LTE Band 2 / 20MHz	
Middle Channel / QPSK	**Middle Channel / 16QAM**

Spectrum

Ref Level 0.00 dBm   Offset 11.70 dB   Mode Auto Sweep
SGL Count 100/100
1 AvgPwr
Limit Check   PASS
SPURIOUS_LINE_ABS_   PASS
SPURIOUS_LINE_ABS_

Start 30.0 MHz   40006 pts   Stop 19.5 GHz

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

Spectrum

Ref Level 0.00 dBm   Offset 11.70 dB   Mode Auto Sweep
SGL Count 100/100
1 AvgPwr
Limit Check   PASS
SPURIOUS_LINE_ABS_   PASS
SPURIOUS_LINE_ABS_

Start 30.0 MHz   40006 pts   Stop 19.5 GHz

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	**Highest Channel / 16QAM**

Spectrum

Ref Level 0.00 dBm   Offset 11.70 dB   Mode Auto Sweep
SGL Count 100/100
1 AvgPwr
Limit Check   PASS
SPURIOUS_LINE_ABS_   PASS
SPURIOUS_LINE_ABS_

Start 30.0 MHz   40006 pts   Stop 19.5 GHz

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

Spectrum

Ref Level 0.00 dBm   Offset 11.70 dB   Mode Auto Sweep
SGL Count 100/100
1 AvgPwr
Limit Check   PASS
SPURIOUS_LINE_ABS_   PASS
SPURIOUS_LINE_ABS_

Start 30.0 MHz   40006 pts   Stop 19.5 GHz

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	
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	PASS
-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	
Middle CH	3.88	4.96	5.16	5.8	PASS
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**
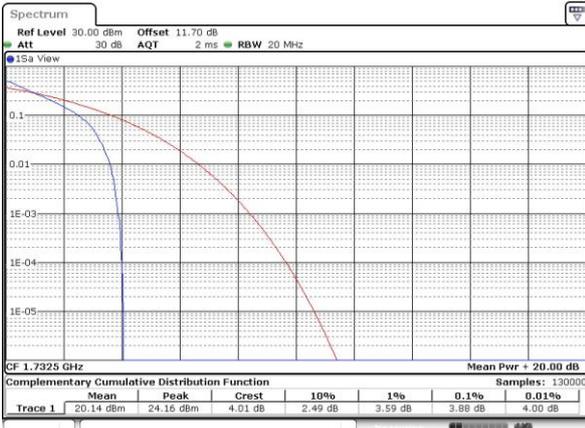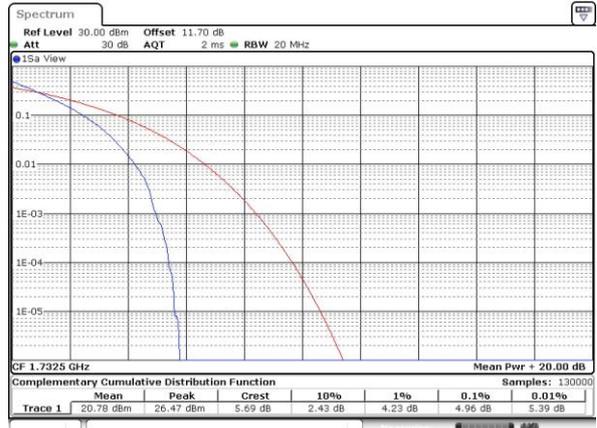
LTE Band 4 / 20MHz / 16QAM	
Lowest Channel / 1RB	**Lowest Channel / Full RB**
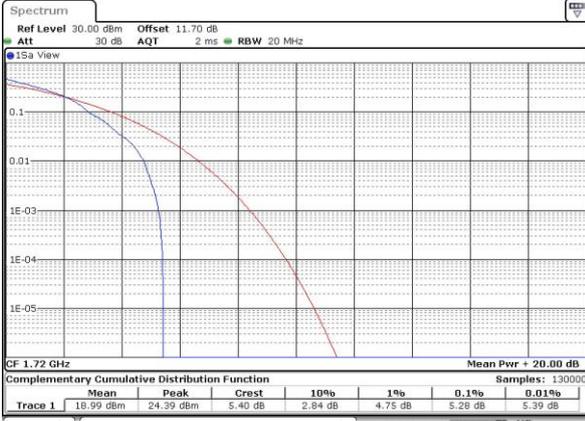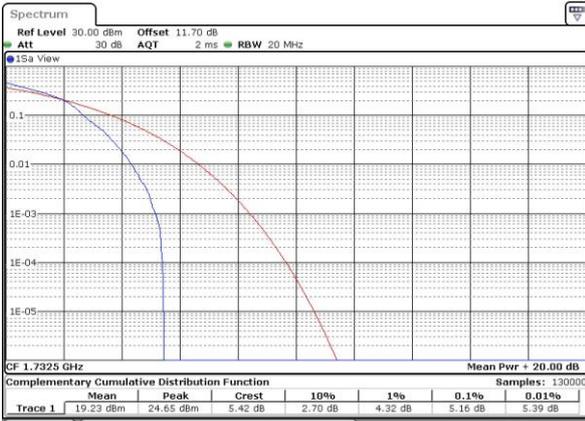
Middle Channel / 1RB	**Middle Channel / Full RB**
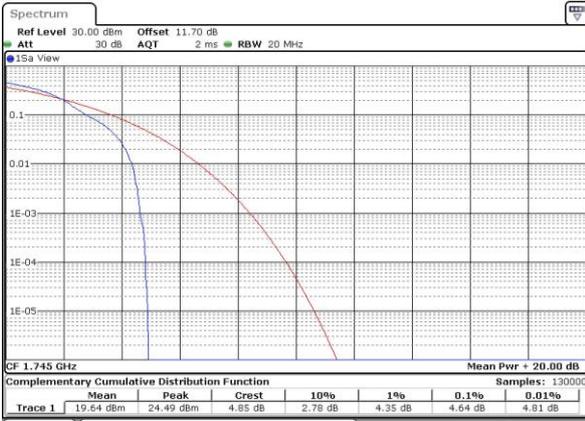
Highest Channel / 1RB	**Highest Channel / Full RB**
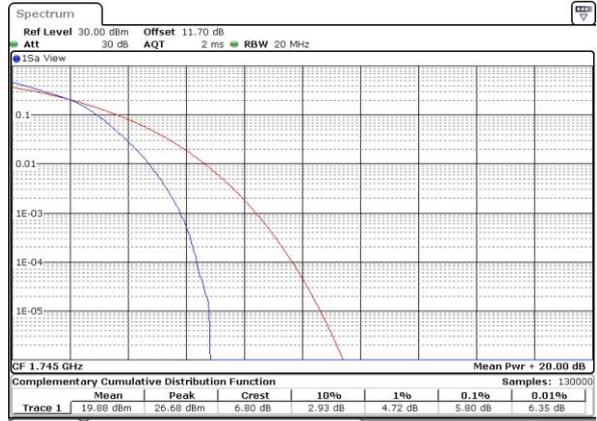
26dB Bandwidth

