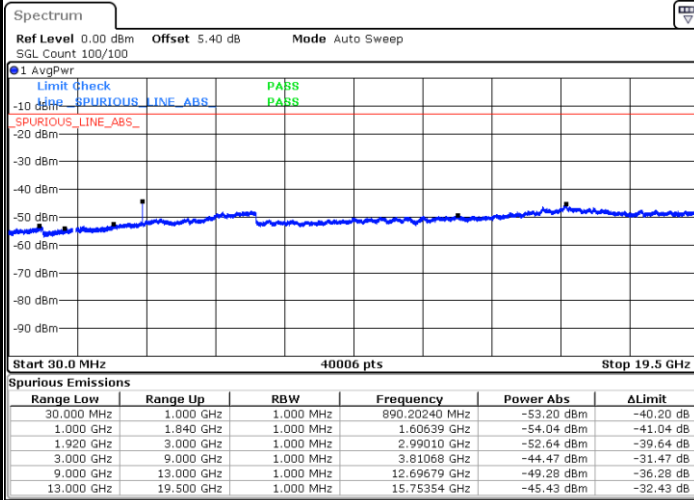




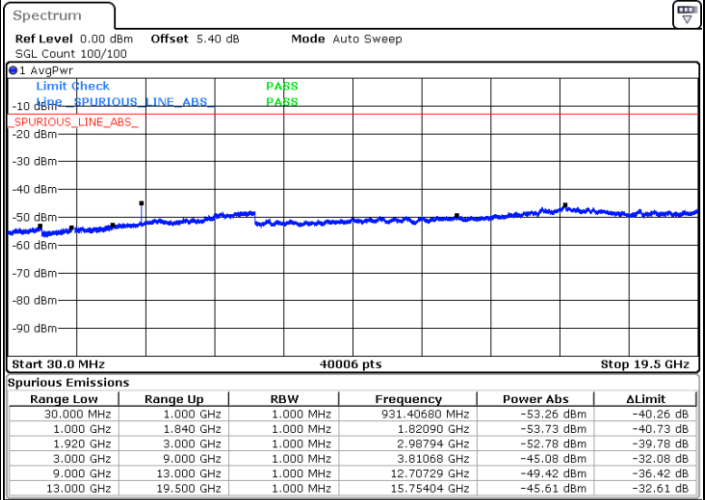
LTE Band 2 / 5MHz

Highest Channel / QPSK



Date: 3 JAN 2020 06:18:59

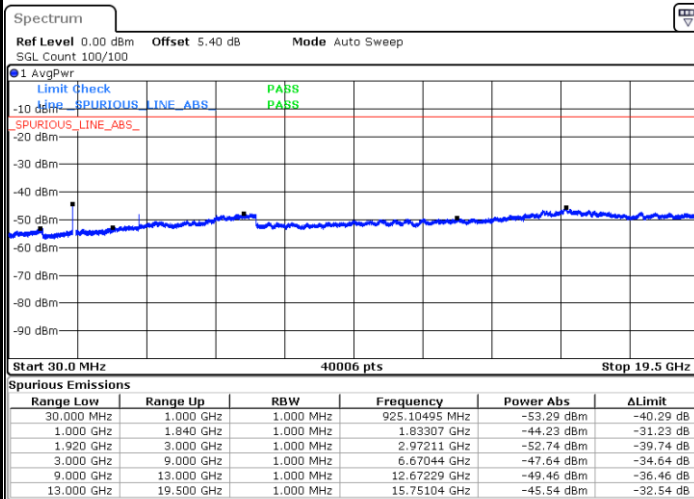
Highest Channel / 16QAM



Date: 3 JAN 2020 06:19:54

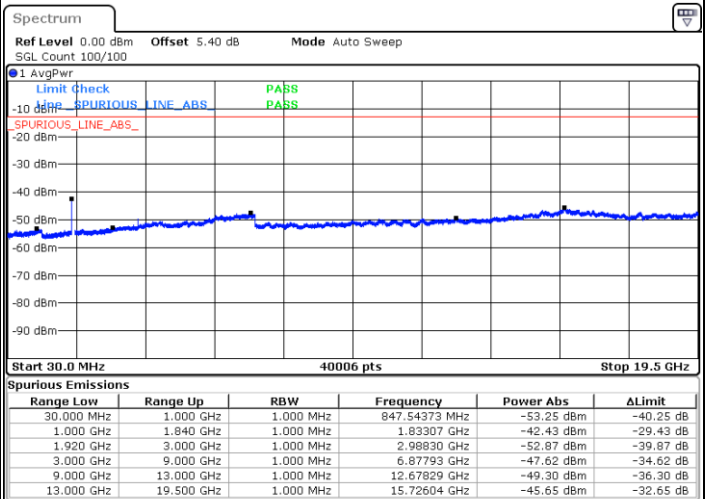
LTE Band 2 / 10MHz

Lowest Channel / QPSK



Date: 3 JAN 2020 06:25:59

Lowest Channel / 16QAM

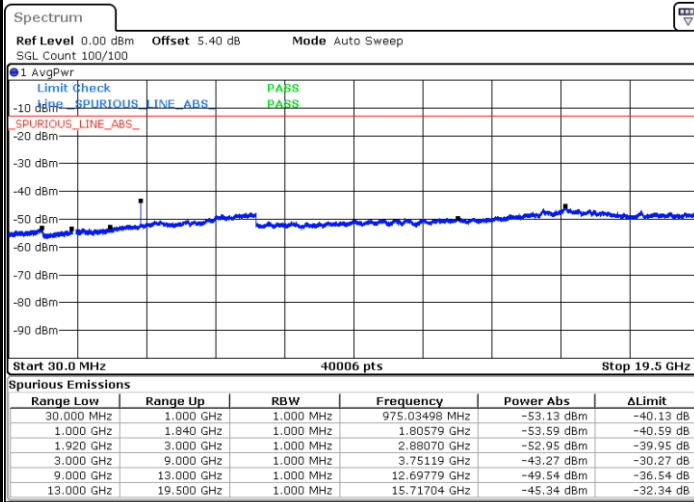


Date: 3 JAN 2020 06:26:54



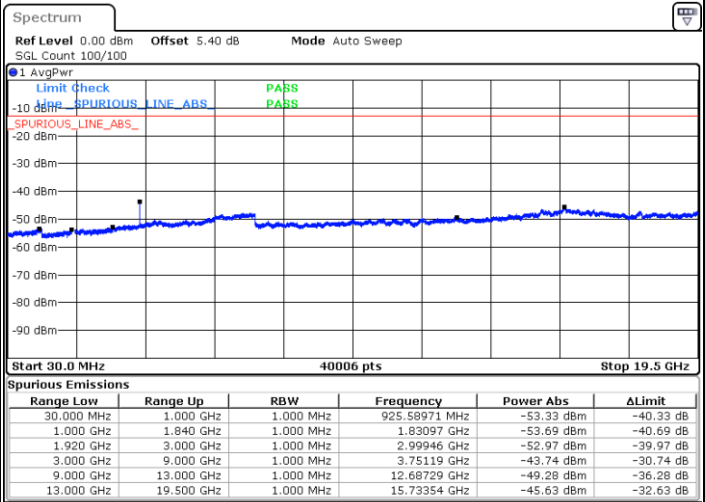
LTE Band 2 / 10MHz

Middle Channel / QPSK



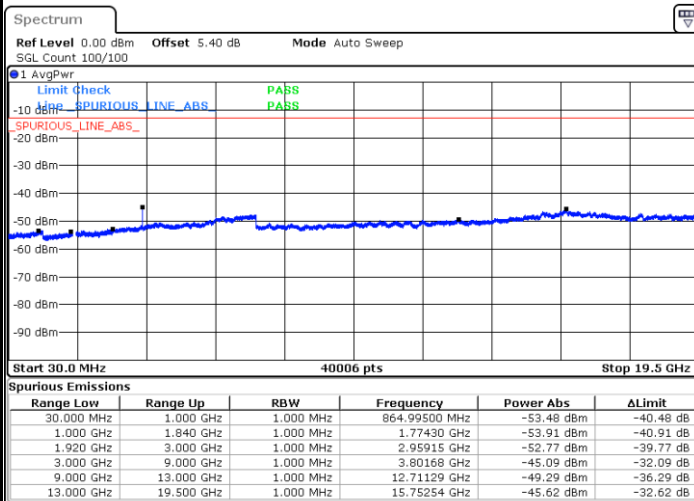
Date: 3 JAN 2020 06:28:30

Middle Channel / 16QAM



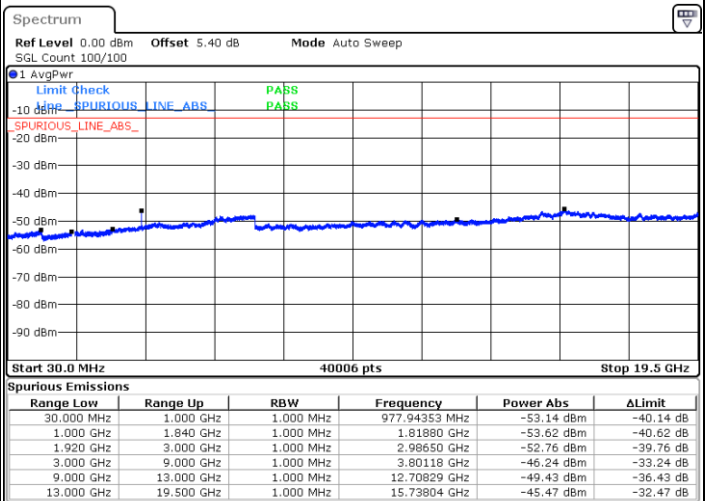
Date: 3 JAN 2020 06:29:25

Highest Channel / QPSK



Date: 3 JAN 2020 06:35:31

Highest Channel / 16QAM

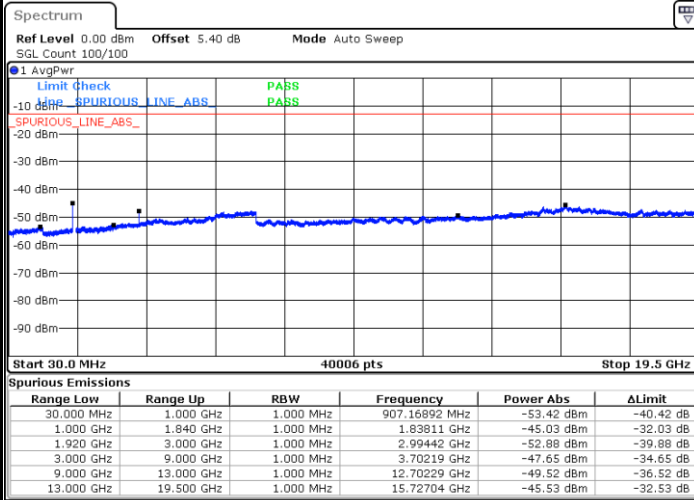


Date: 3 JAN 2020 06:36:26



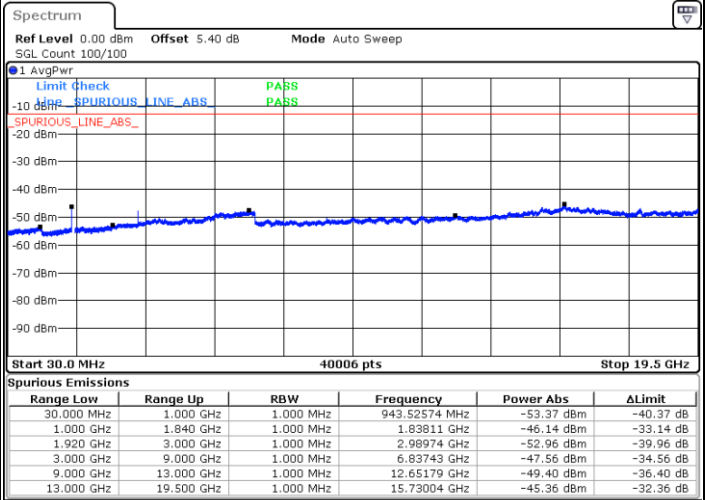
LTE Band 2 / 15MHz

Lowest Channel / QPSK



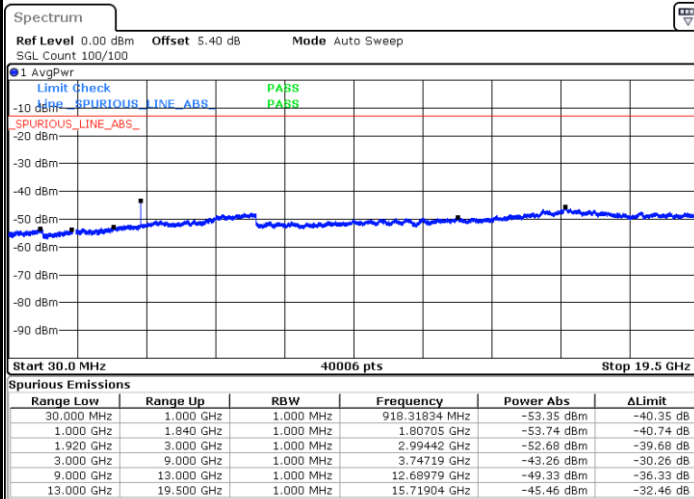
Date: 3.JAN.2020 06:42:33

Lowest Channel / 16QAM



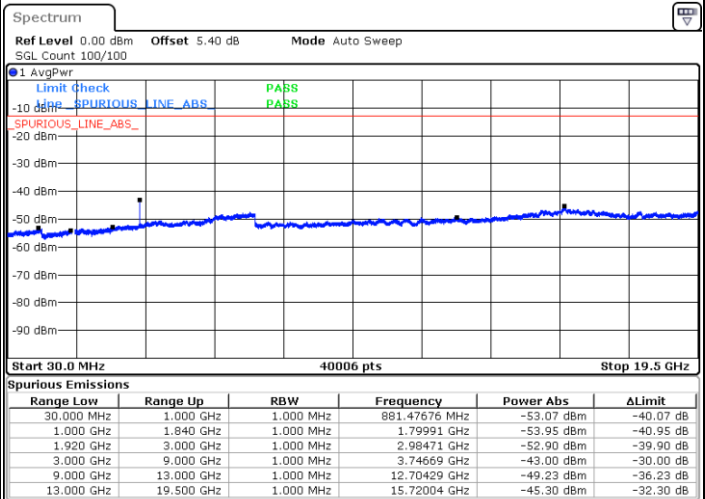
Date: 3.JAN.2020 06:43:28

Middle Channel / QPSK



Date: 3.JAN.2020 06:45:03

Middle Channel / 16QAM

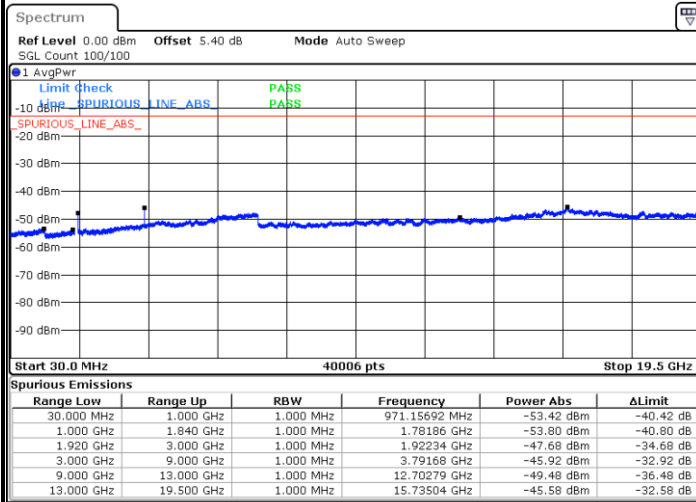


Date: 3.JAN.2020 06:45:58



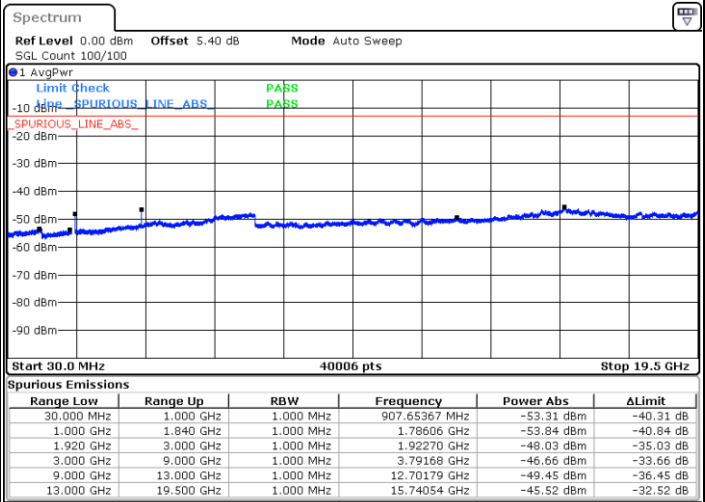
LTE Band 2 / 15MHz

Highest Channel / QPSK



Date: 3 JAN 2020 06:52:04

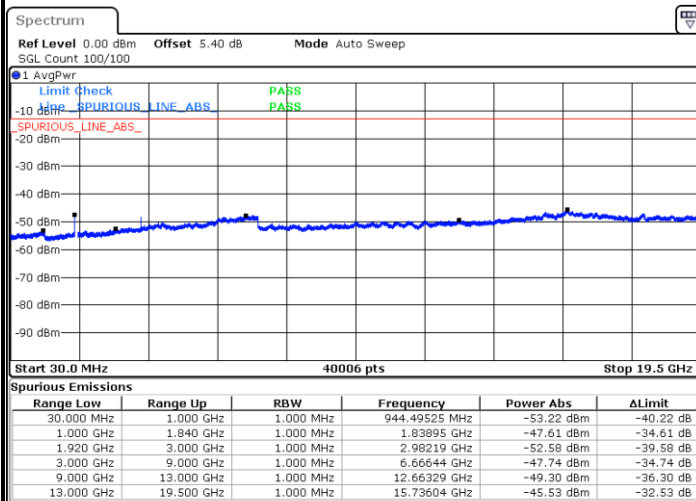
Highest Channel / 16QAM



Date: 3 JAN 2020 06:52:59

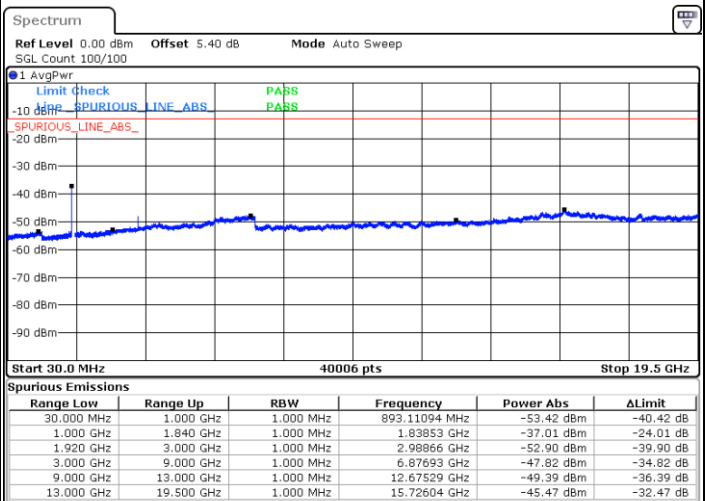
LTE Band 2 / 20MHz

Lowest Channel / QPSK



Date: 3 JAN 2020 06:59:05

