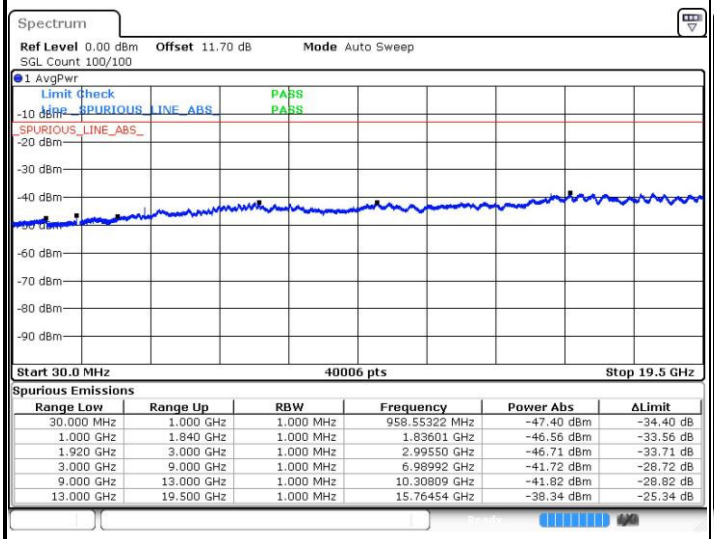
LTE Band 2 / 20MHz

Middle Channel / QPSK

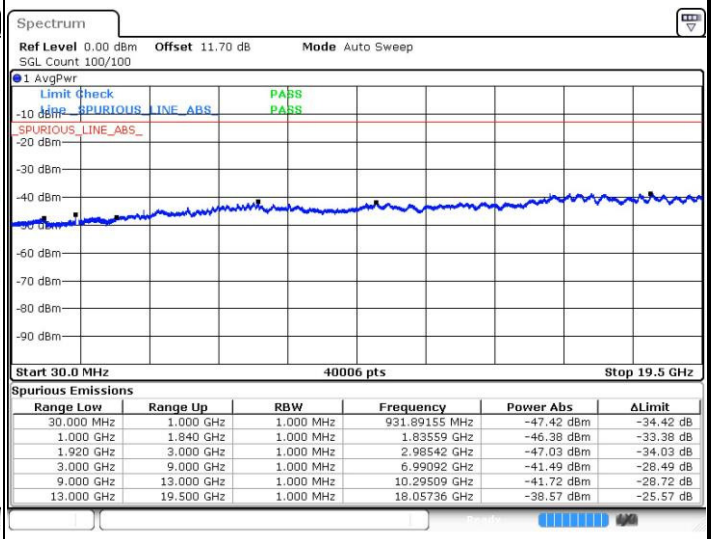


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	958.55322 MHz	-47.40 dBm	-34.40 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83601 GHz	-46.56 dBm	-33.56 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99550 GHz	-46.71 dBm	-33.71 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98992 GHz	-41.72 dBm	-28.72 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30809 GHz	-41.82 dBm	-28.82 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.76454 GHz	-38.34 dBm	-25.34 dB

Date: 19.DEC.2016 16:49:20

Middle Channel / 16QAM

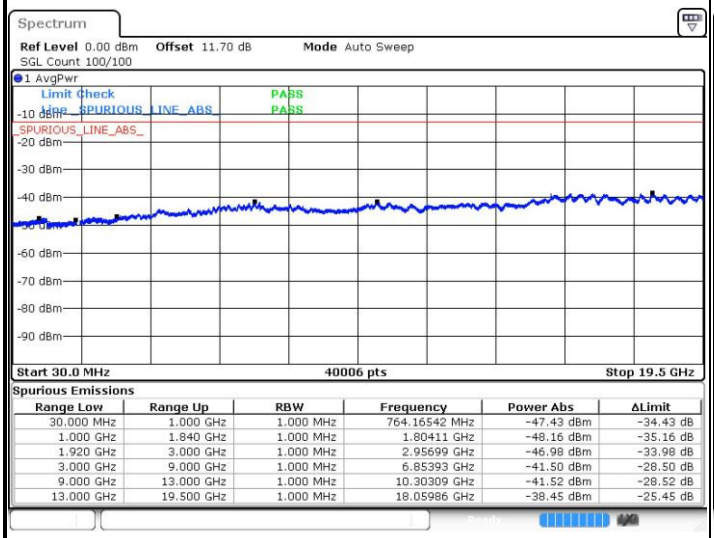


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	931.89155 MHz	-47.42 dBm	-34.42 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83559 GHz	-46.38 dBm	-33.38 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98542 GHz	-47.03 dBm	-34.03 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99092 GHz	-41.49 dBm	-28.49 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.29509 GHz	-41.72 dBm	-28.72 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.05736 GHz	-38.57 dBm	-25.57 dB

Date: 19.DEC.2016 16:50:15

Highest Channel / QPSK

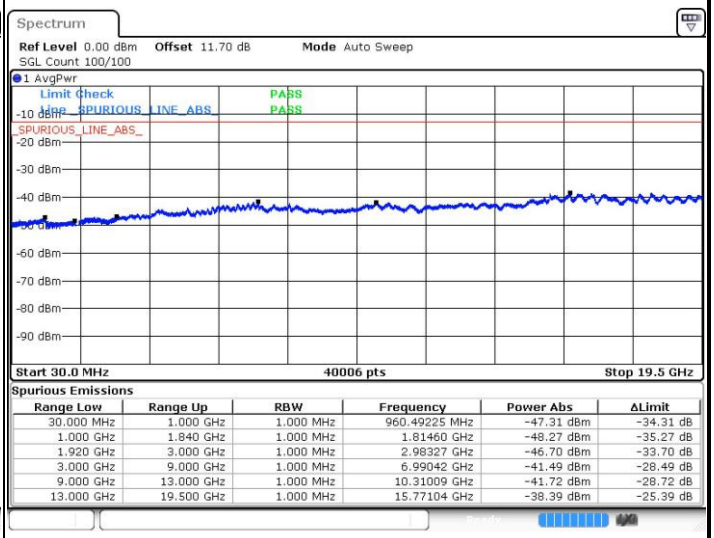


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	764.16542 MHz	-47.43 dBm	-34.43 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80411 GHz	-48.16 dBm	-35.16 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.95699 GHz	-46.98 dBm	-33.98 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.85393 GHz	-41.50 dBm	-28.50 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30309 GHz	-41.52 dBm	-28.52 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.05986 GHz	-38.45 dBm	-25.45 dB

Date: 19.DEC.2016 17:38:53

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	960.49225 MHz	-47.31 dBm	-34.31 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81460 GHz	-48.27 dBm	-35.27 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98327 GHz	-46.70 dBm	-33.70 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99042 GHz	-41.49 dBm	-28.49 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31009 GHz	-41.72 dBm	-28.72 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.77104 GHz	-38.39 dBm	-25.39 dB

Date: 19.DEC.2016 17:37:26

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	0.0082	PASS
40	Normal Voltage	0.0003	
30	Normal Voltage	0.0076	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0005	
0	Normal Voltage	0.0007	
-10	Normal Voltage	0.0009	
-20	Normal Voltage	0.0002	
-30	Normal Voltage	0.0001	
20	Maximum Voltage	0.0008	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0001	

Note:

1. Normal Voltage =3.8 V.；Battery End Point (BEP) =3.4 V.；Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 4

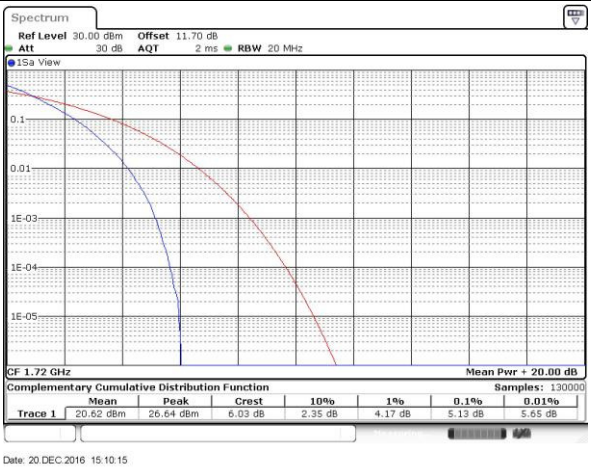
Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.97	5.13	5.28	6.03	PASS
Middle CH	3.88	4.96	5.16	5.8	
Highest CH	3.65	4.9	4.64	5.8	

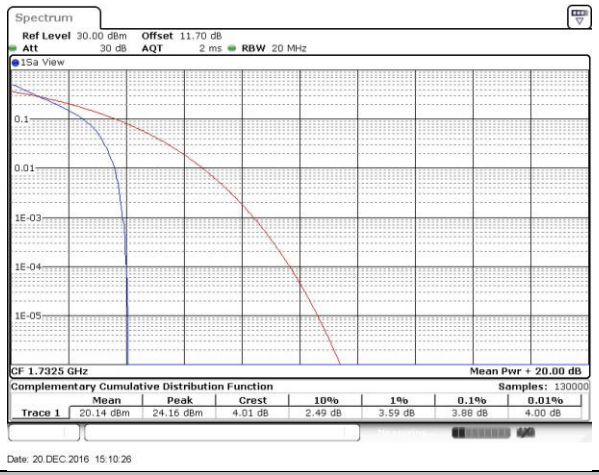
LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB

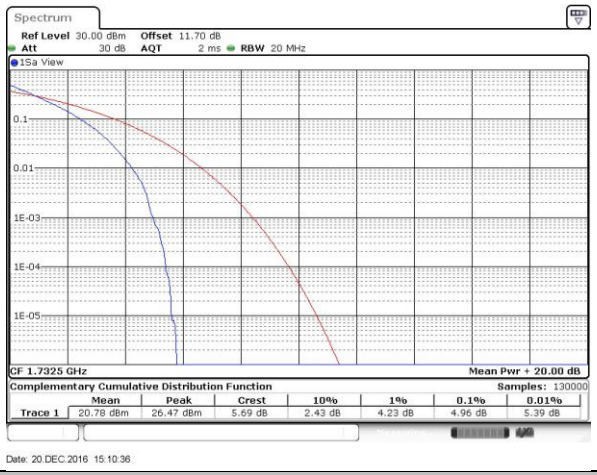
Lowest Channel / Full RB



Middle Channel / 1RB

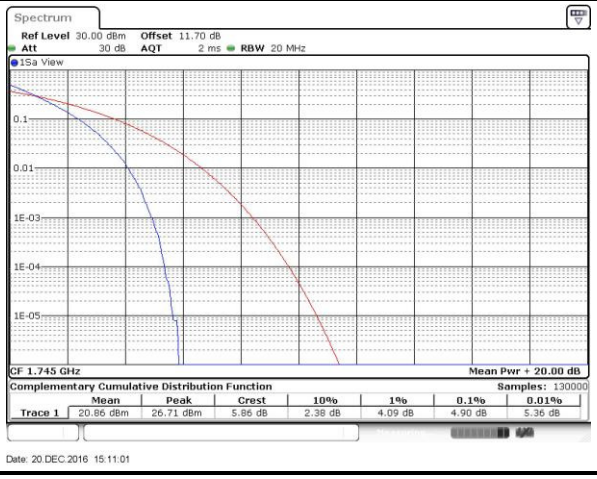


Middle Channel / Full RB



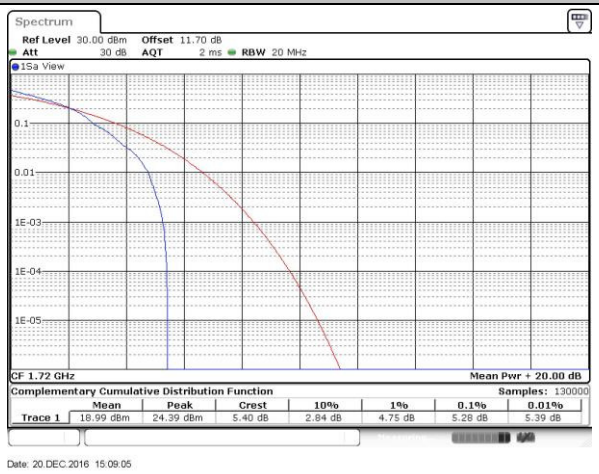
Highest Channel / 1RB

Highest Channel / Full RB

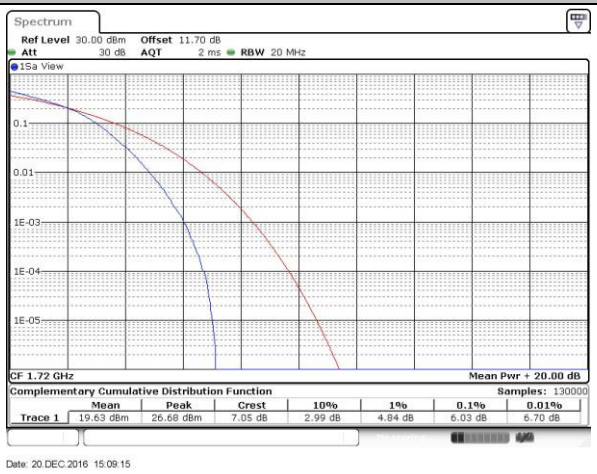


LTE Band 4 / 20MHz / 16QAM

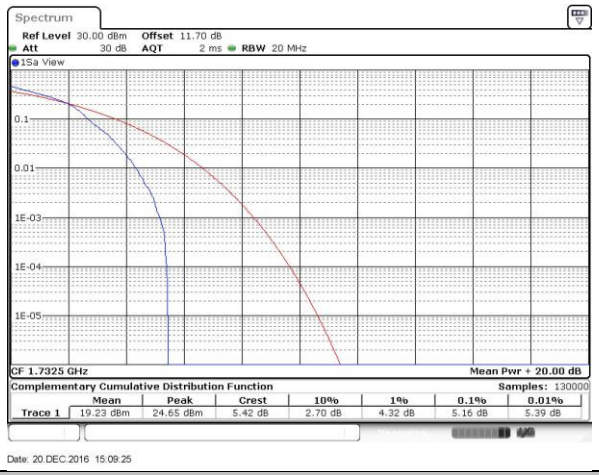
Lowest Channel / 1RB



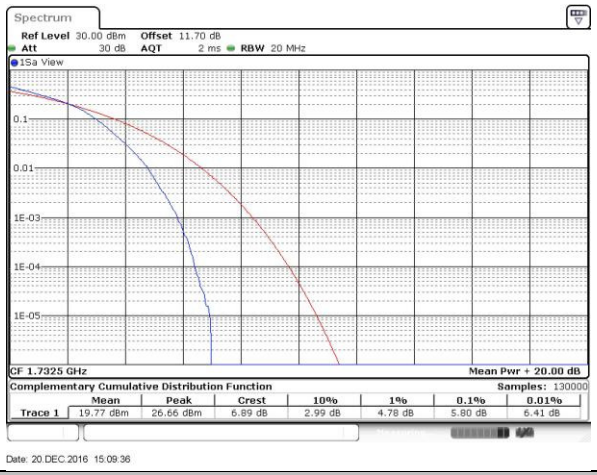
Lowest Channel / Full RB



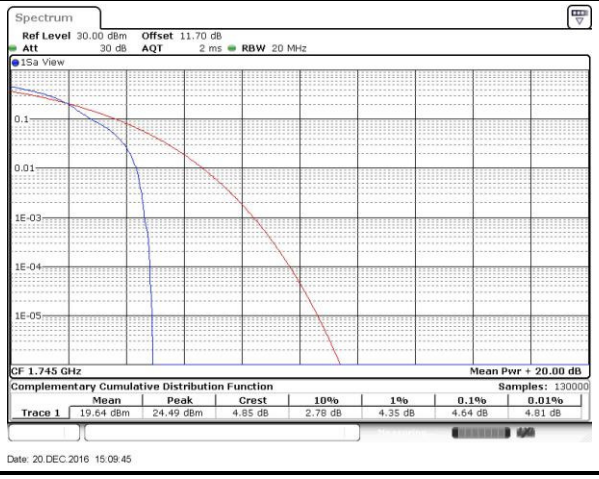
Middle Channel / 1RB



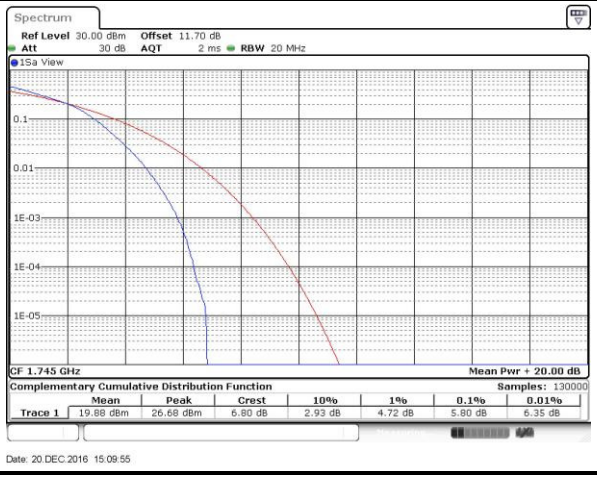
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

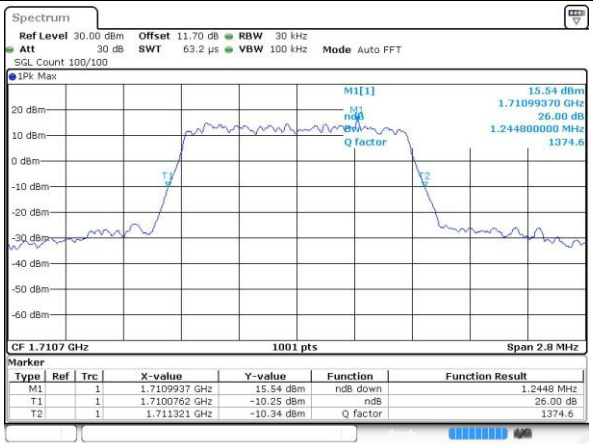


26dB Bandwidth

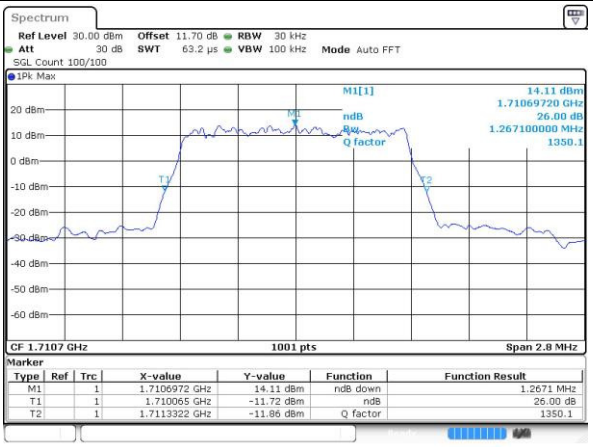
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.25	1.27	2.93	3.00	4.97	4.94	9.79	9.89	14.54	14.54	20.10	20.46
Middle CH	1.25	1.27	3.02	3.03	4.89	4.95	10.03	9.83	14.54	14.75	20.10	20.22
Highest CH	1.27	1.24	3.01	2.95	4.90	5.00	9.91	9.77	14.69	14.33	20.22	20.30

LTE Band 4

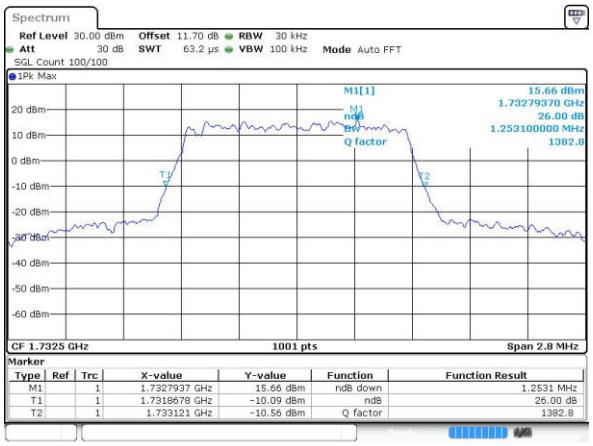
Lowest Channel / 1.4MHz / QPSK



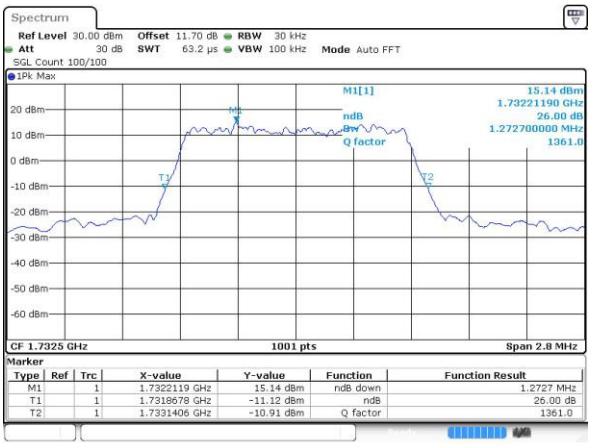
Lowest Channel / 1.4MHz / 16QAM



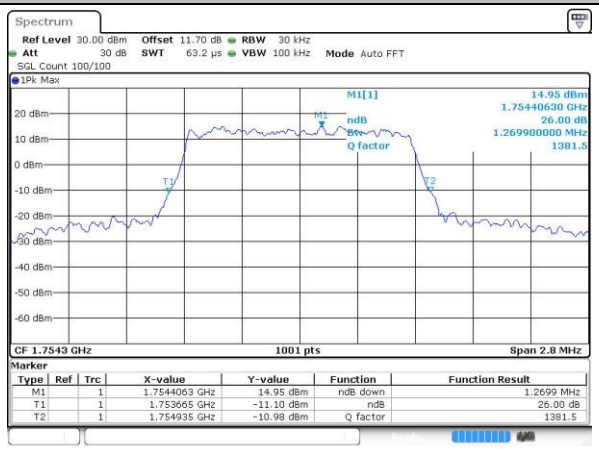
Middle Channel / 1.4MHz / QPSK



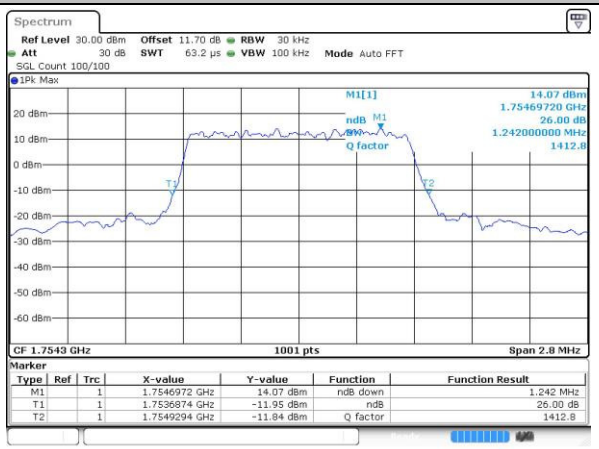
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

