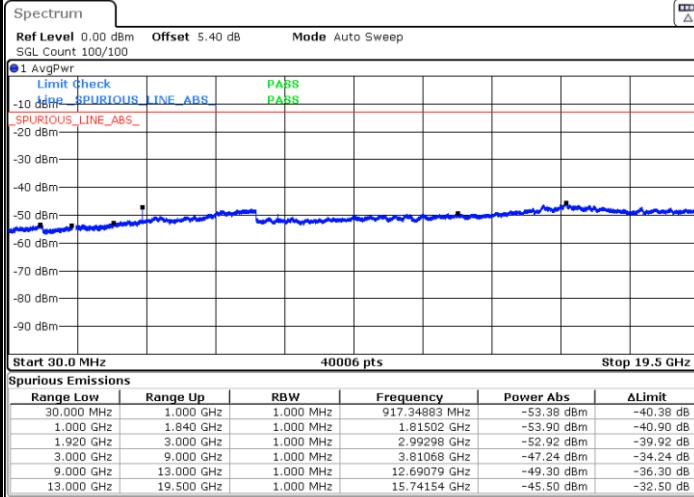


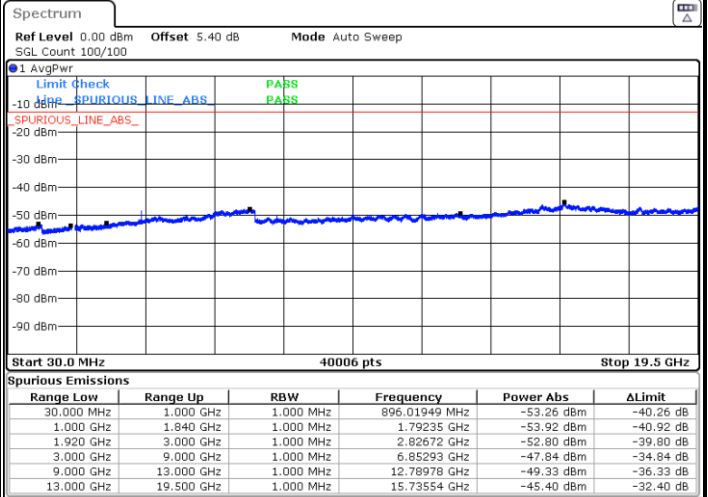


LTE Band 2 / 5MHz

Highest Channel / QPSK

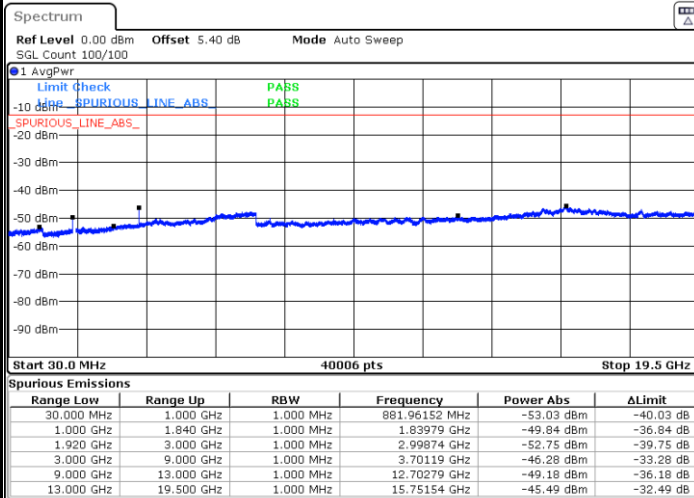


Highest Channel / 16QAM

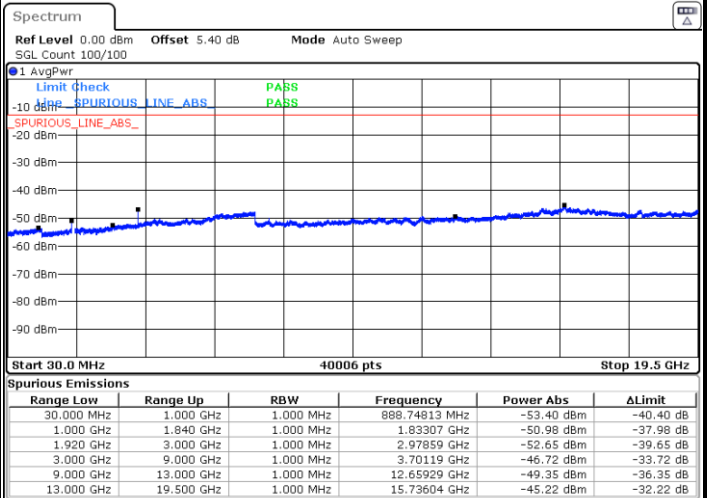


LTE Band 2 / 10MHz

Lowest Channel / QPSK



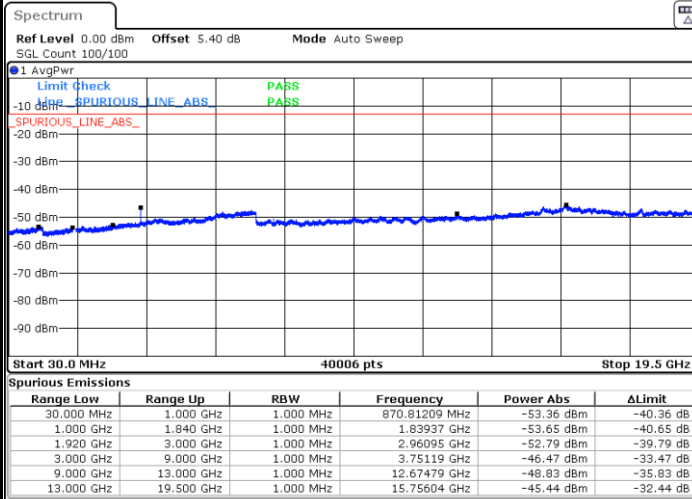
Lowest Channel / 16QAM



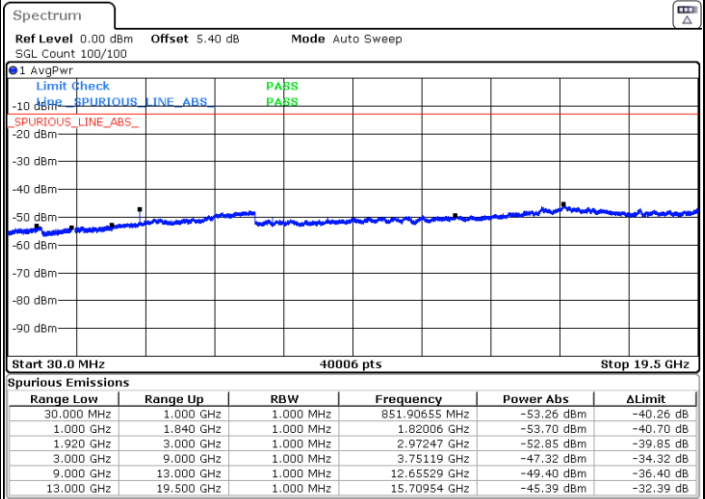


LTE Band 2 / 10MHz

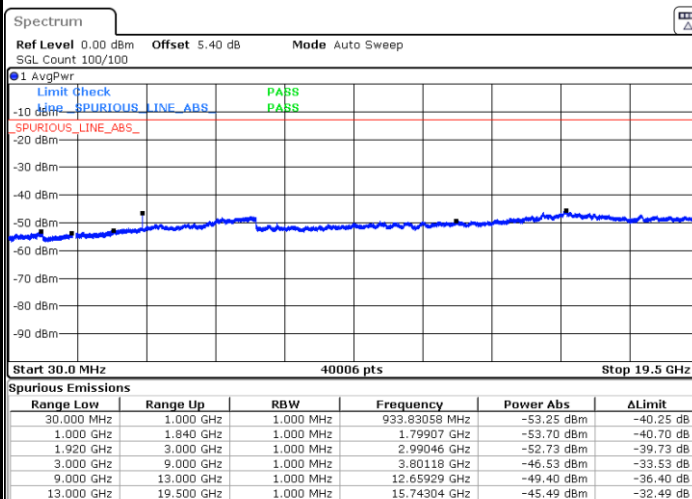
Middle Channel / QPSK



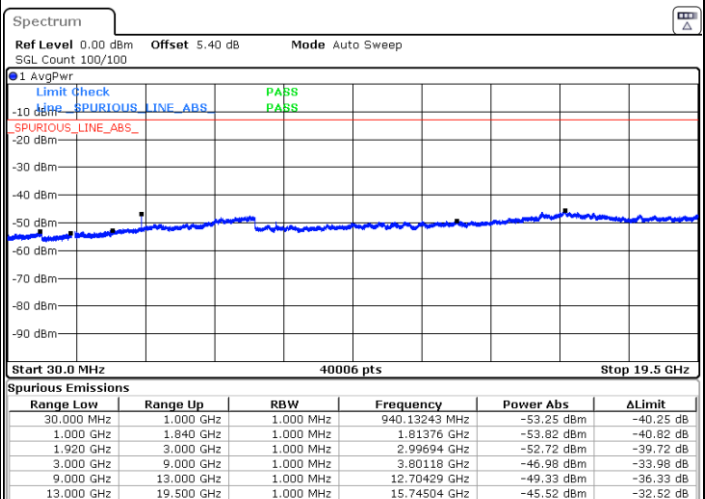
Middle Channel / 16QAM



Highest Channel / QPSK

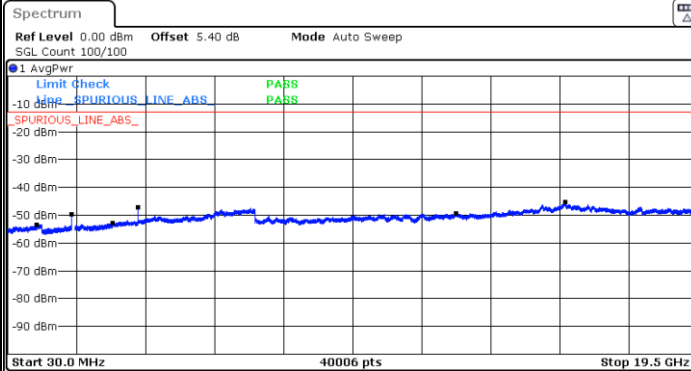


Highest Channel / 16QAM



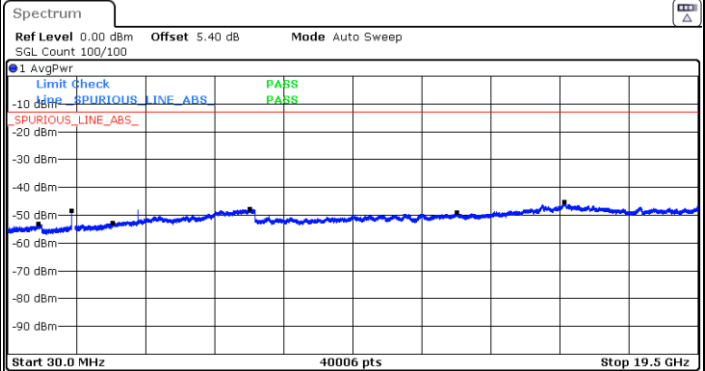
LTE Band 2 / 15MHz

Lowest Channel / QPSK



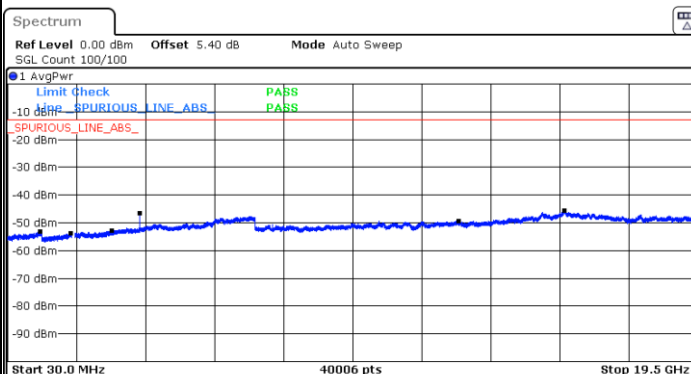
Spurious Emissions						
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	
30.000 MHz	1.000 GHz	1.000 MHz	853.36082 MHz	-53.41 dBm	-46.41 dB	
1.000 GHz	1.840 GHz	1.000 MHz	1.83979 GHz	-39.55 dBm	-35.55 dB	
1.920 GHz	3.000 GHz	1.000 MHz	2.98147 GHz	-52.81 dBm	-39.81 dB	
3.000 GHz	9.000 GHz	1.000 MHz	3.70169 GHz	-47.17 dBm	-34.17 dB	
9.000 GHz	13.000 GHz	1.000 MHz	12.66279 GHz	-49.26 dBm	-36.26 dB	
13.000 GHz	19.500 GHz	1.000 MHz	15.74704 GHz	-45.41 dBm	-32.41 dB	

Lowest Channel / 16QAM



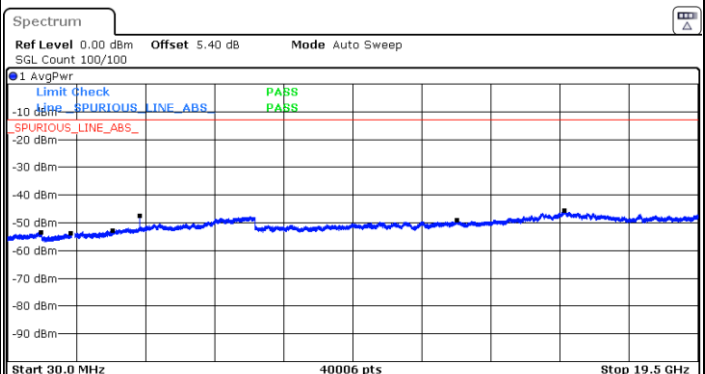
Spurious Emissions					
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	895.04998 MHz	-53.02 dbm	-40.02 db
1.000 GHz	1.840 GHz	1.000 MHz	1.83769 GHz	-48.35 dbm	-35.35 db
1.920 GHz	3.000 GHz	1.000 MHz	2.99586 GHz	-52.97 dbm	-39.97 db
3.000 GHz	9.000 GHz	1.000 MHz	6.85993 GHz	-47.69 dbm	-34.69 db
9.000 GHz	13.000 GHz	1.000 MHz	12.70929 GHz	-49.04 dbm	-36.04 db
13.000 GHz	19.500 GHz	1.000 MHz	15.73154 GHz	-45.28 dbm	-32.28 db

