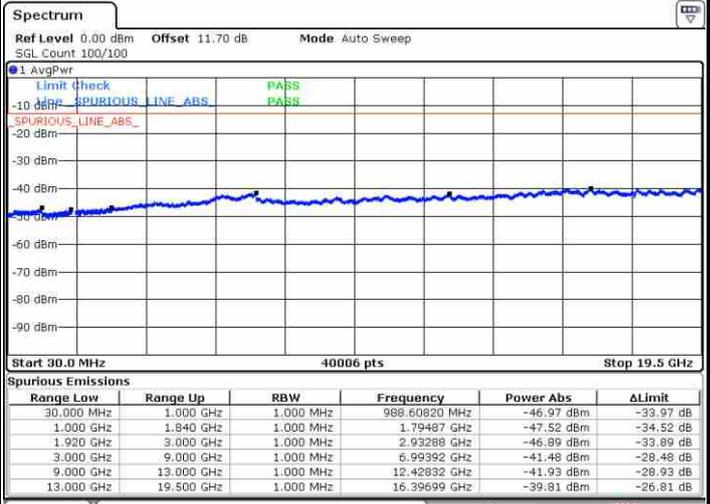




LTE Band 2 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

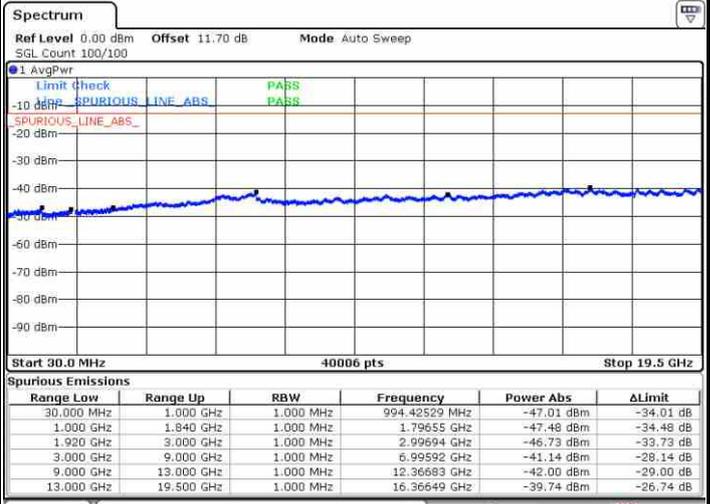
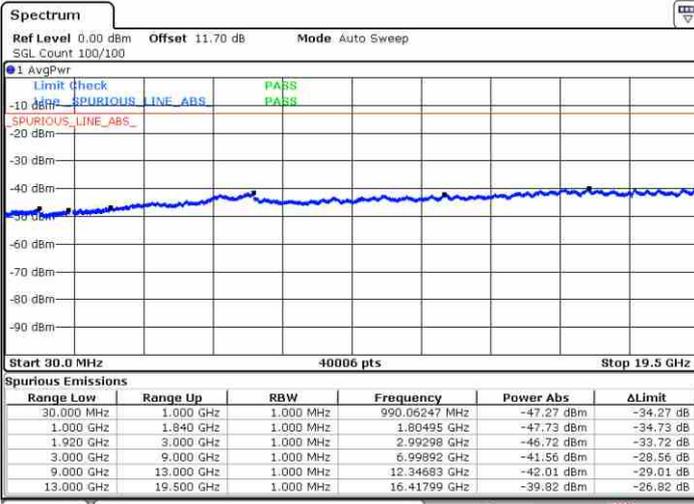


Date: 9.FEB.2018 01:10:25

Date: 9.FEB.2018 01:11:18

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 9.FEB.2018 01:18:17

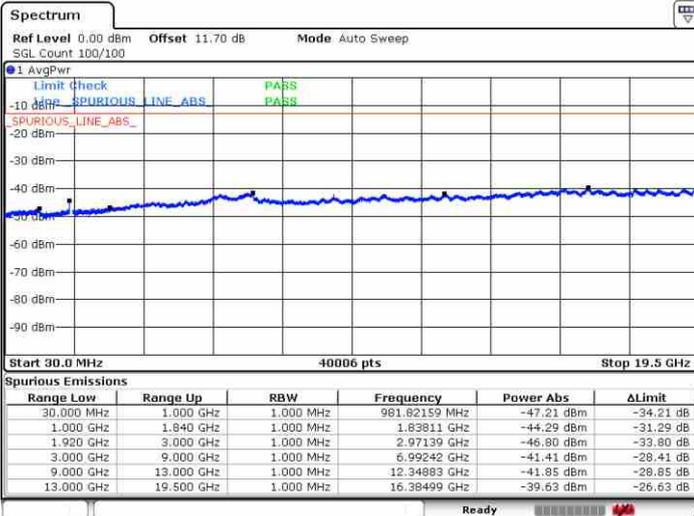
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LTE Band 2 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

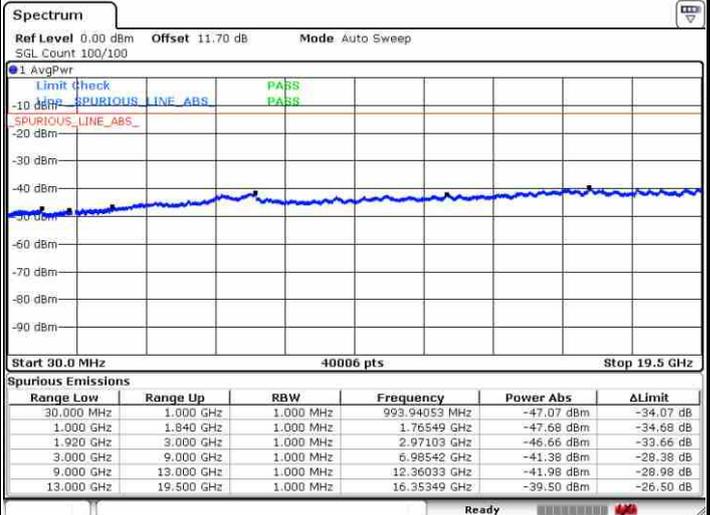
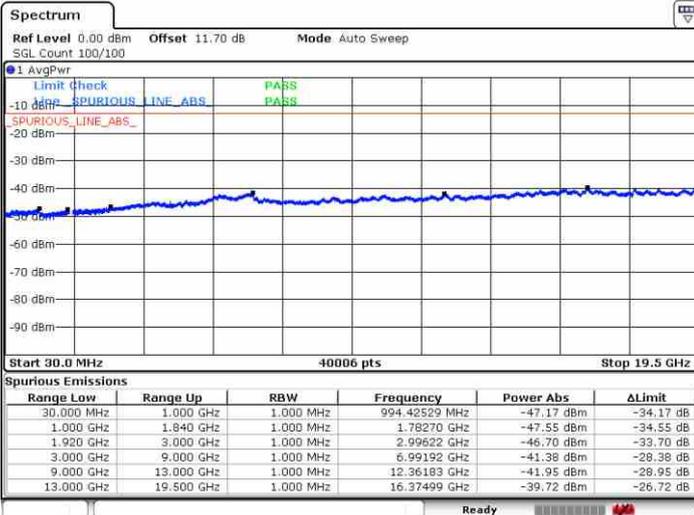


Date: 9.FEB.2018 01:25:30

Date: 9.FEB.2018 01:26:24

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 9.FEB.2018 01:28:07

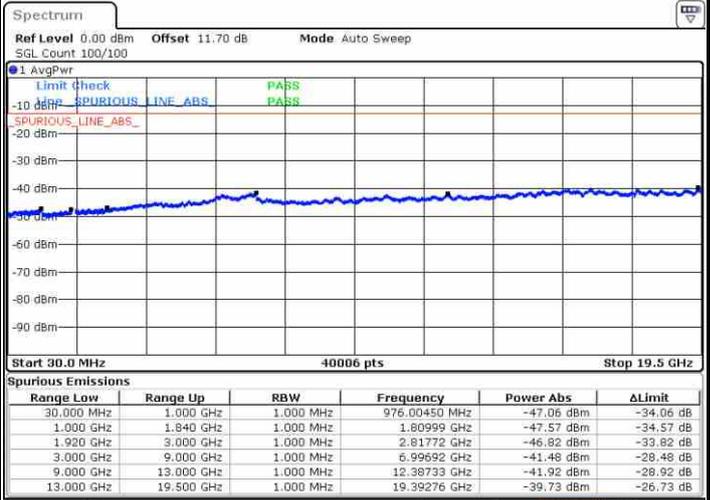
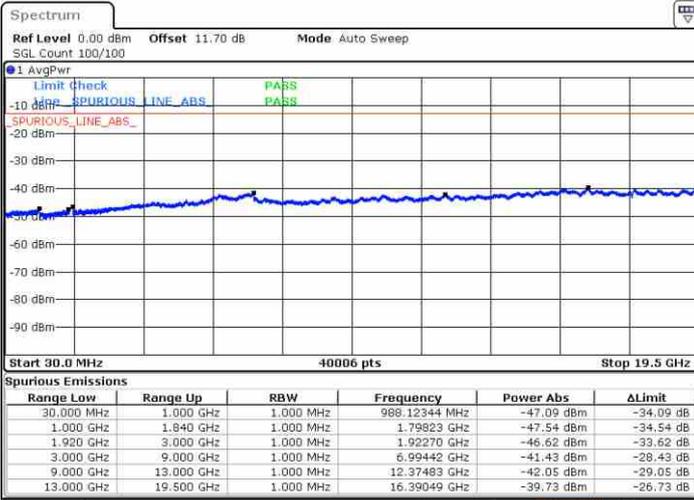
Date: 9.FEB.2018 01:29:01



LTE Band 2 / 15MHz

Highest Channel / QPSK

Highest Channel / 16QAM



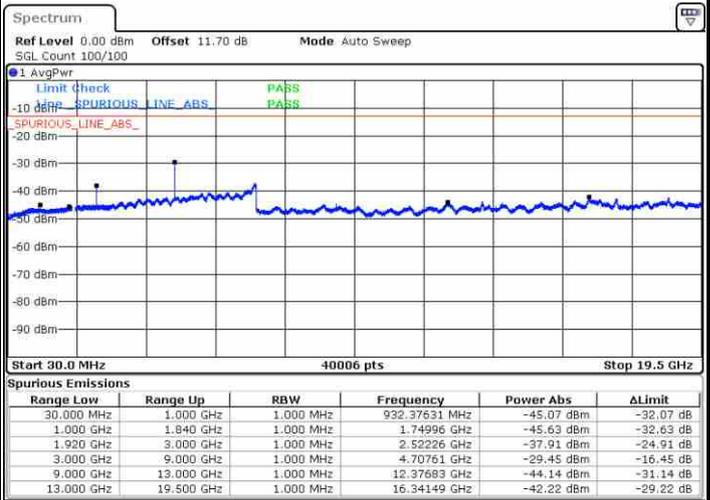
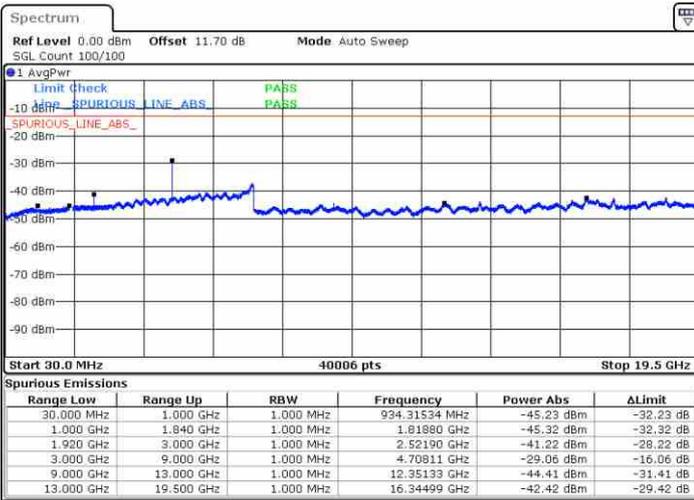
Date: 9.FEB.2018 01:41:08

Date: 9.FEB.2018 01:42:29

LTE Band 2 / 20MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 9.FEB.2018 21:21:45

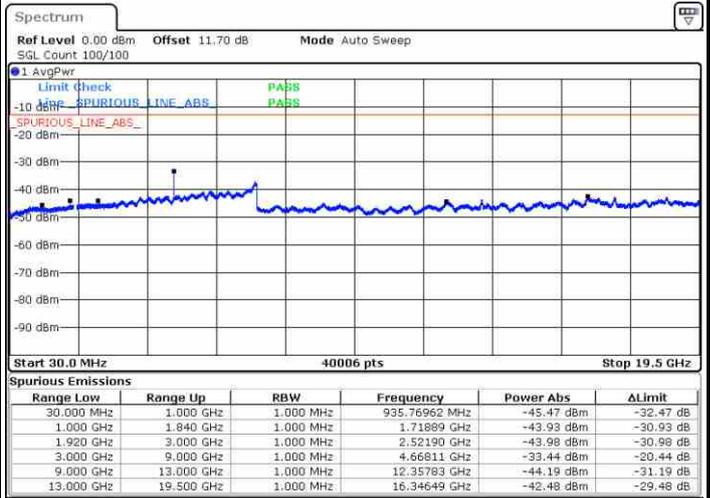
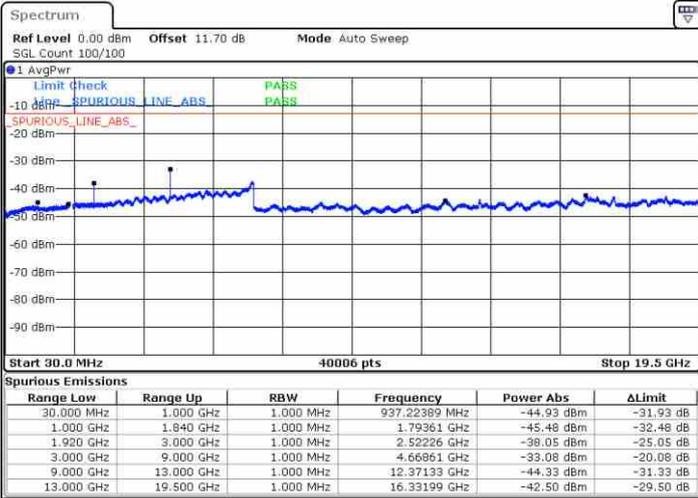
Date: 9.FEB.2018 21:22:43



LTE Band 2 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

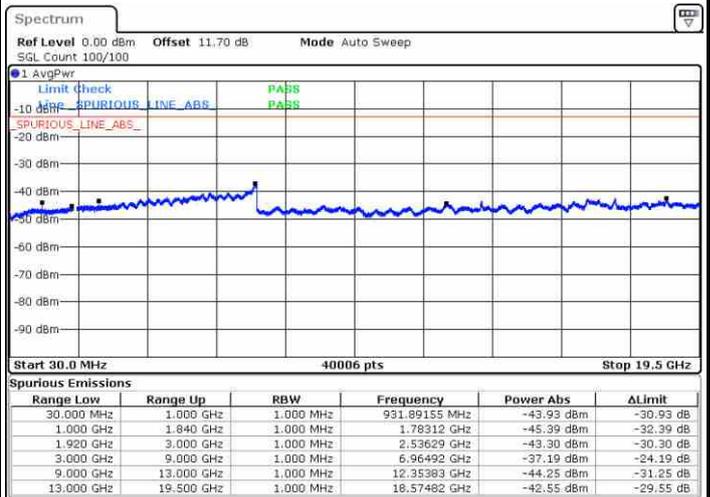
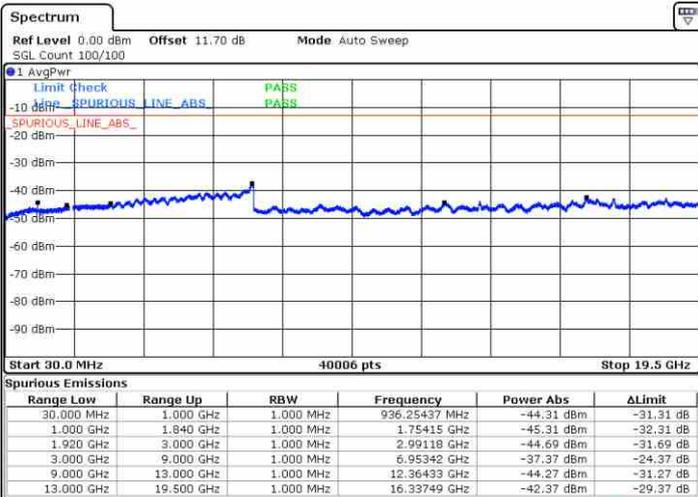


