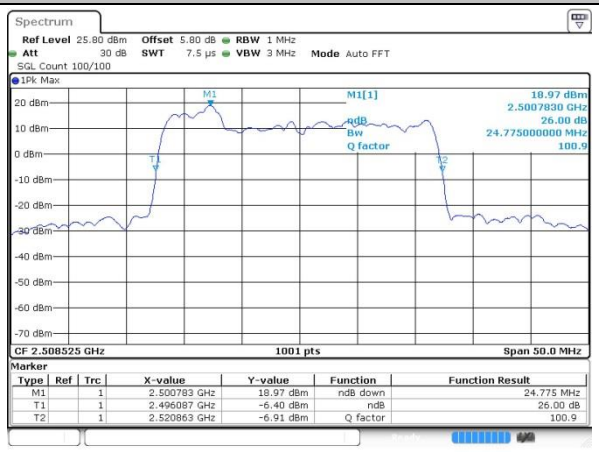
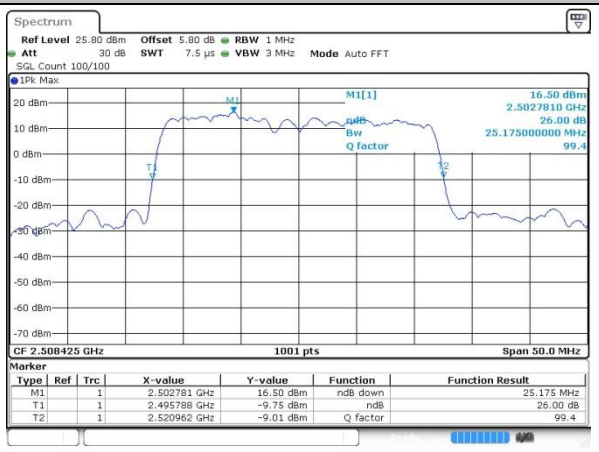
LTE Band 41

