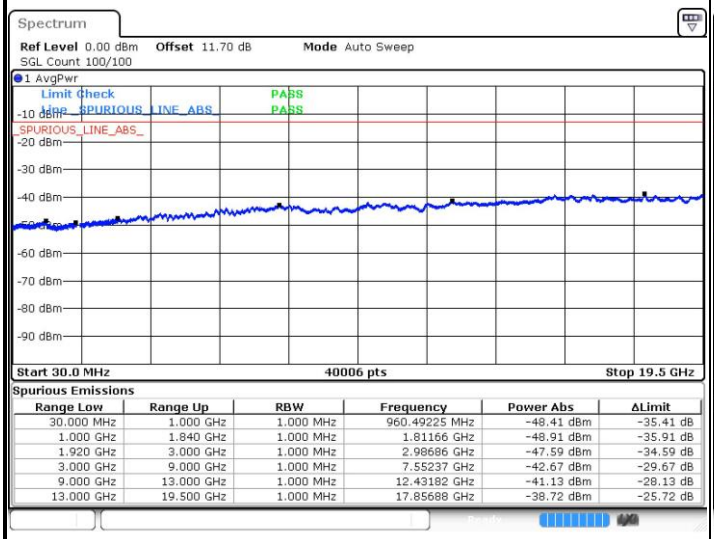
LTE Band 2 / 10MHz

Lowest Channel / 64QAM

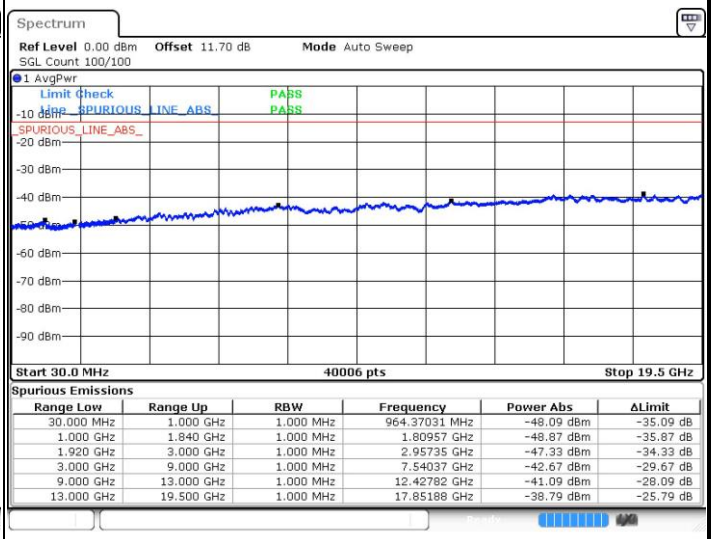


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	960.49225 MHz	-48.41 dBm	-35.41 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81166 GHz	-48.91 dBm	-35.91 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98686 GHz	-47.59 dBm	-34.59 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55237 GHz	-42.67 dBm	-29.67 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43182 GHz	-41.13 dBm	-28.13 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.85688 GHz	-38.72 dBm	-25.72 dB

Date: 12.JUN.2018 16:09:54

Middle Channel / 64QAM

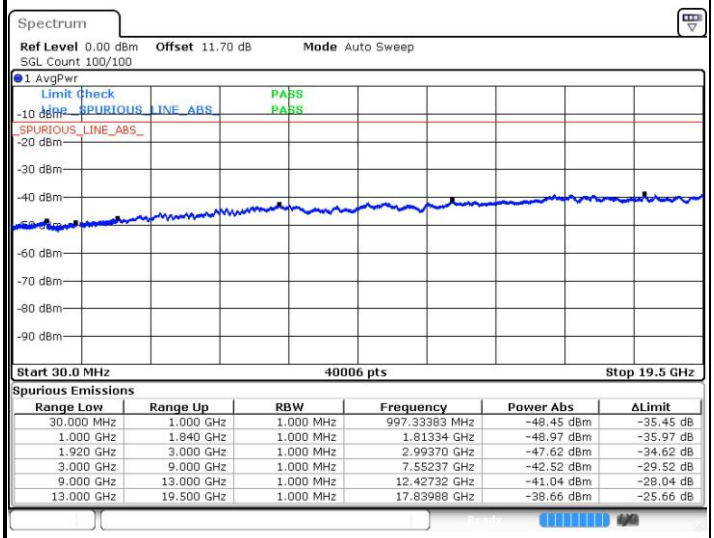


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	964.37031 MHz	-48.09 dBm	-35.09 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80957 GHz	-48.87 dBm	-35.87 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.95735 GHz	-47.33 dBm	-34.33 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54037 GHz	-42.67 dBm	-29.67 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42782 GHz	-41.09 dBm	-28.09 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.85188 GHz	-38.79 dBm	-25.79 dB

Date: 12.JUN.2018 16:11:09

Highest Channel / 64QAM



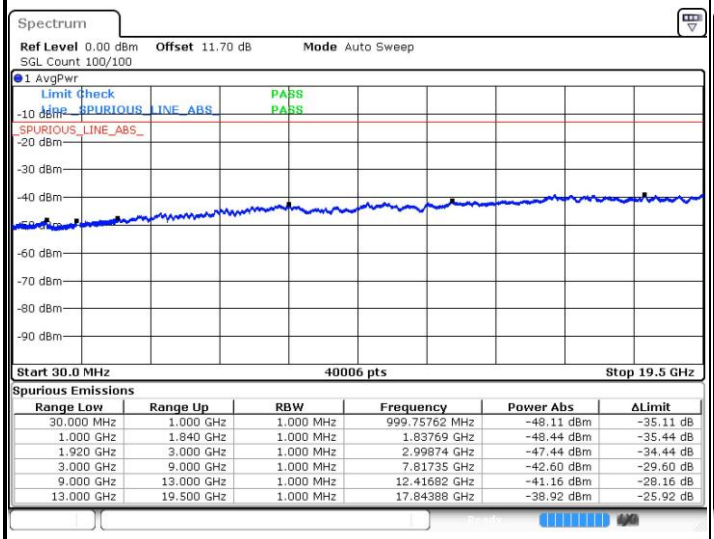
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	997.33383 MHz	-48.45 dBm	-35.45 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81334 GHz	-48.97 dBm	-35.97 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99370 GHz	-47.62 dBm	-34.62 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55237 GHz	-42.52 dBm	-29.52 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.42732 GHz	-41.04 dBm	-28.04 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.83988 GHz	-38.66 dBm	-25.66 dB

Date: 12.JUN.2018 16:14:43

LTE Band 2 / 15MHz

Lowest Channel / 64QAM

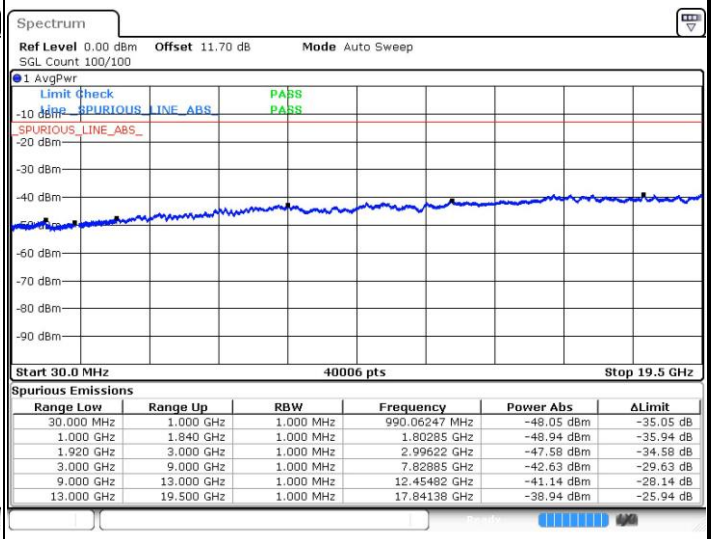


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	999.75762 MHz	-48.11 dBm	-35.11 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83769 GHz	-48.44 dBm	-35.44 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99874 GHz	-47.44 dBm	-34.44 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.81735 GHz	-42.60 dBm	-29.60 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41682 GHz	-41.16 dBm	-28.16 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.84388 GHz	-38.92 dBm	-25.92 dB

Date: 12.JUN.2018 16:18:16

Middle Channel / 64QAM

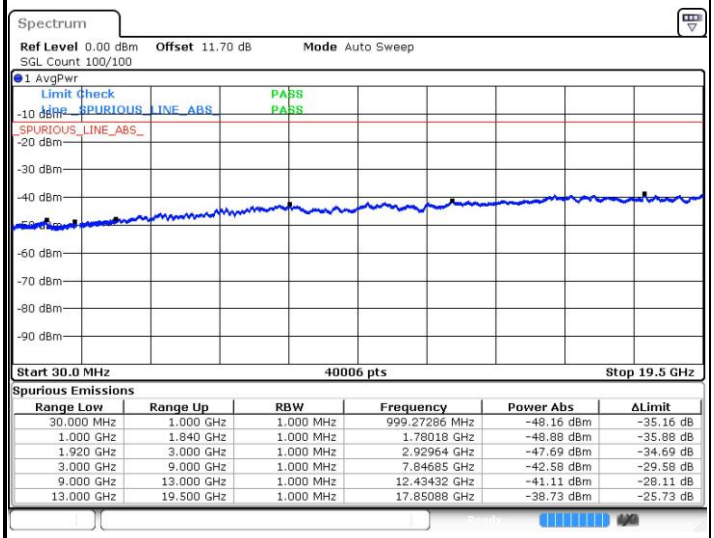


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	990.06247 MHz	-48.05 dBm	-35.05 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80285 GHz	-48.94 dBm	-35.94 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99622 GHz	-47.58 dBm	-34.58 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.82885 GHz	-42.63 dBm	-29.63 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.45482 GHz	-41.14 dBm	-28.14 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.84138 GHz	-38.94 dBm	-25.94 dB

Date: 12.JUN.2018 16:19:32

Highest Channel / 64QAM



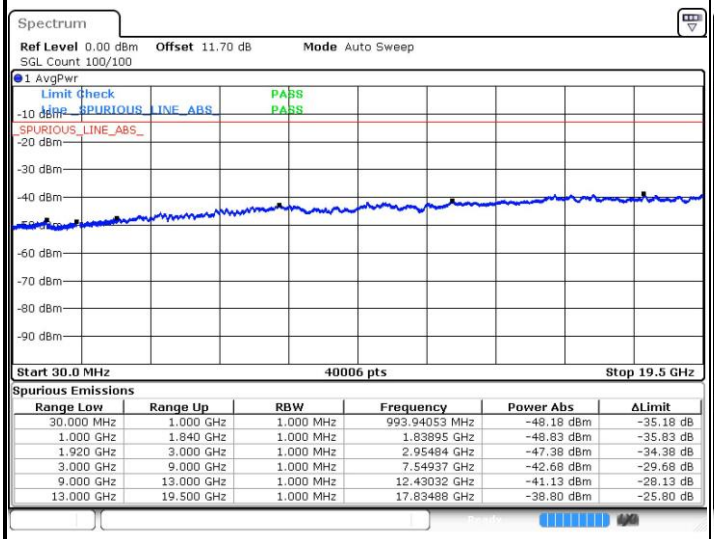
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	999.27286 MHz	-48.16 dBm	-35.16 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.78018 GHz	-48.88 dBm	-35.88 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.92964 GHz	-47.69 dBm	-34.69 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.84685 GHz	-42.58 dBm	-29.58 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43432 GHz	-41.11 dBm	-28.11 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.85088 GHz	-38.73 dBm	-25.73 dB

