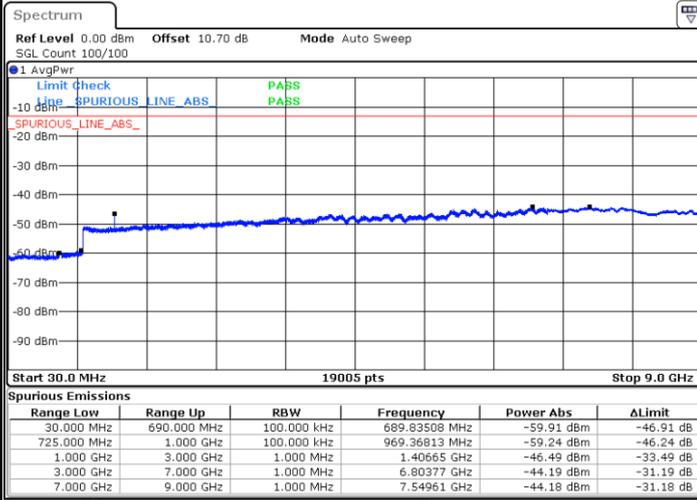




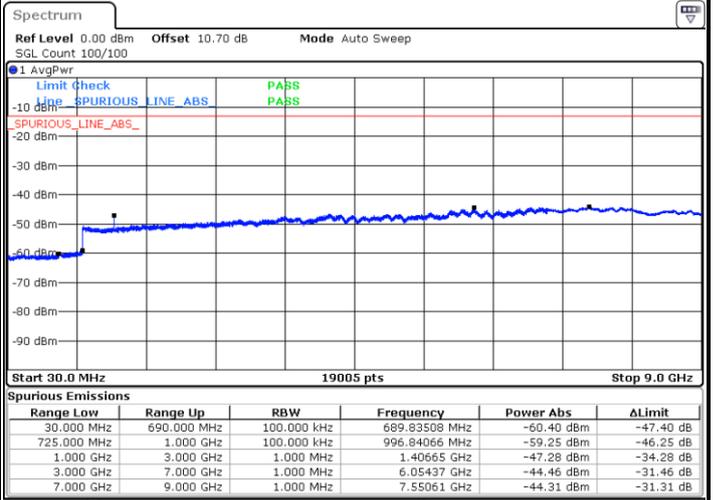
LTE Band 12 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM



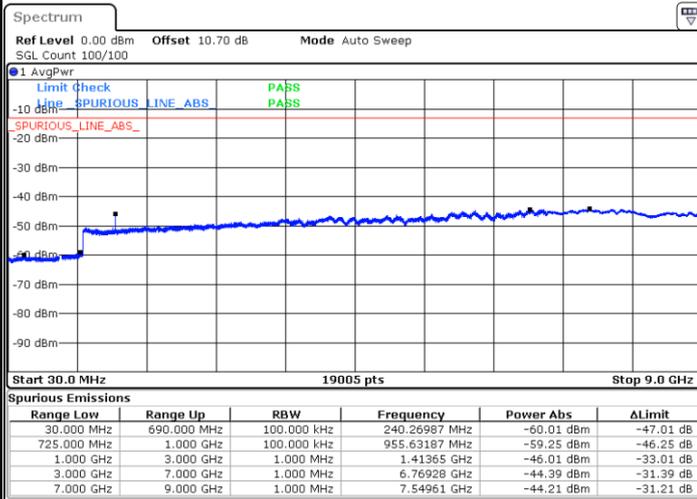
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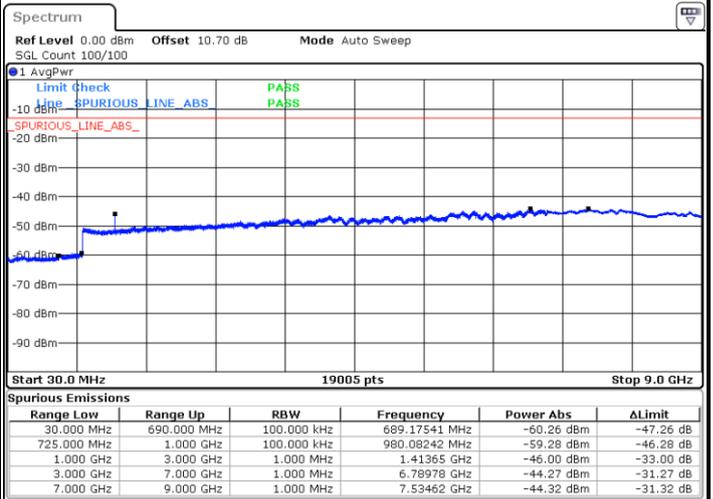
Date: 4 JAN 2020 23:01:23

Highest Channel / QPSK

Highest Channel / 16QAM



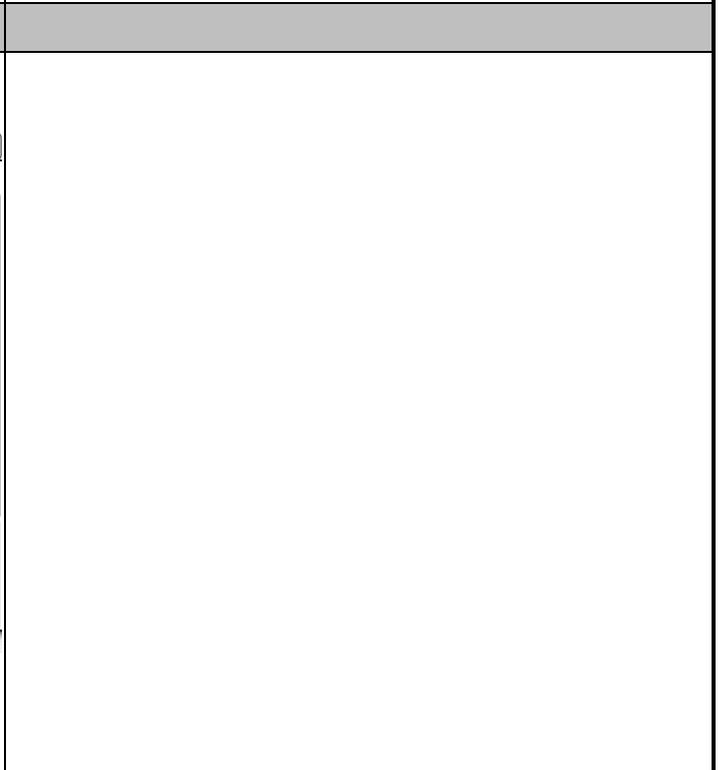
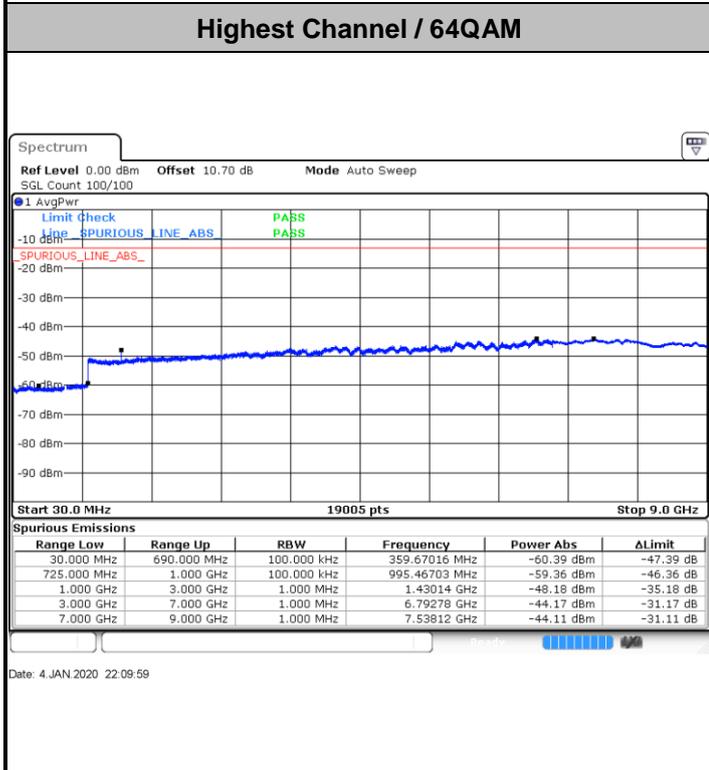
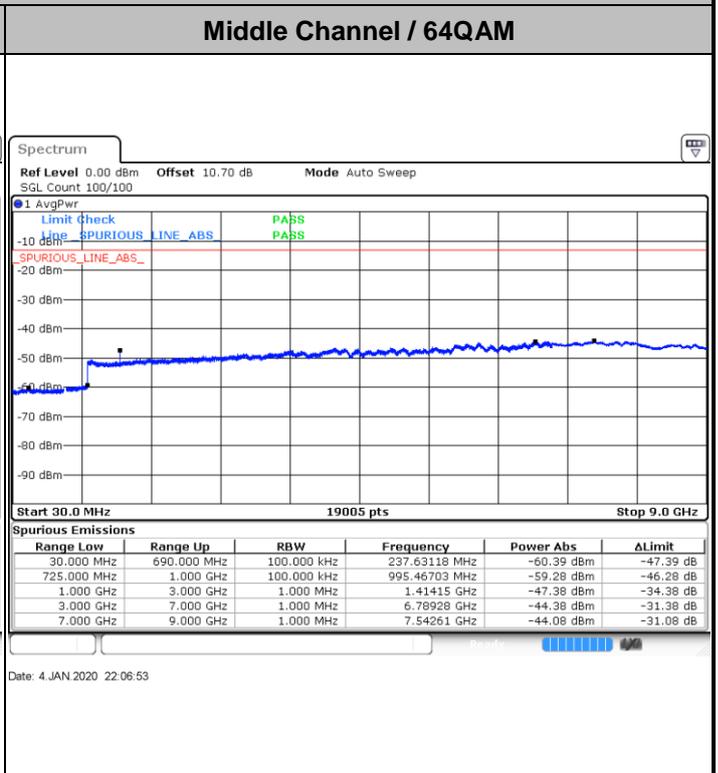
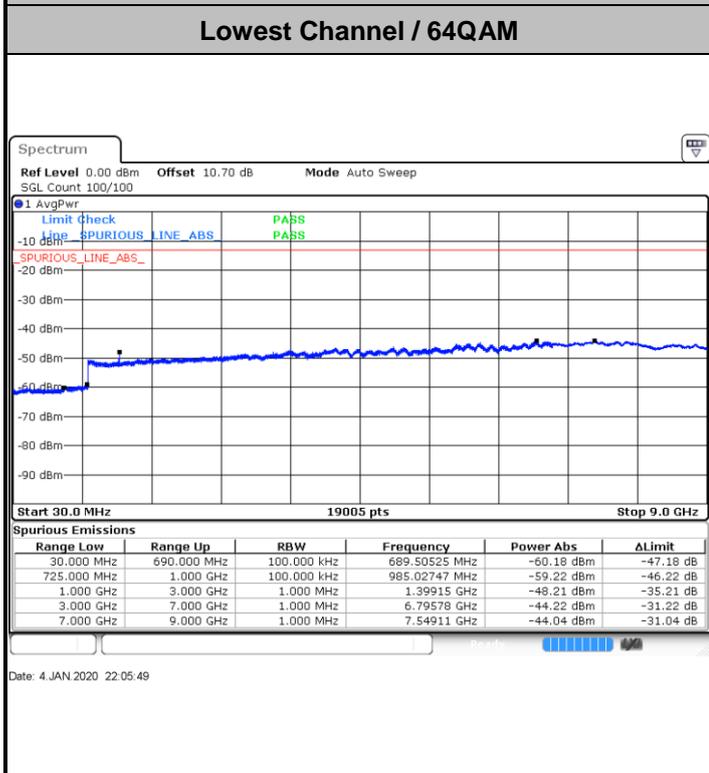
Date: 4 JAN 2020 23:07:35



Date: 4 JAN 2020 23:08:15



LTE Band 12 / 1.4MHz

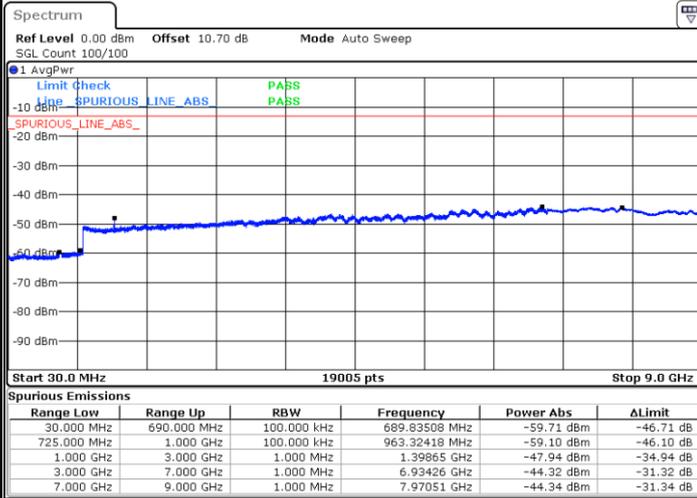




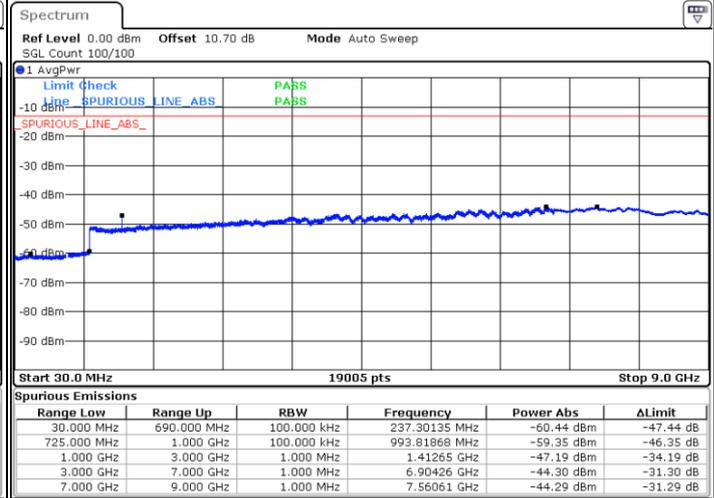
LTE Band 12 / 3MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

