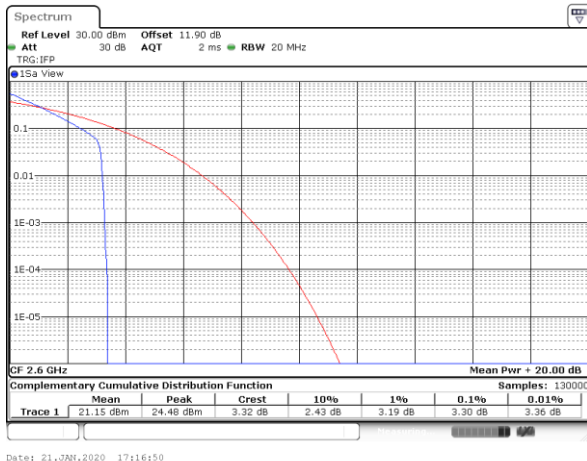
Date: 21\_JAN\_2020 17:16:10

Lowest Channel / Full RB



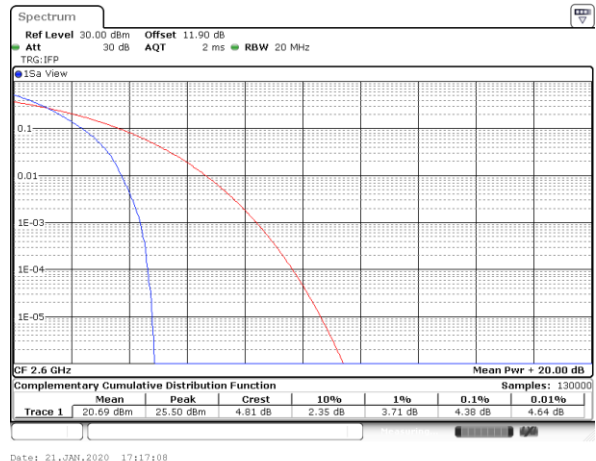
Date: 21\_JAN\_2020 17:16:30

Middle Channel / 1RB



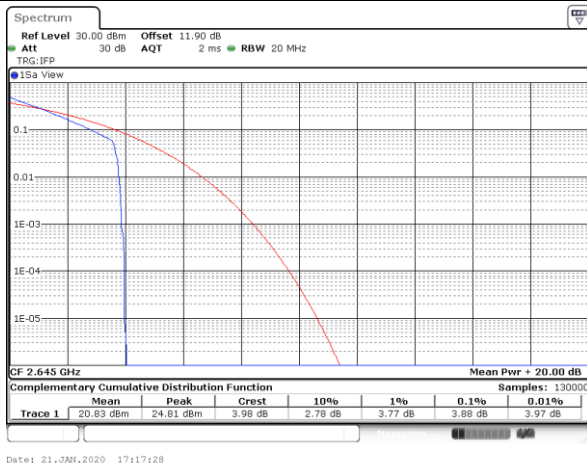
Date: 21\_JAN\_2020 17:16:50

Middle Channel / Full RB



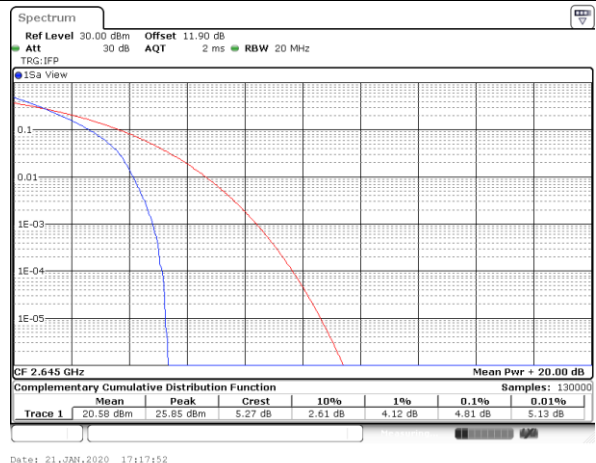
Date: 21\_JAN\_2020 17:17:08

Highest Channel / 1RB



Date: 21\_JAN\_2020 17:17:28

Highest Channel / Full RB

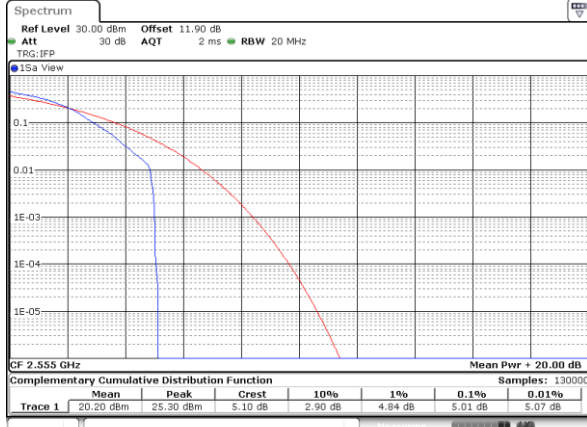


Date: 21\_JAN\_2020 17:17:52



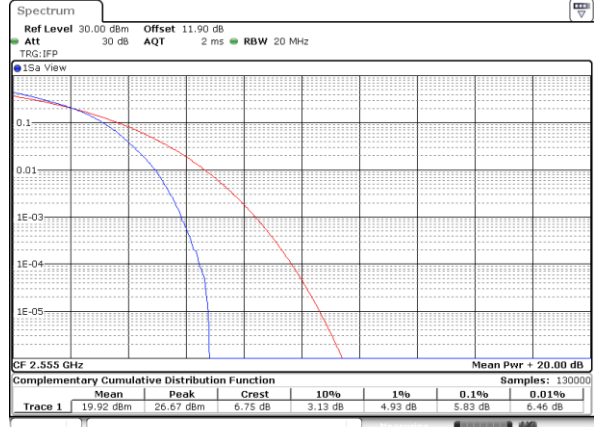
LTE Band 41 / 20MHz / 16QAM

Lowest Channel / 1RB



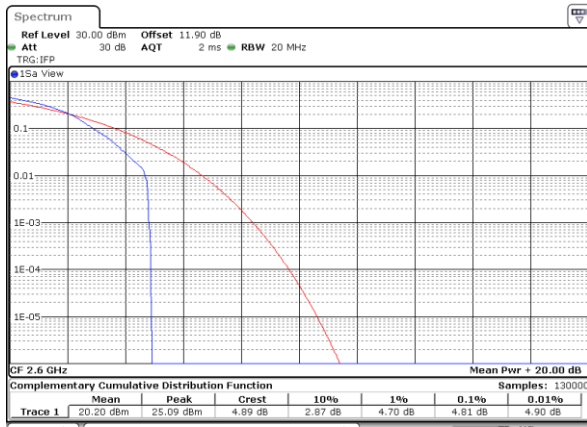
Date: 21\_JAN\_2020 17:13:39

Lowest Channel / Full RB



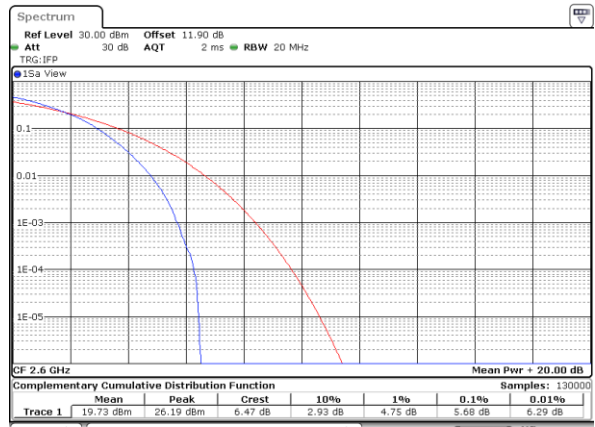
Date: 21\_JAN\_2020 17:14:04

Middle Channel / 1RB



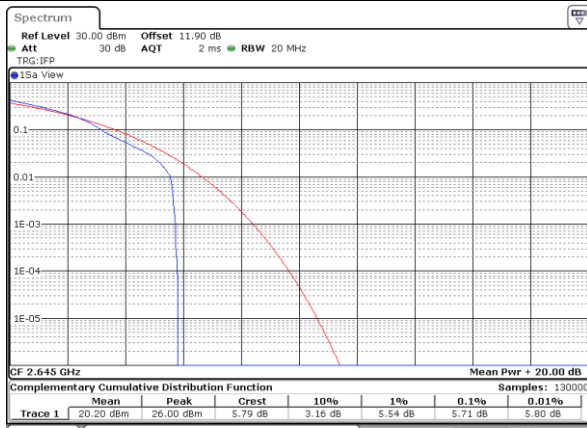
Date: 21\_JAN\_2020 17:18:50

Middle Channel / Full RB



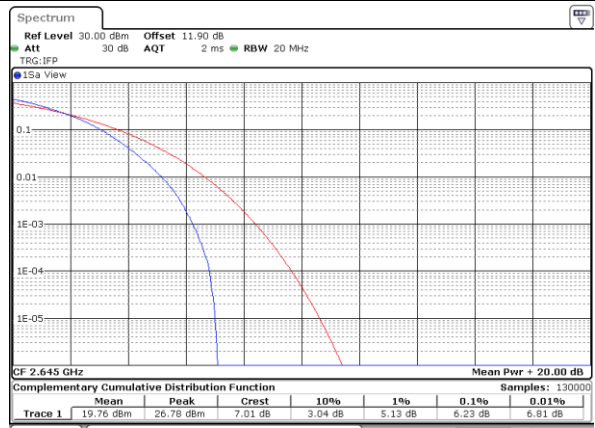
Date: 21\_JAN\_2020 17:15:11

Highest Channel / 1RB



Date: 21\_JAN\_2020 17:15:31

Highest Channel / Full RB

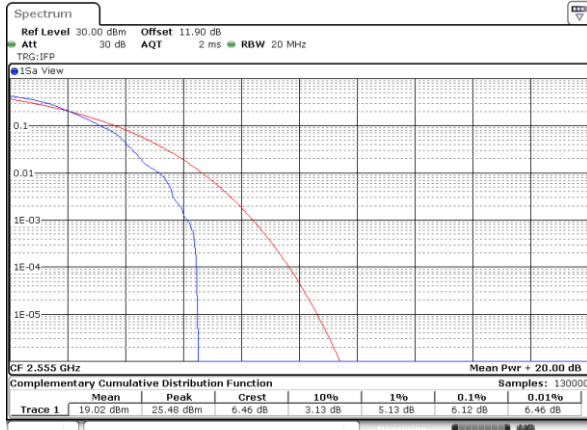


