

Frequency Stability

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0011	PASS
40	Normal Voltage	0.0016	
30	Normal Voltage	0.0006	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0002	
0	Normal Voltage	0.0004	
-10	Normal Voltage	0.0155	
-20	Normal Voltage	0.0007	
-30	Normal Voltage	0.0001	
20	Maximum Voltage	0.0012	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0001	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.2 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 7

Peak-to-Average Ratio

Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.42	4.23	5.01	5.65	PASS
Middle CH	3.45	4.38	4.93	5.74	
Highest CH	3.42	4.49	5.25	5.8	
Mode	LTE Band 7 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.94	6.20	-	-	PASS
Middle CH	6.58	6.32	-	-	
Highest CH	6.55	6.38	-	-	

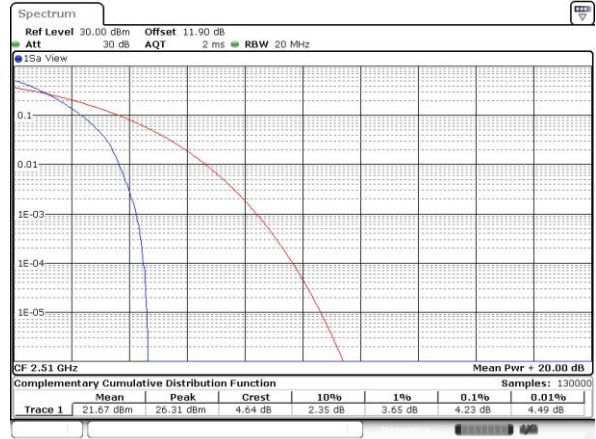


LTE Band 7 / 20MHz / QPSK

Lowest Channel / 1RB



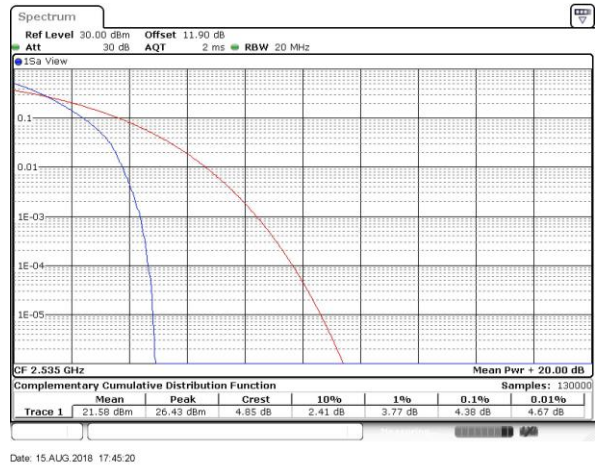
Lowest Channel / Full RB



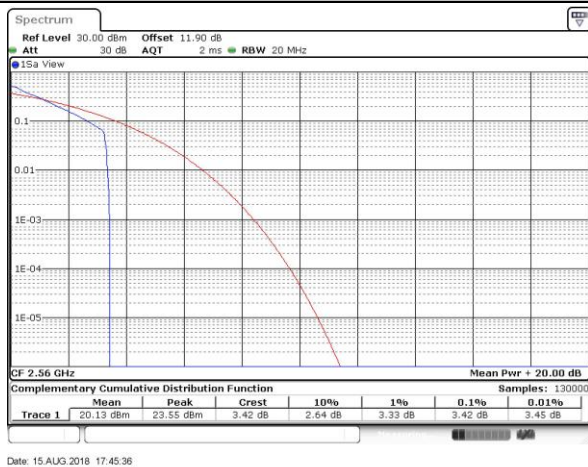
Middle Channel / 1RB



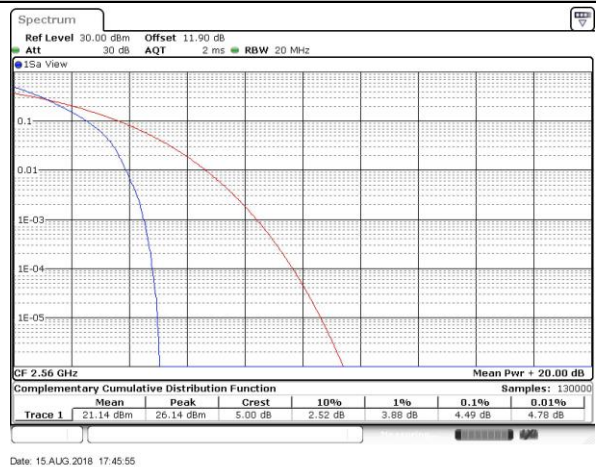
Middle Channel / Full RB

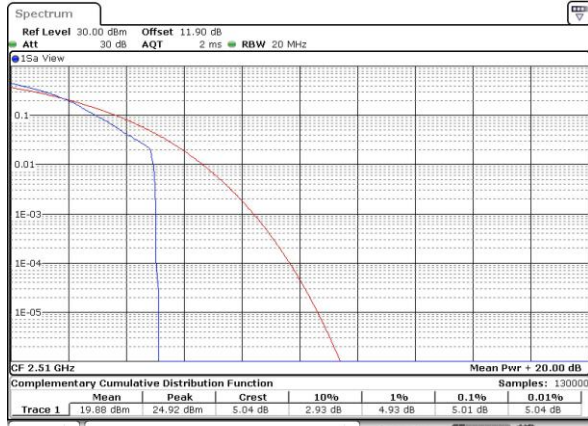


Highest Channel / 1RB

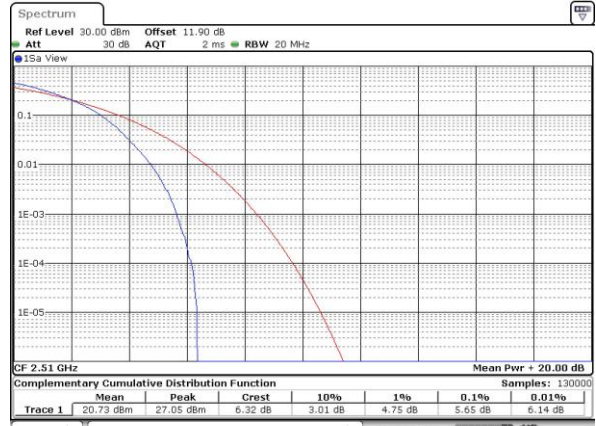


Highest Channel / Full RB

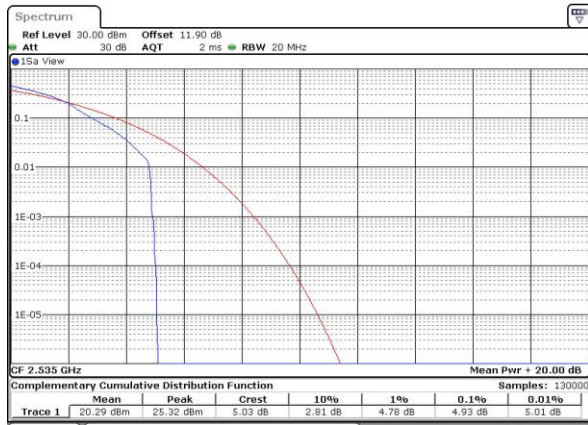


LTE Band 7 / 20MHz / 16QAM
Lowest Channel / 1RB


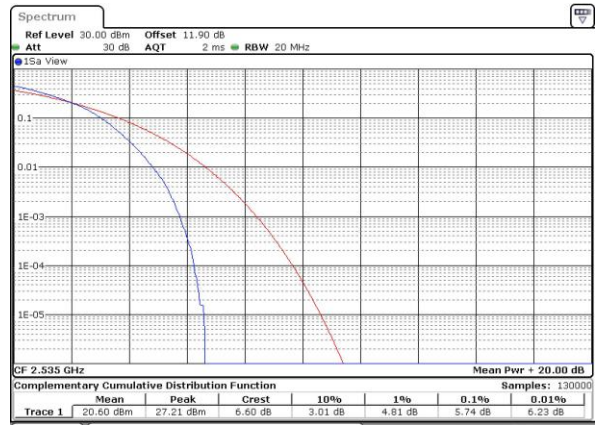
Date: 15 AUG 2018 17:39:09

Lowest Channel / Full RB


Date: 15 AUG 2018 17:43:21

Middle Channel / 1RB


Date: 15 AUG 2018 17:43:32

Middle Channel / Full RB


Date: 15 AUG 2018 17:43:45

Highest Channel / 1RB


Date: 15 AUG 2018 17:44:20

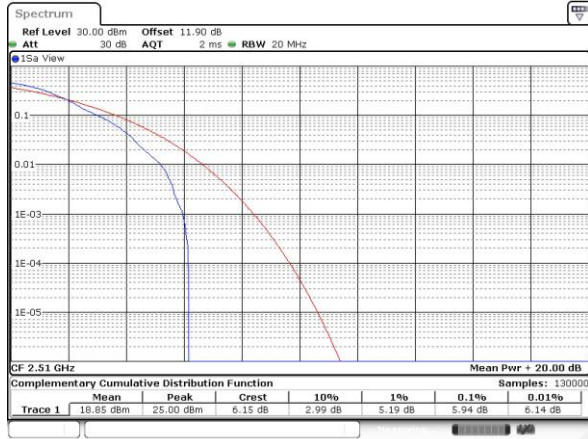
Highest Channel / Full RB


Date: 15 AUG 2018 17:44:33



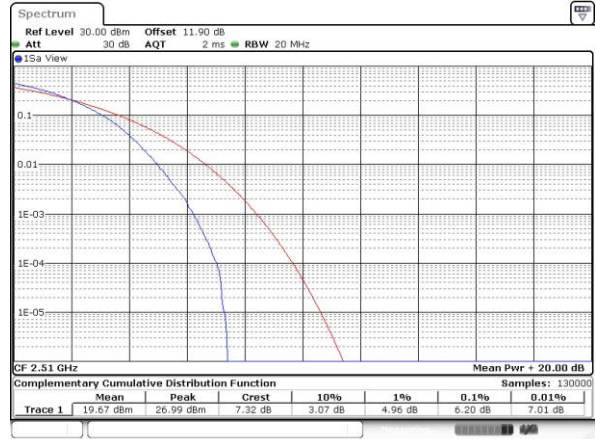
LTE Band 7 / 20MHz / 64QAM

Lowest Channel / 1RB



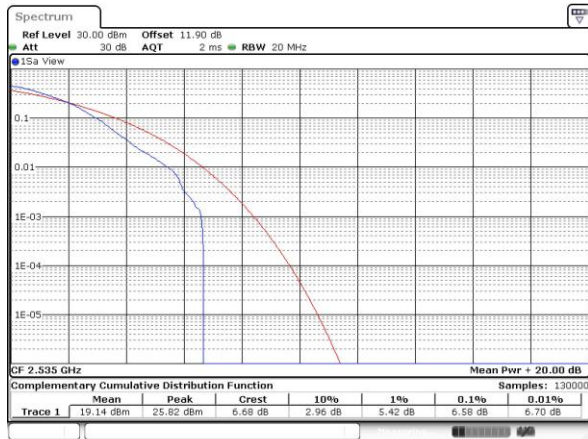
Date: 15 AUG 2018 17:46:05

Lowest Channel / Full RB



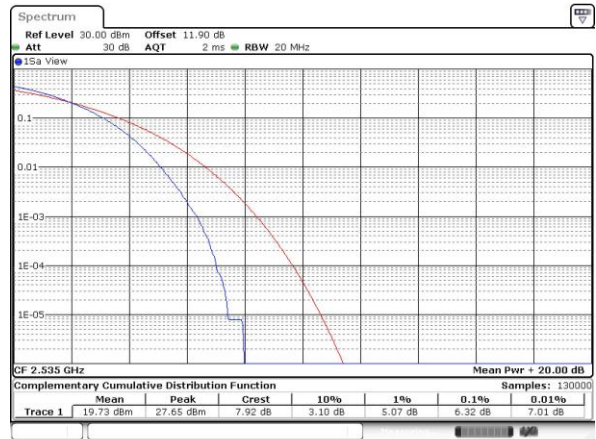
Date: 15 AUG 2018 17:46:18

Middle Channel / 1RB



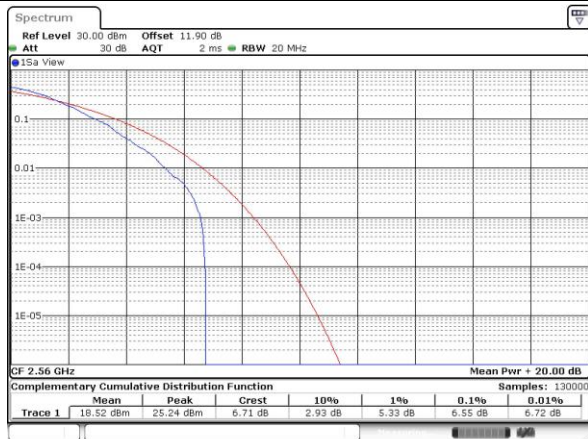
Date: 15 AUG 2018 17:46:38

Middle Channel / Full RB



Date: 15 AUG 2018 17:46:58

Highest Channel / 1RB



Date: 15 AUG 2018 17:47:38

Highest Channel / Full RB



Date: 15 AUG 2018 17:48:10

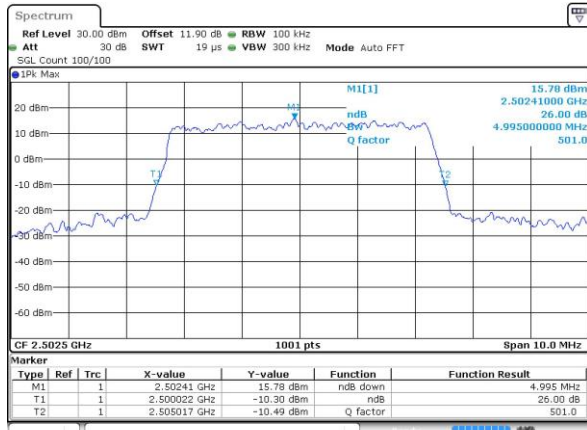
**26dB Bandwidth**

Mode	LTE Band 7 : 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	-	-	-	-	5.00	4.88	9.79	9.65	14.18	14.48	20.18	20.22
Middle CH	-	-	-	-	4.93	4.85	9.75	9.73	14.42	14.21	20.10	20.18
Highest CH	-	-	-	-	4.94	4.89	9.83	9.73	14.33	14.51	20.22	20.02
Mode	LTE Band 7 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.87	-	9.83	-	14.15	-	20.14	-
Middle CH	-	-	-	-	4.84	-	9.81	-	14.42	-	20.10	-
Highest CH	-	-	-	-	4.96	-	9.85	-	14.30	-	20.10	-



