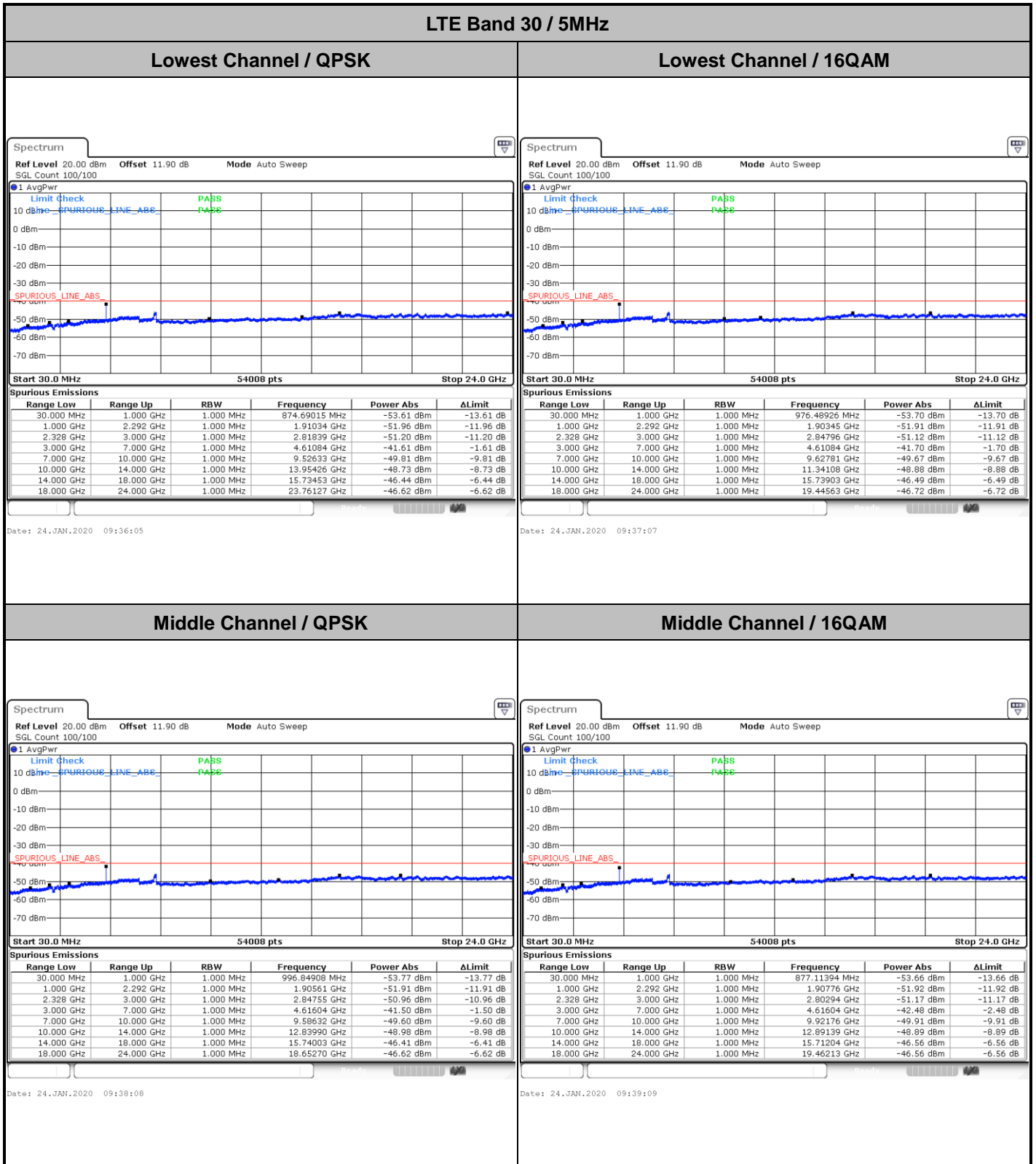




# Conducted Spurious Emission

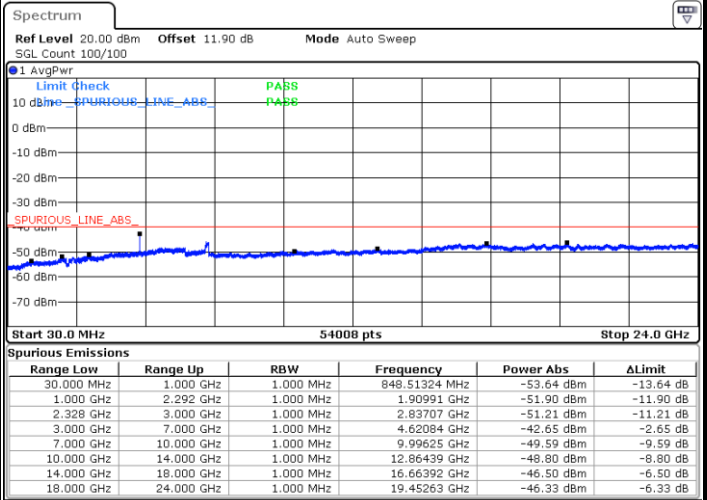
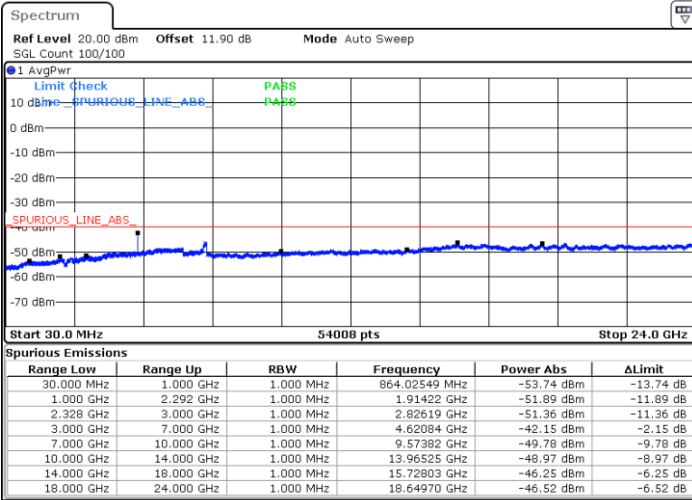




LTE Band 30 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



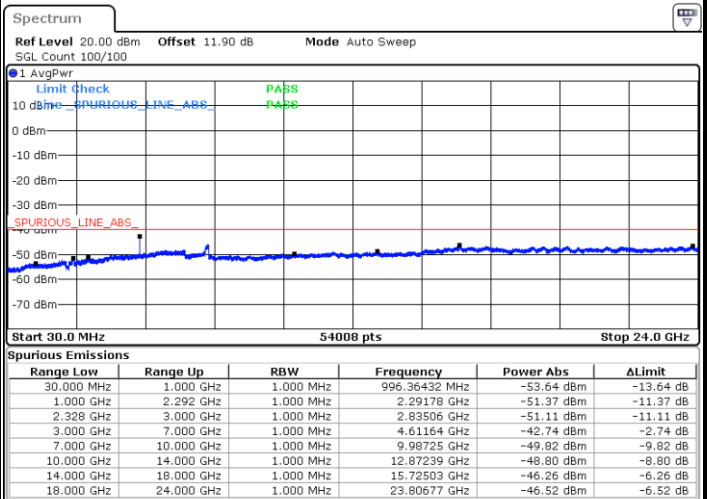
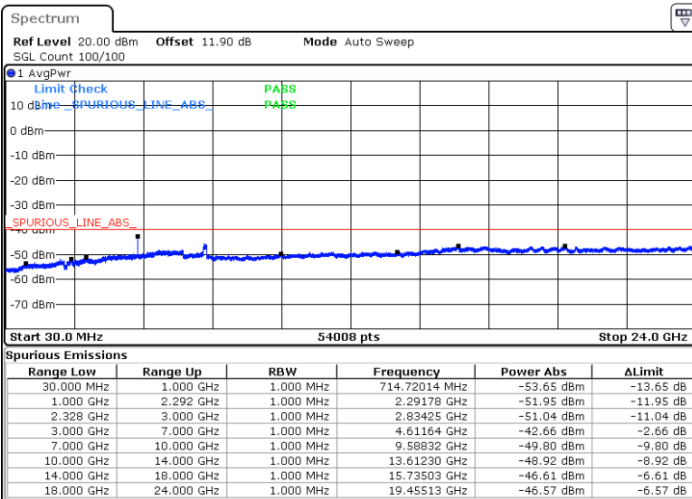
Date: 24.JAN.2020 09:40:11

Date: 24.JAN.2020 09:41:12

LTE Band 30 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 24.JAN.2020 09:46:25

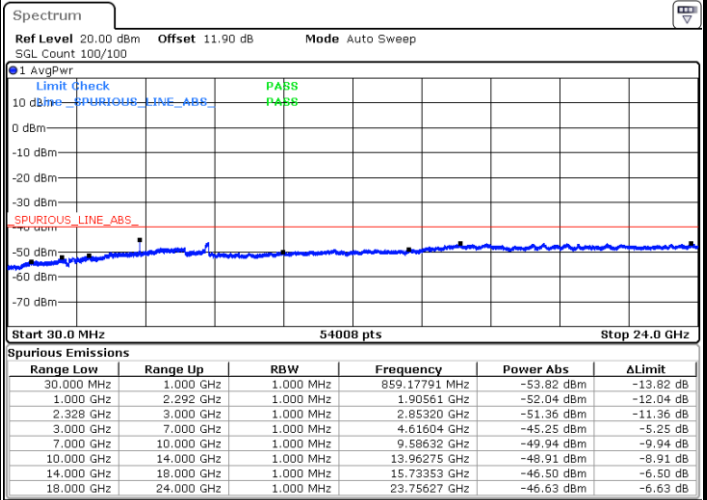
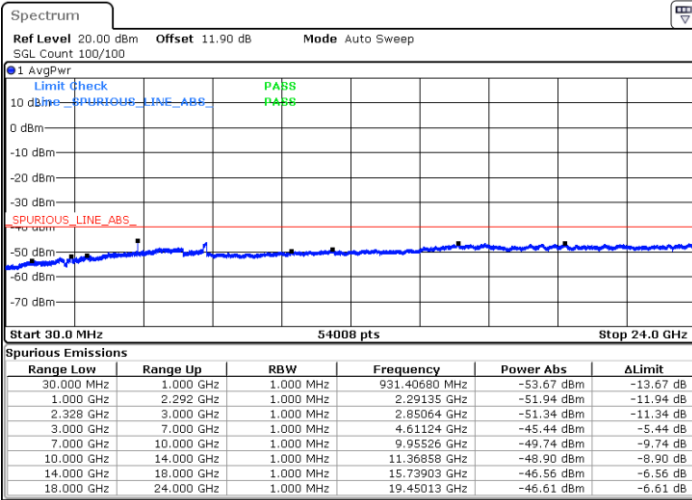
Date: 24.JAN.2020 09:47:27



LTE Band 30 / 5MHz

Lowest Channel / 64QAM

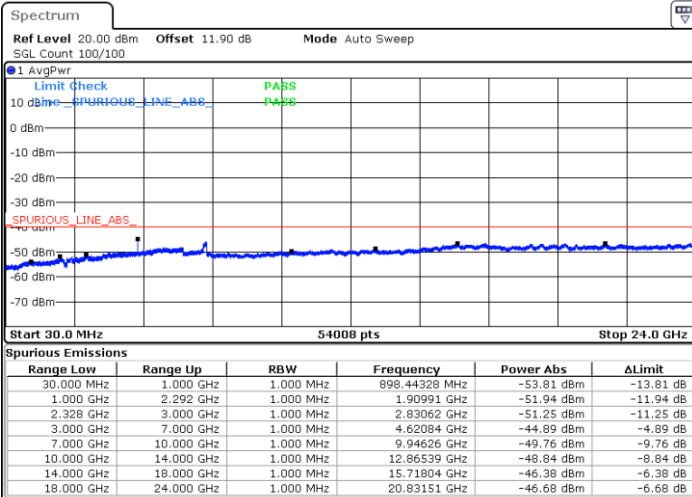
Middle Channel / 64QAM



Date: 24.JAN.2020 09:42:14

Date: 24.JAN.2020 09:43:17

Highest Channel / 64QAM

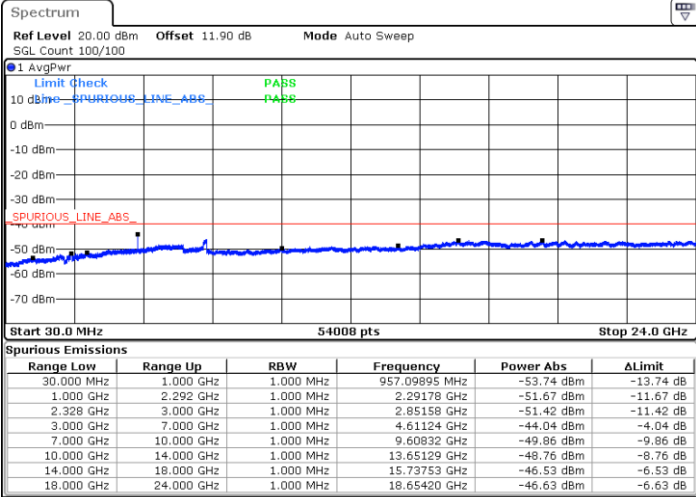


Date: 24.JAN.2020 09:44:22



LTE Band 30 / 10MHz

Middle Channel / 64QAM



Date: 24.JAN.2020 09:45:24



**Frequency Stability**

Test Conditions		LTE Band 30 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0023	PASS
40	Normal Voltage	0.0000	
30	Normal Voltage	0.0017	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0010	
0	Normal Voltage	0.0051	
-10	Normal Voltage	0.0019	
-20	Normal Voltage	0.0019	
-30	Normal Voltage	0.0002	
20	Maximum Voltage	0.0020	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0017	

**Note:**

1. Normal Voltage =3.87 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.45 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