Middle Channel / QPSK



Range Low		Range Up	RBW	Frequency	Power Abs	Δ Limit
30.000 MHz		1.000 GHz	1.000 MHz	945.46477 MHz	-53.13 dBm	-40.13 dB
1.000 GHz		1.840 GHz	1.000 MHz	1.80621 GHz	-53.92 dBm	-40.92 dB
1.920 GHz		3.000 GHz	1.000 MHz	2.96410 GHz	-52.91 dBm	-39.91 dB
3.000 GHz		9.000 GHz	1.000 MHz	3.74569 GHz	-46.61 dBm	-33.61 dB
9.000 GHz		13.000 GHz	1.000 MHz	12.74828 GHz	-49.46 dBm	-36.46 dB
13.000 GHz		19.500 GHz	1.000 MHz	15.73604 GHz	-45.59 dBm	-32.59 dB

Middle Channel / 16QAM

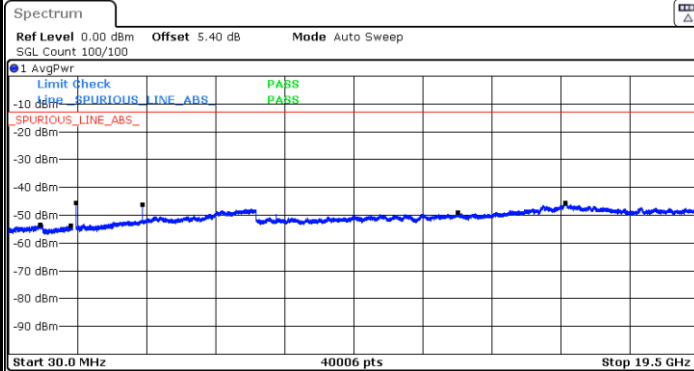


Spurious Emissions					
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	963.40080 MHz	-53.31 dBm	-40.31 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80873 GHz	-53.80 dBm	-44.80 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99082 GHz	-52.92 dBm	-39.92 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.74669 GHz	-47.62 dBm	-34.62 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69679 GHz	-49.06 dBm	-36.06 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.73104 GHz	-45.53 dBm	-32.53 dB



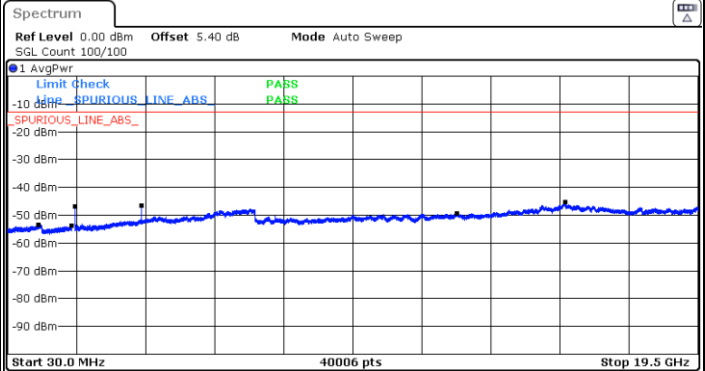
LTE Band 2 / 15MHz

Highest Channel / QPSK



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	925.10495 MHz	-53.33 dBm	-40.33 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.79067 GHz	-53.73 dBm	-40.73 dB
1.920 GHz	3.000 GHz	1.000 MHz	1.92270 GHz	-45.63 dBm	-32.63 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.79218 GHz	-46.09 dBm	-33.09 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70329 GHz	-49.12 dBm	-36.12 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.71954 GHz	-45.62 dBm	-32.62 dB

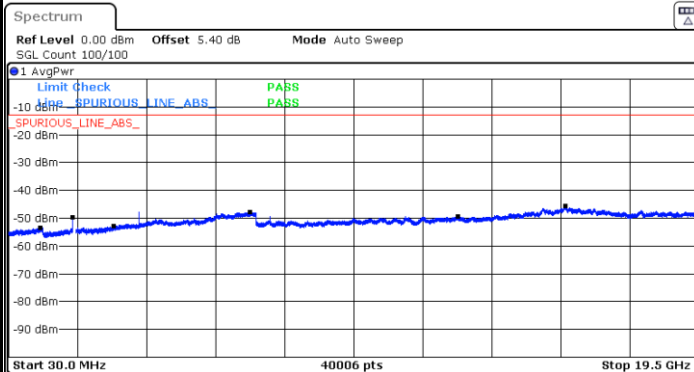
Highest Channel / 16QAM



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	881.96152 MHz	-53.42 dBm	-40.42 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83559 GHz	-53.81 dBm	-40.81 dB
1.920 GHz	3.000 GHz	1.000 MHz	1.92270 GHz	-46.79 dBm	-33.79 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.79168 GHz	-46.65 dBm	-33.65 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69329 GHz	-49.40 dBm	-36.40 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74954 GHz	-45.32 dBm	-32.32 dB

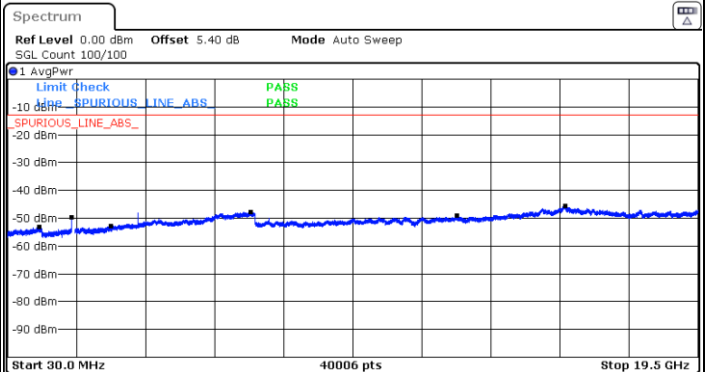
LTE Band 2 / 20MHz

Lowest Channel / QPSK



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	928.01349 MHz	-53.36 dBm	-40.36 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83979 GHz	-49.76 dBm	-36.76 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99910 GHz	-52.75 dBm	-39.75 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.84093 GHz	-47.68 dBm	-34.68 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69779 GHz	-49.39 dBm	-36.39 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.73304 GHz	-45.49 dBm	-32.49 dB

Lowest Channel / 16QAM

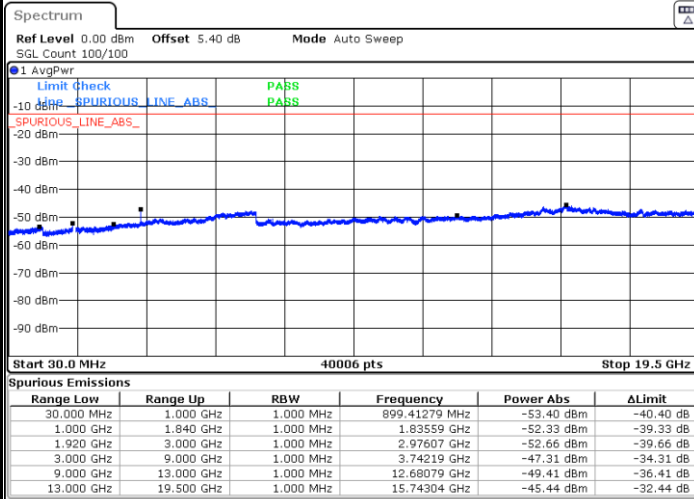


Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	912.01649 MHz	-53.27 dBm	-40.27 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83979 GHz	-49.56 dBm	-36.56 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.94764 GHz	-52.78 dBm	-39.78 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.88493 GHz	-47.74 dBm	-34.74 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69379 GHz	-49.21 dBm	-36.21 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.75104 GHz	-45.50 dBm	-32.50 dB