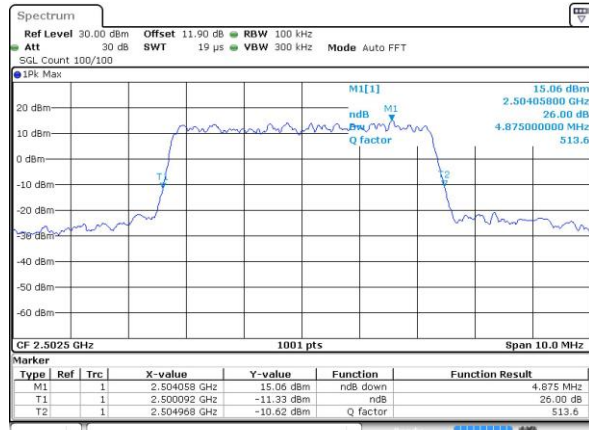
LTE Band 7

Lowest Channel / 5MHz / QPSK



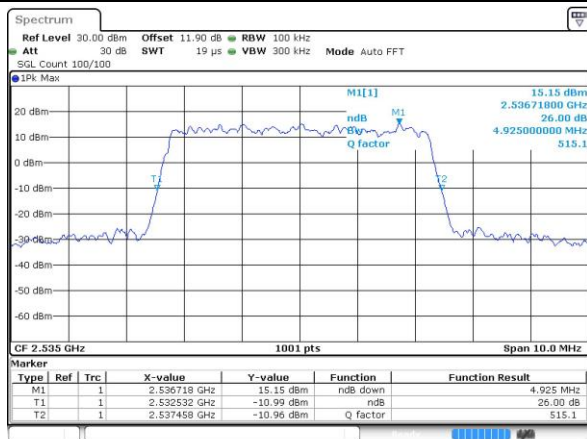
Date: 15 AUG 2018 15:46:25

Lowest Channel / 5MHz / 16QAM



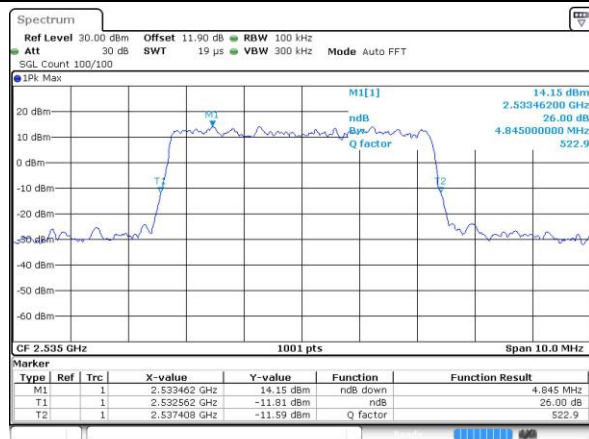
Date: 15 AUG 2018 15:46:36

Middle Channel / 5MHz / QPSK



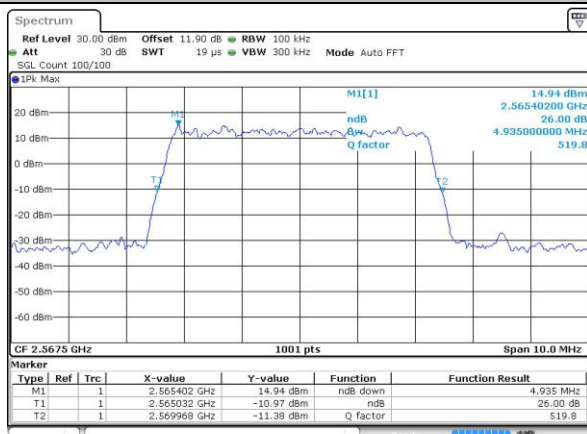
Date: 15 AUG 2018 15:54:14

Middle Channel / 5MHz / 16QAM



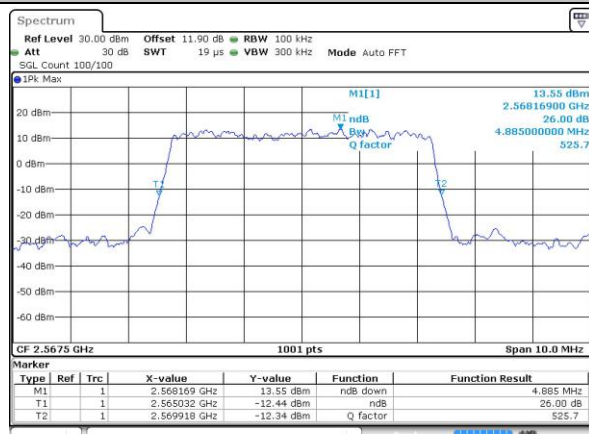
Date: 15 AUG 2018 15:54:25

Highest Channel / 5MHz / QPSK



Date: 15 AUG 2018 15:57:19

Highest Channel / 5MHz / 16QAM

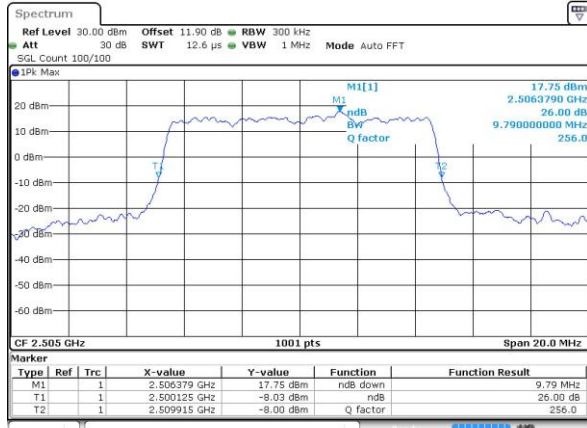


Date: 15 AUG 2018 15:57:30



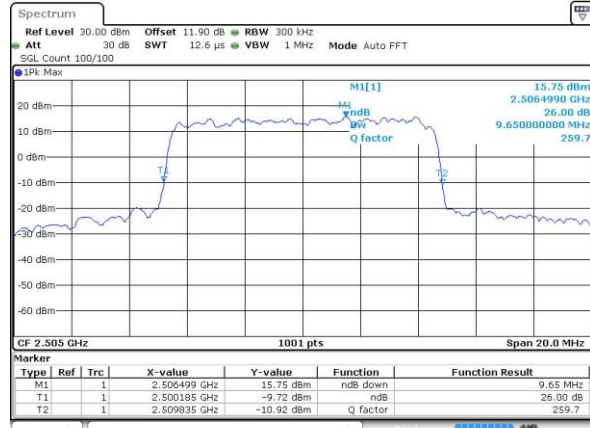
LTE Band 7

Lowest Channel / 10MHz / QPSK



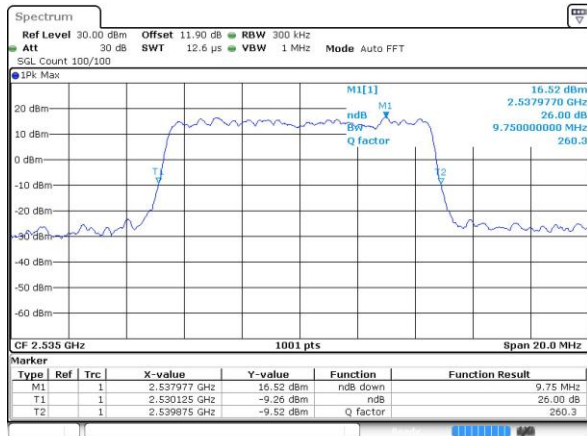
Date: 15 AUG 2018 16:14:27

Lowest Channel / 10MHz / 16QAM



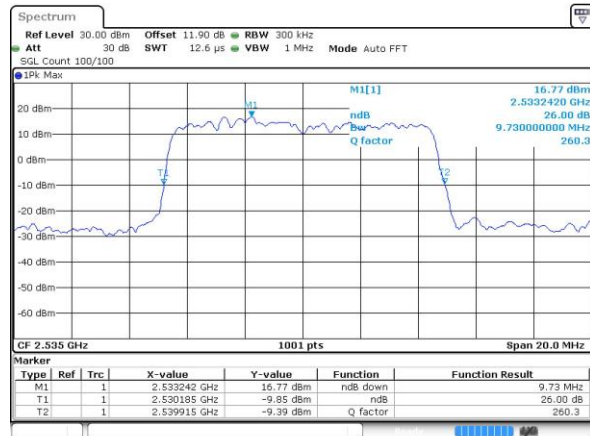
Date: 15 AUG 2018 16:14:39

Middle Channel / 10MHz / QPSK



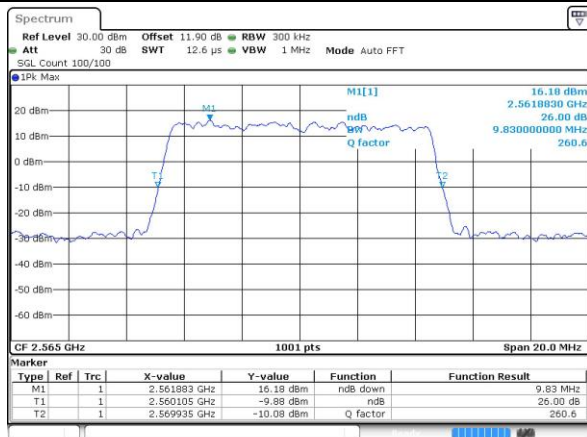
Date: 15 AUG 2018 16:22:14

Middle Channel / 10MHz / 16QAM



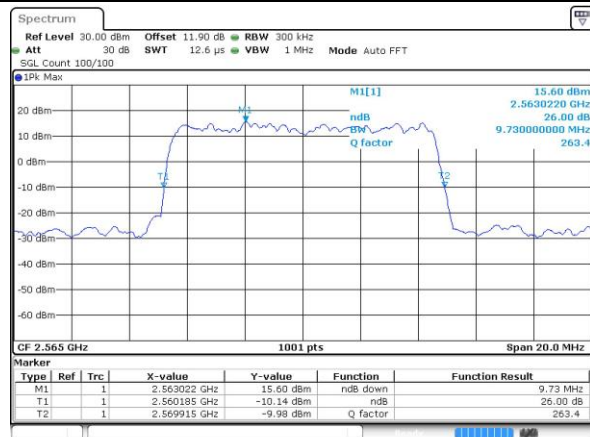
Date: 15 AUG 2018 16:22:26

Highest Channel / 10MHz / QPSK