Date: 21\_JAN\_2020 17:15:51



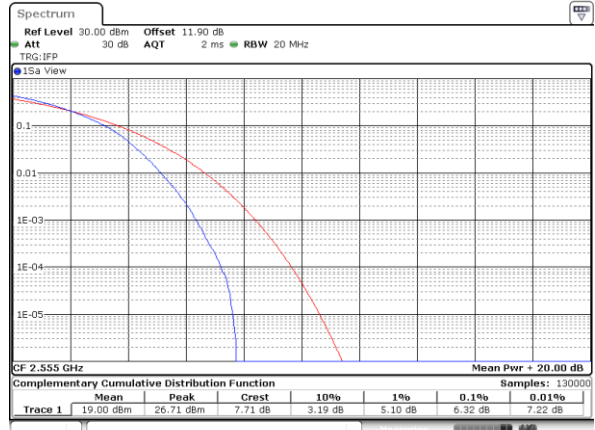
LTE Band 41 / 20MHz / 64QAM

Lowest Channel / 1RB



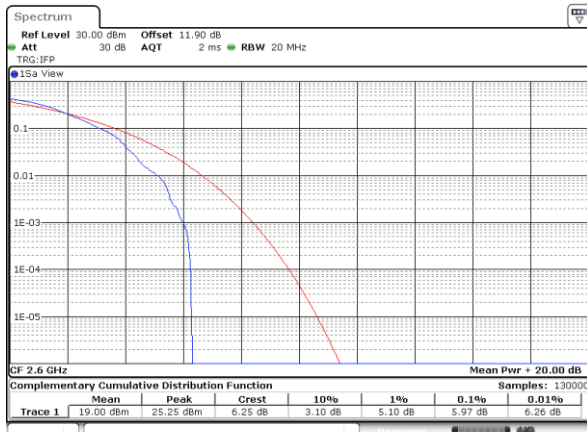
Date: 21\_JAN\_2020 17:11:02

Lowest Channel / Full RB



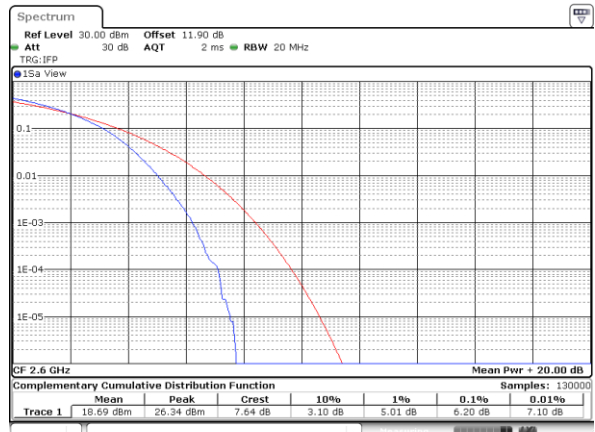
Date: 21\_JAN\_2020 17:11:25

Middle Channel / 1RB



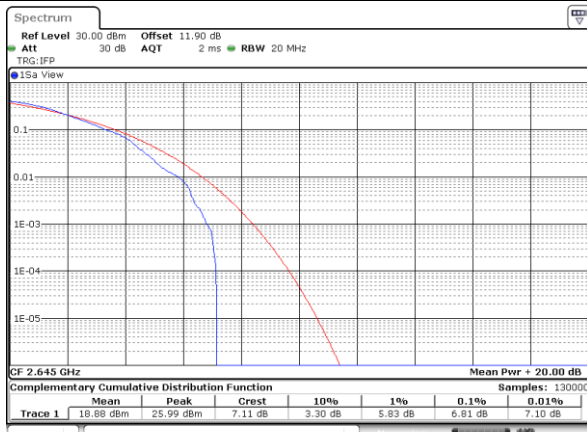
Date: 21\_JAN\_2020 17:11:50

Middle Channel / Full RB



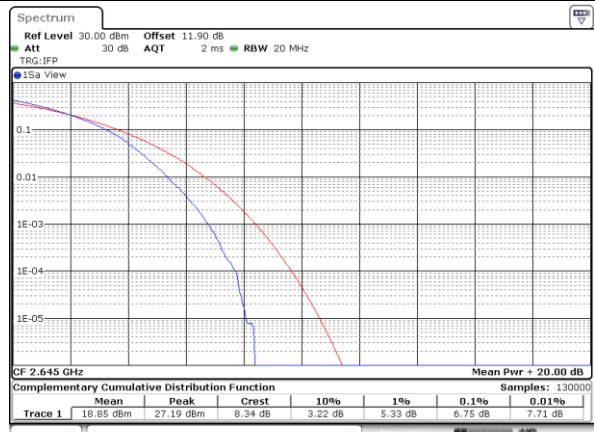
Date: 21\_JAN\_2020 17:12:13

Highest Channel / 1RB



Date: 21\_JAN\_2020 17:12:46

Highest Channel / Full RB



Date: 21\_JAN\_2020 17:13:06



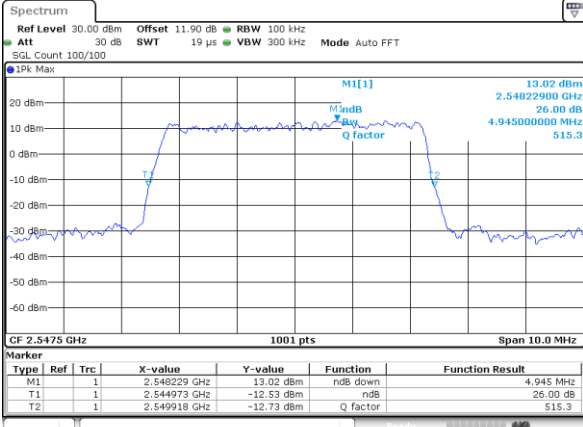
**26dB Bandwidth**

Mode	LTE Band 41 : 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	4.83	9.77	9.73	14.27	14.36	18.70	18.78
Middle CH	-	-	-	-	4.90	4.93	9.71	9.69	14.36	14.12	18.94	18.62
Highest CH	-	-	-	-	4.98	4.94	9.81	9.73	14.33	14.15	18.90	18.70
Mode	LTE Band 41 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.81	-	9.81	-	14.18	-	18.78	-
Middle CH	-	-	-	-	4.82	-	9.79	-	14.45	-	18.98	-
Highest CH	-	-	-	-	4.74	-	9.63	-	14.15	-	18.78	-



