

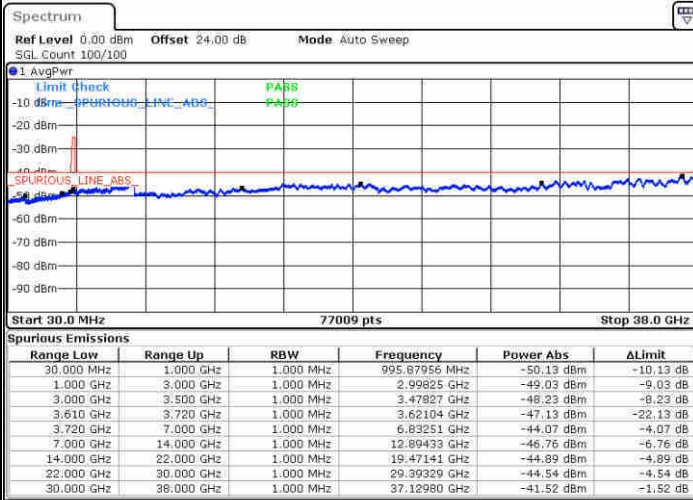


LTE Band 48 / 10MHz

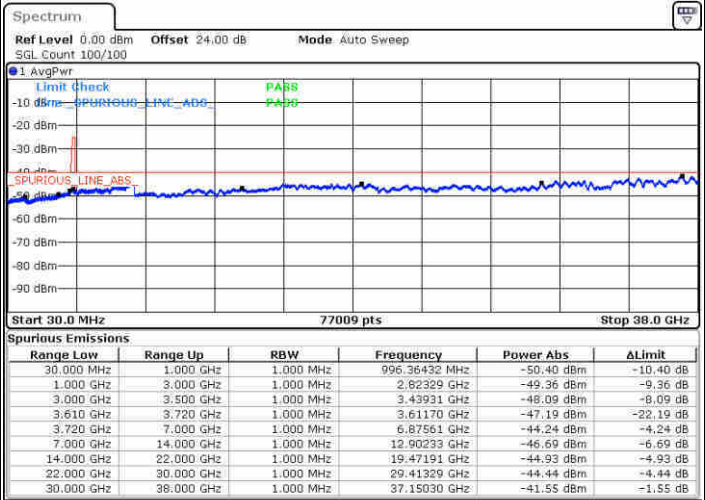
64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



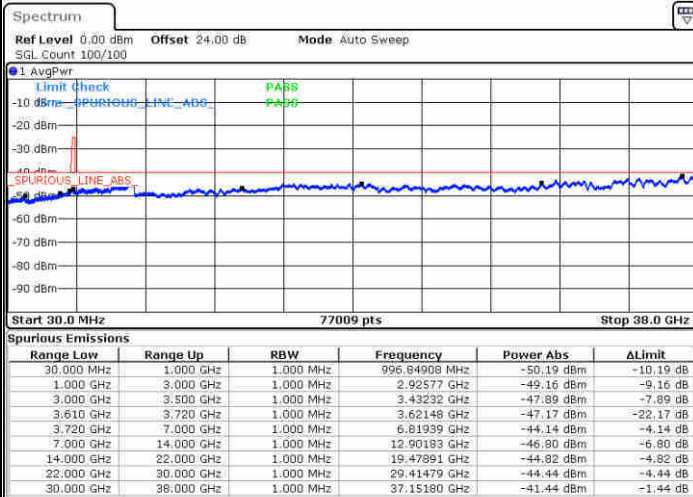
Date: 14.FEB.2020 23:59:49



Date: 15.FEB.2020 00:07:45

Lowest Channel / FullRB

N/A



Date: 15.FEB.2020 00:13:19

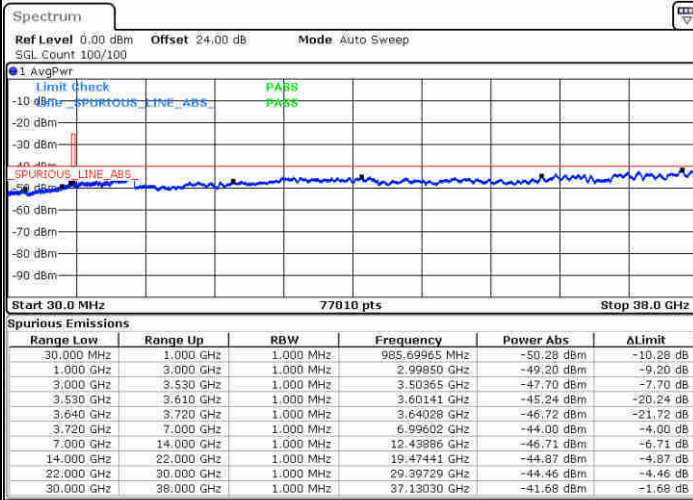


LTE Band 48 / 10MHz

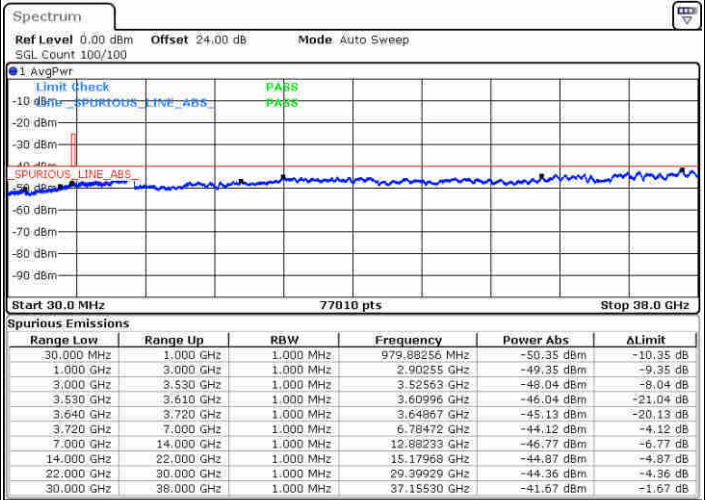
64QAM

MiddleChannel / 1RB0

Middle Channel / 1RBmax



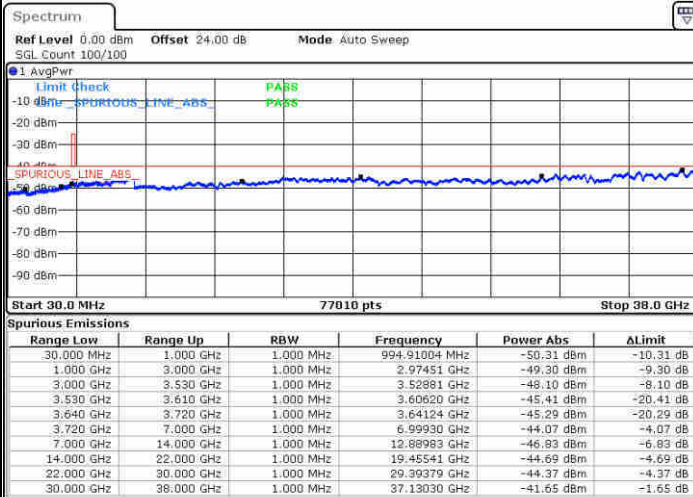
Date: 15 FEB 2020 01:23:00



Date: 15 FEB 2020 01:27:58

Middle Channel / FullIRB

N/A



Date: 15 FEB 2020 01:31:23

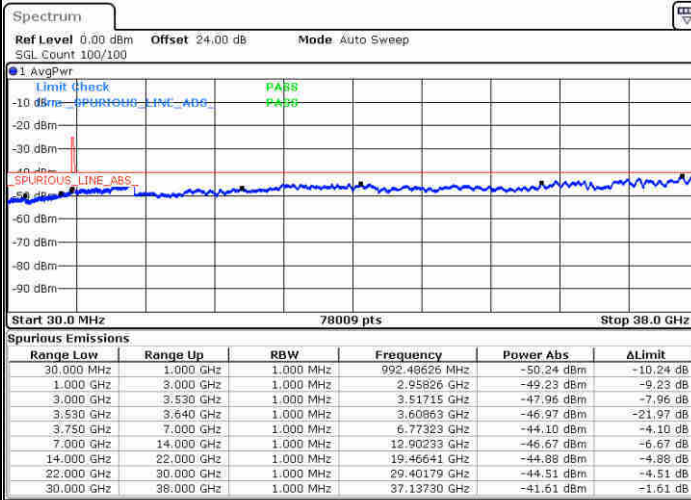


LTE Band 48 / 10MHz

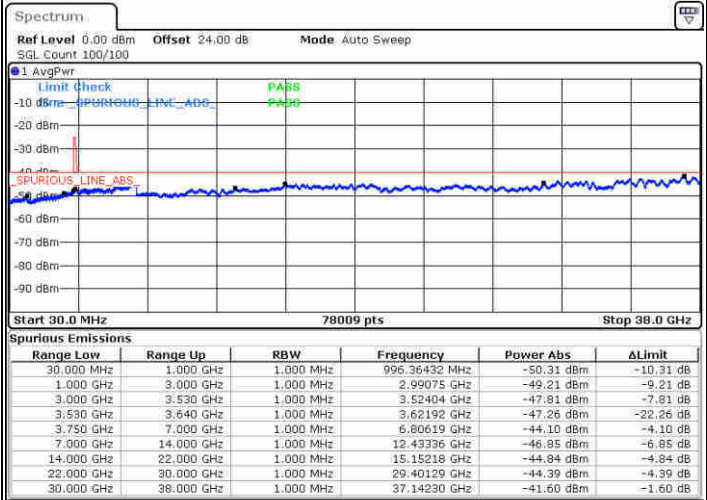
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



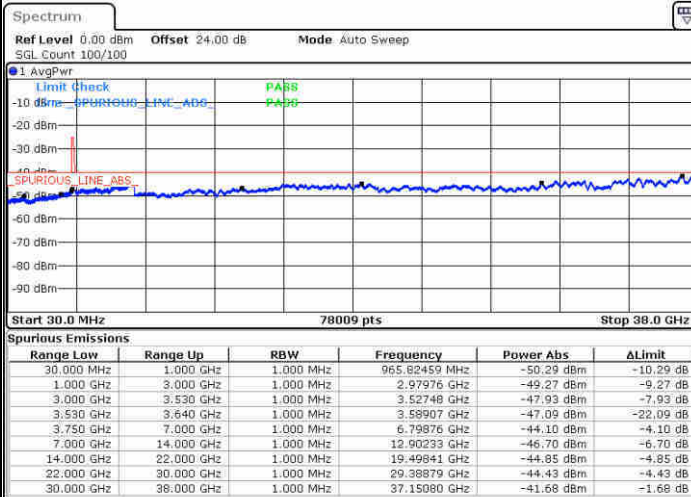
Date: 15 FEB 2020 02:03:42



Date: 15 FEB 2020 02:10:38

Highest Channel / FullIRB

N/A



Date: 15 FEB 2020 02:13:23

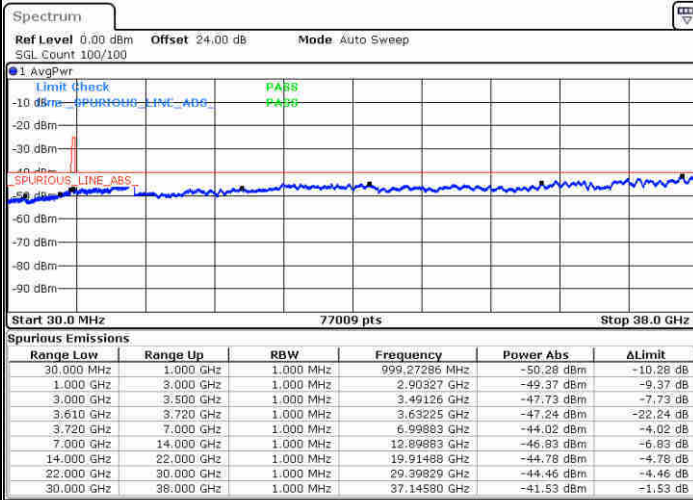


LTE Band 48 / 15MHz

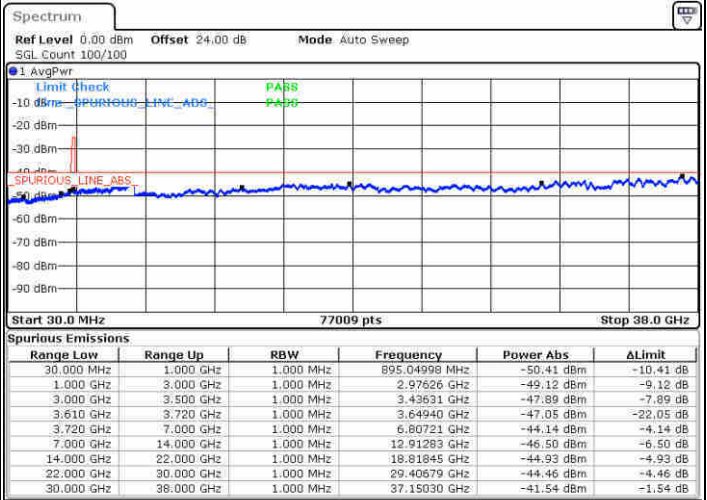
64QAM

Lowest Channel / 1RB0

Lowest Channel / 1RBmax



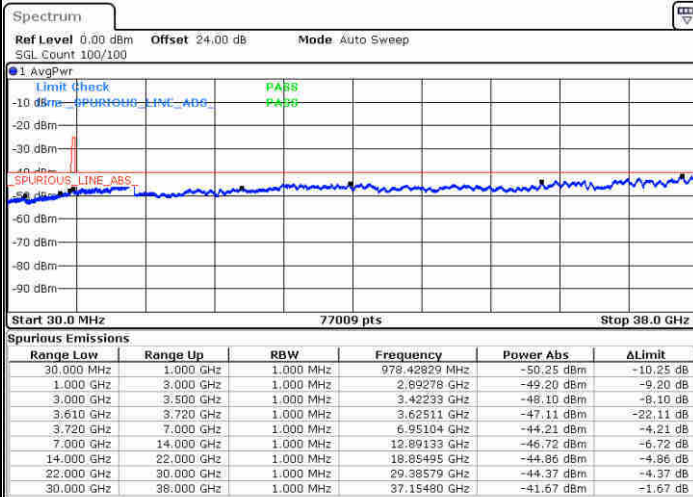
Date: 15 FEB 2020 03:16:30



Date: 15 FEB 2020 03:29:40

Lowest Channel / FullIRB

N/A



Date: 15 FEB 2020 03:31:59

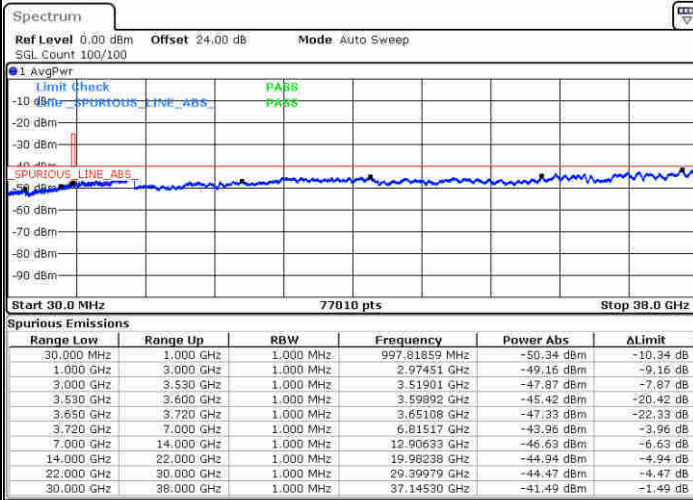


LTE Band 48 / 15MHz

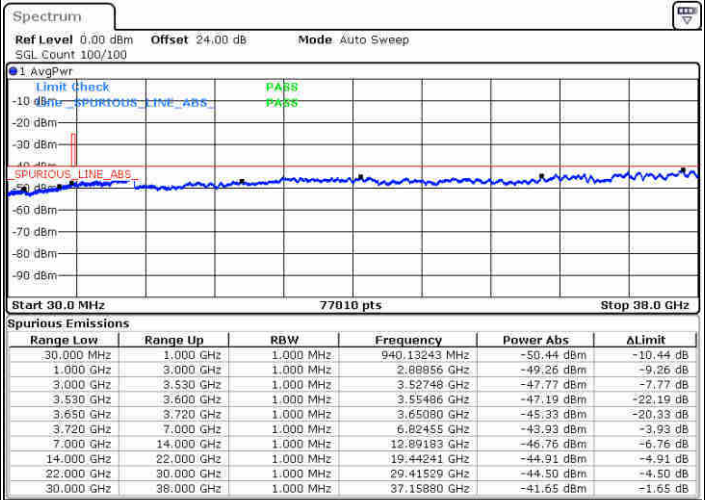
64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