# LTE Band 38(HPUE)

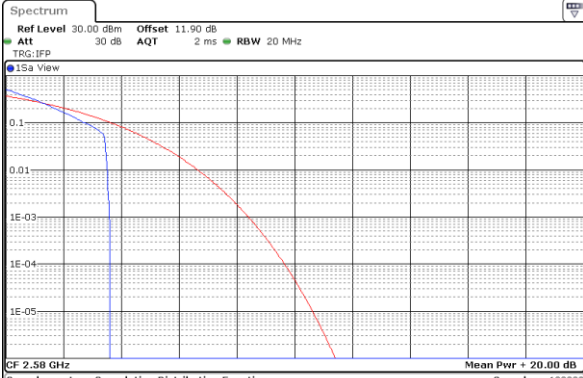
## Peak-to-Average Ratio

Mode	LTE Band 38(HPUE) / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.59	4.32	4.49	5.57	PASS
Middle CH	3.51	4.41	4.58	5.62	
Highest CH	3.62	4.52	4.55	5.83	
Mode	LTE Band 38(HPUE) / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.39	6.29	-	-	PASS
Middle CH	5.33	6.29	-	-	
Highest CH	5.51	6.46	-	-	



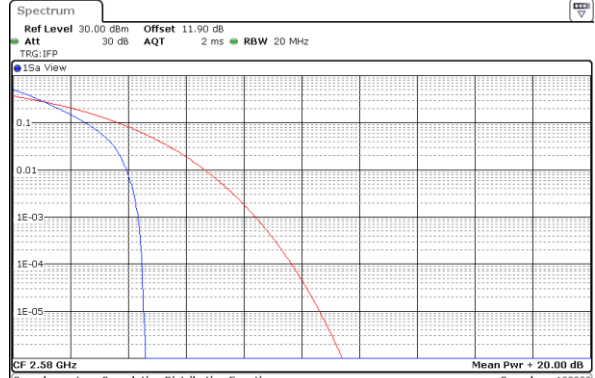
LTE Band 38(HPUE) / 20MHz / QPSK

Lowest Channel / 1RB



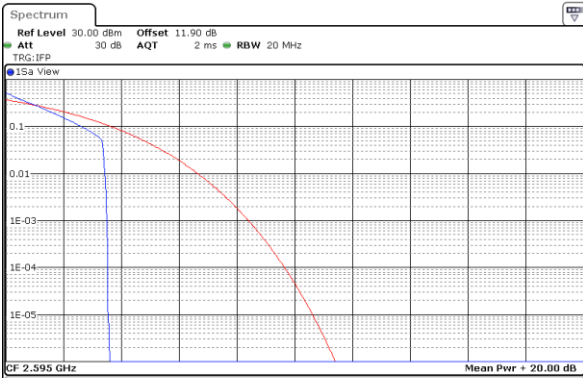
Date: 9,MAR,2020 21:55:22

Lowest Channel / Full RB



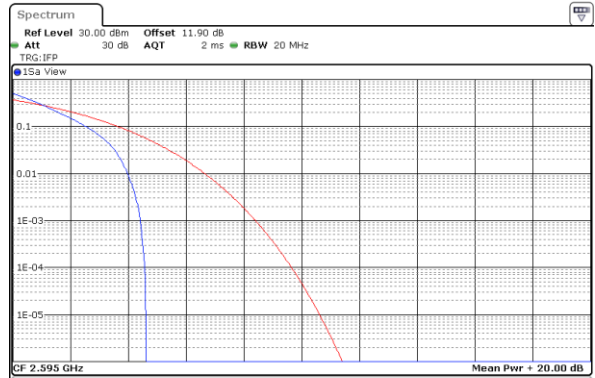
Date: 9,MAR,2020 21:55:48

Middle Channel / 1RB



Date: 9,MAR,2020 21:57:53

Middle Channel / Full RB



Date: 9,MAR,2020 21:56:34

Highest Channel / 1RB



Date: 9,MAR,2020 21:56:55

Highest Channel / Full RB

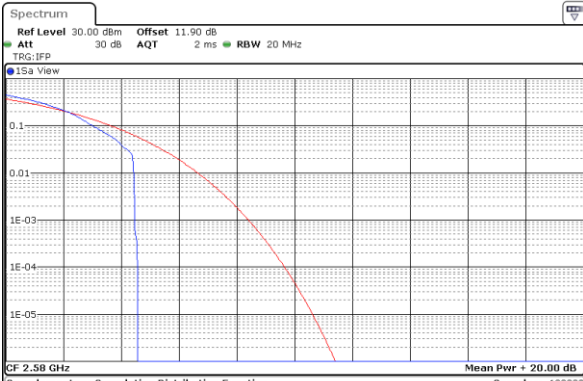


Date: 9,MAR,2020 21:57:14



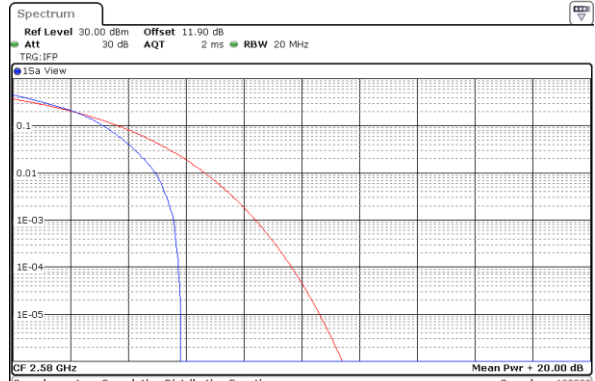
LTE Band 38(HPUE) / 20MHz / 16QAM

Lowest Channel / 1RB



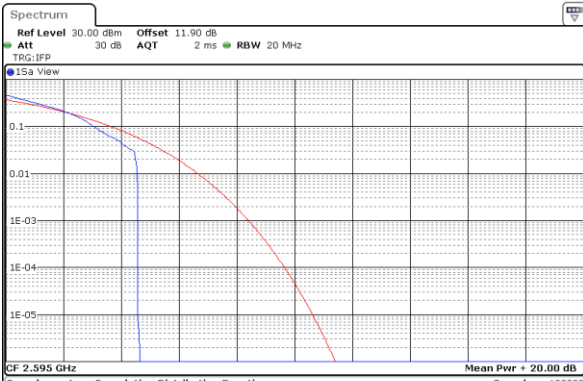
Date: 9,MAR,2020 21:53:05

Lowest Channel / Full RB



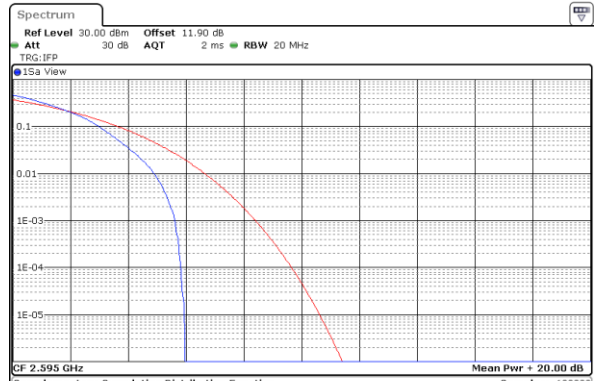
Date: 9,MAR,2020 21:53:26

Middle Channel / 1RB



Date: 9,MAR,2020 21:53:47

Middle Channel / Full RB



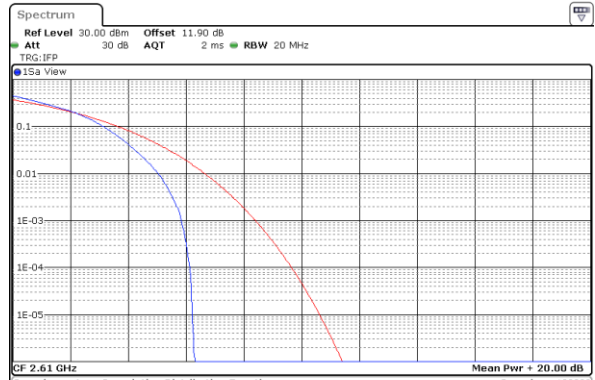
Date: 9,MAR,2020 21:54:11

Highest Channel / 1RB



Date: 9,MAR,2020 21:54:35

Highest Channel / Full RB



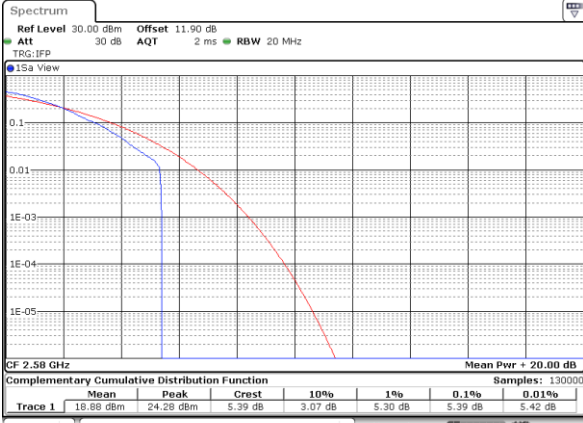
Date: 9,MAR,2020 21:55:00





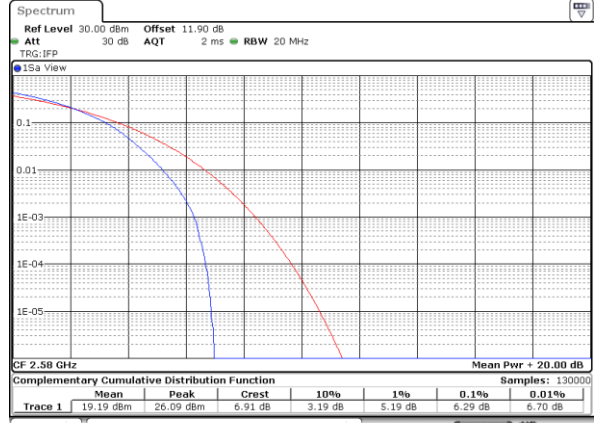
LTE Band 38(HPUE) / 20MHz / 64QAM

Lowest Channel / 1RB



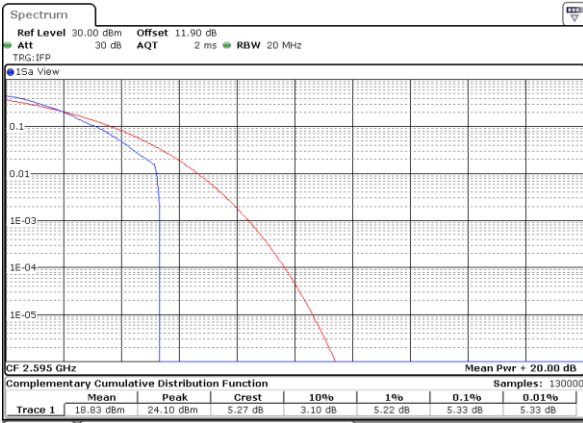
Date: 9,MAR,2020 21:50:47

Lowest Channel / Full RB



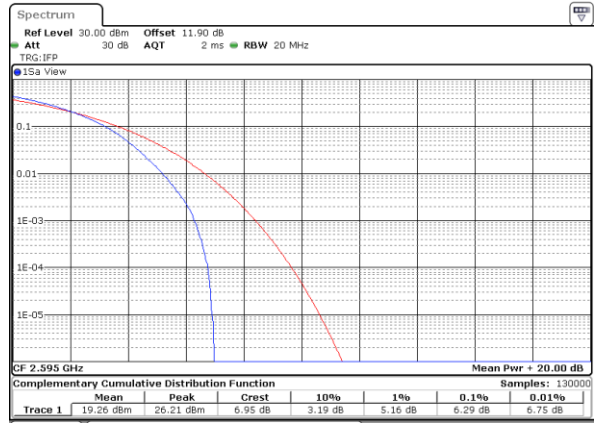
Date: 9,MAR,2020 21:51:09

Middle Channel / 1RB



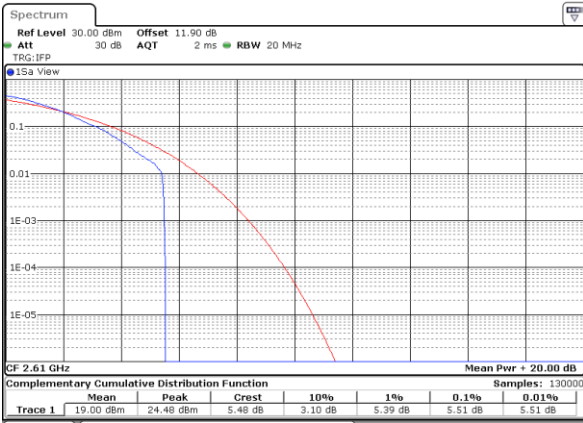
Date: 9,MAR,2020 21:58:28

Middle Channel / Full RB



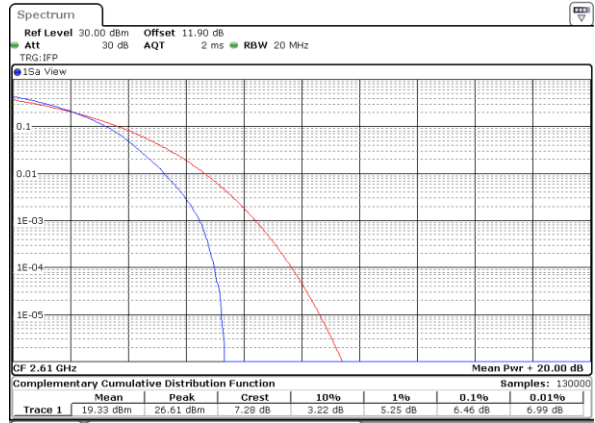
Date: 9,MAR,2020 21:51:53

Highest Channel / 1RB



Date: 9,MAR,2020 21:52:17

Highest Channel / Full RB



Date: 9,MAR,2020 21:52:46



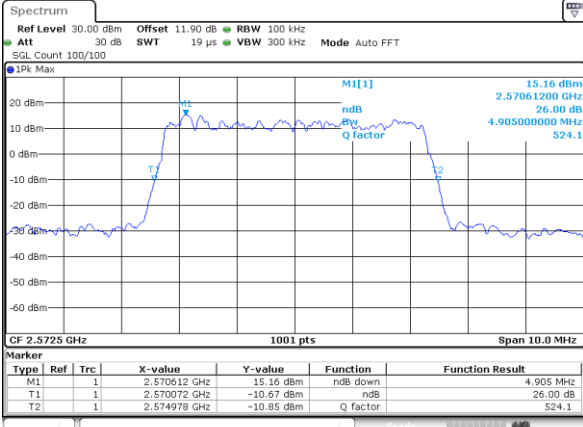
**26dB Bandwidth**

LTE Band 38(HPUE) : 26dB BW(MHz)												
Mode	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.91	4.84	9.67	9.63	14.51	14.15	18.62	18.94
Middle CH	-	-	-	-	4.80	4.79	9.83	9.63	14.30	14.36	19.26	18.86
Highest CH	-	-	-	-	4.85	4.81	9.63	9.87	14.45	14.39	18.78	18.62
LTE Band 38(HPUE) : 26dB BW(MHz)												
Mode	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.74	-	9.65	-	14.45	-	18.66	-
Middle CH	-	-	-	-	4.73	-	9.63	-	14.24	-	18.70	-
Highest CH	-	-	-	-	4.95	-	9.65	-	14.18	-	18.66	-