64QAM

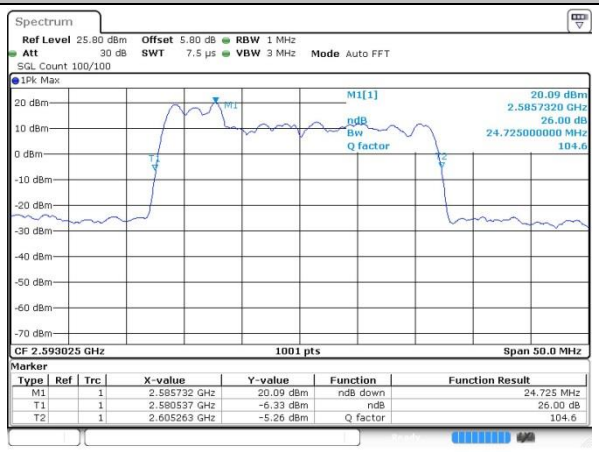
Lowest Channel / 5MHz+20MHz



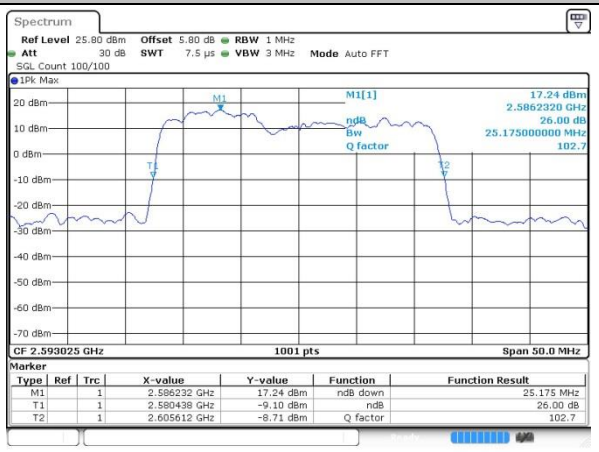
Lowest Channel / 10MHz+15MHz



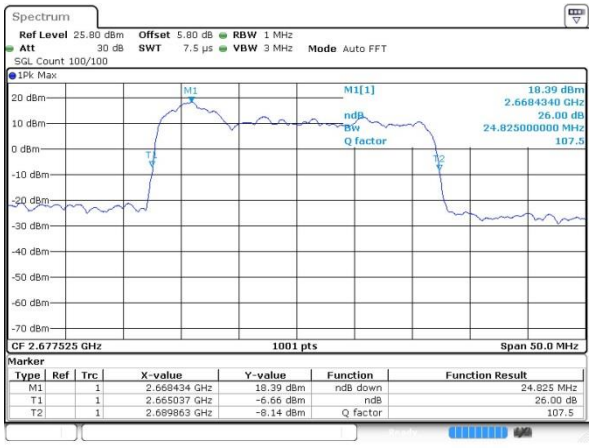
Middle Channel / 5MHz+20MHz



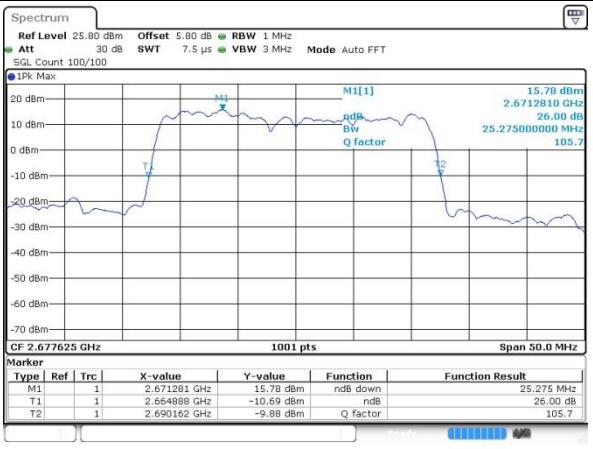
Middle Channel / 10MHz+15MHz



Highest Channel / 5MHz+20MHz



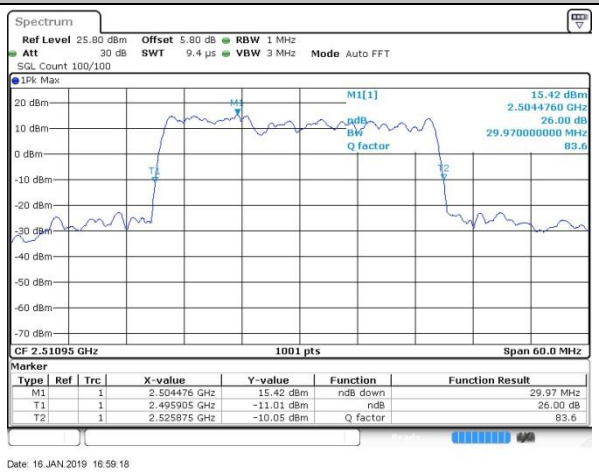
Highest Channel / 10MHz+15MHz



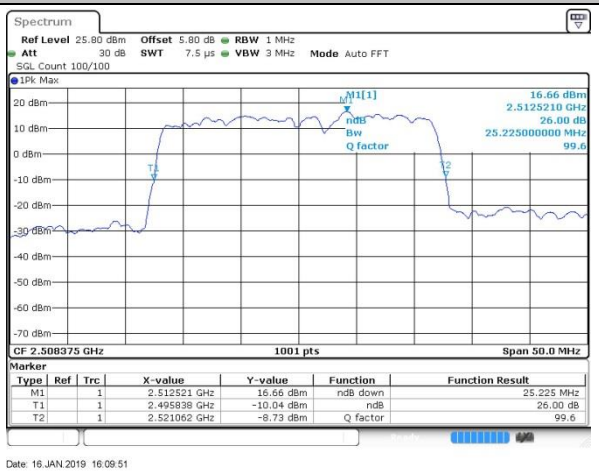
LTE Band 41

64QAM

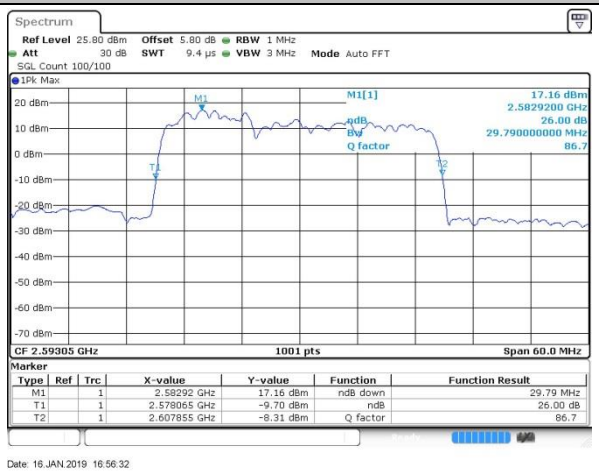
Lowest Channel / 10MHz+20MHz



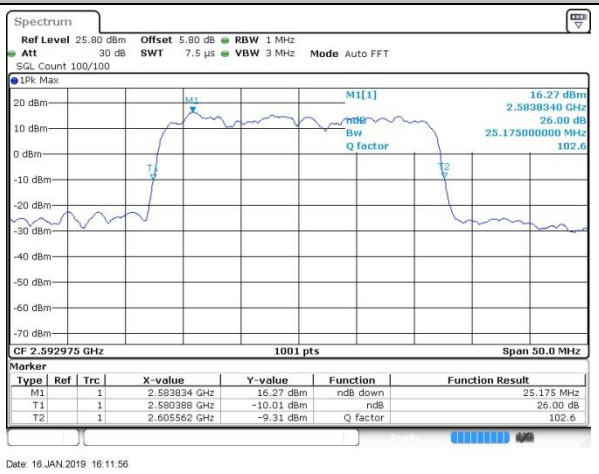
Lowest Channel / 15MHz+10MHz



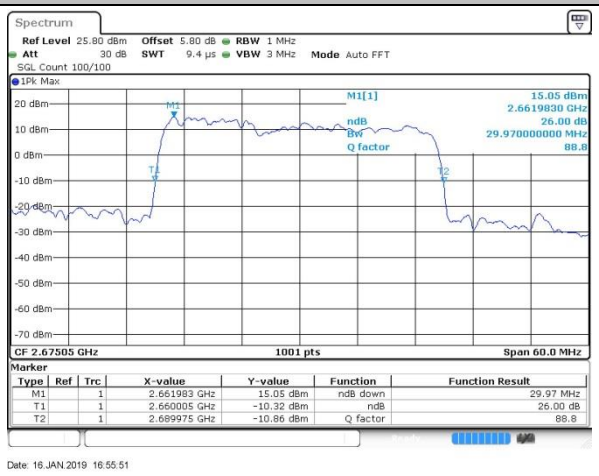
Middle Channel / 10MHz+20MHz



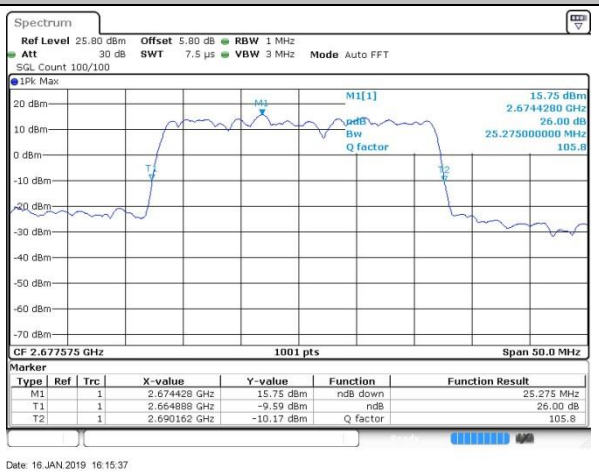
Middle Channel / 15MHz+10MHz



Highest Channel / 10MHz+20MHz



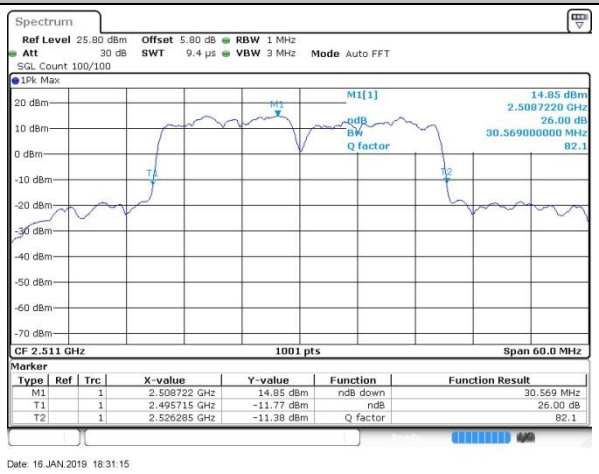
Highest Channel / 15MHz+10MHz



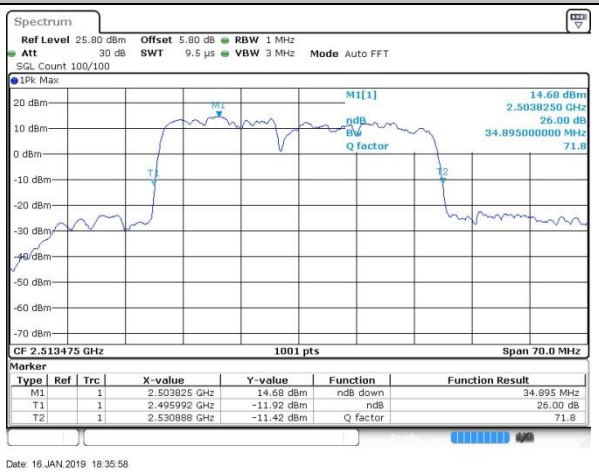
LTE Band 41

64QAM

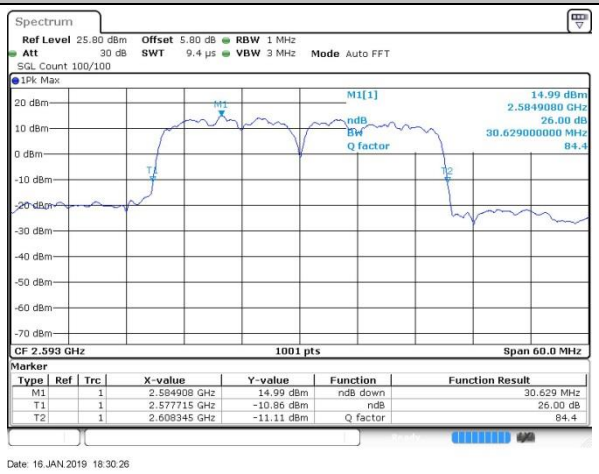
Lowest Channel / 15MHz+15MHz



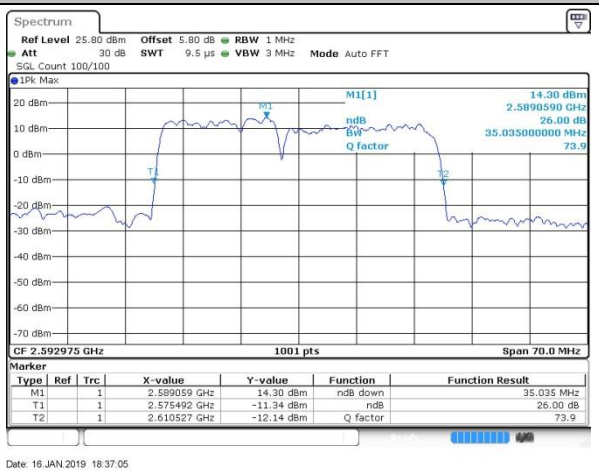
Lowest Channel / 15MHz+20MHz



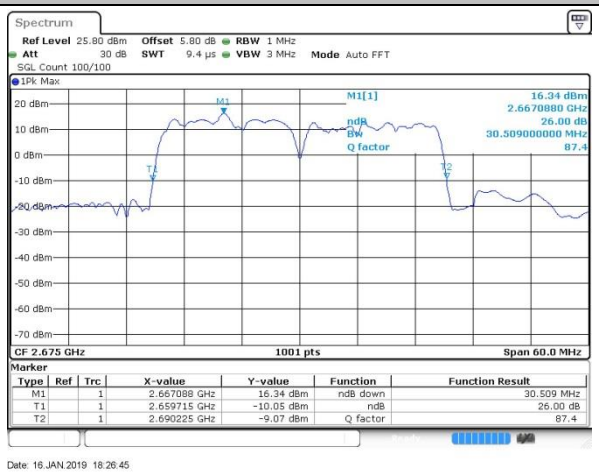
Middle Channel / 15MHz+15MHz



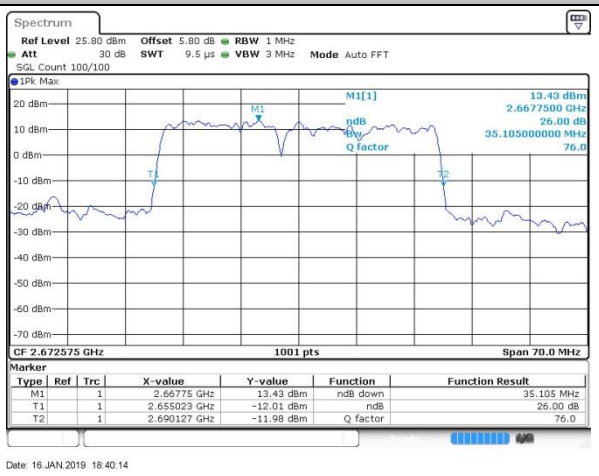
Middle Channel / 15MHz+20MHz



Highest Channel / 15MHz+15MHz



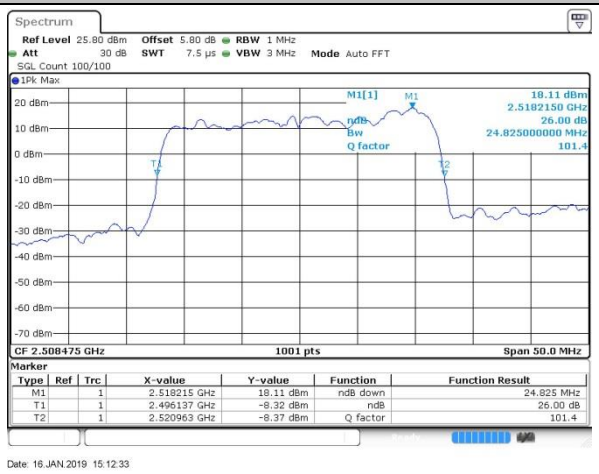
Highest Channel / 15MHz+20MHz



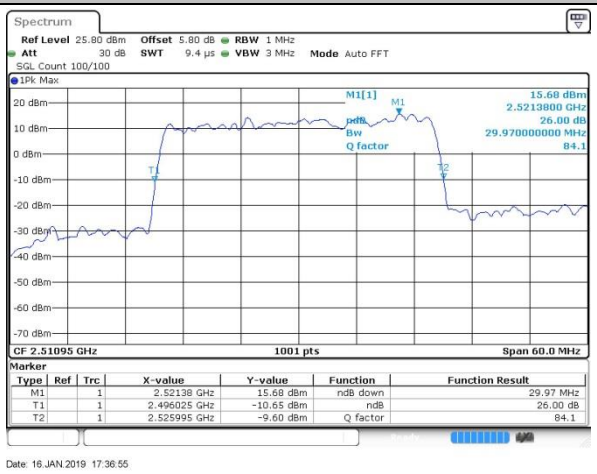
LTE Band 41

64QAM

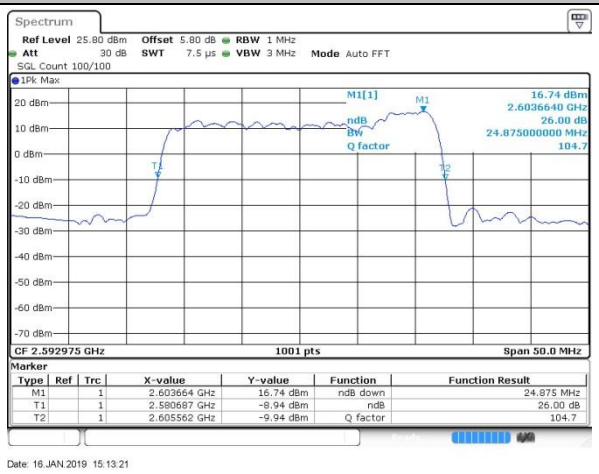
Lowest Channel / 20MHz+5MHz



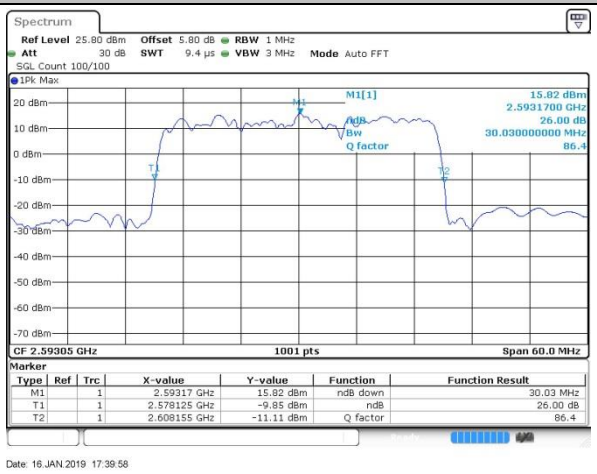
Lowest Channel / 20MHz+10MHz



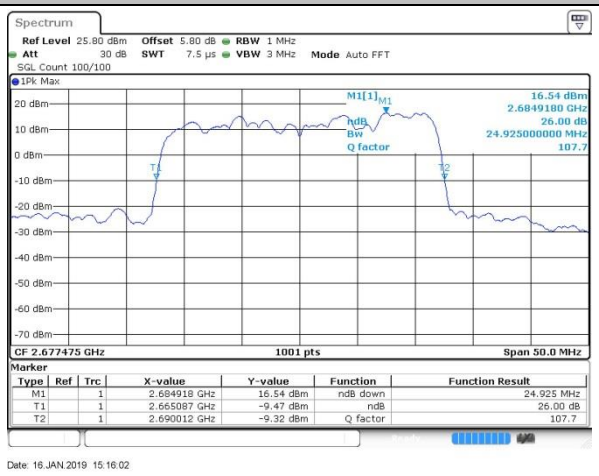
Middle Channel / 20MHz+5MHz



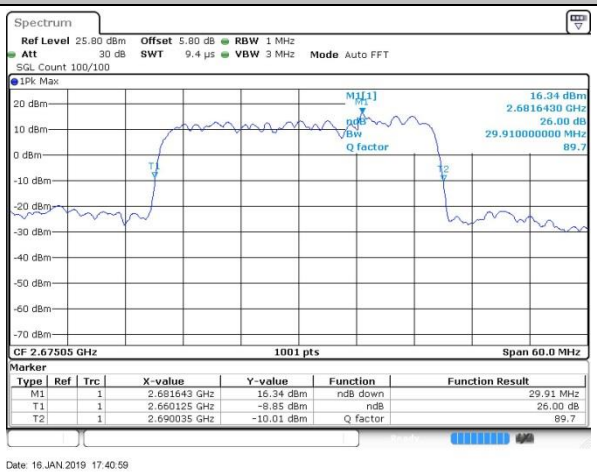
Middle Channel / 20MHz+10MHz



Highest Channel / 20MHz+5MHz



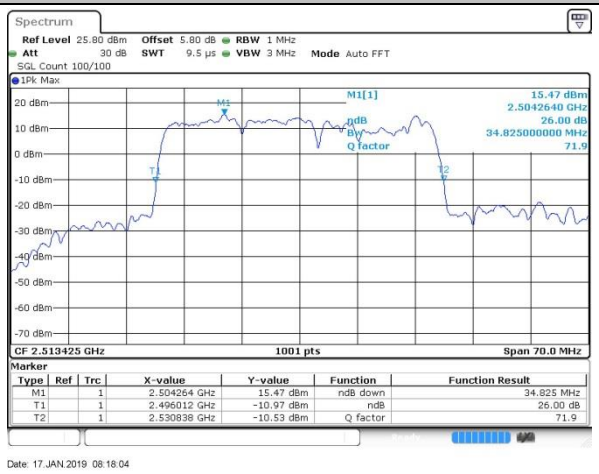
Highest Channel / 20MHz+10MHz



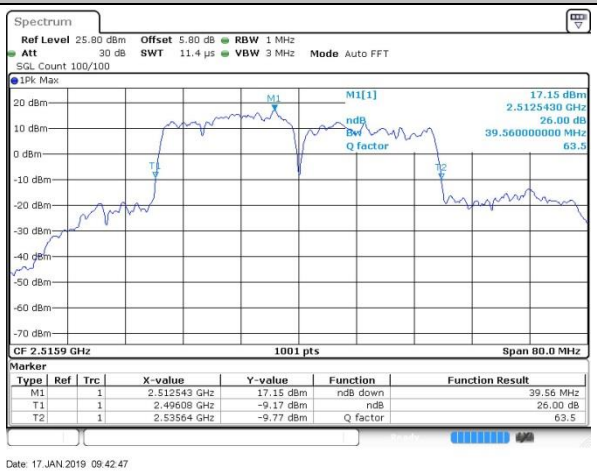
LTE Band 41

64QAM

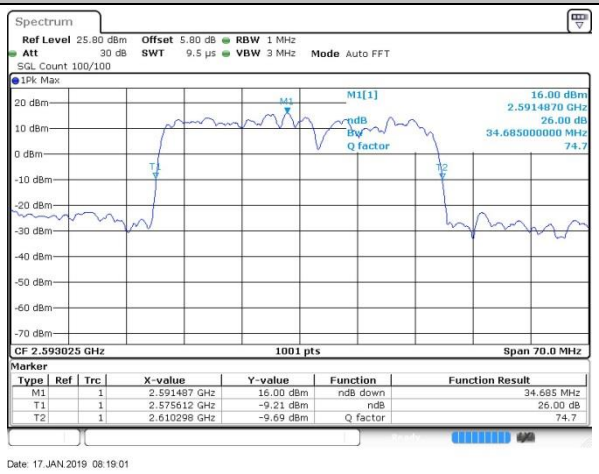
Lowest Channel / 20MHz+15MHz



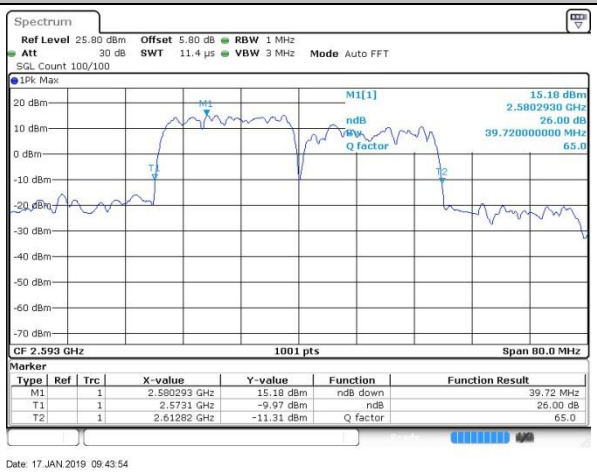
Lowest Channel / 20MHz+20MHz



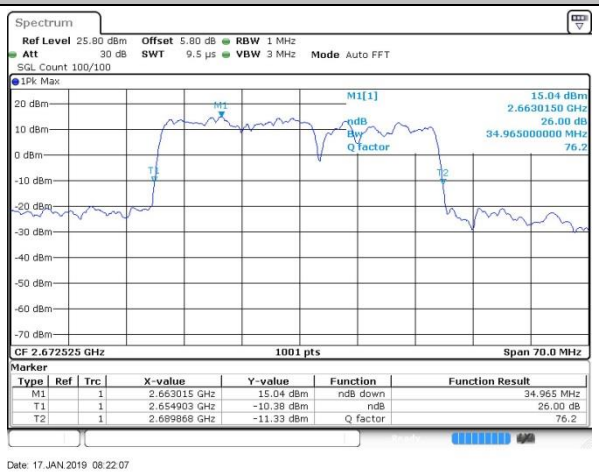
Middle Channel / 20MHz+15MHz



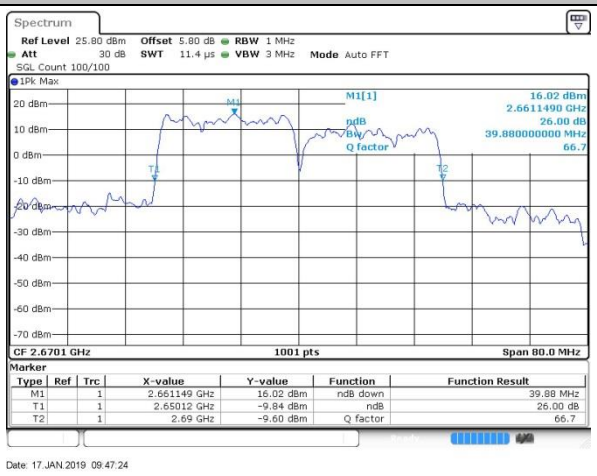
Middle Channel / 20MHz+20MHz



Highest Channel / 20MHz+15MHz



Highest Channel / 20MHz+20MHz



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	–	–	–	–	4.5	4.47	9.11	9.01	13.46	13.49	18.42	18.38
Middle CH	–	–	–	–	4.48	4.49	8.97	8.97	13.43	13.43	18.34	18.5
Highest CH	–	–	–	–	4.5	4.51	9.01	8.99	13.46	13.49	18.26	18.18
BW	5MHz	10MHz	15MHz	20MHz	–		–		–		–	
Mod.	64QAM	64QAM	64QAM	64QAM	–	–	–	–	–	–	–	–
Lowest CH	4.49	8.99	13.43	18.34	–	–	–	–	–	–	–	–
Middle CH	4.48	9.07	13.4	18.34	–	–	–	–	–	–	–	–
Highest CH	4.47	8.99	13.37	18.22	–	–	–	–	–	–	–	–

Mode	LTE Band 12 : 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	1.10	2.72	2.7	4.49	4.48	9.01	9.01	–	–	–	–
Middle CH	1.09	1.09	2.71	2.7	4.51	4.49	9.05	8.95	–	–	–	–
Highest CH	1.09	1.09	2.72	2.73	4.51	4.49	9.01	8.99	–	–	–	–
Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz	3MHz	5MHz	10MHz	–		–		–		–	
Mod.	64QAM	64QAM	64QAM	64QAM	–	–	–	–	–	–	–	–
Lowest CH	1.09	2.73	4.48	9.05	–	–	–	–	–	–	–	–
Middle CH	1.09	2.73	4.5	9.03	–	–	–	–	–	–	–	–
Highest CH	1.09	2.74	4.51	9.07	–	–	–	–	–	–	–	–

Mode	LTE Band 13 : 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	–	–	–	–	4.5	4.48	–	–	–	–	–	–
Middle CH	–	–	–	–	4.49	4.51	9.07	9.03	–	–	–	–
Highest CH	–	–	–	–	4.49	4.49	–	–	–	–	–	–
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	–	–	–	–	4.48	–	–	–	–	–	–	–
Middle CH	–	–	–	–	4.48	–	9.05	–	–	–	–	–
Highest CH	–	–	–	–	4.5	–	–	–	–	–	–	–

Mode	LTE Band 25 : 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	1.08	2.72	2.71	4.48	4.49	9.05	9.03	13.40	13.40	18.38	18.06
Middle CH	1.09	1.08	2.72	2.73	4.49	4.49	9.03	9.07	13.46	13.49	18.38	18.30
Highest CH	1.10	1.09	2.72	2.72	4.49	4.50	8.97	9.01	13.46	13.40	18.42	18.26
BW	1.4MHz	3MHz	5MHz	10MHz	15MHz	20MHz						
Mod.	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM						
Lowest CH	1.10	2.71	4.51	9.03	13.40	18.22						
Middle CH	1.09	2.72	4.50	9.05	13.49	18.34						
Highest CH	1.09	2.71	4.50	9.01	13.37	18.26						