Lowest Channel / 16QAM

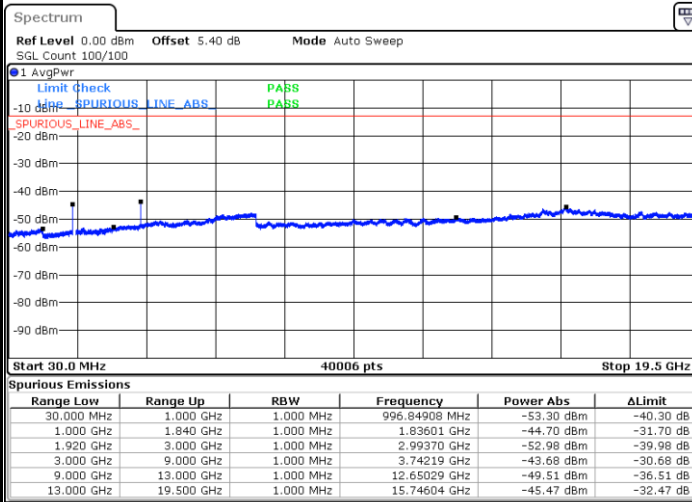


Date: 3 JAN 2020 06:59:59



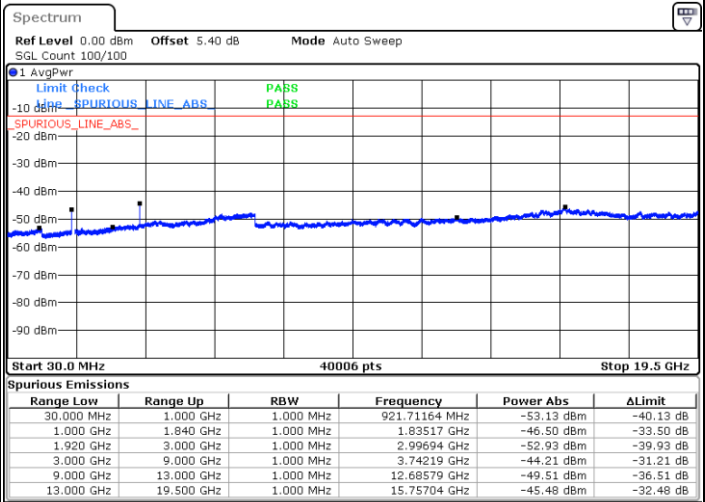
LTE Band 2 / 20MHz

Middle Channel / QPSK



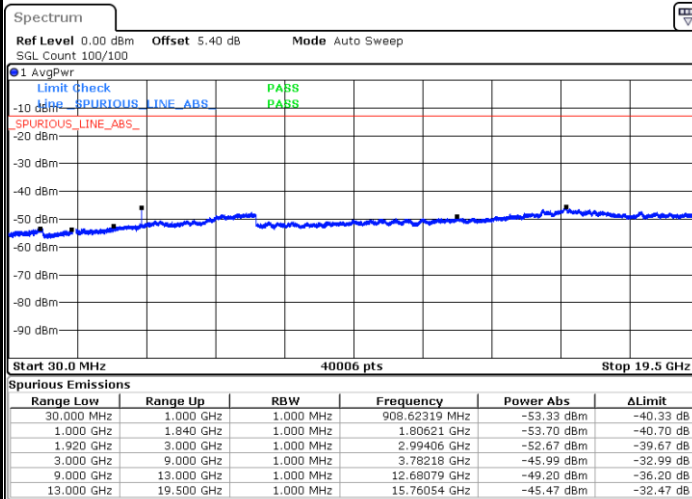
Date: 3.JAN.2020 07:01:35

Middle Channel / 16QAM



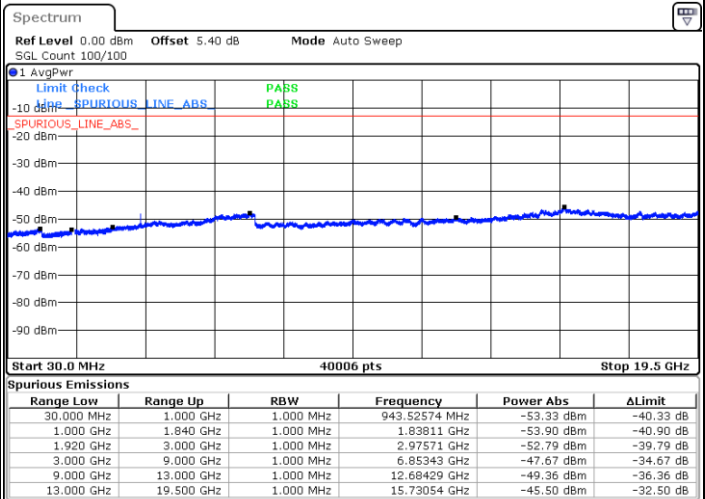
Date: 3.JAN.2020 07:02:30

Highest Channel / QPSK



Date: 3.JAN.2020 07:08:36

Highest Channel / 16QAM

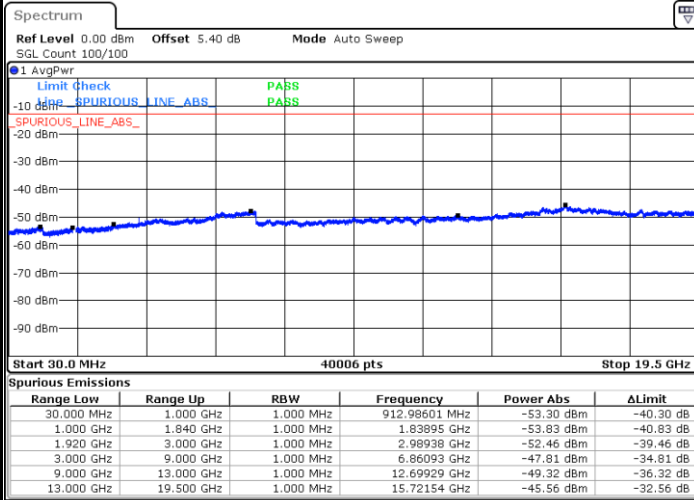


Date: 3.JAN.2020 07:09:31



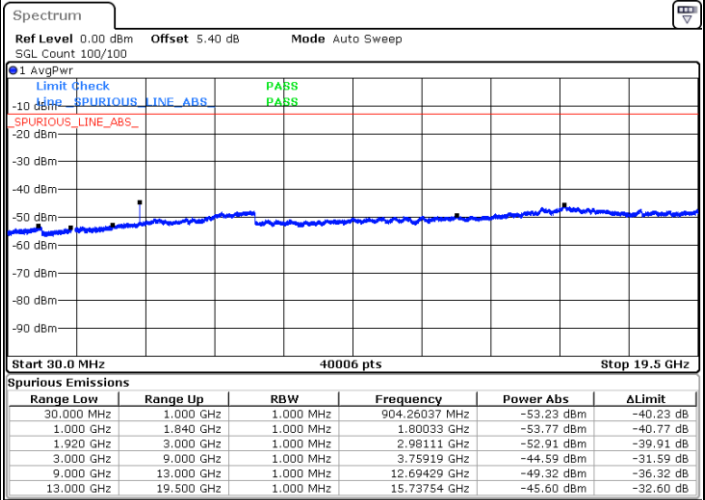
LTE Band 2 / 1.4MHz

Lowest Channel / 64QAM



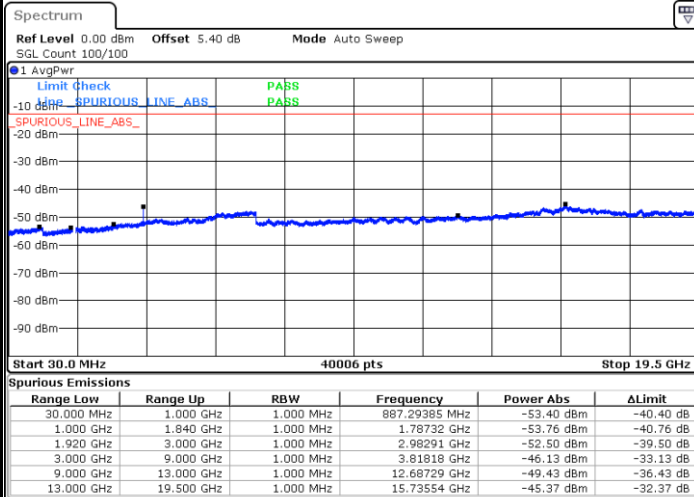
Date: 3.JAN.2020 07:43:33

Middle Channel / 64QAM



Date: 3.JAN.2020 07:44:28

Highest Channel / 64QAM

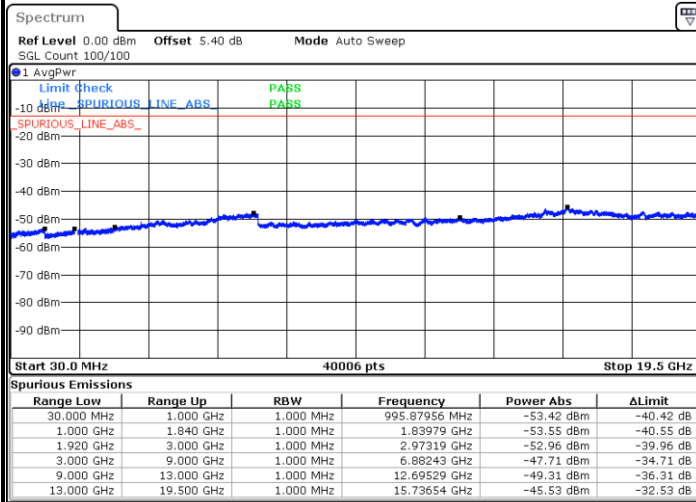


Date: 3.JAN.2020 07:45:22



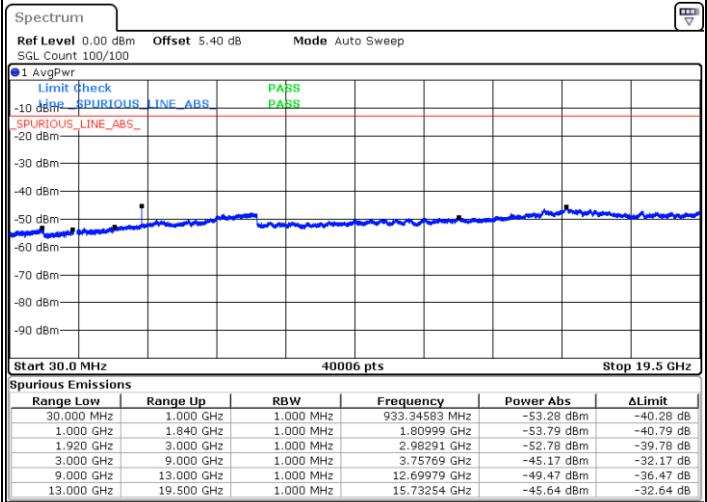
LTE Band 2 / 3MHz

Lowest Channel / 64QAM



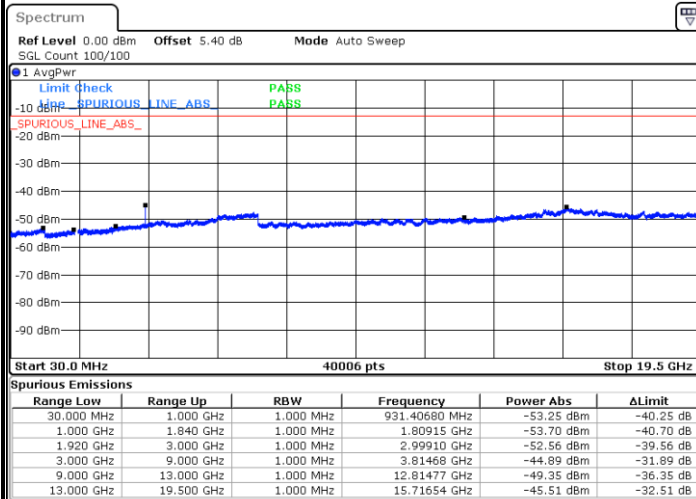
Date: 3.JAN.2020 07:46:17

Middle Channel / 64QAM



Date: 3.JAN.2020 07:47:12

Highest Channel / 64QAM

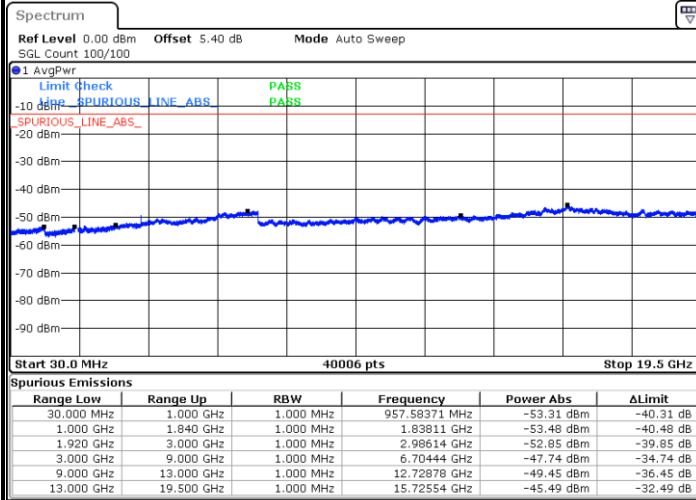


Date: 3.JAN.2020 07:48:07



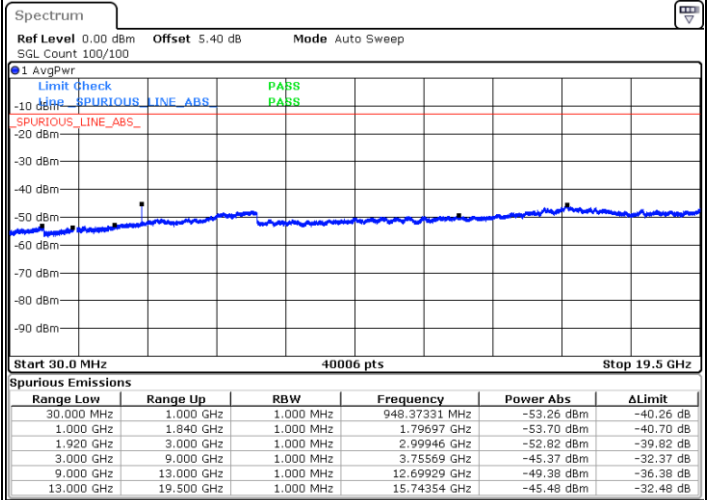
LTE Band 2 / 5MHz

Lowest Channel / 64QAM



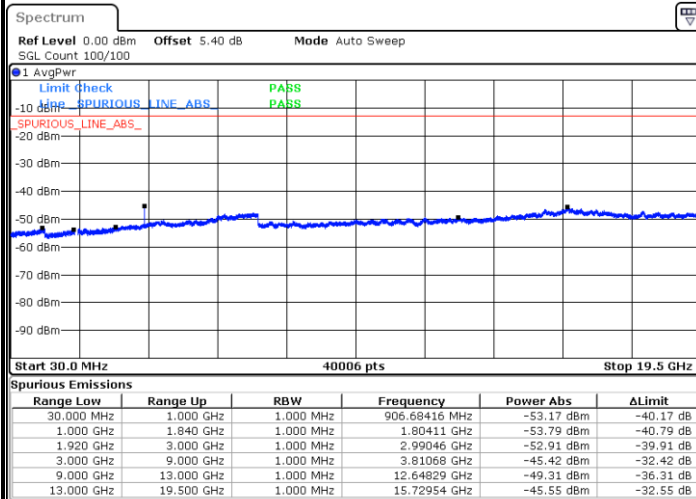
Date: 3.JAN.2020 07:49:02

Middle Channel / 64QAM



Date: 3.JAN.2020 07:49:57

Highest Channel / 64QAM

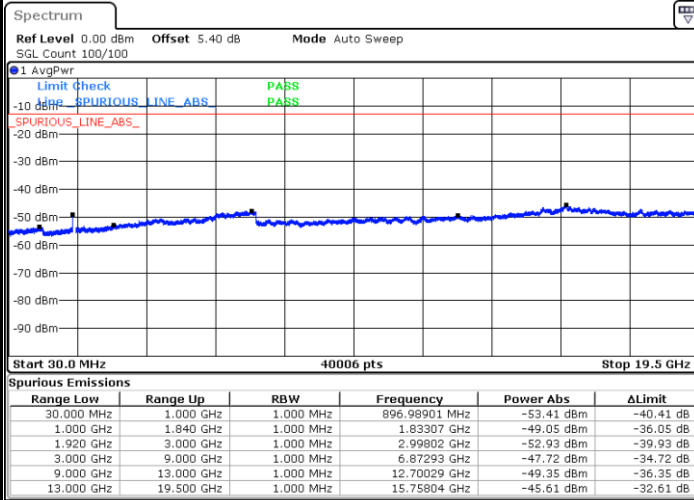


Date: 3.JAN.2020 07:50:52



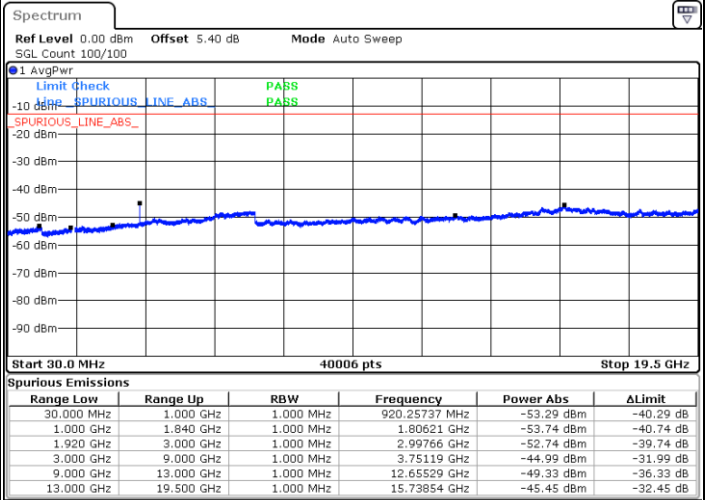
LTE Band 2 / 10MHz

Lowest Channel / 64QAM



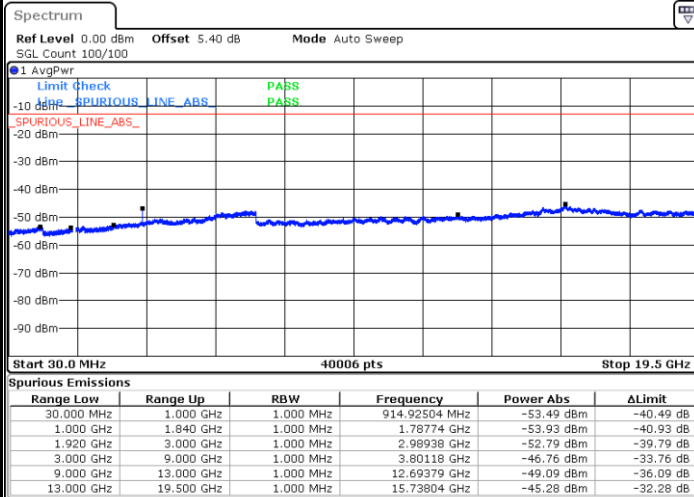
Date: 3.JAN.2020 07:51:47