Date: 15 AUG 2018 16:25:19

Highest Channel / 10MHz / 16QAM

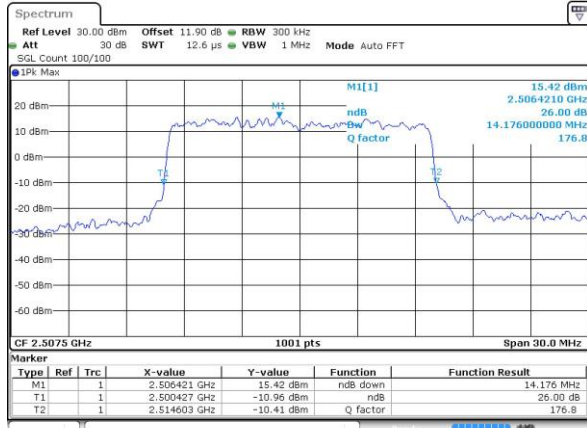


Date: 15 AUG 2018 16:25:31



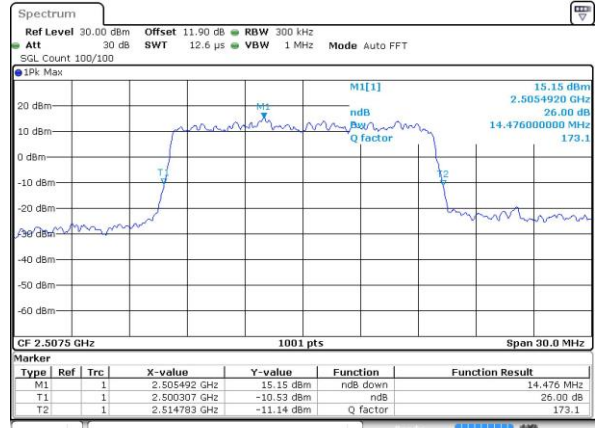
LTE Band 7

Lowest Channel / 15MHz / QPSK



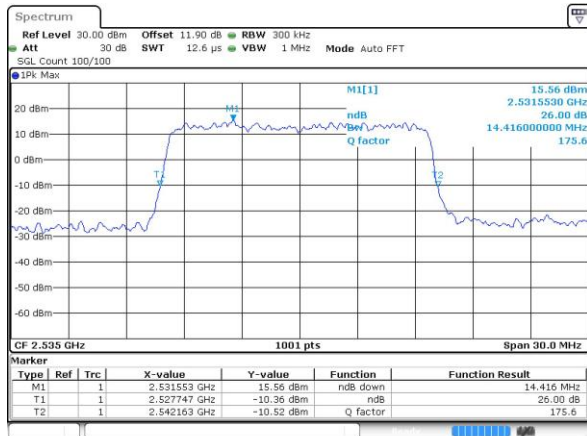
Date: 15 AUG 2018 16:42:27

Lowest Channel / 15MHz / 16QAM



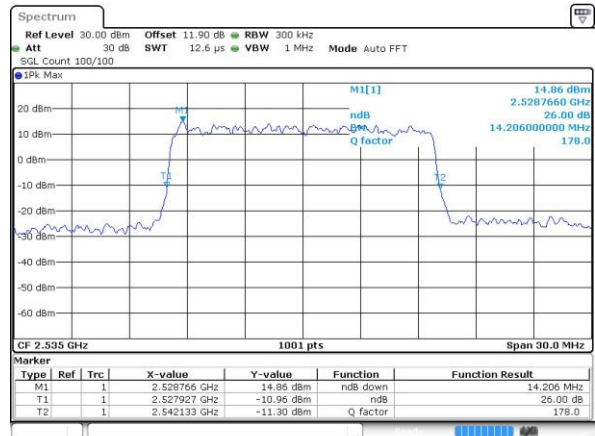
Date: 15 AUG 2018 16:42:38

Middle Channel / 15MHz / QPSK



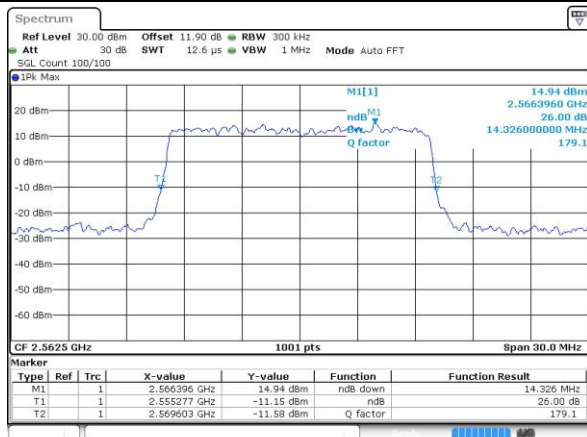
Date: 15 AUG 2018 16:50:15

Middle Channel / 15MHz / 16QAM



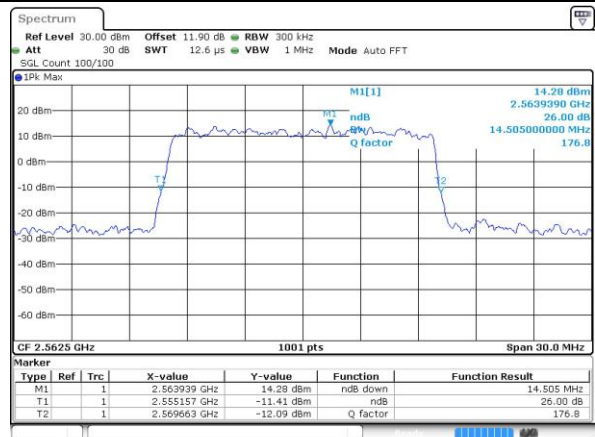
Date: 15 AUG 2018 16:50:26

Highest Channel / 15MHz / QPSK



Date: 15 AUG 2018 16:53:20

Highest Channel / 15MHz / 16QAM

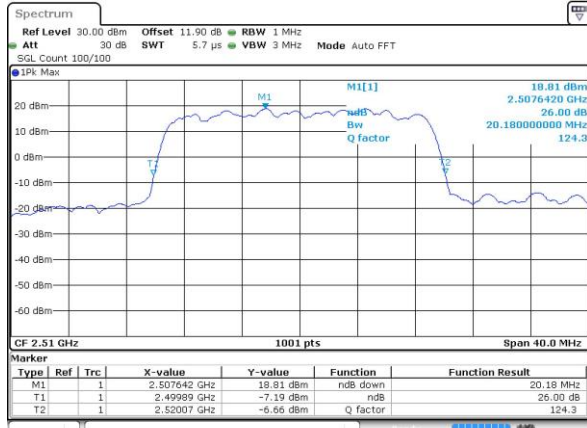


Date: 15 AUG 2018 16:53:31

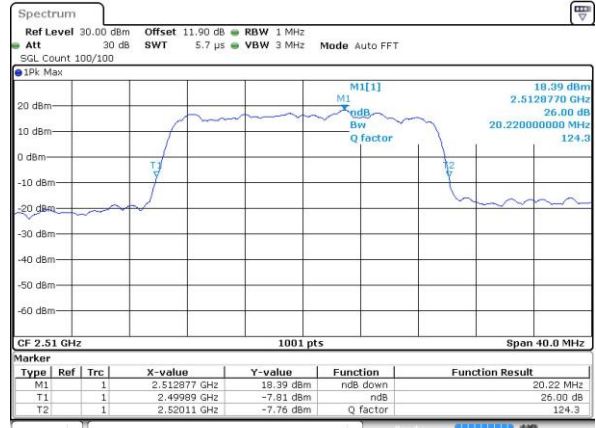


LTE Band 7

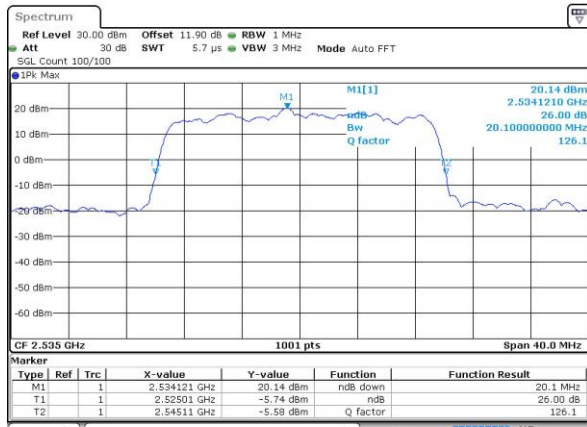
Lowest Channel / 20MHz / QPSK



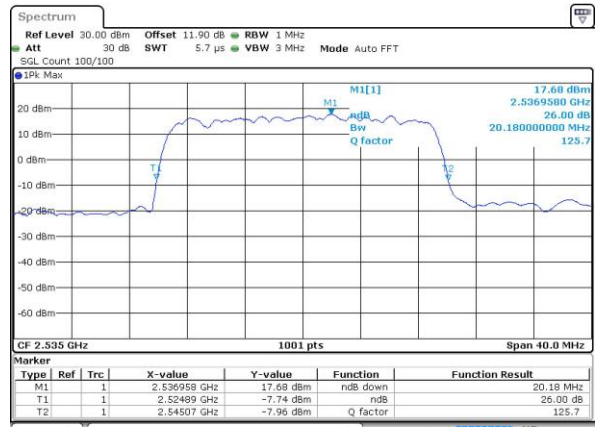
Lowest Channel / 20MHz / 16QAM



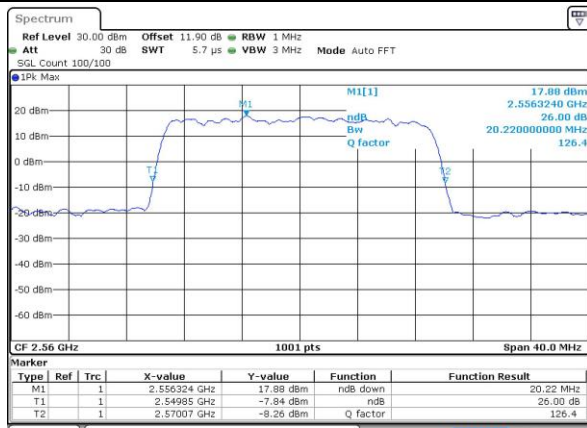
Middle Channel / 20MHz / QPSK



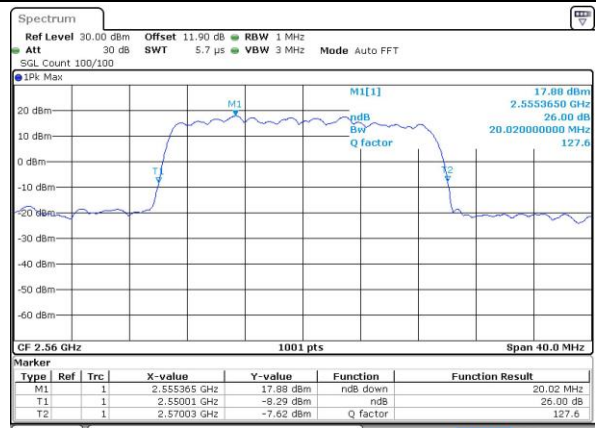
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