Mode	LTE Band 26 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		26765	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.71	2.73	4.49	4.5	9.05	9.03	13.4	13.46	13.43	13.43
Middle CH	1.09	1.09	2.72	2.72	4.5	4.49	9.03	8.99	13.46	13.46	–	–
Highest CH	1.09	1.1	2.73	2.72	4.52	4.5	9.05	8.95	13.43	13.4	–	–
BW	1.4MHz	3MHz	5MHz	10MHz	15MHz	26765						
Mod.	64QAM	64QAM	64QAM	64QAM	64QAM	64QAM						
Lowest CH	1.08	2.73	4.5	9.01	13.4	13.49						
Middle CH	1.1	2.72	4.5	9.01	13.43	–						
Highest CH	1.09	2.71	4.49	9.03	13.43	–						

Mode	LTE Band 41 : 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	–	–	–	–	4.49	4.49	9.01	8.99	13.46	13.52	18.34	18.3
Middle CH	–	–	–	–	4.47	4.49	9.03	8.97	13.4	13.34	18.34	18.3
Highest CH	–	–	–	–	4.48	4.5	9.05	9.01	13.46	13.46	18.34	18.3
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	–	–	–	–	4.49	–	9.05	–	13.4	–	18.42	–
Middle CH	–	–	–	–	4.48	–	9.05	–	13.4	–	18.14	–
Highest CH	–	–	–	–	4.51	–	8.99	–	13.37	–	18.18	–

Mode	LTE Band 66 : 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	2.72	2.73	4.51	4.49	8.97	9.03	13.46	13.49	18.34	18.5
Middle CH	1.09	1.09	2.72	2.71	4.5	4.48	9.01	8.99	13.52	13.49	18.38	18.34
Highest CH	1.09	1.09	2.7	2.73	4.48	4.5	9.09	9.05	13.46	13.46	18.22	18.38
Mode	LTE Band 66 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09	-	2.71	-	4.51	-	9.01	-	13.4	-	18.42	-
Middle CH	1.09	-	2.7	-	4.5	-	9.01	-	13.49	-	18.26	-
Highest CH	1.09	-	2.71	-	4.47	-	9.03	-	13.4	-	18.22	-

For CA:

Mode	LTE Band 7 : 99%OBW(MHz)			
QPSK				
BW	10MHz+20MHz	15MHz+5MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	27.57	-	23.48	28.53
Middle CH	28.05	-	23.43	28.65
Highest CH	27.87	-	23.23	28.17
BW	15MHz+20MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.73	27.81	32.66	37.56
Middle CH	32.59	28.05	33.01	37.64
Highest CH	32.52	28.05	32.73	37.40

Mode	LTE Band 7 : 99%OBW(MHz)			
16QAM				
BW	10MHz+20MHz	15MHz+5MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	28.11	-	23.33	28.47
Middle CH	27.99	-	23.18	28.41
Highest CH	28.05	-	23.13	28.59
BW	15MHz+20MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.59	27.63	32.38	37.40
Middle CH	32.87	28.05	33.15	37.08
Highest CH	32.45	27.93	32.59	37.16

Mode	LTE Band 7 : 99%OBW(MHz)			
64QAM				
BW	10MHz+20MHz	15MHz+5MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	27.99	-	23.03	28.53
Middle CH	27.51	-	23.38	28.71
Highest CH	27.75	-	23.13	28.41
BW	15MHz+20MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.17	28.17	32.59	37.40
Middle CH	32.94	28.05	32.87	37.56
Highest CH	32.66	27.81	32.24	37.72

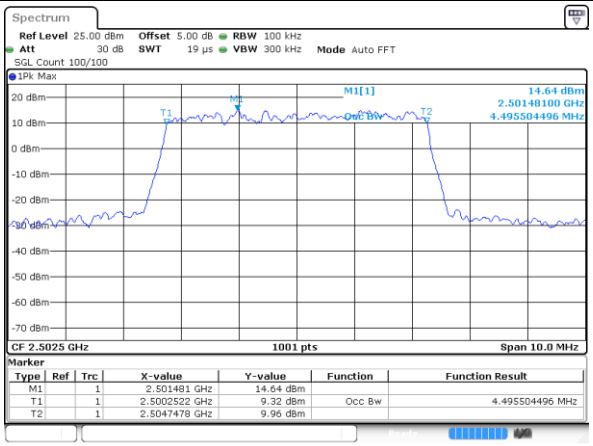
Mode	LTE Band 41 : 99%OBW(MHz)				
QPSK					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	23.18	23.43	27.87	23.53	28.59
Middle CH	23.38	23.53	28.11	23.43	28.71
Highest CH	23.28	23.43	27.87	23.48	28.65
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.80	23.13	27.87	32.94	37.64
Middle CH	32.73	23.28	27.99	32.73	37.72
Highest CH	32.66	23.38	28.11	32.80	37.64

Mode	LTE Band 41 : 99%OBW(MHz)				
16QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	23.23	23.53	27.81	23.28	28.53
Middle CH	23.33	23.48	28.11	23.38	28.65
Highest CH	23.28	23.33	27.87	23.33	28.65
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.80	23.18	27.75	32.52	37.48
Middle CH	32.80	23.43	27.81	32.52	37.72
Highest CH	32.80	23.33	28.17	33.08	37.64

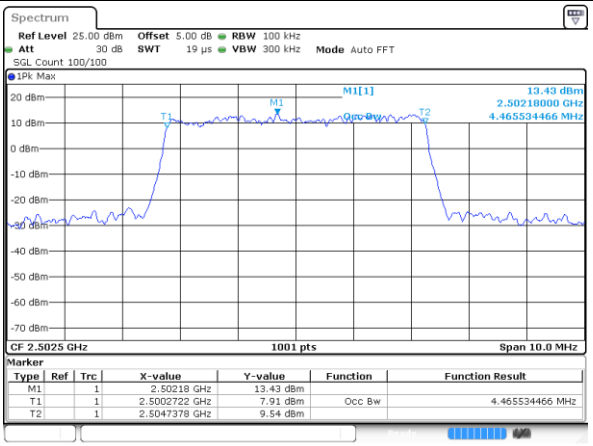
Mode	LTE Band 41 : 99%OBW(MHz)				
64QAM					
BW	5MHz+20MHz	10MHz+15MHz	10MHz+20MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	23.13	23.38	28.05	23.23	28.47
Middle CH	23.13	23.38	27.87	23.43	28.59
Highest CH	23.38	23.33	27.93	23.38	28.53
BW	15MHz+20MHz	20MHz+5MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	32.59	23.23	27.75	32.66	37.56
Middle CH	32.94	23.33	27.99	32.66	37.64
Highest CH	33.01	23.28	28.05	33.01	37.40

LTE Band 7

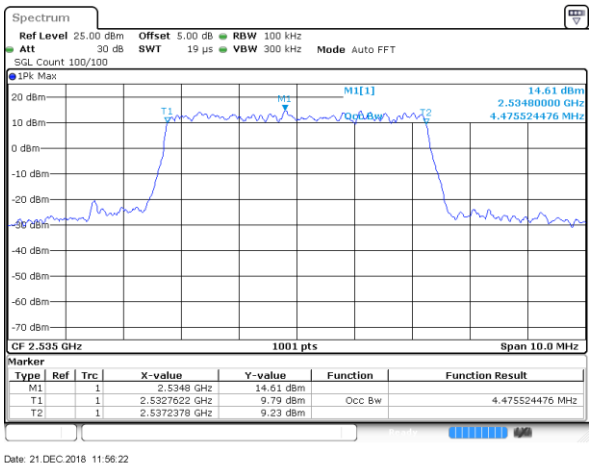
Lowest Channel / 5MHz / QPSK



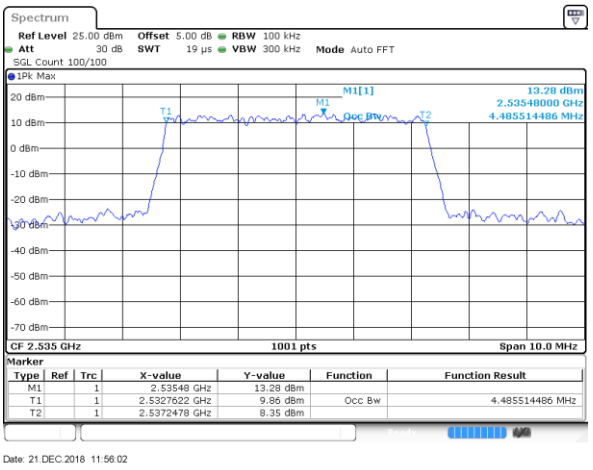
Lowest Channel / 5MHz / 16QAM



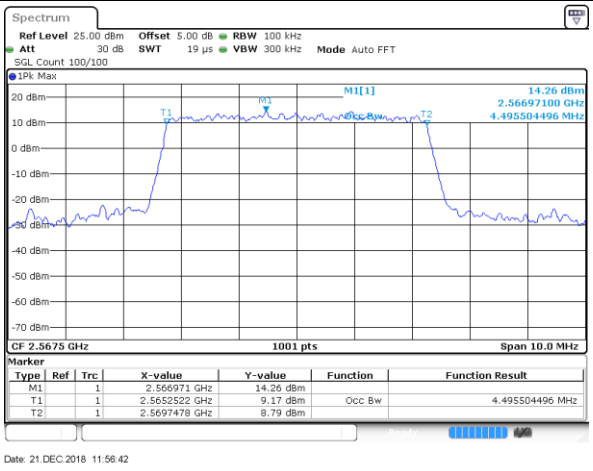
Middle Channel / 5MHz / QPSK



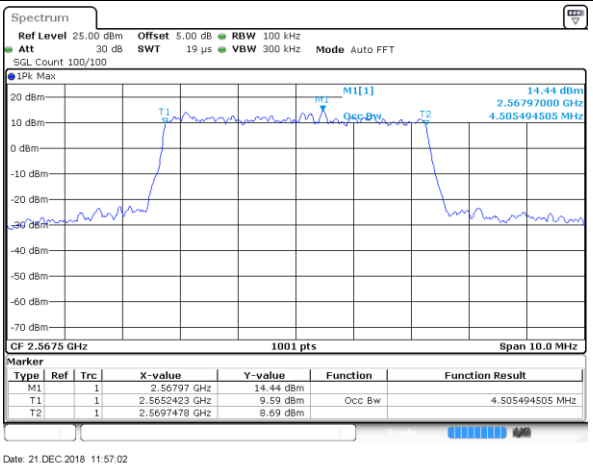
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