Date: 9.FEB.2018 21:24:30

Date: 9.FEB.2018 21:25:30

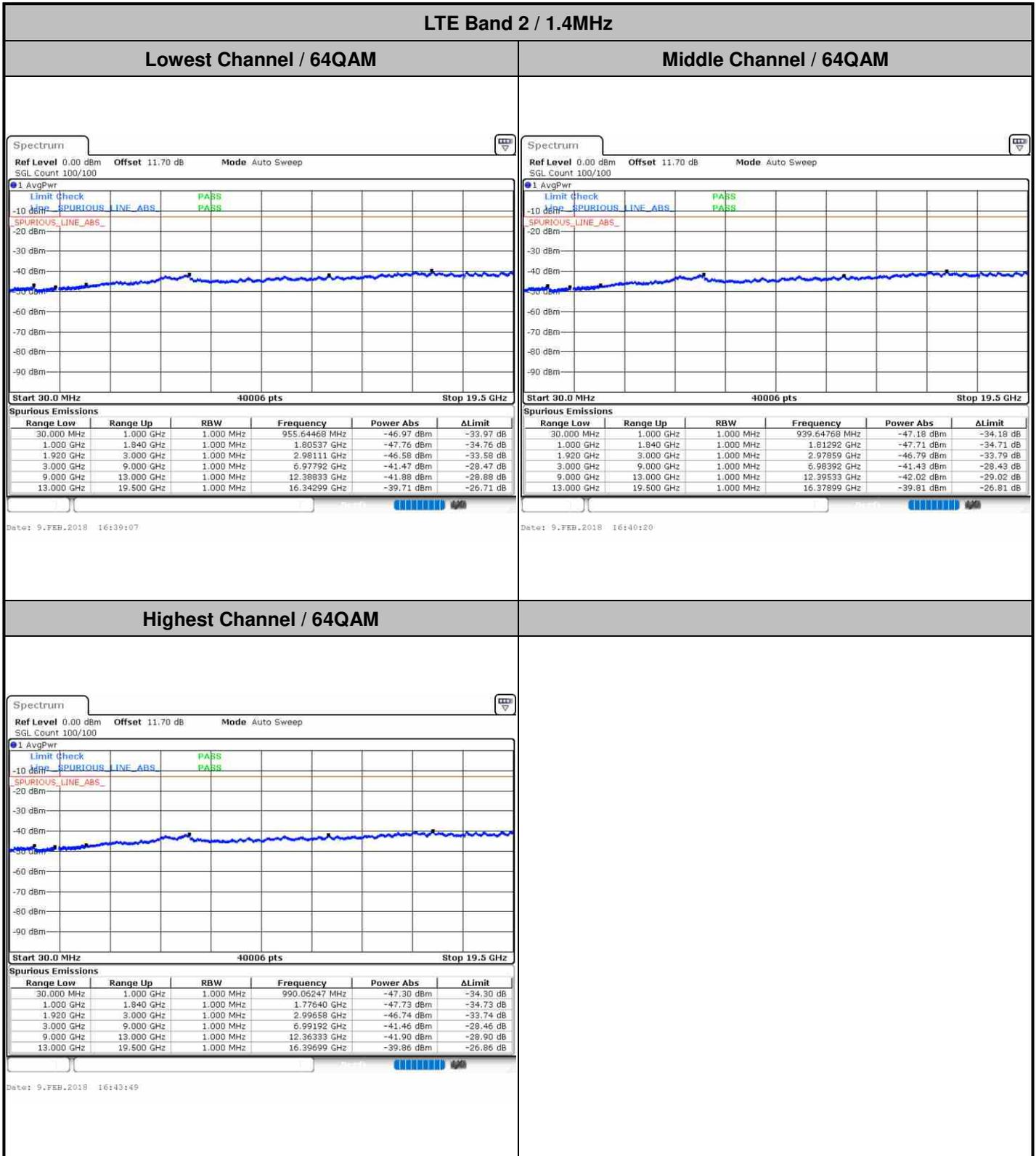
Highest Channel / QPSK

Highest Channel / 16QAM



Date: 9.FEB.2018 21:31:57

Date: 9.FEB.2018 21:32:59

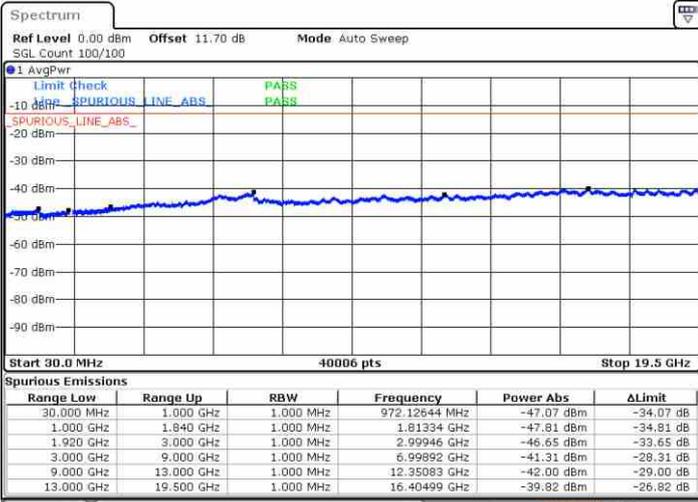




LTE Band 2 / 3MHz

Lowest Channel / 64QAM

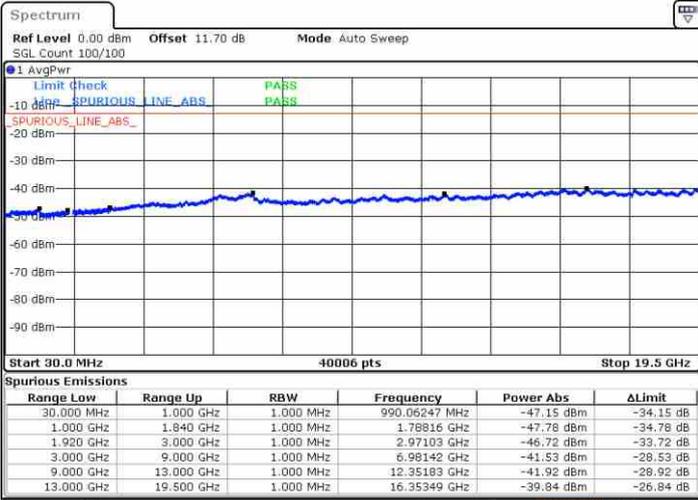
Middle Channel / 64QAM



Date: 9.FEB.2018 16:02:20

Date: 9.FEB.2018 16:03:33

Highest Channel / 64QAM

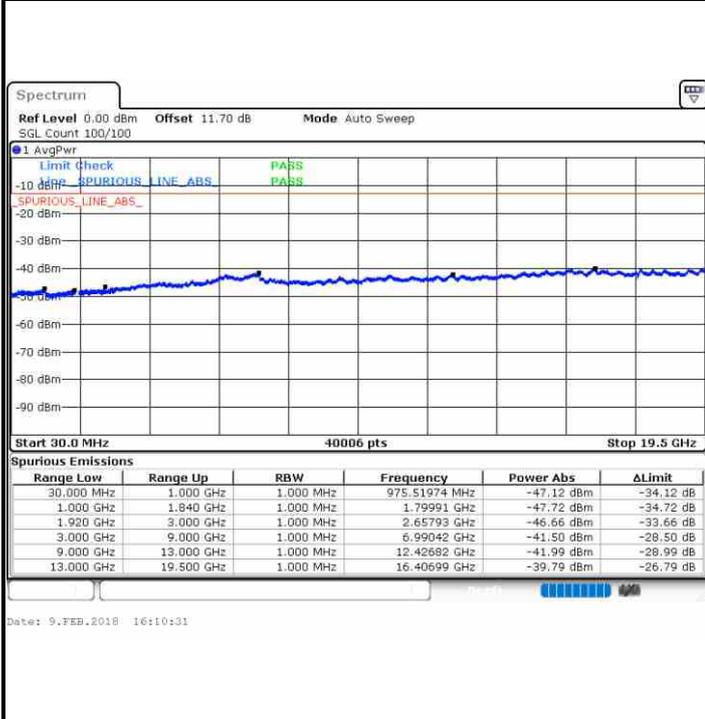


Date: 9.FEB.2018 16:07:02

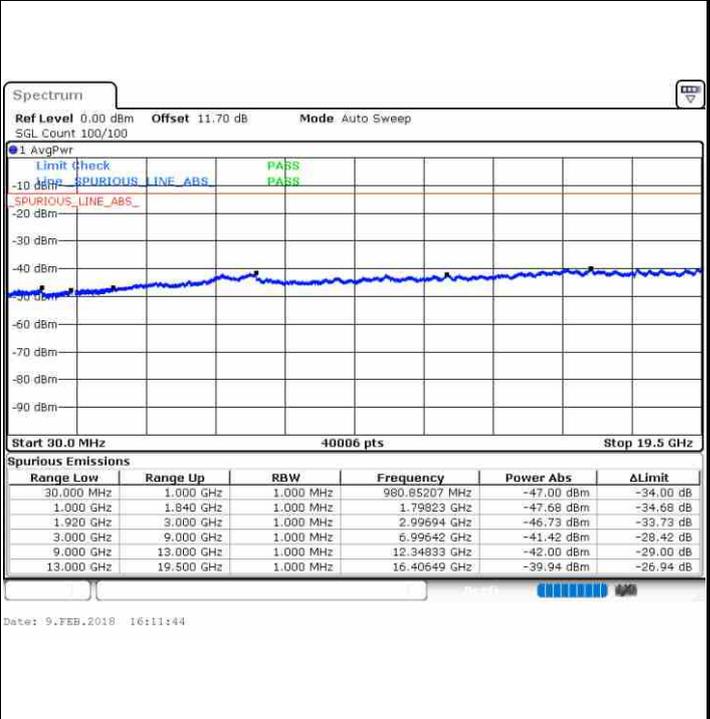


LTE Band 2 / 5MHz

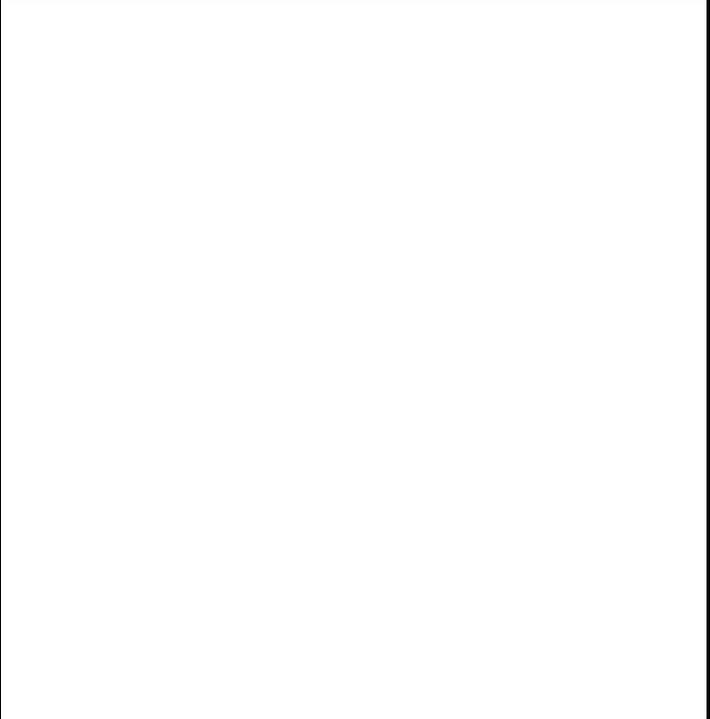
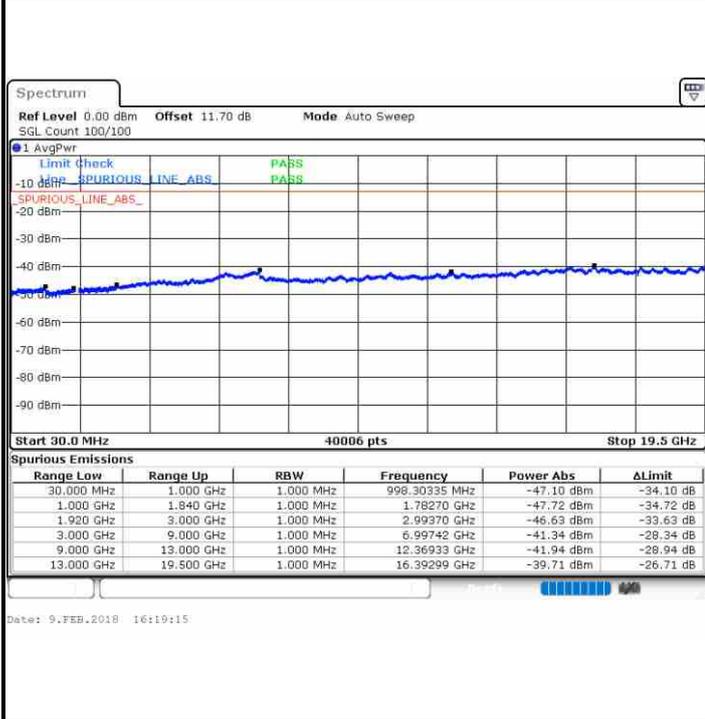
Lowest Channel / 64QAM



Middle Channel / 64QAM



Highest Channel / 64QAM

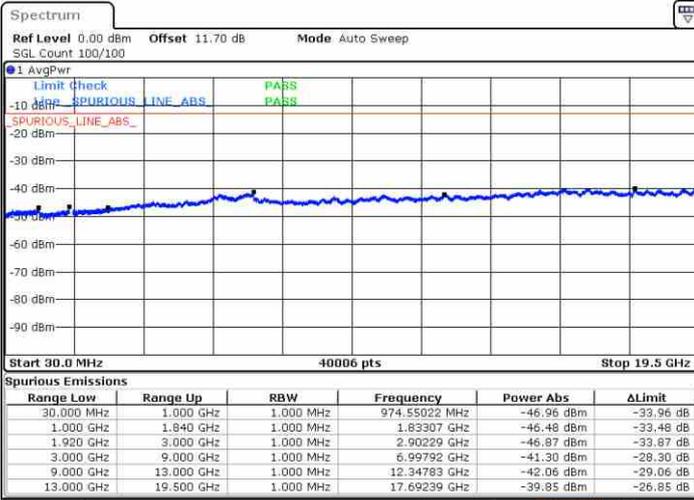




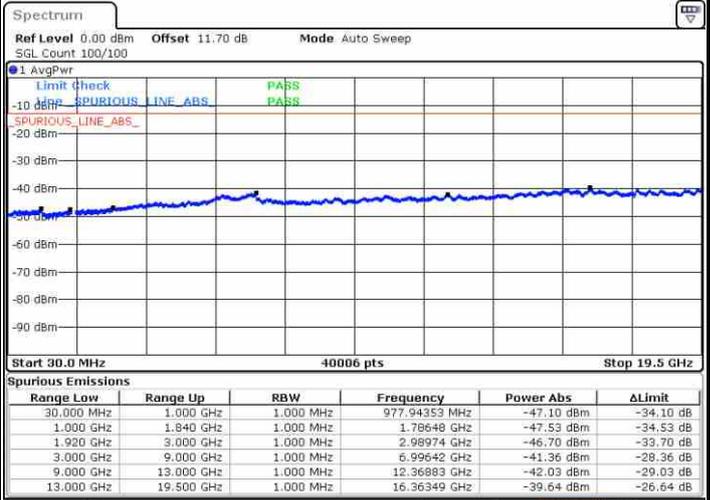
LTE Band 2 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

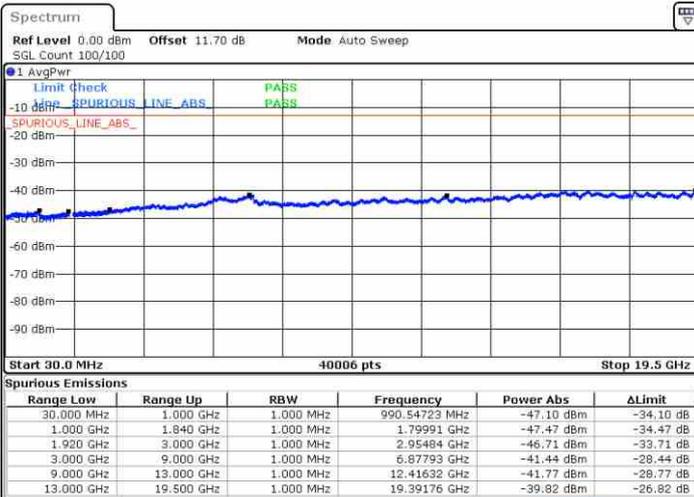


Date: 9.FEB.2018 16:22:44



Date: 9.FEB.2018 16:23:58

Highest Channel / 64QAM

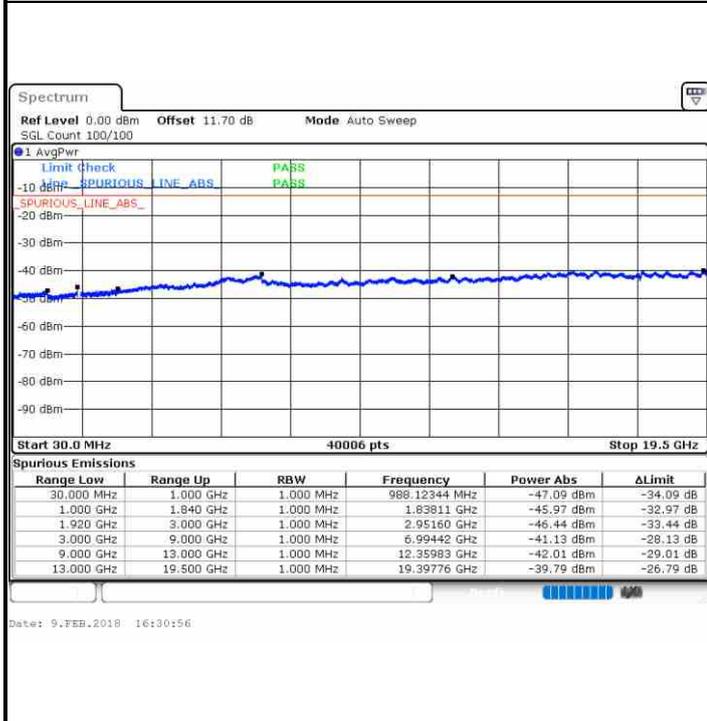


Date: 9.FEB.2018 16:27:27



LTE Band 2 / 15MHz

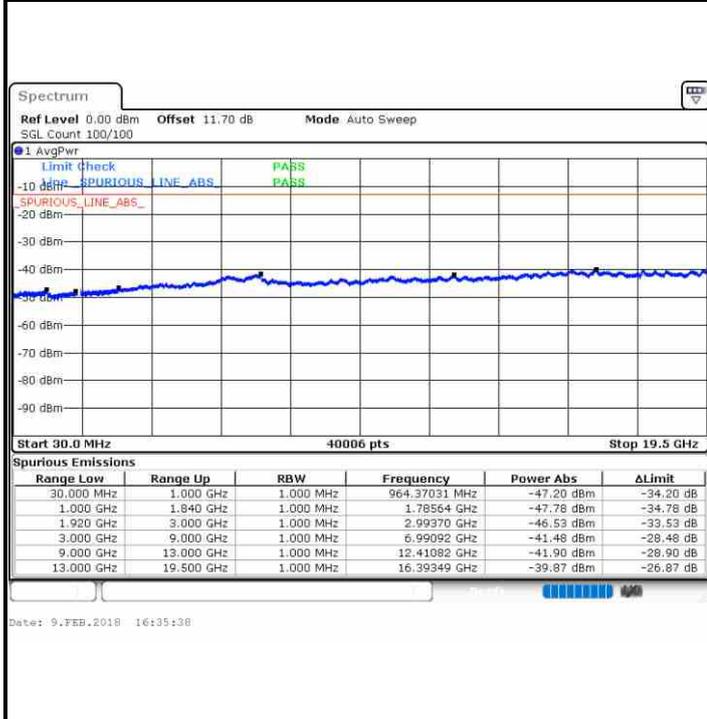
Lowest Channel / 64QAM



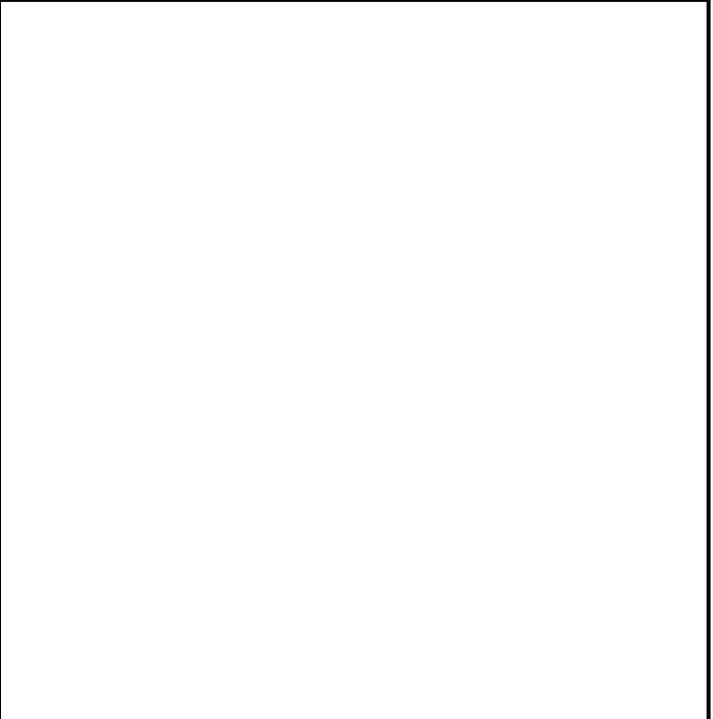
Middle Channel / 64QAM



Highest Channel / 64QAM



Highest Channel / 64QAM

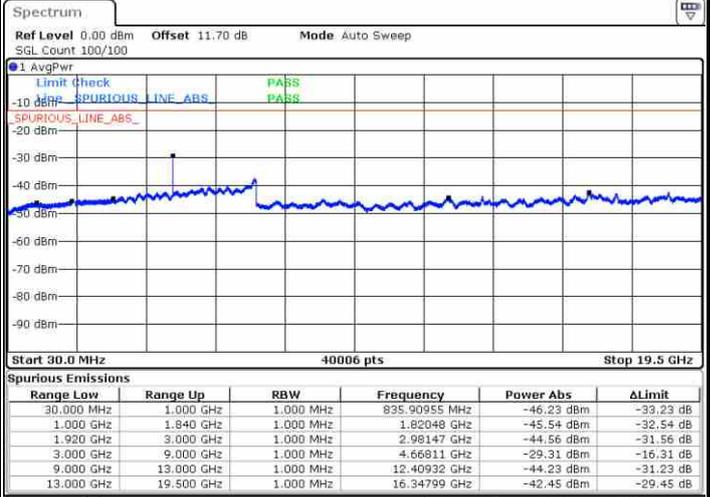
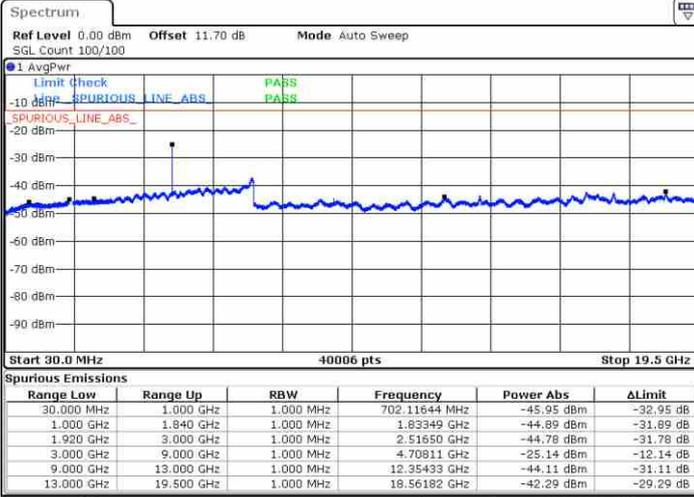




LTE Band 2 / 20MHz

Lowest Channel / 64QAM

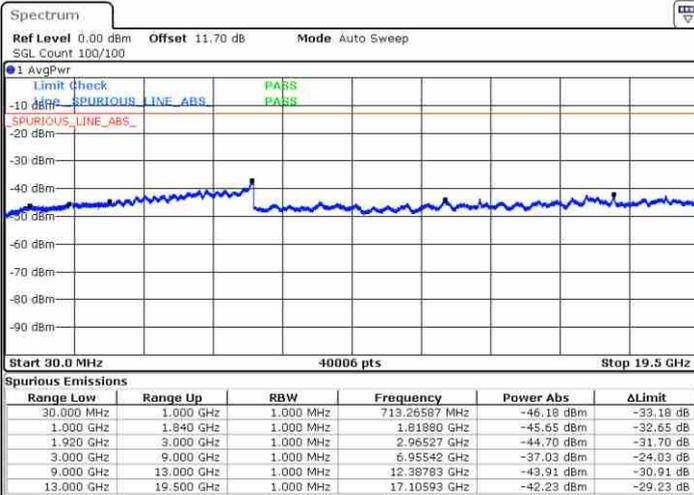
Middle Channel / 64QAM



Date: 9.FEB.2018 22:27:35

Date: 9.FEB.2018 22:28:58

Highest Channel / 64QAM



Date: 9.FEB.2018 22:32:44



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	0.0009	PASS
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0080	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0073	
0	Normal Voltage	0.0077	
-10	Normal Voltage	0.0074	
-20	Normal Voltage	0.0004	
-30	Normal Voltage	0.0072	
20	Maximum Voltage	0.0066	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0003	

Note:

- 3. Normal Voltage =3.82 V. ; Battery End Point (BEP) =3.6 V. ; Maximum Voltage =4.4 V.
- 4. Note: The frequency fundamental emissions stay within the authorized frequency block.