Middle Channel / 64QAM



Date: 3.JAN.2020 07:52:42

Highest Channel / 64QAM

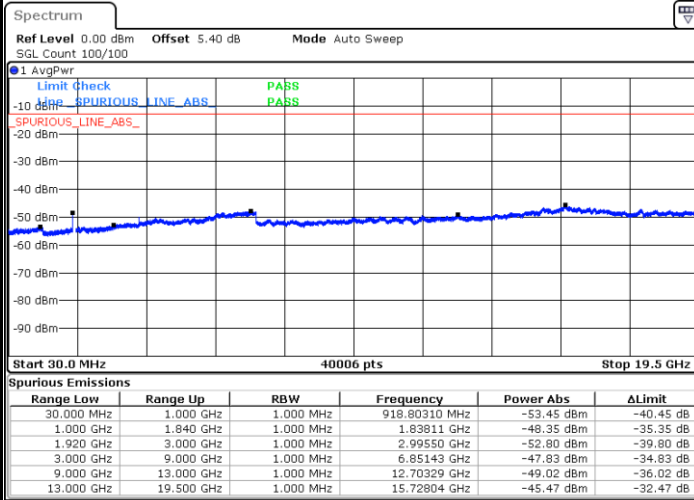


Date: 3.JAN.2020 07:53:37



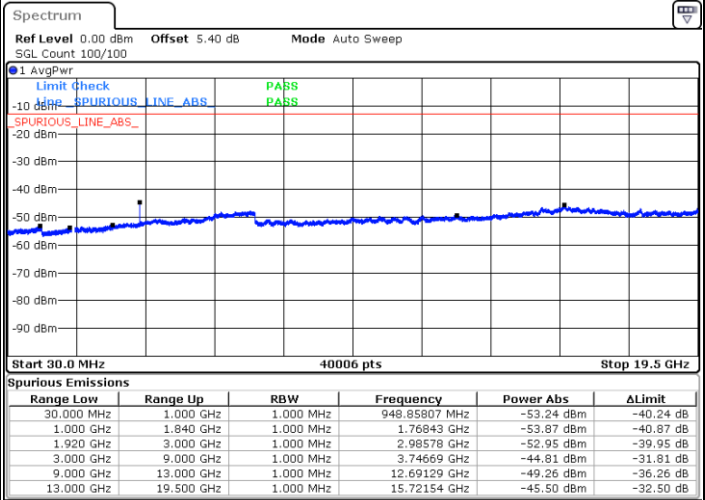
LTE Band 2 / 15MHz

Lowest Channel / 64QAM



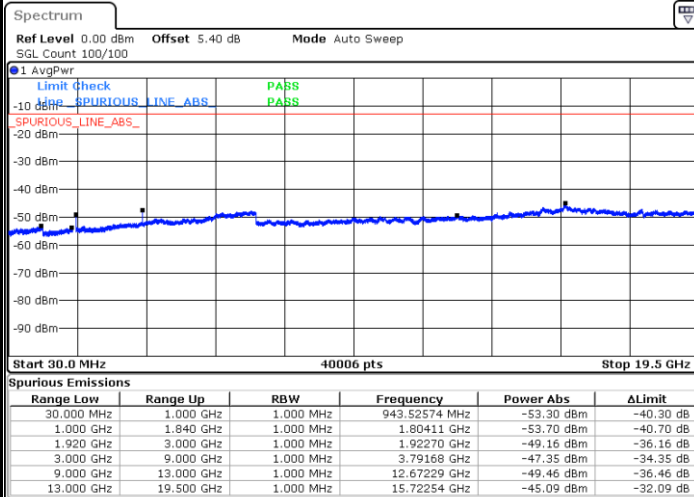
Date: 3.JAN.2020 07:54:32

Middle Channel / 64QAM



Date: 3.JAN.2020 07:55:27

Highest Channel / 64QAM

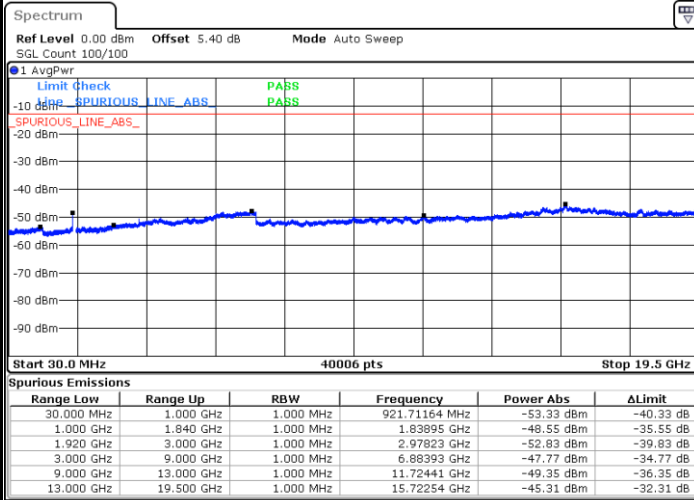


Date: 3.JAN.2020 07:56:22



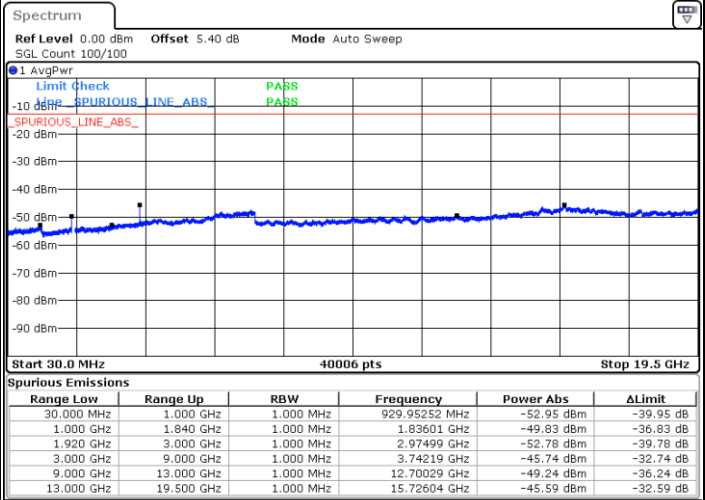
LTE Band 2 / 20MHz

Lowest Channel / 64QAM



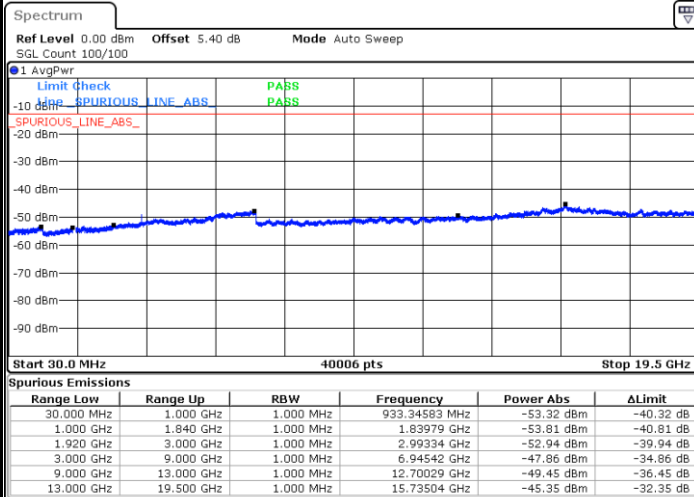
Date: 3.JAN.2020 07:57:16

Middle Channel / 64QAM



Date: 3.JAN.2020 07:58:11

Highest Channel / 64QAM



Date: 3.JAN.2020 07:59:06

**Frequency Stability**

Test Conditions		LTE Band 2 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0003	PASS
40	Normal Voltage	0.0027	
30	Normal Voltage	0.0007	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0016	
0	Normal Voltage	0.0009	
-10	Normal Voltage	0.0016	
-20	Normal Voltage	0.0024	
-30	Normal Voltage	0.0026	
20	Maximum Voltage	0.0002	
20	Normal Voltage	0.0007	
20	Battery End Point	0.0011	

Note:

1. Normal Voltage =3.87 V. ; Battery End Point (BEP) =3.0 V. ; Maximum Voltage =4.45 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 4

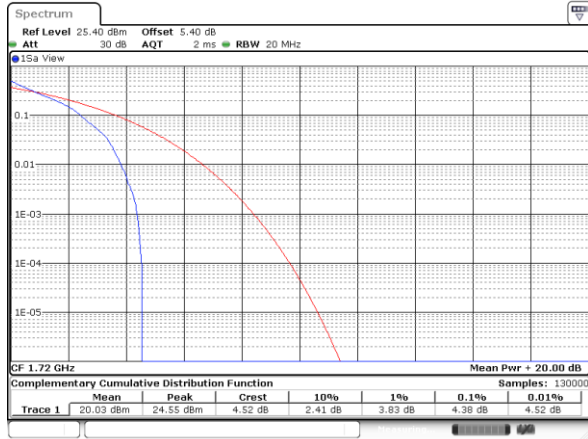
Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.38	5.19	5.3	6.17	PASS
Middle CH	4.99	5.28	5.80	6.20	
Highest CH	4.84	5.28	5.83	6.23	
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.22	6.03			PASS
Middle CH	5.28	6.14			
Highest CH	5.80	6.17			