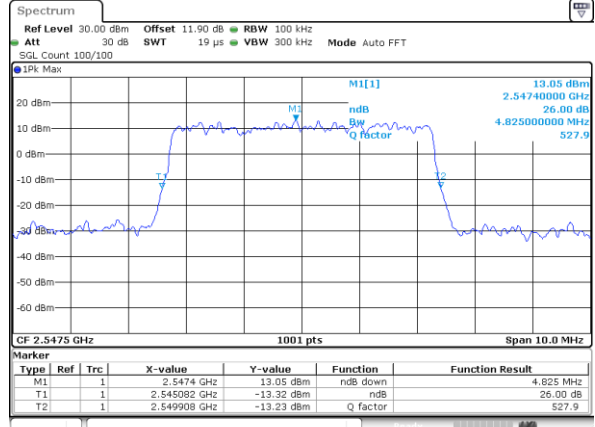
LTE Band 41

Lowest Channel / 5MHz / QPSK



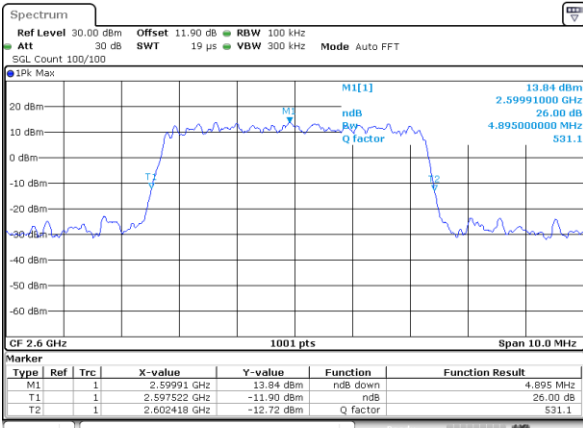
Date: 21\_JAN\_2020 16:47:44

Lowest Channel / 5MHz / 16QAM



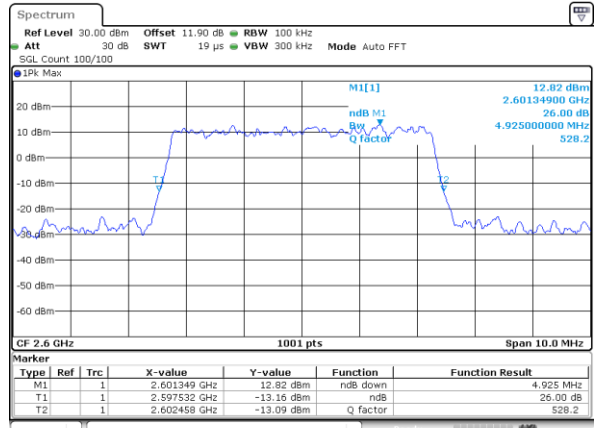
Date: 21\_JAN\_2020 16:47:57

Middle Channel / 5MHz / QPSK



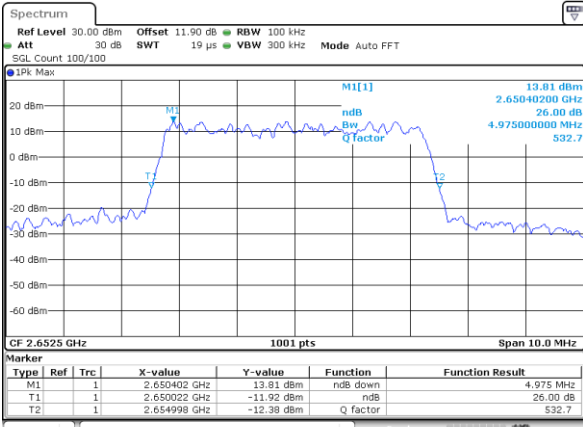
Date: 21\_JAN\_2020 16:48:39

Middle Channel / 5MHz / 16QAM



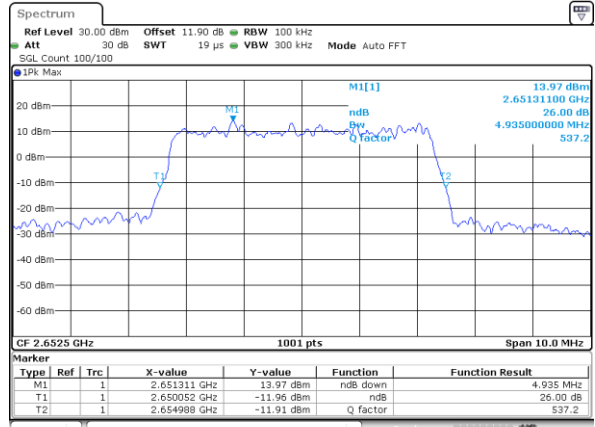
Date: 21\_JAN\_2020 16:48:52

Highest Channel / 5MHz / QPSK



Date: 21\_JAN\_2020 16:49:34

Highest Channel / 5MHz / 16QAM

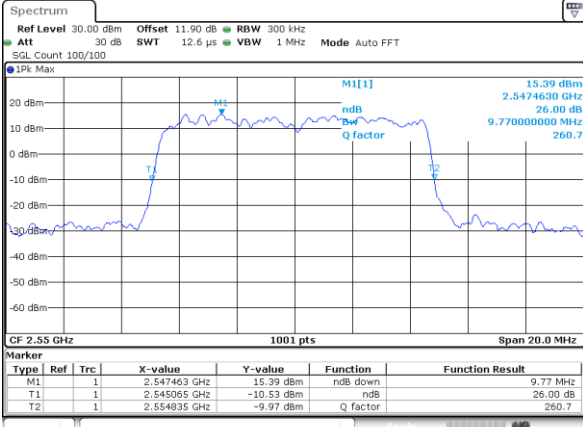


Date: 21\_JAN\_2020 16:49:47



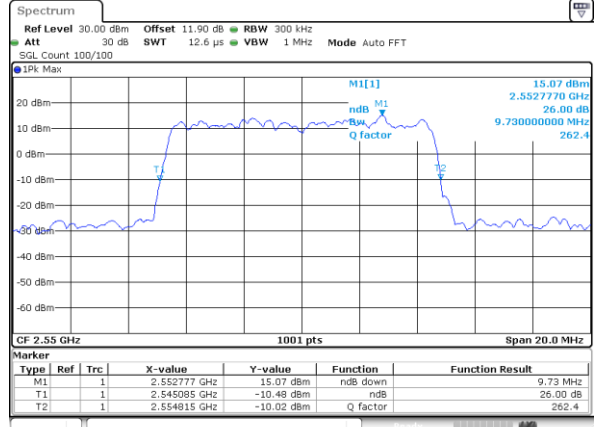
LTE Band 41

Lowest Channel / 10MHz / QPSK



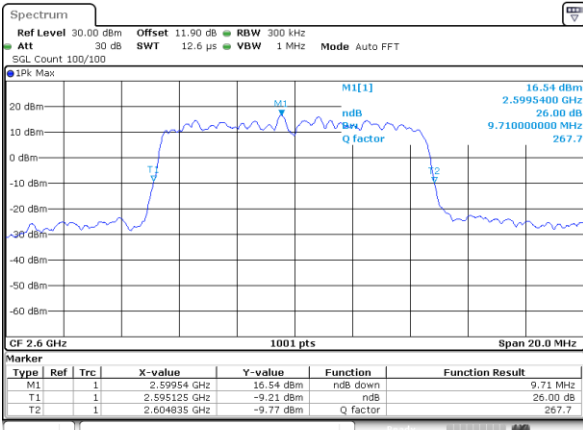
Date: 21\_JAN\_2020 16:53:13

Lowest Channel / 10MHz / 16QAM



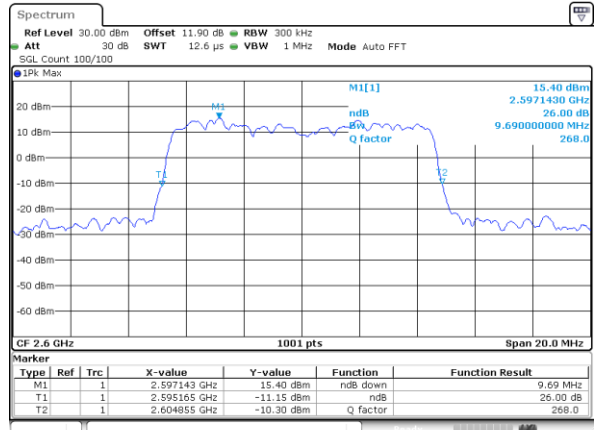
Date: 21\_JAN\_2020 16:53:27

Middle Channel / 10MHz / QPSK



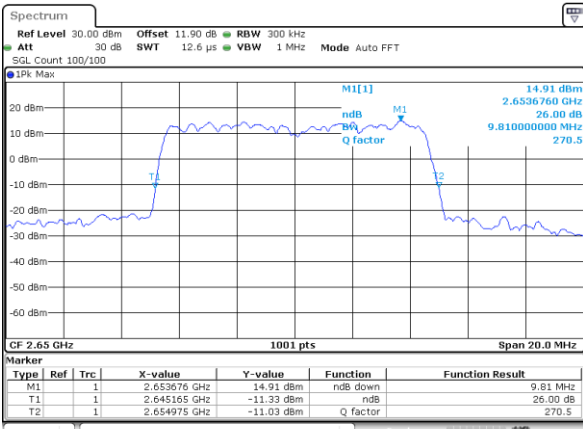
Date: 21\_JAN\_2020 16:54:08

Middle Channel / 10MHz / 16QAM



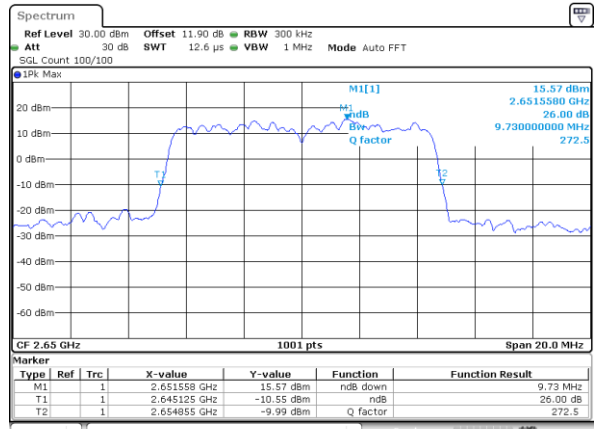
Date: 21\_JAN\_2020 16:54:22

Highest Channel / 10MHz / QPSK



Date: 21\_JAN\_2020 16:55:04

Highest Channel / 10MHz / 16QAM



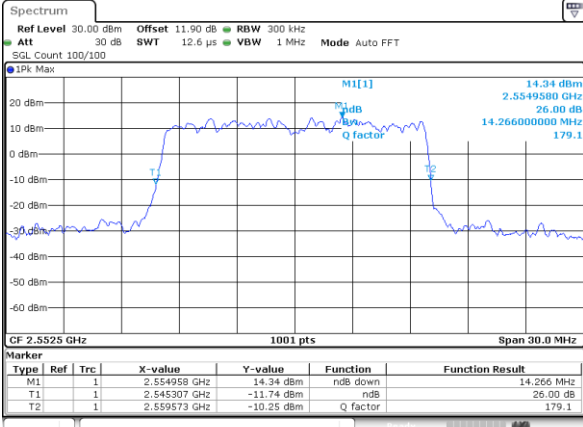
Date: 21\_JAN\_2020 16:55:17





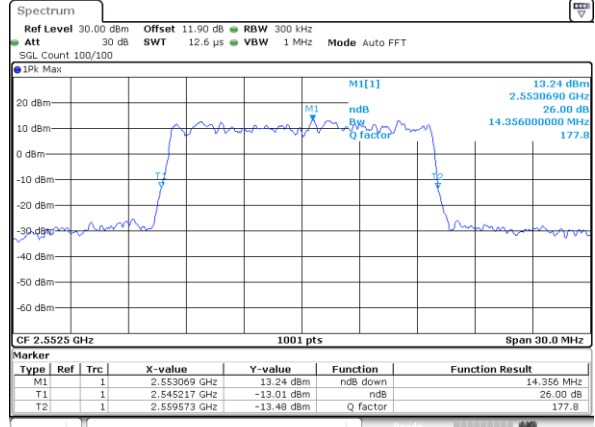
LTE Band 41

Lowest Channel / 15MHz / QPSK



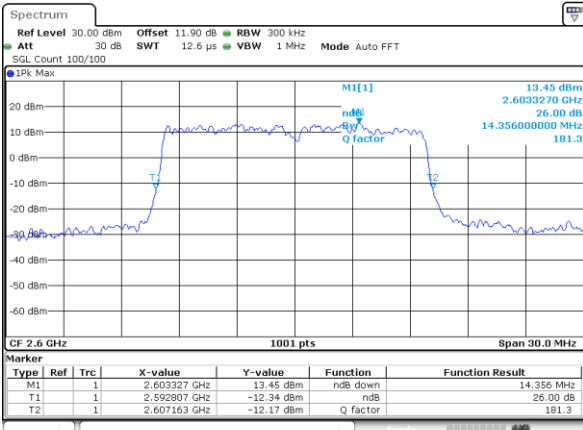
Date: 21.JAN.2020 16:57:21