Date: 12.JUN.2018 16:23:05

LTE Band 2 / 20MHz

Lowest Channel / 64QAM

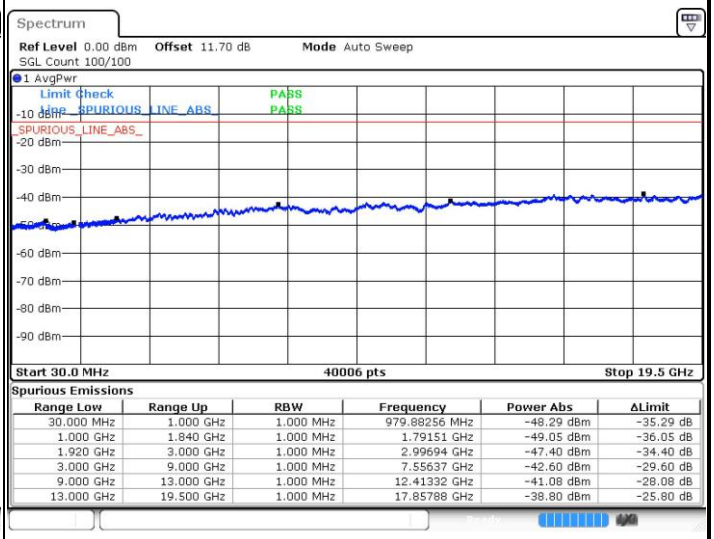


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	993.94053 MHz	-48.18 dBm	-35.18 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83895 GHz	-48.83 dBm	-35.83 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.95484 GHz	-47.38 dBm	-34.38 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.54937 GHz	-42.68 dBm	-29.68 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.43032 GHz	-41.13 dBm	-28.13 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.83488 GHz	-38.80 dBm	-25.80 dB

Date: 12.JUN.2018 16:26:38

Middle Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	979.88256 MHz	-48.29 dBm	-35.29 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.79151 GHz	-49.05 dBm	-36.05 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99694 GHz	-47.40 dBm	-34.40 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55637 GHz	-42.60 dBm	-29.60 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.41332 GHz	-41.08 dBm	-28.08 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.85788 GHz	-38.80 dBm	-25.80 dB

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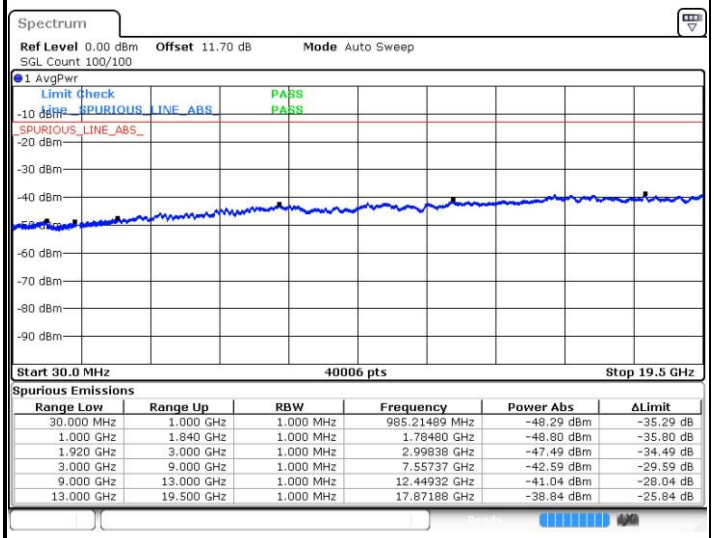
Highest Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	985.21489 MHz	-48.29 dBm	-35.29 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.78480 GHz	-48.80 dBm	-35.80 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99838 GHz	-47.49 dBm	-34.49 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.55737 GHz	-42.59 dBm	-29.59 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.44932 GHz	-41.04 dBm	-28.04 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.87188 GHz	-38.84 dBm	-25.84 dB

Date: 12.JUN.2018 16:31:28

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	0.0027	PASS
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0026	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0026	
0	Normal Voltage	0.0014	
-10	Normal Voltage	0.0010	
-20	Normal Voltage	0.0039	
-30	Normal Voltage	0.0020	
20	Maximum Voltage	0.0009	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0015	

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.

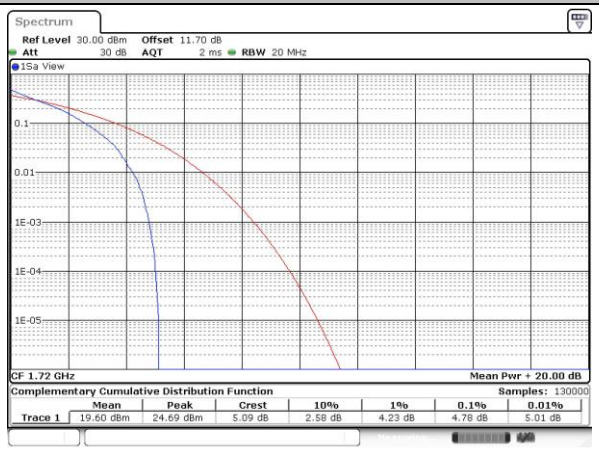
LTE Band 4

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	4.78	5.54	6.09	6.35	PASS
Middle CH	5.48	5.13	6.87	6.2	
Highest CH	4.96	5.48	6.26	6.41	
Mode	LTE Band 4 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.55	6.61	-	-	PASS
Middle CH	6.84	6.32	-	-	
Highest CH	6.52	6.61	-	-	

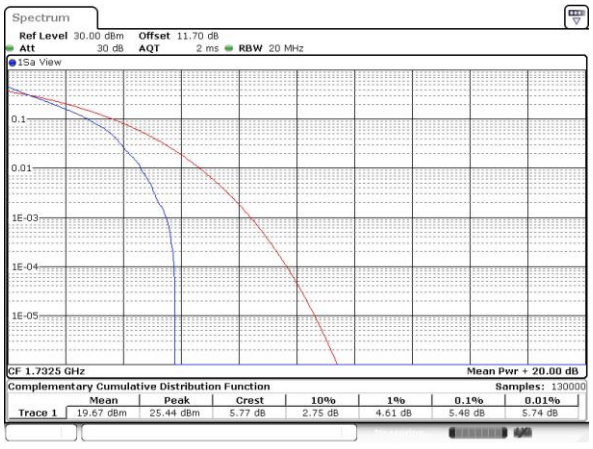
LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB

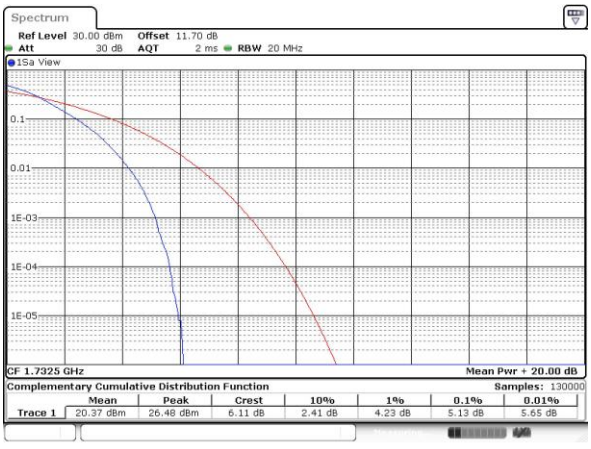


Lowest Channel / Full RB

Middle Channel / 1RB



Middle Channel / Full RB

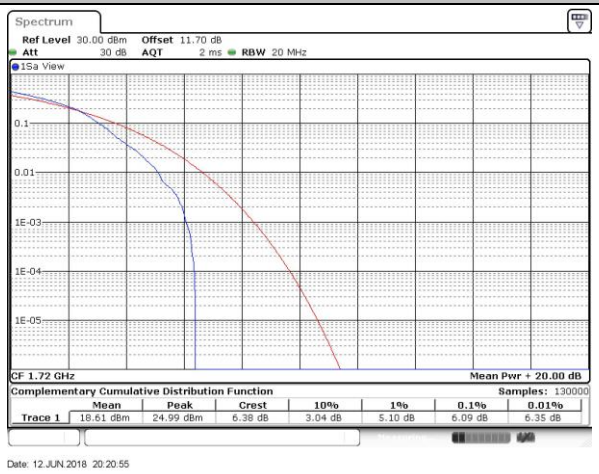


Highest Channel / 1RB

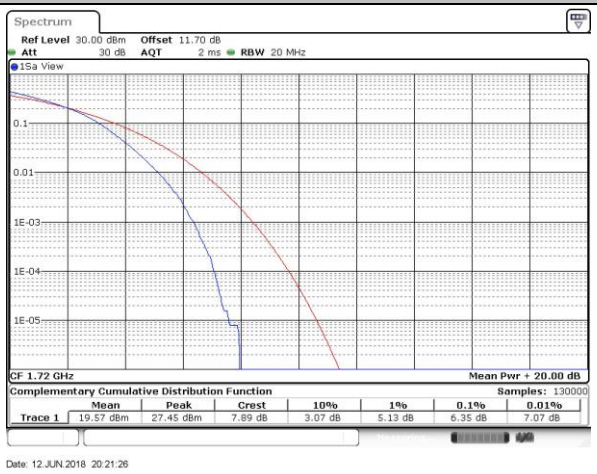
Highest Channel / Full RB

LTE Band 4 / 20MHz / 16QAM

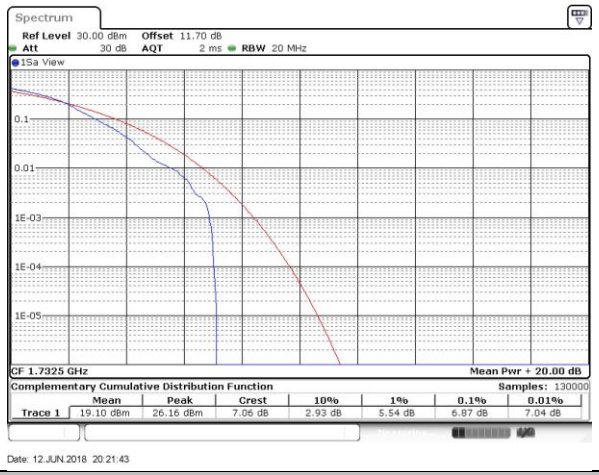
Lowest Channel / 1RB



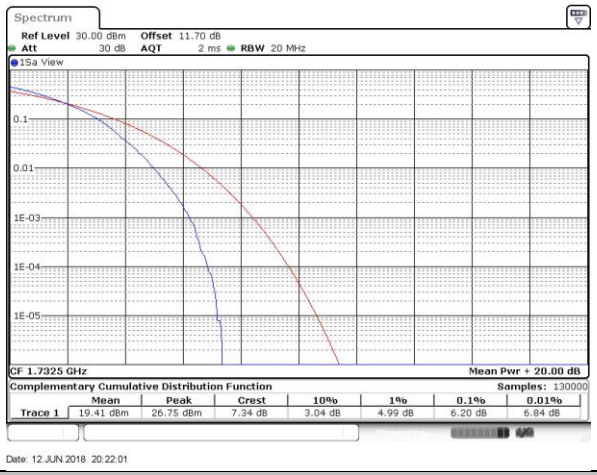
Lowest Channel / Full RB



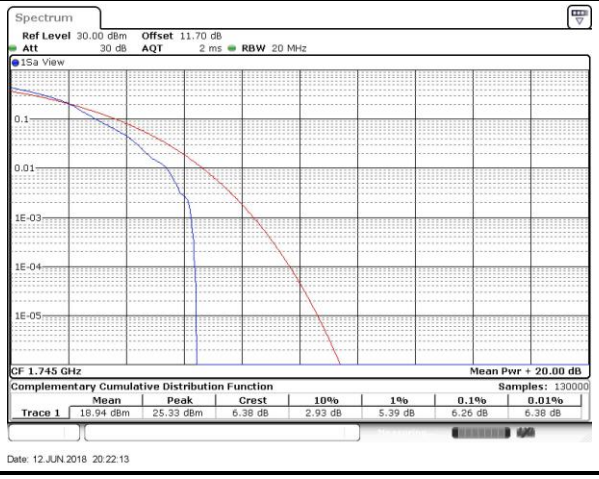
Middle Channel / 1RB



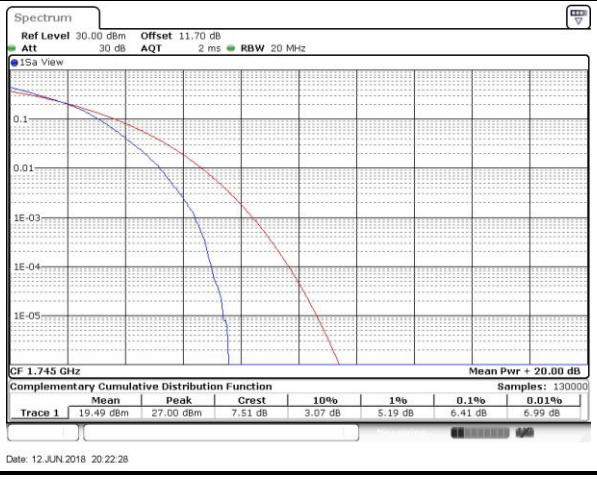
Middle Channel / Full RB



Highest Channel / 1RB

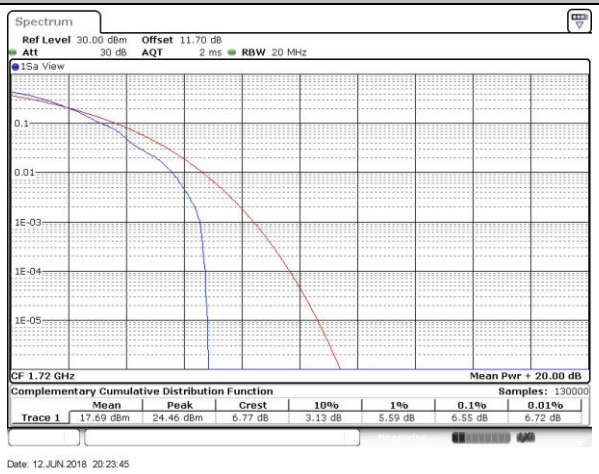


Highest Channel / Full RB

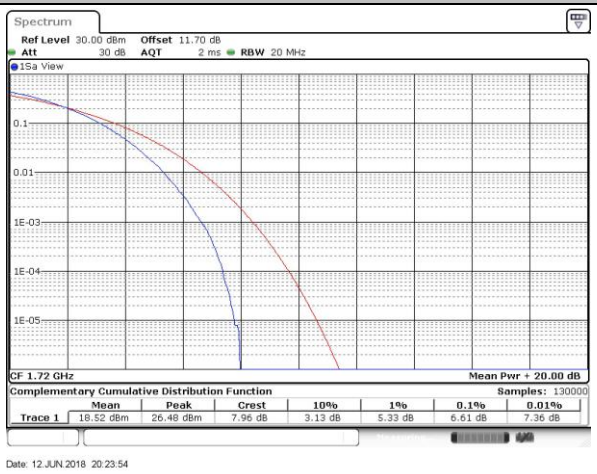


LTE Band 4 / 20MHz / 64QAM

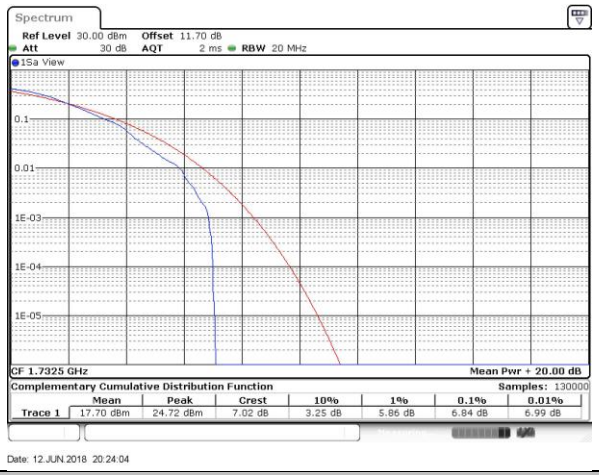
Lowest Channel / 1RB



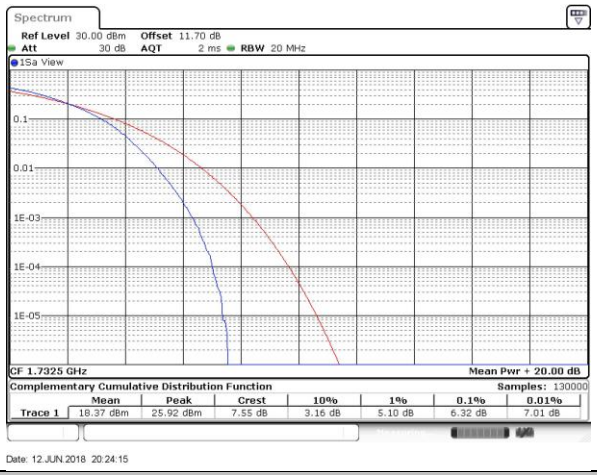
Lowest Channel / Full RB



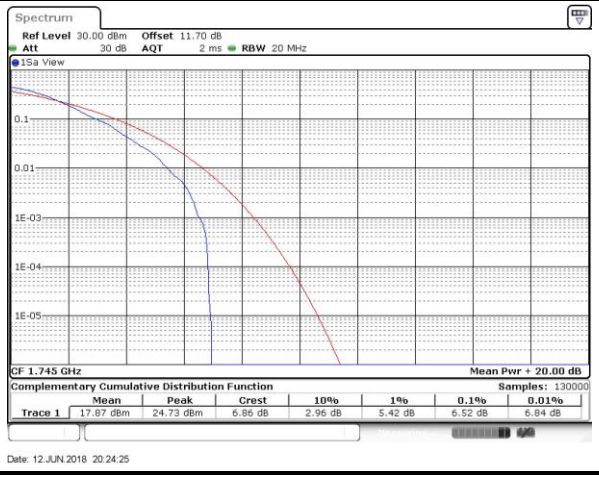
Middle Channel / 1RB



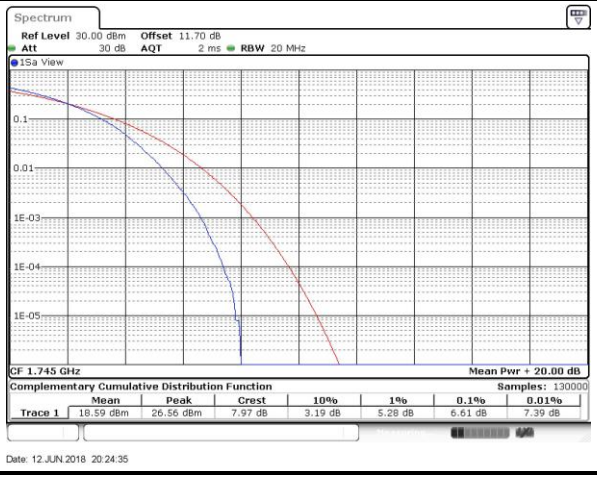
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

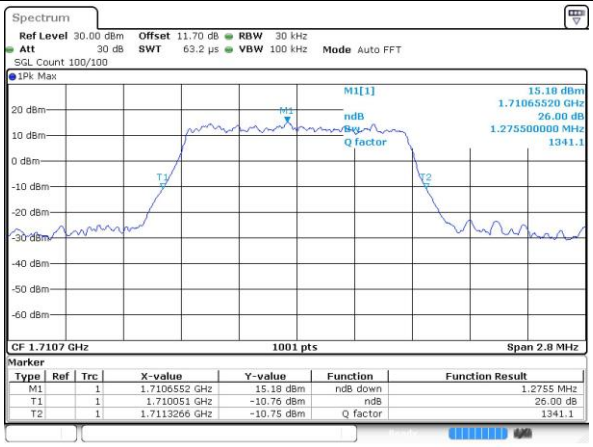


26dB Bandwidth

Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.28	1.28	2.93	2.98	5.04	5.16	10.29	9.73	14.45	14.60	20.22	20.18
Middle CH	1.29	1.26	2.94	2.96	5.05	5.06	10.05	9.95	14.15	14.42	20.46	20.18
Highest CH	1.28	1.28	2.94	2.93	4.89	5.06	10.03	9.93	14.36	14.54	20.10	20.10
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	-	2.96	-	5.11	-	9.79	-	14.51	-	20.14	-
Middle CH	1.28	-	2.93	-	4.95	-	9.89	-	14.51	-	20.14	-
Highest CH	1.30	-	2.93	-	5.12	-	9.97	-	14.24	-	20.18	-

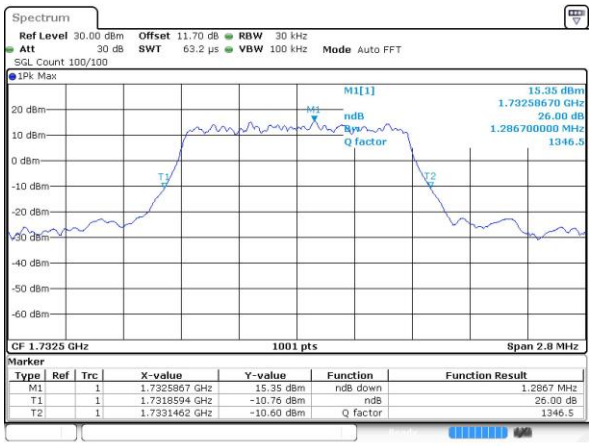
LTE Band 4

Lowest Channel / 1.4MHz / QPSK

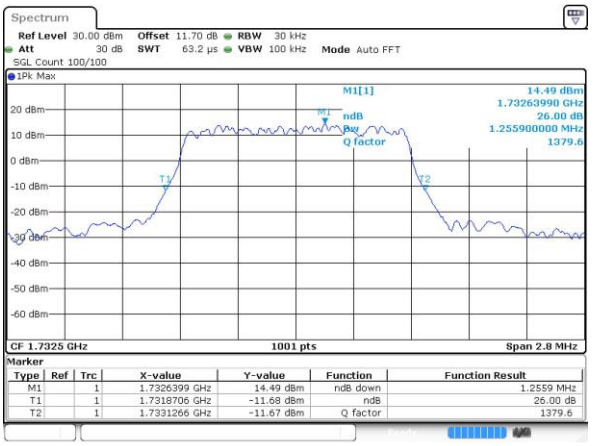


Lowest Channel / 1.4MHz / 16QAM

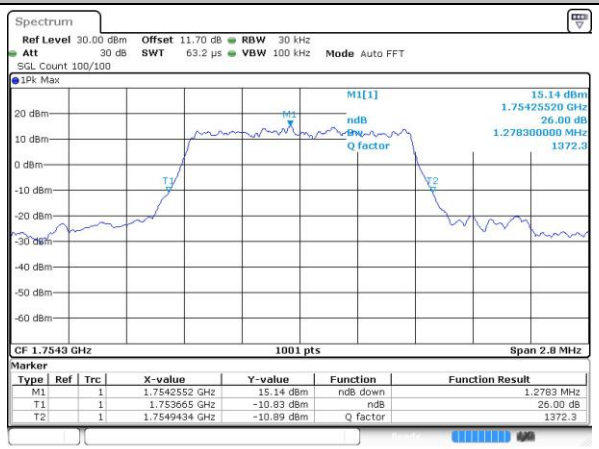
Middle Channel / 1.4MHz / QPSK



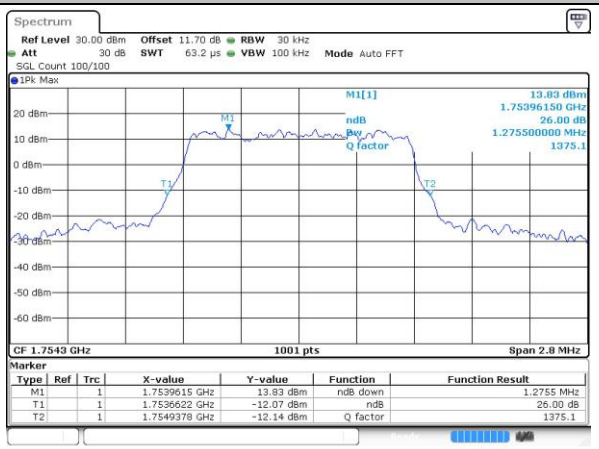
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