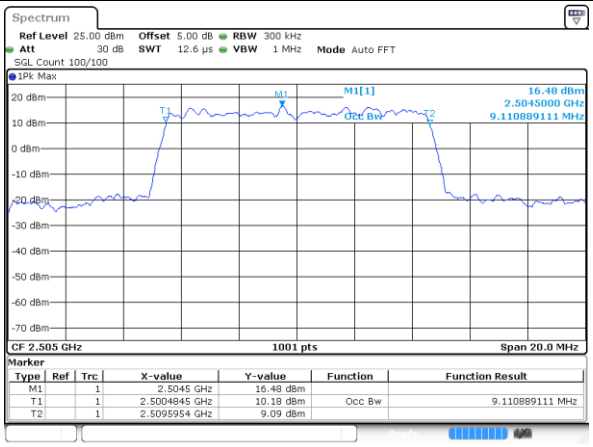


Highest Channel / 5MHz / 16QAM



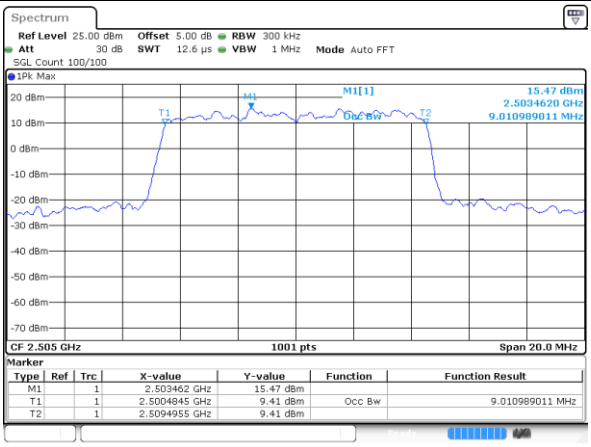
LTE Band 7

Lowest Channel / 10MHz / QPSK



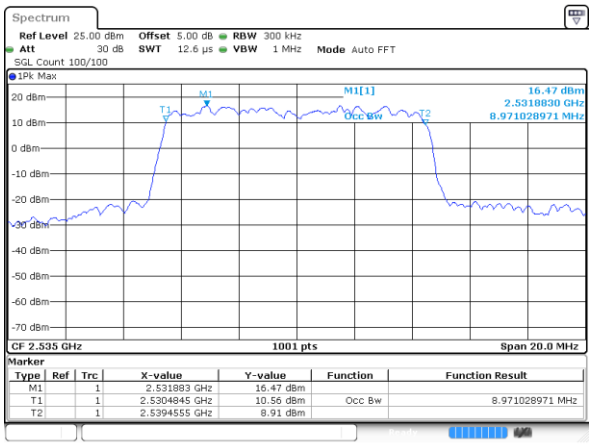
Date: 21.DEC.2018 12:11:52

Lowest Channel / 10MHz / 16QAM



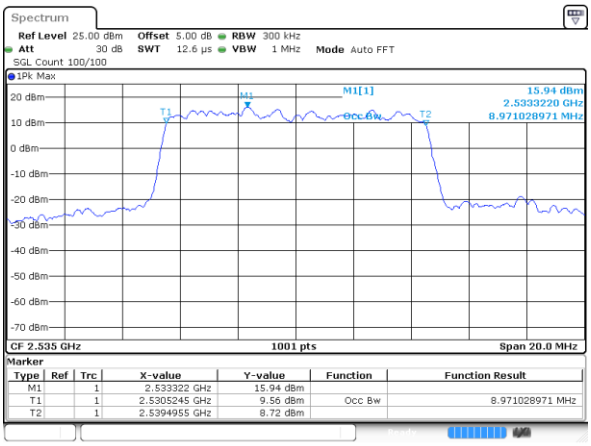
Date: 21.DEC.2018 12:12:12

Middle Channel / 10MHz / QPSK



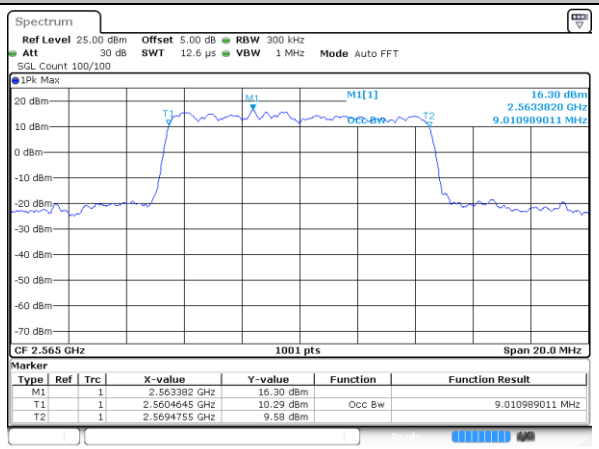
Date: 21.DEC.2018 12:12:53

Middle Channel / 10MHz / 16QAM



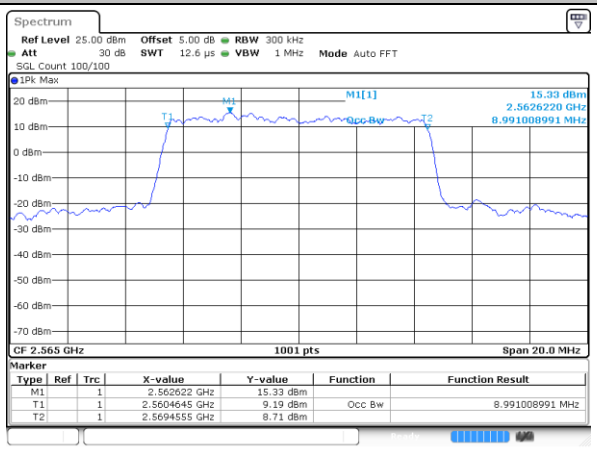
Date: 21.DEC.2018 12:12:33

Highest Channel / 10MHz / QPSK



Date: 21.DEC.2018 12:13:13

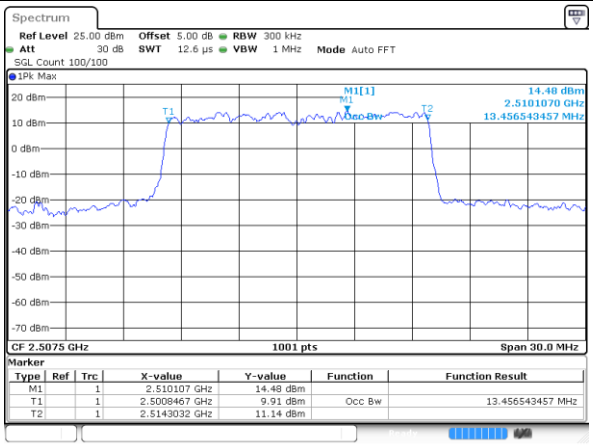
Highest Channel / 10MHz / 16QAM



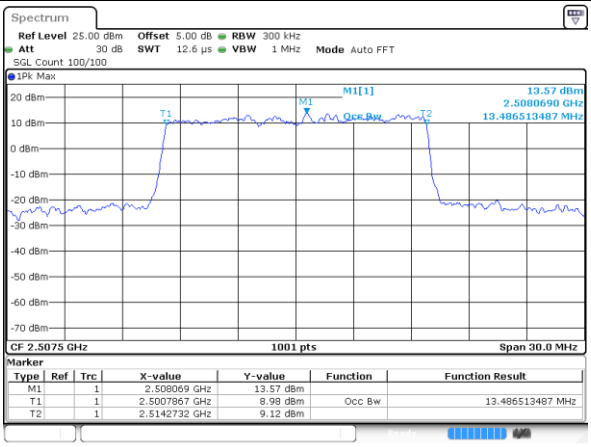
Date: 21.DEC.2018 12:13:33

LTE Band 7

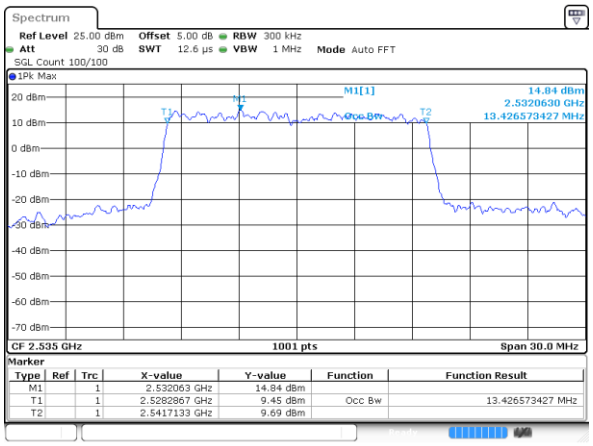
Lowest Channel / 15MHz / QPSK



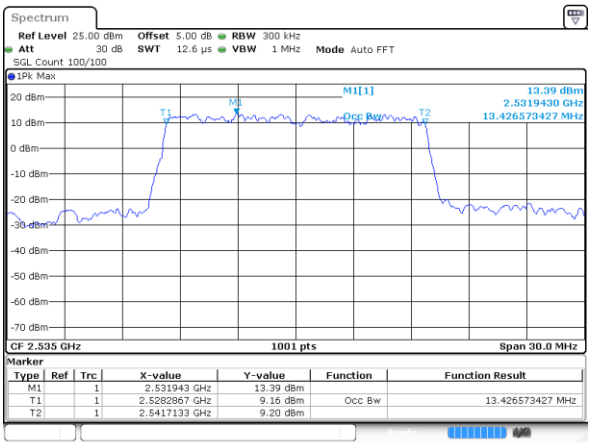
Lowest Channel / 15MHz / 16QAM



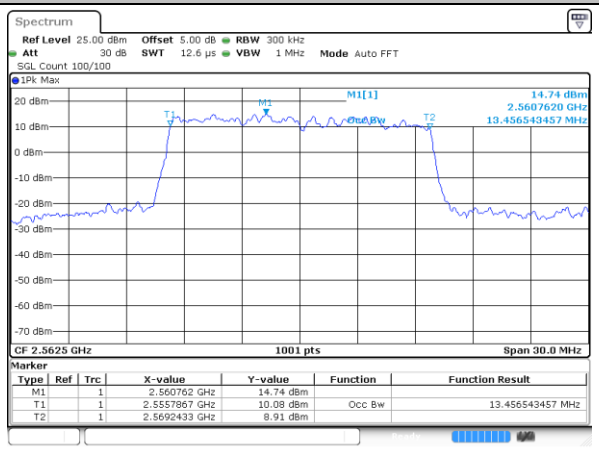
Middle Channel / 15MHz / QPSK



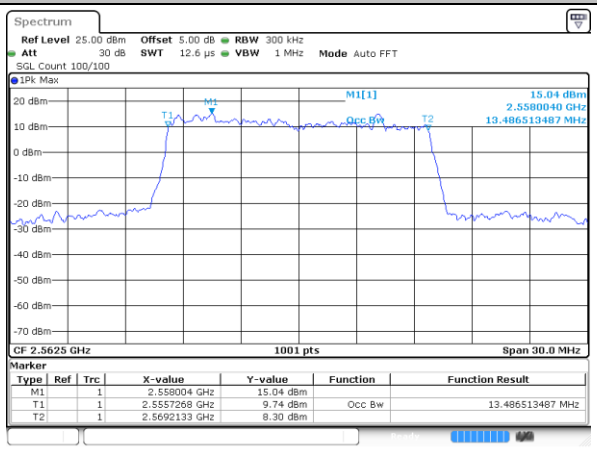
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

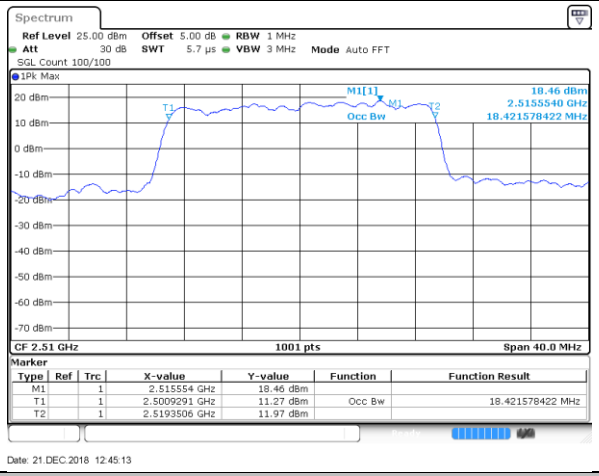


Highest Channel / 15MHz / 16QAM

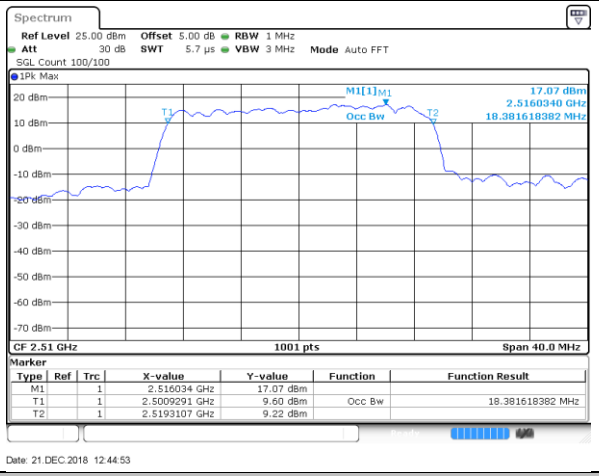


LTE Band 7

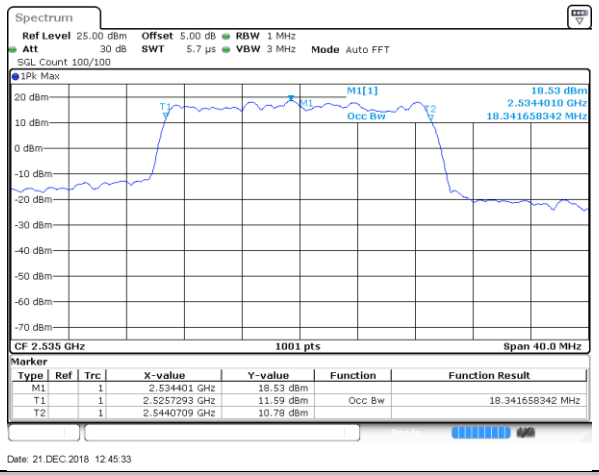
Lowest Channel / 20MHz / QPSK



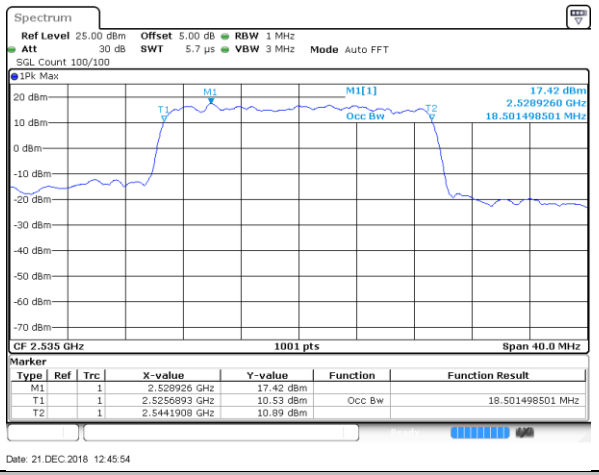
Lowest Channel / 20MHz / 16QAM



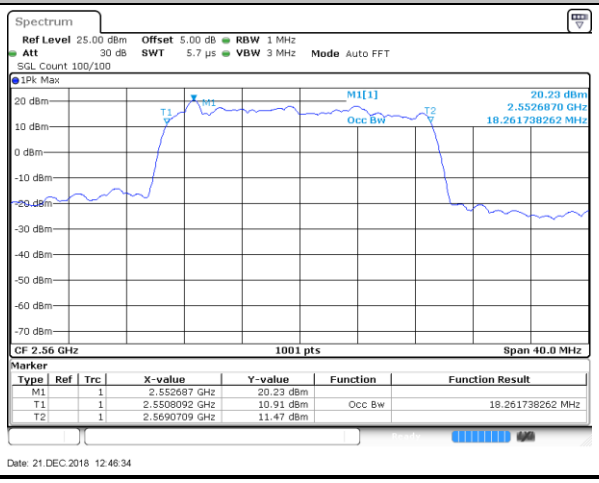
Middle Channel / 20MHz / QPSK



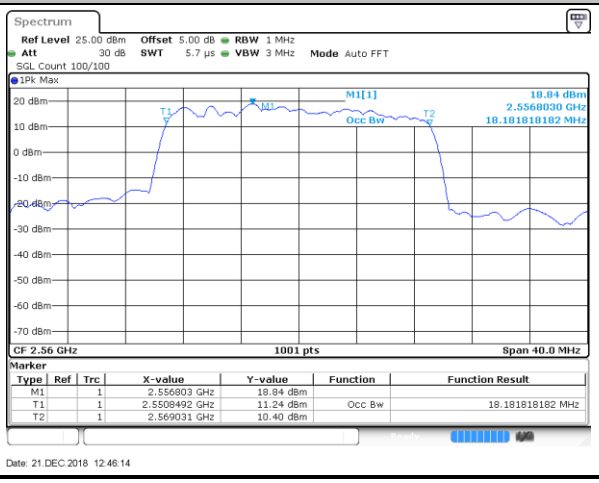
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK

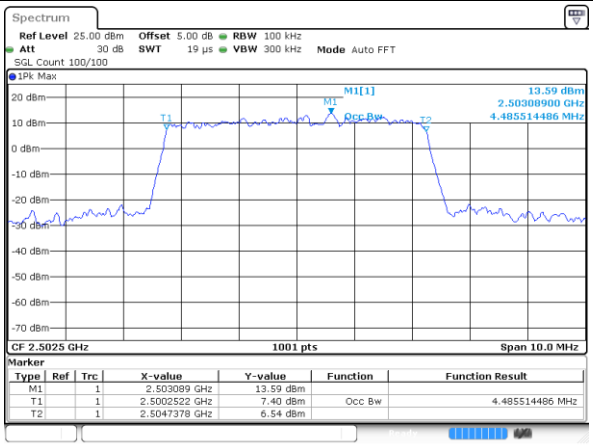


Highest Channel / 20MHz / 16QAM

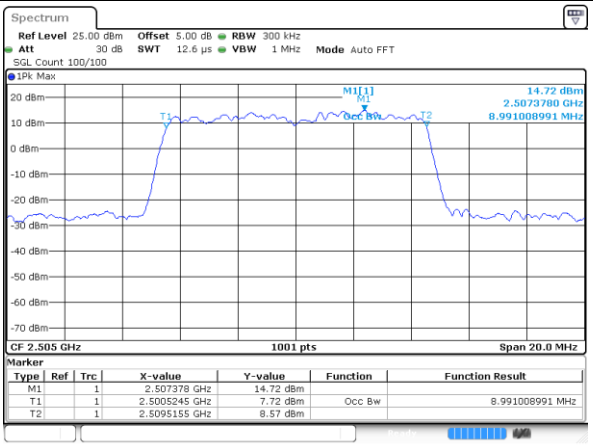


LTE Band 7

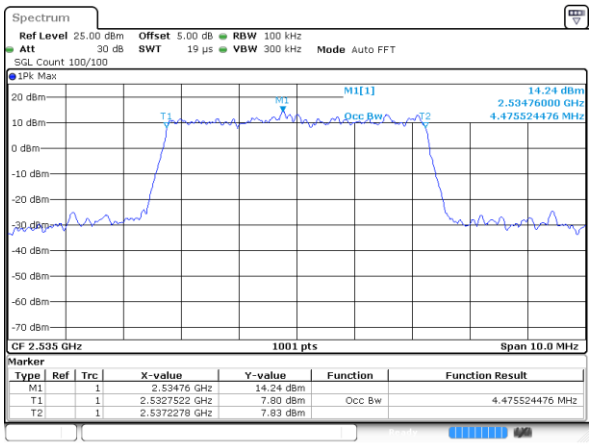
Lowest Channel / 5MHz / 64QAM



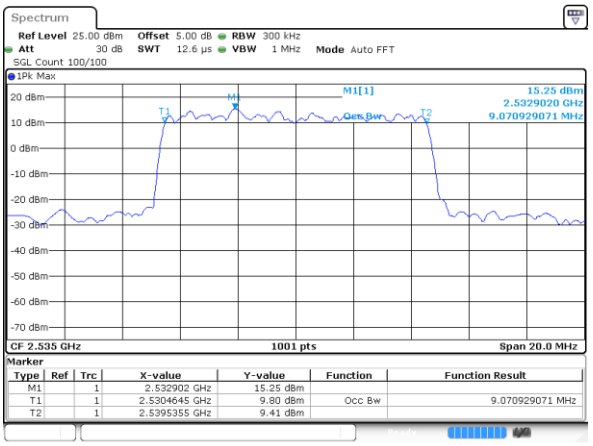
Lowest Channel / 10MHz / 64QAM



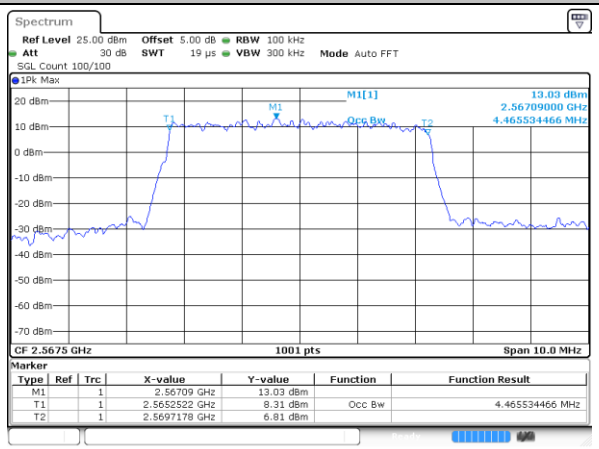
Middle Channel / 5MHz / 64QAM



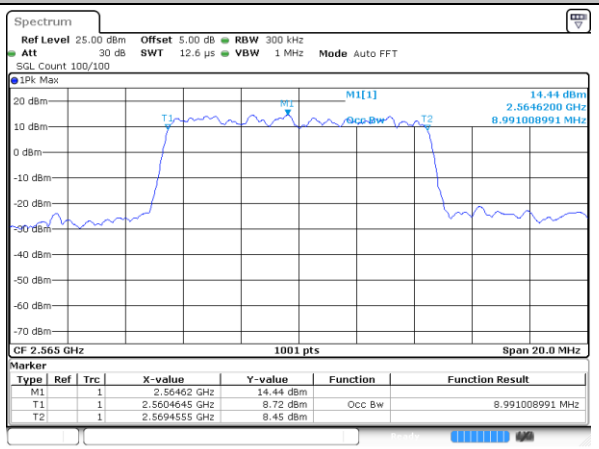
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