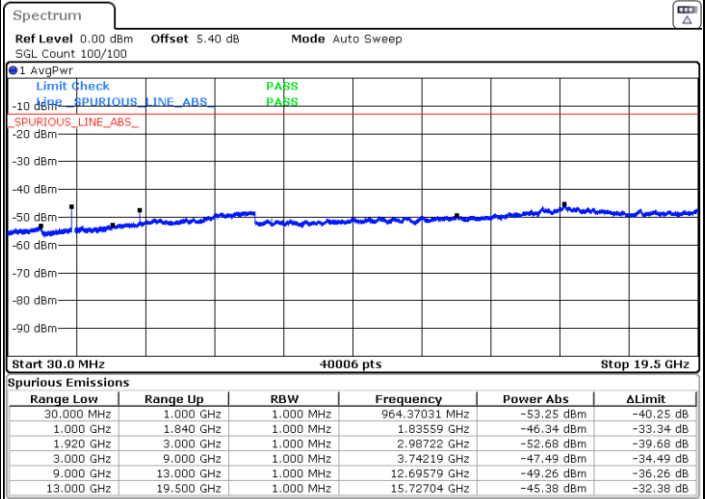


LTE Band 2 / 20MHz

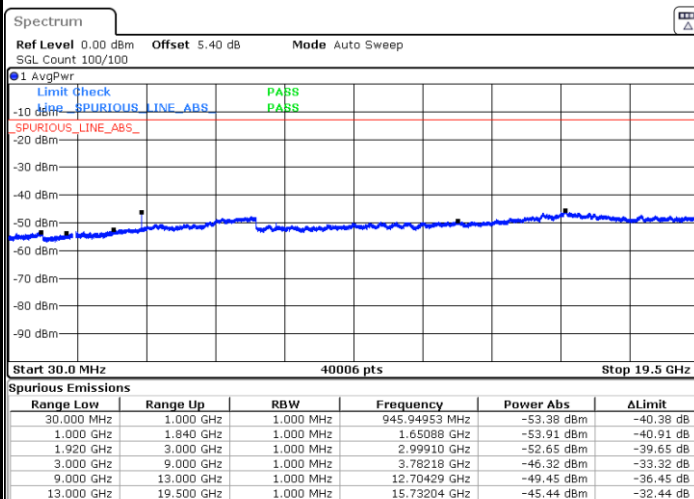
Middle Channel / QPSK



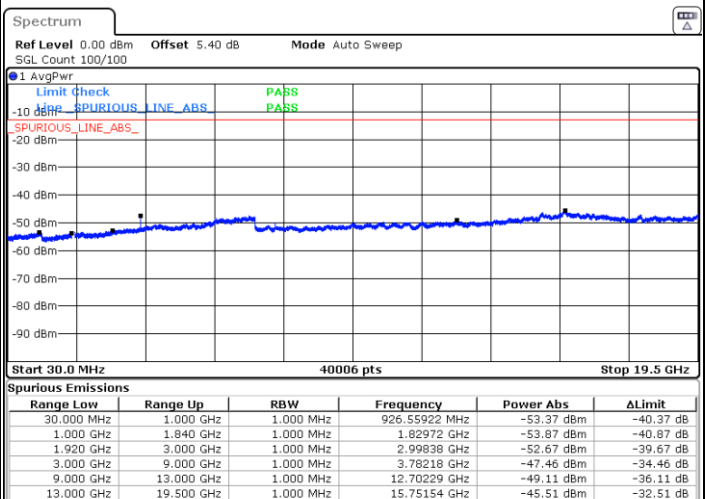
Middle Channel / 16QAM



Highest Channel / QPSK



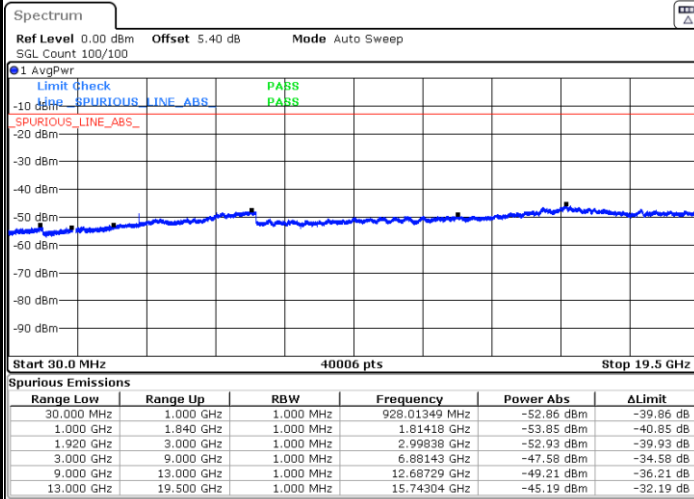
Highest Channel / 16QAM



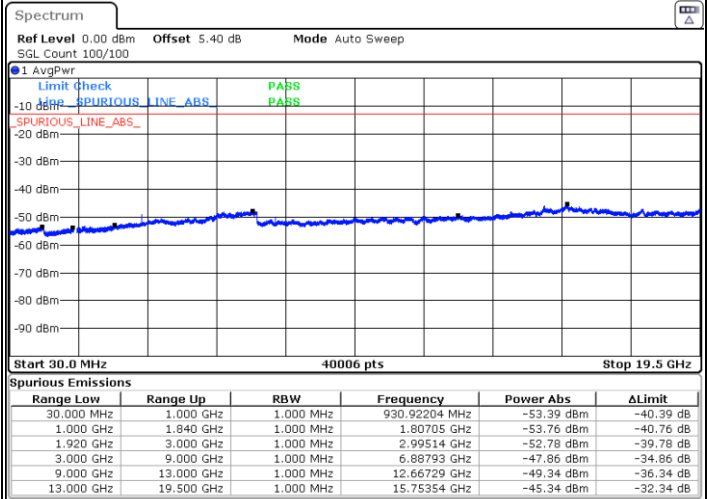


LTE Band 2 / 1.4MHz

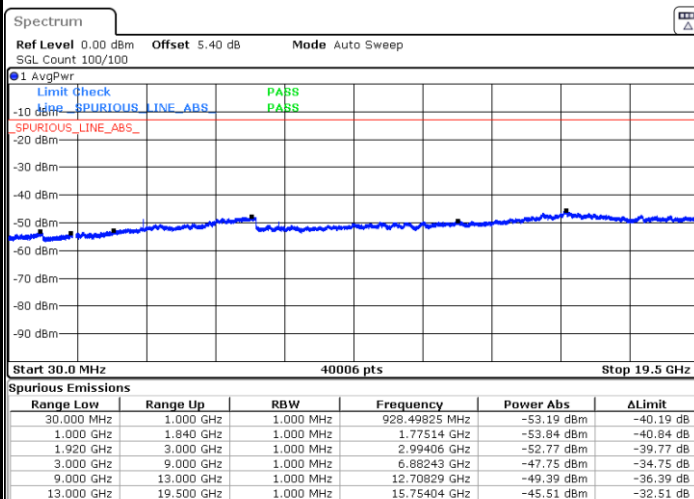
Lowest Channel / 64QAM



Middle Channel / 64QAM



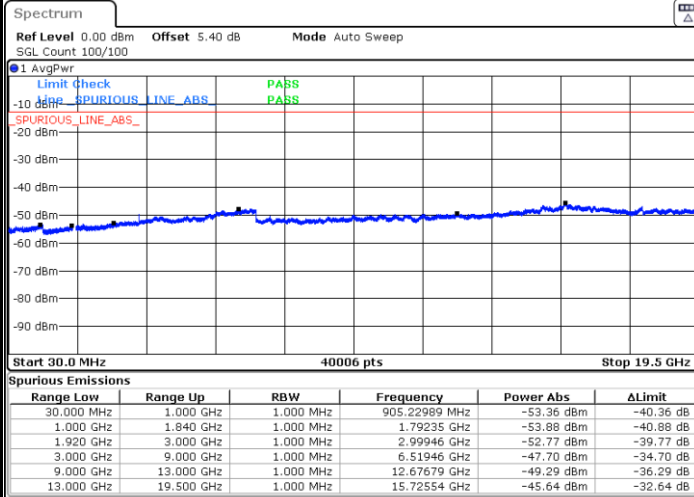
Highest Channel / 64QAM



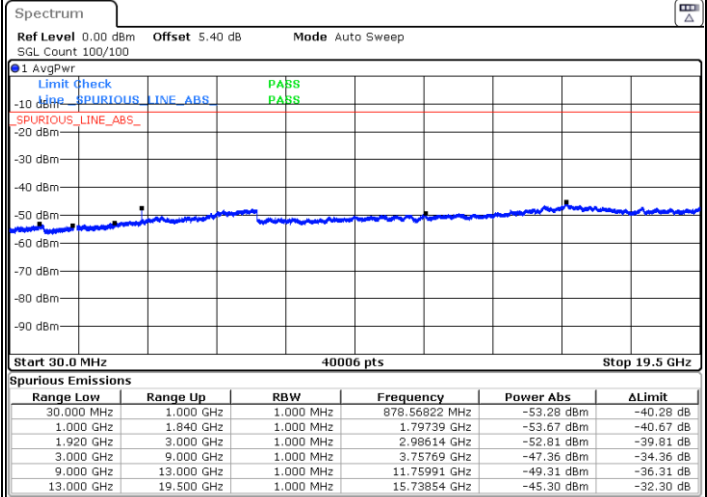


LTE Band 2 / 3MHz

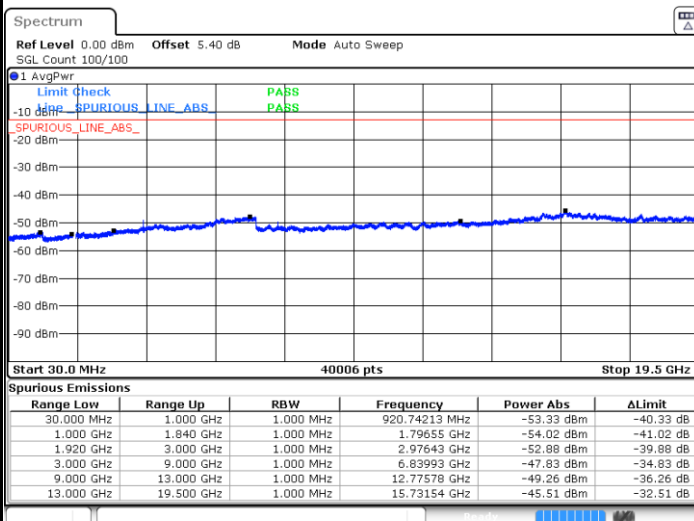
Lowest Channel / 64QAM



Middle Channel / 64QAM



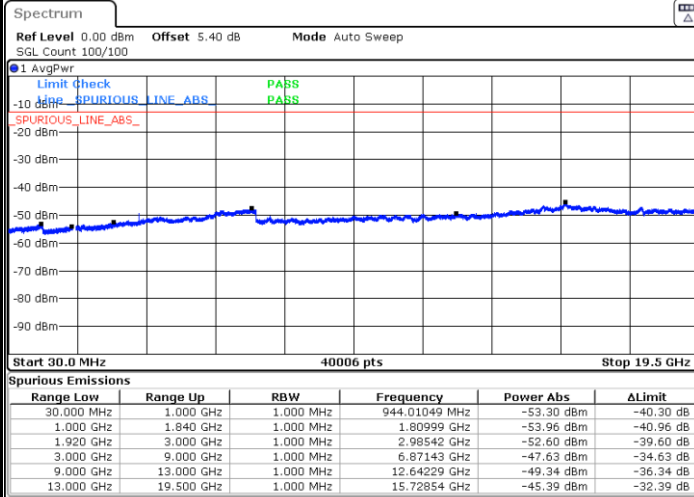
Highest Channel / 64QAM



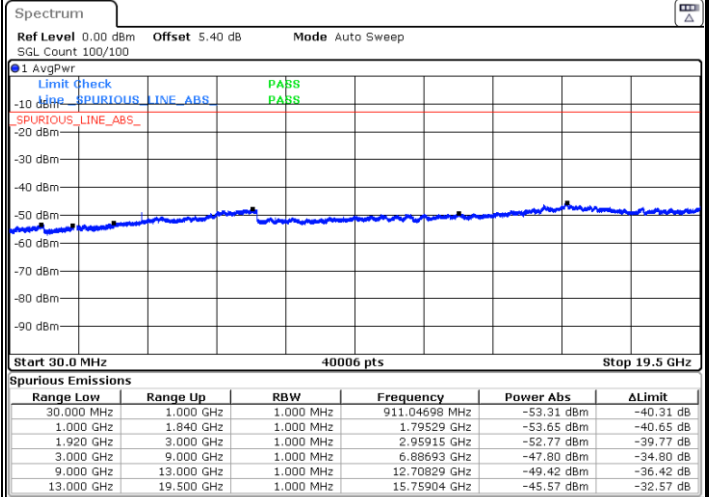


LTE Band 2 / 5MHz

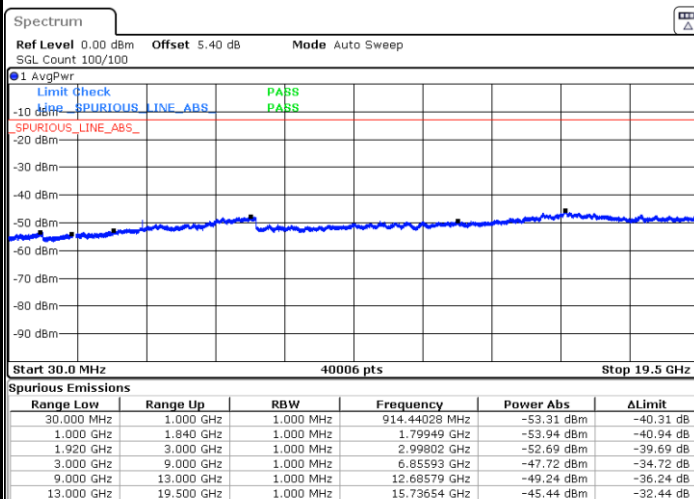
Lowest Channel / 64QAM



Middle Channel / 64QAM



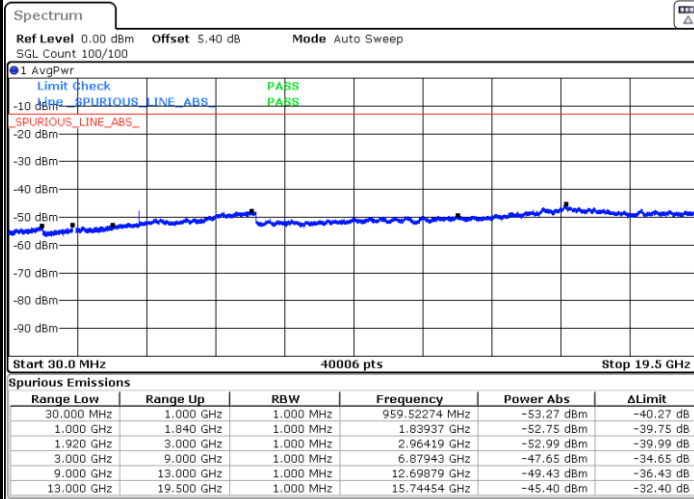
Highest Channel / 64QAM



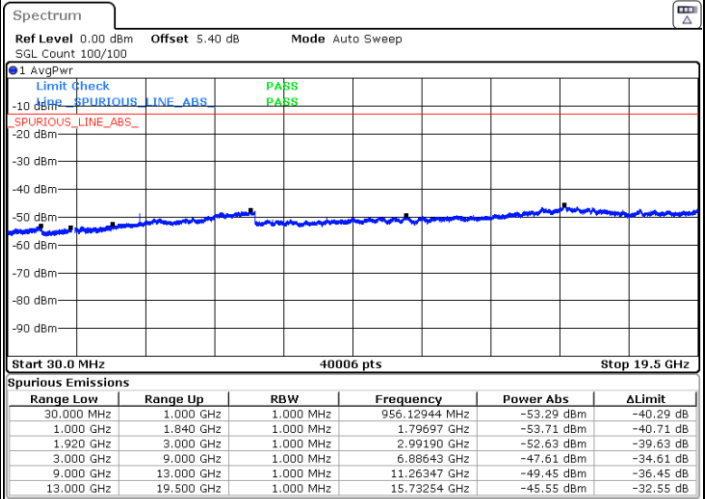


LTE Band 2 / 10MHz

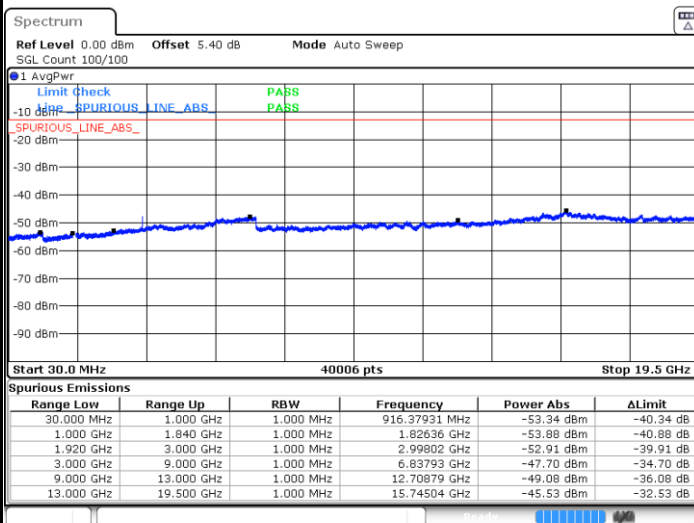
Lowest Channel / 64QAM



Middle Channel / 64QAM



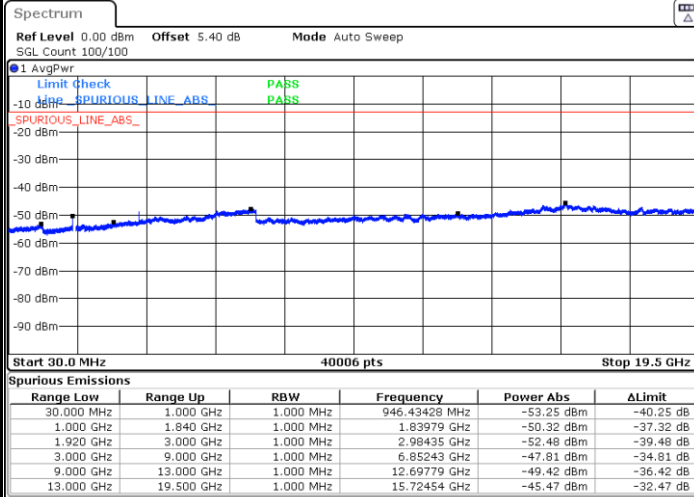