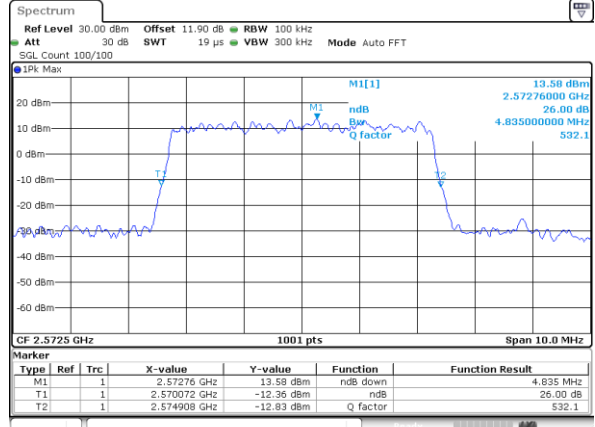
LTE Band 38(HPUe)

Lowest Channel / 5MHz / QPSK



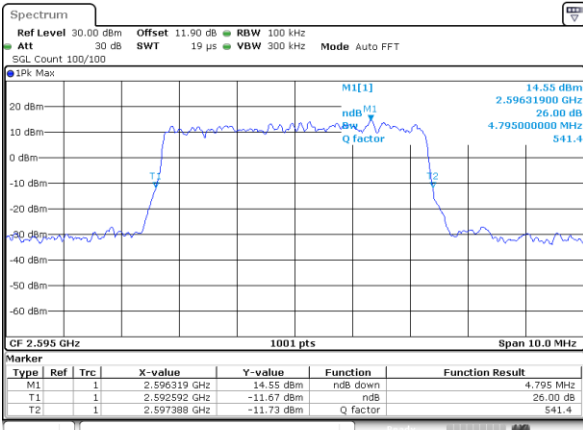
Date: 9,MAR,2020 21:34:30

Lowest Channel / 5MHz / 16QAM



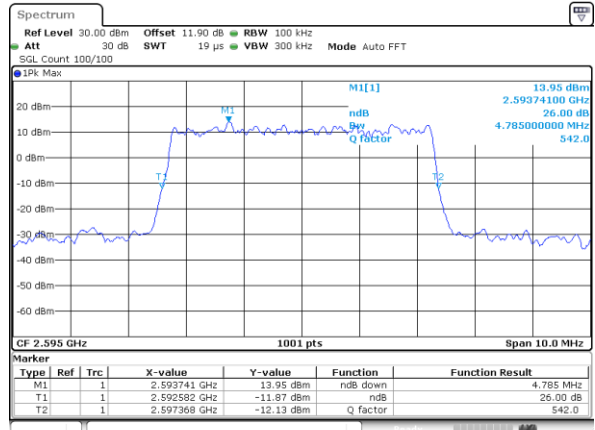
Date: 9,MAR,2020 21:34:44

Middle Channel / 5MHz / QPSK



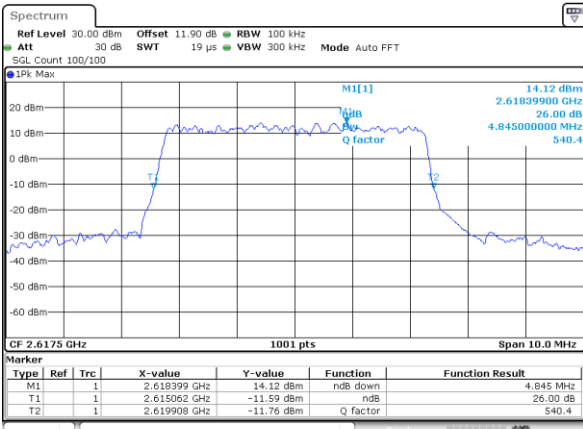
Date: 9,MAR,2020 21:35:24

Middle Channel / 5MHz / 16QAM



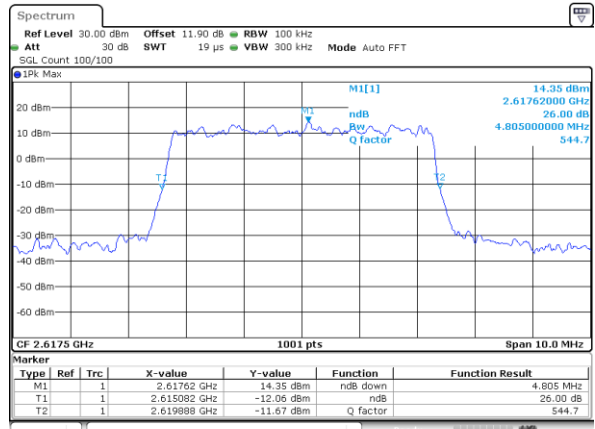
Date: 9,MAR,2020 21:35:37

Highest Channel / 5MHz / QPSK



Date: 9,MAR,2020 21:36:19

Highest Channel / 5MHz / 16QAM

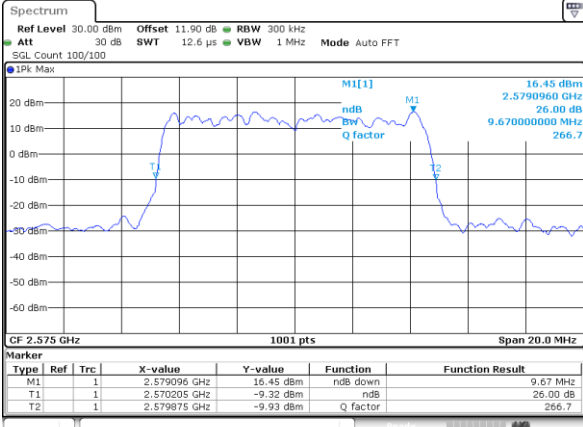


Date: 9,MAR,2020 21:36:32



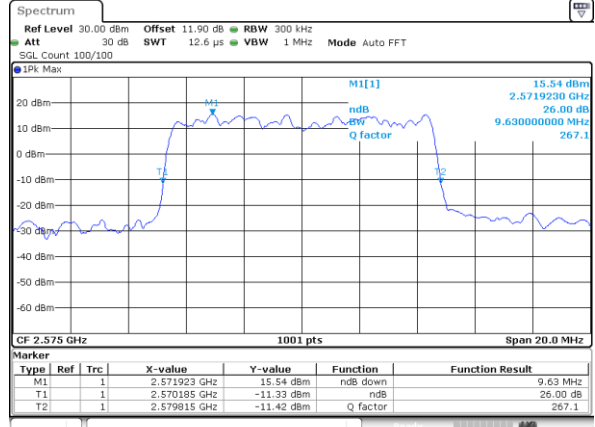
LTE Band 38(HPUe)

Lowest Channel / 10MHz / QPSK



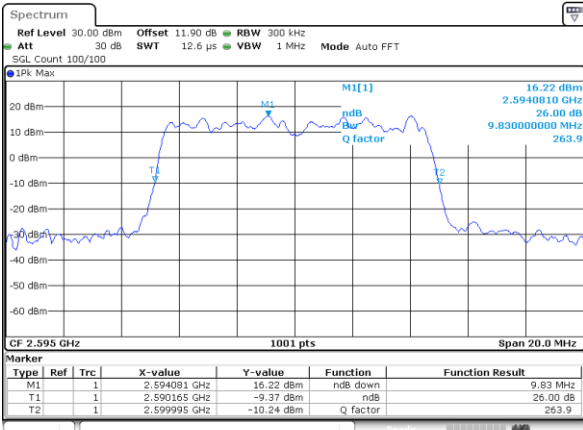
Date: 9,MAR,2020 21:37:15

Lowest Channel / 10MHz / 16QAM



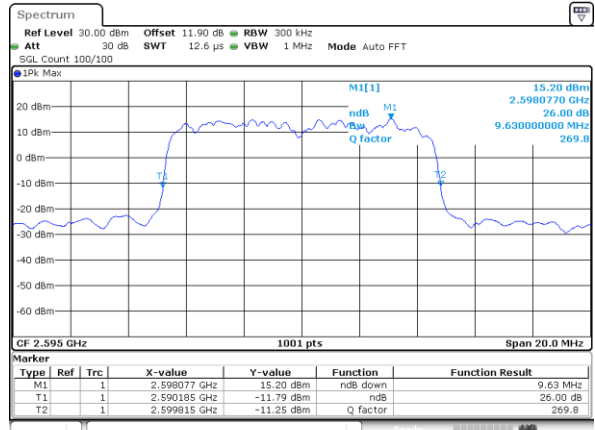
Date: 9,MAR,2020 21:37:29

Middle Channel / 10MHz / QPSK



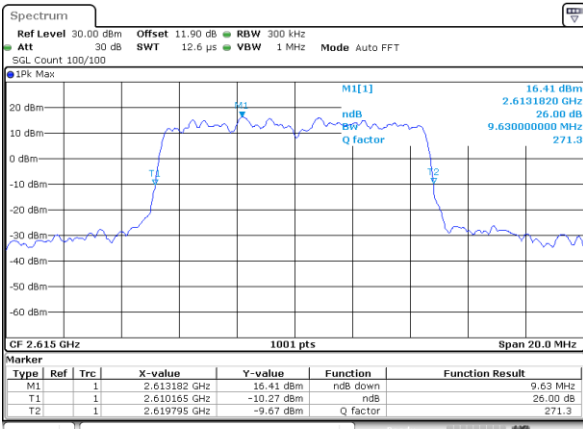
Date: 9,MAR,2020 21:38:09

Middle Channel / 10MHz / 16QAM



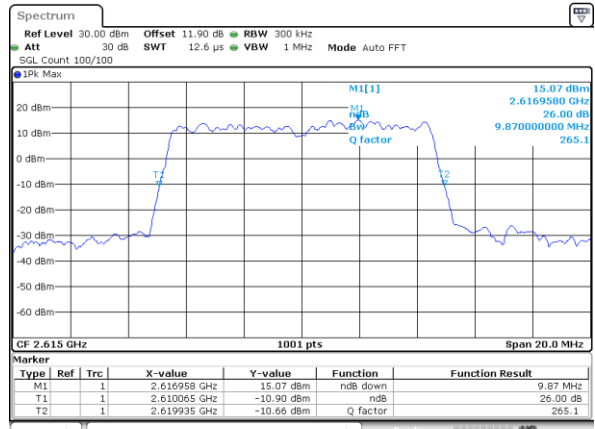
Date: 9,MAR,2020 21:38:23

Highest Channel / 10MHz / QPSK



Date: 9,MAR,2020 21:39:04

Highest Channel / 10MHz / 16QAM

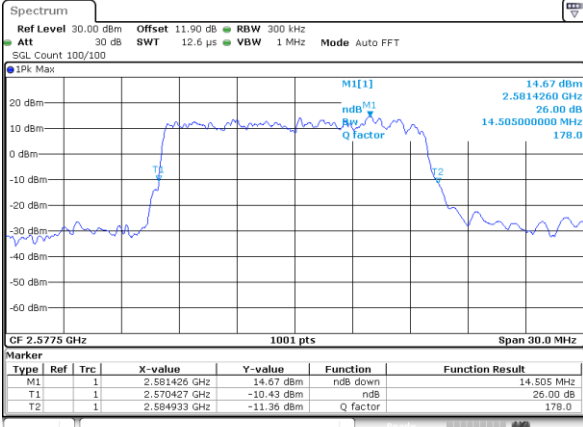


Date: 9,MAR,2020 21:39:18



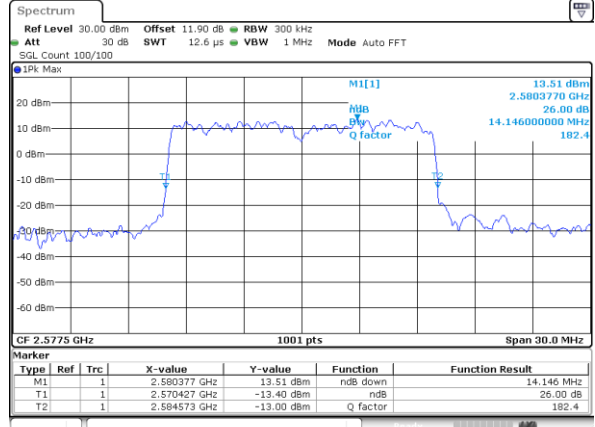
LTE Band 38(HPUe)