A4. LTE Band 4

<For Up Antenna>

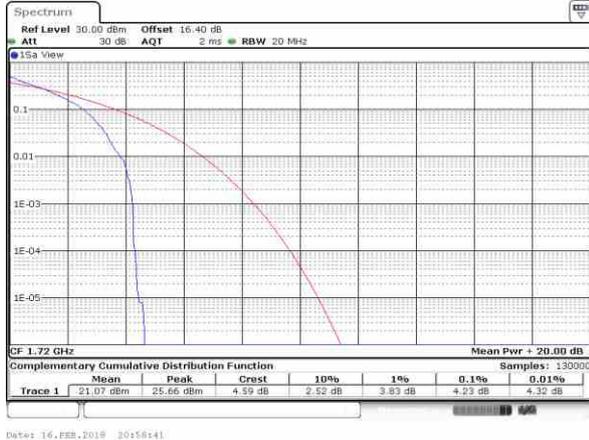
Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.23	4.75	5.04	5.59	PASS
Middle CH	3.62	4.99	4.58	5.88	
Highest CH	4.23	5.04	5.48	5.91	
Mode	LTE Band 4 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.80	6.32	-	-	PASS
Middle CH	5.07	6.14	-	-	
Highest CH	6.23	5.94	-	-	

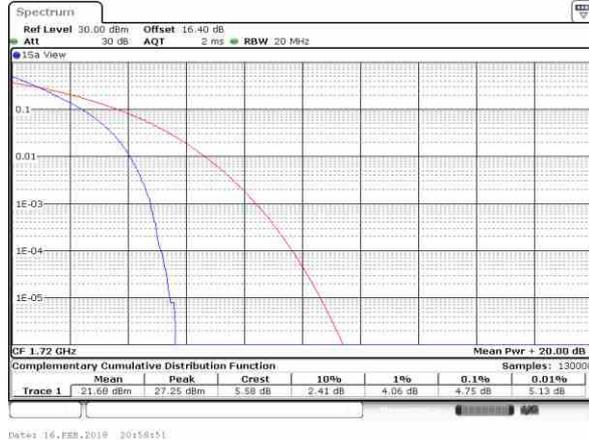


LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB



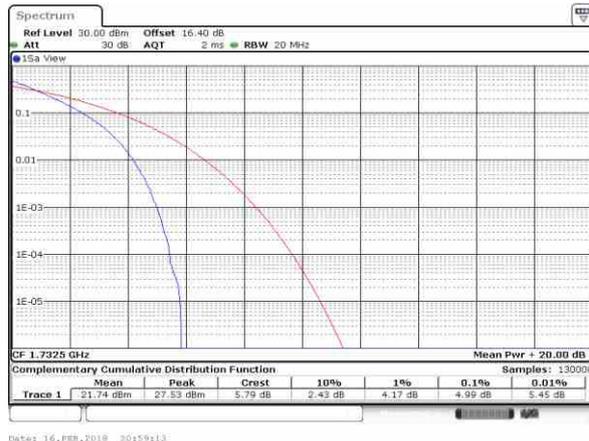
Lowest Channel / Full RB



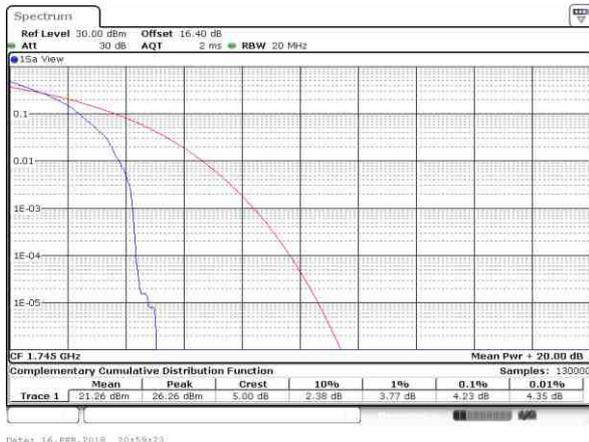
Middle Channel / 1RB



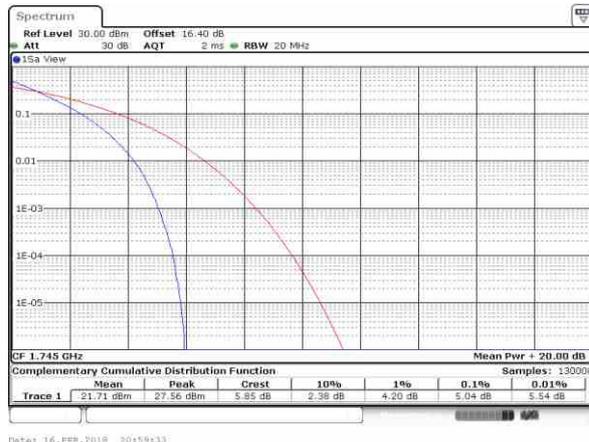
Middle Channel / Full RB



Highest Channel / 1RB



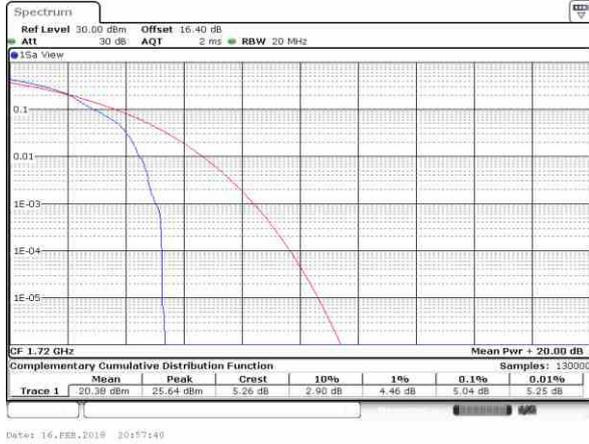
Highest Channel / Full RB



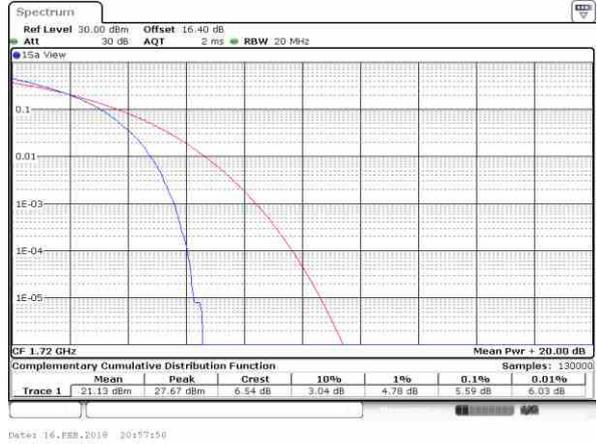


LTE Band 4 / 20MHz / 16QAM

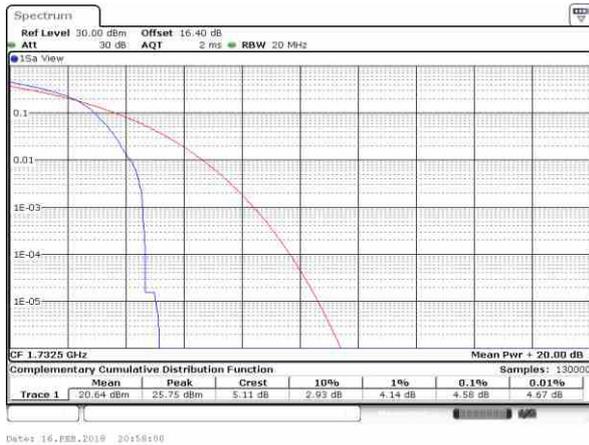
Lowest Channel / 1RB



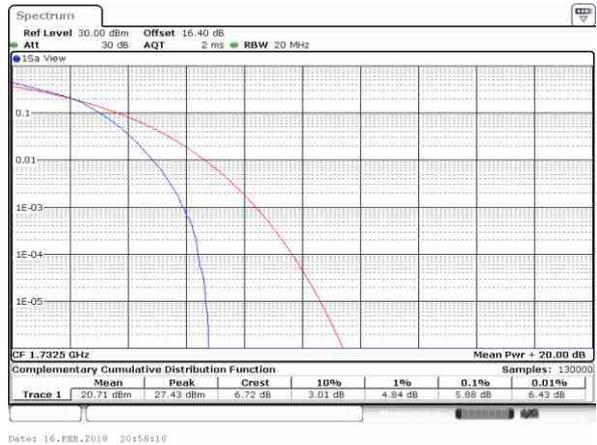
Lowest Channel / Full RB



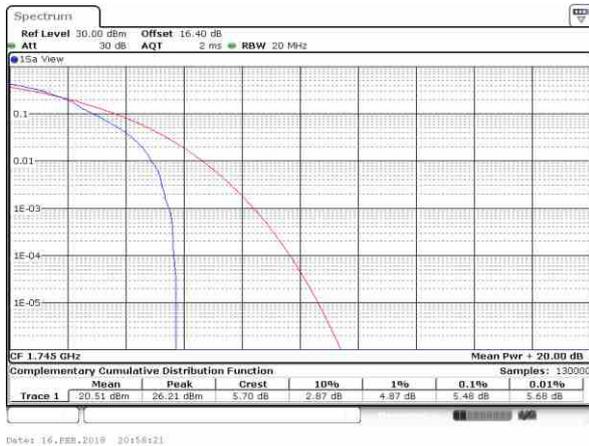
Middle Channel / 1RB



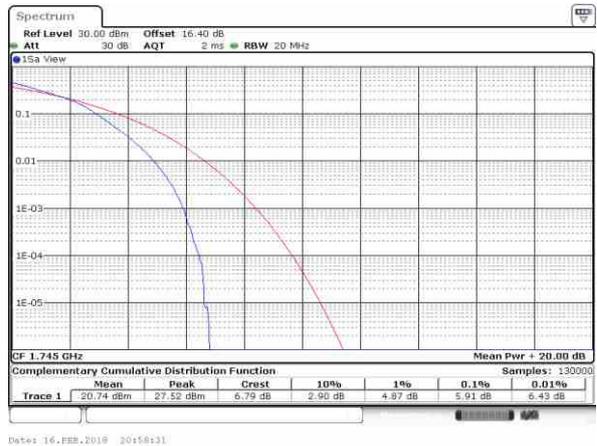
Middle Channel / Full RB



Highest Channel / 1RB



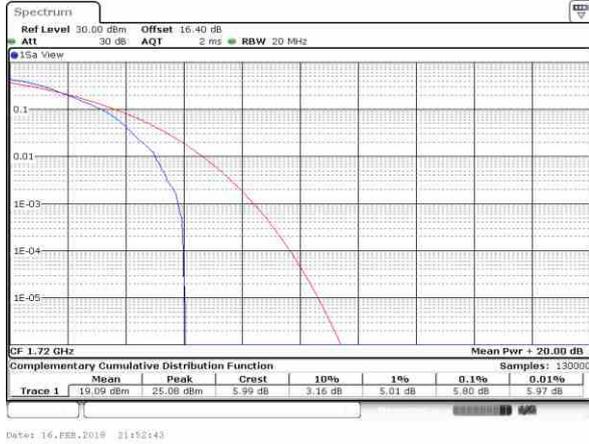
Highest Channel / Full RB



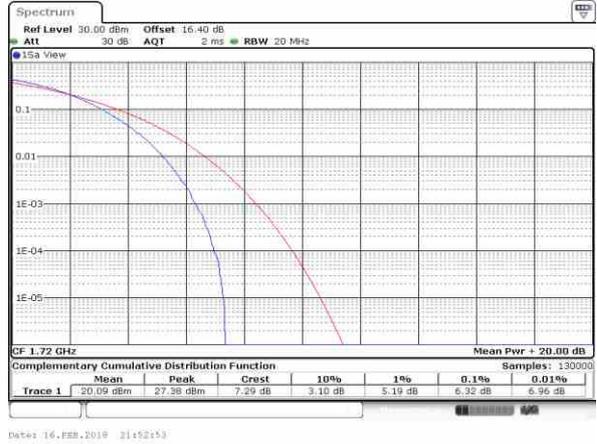


LTE Band 4 / 20MHz / 64QAM

Lowest Channel / 1RB



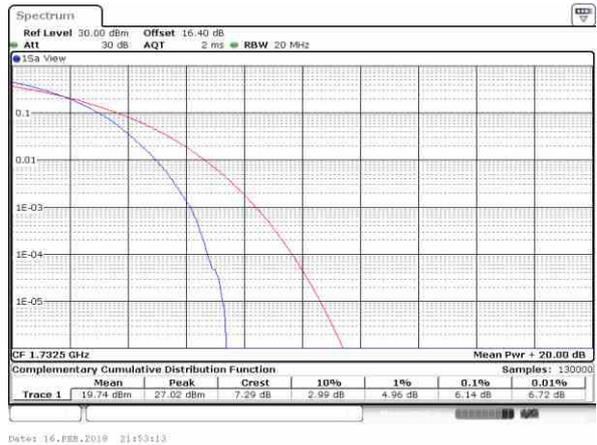
Lowest Channel / Full RB



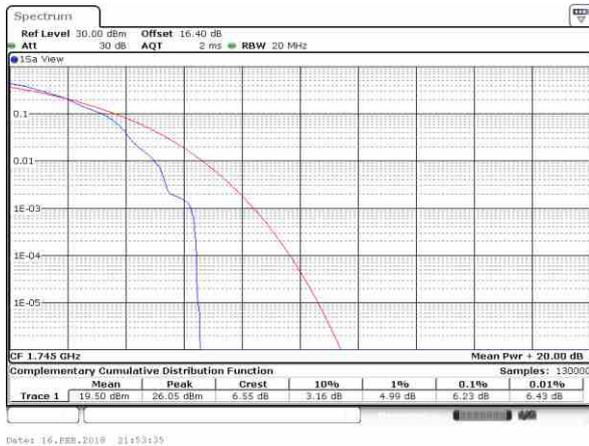
Middle Channel / 1RB



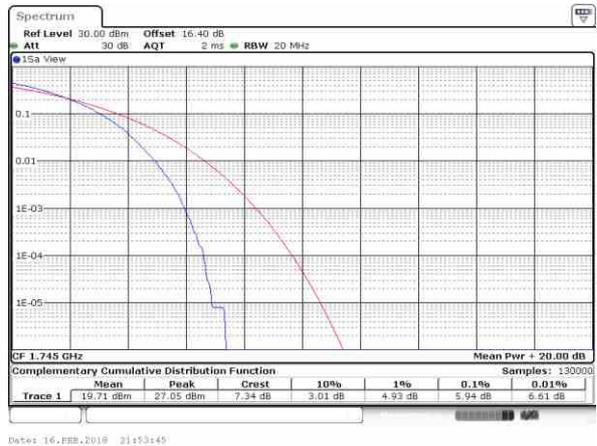
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB





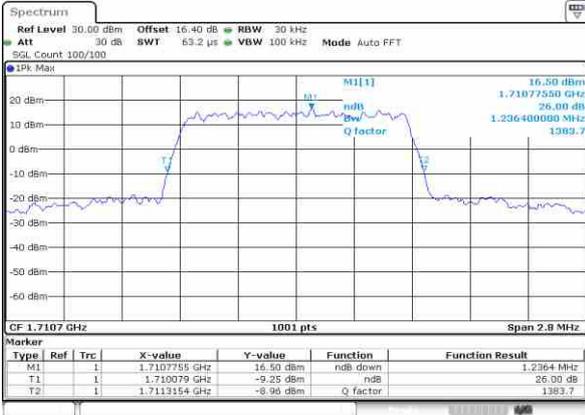
26dB Bandwidth

Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.24	1.23	3.06	3.04	4.91	4.82	9.83	9.81	14.48	14.87	20.26	20.46
Middle CH	1.22	1.23	3.00	3.03	4.95	4.90	9.91	9.81	14.45	14.75	20.34	20.14
Highest CH	1.25	1.24	3.05	2.98	4.92	4.88	9.75	9.93	14.39	14.99	20.18	20.18
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.24	-	3.02	-	4.96	-	9.81	-	14.48	-	20.26	-
Middle CH	1.25	-	3.02	-	4.80	-	9.87	-	14.51	-	20.14	-
Highest CH	1.23	-	3.01	-	4.90	-	10.01	-	14.51	-	20.18	-



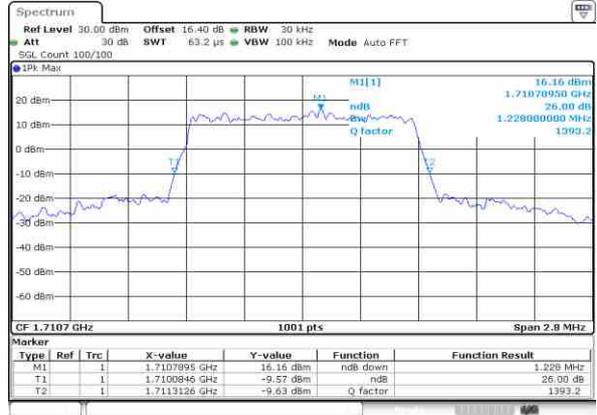
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



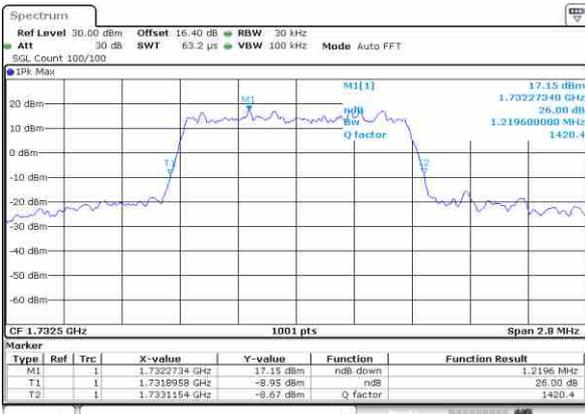
Date: 16.FEB.2019 19:02:17

Lowest Channel / 1.4MHz / 16QAM



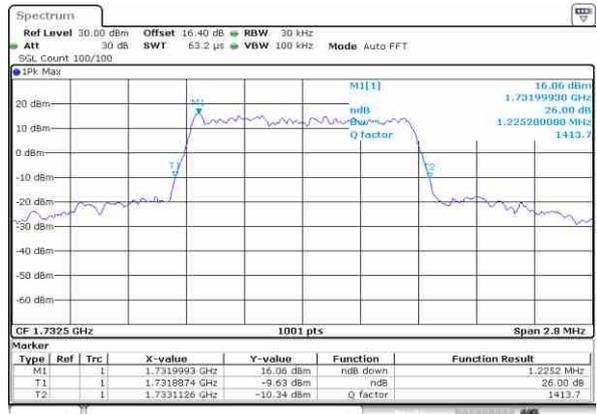
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Middle Channel / 1.4MHz / QPSK



