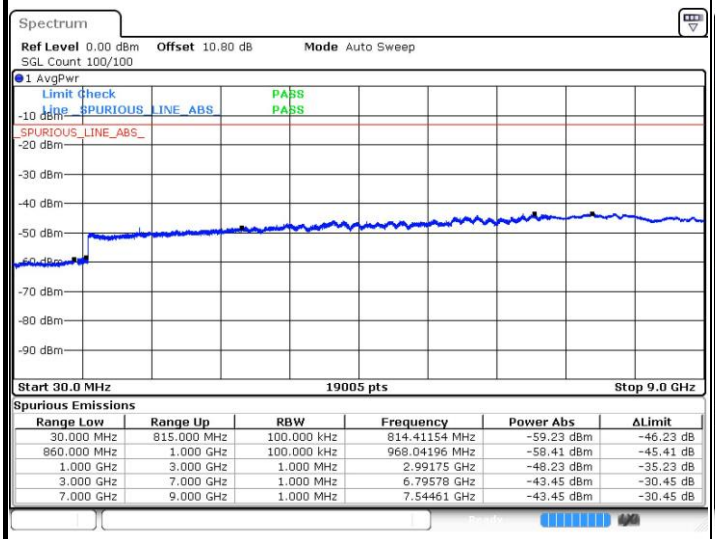
LTE Band 5 / 10MHz

Middle Channel / QPSK

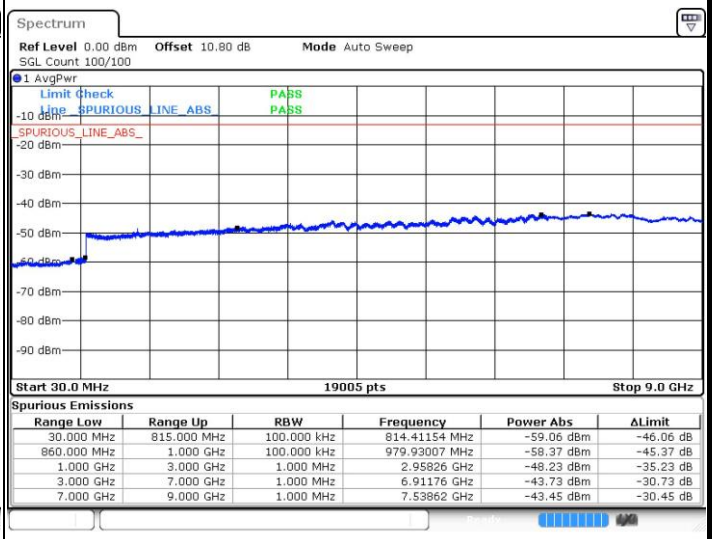


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	814.41154 MHz	-59.23 dBm	-46.23 dB
860.000 MHz	1.000 GHz	100.000 kHz	968.04196 MHz	-58.41 dBm	-45.41 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99175 GHz	-48.23 dBm	-35.23 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.79578 GHz	-43.45 dBm	-30.45 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.54461 GHz	-43.45 dBm	-30.45 dB

Date: 4.FEB.2019 14:48:06

Middle Channel / 16QAM

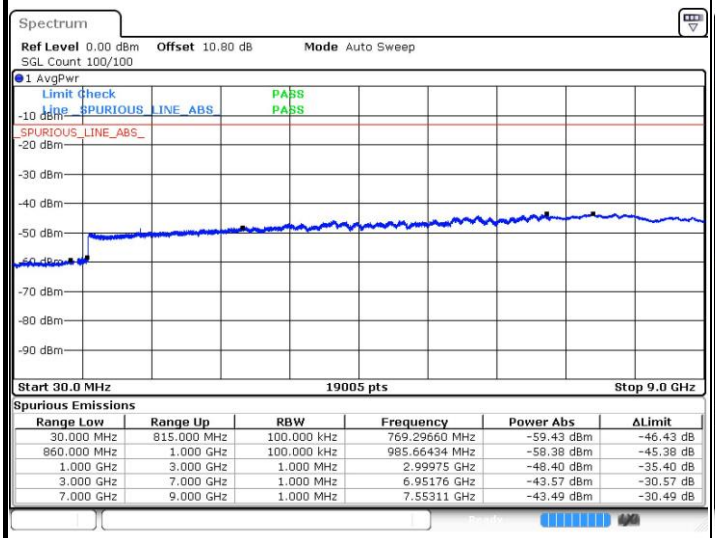


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	814.41154 MHz	-59.06 dBm	-46.06 dB
860.000 MHz	1.000 GHz	100.000 kHz	979.93007 MHz	-58.37 dBm	-45.37 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.95826 GHz	-48.23 dBm	-35.23 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91176 GHz	-43.73 dBm	-30.73 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.53862 GHz	-43.45 dBm	-30.45 dB

Date: 4.FEB.2019 14:48:46

Highest Channel / QPSK

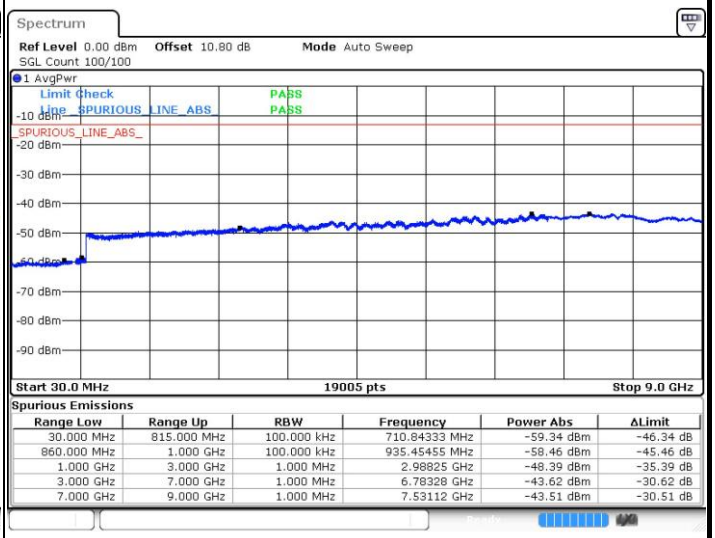


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	769.29660 MHz	-59.43 dBm	-46.43 dB
860.000 MHz	1.000 GHz	100.000 kHz	985.66434 MHz	-58.38 dBm	-45.38 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99975 GHz	-48.40 dBm	-35.40 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.95176 GHz	-43.57 dBm	-30.57 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.55311 GHz	-43.49 dBm	-30.49 dB

Date: 4.FEB.2019 14:56:53

Highest Channel / 16QAM



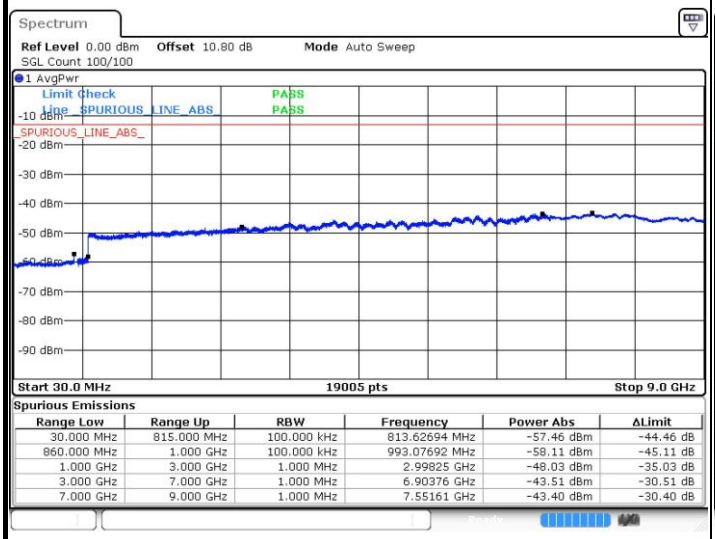
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	710.84333 MHz	-59.34 dBm	-46.34 dB
860.000 MHz	1.000 GHz	100.000 kHz	935.45455 MHz	-58.46 dBm	-45.46 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.98825 GHz	-48.39 dBm	-35.39 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.78328 GHz	-43.62 dBm	-30.62 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.53112 GHz	-43.51 dBm	-30.51 dB

Date: 4.FEB.2019 14:57:33

LTE Band 5 / 1.4MHz

Lowest Channel / 64QAM

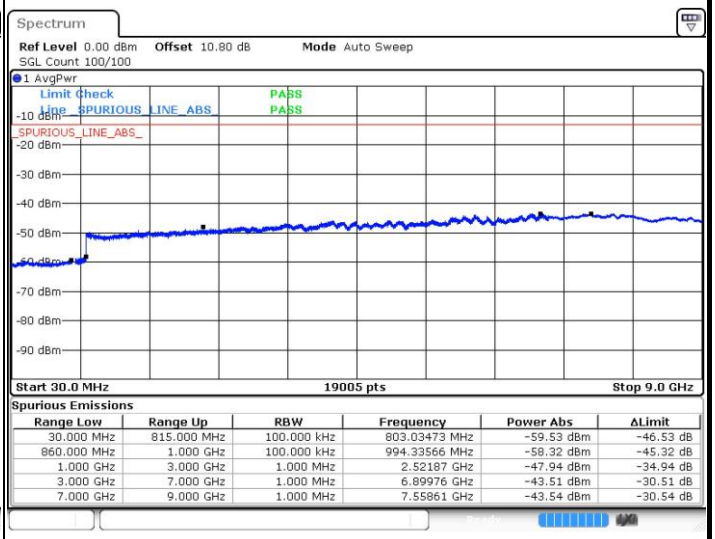


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	813.62694 MHz	-57.46 dBm	-44.46 dB
860.000 MHz	1.000 GHz	100.000 kHz	993.07692 MHz	-58.11 dBm	-45.11 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99825 GHz	-48.03 dBm	-35.03 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.90376 GHz	-43.51 dBm	-30.51 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.55161 GHz	-43.40 dBm	-30.40 dB

Date: 4.FEB.2019 15:43:05

Middle Channel / 64QAM

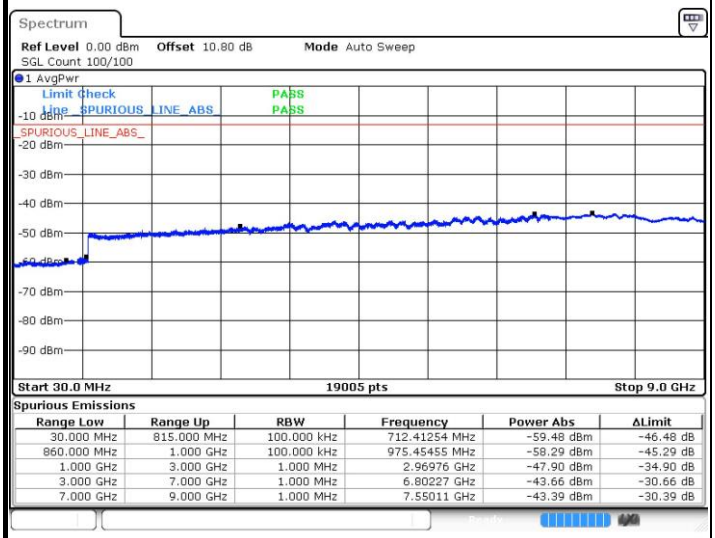


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	803.03473 MHz	-59.53 dBm	-46.53 dB
860.000 MHz	1.000 GHz	100.000 kHz	994.33566 MHz	-58.32 dBm	-45.32 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.52187 GHz	-47.94 dBm	-34.94 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.89976 GHz	-43.51 dBm	-30.51 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.55861 GHz	-43.54 dBm	-30.54 dB