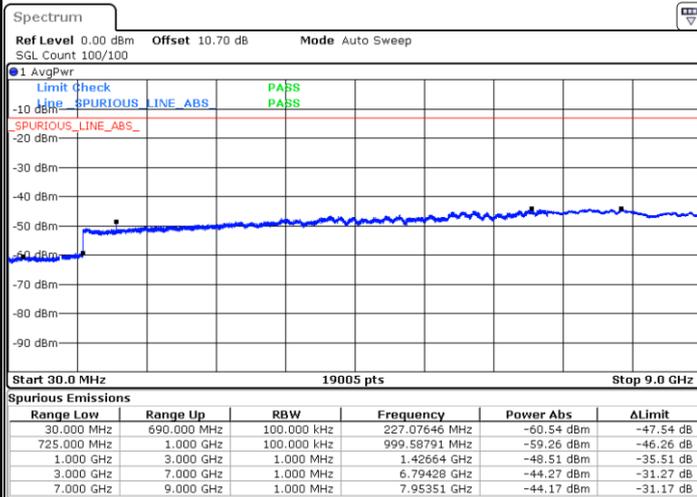


Date: 4 JAN 2020 22:27:41



Date: 4 JAN 2020 22:28:44

Highest Channel / 64QAM



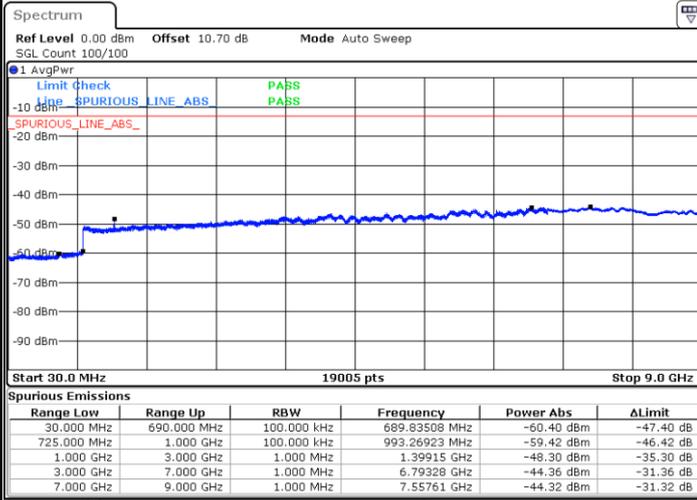
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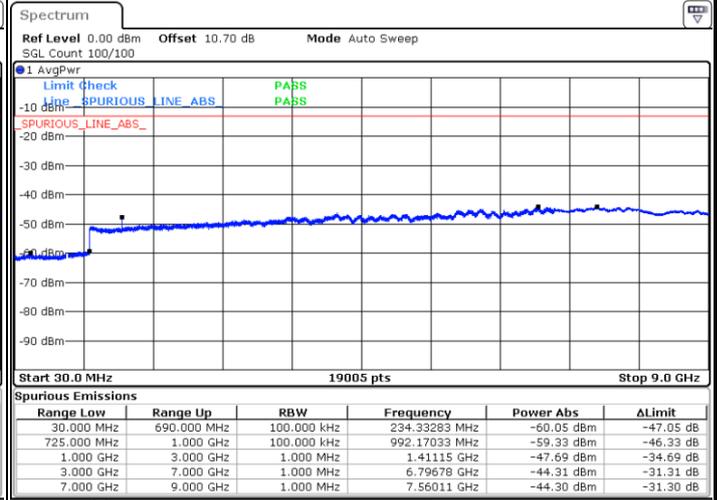
LTE Band 12 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

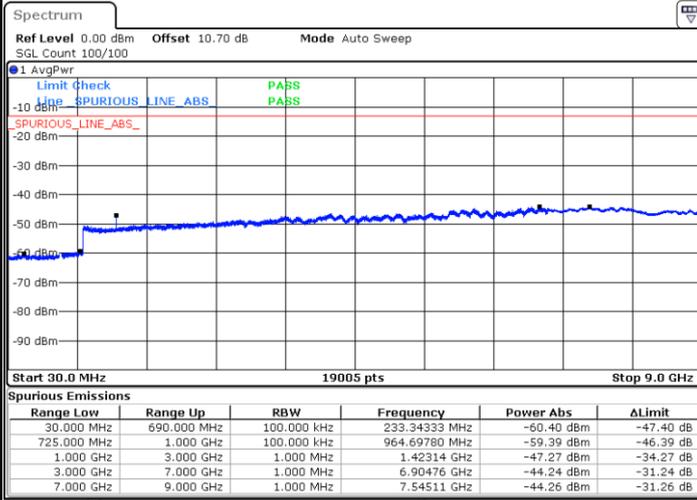


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Date: 4 JAN 2020 22:36:01

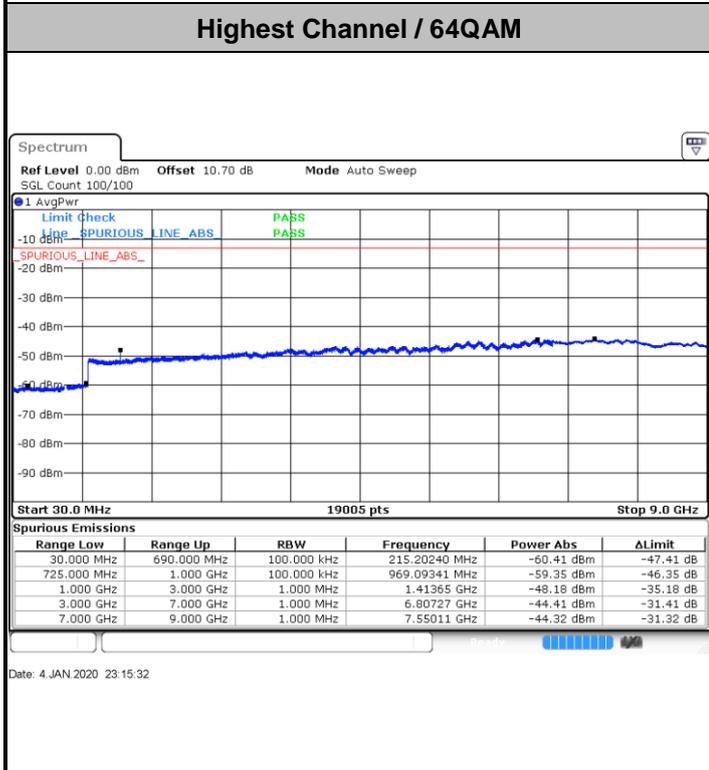
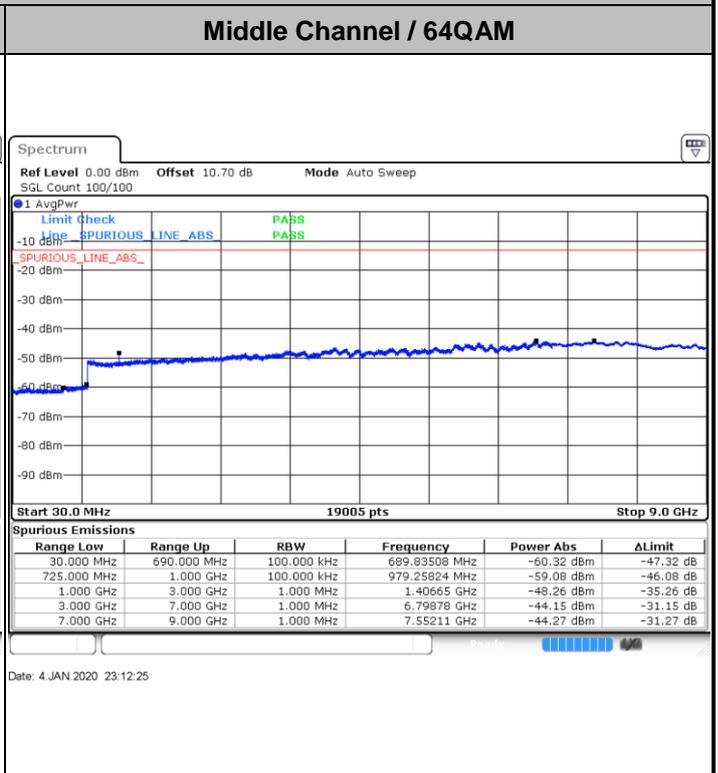
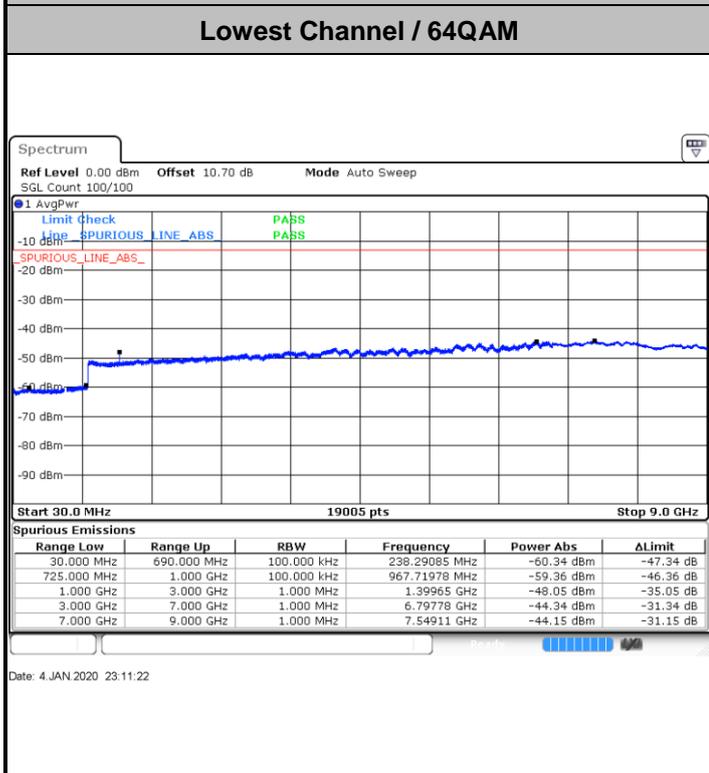
Highest Channel / 64QAM



Date: 4 JAN 2020 22:39:08



LTE Band 12 / 10MHz





Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0099	PASS
40	Normal Voltage	0.0016	
30	Normal Voltage	0.0098	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0069	
0	Normal Voltage	0.0082	
-10	Normal Voltage	0.0023	
-20	Normal Voltage	0.0175	
-30	Normal Voltage	0.0171	
20	Maximum Voltage	0.0020	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0003	

Note:

1. Normal Voltage =7.7 V. ; Battery End Point (BEP) =6.9 V. ; Maximum Voltage =8.5 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.28	4.93	4.38	5.57	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	5.16	6.12	-	-	
Highest CH	-	-	-	-	



LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 4 JAN 2020 07:24:27

Middle Channel / Full RB



Date: 4 JAN 2020 07:24:40

LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 4 JAN 2020 07:24:05

Middle Channel / Full RB



Date: 4 JAN 2020 07:25:26

LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 4 JAN 2020 07:23:44

Middle Channel / Full RB



Date: 4 JAN 2020 07:25:03



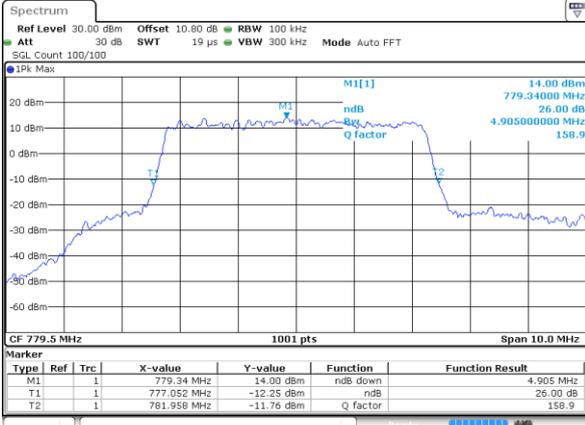
26dB Bandwidth

Mode	LTE Band 13 : 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	-	-	-	-	4.91	4.88	-	-	-	-	-	-
Middle CH	-	-	-	-	4.96	4.96	9.83	9.81	-	-	-	-
Highest CH	-	-	-	-	4.97	4.91	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.85	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.90	-	9.83	-	-	-	-	-
Highest CH	-	-	-	-	4.86	-	-	-	-	-	-	-



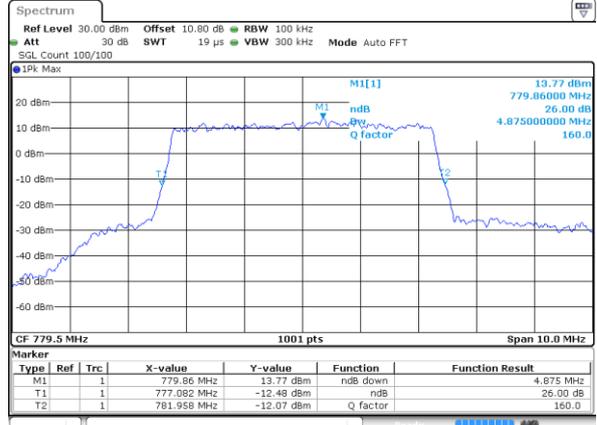
LTE Band 13

Lowest Channel / 5MHz / QPSK



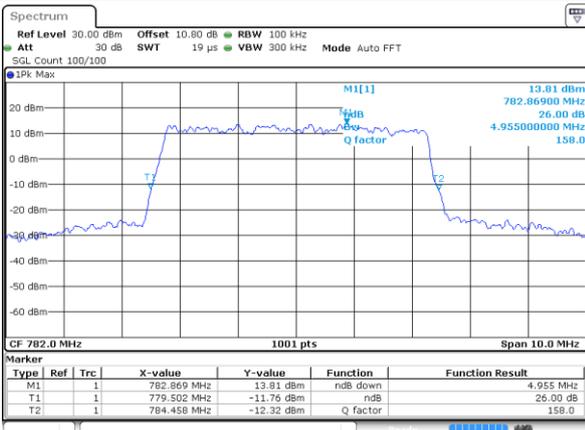
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Lowest Channel / 5MHz / 16QAM