Lowest Channel / 15MHz / QPSK



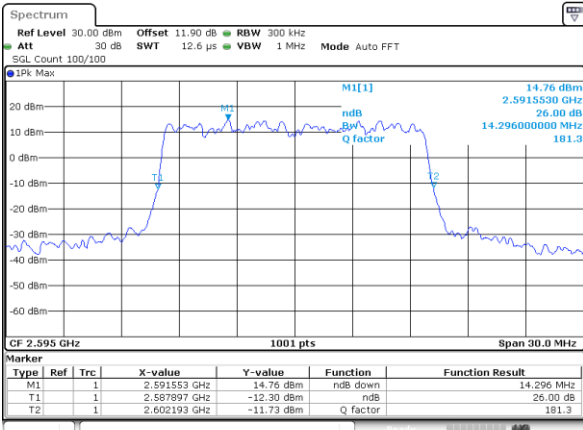
Date: 9\_MAR\_2020 21:40:01

Lowest Channel / 15MHz / 16QAM



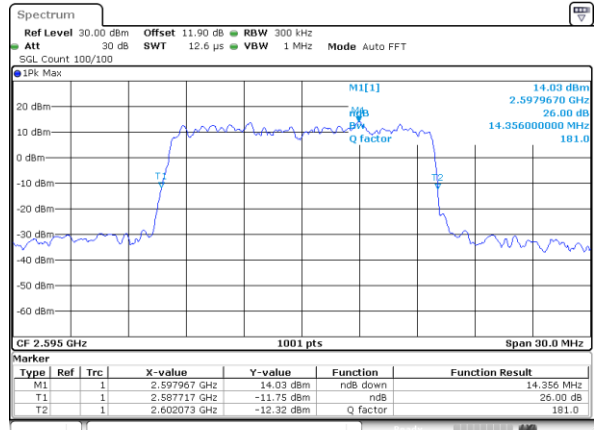
Date: 9\_MAR\_2020 21:40:15

Middle Channel / 15MHz / QPSK



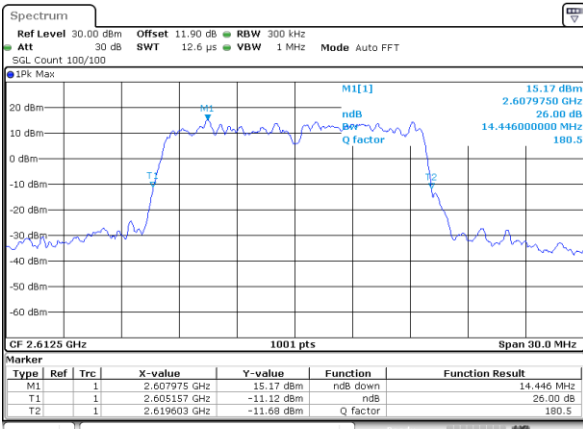
Date: 9\_MAR\_2020 21:40:55

Middle Channel / 15MHz / 16QAM



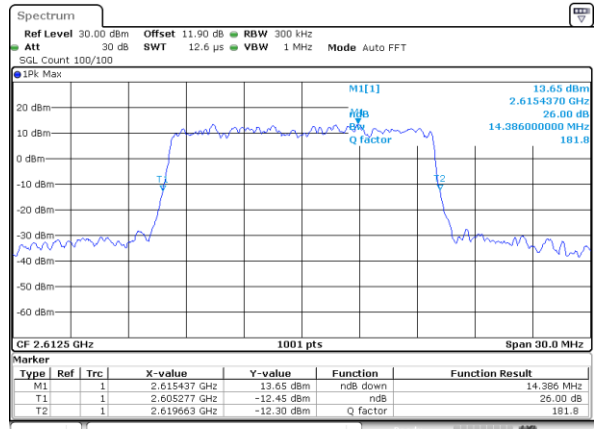
Date: 9\_MAR\_2020 21:41:08

Highest Channel / 15MHz / QPSK



Date: 9\_MAR\_2020 21:41:49

Highest Channel / 15MHz / 16QAM

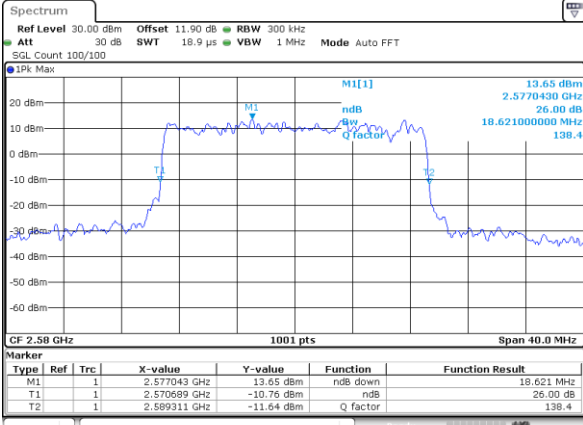


Date: 9\_MAR\_2020 21:42:03



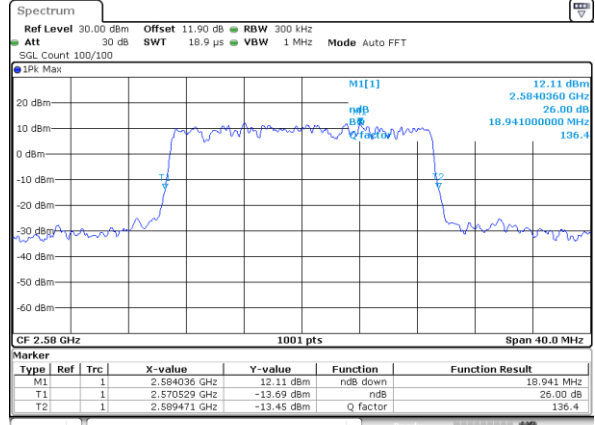
LTE Band 38(HPUE)

Lowest Channel / 20MHz / QPSK



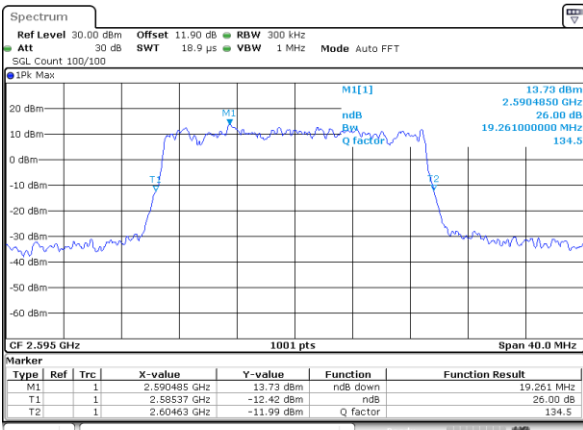
Date: 9,MAR,2020 21:42:46

Lowest Channel / 20MHz / 16QAM



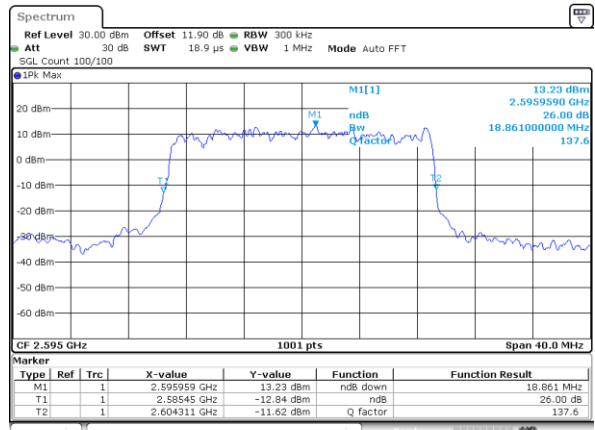
Date: 9,MAR,2020 21:43:00

Middle Channel / 20MHz / QPSK



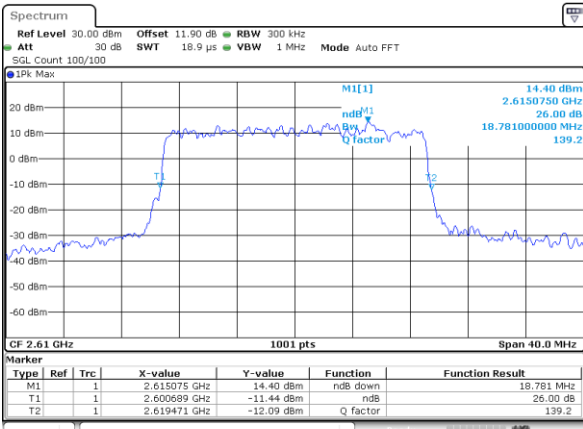
Date: 9,MAR,2020 21:43:40

Middle Channel / 20MHz / 16QAM



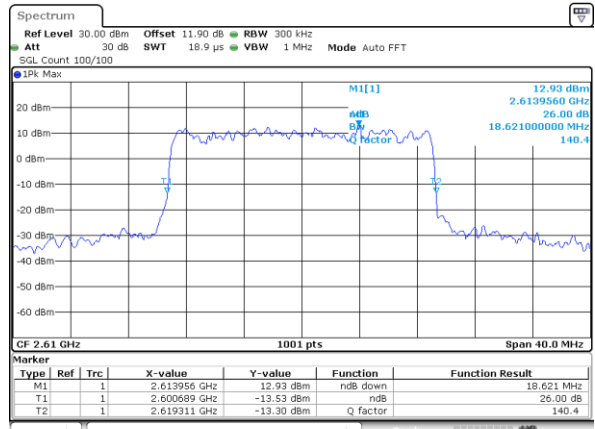
Date: 9,MAR,2020 21:43:53

Highest Channel / 20MHz / QPSK



Date: 9,MAR,2020 21:44:35

Highest Channel / 20MHz / 16QAM

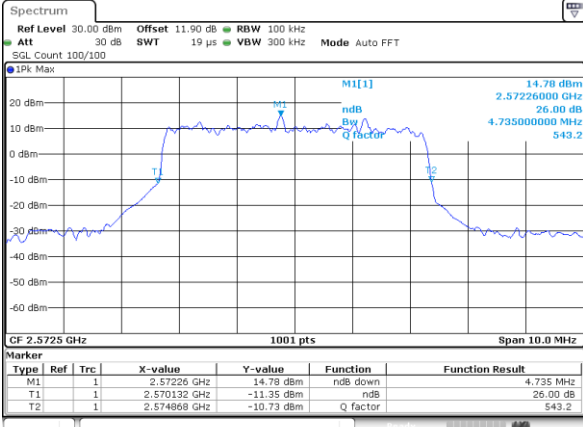


Date: 9,MAR,2020 21:44:48



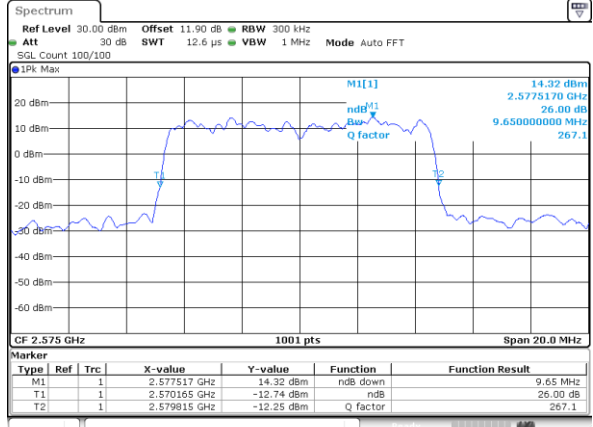
LTE Band 38(HPUe)

Lowest Channel / 5MHz / 64QAM



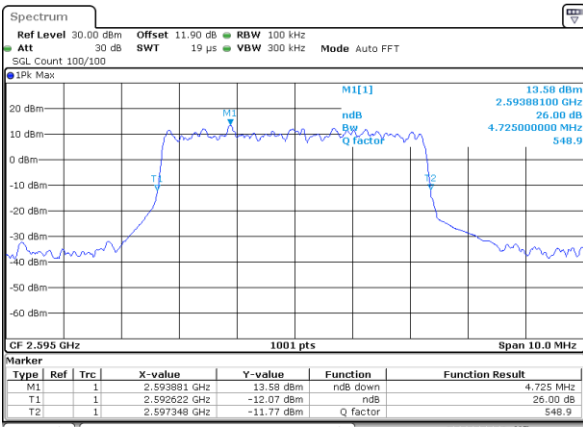
Date: 9,MAR,2020 21:45:17

Lowest Channel / 10MHz / 64QAM



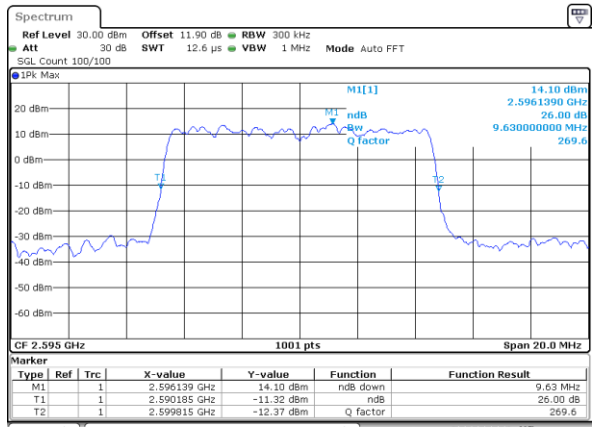
Date: 9,MAR,2020 21:46:40

Middle Channel / 5MHz / 64QAM



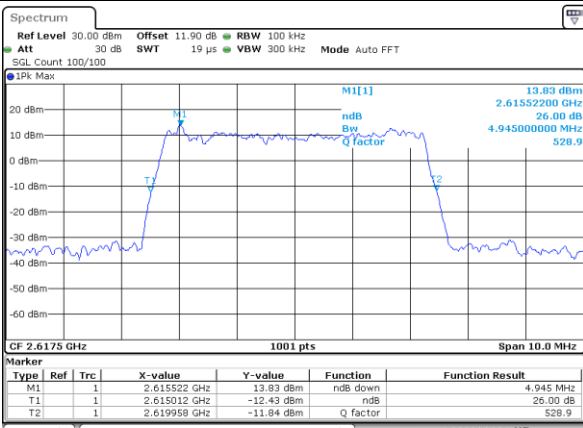
Date: 9,MAR,2020 21:45:44

Middle Channel / 10MHz / 64QAM



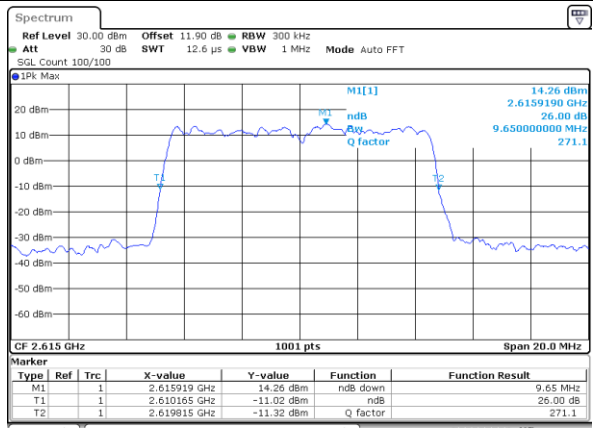
Date: 9,MAR,2020 21:47:07

Highest Channel / 5MHz / 64QAM



Date: 9,MAR,2020 21:46:11

Highest Channel / 10MHz / 64QAM

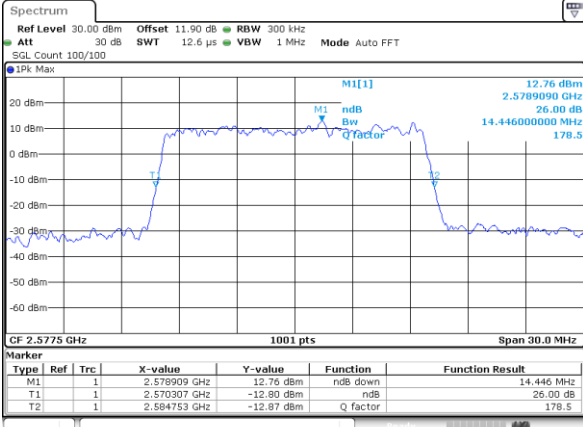


Date: 9,MAR,2020 21:47:34



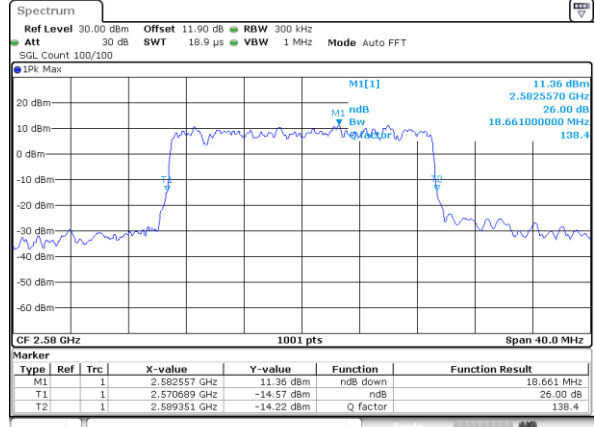
LTE Band 38(HPUE)

