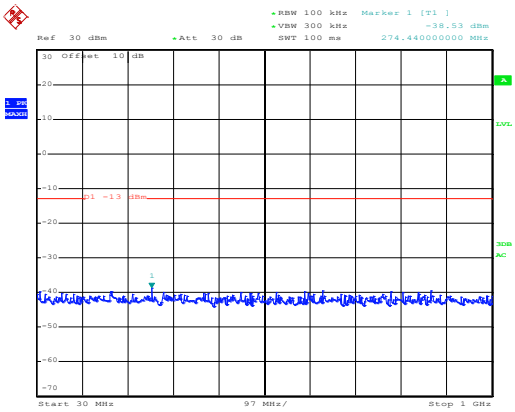
LTE band 4, 1.4MHz

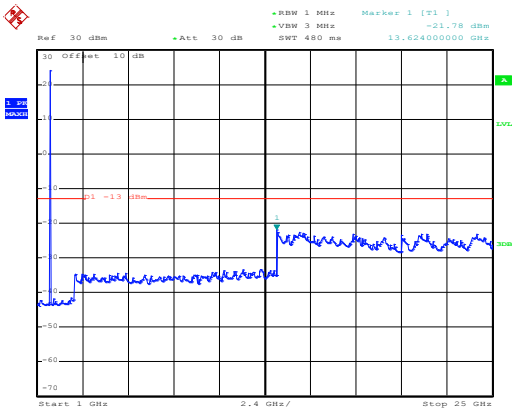
16 QAM & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:10:43

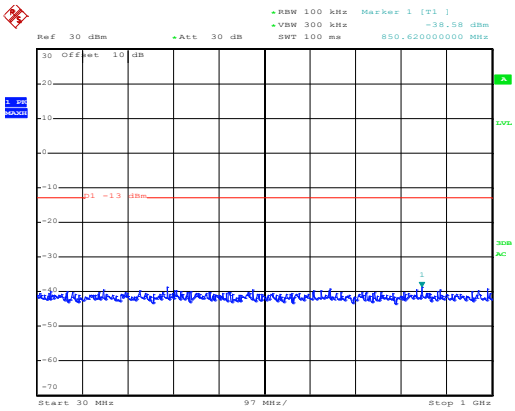
30MHz~1GHz



Date: 11.OCT.2017 16:15:29

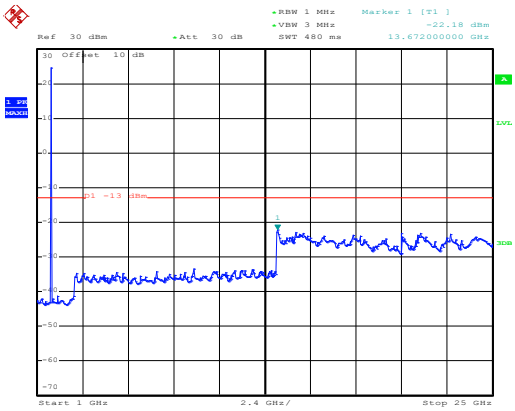
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:11:25

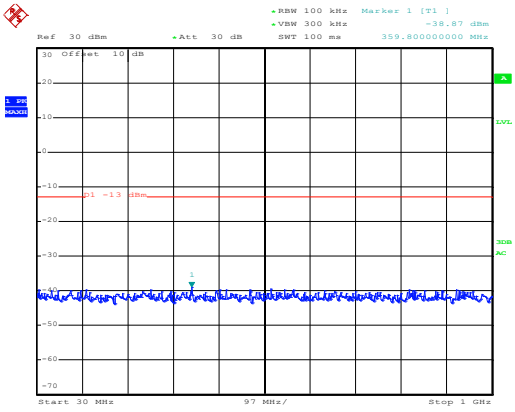
30MHz~1GHz



Date: 11.OCT.2017 16:17:37

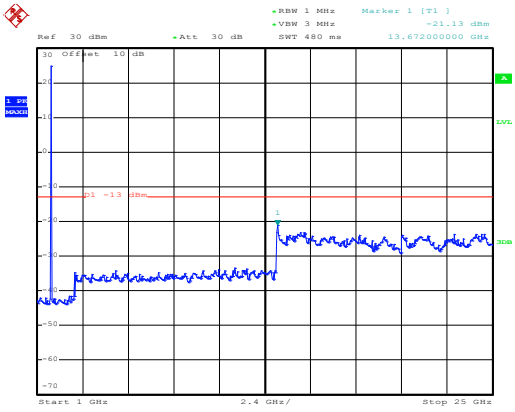
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:12:10

30MHz~1GHz

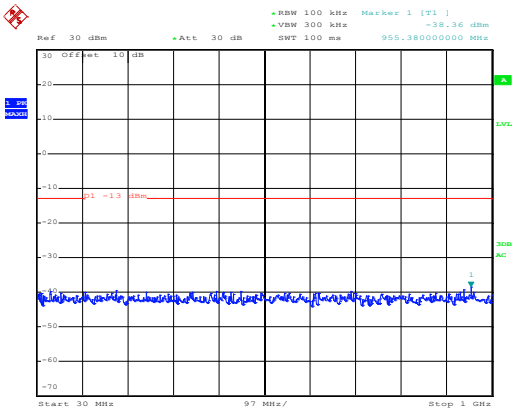


Date: 11.OCT.2017 16:20:53

1GHz~25GHz

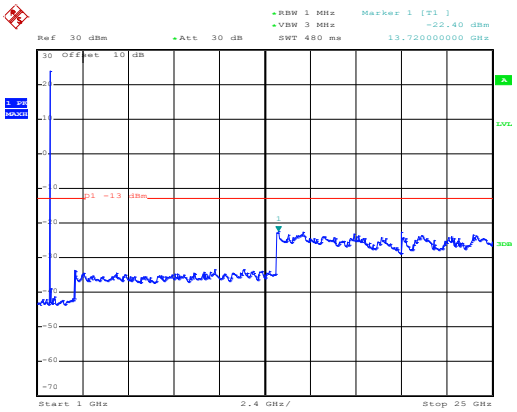
16 QAM & RB Size 6

Lowest channel



Date: 6.NOV.2017 15:11:08

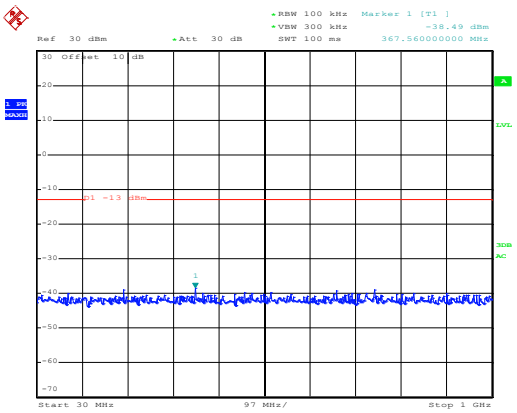
30MHz~1GHz



Date: 11.OCT.2017 16:16:43

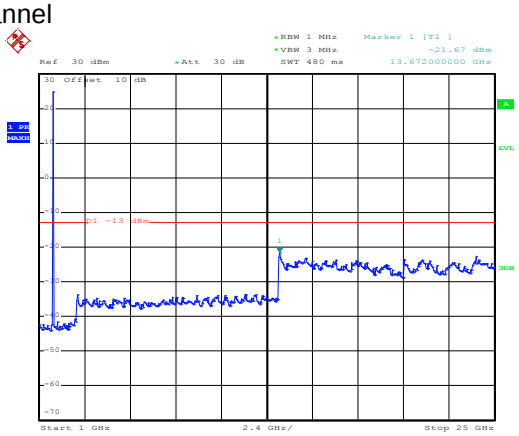
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:11:54

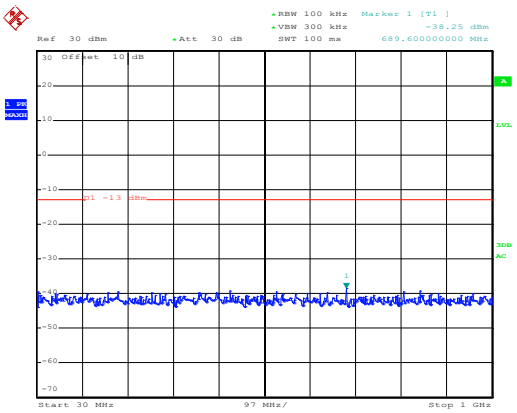
30MHz~1GHz



Date: 11.OCT.2017 16:20:02

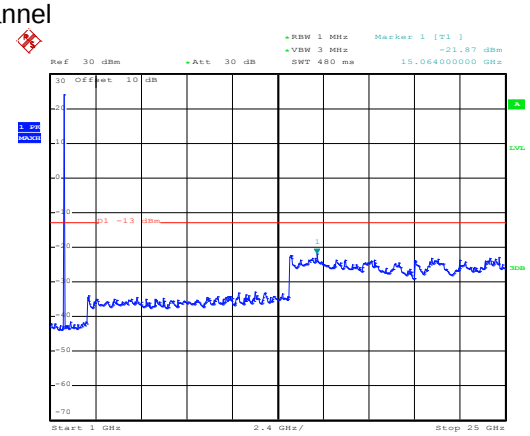
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:12:36

30MHz~1GHz

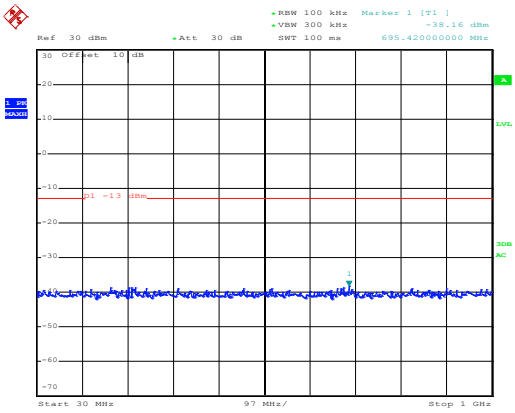


Date: 11.OCT.2017 16:22:48

1GHz~25GHz

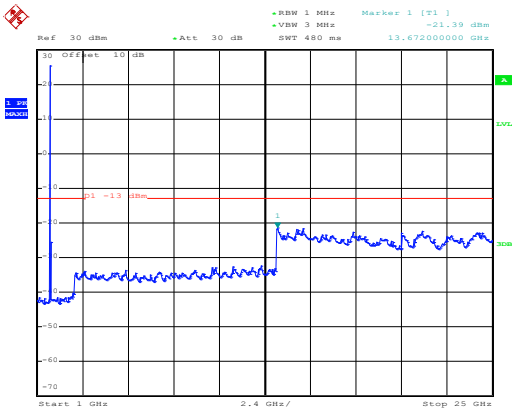
QPSK & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:10:36

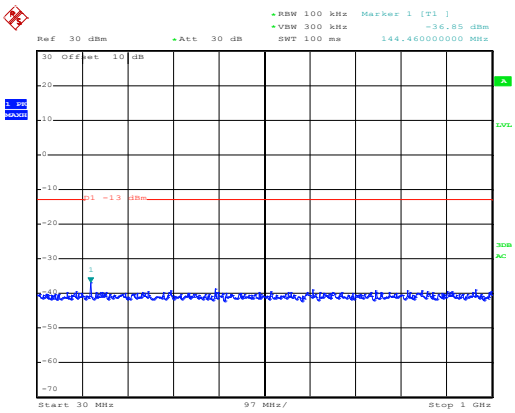
30MHz~1GHz



Date: 11.OCT.2017 16:15:13

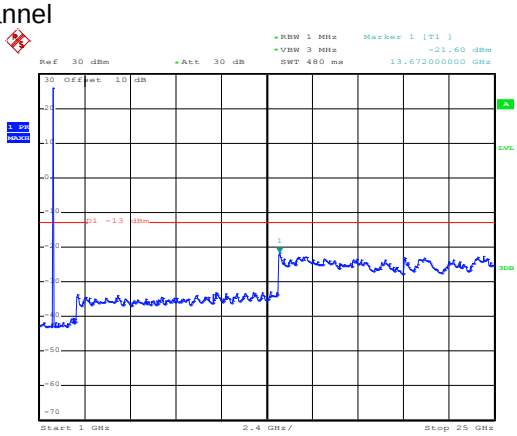
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:11:19

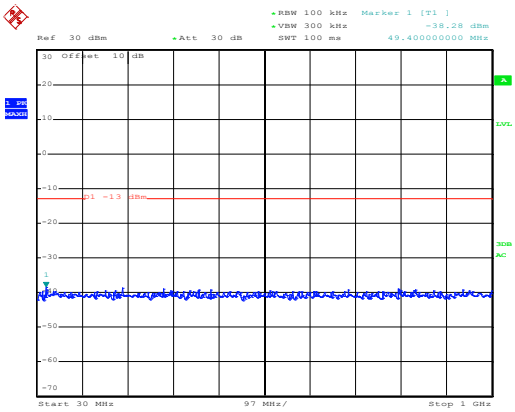
30MHz~1GHz



Date: 11.OCT.2017 16:17:24

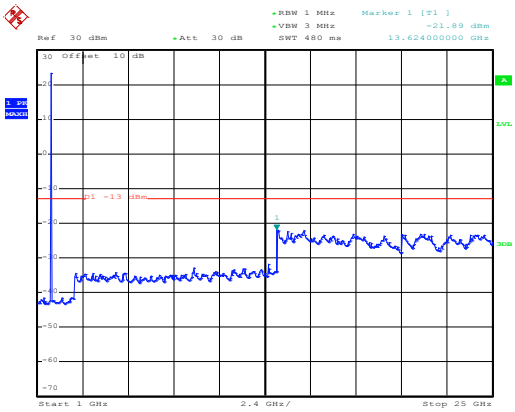
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:12:05

30MHz~1GHz

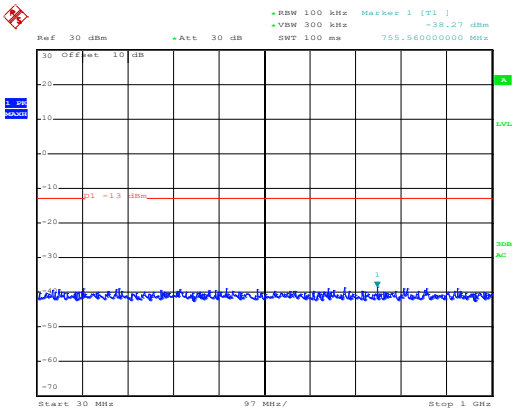


Date: 11.OCT.2017 16:20:39

1GHz~25GHz

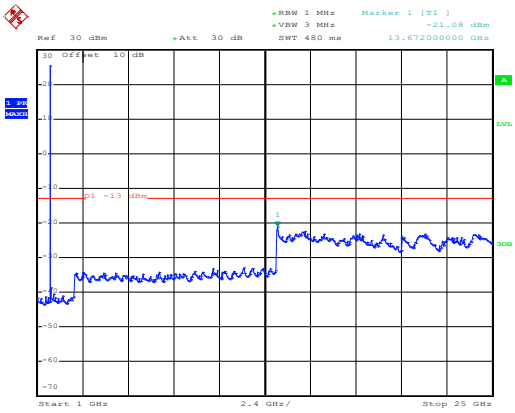
QPSK & RB Size 6

Lowest channel



Date: 6.NOV.2017 15:11:04

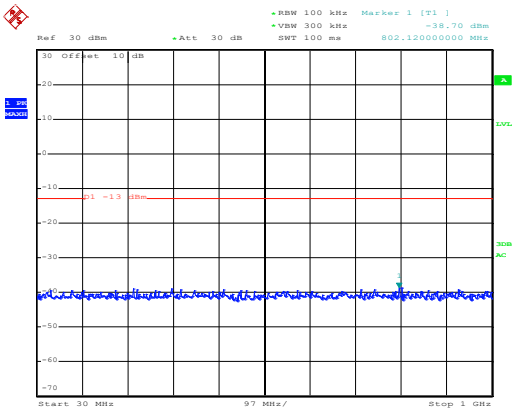
30MHz~1GHz



Date: 11.OCT.2017 16:16:29

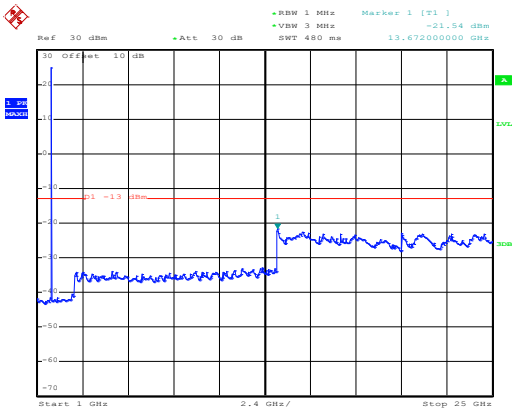
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:11:49

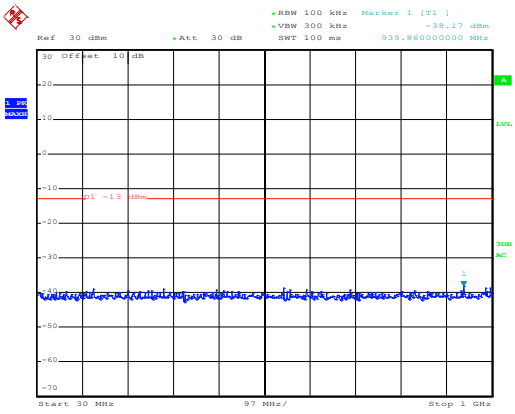
30MHz~1GHz



Date: 11.OCT.2017 16:19:49

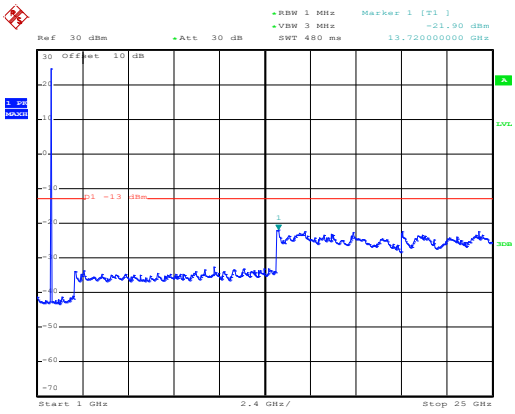
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:12:32

30MHz~1GHz



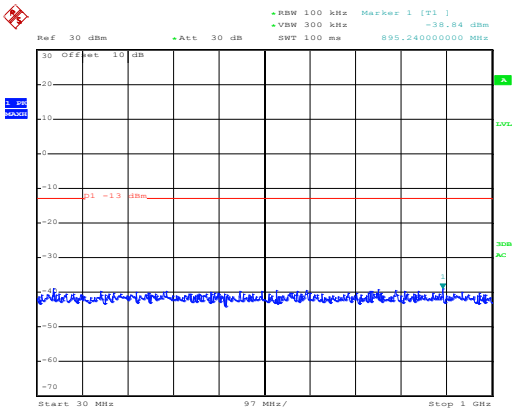
Date: 11.OCT.2017 16:22:33

1GHz~25GHz

3MHz

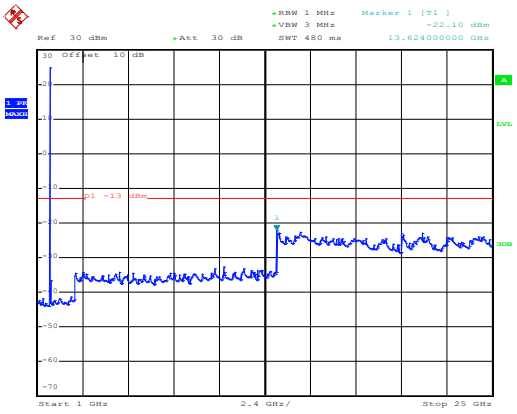
16 QAM & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:12:55