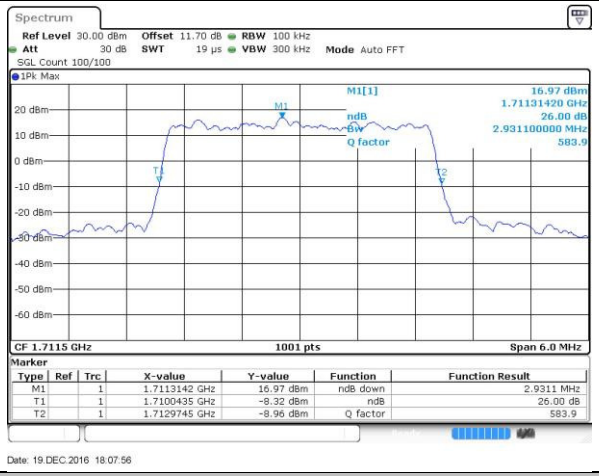


Highest Channel / 1.4MHz / 16QAM

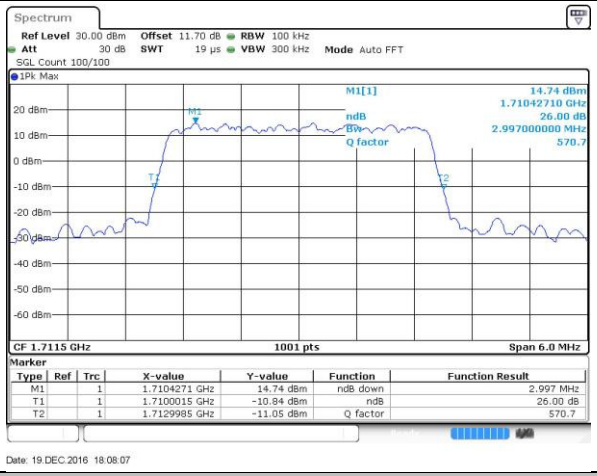


LTE Band 4

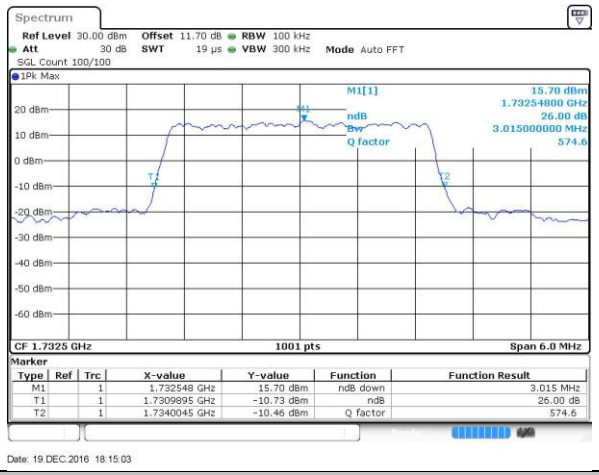
Lowest Channel / 3MHz / QPSK



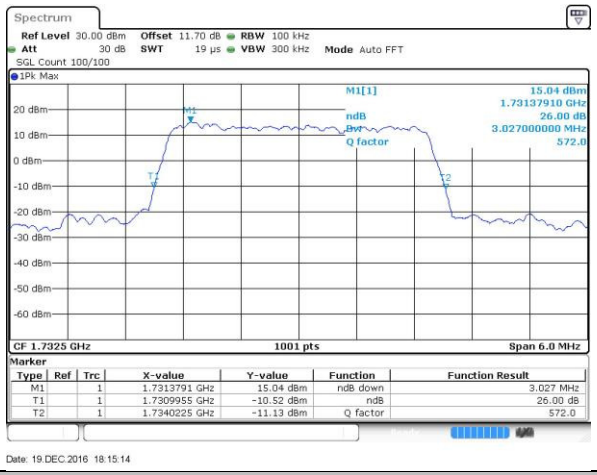
Lowest Channel / 3MHz / 16QAM



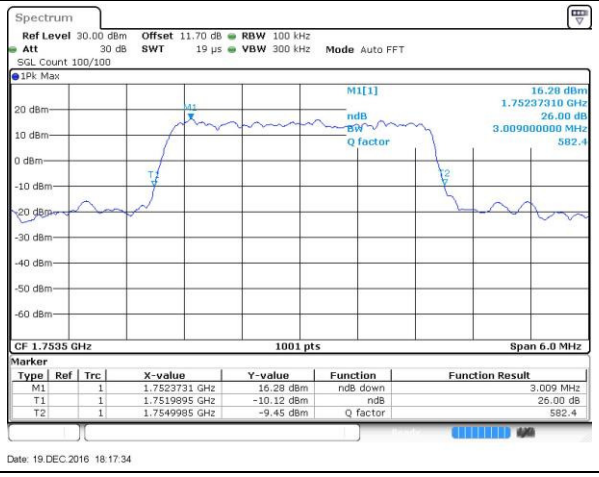
Middle Channel / 3MHz / QPSK



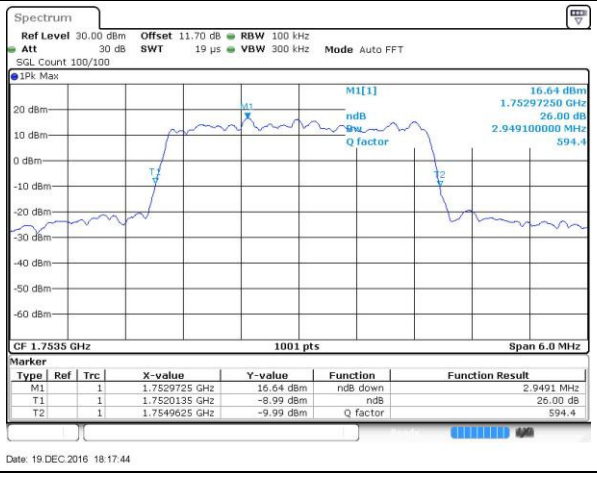
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

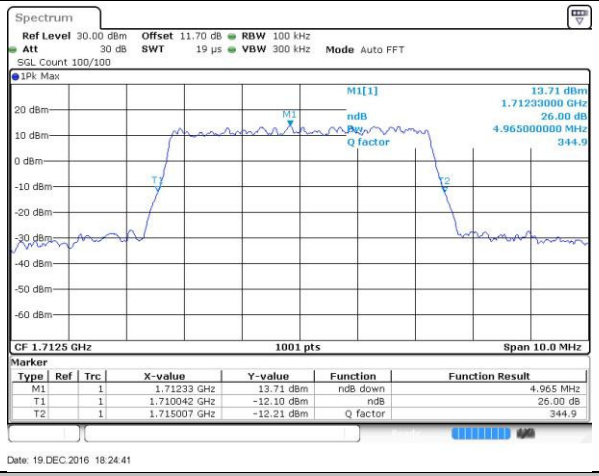


Highest Channel /3MHz / 16QAM

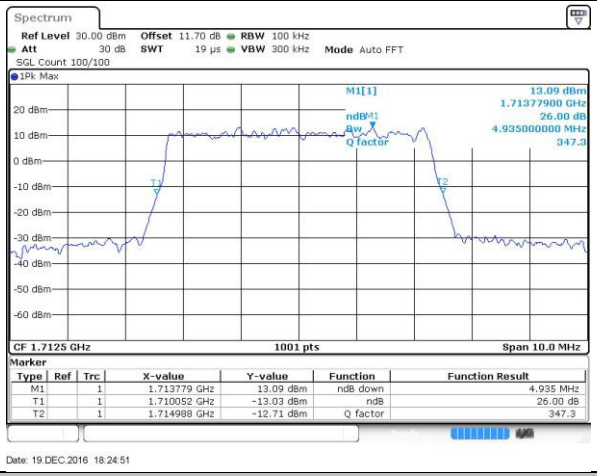


LTE Band 4

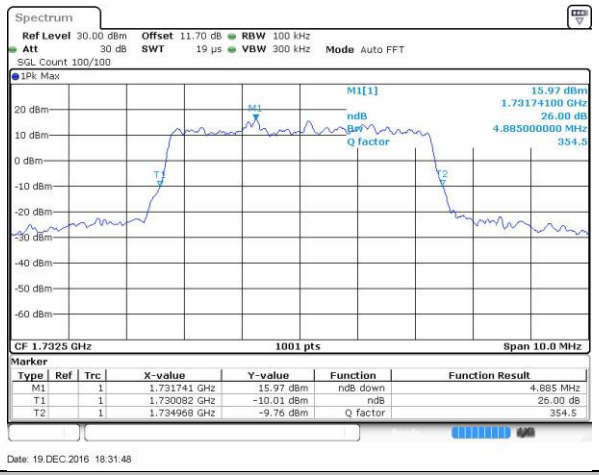
Lowest Channel / 5MHz / QPSK



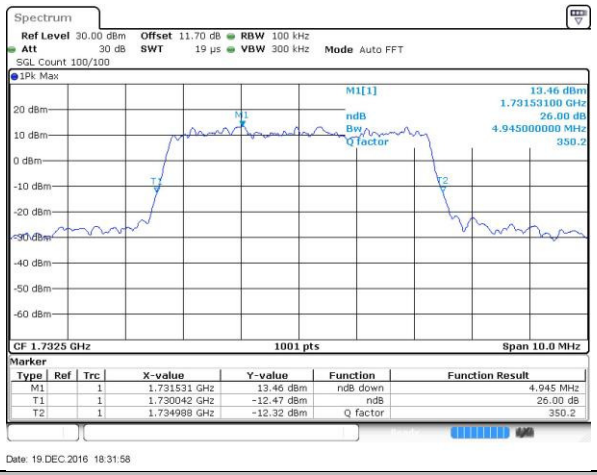
Lowest Channel / 5MHz / 16QAM



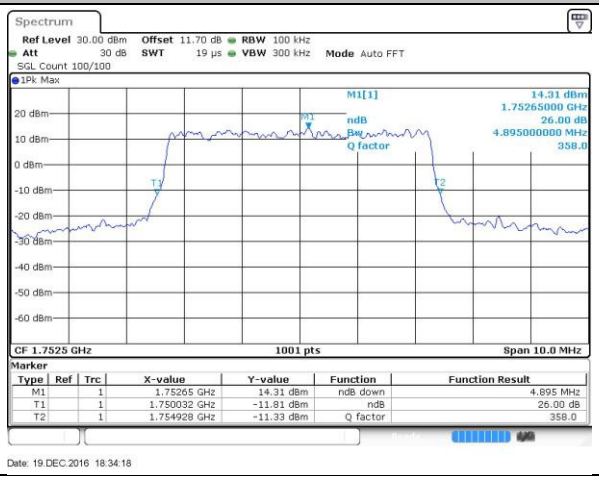
Middle Channel / 5MHz / QPSK



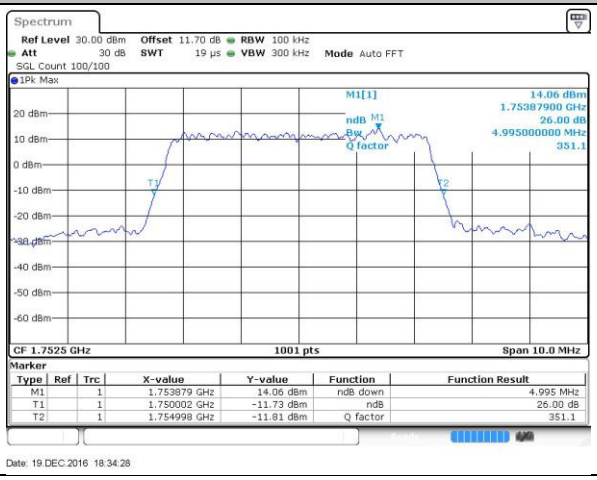
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