Lowest Channel / 15MHz / 64QAM



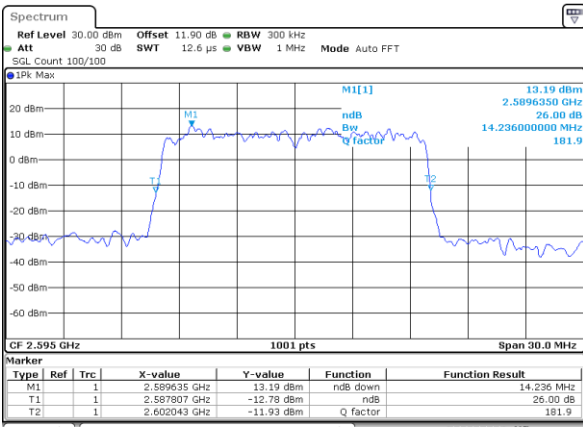
Date: 9,MAR,2020 21:48:03

Lowest Channel / 20MHz / 64QAM



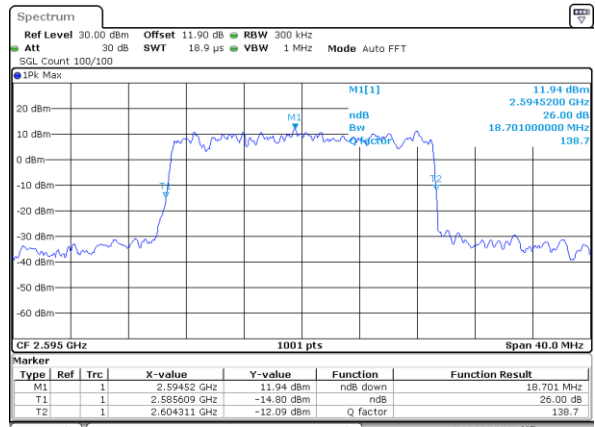
Date: 9,MAR,2020 21:49:26

Middle Channel / 15MHz / 64QAM



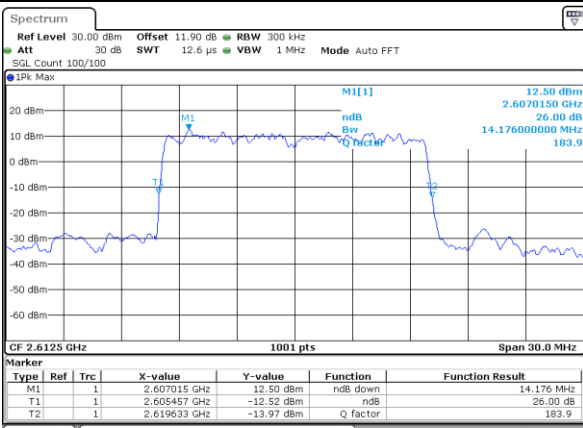
Date: 9,MAR,2020 21:48:30

Middle Channel / 20MHz / 64QAM



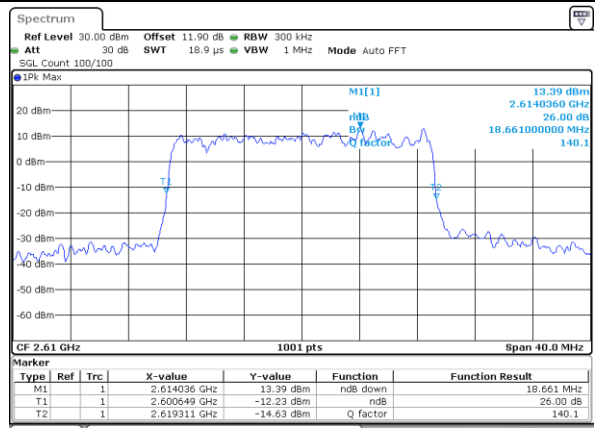
Date: 9,MAR,2020 21:49:52

Highest Channel / 15MHz / 64QAM



Date: 9,MAR,2020 21:48:57

Highest Channel / 20MHz / 64QAM



Date: 9,MAR,2020 21:50:20





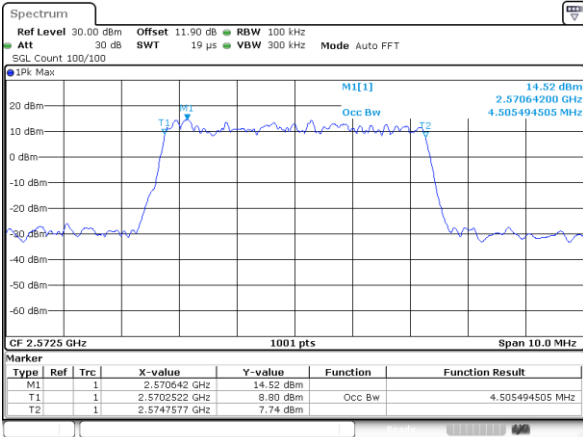
**Occupied Bandwidth**

LTE Band 38(HPUE) : 99%OBW(MHz)												
Mode	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.51	4.52	9.03	9.07	13.46	13.46	17.74	17.82
Middle CH	-	-	-	-	4.48	4.50	9.05	9.03	13.43	13.37	17.82	17.86
Highest CH	-	-	-	-	4.51	4.50	9.03	9.01	13.43	13.37	17.86	17.82
LTE Band 38(HPUE) : 99%OBW(MHz)												
Mode	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.49	-	9.05	-	13.43	-	17.86	-
Middle CH	-	-	-	-	4.49	-	9.03	-	13.46	-	17.86	-
Highest CH	-	-	-	-	4.50	-	9.01	-	13.46	-	17.90	-



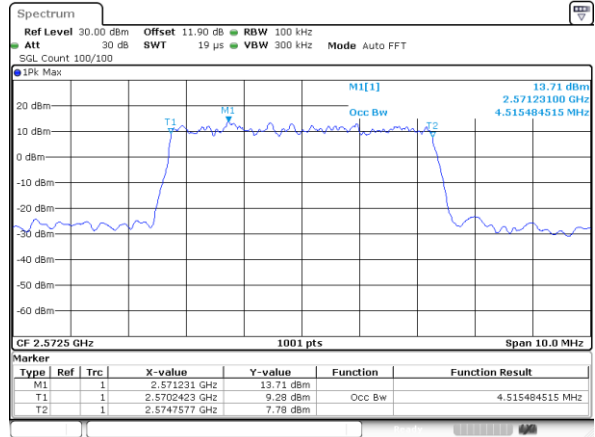
LTE Band 38(HPUe)

Lowest Channel / 5MHz / QPSK



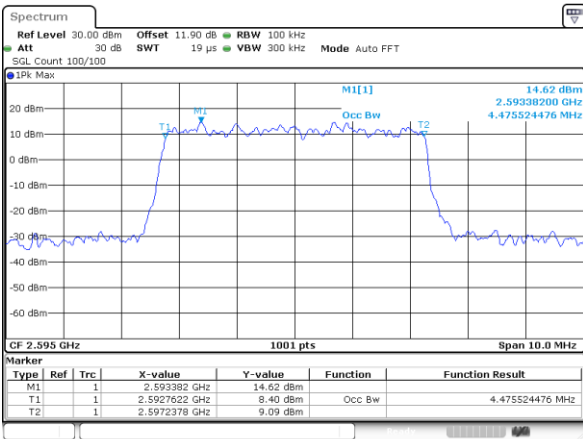
Date: 9,MAR,2020 21:34:03

Lowest Channel / 5MHz / 16QAM



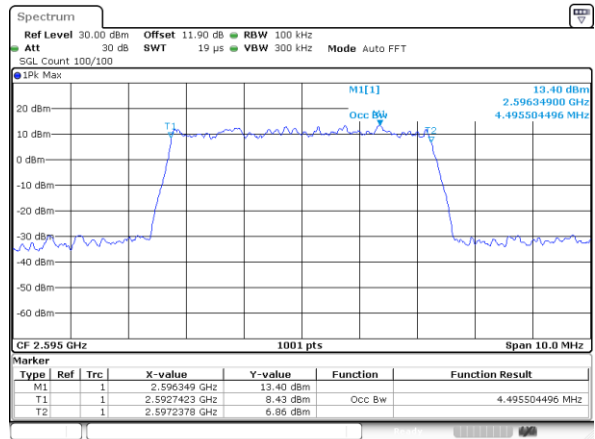
Date: 9,MAR,2020 21:34:17

Middle Channel / 5MHz / QPSK



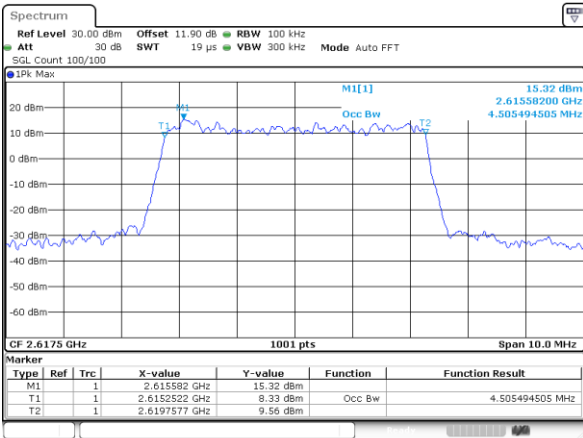
Date: 9,MAR,2020 21:34:58

Middle Channel / 5MHz / 16QAM



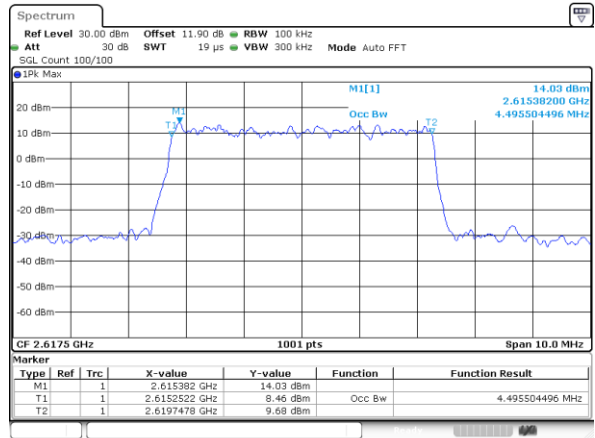
Date: 9,MAR,2020 21:35:11

Highest Channel / 5MHz / QPSK



Date: 9,MAR,2020 21:35:51

Highest Channel / 5MHz / 16QAM

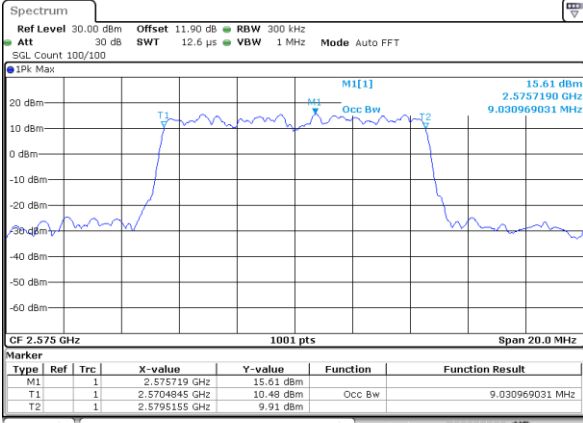


Date: 9,MAR,2020 21:35:05



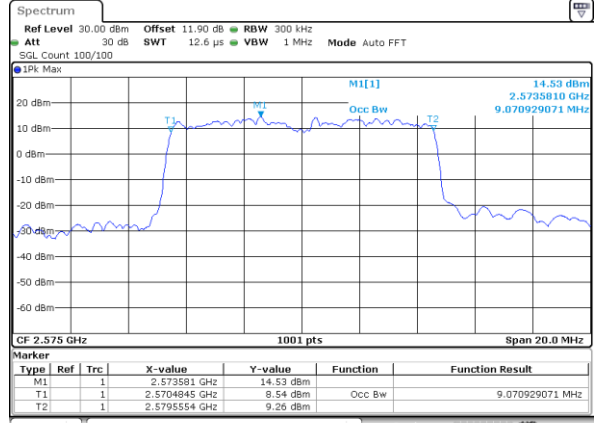
LTE Band 38(HPUe)