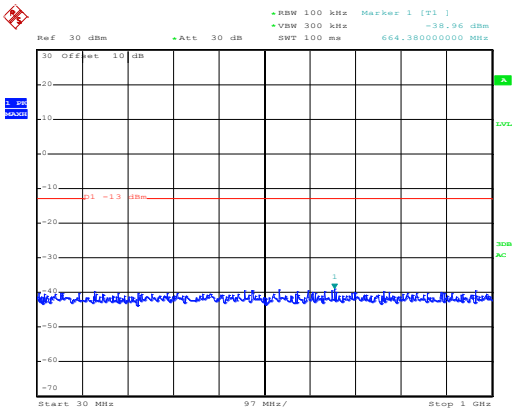
30MHz~1GHz



Date: 11.OCT.2017 16:24:16

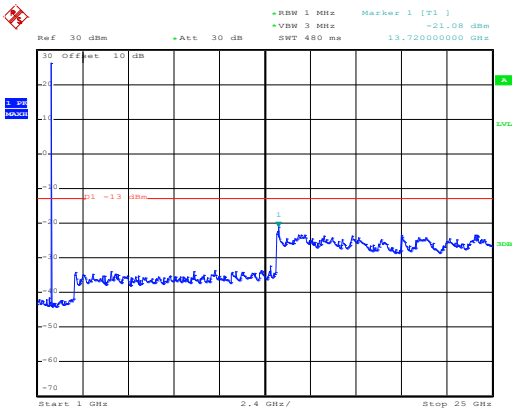
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:13:46

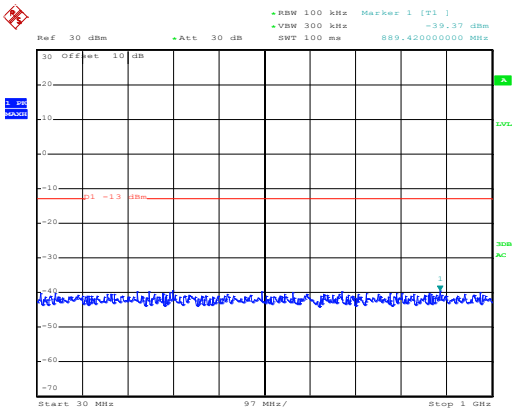
30MHz~1GHz



Date: 11.OCT.2017 16:28:37

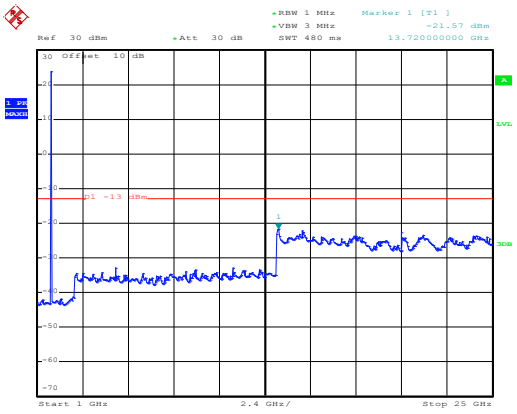
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:14:29

30MHz~1GHz

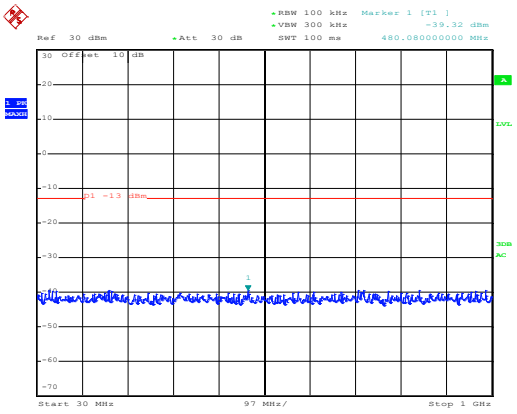


Date: 11.OCT.2017 16:32:11

1GHz~25GHz

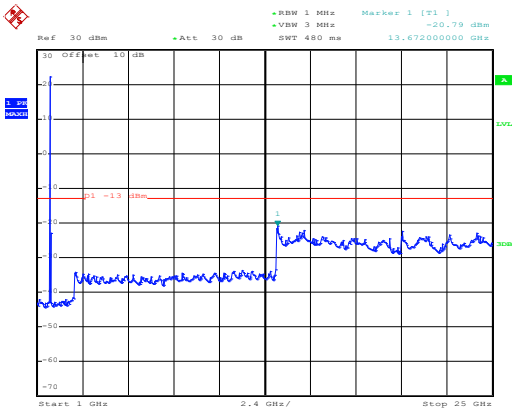
16 QAM & RB Size 15

Lowest channel



Date: 6.NOV.2017 15:13:31

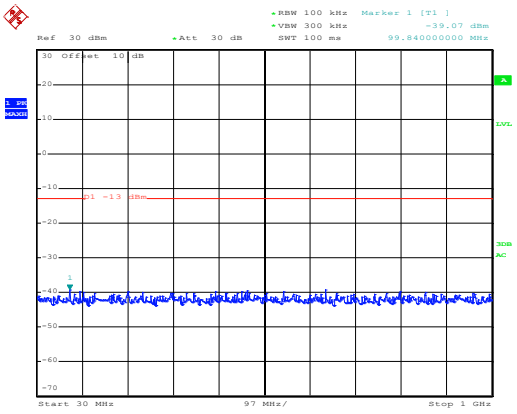
30MHz~1GHz



Date: 11.OCT.2017 16:27:19

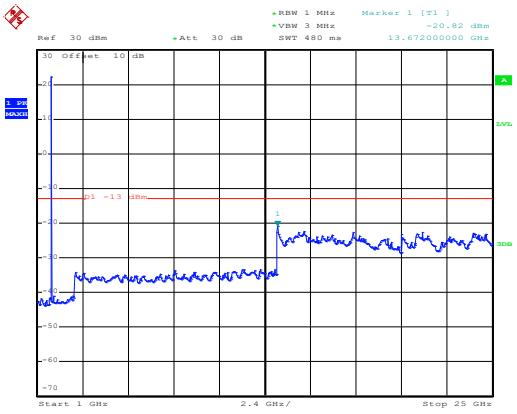
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:14:14

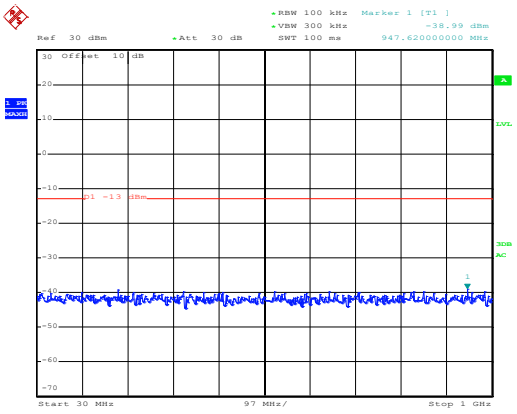
30MHz~1GHz



Date: 11.OCT.2017 16:30:21

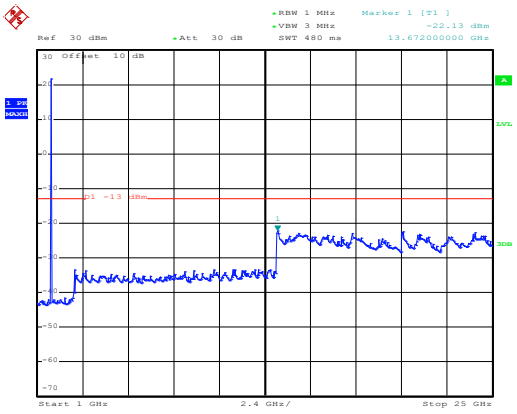
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:15:00

30MHz~1GHz

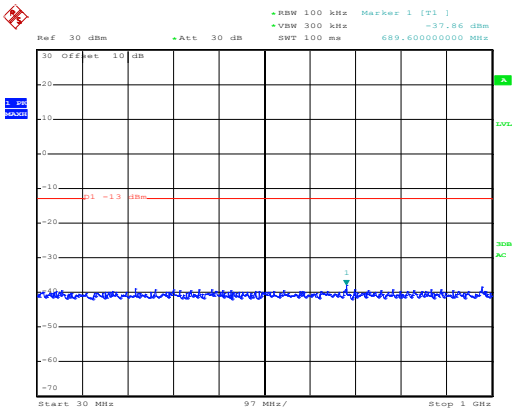


Date: 11.OCT.2017 16:35:01

1GHz~25GHz

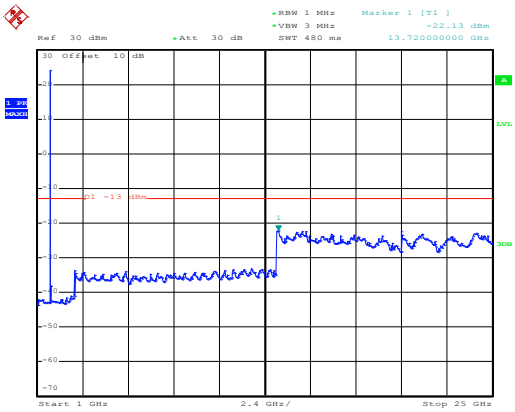
QPSK & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:12:49

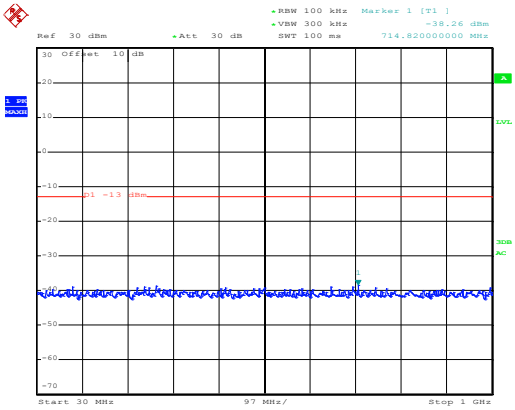
30MHz~1GHz



Date: 11.OCT.2017 16:24:00

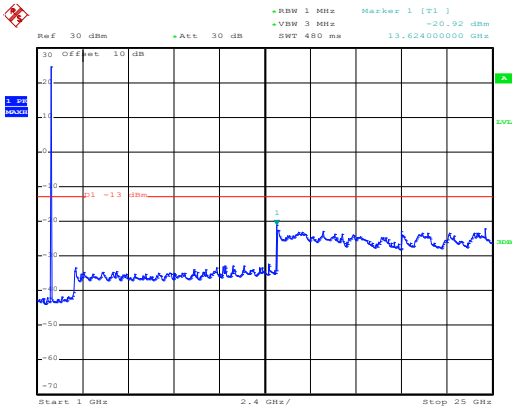
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:13:41

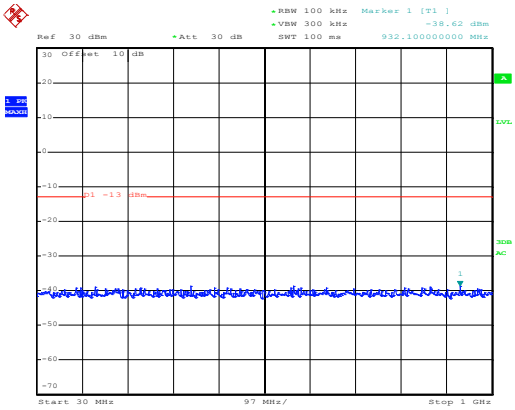
30MHz~1GHz



Date: 11.OCT.2017 16:28:25

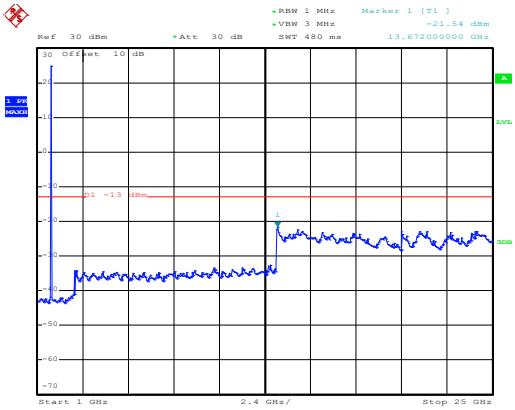
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:14:24

30MHz~1GHz

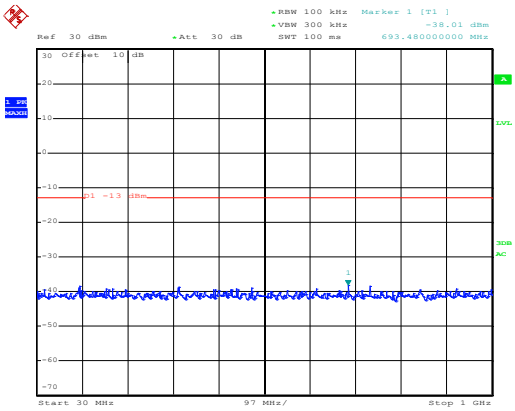


Date: 11.OCT.2017 16:31:49

1GHz~25GHz

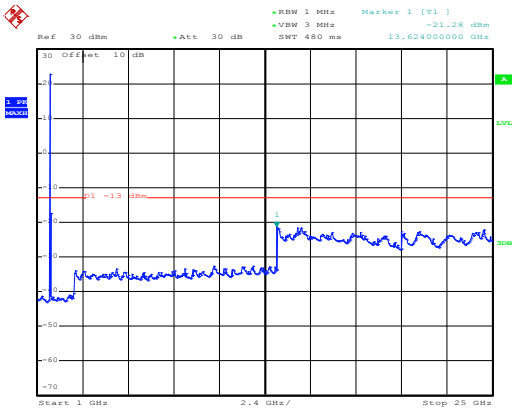
QPSK & RB Size 15

Lowest channel



Date: 6.NOV.2017 15:13:27

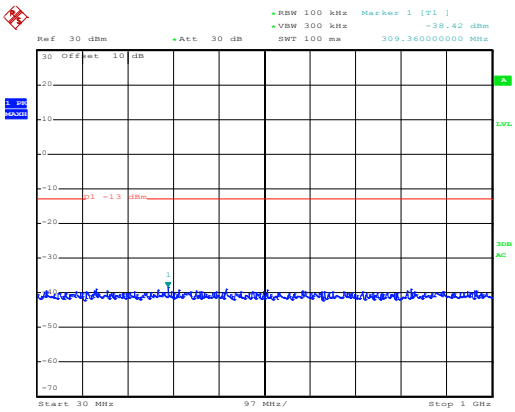
30MHz~1GHz



Date: 11.OCT.2017 16:27:07

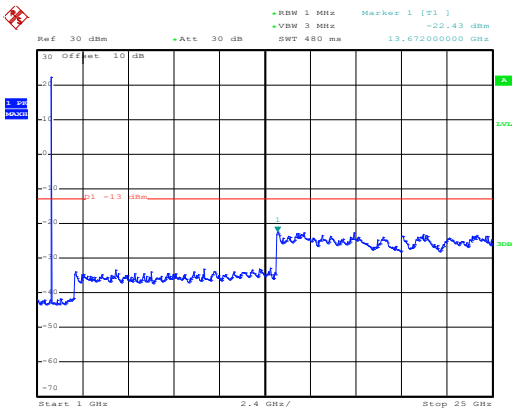
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:14:10

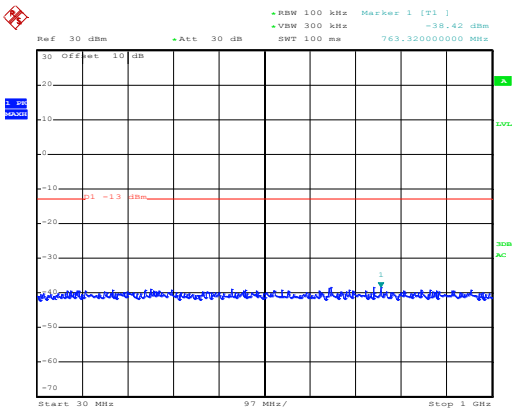
30MHz~1GHz



Date: 11.OCT.2017 16:30:01

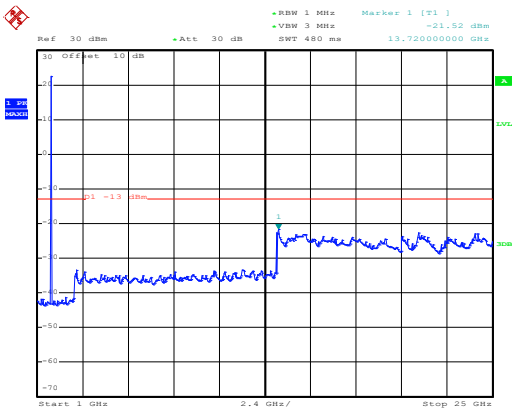
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:14:56

30MHz~1GHz



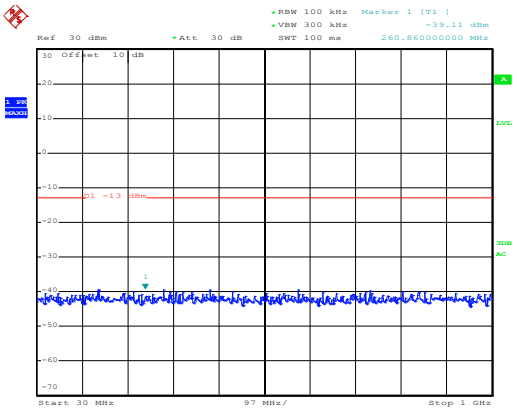
Date: 11.OCT.2017 16:34:36

1GHz~25GHz

5MHz

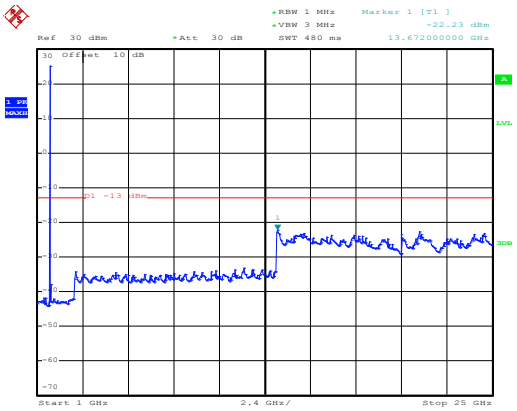
16 QAM & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:16:48

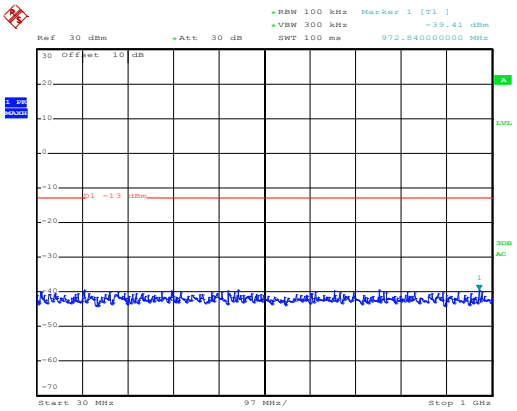
30MHz~1GHz



Date: 11.OCT.2017 16:36:12

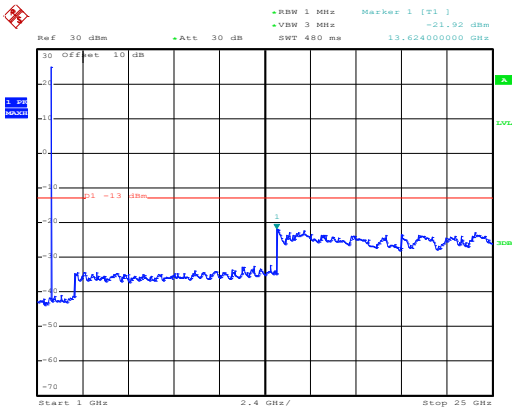
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:16:11