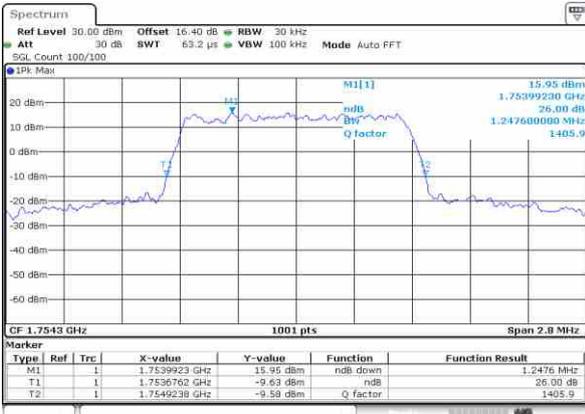
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Middle Channel / 1.4MHz / 16QAM



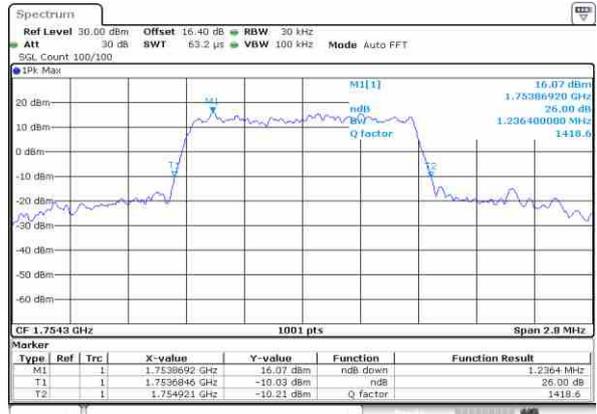
Date: 16.FEB.2019 20:48:00

Highest Channel / 1.4MHz / QPSK



Date: 16.FEB.2019 20:59:30

Highest Channel / 1.4MHz / 16QAM

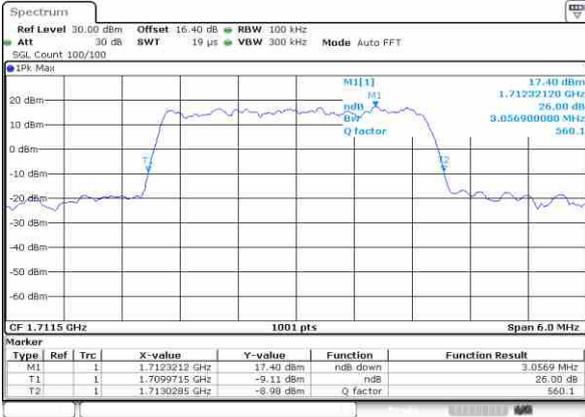


Date: 16.FEB.2019 20:59:41



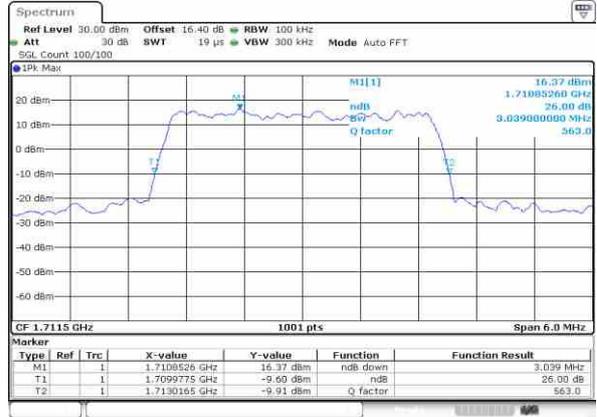
LTE Band 4

Lowest Channel / 3MHz / QPSK



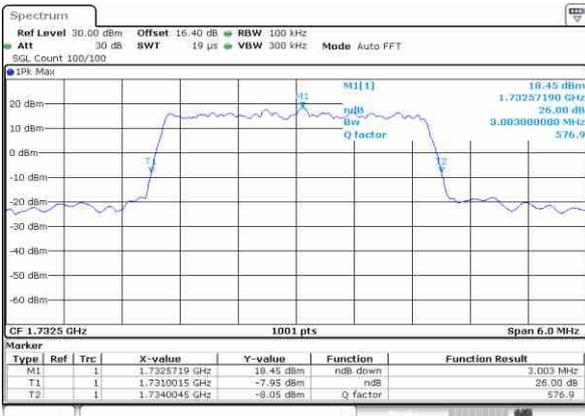
Date: 16.FEB.2019 17:23:57

Lowest Channel / 3MHz / 16QAM



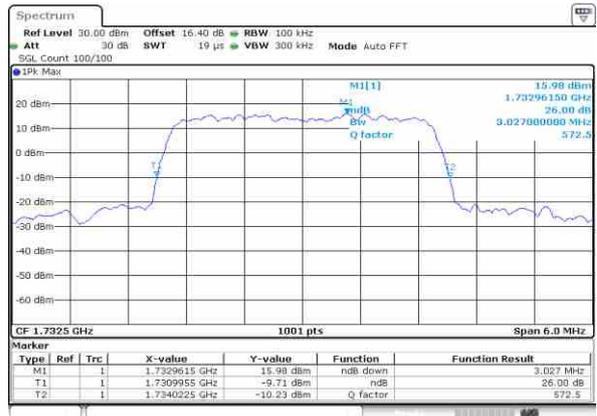
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Middle Channel / 3MHz / QPSK



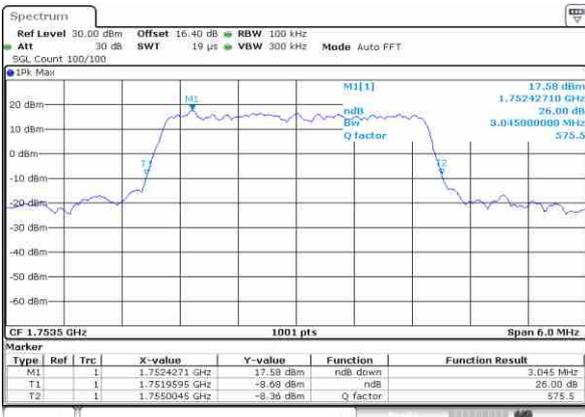
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Middle Channel / 3MHz / 16QAM



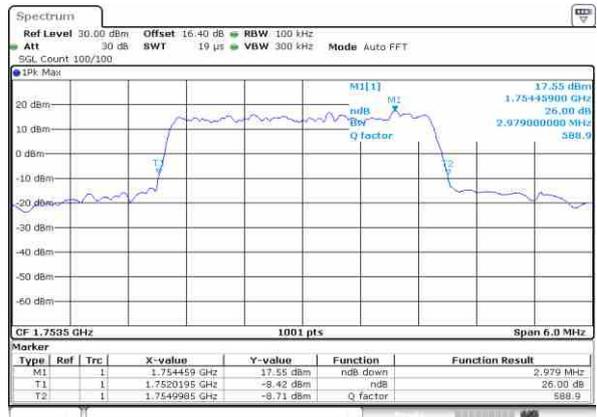
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Highest Channel / 3MHz / QPSK



Date: 16.FEB.2019 17:33:54

Highest Channel / 3MHz / 16QAM

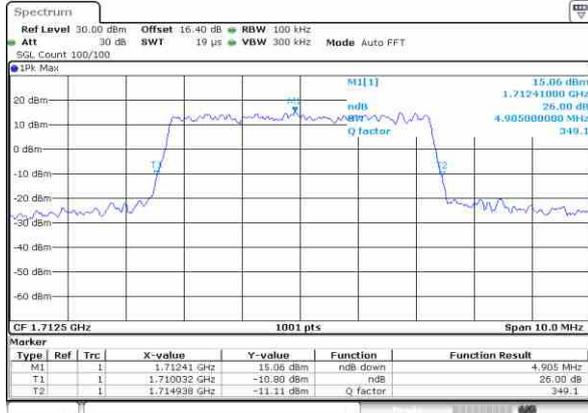


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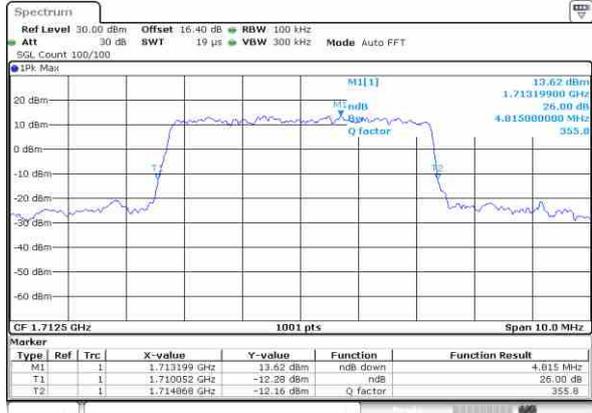
LTE Band 4

Lowest Channel / 5MHz / QPSK



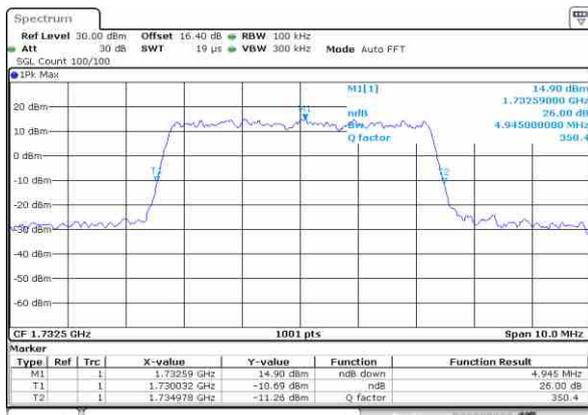
Date: 16.FEB.2019 17:41:10

Lowest Channel / 5MHz / 16QAM



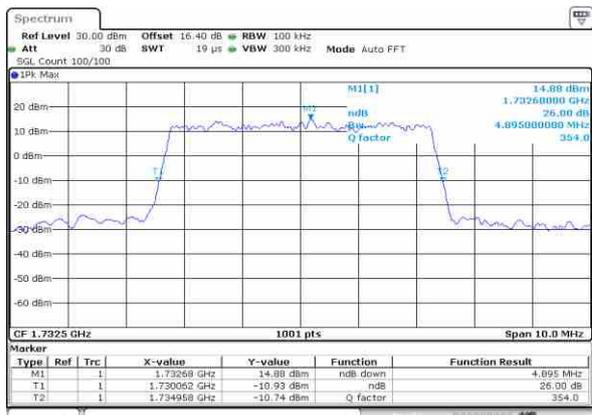
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Middle Channel / 5MHz / QPSK



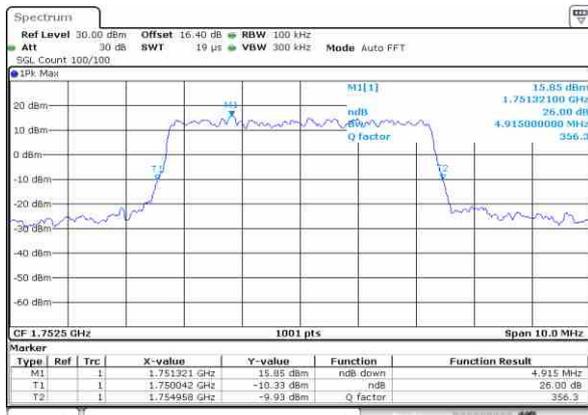
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Middle Channel / 5MHz / 16QAM



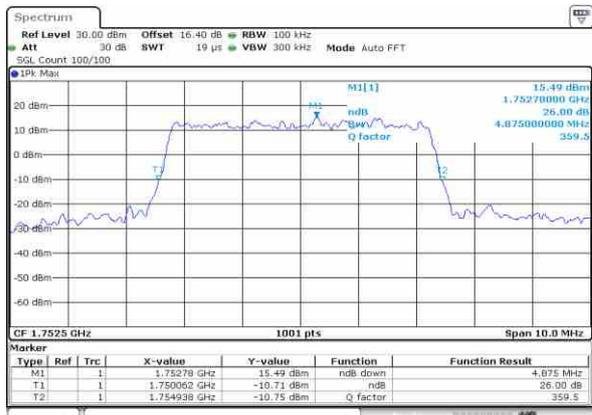
Date: 16.FEB.2019 17:48:37

Highest Channel / 5MHz / QPSK



Date: 16.FEB.2019 19:03:42

Highest Channel / 5MHz / 16QAM

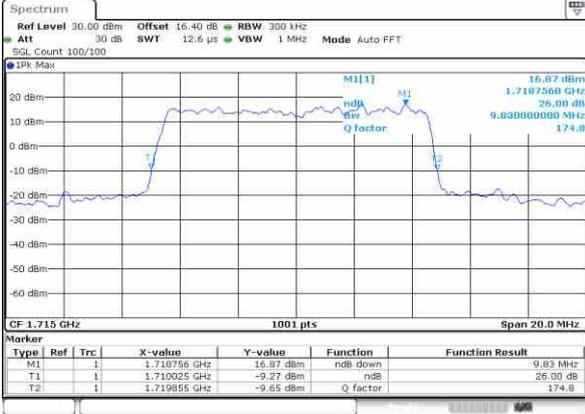


Date: 16.FEB.2019 19:03:53



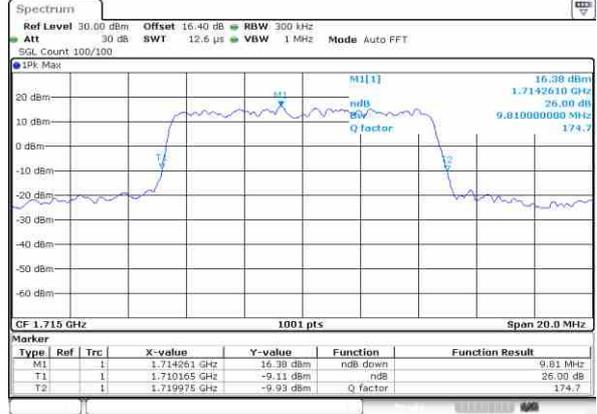
LTE Band 4

Lowest Channel / 10MHz / QPSK



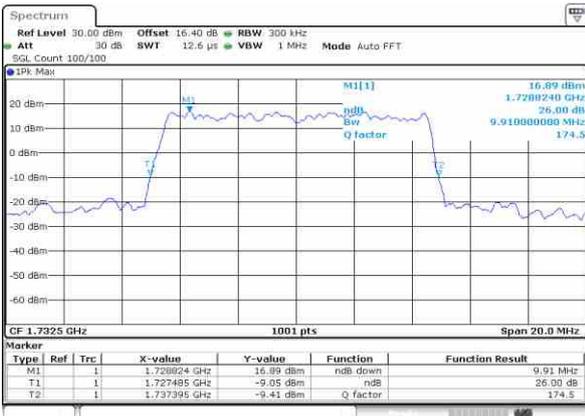
Date: 16.FEB.2019 19:10:59

Lowest Channel / 10MHz / 16QAM



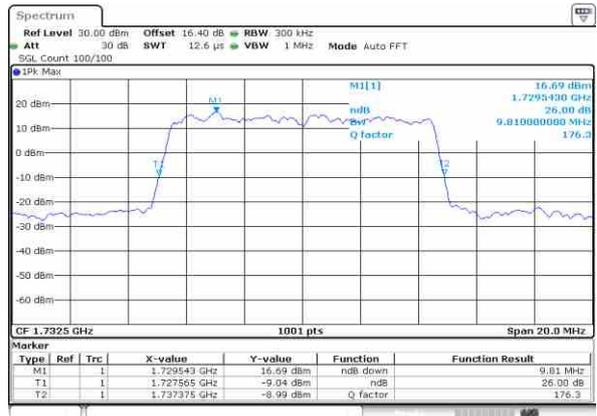
Date: 16.FEB.2019 19:11:10

Middle Channel / 10MHz / QPSK



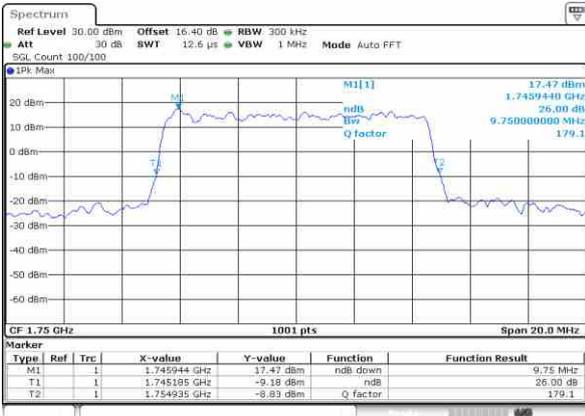
Date: 16.FEB.2019 19:18:15

Middle Channel / 10MHz / 16QAM



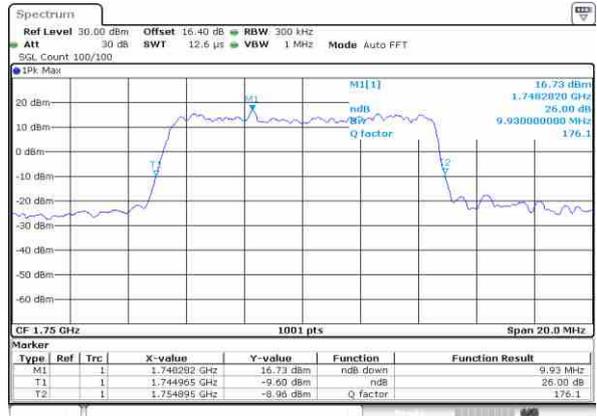
Date: 16.FEB.2019 19:18:26

Highest Channel / 10MHz / QPSK



Date: 16.FEB.2019 19:20:56

Highest Channel / 10MHz / 16QAM

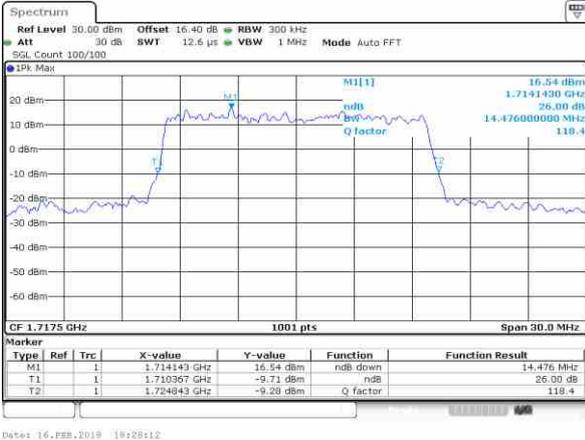


Date: 16.FEB.2019 19:21:07



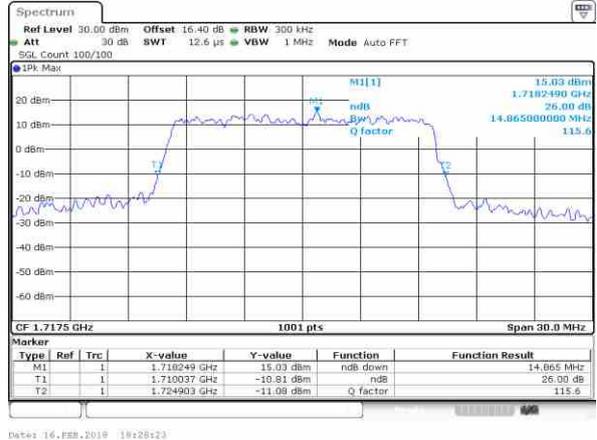
LTE Band 4

Lowest Channel / 15MHz / QPSK



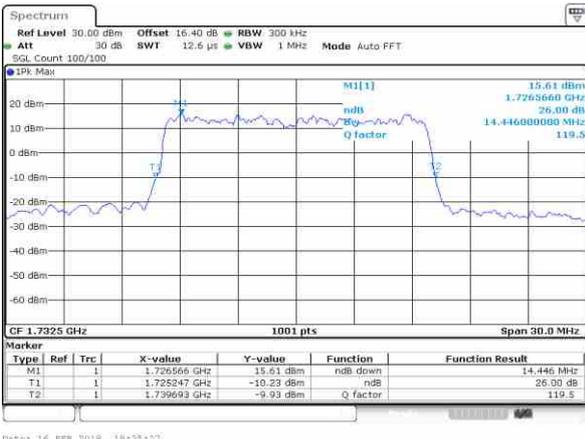
Date: 16.FEB.2019 19:28:12

Lowest Channel / 15MHz / 16QAM



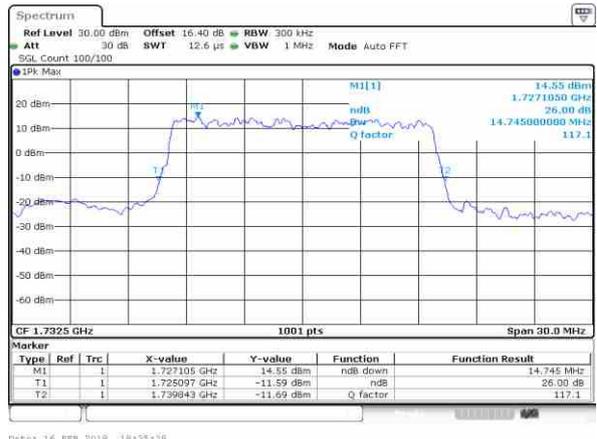
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Middle Channel / 15MHz / QPSK