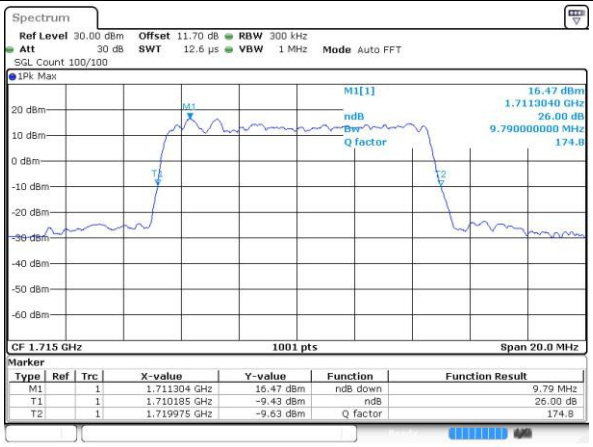


Highest Channel / 5MHz / 16QAM

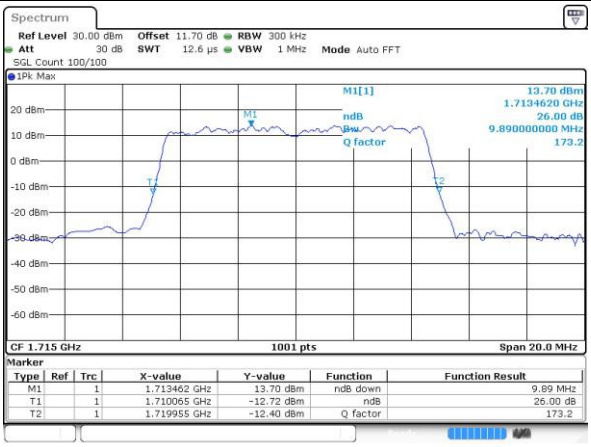


LTE Band 4

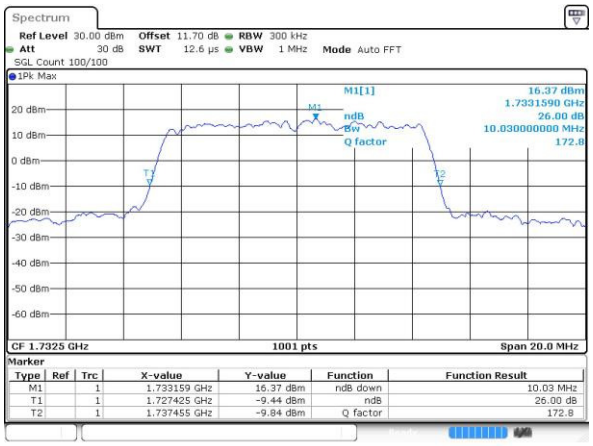
Lowest Channel / 10MHz / QPSK



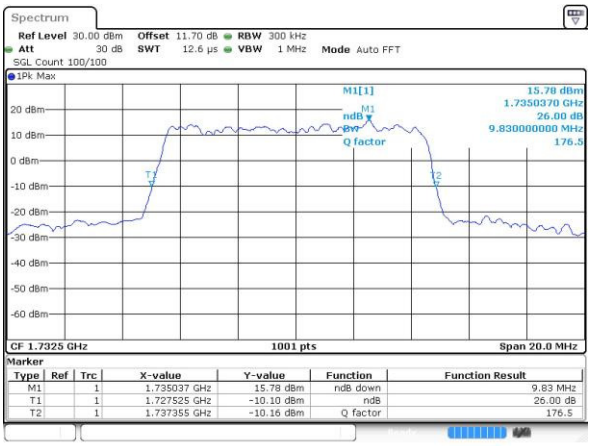
Lowest Channel / 10MHz / 16QAM



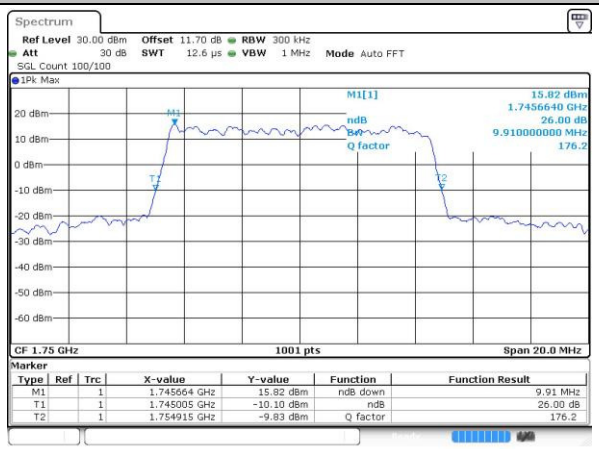
Middle Channel / 10MHz / QPSK



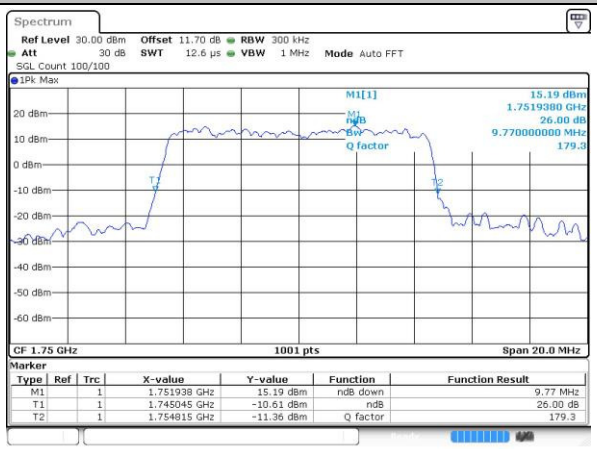
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

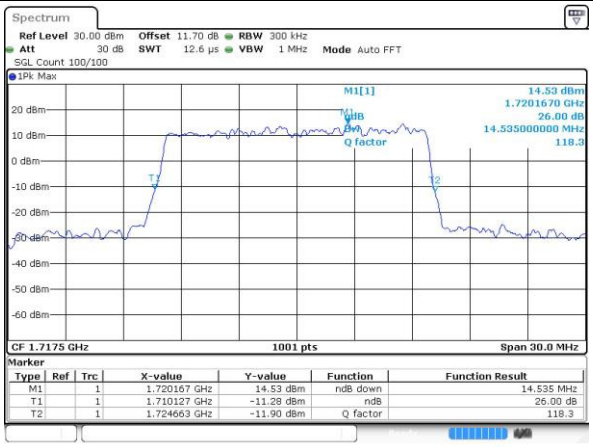


Highest Channel / 10MHz / 16QAM

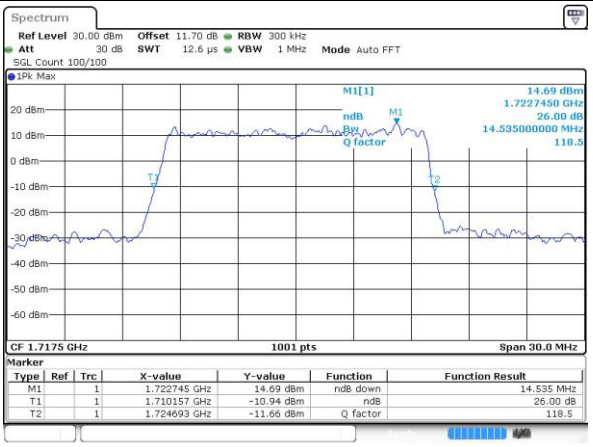


LTE Band 4

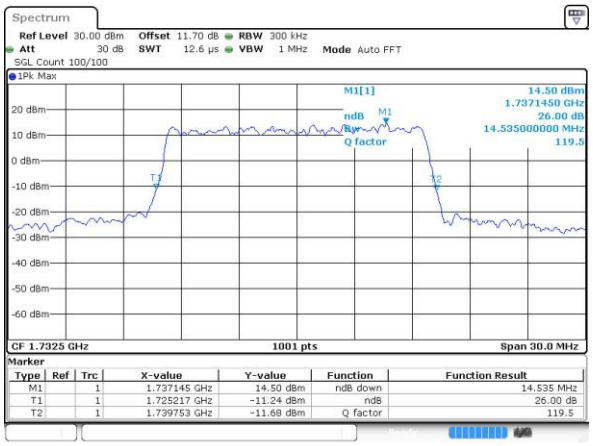
Lowest Channel / 15MHz / QPSK



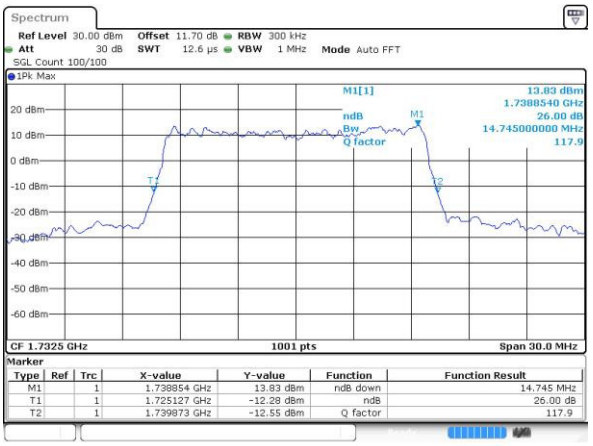
Lowest Channel / 15MHz / 16QAM



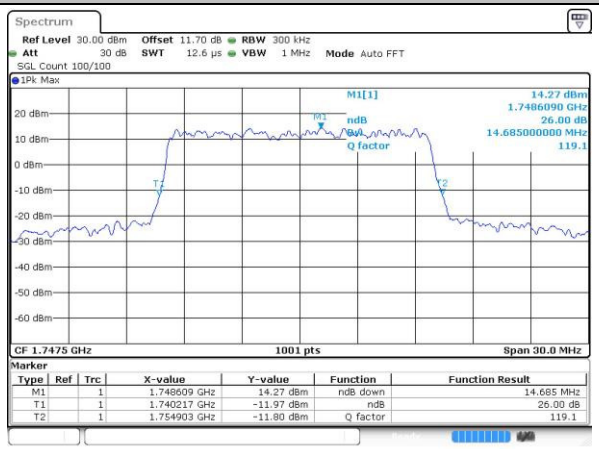
Middle Channel / 15MHz / QPSK



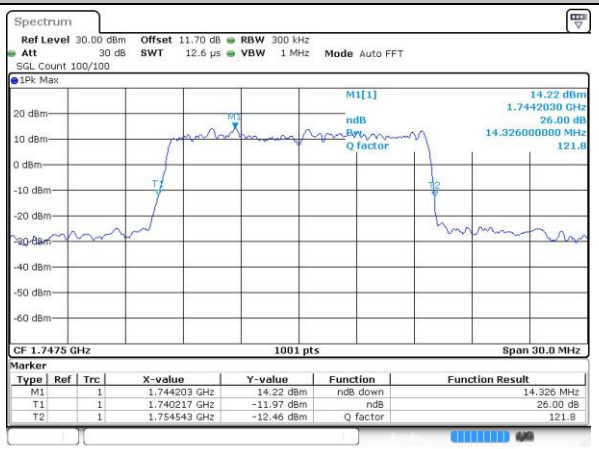
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