Date: 4.FEB.2019 15:44:09

Highest Channel / 64QAM



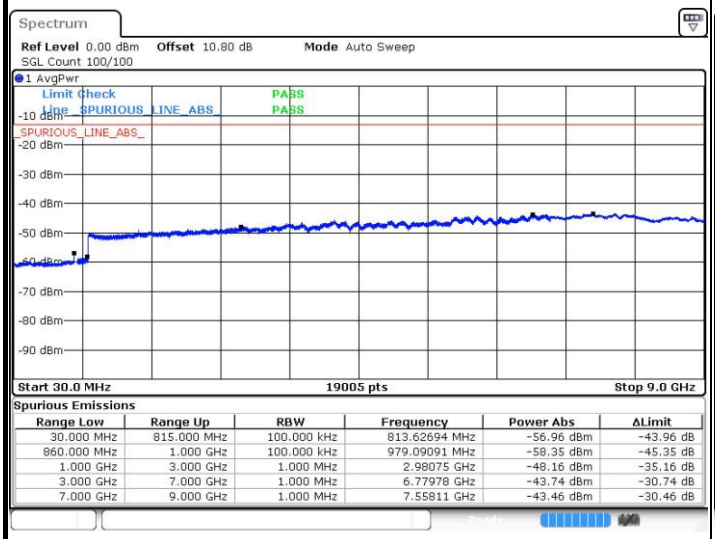
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	712.41254 MHz	-59.48 dBm	-46.48 dB
860.000 MHz	1.000 GHz	100.000 kHz	975.45455 MHz	-58.29 dBm	-45.29 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.96976 GHz	-47.90 dBm	-34.90 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.80227 GHz	-43.66 dBm	-30.66 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.55011 GHz	-43.39 dBm	-30.39 dB

Date: 4.FEB.2019 15:48:32

LTE Band 5 / 3MHz

Lowest Channel / 64QAM

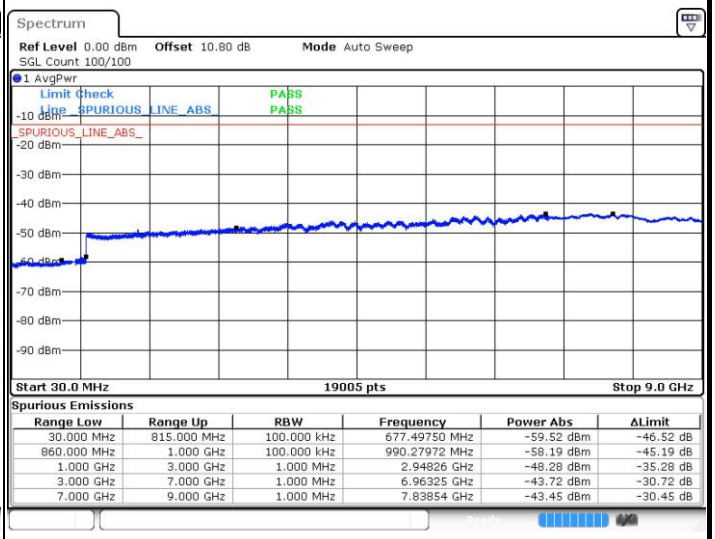


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	813.62694 MHz	-56.96 dBm	-43.96 dB
860.000 MHz	1.000 GHz	100.000 kHz	979.09091 MHz	-58.35 dBm	-45.35 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.98075 GHz	-48.16 dBm	-35.16 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.77978 GHz	-43.74 dBm	-30.74 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.55811 GHz	-43.46 dBm	-30.46 dB

Date: 4.FEB.2019 15:13:36

Middle Channel / 64QAM

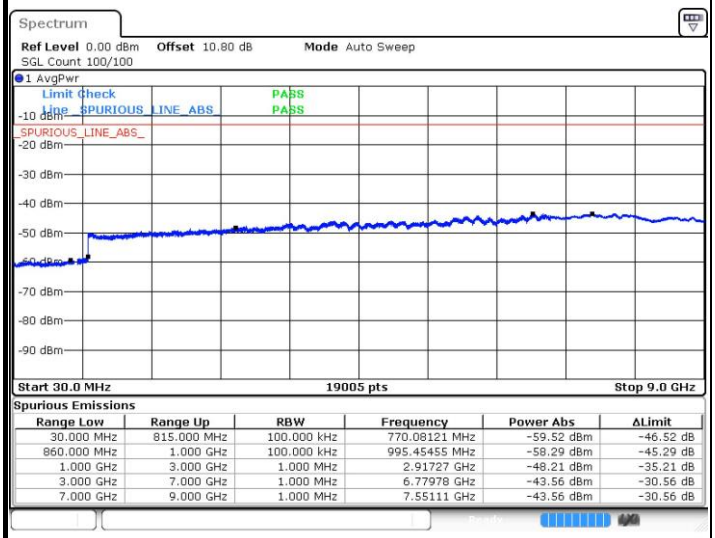


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	677.49750 MHz	-59.52 dBm	-46.52 dB
860.000 MHz	1.000 GHz	100.000 kHz	990.27972 MHz	-58.19 dBm	-45.19 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.94826 GHz	-48.28 dBm	-35.28 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.96325 GHz	-43.72 dBm	-30.72 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.83854 GHz	-43.45 dBm	-30.45 dB

Date: 4.FEB.2019 15:14:39

Highest Channel / 64QAM



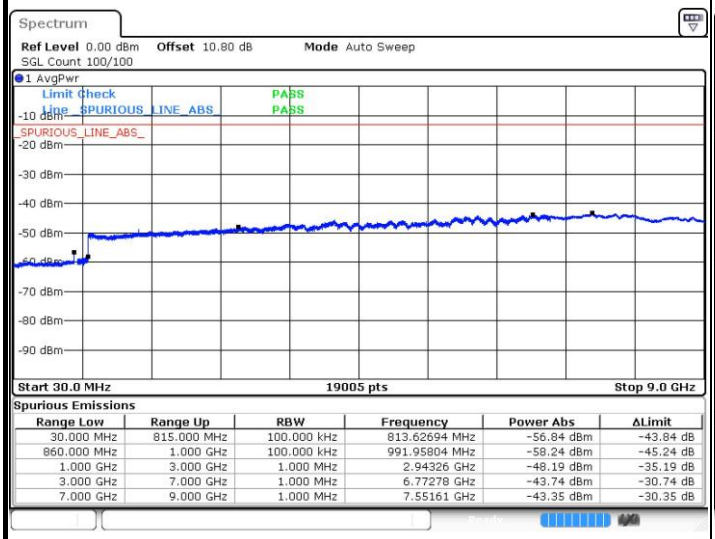
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	770.08121 MHz	-59.52 dBm	-46.52 dB
860.000 MHz	1.000 GHz	100.000 kHz	995.45455 MHz	-58.29 dBm	-45.29 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.91727 GHz	-48.21 dBm	-35.21 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.77978 GHz	-43.56 dBm	-30.56 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.55111 GHz	-43.56 dBm	-30.56 dB

Date: 4.FEB.2019 15:19:02

LTE Band 5 / 5MHz

Lowest Channel / 64QAM

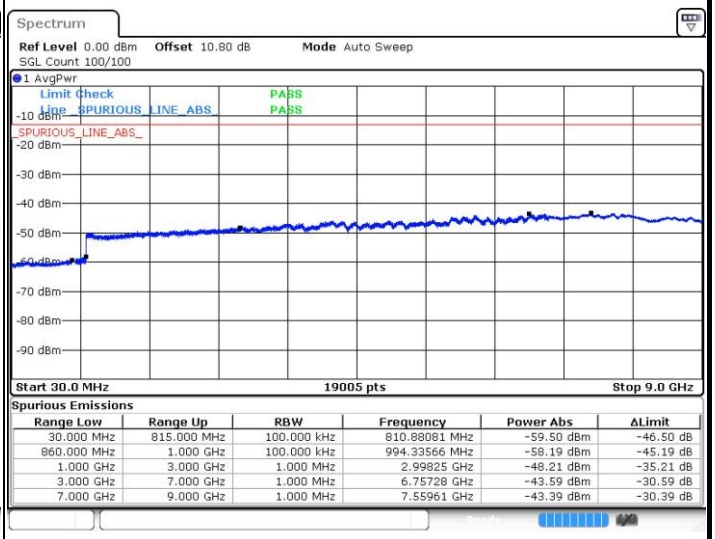


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	813.62694 MHz	-56.84 dBm	-43.84 dB
860.000 MHz	1.000 GHz	100.000 kHz	991.95804 MHz	-58.24 dBm	-45.24 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.94326 GHz	-48.19 dBm	-35.19 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.77278 GHz	-43.74 dBm	-30.74 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.55161 GHz	-43.35 dBm	-30.35 dB

Date: 4.FEB.2019 15:23:26

Middle Channel / 64QAM

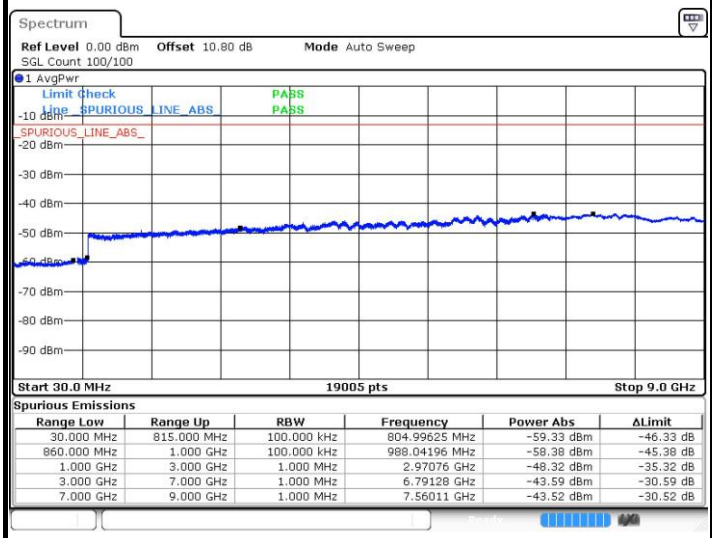


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	810.88081 MHz	-59.50 dBm	-46.50 dB
860.000 MHz	1.000 GHz	100.000 kHz	994.33566 MHz	-58.19 dBm	-45.19 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99825 GHz	-48.21 dBm	-35.21 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.75728 GHz	-43.59 dBm	-30.59 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.55961 GHz	-43.39 dBm	-30.39 dB

Date: 4.FEB.2019 15:24:29

Highest Channel / 64QAM



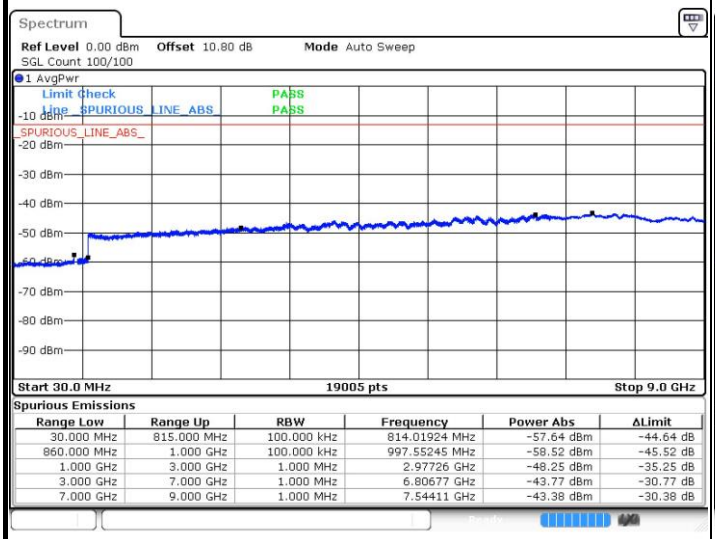
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	804.99625 MHz	-59.33 dBm	-46.33 dB
860.000 MHz	1.000 GHz	100.000 kHz	988.04196 MHz	-58.38 dBm	-45.38 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.97076 GHz	-48.32 dBm	-35.32 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.79128 GHz	-43.59 dBm	-30.59 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.56011 GHz	-43.52 dBm	-30.52 dB