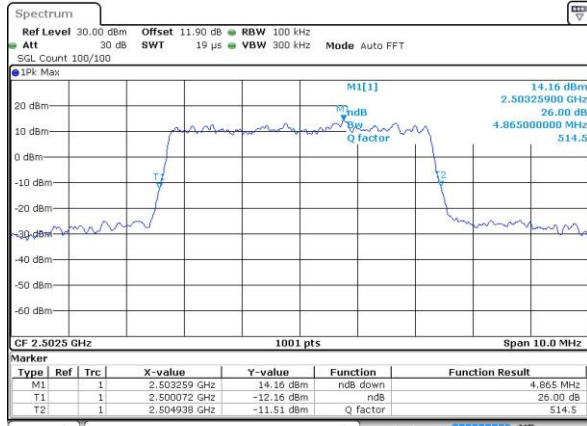
Highest Channel / 20MHz / 16QAM





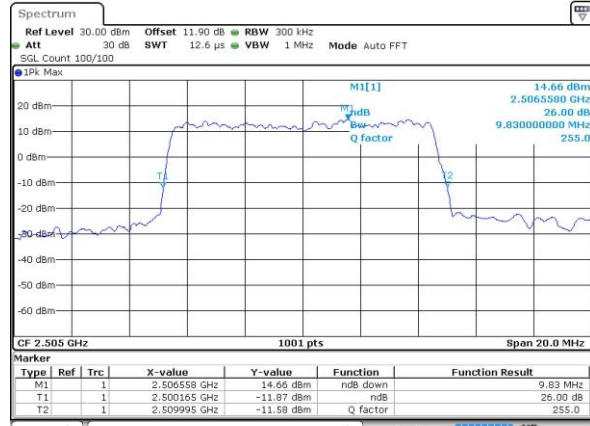
LTE Band 7

Lowest Channel / 5MHz / 64QAM



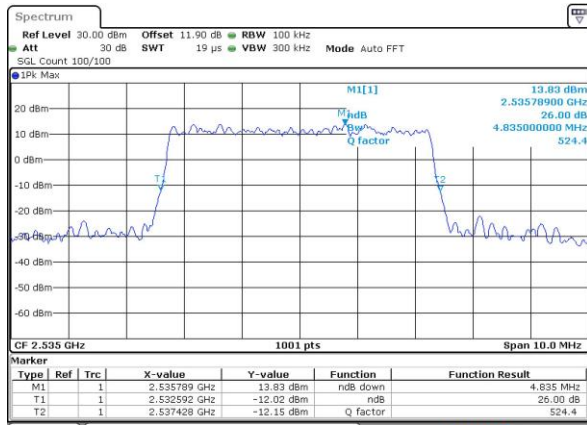
Date: 15 AUG 2018 16:04:55

Lowest Channel / 10MHz / 64QAM



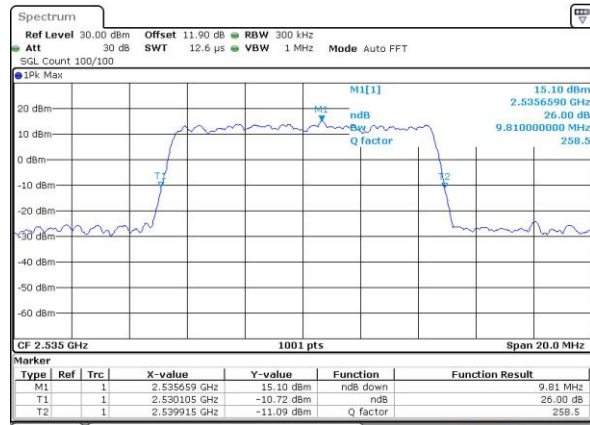
Date: 15 AUG 2018 16:32:56

Middle Channel / 5MHz / 64QAM



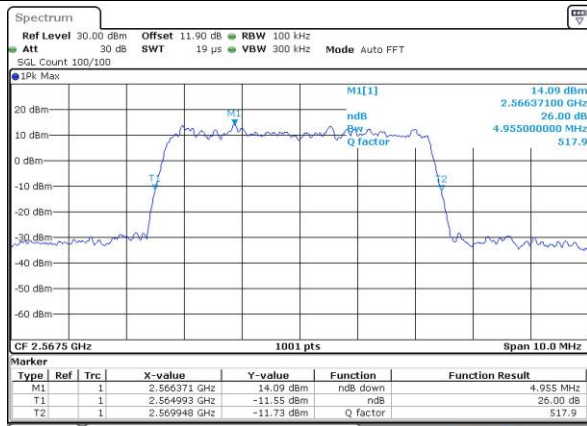
Date: 15 AUG 2018 16:08:49

Middle Channel / 10MHz / 64QAM



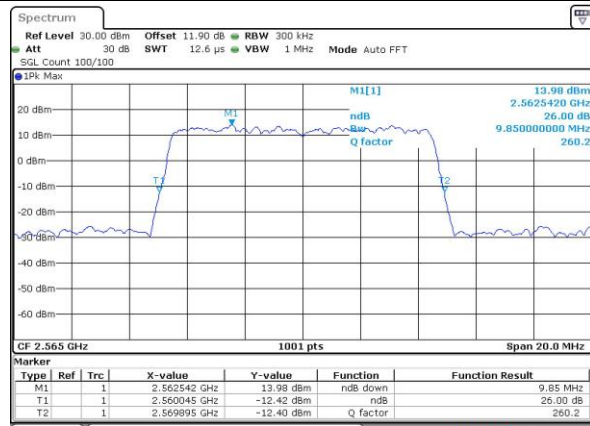
Date: 15 AUG 2018 16:36:49

Highest Channel / 5MHz / 64QAM



Date: 15 AUG 2018 16:10:22

Highest Channel / 10MHz / 64QAM

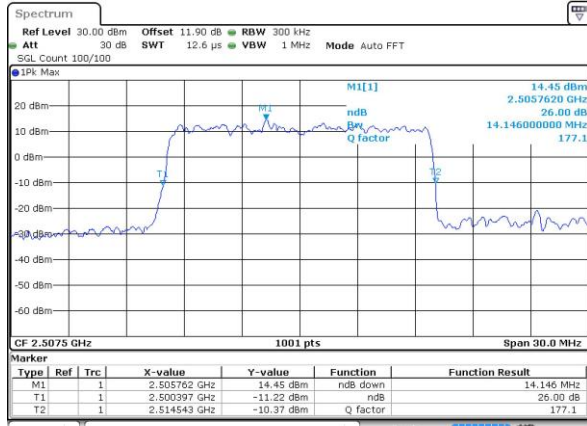


Date: 15 AUG 2018 16:38:22



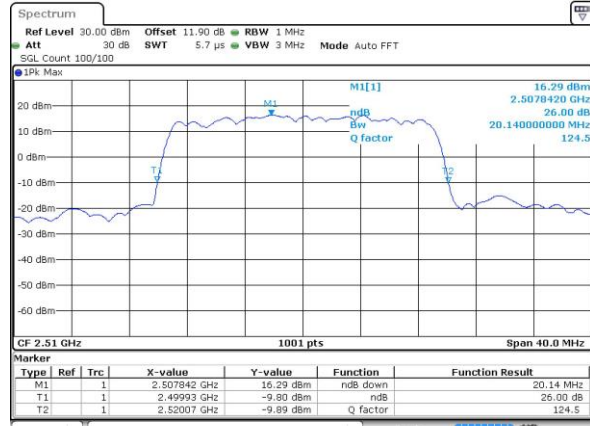
LTE Band 7

Lowest Channel / 15MHz / 64QAM



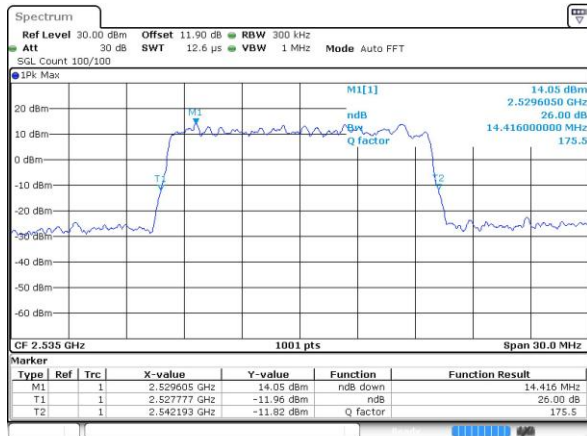
Date: 15 AUG 2018 17:00:56

Lowest Channel / 20MHz / 64QAM



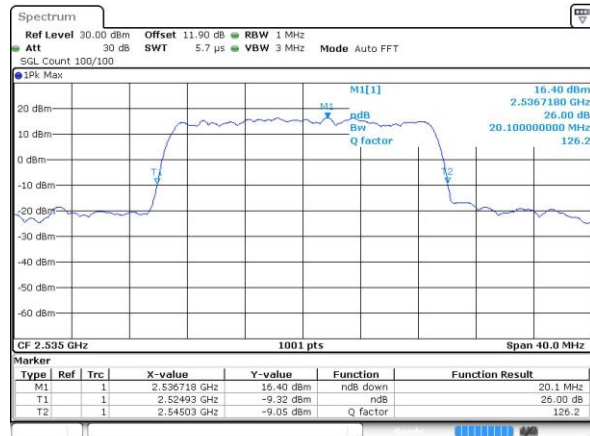
Date: 15 AUG 2018 17:28:56

Middle Channel / 15MHz / 64QAM



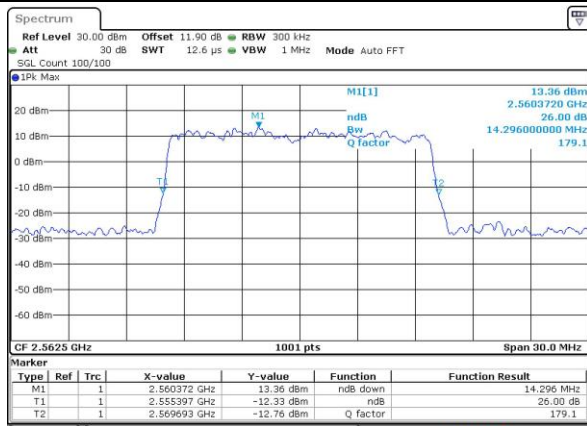
Date: 15 AUG 2018 17:04:50

Middle Channel / 20MHz / 64QAM



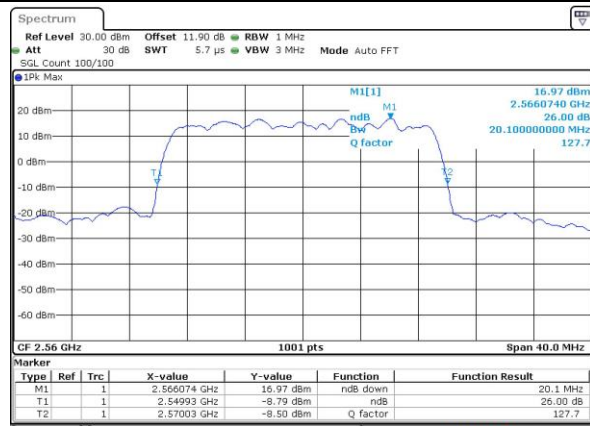
Date: 15 AUG 2018 17:32:50

Highest Channel / 15MHz / 64QAM



Date: 15 AUG 2018 17:06:22

Highest Channel / 20MHz / 64QAM



Date: 15 AUG 2018 17:34:22

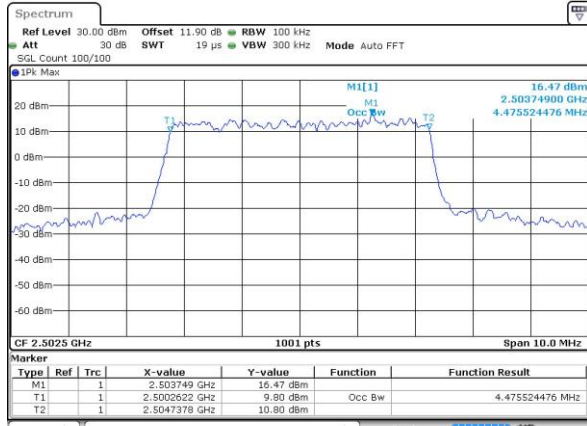
**Occupied Bandwidth**

Mode	LTE Band 7 : 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	4.48	8.99	8.99	13.46	13.46	18.26	18.38
Middle CH	-	-	-	-	4.49	4.52	9.01	9.01	13.52	13.43	18.34	18.42
Highest CH	-	-	-	-	4.47	4.51	9.01	9.01	13.43	13.43	18.38	18.26
Mode	LTE Band 7 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.50	-	8.97	-	13.40	-	18.34	-
Middle CH	-	-	-	-	4.51	-	8.99	-	13.43	-	18.34	-
Highest CH	-	-	-	-	4.51	-	9.05	-	13.43	-	18.38	-