Highest Channel / 64QAM



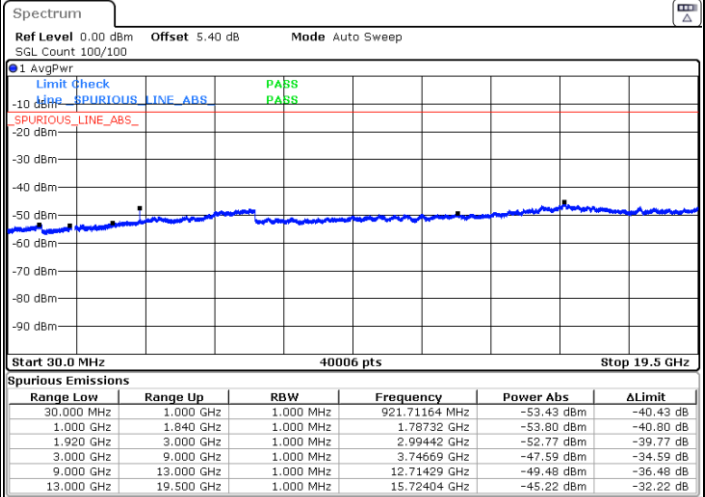


LTE Band 2 / 15MHz

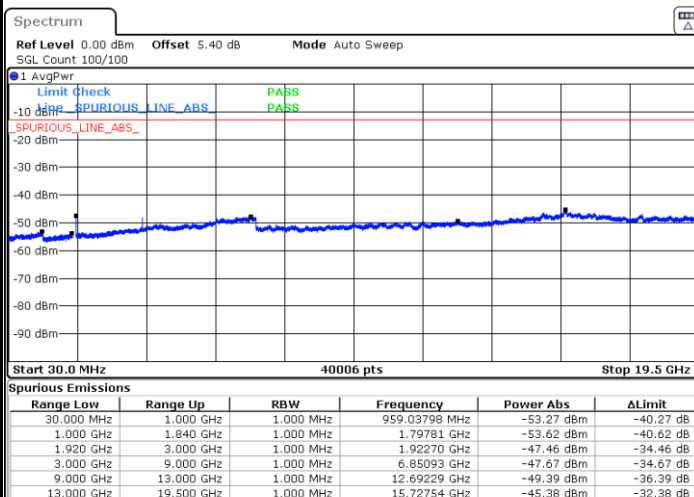
Lowest Channel / 64QAM



Middle Channel / 64QAM



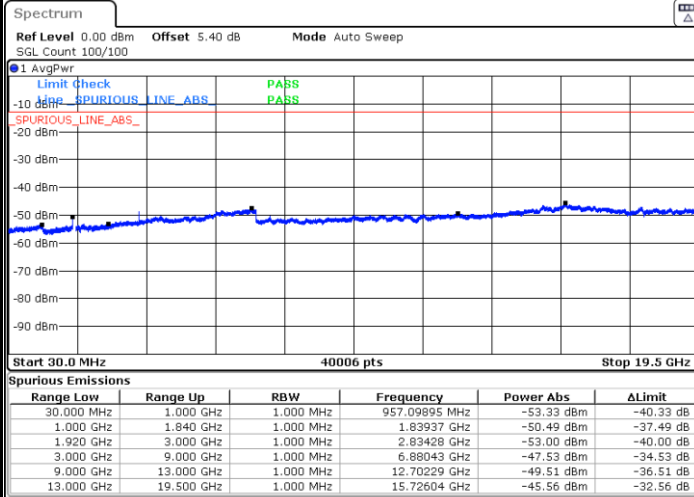
Highest Channel / 64QAM



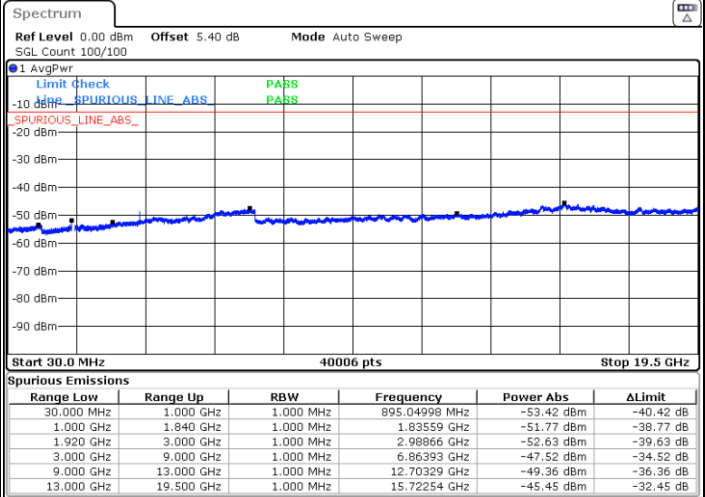


LTE Band 2 / 20MHz

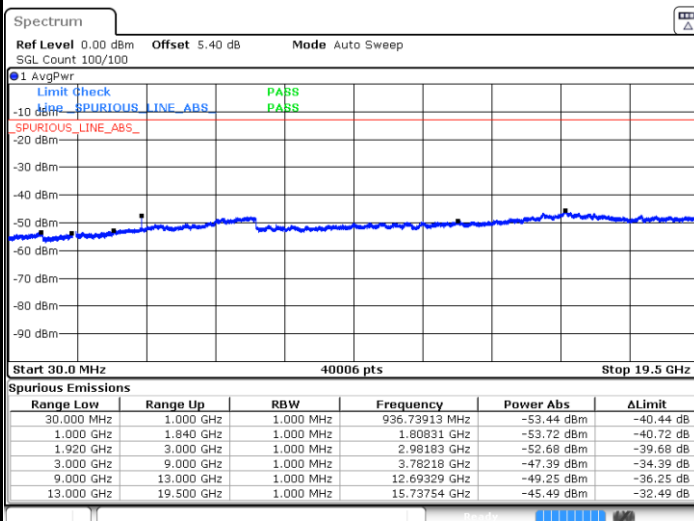
Lowest Channel / 64QAM



Middle Channel / 64QAM



Highest Channel / 64QAM



**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	0.0007	
30	Normal Voltage	0.0015	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0005	
0	Normal Voltage	0.0017	
-10	Normal Voltage	0.0020	
-20	Normal Voltage	0.0003	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0010	
20	Normal Voltage	0.0002	
20	Battery End Point	0.0016	

Note:

1. Normal Voltage =3.85 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 4

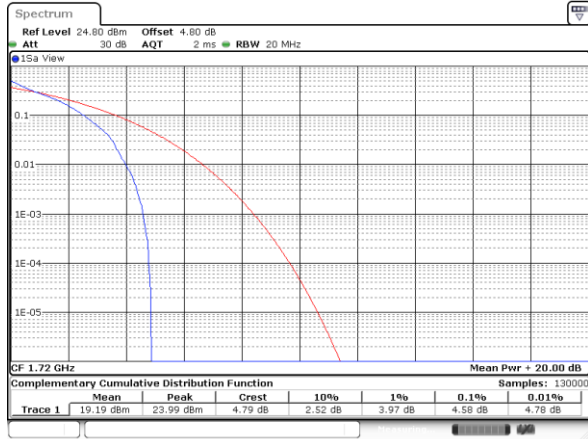
Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.58	5.19	5.88	6.17	PASS
Middle CH	5.07	5.22	5.86	6.14	
Highest CH	5.16	5.22	5.86	6.17	
Mode	LTE Band 4 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.36	6.00	-	-	PASS
Middle CH	6.09	6.17	-	-	
Highest CH	5.39	6.09	-	-	