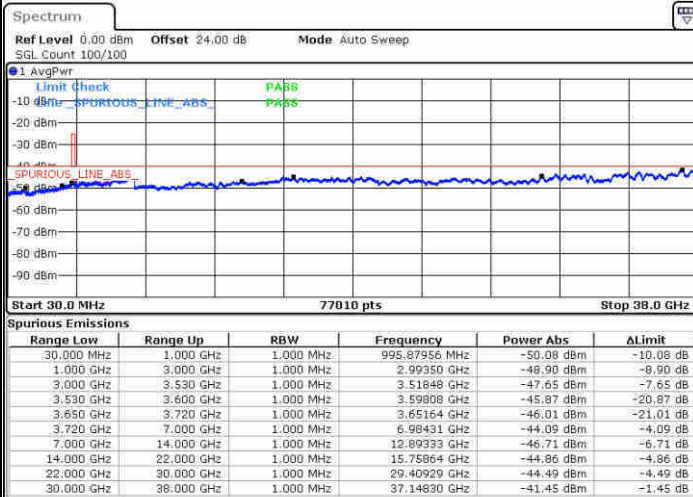
Date: 15 FEB 2020 04:34:43



Date: 15 FEB 2020 04:43:17

Middle Channel / FullIRB

N/A



Date: 15 FEB 2020 04:50:41

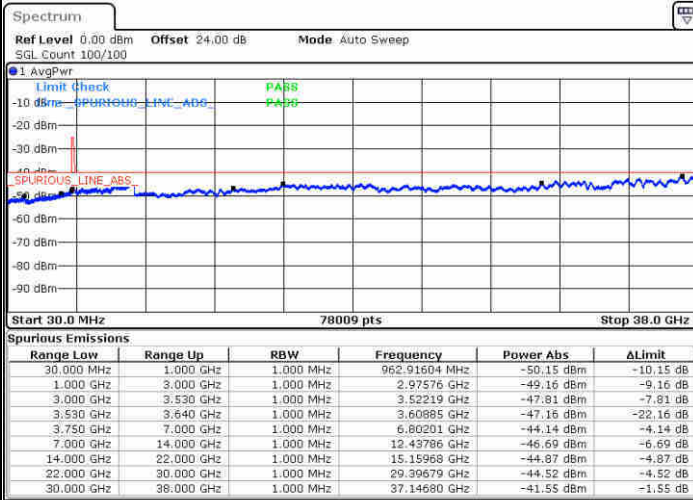


LTE Band 48 / 15MHz

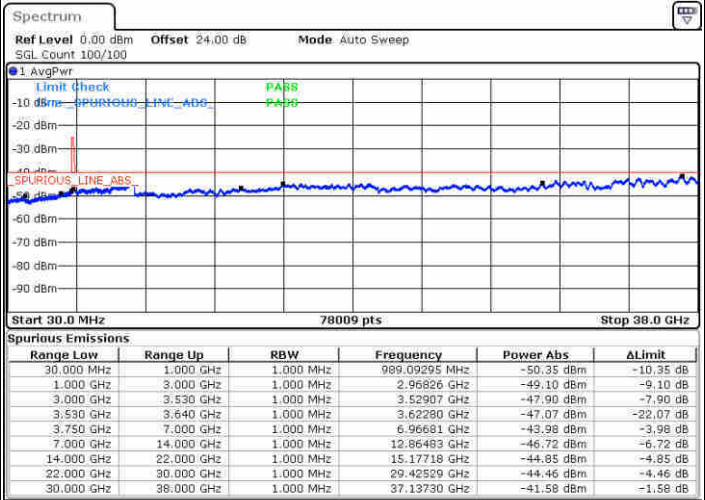
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



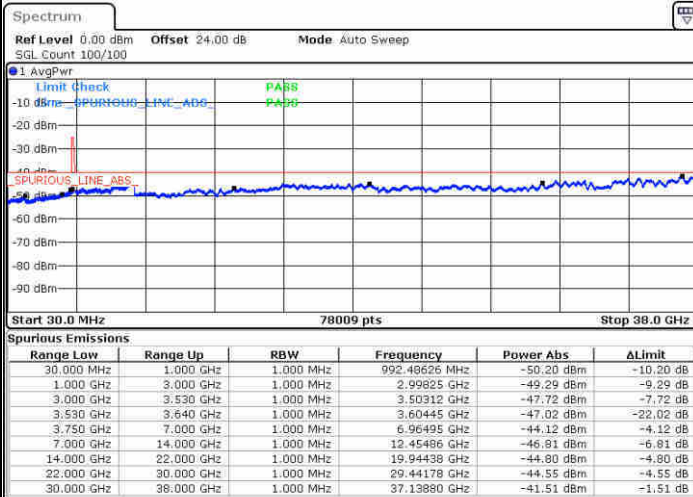
Date: 15 FEB 2020 05:36:56



Date: 15 FEB 2020 05:40:39

Highest Channel / FullIRB

N/A



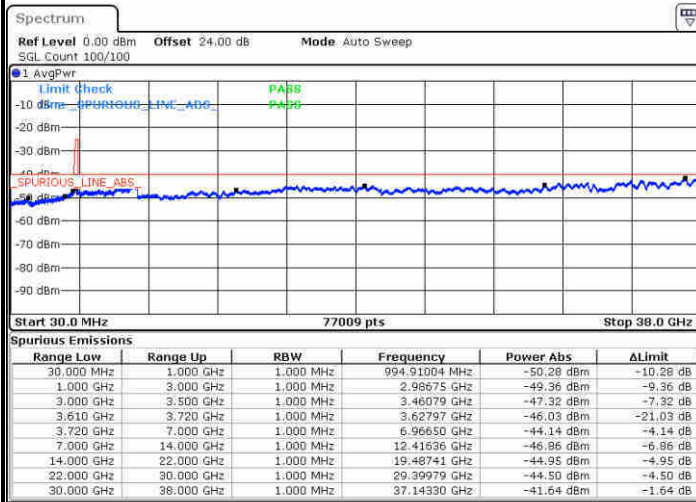
Date: 15 FEB 2020 05:42:57



LTE Band 48 / 20MHz

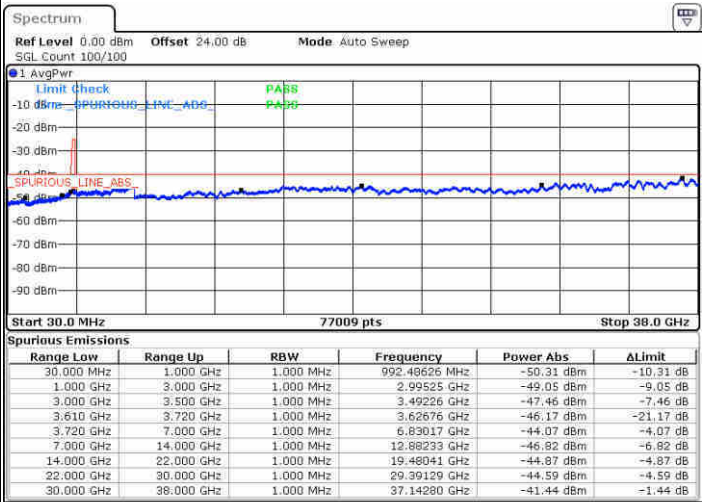
64QAM

Lowest Channel / 1RB0



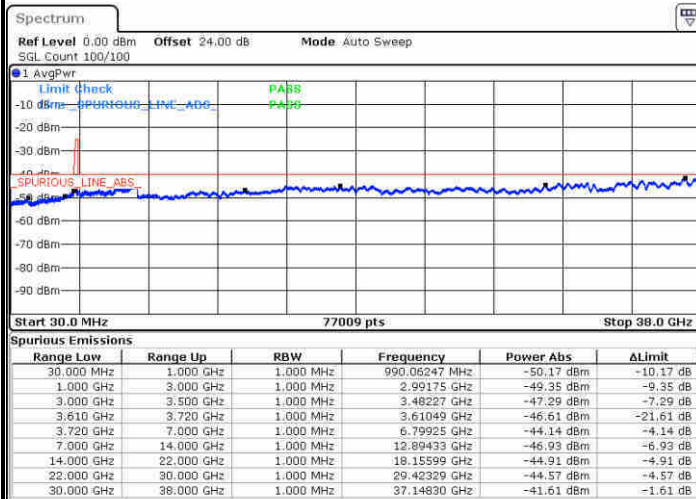
Date: 14 FEB 2020 05:30:03

Lowest Channel / 1RBmax



Date: 14 FEB 2020 05:35:37

Lowest Channel / FullIRB



Date: 14 FEB 2020 05:42:06

N/A

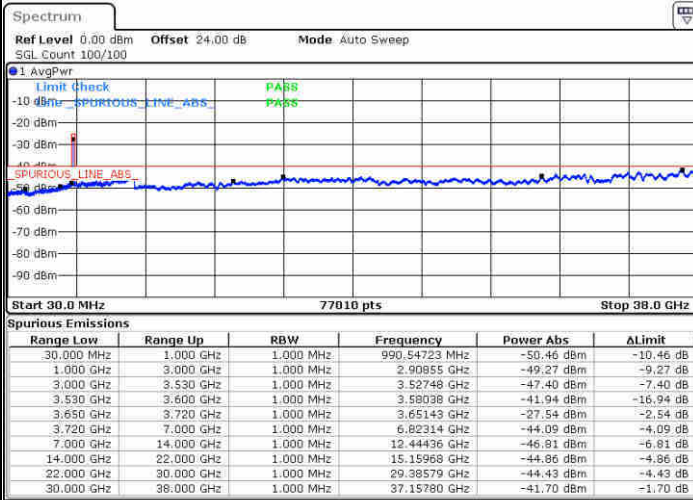


LTE Band 48 / 20MHz

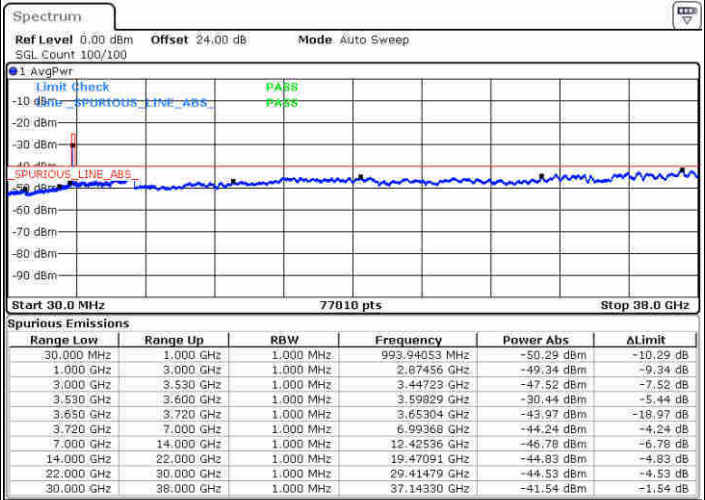
64QAM

Middle Channel / 1RB0

Middle Channel / 1RBmax



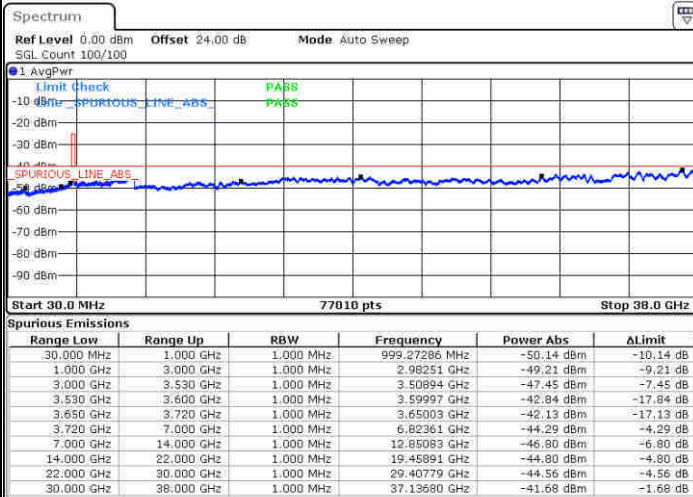
Date: 14.FEB.2020 04:34:27



Date: 14.FEB.2020 04:37:38

Middle Channel / FullIRB

N/A



Date: 14.FEB.2020 04:41:12

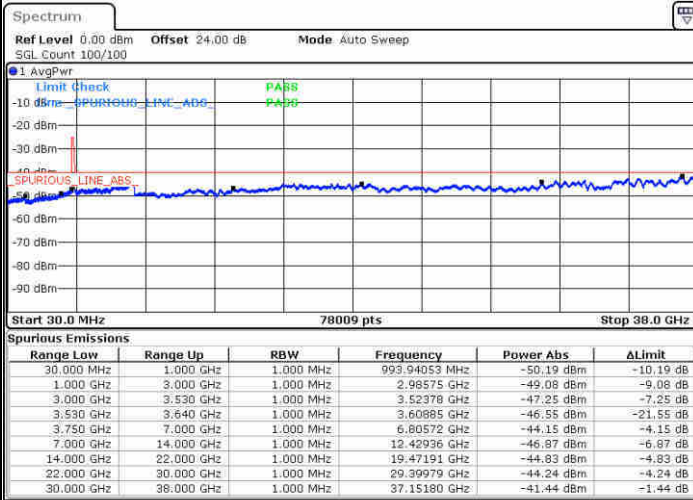


LTE Band 48 / 20MHz

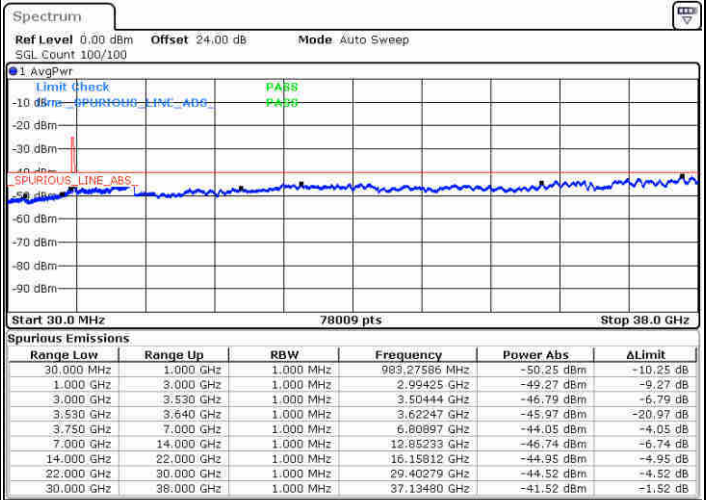
64QAM

Highest Channel / 1RB0

Highest Channel / 1RBmax



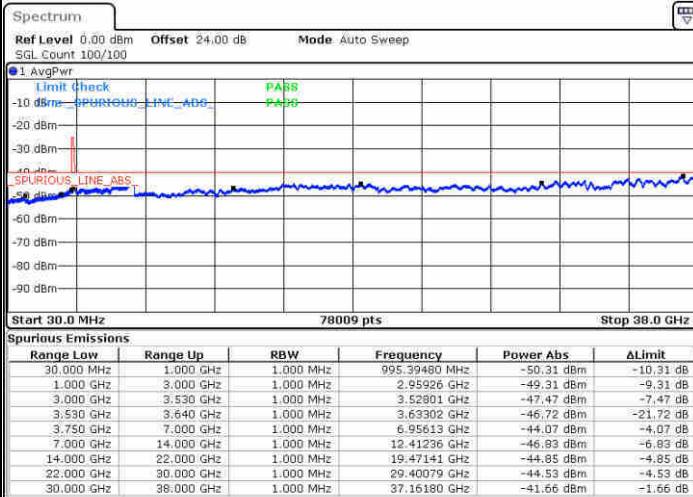
Date: 14 FEB 2020 03:10:33



Date: 14 FEB 2020 03:14:07

Highest Channel / FullIRB

N/A



Date: 14 FEB 2020 03:07:06

Frequency Stability

Test Conditions		LTE Band 48 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0031	PASS
40	Normal Voltage	0.0037	
30	Normal Voltage	0.0008	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0008	
0	Normal Voltage	0.0015	
-10	Normal Voltage	0.0003	
-20	Normal Voltage	0.0025	
-30	Normal Voltage	0.0015	
20	Maximum Voltage	0.0012	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0001	

Note:

1. Normal Voltage =110 V. ; Battery End Point (BEP) =100 V. ; Maximum Voltage =120 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

**EIRP Power Density**

Mode	LTE Band 48 : Conducted Power Density (dBm/MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	13.88	13.7	12.2	11.9	10.61	10.37	8.96	8.53
Middle CH	-	-	-	-	13.13	13.55	12.16	11.23	10.6	10.32	8.77	8.66
Highest CH	-	-	-	-	13.93	14.09	12.22	11.84	10.66	11.18	10.3	8.93
Mode	LTE Band 48 : Conducted Power Density (dBm/MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	13.53	-	12.11	-	10.81	-	7.88	-
Middle CH	-	-	-	-	13.45	-	11.37	-	10.72	-	8.59	-
Highest CH	-	-	-	-	13.84	-	12.6	-	10.7	-	9.8	-