Lowest Channel / 15MHz / 16QAM



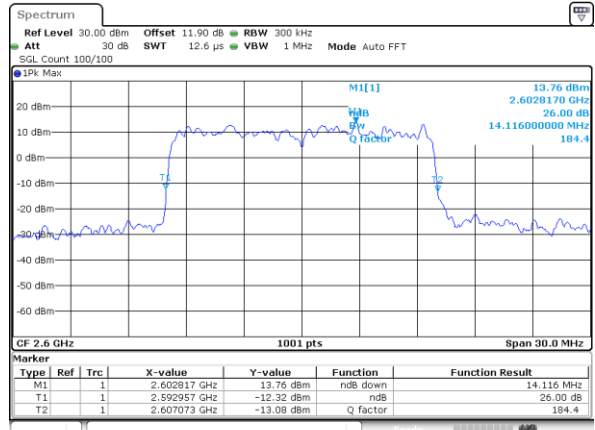
Date: 21.JAN.2020 16:57:35

Middle Channel / 15MHz / QPSK



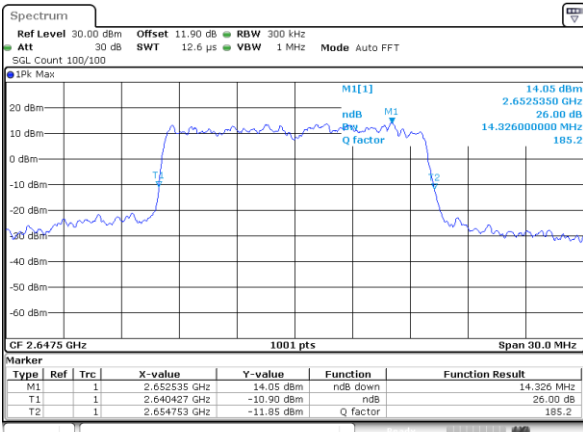
Date: 21.JAN.2020 16:58:16

Middle Channel / 15MHz / 16QAM



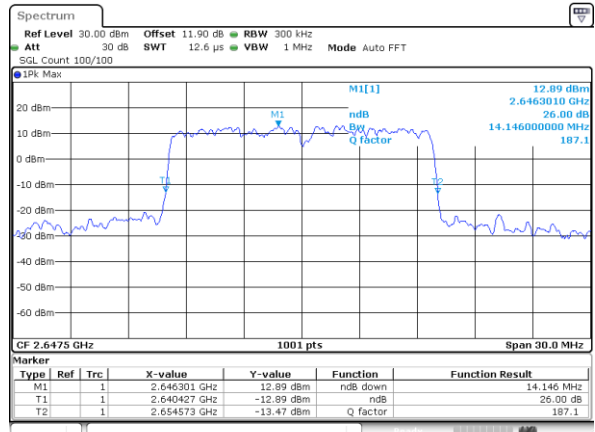
Date: 21.JAN.2020 16:58:30

Highest Channel / 15MHz / QPSK



Date: 21.JAN.2020 16:59:11

Highest Channel / 15MHz / 16QAM

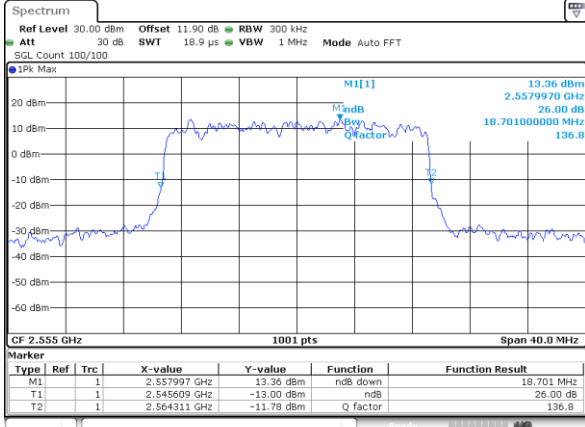


Date: 21.JAN.2020 16:59:25



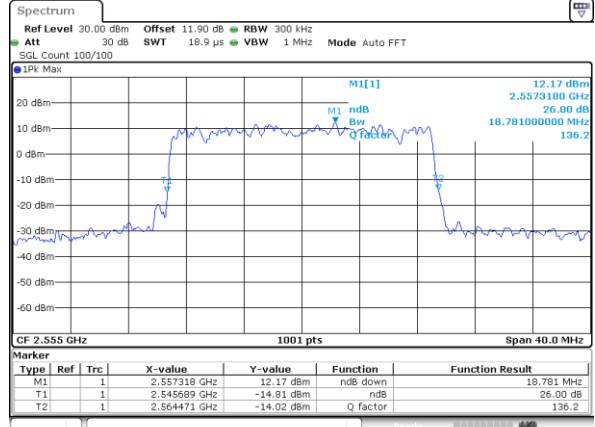
LTE Band 41

Lowest Channel / 20MHz / QPSK



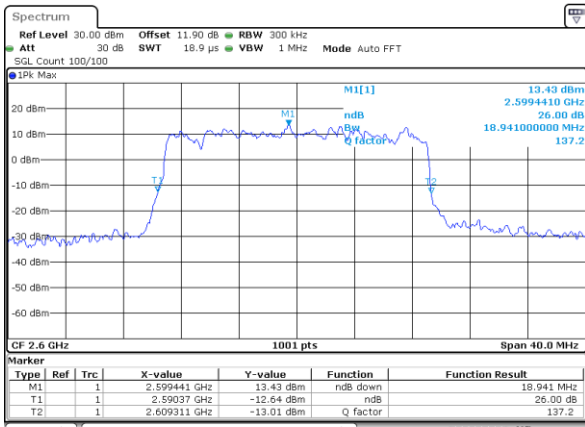
Date: 21\_JAN\_2020 17:00:07

Lowest Channel / 20MHz / 16QAM



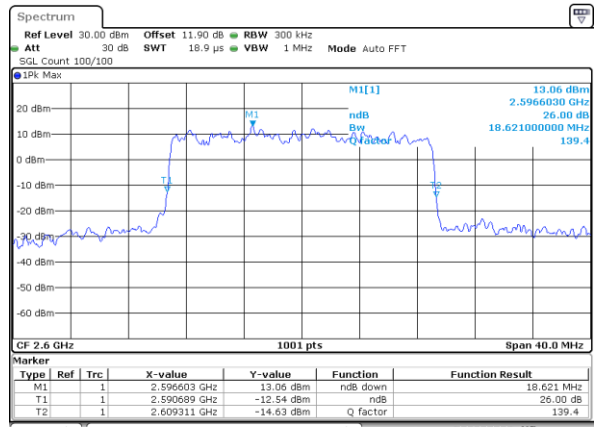
Date: 21\_JAN\_2020 17:00:21

Middle Channel / 20MHz / QPSK



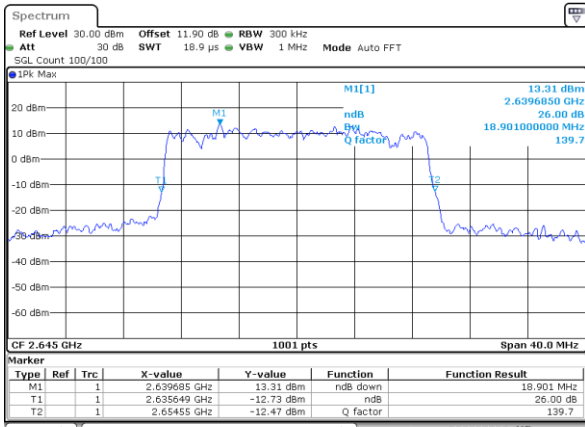
Date: 21\_JAN\_2020 17:01:03

Middle Channel / 20MHz / 16QAM



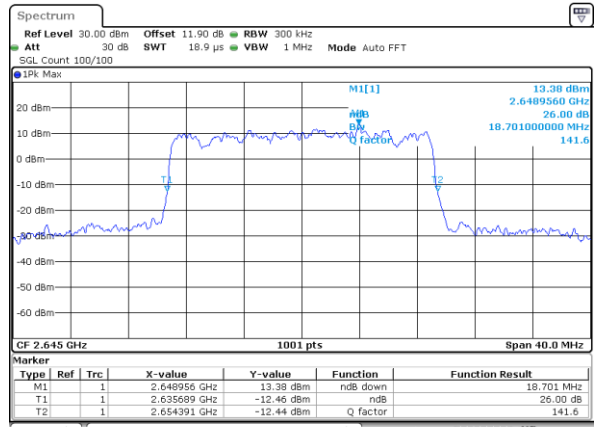
Date: 21\_JAN\_2020 17:01:17

Highest Channel / 20MHz / QPSK



Date: 21\_JAN\_2020 17:01:59

Highest Channel / 20MHz / 16QAM

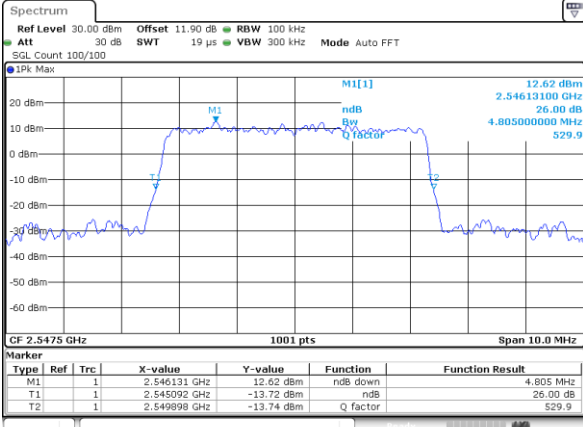


Date: 21\_JAN\_2020 17:02:12



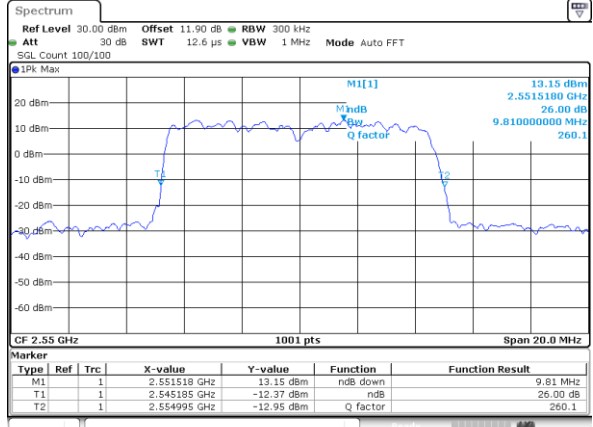
LTE Band 41

Lowest Channel / 5MHz / 64QAM



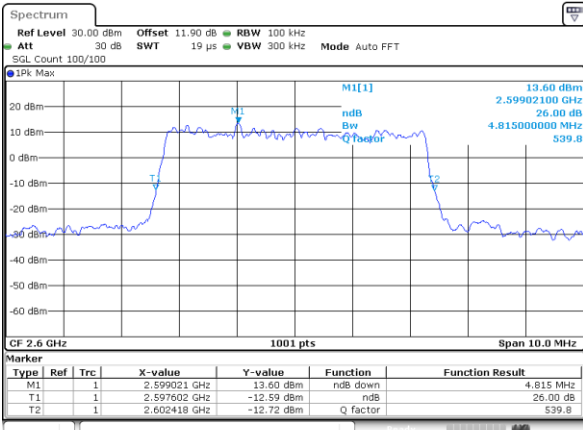
Date: 21\_JAN\_2020 16:50:15

Lowest Channel / 10MHz / 64QAM



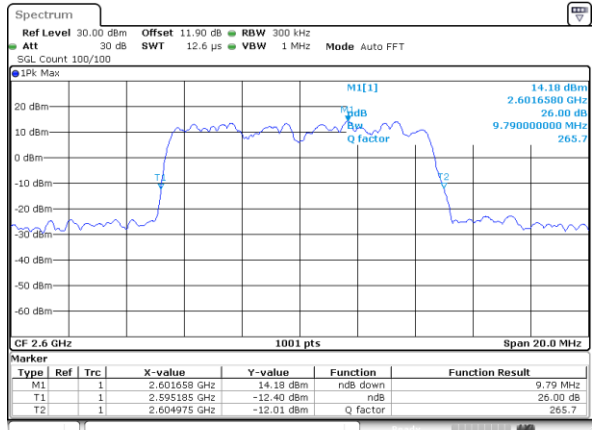
Date: 21\_JAN\_2020 16:51:37

Middle Channel / 5MHz / 64QAM



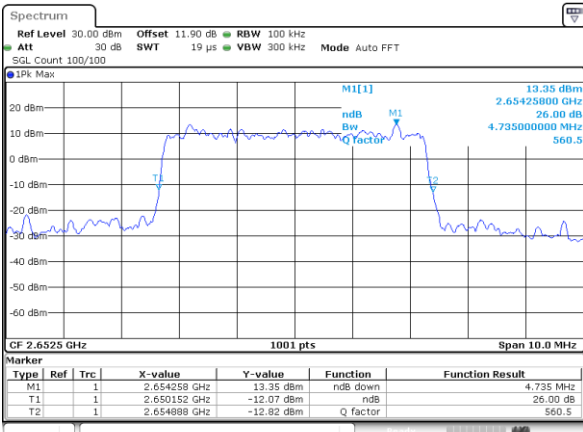