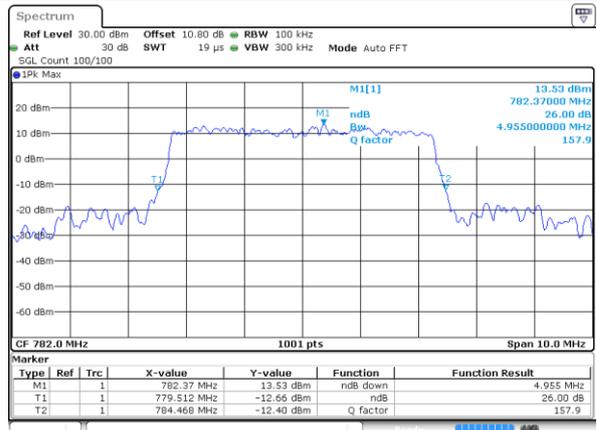
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Middle Channel / 5MHz / QPSK



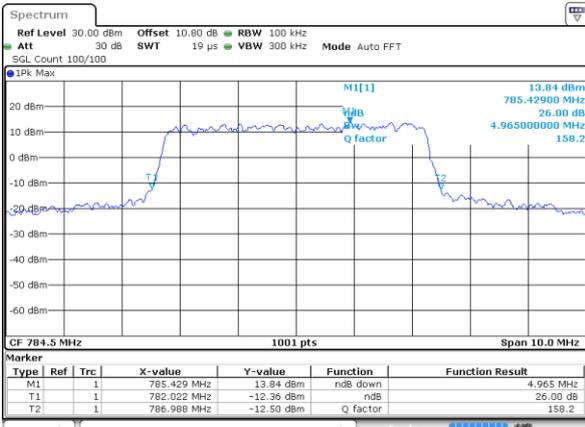
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Middle Channel / 5MHz / 16QAM



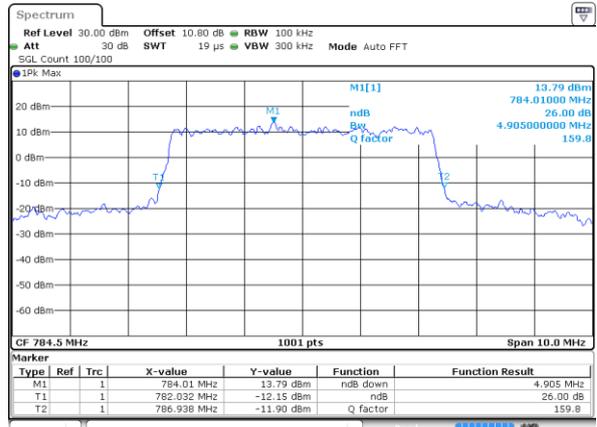
Date: 4 JAN 2020 06:44:33

Highest Channel / 5MHz / QPSK



Date: 4 JAN 2020 06:45:45

Highest Channel / 5MHz / 16QAM

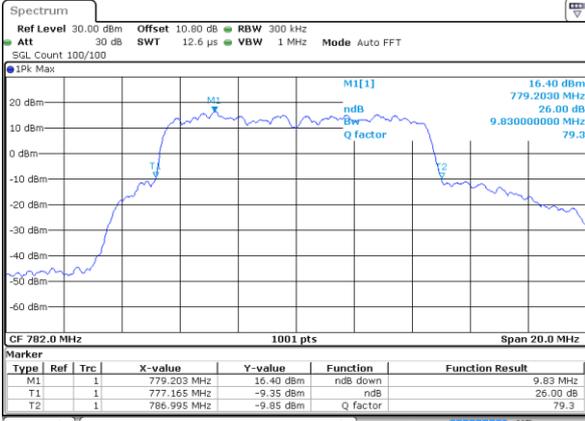


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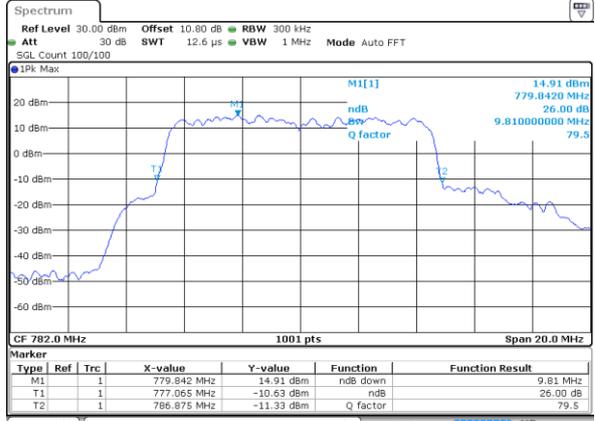
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 4 JAN 2020 07:04:34

Middle Channel / 10MHz / 16QAM

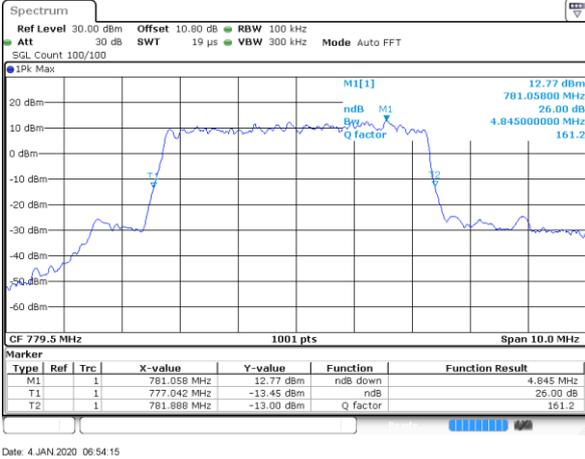


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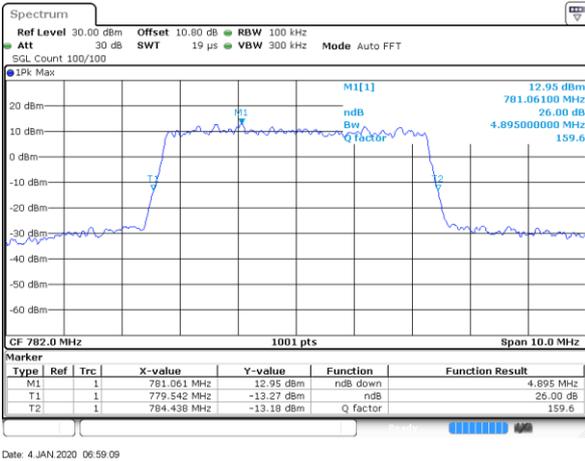


LTE Band 13

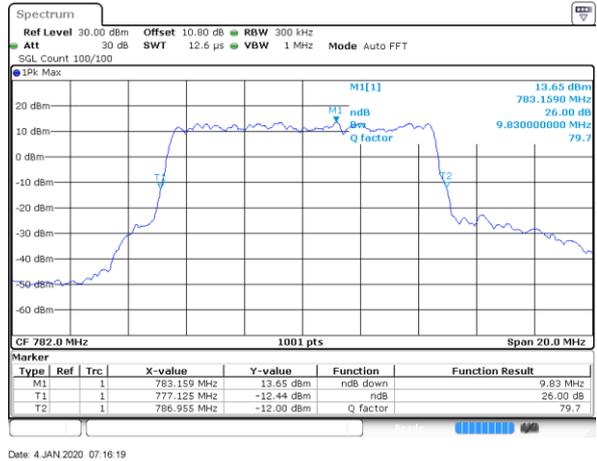
Lowest Channel / 5MHz / 64QAM



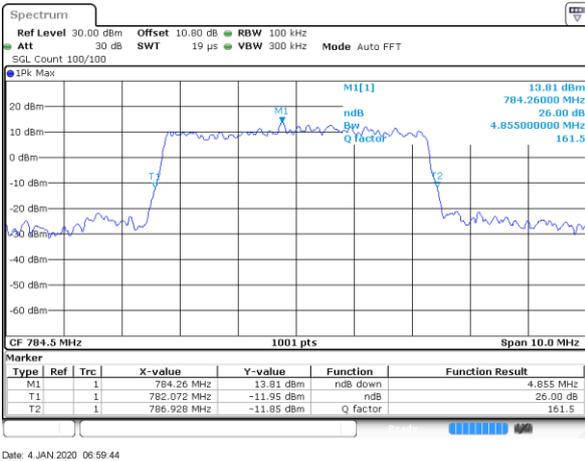
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM





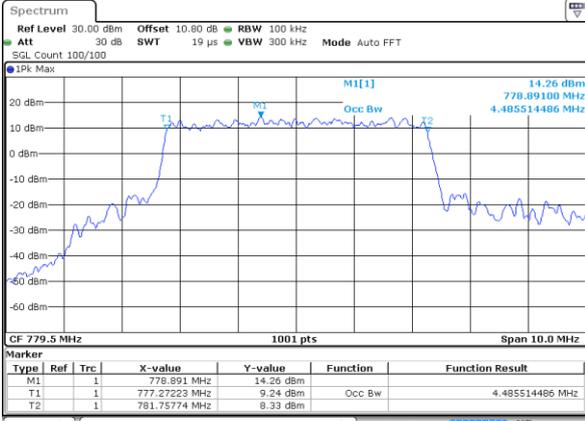
Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.49	4.47	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.52	9.01	9.01	-	-	-	-
Highest CH	-	-	-	-	4.49	4.50	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.50	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	-	8.99	-	-	-	-	-
Highest CH	-	-	-	-	4.49	-	-	-	-	-	-	-



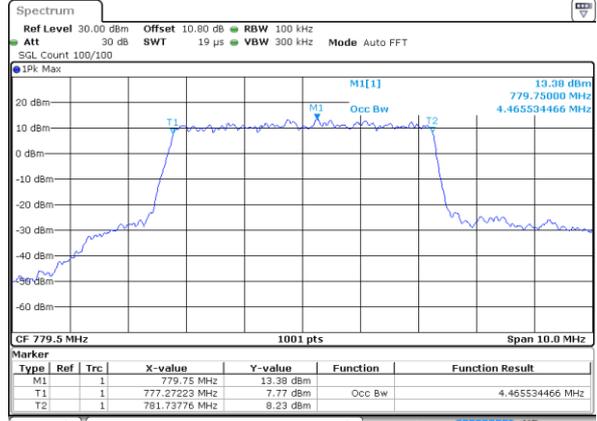
LTE Band 13

Lowest Channel / 5MHz / QPSK



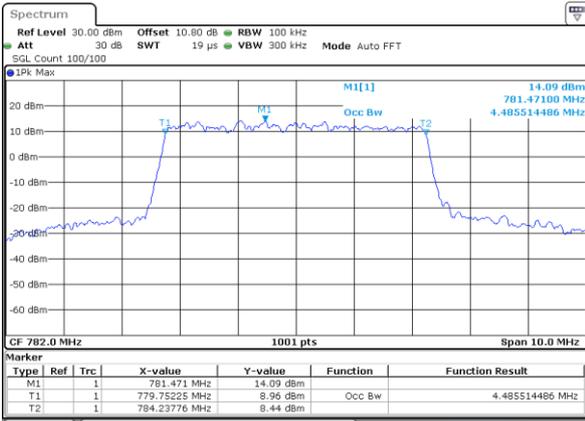
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Lowest Channel / 5MHz / 16QAM



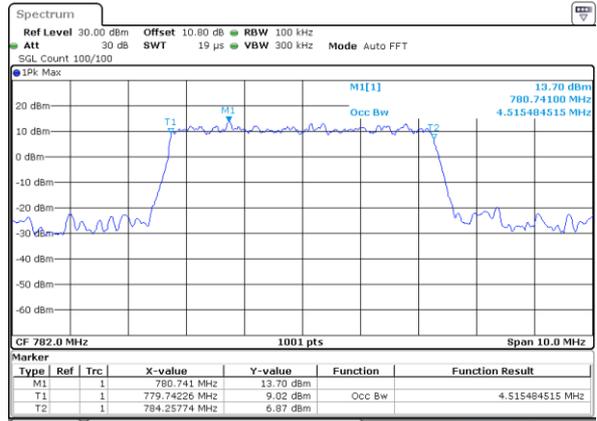
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Middle Channel / 5MHz / QPSK



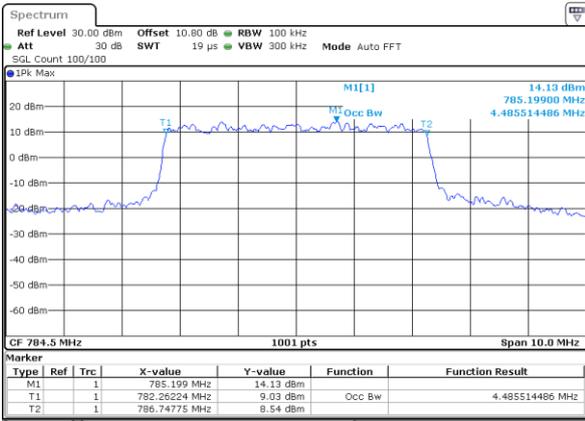
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Middle Channel / 5MHz / 16QAM