Mode	LTE Band 48 : EIRP Power Density (dBm/MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	28.88	28.7	27.2	26.9	25.61	25.37	23.96	23.53
Middle CH	-	-	-	-	28.13	28.55	27.16	26.23	25.6	25.32	23.77	23.66
Highest CH	-	-	-	-	28.93	29.09	27.22	26.84	25.66	26.18	25.3	23.93
Mode	LTE Band 48 : EIRP Power Density (dBm/MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	28.53	-	27.11	-	25.81	-	22.88	-
Middle CH	-	-	-	-	28.45	-	26.37	-	25.72	-	23.59	-
Highest CH	-	-	-	-	28.84	-	27.6	-	25.7	-	24.8	-
Antenna Gain	15 dBi											
Limit	37dBm / MHz											
Result	Pass											



LTE Band 48 / 5MHz

Lowest Channel / 5MHz / Full / QPSK



Date: 14 FEB 2020 06:00:42

Lowest Channel / 5MHz / Full / 16QAM



Date: 14 FEB 2020 06:04:28

Middle Channel / 5MHz / Full / QPSK



Date: 14 FEB 2020 06:43:18

Middle Channel / 5MHz / Full / 16QAM



Date: 14 FEB 2020 06:54:45

Highest Channel / 5MHz / Full / QPSK



Date: 14 FEB 2020 07:21:34

Highest Channel / 5MHz / Full / 16QAM



Date: 14 FEB 2020 07:54:50



LTE Band 48 / 10MHz

Lowest Channel / 10MHz / Full / QPSK



Date: 16 FEB 2020 03:44:05

Lowest Channel / 10MHz / Full / 16QAM



Date: 16 FEB 2020 03:45:58

Middle Channel / 10MHz / Full / QPSK



Date: 16 FEB 2020 03:49:00

Middle Channel / 10MHz / Full / 16QAM



Date: 16 FEB 2020 03:49:21

Highest Channel / 10MHz / Full / QPSK



Date: 16 FEB 2020 03:52:17

Highest Channel / 10MHz / Full / 16QAM



Date: 16 FEB 2020 03:53:14



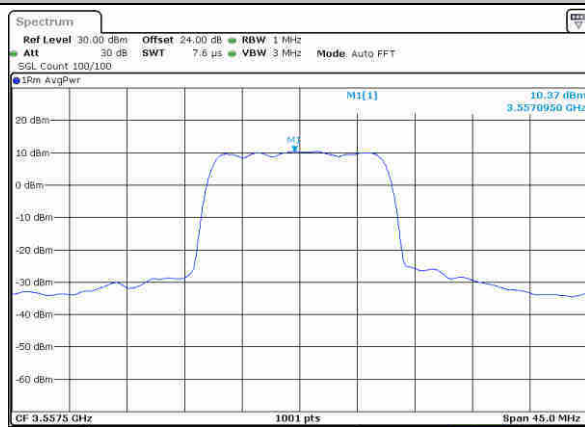
LTE Band 48 / 15MHz

Lowest Channel / 15MHz / Full / QPSK



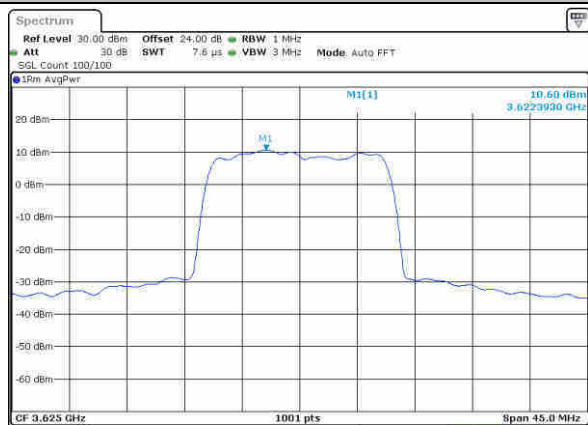
Date: 16 FEB 2020 03:56:03

Lowest Channel / 15MHz / Full / 16QAM



Date: 16 FEB 2020 03:56:51

Middle Channel / 15MHz / Full / QPSK



Date: 16 FEB 2020 03:58:58

Middle Channel / 15MHz / Full / 16QAM



Date: 16 FEB 2020 03:59:55

Highest Channel / 15MHz / Full / QPSK



Date: 16 FEB 2020 04:02:14

Highest Channel / 15MHz / Full / 16QAM

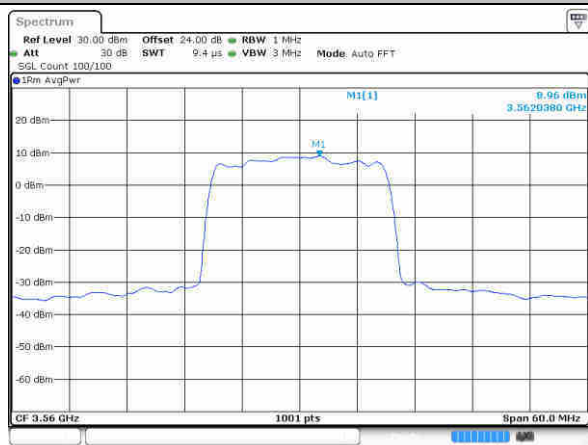


Date: 16 FEB 2020 04:02:31



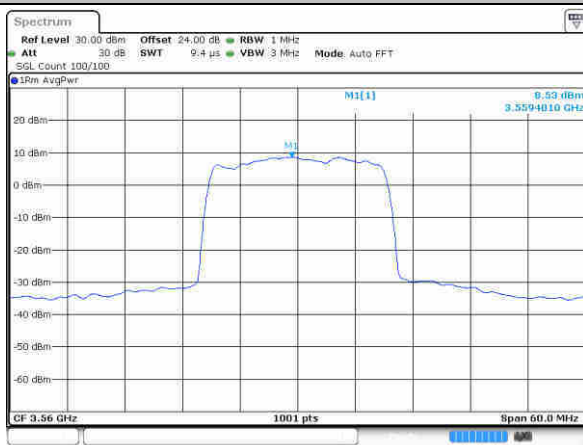
LTE Band 48 / 20MHz

Lowest Channel / 20MHz / Full / QPSK



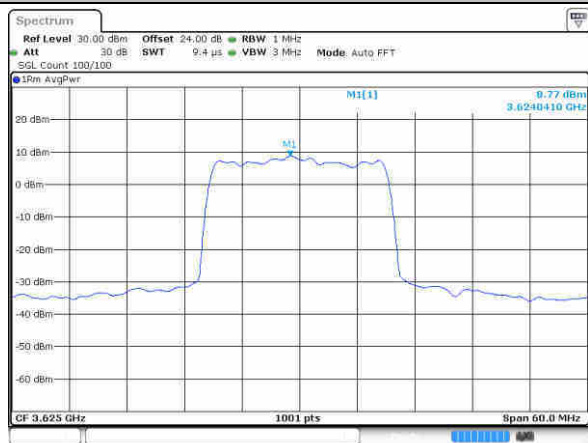
Date: 14 FEB 2020 05:15:16

Lowest Channel / 20MHz / Full / 16QAM



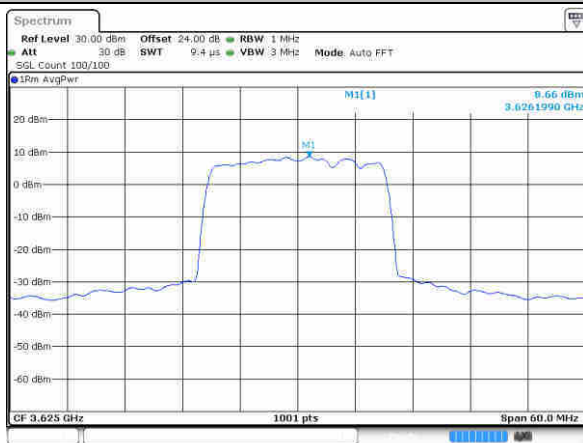
Date: 14 FEB 2020 05:18:20

Middle Channel / 20MHz / Full / QPSK



Date: 14 FEB 2020 04:07:28

Middle Channel / 20MHz / Full / 16QAM



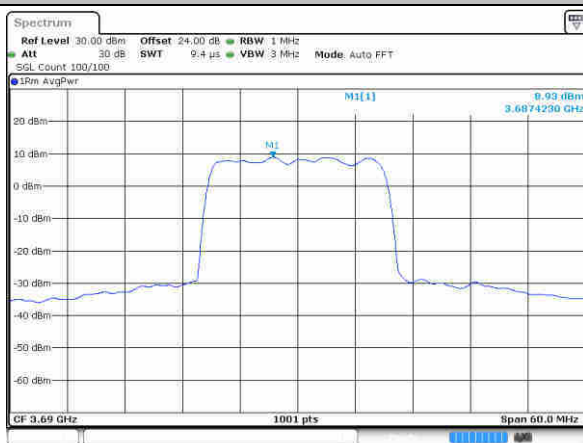
Date: 14 FEB 2020 04:13:44

Highest Channel / 20MHz / Full / QPSK



Date: 14 FEB 2020 03:29:11

Highest Channel / 20MHz / Full / 16QAM



Date: 14 FEB 2020 03:24:54



LTE Band 48 / 5MHz

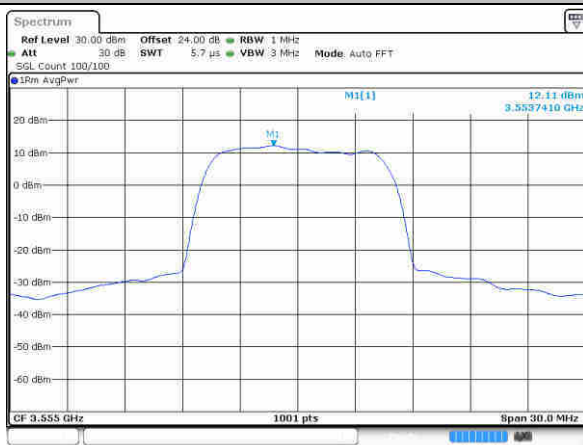
Lowest Channel / 5MHz / Full / 64QAM



Date: 14 FEB 2020 06:27:21

LTE Band 48 / 10MHz

Lowest Channel / 10MHz / Full / 64QAM



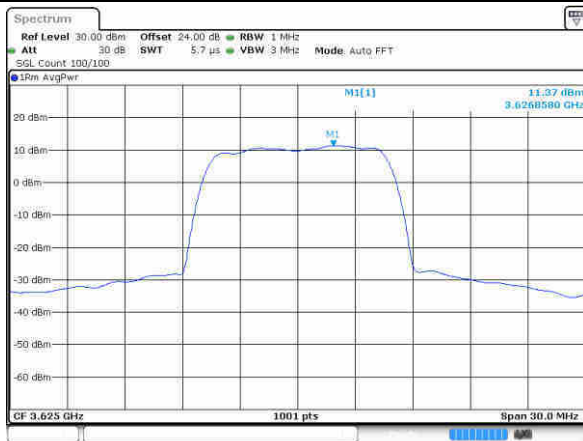
Date: 16 FEB 2020 03:46:47

Middle Channel / 5MHz / Full / 64QAM



Date: 14 FEB 2020 07:11:10

Middle Channel / 10MHz / Full / 64QAM



Date: 16 FEB 2020 03:50:43

Highest Channel / 5MHz / Full / 64QAM



Date: 14 FEB 2020 07:53:25

Highest Channel / 10MHz / Full / 64QAM



Date: 16 FEB 2020 03:53:32



LTE Band 48 / 15MHz

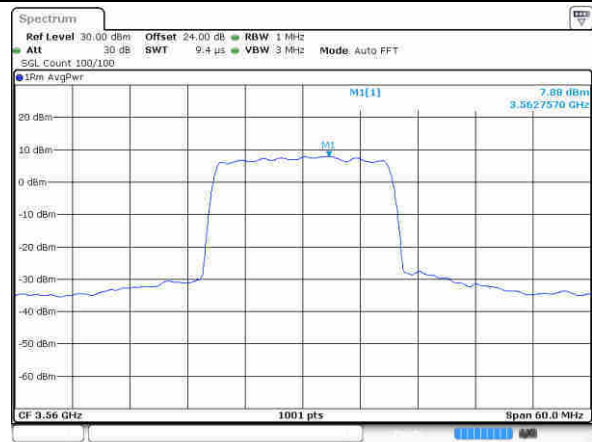
Lowest Channel / 15MHz / Full / 64QAM



Date: 16 FEB 2020 03:57:56

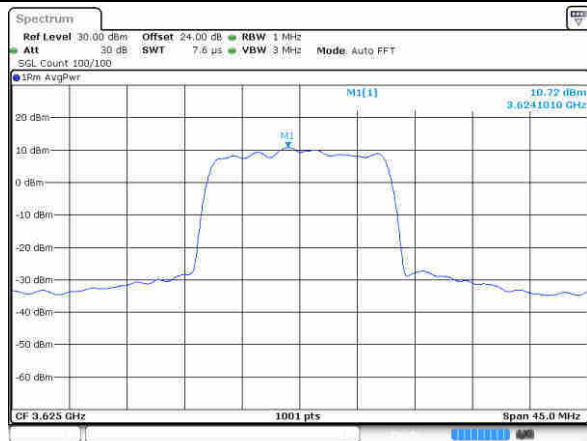
LTE Band 48 / 20MHz

Lowest Channel / 20MHz / Full / 64QAM



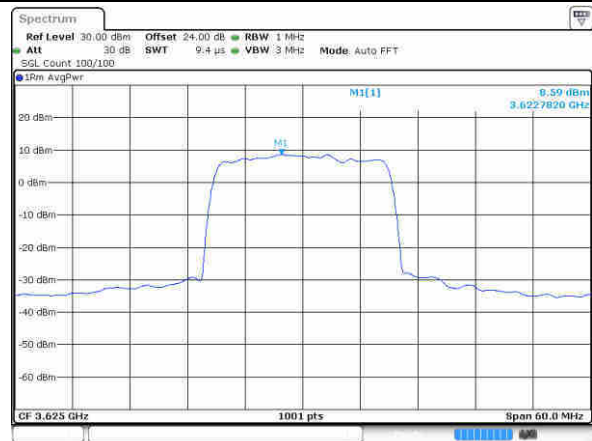
Date: 14 FEB 2020 05:42:24

Middle Channel / 15MHz / Full / 64QAM



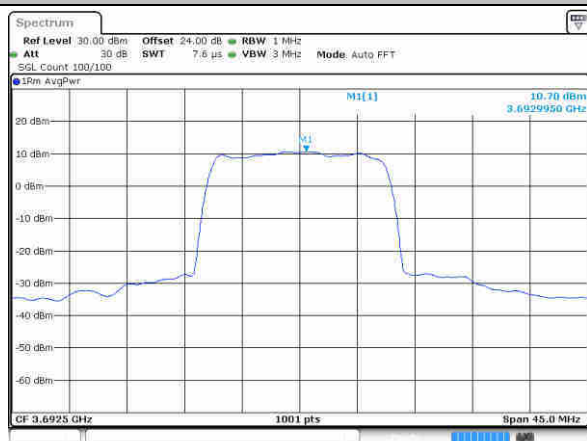
Date: 16 FEB 2020 04:00:16

Middle Channel / 20MHz / Full / 64QAM



Date: 14 FEB 2020 04:41:28

Highest Channel / 15MHz / Full / 64QAM



Date: 16 FEB 2020 04:03:31

Highest Channel / 20MHz / Full / 64QAM



Date: 14 FEB 2020 03:07:22



MIMO <Ant. 1>

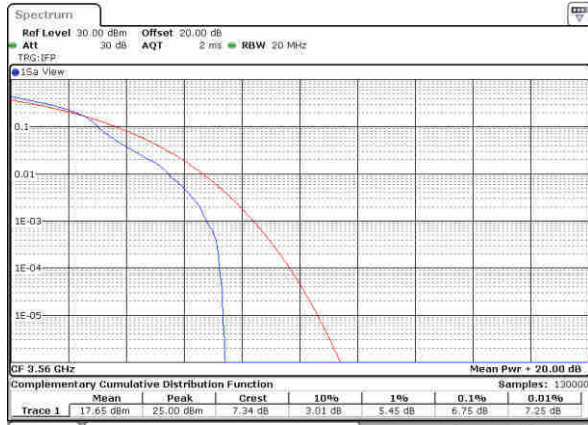
Peak-to-Average Ratio

Mode	LTE Band 48 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	6.75	6.46	6.72	6.49	PASS
Middle CH	6.09	5.65	6.46	6.49	
Highest CH	6.09	5.54	6.75	6.64	
Mode	LTE Band 48 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.78	6.43	-	-	PASS
Middle CH	6.81	6.55	-	-	
Highest CH	7.33	6.52	-	-	