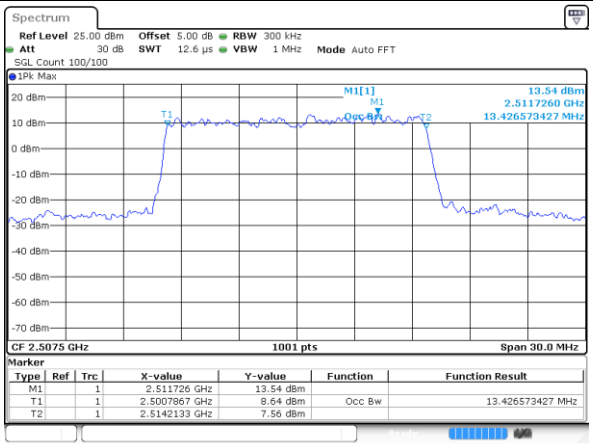


Highest Channel / 10MHz / 64QAM

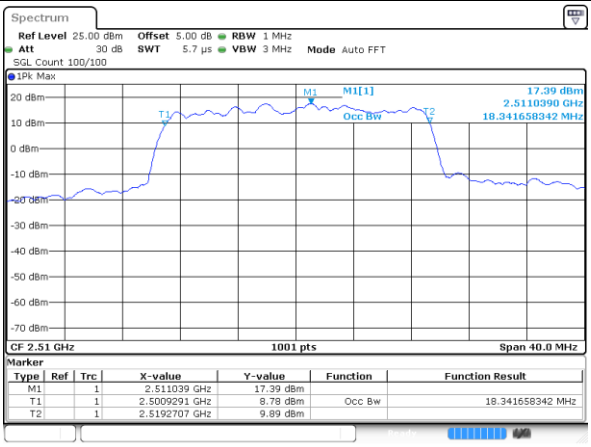


LTE Band 7

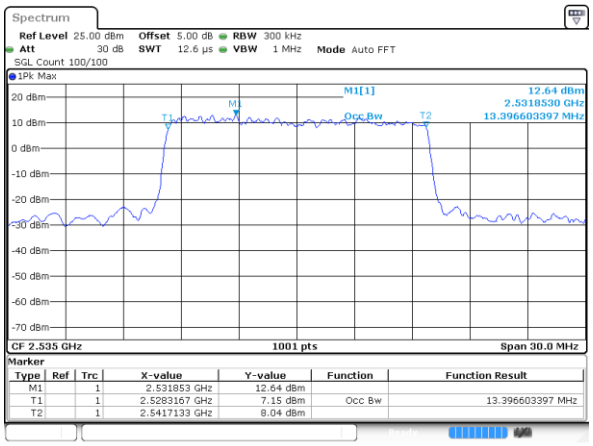
Lowest Channel / 15MHz / 64QAM



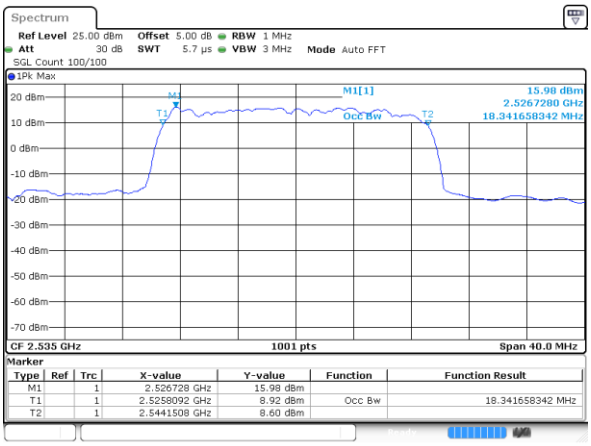
Lowest Channel / 20MHz / 64QAM



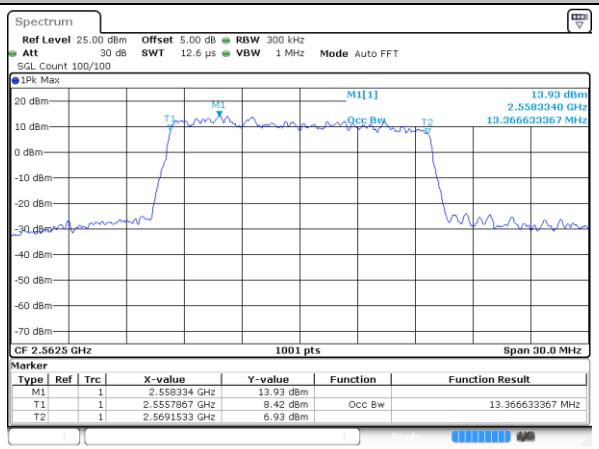
Middle Channel / 15MHz / 64QAM



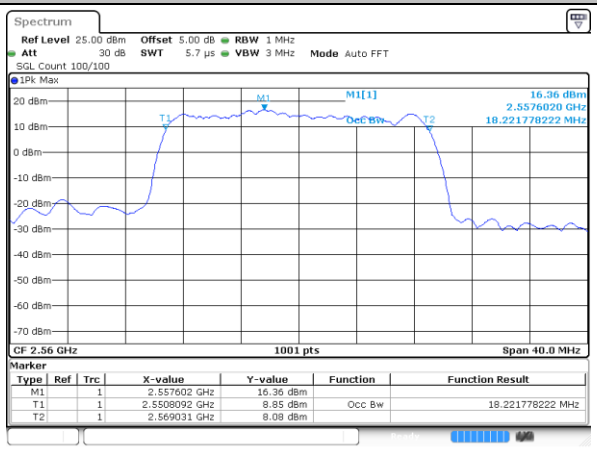
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM

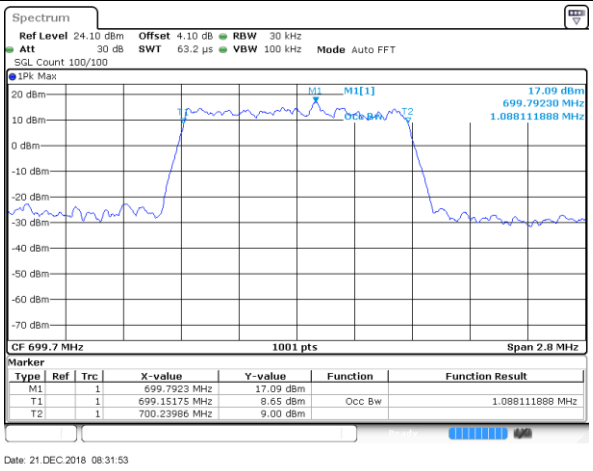


Highest Channel / 20MHz / 64QAM

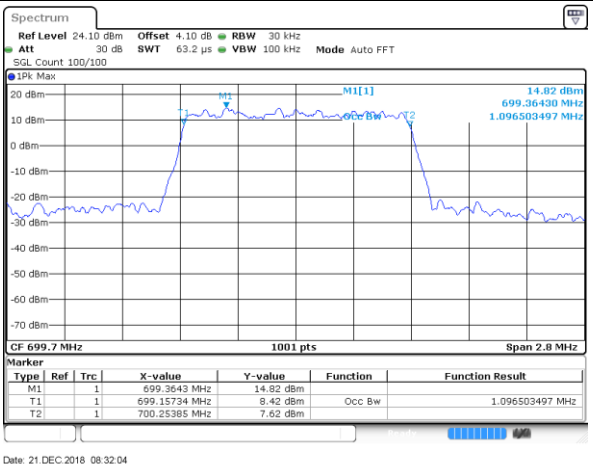


LTE Band 12

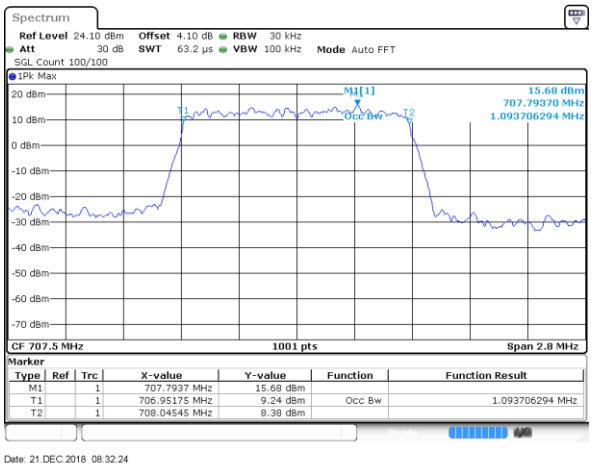
Lowest Channel / 1.4MHz / QPSK



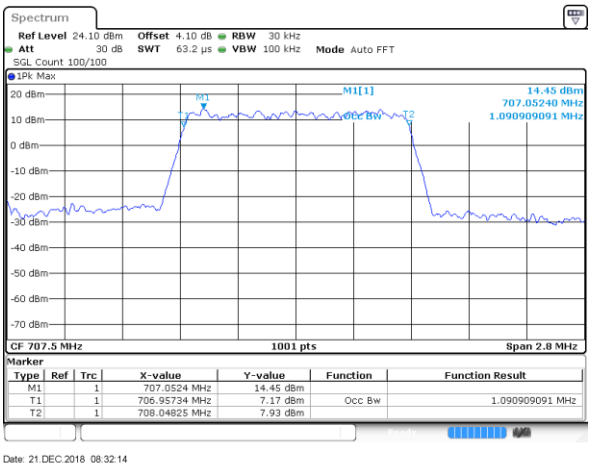
Lowest Channel / 1.4MHz / 16QAM



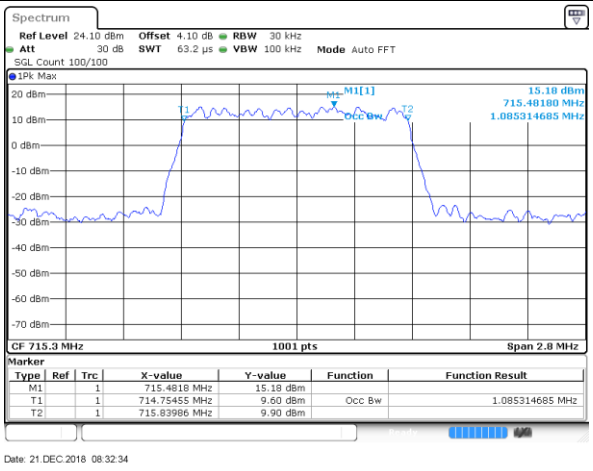
Middle Channel / 1.4MHz / QPSK



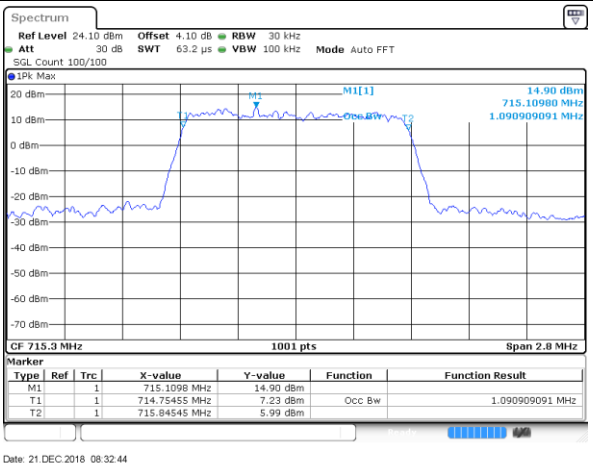
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

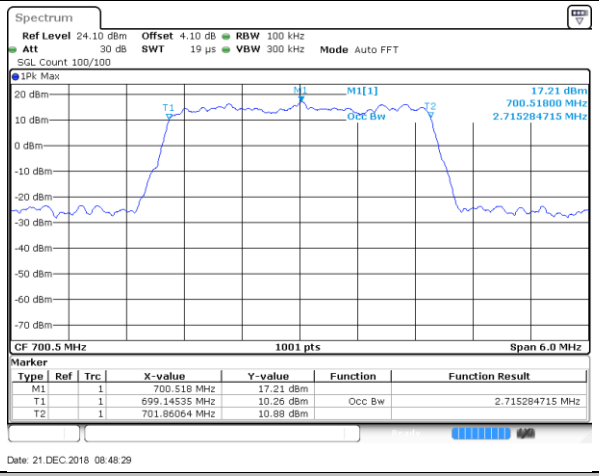


Highest Channel / 1.4MHz / 16QAM

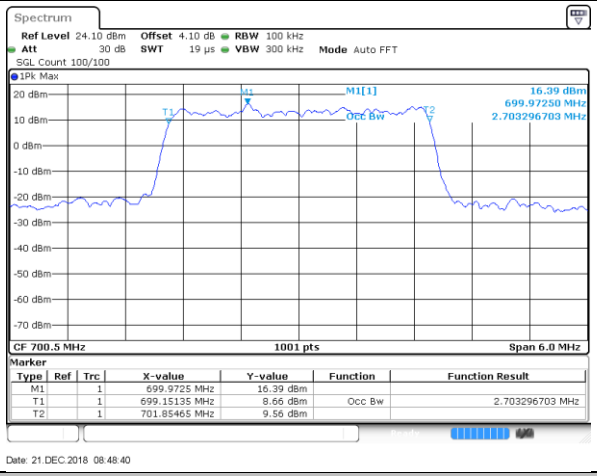


LTE Band 12

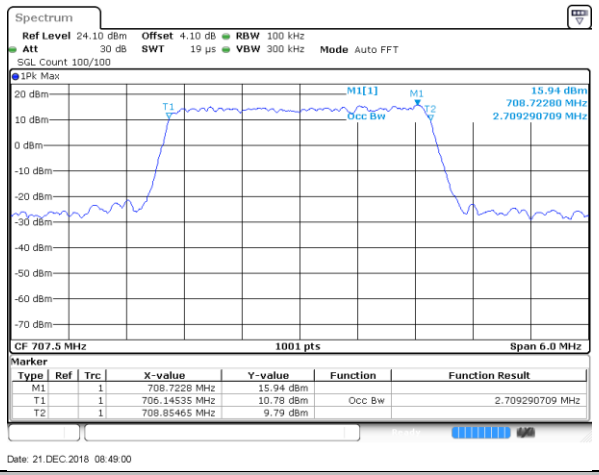
Lowest Channel / 3MHz / QPSK



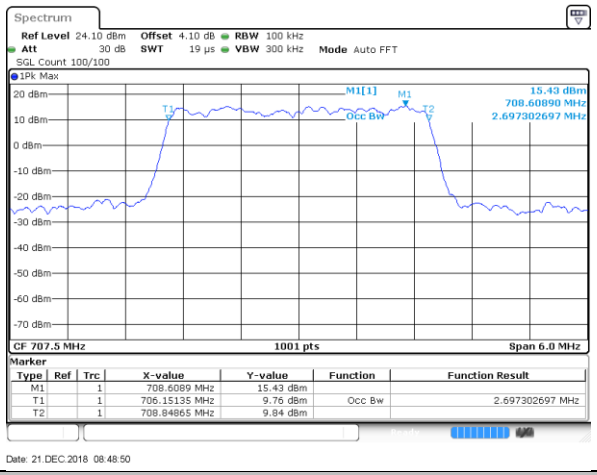
Lowest Channel / 3MHz / 16QAM



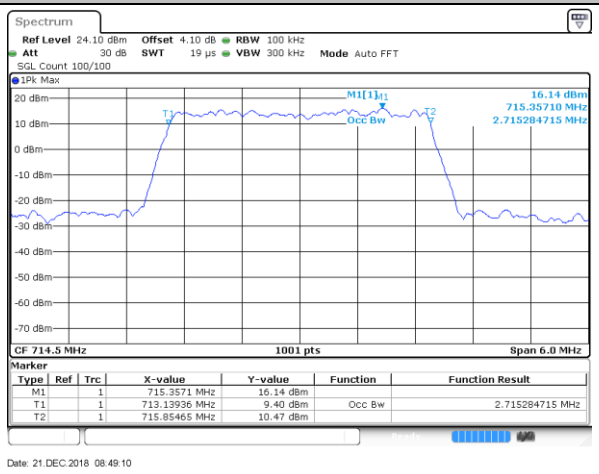
Middle Channel / 3MHz / QPSK



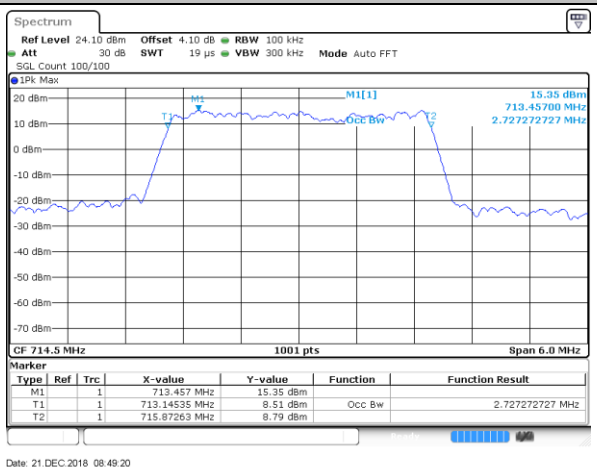
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