Date: 4.FEB.2019 15:28:52

LTE Band 5 / 10MHz

Lowest Channel / 64QAM

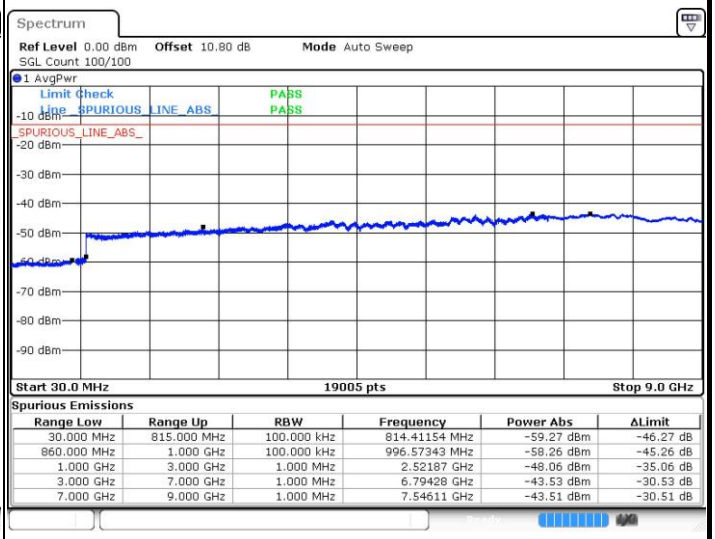


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	814.01924 MHz	-57.64 dBm	-44.64 dB
860.000 MHz	1.000 GHz	100.000 kHz	997.55245 MHz	-58.52 dBm	-45.52 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.97726 GHz	-48.25 dBm	-35.25 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.80677 GHz	-43.77 dBm	-30.77 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.54411 GHz	-43.38 dBm	-30.38 dB

Date: 4.FEB.2019 15:33:15

Middle Channel / 64QAM

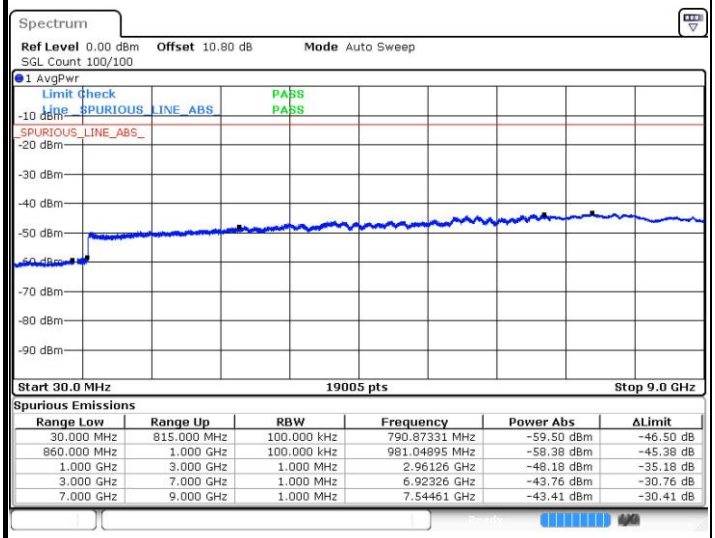


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	814.41154 MHz	-59.27 dBm	-46.27 dB
860.000 MHz	1.000 GHz	100.000 kHz	996.57343 MHz	-58.26 dBm	-45.26 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.52187 GHz	-48.06 dBm	-35.06 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.79428 GHz	-43.53 dBm	-30.53 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.54611 GHz	-43.51 dBm	-30.51 dB

Date: 4.FEB.2019 15:34:19

Highest Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	815.000 MHz	100.000 kHz	790.87331 MHz	-59.50 dBm	-46.50 dB
860.000 MHz	1.000 GHz	100.000 kHz	981.04895 MHz	-58.38 dBm	-45.38 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.96126 GHz	-48.18 dBm	-35.18 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.92326 GHz	-43.76 dBm	-30.76 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.54461 GHz	-43.41 dBm	-30.41 dB

Date: 4.FEB.2019 15:38:42

Frequency Stability

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0013	PASS
40	Normal Voltage	0.0004	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0066	
0	Normal Voltage	0.0019	
-10	Normal Voltage	0.0020	
-20	Normal Voltage	0.0000	
-30	Normal Voltage	0.0062	
20	Maximum Voltage	0.0053	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0011	

Note:

1. Normal Voltage =3.9 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 7

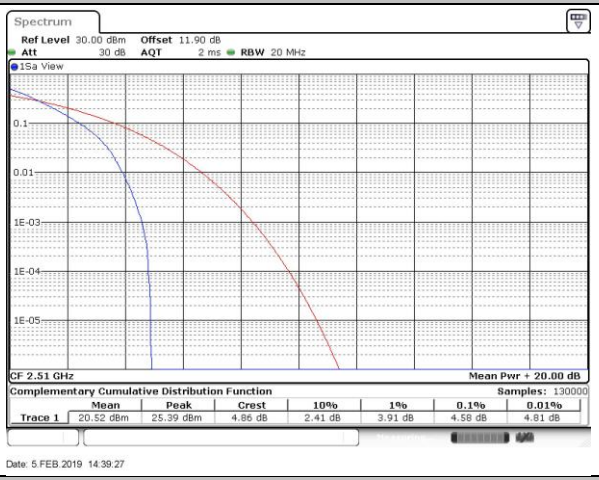
Peak-to-Average Ratio

Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.57	4.58	5.13	5.83	PASS
Middle CH	3.54	4.58	5.16	5.91	
Highest CH	3.54	4.52	5.48	5.83	
Mode	LTE Band 7 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.41	6.46	-	-	PASS
Middle CH	5.25	6.32	-	-	
Highest CH	6.26	6.38	-	-	