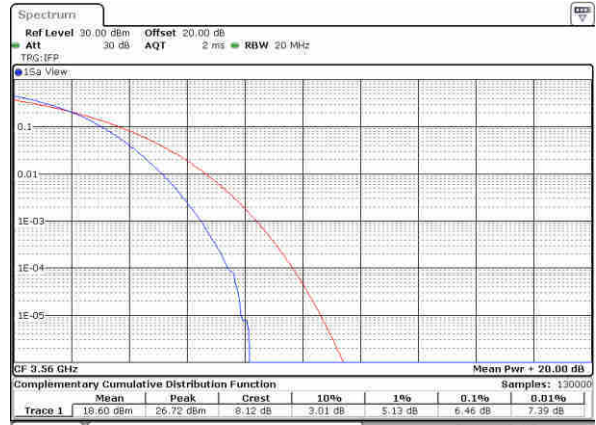


LTE Band 48 / 20MHz / QPSK

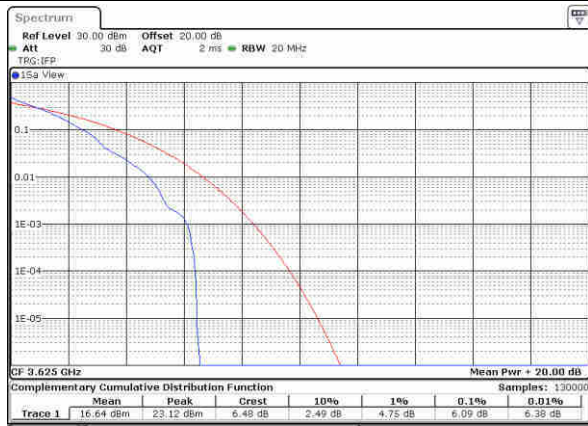
Lowest Channel / 1RB



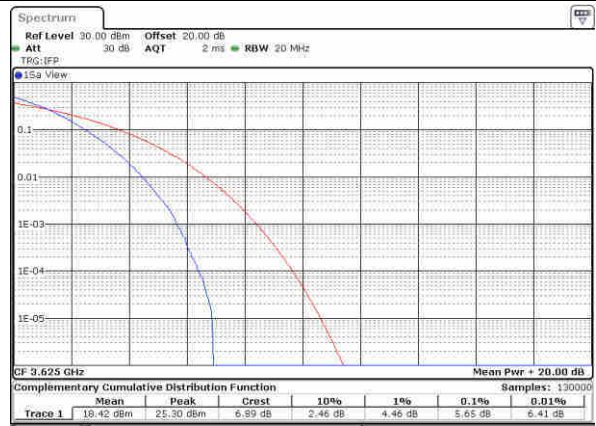
Lowest Channel / Full RB



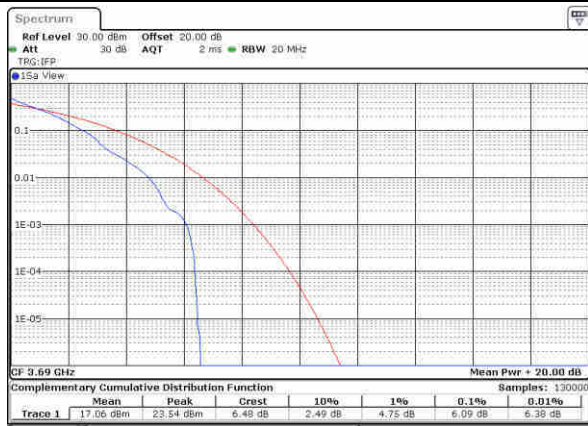
Middle Channel / 1RB



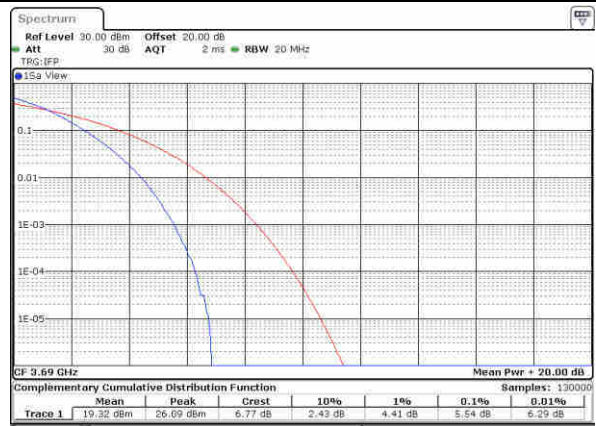
Middle Channel / Full RB



Highest Channel / 1RB



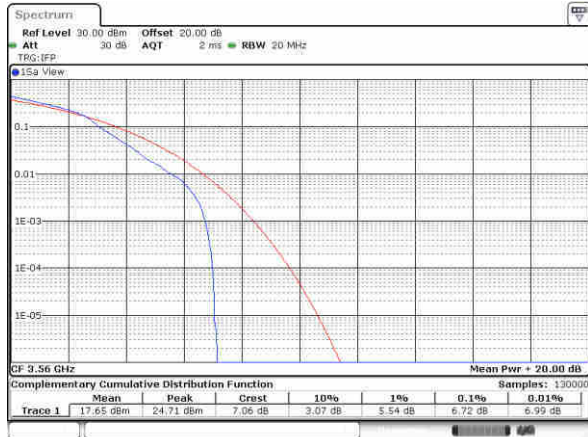
Highest Channel / Full RB



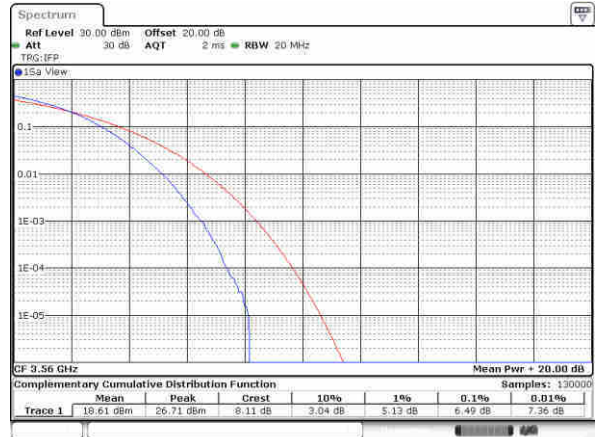


LTE Band 48 / 20MHz / 16QAM

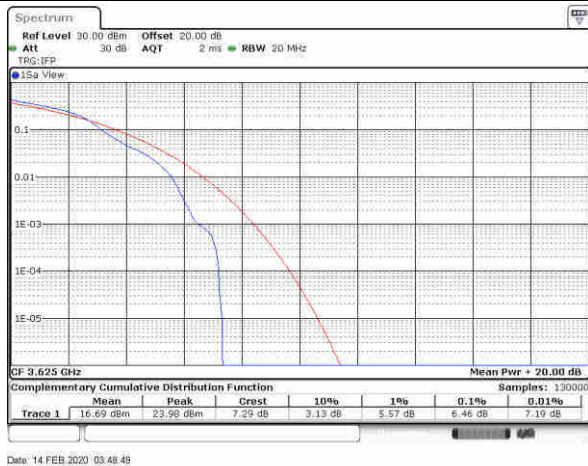
Lowest Channel / 1RB



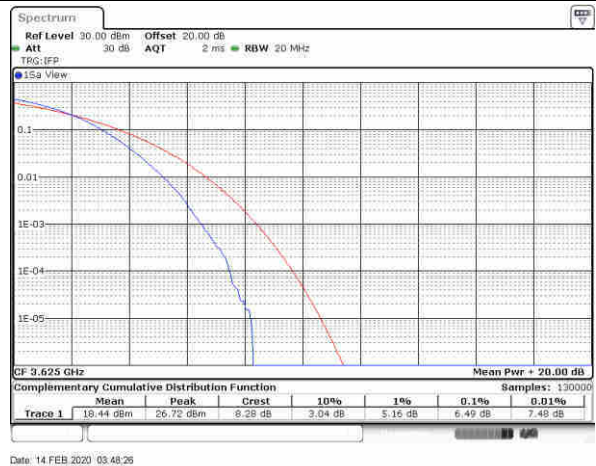
Lowest Channel / Full RB



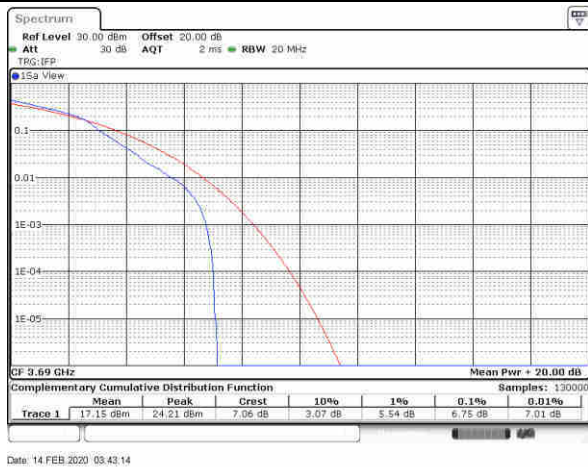
Middle Channel / 1RB



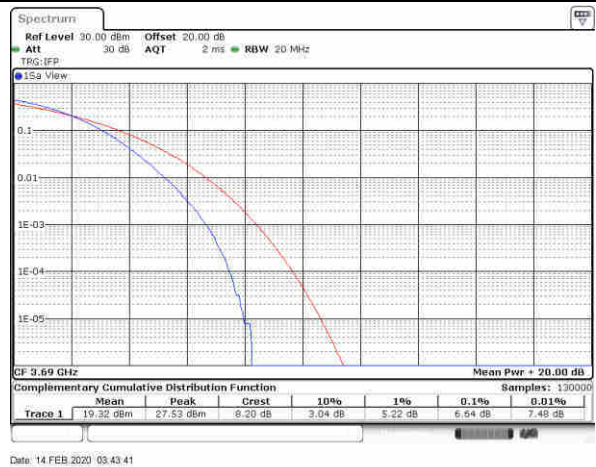
Middle Channel / Full RB



Highest Channel / 1RB



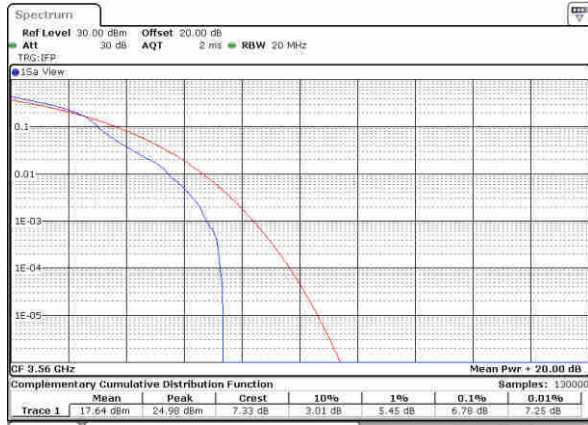
Highest Channel / Full RB



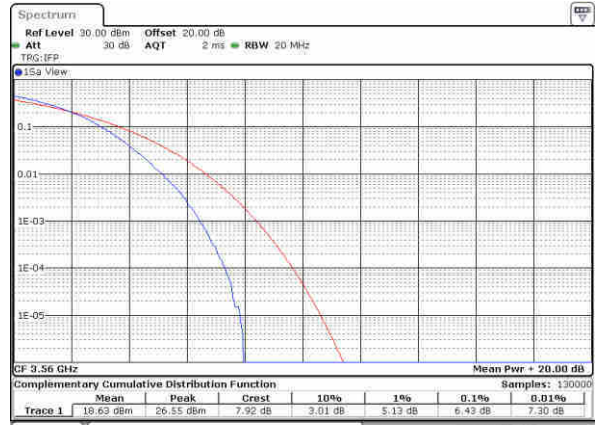


LTE Band 48 / 20MHz / 64QAM

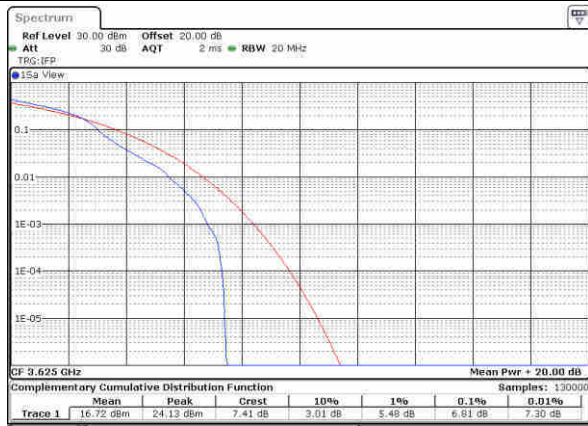
Lowest Channel / 1RB



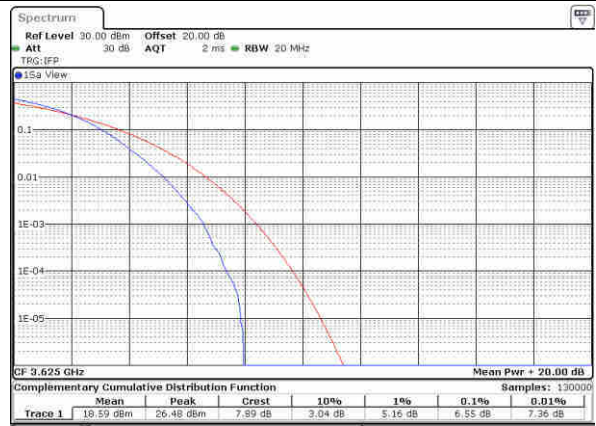
Lowest Channel / Full RB



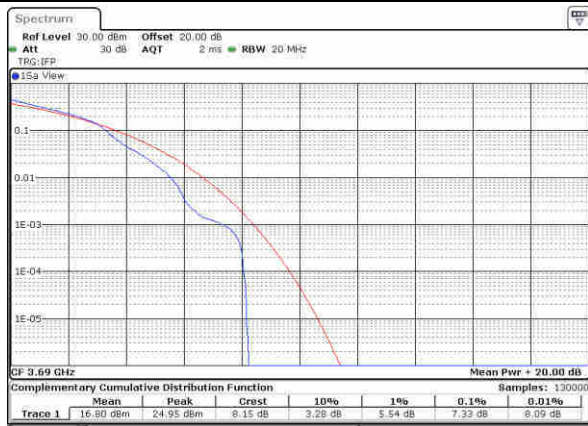
Middle Channel / 1RB



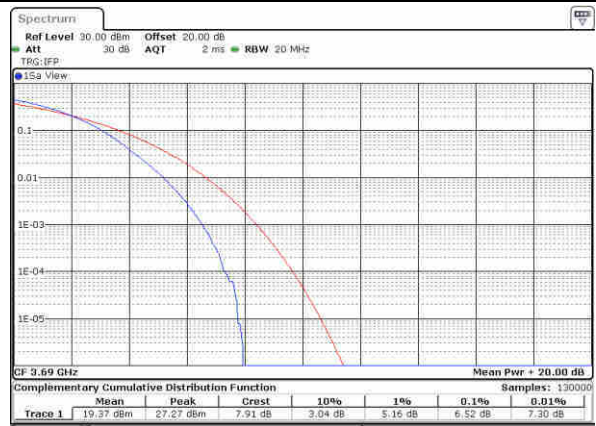
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB



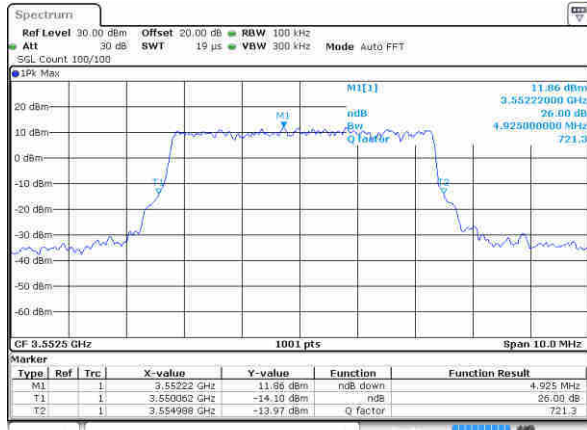
**26dB Bandwidth**

Mode	LTE Band 48 : 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	-	-	-	-	4.93	5.19	9.89	9.89	14.30	14.27	18.62	18.74
Middle CH	-	-	-	-	4.71	4.89	9.61	9.61	14.18	14.24	18.90	18.66
Highest CH	-	-	-	-	5.11	5.31	9.63	9.69	14.15	14.21	18.90	18.94
Mode	LTE Band 48 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.94	-	10.09	-	14.48	-	18.90	-
Middle CH	-	-	-	-	5.12	-	9.87	-	14.15	-	18.66	-
Highest CH	-	-	-	-	4.99	-	9.67	-	14.12	-	18.82	-