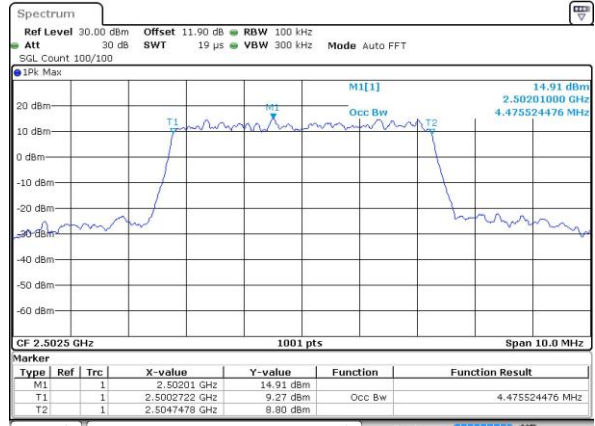
LTE Band 7

Lowest Channel / 5MHz / QPSK



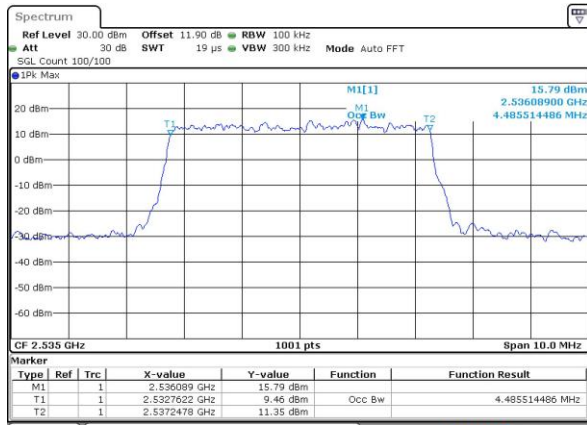
Date: 15 AUG 2018 15:46:02

Lowest Channel / 5MHz / 16QAM



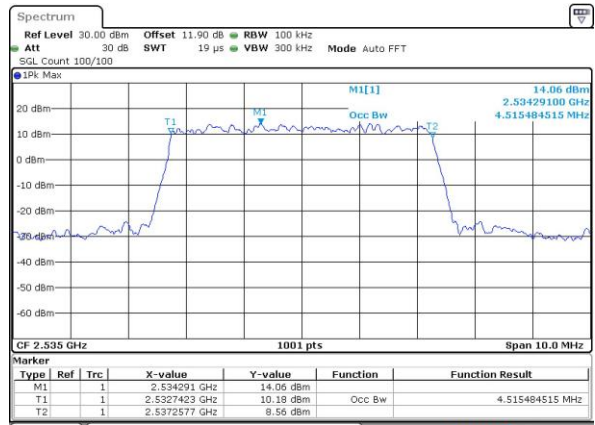
Date: 15 AUG 2018 15:46:13

Middle Channel / 5MHz / QPSK



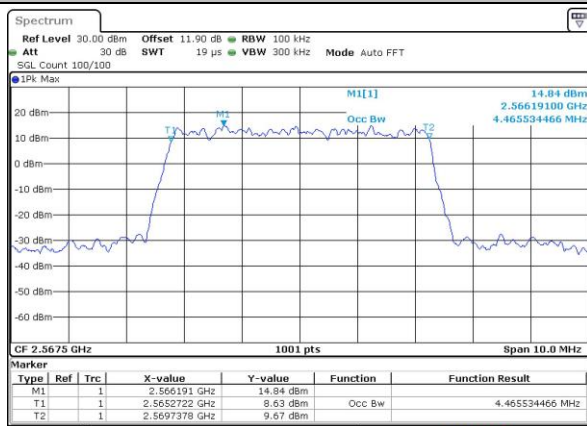
Date: 15 AUG 2018 15:53:51

Middle Channel / 5MHz / 16QAM



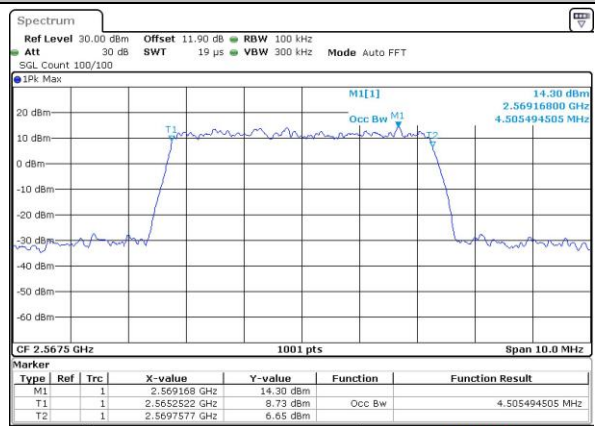
Date: 15 AUG 2018 15:54:02

Highest Channel / 5MHz / QPSK



Date: 15 AUG 2018 15:56:56

Highest Channel / 5MHz / 16QAM

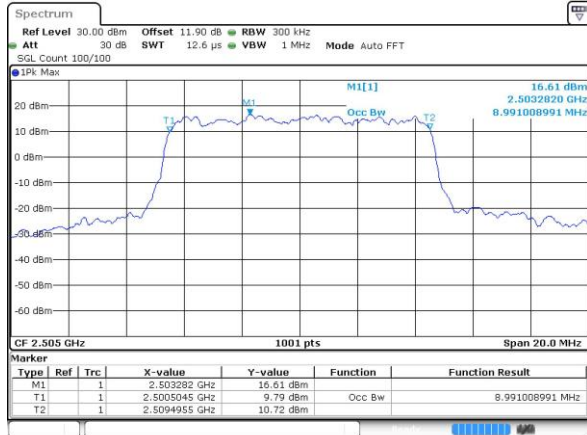


Date: 15 AUG 2018 15:57:07



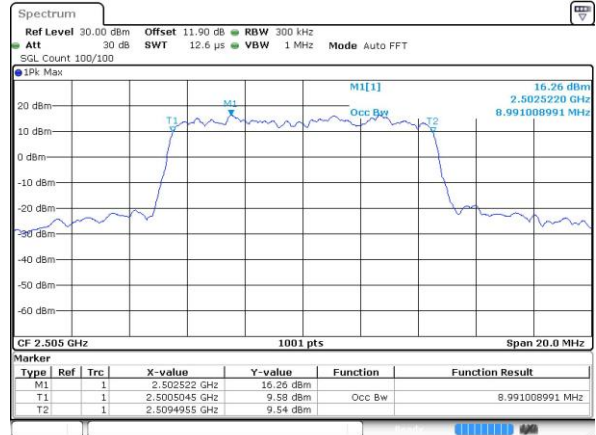
LTE Band 7

Lowest Channel / 10MHz / QPSK



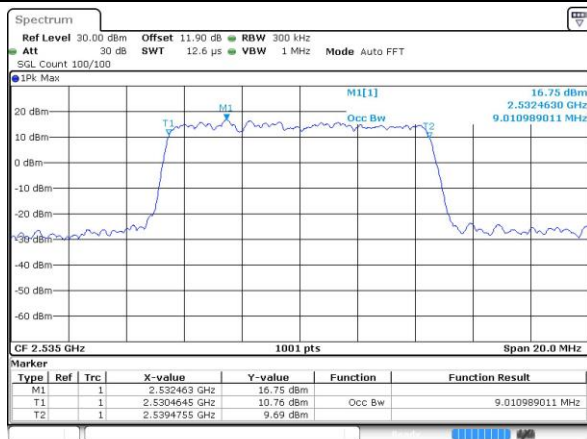
Date: 15 AUG 2018 16:14:04

Lowest Channel / 10MHz / 16QAM