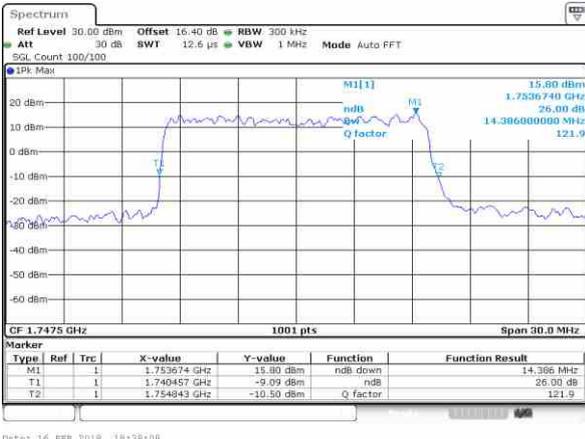
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Middle Channel / 15MHz / 16QAM



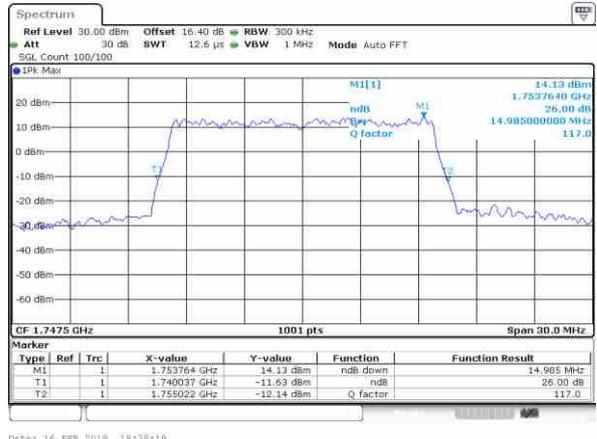
Date: 16.FEB.2019 19:28:38

Highest Channel / 15MHz / QPSK



Date: 16.FEB.2019 19:28:08

Highest Channel / 15MHz / 16QAM

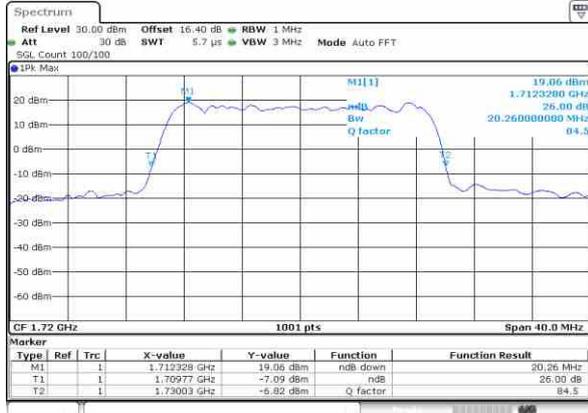


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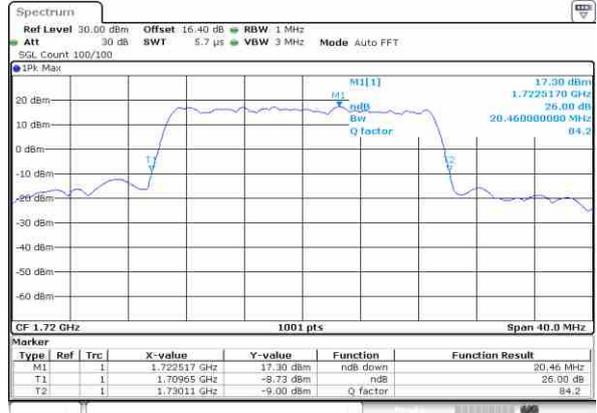
LTE Band 4

Lowest Channel / 20MHz / QPSK



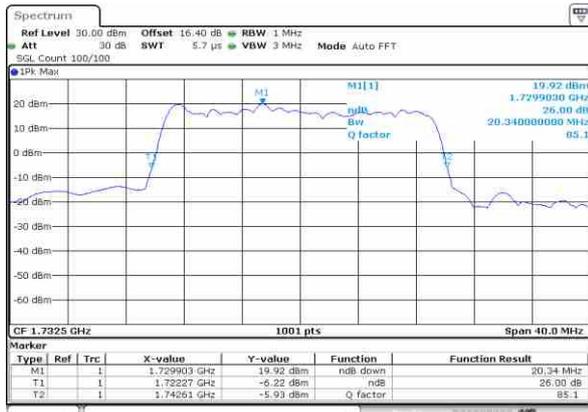
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Lowest Channel / 20MHz / 16QAM



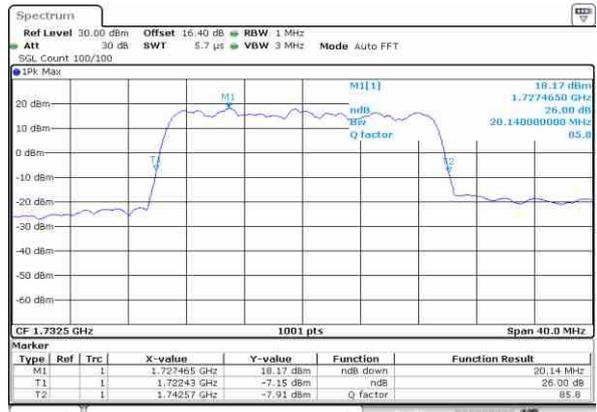
Date: 16.FEB.2019 19:45:35

Middle Channel / 20MHz / QPSK



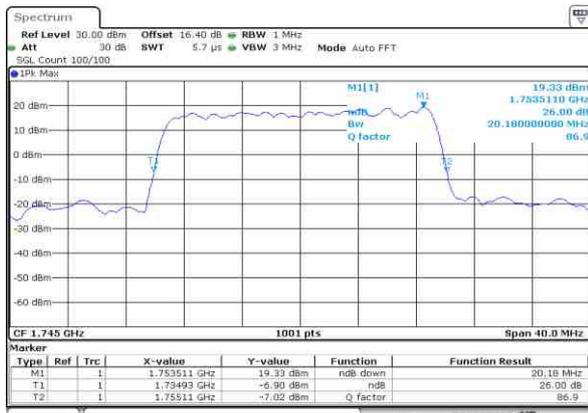
Date: 16.FEB.2019 19:52:40

Middle Channel / 20MHz / 16QAM



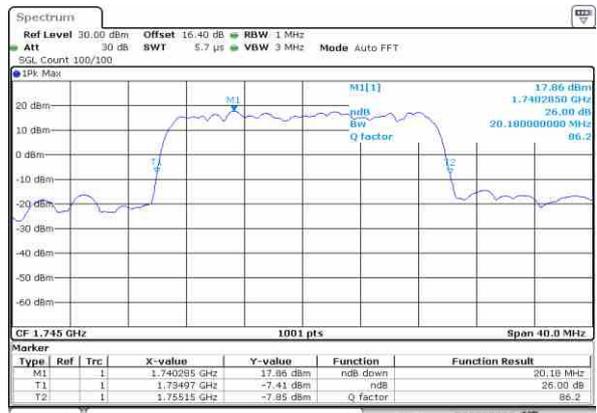
Date: 16.FEB.2019 19:52:51

Highest Channel / 20MHz / QPSK



Date: 16.FEB.2019 19:55:21

Highest Channel / 20MHz / 16QAM

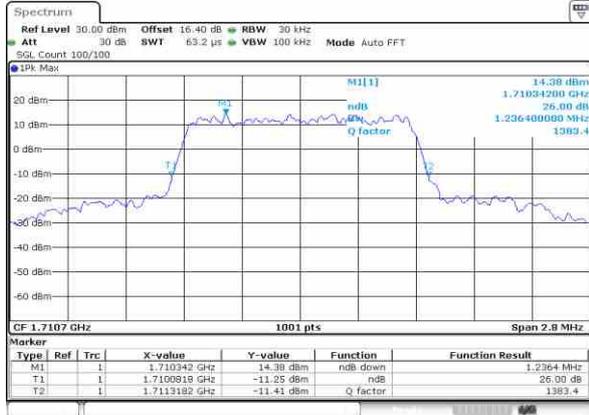


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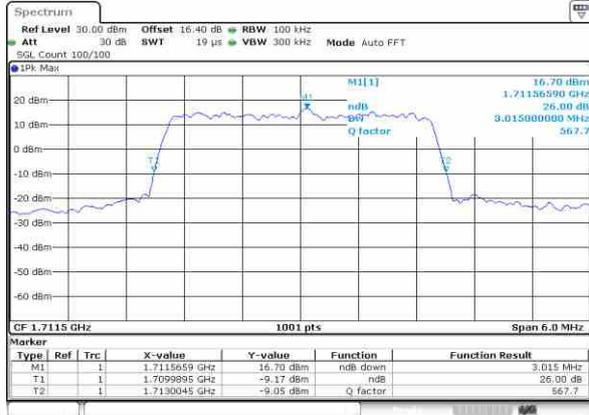
LTE Band 4

Lowest Channel / 1.4MHz / 64QAM



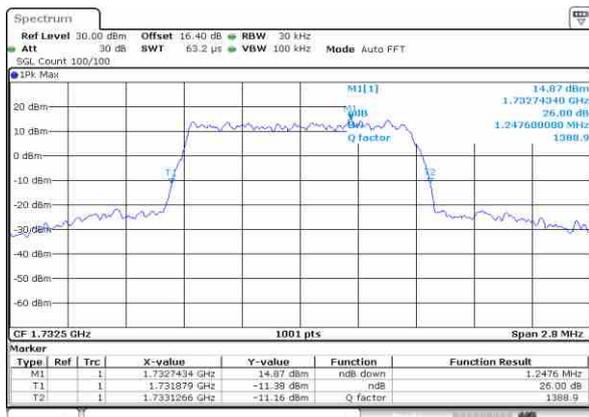
Date: 16.FEB.2019 21:43:15

Lowest Channel / 3MHz / 64QAM



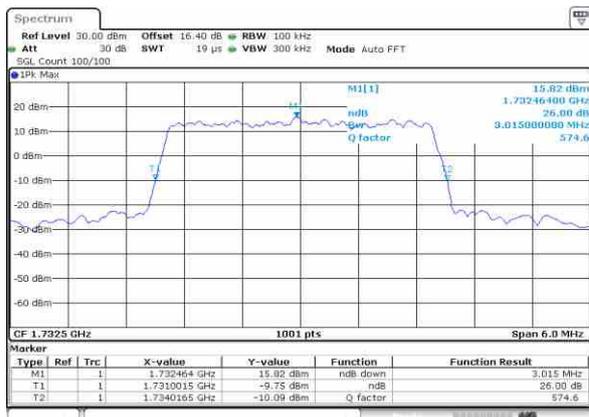
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Middle Channel / 1.4MHz / 64QAM



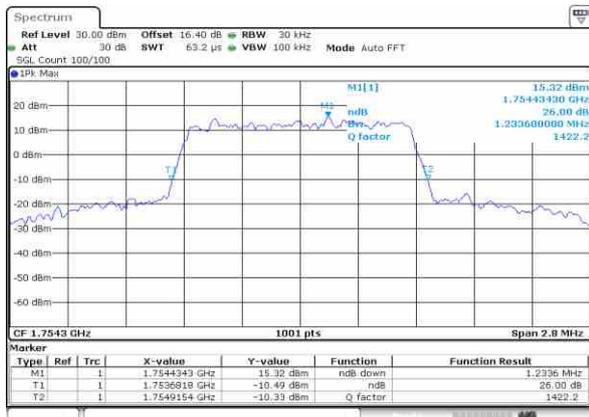
Date: 16.FEB.2019 21:46:57

Middle Channel / 3MHz / 64QAM



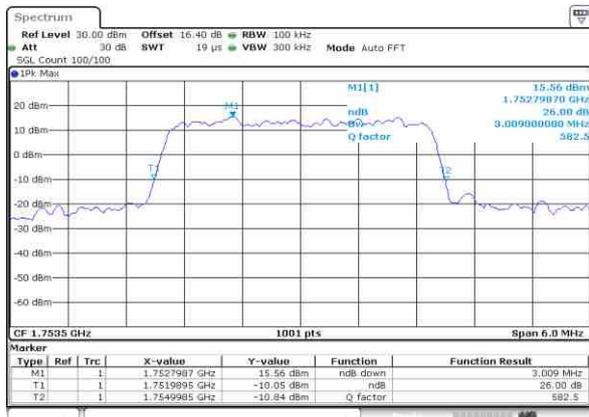
Date: 16.FEB.2019 21:03:55

Highest Channel / 1.4MHz / 64QAM



Date: 16.FEB.2019 21:48:17

Highest Channel / 3MHz / 64QAM

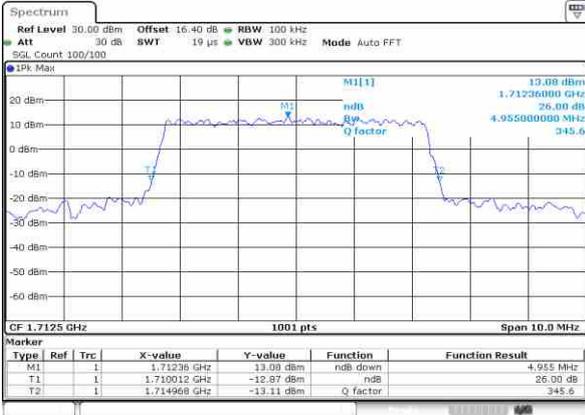


Date: 16.FEB.2019 21:05:19



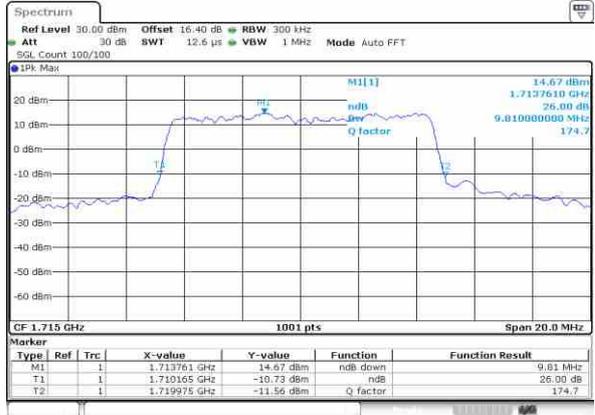
LTE Band 4

Lowest Channel / 5MHz / 64QAM



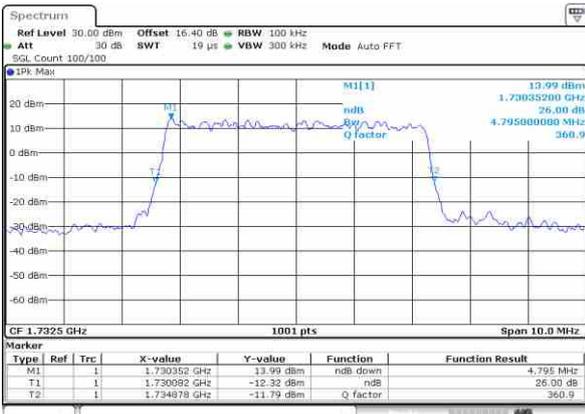
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Lowest Channel / 10MHz / 64QAM



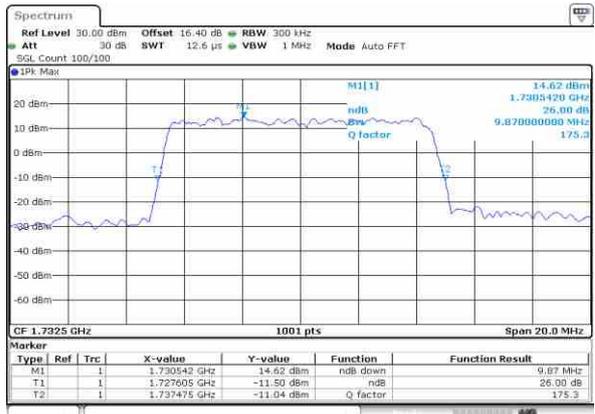
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Middle Channel / 5MHz / 64QAM



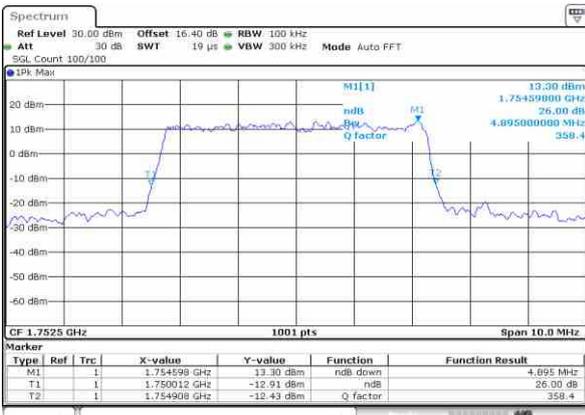
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Middle Channel / 10MHz / 64QAM



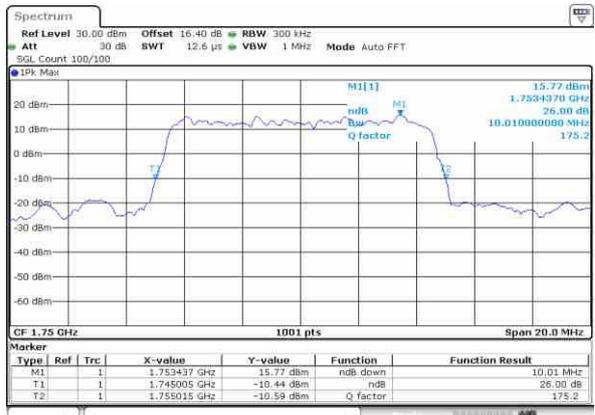
Date: 16.FEB.2019 21:21:08

Highest Channel / 5MHz / 64QAM



Date: 16.FEB.2019 21:13:51

Highest Channel / 10MHz / 64QAM

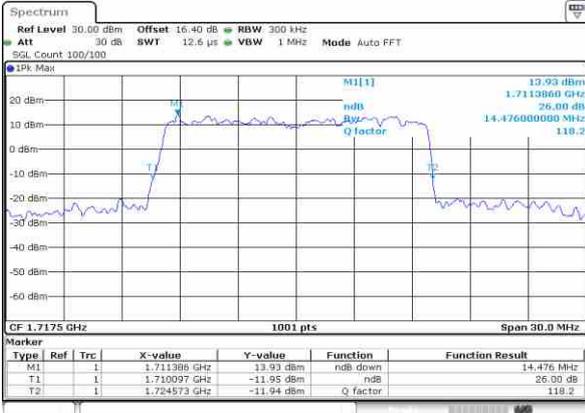


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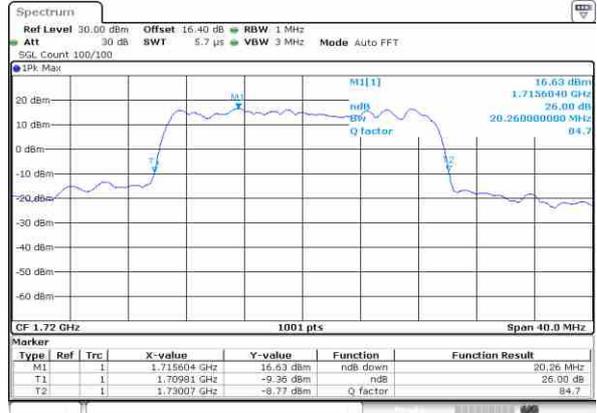
LTE Band 4