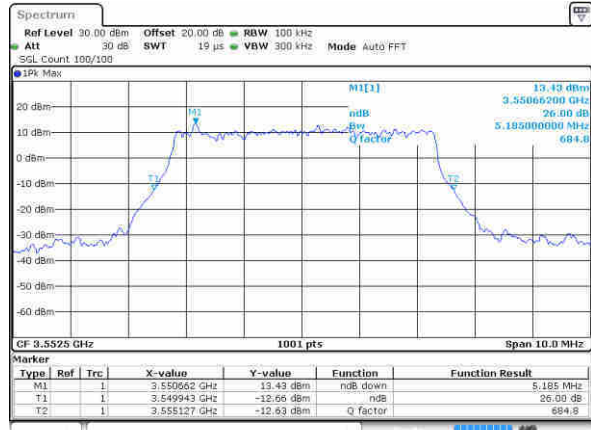


LTE Band 48

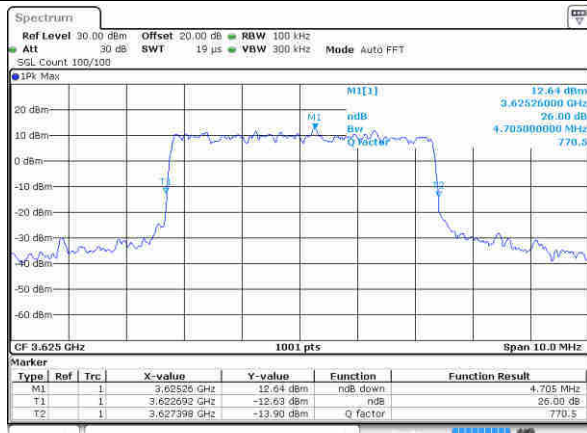
Lowest Channel / 5MHz / QPSK



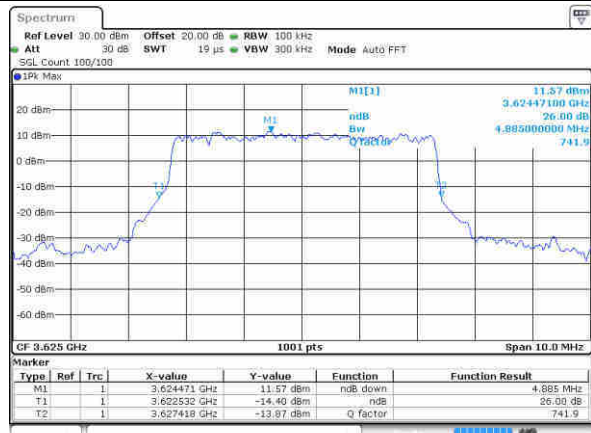
Lowest Channel / 5MHz / 16QAM



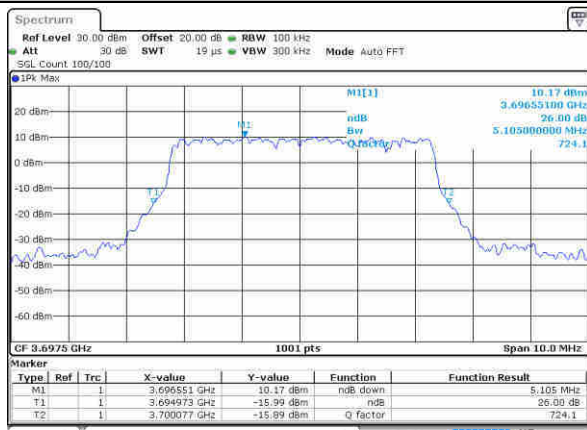
Middle Channel / 5MHz / QPSK



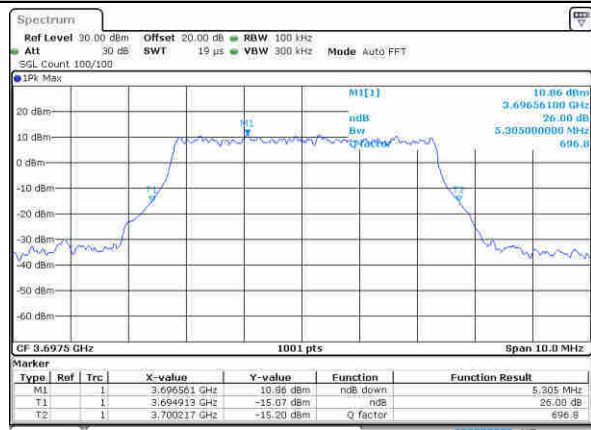
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



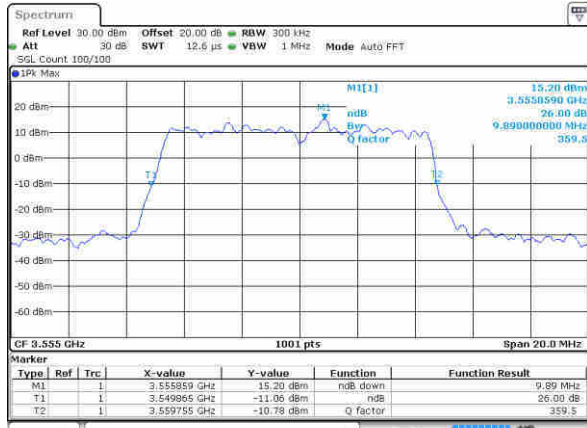
Highest Channel / 5MHz / 16QAM



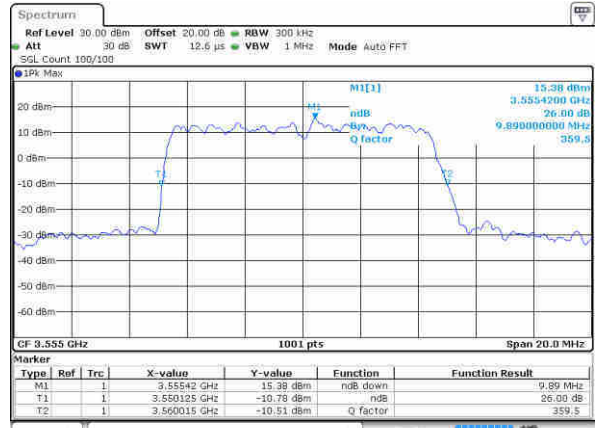


LTE Band 48

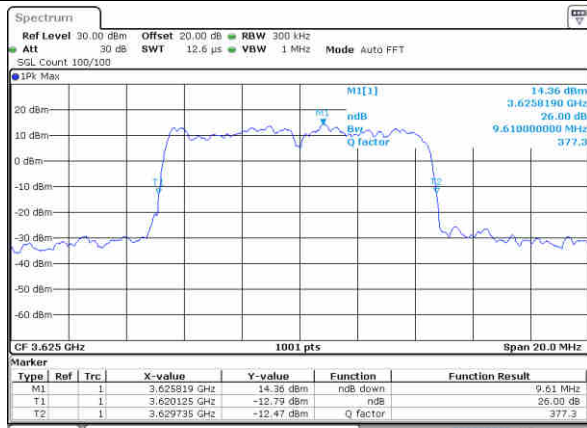
Lowest Channel / 10MHz / QPSK



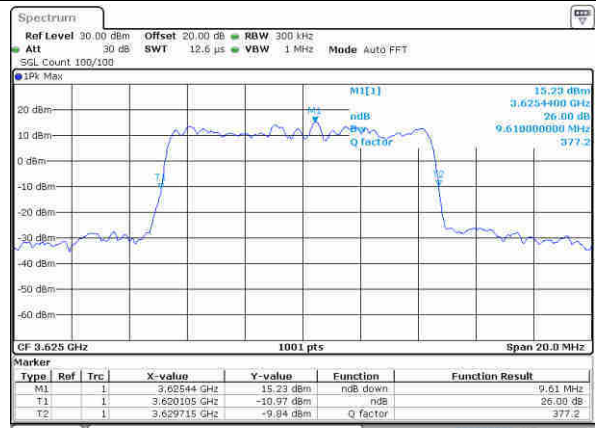
Lowest Channel / 10MHz / 16QAM



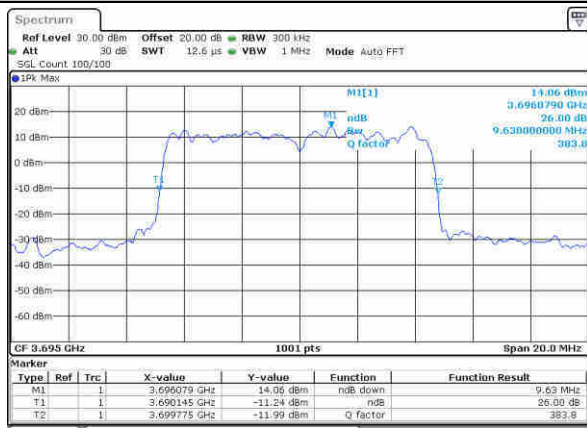
Middle Channel / 10MHz / QPSK



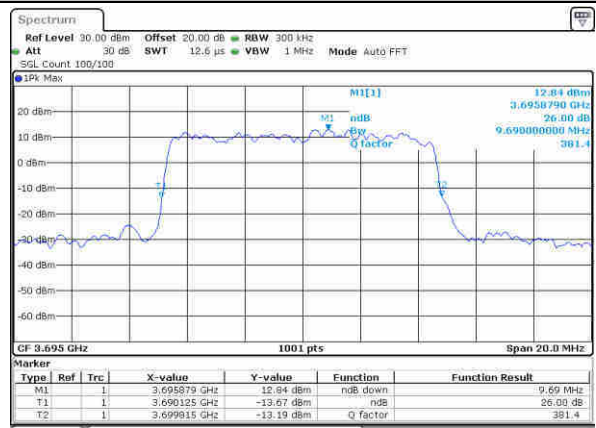
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



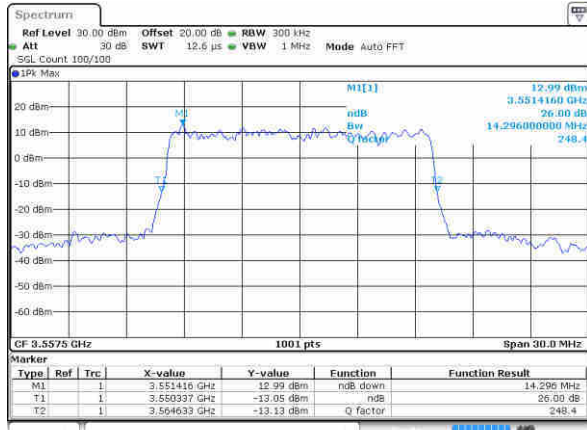
Highest Channel / 10MHz / 16QAM



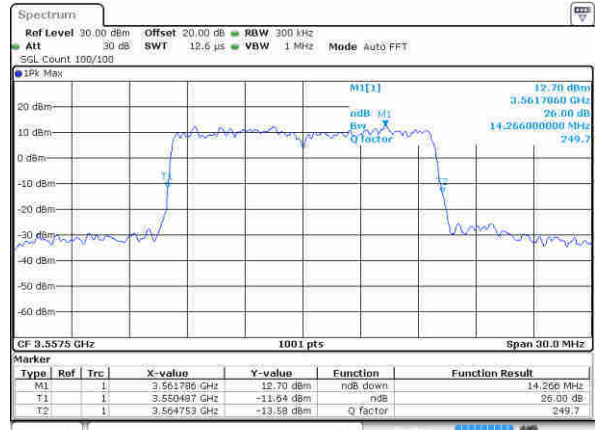


LTE Band 48

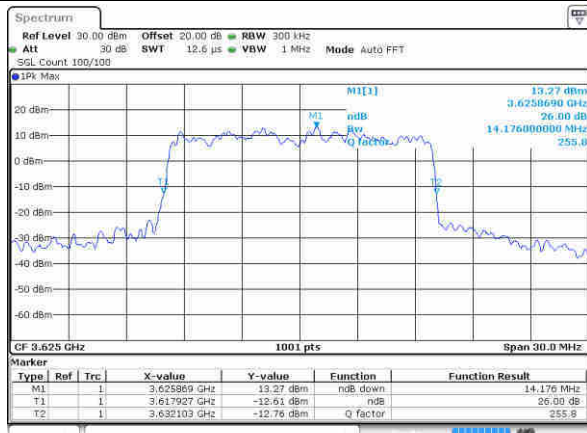
Lowest Channel / 15MHz / QPSK



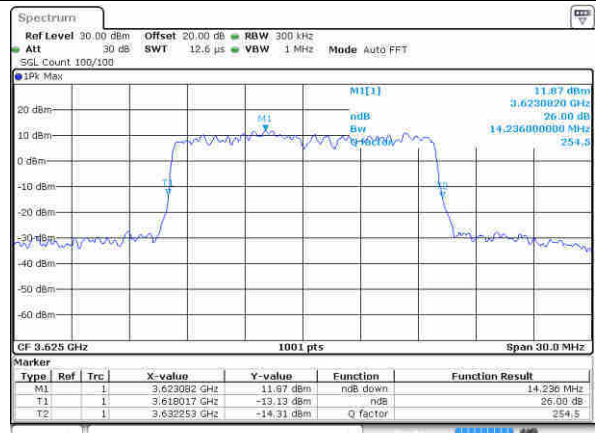
Lowest Channel / 15MHz / 16QAM



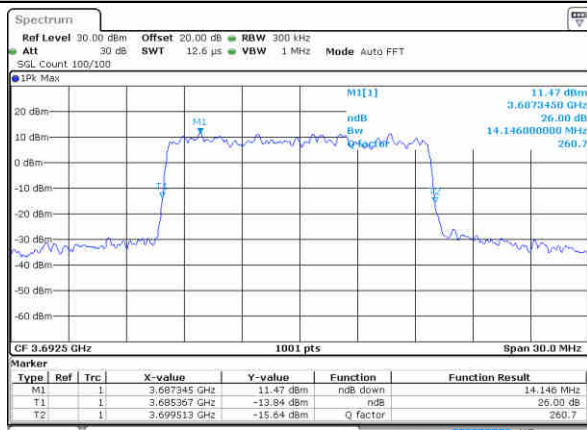
Middle Channel / 15MHz / QPSK



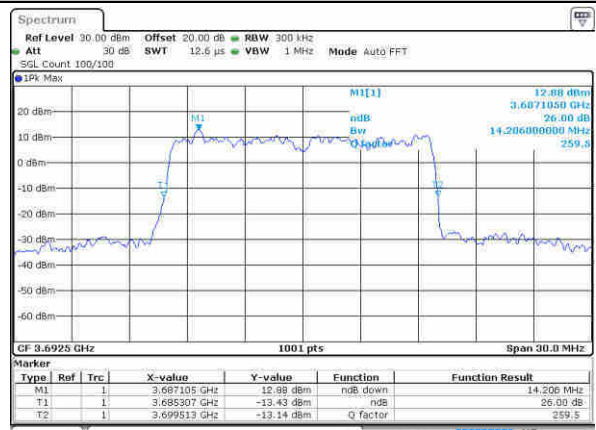
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