Date: 21\_JAN\_2020 16:50:42

Middle Channel / 10MHz / 64QAM



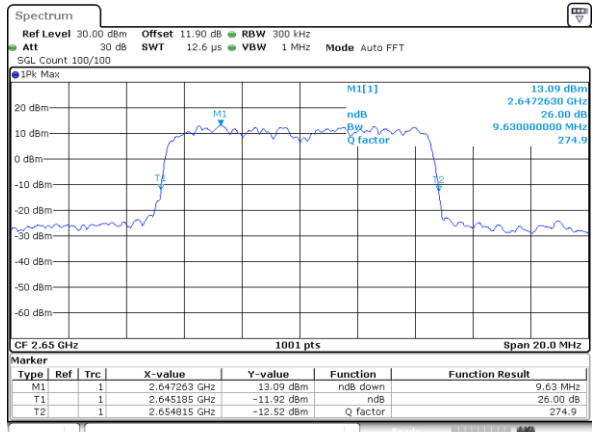
Date: 21\_JAN\_2020 16:52:04

Highest Channel / 5MHz / 64QAM



Date: 21\_JAN\_2020 16:51:09

Highest Channel / 10MHz / 64QAM

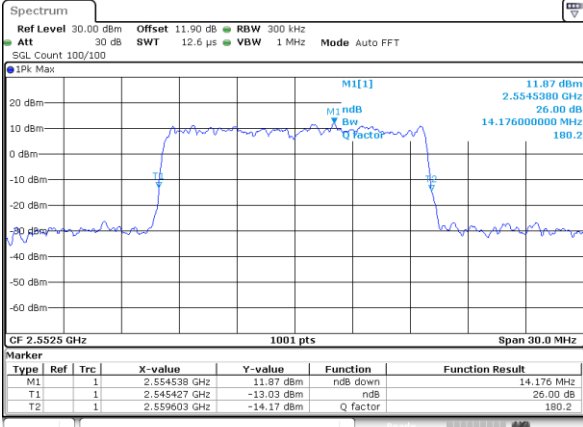


Date: 21\_JAN\_2020 16:52:32



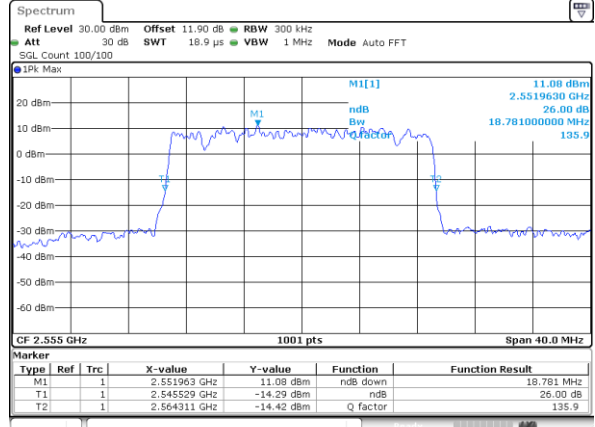
LTE Band 41

Lowest Channel / 15MHz / 64QAM



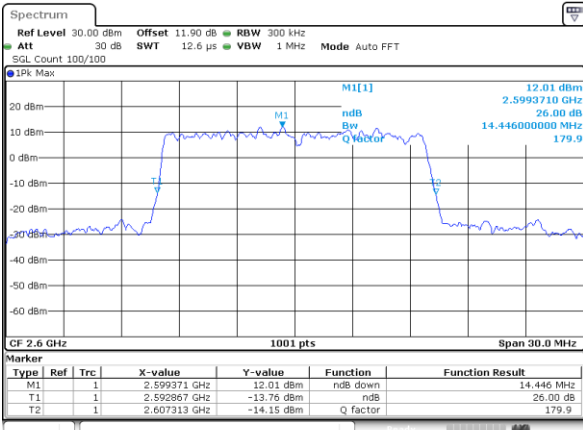
Date: 21\_JAN\_2020 16:55:45

Lowest Channel / 20MHz / 64QAM



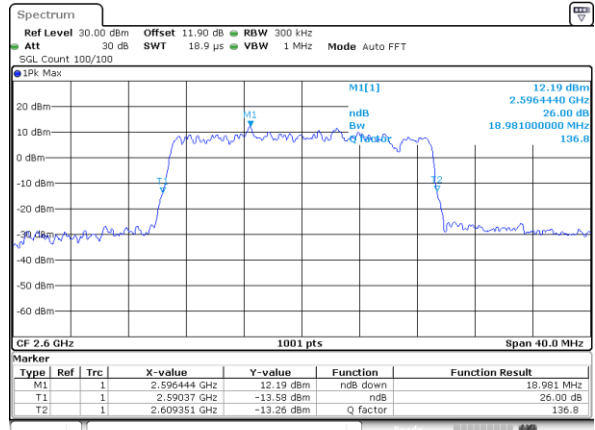
Date: 21\_JAN\_2020 17:02:40

Middle Channel / 15MHz / 64QAM



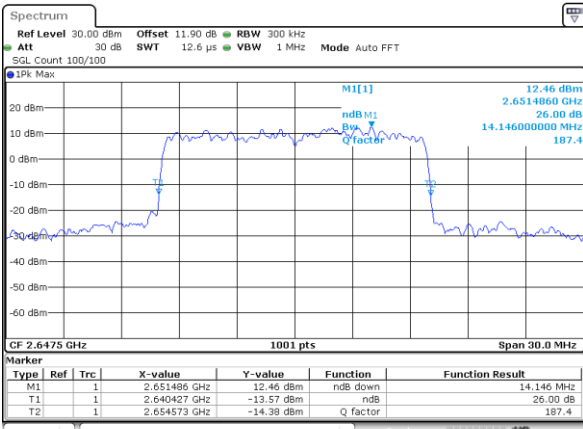
Date: 21\_JAN\_2020 16:56:13

Middle Channel / 20MHz / 64QAM



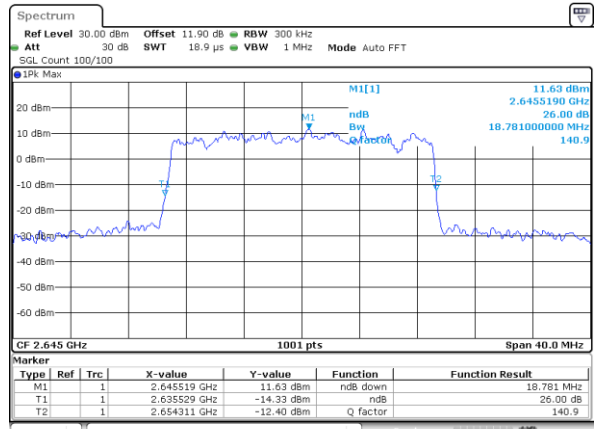
Date: 21\_JAN\_2020 17:03:07

Highest Channel / 15MHz / 64QAM



Date: 21\_JAN\_2020 16:56:40

Highest Channel / 20MHz / 64QAM



Date: 21\_JAN\_2020 17:03:34



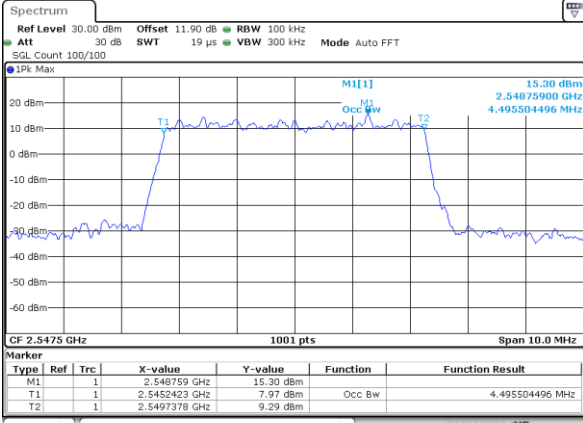
**Occupied Bandwidth**

Mode	LTE Band 41 : 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	-	-	-	-	4.50	4.50	9.03	8.95	13.46	13.31	17.78	17.86
Middle CH	-	-	-	-	4.49	4.51	8.97	9.01	13.40	13.28	17.82	17.82
Highest CH	-	-	-	-	4.55	4.51	9.03	9.05	13.46	13.52	17.78	17.86
Mode	LTE Band 41 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.50	-	8.99	-	13.37	-	17.82	-
Middle CH	-	-	-	-	4.52	-	9.01	-	13.46	-	17.86	-
Highest CH	-	-	-	-	4.49	-	9.05	-	13.40	-	17.86	-