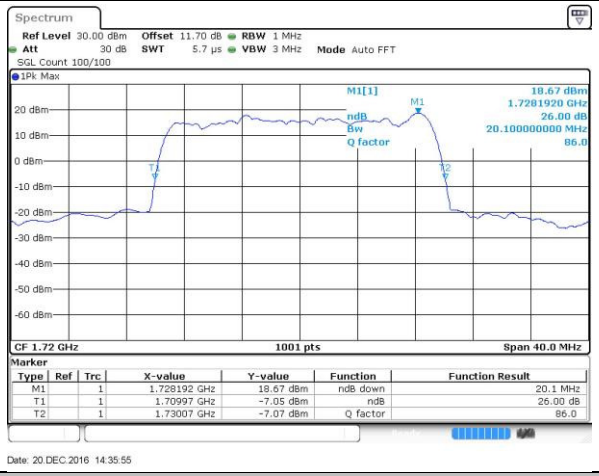


Highest Channel / 15MHz / 16QAM

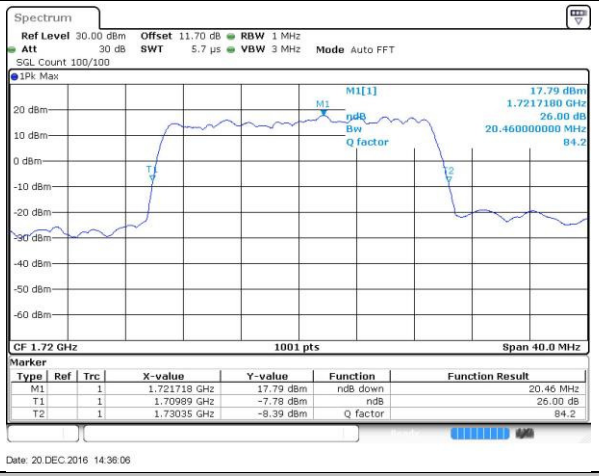


LTE Band 4

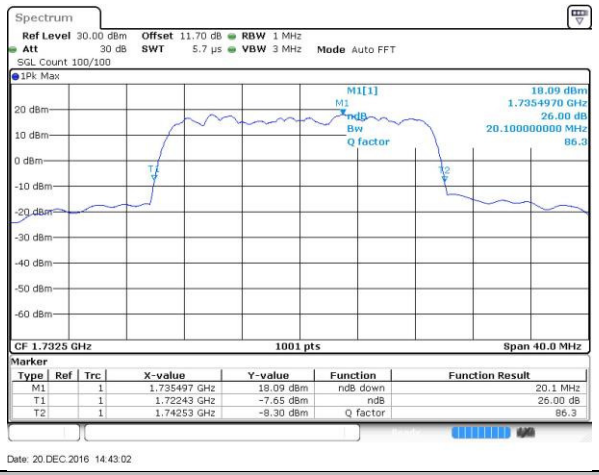
Lowest Channel / 20MHz / QPSK



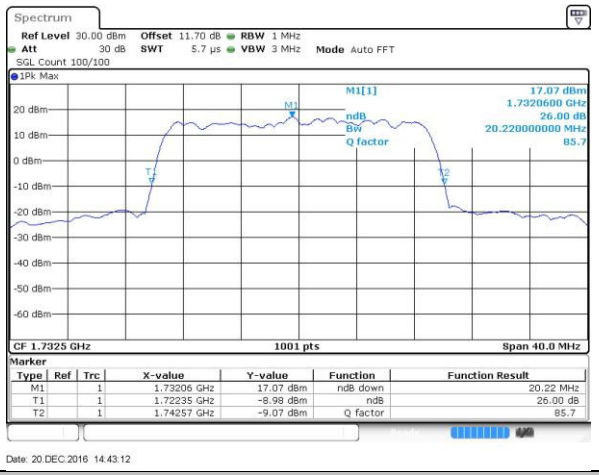
Lowest Channel / 20MHz / 16QAM



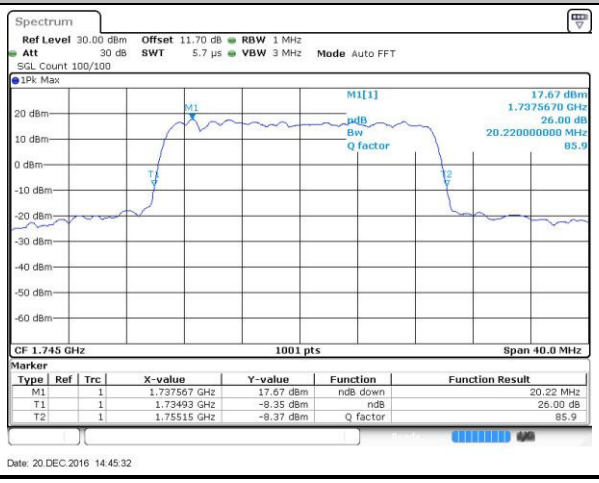
Middle Channel / 20MHz / QPSK



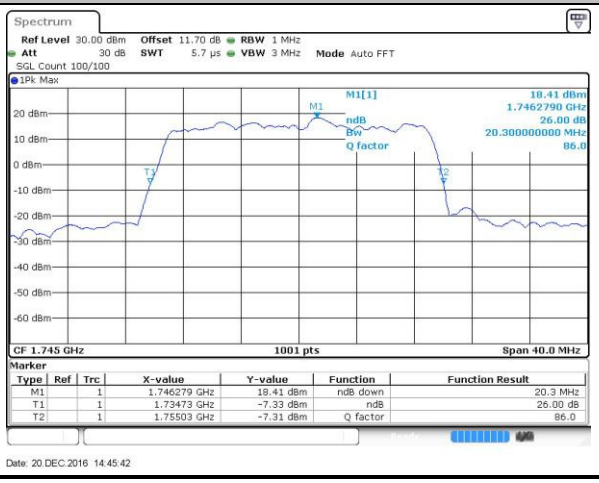
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

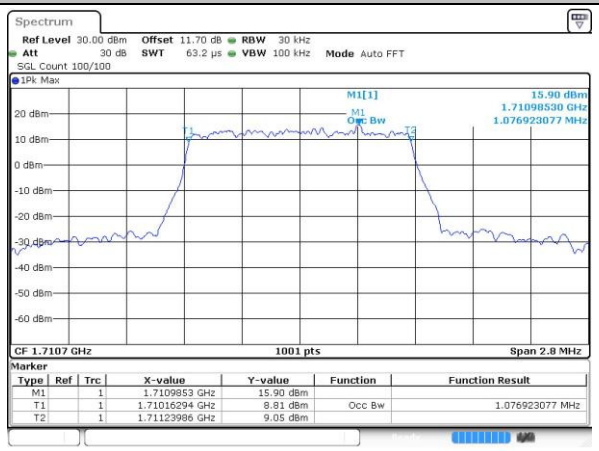


Occupied Bandwidth

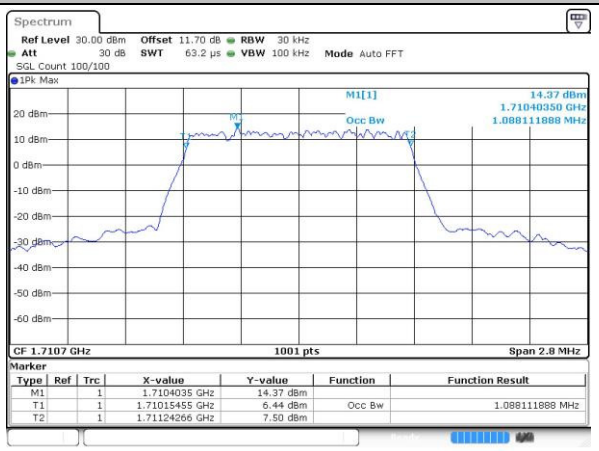
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.08	1.09	2.73	2.75	4.49	4.5	9.01	9.05	13.43	13.43	18.3	18.42
Middle CH	1.1	1.1	2.75	2.71	4.5	4.49	9.09	9.01	13.46	13.46	18.54	18.58
Highest CH	1.09	1.09	2.71	2.73	4.52	4.5	9.09	9.07	13.43	13.46	18.34	18.54

LTE Band 4

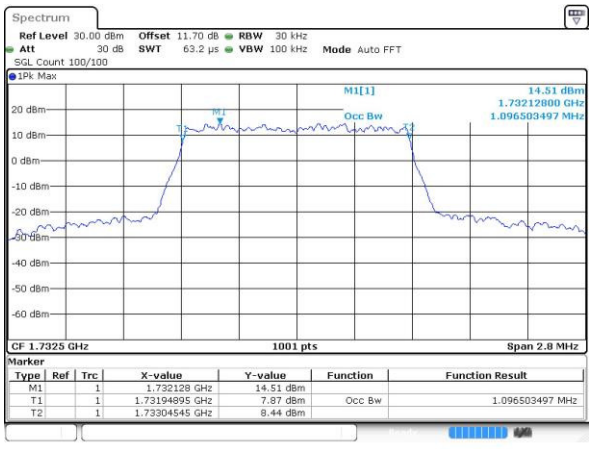
Lowest Channel / 1.4MHz / QPSK



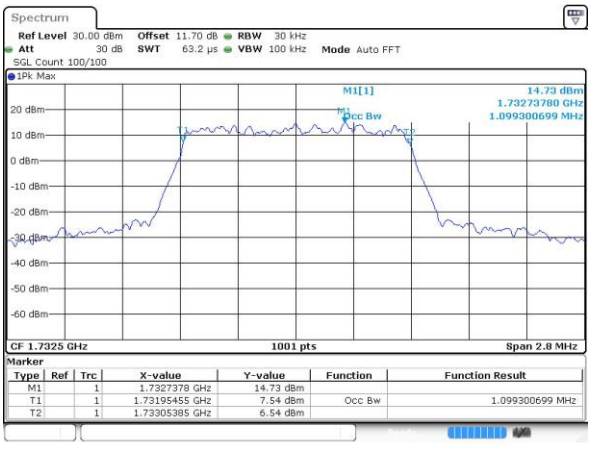
Lowest Channel / 1.4MHz / 16QAM



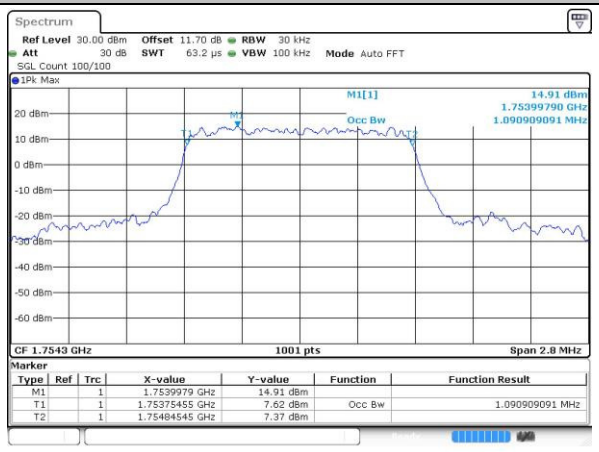
Middle Channel / 1.4MHz / QPSK



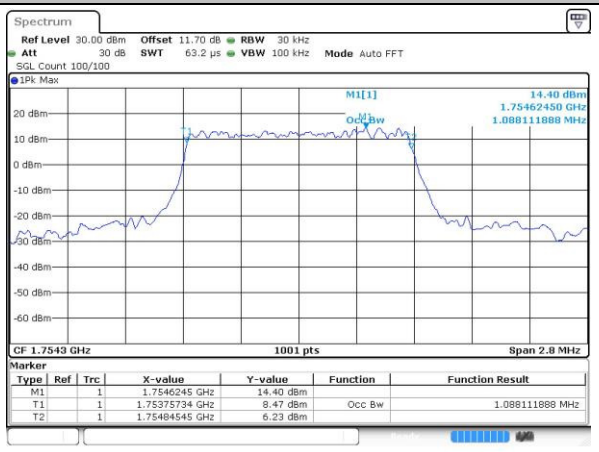
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

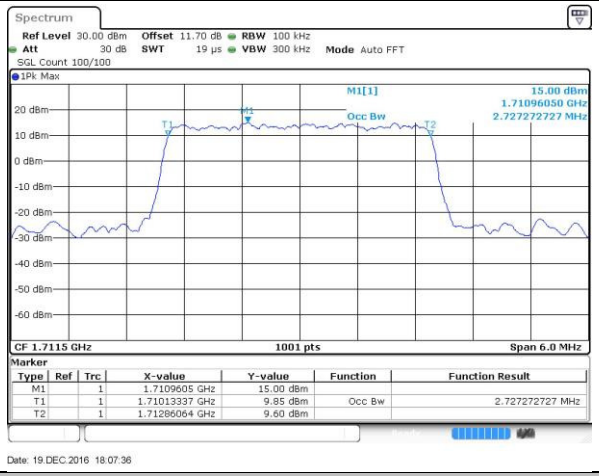


Highest Channel / 1.4MHz / 16QAM

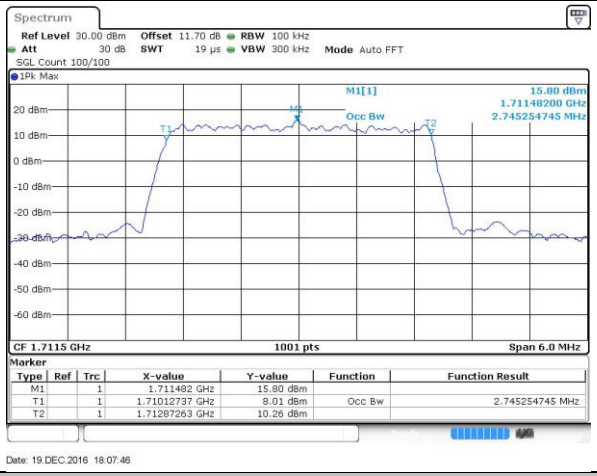


LTE Band 4

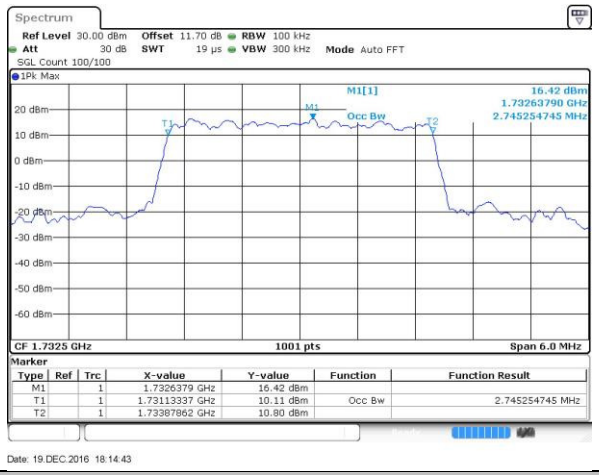
Lowest Channel / 3MHz / QPSK



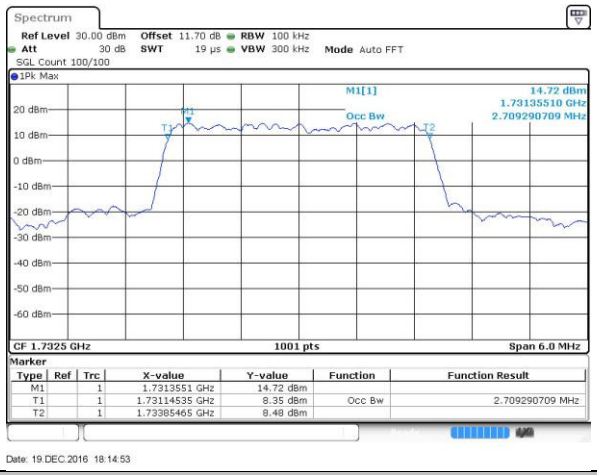
Lowest Channel / 3MHz / 16QAM



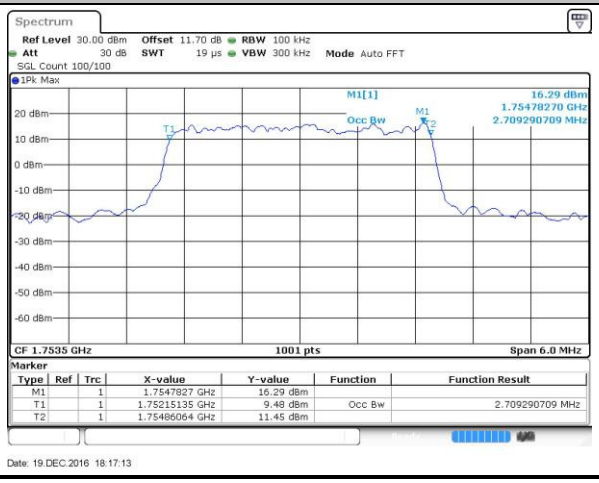
Middle Channel / 3MHz / QPSK



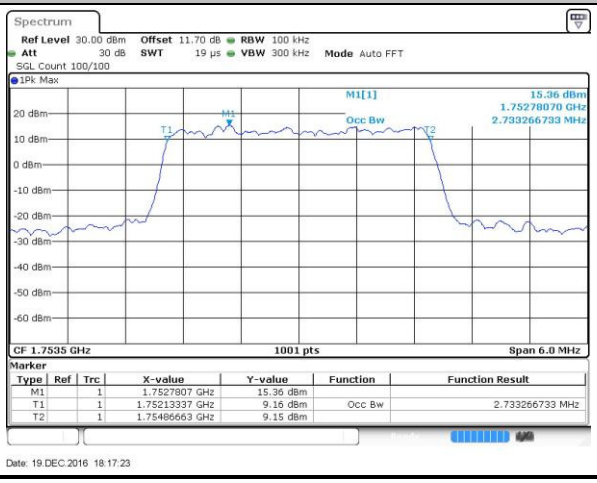
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