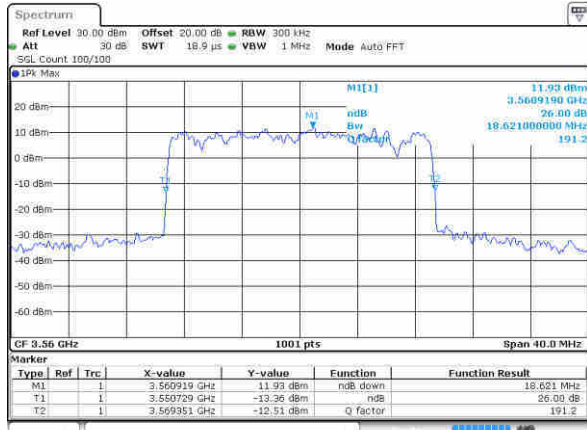
Highest Channel / 15MHz / 16QAM



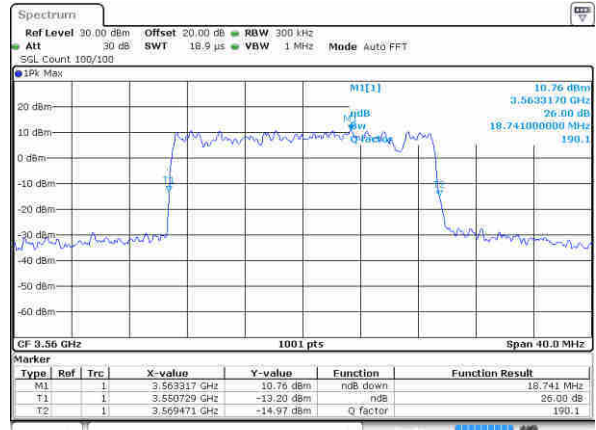


LTE Band 48

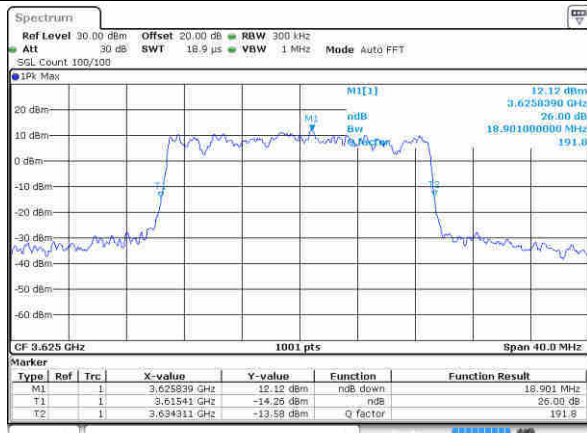
Lowest Channel / 20MHz / QPSK



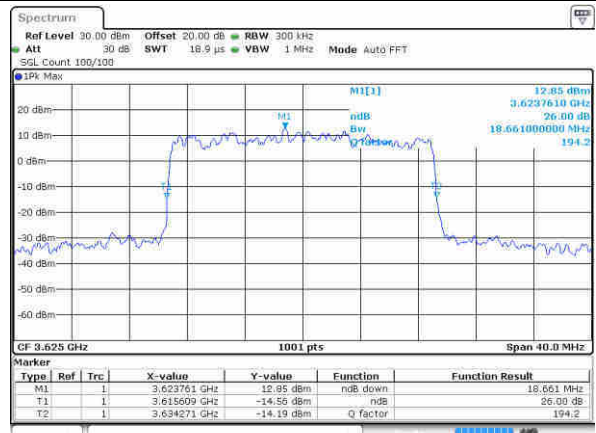
Lowest Channel / 20MHz / 16QAM



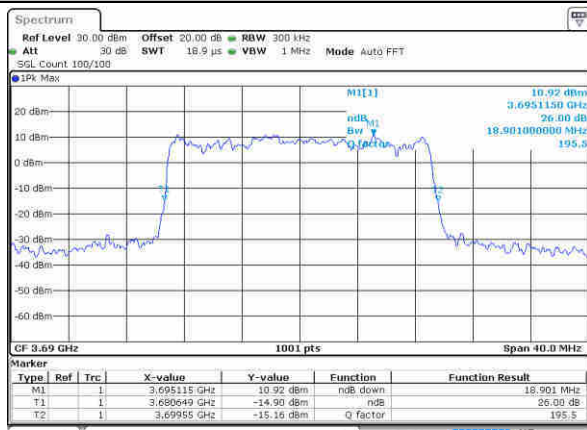
Middle Channel / 20MHz / QPSK



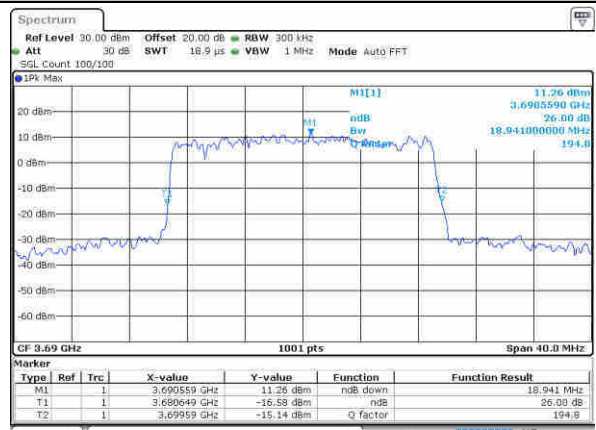
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



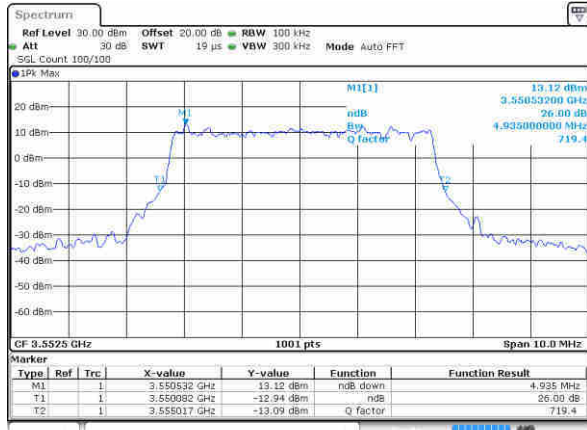
Highest Channel / 20MHz / 16QAM



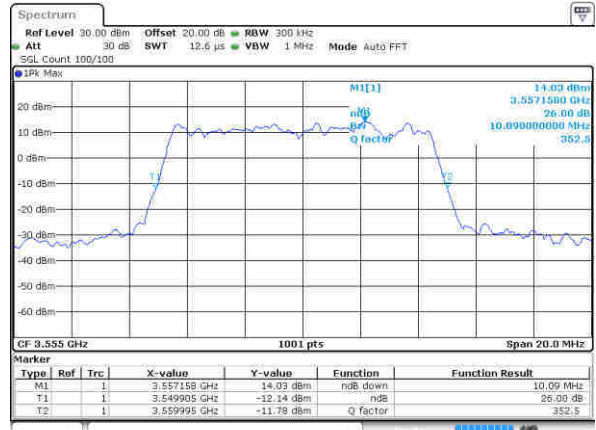


LTE Band 48

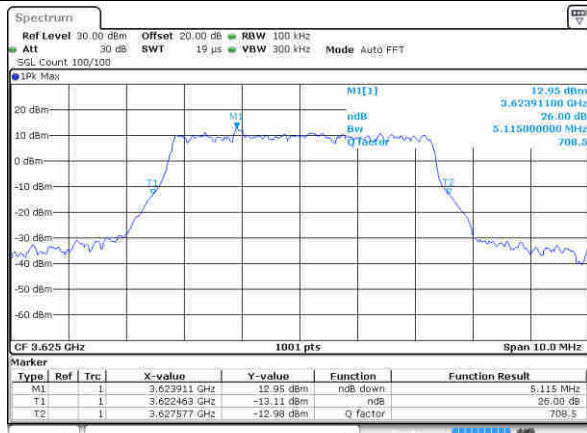
Lowest Channel / 5MHz / 64QAM



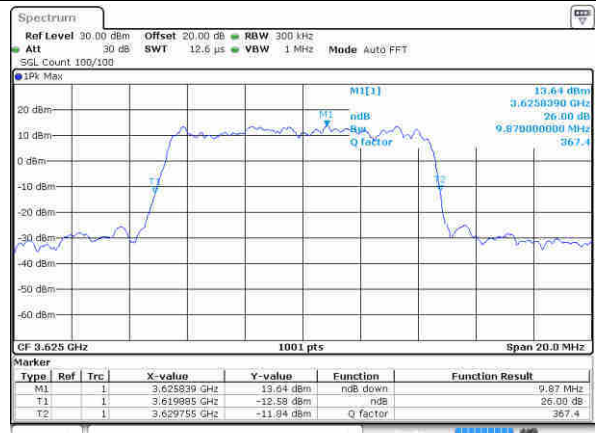
Lowest Channel / 10MHz / 64QAM



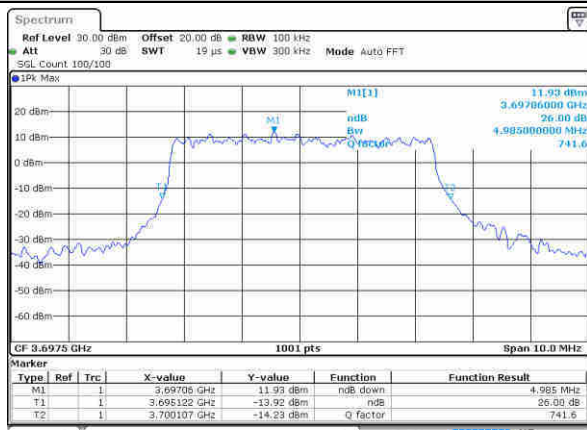
Middle Channel / 5MHz / 64QAM



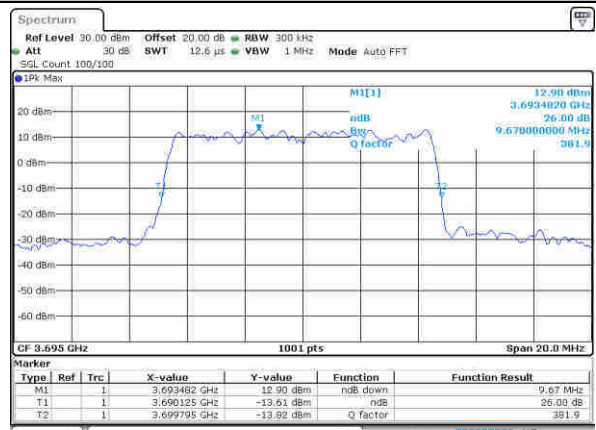
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



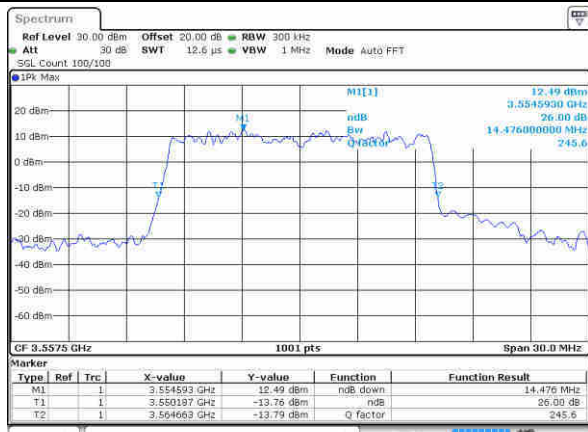
Highest Channel / 10MHz / 64QAM



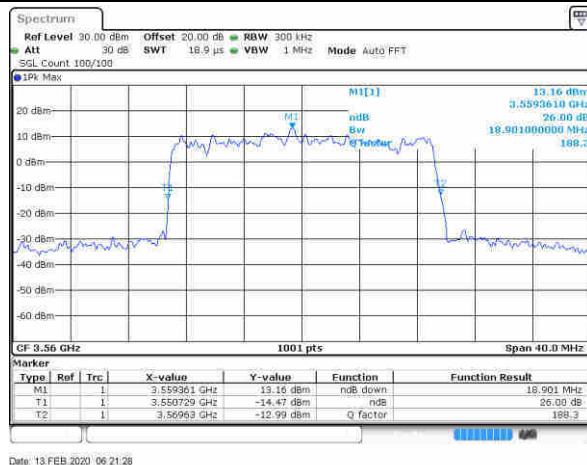


LTE Band 48

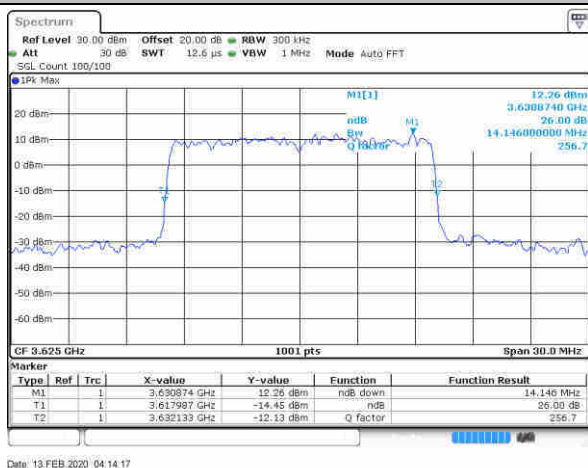
Lowest Channel / 15MHz / 64QAM



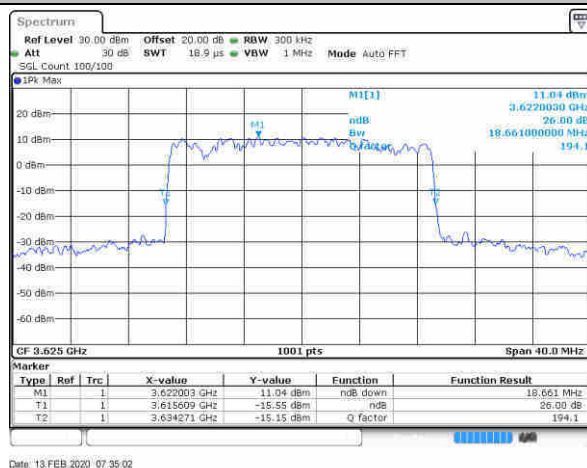
Lowest Channel / 20MHz / 64QAM



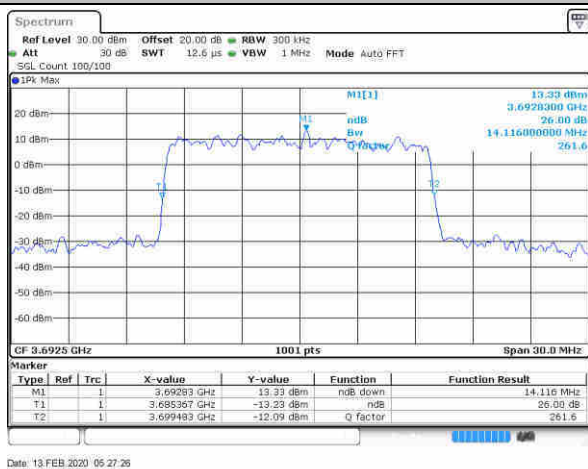
Middle Channel / 15MHz / 64QAM



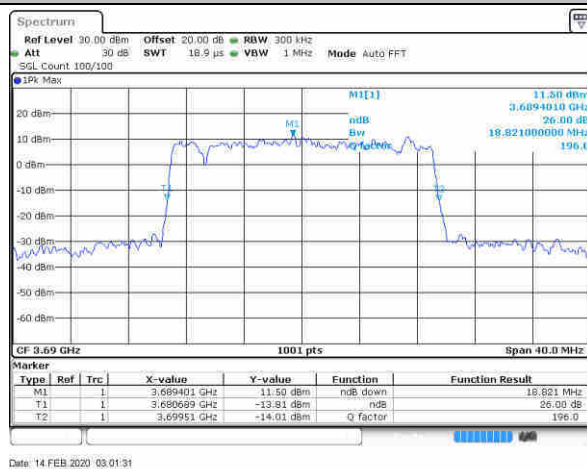
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM



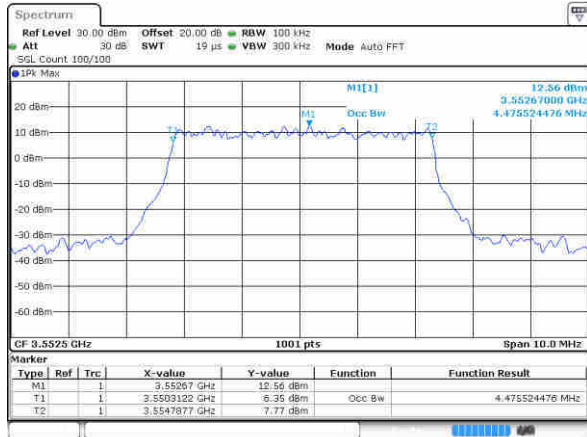
**Occupied Bandwidth**

Mode	LTE Band 48 : 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	-	-	-	-	4.48	4.54	9.09	9.05	13.46	13.46	17.90	17.94
Middle CH	-	-	-	-	4.51	4.49	8.99	9.01	13.46	13.40	17.90	17.90
Highest CH	-	-	-	-	4.51	4.50	9.03	9.09	13.43	13.52	17.90	17.90
Mode	LTE Band 48 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.51	-	9.01	-	13.46	-	17.94	-
Middle CH	-	-	-	-	4.51	-	9.01	-	13.43	-	17.90	-
Highest CH	-	-	-	-	4.51	-	9.03	-	13.40	-	17.78	-