Lowest Channel / 15MHz / 64QAM



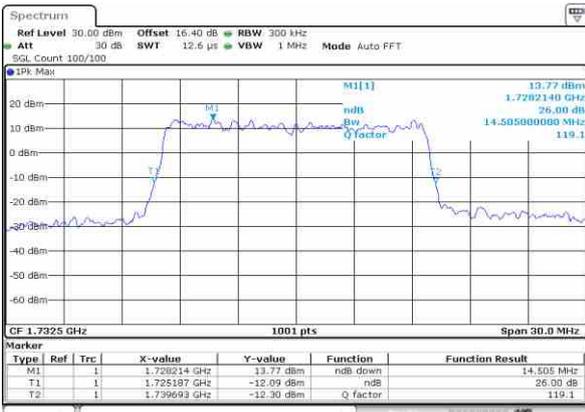
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Lowest Channel / 20MHz / 64QAM



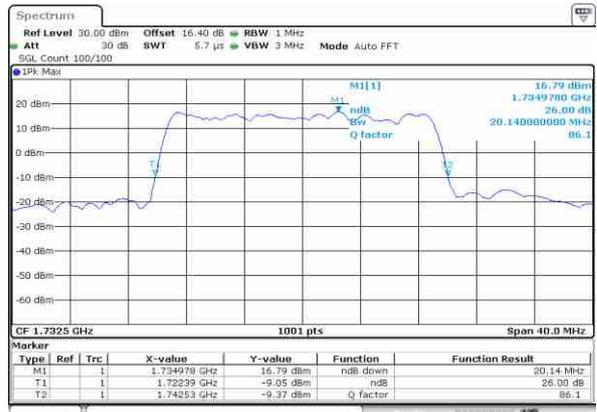
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Middle Channel / 15MHz / 64QAM



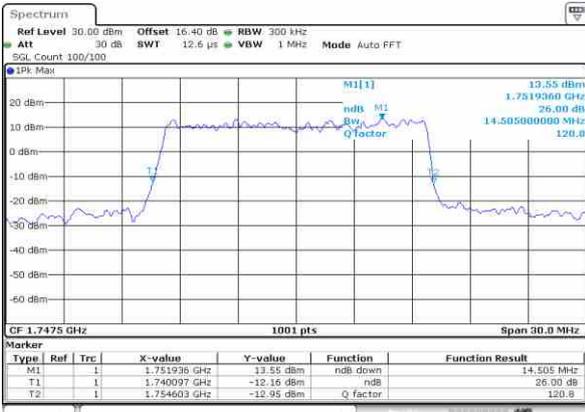
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Middle Channel / 20MHz / 64QAM



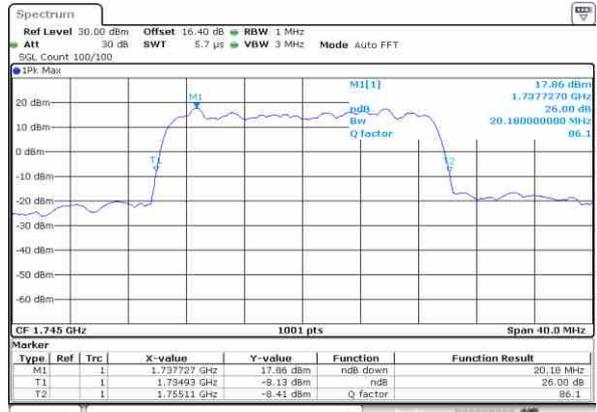
Date: 16.FEB.2019 21:28:21

Highest Channel / 15MHz / 64QAM



Date: 16.FEB.2019 21:31:09

Highest Channel / 20MHz / 64QAM



Date: 16.FEB.2019 21:29:41



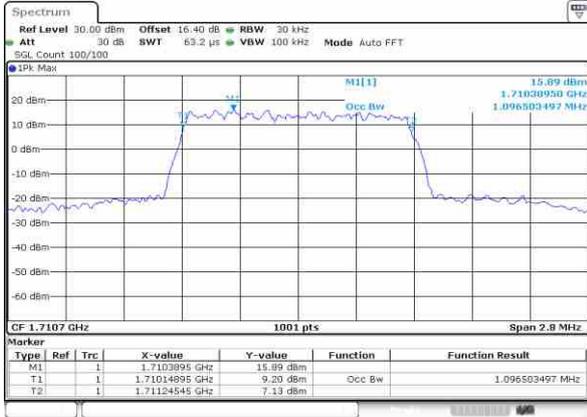
Occupied Bandwidth

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	1.10	1.09	2.72	2.75	4.51	4.53	9.05	9.03	13.49	13.43	18.34	18.58
Middle CH	1.09	1.10	2.72	2.70	4.52	4.52	9.09	8.95	13.40	13.46	18.46	18.50
Highest CH	1.09	1.10	2.76	2.72	4.52	4.48	9.09	8.99	13.43	13.49	18.46	18.54
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.10	-	2.74	-	4.50	-	9.03	-	13.40	-	18.30	-
Middle CH	1.09	-	2.73	-	4.50	-	9.05	-	13.43	-	18.38	-
Highest CH	1.10	-	2.71	-	4.49	-	9.03	-	13.43	-	18.42	-



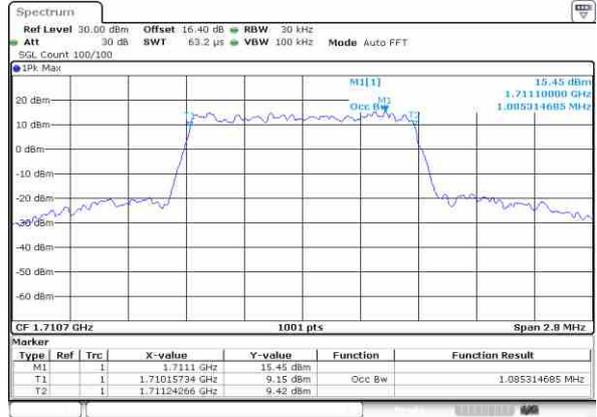
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



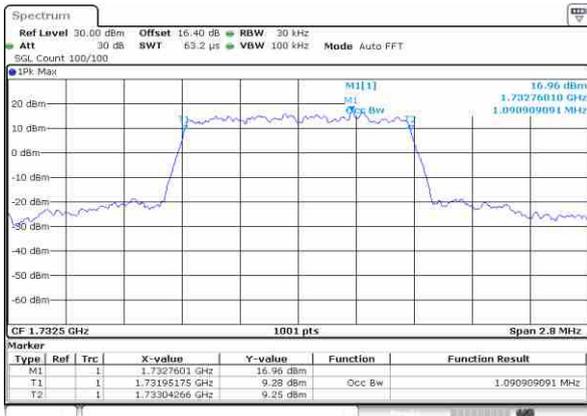
Date: 16.FEB.2019 19:02:14

Lowest Channel / 1.4MHz / 16QAM



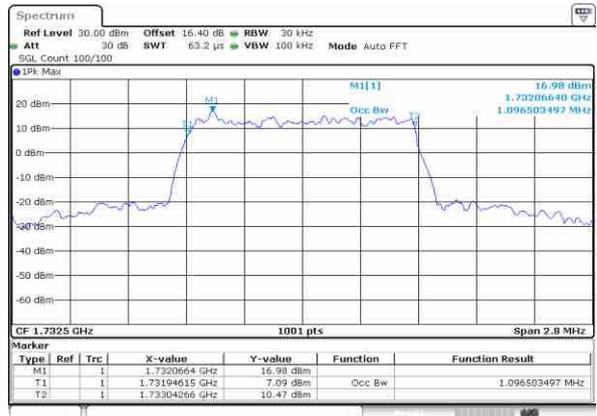
Date: 16.FEB.2019 19:02:25

Middle Channel / 1.4MHz / QPSK



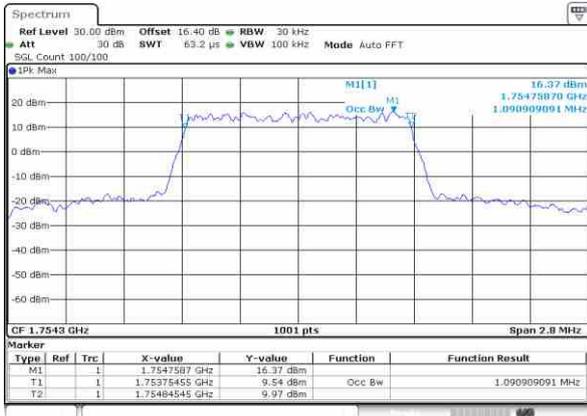
Date: 16.FEB.2019 20:47:26

Middle Channel / 1.4MHz / 16QAM



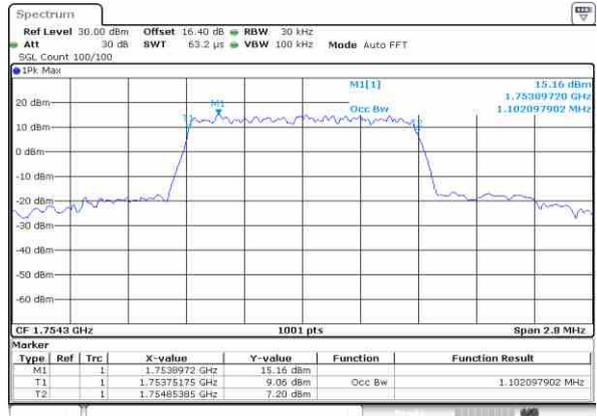
Date: 16.FEB.2019 20:47:37

Highest Channel / 1.4MHz / QPSK



Date: 16.FEB.2019 20:59:07

Highest Channel / 1.4MHz / 16QAM

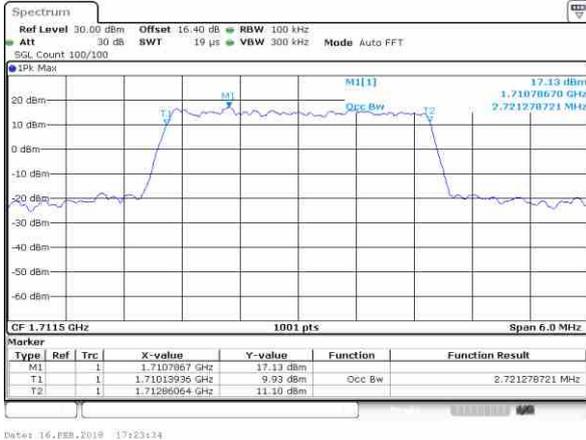


Date: 16.FEB.2019 20:59:18



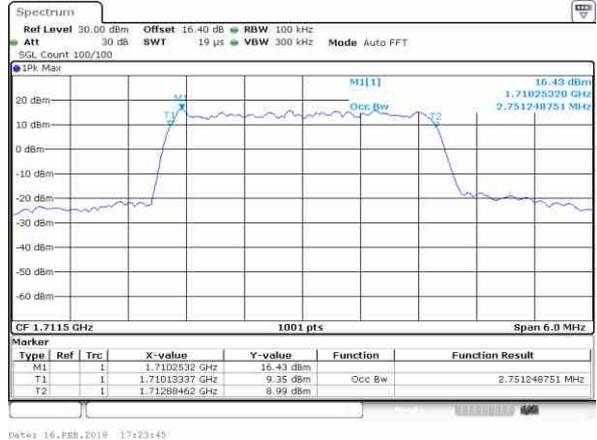
LTE Band 4

Lowest Channel / 3MHz / QPSK



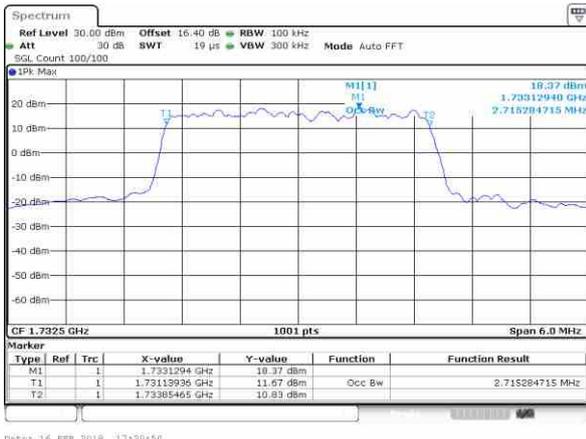
Date: 16.FEB.2019 17:23:14

Lowest Channel / 3MHz / 16QAM



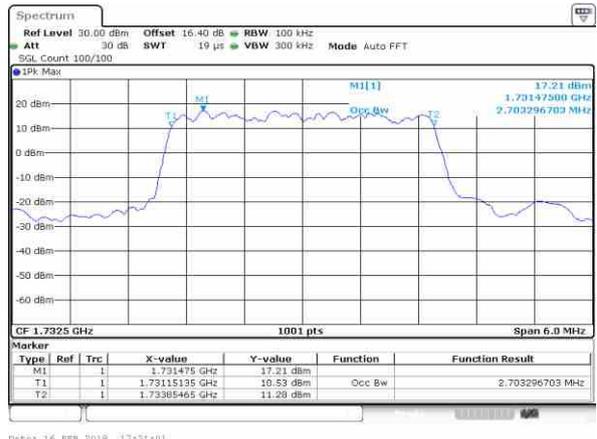
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Middle Channel / 3MHz / QPSK



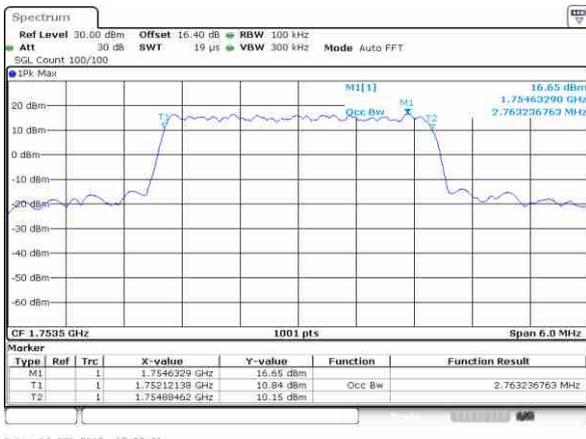
Date: 16.FEB.2019 17:30:50

Middle Channel / 3MHz / 16QAM



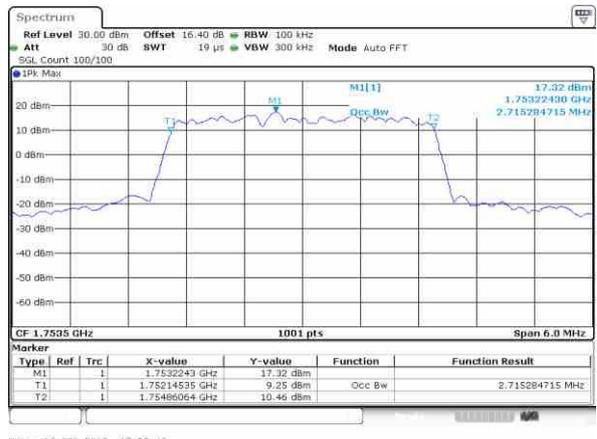
Date: 16.FEB.2019 17:31:01

Highest Channel / 3MHz / QPSK



Date: 16.FEB.2019 17:33:11

Highest Channel / 3MHz / 16QAM

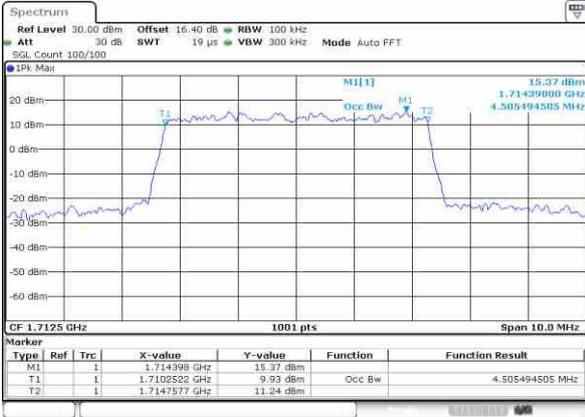


Date: 16.FEB.2019 17:33:43



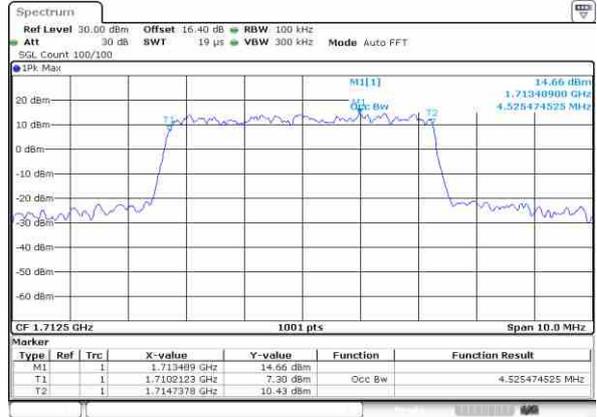
LTE Band 4

Lowest Channel / 5MHz / QPSK



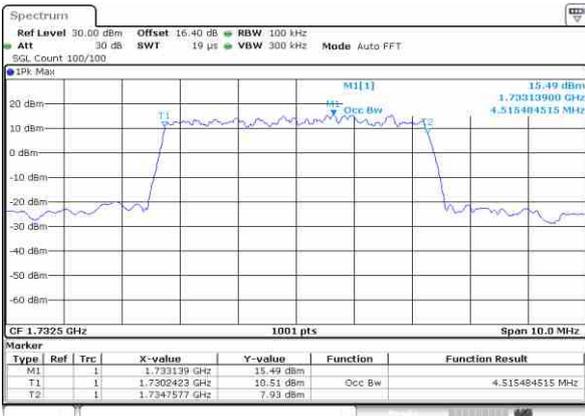
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Lowest Channel / 5MHz / 16QAM



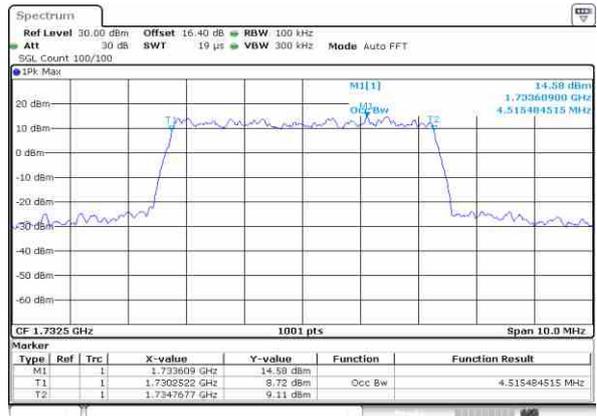
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Middle Channel / 5MHz / QPSK