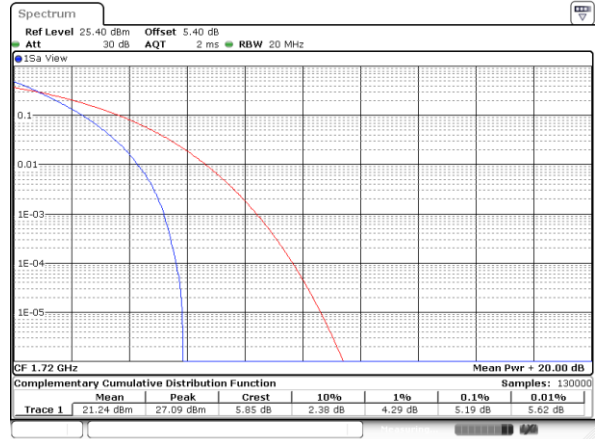


LTE Band 4 / 20MHz / QPSK

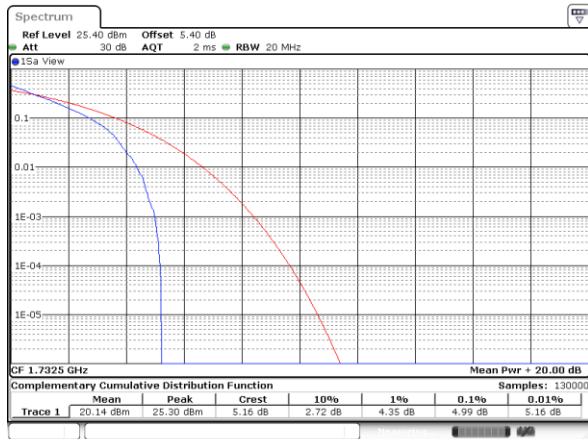
Lowest Channel / 1RB



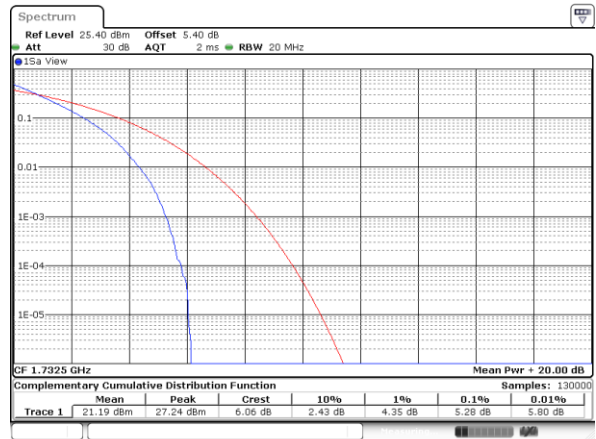
Lowest Channel / Full RB



Middle Channel / 1RB



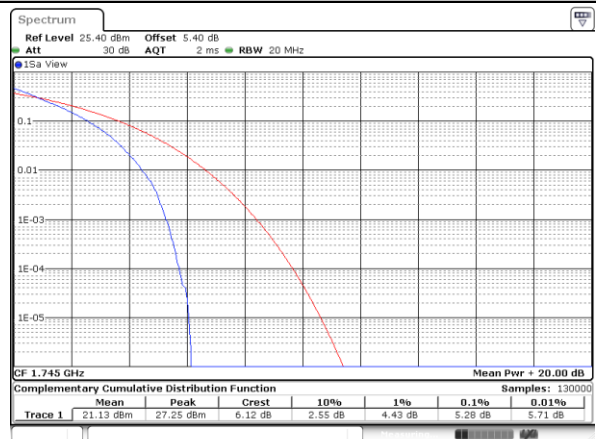
Middle Channel / Full RB



Highest Channel / 1RB



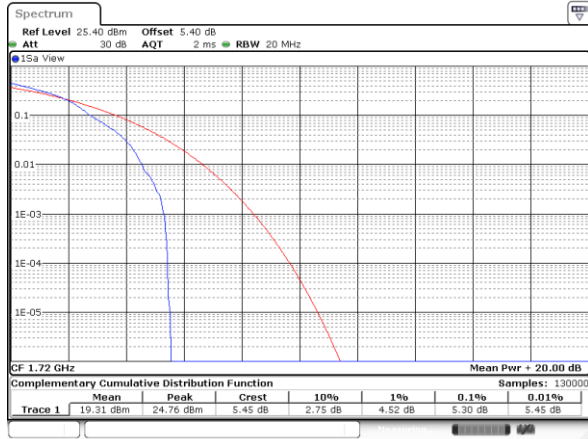
Highest Channel / Full RB



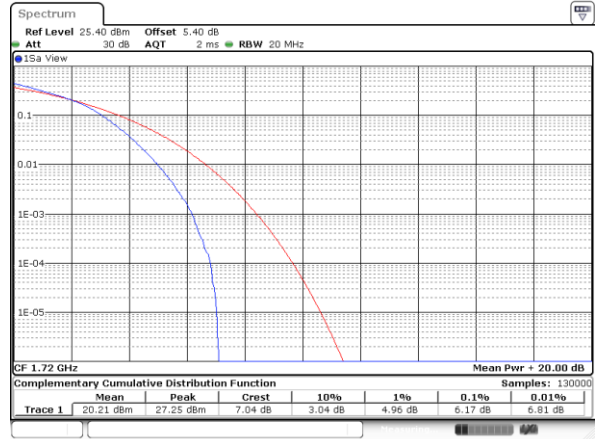


LTE Band 4 / 20MHz / 16QAM

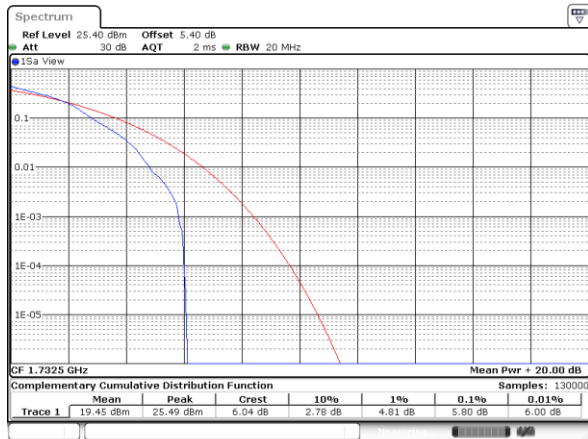
Lowest Channel / 1RB



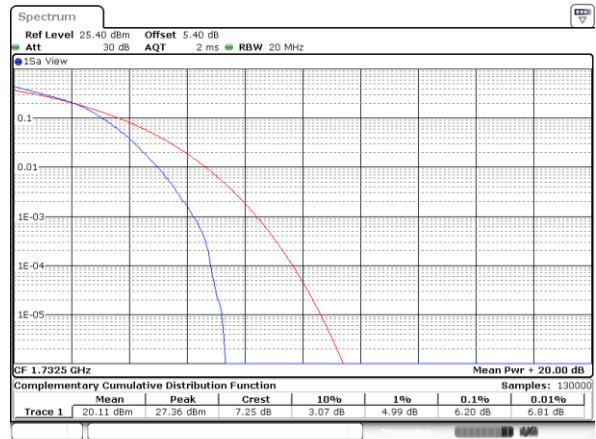
Lowest Channel / Full RB



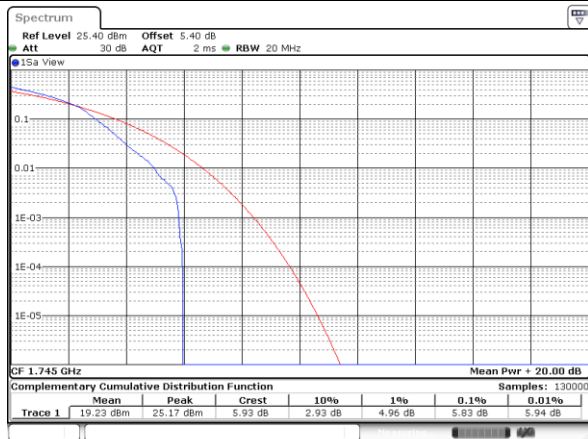
Middle Channel / 1RB



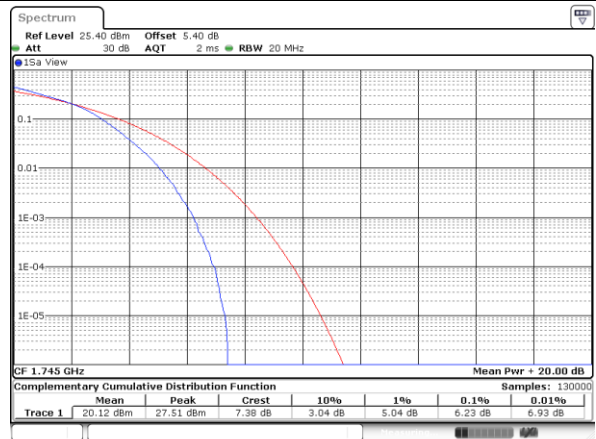
Middle Channel / Full RB



Highest Channel / 1RB



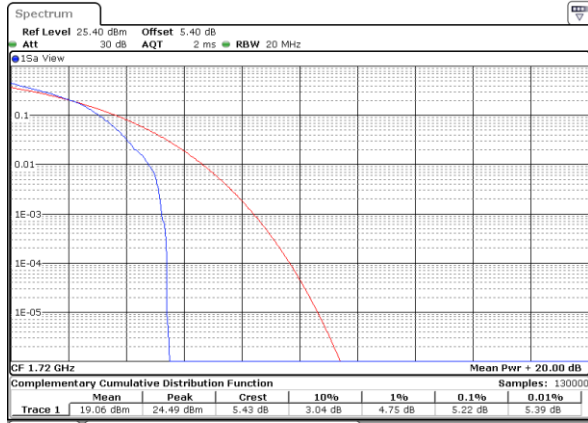
Highest Channel / Full RB



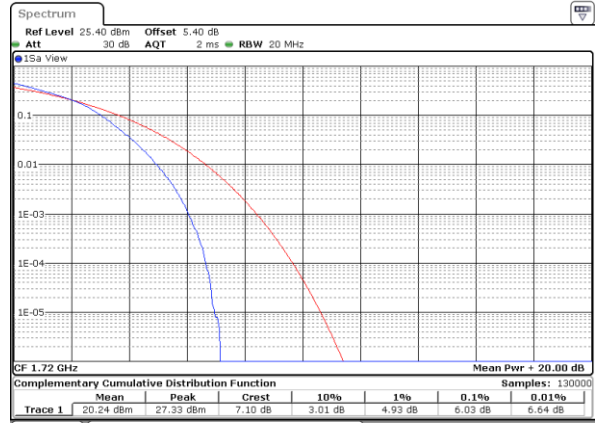


LTE Band 4 / 20MHz / 64QAM

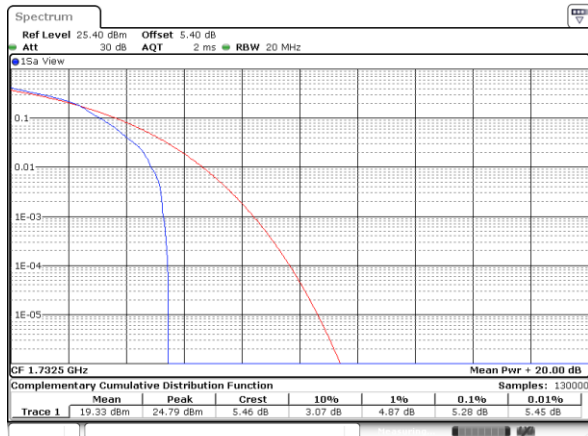
Lowest Channel / 1RB



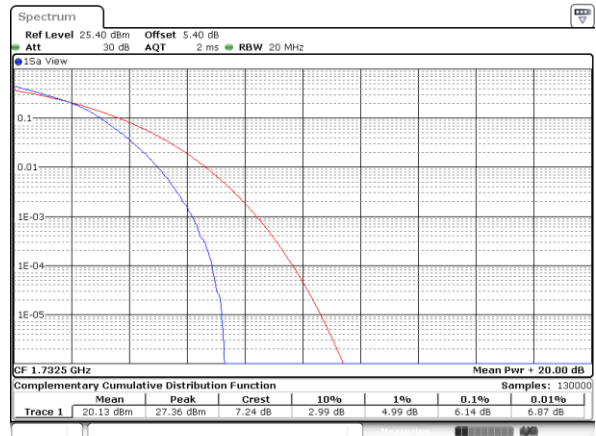
Lowest Channel / Full RB



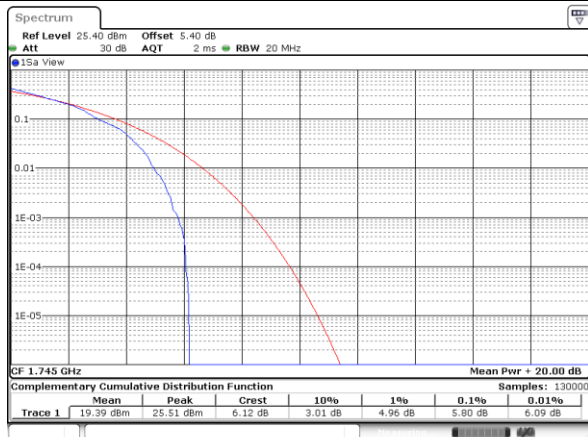
Middle Channel / 1RB



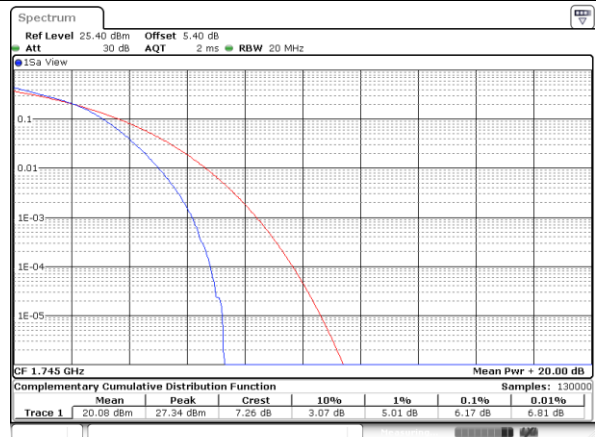
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB



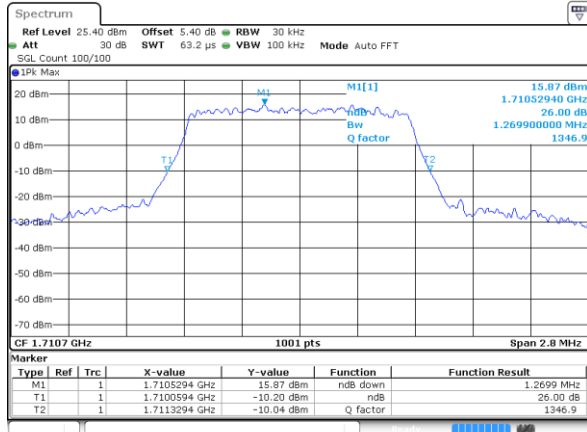
**26dB Bandwidth**

Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.270	1.273	2.955	2.955	4.905	4.835	9.73	9.73	14.206	14.296	20.18	20.18
Middle CH	1.264	1.242	2.973	2.949	4.875	4.875	9.65	9.77	14.416	14.625	20.3	20.02
Highest CH	1.270	1.270	2.937	2.961	4.865	4.815	9.67	9.63	14.326	14.356	20.22	20.3
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.267		2.961		4.835		9.87		14.386		20.18	
Middle CH	1.273		2.961		4.845		9.71		14.206		20.18	
Highest CH	1.264		2.961		4.875		9.77		14.266		20.22	



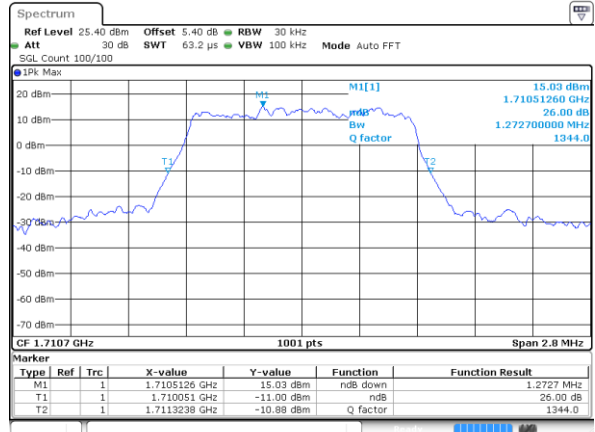
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



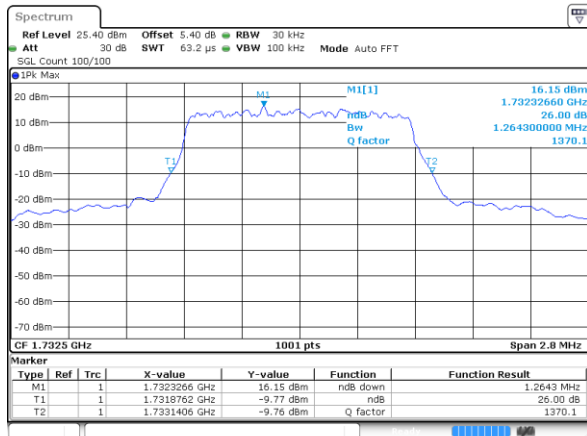
Date: 3 JAN 2020 20:57:11

Lowest Channel / 1.4MHz / 16QAM



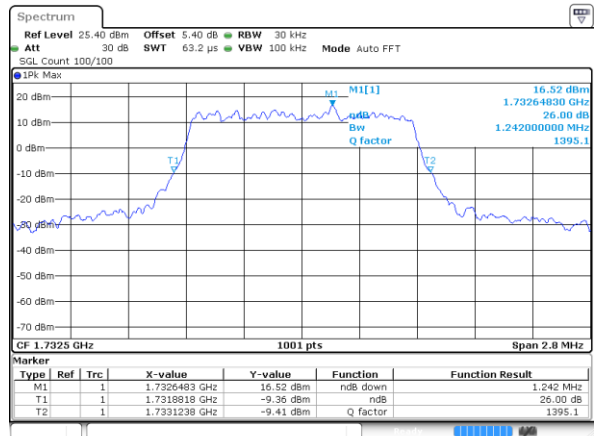
Date: 3 JAN 2020 20:57:21

Middle Channel / 1.4MHz / QPSK



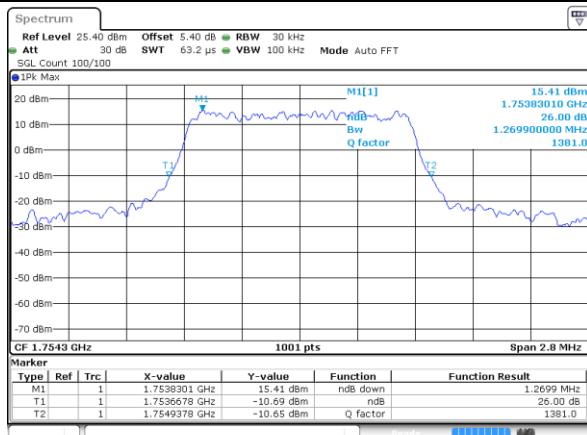
Date: 3 JAN 2020 21:04:10

Middle Channel / 1.4MHz / 16QAM



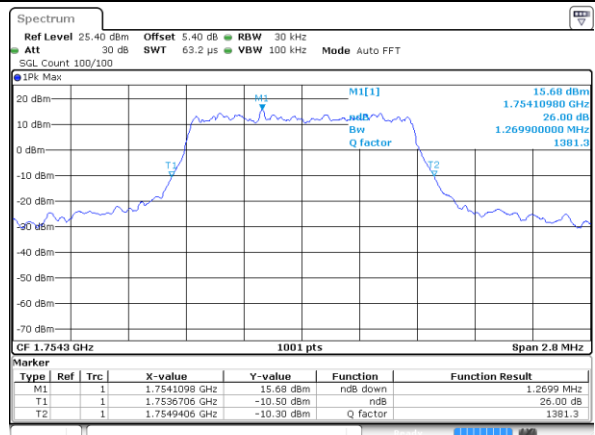
Date: 3 JAN 2020 21:04:20

Highest Channel / 1.4MHz / QPSK



Date: 3 JAN 2020 21:06:39

Highest Channel / 1.4MHz / 16QAM

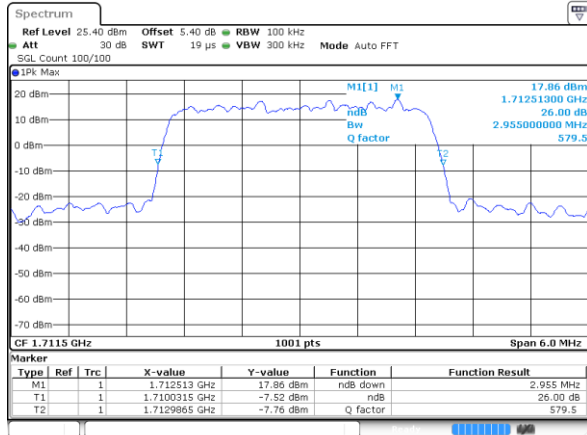


Date: 3 JAN 2020 21:06:49

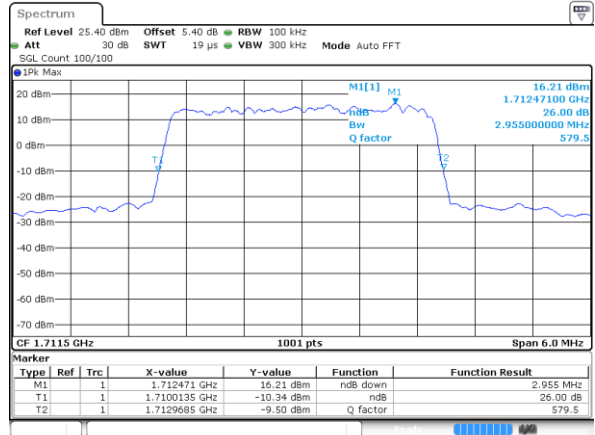


LTE Band 4

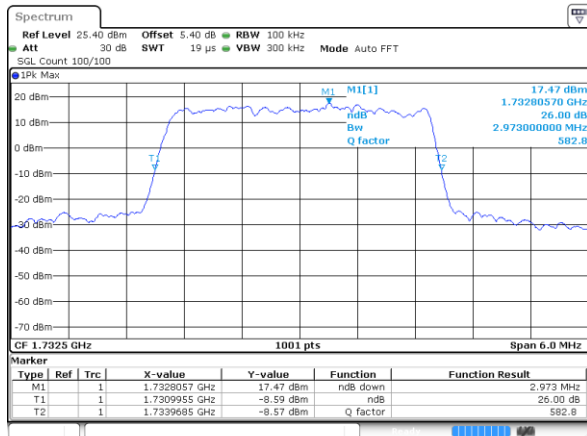
Lowest Channel / 3MHz / QPSK



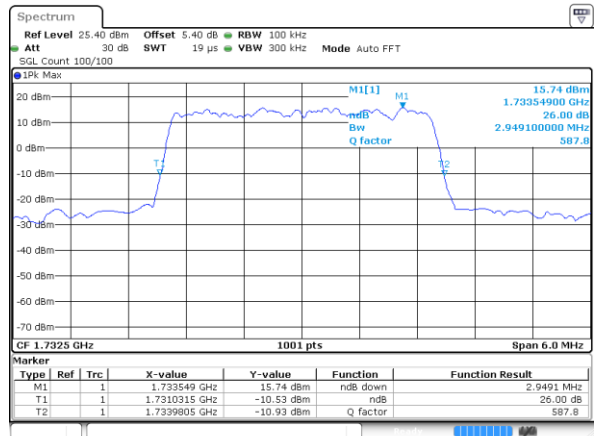
Lowest Channel / 3MHz / 16QAM



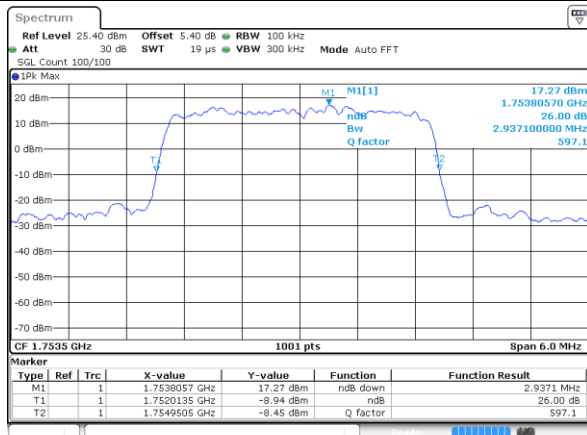
Middle Channel / 3MHz / QPSK



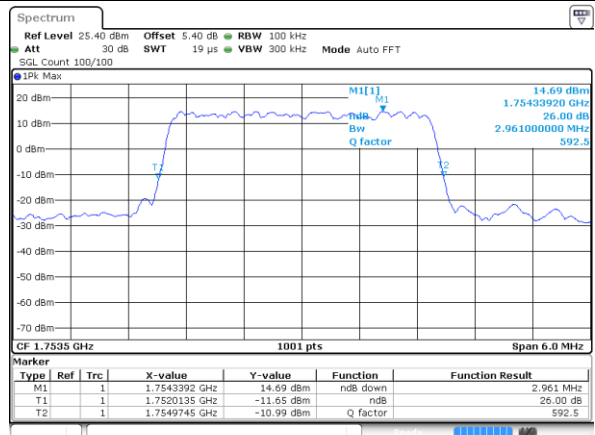
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK



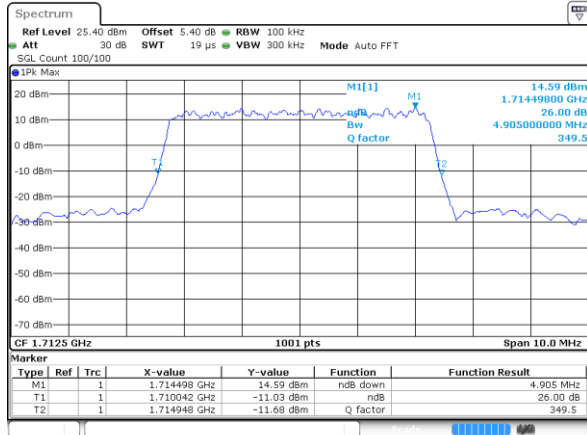
Highest Channel / 3MHz / 16QAM





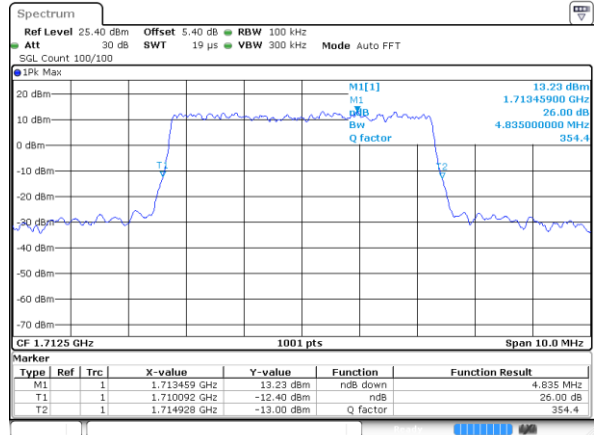
LTE Band 4

Lowest Channel / 5MHz / QPSK



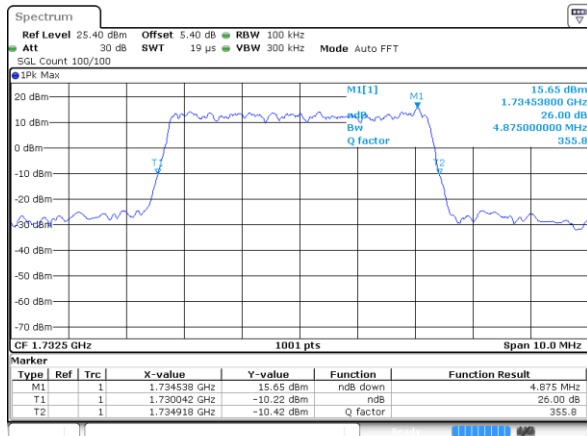
Date: 3 JAN 2020 21:30:04

Lowest Channel / 5MHz / 16QAM



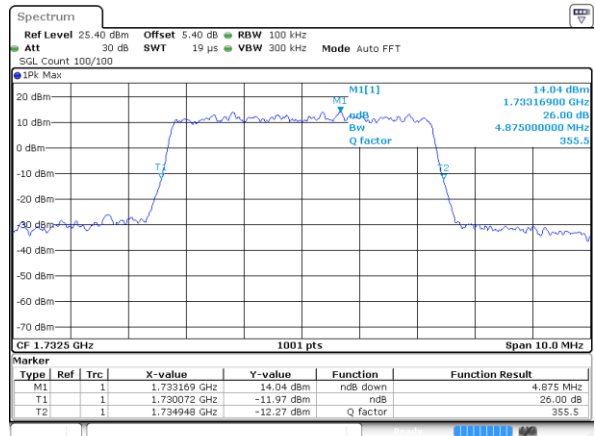
Date: 3 JAN 2020 21:30:14

Middle Channel / 5MHz / QPSK



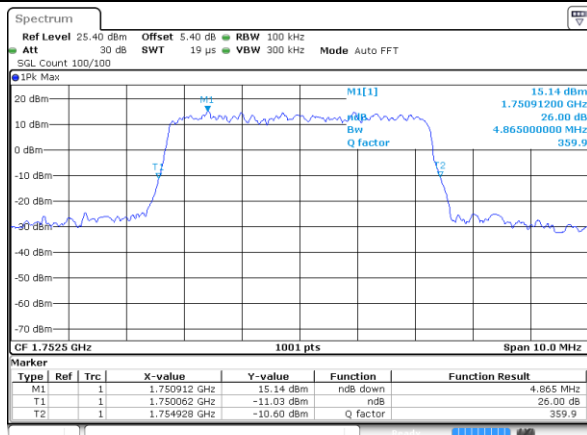
Date: 3 JAN 2020 21:37:03

Middle Channel / 5MHz / 16QAM



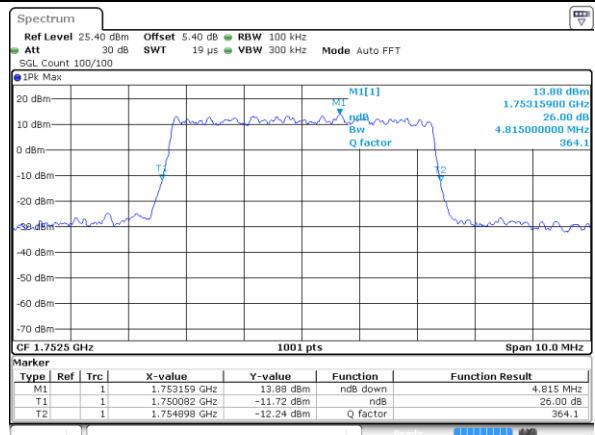
Date: 3 JAN 2020 21:37:13

Highest Channel / 5MHz / QPSK



Date: 3 JAN 2020 21:39:33

Highest Channel / 5MHz / 16QAM

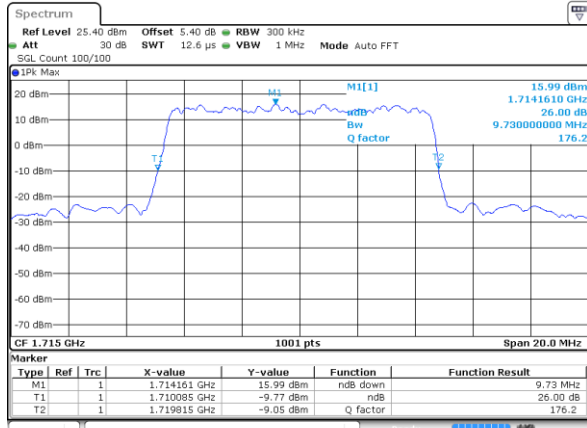


Date: 3 JAN 2020 21:39:43

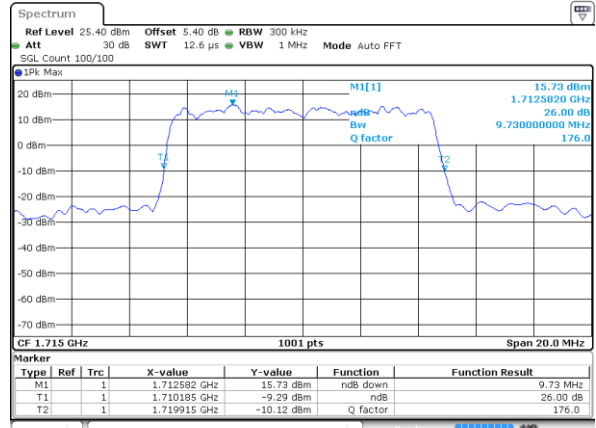


LTE Band 4

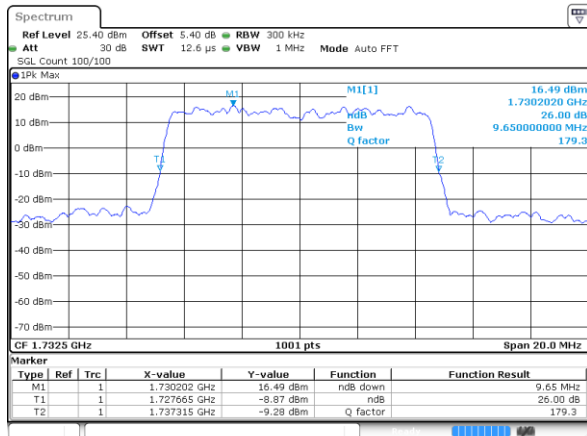
Lowest Channel / 10MHz / QPSK



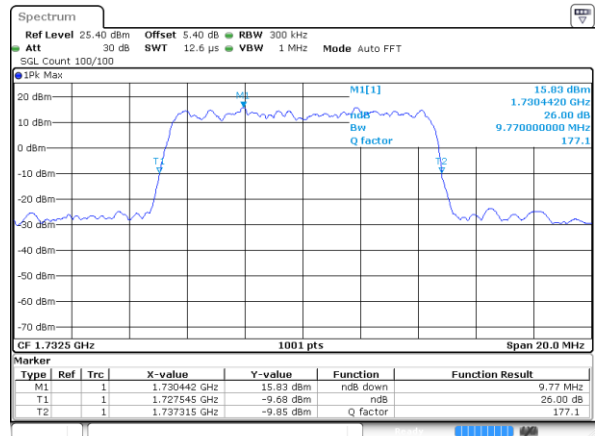
Lowest Channel / 10MHz / 16QAM



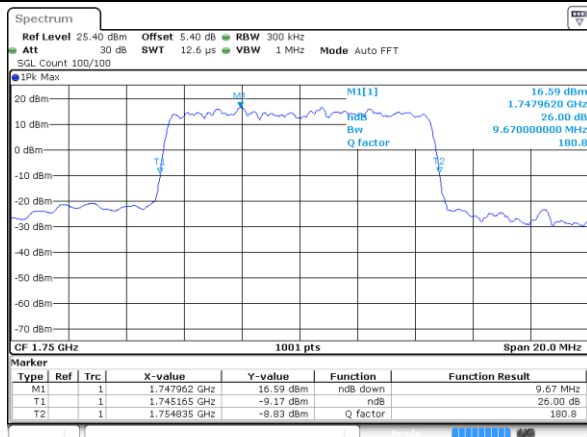
Middle Channel / 10MHz / QPSK



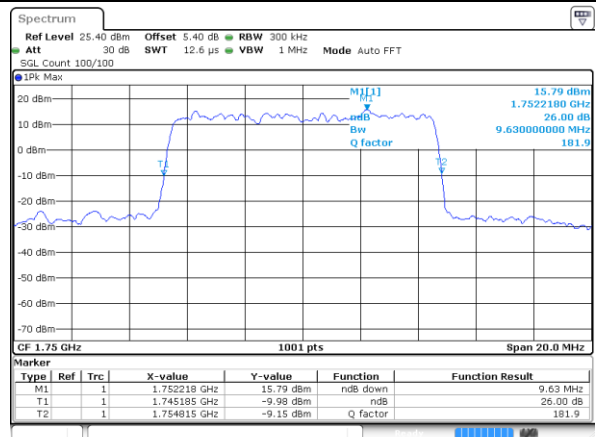
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