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
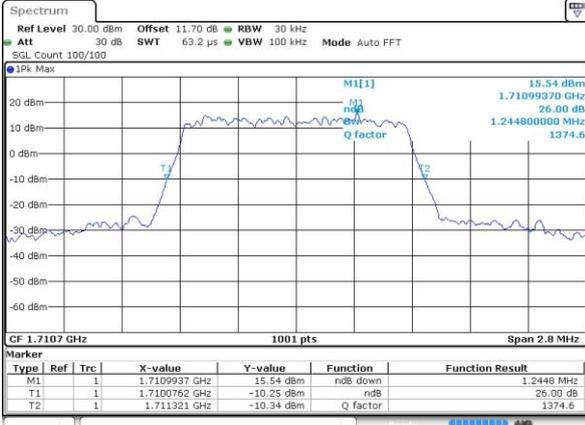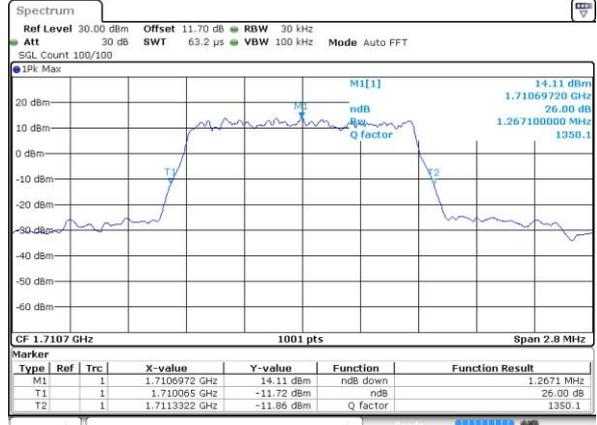
Lowest Channel / 1.4MHz / QPSK	Lowest Channel / 1.4MHz / 16QAM
Date: 20.DEC.2016 14:52:38	Date: 20.DEC.2016 14:52:48
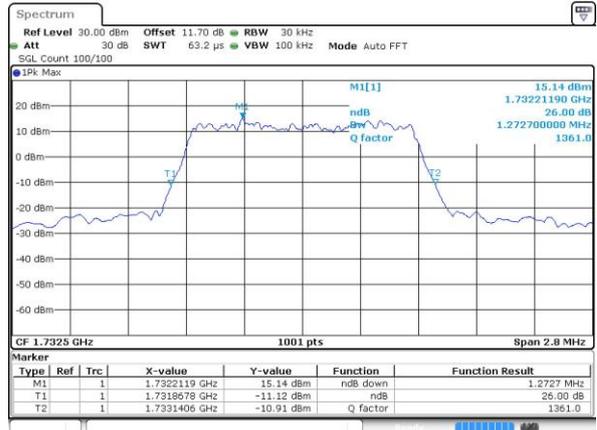
Middle Channel / 1.4MHz / QPSK	Middle Channel / 1.4MHz / 16QAM
Date: 20.DEC.2016 14:59:44	Date: 20.DEC.2016 14:59:54
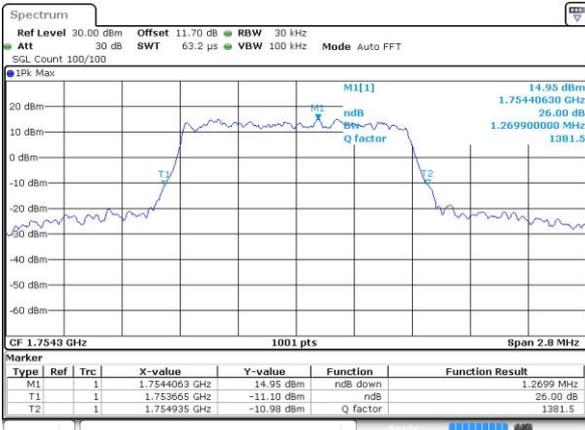
Highest Channel / 1.4MHz / QPSK	Highest Channel / 1.4MHz / 16QAM
Date: 20.DEC.2016 15:02:14	Date: 20.DEC.2016 15:02:24
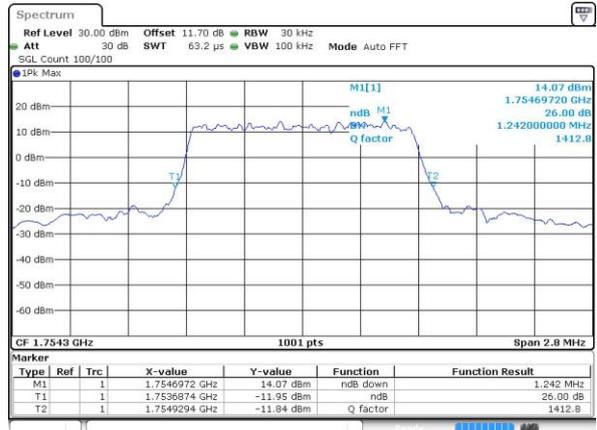
LTE Band 4	
Lowest Channel / 3MHz / QPSK	**Lowest Channel / 3MHz / 16QAM**
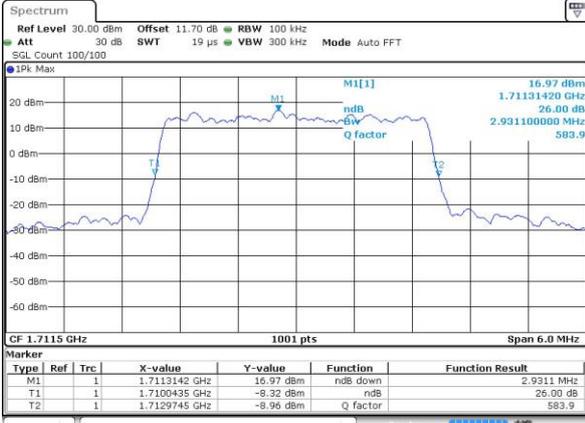
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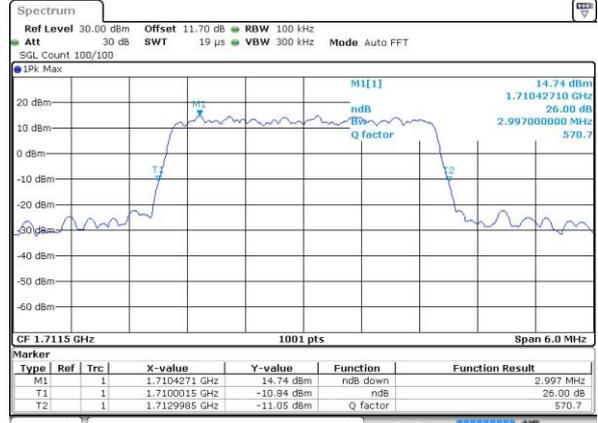
Date: 19.DEC.2016 18:08:07

Middle Channel / 3MHz / QPSK	**Middle Channel /3MHz / 16QAM**
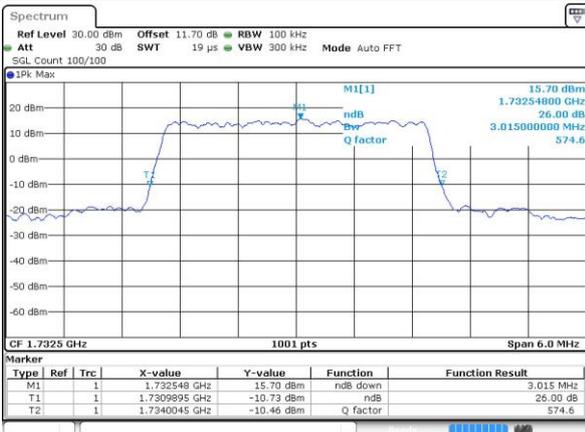
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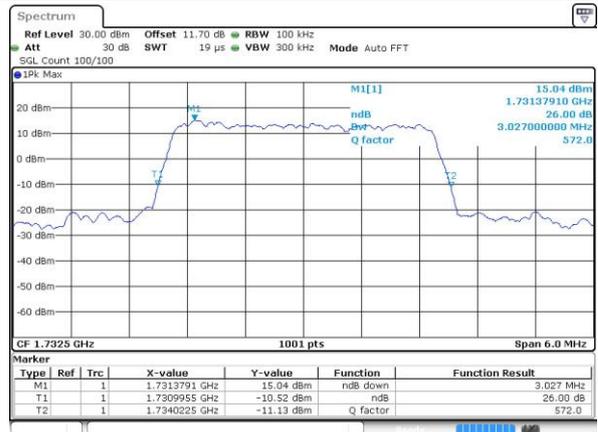
Date: 19.DEC.2016 18:15:14