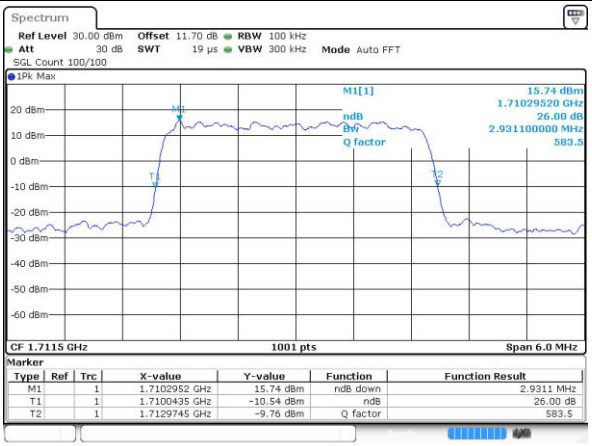


Highest Channel / 1.4MHz / 16QAM

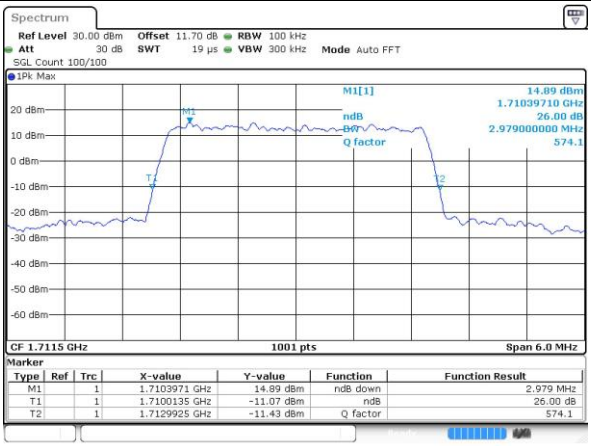


LTE Band 4

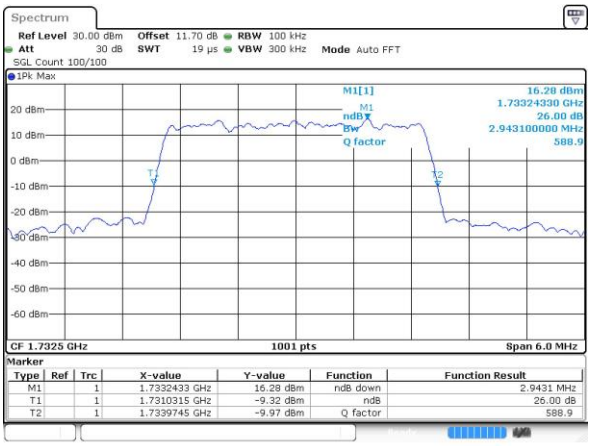
Lowest Channel / 3MHz / QPSK



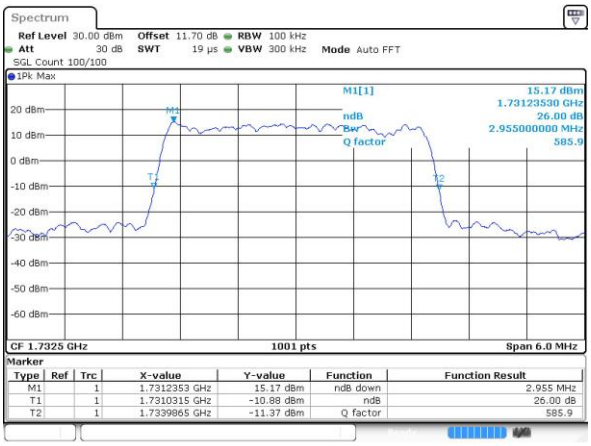
Lowest Channel / 3MHz / 16QAM



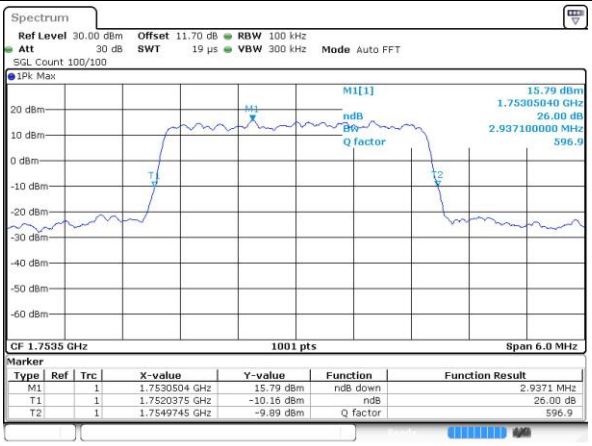
Middle Channel / 3MHz / QPSK



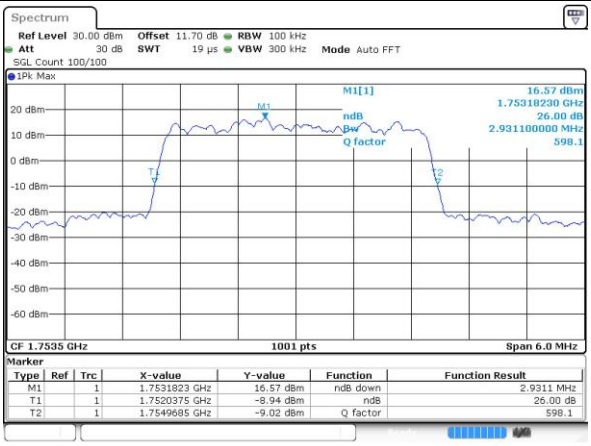
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

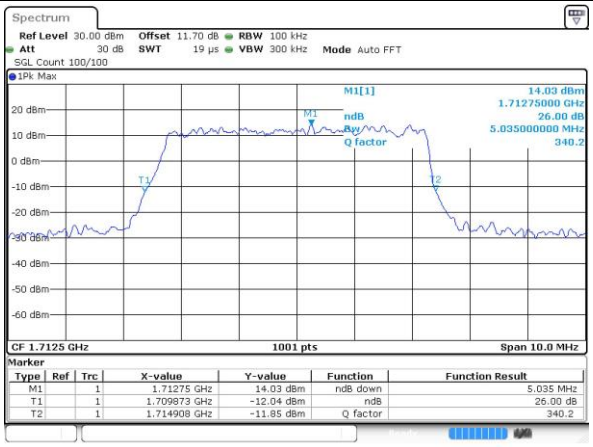


Highest Channel / 3MHz / 16QAM

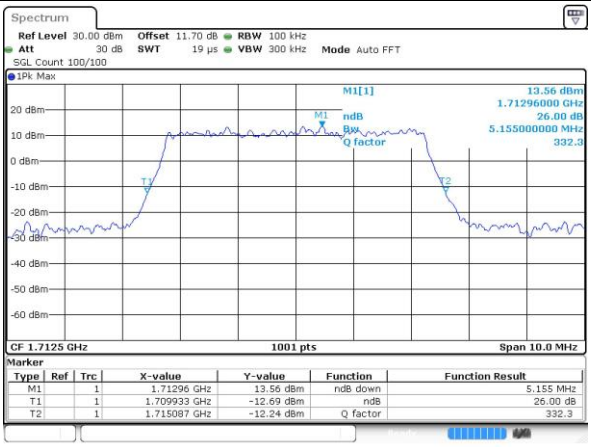


LTE Band 4

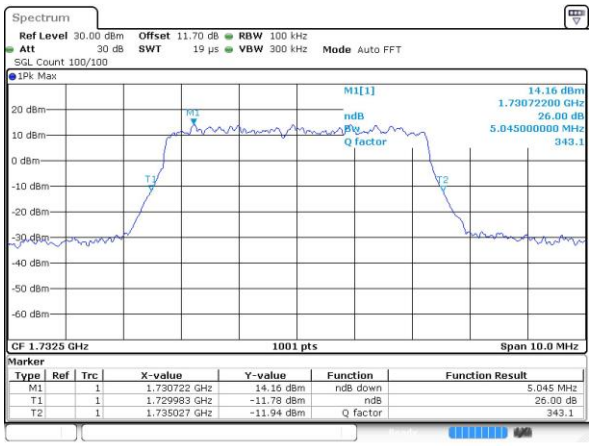
Lowest Channel / 5MHz / QPSK



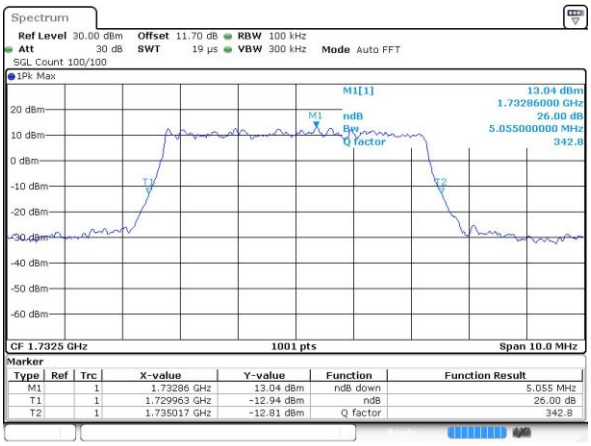
Lowest Channel / 5MHz / 16QAM



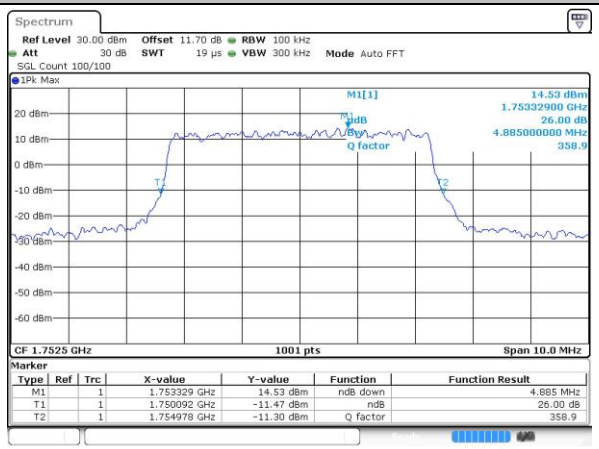
Middle Channel / 5MHz / QPSK



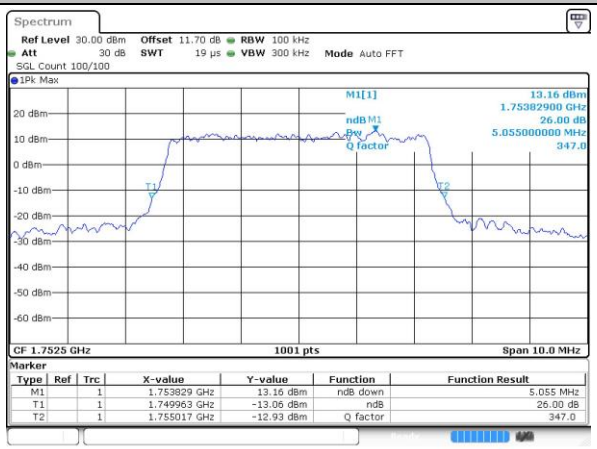
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