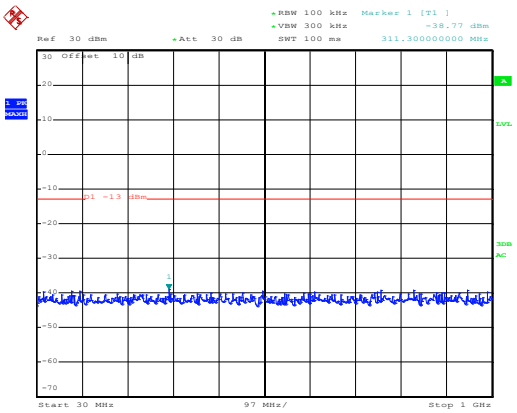
30MHz~1GHz



Date: 11.OCT.2017 16:39:31

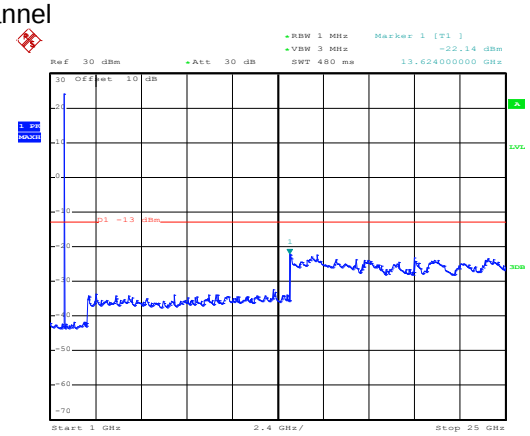
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:15:16

30MHz~1GHz

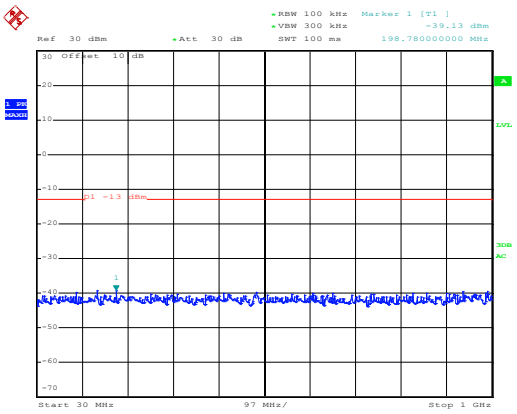


Date: 11.OCT.2017 16:43:10

1GHz~25GHz

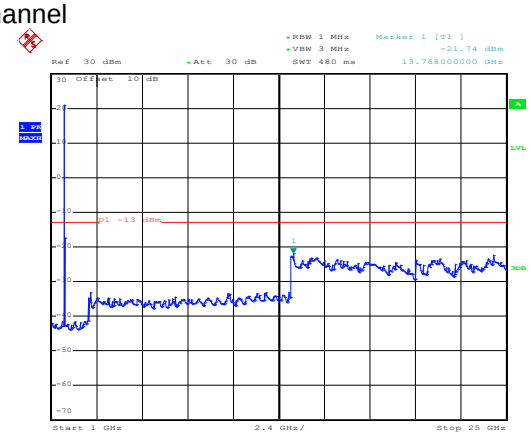
16 QAM & RB Size 25

Lowest channel



Date: 6.NOV.2017 15:05:50

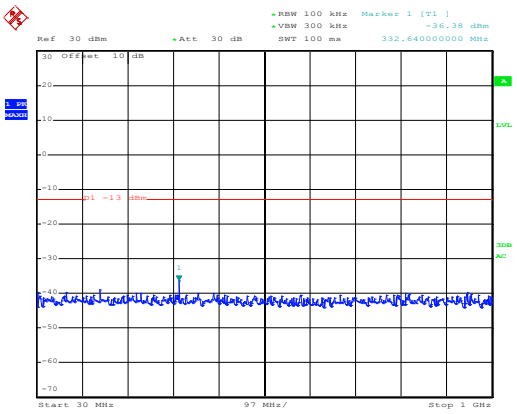
30MHz~1GHz



Date: 11.OCT.2017 16:37:56

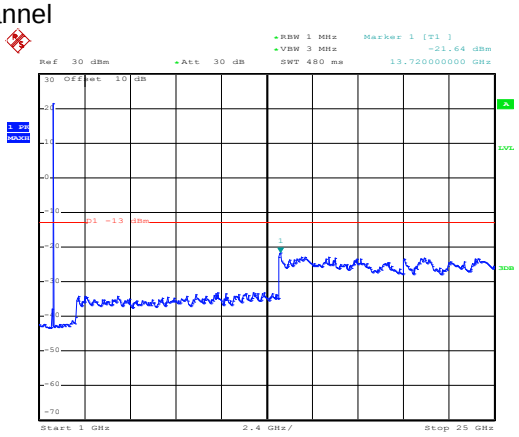
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:16:34

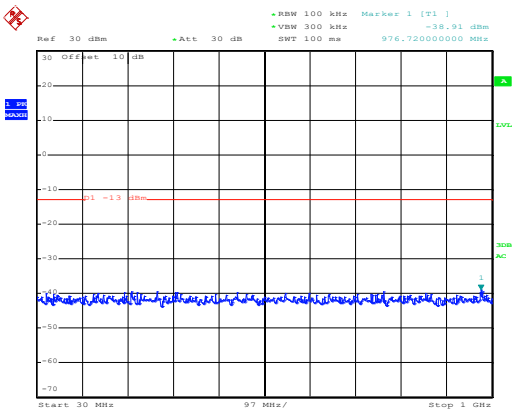
30MHz~1GHz



Date: 11.OCT.2017 16:41:43

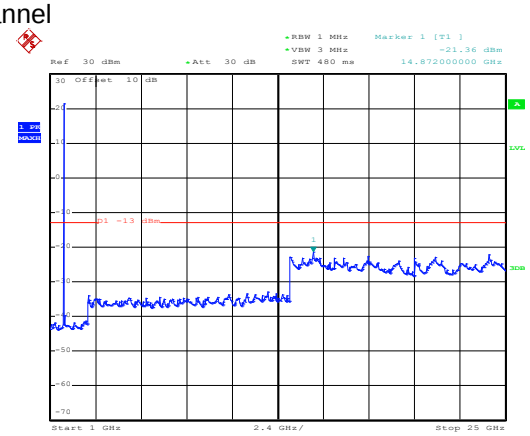
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:15:52

30MHz~1GHz

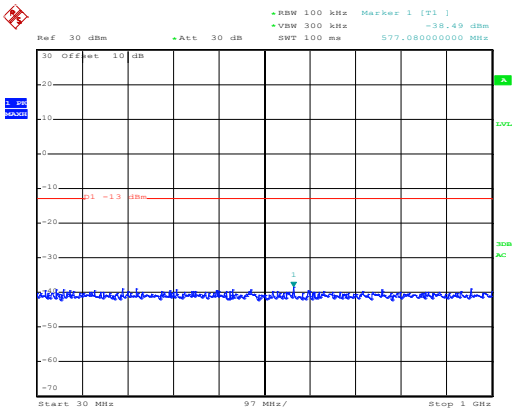


Date: 11.OCT.2017 16:44:57

1GHz~25GHz

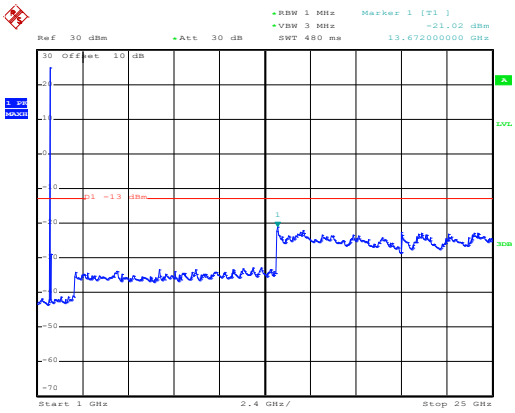
QPSK & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:16:45

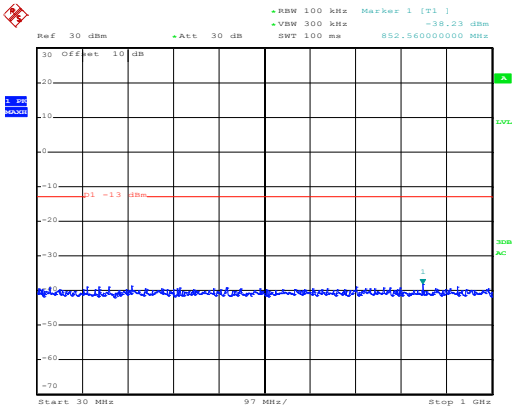
30MHz~1GHz



Date: 11.OCT.2017 16:35:56

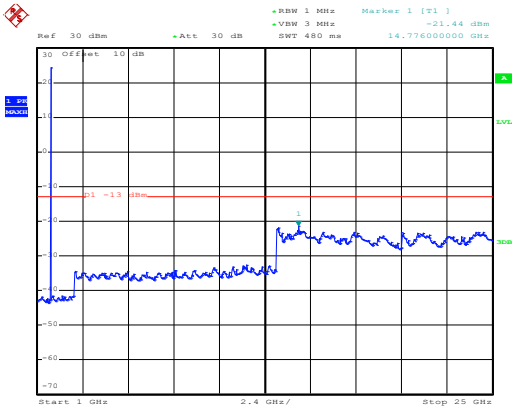
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:16:07

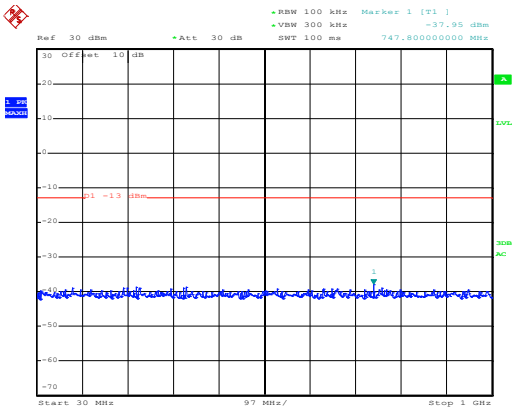
30MHz~1GHz



Date: 11.OCT.2017 16:38:52

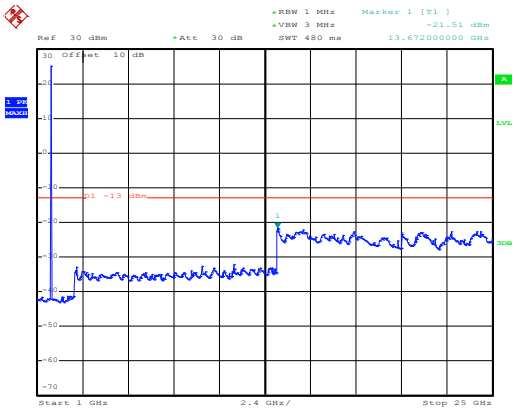
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:15:12

30MHz~1GHz

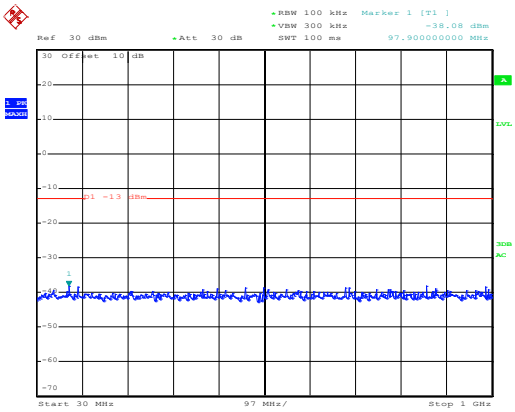


Date: 11.OCT.2017 16:42:50

1GHz~25GHz

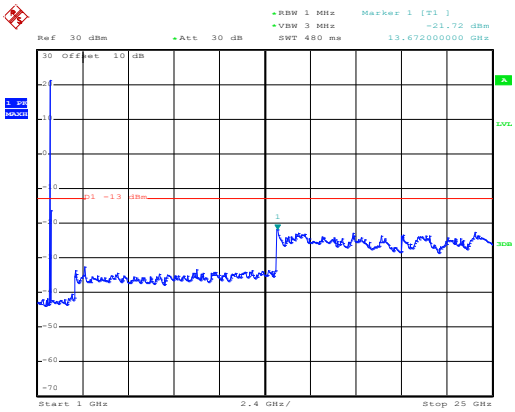
QPSK & RB Size 25

Lowest channel



Date: 6.NOV.2017 15:13:03

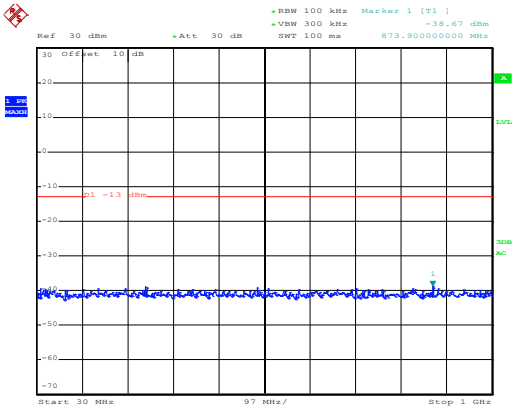
30MHz~1GHz



Date: 11.OCT.2017 16:37:36

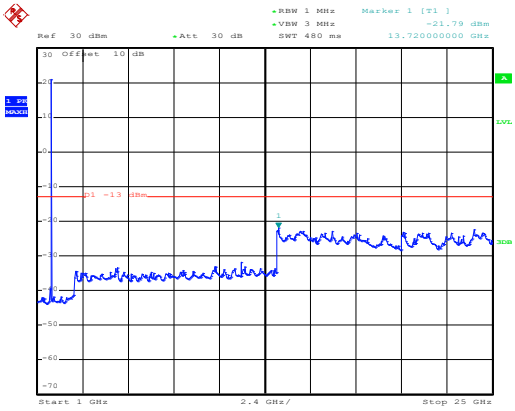
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:16:31

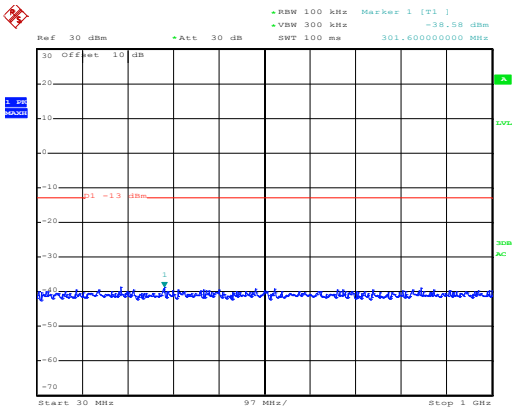
30MHz~1GHz



Date: 11.OCT.2017 16:40:56

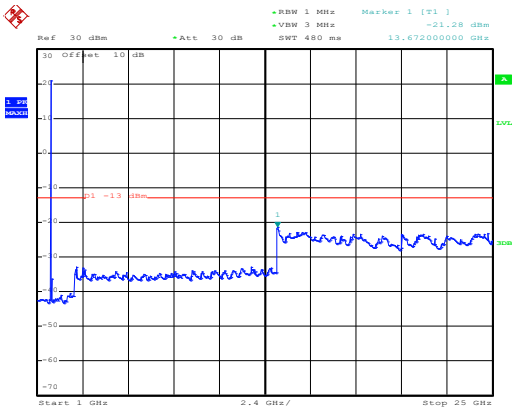
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:15:47

30MHz~1GHz



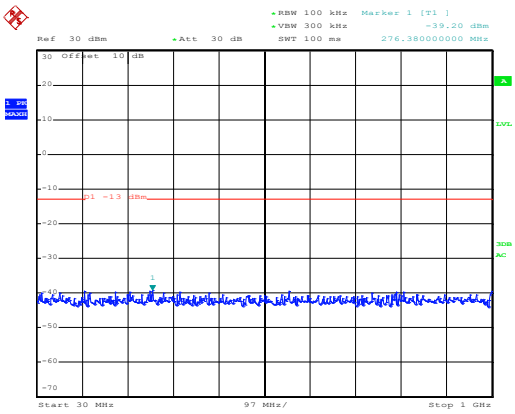
Date: 11.OCT.2017 16:44:41

1GHz~25GHz

10MHz

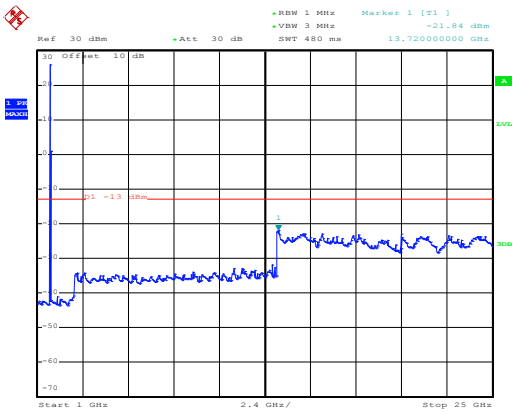
16 QAM & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:17:03

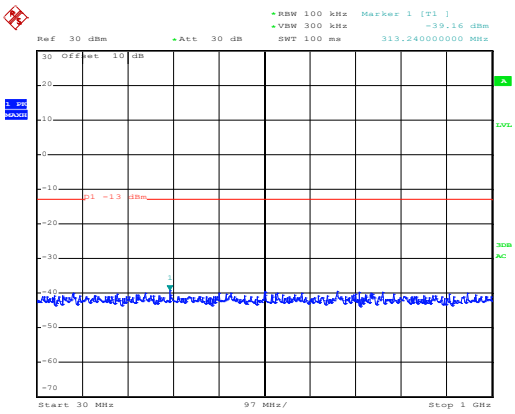
30MHz~1GHz



Date: 11.OCT.2017 16:48:48

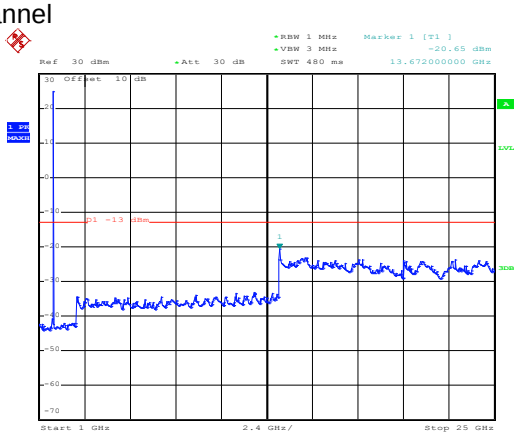
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:17:44

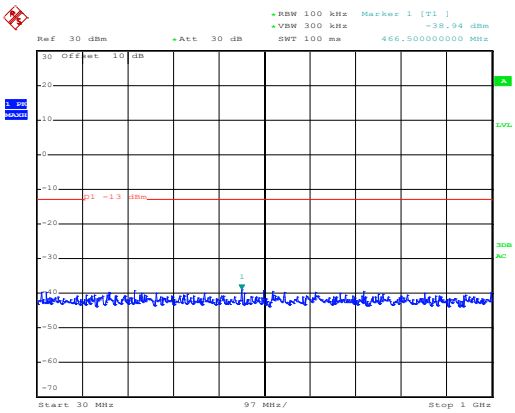
30MHz~1GHz



Date: 11.OCT.2017 16:51:38

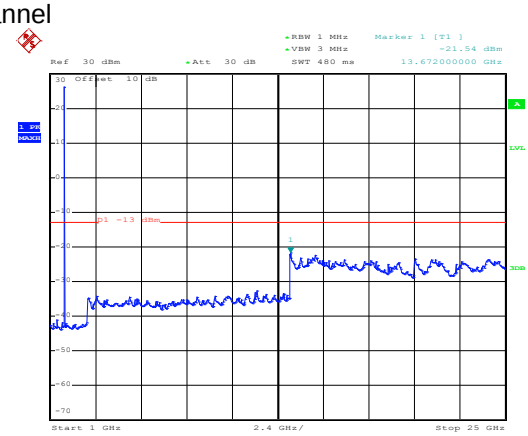
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:18:27