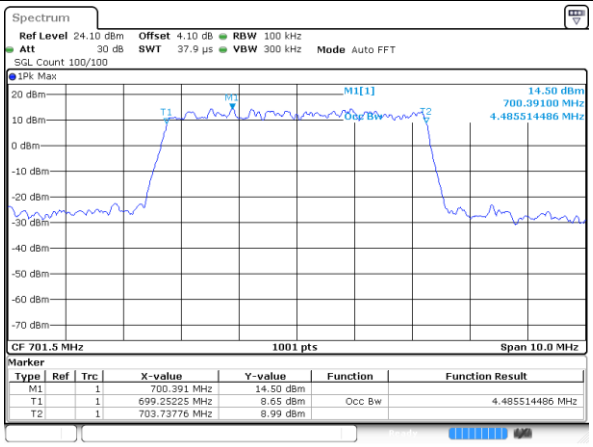


Highest Channel / 3MHz / 16QAM

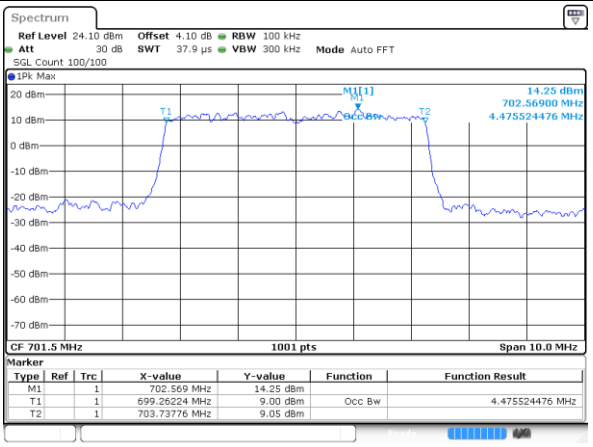


LTE Band 12

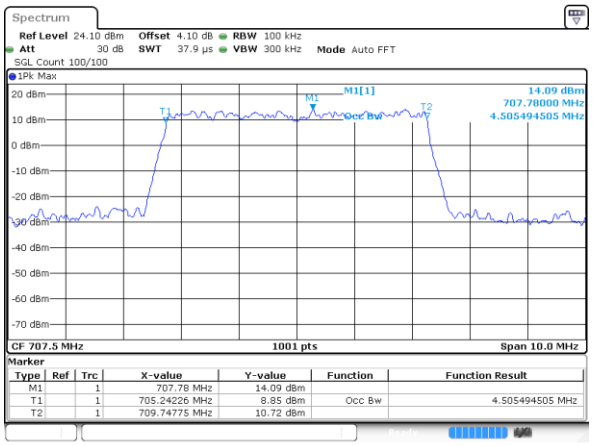
Lowest Channel / 5MHz / QPSK



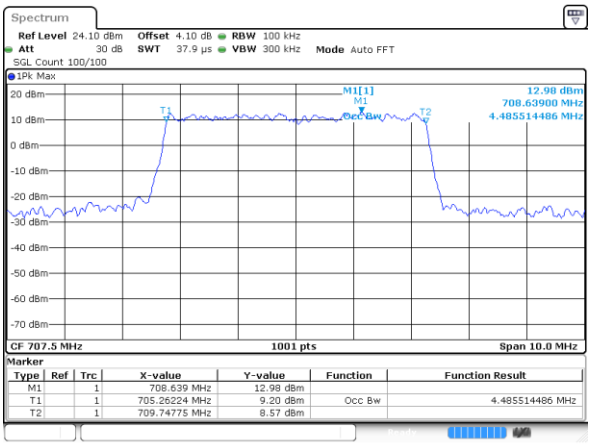
Lowest Channel / 5MHz / 16QAM



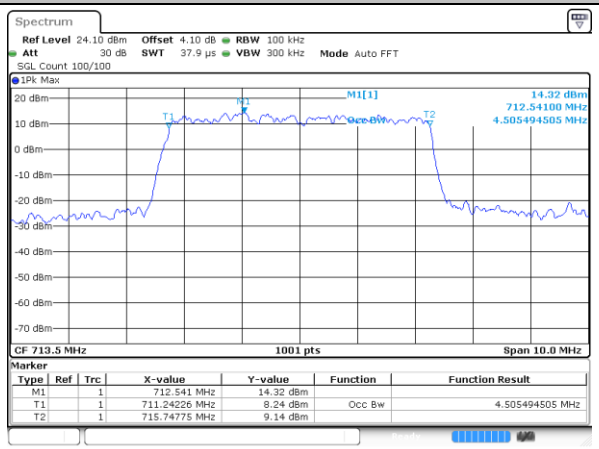
Middle Channel / 5MHz / QPSK



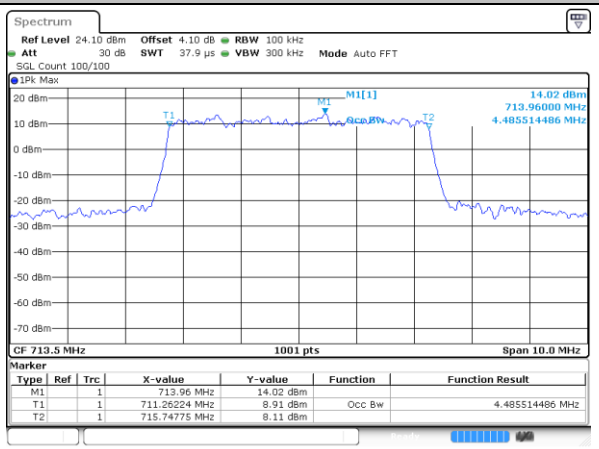
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