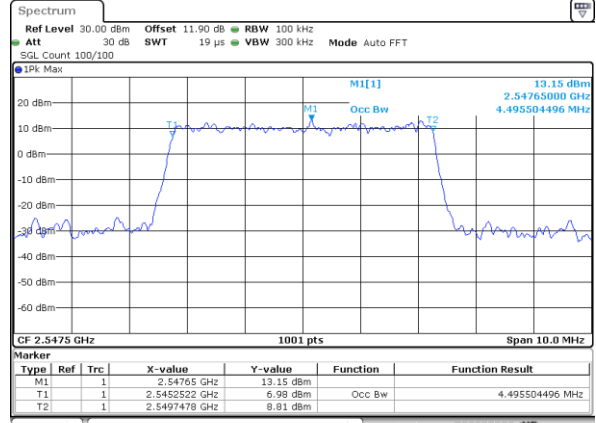
LTE Band 41

Lowest Channel / 5MHz / QPSK



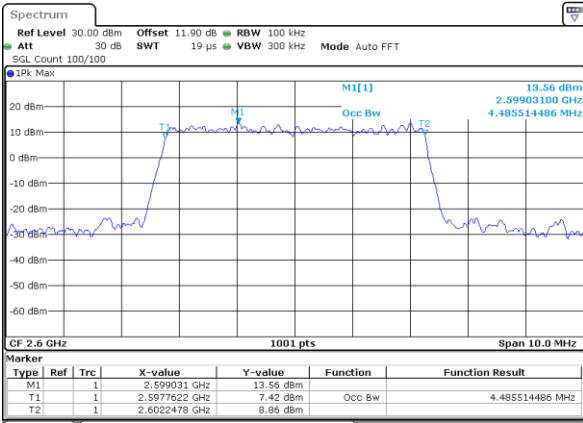
Date: 21\_JAN\_2020 16:47:16

Lowest Channel / 5MHz / 16QAM



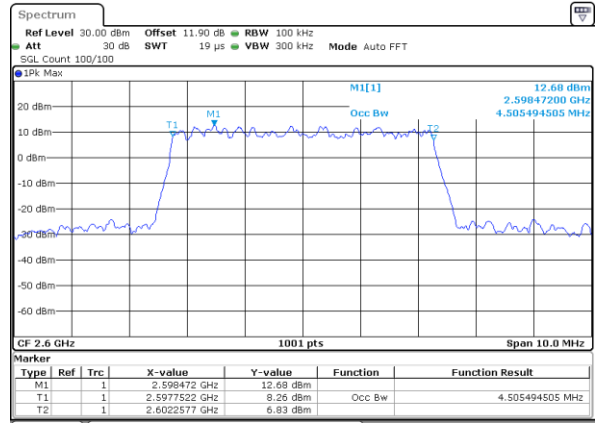
Date: 21\_JAN\_2020 16:47:30

Middle Channel / 5MHz / QPSK



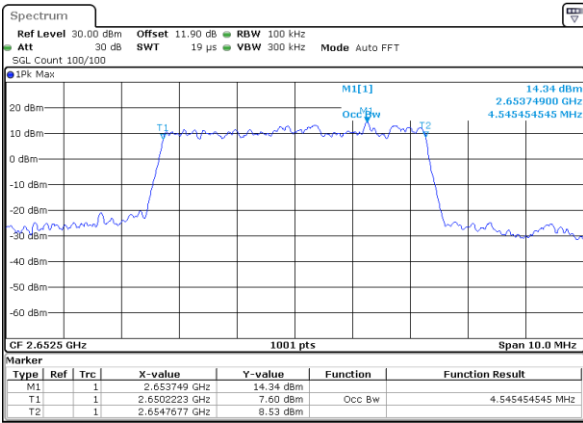
Date: 21\_JAN\_2020 16:48:11

Middle Channel / 5MHz / 16QAM



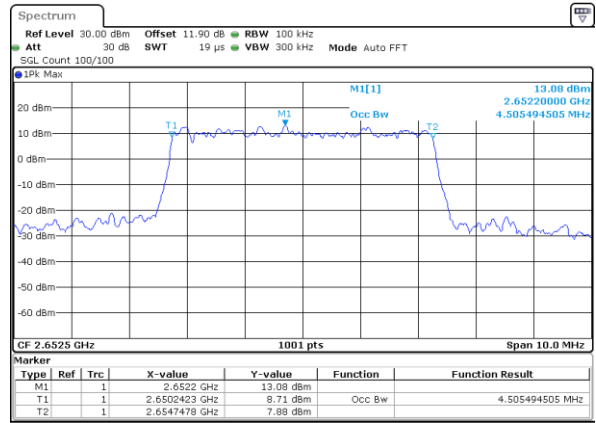
Date: 21\_JAN\_2020 16:48:25

Highest Channel / 5MHz / QPSK



Date: 21\_JAN\_2020 16:49:06

Highest Channel / 5MHz / 16QAM

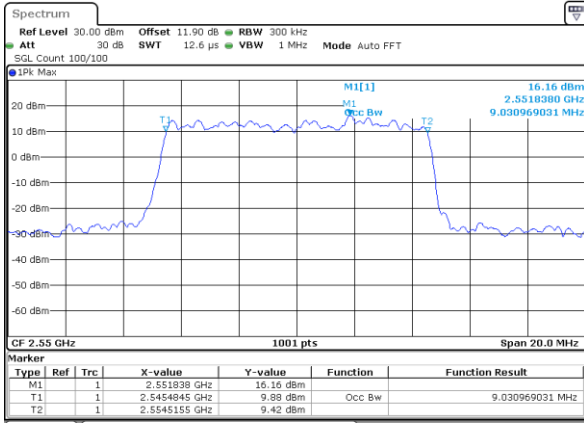


Date: 21\_JAN\_2020 16:49:20



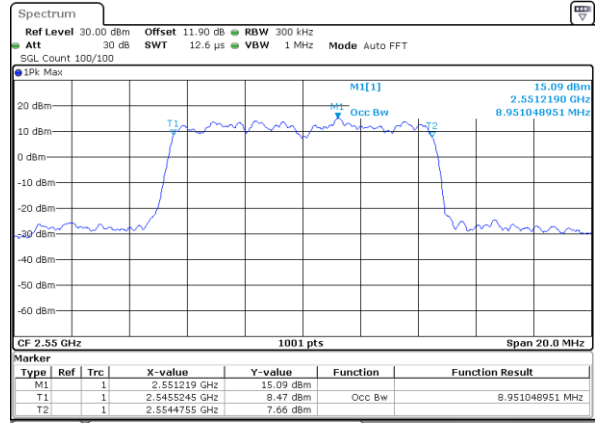
LTE Band 41

Lowest Channel / 10MHz / QPSK



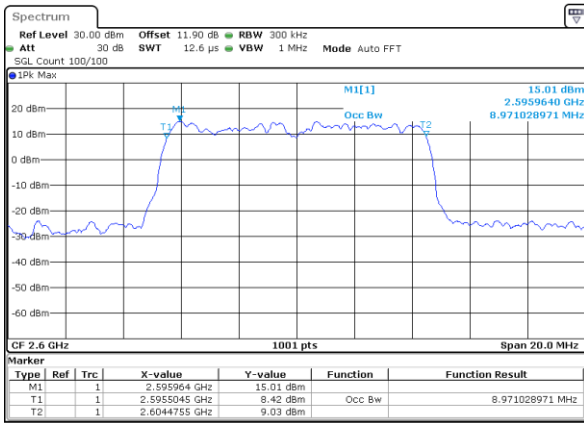
Date: 21\_JAN\_2020 16:52:45

Lowest Channel / 10MHz / 16QAM



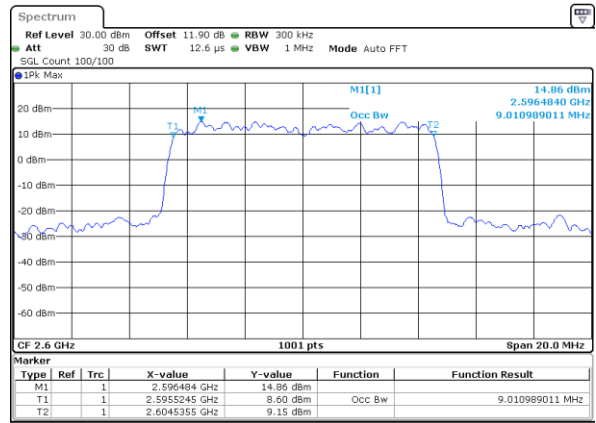
Date: 21\_JAN\_2020 16:52:59

Middle Channel / 10MHz / QPSK



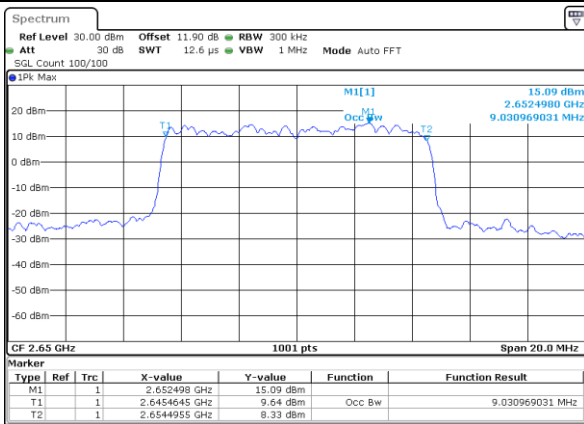
Date: 21\_JAN\_2020 16:53:40

Middle Channel / 10MHz / 16QAM



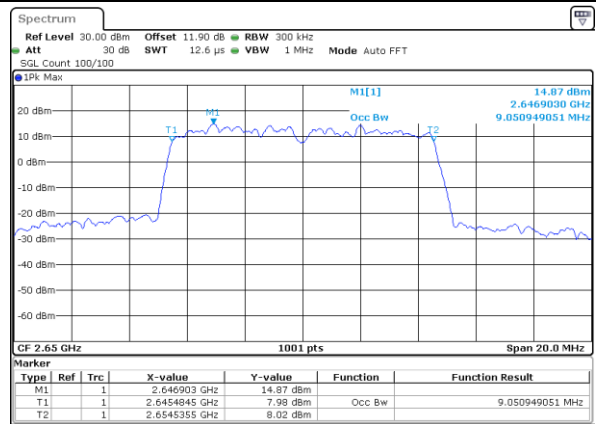
Date: 21\_JAN\_2020 16:53:54

Highest Channel / 10MHz / QPSK



Date: 21\_JAN\_2020 16:54:36

Highest Channel / 10MHz / 16QAM

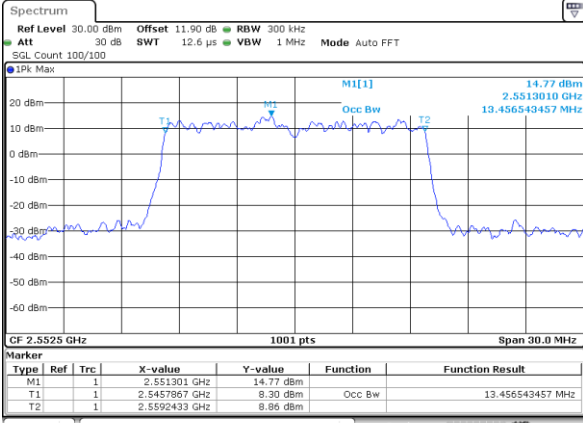