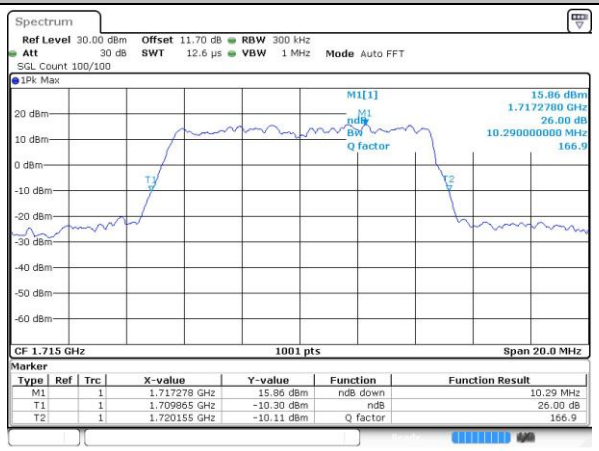


Highest Channel / 5MHz / 16QAM

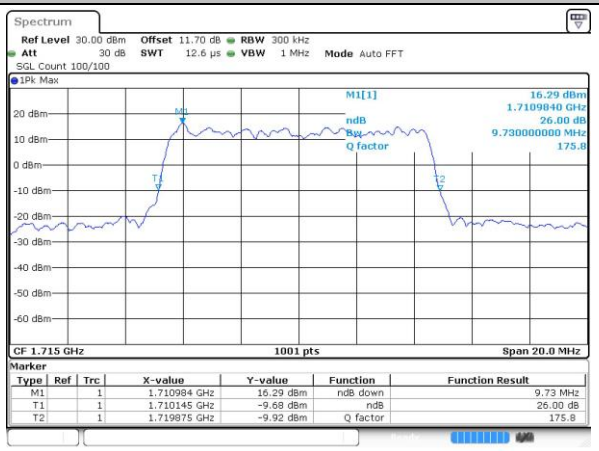


LTE Band 4

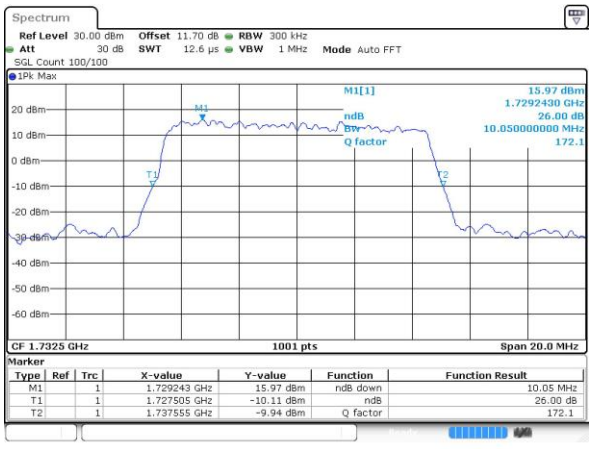
Lowest Channel / 10MHz / QPSK



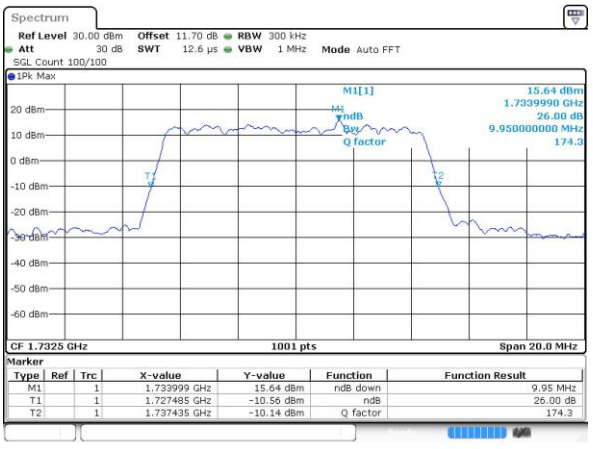
Lowest Channel / 10MHz / 16QAM



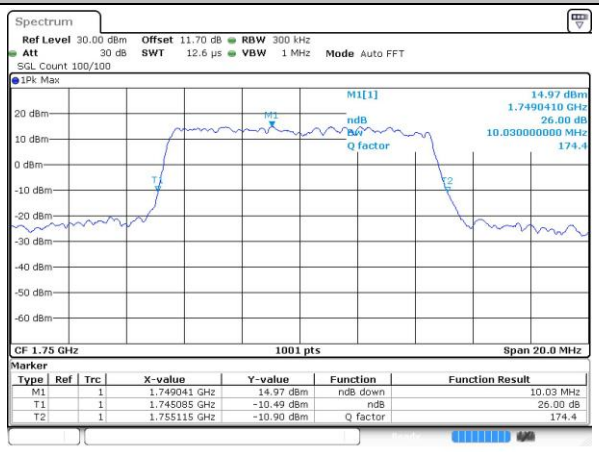
Middle Channel / 10MHz / QPSK



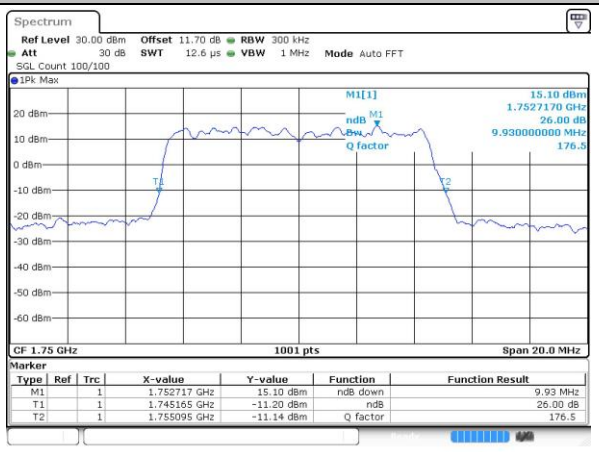
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

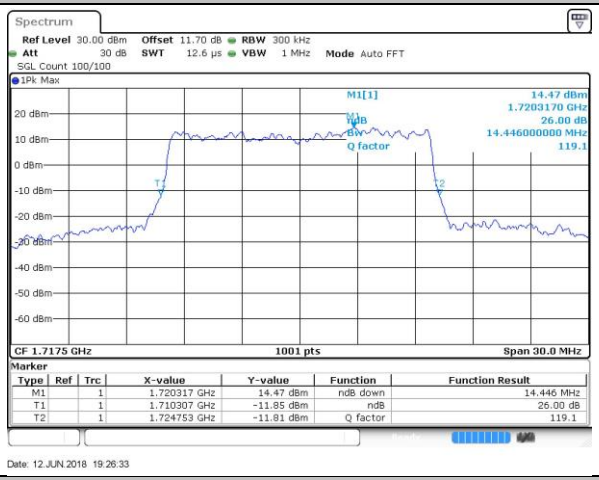


Highest Channel / 10MHz / 16QAM

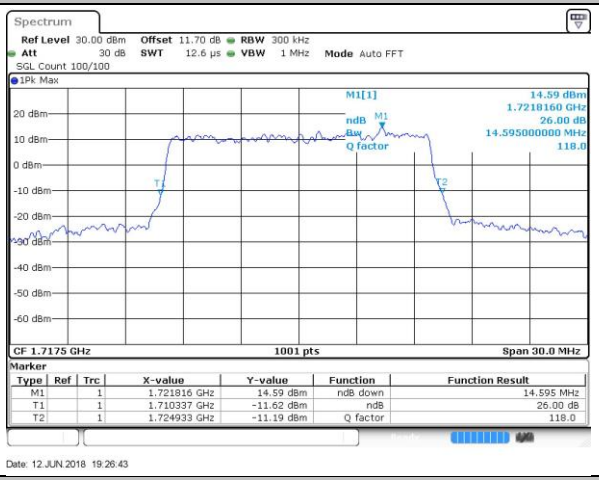


LTE Band 4

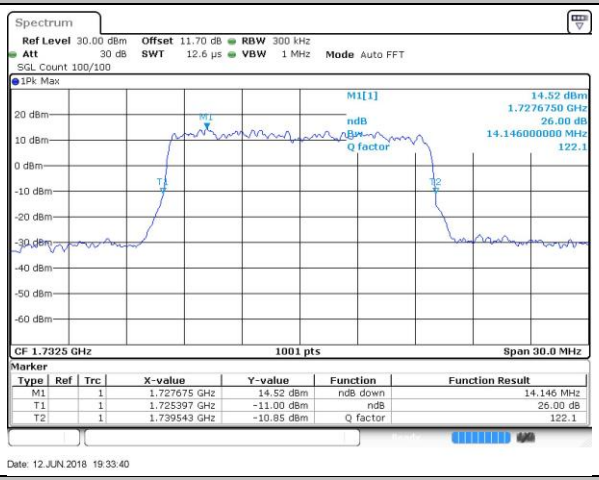
Lowest Channel / 15MHz / QPSK



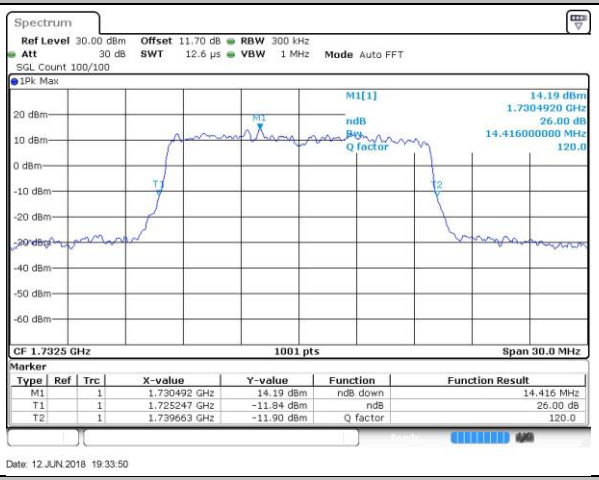
Lowest Channel / 15MHz / 16QAM



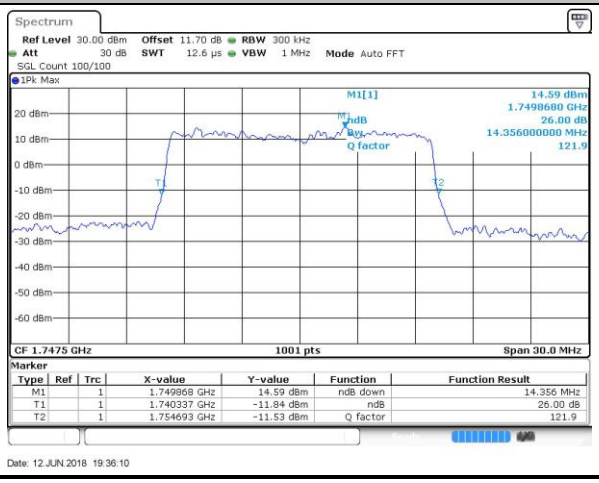
Middle Channel / 15MHz / QPSK



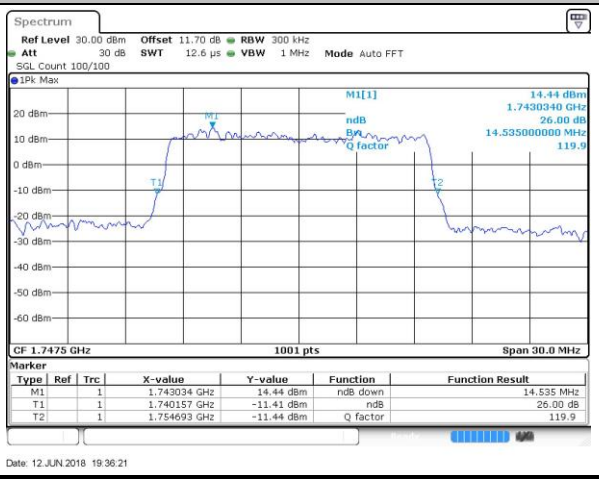
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