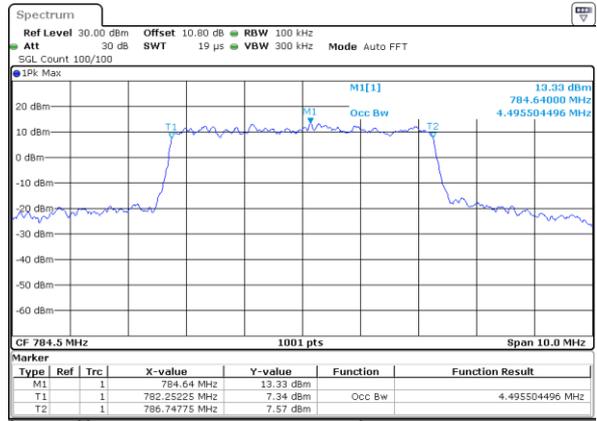
Date: 4 JAN 2020 06:44:44

Highest Channel / 5MHz / QPSK



Date: 4 JAN 2020 06:45:08

Highest Channel / 5MHz / 16QAM

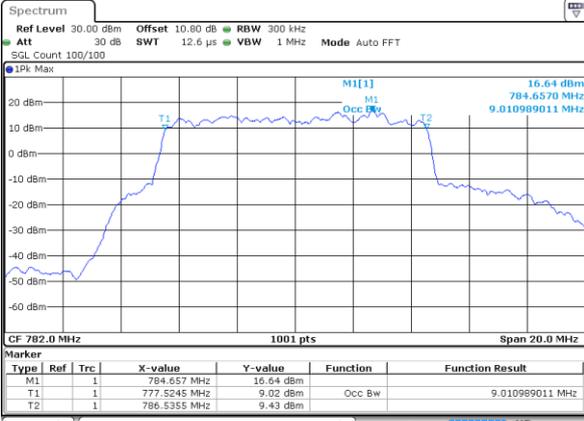


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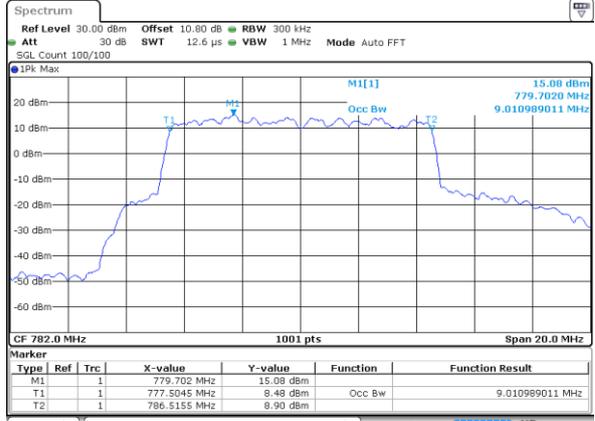
LTE Band 13

Middle Channel / 10MHz / QPSK



Date: 4 JAN 2020 07:03:59

Middle Channel / 10MHz / 16QAM

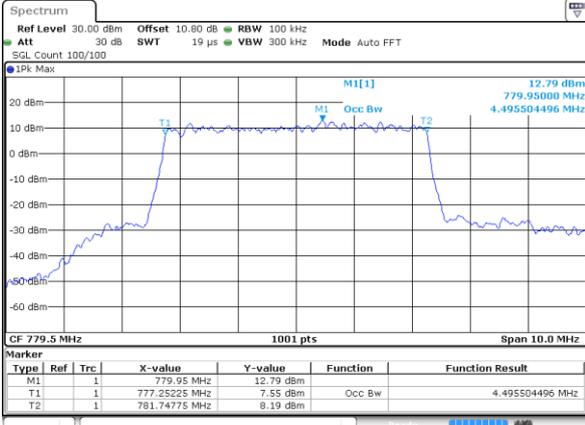


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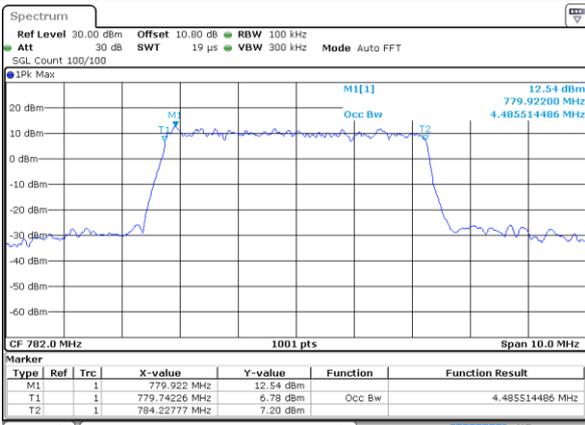
LTE Band 13

Lowest Channel / 5MHz / 64QAM



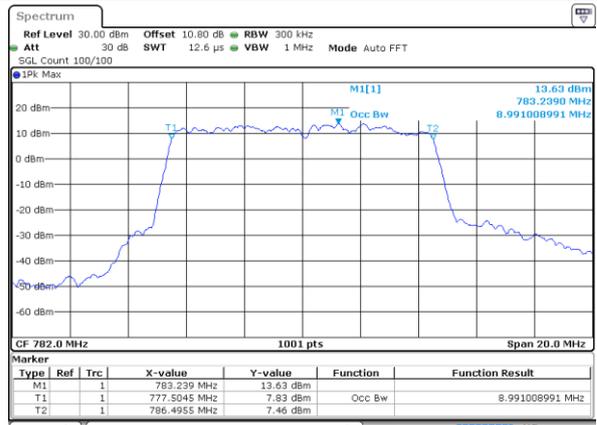
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Middle Channel / 5MHz / 64QAM



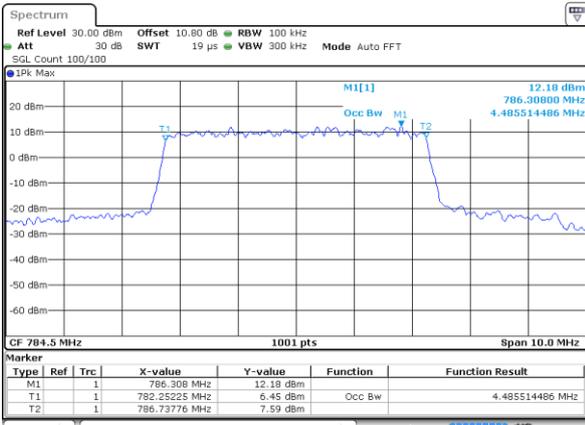
Date: 4 JAN 2020 06:59:20

Middle Channel / 10MHz / 64QAM



Date: 4 JAN 2020 07:16:07

Highest Channel / 5MHz / 64QAM



Date: 4 JAN 2020 06:59:32

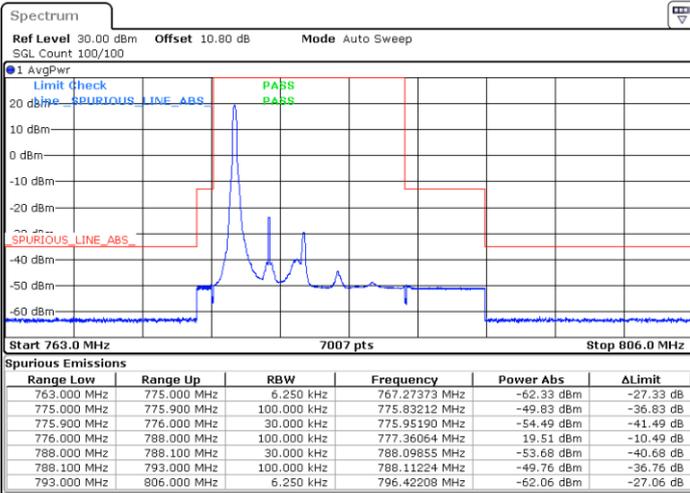


Conducted Band Edge

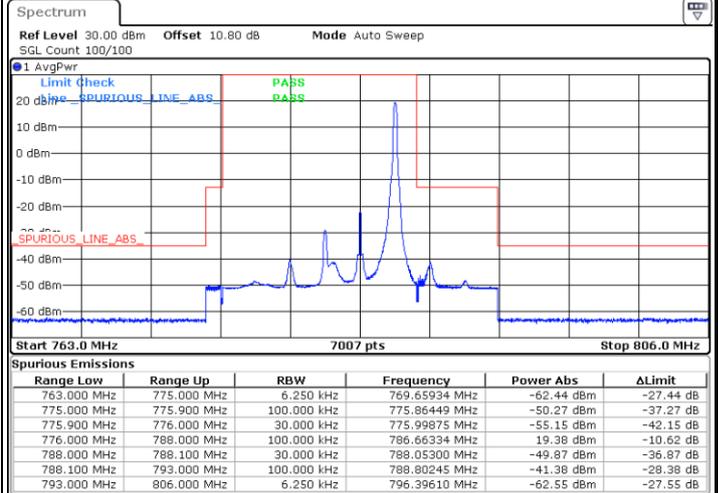
LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



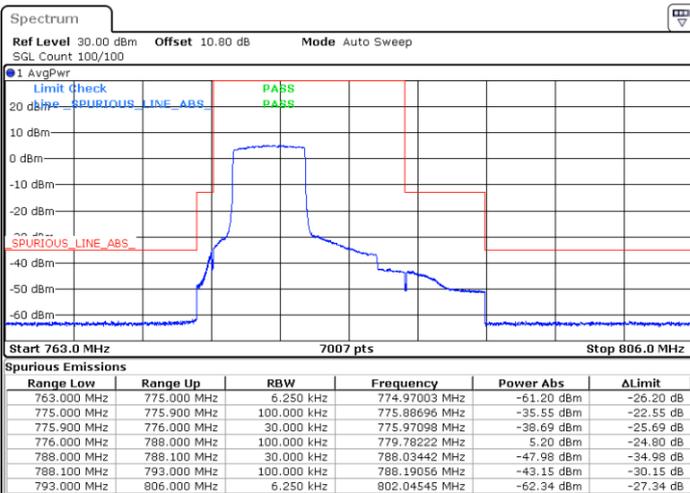
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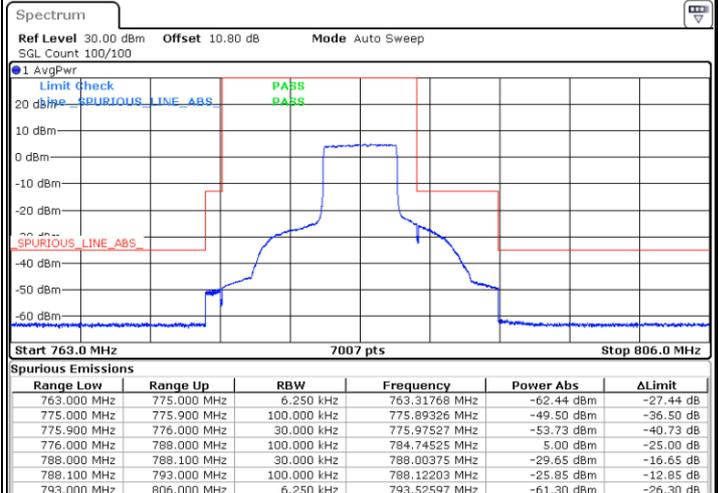
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Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 4 JAN 2020 06:36:25



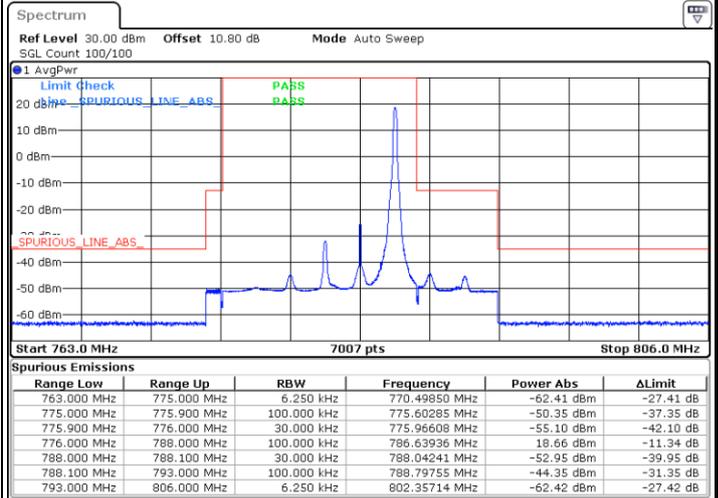
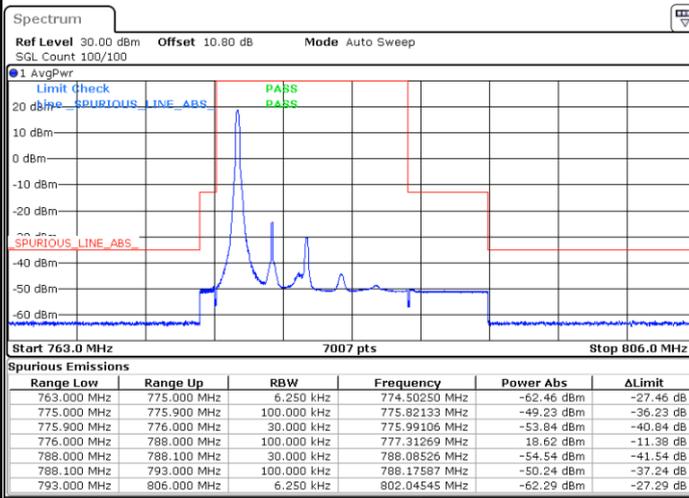
Date: 4 JAN 2020 06:47:25



LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

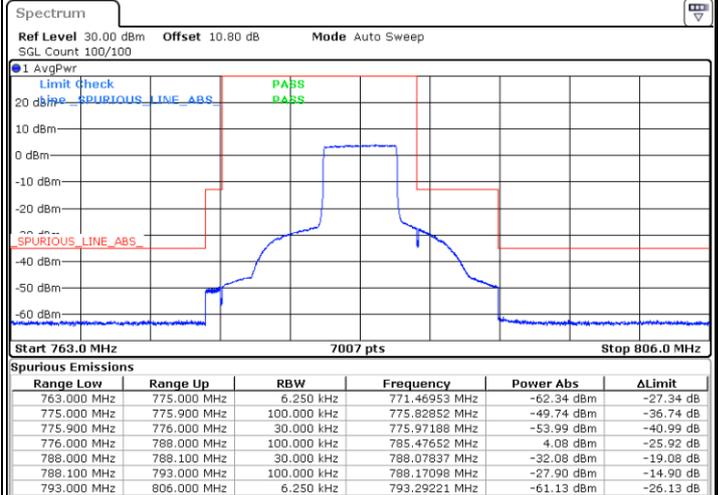
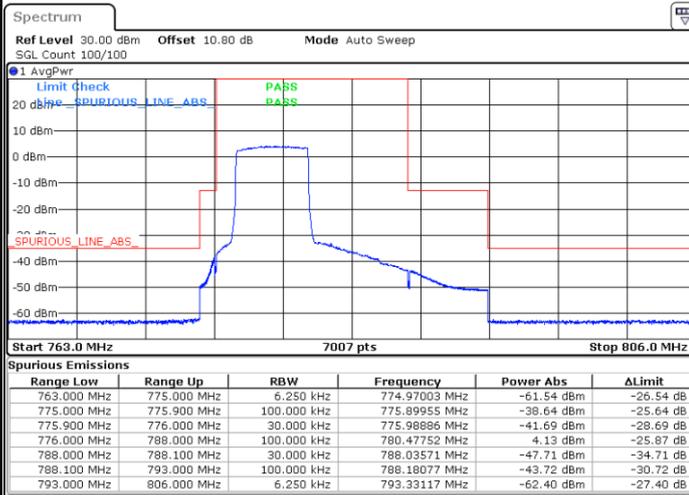


Date: 4 JAN 2020 06:39:47

Date: 4 JAN 2020 06:50:48

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 4 JAN 2020 06:38:06

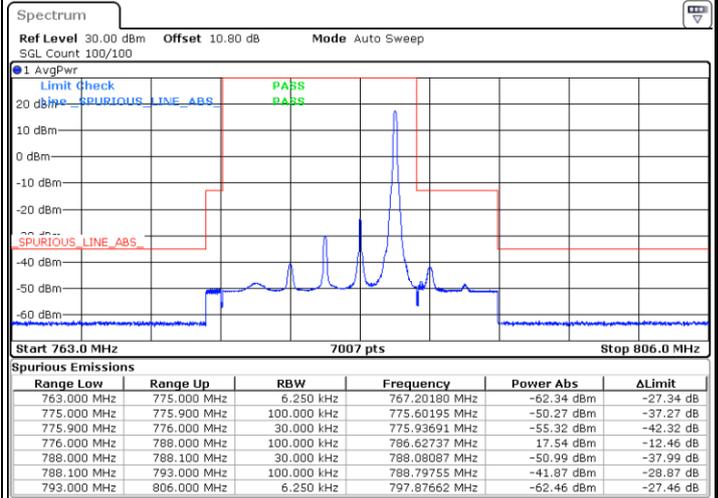
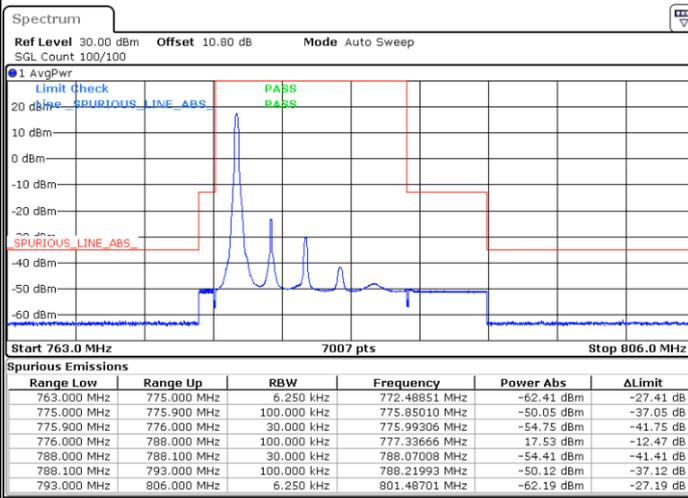
Date: 4 JAN 2020 06:49:07



LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

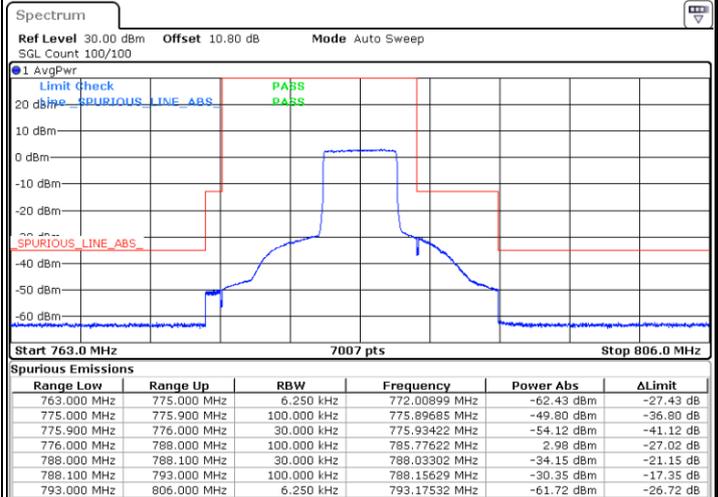
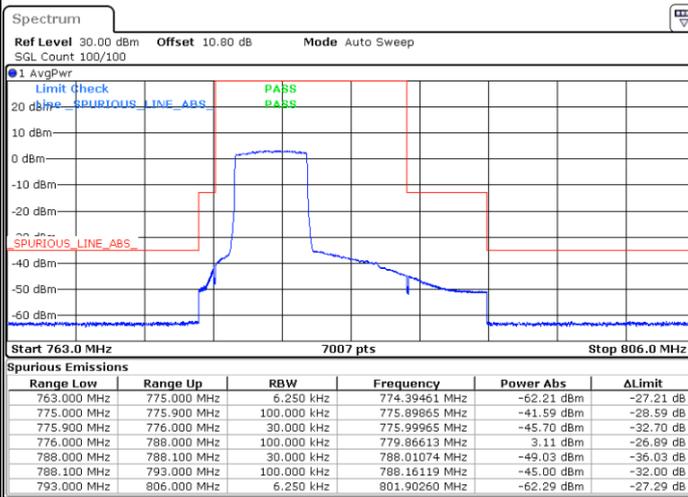


Date: 4 JAN 2020 06:57:36

Date: 4 JAN 2020 07:03:06

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



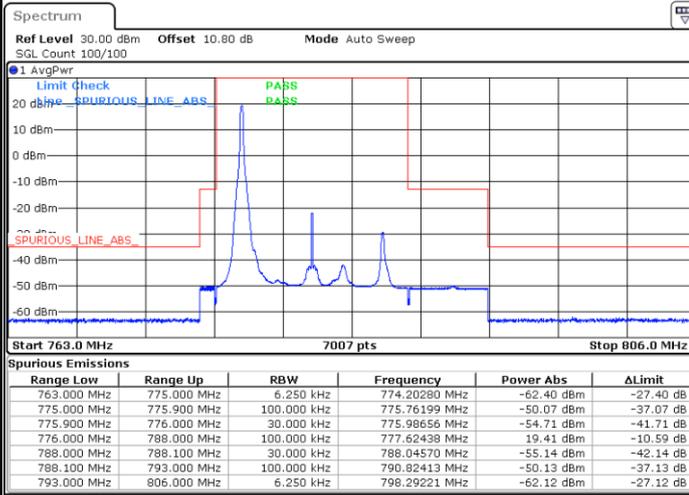
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Date: 4 JAN 2020 07:01:25



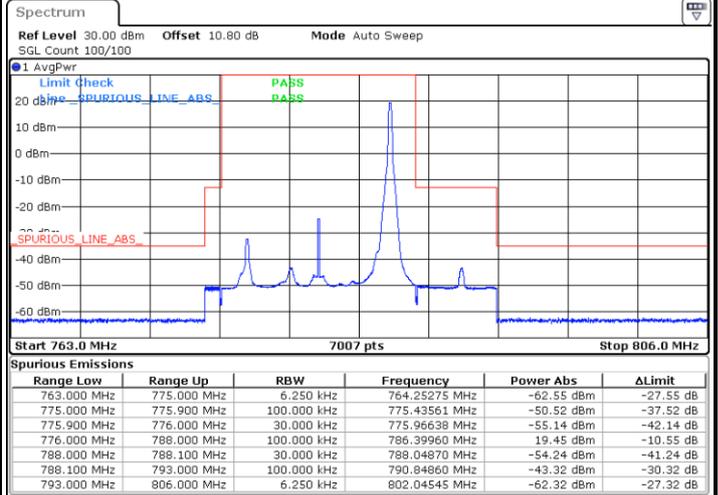
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



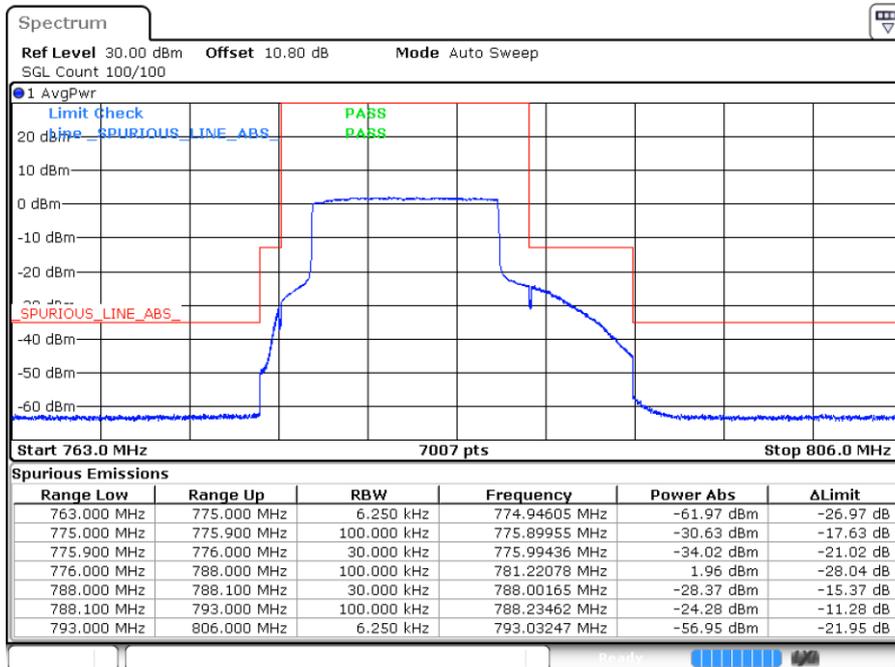
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Highest Band Edge / 1 RB



Date: 4 JAN 2020 07:12:55

Band Edge / Full RB

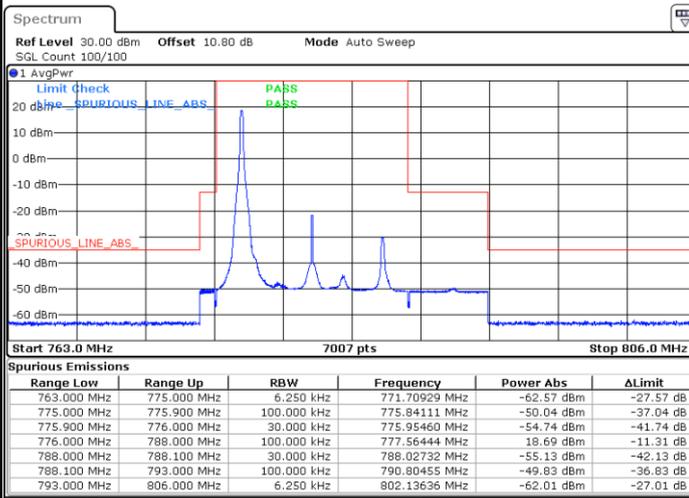


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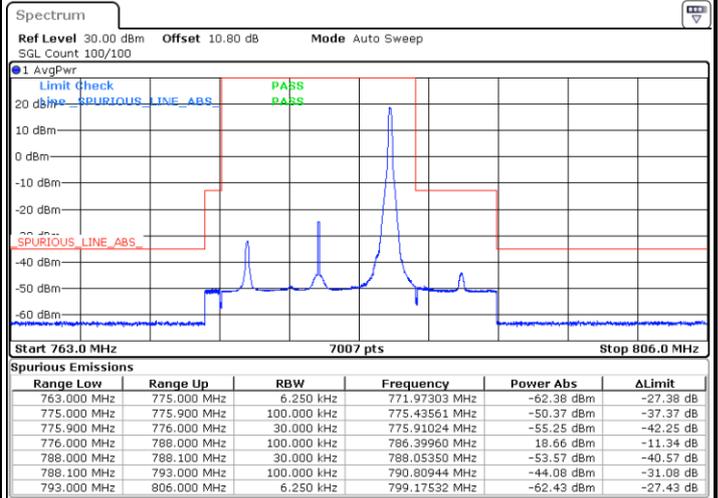
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



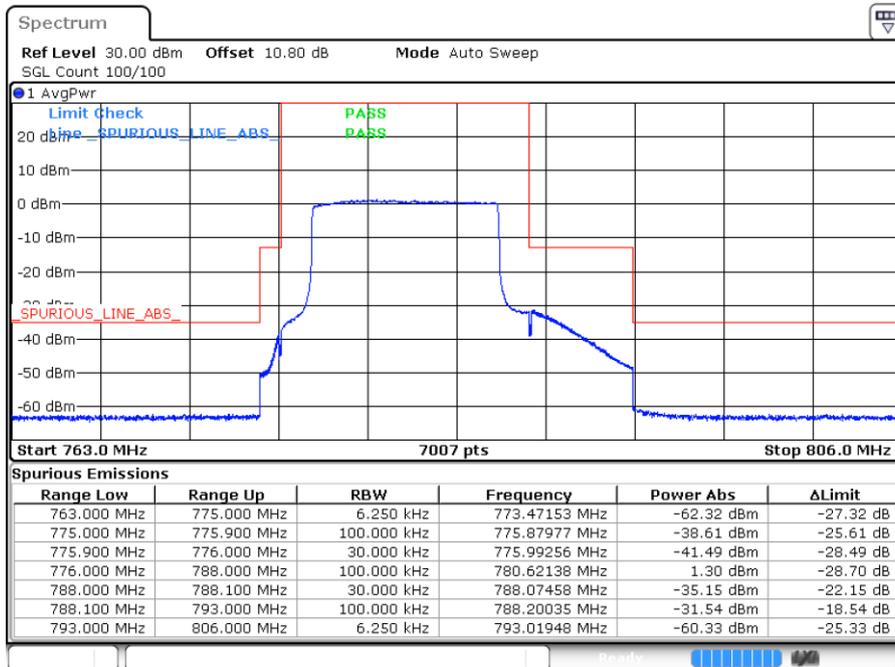
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Highest Band Edge / 1 RB