Date: 21\_JAN\_2020 16:54:50



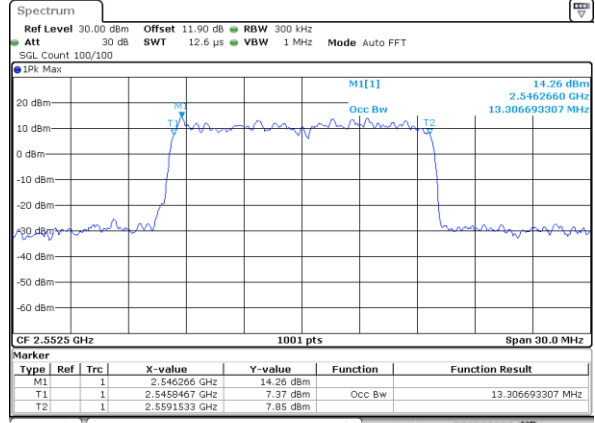
LTE Band 41

Lowest Channel / 15MHz / QPSK



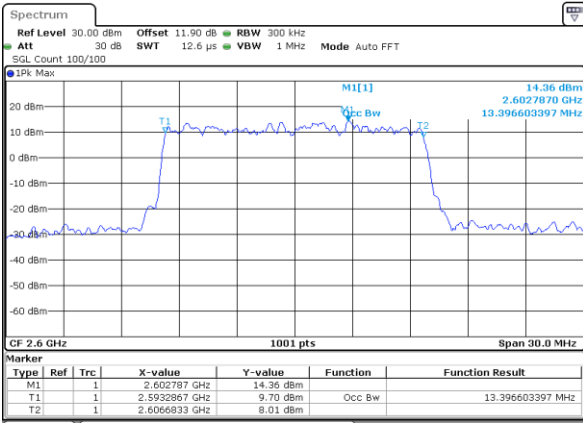
Date: 21\_JAN\_2020 16:56:54

Lowest Channel / 15MHz / 16QAM



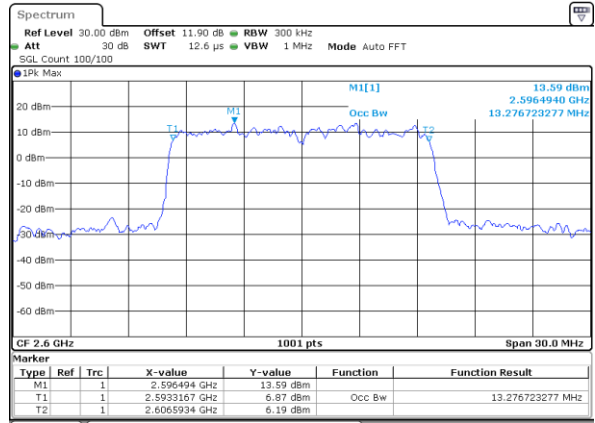
Date: 21\_JAN\_2020 16:57:08

Middle Channel / 15MHz / QPSK



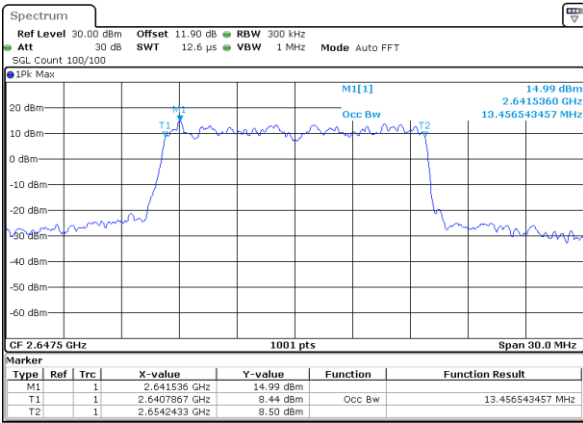
Date: 21\_JAN\_2020 16:57:49

Middle Channel / 15MHz / 16QAM



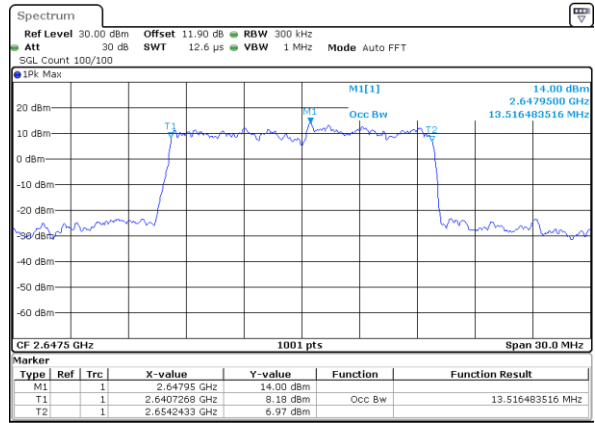
Date: 21\_JAN\_2020 16:58:03

Highest Channel / 15MHz / QPSK



Date: 21\_JAN\_2020 16:58:44

Highest Channel / 15MHz / 16QAM



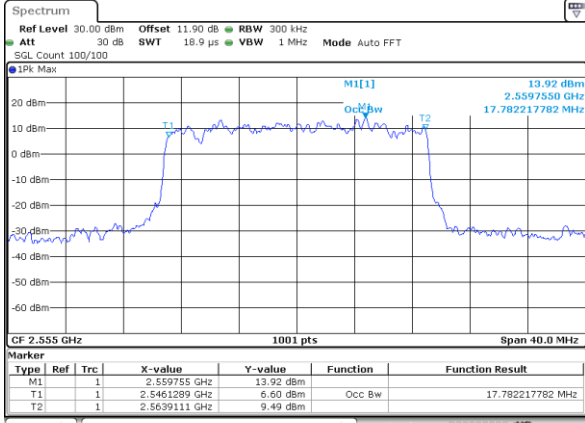
Date: 21\_JAN\_2020 16:58:58





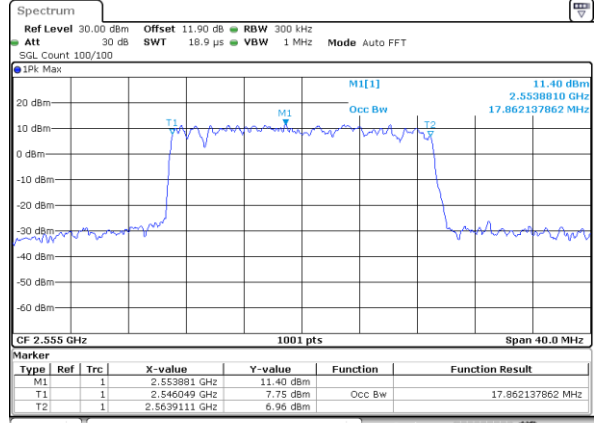
LTE Band 41

Lowest Channel / 20MHz / QPSK



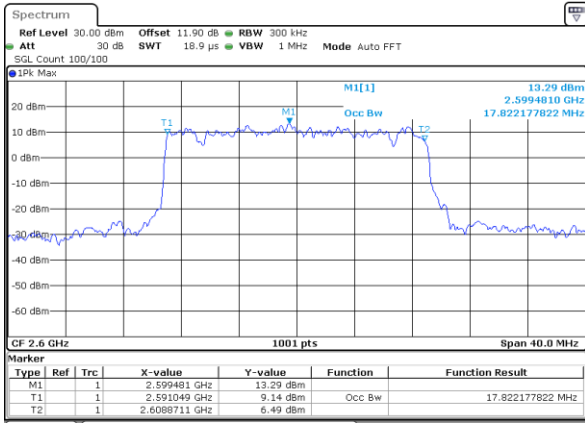
Date: 21\_JAN\_2020 16:59:39

Lowest Channel / 20MHz / 16QAM



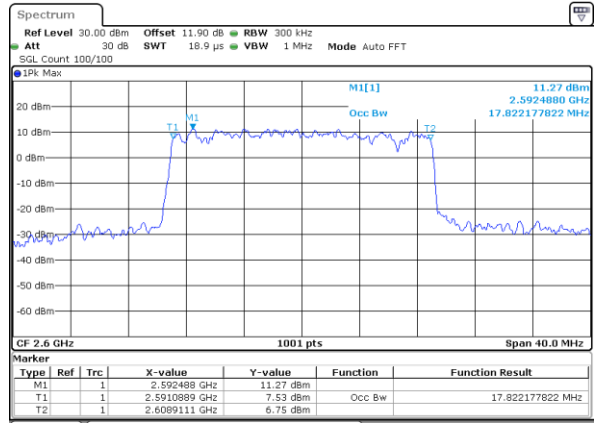
Date: 21\_JAN\_2020 16:59:53

Middle Channel / 20MHz / QPSK



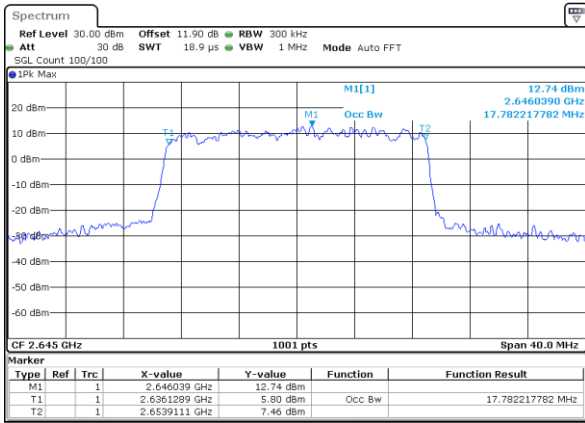
Date: 21\_JAN\_2020 17:00:05

Middle Channel / 20MHz / 16QAM



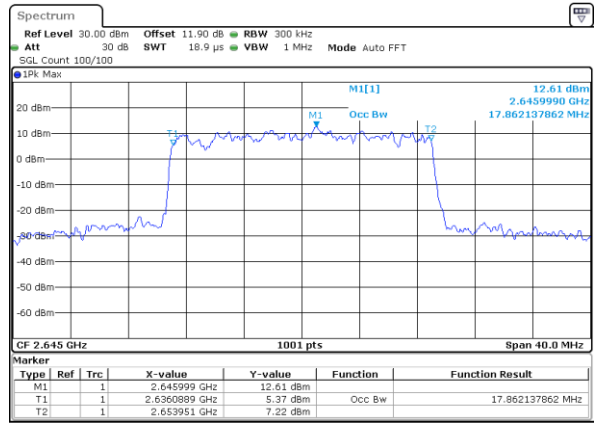
Date: 21\_JAN\_2020 17:00:49

Highest Channel / 20MHz / QPSK



Date: 21\_JAN\_2020 17:01:33

Highest Channel / 20MHz / 16QAM

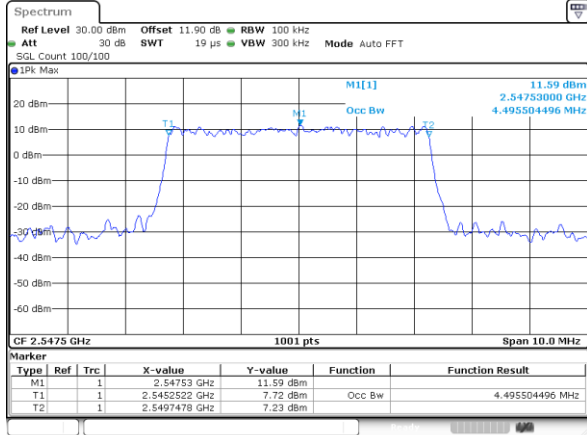