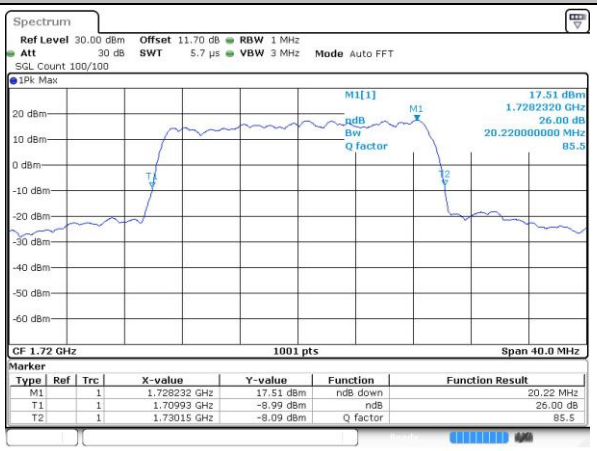


Highest Channel / 15MHz / 16QAM

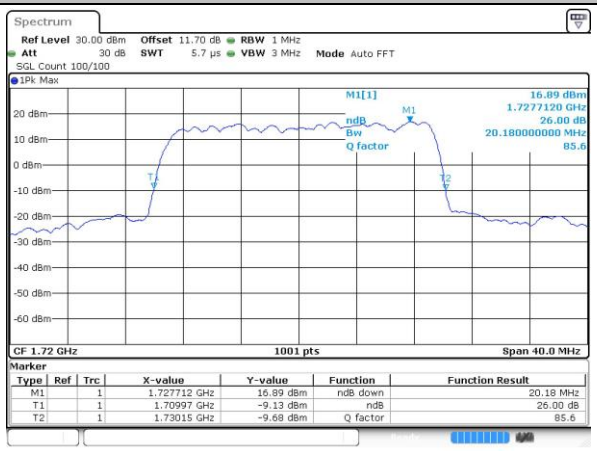


LTE Band 4

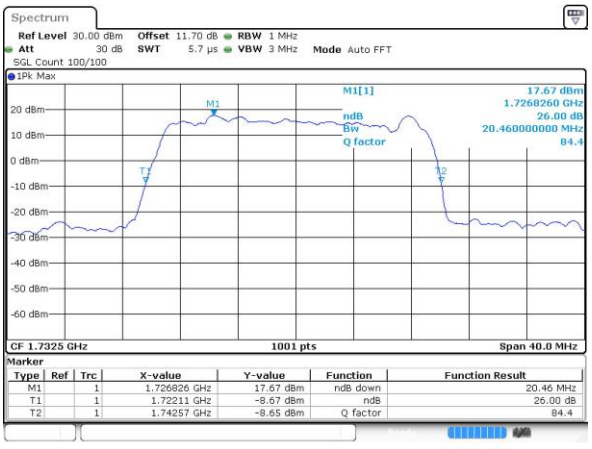
Lowest Channel / 20MHz / QPSK



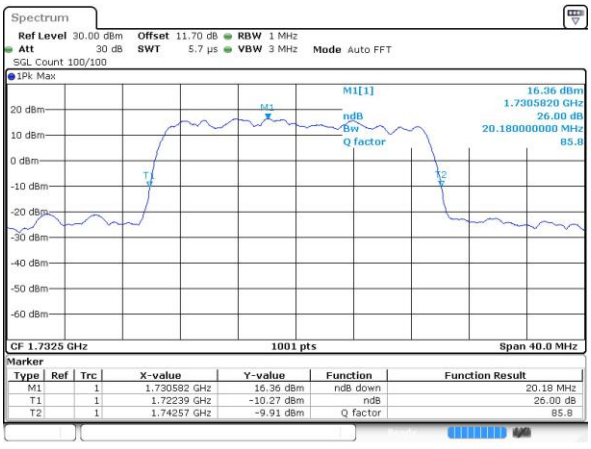
Lowest Channel / 20MHz / 16QAM



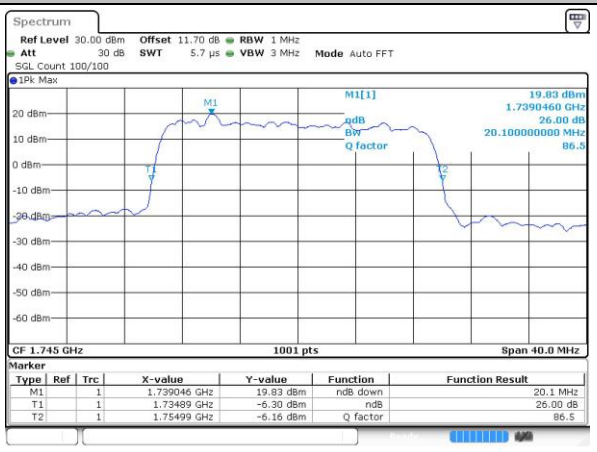
Middle Channel / 20MHz / QPSK



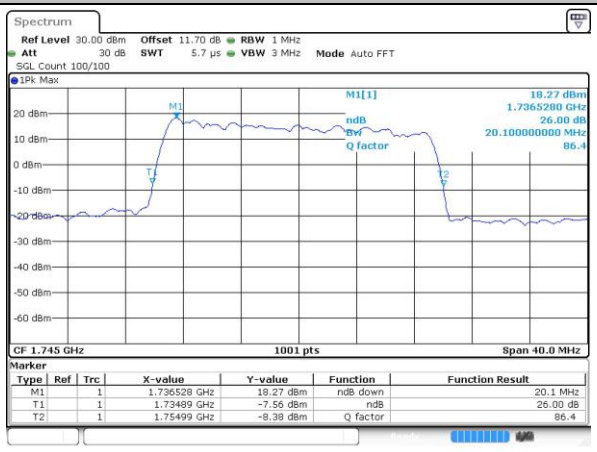
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK

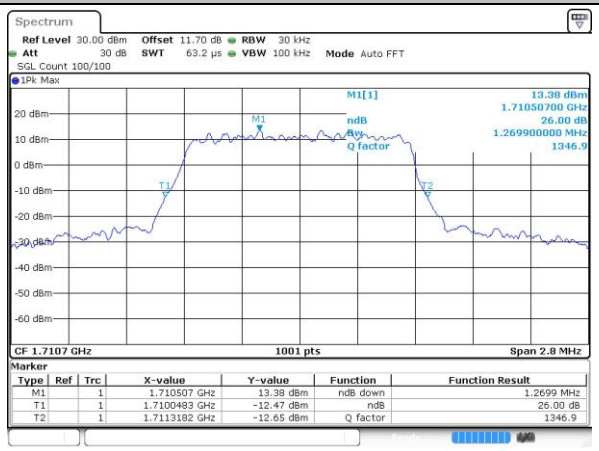


Highest Channel / 20MHz / 16QAM

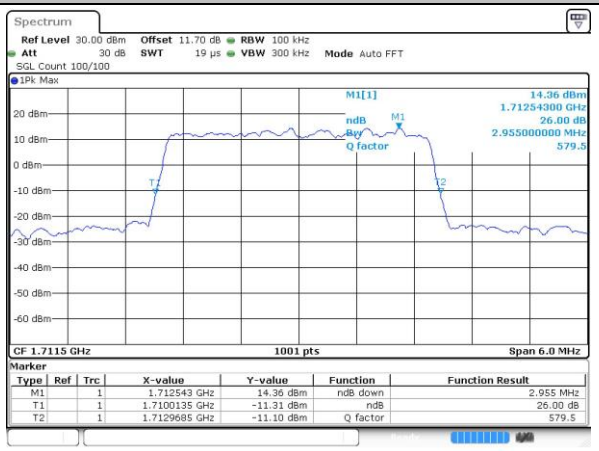


LTE Band 4

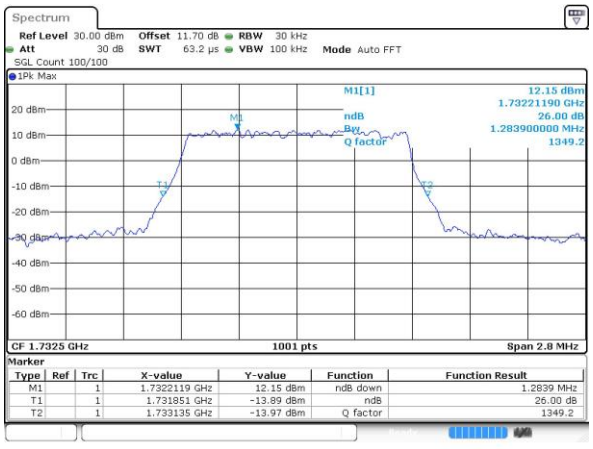
Lowest Channel / 1.4MHz / 64QAM



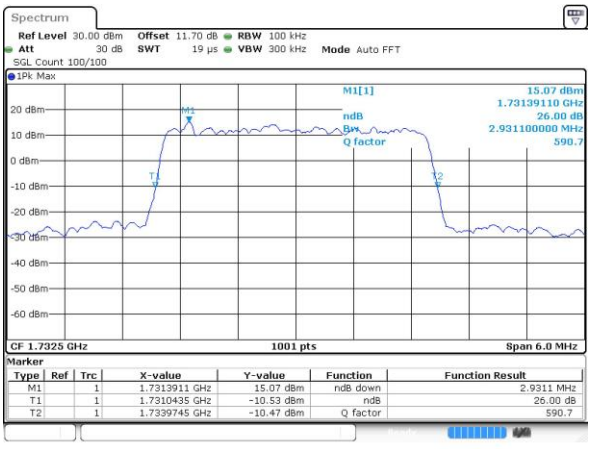
Lowest Channel / 3MHz / 64QAM



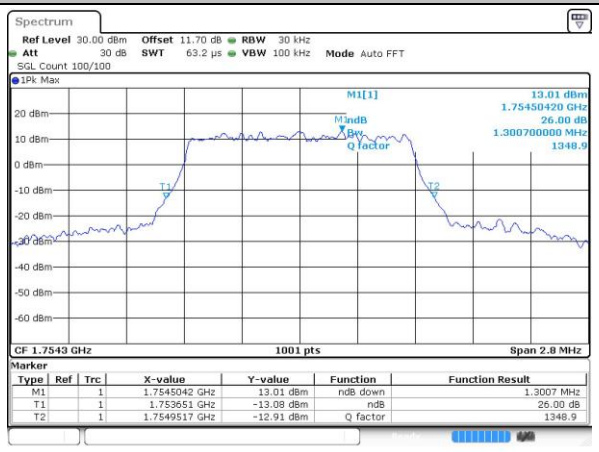
Middle Channel / 1.4MHz / 64QAM



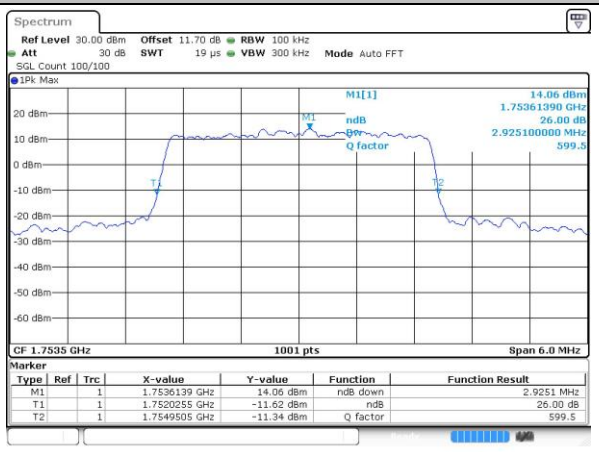
Middle Channel / 3MHz / 64QAM



Highest Channel / 1.4MHz / 64QAM

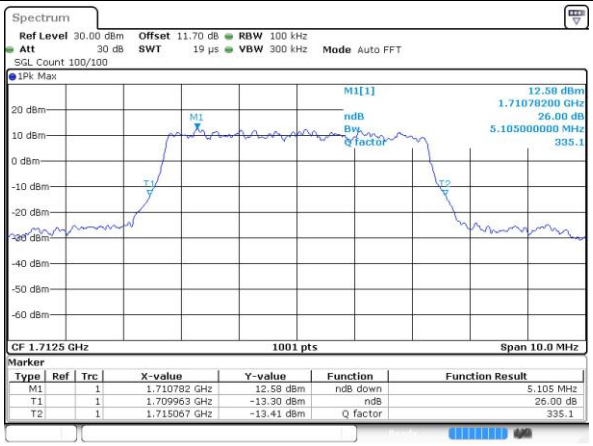


Highest Channel / 3MHz / 64QAM

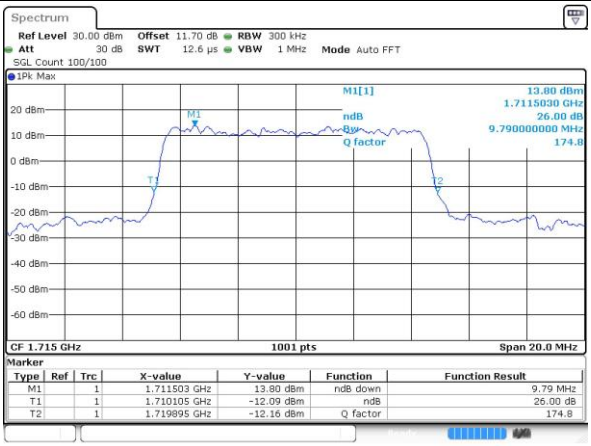


LTE Band 4

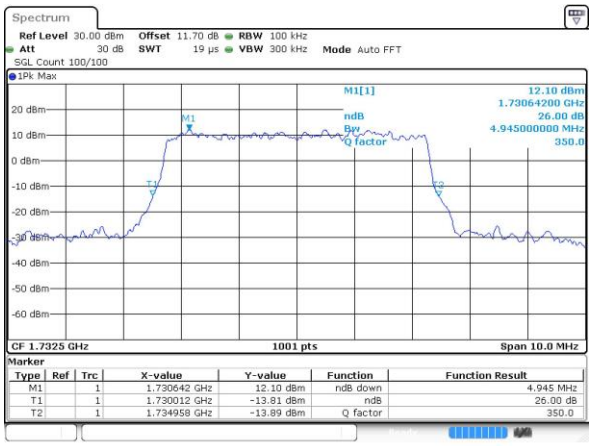
Lowest Channel / 5MHz / 64QAM



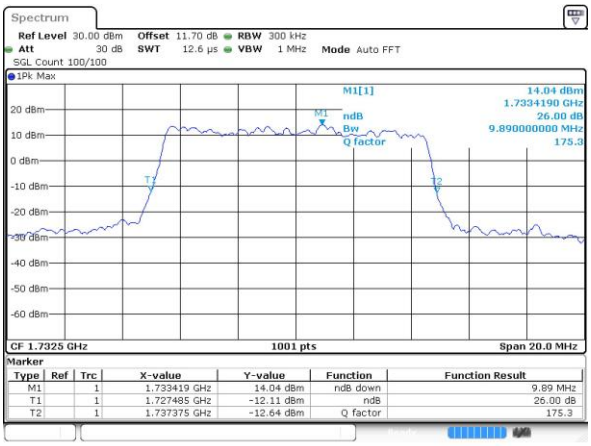
Lowest Channel / 10MHz / 64QAM



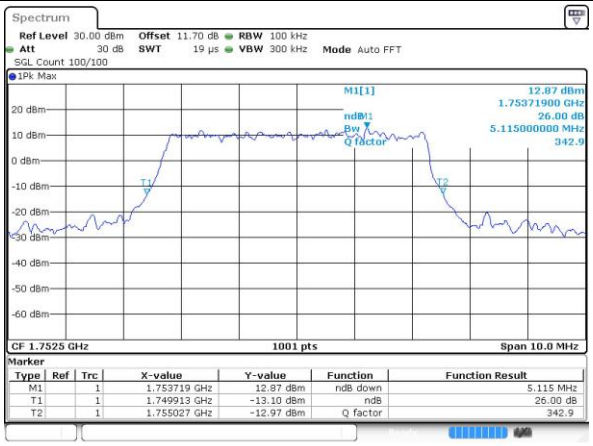
Middle Channel / 5MHz / 64QAM



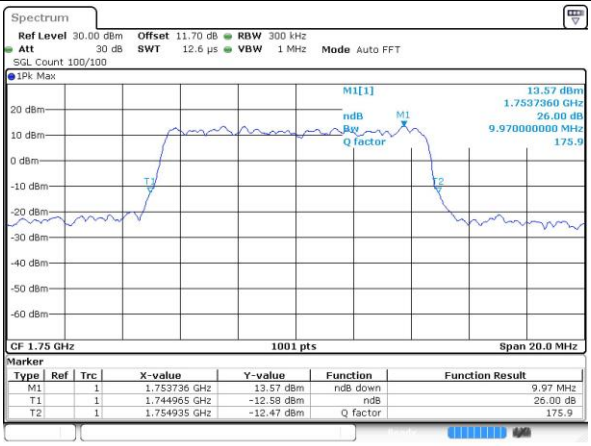
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

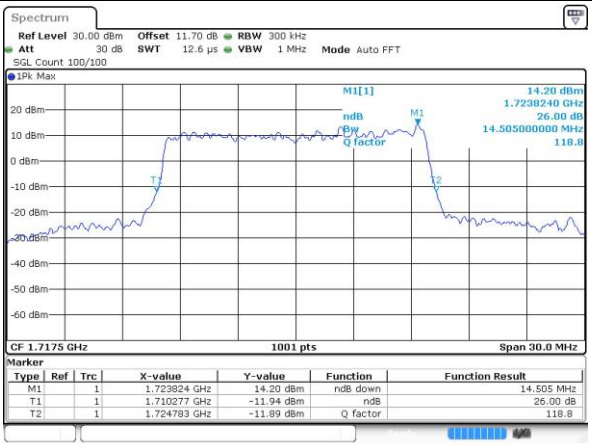


Highest Channel / 10MHz / 64QAM

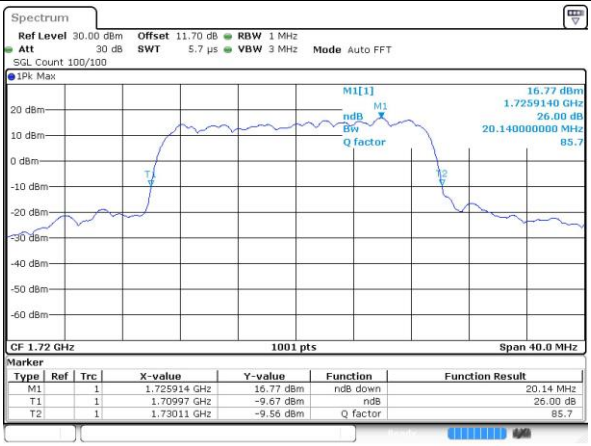


LTE Band 4

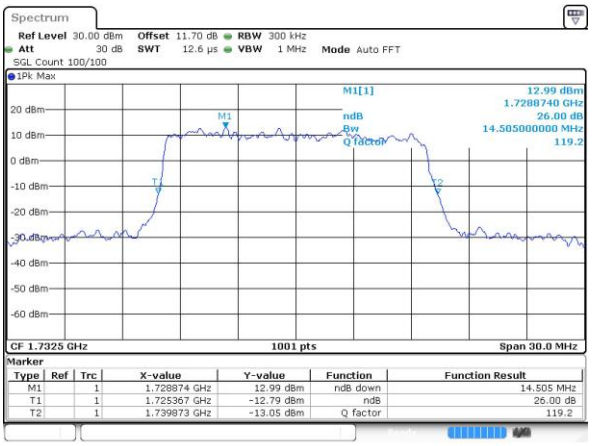
Lowest Channel / 15MHz / 64QAM



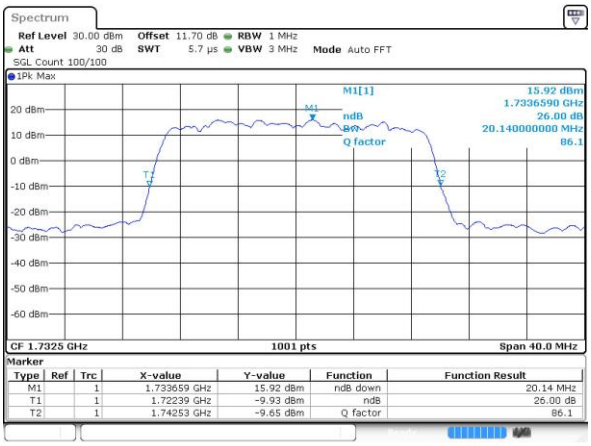
Lowest Channel / 20MHz / 64QAM



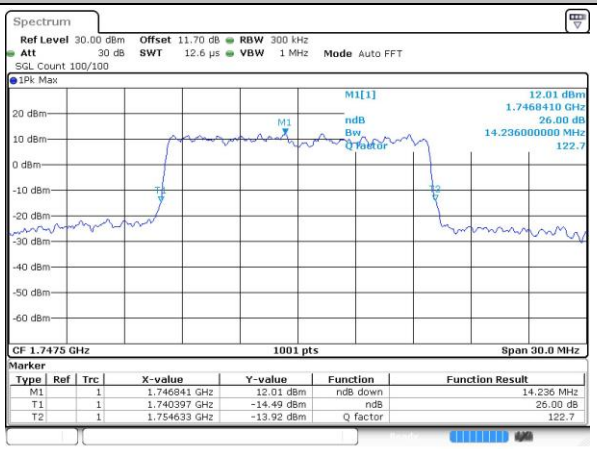
Middle Channel / 15MHz / 64QAM



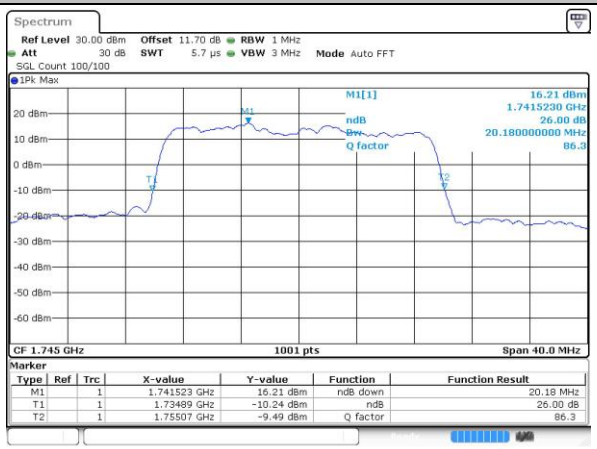
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM

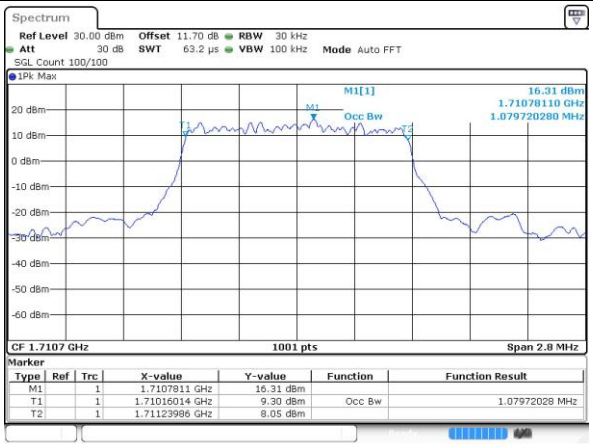


Occupied Bandwidth

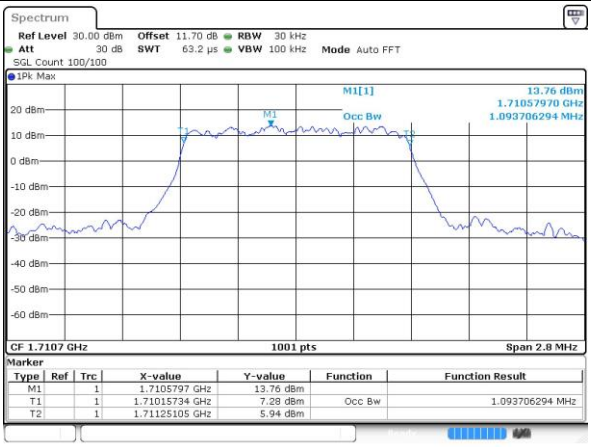
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.08	1.09	2.72	2.71	4.52	4.51	9.05	8.99	13.49	13.55	18.42	18.26
Middle CH	1.09	1.09	2.69	2.72	4.5	4.51	9.01	9.01	13.37	13.37	18.3	18.38
Highest CH	1.09	1.09	2.7	2.71	4.5	4.5	9.05	8.99	13.49	13.49	18.46	18.42
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.10	-	2.70	-	4.50	-	9.07	-	13.46	-	18.50	-
Middle CH	1.08	-	2.71	-	4.50	-	9.05	-	13.46	-	18.30	-
Highest CH	1.09	-	2.71	-	4.49	-	9.11	-	13.46	-	18.58	-

LTE Band 4

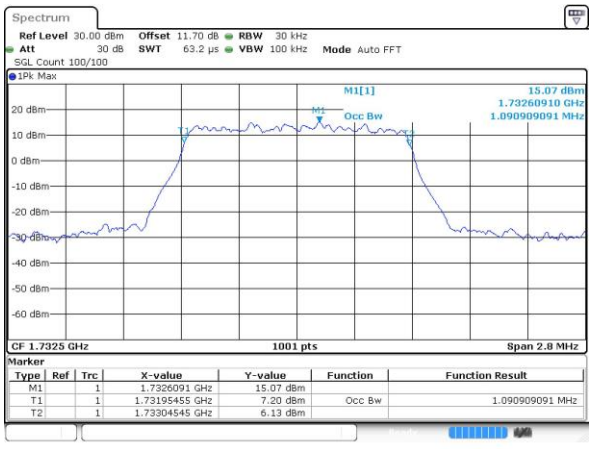
Lowest Channel / 1.4MHz / QPSK



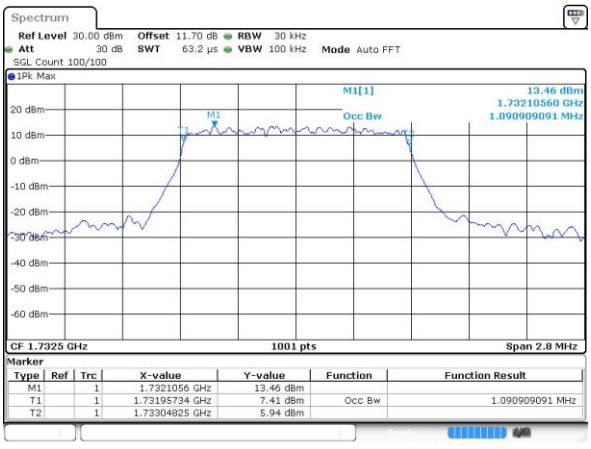
Lowest Channel / 1.4MHz / 16QAM



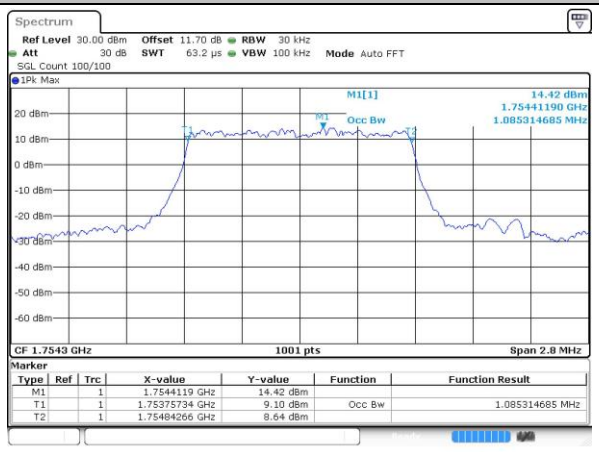
Middle Channel / 1.4MHz / QPSK



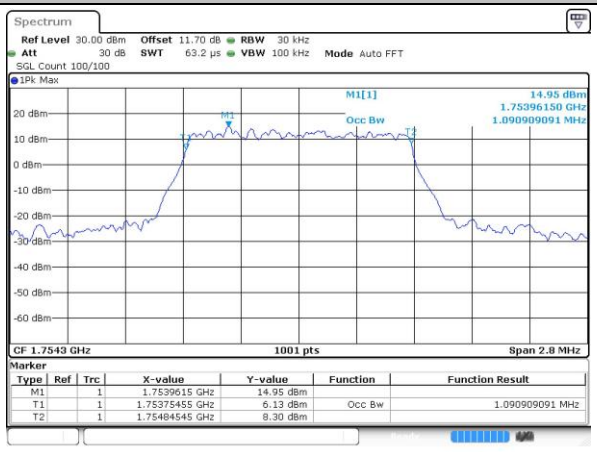
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

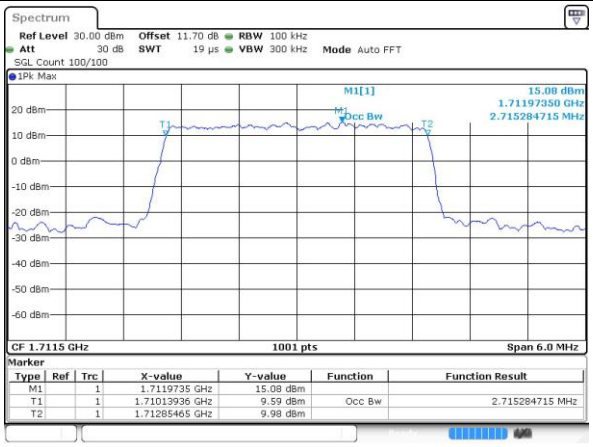


Highest Channel / 1.4MHz / 16QAM



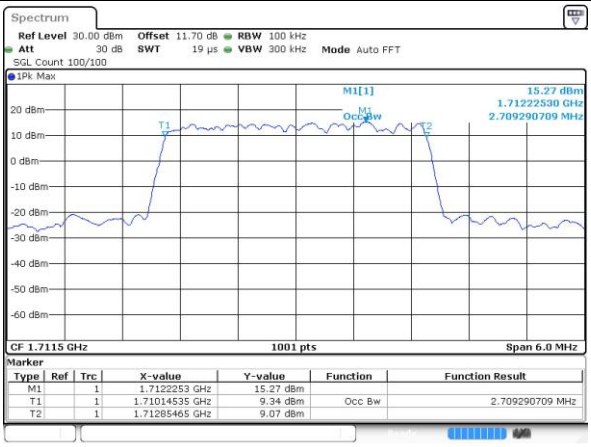
LTE Band 4

Lowest Channel / 3MHz / QPSK



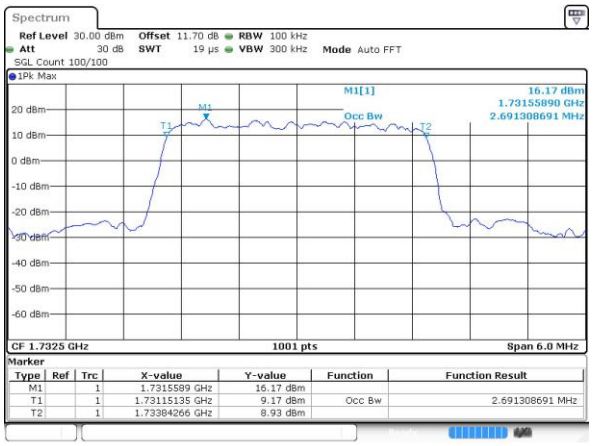
Date: 12.JUN.2018 18:36:01

Lowest Channel / 3MHz / 16QAM



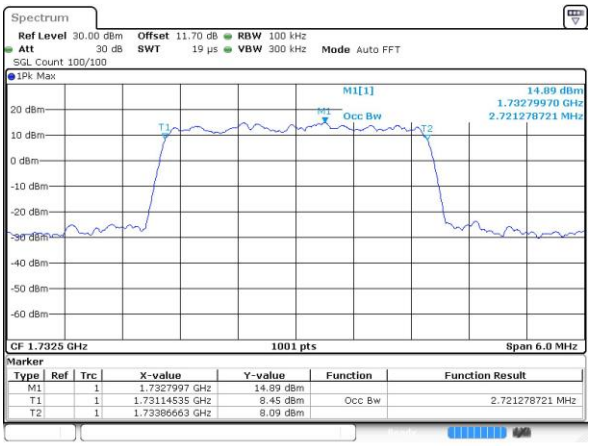
Date: 12.JUN.2018 18:36:12

Middle Channel / 3MHz / QPSK



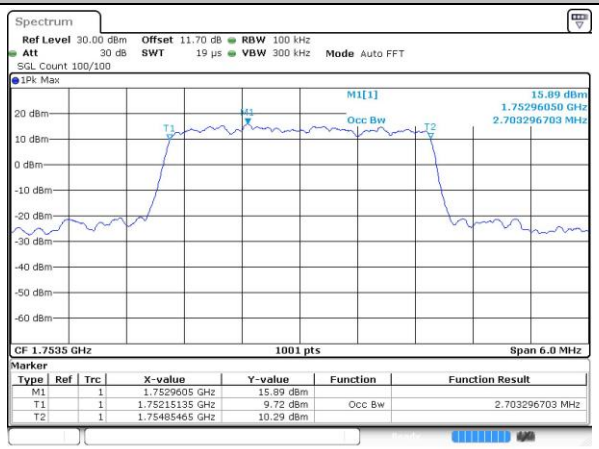
Date: 12.JUN.2018 18:43:08

Middle Channel / 3MHz / 16QAM



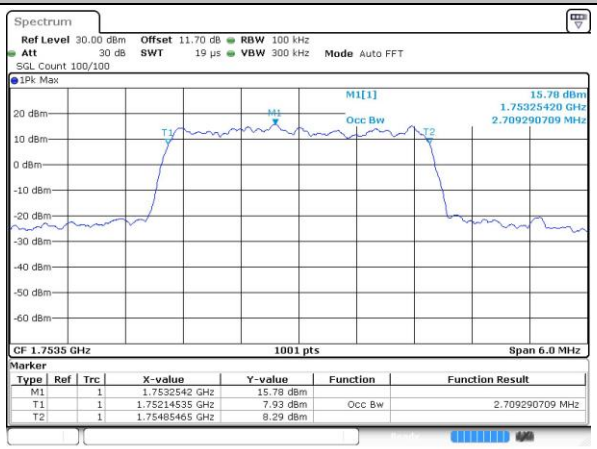
Date: 12.JUN.2018 18:43:19

Highest Channel / 3MHz / QPSK



Date: 12.JUN.2018 18:45:39

Highest Channel / 3MHz / 16QAM



Date: 12.JUN.2018 18:45:49