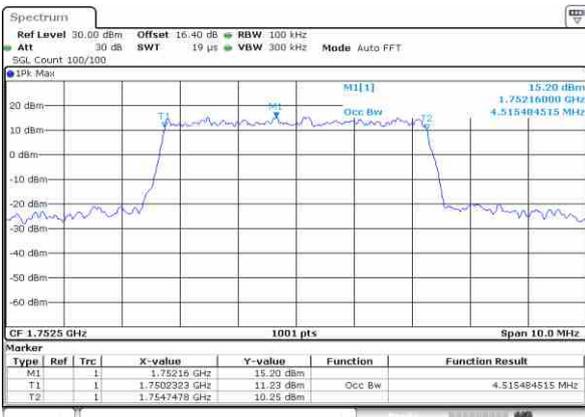
Date: 16.FEB.2019 17:48:03

Middle Channel / 5MHz / 16QAM



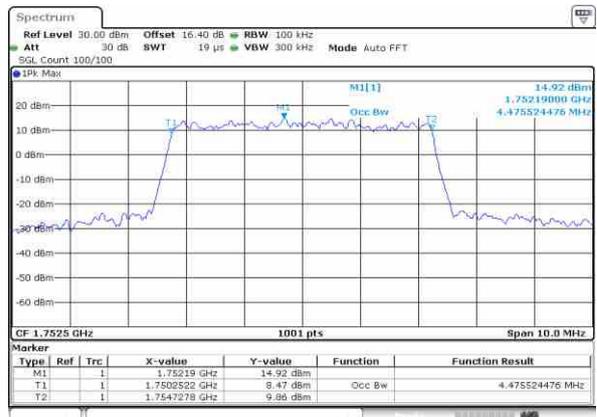
Date: 16.FEB.2019 17:48:14

Highest Channel / 5MHz / QPSK



Date: 16.FEB.2019 19:03:19

Highest Channel / 5MHz / 16QAM

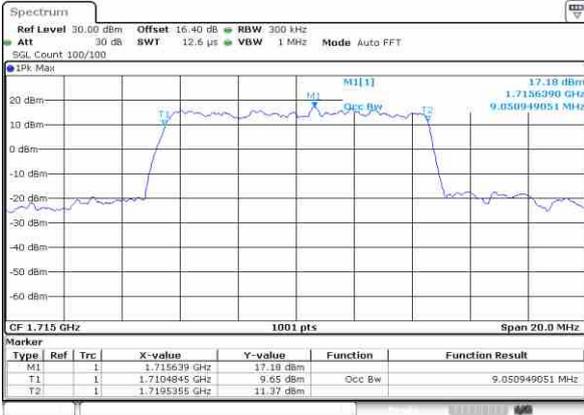


Date: 16.FEB.2019 19:03:31

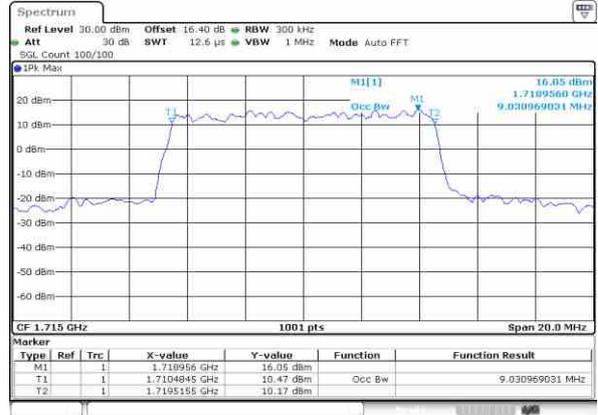


LTE Band 4

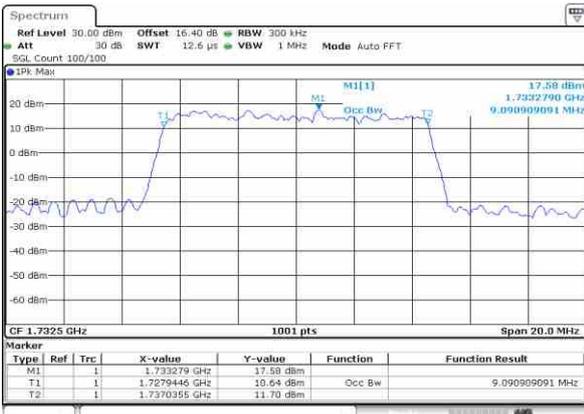
Lowest Channel / 10MHz / QPSK



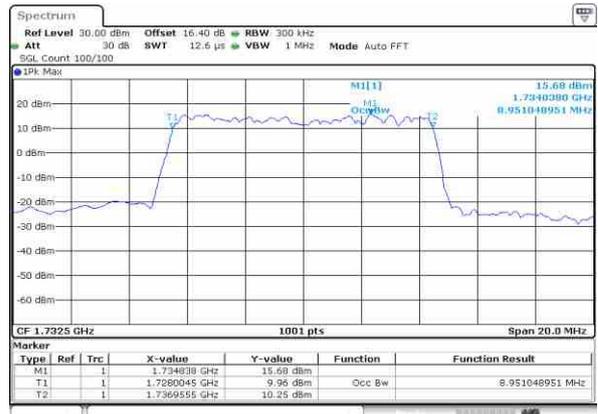
Lowest Channel / 10MHz / 16QAM



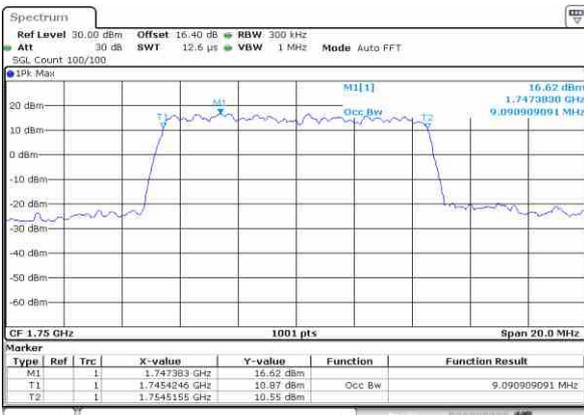
Middle Channel / 10MHz / QPSK



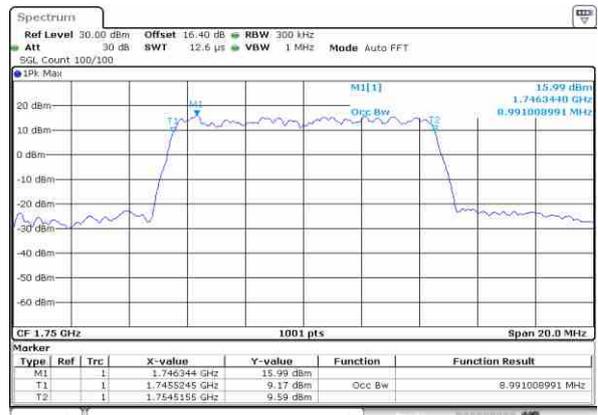
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK



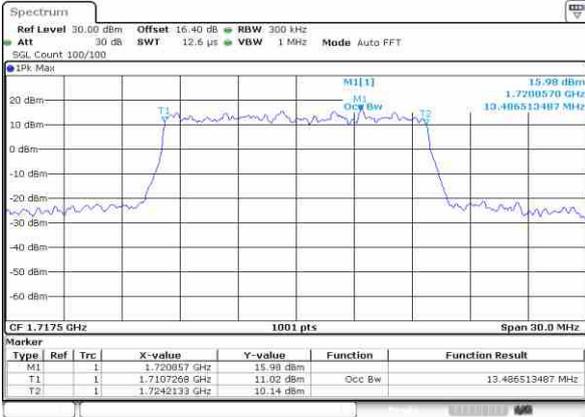
Highest Channel / 10MHz / 16QAM





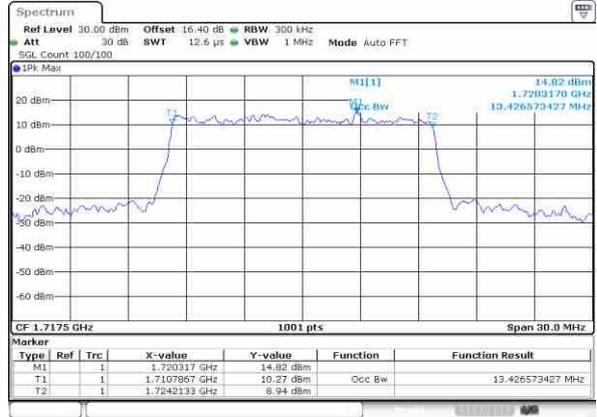
LTE Band 4

Lowest Channel / 15MHz / QPSK



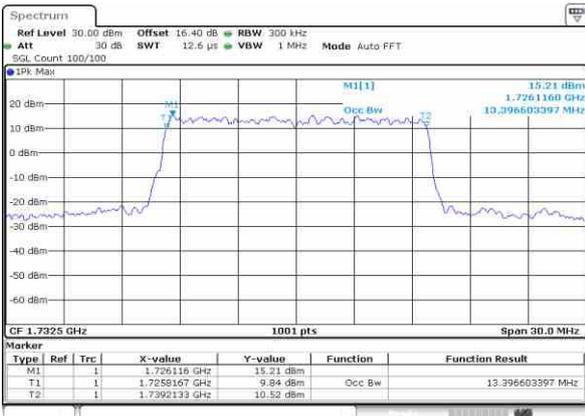
Date: 16.FEB.2019 19:27:49

Lowest Channel / 15MHz / 16QAM



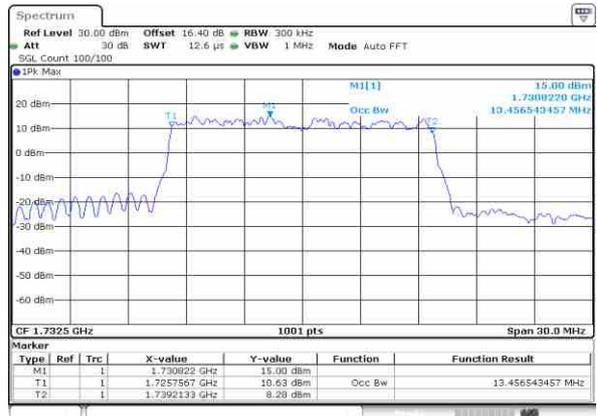
Date: 16.FEB.2019 19:28:00

Middle Channel / 15MHz / QPSK



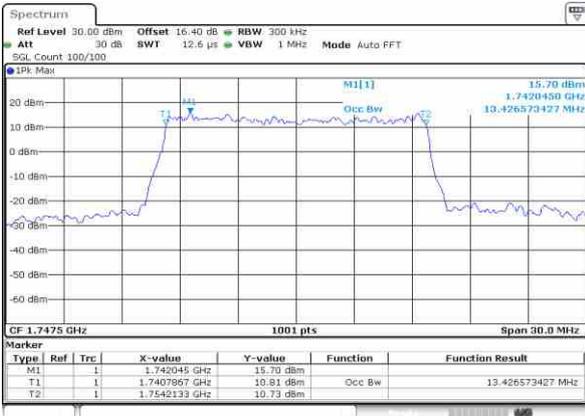
Date: 16.FEB.2019 19:35:04

Middle Channel / 15MHz / 16QAM



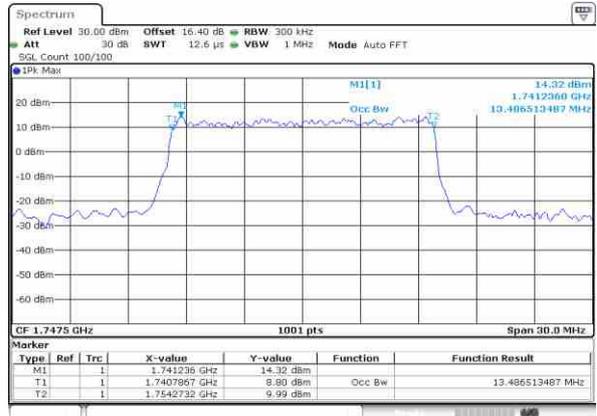
Date: 16.FEB.2019 19:35:16

Highest Channel / 15MHz / QPSK



Date: 16.FEB.2019 19:37:49

Highest Channel / 15MHz / 16QAM

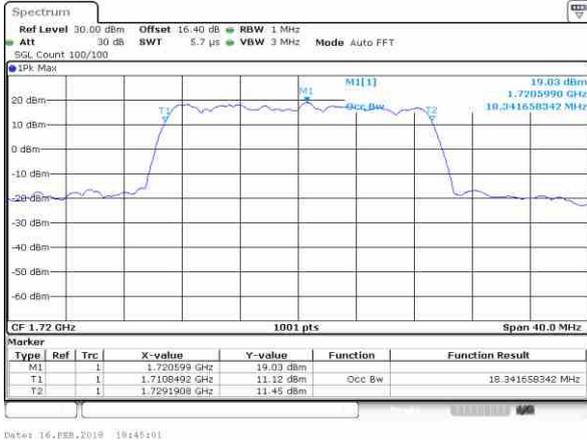


Date: 16.FEB.2019 19:37:57



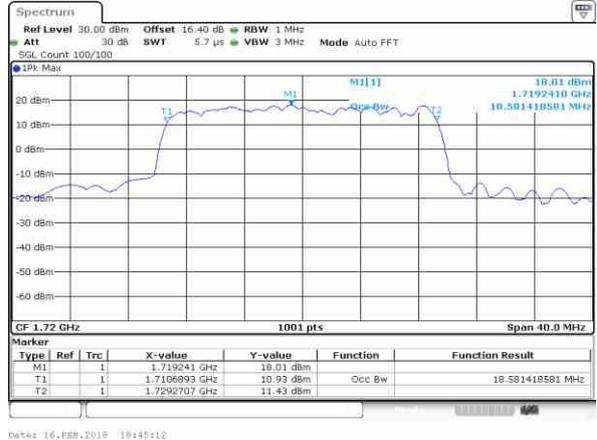
LTE Band 4

Lowest Channel / 20MHz / QPSK



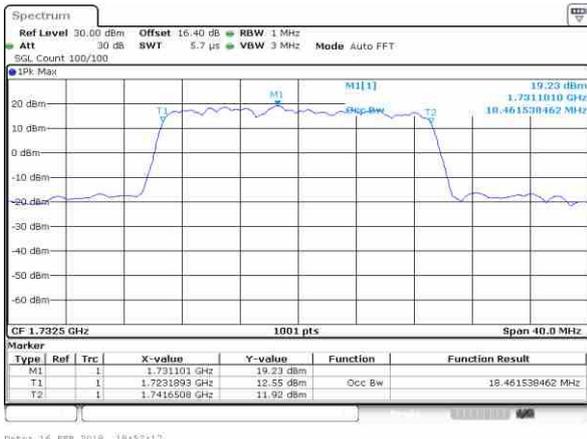
Date: 16.FEB.2019 19:45:01

Lowest Channel / 20MHz / 16QAM



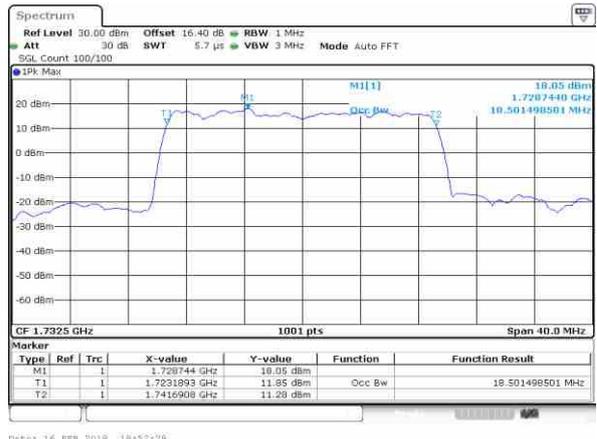
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Middle Channel / 20MHz / QPSK