30MHz~1GHz

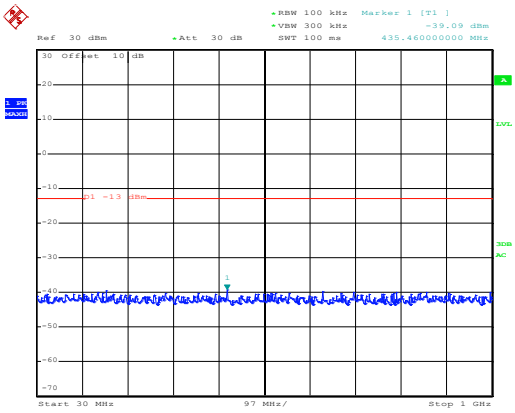


Date: 11.OCT.2017 17:03:33

1GHz~25GHz

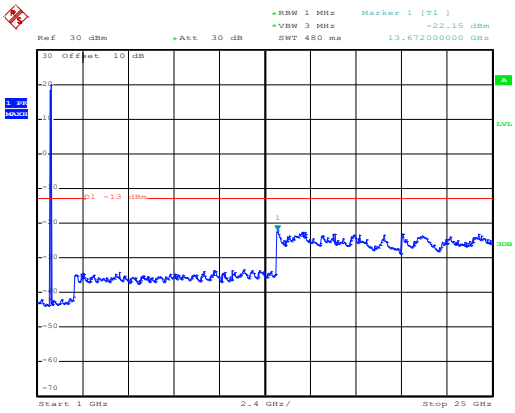
16 QAM & RB Size 50

Lowest channel



Date: 6.NOV.2017 15:17:29

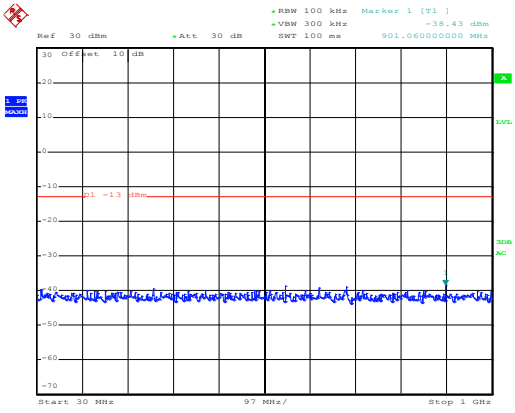
30MHz~1GHz



Date: 11.OCT.2017 16:50:26

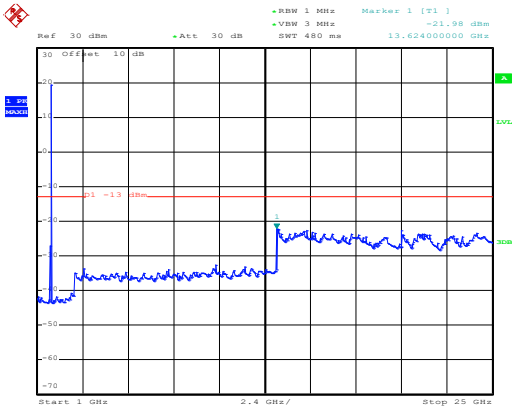
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:18:13

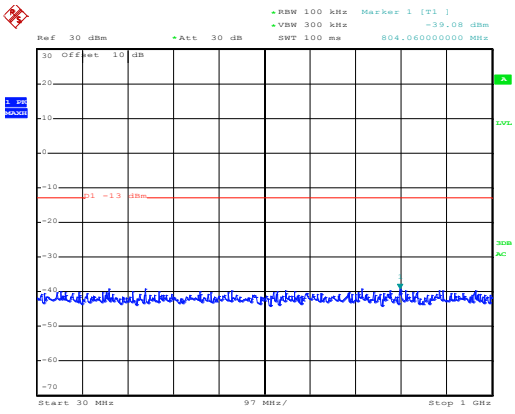
30MHz~1GHz



Date: 11.OCT.2017 16:55:12

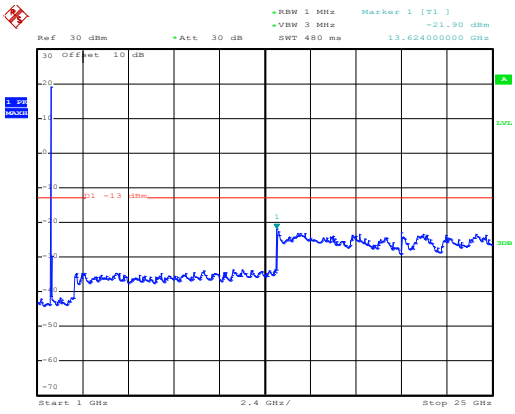
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:18:53

30MHz~1GHz

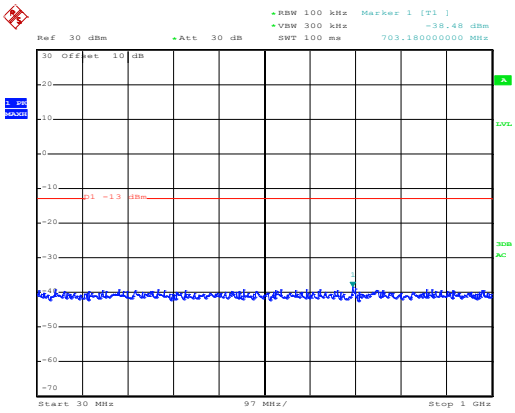


Date: 11.OCT.2017 17:05:35

1GHz~25GHz

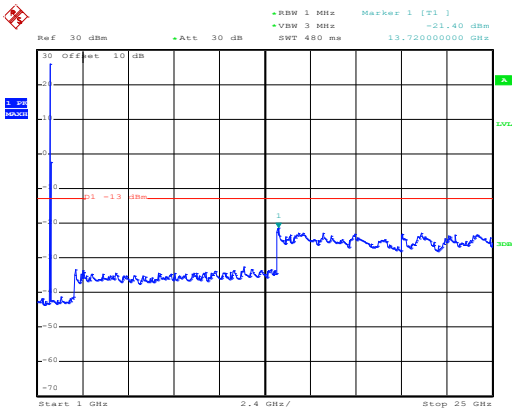
QPSK & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:16:59

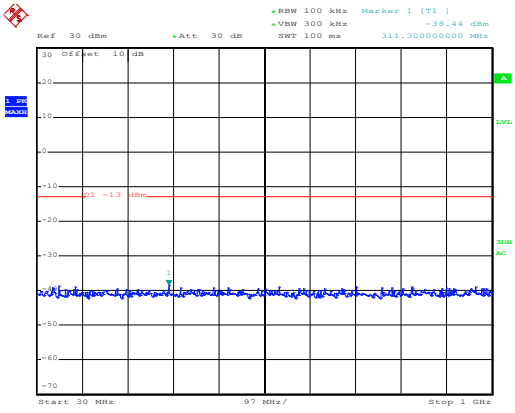
30MHz~1GHz



Date: 11.OCT.2017 16:48:20

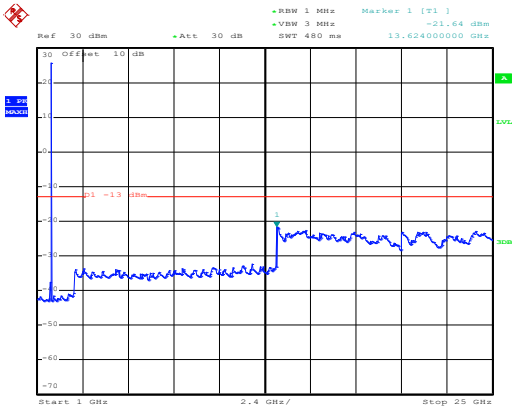
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:17:40

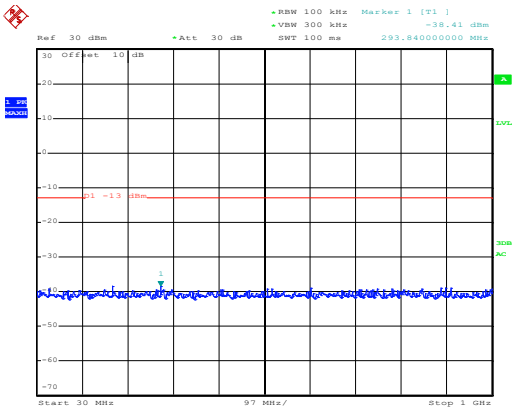
30MHz~1GHz



Date: 11.OCT.2017 16:51:25

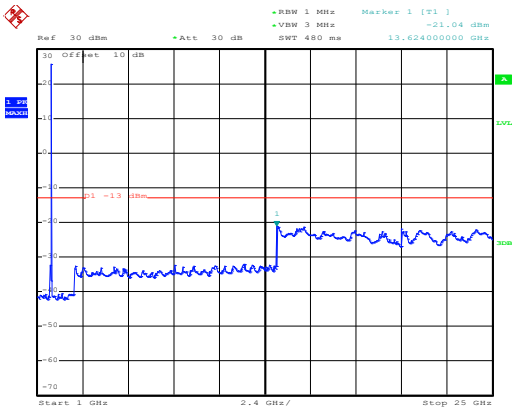
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:18:23

30MHz~1GHz

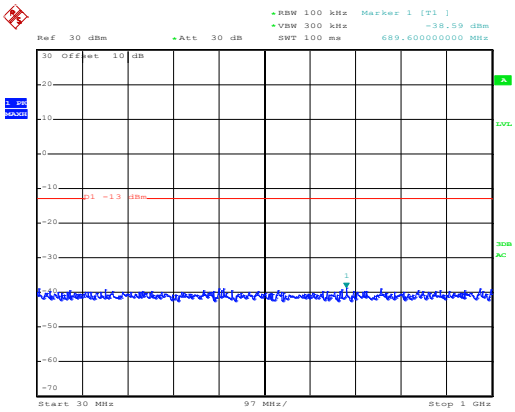


Date: 11.OCT.2017 17:03:17

1GHz~25GHz

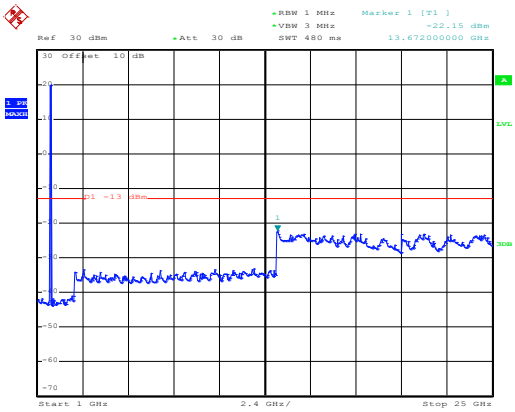
QPSK & RB Size 50

Lowest channel



Date: 6.NOV.2017 15:17:25

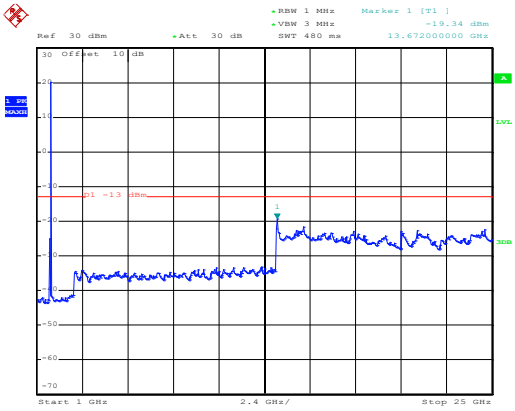
30MHz~1GHz



Date: 11.OCT.2017 16:50:07

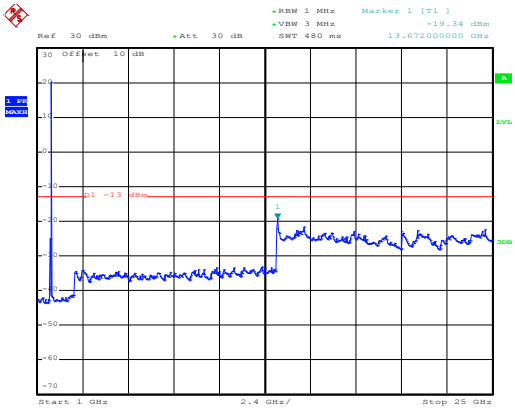
1GHz~25GHz

Middle channel



Date: 11.OCT.2017 17:49:47

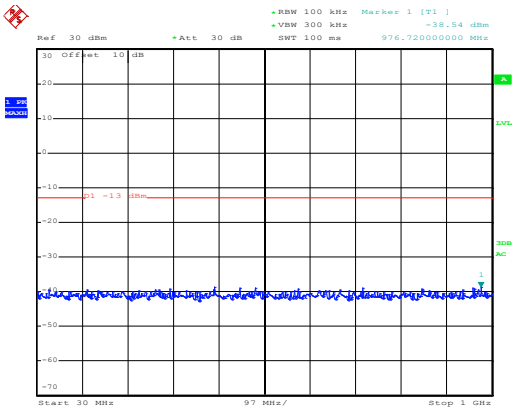
30MHz~1GHz



Date: 11.OCT.2017 17:49:47

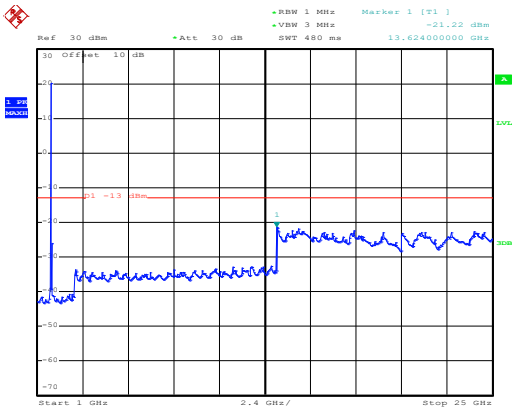
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:18:49

30MHz~1GHz



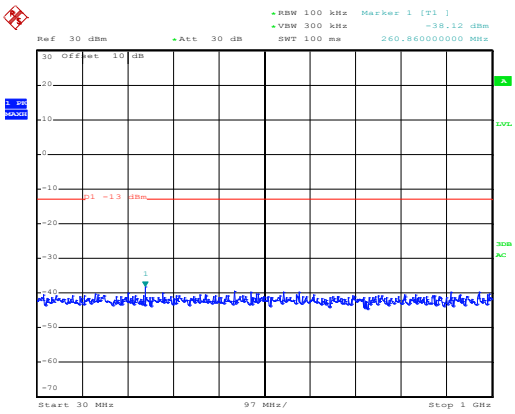
Date: 11.OCT.2017 17:05:19

1GHz~25GHz

15MHz

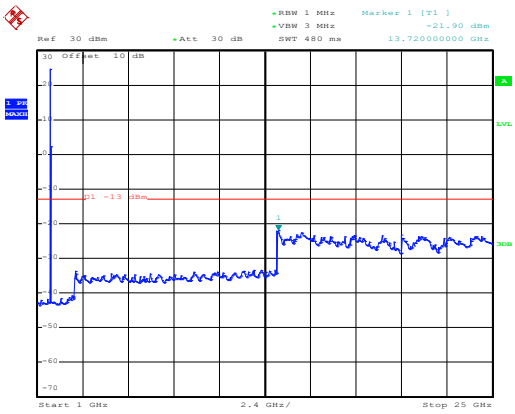
16 QAM & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:19:11

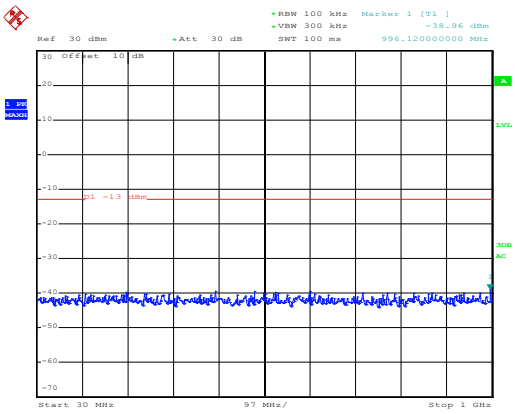
30MHz~1GHz



Date: 11.OCT.2017 17:06:55

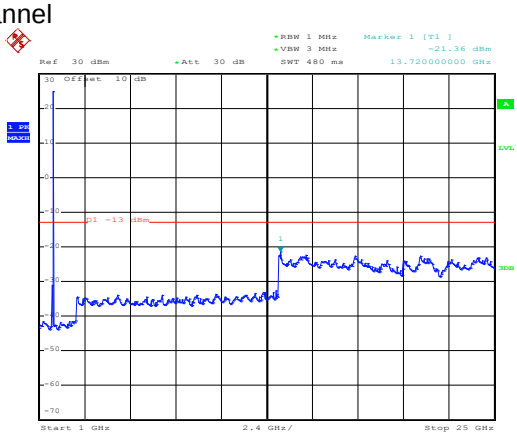
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:19:56

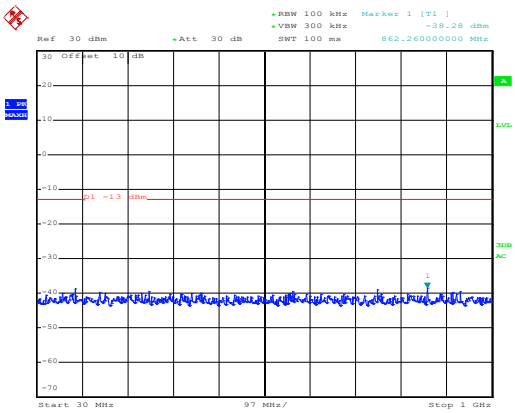
30MHz~1GHz



Date: 11.OCT.2017 17:09:53

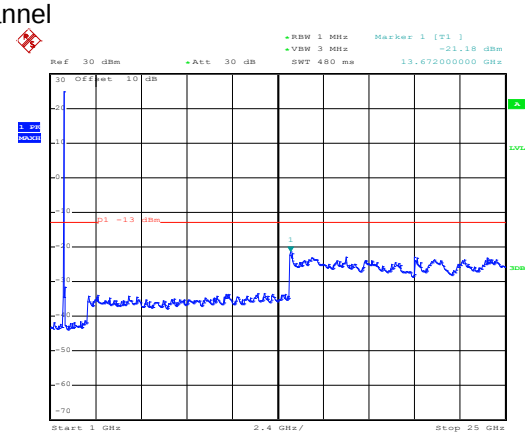
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:20:37