Highest Channel /3MHz / QPSK	**Highest Channel /3MHz / 16QAM**
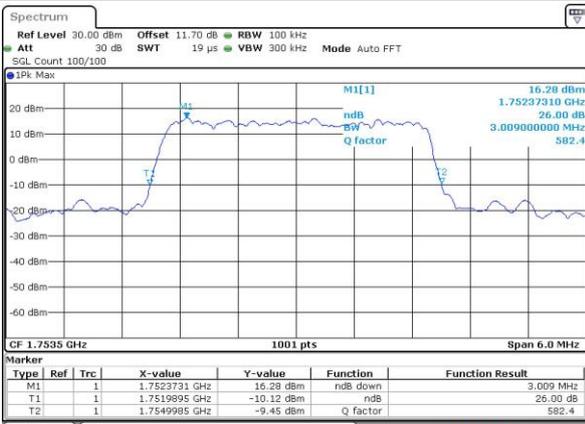
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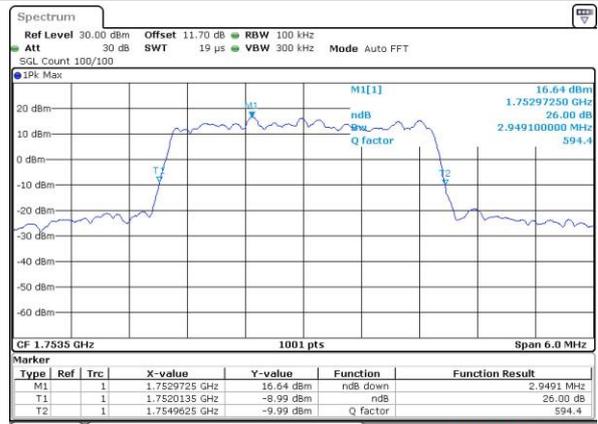
Date: 19.DEC.2016 18:17:44

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
Date: 20.DEC.2016 14:18:52	Date: 20.DEC.2016 14:19:02
Middle Channel / 15MHz / QPSK	**Middle Channel / 15MHz / 16QAM**
Date: 20.DEC.2016 14:26:18	Date: 20.DEC.2016 14:26:28
Highest Channel / 15MHz / QPSK	**Highest Channel / 15MHz / 16QAM**
Date: 20.DEC.2016 14:28:48	Date: 20.DEC.2016 14:28:59
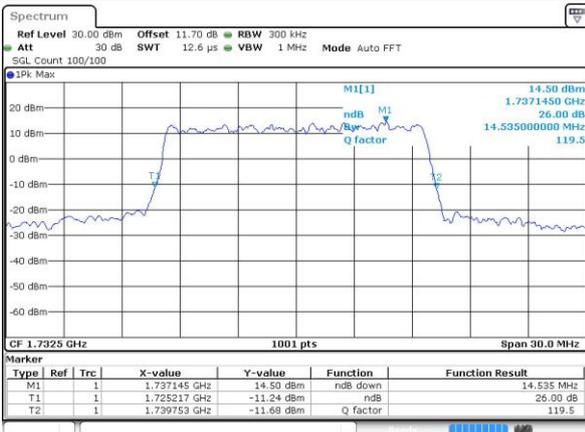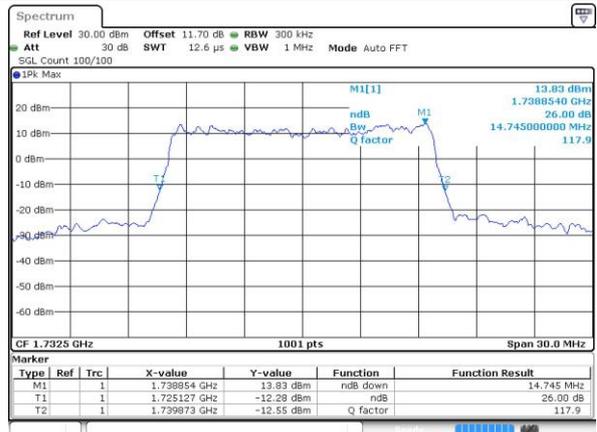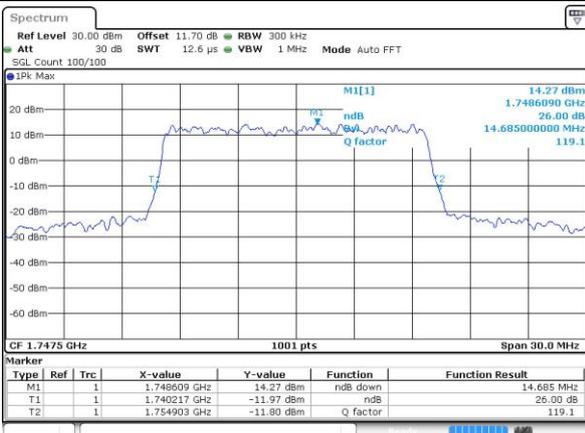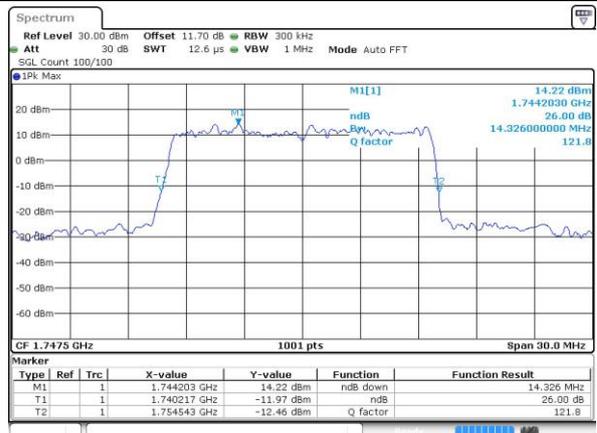
| LTE Band 4	
Lowest Channel / 20MHz / QPSK	**Lowest Channel / 20MHz / 16QAM**
Middle Channel / 20MHz / QPSK	**Middle Channel / 20MHz / 16QAM**
Highest Channel / 20MHz / QPSK	**Highest Channel / 20MHz / 16QAM**
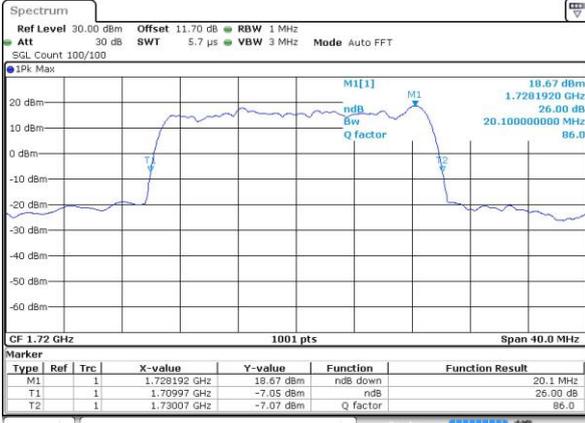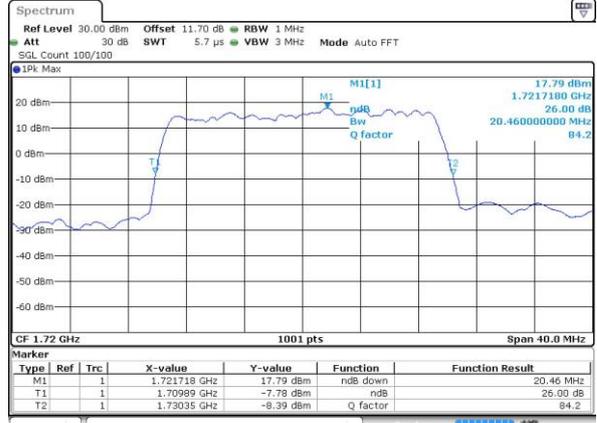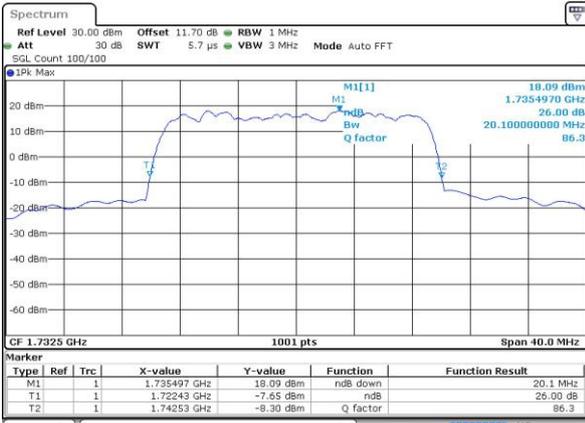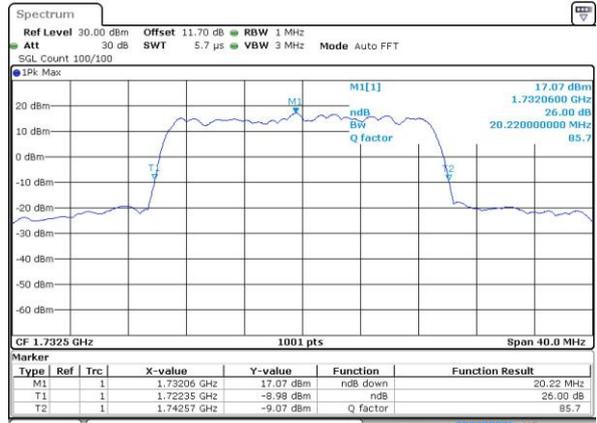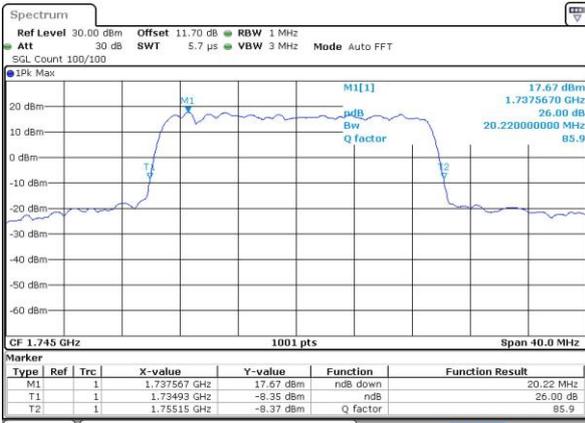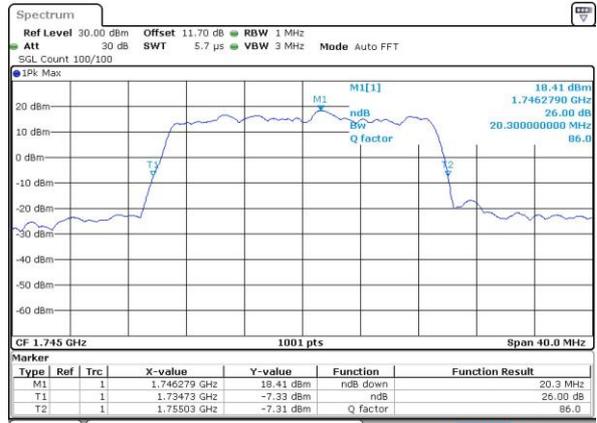
Occupied Bandwidth