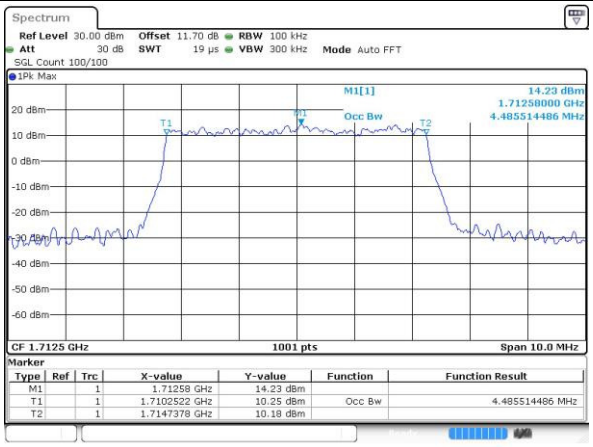


Highest Channel / 3MHz / 16QAM



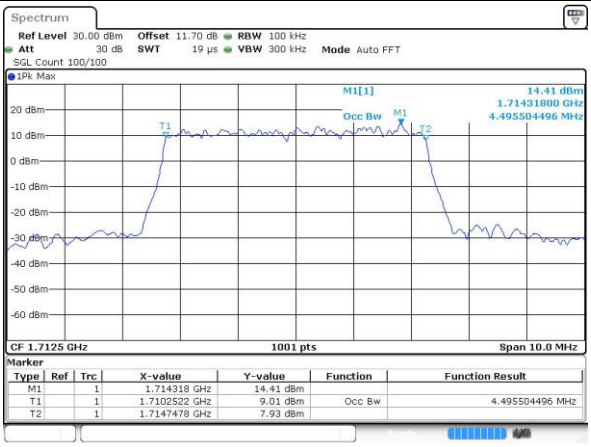
LTE Band 4

Lowest Channel / 5MHz / QPSK



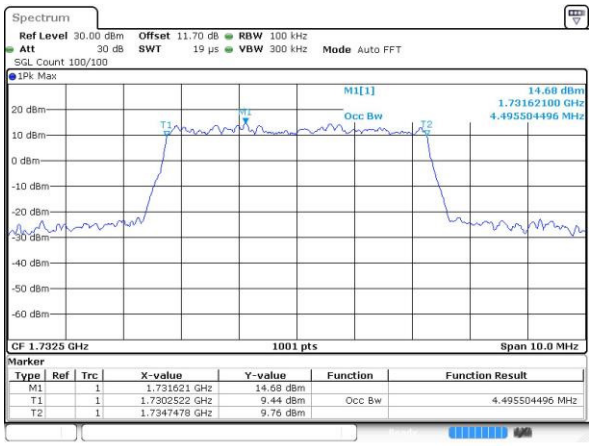
Date: 19.DEC.2016 18:24:20

Lowest Channel / 5MHz / 16QAM



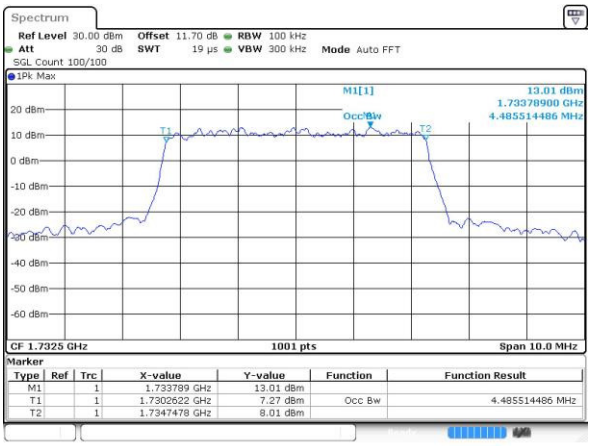
Date: 19.DEC.2016 18:24:30

Middle Channel / 5MHz / QPSK



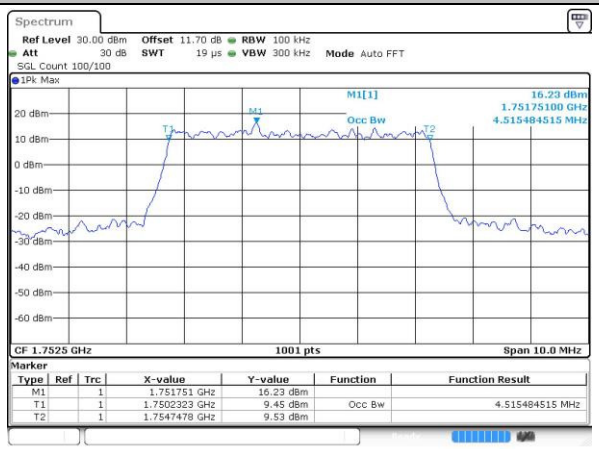
Date: 19.DEC.2016 18:31:27

Middle Channel / 5MHz / 16QAM



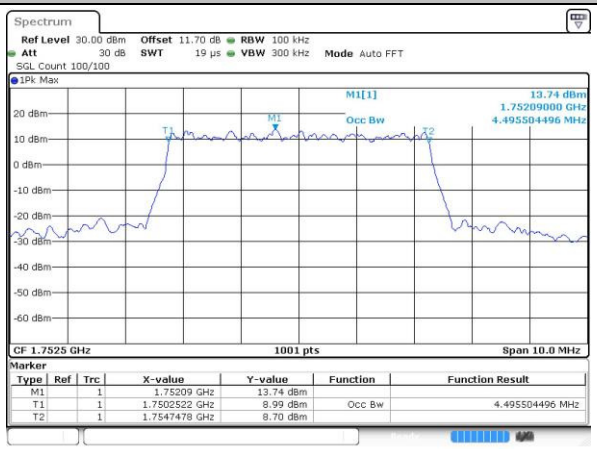
Date: 19.DEC.2016 18:31:37

Highest Channel / 5MHz / QPSK



Date: 19.DEC.2016 18:33:57

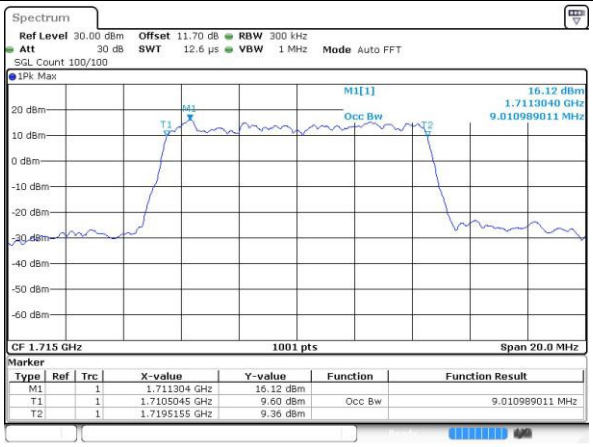
Highest Channel / 5MHz / 16QAM



Date: 19.DEC.2016 18:34:08

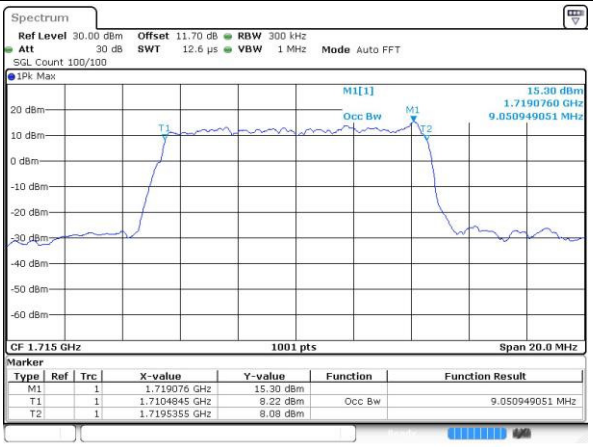
LTE Band 4

Lowest Channel / 10MHz / QPSK



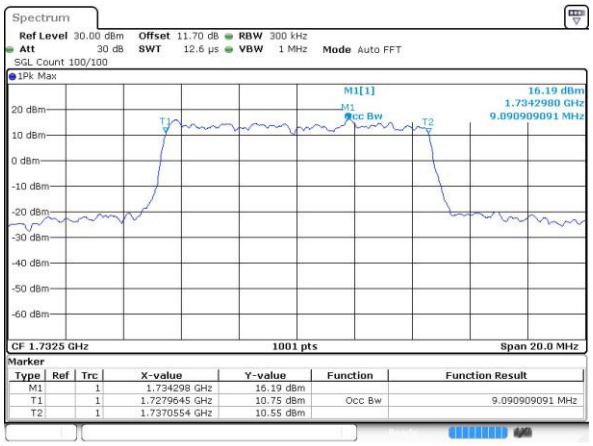
Date: 19.DEC.2016 18:41:04

Lowest Channel / 10MHz / 16QAM



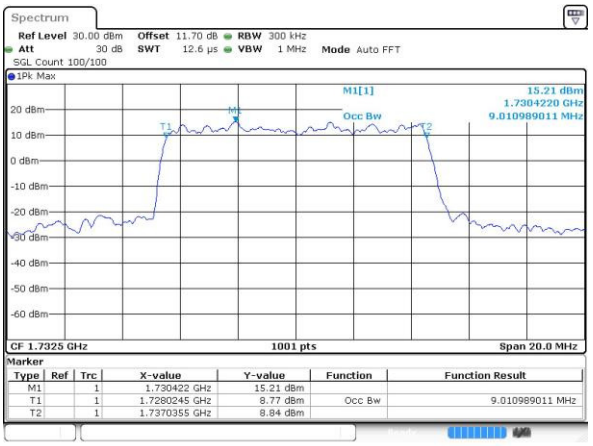
Date: 19.DEC.2016 18:41:14

Middle Channel / 10MHz / QPSK



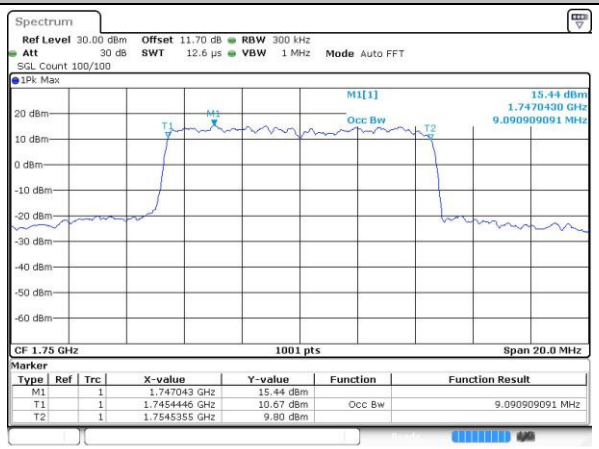
Date: 19.DEC.2016 18:48:10