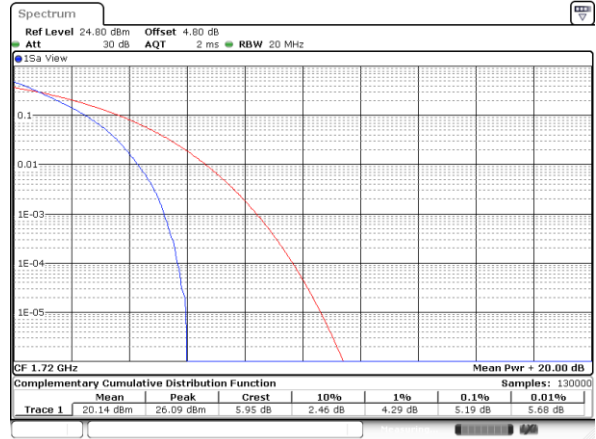


LTE Band 4 / 20MHz / QPSK

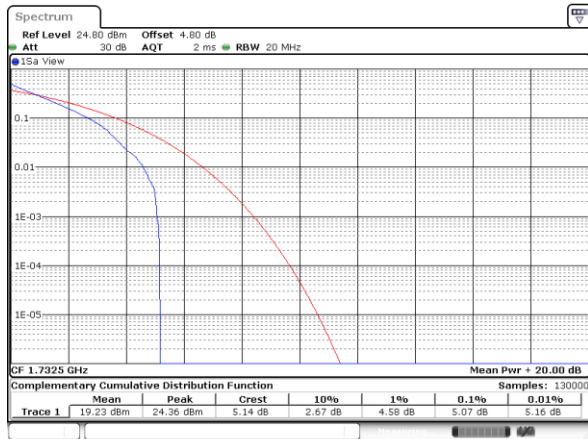
Lowest Channel / 1RB



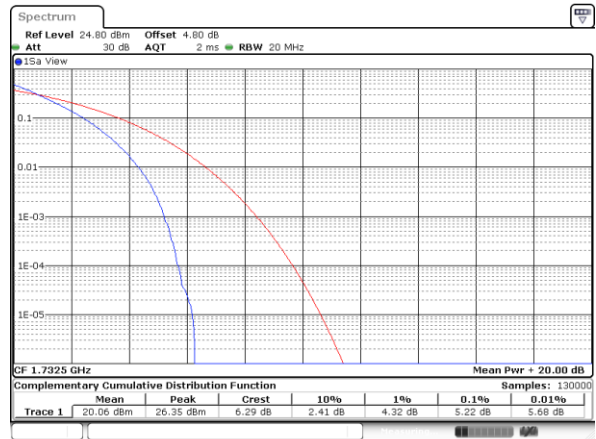
Lowest Channel / Full RB



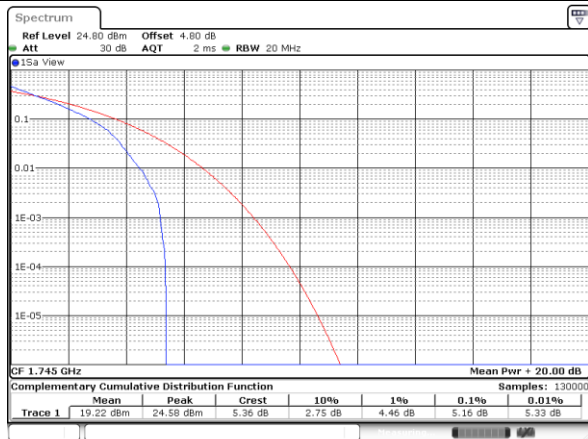
Middle Channel / 1RB



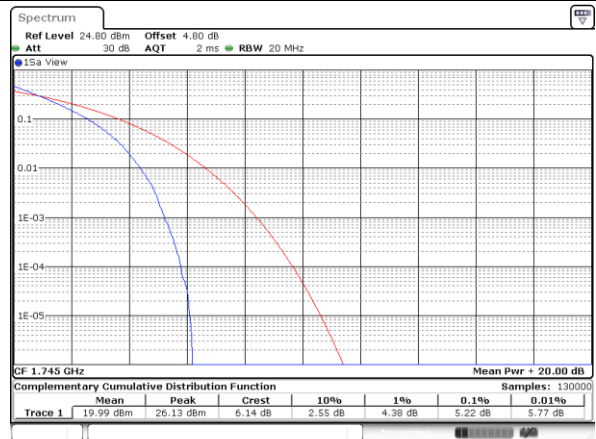
Middle Channel / Full RB



Highest Channel / 1RB



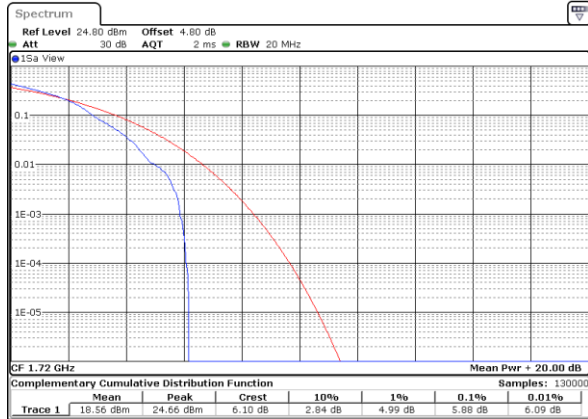
Highest Channel / Full RB



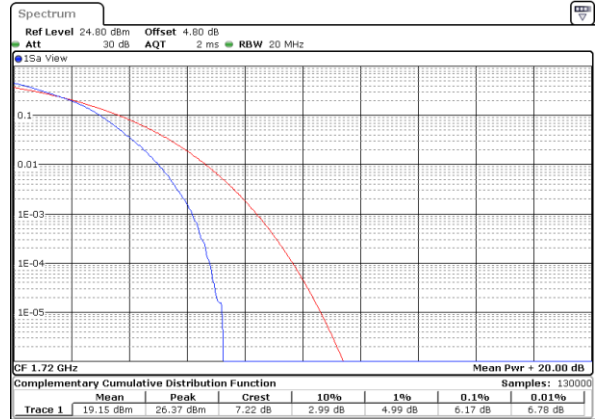


LTE Band 4 / 20MHz / 16QAM

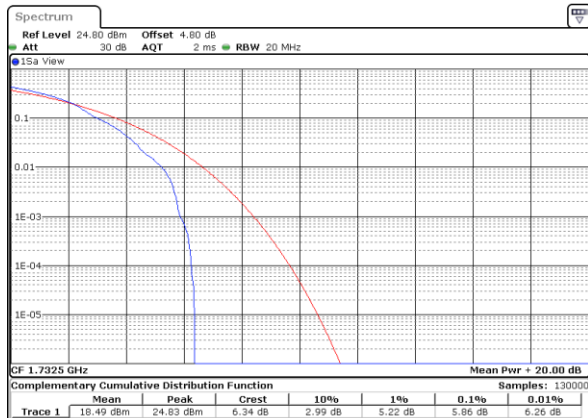
Lowest Channel / 1RB



Lowest Channel / Full RB



Middle Channel / 1RB



Middle Channel / Full RB

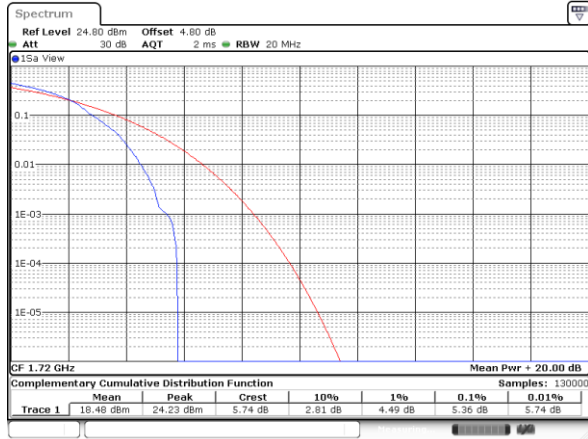


Highest Channel / 1RB

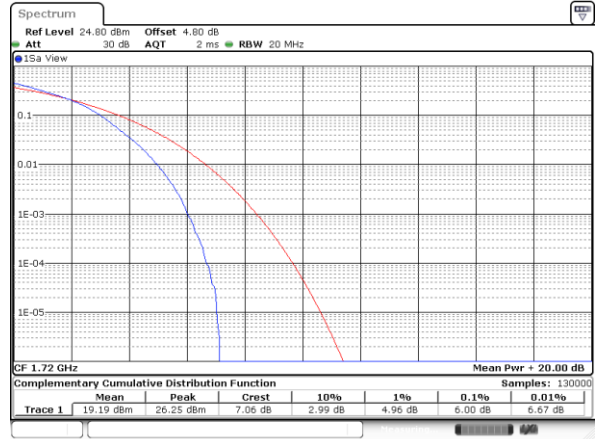


Highest Channel / Full RB

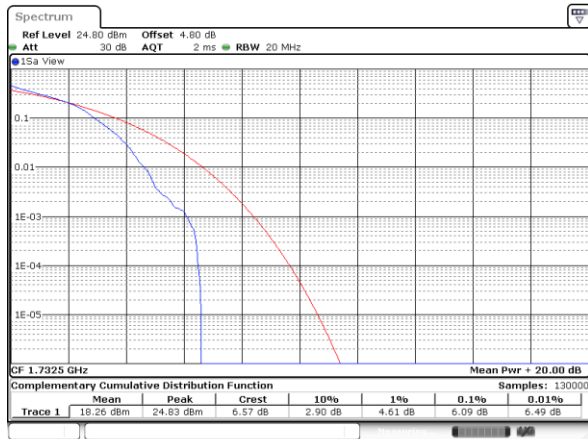


LTE Band 4 / 20MHz / 64QAM
Lowest Channel / 1RB


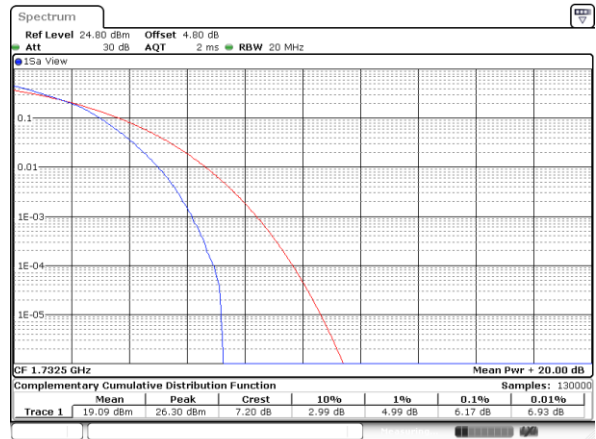
Date: 21 MAR 2020 13:50:09

Lowest Channel / Full RB


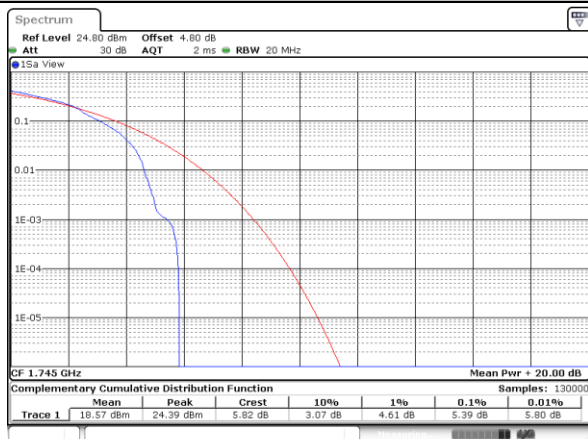
Date: 21 MAR 2020 13:50:18

Middle Channel / 1RB


Date: 21 MAR 2020 13:50:28

Middle Channel / Full RB


Date: 21 MAR 2020 13:50:37

Highest Channel / 1RB


Date: 21 MAR 2020 13:50:47

Highest Channel / Full RB


Date: 21 MAR 2020 13:50:57

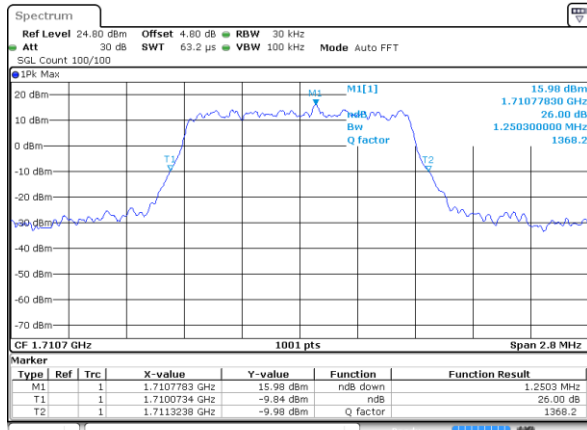
**26dB Bandwidth**

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	1.25	1.31	2.95	2.96	4.85	4.84	9.71	9.69	14.54	14.36	20.18	20.18
Middle CH	1.27	1.28	2.93	2.97	4.84	4.85	9.81	9.81	14.27	14.21	20.18	20.18
Highest CH	1.26	1.28	2.97	2.99	4.78	4.94	9.87	9.69	14.36	14.39	20.18	20.22
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.27	-	2.99	-	4.78	-	9.81	-	14.24	-	20.22	-
Middle CH	1.24	-	2.95	-	4.84	-	9.69	-	14.51	-	20.06	-
Highest CH	1.26	-	2.96	-	4.82	-	9.71	-	14.27	-	20.06	-



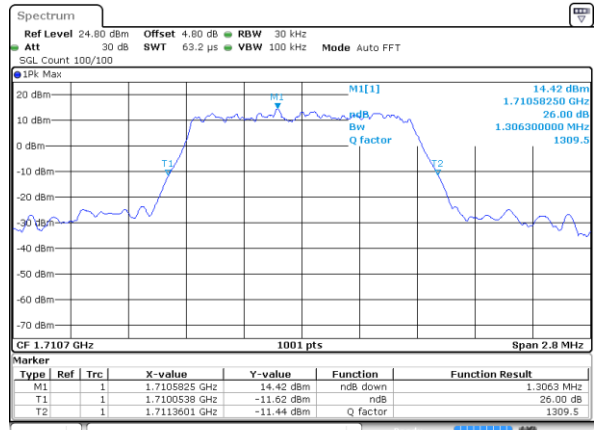
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