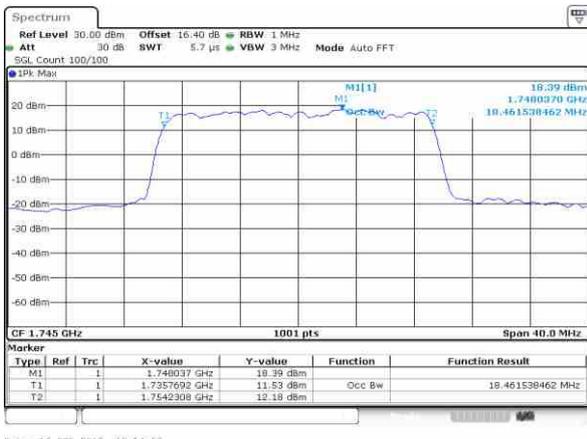
Date: 16.FEB.2019 19:52:17

Middle Channel / 20MHz / 16QAM



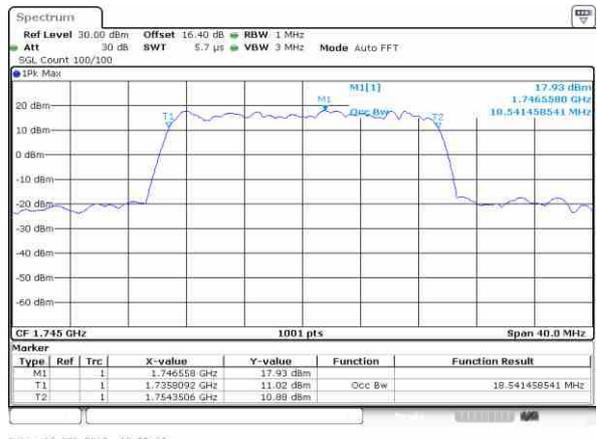
Date: 16.FEB.2019 19:52:29

Highest Channel / 20MHz / QPSK



Date: 16.FEB.2019 19:54:58

Highest Channel / 20MHz / 16QAM

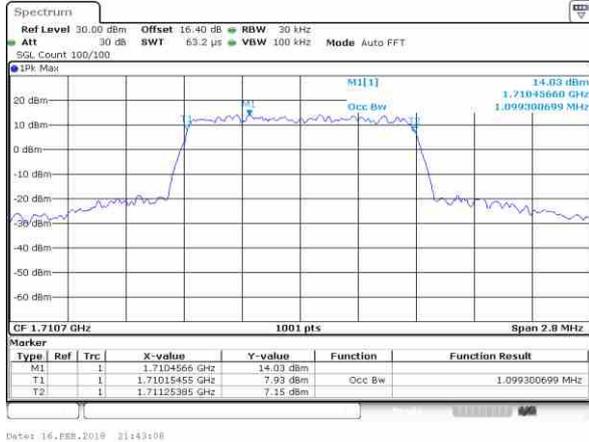


Date: 16.FEB.2019 19:55:09



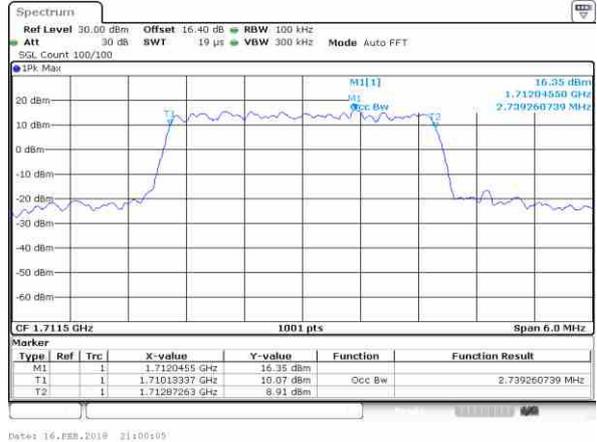
LTE Band 4

Lowest Channel / 1.4MHz / 64QAM



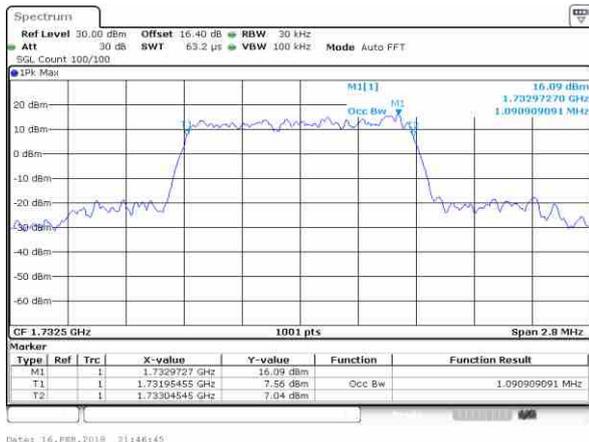
Date: 16.FEB.2019 21:43:08

Lowest Channel / 3MHz / 64QAM



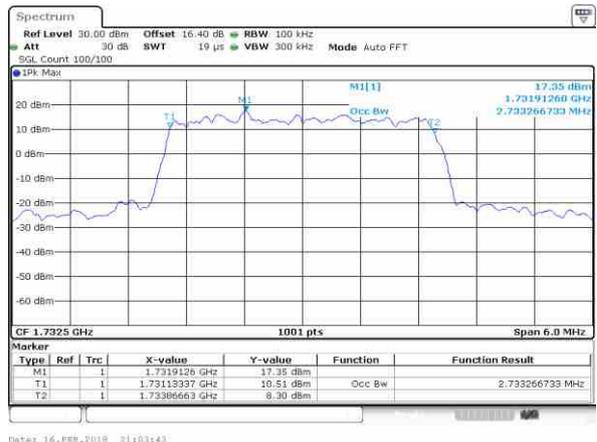
Date: 16.FEB.2019 21:00:09

Middle Channel / 1.4MHz / 64QAM



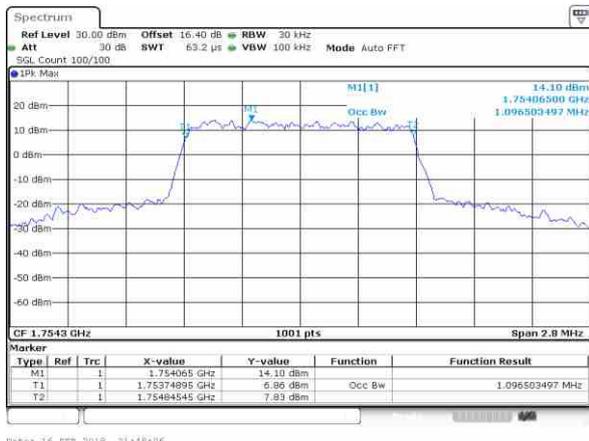
Date: 16.FEB.2019 21:46:45

Middle Channel / 3MHz / 64QAM



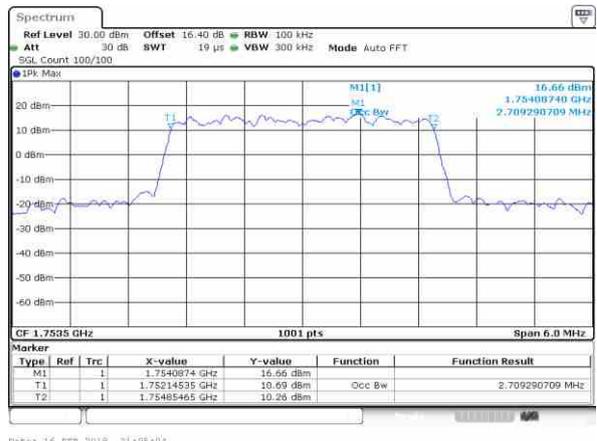
Date: 16.FEB.2019 21:03:43

Highest Channel / 1.4MHz / 64QAM



Date: 16.FEB.2019 21:48:06

Highest Channel / 3MHz / 64QAM

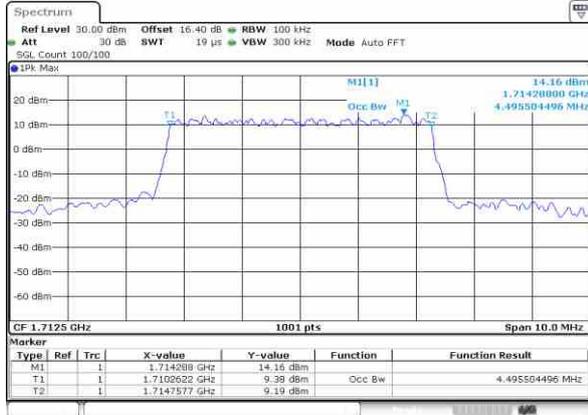


Date: 16.FEB.2019 21:06:04



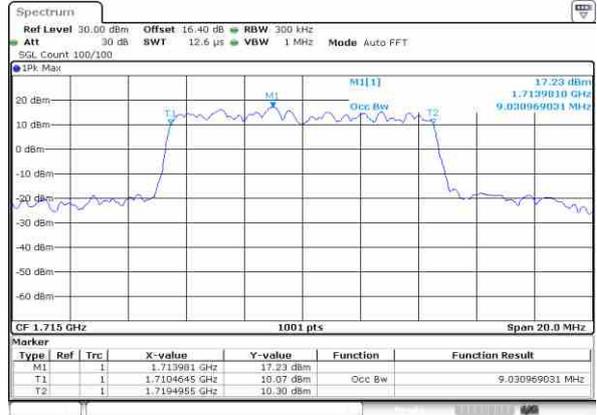
LTE Band 4

Lowest Channel / 5MHz / 64QAM



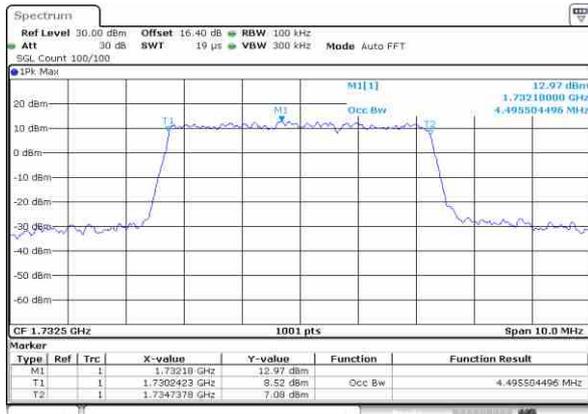
Date: 16.FEB.2019 21:09:41

Lowest Channel / 10MHz / 64QAM



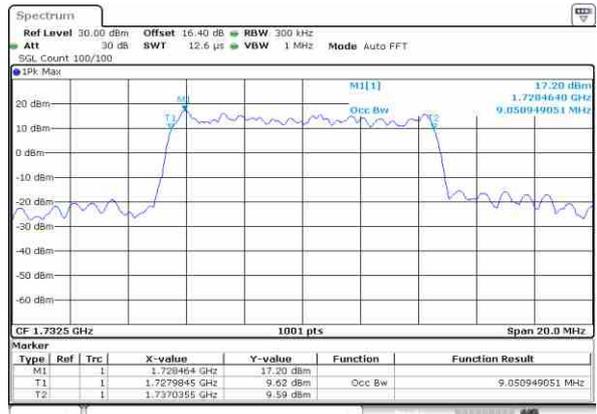
Date: 16.FEB.2019 21:17:19

Middle Channel / 5MHz / 64QAM



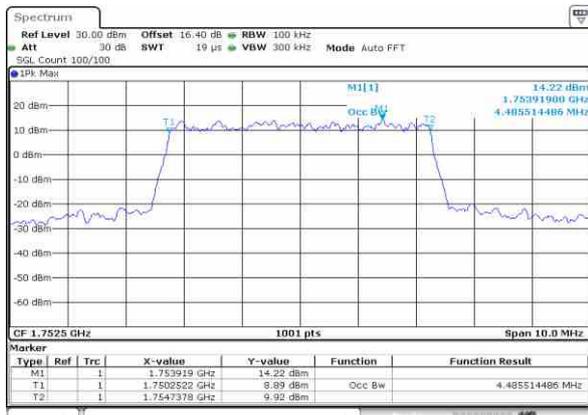
Date: 16.FEB.2019 21:12:19

Middle Channel / 10MHz / 64QAM



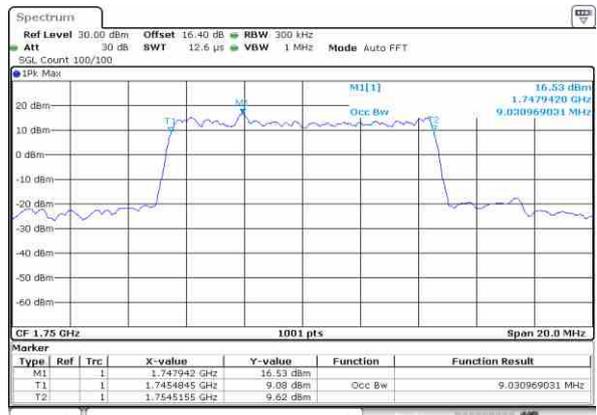
Date: 16.FEB.2019 21:20:56

Highest Channel / 5MHz / 64QAM



Date: 16.FEB.2019 21:13:40

Highest Channel / 10MHz / 64QAM

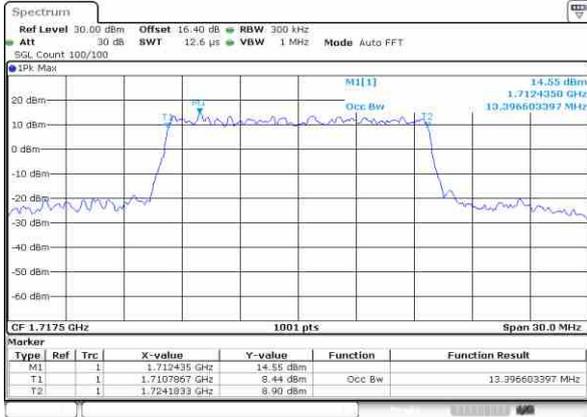


Date: 16.FEB.2019 21:22:17



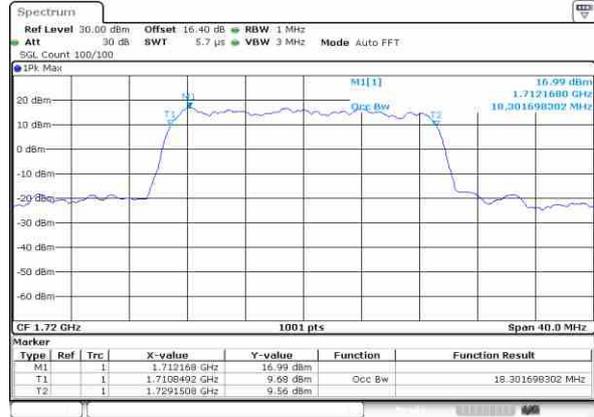
LTE Band 4

Lowest Channel / 15MHz / 64QAM



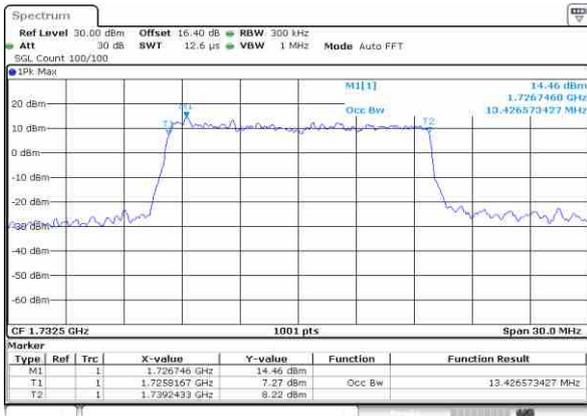
Date: 16.FEB.2019 21:25:59

Lowest Channel / 20MHz / 64QAM



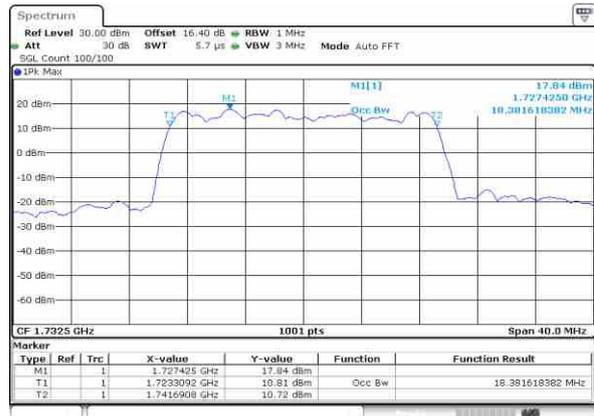
Date: 16.FEB.2019 21:24:32

Middle Channel / 15MHz / 64QAM



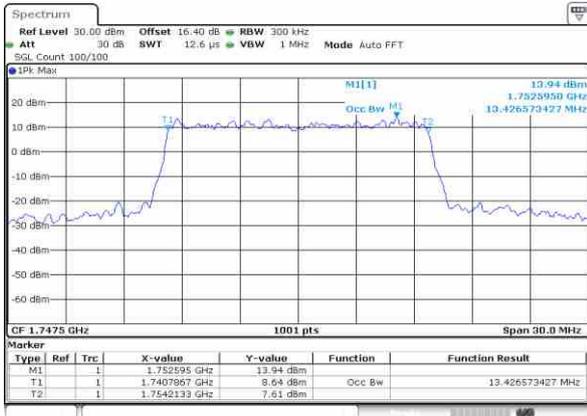
Date: 16.FEB.2019 21:25:33

Middle Channel / 20MHz / 64QAM



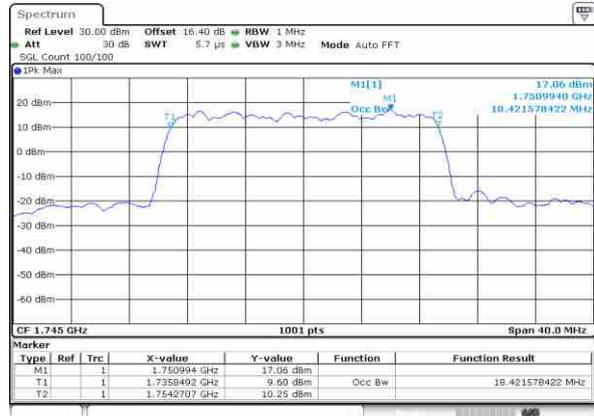
Date: 16.FEB.2019 21:25:09

Highest Channel / 15MHz / 64QAM



Date: 16.FEB.2019 21:30:53

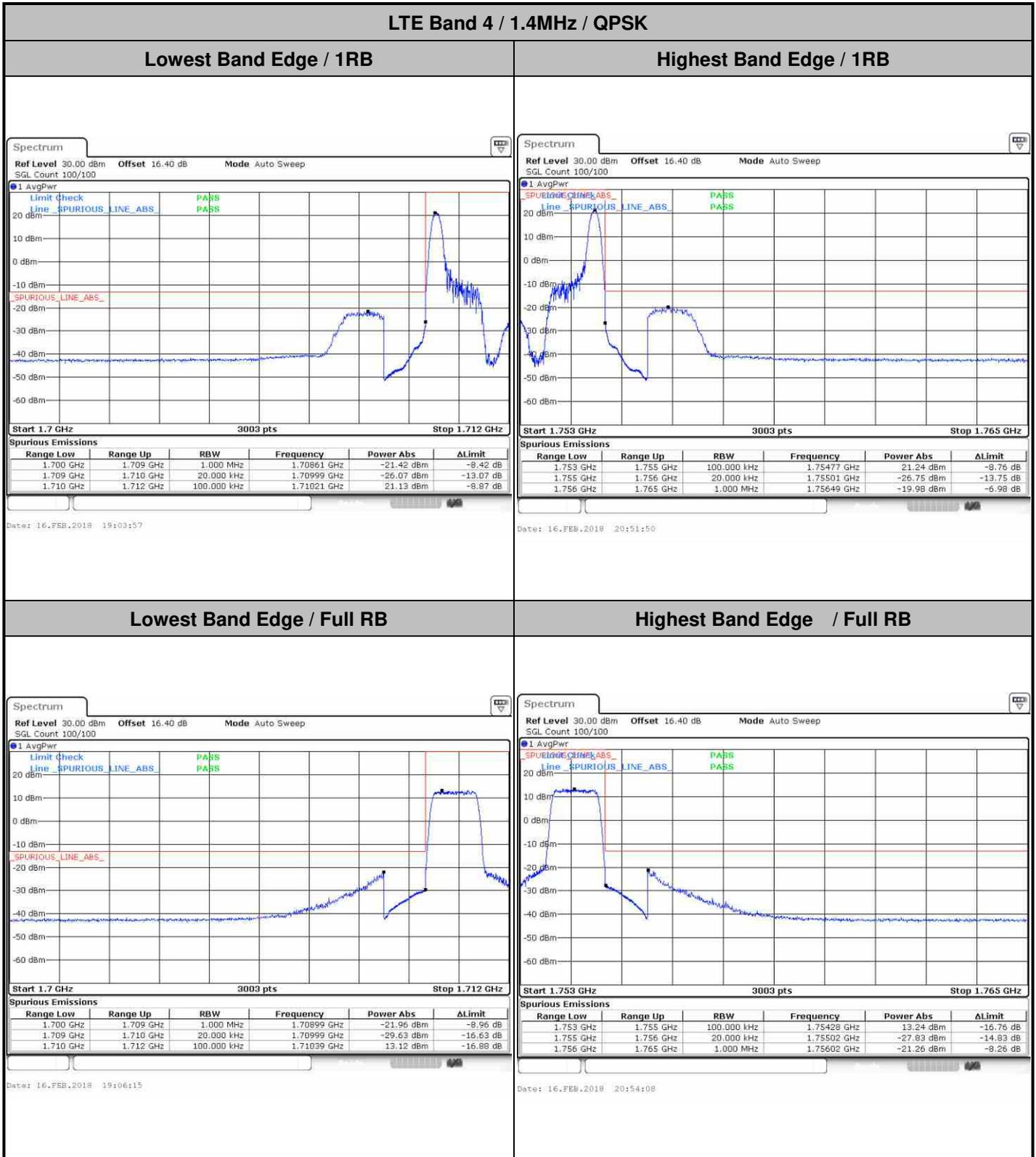
Highest Channel / 20MHz / 64QAM



Date: 16.FEB.2019 21:30:30



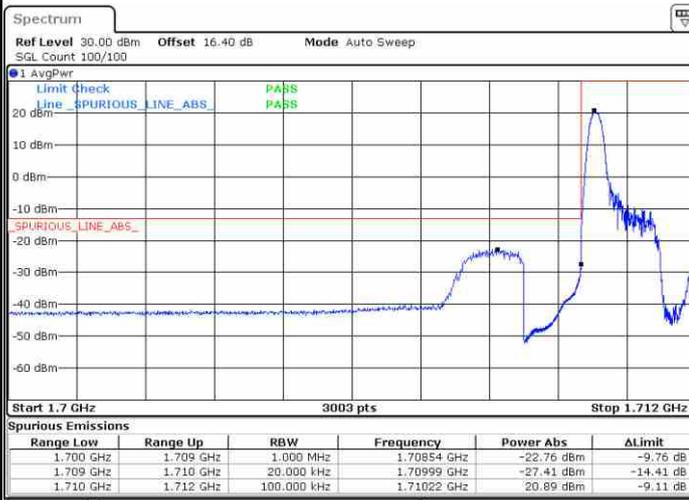
Conducted Band Edge





LTE Band 4 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



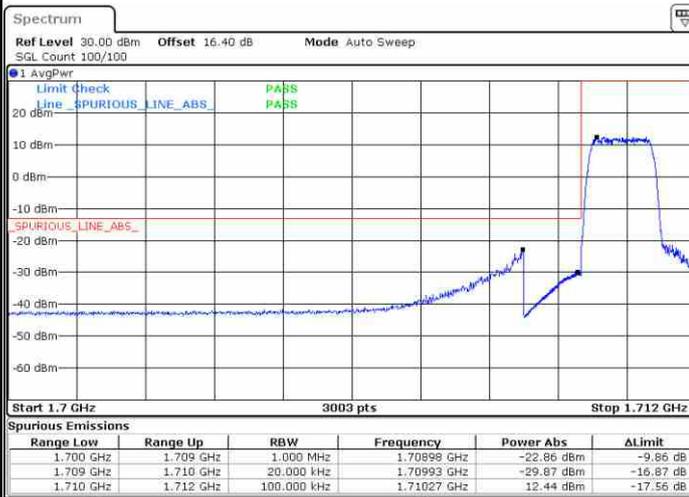
Date: 16.FEB.2018 19:05:06

Highest Band Edge / 1 RB



Date: 16.FEB.2018 20:52:59

Lowest Band Edge / Full RB



Date: 16.FEB.2018 19:07:24

Highest Band Edge / Full RB

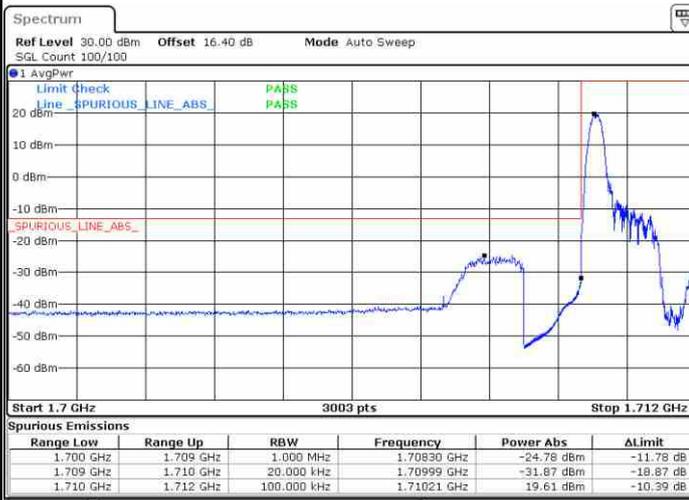


Date: 16.FEB.2018 20:55:17



LTE Band 4 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



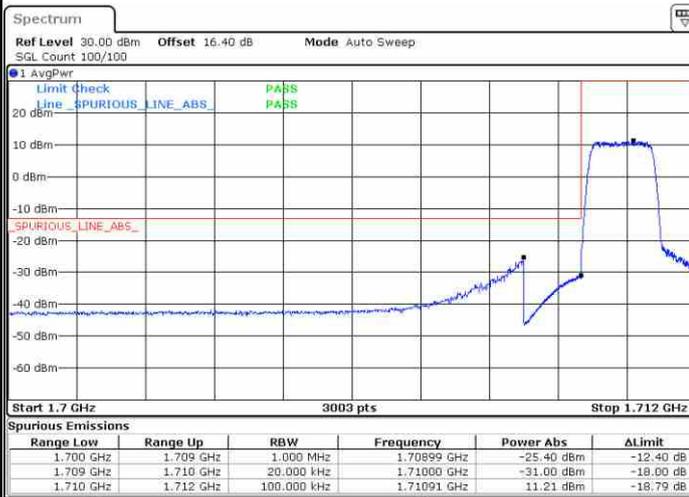
Date: 16.FEB.2018 21:44:28

Highest Band Edge / 1 RB



Date: 16.FEB.2018 21:49:26

Lowest Band Edge / Full RB



Date: 16.FEB.2018 21:45:37

Highest Band Edge / Full RB



Date: 16.FEB.2018 21:50:35