Middle Channel / 10MHz / 16QAM



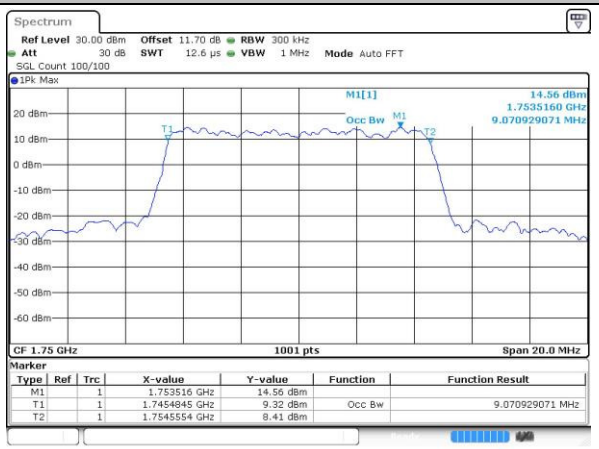
Date: 19.DEC.2016 18:48:21

Highest Channel / 10MHz / QPSK



Date: 19.DEC.2016 19:06:39

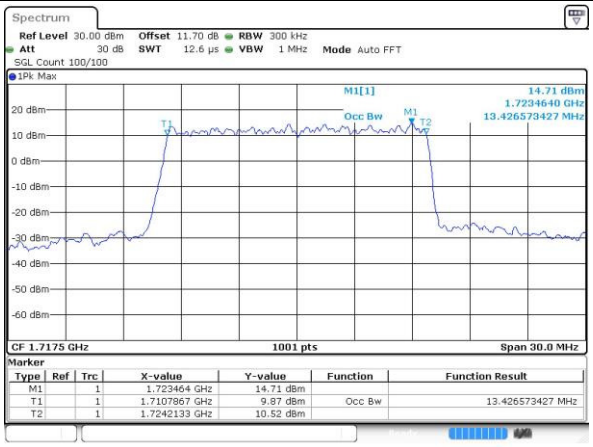
Highest Channel / 10MHz / 16QAM



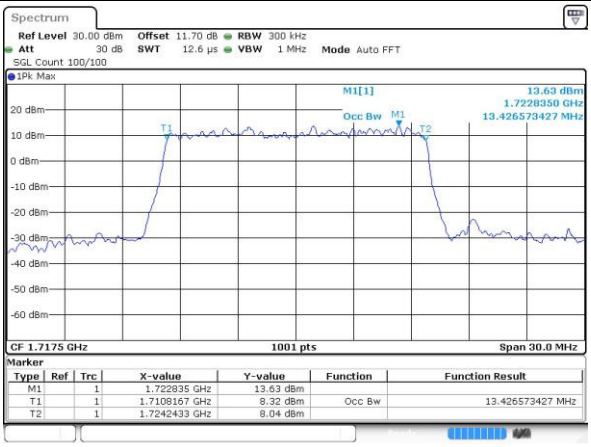
Date: 19.DEC.2016 19:06:49

LTE Band 4

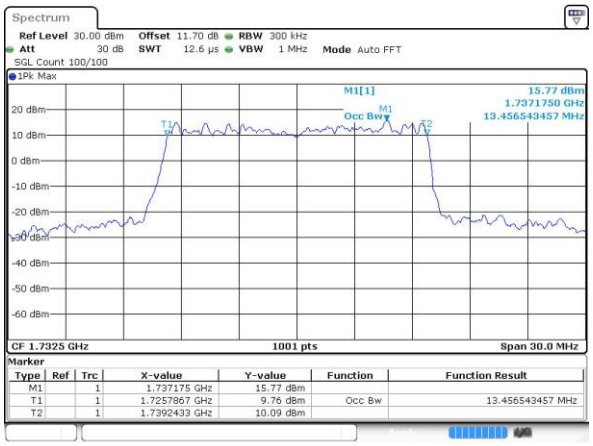
Lowest Channel / 15MHz / QPSK



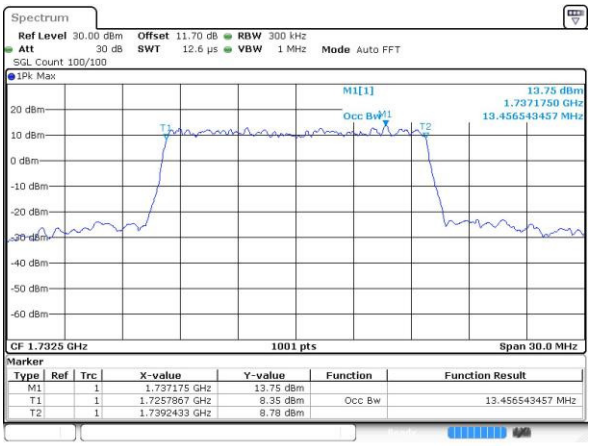
Lowest Channel / 15MHz / 16QAM



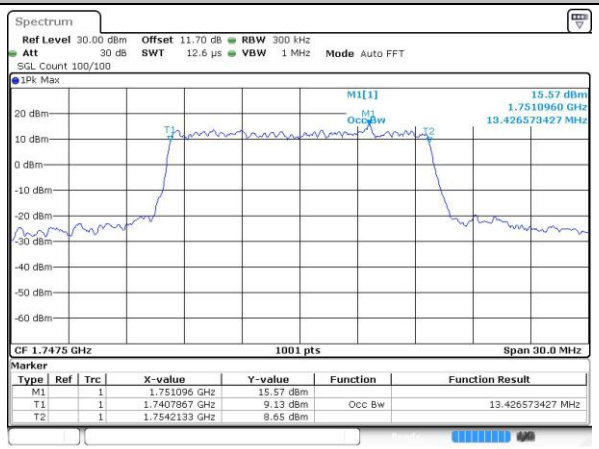
Middle Channel / 15MHz / QPSK



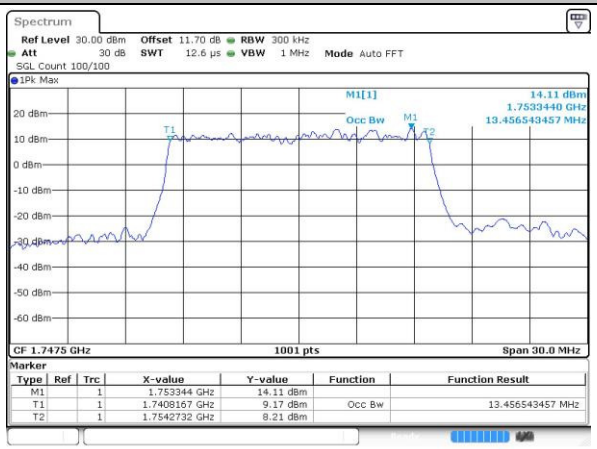
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

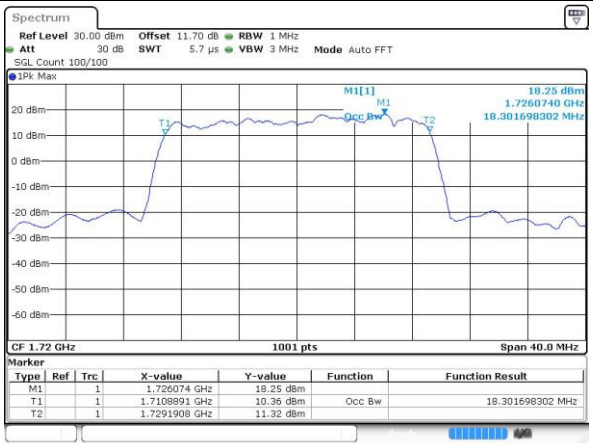


Highest Channel / 15MHz / 16QAM

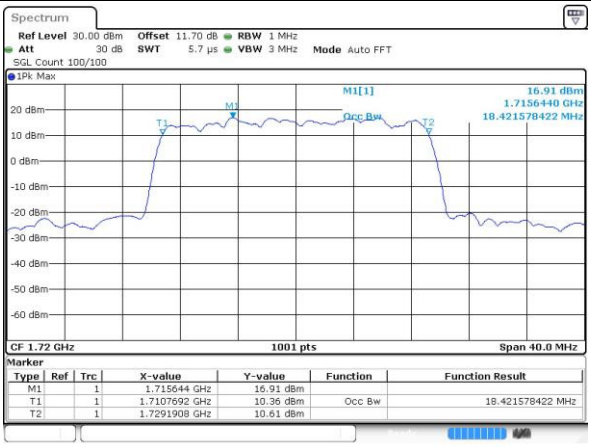


LTE Band 4

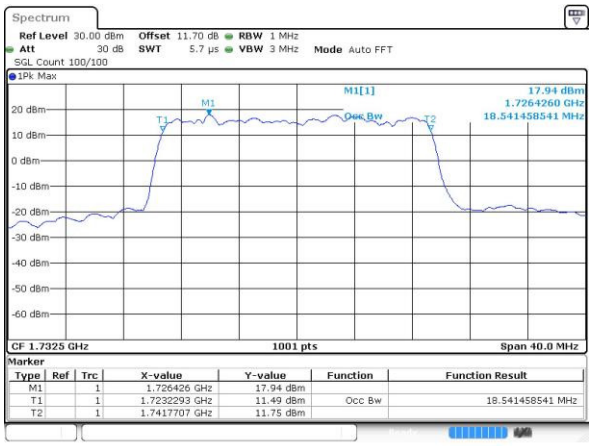
Lowest Channel / 20MHz / QPSK



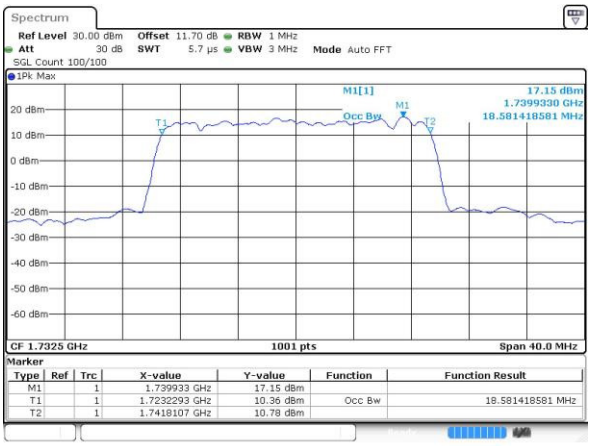
Lowest Channel / 20MHz / 16QAM



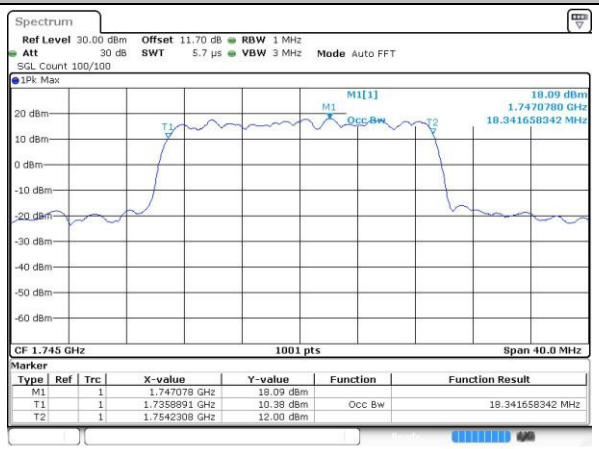
Middle Channel / 20MHz / QPSK



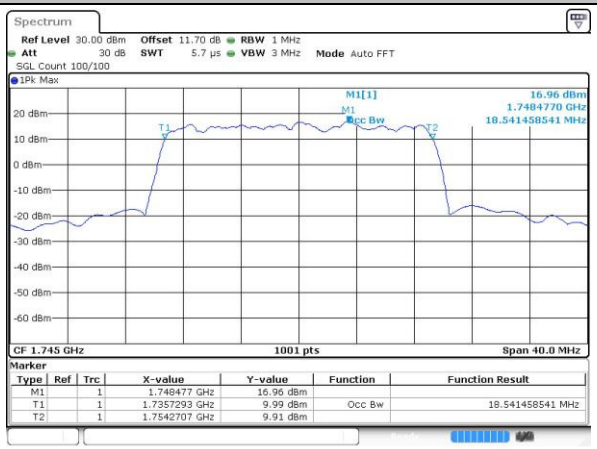
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