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
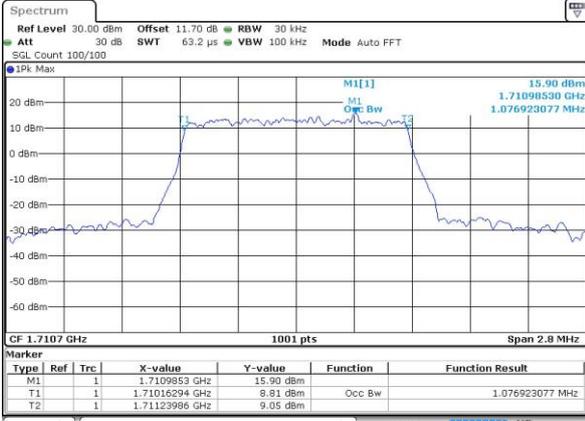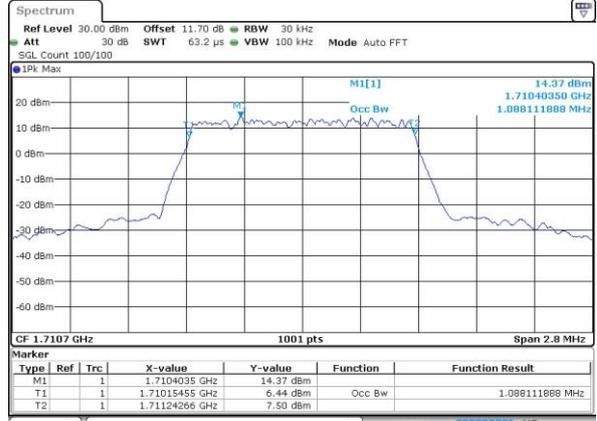
LTE Band 4	
Lowest Channel / 1.4MHz / QPSK	**Lowest Channel / 1.4MHz / 16QAM**
Date: 20.DEC.2016 14:52:17	Date: 20.DEC.2016 14:52:28
Middle Channel / 1.4MHz / QPSK	**Middle Channel / 1.4MHz / 16QAM**
Date: 20.DEC.2016 14:59:23	Date: 20.DEC.2016 14:59:34
Highest Channel / 1.4MHz / QPSK	**Highest Channel / 1.4MHz / 16QAM**
Date: 20.DEC.2016 15:01:53	Date: 20.DEC.2016 15:02:04
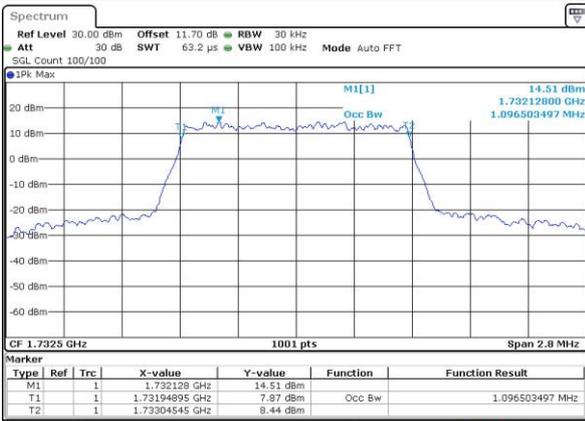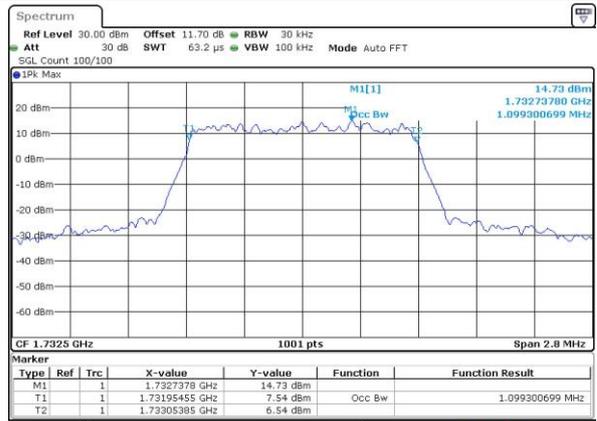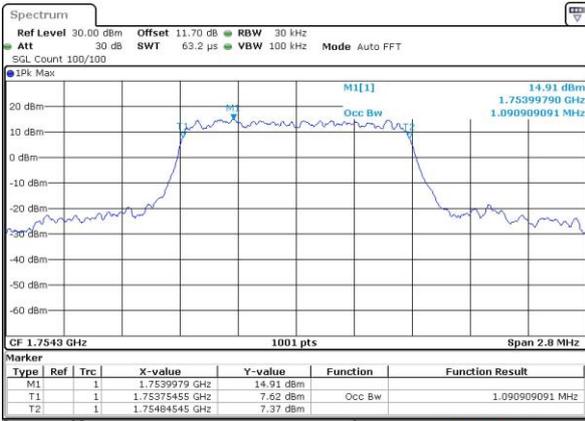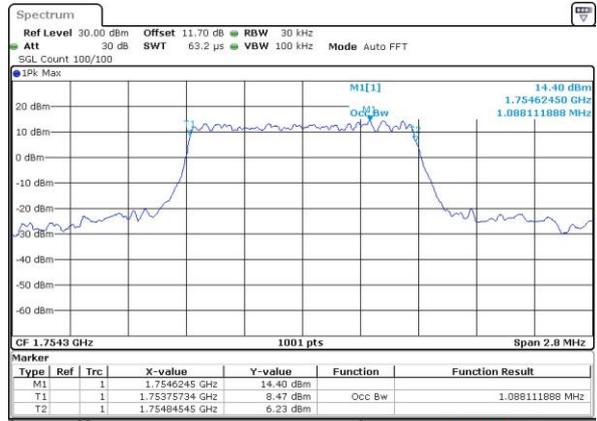
LTE Band 4