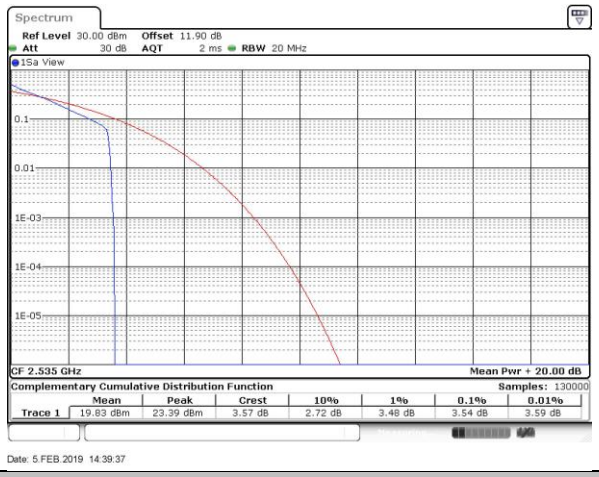
LTE Band 7 / 20MHz / QPSK

Lowest Channel / 1RB

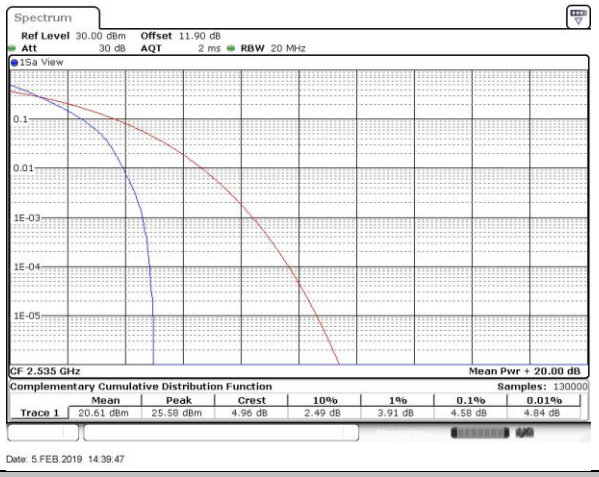
Lowest Channel / Full RB



Middle Channel / 1RB

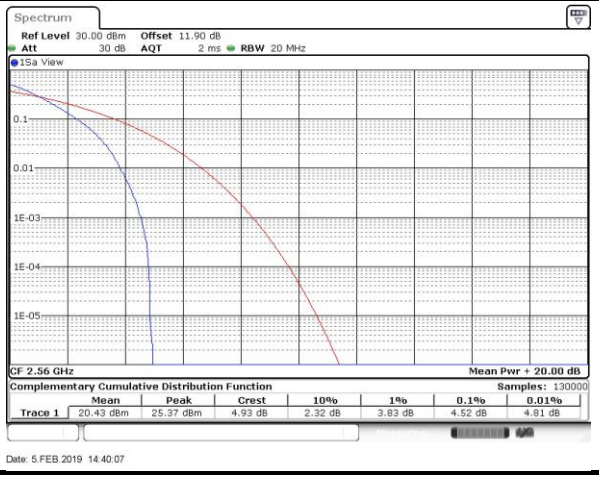


Middle Channel / Full RB



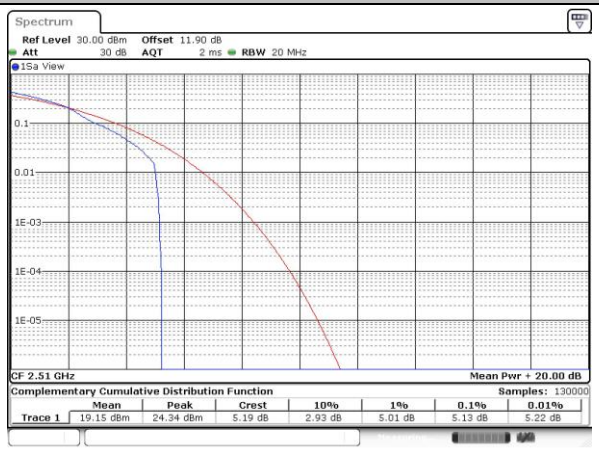
Highest Channel / 1RB

Highest Channel / Full RB

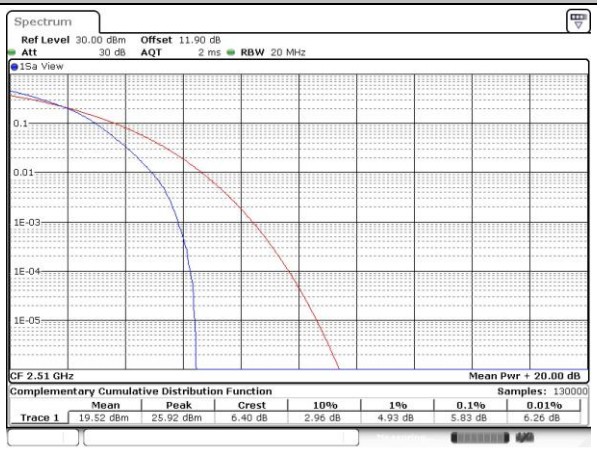


LTE Band 7 / 20MHz / 16QAM

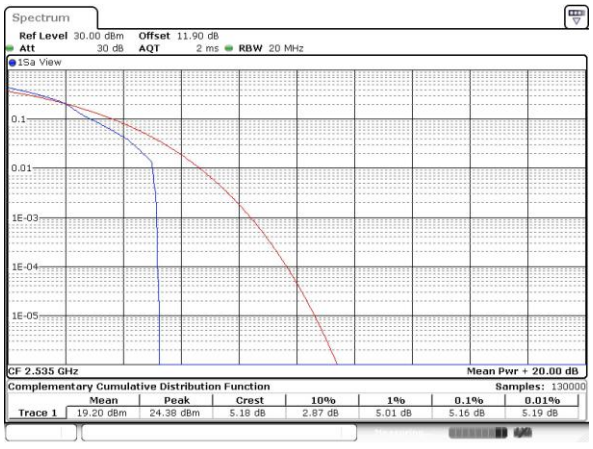
Lowest Channel / 1RB



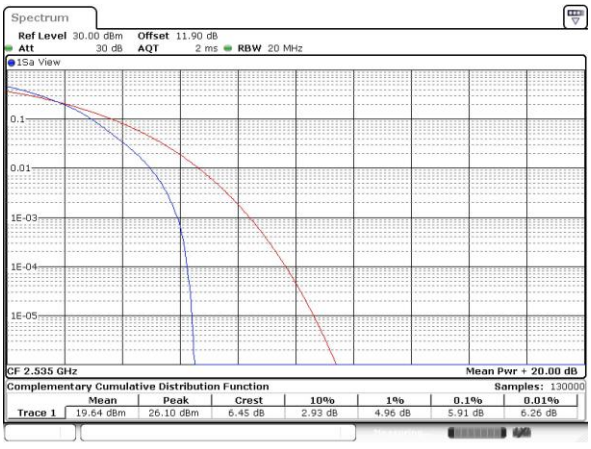
Lowest Channel / Full RB



Middle Channel / 1RB



Middle Channel / Full RB

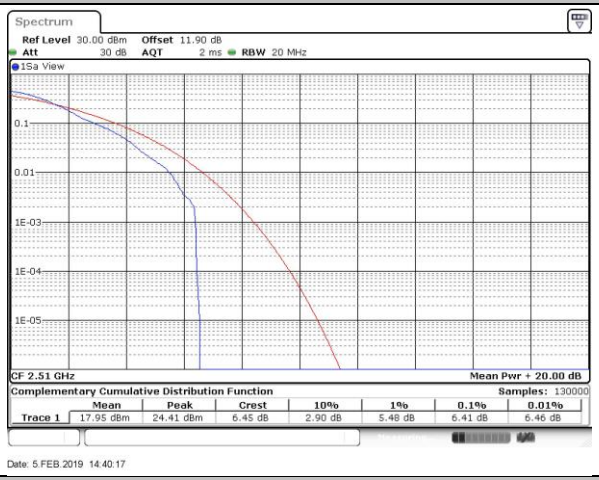


Highest Channel / 1RB

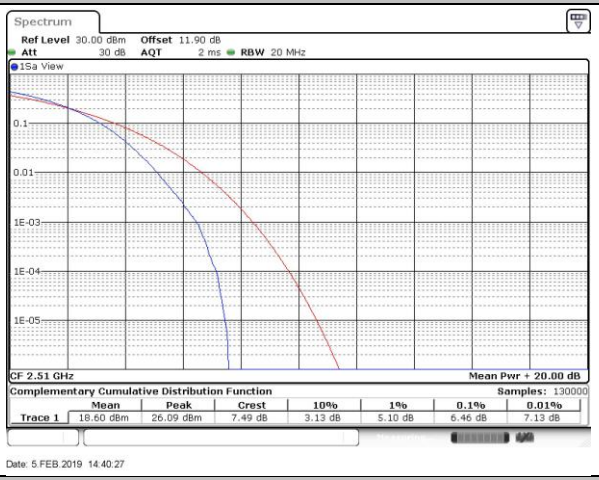
Highest Channel / Full RB

LTE Band 7 / 20MHz / 64QAM

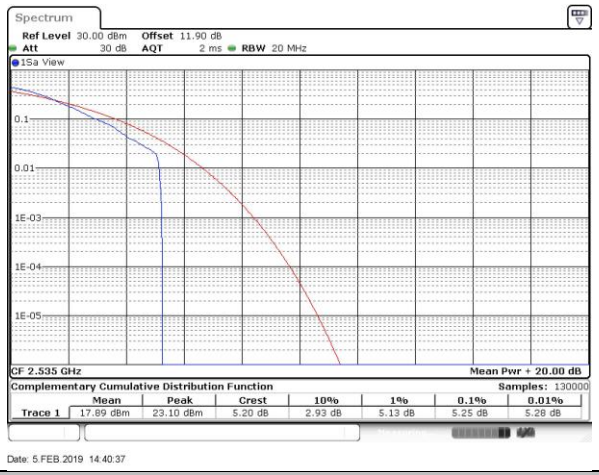
Lowest Channel / 1RB



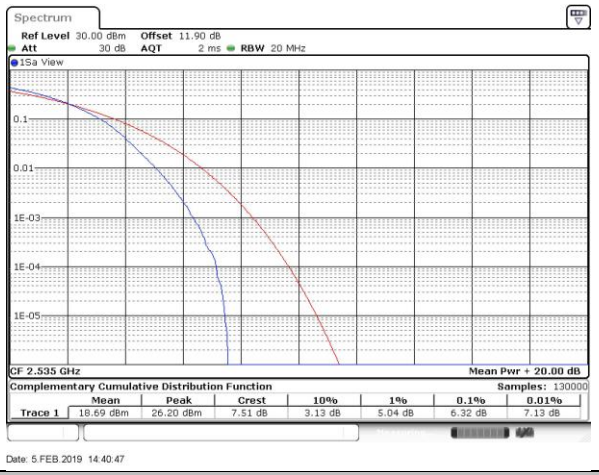
Lowest Channel / Full RB



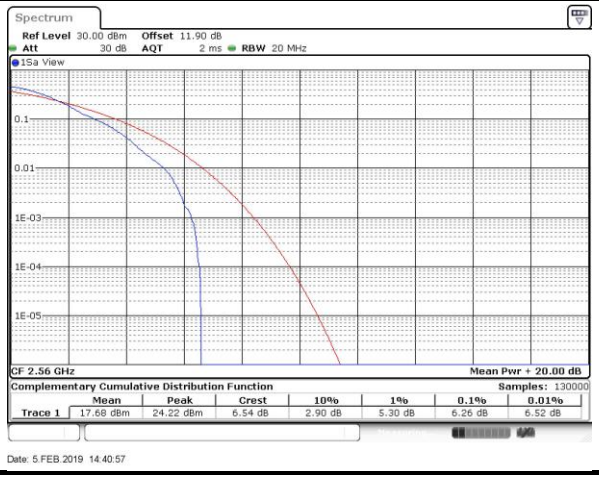
Middle Channel / 1RB



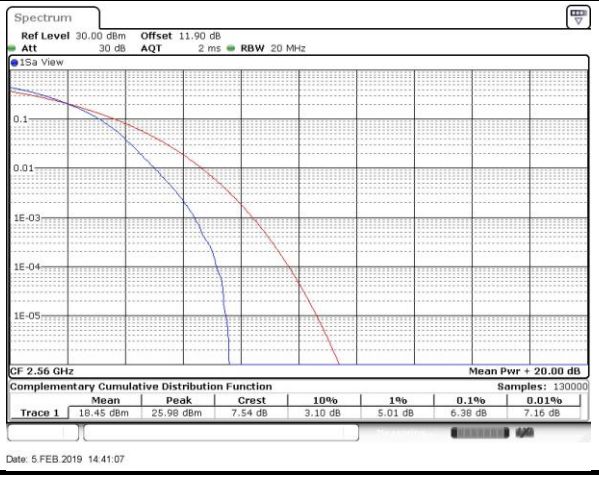
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

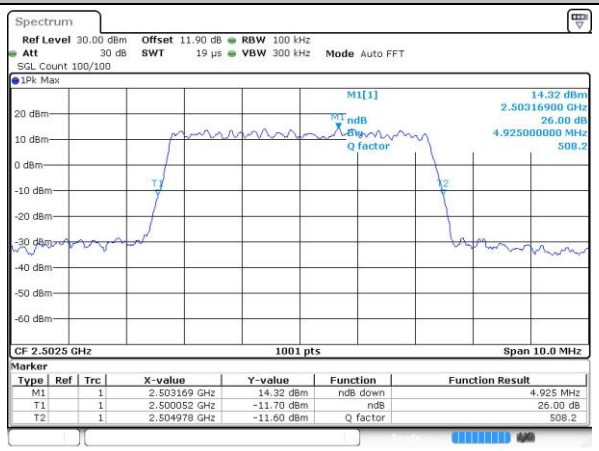


26dB Bandwidth

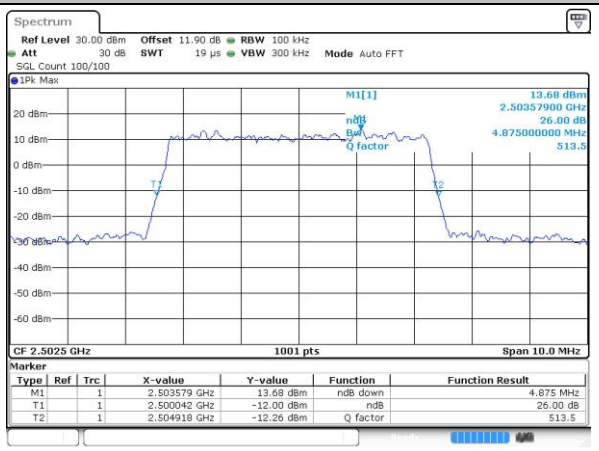
Mode	LTE Band 7 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.93	4.88	9.71	9.79	14.27	14.36	20.18	20.26
Middle CH	-	-	-	-	4.97	4.81	9.77	9.77	14.30	14.36	20.42	20.10
Highest CH	-	-	-	-	4.89	4.86	9.85	9.65	14.27	14.39	20.18	20.14
Mode	LTE Band 7 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.92	-	9.61	-	14.56	-	20.14	-
Middle CH	-	-	-	-	4.92	-	9.79	-	14.39	-	20.14	-
Highest CH	-	-	-	-	4.88	-	9.67	-	14.45	-	20.18	-

LTE Band 7

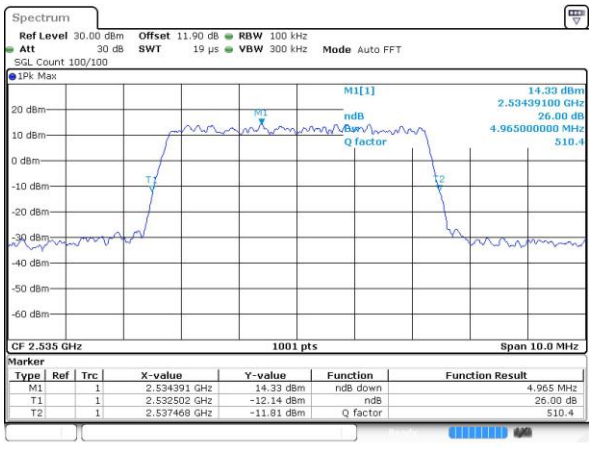
Lowest Channel / 5MHz / QPSK



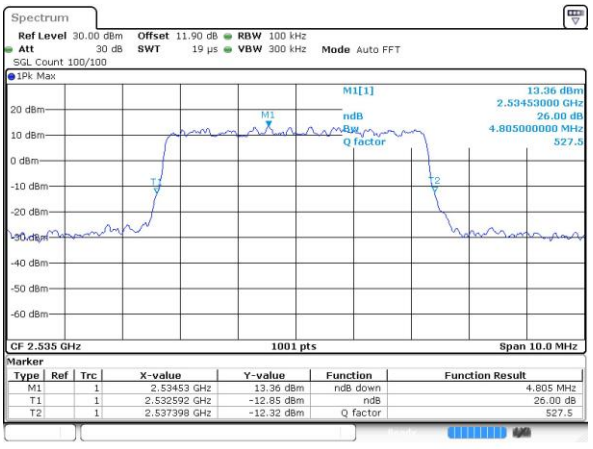
Lowest Channel / 5MHz / 16QAM



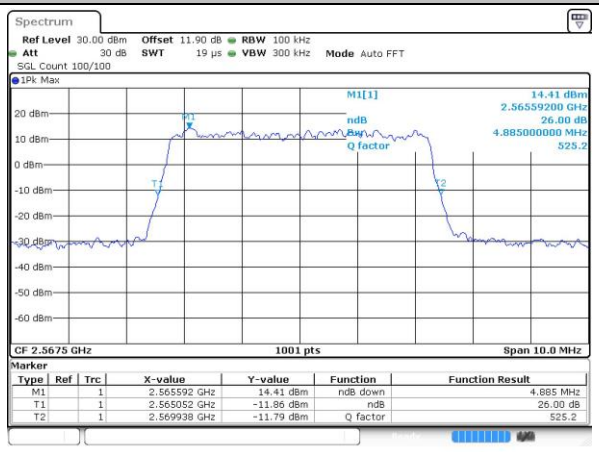
Middle Channel / 5MHz / QPSK



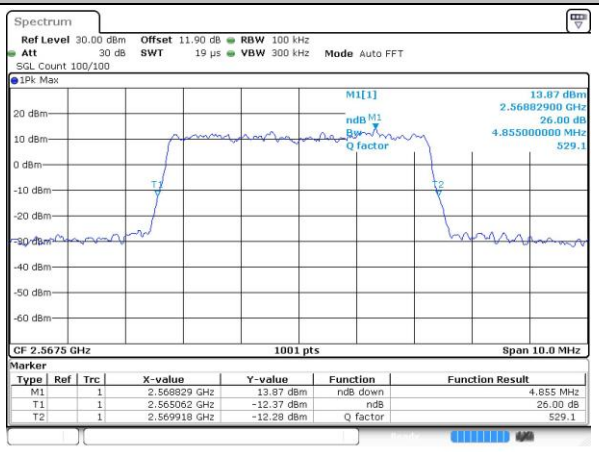
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