Date: 4 JAN 2020 07:14:35

Band Edge / Full RB

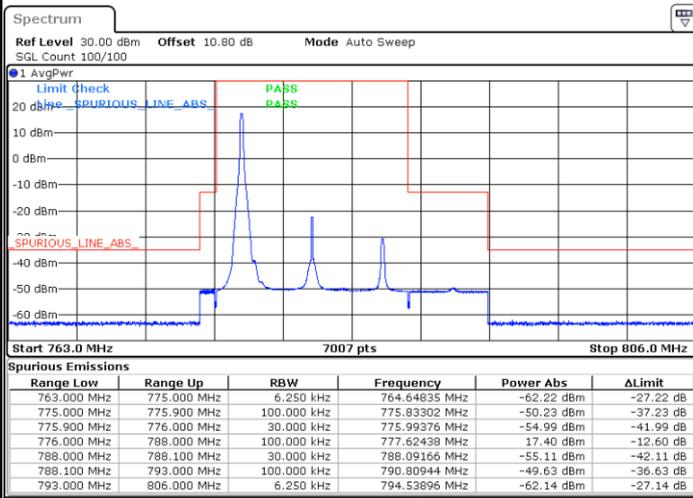


Date: 4 JAN 2020 07:07:54



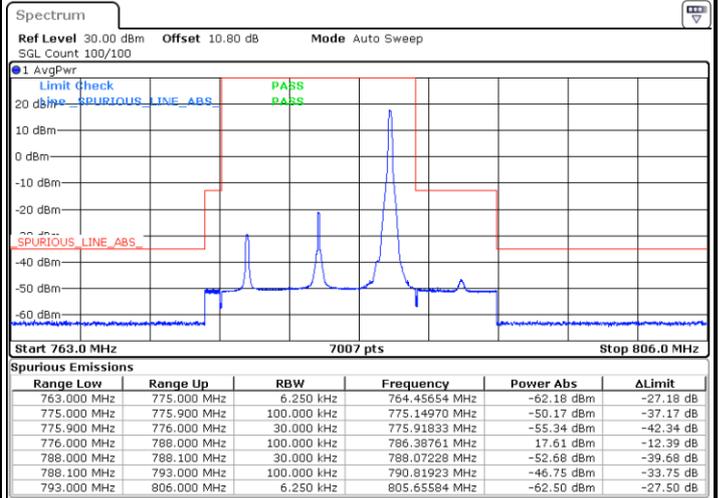
LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