Lowest Channel / 3MHz / QPSK	Lowest Channel / 3MHz / 16QAM
Middle Channel / 3MHz / QPSK	Middle Channel / 3MHz / 16QAM
Highest Channel / 3MHz / QPSK	Highest Channel / 3MHz / 16QAM
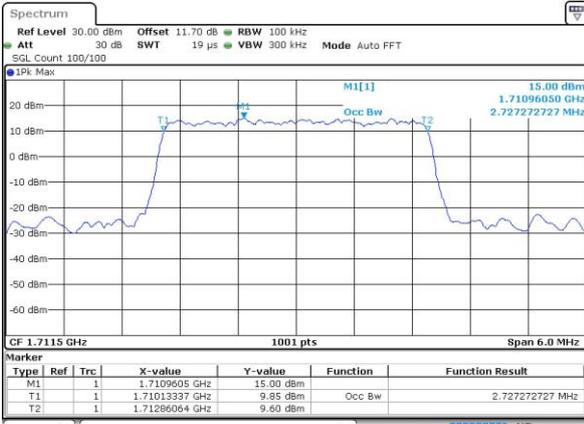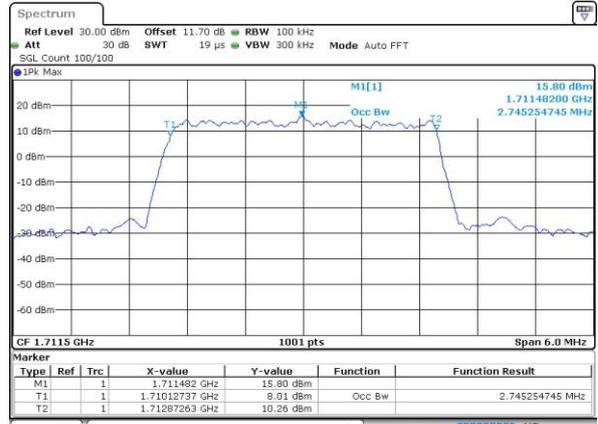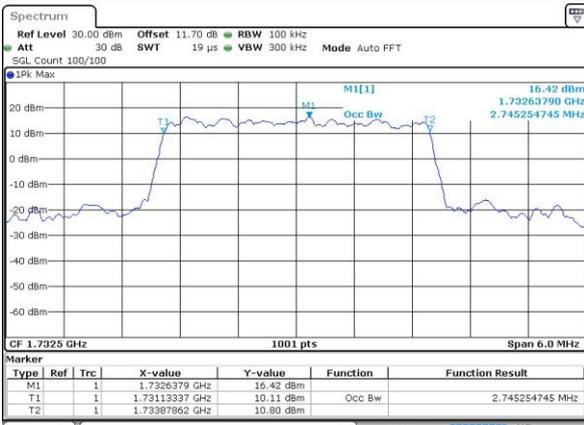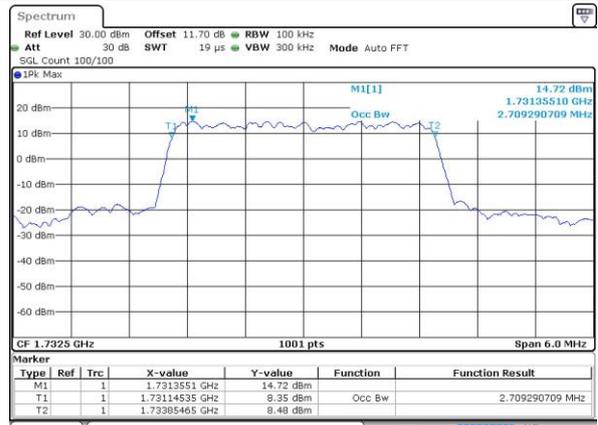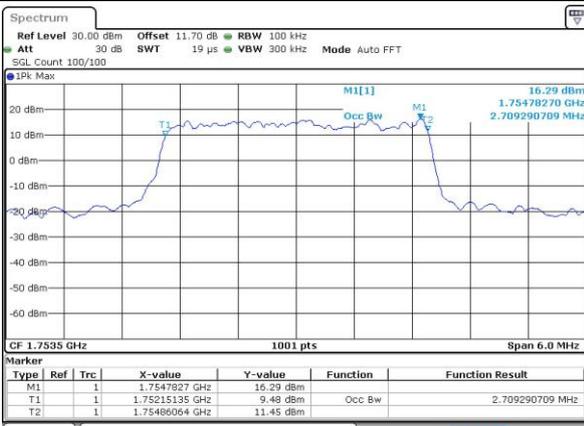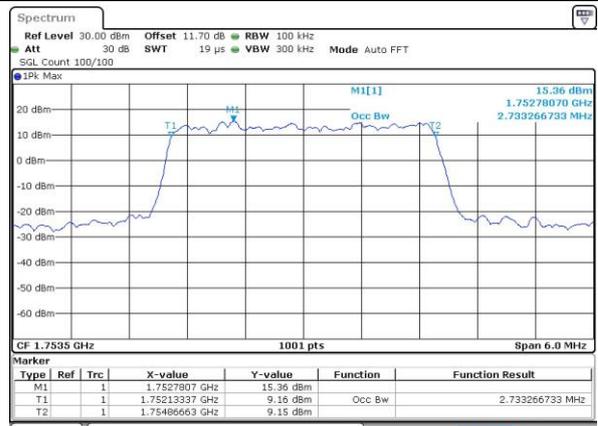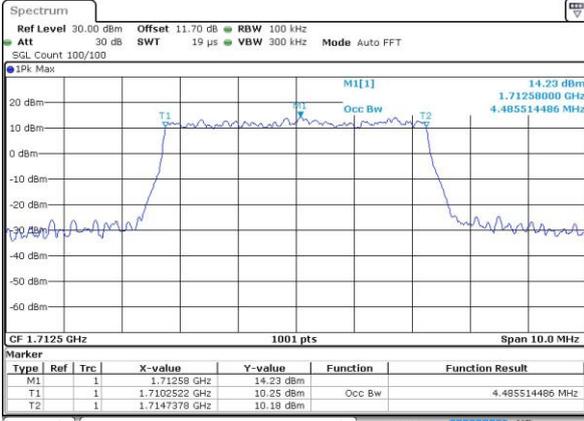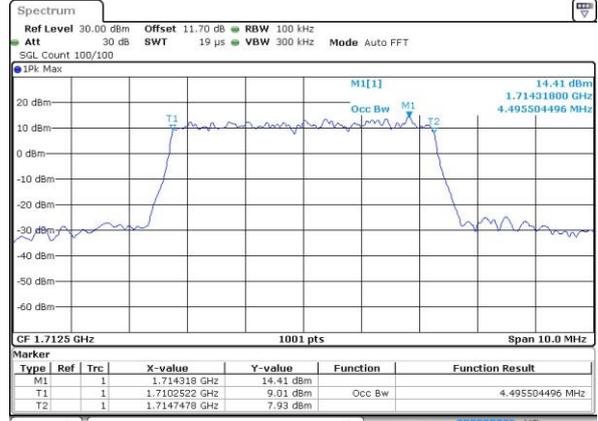
LTE Band 4	
Lowest Channel / 5MHz / QPSK	**Lowest Channel / 5MHz / 16QAM**
Date: 19.DEC.2016 18:24:20	Date: 19.DEC.2016 18:24:30
Middle Channel / 5MHz / QPSK	**Middle Channel / 5MHz / 16QAM**
Date: 19.DEC.2016 18:31:27	Date: 19.DEC.2016 18:31:37
Highest Channel / 5MHz / QPSK	**Highest Channel / 5MHz / 16QAM**
Date: 19.DEC.2016 18:33:57	Date: 19.DEC.2016 18:34:08
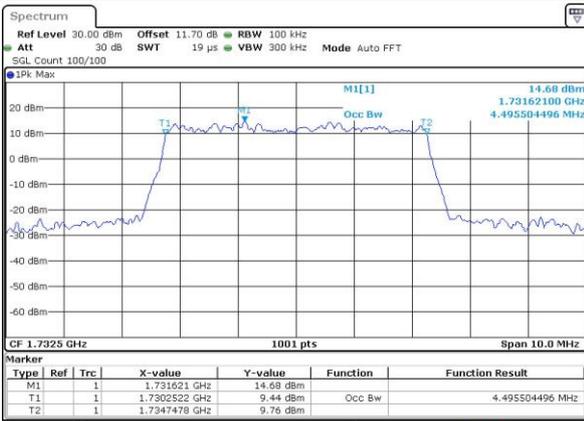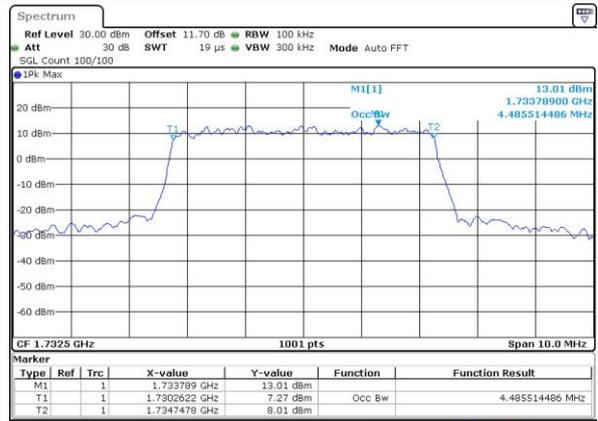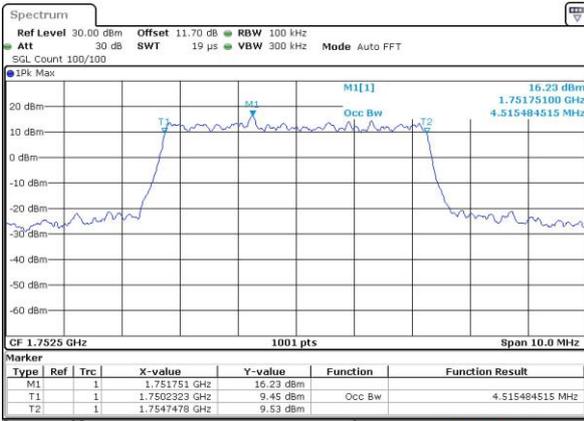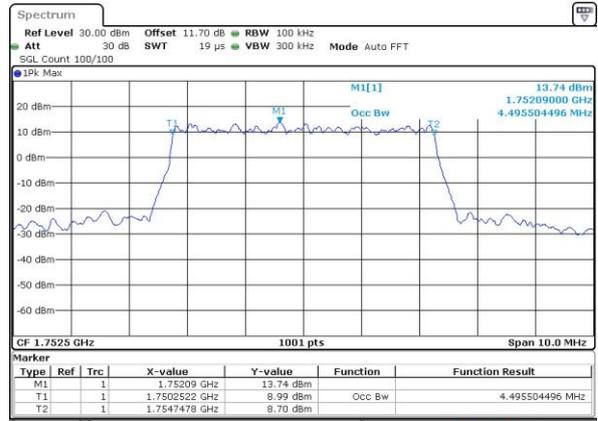
LTE Band 4