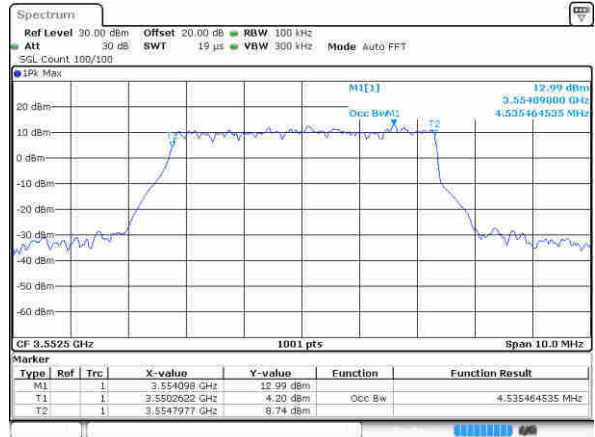


LTE Band 48

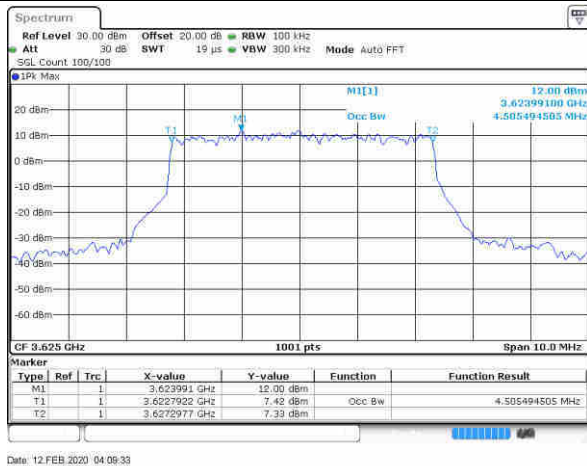
Lowest Channel / 5MHz / QPSK



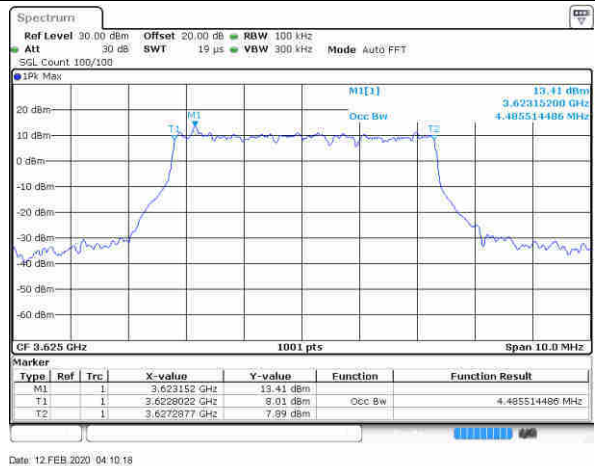
Lowest Channel / 5MHz / 16QAM



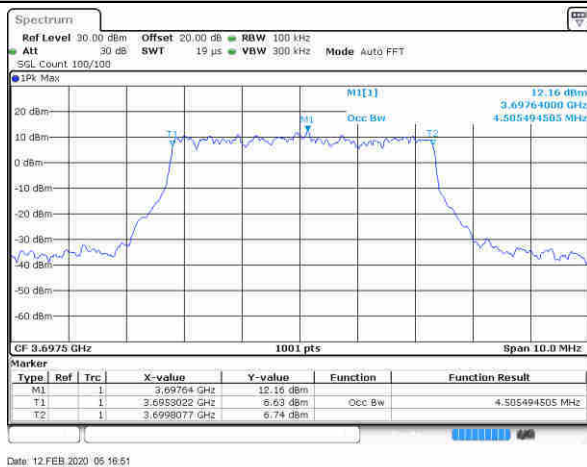
Middle Channel / 5MHz / QPSK



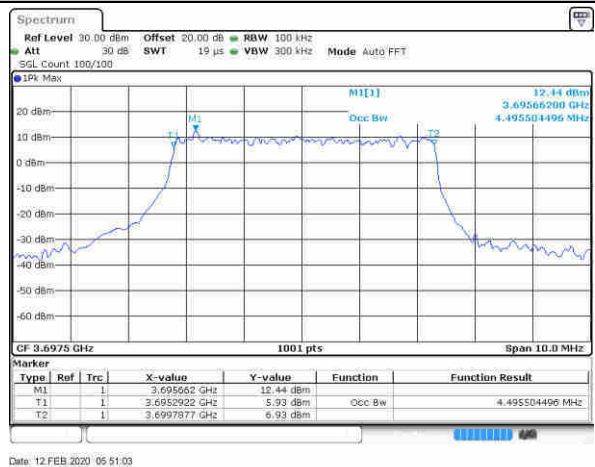
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK



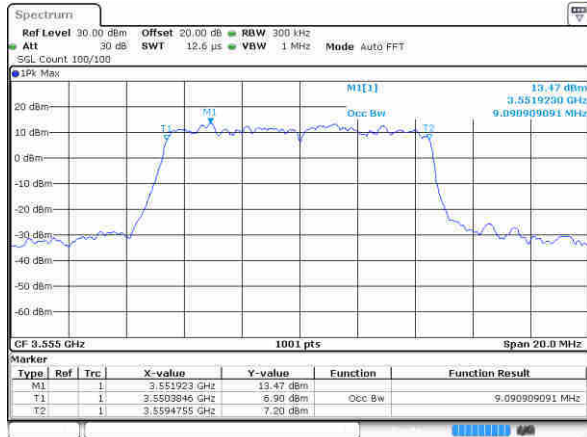
Highest Channel / 5MHz / 16QAM



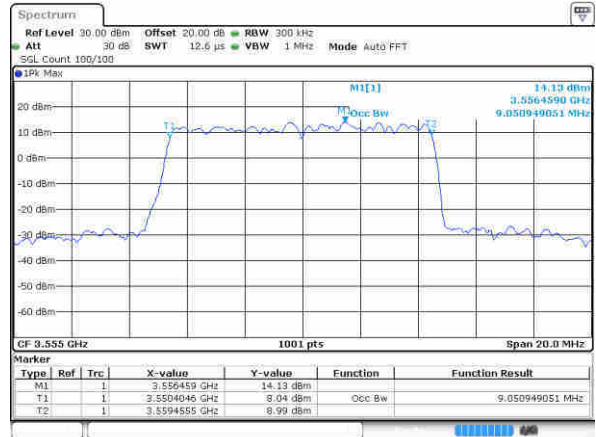


LTE Band 48

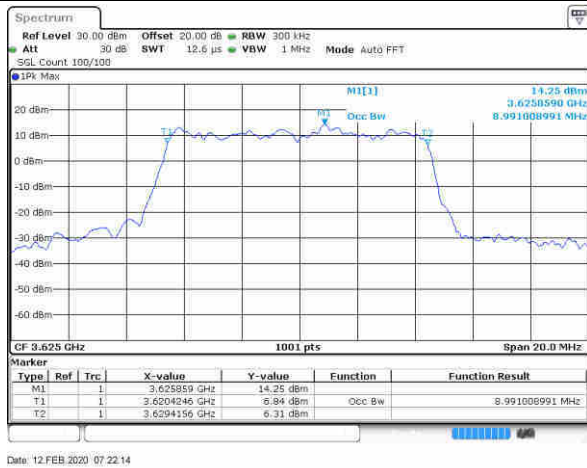
Lowest Channel / 10MHz / QPSK



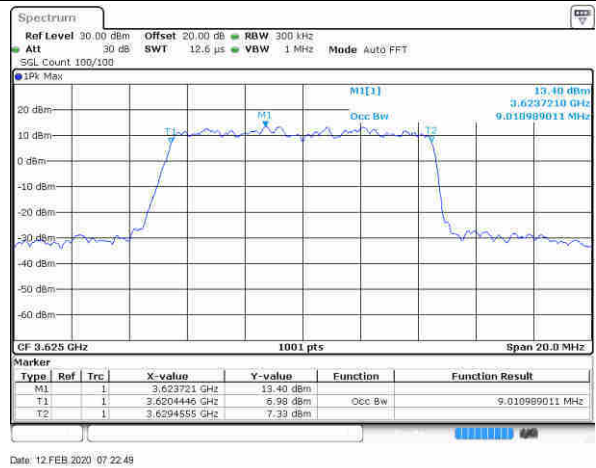
Lowest Channel / 10MHz / 16QAM



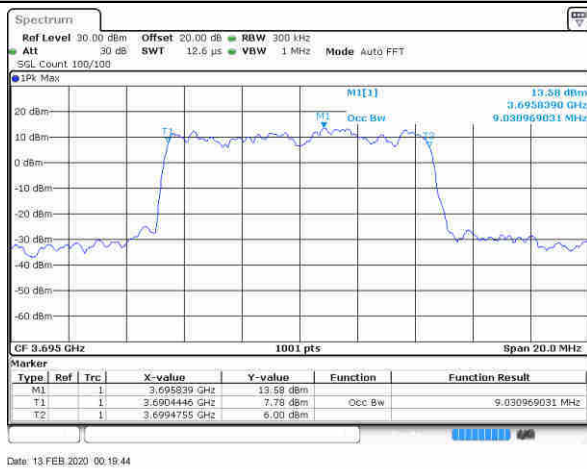
Middle Channel / 10MHz / QPSK



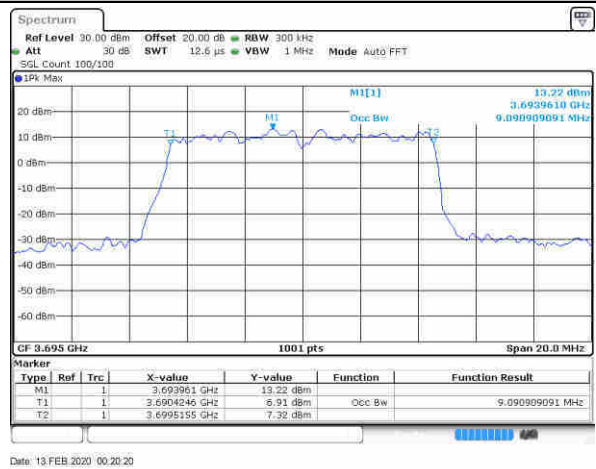
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



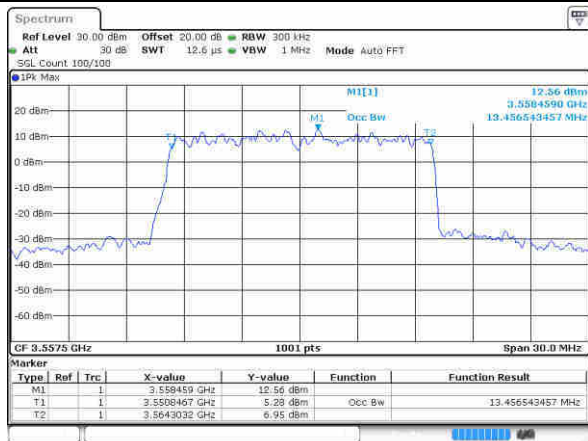
Highest Channel / 10MHz / 16QAM





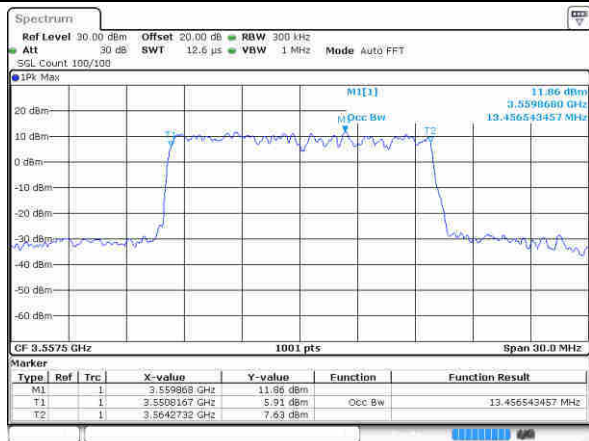
LTE Band 48

Lowest Channel / 15MHz / QPSK



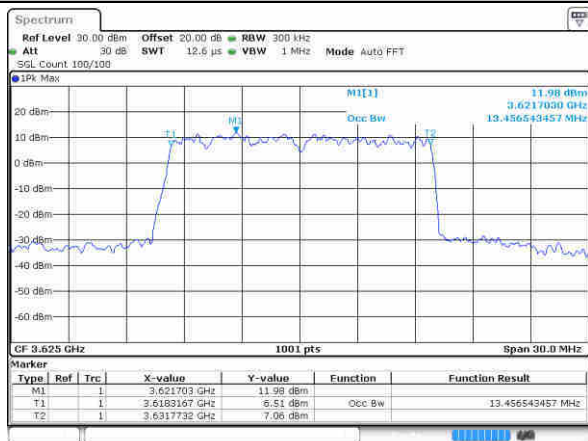
Date: 13 FEB 2020 01:39:09

Lowest Channel / 15MHz / 16QAM



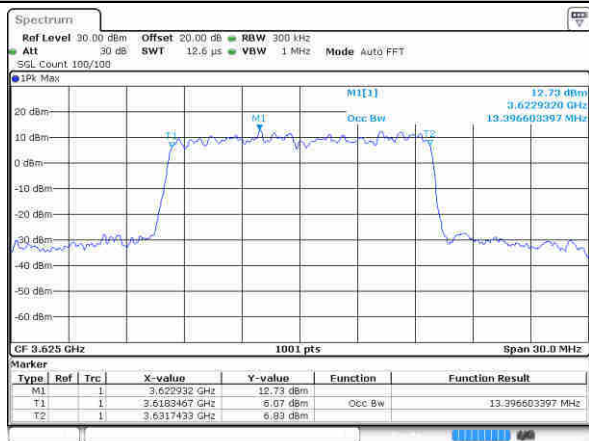
Date: 13 FEB 2020 01:54:04

Middle Channel / 15MHz / QPSK



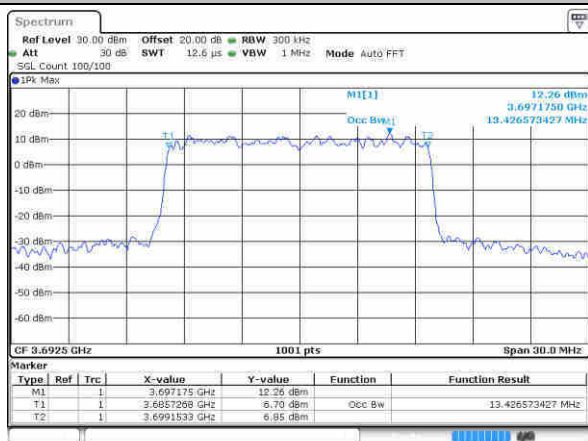
Date: 13 FEB 2020 03:44:47

Middle Channel / 15MHz / 16QAM



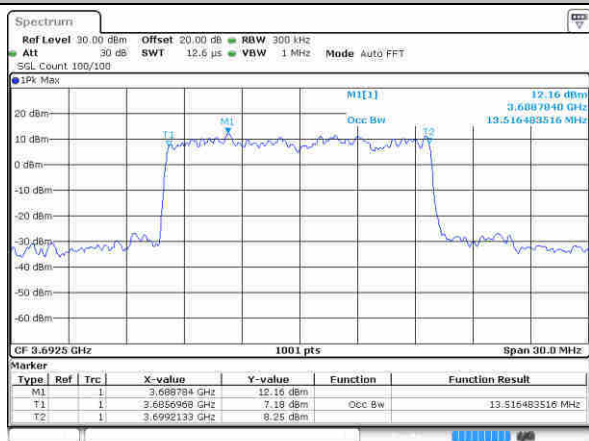
Date: 13 FEB 2020 03:45:17

Highest Channel / 15MHz / QPSK



Date: 13 FEB 2020 04:49:34

Highest Channel / 15MHz / 16QAM

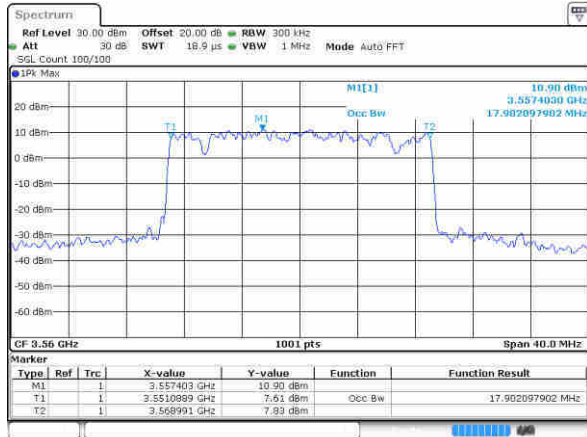


Date: 13 FEB 2020 04:50:12

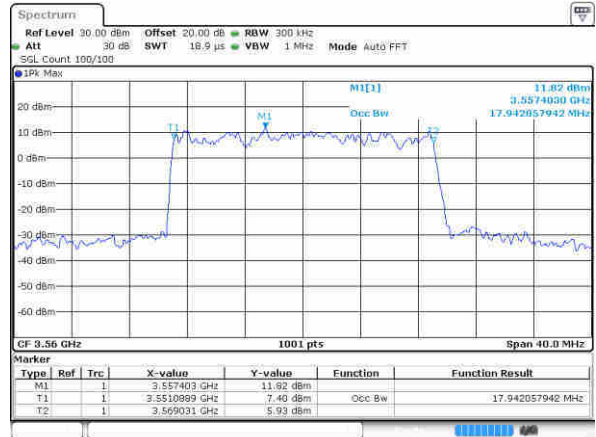


LTE Band 48

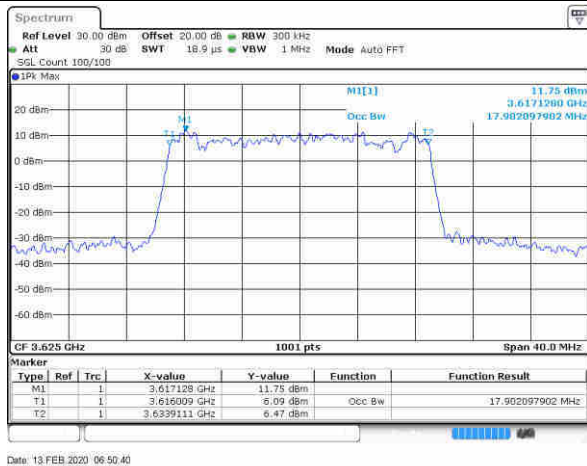
Lowest Channel / 20MHz / QPSK



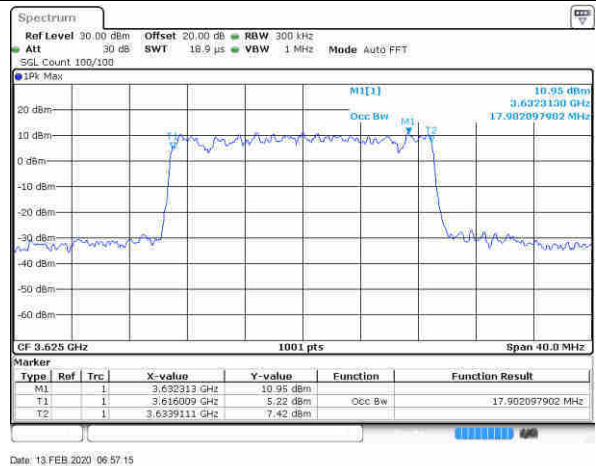
Lowest Channel / 20MHz / 16QAM



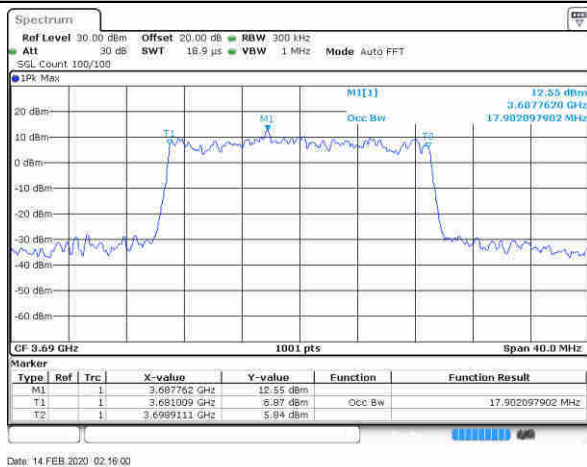
Middle Channel / 20MHz / QPSK



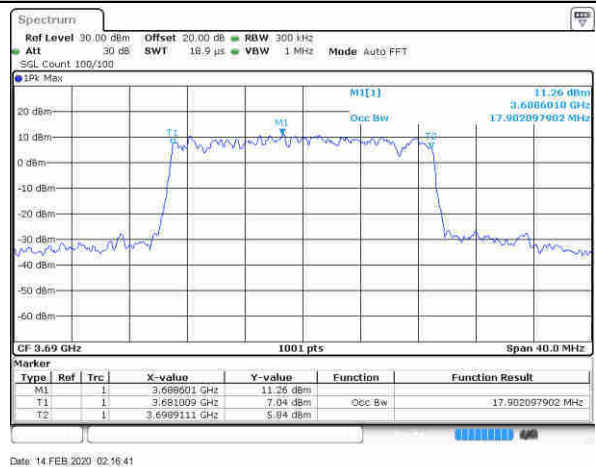
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