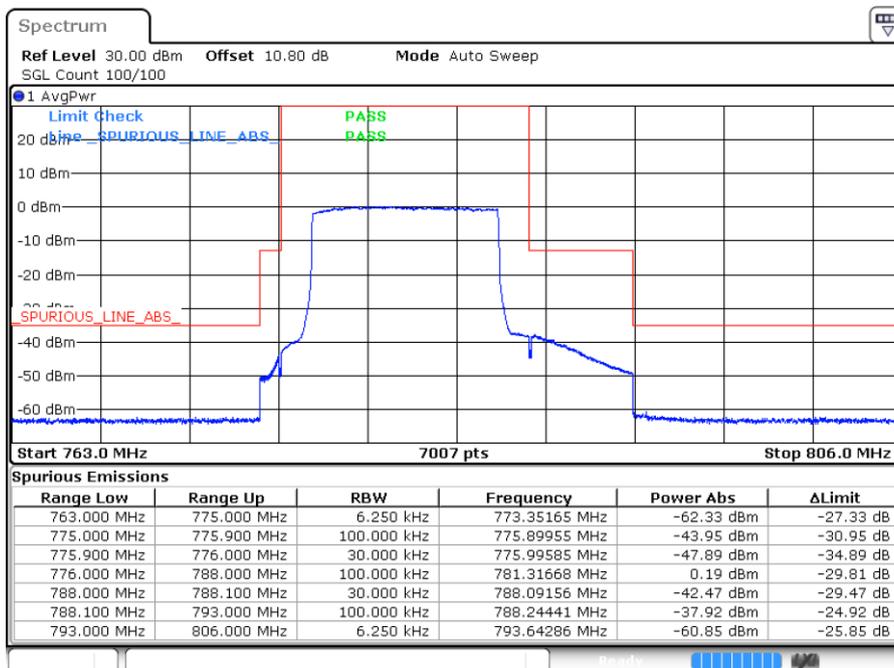
Date: 4 JAN 2020 07:19:39

Highest Band Edge / 1 RB



Date: 4 JAN 2020 07:21:20

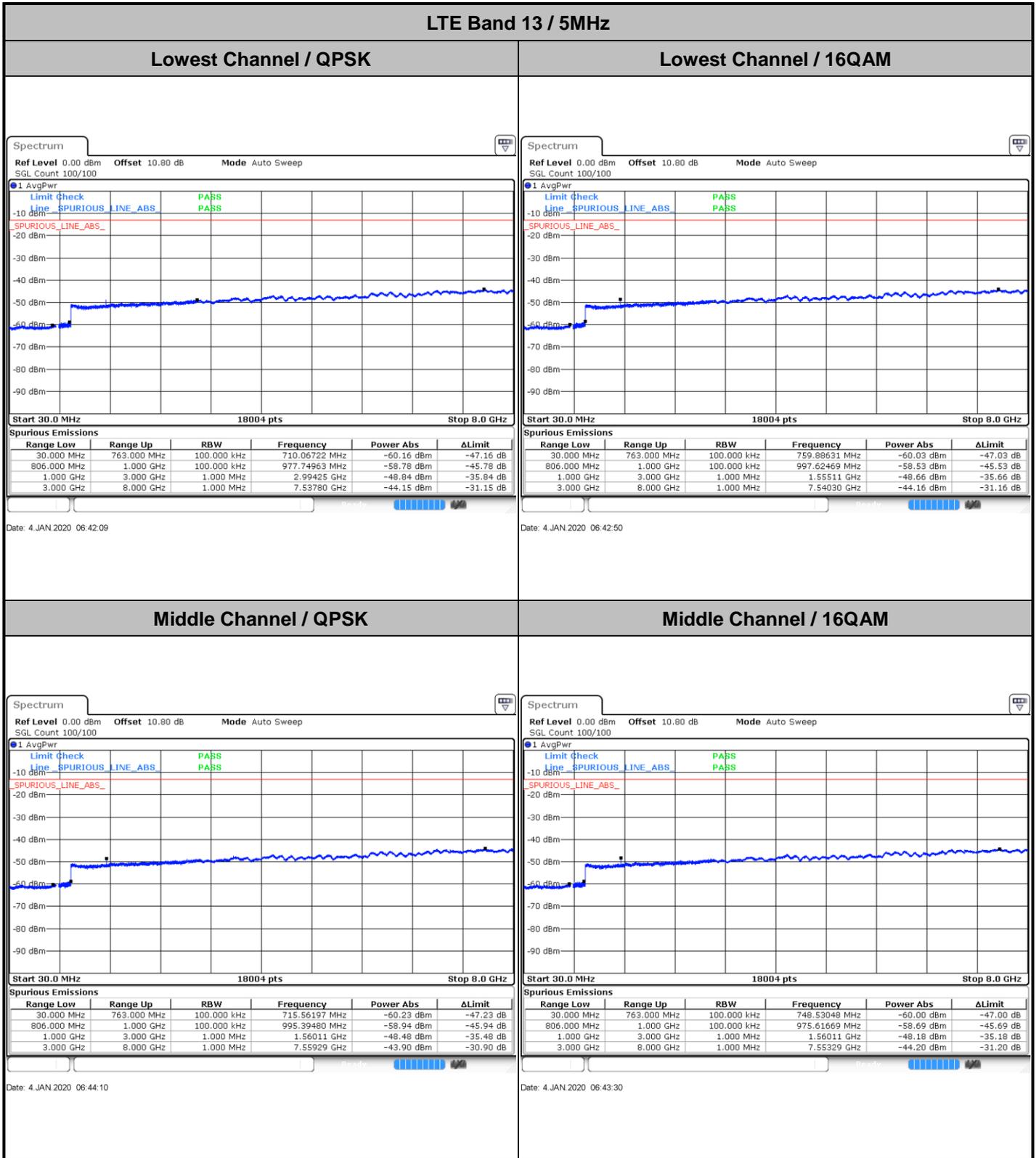
Band Edge / Full RB



Date: 4 JAN 2020 07:17:59



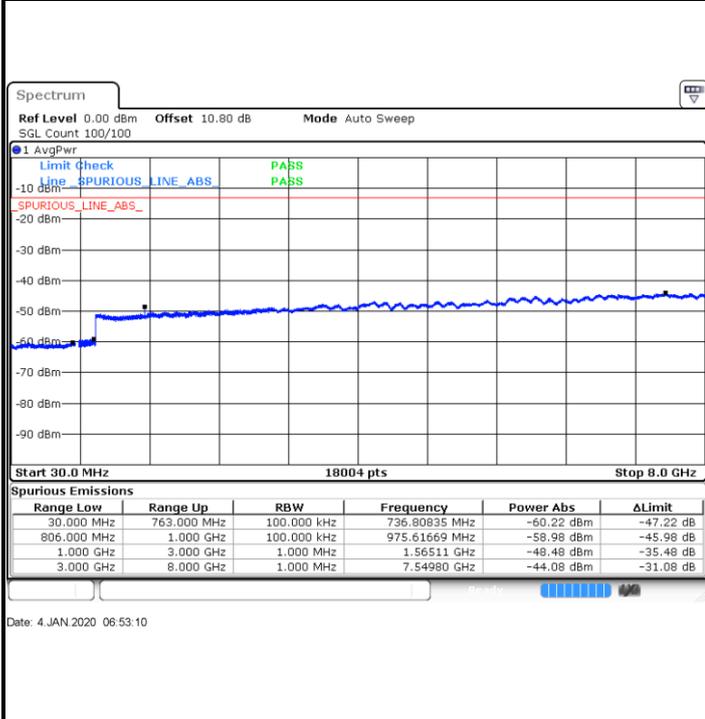
Conducted Spurious Emission



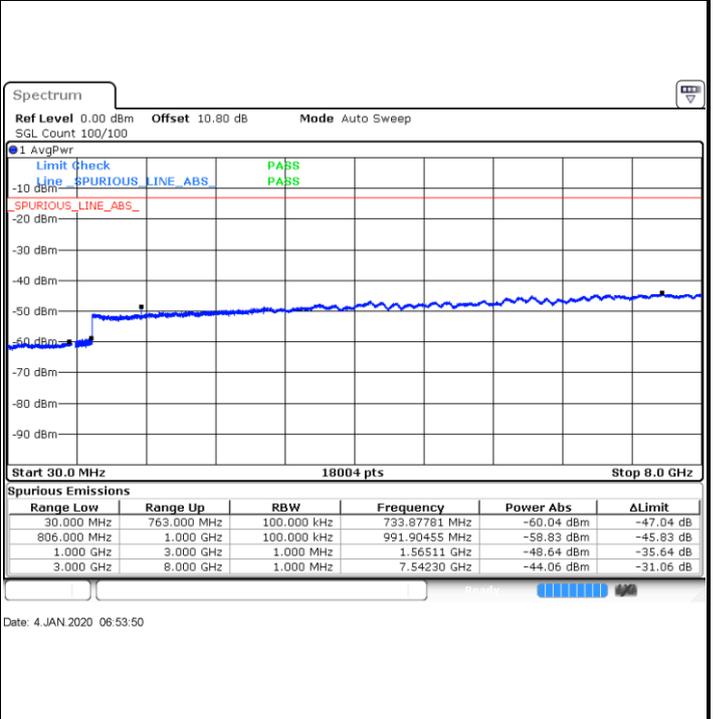


LTE Band 13 / 5MHz

Highest Channel / QPSK

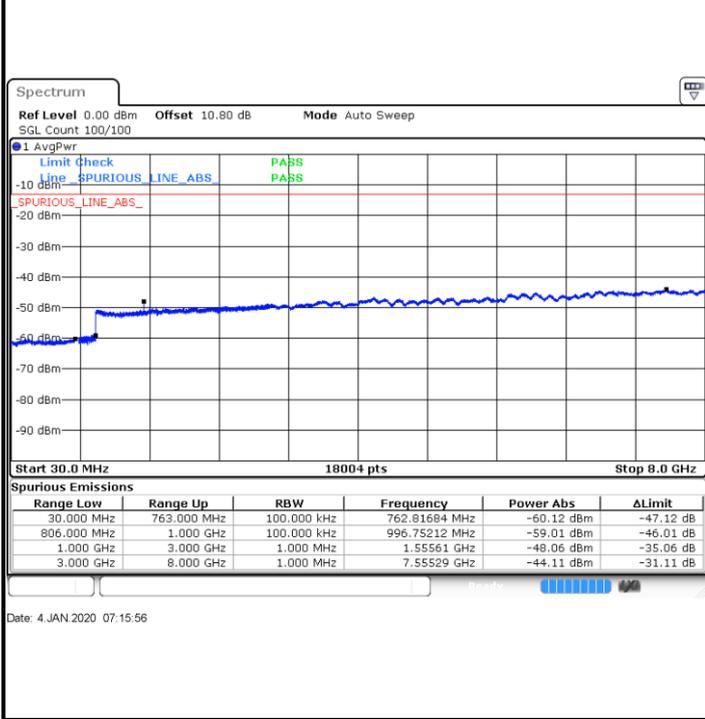


Highest Channel / 16QAM

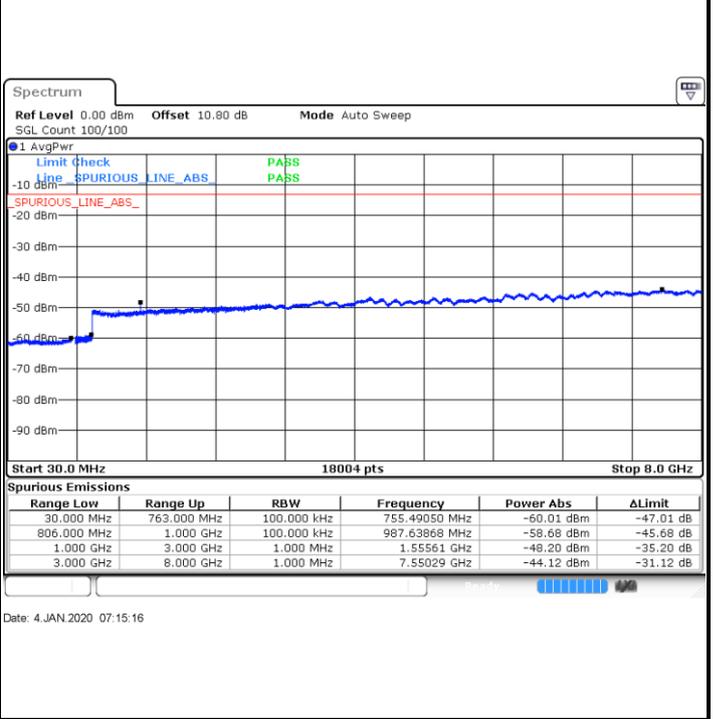


LTE Band 13 / 10MHz

Middle Channel / QPSK



Middle Channel / 16QAM

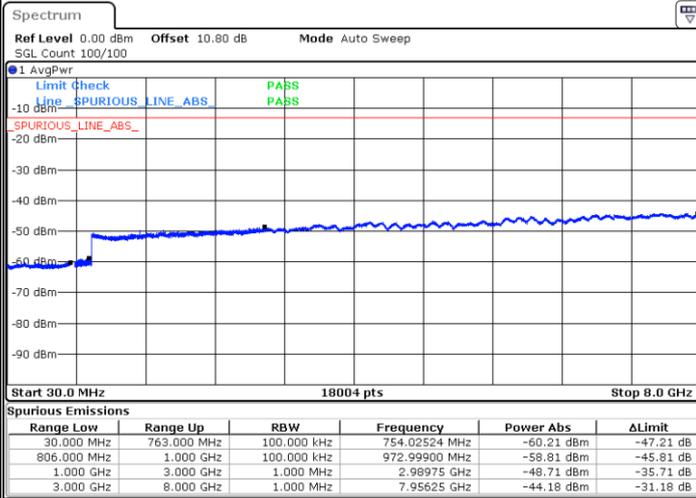




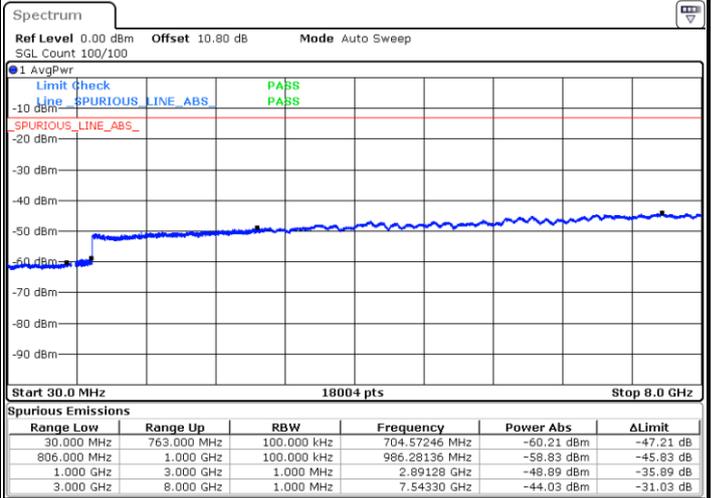
LTE Band 13 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

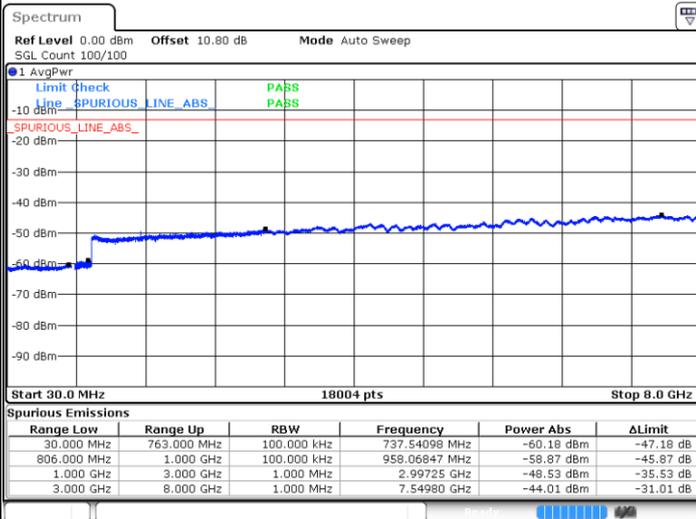


Date: 4 JAN 2020 06:58:17



Date: 4 JAN 2020 06:58:57

Highest Channel / 64QAM

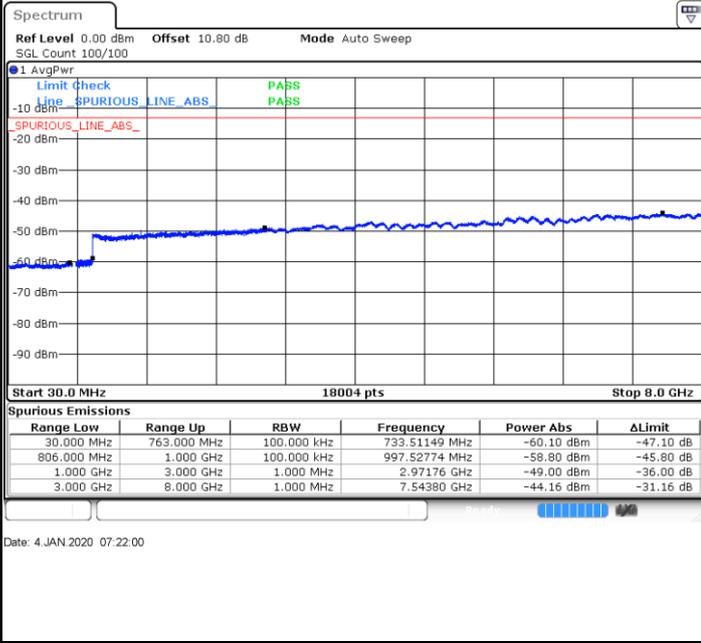


Date: 4 JAN 2020 07:03:47



LTE Band 13 / 10MHz

Middle Channel / 64QAM





Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0019	PASS
40	Normal Voltage	0.0160	
30	Normal Voltage	0.0138	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0086	
0	Normal Voltage	0.0026	
-10	Normal Voltage	0.0097	
-20	Normal Voltage	0.0047	
-30	Normal Voltage	0.0009	
20	Maximum Voltage	0.0059	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0029	

Note:

- 1. Normal Voltage =7.7 V. ; Battery End Point (BEP) =6.9 V. ; Maximum Voltage =8.5 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 17

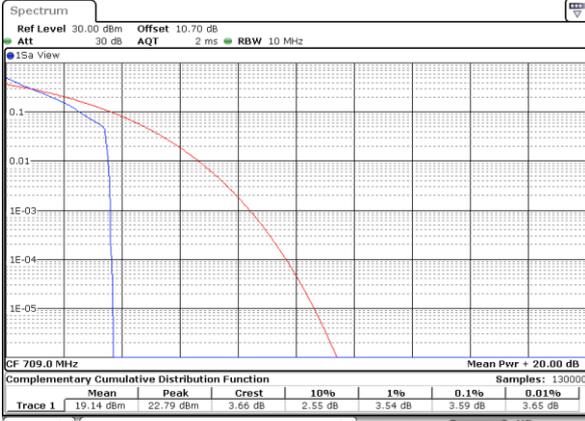
Peak-to-Average Ratio

Mode	LTE Band 17 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.59	4.81	4.99	5.83	PASS
Middle CH	3.62	4.87	5.28	5.80	
Highest CH	3.91	4.96	5.22	5.86	
Mode	LTE Band 17 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.12	6.26	-	-	PASS
Middle CH	6.70	6.29	-	-	
Highest CH	6.58	6.35	-	-	