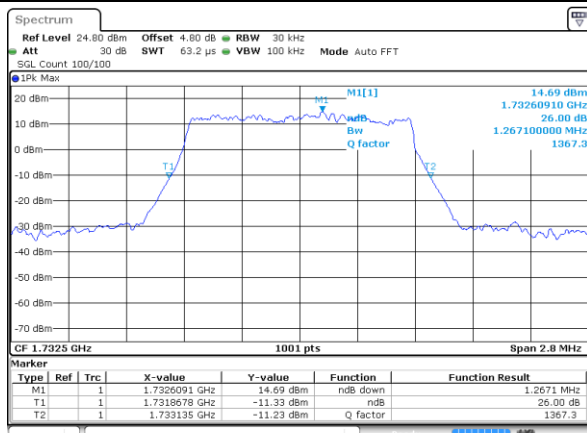
Date: 21 MAR 2020 10:39:37

Lowest Channel / 1.4MHz / 16QAM



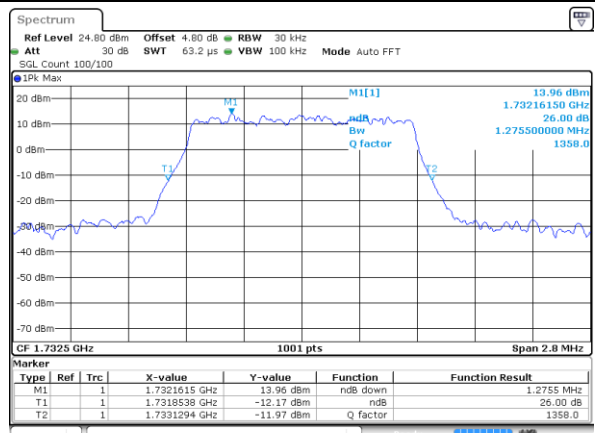
Date: 21 MAR 2020 10:39:47

Middle Channel / 1.4MHz / QPSK



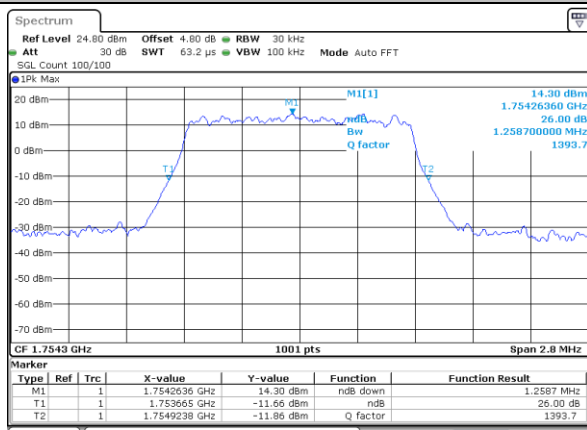
Date: 21 MAR 2020 10:46:36

Middle Channel / 1.4MHz / 16QAM



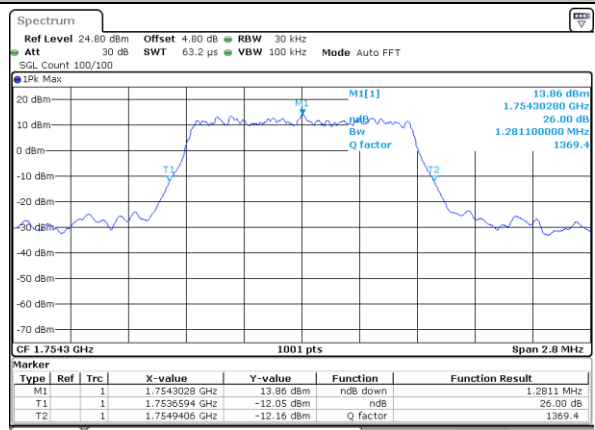
Date: 21 MAR 2020 10:46:46

Highest Channel / 1.4MHz / QPSK



Date: 21 MAR 2020 10:49:05

Highest Channel / 1.4MHz / 16QAM

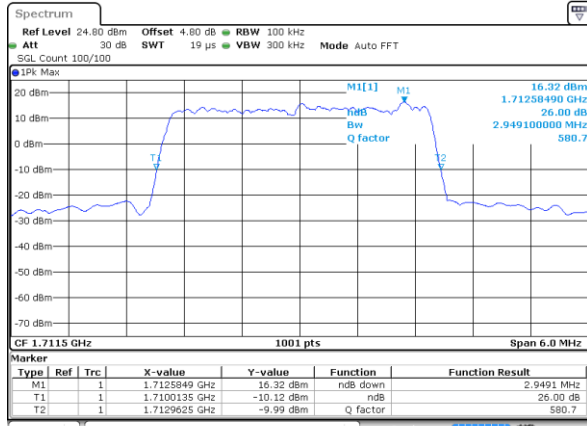


Date: 21 MAR 2020 10:49:15



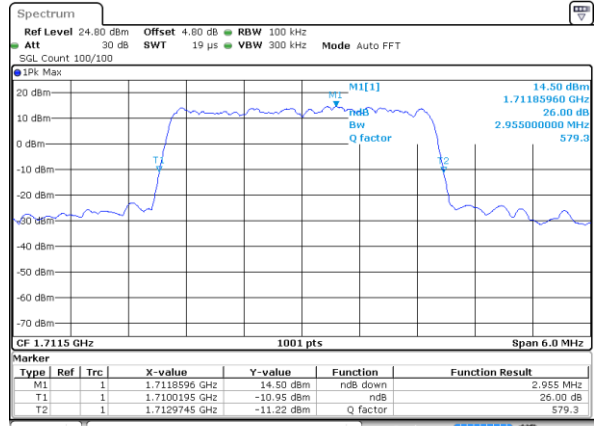
LTE Band 4

Lowest Channel / 3MHz / QPSK



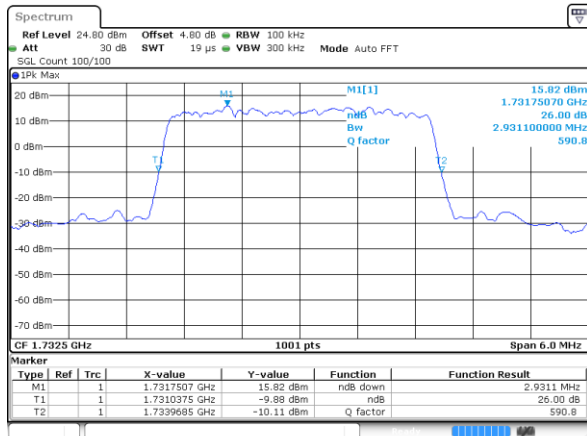
Date: 21 MAR 2020 10:56:04

Lowest Channel / 3MHz / 16QAM



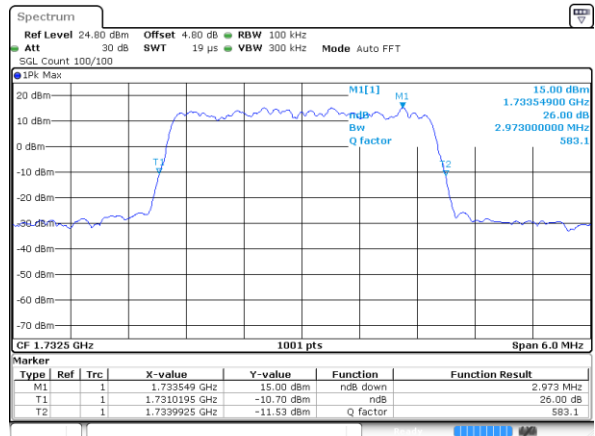
Date: 21 MAR 2020 10:56:14

Middle Channel / 3MHz / QPSK



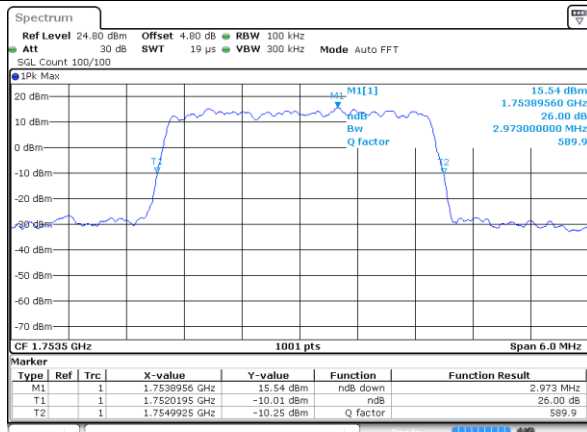
Date: 21 MAR 2020 11:03:03

Middle Channel / 3MHz / 16QAM



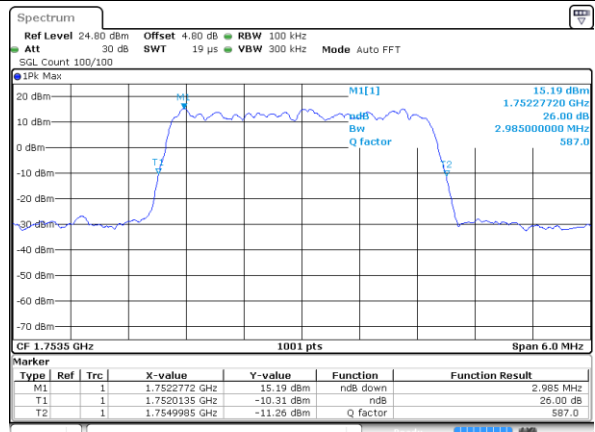
Date: 21 MAR 2020 11:03:13

Highest Channel / 3MHz / QPSK



Date: 21 MAR 2020 11:05:32

Highest Channel / 3MHz / 16QAM

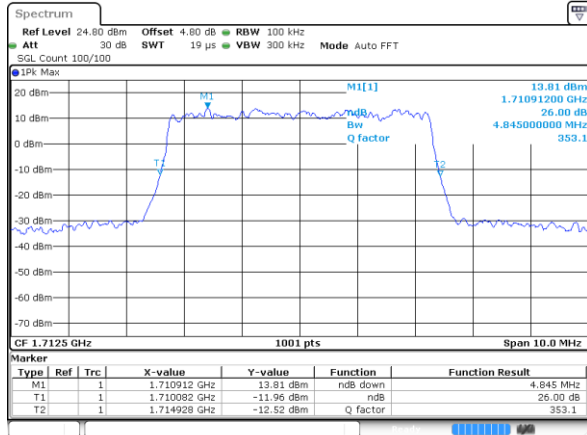


Date: 21 MAR 2020 11:05:42



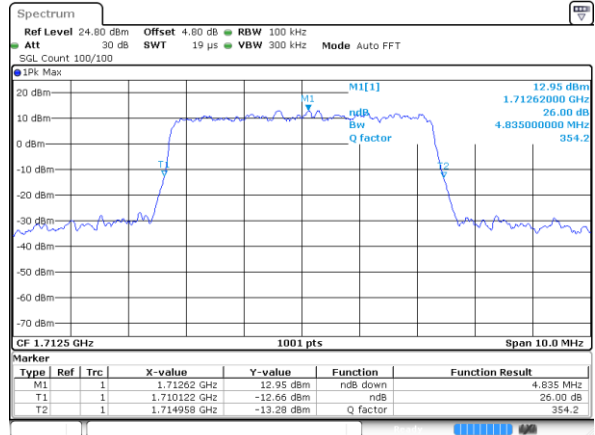
LTE Band 4

Lowest Channel / 5MHz / QPSK



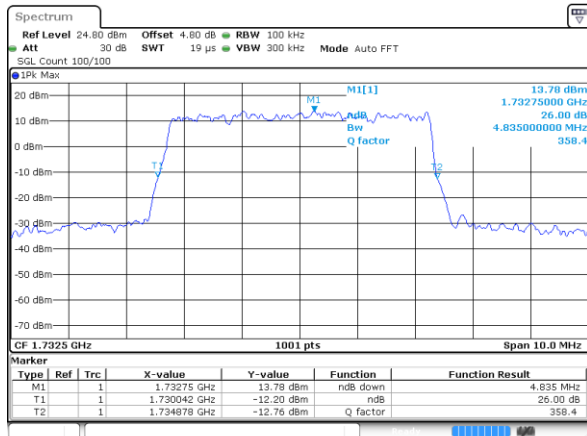
Date: 21 MAR 2020 11:12:31

Lowest Channel / 5MHz / 16QAM



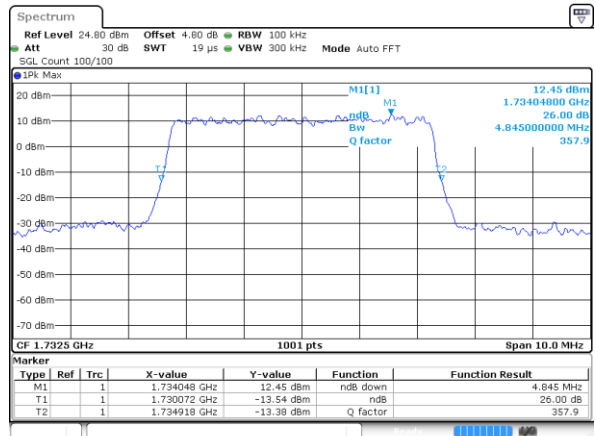
Date: 21 MAR 2020 11:12:41

Middle Channel / 5MHz / QPSK



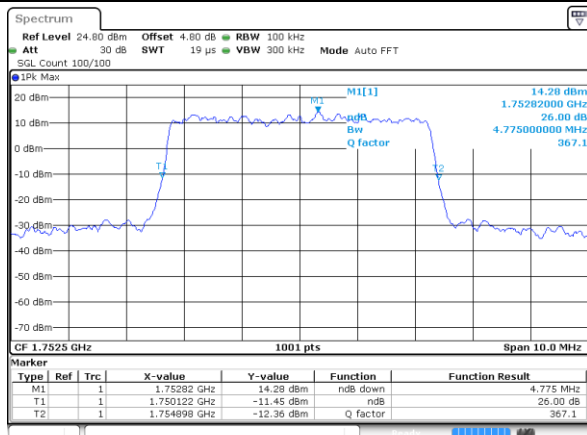
Date: 21 MAR 2020 11:19:30

Middle Channel / 5MHz / 16QAM



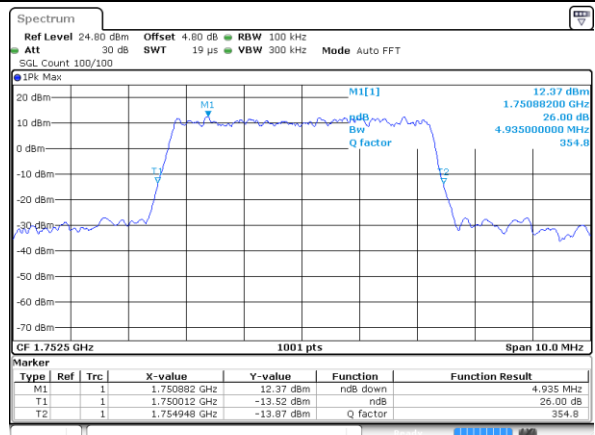
Date: 21 MAR 2020 11:19:40

Highest Channel / 5MHz / QPSK



Date: 21 MAR 2020 11:21:59

Highest Channel / 5MHz / 16QAM

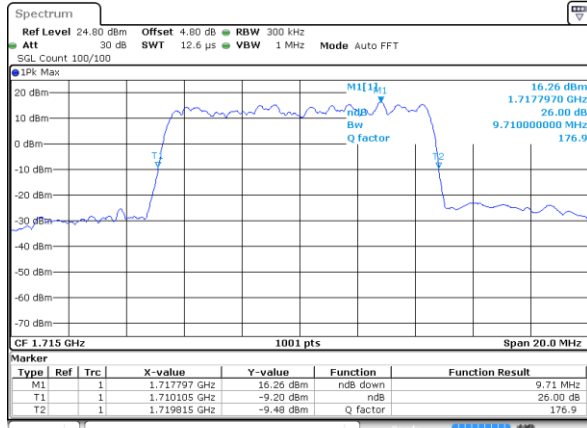


Date: 21 MAR 2020 11:22:09



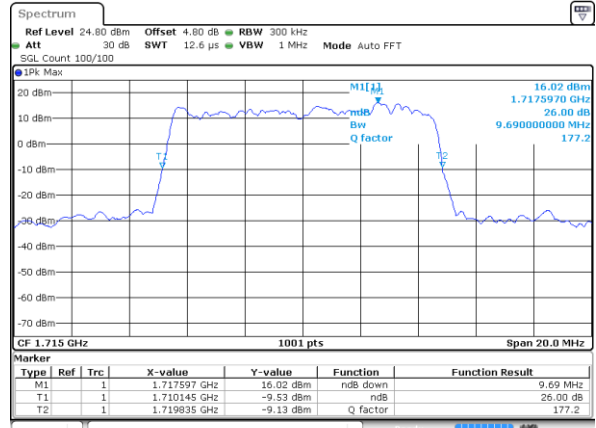
LTE Band 4

Lowest Channel / 10MHz / QPSK



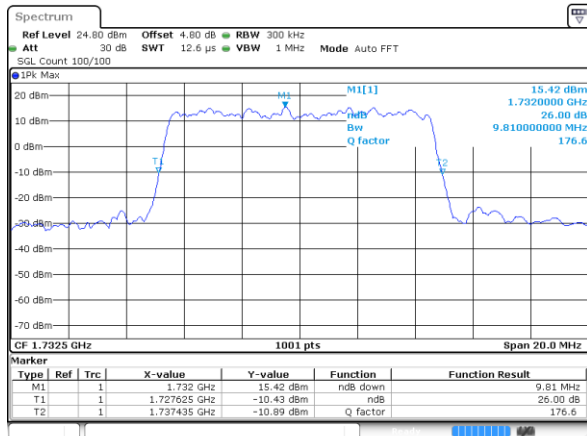
Date: 21 MAR 2020 11:28:58

Lowest Channel / 10MHz / 16QAM



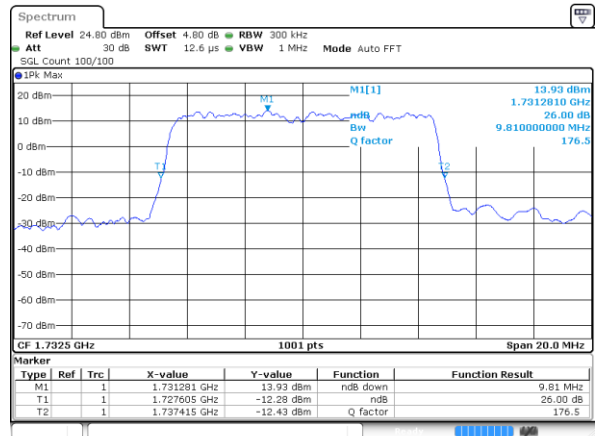
Date: 21 MAR 2020 11:29:08

Middle Channel / 10MHz / QPSK



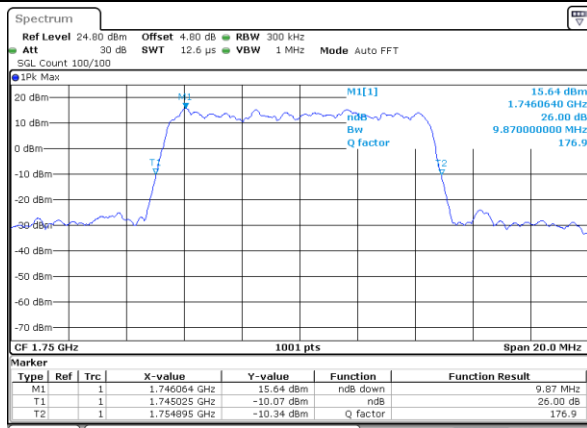
Date: 21 MAR 2020 11:35:57