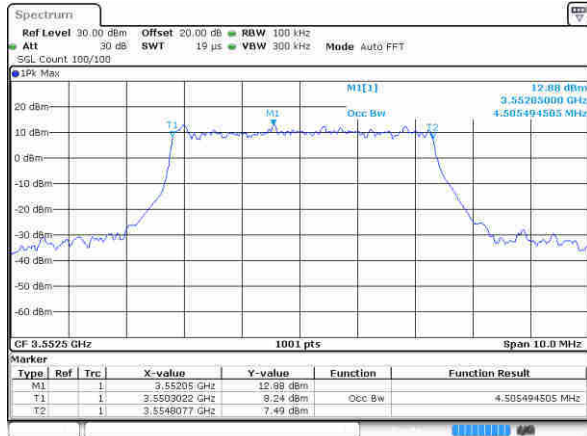
Highest Channel / 20MHz / 16QAM



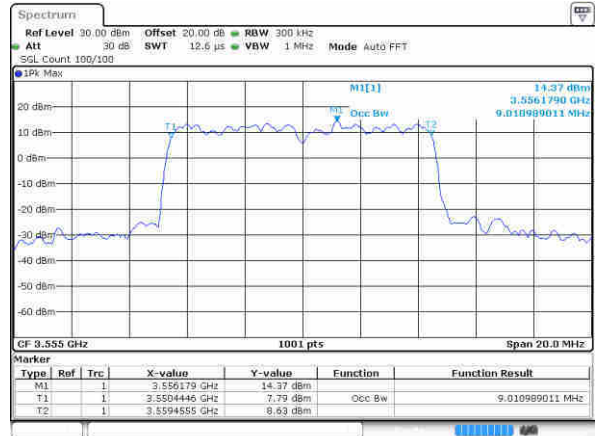


LTE Band 48

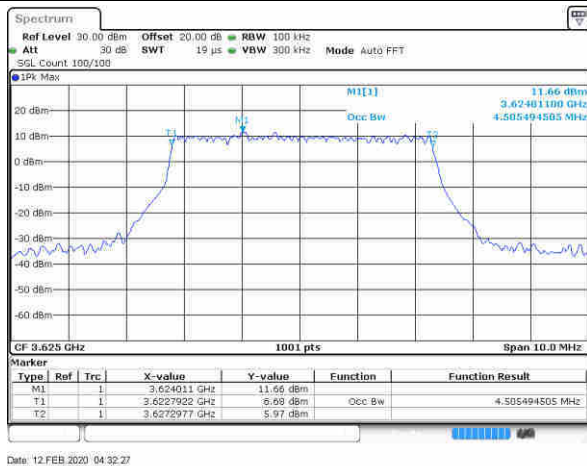
Lowest Channel / 5MHz / 64QAM



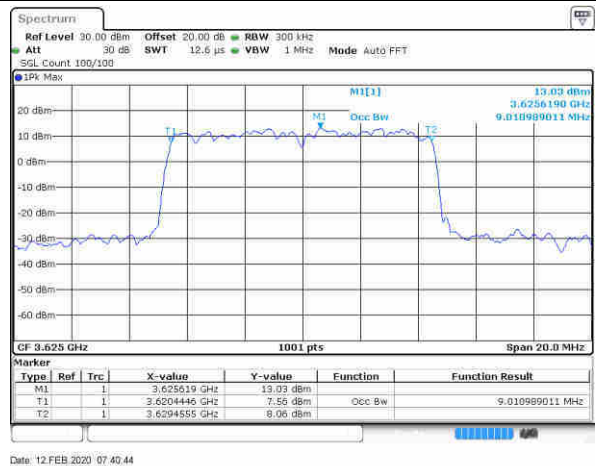
Lowest Channel / 10MHz / 64QAM



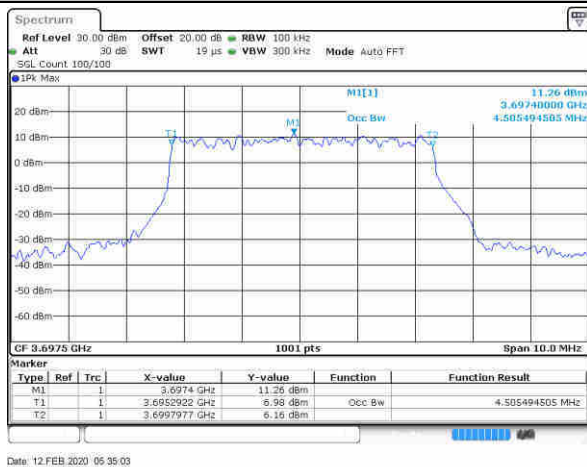
Middle Channel / 5MHz / 64QAM



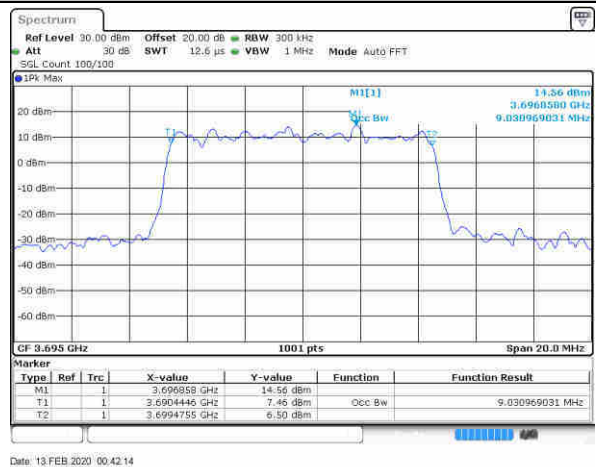
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



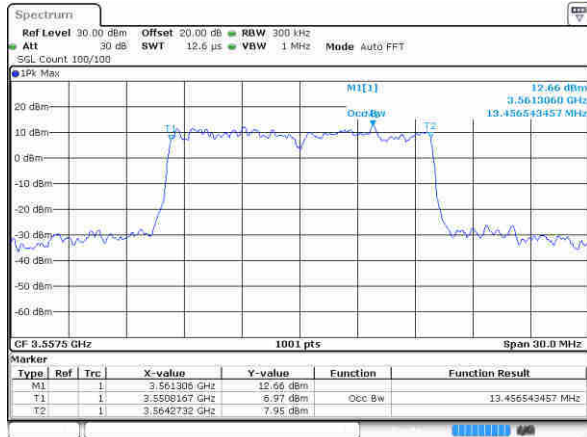
Highest Channel / 10MHz / 64QAM



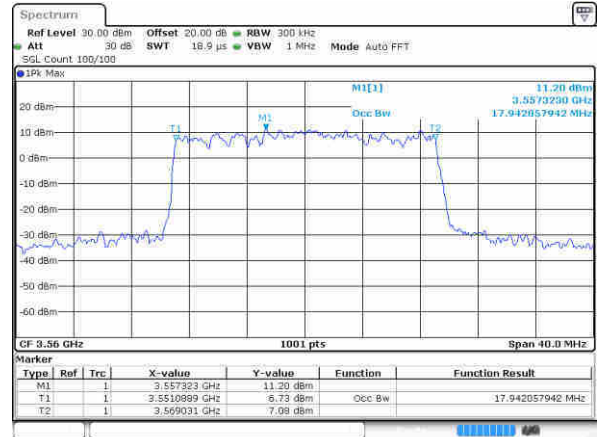


LTE Band 48

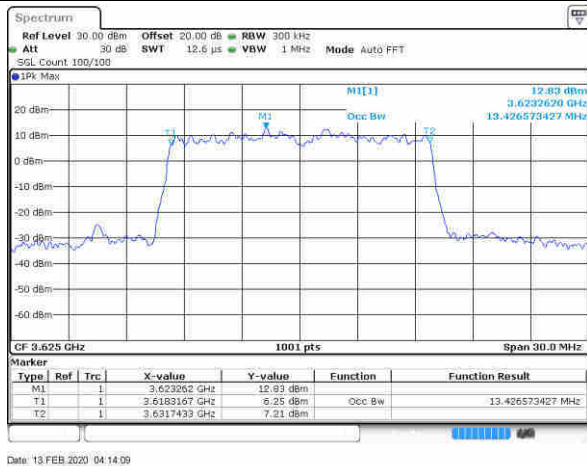
Lowest Channel / 15MHz / 64QAM



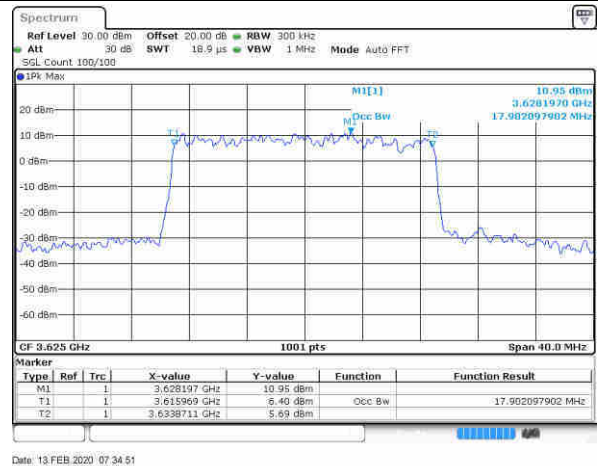
Lowest Channel / 20MHz / 64QAM



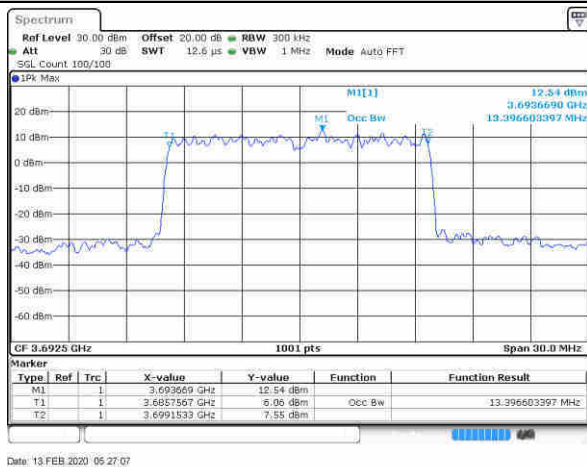
Middle Channel / 15MHz / 64QAM



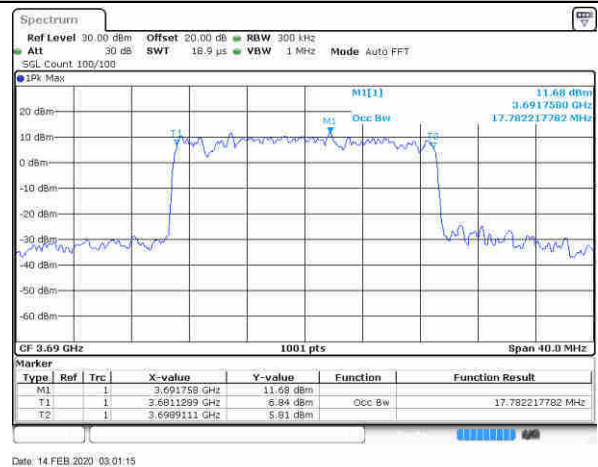
Middle Channel / 20MHz / 64QAM

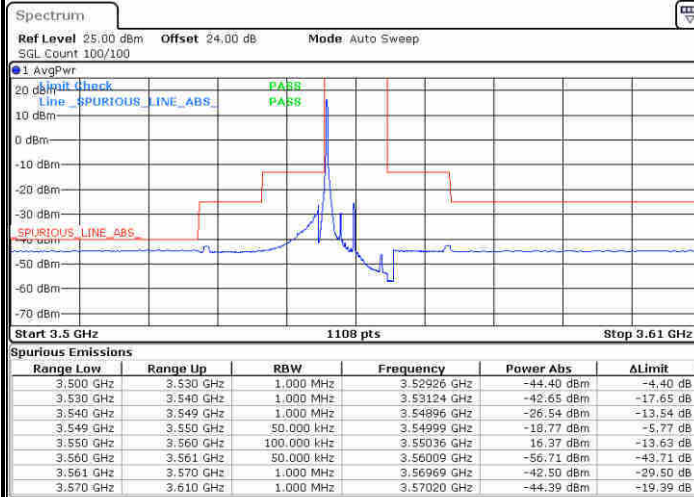


Highest Channel / 15MHz / 64QAM

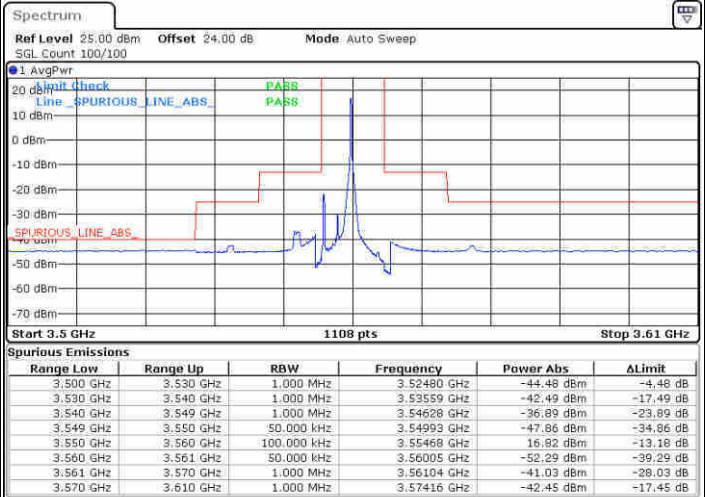


Highest Channel / 20MHz / 64QAM

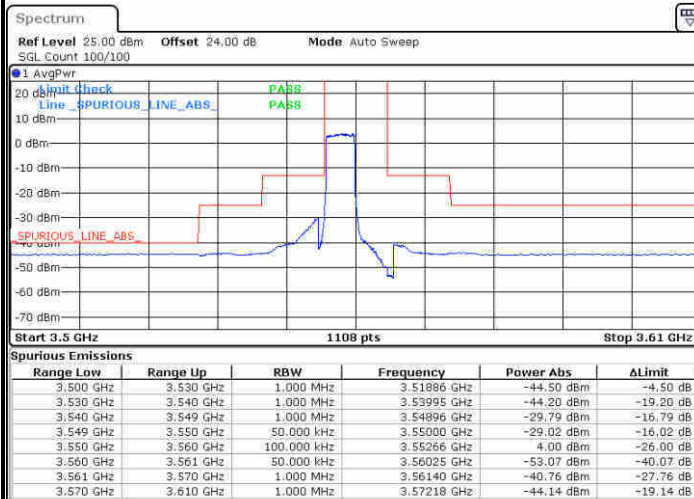


**Conducted Band Edge****LTE Band 48 / 5MHz****QPSK****Lowest Channel / 1RB0**

Date: 12 FEB 2020 03:09:28

Lowest Channel / 1RBmax

Date: 12 FEB 2020 02:23:40

Lowest Channel / FullRB

Date: 12 FEB 2020 03:11:09

N/A