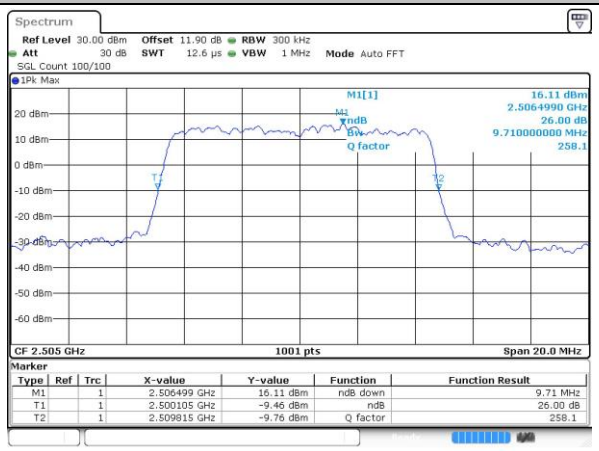


Highest Channel / 5MHz / 16QAM

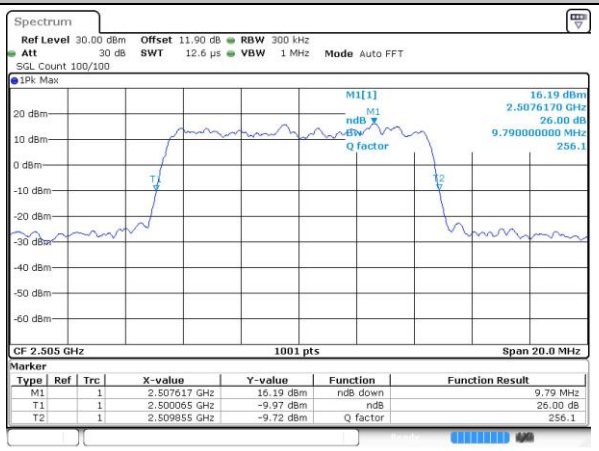


LTE Band 7

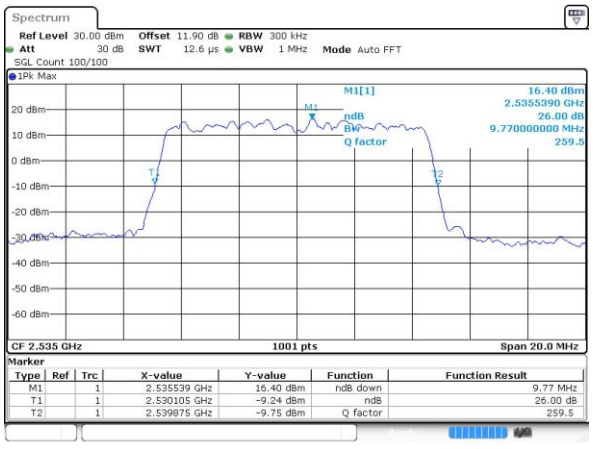
Lowest Channel / 10MHz / QPSK



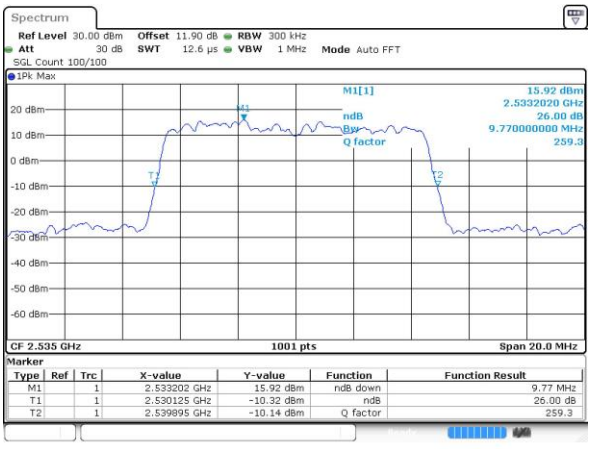
Lowest Channel / 10MHz / 16QAM



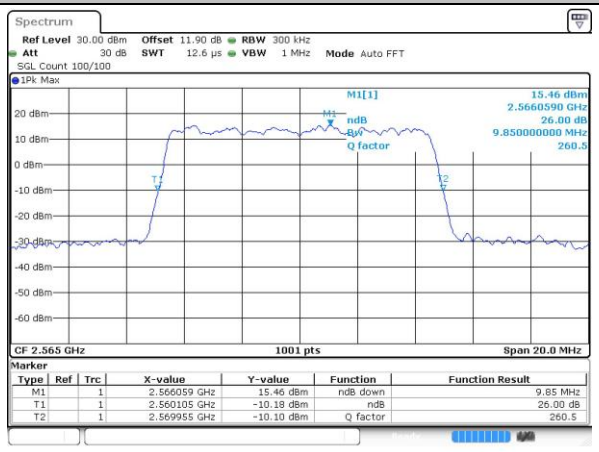
Middle Channel / 10MHz / QPSK



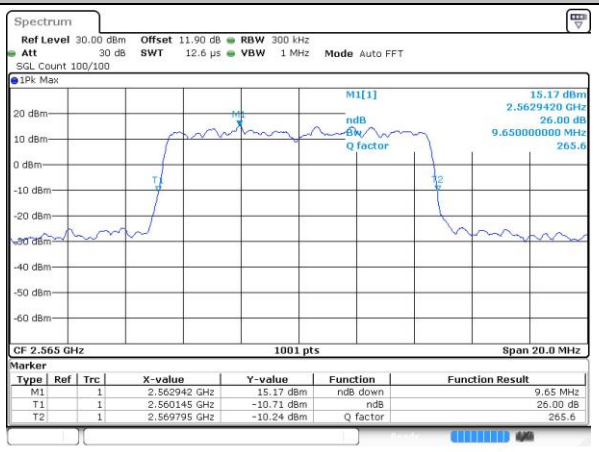
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

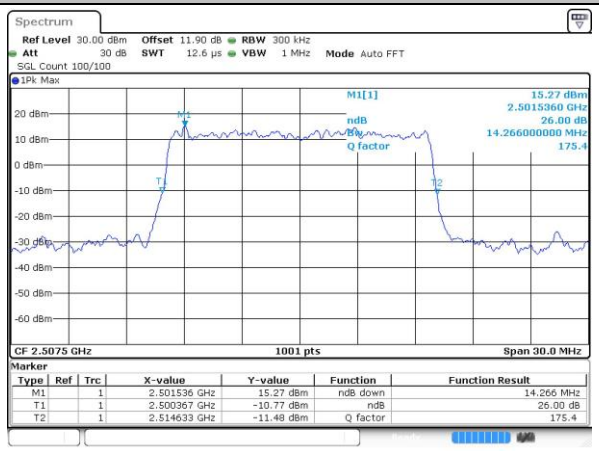


Highest Channel / 10MHz / 16QAM

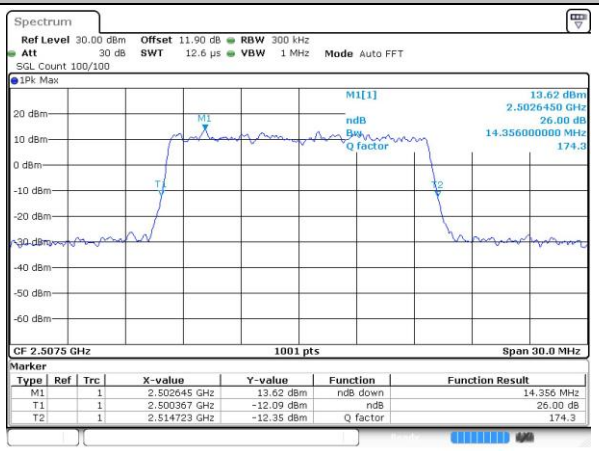


LTE Band 7

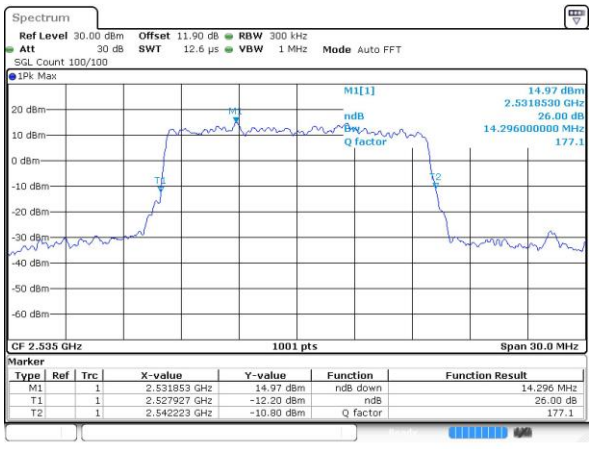
Lowest Channel / 15MHz / QPSK



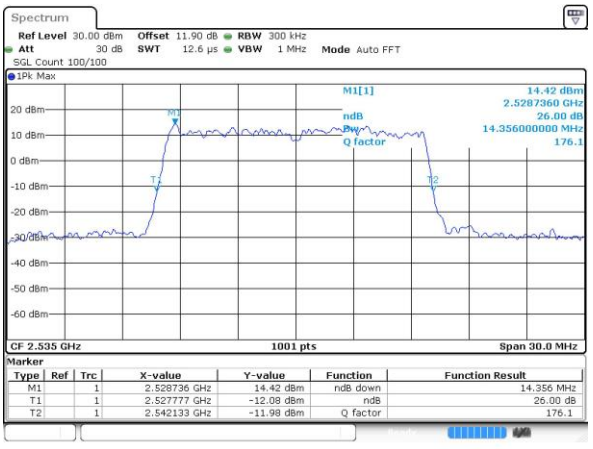
Lowest Channel / 15MHz / 16QAM



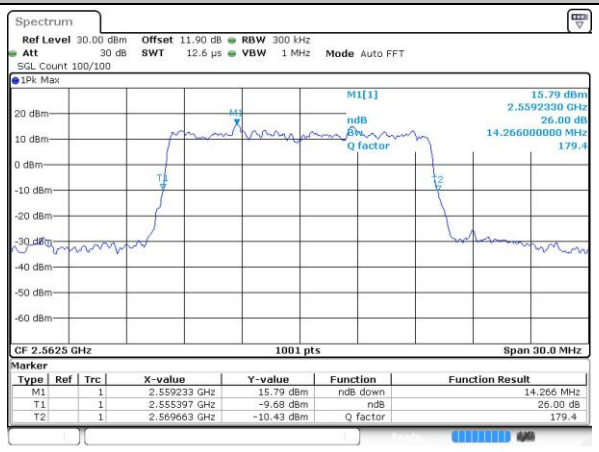
Middle Channel / 15MHz / QPSK



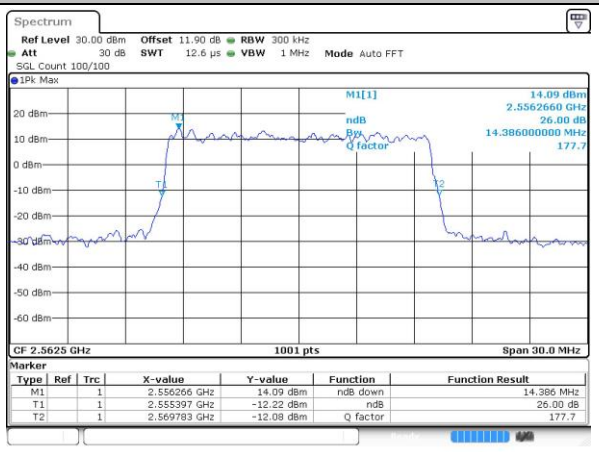
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