Lowest Channel / 10MHz / QPSK



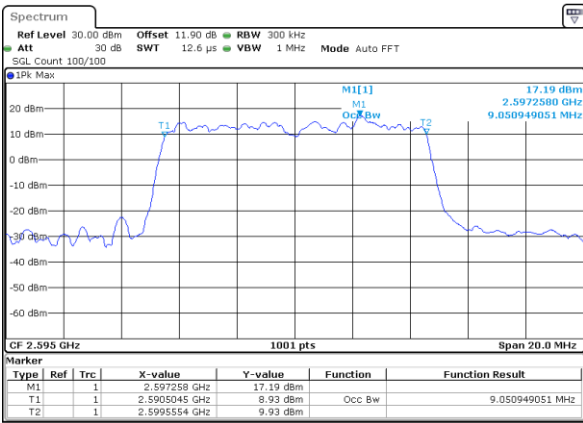
Date: 9\_MAR\_2020 21:36:48

Lowest Channel / 10MHz / 16QAM



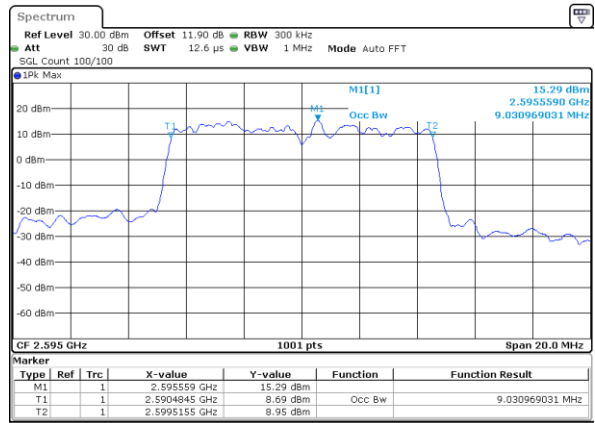
Date: 9\_MAR\_2020 21:37:02

Middle Channel / 10MHz / QPSK



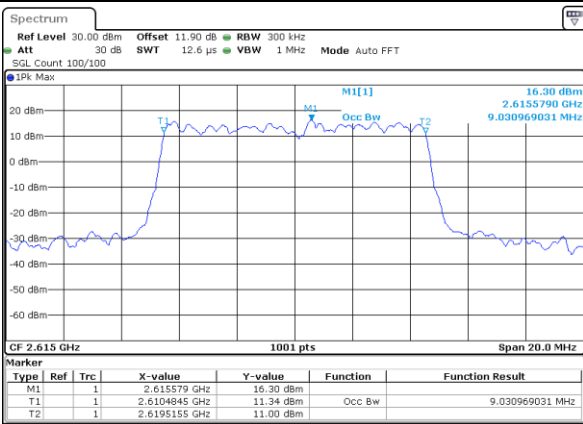
Date: 9\_MAR\_2020 21:37:43

Middle Channel / 10MHz / 16QAM



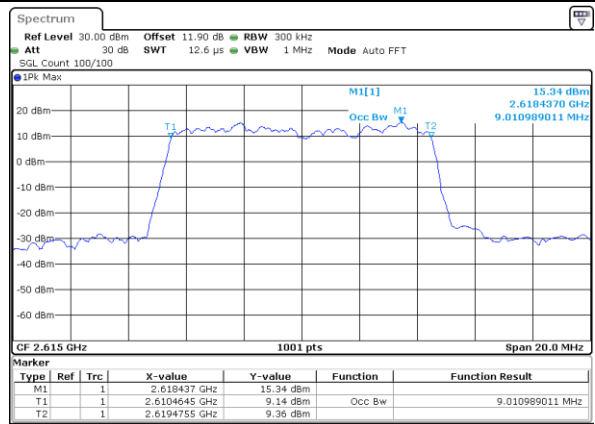
Date: 9\_MAR\_2020 21:37:56

Highest Channel / 10MHz / QPSK



Date: 9\_MAR\_2020 21:38:36

Highest Channel / 10MHz / 16QAM

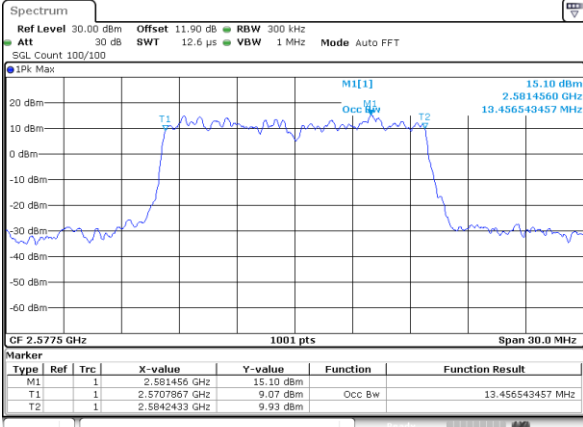


Date: 9\_MAR\_2020 21:38:50



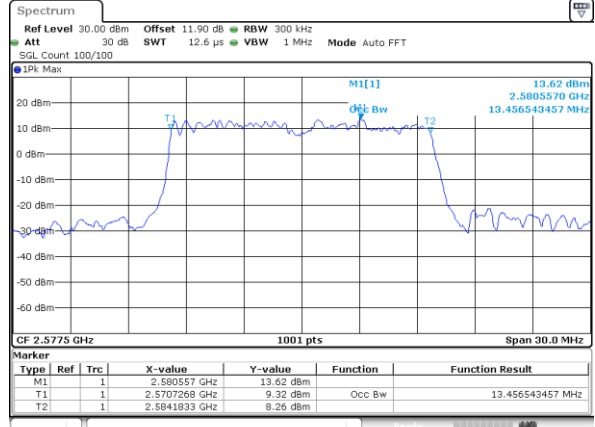
LTE Band 38(HPUe)

Lowest Channel / 15MHz / QPSK



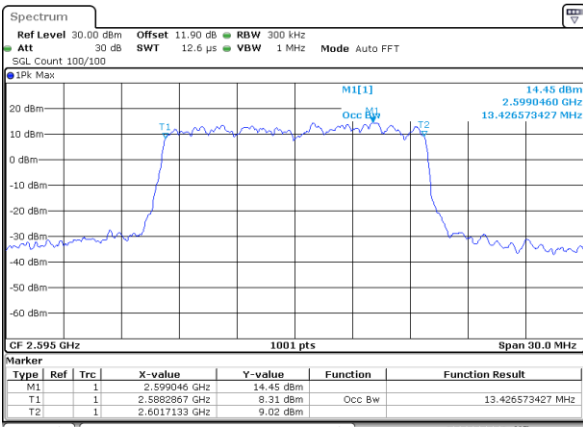
Date: 9,MAR,2020 21:39:33

Lowest Channel / 15MHz / 16QAM



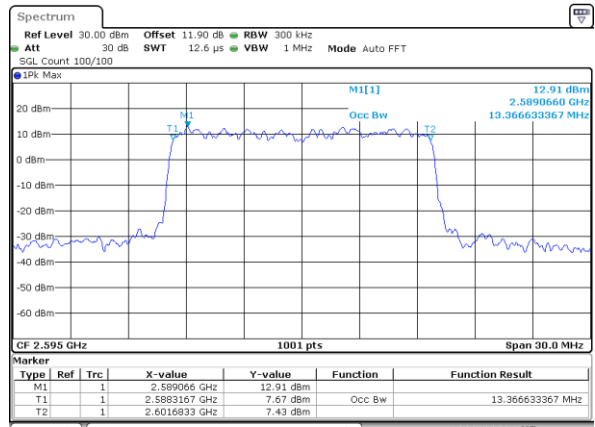
Date: 9,MAR,2020 21:39:47

Middle Channel / 15MHz / QPSK



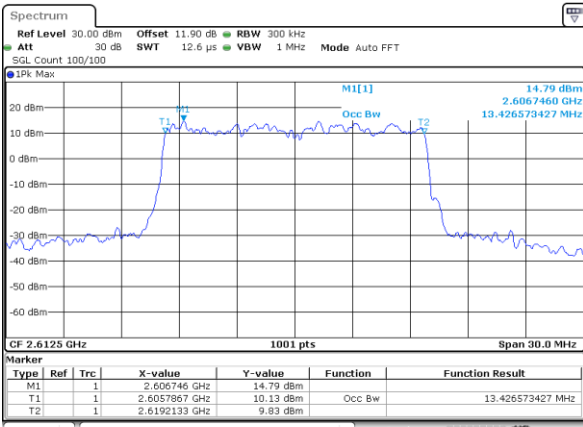
Date: 9,MAR,2020 21:40:28

Middle Channel / 15MHz / 16QAM



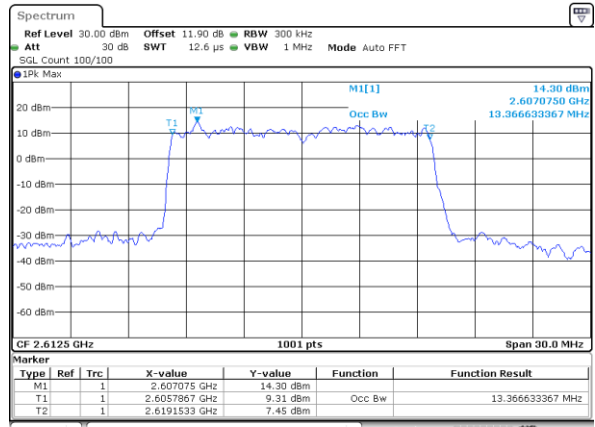
Date: 9,MAR,2020 21:40:41

Highest Channel / 15MHz / QPSK



Date: 9,MAR,2020 21:41:21

Highest Channel / 15MHz / 16QAM

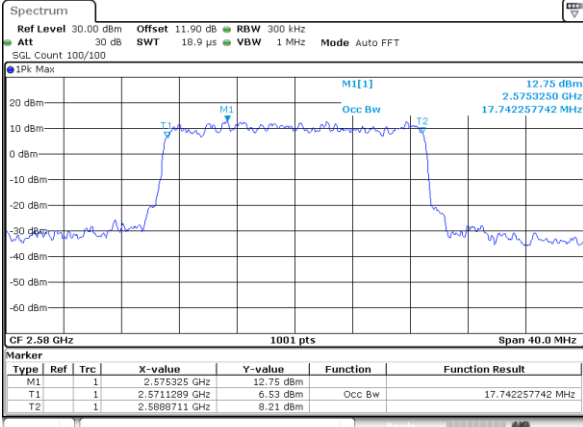


Date: 9,MAR,2020 21:41:35



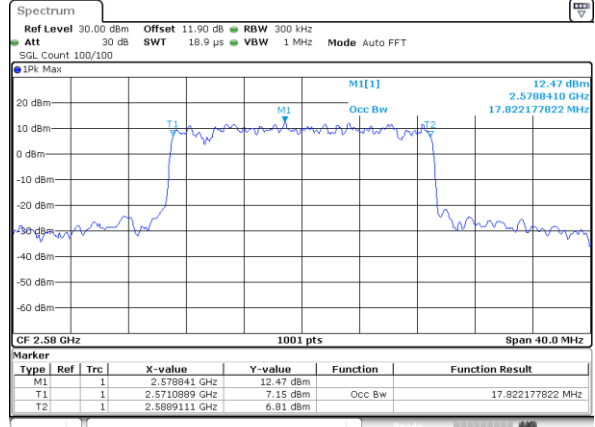
LTE Band 38(HPUe)

Lowest Channel / 20MHz / QPSK



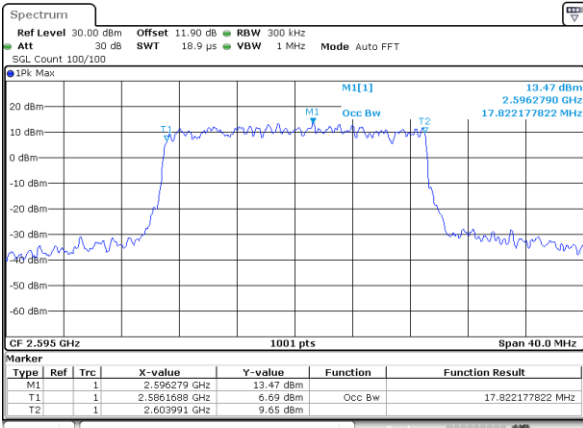
Date: 9,MAR,2020 21:42:19

Lowest Channel / 20MHz / 16QAM



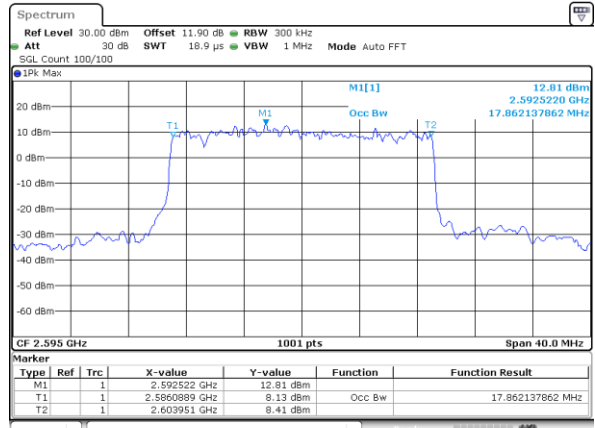
Date: 9,MAR,2020 21:42:33

Middle Channel / 20MHz / QPSK



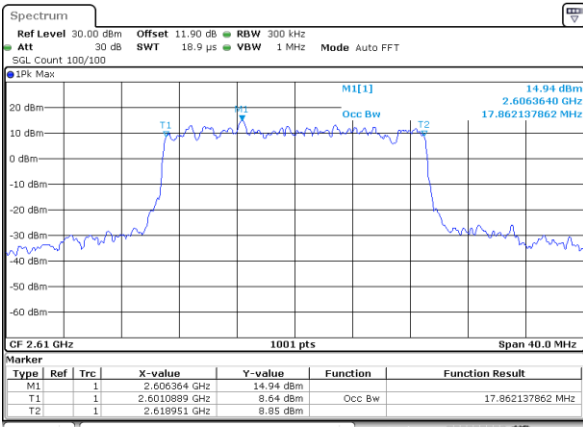
Date: 9,MAR,2020 21:43:14

Middle Channel / 20MHz / 16QAM



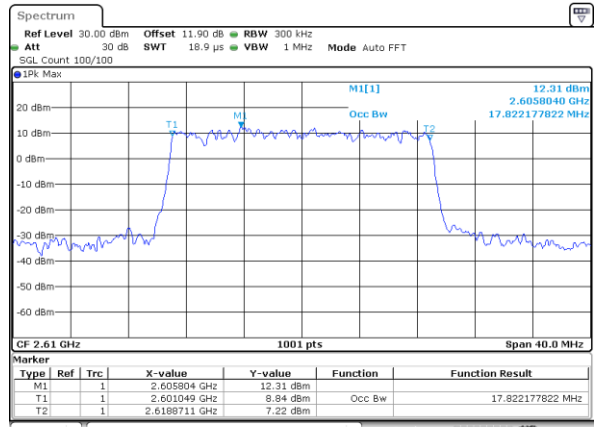
Date: 9,MAR,2020 21:43:27

Highest Channel / 20MHz / QPSK



Date: 9,MAR,2020 21:44:07

Highest Channel / 20MHz / 16QAM

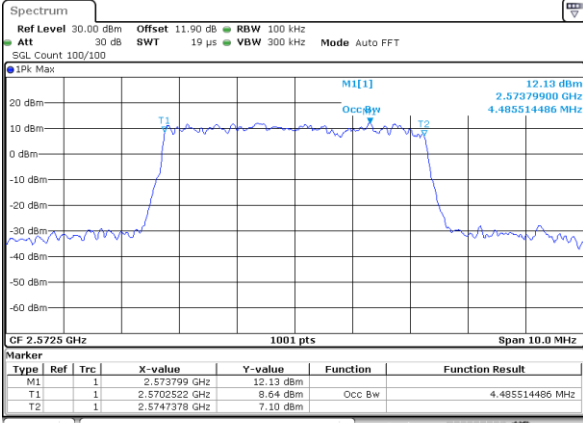


Date: 9,MAR,2020 21:44:21



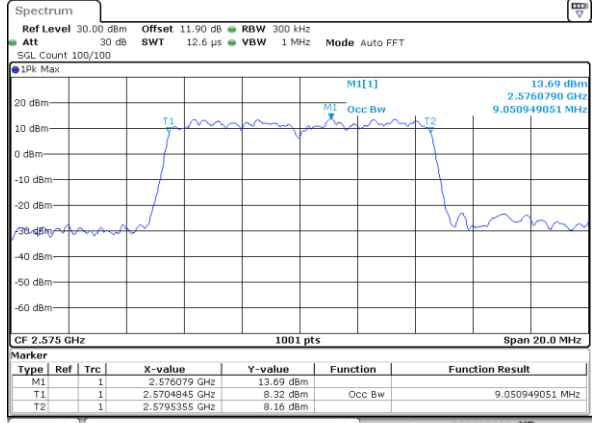
LTE Band 38(HPUe)