Lowest Channel / 10MHz / QPSK	Lowest Channel / 10MHz / 16QAM
Middle Channel / 10MHz / QPSK	Middle Channel / 10MHz / 16QAM
Highest Channel / 10MHz / QPSK	Highest Channel / 10MHz / 16QAM
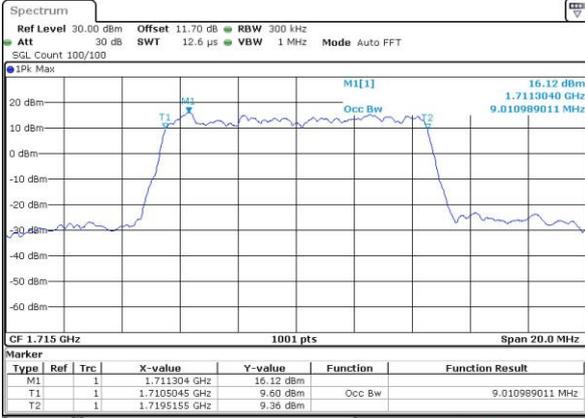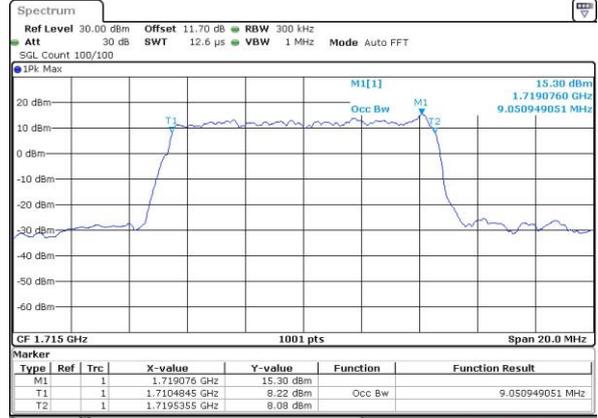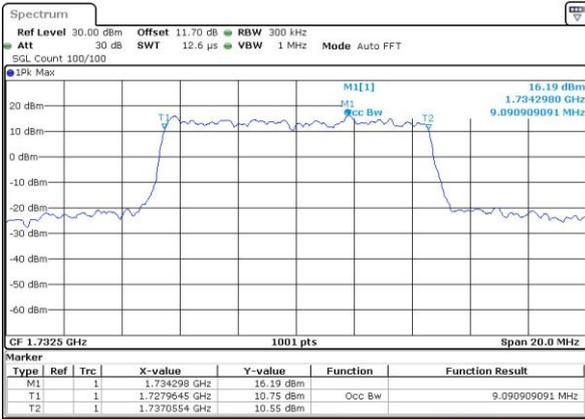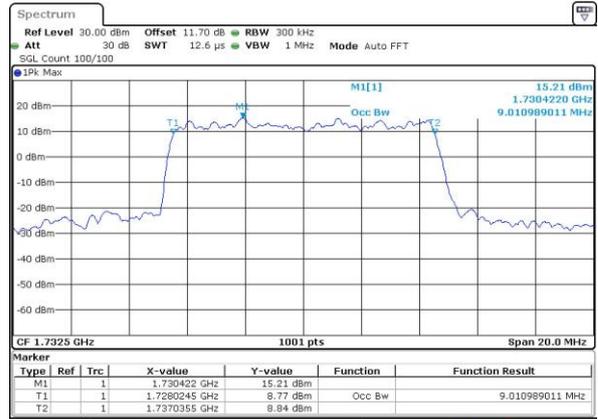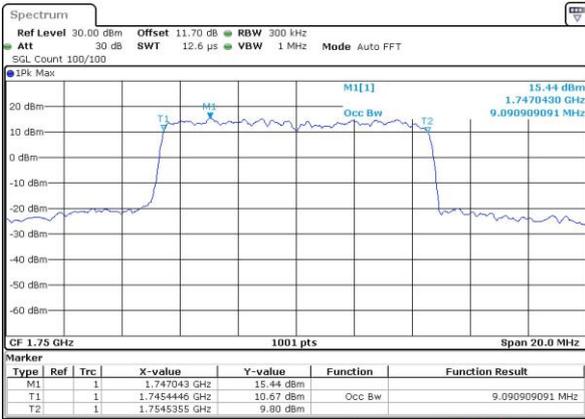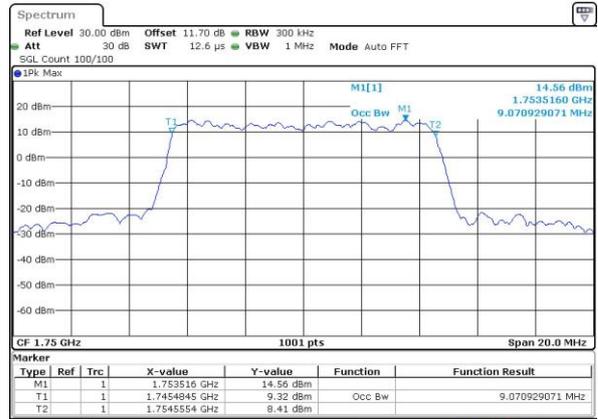
LTE Band 4
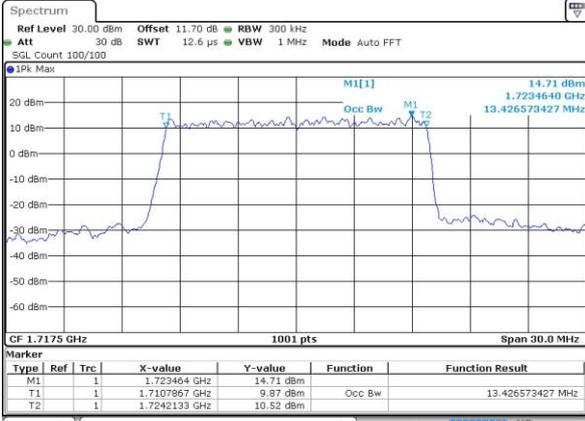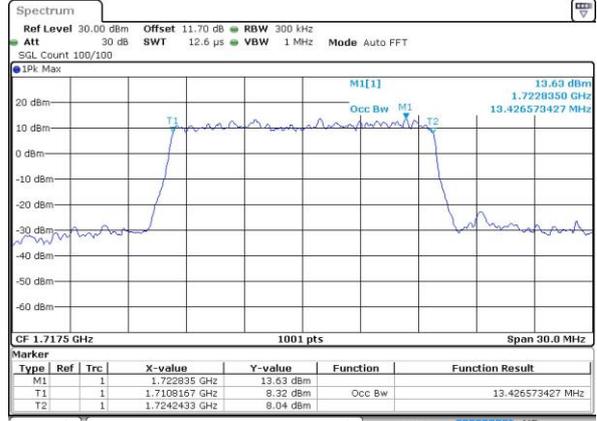
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Date: 20.DEC.2016 14:18:30	Date: 20.DEC.2016 14:18:41
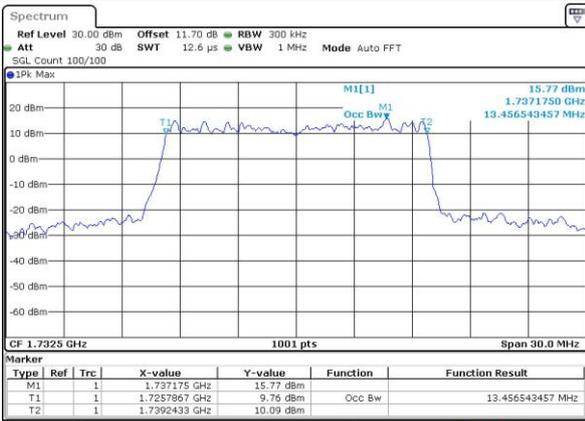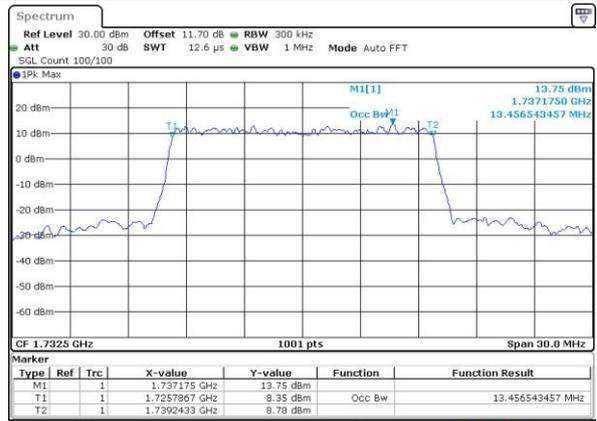
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Date: 20.DEC.2016 14:25:57	Date: 20.DEC.2016 14:26:08
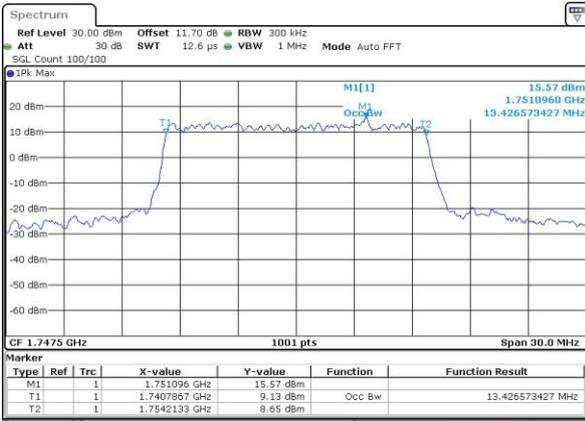
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Date: 20.DEC.2016 14:28:28	Date: 20.DEC.2016 14:28:38
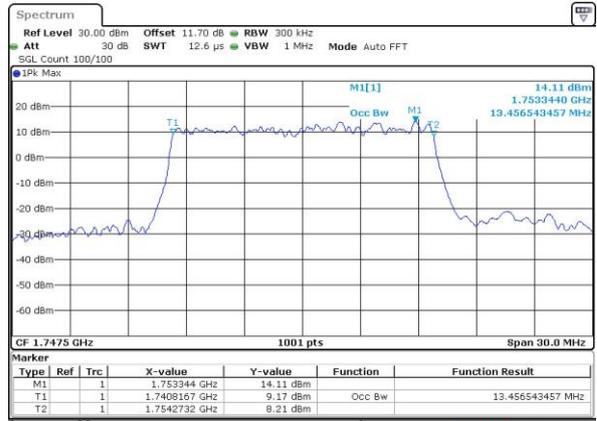
LTE Band 4	
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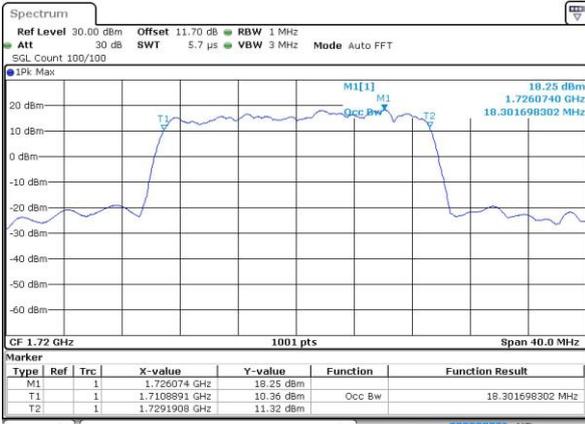
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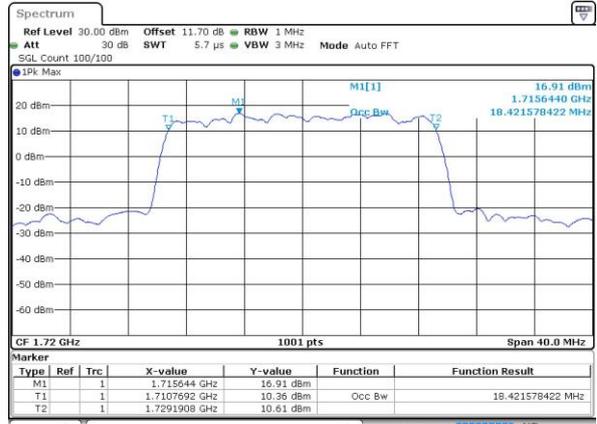
Date: 20.DEC.2016 14:35:45