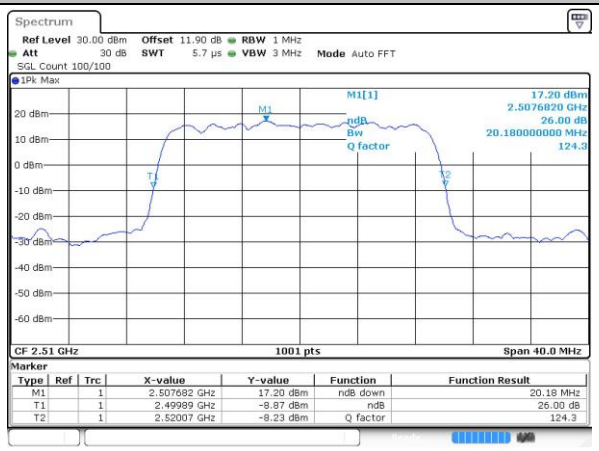


Highest Channel / 15MHz / 16QAM

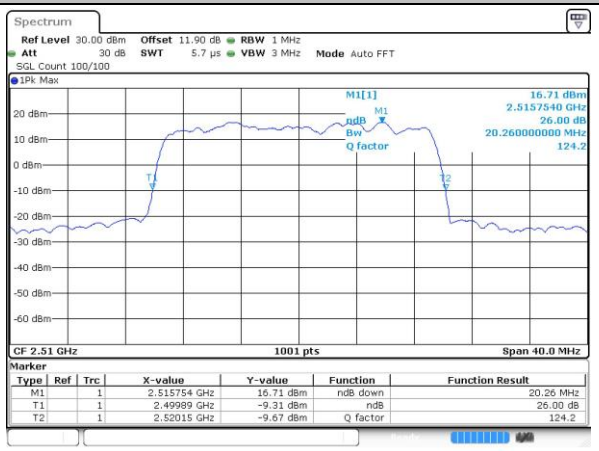


LTE Band 7

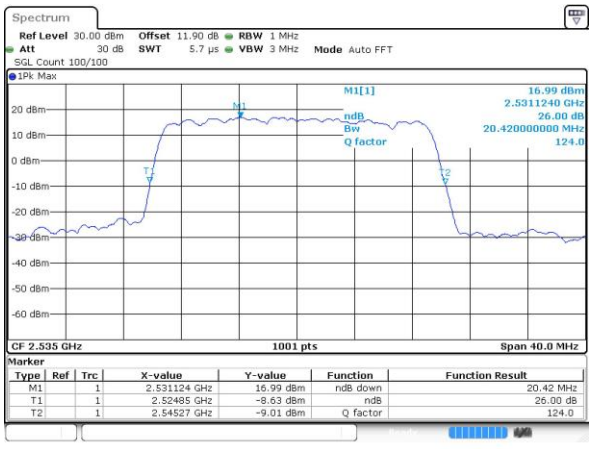
Lowest Channel / 20MHz / QPSK



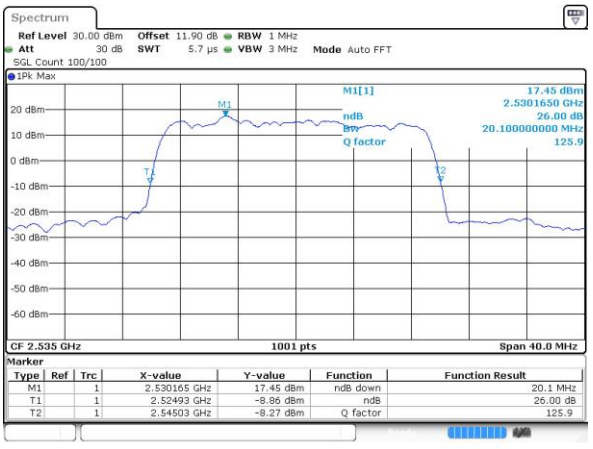
Lowest Channel / 20MHz / 16QAM



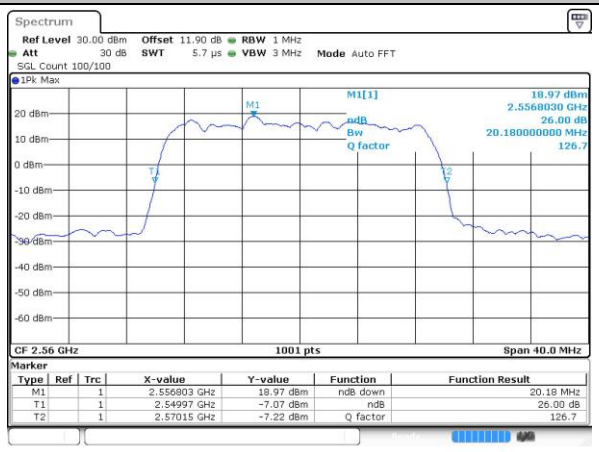
Middle Channel / 20MHz / QPSK



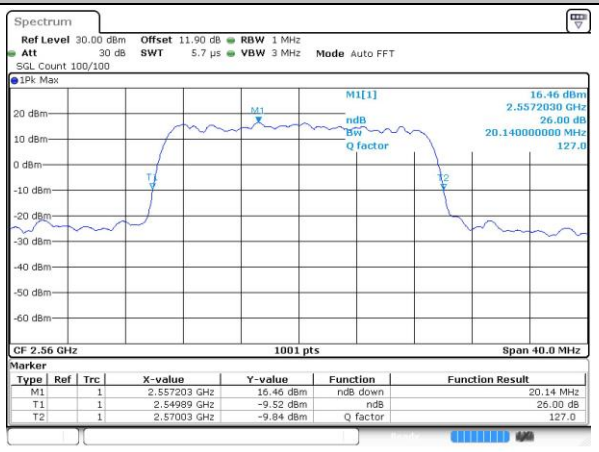
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK

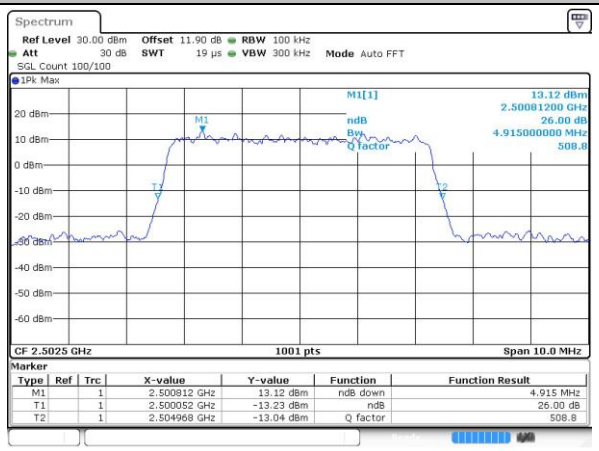


Highest Channel / 20MHz / 16QAM

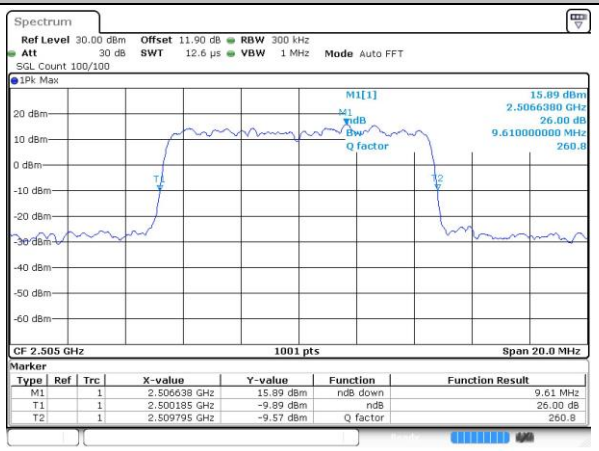


LTE Band 7

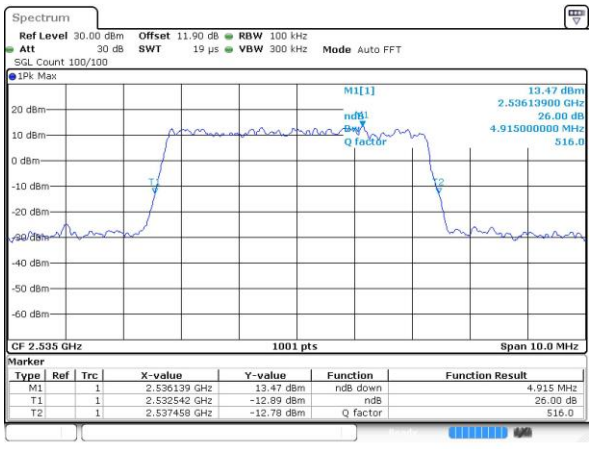
Lowest Channel / 5MHz / 64QAM



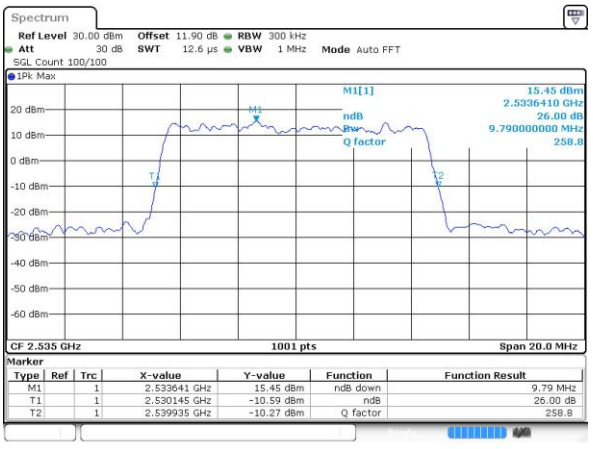
Lowest Channel / 10MHz / 64QAM



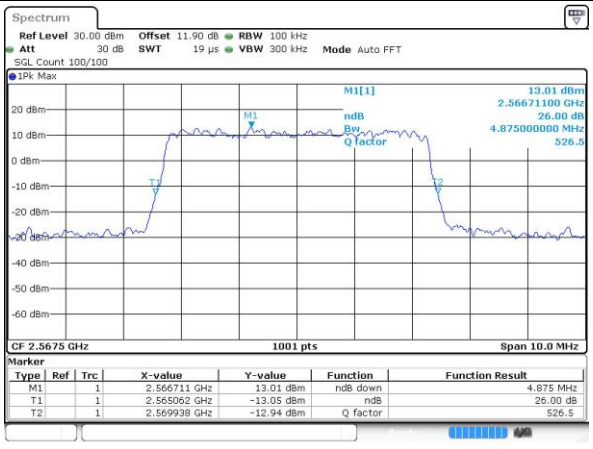
Middle Channel / 5MHz / 64QAM



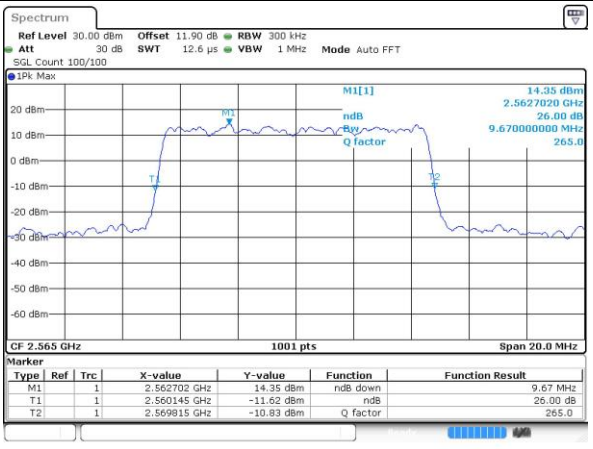
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