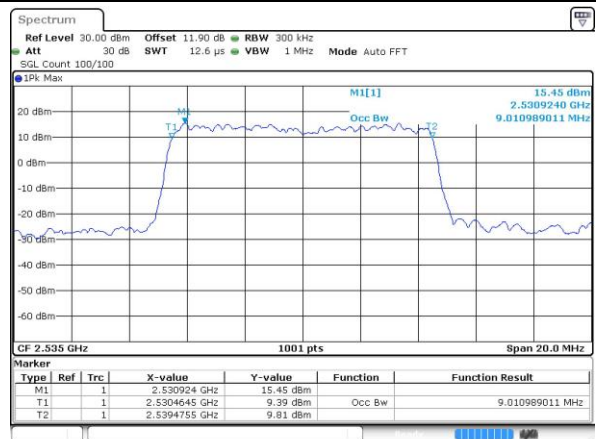
Date: 15 AUG 2018 16:14:16

Middle Channel / 10MHz / QPSK



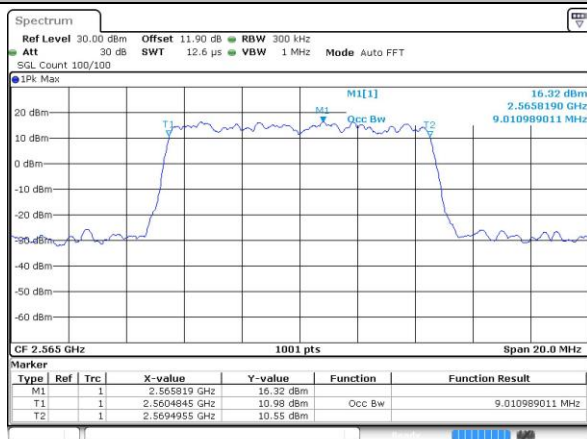
Date: 15 AUG 2018 16:21:52

Middle Channel / 10MHz / 16QAM



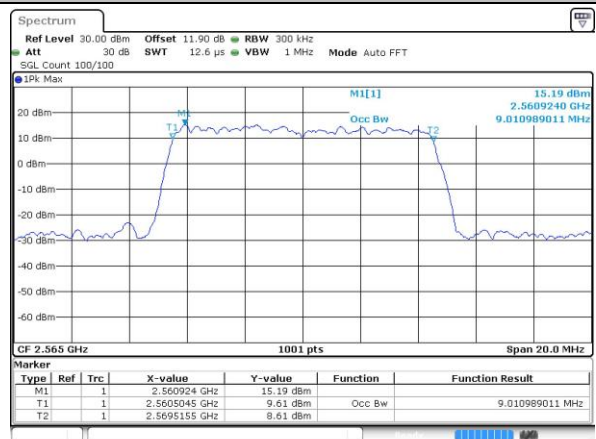
Date: 15 AUG 2018 16:22:03

Highest Channel / 10MHz / QPSK



Date: 15 AUG 2018 16:24:57

Highest Channel / 10MHz / 16QAM

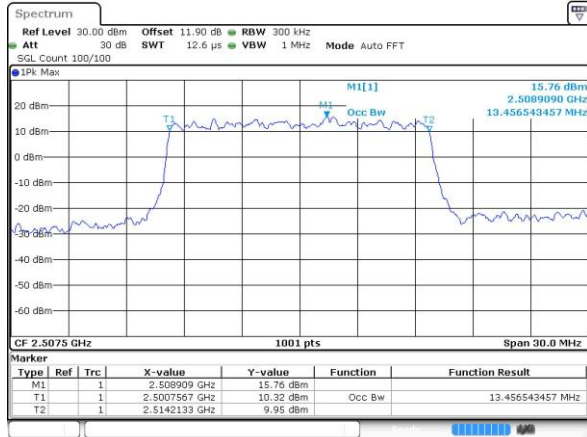


Date: 15 AUG 2018 16:25:08

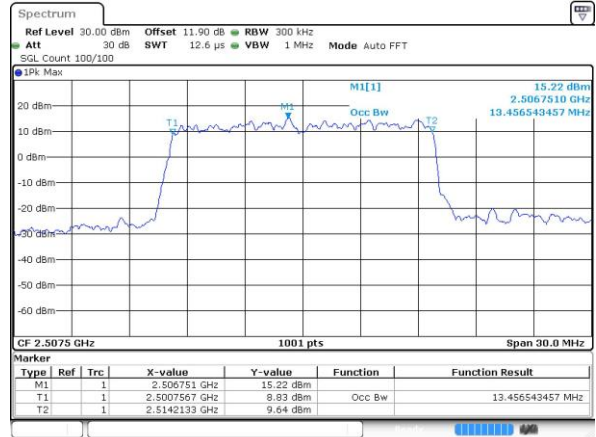


LTE Band 7

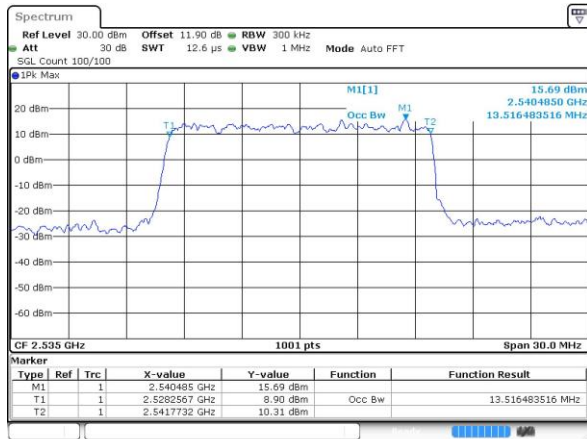
Lowest Channel / 15MHz / QPSK



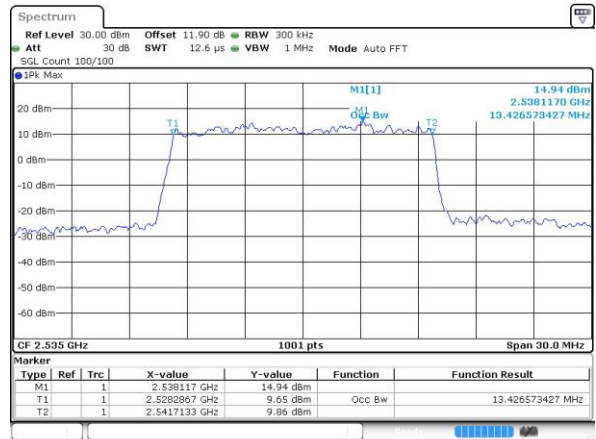
Lowest Channel / 15MHz / 16QAM



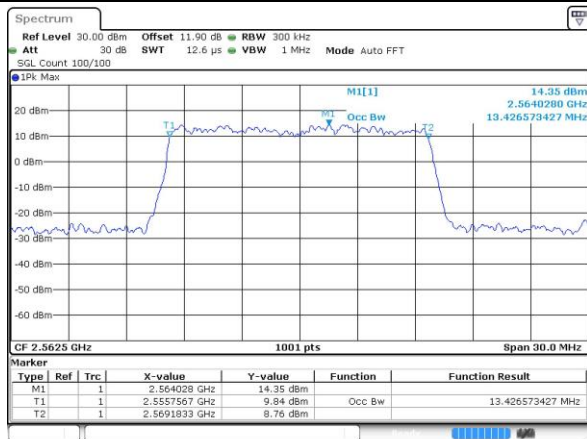
Middle Channel / 15MHz / QPSK



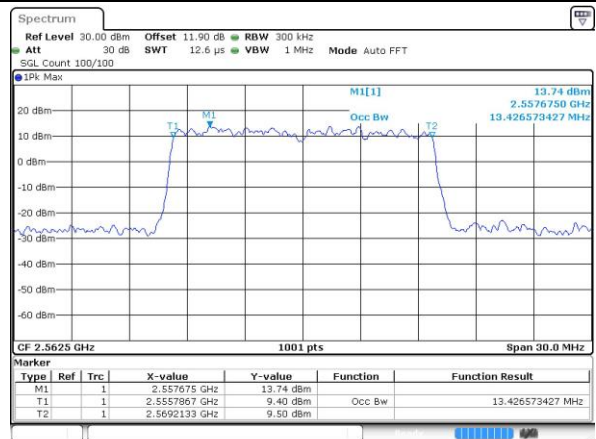
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK



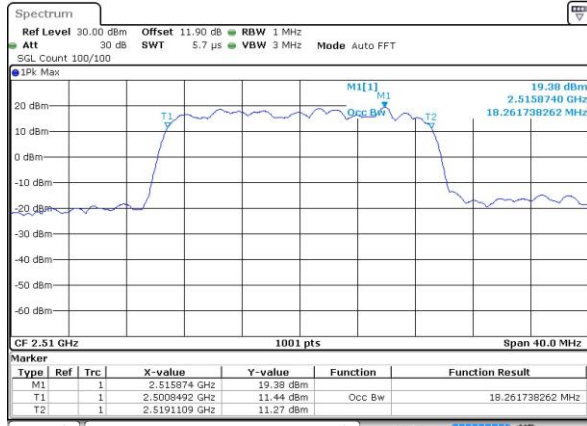
Highest Channel / 15MHz / 16QAM





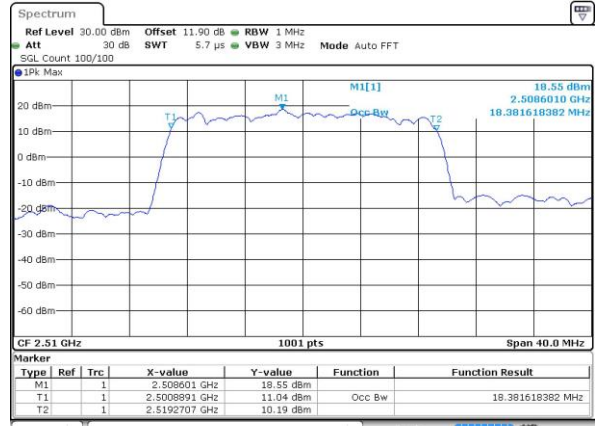
LTE Band 7

Lowest Channel / 20MHz / QPSK



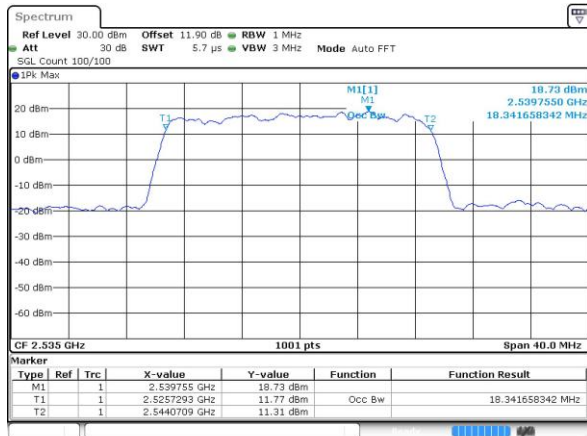
Date: 15 AUG 2018 17:10:05

Lowest Channel / 20MHz / 16QAM



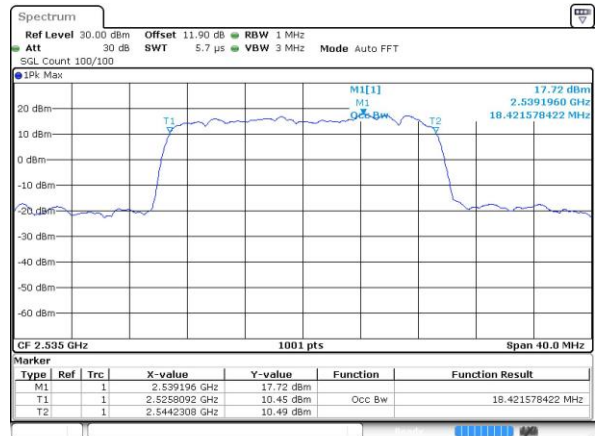
Date: 15 AUG 2018 17:10:16

Middle Channel / 20MHz / QPSK



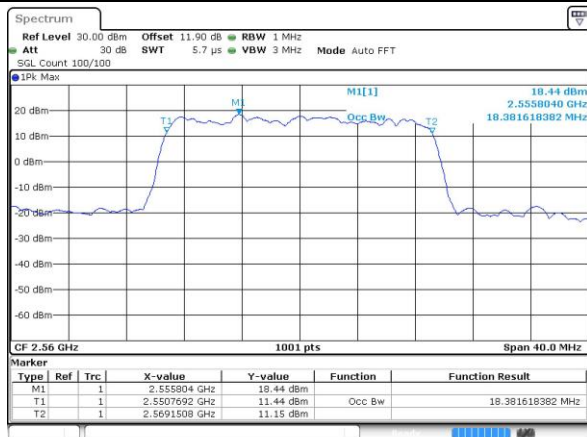
Date: 15 AUG 2018 17:17:52

Middle Channel / 20MHz / 16QAM



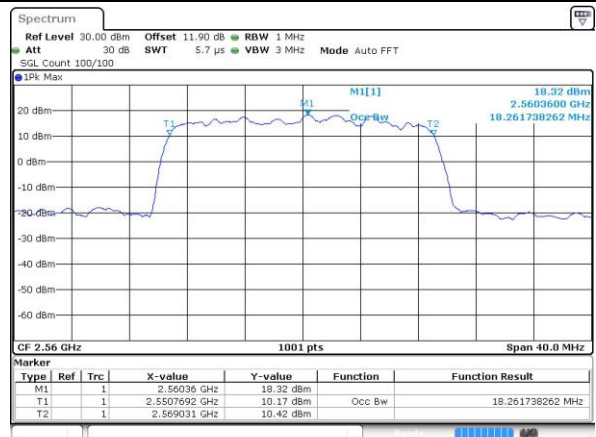
Date: 15 AUG 2018 17:18:04

Highest Channel / 20MHz / QPSK



Date: 15 AUG 2018 17:20:57

Highest Channel / 20MHz / 16QAM

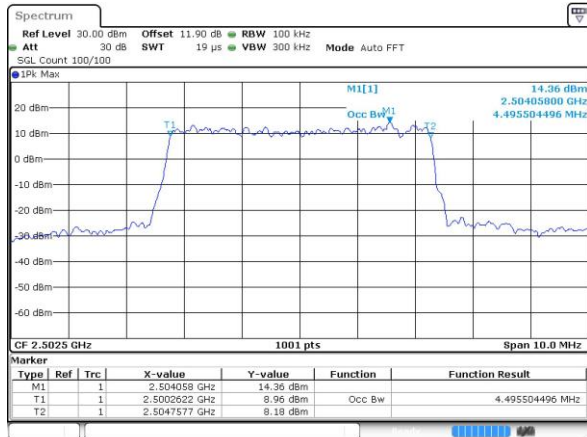


Date: 15 AUG 2018 17:21:08



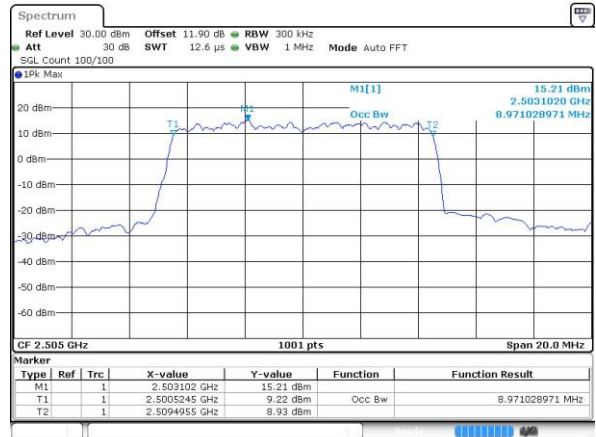
LTE Band 7

Lowest Channel / 5MHz / 64QAM



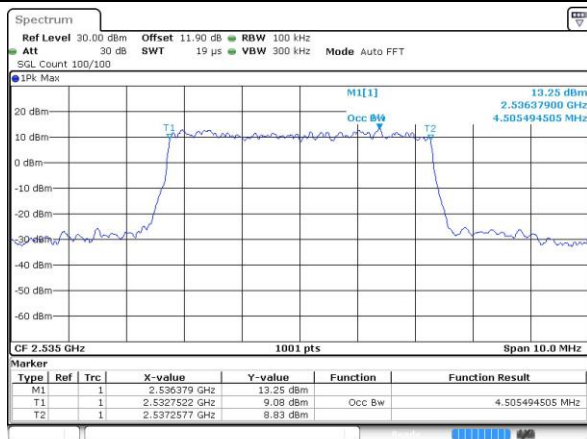
Date: 15 AUG 2018 16:04:44

Lowest Channel / 10MHz / 64QAM



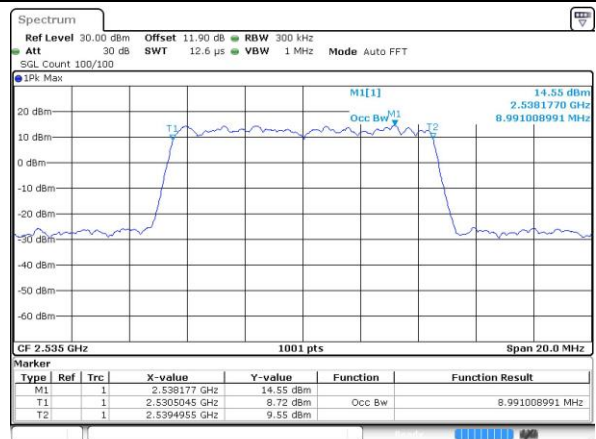
Date: 15 AUG 2018 16:32:44