Middle Channel / 10MHz / 16QAM



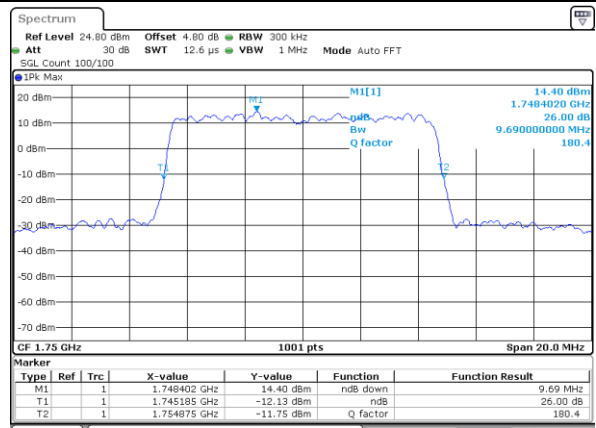
Date: 21 MAR 2020 11:36:07

Highest Channel / 10MHz / QPSK



Date: 21 MAR 2020 11:38:27

Highest Channel / 10MHz / 16QAM

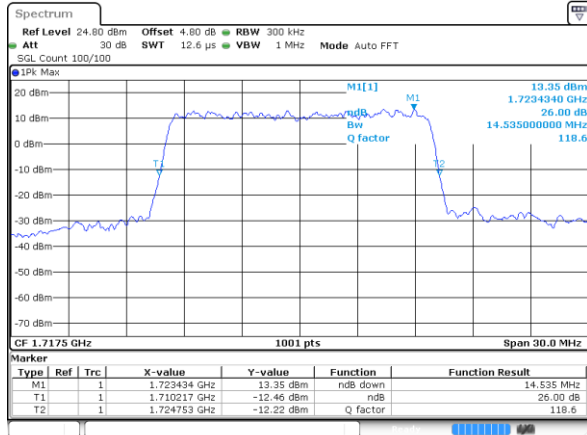


Date: 21 MAR 2020 11:38:37



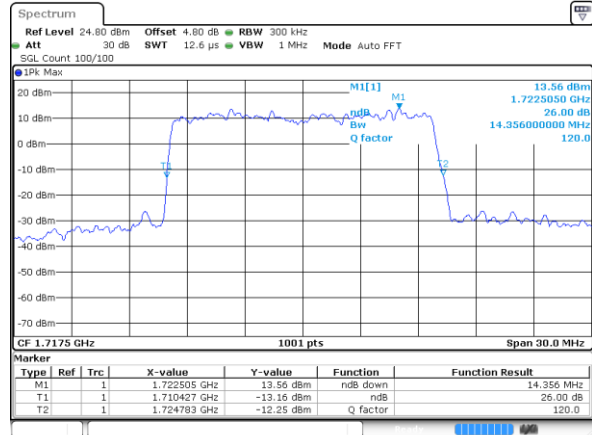
LTE Band 4

Lowest Channel / 15MHz / QPSK



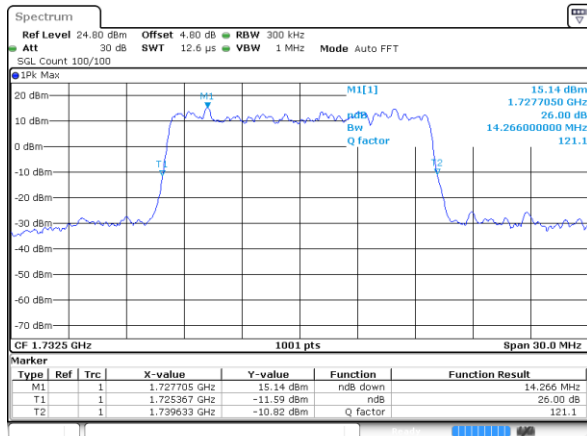
Date: 21 MAR 2020 11:45:26

Lowest Channel / 15MHz / 16QAM



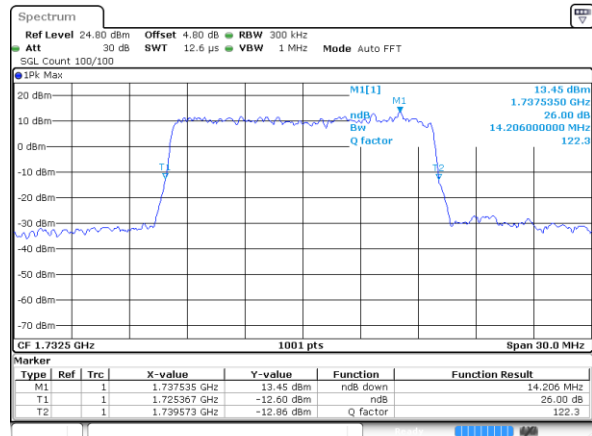
Date: 21 MAR 2020 11:45:35

Middle Channel / 15MHz / QPSK



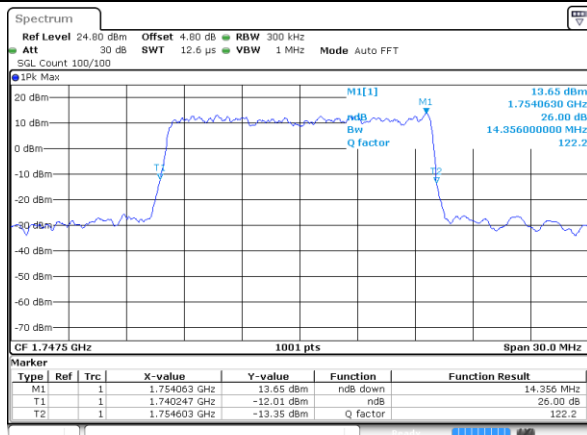
Date: 21 MAR 2020 11:52:24

Middle Channel / 15MHz / 16QAM



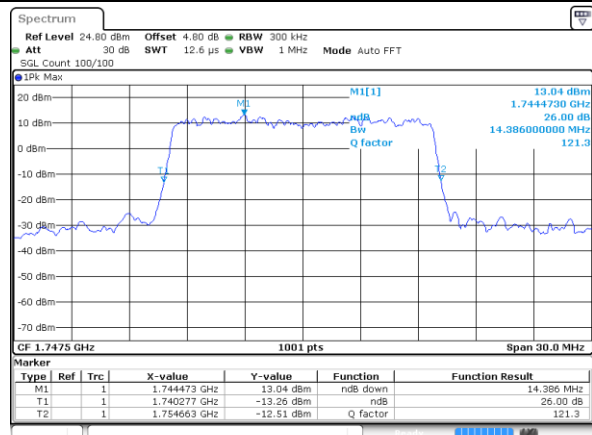
Date: 21 MAR 2020 11:52:34

Highest Channel / 15MHz / QPSK



Date: 21 MAR 2020 11:54:53

Highest Channel / 15MHz / 16QAM

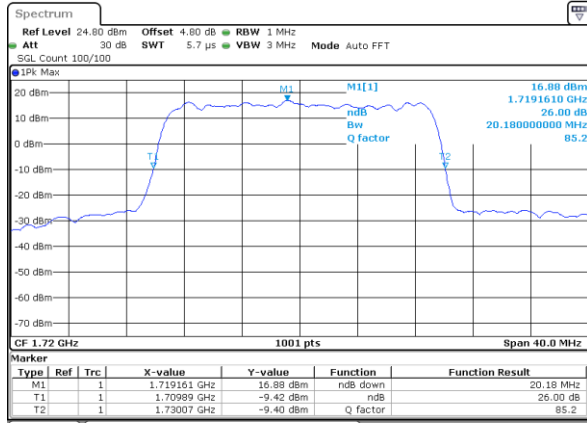


Date: 21 MAR 2020 11:55:03



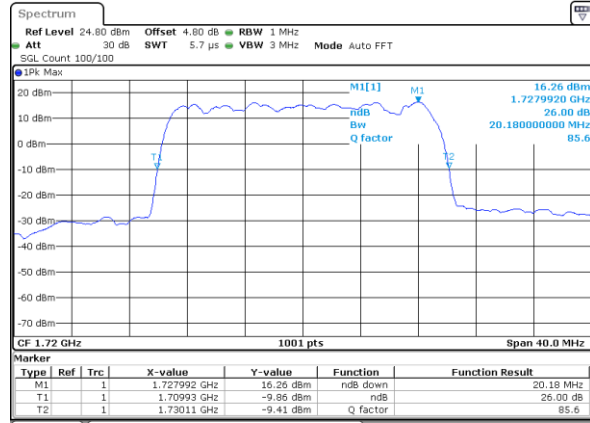
LTE Band 4

Lowest Channel / 20MHz / QPSK



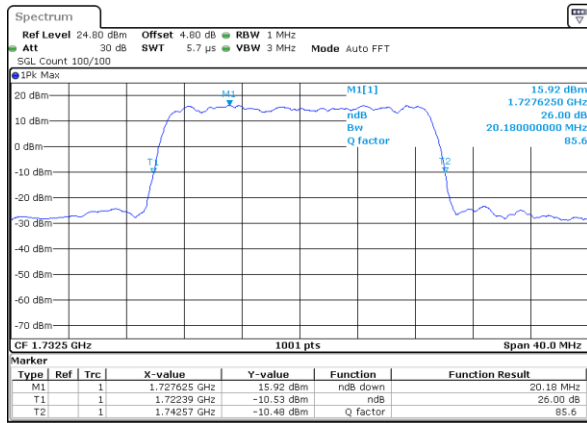
Date: 21 MAR 2020 12:01:52

Lowest Channel / 20MHz / 16QAM



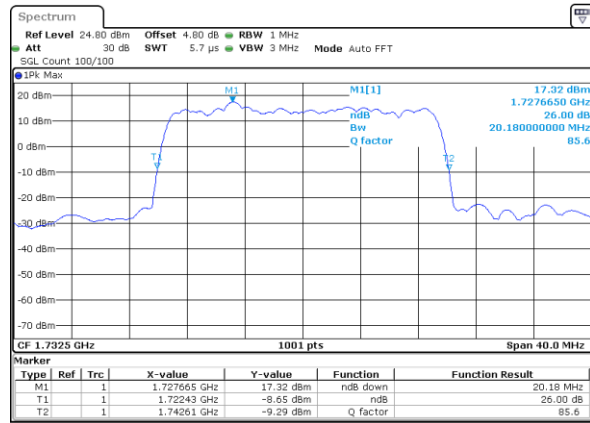
Date: 21 MAR 2020 12:02:02

Middle Channel / 20MHz / QPSK



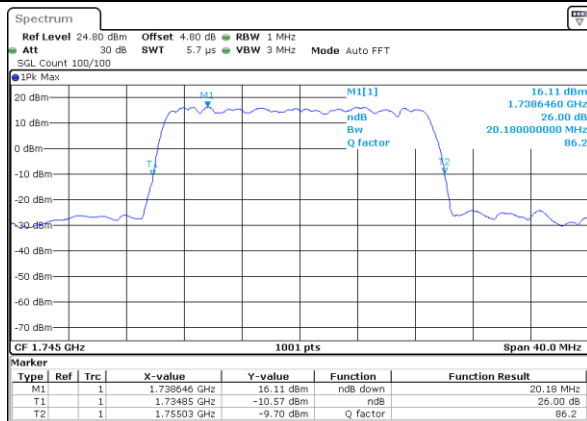
Date: 21 MAR 2020 12:08:51

Middle Channel / 20MHz / 16QAM



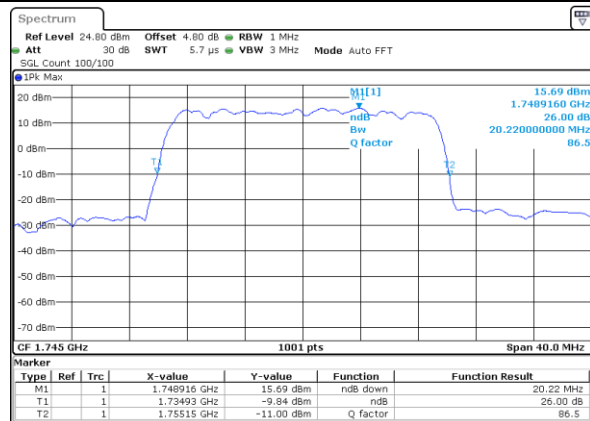
Date: 21 MAR 2020 12:09:01

Highest Channel / 20MHz / QPSK



Date: 21 MAR 2020 12:11:20

Highest Channel / 20MHz / 16QAM

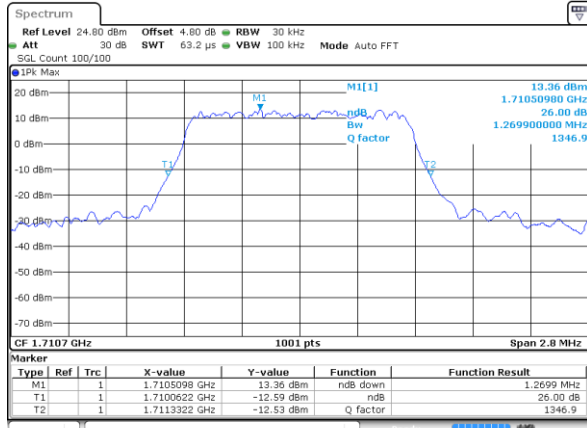


Date: 21 MAR 2020 12:11:30



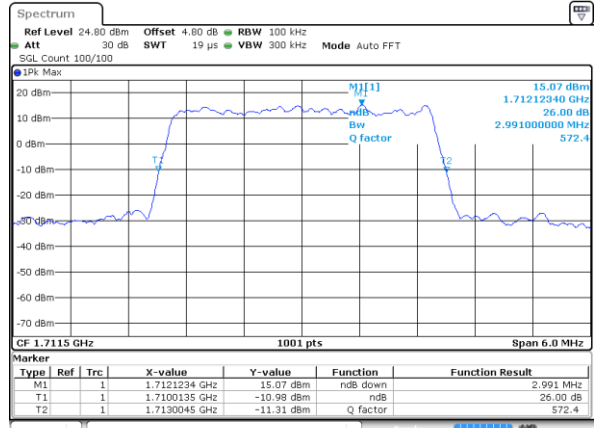
LTE Band 4

Lowest Channel / 1.4MHz / 64QAM



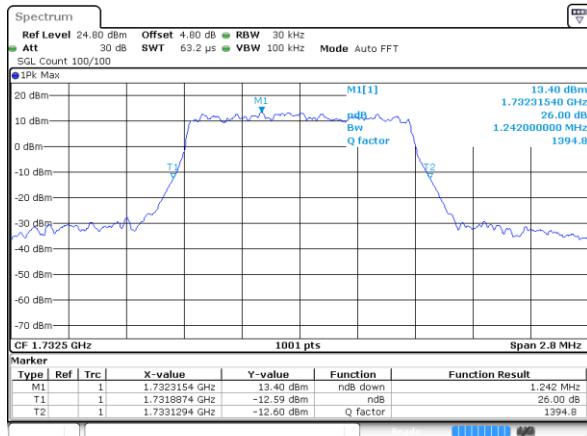
Date: 21 MAR 2020 12:53:04

Lowest Channel / 3MHz / 64QAM



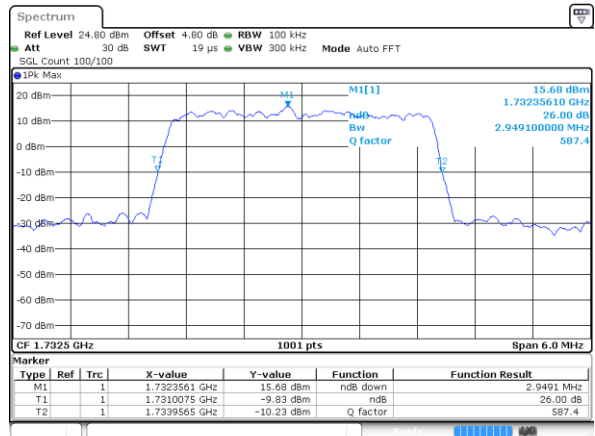
Date: 21 MAR 2020 13:01:18

Middle Channel / 1.4MHz / 64QAM



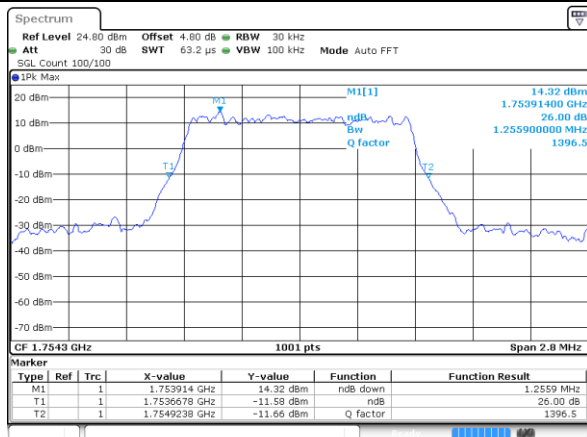
Date: 21 MAR 2020 12:56:34

Middle Channel / 3MHz / 64QAM



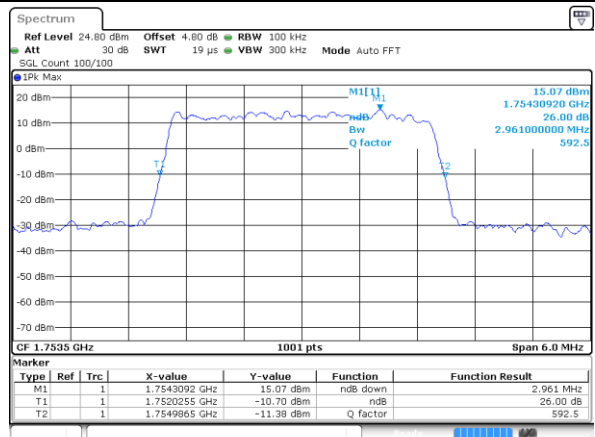
Date: 21 MAR 2020 13:04:47

Highest Channel / 1.4MHz / 64QAM



Date: 21 MAR 2020 12:57:48

Highest Channel / 3MHz / 64QAM

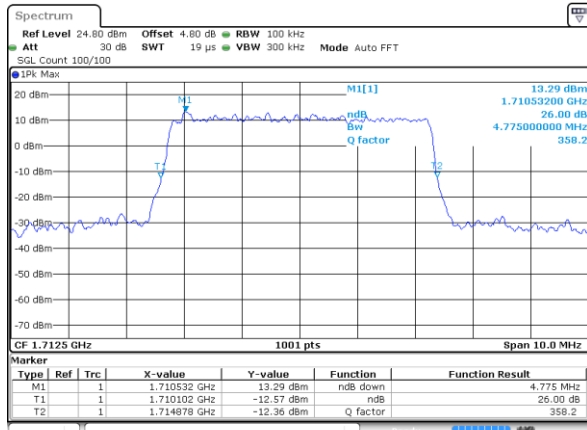