Date: 21\_JAN\_2020 17:01:44



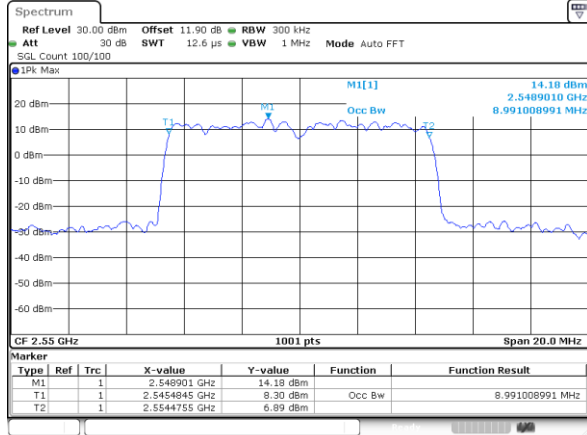
LTE Band 41

Lowest Channel / 5MHz / 64QAM



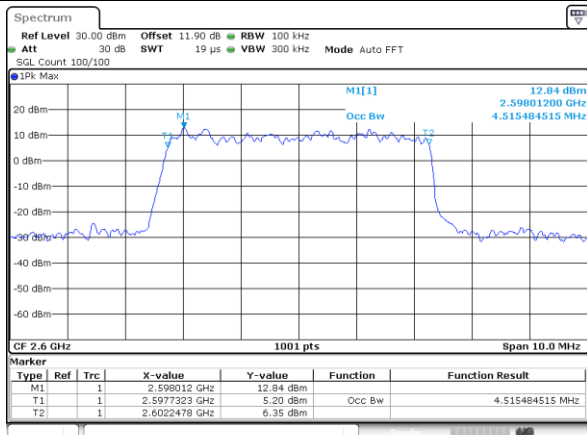
Date: 21.JAN.2020 16:50:01

Lowest Channel / 10MHz / 64QAM



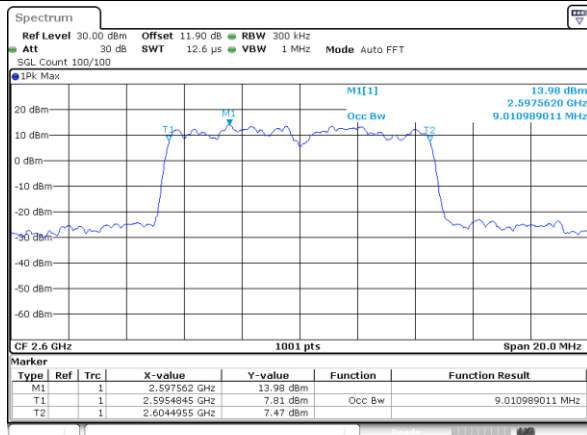
Date: 21.JAN.2020 16:51:23

Middle Channel / 5MHz / 64QAM



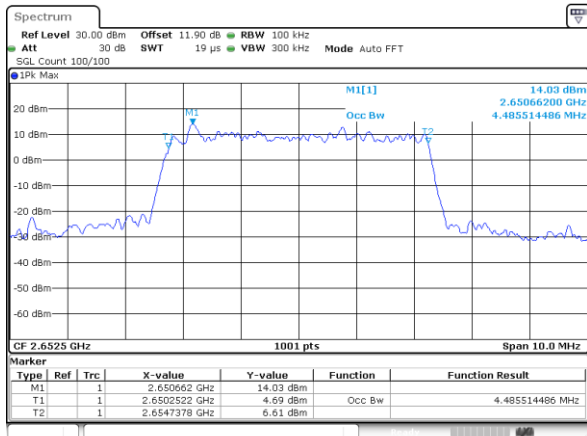
Date: 21.JAN.2020 16:50:28

Middle Channel / 10MHz / 64QAM



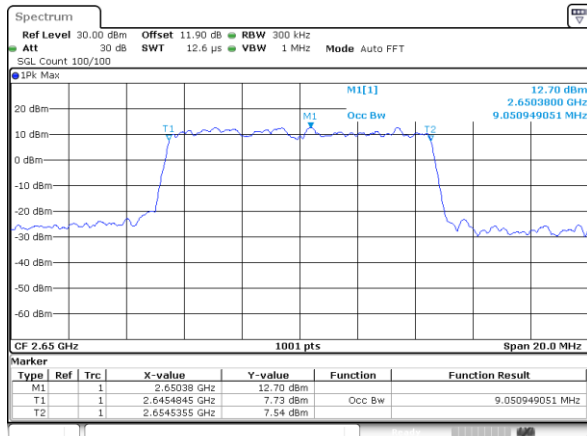
Date: 21.JAN.2020 16:51:51

Highest Channel / 5MHz / 64QAM



Date: 21.JAN.2020 16:50:56

Highest Channel / 10MHz / 64QAM

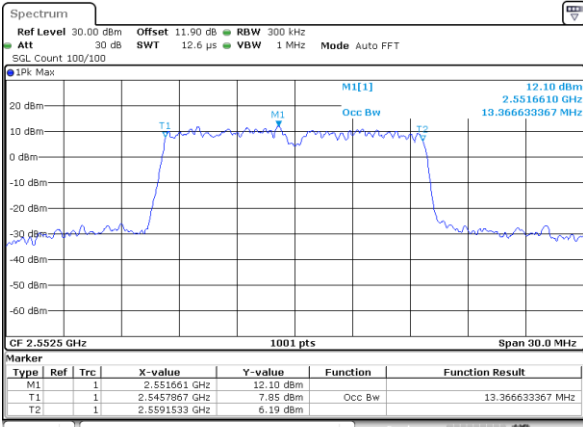


Date: 21.JAN.2020 16:52:18



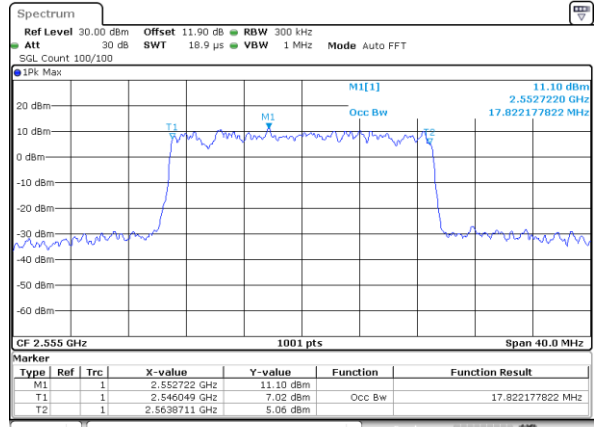
LTE Band 41

Lowest Channel / 15MHz / 64QAM



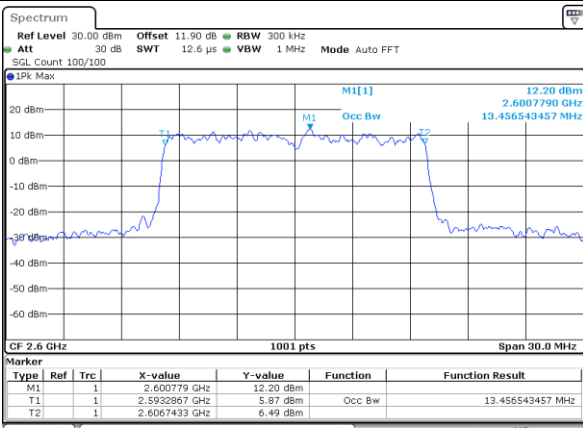
Date: 21.JAN.2020 16:55:32

Lowest Channel / 20MHz / 64QAM



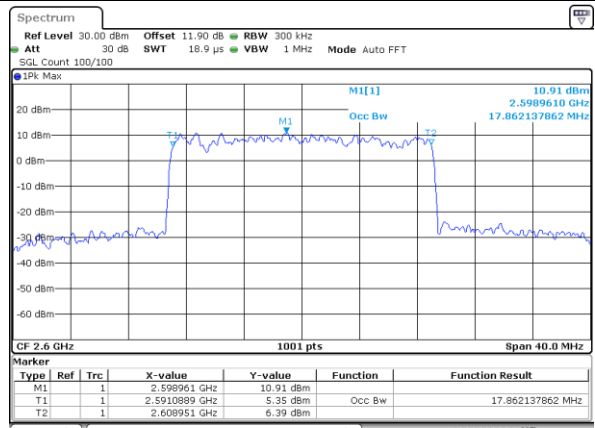
Date: 21.JAN.2020 17:02:26

Middle Channel / 15MHz / 64QAM



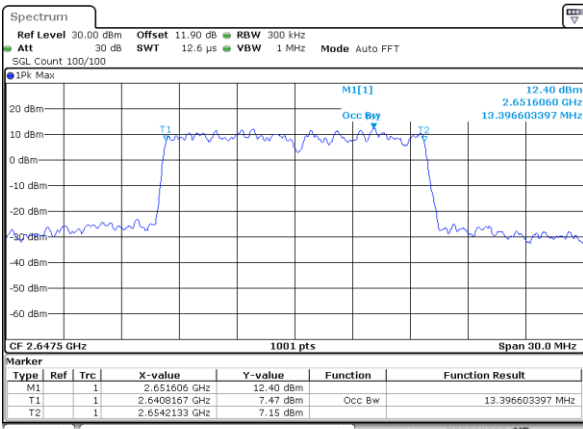
Date: 21.JAN.2020 16:55:59

Middle Channel / 20MHz / 64QAM



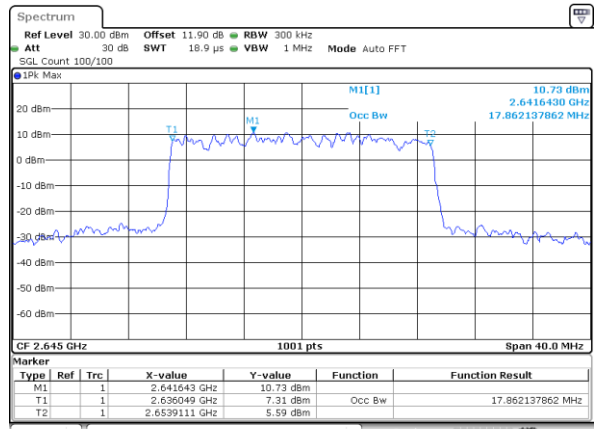
Date: 21.JAN.2020 17:02:53

Highest Channel / 15MHz / 64QAM



Date: 21.JAN.2020 16:56:26

Highest Channel / 20MHz / 64QAM



Date: 21.JAN.2020 17:03:21