Middle Channel / 20MHz / QPSK	**Middle Channel / 20MHz / 16QAM**
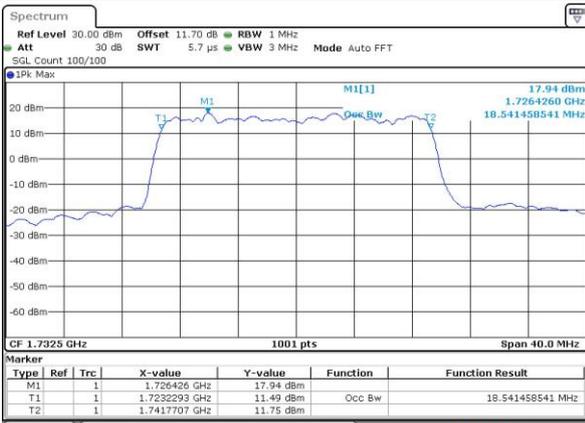
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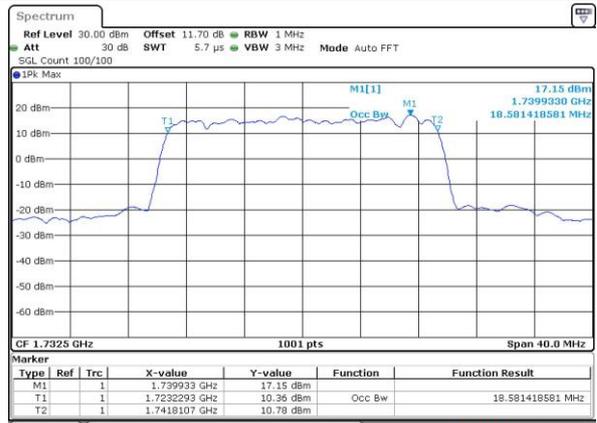
Date: 20.DEC.2016 14:42:52