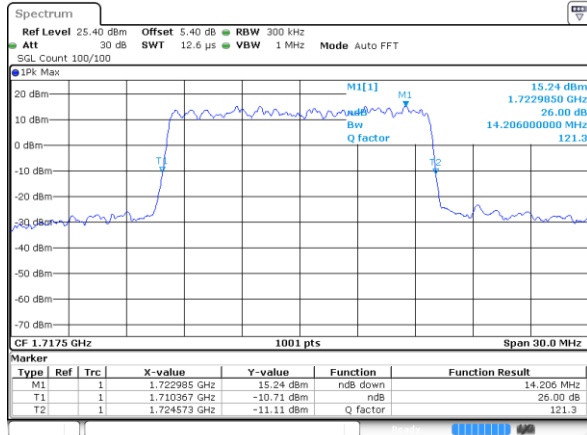
Highest Channel / 10MHz / 16QAM



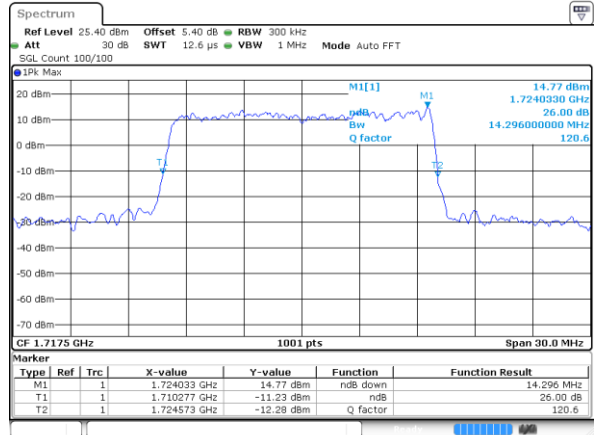


LTE Band 4

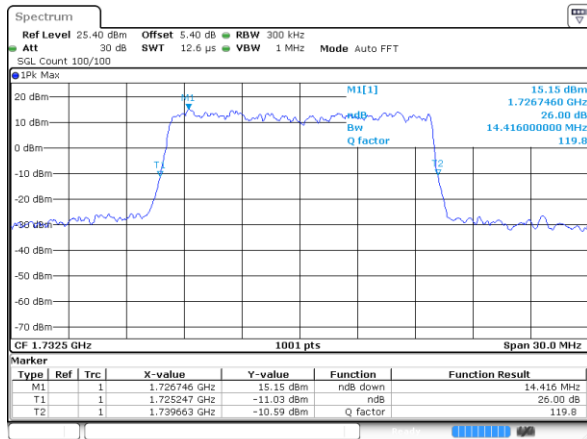
Lowest Channel / 15MHz / QPSK



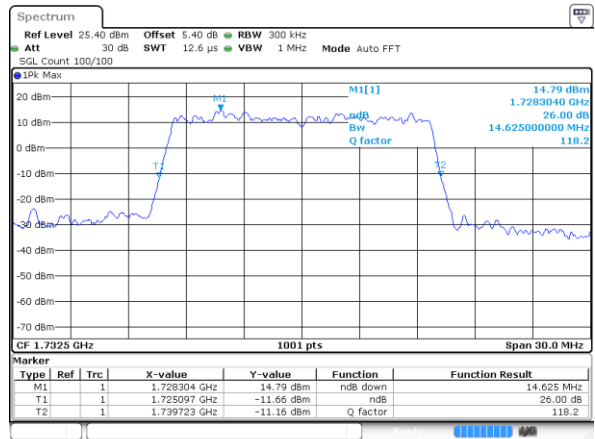
Lowest Channel / 15MHz / 16QAM



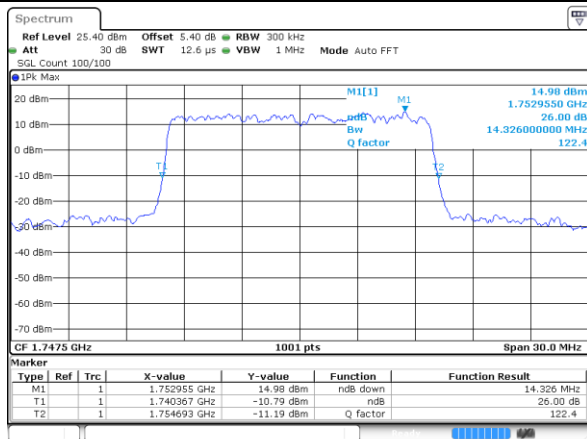
Middle Channel / 15MHz / QPSK



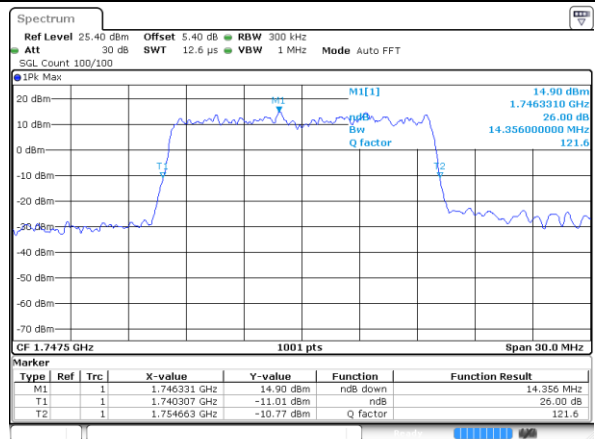
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