30MHz~1GHz

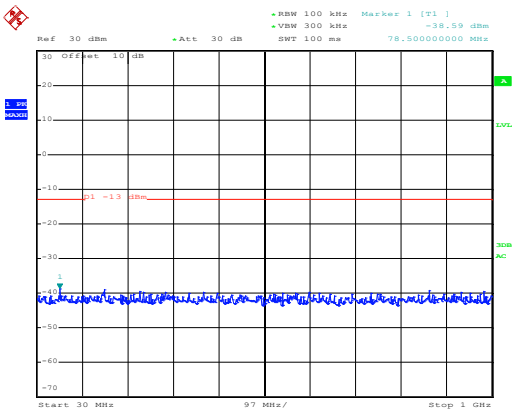


Date: 11.OCT.2017 17:21:36

1GHz~25GHz

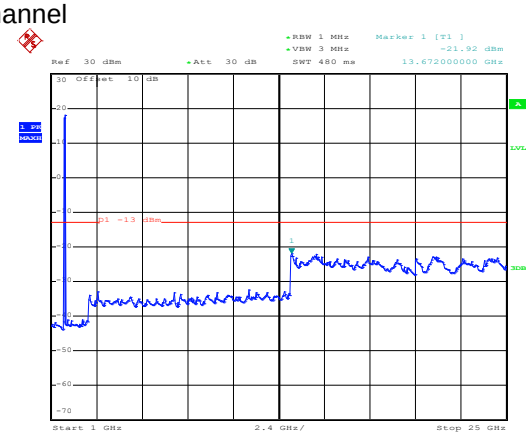
16 QAM & RB Size 75

Lowest channel



Date: 6.NOV.2017 15:19:41

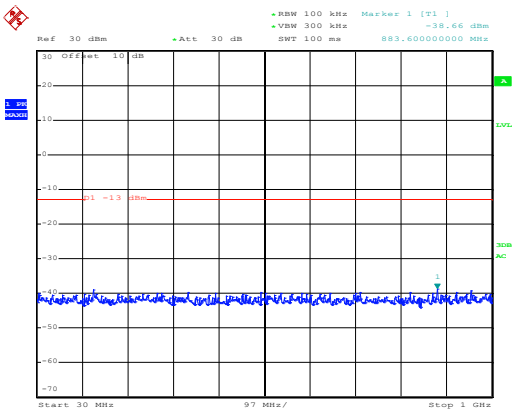
30MHz~1GHz



Date: 11.OCT.2017 17:09:03

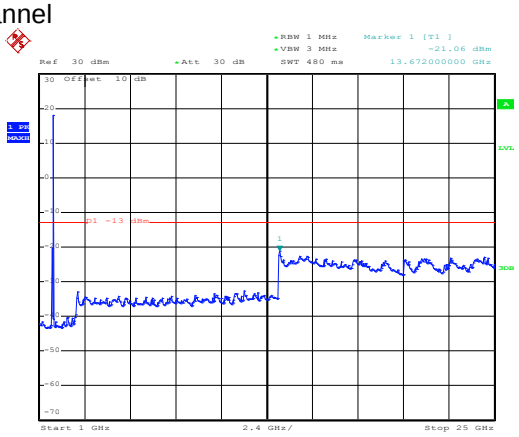
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:20:22

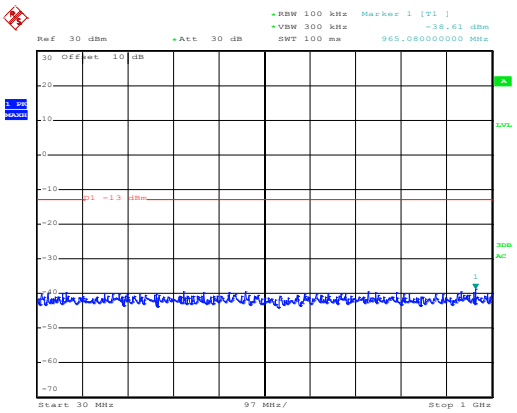
30MHz~1GHz



Date: 11.OCT.2017 17:12:24

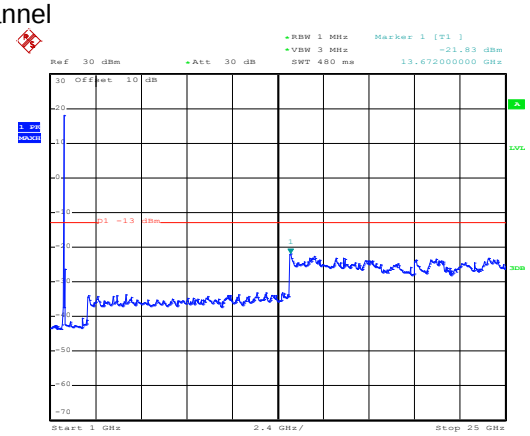
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:21:11

30MHz~1GHz

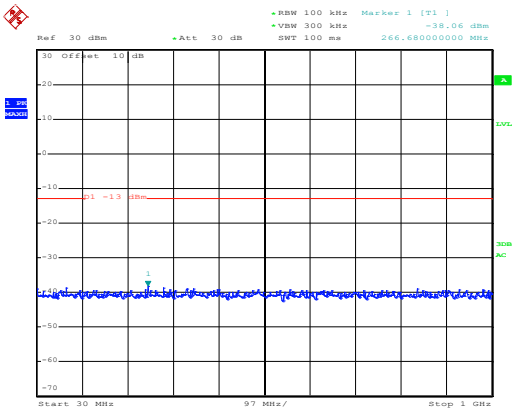


Date: 11.OCT.2017 17:24:03

1GHz~25GHz

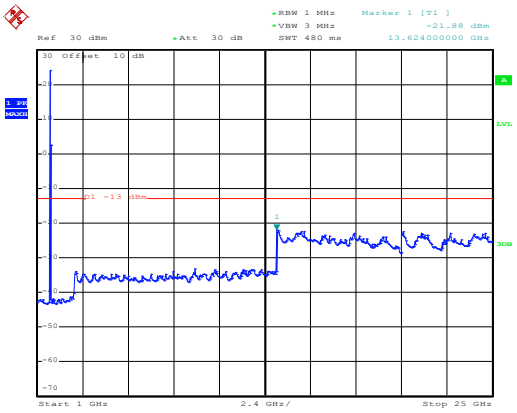
QPSK & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:19:07

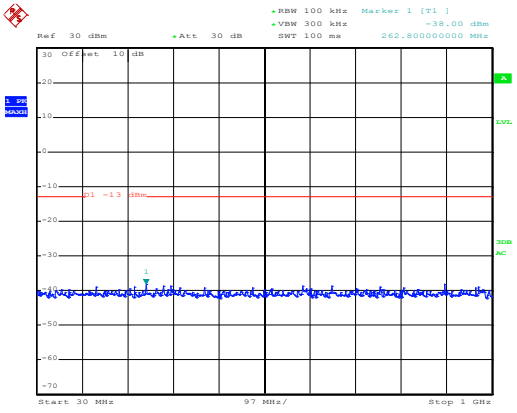
30MHz~1GHz



Date: 11.OCT.2017 17:06:29

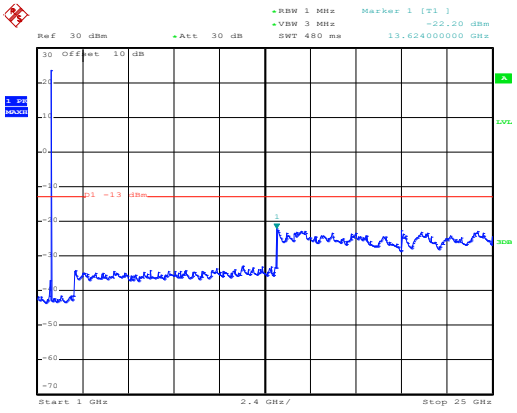
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:19:52

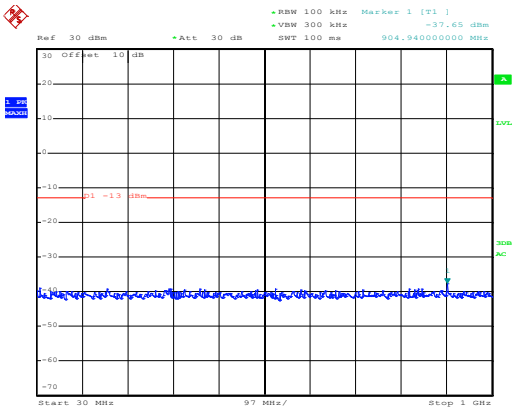
30MHz~1GHz



Date: 11.OCT.2017 17:09:30

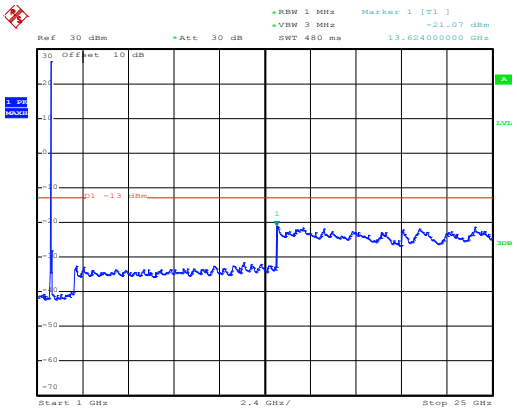
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:20:32

30MHz~1GHz

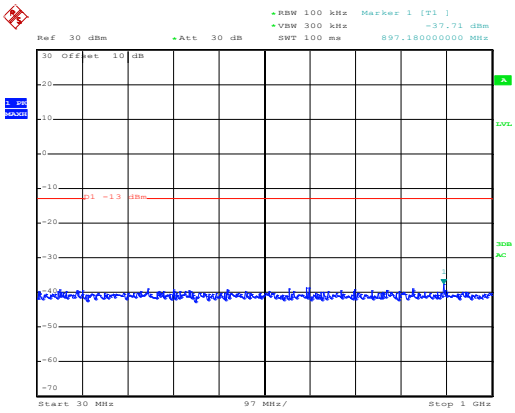


Date: 11.OCT.2017 17:21:16

1GHz~25GHz

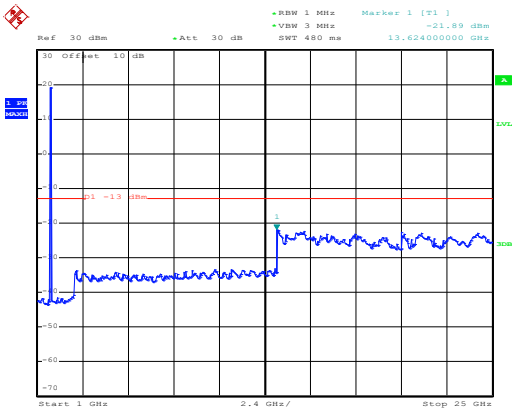
QPSK & RB Size 75

Lowest channel



Date: 6.NOV.2017 15:19:36

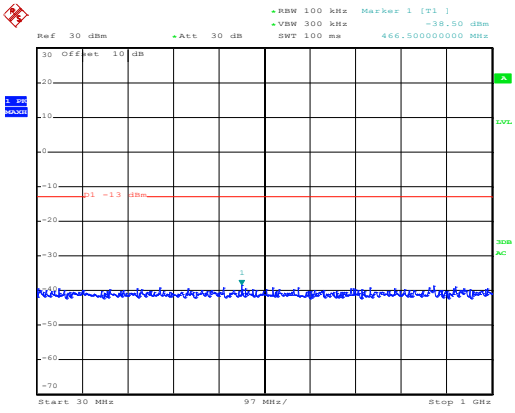
30MHz~1GHz



Date: 11.OCT.2017 17:08:31

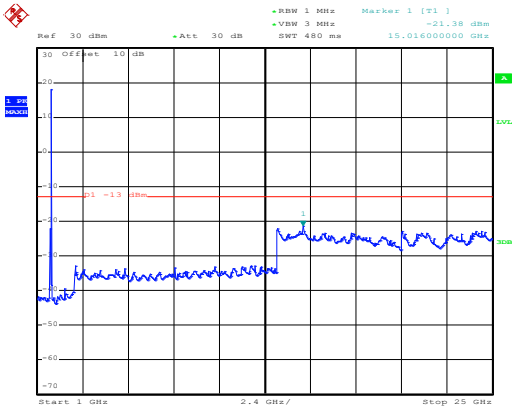
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:20:18

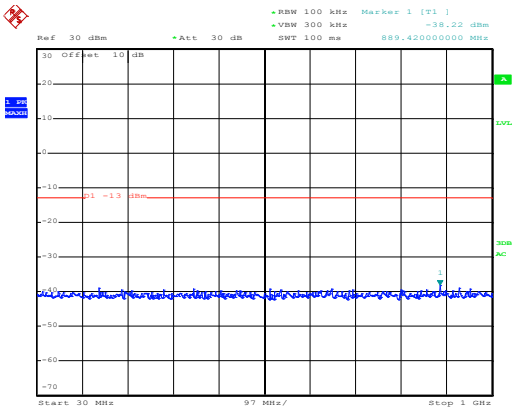
30MHz~1GHz



Date: 11.OCT.2017 17:12:00

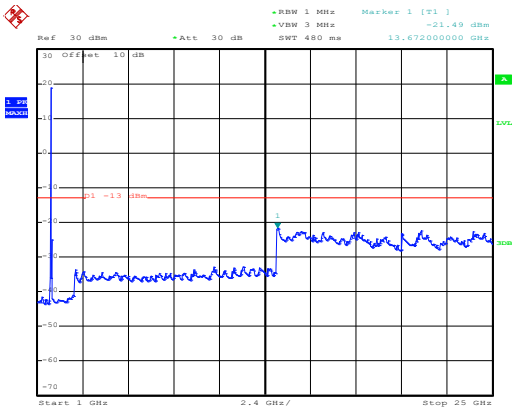
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:21:06

30MHz~1GHz



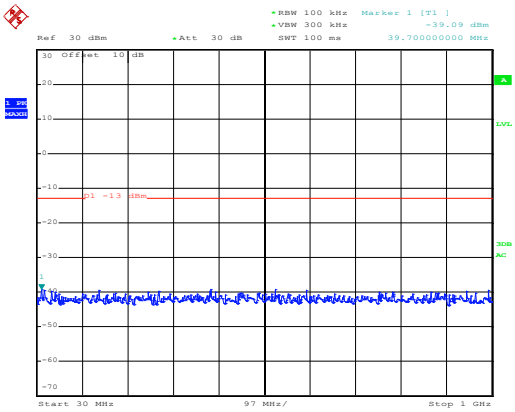
Date: 11.OCT.2017 17:23:46

1GHz~25GHz

20MHz

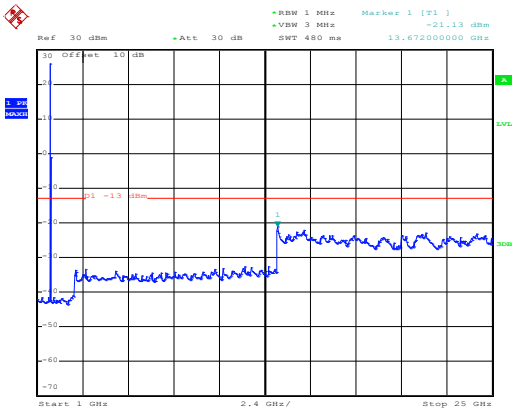
16 QAM & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:21:28

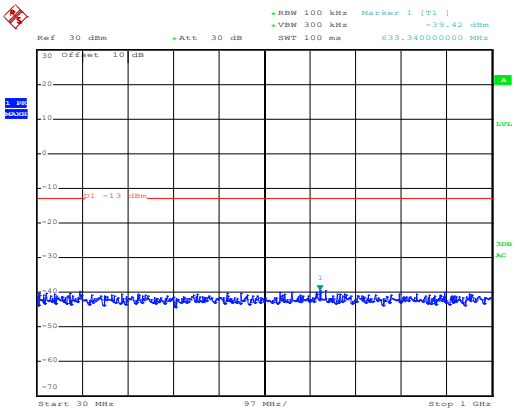
30MHz~1GHz



Date: 11.OCT.2017 17:28:04

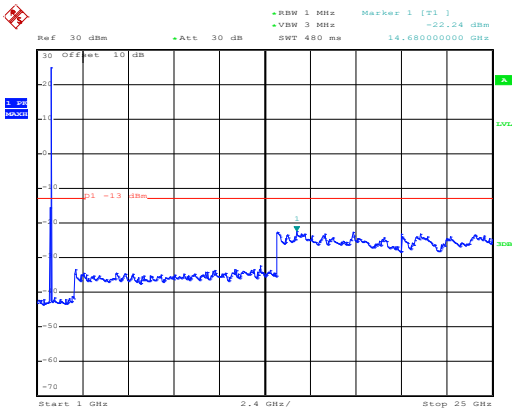
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:22:10

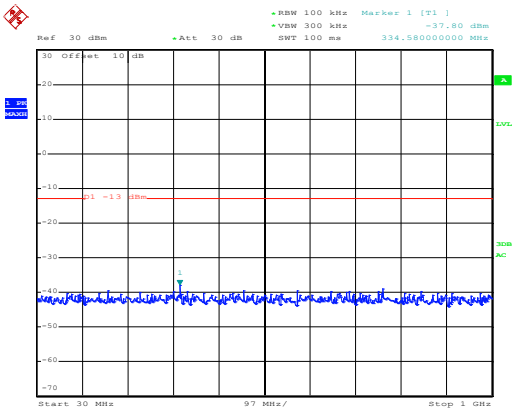
30MHz~1GHz



Date: 11.OCT.2017 17:51:19

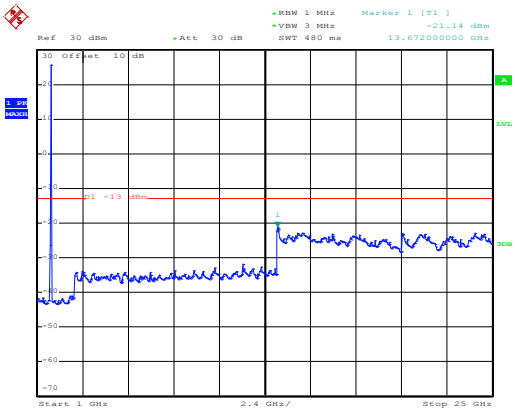
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:22:51

30MHz~1GHz

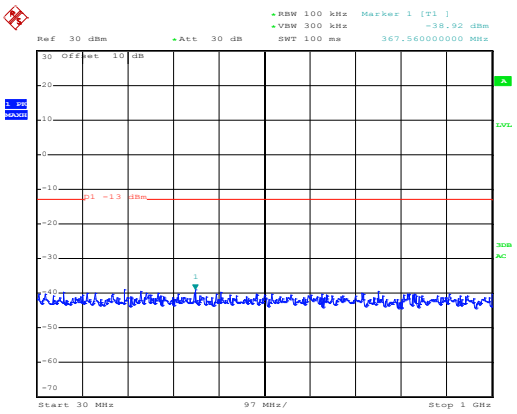


Date: 11.OCT.2017 17:56:06

1GHz~25GHz

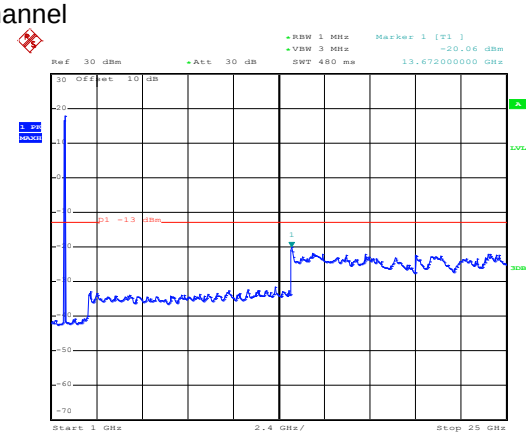
16 QAM & RB Size 100

Lowest channel



Date: 6.NOV.2017 15:21:55

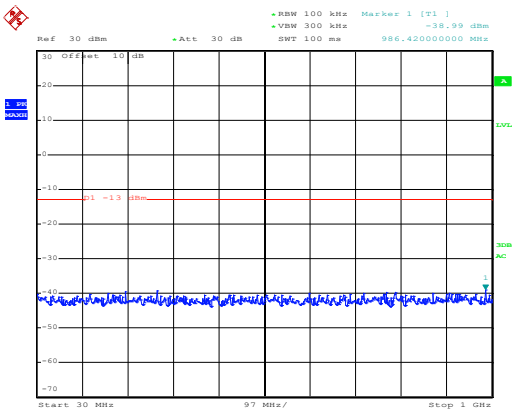
30MHz~1GHz



Date: 11.OCT.2017 17:33:23

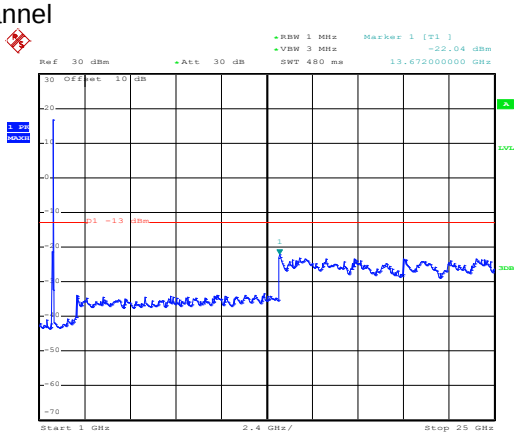
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:22:37