Middle Channel / 5MHz / 64QAM



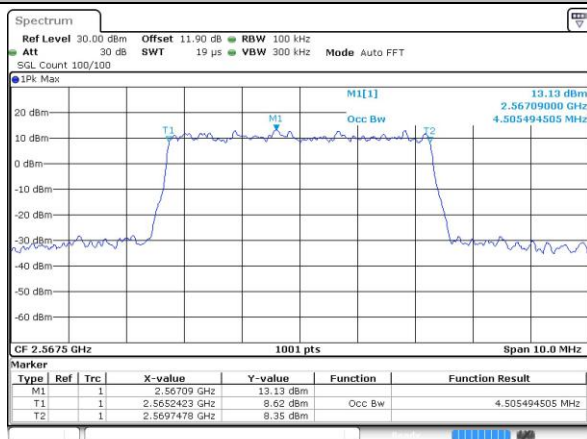
Date: 15 AUG 2018 16:08:38

Middle Channel / 10MHz / 64QAM



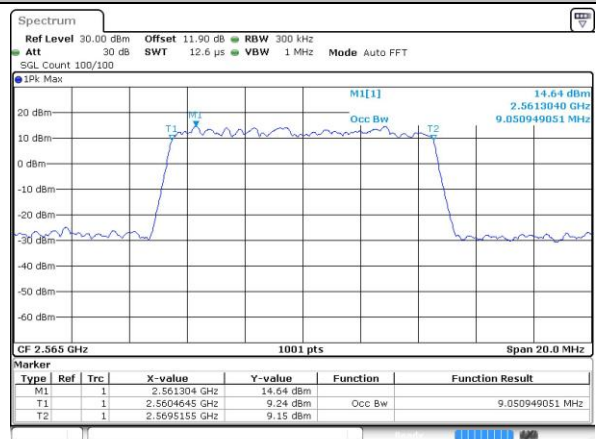
Date: 15 AUG 2018 16:36:38

Highest Channel / 5MHz / 64QAM



Date: 15 AUG 2018 16:10:10

Highest Channel / 10MHz / 64QAM

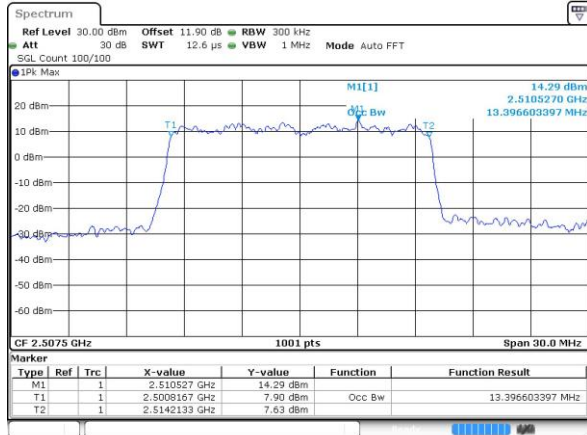


Date: 15 AUG 2018 16:38:10



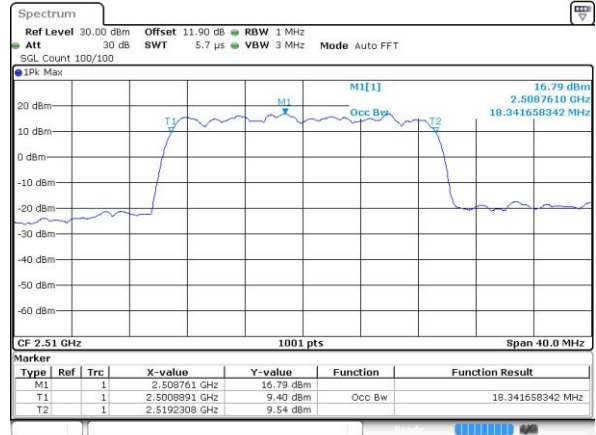
LTE Band 7

Lowest Channel / 15MHz / 64QAM



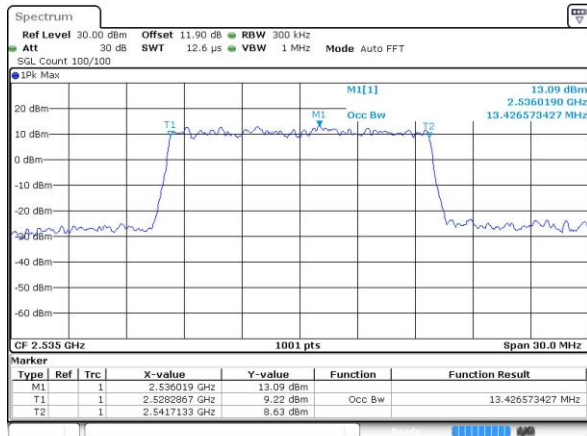
Date: 15 AUG 2018 17:00:45

Lowest Channel / 20MHz / 64QAM



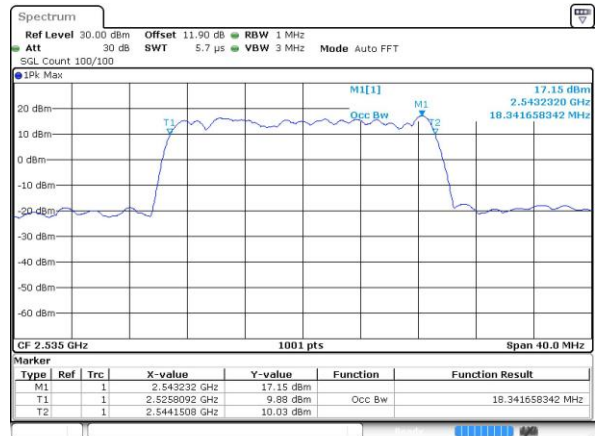
Date: 15 AUG 2018 17:28:45

Middle Channel / 15MHz / 64QAM



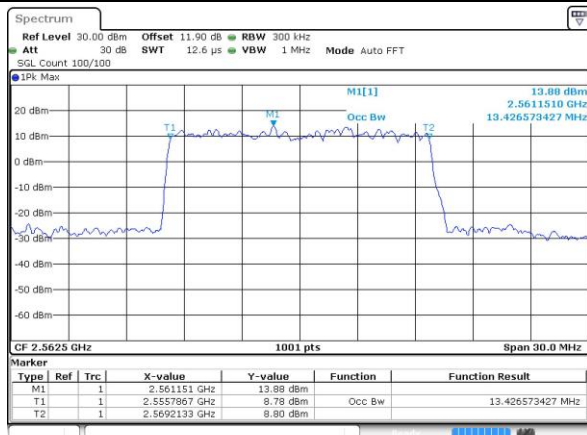
Date: 15 AUG 2018 17:04:38

Middle Channel / 20MHz / 64QAM



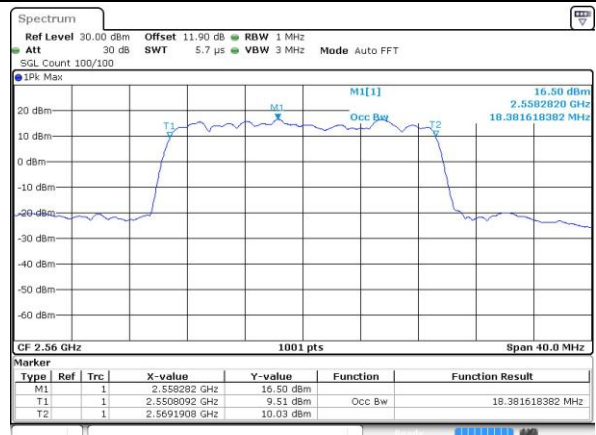
Date: 15 AUG 2018 17:32:38

Highest Channel / 15MHz / 64QAM



Date: 15 AUG 2018 17:06:11

Highest Channel / 20MHz / 64QAM



Date: 15 AUG 2018 17:34:11