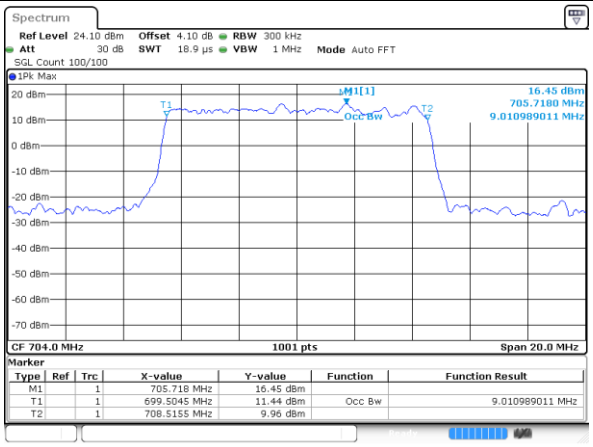


Highest Channel / 5MHz / 16QAM



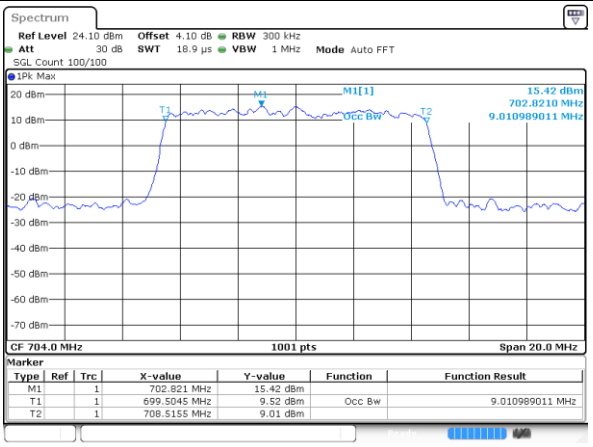
LTE Band 12

Lowest Channel / 10MHz / QPSK



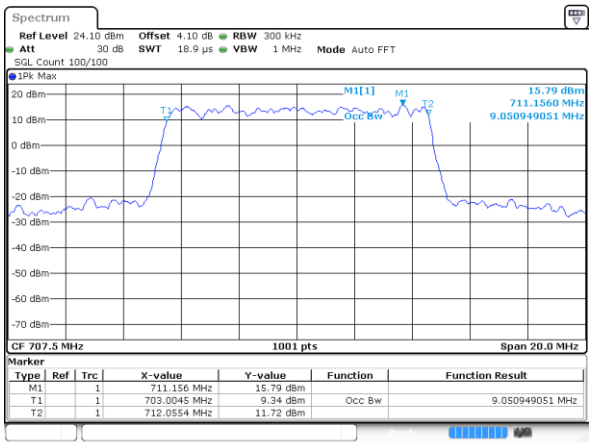
Date: 21.DEC.2018 09:21:39

Lowest Channel / 10MHz / 16QAM



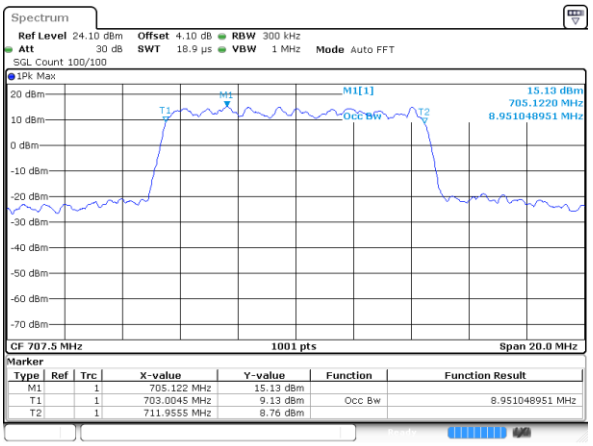
Date: 21.DEC.2018 09:21:50

Middle Channel / 10MHz / QPSK



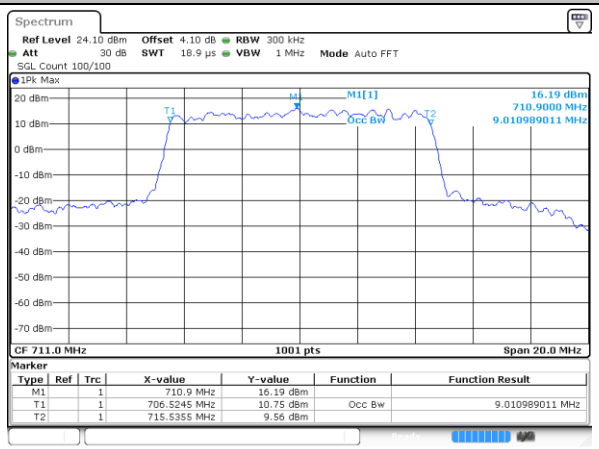
Date: 21.DEC.2018 09:22:10

Middle Channel / 10MHz / 16QAM



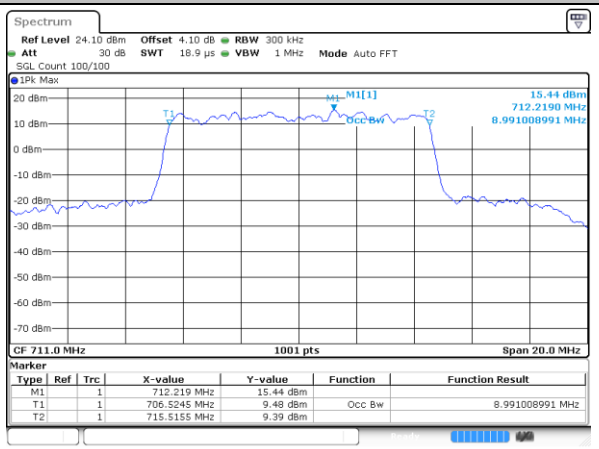
Date: 21.DEC.2018 09:22:00

Highest Channel / 10MHz / QPSK



Date: 21.DEC.2018 09:22:20

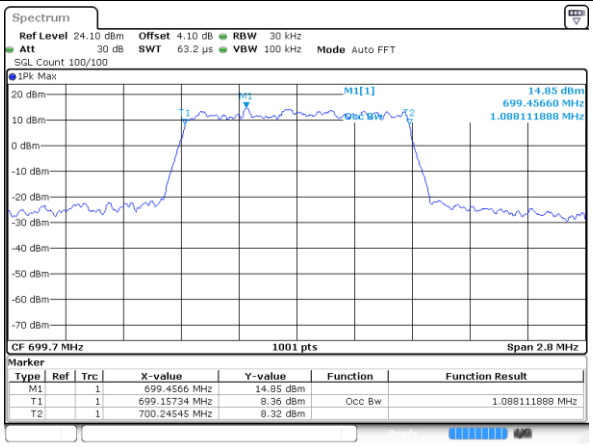
Highest Channel / 10MHz / 16QAM



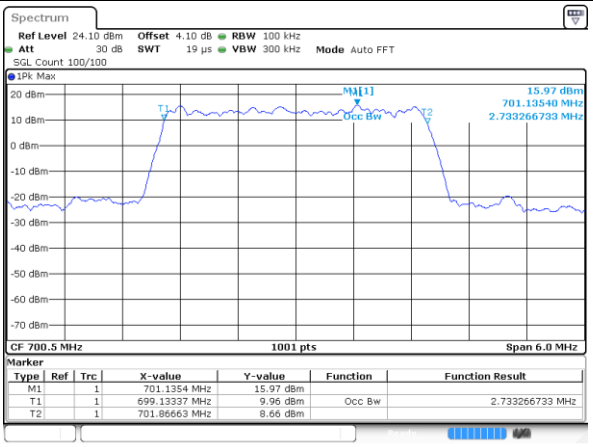
Date: 21.DEC.2018 09:22:30

LTE Band 12

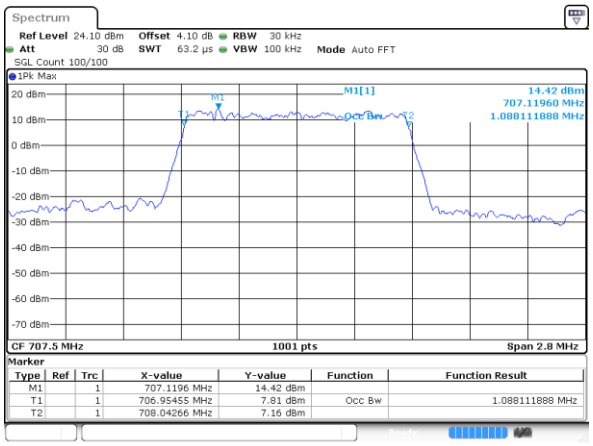
Lowest Channel / 1.4MHz / 64QAM



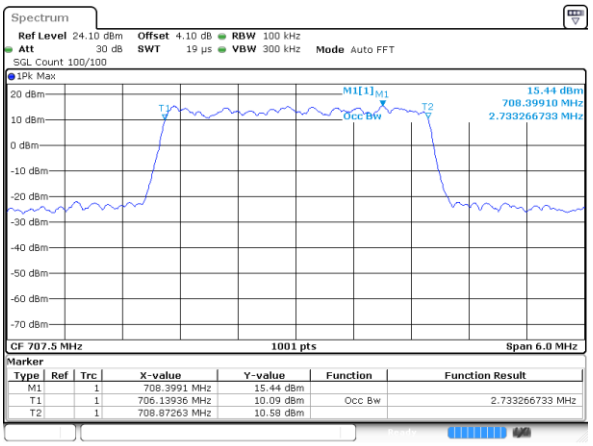
Lowest Channel / 3MHz / 64QAM



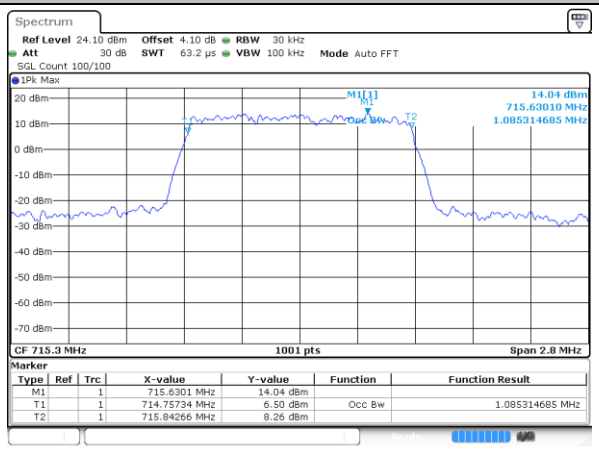
Middle Channel / 1.4MHz / 64QAM



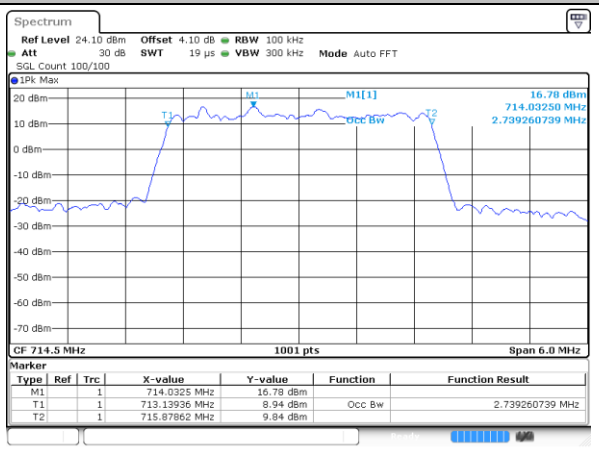
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM

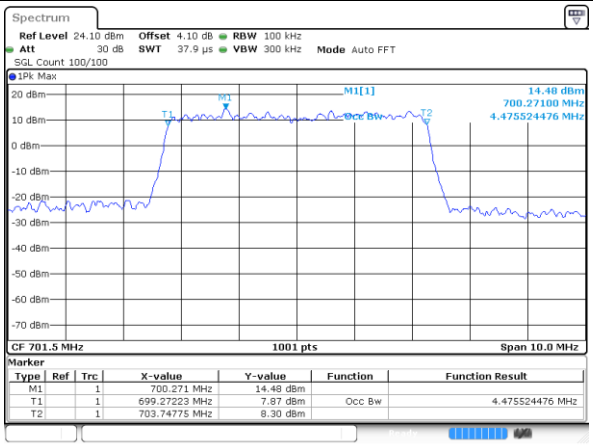


Highest Channel / 3MHz / 64QAM

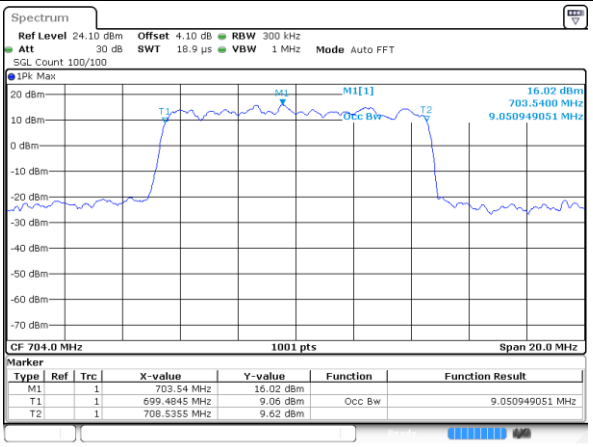


LTE Band 12

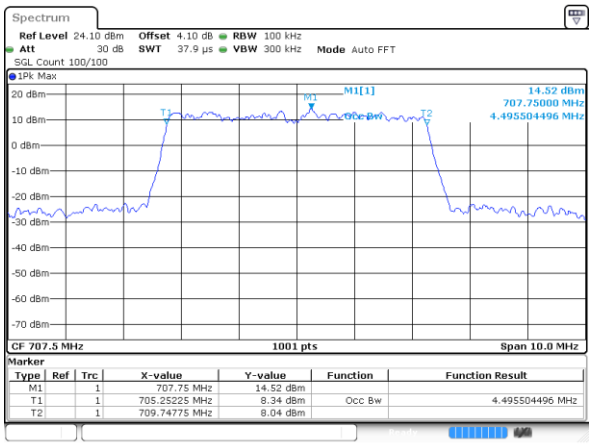
Lowest Channel / 5MHz / 64QAM



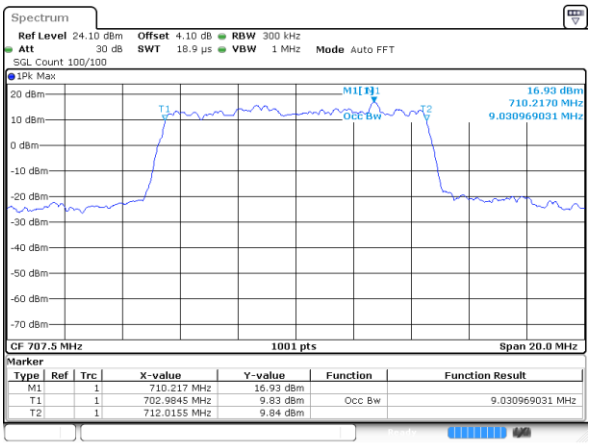
Lowest Channel / 10MHz / 64QAM



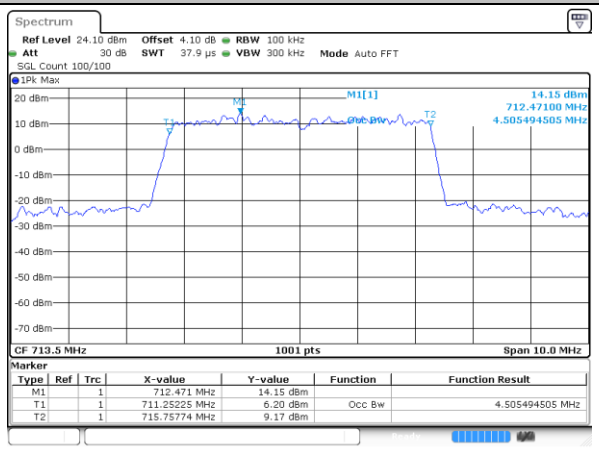
Middle Channel / 5MHz / 64QAM



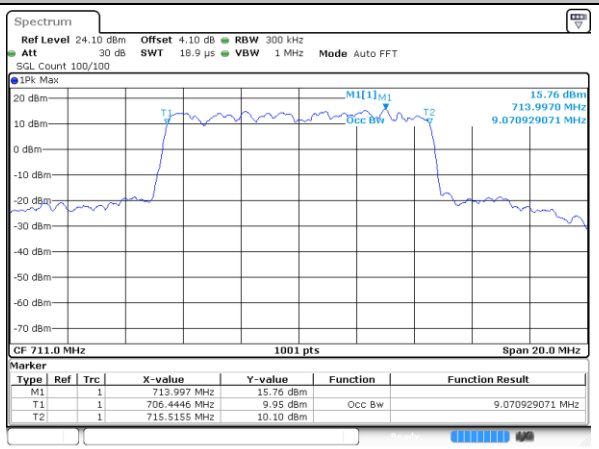
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

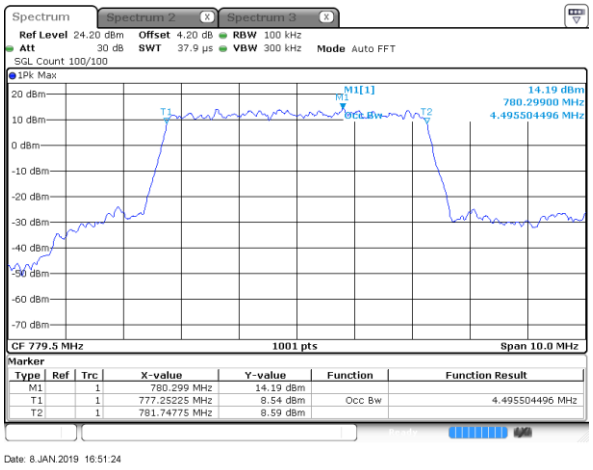


Highest Channel / 10MHz / 64QAM

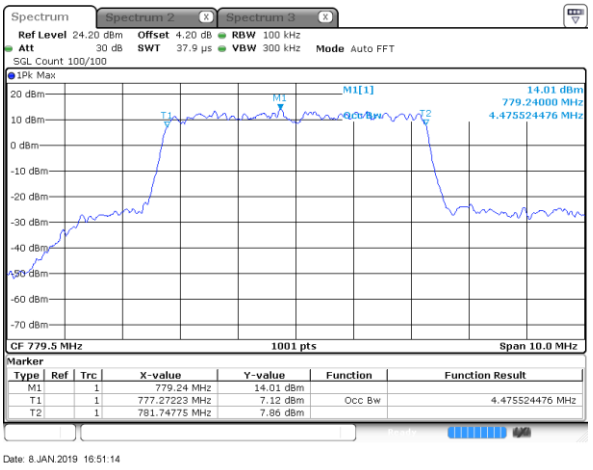


LTE Band 13

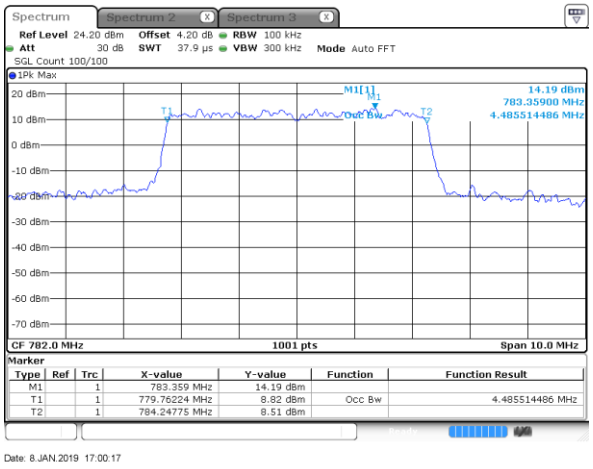
Lowest Channel / 5MHz / QPSK



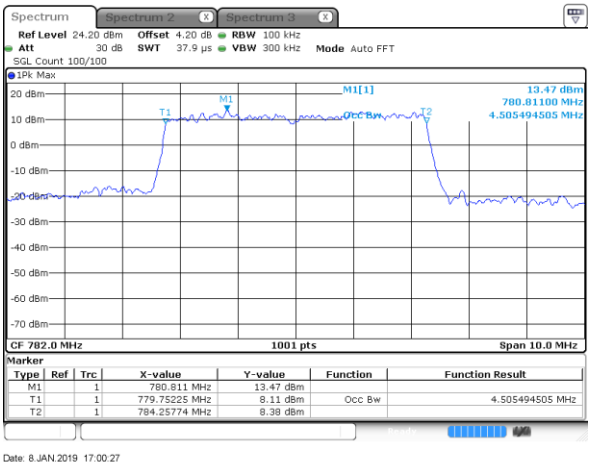
Lowest Channel / 5MHz / 16QAM



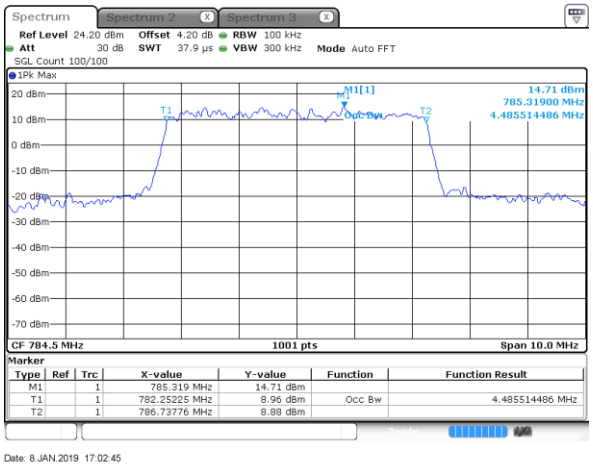
Middle Channel / 5MHz / QPSK



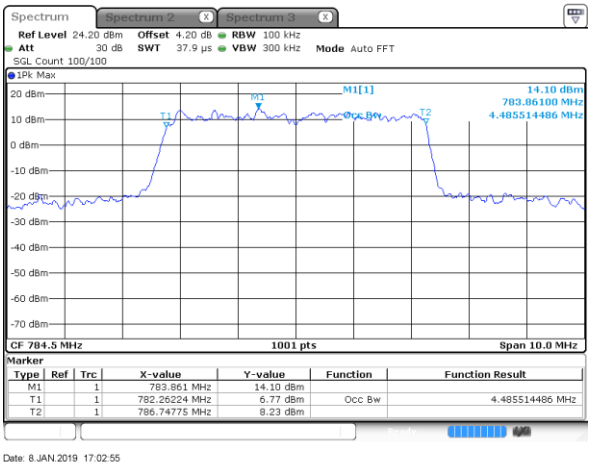
Middle Channel / 5MHz / 16QAM

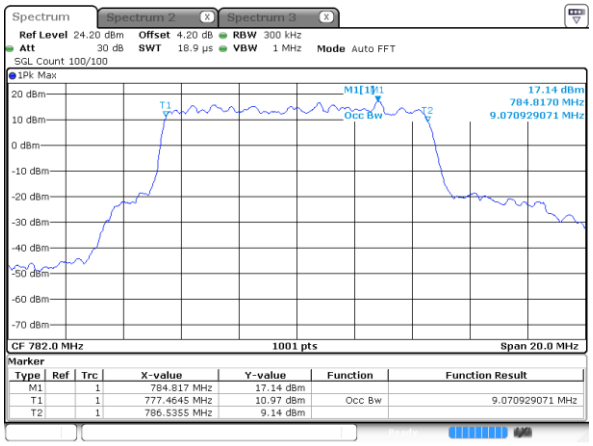
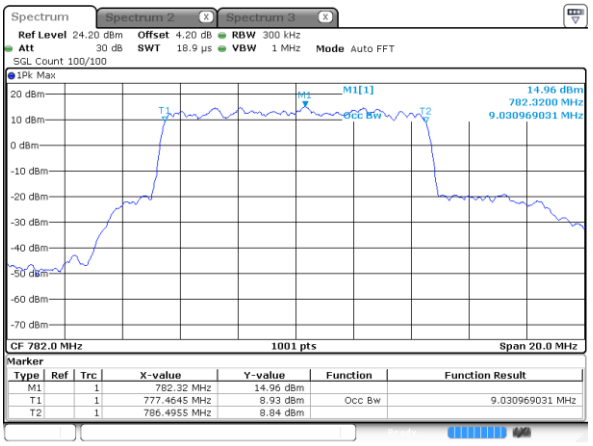