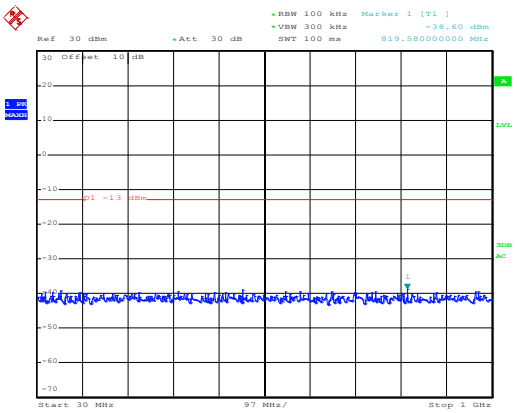
30MHz~1GHz



Date: 11.OCT.2017 17:53:42

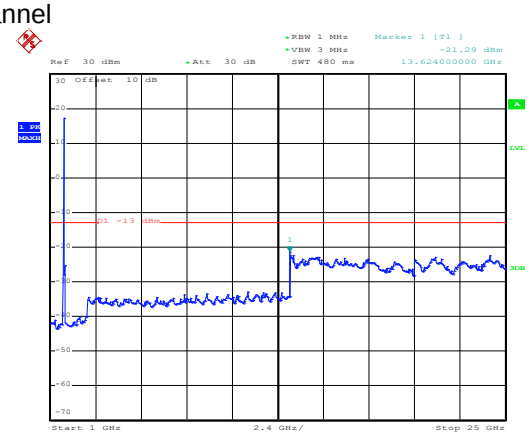
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:23:21

30MHz~1GHz

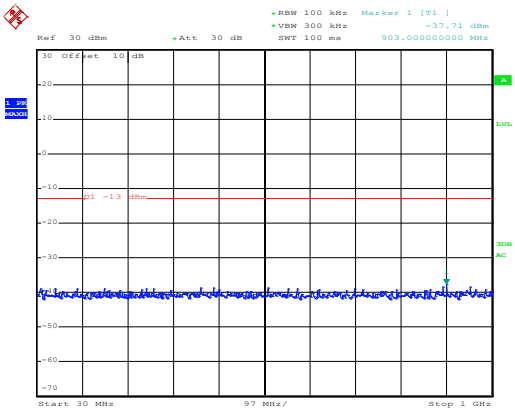


Date: 11.OCT.2017 17:57:45

1GHz~25GHz

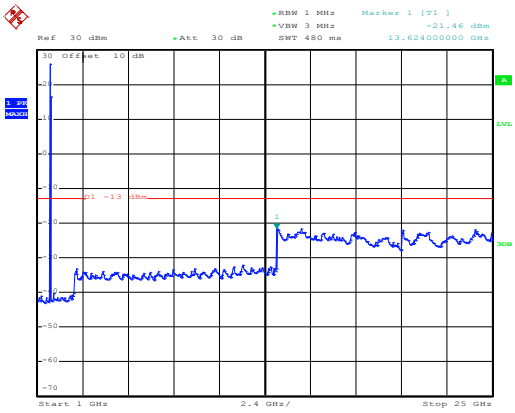
QPSK & RB Size 1

Lowest channel



Date: 6.NOV.2017 15:21:23

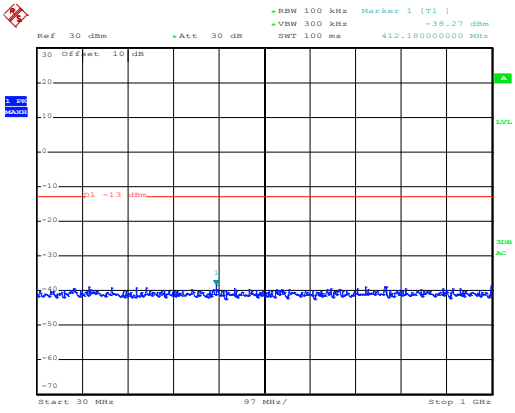
30MHz~1GHz



Date: 11.OCT.2017 17:27:13

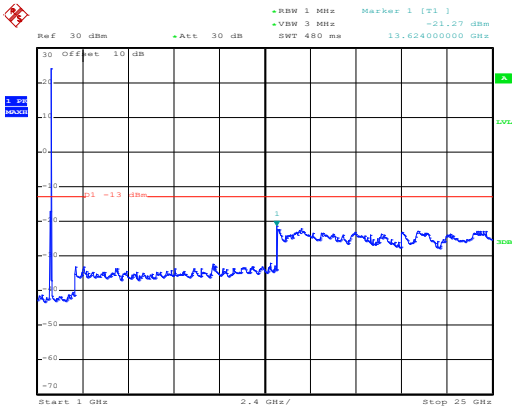
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:22:06

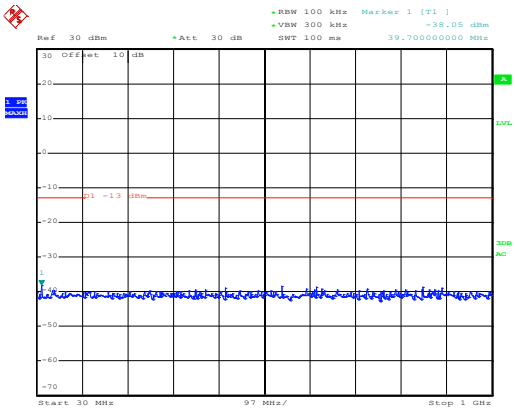
30MHz~1GHz



Date: 11.OCT.2017 17:50:39

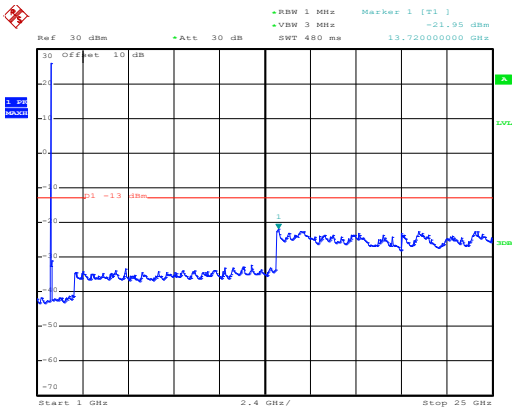
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:22:46

30MHz~1GHz

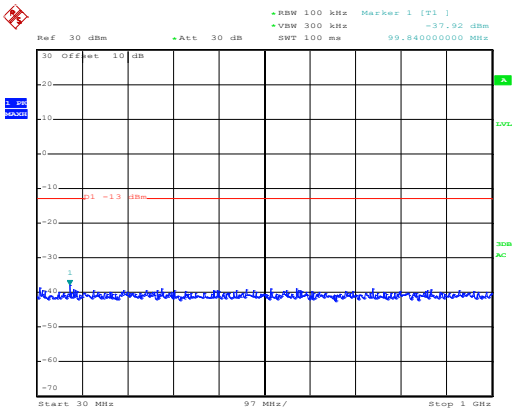


Date: 11.OCT.2017 17:55:05

1GHz~25GHz

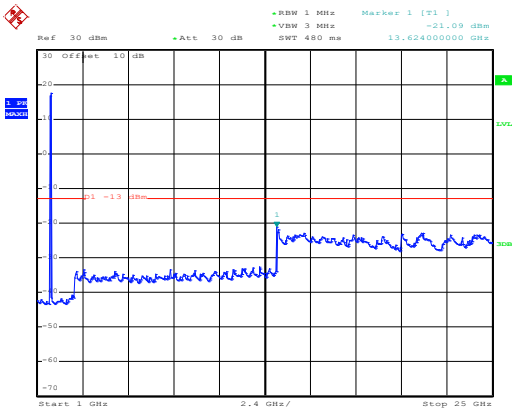
QPSK & RB Size 100

Lowest channel



Date: 6.NOV.2017 15:21:50

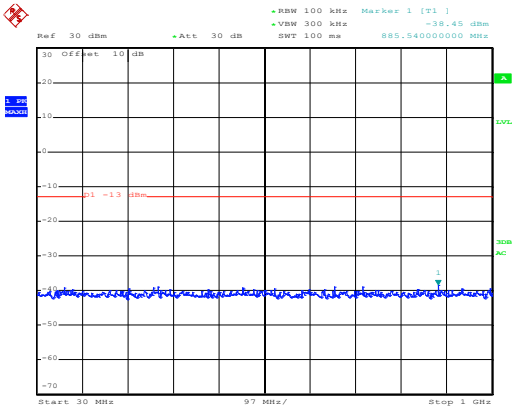
30MHz~1GHz



Date: 11.OCT.2017 17:30:50

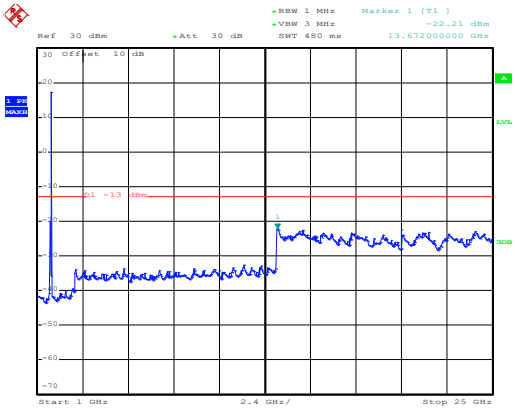
1GHz~25GHz

Middle channel



Date: 6.NOV.2017 15:22:33

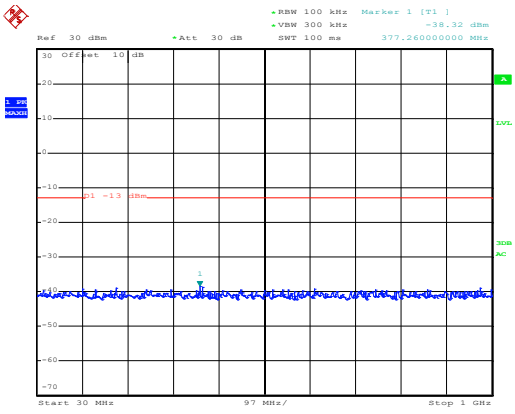
30MHz~1GHz



Date: 11.OCT.2017 18:08:27

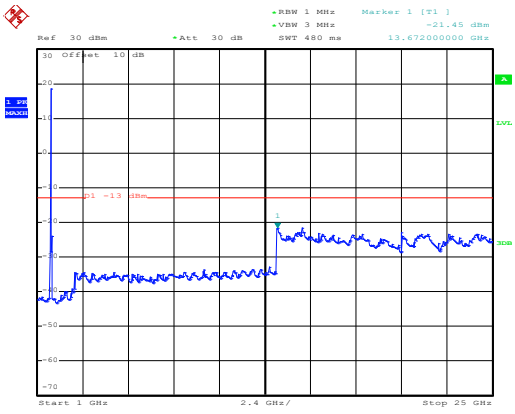
1GHz~25GHz

High channel



Date: 6.NOV.2017 15:23:14

30MHz~1GHz

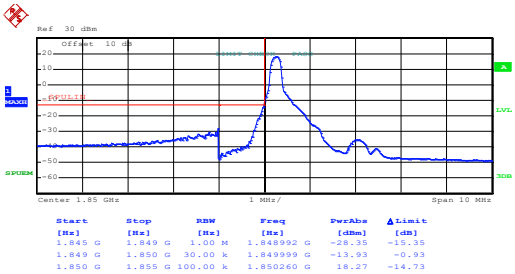


Date: 11.OCT.2017 17:57:14

1GHz~25GHz

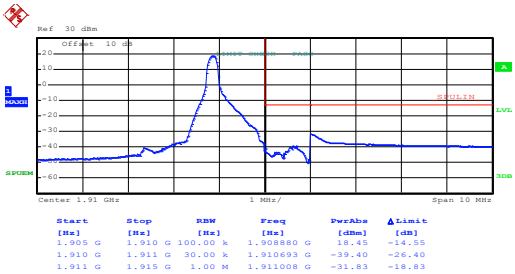
Band edge emission:
LTE band 2, 1.4MHz:

16QAM & RB Size 1



Date: 2.JUL.2017 11:01:38

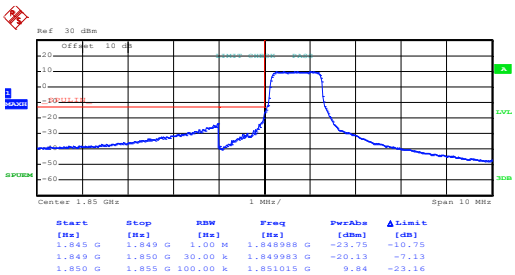
Lowest channel



Date: 2.JUL.2017 11:04:21

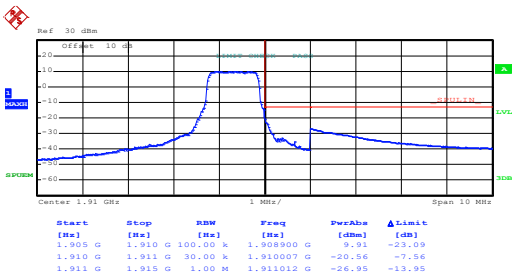
Highest channel

16QAM & RB Size 6



Date: 2.JUL.2017 11:03:32

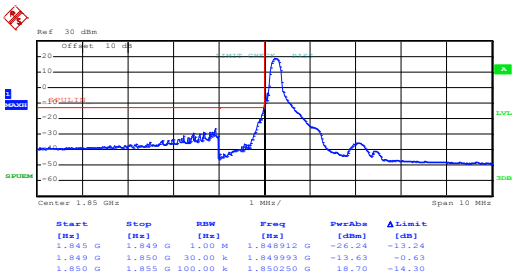
Lowest channel



Date: 2.JUL.2017 11:06:48

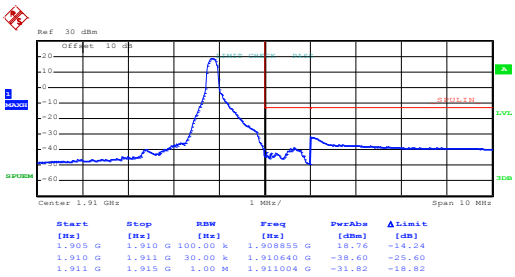
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 11:01:15

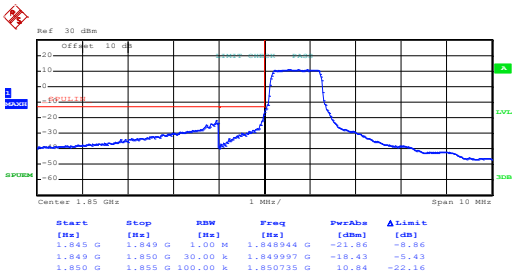
Lowest channel



Date: 2.JUL.2017 11:04:05

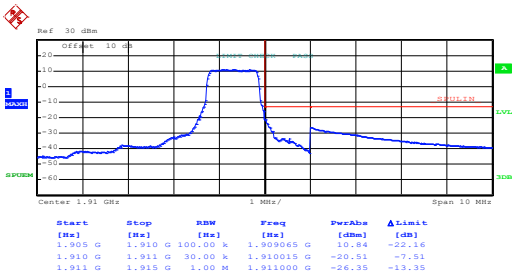
Highest channel

QPSK & RB Size 6



Date: 2.JUL.2017 11:03:23

Lowest channel

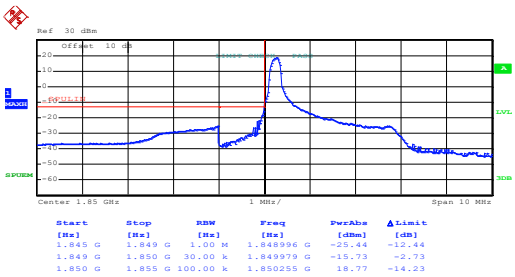


Date: 2.JUL.2017 11:06:39

Highest channel

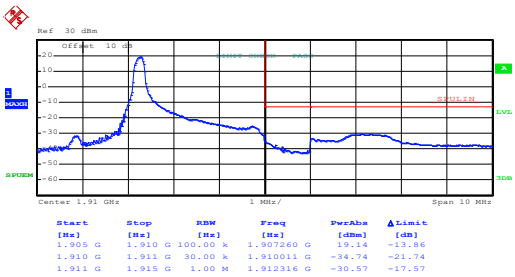
3 MHz:

16QAM & RB Size 1



Date: 2.JUL.2017 11:10:19

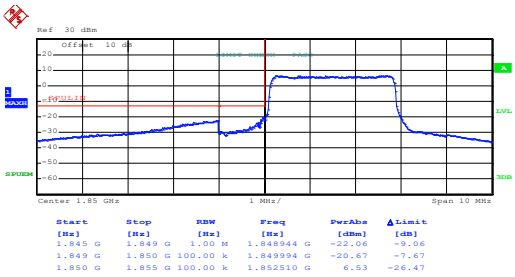
Lowest channel



Date: 2.JUL.2017 11:16:04

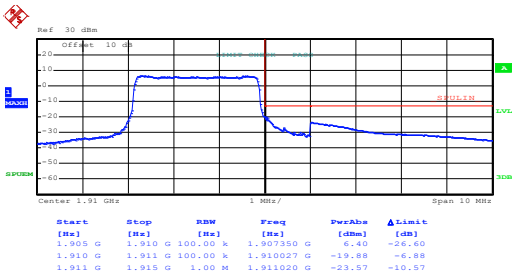
Highest channel

16QAM & RB Size 15



Date: 2.JUL.2017 11:13:17

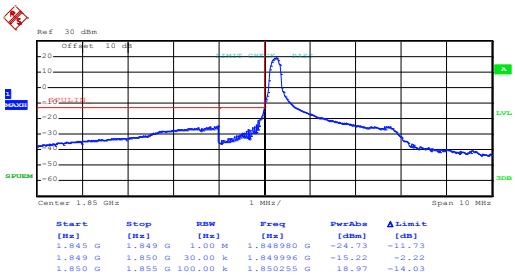
Lowest channel



Date: 2.JUL.2017 11:19:36

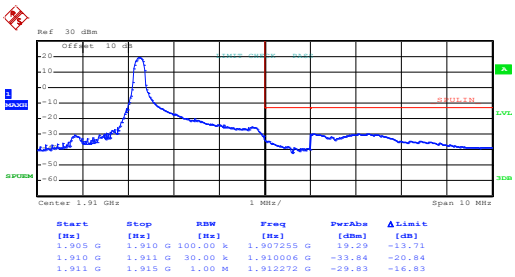
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 11:10:06