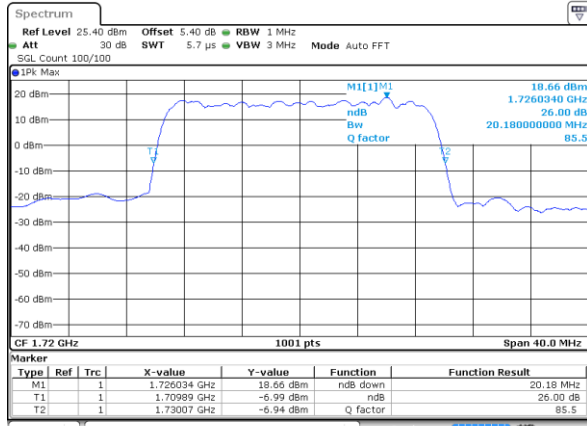
Highest Channel / 15MHz / 16QAM





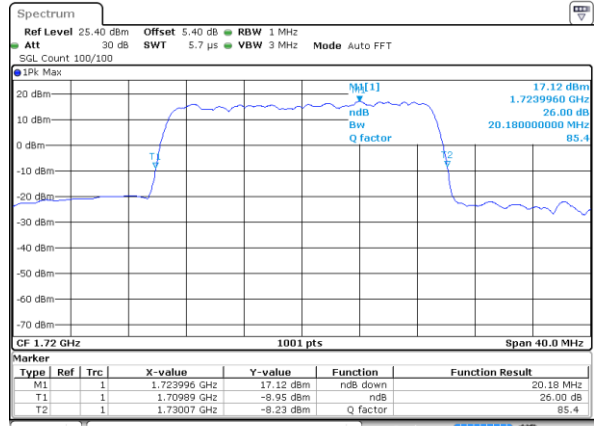
LTE Band 4

Lowest Channel / 20MHz / QPSK



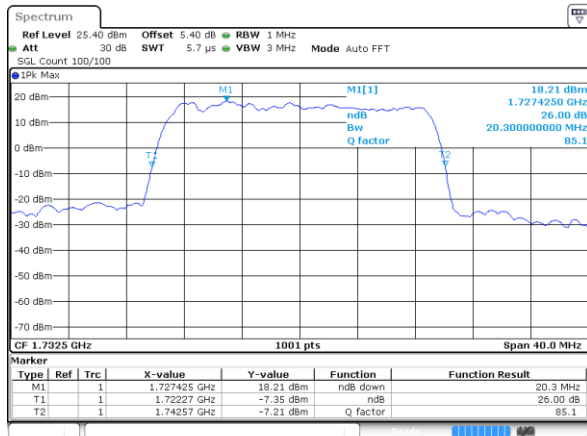
Date: 3 JAN 2020 22:19:25

Lowest Channel / 20MHz / 16QAM



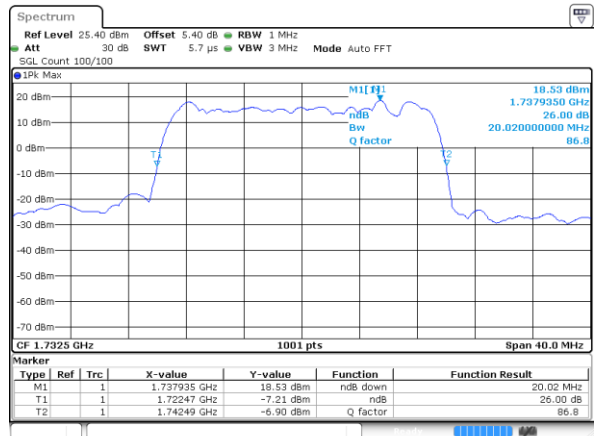
Date: 3 JAN 2020 22:19:35

Middle Channel / 20MHz / QPSK



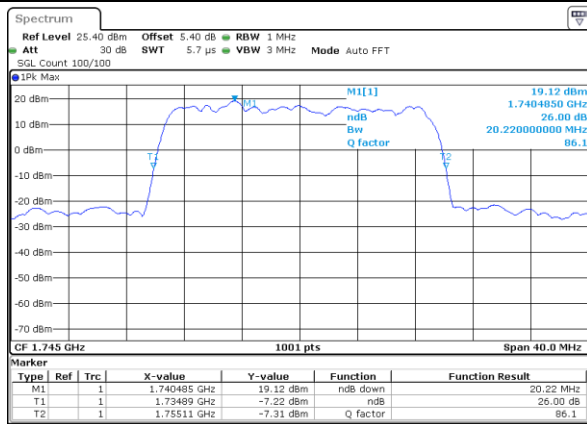
Date: 3 JAN 2020 22:26:24

Middle Channel / 20MHz / 16QAM



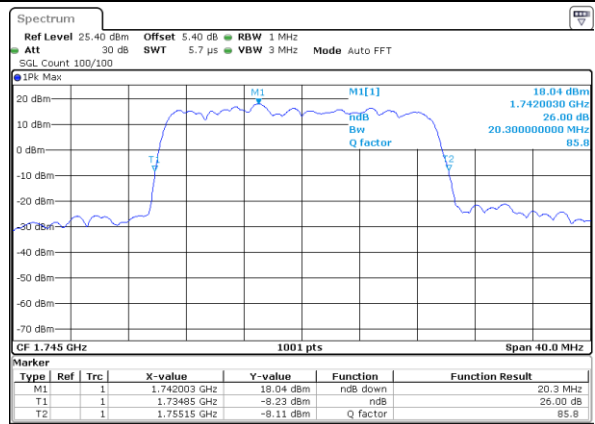
Date: 3 JAN 2020 22:26:34

Highest Channel / 20MHz / QPSK



Date: 3 JAN 2020 22:28:53

Highest Channel / 20MHz / 16QAM

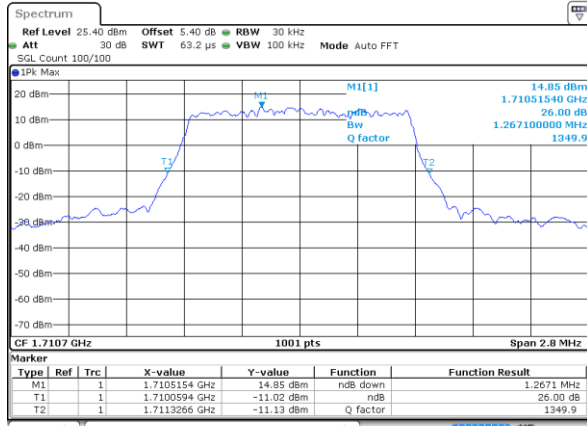


Date: 3 JAN 2020 22:29:03



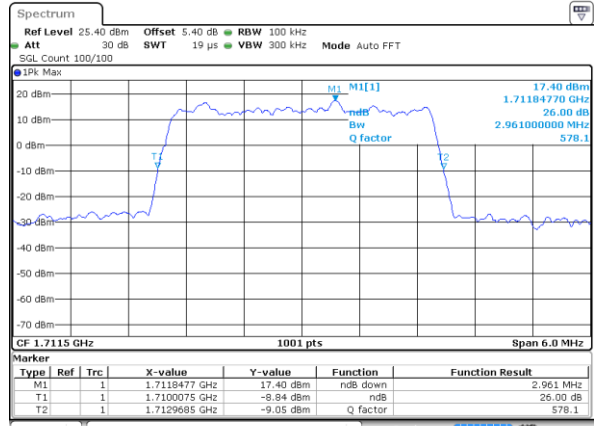
LTE Band 4

Lowest Channel / 1.4MHz / 64QAM



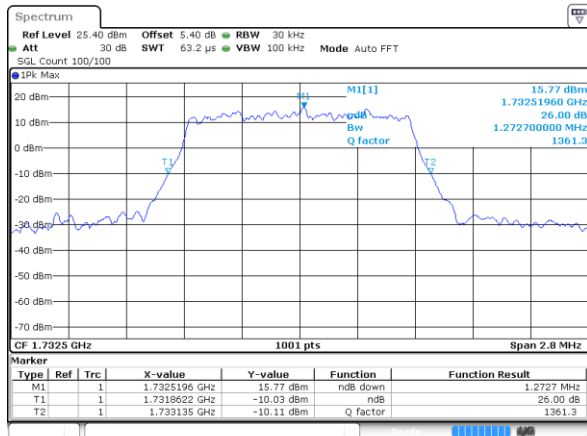
Date: 3 JAN 2020 22:35:42

Lowest Channel / 3MHz / 64QAM



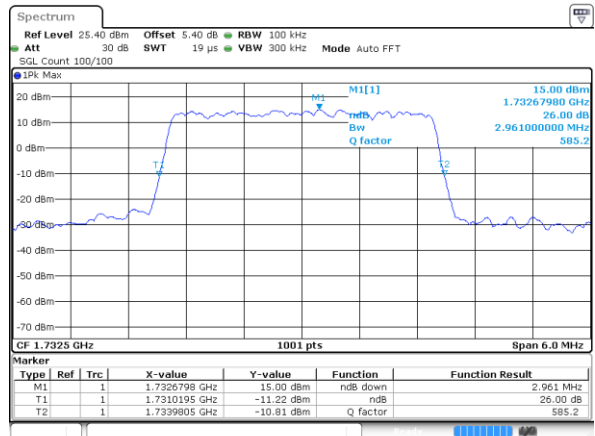
Date: 3 JAN 2020 22:43:55

Middle Channel / 1.4MHz / 64QAM



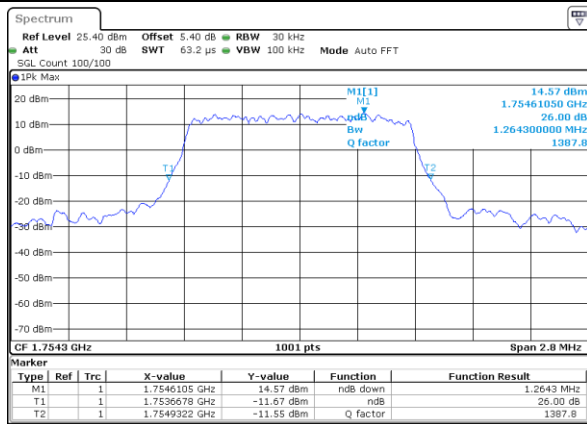
Date: 3 JAN 2020 22:39:11

Middle Channel / 3MHz / 64QAM



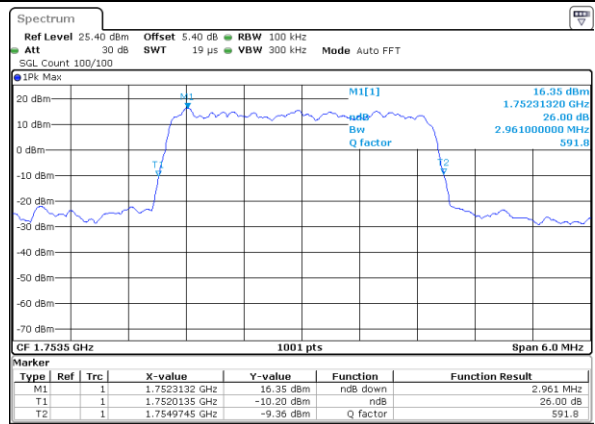
Date: 3 JAN 2020 22:47:25

Highest Channel / 1.4MHz / 64QAM



Date: 3 JAN 2020 22:40:26

Highest Channel / 3MHz / 64QAM

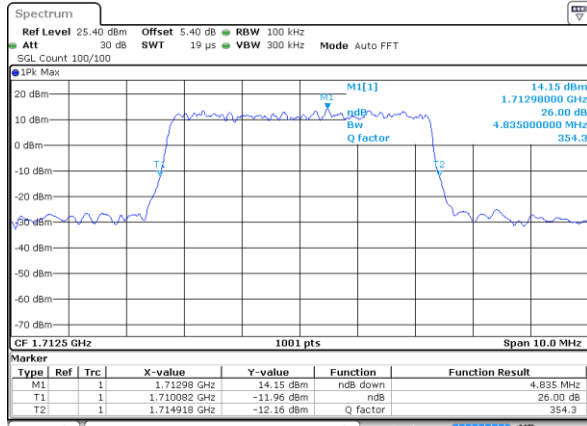


Date: 3 JAN 2020 22:48:40

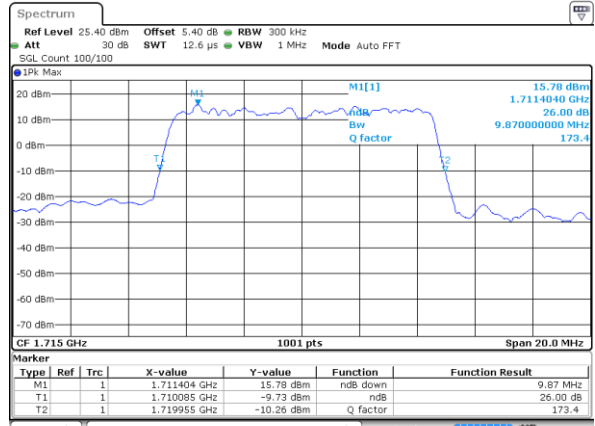


LTE Band 4

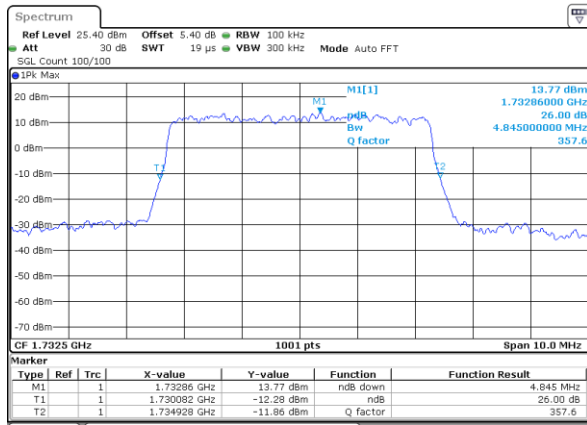
Lowest Channel / 5MHz / 64QAM



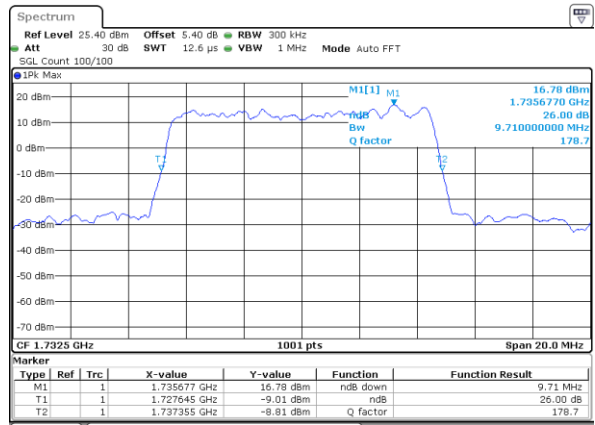
Lowest Channel / 10MHz / 64QAM