Highest Channel / 20MHz / QPSK	**Highest Channel / 20MHz / 16QAM**
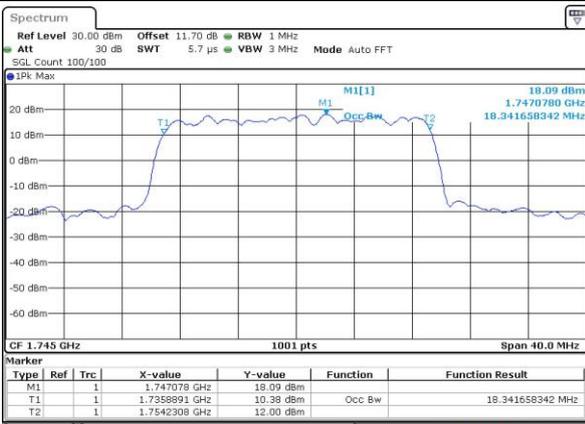
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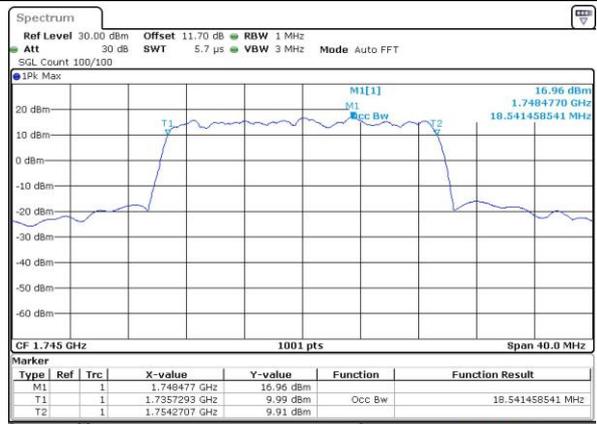
Date: 20.DEC.2016 14:45:21

Conducted Band Edge

LTE Band 4 / 1.4MHz / QPSK	
Lowest Band Edge / 1RB	**Highest Band Edge / 1RB**

Spectrum
Ref Level 30.00 dBm Offset 11.70 dB   Mode Auto Sweep
SGL Count 100/100
●1 AvgPwr
Limit Check   PASS
Line _SPURIOUS_LINE_ABS_   PASS
Start 1.7 GHz   3003 pts   Stop 1.712 GHz

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

Spectrum
Ref Level 30.00 dBm Offset 11.70 dB   Mode Auto Sweep
SGL Count 100/100
●1 AvgPwr
_SPURIOUS_LINE_ABS_   PASS
Line _SPURIOUS_LINE_ABS_   PASS
Start 1.753 GHz   3003 pts   Stop 1.765 GHz

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	**Highest Band Edge / Full RB**

Spectrum
Ref Level 30.00 dBm Offset 11.70 dB   Mode Auto Sweep
SGL Count 100/100
●1 AvgPwr
Limit Check   PASS
Line _SPURIOUS_LINE_ABS_   PASS
Start 1.7 GHz   3003 pts   Stop 1.712 GHz

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

Date: 20.DEC.2016 14:56:15

Spectrum
Ref Level 30.00 dBm Offset 11.70 dB   Mode Auto Sweep
SGL Count 100/100
●1 AvgPwr
_SPURIOUS_LINE_ABS_   PASS
Line _SPURIOUS_LINE_ABS_   PASS
Start 1.753 GHz   3003 pts   Stop 1.765 GHz

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

Date: 20.DEC.2016 15:05:51

LTE Band 4 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB

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

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

Highest Band Edge / 1 RB

Date: 20.DEC.2016 15:04:42

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

Lowest Band Edge / Full RB

Date: 20.DEC.2016 14:57:24

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

Highest Band Edge / Full RB

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

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