Lowest Channel / 5MHz / 64QAM



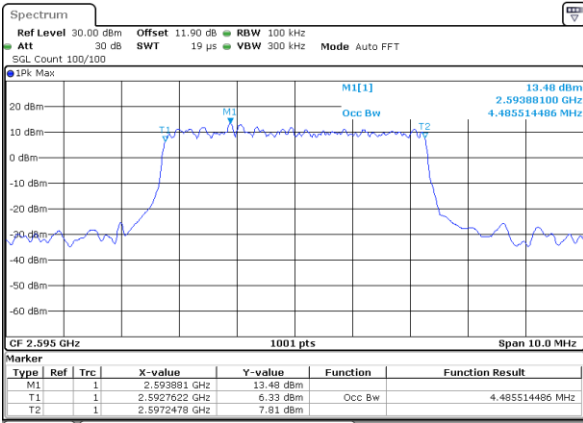
Date: 9,MAR,2020 21:45:04

Lowest Channel / 10MHz / 64QAM



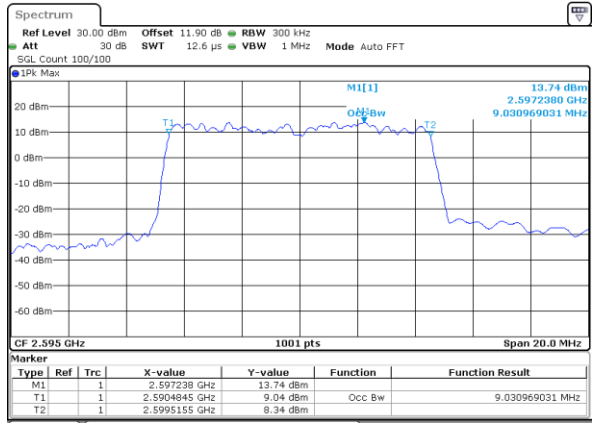
Date: 9,MAR,2020 21:46:26

Middle Channel / 5MHz / 64QAM



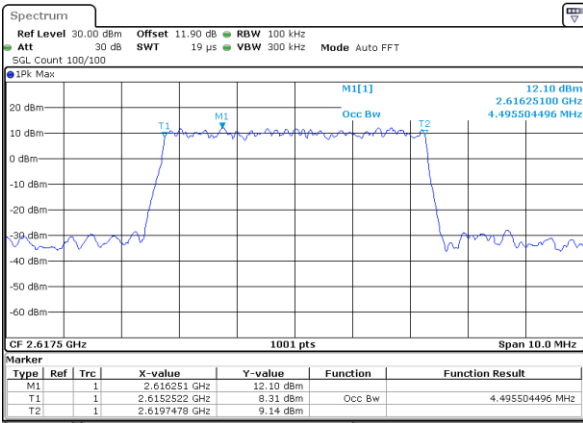
Date: 9,MAR,2020 21:45:31

Middle Channel / 10MHz / 64QAM



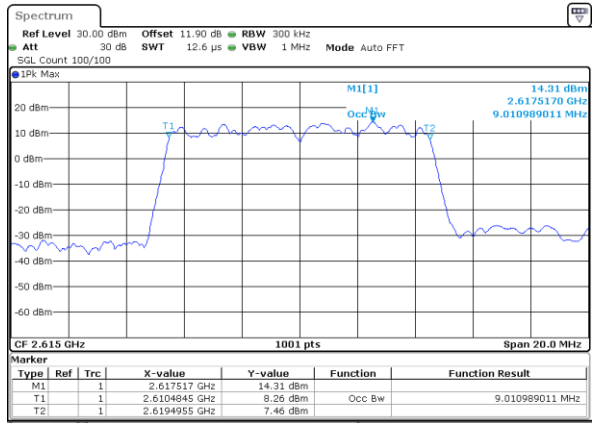
Date: 9,MAR,2020 21:46:54

Highest Channel / 5MHz / 64QAM



Date: 9,MAR,2020 21:45:57

Highest Channel / 10MHz / 64QAM

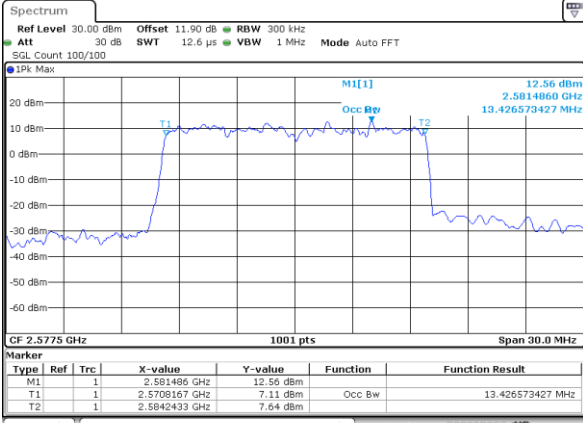


Date: 9,MAR,2020 21:47:20



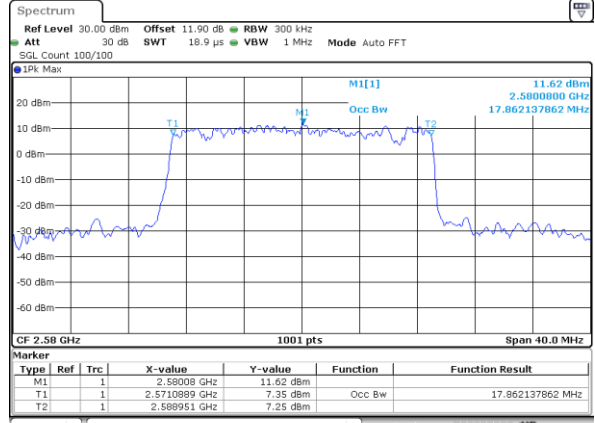
LTE Band 38(HPUe)