Date: 21 MAR 2020 13:06:02



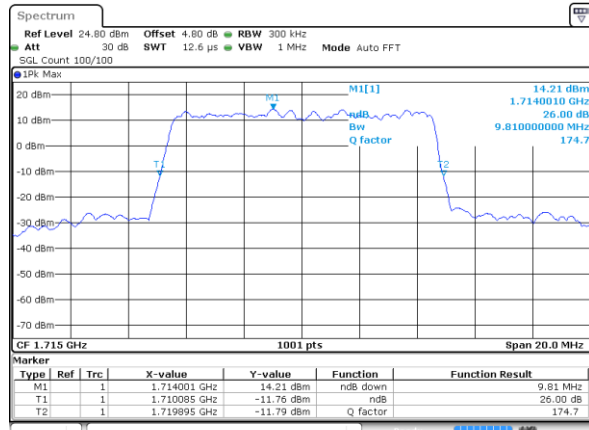
LTE Band 4

Lowest Channel / 5MHz / 64QAM



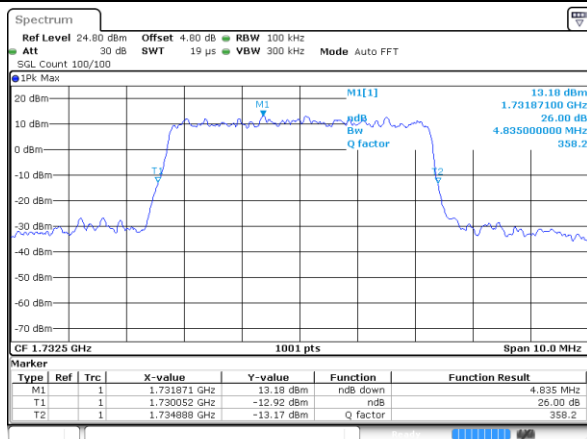
Date: 21 MAR 2020 13:09:31

Lowest Channel / 10MHz / 64QAM



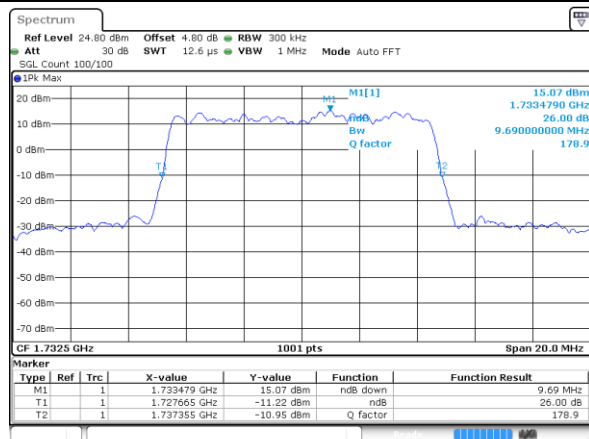
Date: 21 MAR 2020 13:17:45

Middle Channel / 5MHz / 64QAM



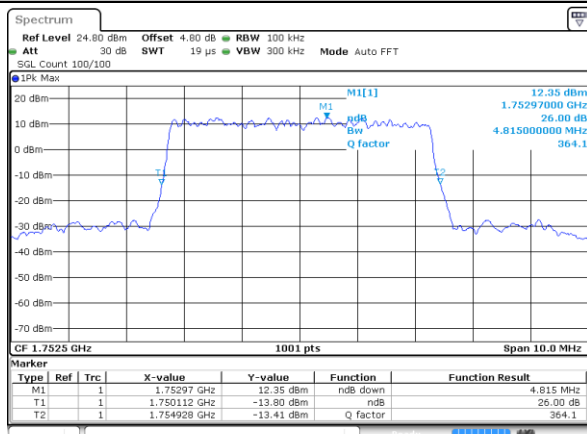
Date: 21 MAR 2020 13:13:01

Middle Channel / 10MHz / 64QAM



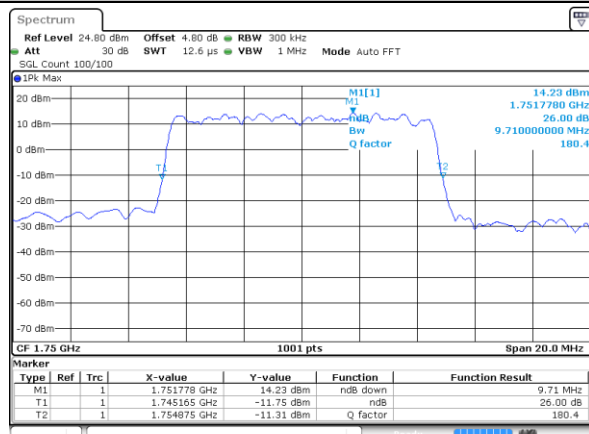
Date: 21 MAR 2020 13:21:14

Highest Channel / 5MHz / 64QAM



Date: 21 MAR 2020 13:14:15

Highest Channel / 10MHz / 64QAM

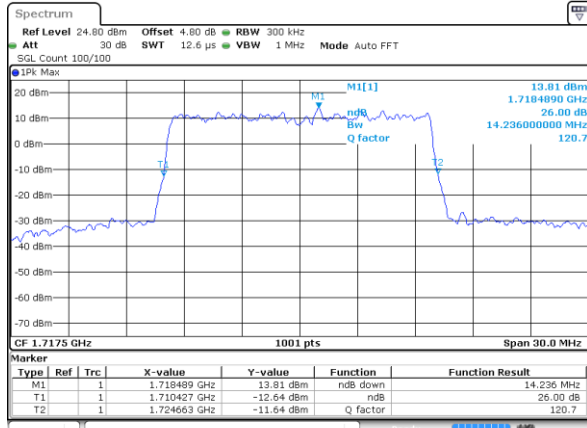


Date: 21 MAR 2020 13:22:29



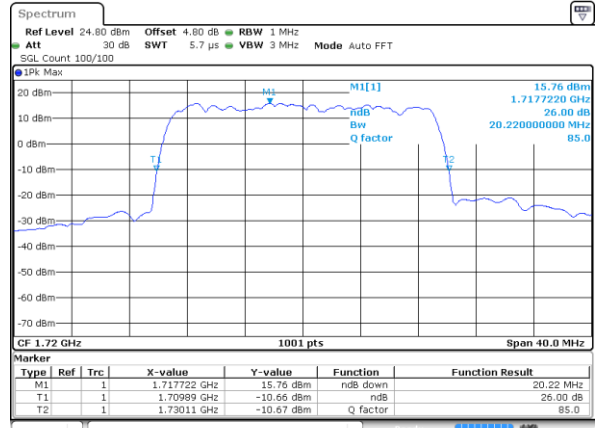
LTE Band 4

Lowest Channel / 15MHz / 64QAM



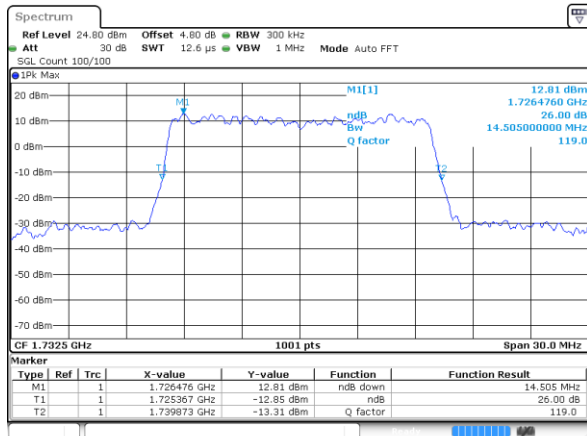
Date: 21 MAR 2020 13:25:58

Lowest Channel / 20MHz / 64QAM



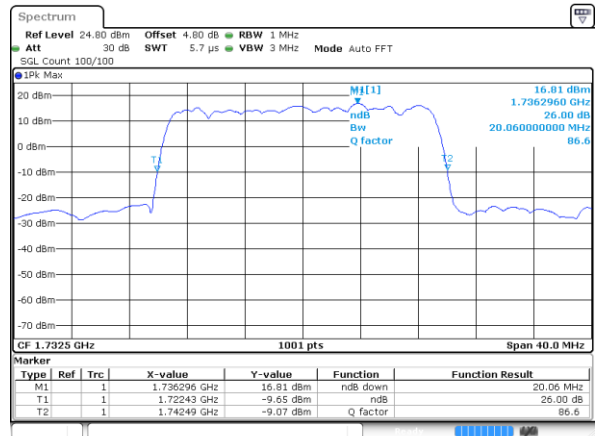
Date: 21 MAR 2020 13:34:12

Middle Channel / 15MHz / 64QAM



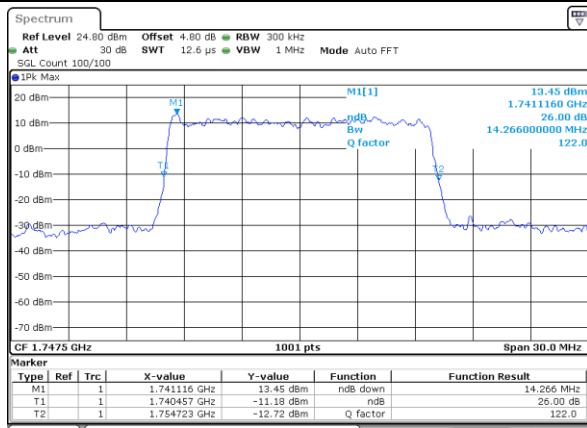
Date: 21 MAR 2020 13:29:28

Middle Channel / 20MHz / 64QAM



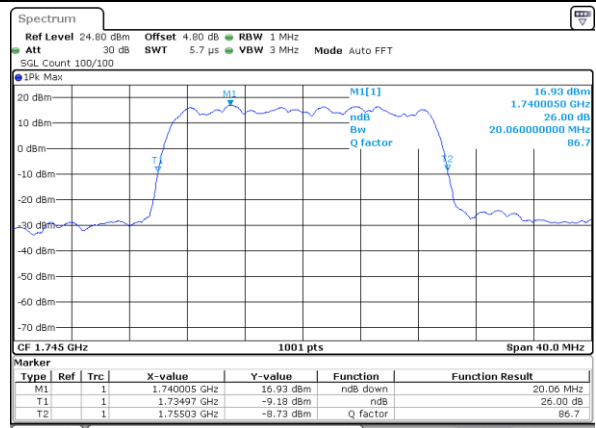
Date: 21 MAR 2020 13:37:41

Highest Channel / 15MHz / 64QAM



Date: 21 MAR 2020 13:30:42

Highest Channel / 20MHz / 64QAM



Date: 21 MAR 2020 13:38:56

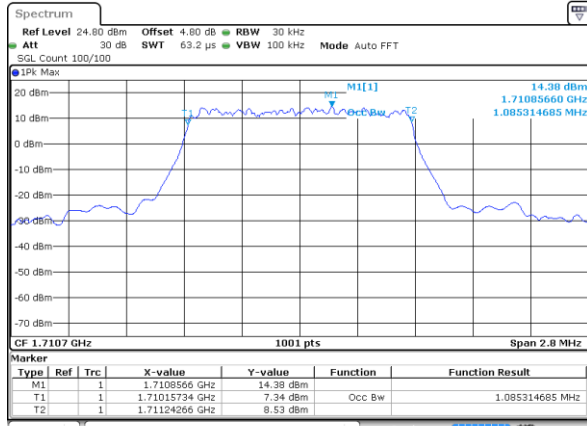
**Occupied Bandwidth**

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	1.09	1.09	2.70	2.70	4.48	4.50	9.03	9.05	13.46	13.40	18.34	18.38
Middle CH	1.08	1.10	2.69	2.70	4.49	4.49	9.01	9.01	13.40	13.46	18.42	18.54
Highest CH	1.09	1.08	2.71	2.72	4.48	4.50	9.05	9.05	13.43	13.46	18.30	18.34
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.08	-	2.73	-	4.48	-	9.05	-	13.43	-	18.50	-
Middle CH	1.09	-	2.71	-	4.49	-	9.05	-	13.43	-	18.50	-
Highest CH	1.09	-	2.72	-	4.48	-	9.01	-	13.43	-	18.42	-

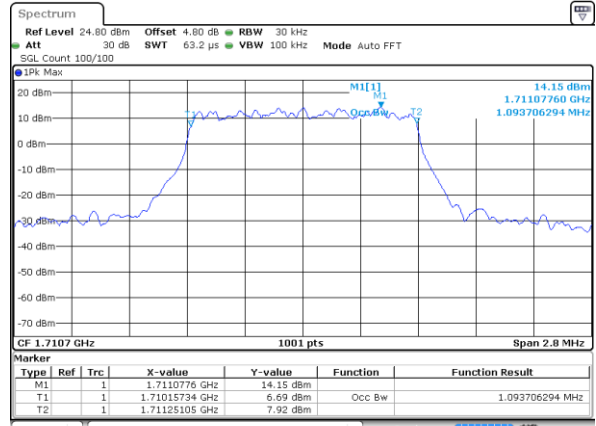


LTE Band 4

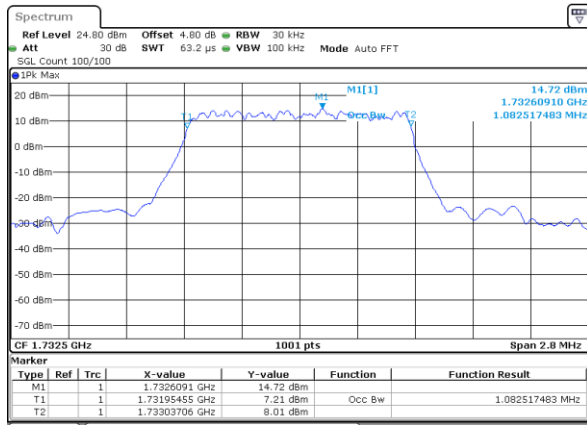
Lowest Channel / 1.4MHz / QPSK



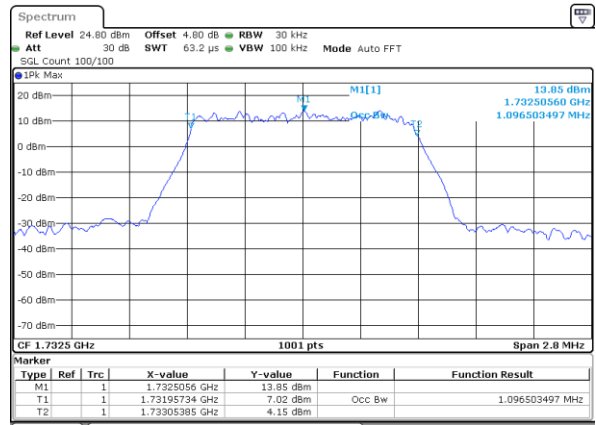
Lowest Channel / 1.4MHz / 16QAM



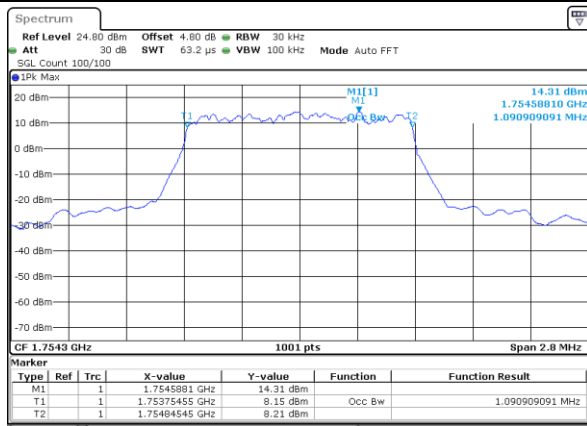
Middle Channel / 1.4MHz / QPSK



Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK



Highest Channel / 1.4MHz / 16QAM