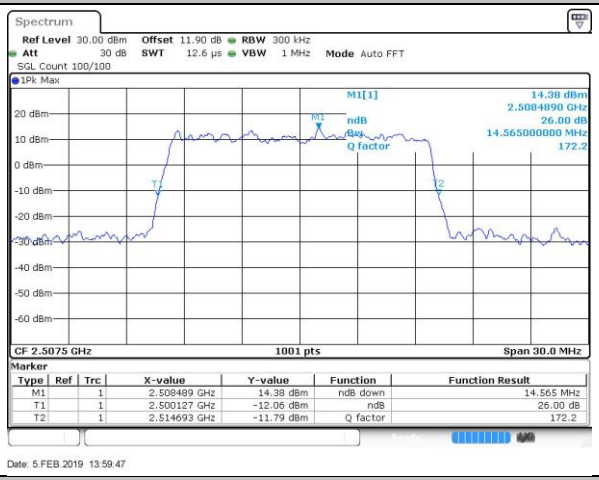


Highest Channel / 10MHz / 64QAM

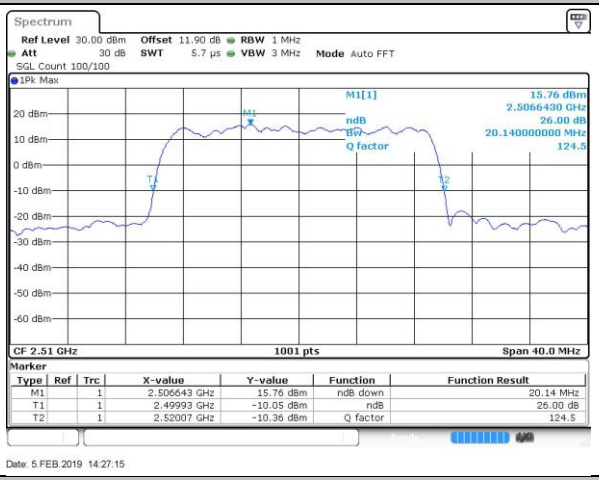


LTE Band 7

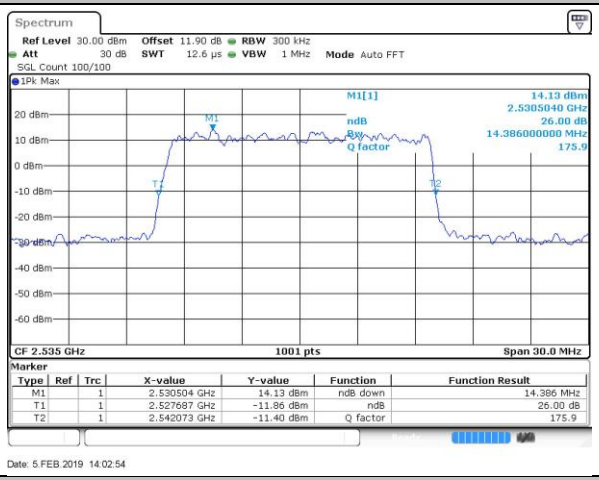
Lowest Channel / 15MHz / 64QAM



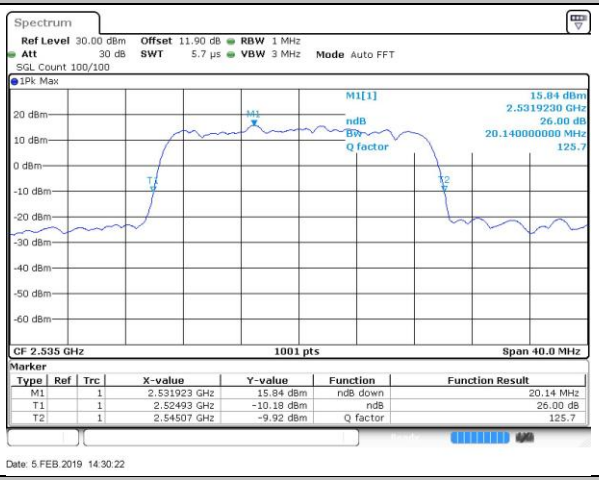
Lowest Channel / 20MHz / 64QAM



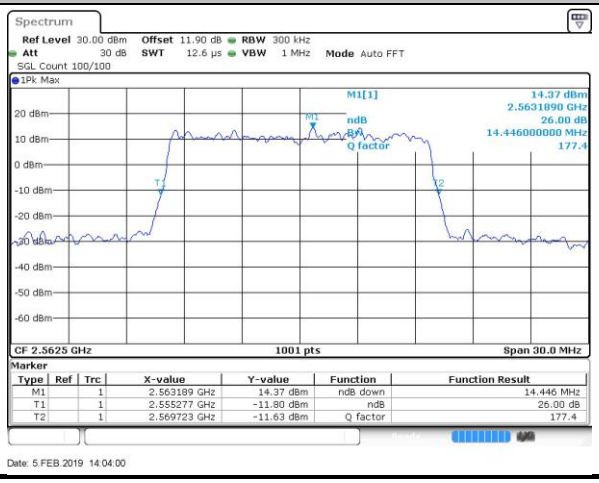
Middle Channel / 15MHz / 64QAM



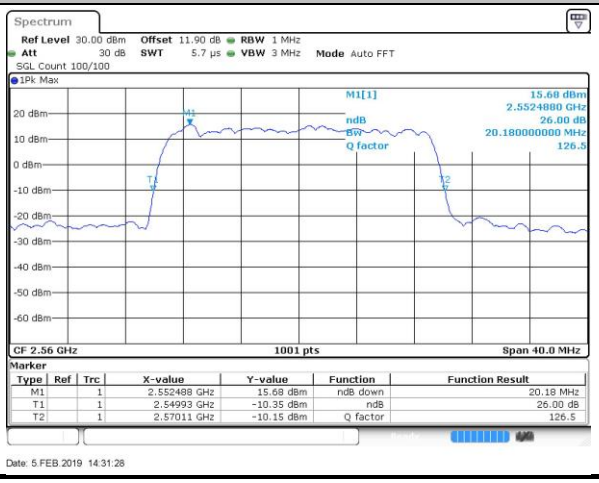
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM

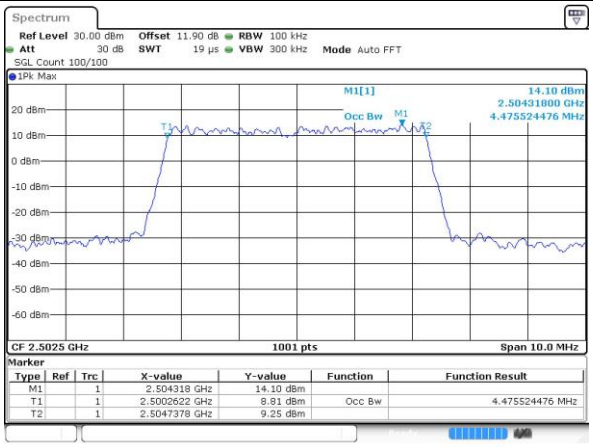


Occupied Bandwidth

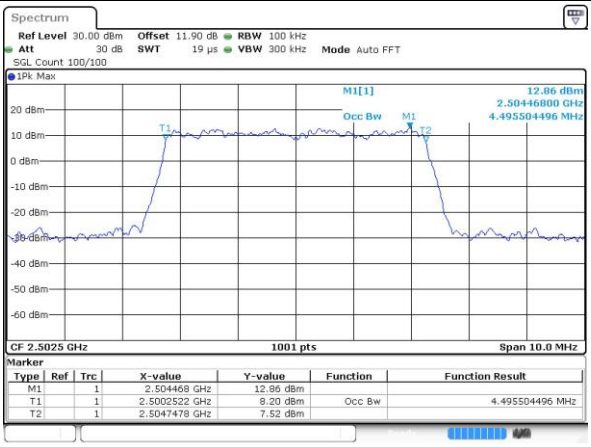
Mode	LTE Band 7 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.48	4.5	9.05	8.95	13.43	13.43	18.3	18.38
Middle CH	-	-	-	-	4.5	4.47	8.99	9.01	13.4	13.49	18.5	18.46
Highest CH	-	-	-	-	4.47	4.49	9.11	8.97	13.37	13.4	18.38	18.26
Mode	LTE Band 7 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.49	-	8.99	-	13.43	-	18.26	-
Middle CH	-	-	-	-	4.47	-	9.01	-	13.40	-	18.34	-
Highest CH	-	-	-	-	4.49	-	9.03	-	13.40	-	18.38	-

LTE Band 7

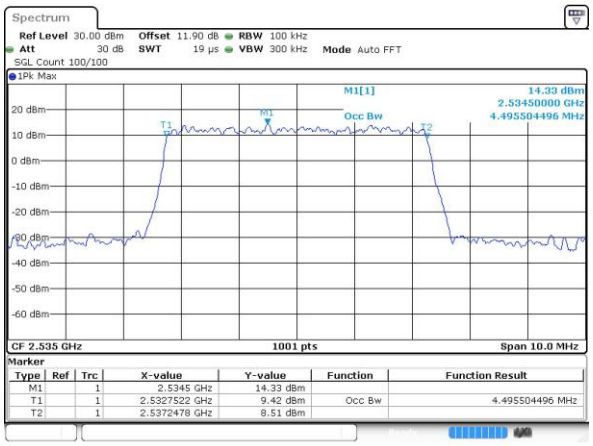
Lowest Channel / 5MHz / QPSK



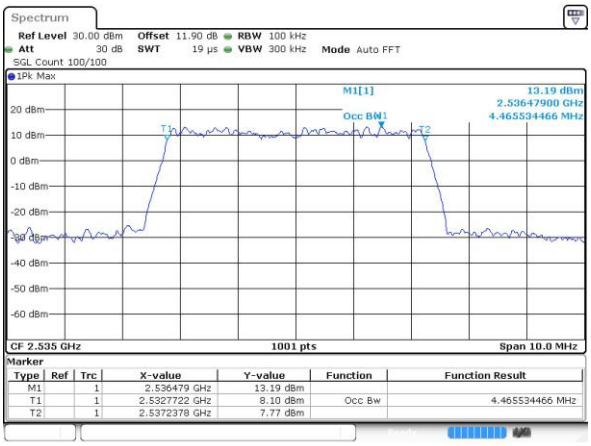
Lowest Channel / 5MHz / 16QAM



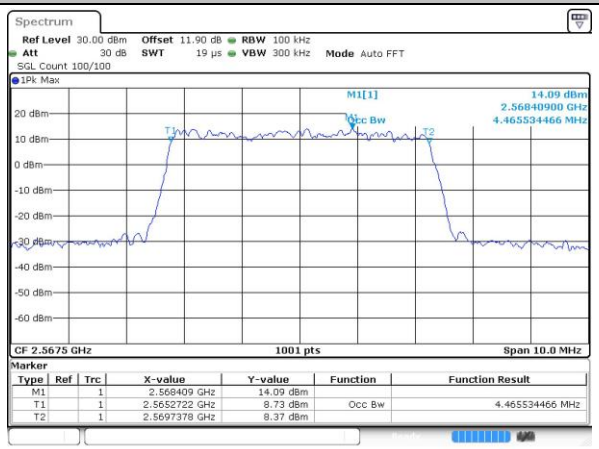
Middle Channel / 5MHz / QPSK



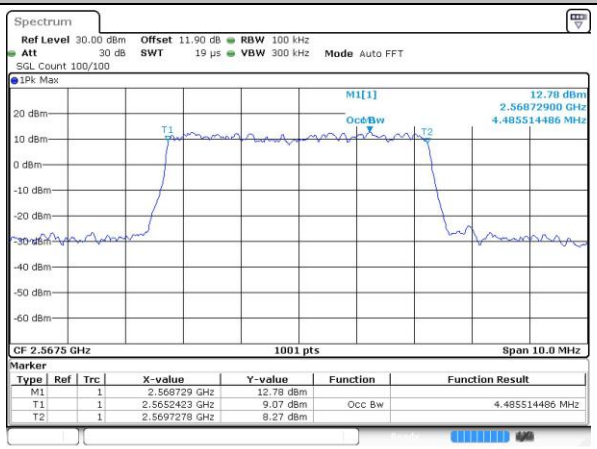
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