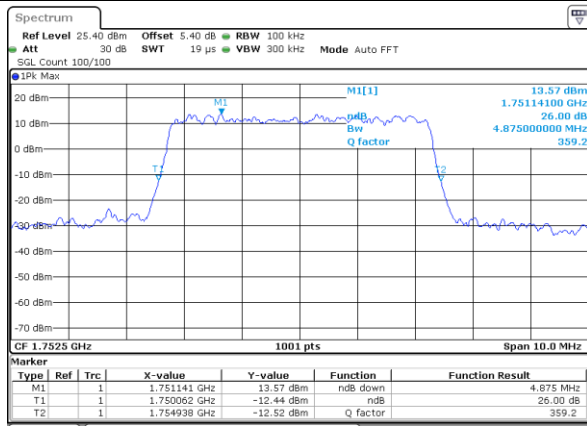
Middle Channel / 5MHz / 64QAM



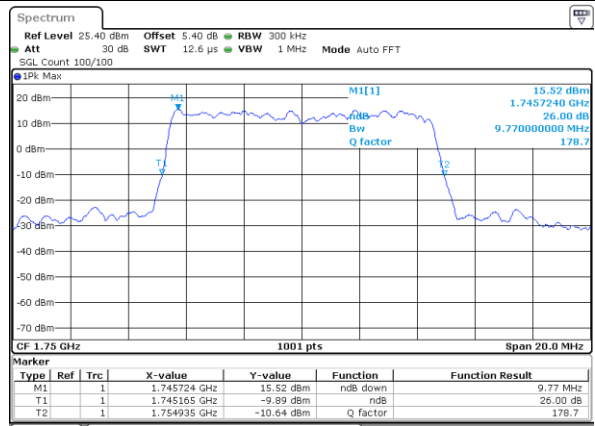
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



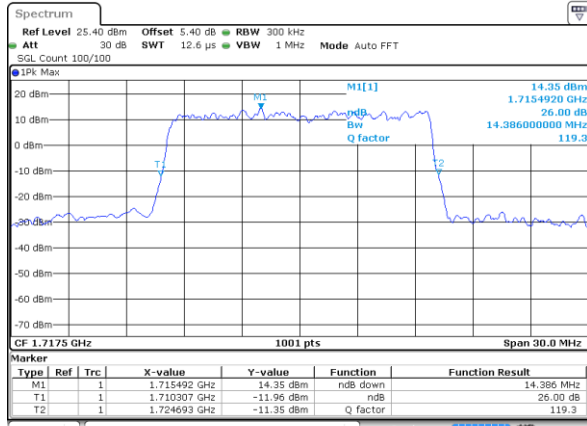
Highest Channel / 10MHz / 64QAM



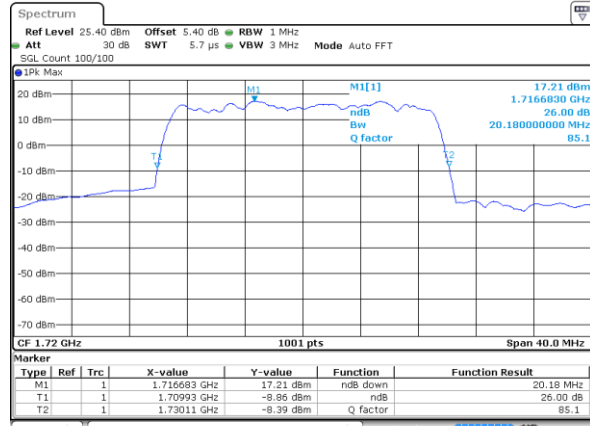


LTE Band 4

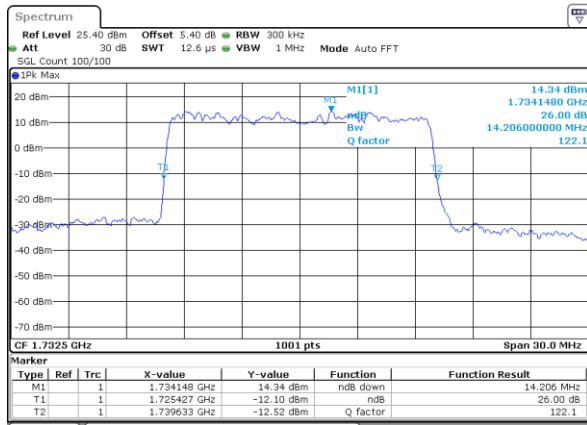
Lowest Channel / 15MHz / 64QAM



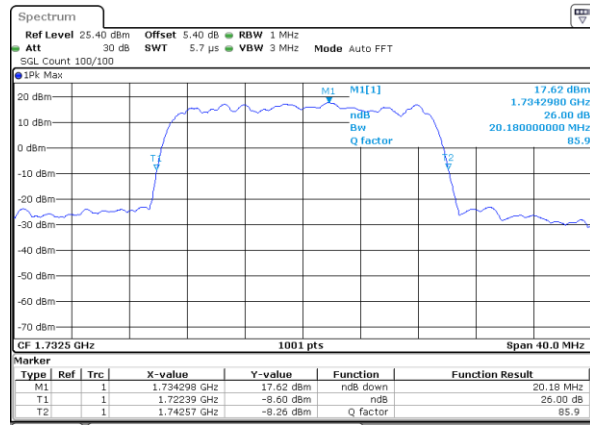
Lowest Channel / 20MHz / 64QAM



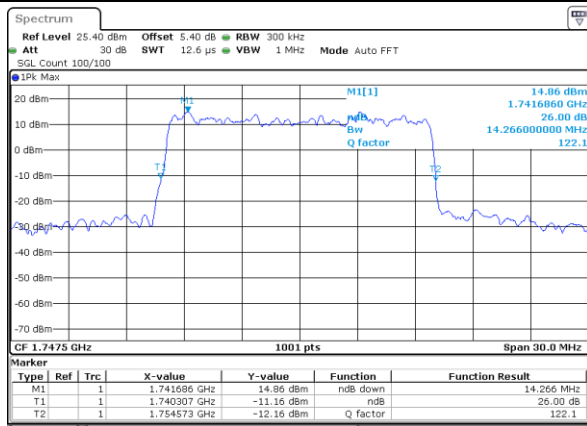
Middle Channel / 15MHz / 64QAM



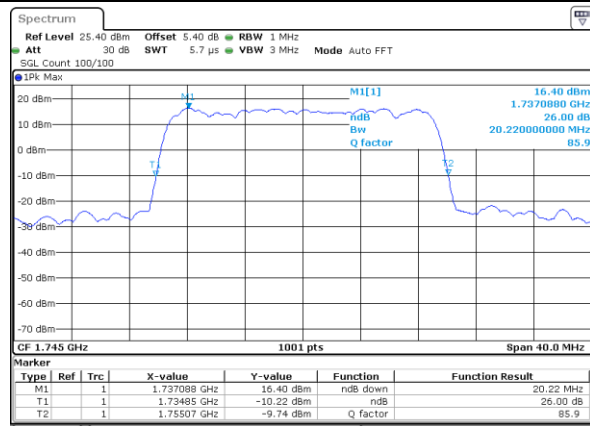
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM



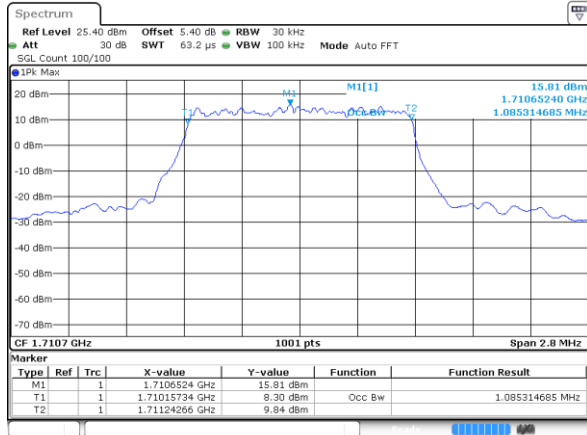
**Occupied Bandwidth**

Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.085	1.099	2.715	2.727	4.496	4.496	9.031	9.051	13.427	13.427	18.342	18.302
Middle CH	1.097	1.091	2.703	2.691	4.486	4.466	8.991	9.051	13.427	13.457	18.422	18.581
Highest CH	1.085	1.094	2.715	2.691	4.496	4.486	9.051	9.091	13.516	13.397	18.462	18.342
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.083		2.721		4.496		8.991		13.457		18.382	
Middle CH	1.085		2.709		4.496		9.011		13.487		18.342	
Highest CH	1.085		2.697		4.486		9.071		13.457		18.382	

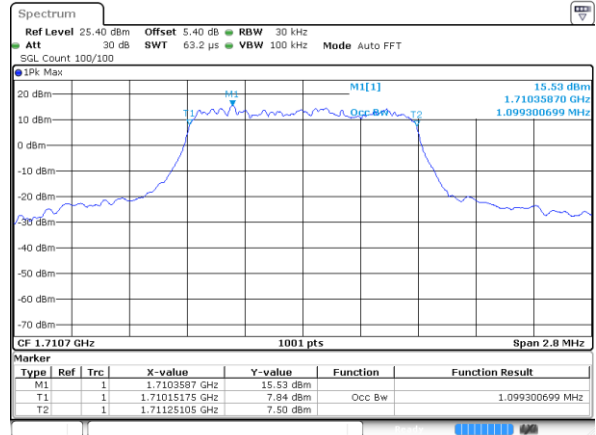


LTE Band 4

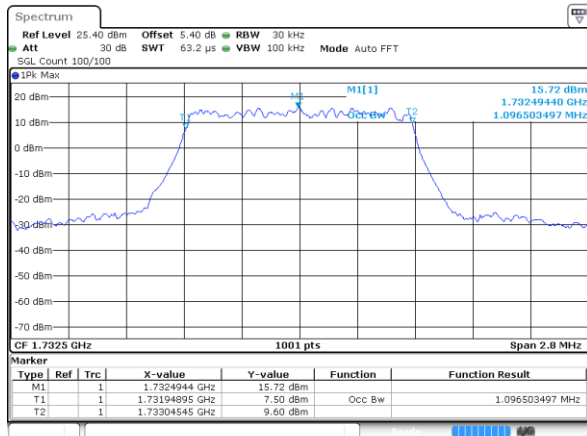
Lowest Channel / 1.4MHz / QPSK



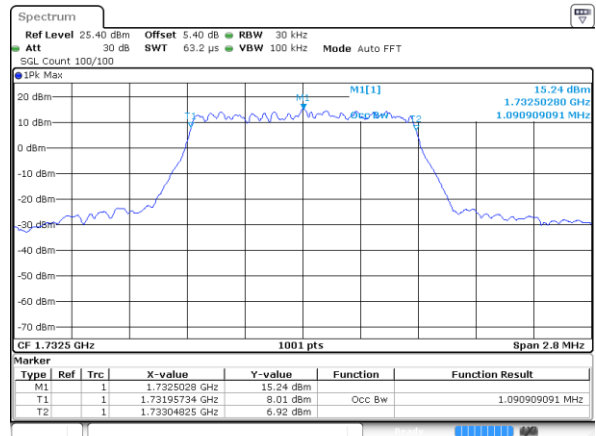
Lowest Channel / 1.4MHz / 16QAM



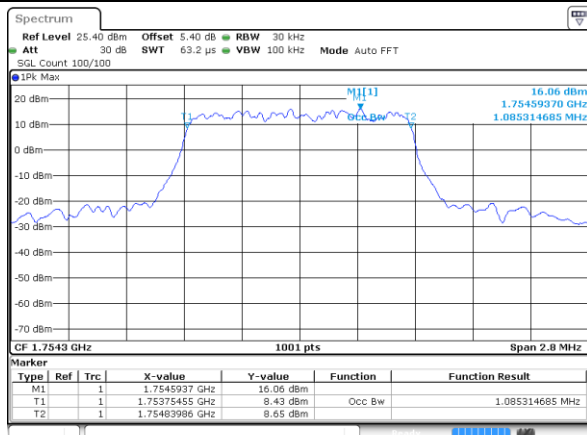
Middle Channel / 1.4MHz / QPSK



Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK



Highest Channel / 1.4MHz / 16QAM