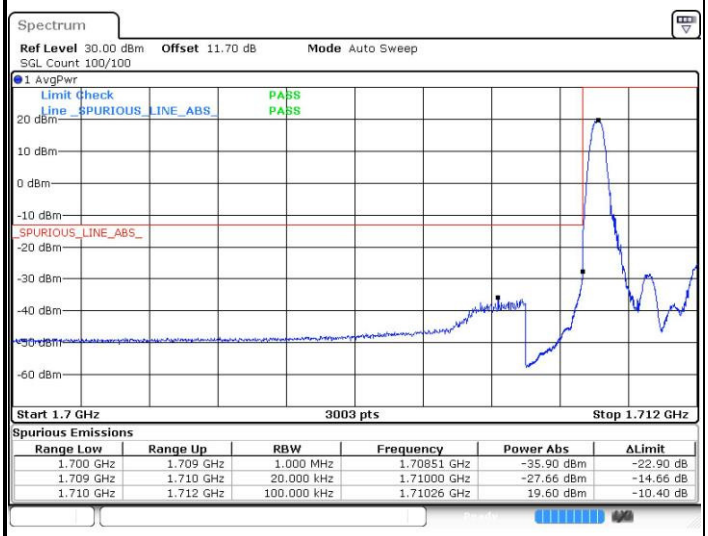
Highest Channel / 20MHz / 16QAM



Conducted Band Edge

LTE Band 4 / 1.4MHz / QPSK

Lowest Band Edge / 1RB

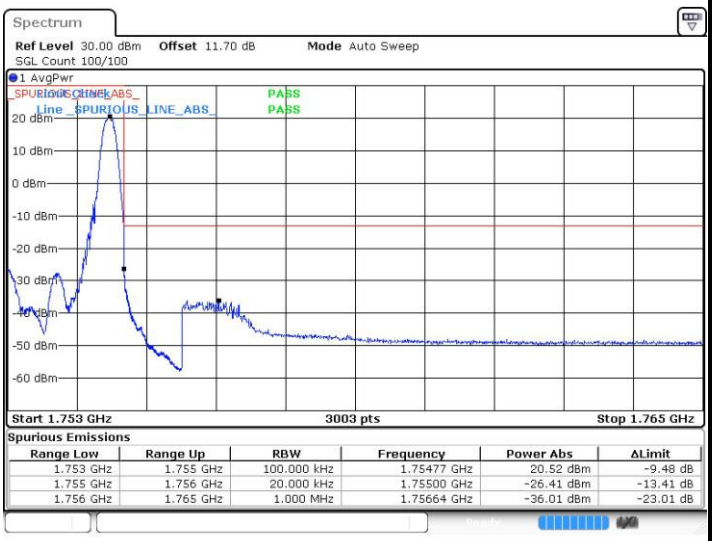


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70851 GHz	-35.90 dBm	-22.90 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.71000 GHz	-27.66 dBm	-14.66 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71026 GHz	19.60 dBm	-10.40 dB

Date: 20.DEC.2016 14:53:57

Highest Band Edge / 1RB

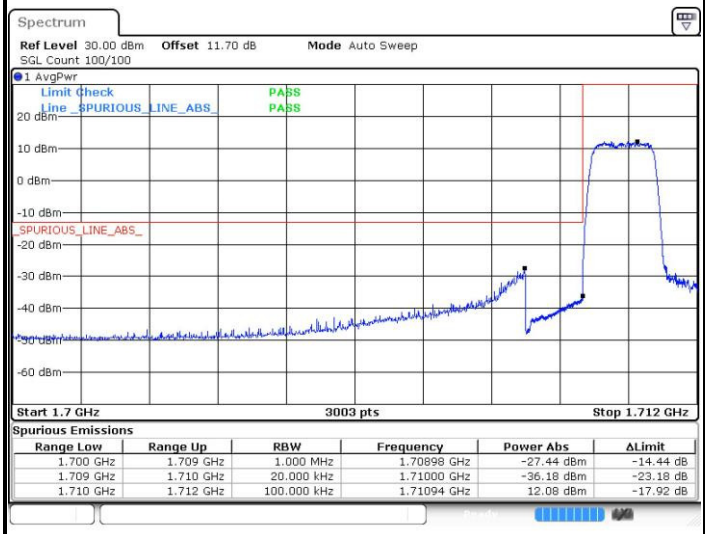


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.753 GHz	1.755 GHz	100.000 kHz	1.75477 GHz	20.52 dBm	-9.48 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75500 GHz	-26.41 dBm	-13.41 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75664 GHz	-36.01 dBm	-23.01 dB

Date: 20.DEC.2016 15:03:33

Lowest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70898 GHz	-27.44 dBm	-14.44 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.71000 GHz	-36.18 dBm	-23.18 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71094 GHz	12.08 dBm	-17.92 dB

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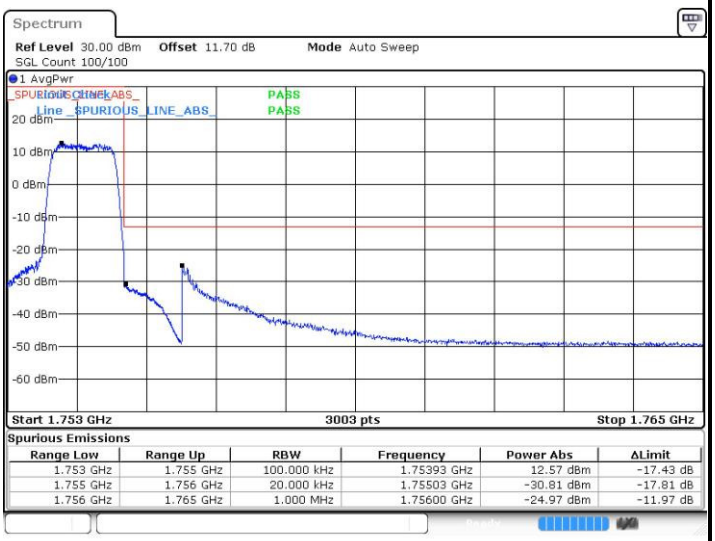
Highest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.753 GHz	1.755 GHz	100.000 kHz	1.75393 GHz	12.57 dBm	-17.43 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75503 GHz	-30.81 dBm	-17.81 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75600 GHz	-24.97 dBm	-11.97 dB

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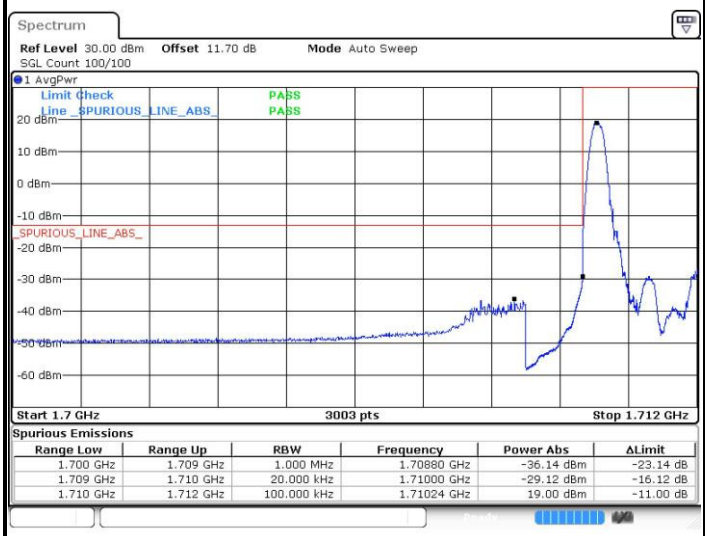
LTE Band 4 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB

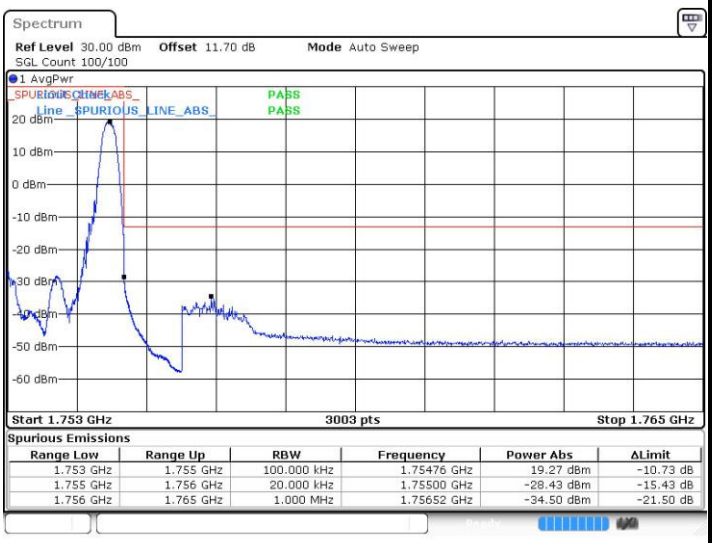


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70880 GHz	-36.14 dBm	-23.14 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.71000 GHz	-29.12 dBm	-16.12 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71024 GHz	19.00 dBm	-11.00 dB

Date: 20.DEC.2016 14:55:06

Highest Band Edge / 1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.753 GHz	1.755 GHz	100.000 kHz	1.75476 GHz	19.27 dBm	-10.73 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75500 GHz	-28.43 dBm	-15.43 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75652 GHz	-34.50 dBm	-21.50 dB

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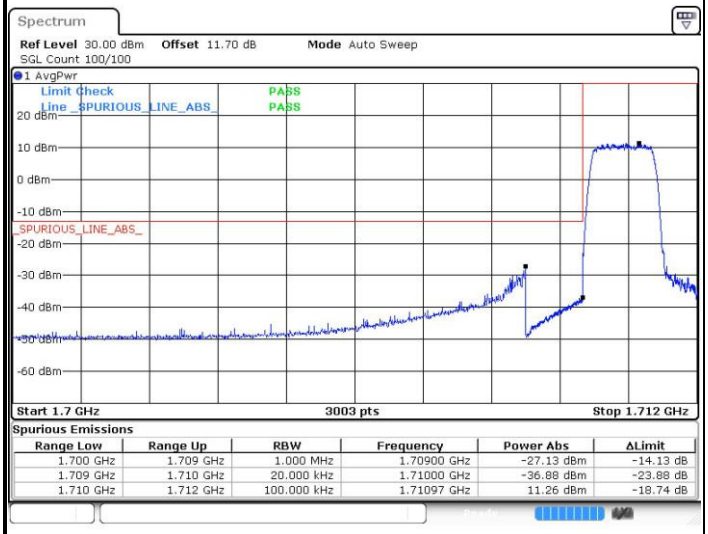
Lowest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.700 GHz	1.709 GHz	1.000 MHz	1.70900 GHz	-27.13 dBm	-14.13 dB
1.709 GHz	1.710 GHz	20.000 kHz	1.71000 GHz	-36.88 dBm	-23.88 dB
1.710 GHz	1.712 GHz	100.000 kHz	1.71097 GHz	11.26 dBm	-18.74 dB

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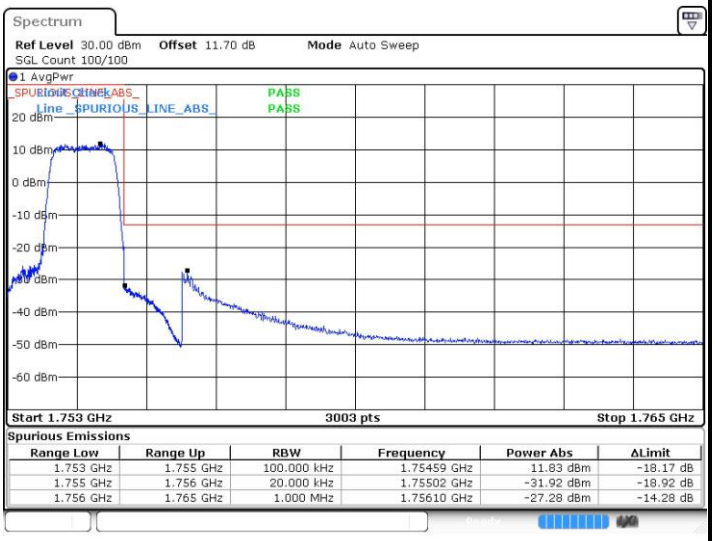
Highest Band Edge / Full RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.753 GHz	1.755 GHz	100.000 kHz	1.75459 GHz	11.83 dBm	-18.17 dB
1.755 GHz	1.756 GHz	20.000 kHz	1.75502 GHz	-31.92 dBm	-18.92 dB
1.756 GHz	1.765 GHz	1.000 MHz	1.75610 GHz	-27.28 dBm	-14.28 dB

Date: 20.DEC.2016 15:07:00