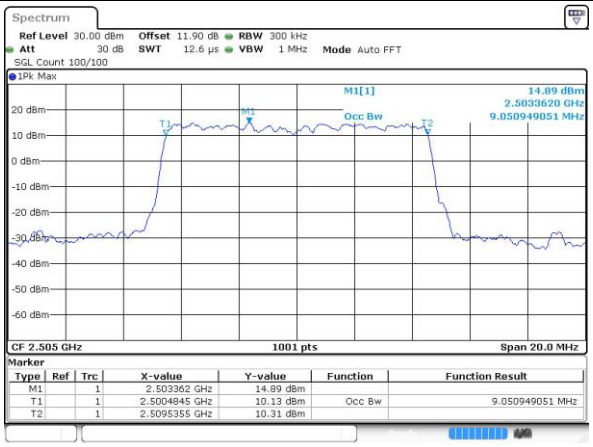


Highest Channel / 5MHz / 16QAM

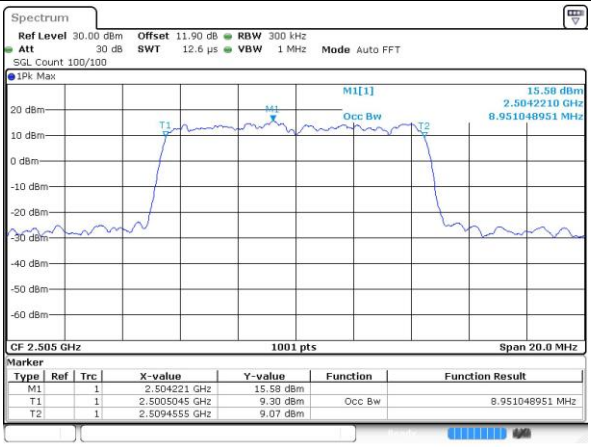


LTE Band 7

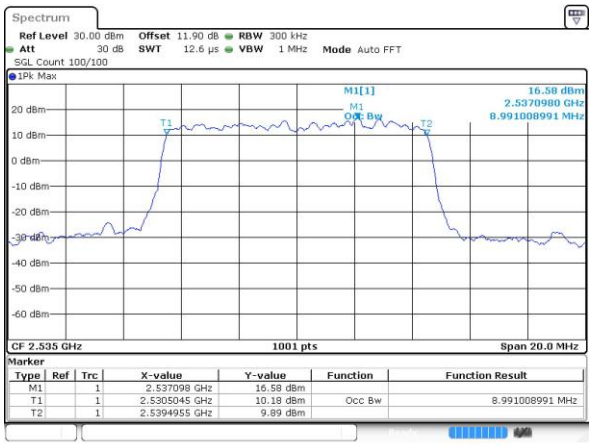
Lowest Channel / 10MHz / QPSK



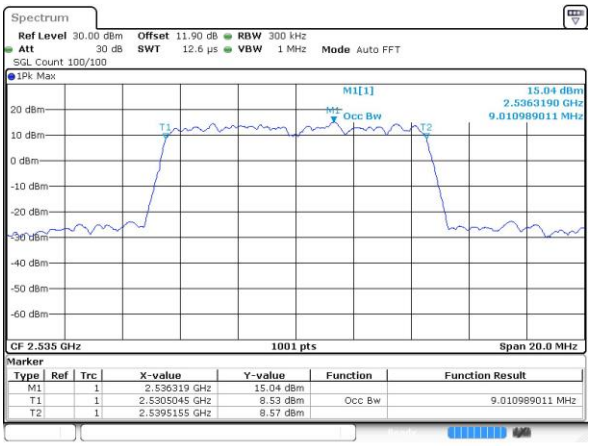
Lowest Channel / 10MHz / 16QAM



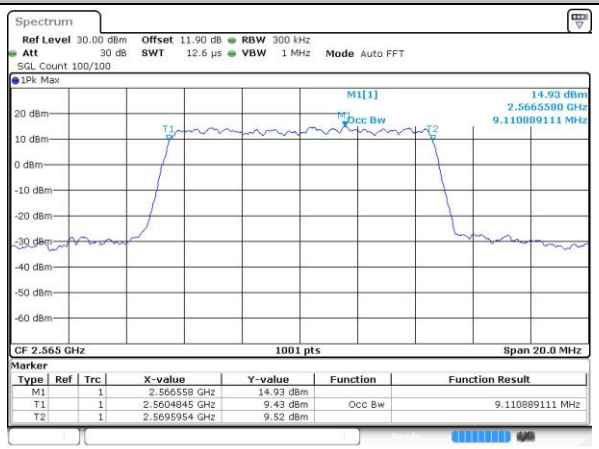
Middle Channel / 10MHz / QPSK



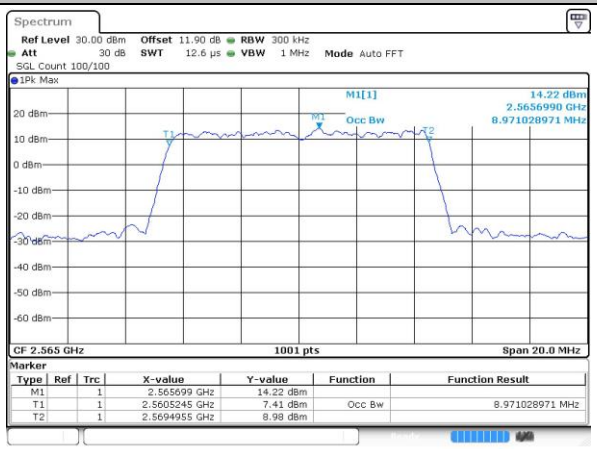
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

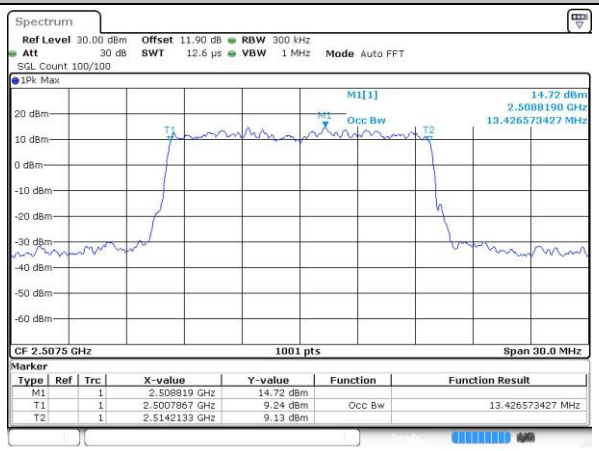


Highest Channel / 10MHz / 16QAM



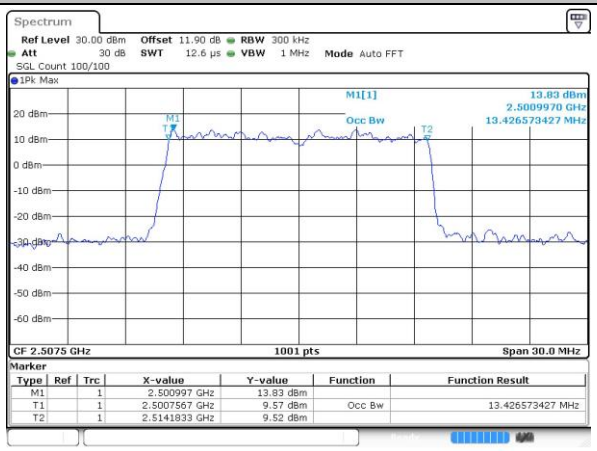
LTE Band 7

Lowest Channel / 15MHz / QPSK



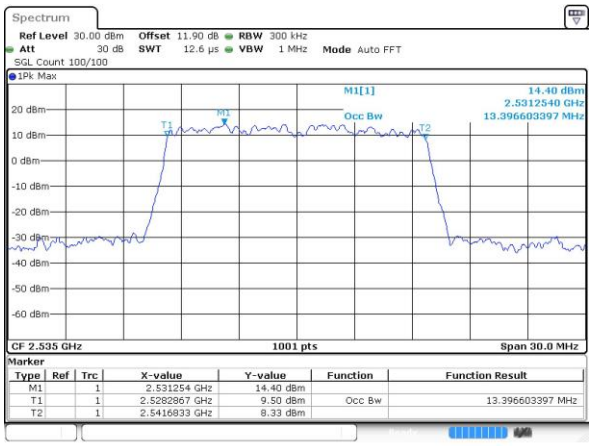
Date: 5.FEB.2019 13:44:54

Lowest Channel / 15MHz / 16QAM



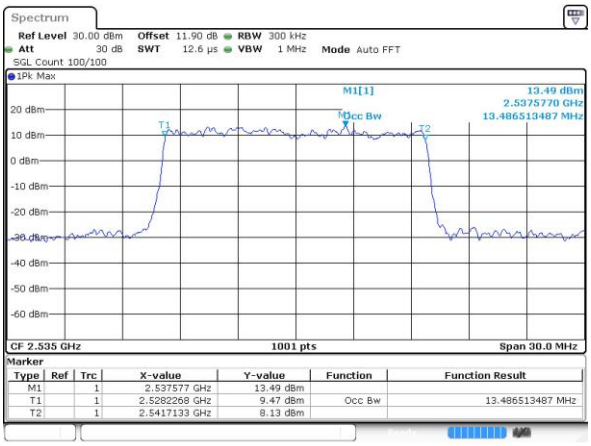
Date: 5.FEB.2019 13:45:05

Middle Channel / 15MHz / QPSK



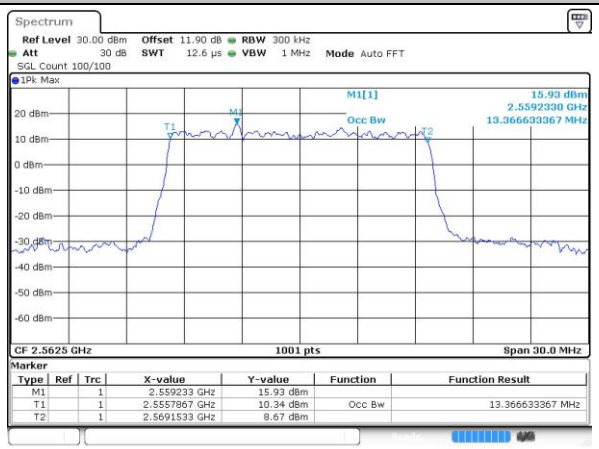
Date: 5.FEB.2019 13:51:09

Middle Channel / 15MHz / 16QAM



Date: 5.FEB.2019 13:51:20

Highest Channel / 15MHz / QPSK



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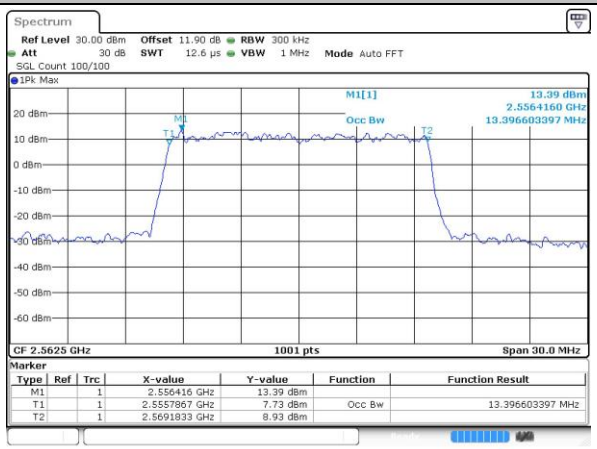
Highest Channel / 15MHz / 16QAM



Date: 5.FEB.2019 13:53:32