LTE Band 17 / 10MHz / QPSK

Lowest Channel / 1RB



Date: 6 JAN 2020 10:43:16

Lowest Channel / Full RB



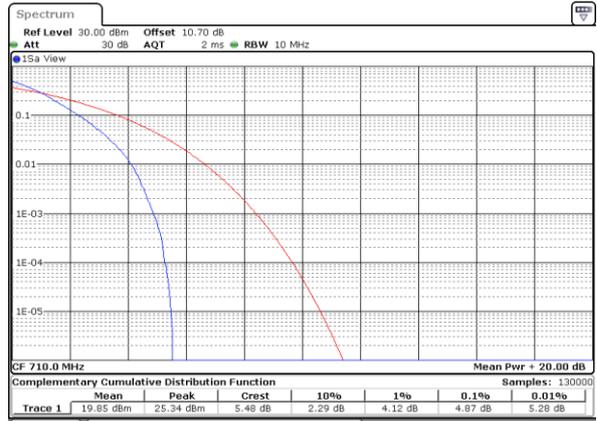
Date: 6 JAN 2020 10:43:31

Middle Channel / 1RB



Date: 6 JAN 2020 10:43:42

Middle Channel / Full RB



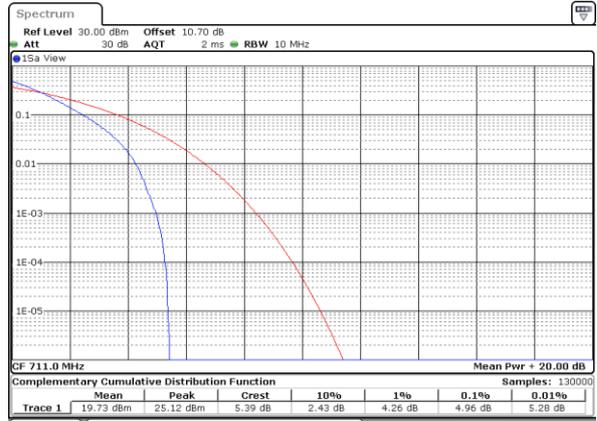
Date: 6 JAN 2020 10:43:53

Highest Channel / 1RB



Date: 6 JAN 2020 10:44:21

Highest Channel / Full RB

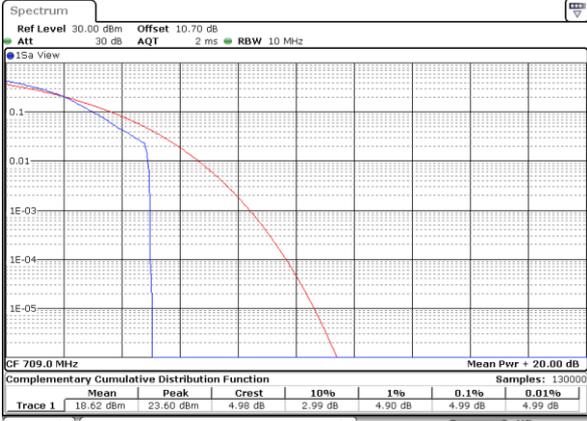


Date: 6 JAN 2020 10:44:32



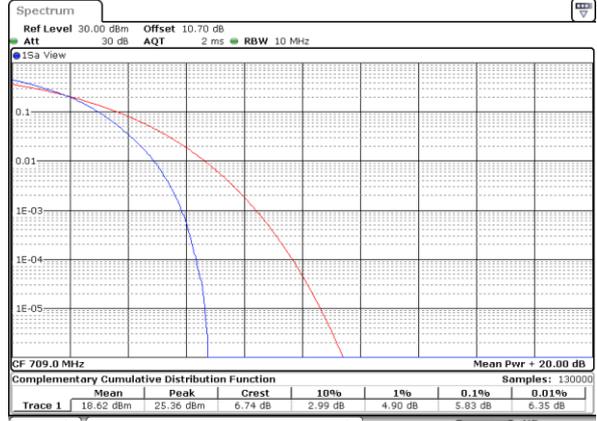
LTE Band 17 / 10MHz / 16QAM

Lowest Channel / 1RB



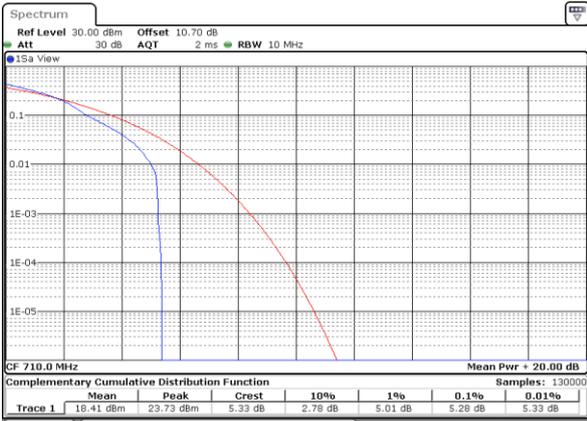
Date: 6 JAN 2020 10:36:49

Lowest Channel / Full RB



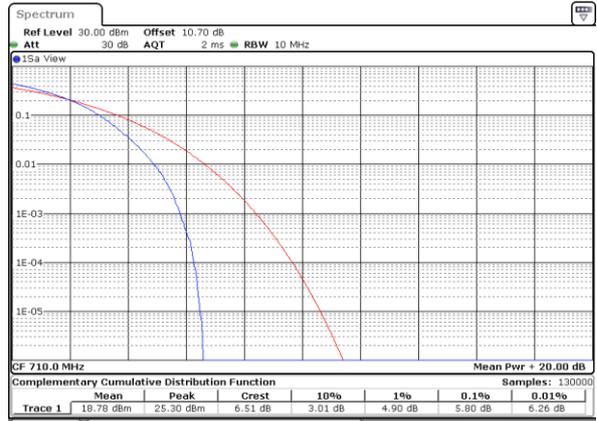
Date: 6 JAN 2020 10:37:49

Middle Channel / 1RB



Date: 6 JAN 2020 10:42:17

Middle Channel / Full RB



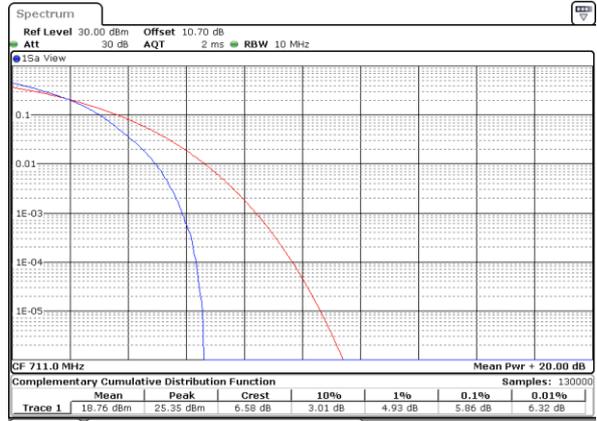
Date: 6 JAN 2020 10:42:29

Highest Channel / 1RB



Date: 6 JAN 2020 10:42:54

Highest Channel / Full RB

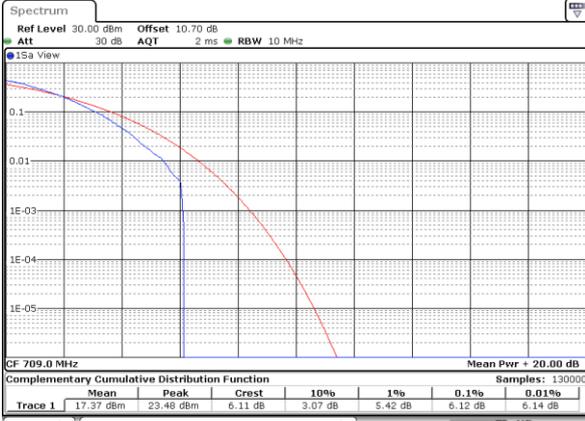


Date: 6 JAN 2020 10:43:05



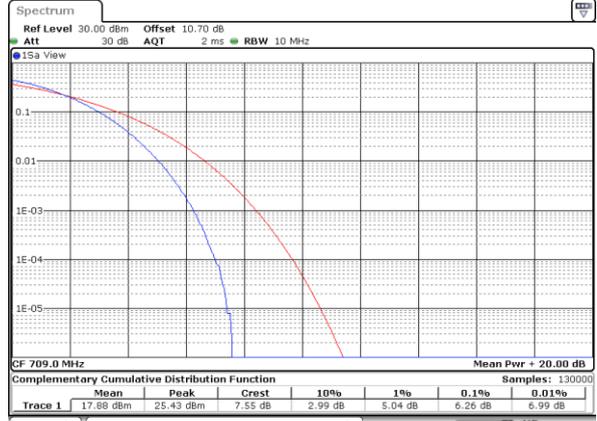
LTE Band 17 / 10MHz / 64QAM

Lowest Channel / 1RB



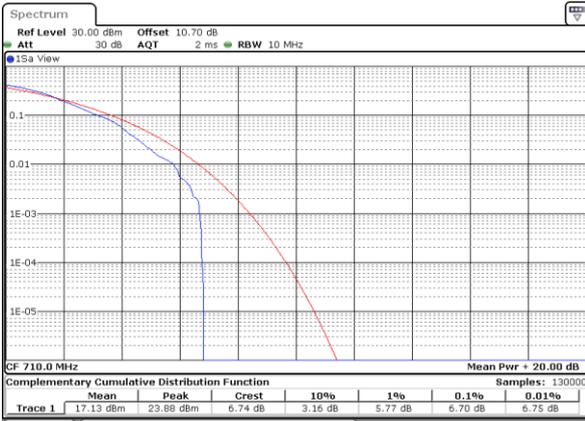
Date: 6 JAN 2020 10:44:43

Lowest Channel / Full RB



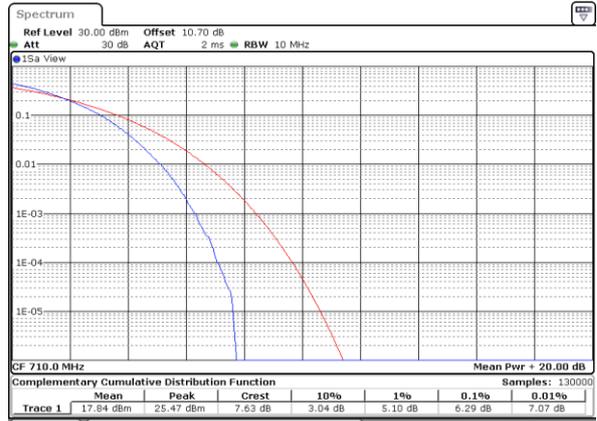
Date: 6 JAN 2020 10:44:54

Middle Channel / 1RB



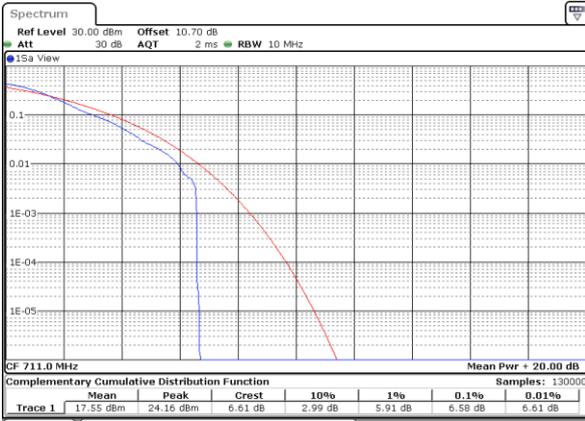
Date: 6 JAN 2020 10:45:04

Middle Channel / Full RB



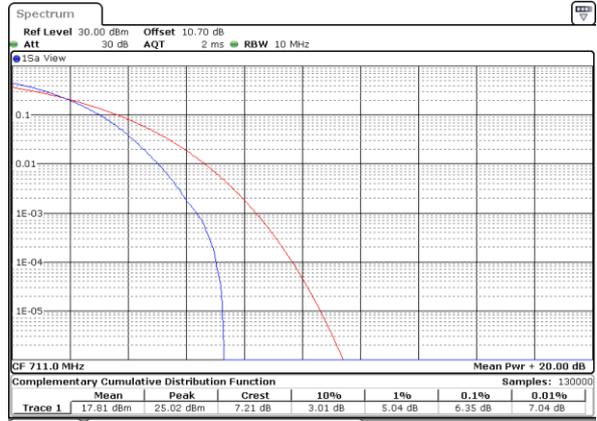
Date: 6 JAN 2020 10:45:15

Highest Channel / 1RB



Date: 6 JAN 2020 10:45:26

Highest Channel / Full RB



Date: 6 JAN 2020 10:45:37



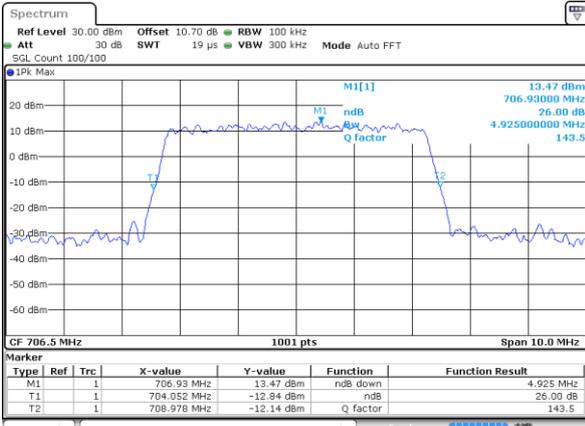
26dB Bandwidth

Mode	LTE Band 17 : 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	4.94	9.67	9.71	-	-	-	-
Middle CH	-	-	-	-	4.88	4.84	9.81	9.69	-	-	-	-
Highest CH	-	-	-	-	4.87	4.82	9.83	9.67	-	-	-	-
Mode	LTE Band 17 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.85	-	9.89	-	-	-	-	-
Middle CH	-	-	-	-	4.94	-	9.79	-	-	-	-	-
Highest CH	-	-	-	-	4.82	-	9.79	-	-	-	-	-



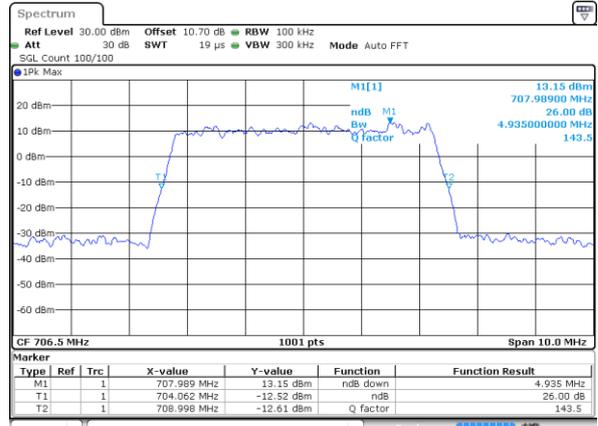
LTE Band 17

Lowest Channel / 5MHz / QPSK



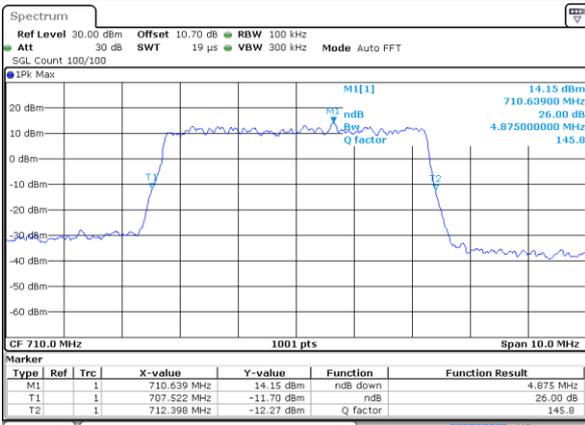
Date: 6 JAN 2020 09:50:48

Lowest Channel / 5MHz / 16QAM



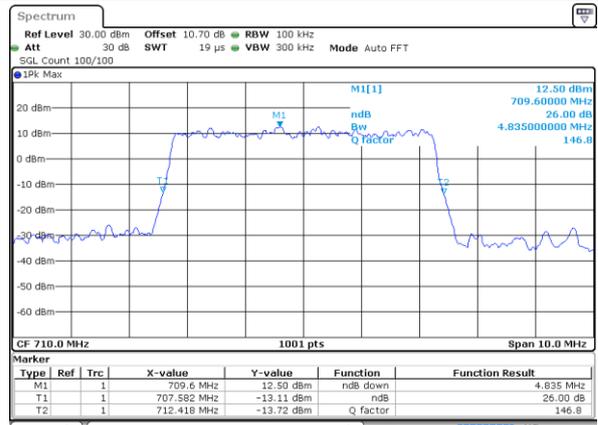
Date: 6 JAN 2020 09:51:00

Middle Channel / 5MHz / QPSK



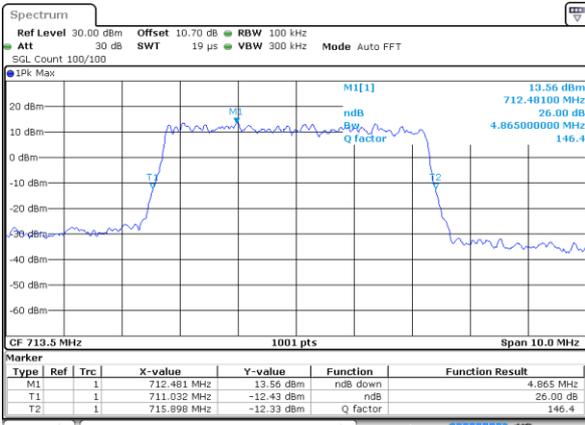
Date: 6 JAN 2020 09:57:02

Middle Channel / 5MHz / 16QAM



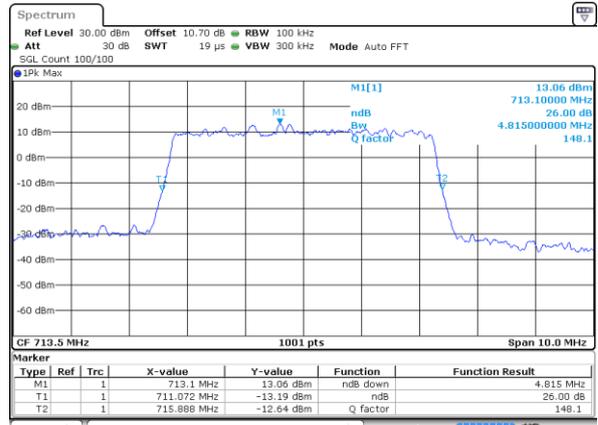
Date: 6 JAN 2020 09:57:13

Highest Channel / 5MHz / QPSK



Date: 6 JAN 2020 09:59:10

Highest Channel / 5MHz / 16QAM



Date: 6 JAN 2020 09:59:22