Lowest Channel / 15MHz / 64QAM



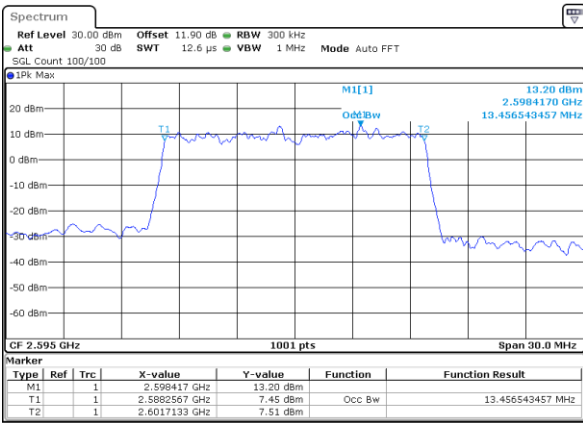
Date: 9\_MAR\_2020 21:47:49

Lowest Channel / 20MHz / 64QAM



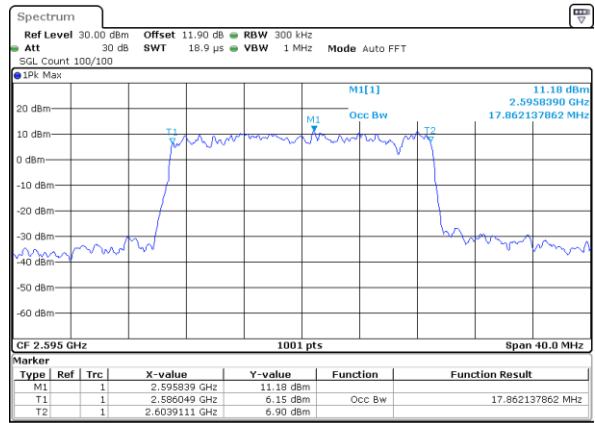
Date: 9\_MAR\_2020 21:49:12

Middle Channel / 15MHz / 64QAM



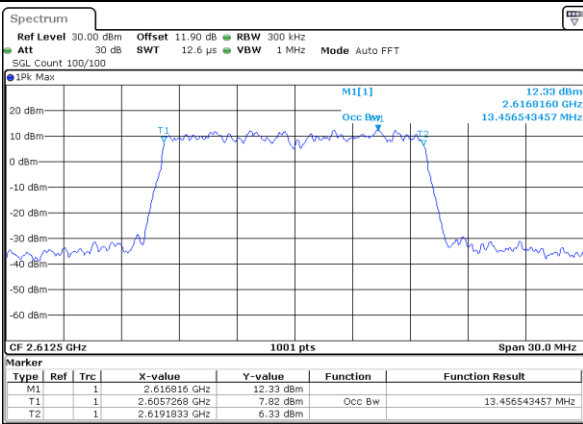
Date: 9\_MAR\_2020 21:48:16

Middle Channel / 20MHz / 64QAM



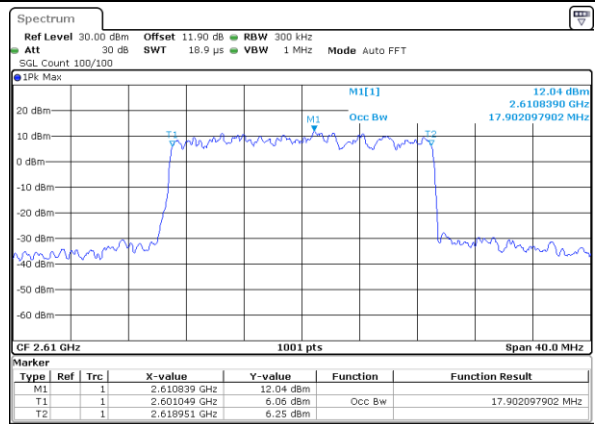
Date: 9\_MAR\_2020 21:49:39

Highest Channel / 15MHz / 64QAM



Date: 9\_MAR\_2020 21:48:43

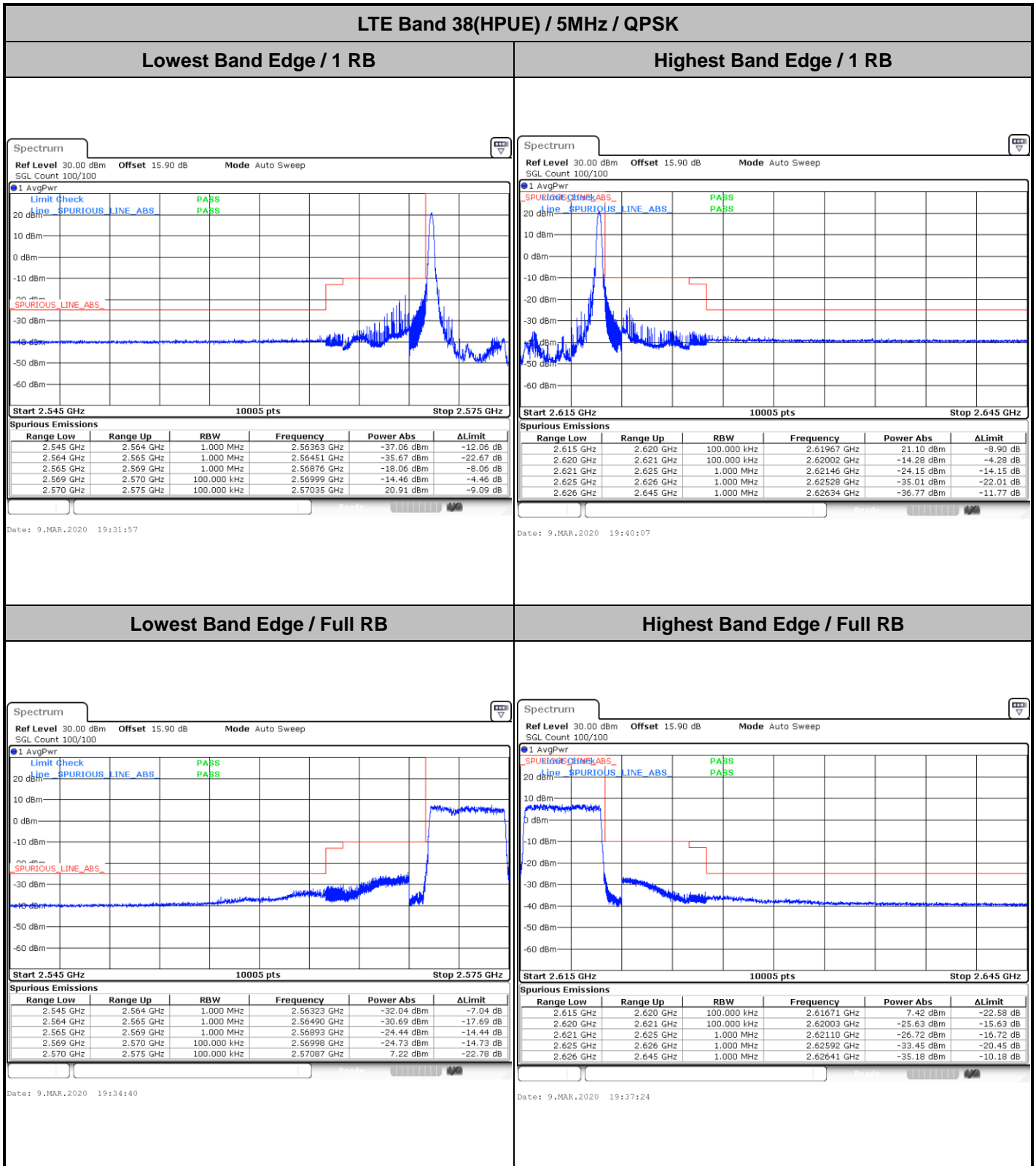
Highest Channel / 20MHz / 64QAM



Date: 9\_MAR\_2020 21:50:06



# Conducted Band Edge



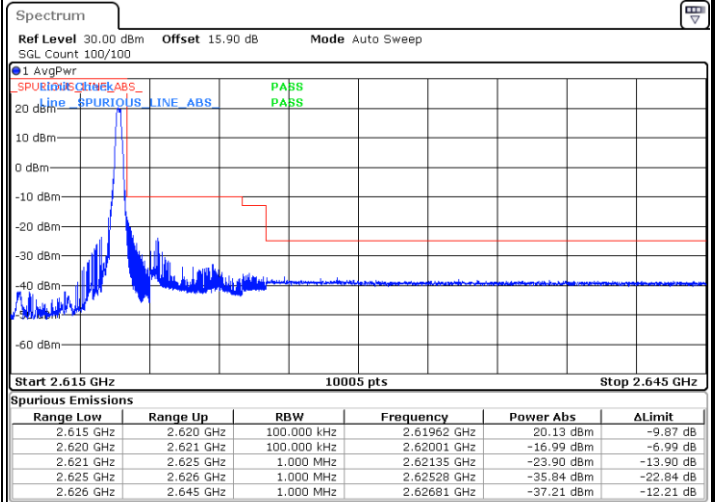
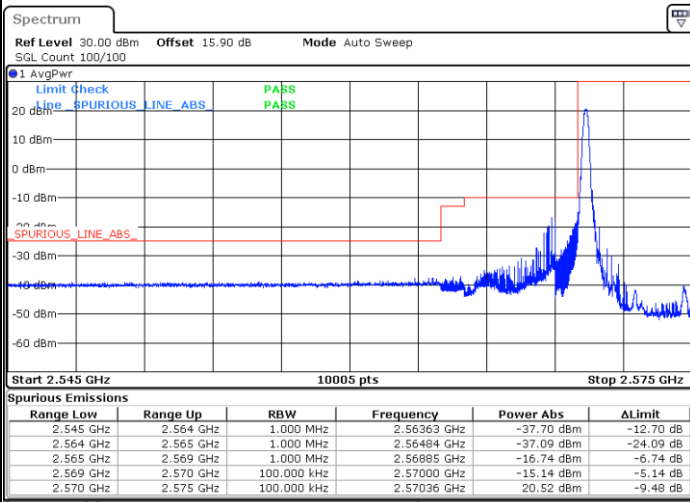




LTE Band 38(HPUE) / 5MHz / 16QAM

Lowest Band Edge / 1RB

Highest Band Edge / 1 RB

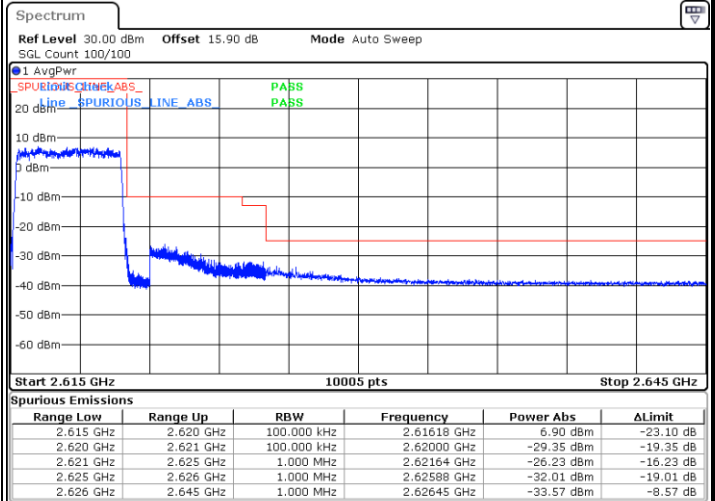
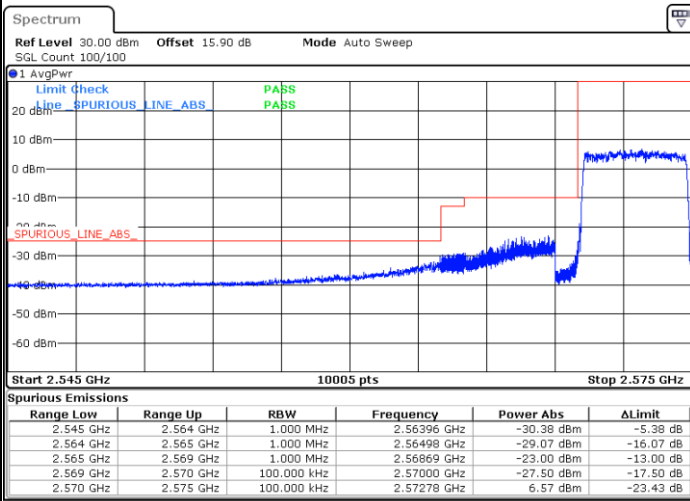


Date: 9.MAR.2020 19:33:18

Date: 9.MAR.2020 19:41:29

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



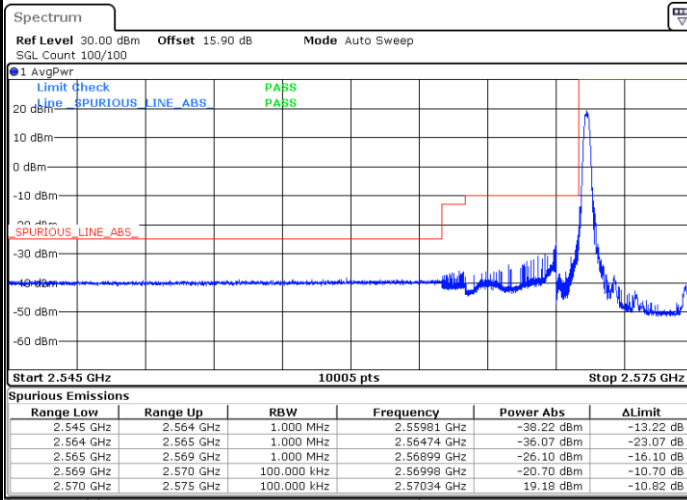
Date: 9.MAR.2020 19:36:02

Date: 9.MAR.2020 19:38:45



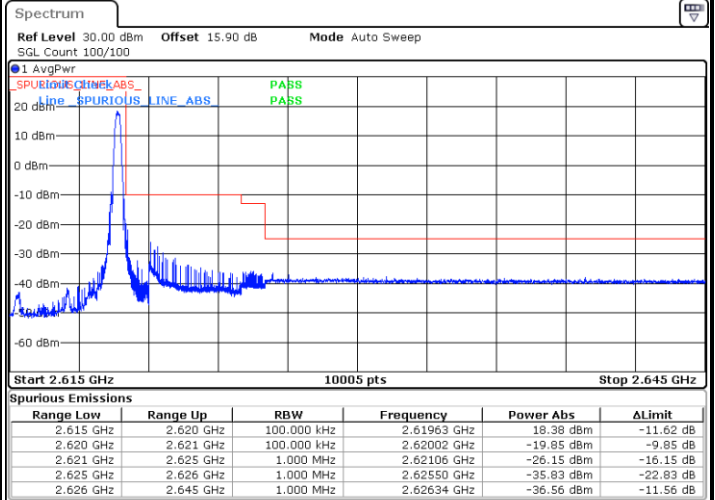
LTE Band 38(HPUE) / 5MHz / 64QAM

Lowest Band Edge / 1RB



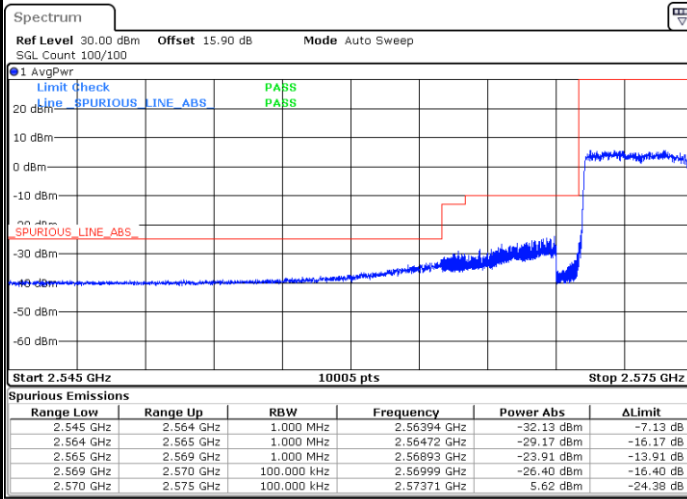
Date: 9.MAR.2020 19:42:51

Highest Band Edge / 1 RB



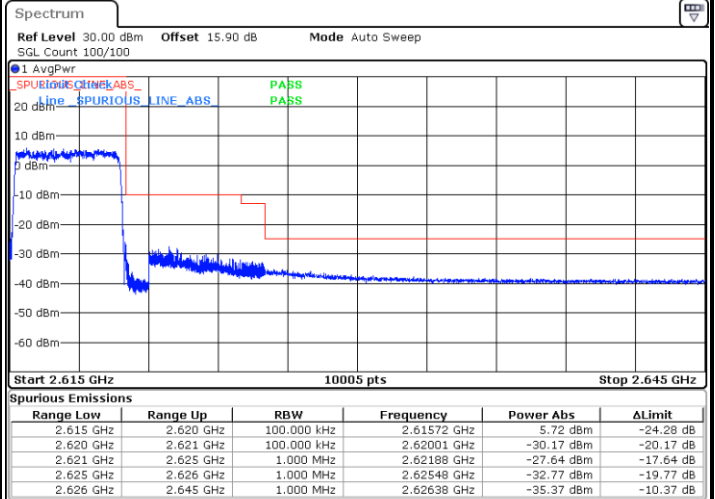
Date: 9.MAR.2020 19:46:56

Lowest Band Edge / Full RB



Date: 9.MAR.2020 19:44:13

Highest Band Edge / Full RB



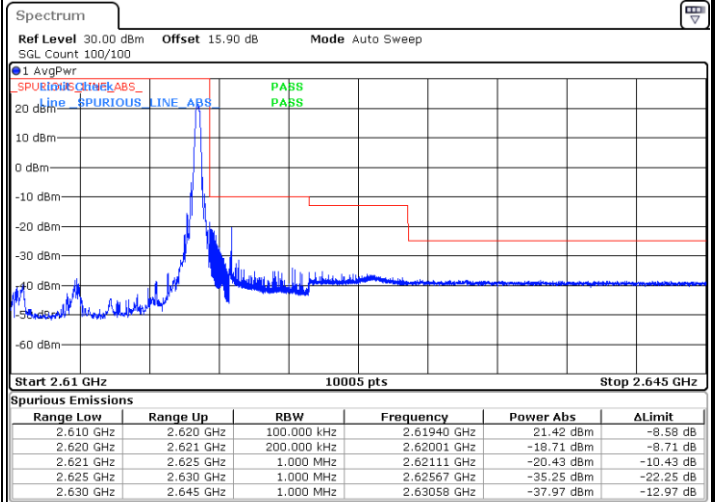
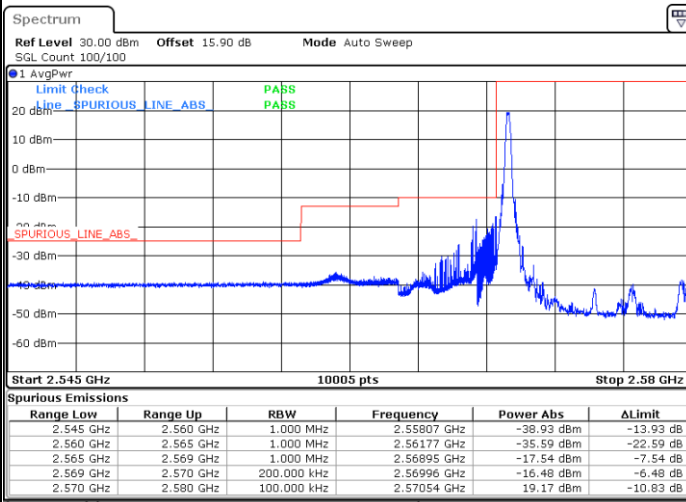
Date: 9.MAR.2020 19:45:34



LTE Band 38(HPUE) / 10MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

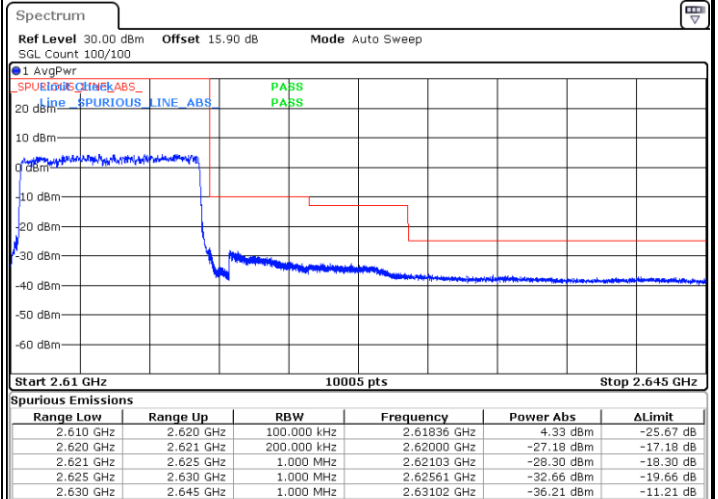
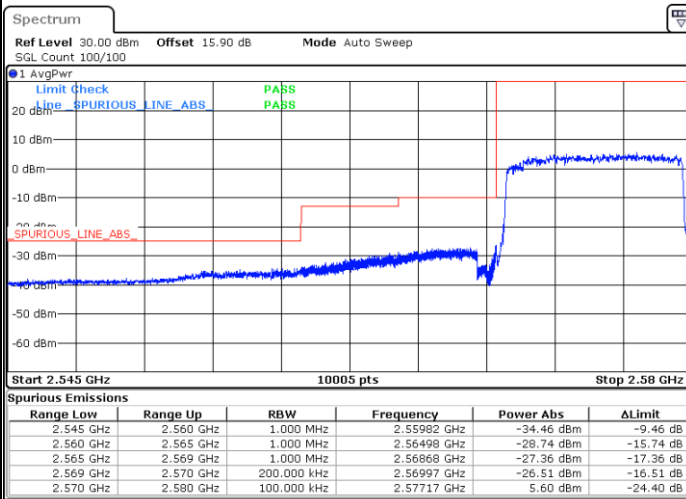


Date: 9.MAR.2020 19:53:46

Date: 9.MAR.2020 20:01:56

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 9.MAR.2020 19:56:29

Date: 9.MAR.2020 19:59:13