Highest Channel / 5MHz / QPSK



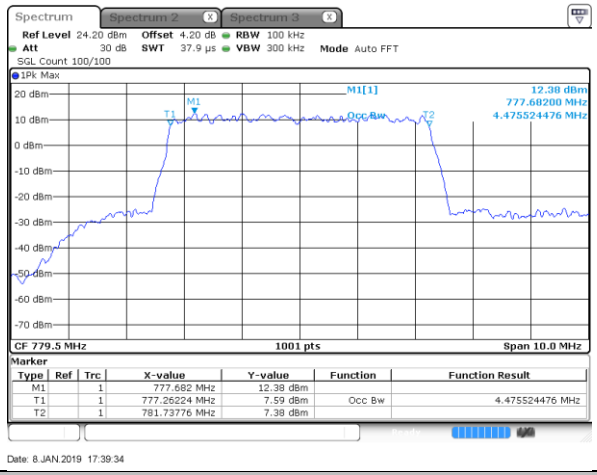
Highest Channel / 5MHz / 16QAM



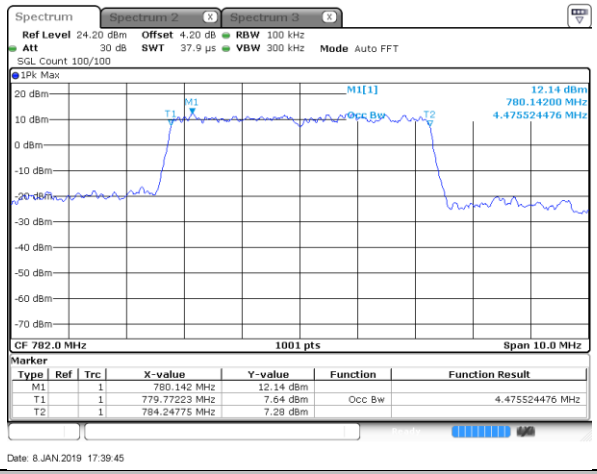
LTE Band 13	
Middle Channel / 10MHz / QPSK	**Middle Channel / 10MHz / 16QAM**
	

LTE Band 13

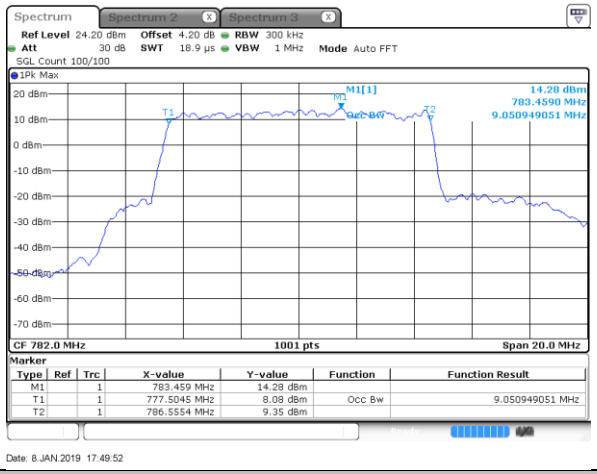
Lowest Channel / 5MHz / 64QAM



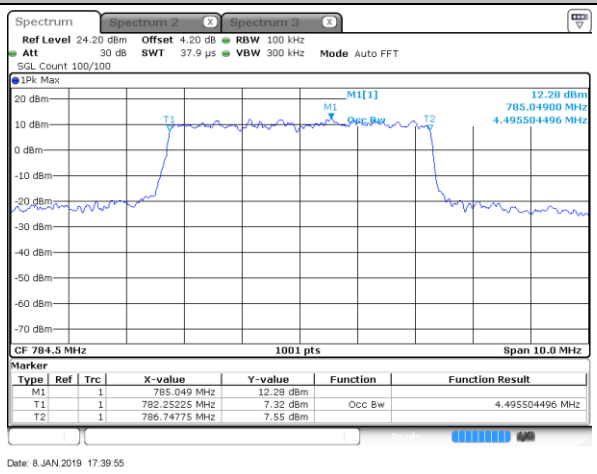
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM

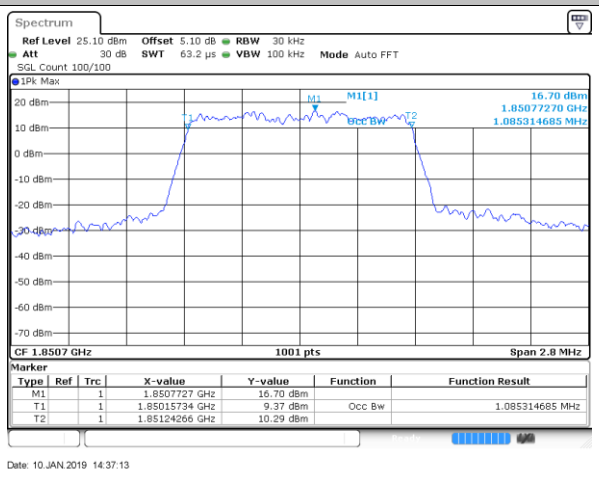


Highest Channel / 5MHz / 64QAM

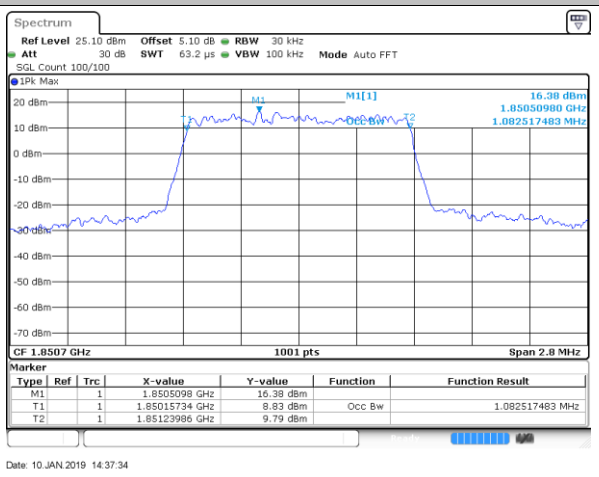


LTE Band 25

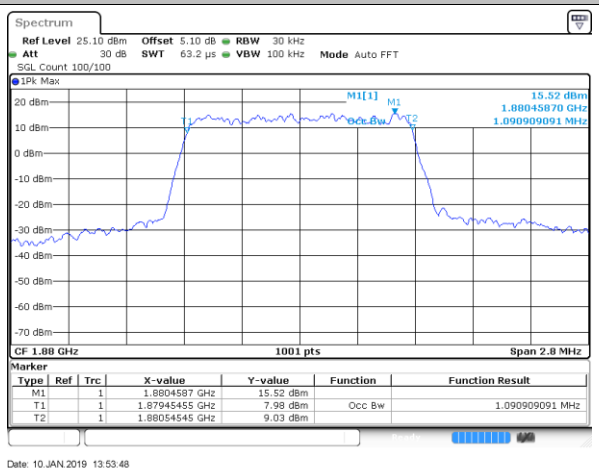
Lowest Channel / 1.4MHz / QPSK



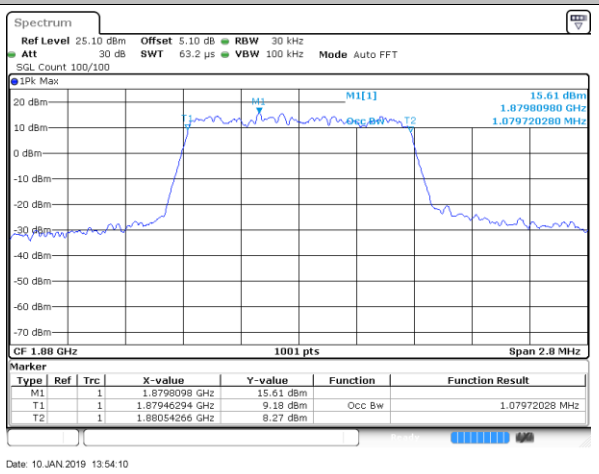
Lowest Channel / 1.4MHz / 16QAM



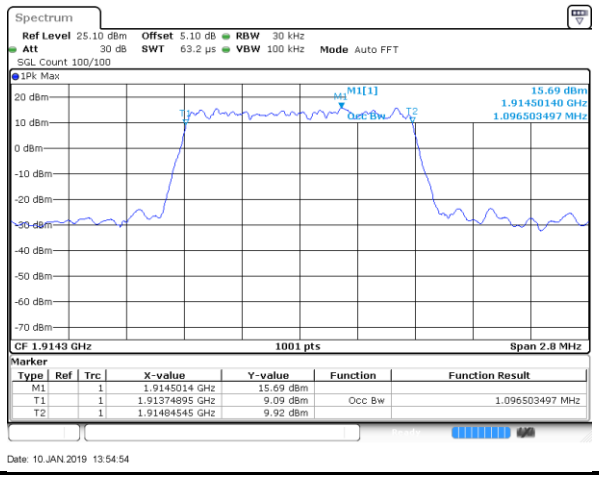
Middle Channel / 1.4MHz / QPSK



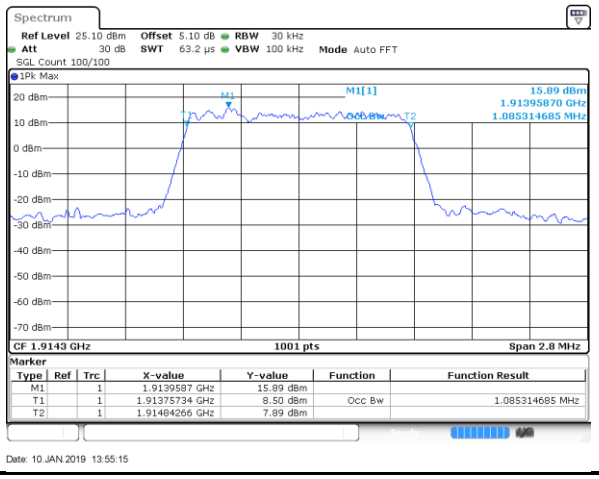
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

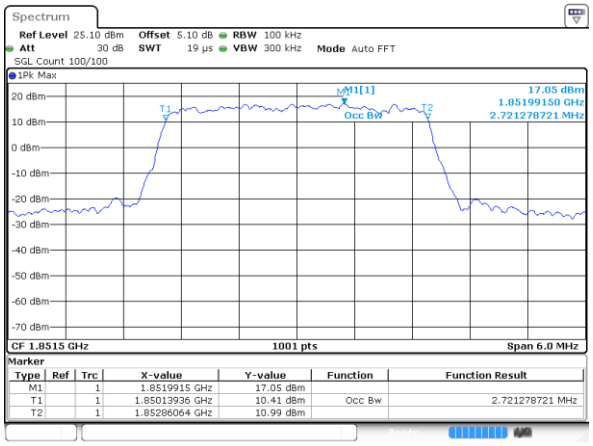


Highest Channel / 1.4MHz / 16QAM

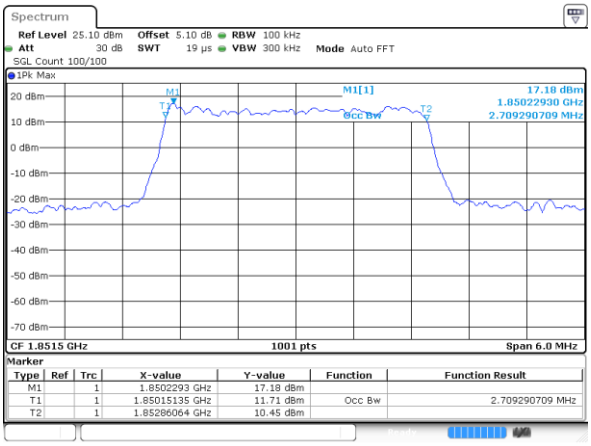


LTE Band 25

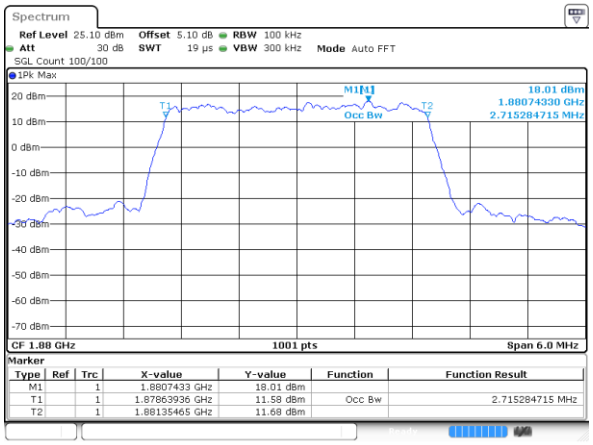
Lowest Channel / 3MHz / QPSK



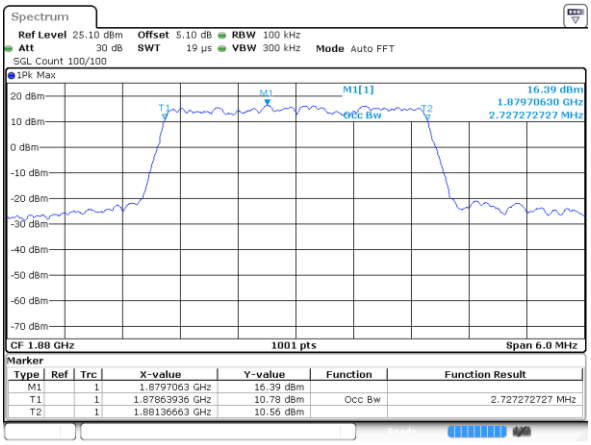
Lowest Channel / 3MHz / 16QAM



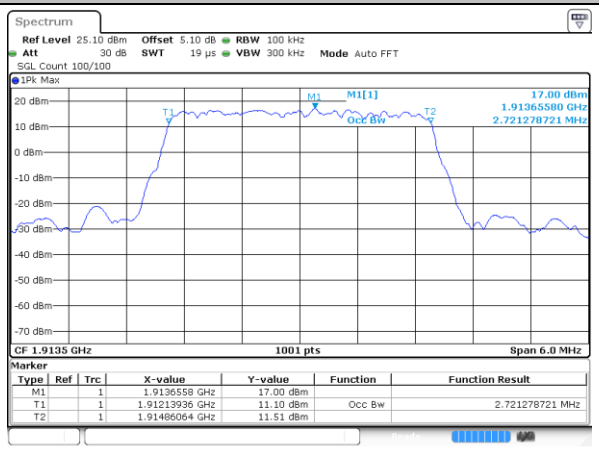
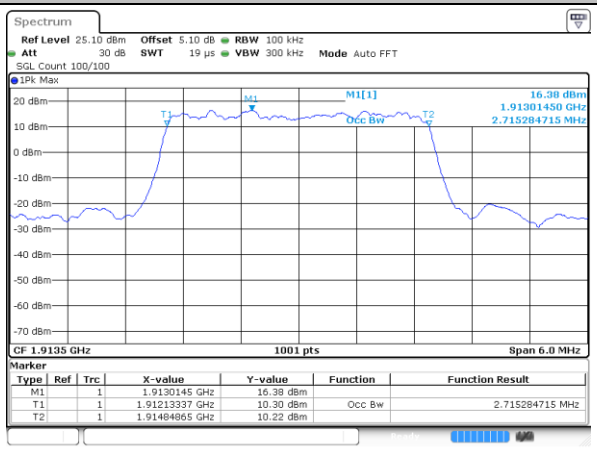
Middle Channel / 3MHz / QPSK



Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK



Highest Channel / 3MHz / 16QAM