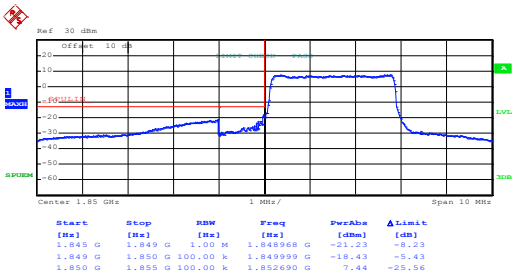
Lowest channel



Date: 2.JUL.2017 11:15:53

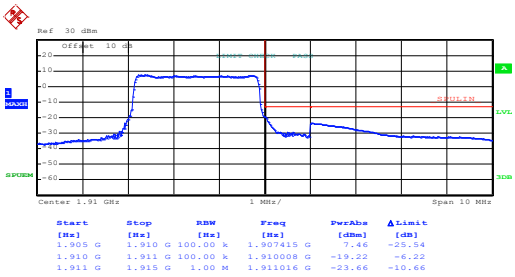
Highest channel

QPSK & RB Size 15



Date: 2.JUL.2017 11:13:08

Lowest channel

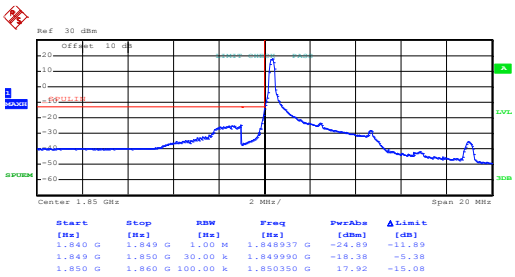


Date: 2.JUL.2017 11:19:27

Highest channel

5 MHz:

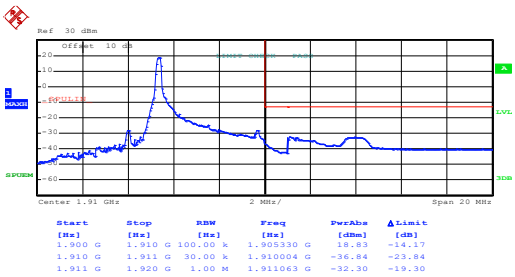
16QAM & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.840 G	1.849 G	1.00 M	1.848937 G	-24.89	-11.89
1.849 G	1.850 G	30.00 k	1.849990 G	-18.38	-5.38
1.850 G	1.860 G	100.00 k	1.850350 G	17.92	-15.08

Date: 2.JUL.2017 11:22:25

Lowest channel

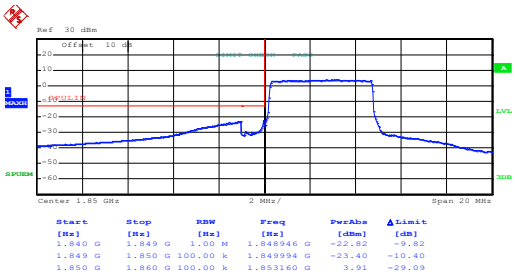


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.900 G	1.910 G	100.00 k	1.905330 G	18.82	-14.17
1.910 G	1.911 G	30.00 k	1.910004 G	-36.84	-23.84
1.911 G	1.920 G	1.00 M	1.911063 G	-32.30	-19.30

Date: 2.JUL.2017 11:25:26

Highest channel

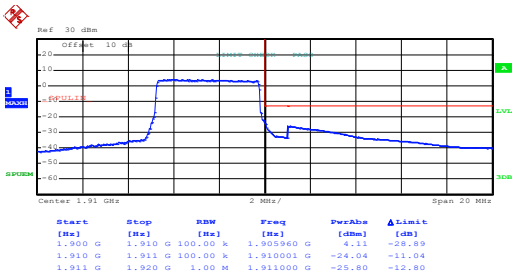
16QAM & RB Size 25



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.840 G	1.849 G	1.00 M	1.848946 G	-22.82	-9.82
1.849 G	1.850 G	100.00 k	1.849994 G	-23.40	-10.40
1.850 G	1.860 G	100.00 k	1.853160 G	3.91	-29.09

Date: 2.JUL.2017 11:24:30

Lowest channel

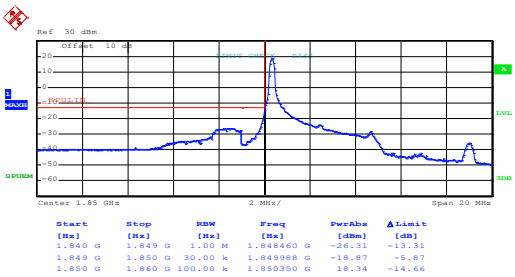


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.900 G	1.910 G	100.00 k	1.905960 G	4.11	-28.89
1.910 G	1.911 G	100.00 k	1.910001 G	-24.04	-11.04
1.911 G	1.920 G	1.00 M	1.911000 G	-25.80	-12.80

Date: 2.JUL.2017 11:27:27

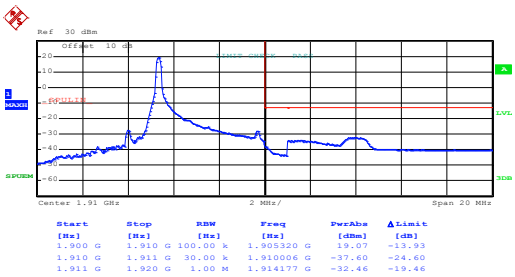
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 11:20:59

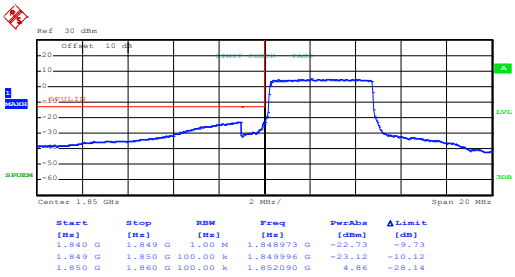
Lowest channel



Date: 2.JUL.2017 11:25:11

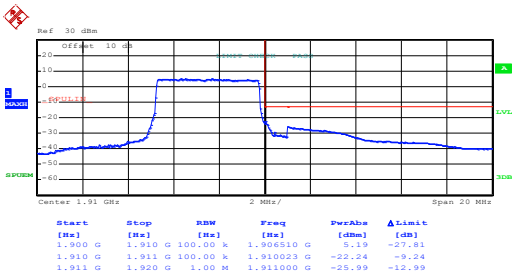
Highest channel

QPSK & RB Size 25



Date: 2.JUL.2017 11:24:22

Lowest channel

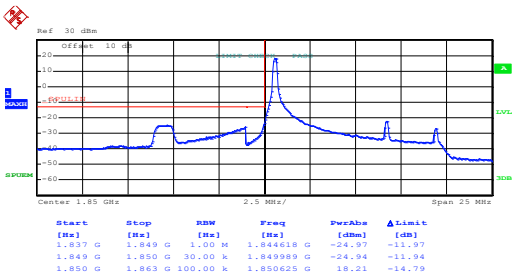


Date: 2.JUL.2017 11:27:17

Highest channel

10 MHz:

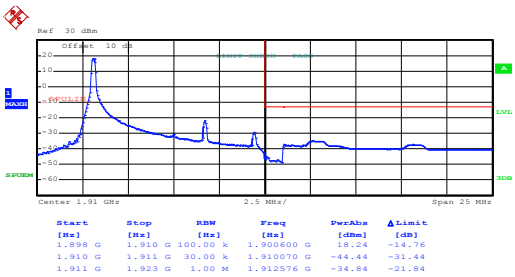
16QAM & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.837 G	1.849 G	1.00 M	1.844618 G	-24.97	-11.97
1.849 G	1.850 G	30.00 k	1.849989 G	-24.94	-11.94
1.850 G	1.863 G	100.00 k	1.850625 G	18.21	-14.79

Date: 2.JUL.2017 11:32:17

Lowest channel

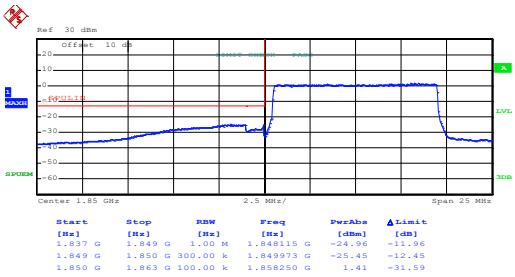


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.898 G	1.910 G	100.00 k	1.906600 G	18.24	-14.76
1.910 G	1.911 G	30.00 k	1.910070 G	-44.44	-31.44
1.911 G	1.923 G	1.00 M	1.912576 G	-34.84	-21.84

Date: 2.JUL.2017 11:37:22

Highest channel

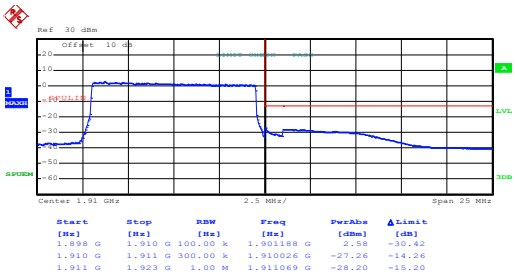
16QAM & RB Size 50



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.837 G	1.849 G	1.00 M	1.848115 G	-24.96	-11.96
1.849 G	1.850 G	300.00 k	1.849973 G	-25.45	-12.45
1.850 G	1.863 G	100.00 k	1.858250 G	1.41	-31.59

Date: 2.JUL.2017 11:36:21

Lowest channel

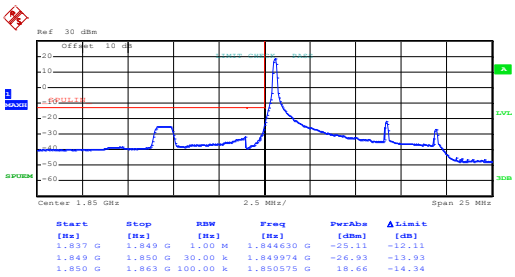


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.898 G	1.910 G	100.00 k	1.901188 G	2.58	-30.42
1.910 G	1.911 G	300.00 k	1.910026 G	-27.26	-14.26
1.911 G	1.923 G	1.00 M	1.911069 G	-28.20	-15.20

Date: 2.JUL.2017 11:39:38

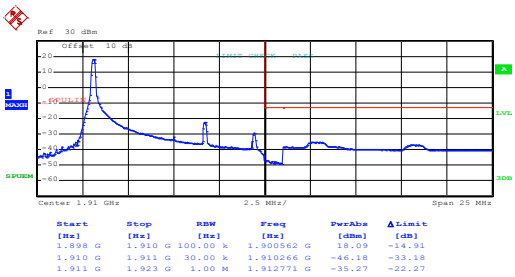
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 11:31:57

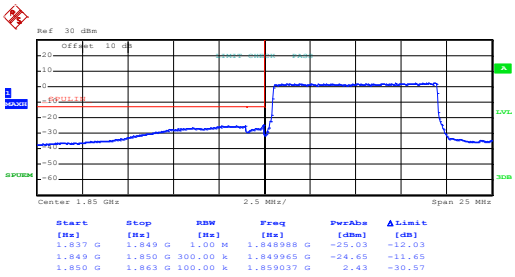
Lowest channel



Date: 2.JUL.2017 11:37:03

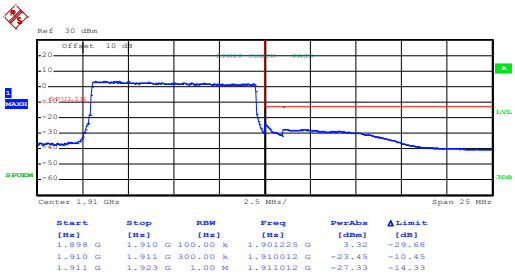
Highest channel

QPSK & RB Size 50



Date: 2.JUL.2017 11:36:13

Lowest channel

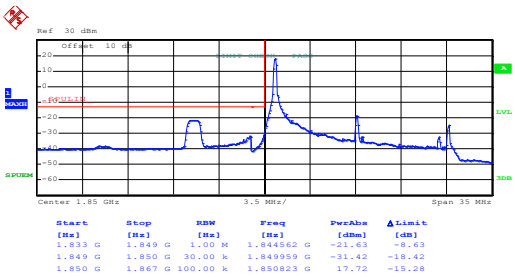


Date: 2.JUL.2017 11:39:28

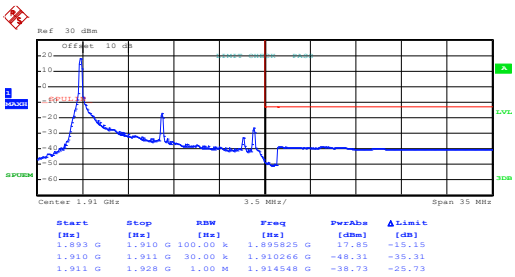
Highest channel

15 MHz:

16QAM & RB Size 1

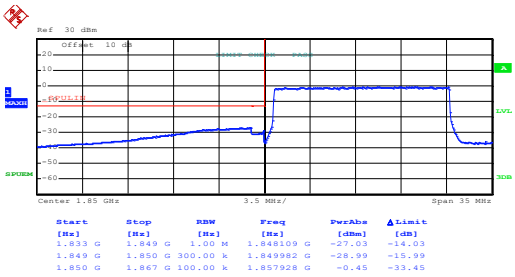


Lowest channel

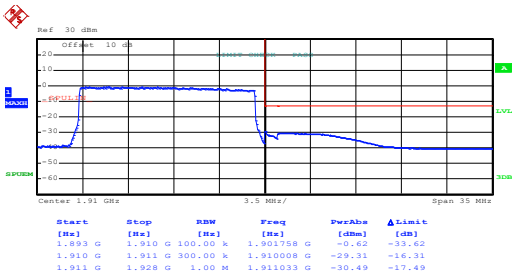


Highest channel

16QAM & RB Size 75

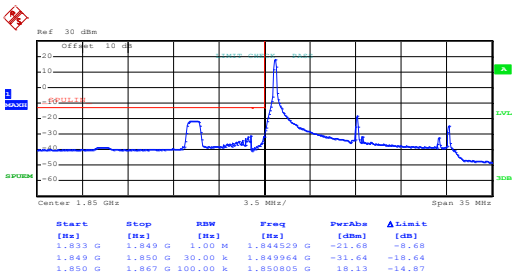


Lowest channel



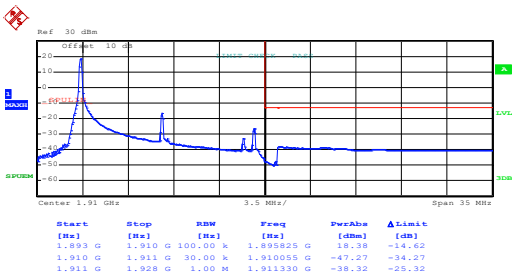
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 11:41:38

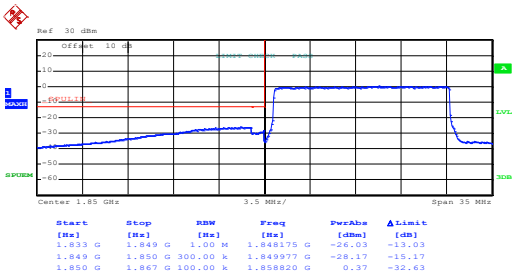
Lowest channel



Date: 2.JUL.2017 11:44:49

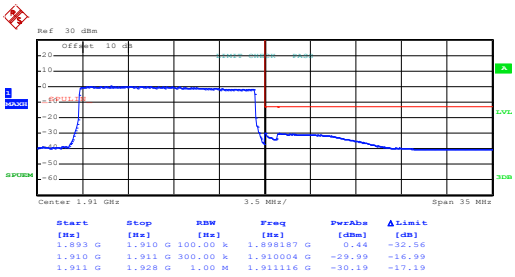
Highest channel

QPSK & RB Size 75



Date: 2.JUL.2017 11:43:55

Lowest channel

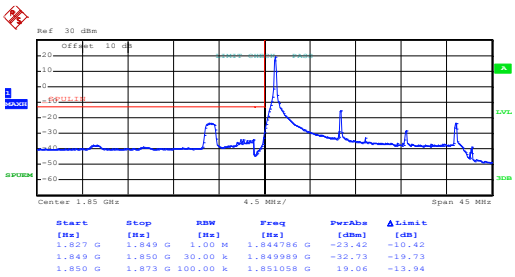


Date: 2.JUL.2017 11:47:24

Highest channel

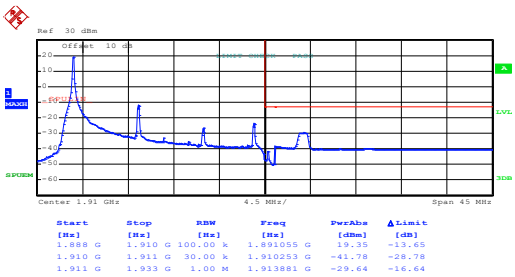
20 MHz:

16QAM & RB Size 1



Date: 2.JUL.2017 11:49:38

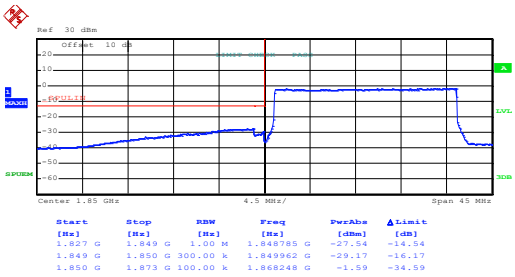
Lowest channel



Date: 2.JUL.2017 11:52:27

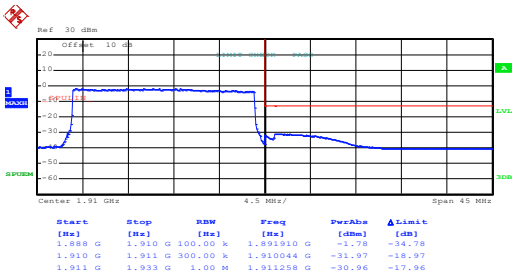
Highest channel

16QAM & RB Size 100



Date: 2.JUL.2017 11:51:47

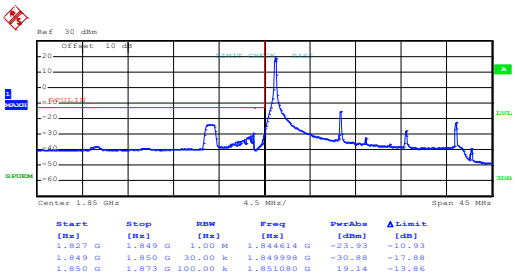
Lowest channel



Date: 2.JUL.2017 11:54:39

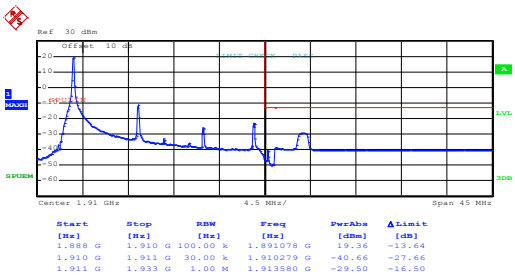
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 11:49:27

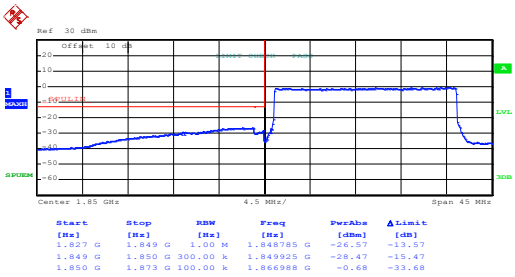
Lowest channel



Date: 2.JUL.2017 11:52:15

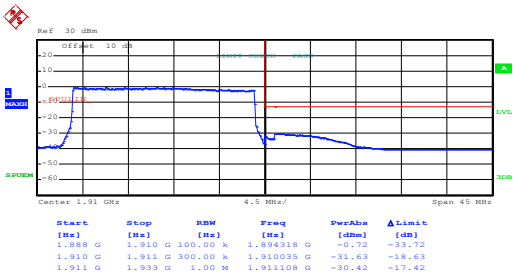
Highest channel

QPSK & RB Size 100



Date: 2.JUL.2017 11:51:38

Lowest channel

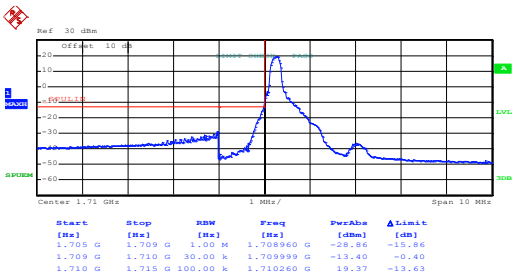


Date: 2.JUL.2017 11:54:29

Highest channel

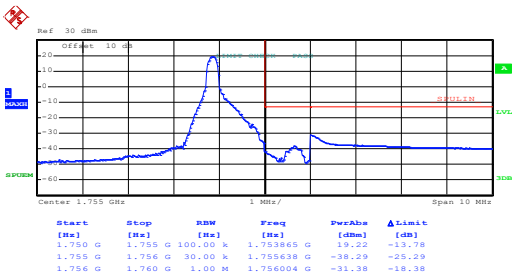
LTE band 4, 1.4MHz:

16QAM & RB Size 1



Date: 2.JUL.2017 09:28:49

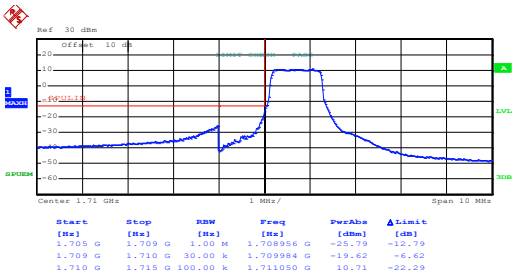
Lowest channel



Date: 2.JUL.2017 09:31:35

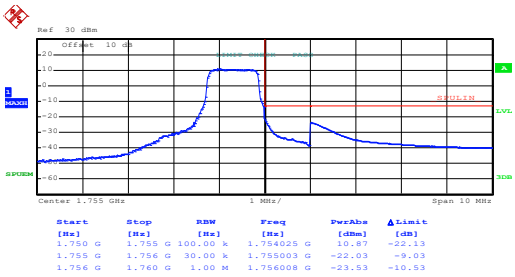
Highest channel

16QAM & RB Size 6



Date: 2.JUL.2017 09:30:39

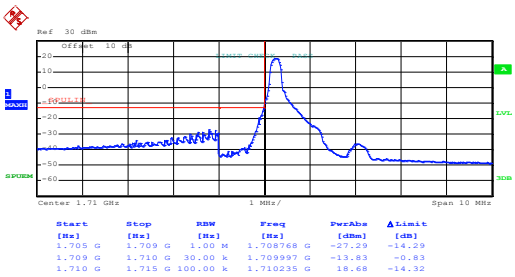
Lowest channel



Date: 2.JUL.2017 09:34:06

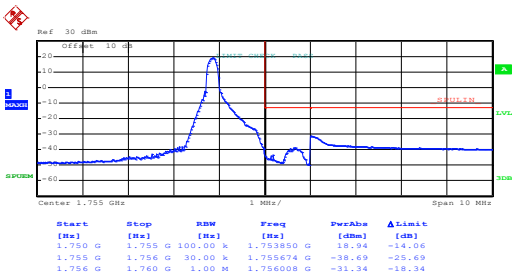
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 09:28:15

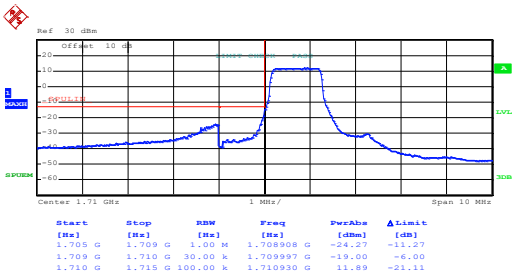
Lowest channel



Date: 2.JUL.2017 09:31:21

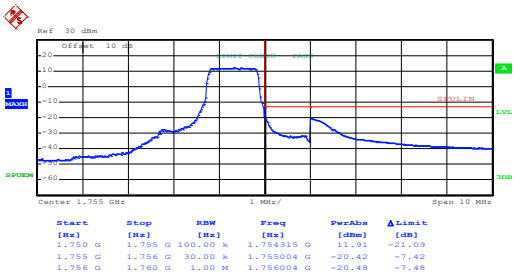
Highest channel

QPSK & RB Size 6



Date: 2.JUL.2017 09:30:29

Lowest channel

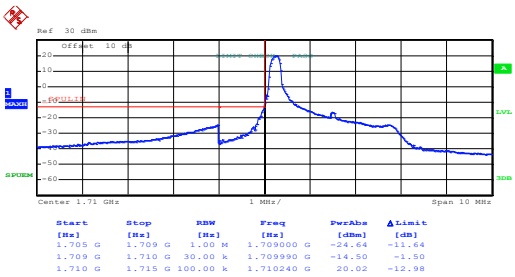


Date: 2.JUL.2017 09:33:49

Highest channel

3 MHz:

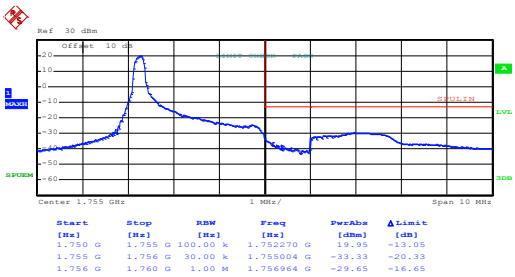
16QAM & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.709000 G	-24.64	-11.64
1.709 G	1.710 G	30.00 k	1.709990 G	-14.50	-1.50
1.710 G	1.715 G	100.00 k	1.710240 G	20.02	-12.98

Date: 2.JUL.2017 09:39:06

Lowest channel

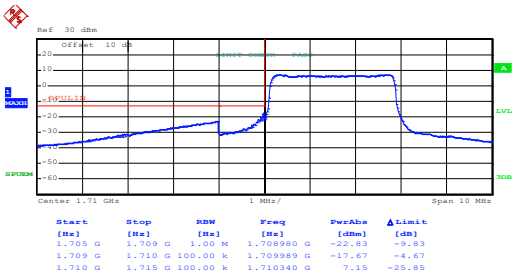


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.752270 G	19.95	-13.05
1.755 G	1.756 G	30.00 k	1.755004 G	-33.33	-20.33
1.756 G	1.760 G	1.00 M	1.756964 G	-29.65	-16.65

Date: 2.JUL.2017 09:42:46

Highest channel

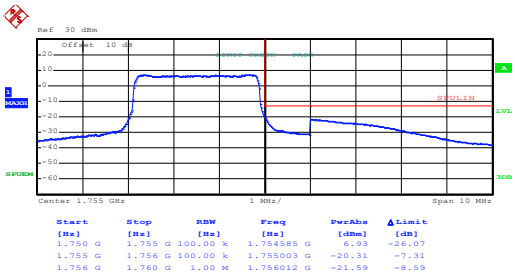
16QAM & RB Size 15



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708980 G	-22.83	-9.83
1.709 G	1.710 G	100.00 k	1.709989 G	-17.67	-4.67
1.710 G	1.715 G	100.00 k	1.710340 G	7.15	-25.85

Date: 2.JUL.2017 09:48:28

Lowest channel

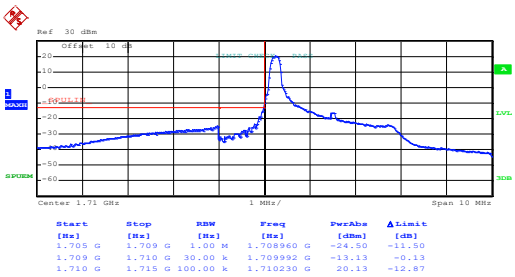


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754585 G	6.93	-26.07
1.755 G	1.756 G	100.00 k	1.755003 G	-20.31	-7.31
1.756 G	1.760 G	1.00 M	1.756012 G	-21.59	-8.59

Date: 2.JUL.2017 09:47:29

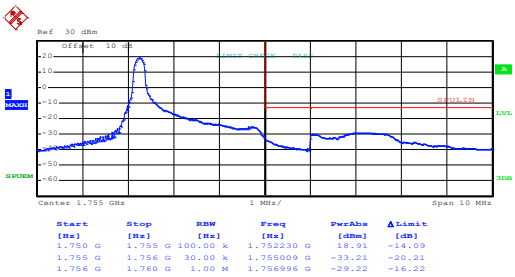
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 09:38:52

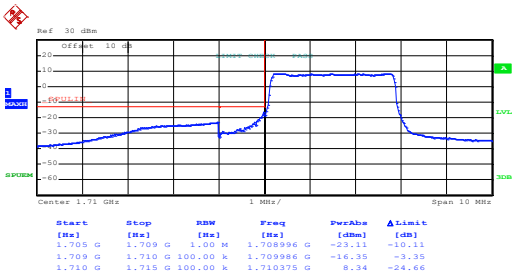
Lowest channel



Date: 2.JUL.2017 09:42:34

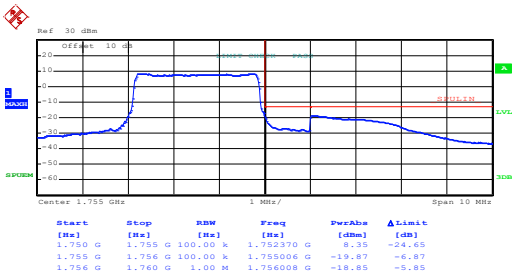
Highest channel

QPSK & RB Size 15



Date: 2.JUL.2017 09:48:10

Lowest channel

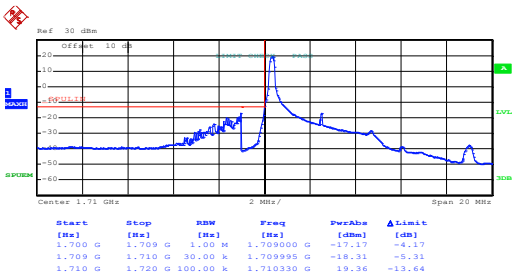


Date: 2.JUL.2017 09:47:16

Highest channel

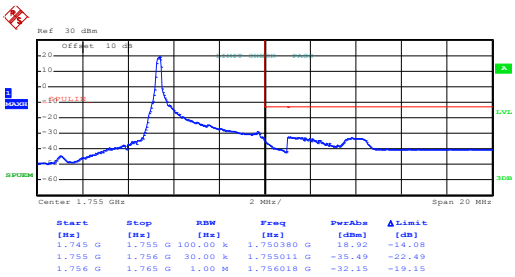
5 MHz:

16QAM & RB Size 1



Date: 2.JUL.2017 10:04:46

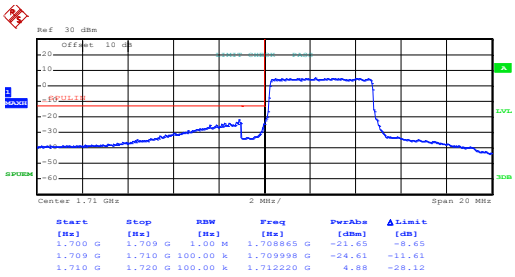
Lowest channel



Date: 2.JUL.2017 10:09:55

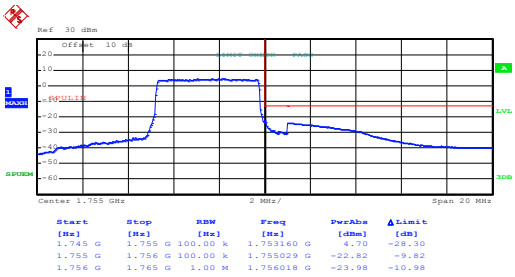
Highest channel

16QAM & RB Size 25



Date: 2.JUL.2017 10:08:08

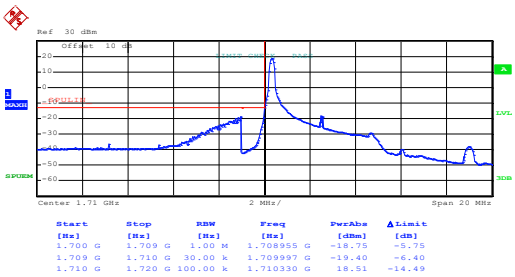
Lowest channel



Date: 2.JUL.2017 10:09:08

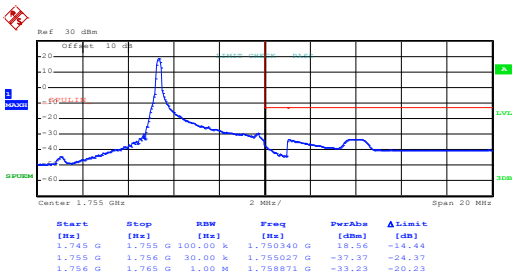
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 10:03:26

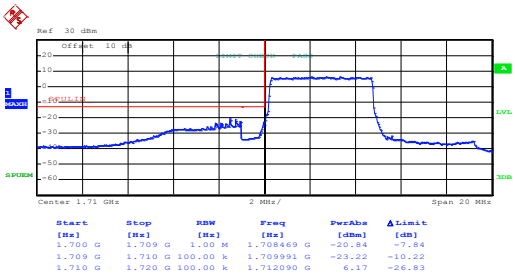
Lowest channel



Date: 2.JUL.2017 10:09:40

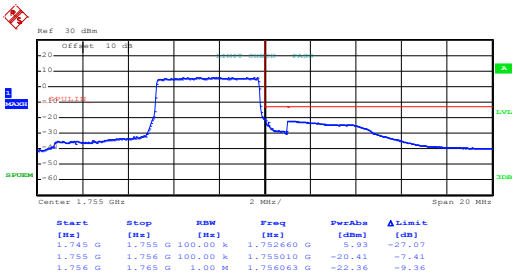
Highest channel

QPSK & RB Size 25



Date: 2.JUL.2017 10:07:58

Lowest channel

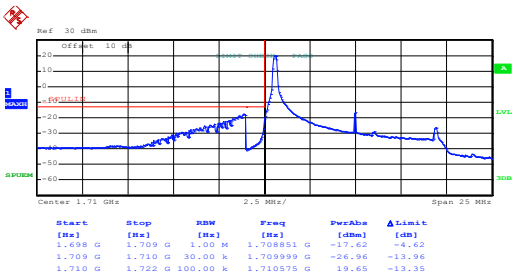


Date: 2.JUL.2017 10:08:53

Highest channel

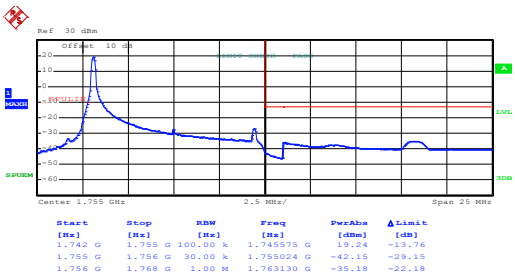
10 MHz:

16QAM & RB Size 1



Date: 2.JUL.2017 10:19:41

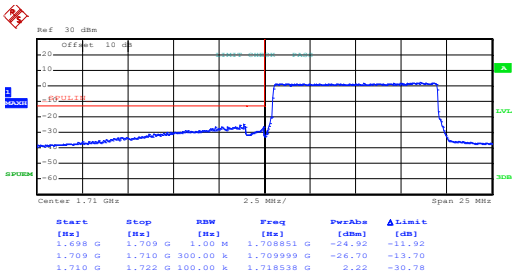
Lowest channel



Date: 2.JUL.2017 10:25:49

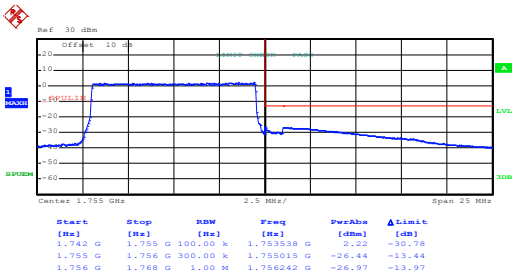
Highest channel

16QAM & RB Size 50



Date: 2.JUL.2017 10:24:31

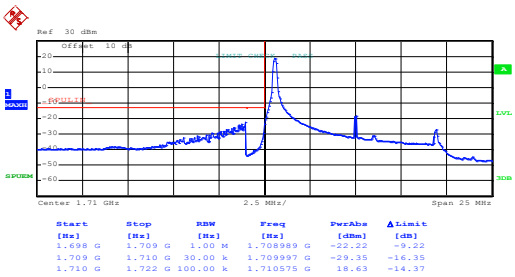
Lowest channel



Date: 2.JUL.2017 10:28:42

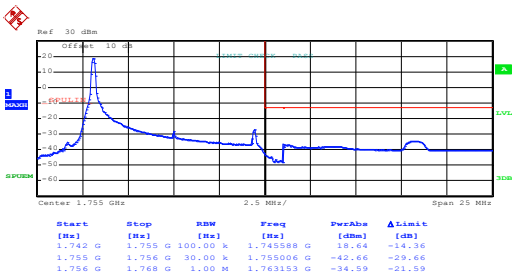
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 10:18:08

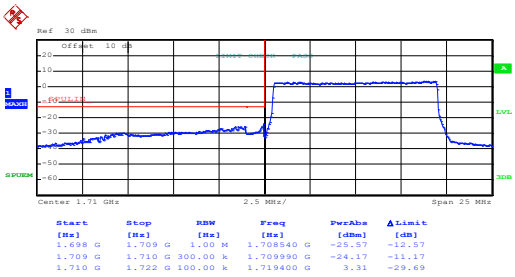
Lowest channel



Date: 2.JUL.2017 10:25:24

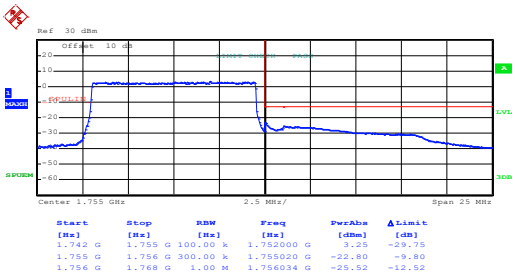
Highest channel

QPSK & RB Size 50



Date: 2.JUL.2017 10:24:14

Lowest channel

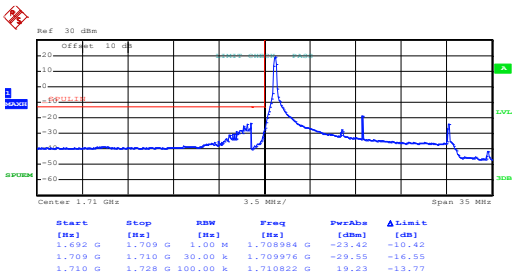


Date: 2.JUL.2017 10:28:32

Highest channel

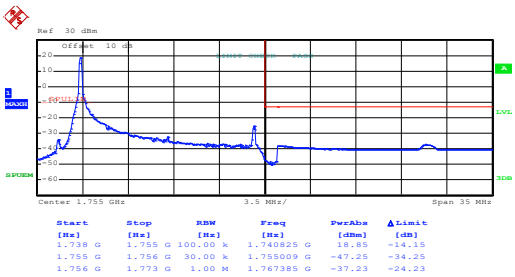
15 MHz:

16QAM & RB Size 1



Date: 2.JUL.2017 10:31:00

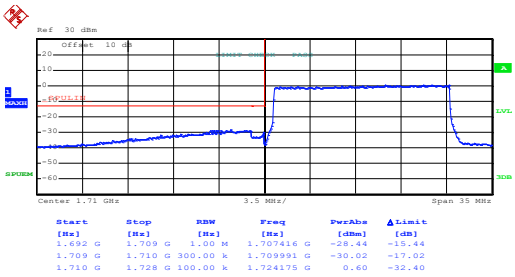
Lowest channel



Date: 2.JUL.2017 10:34:29

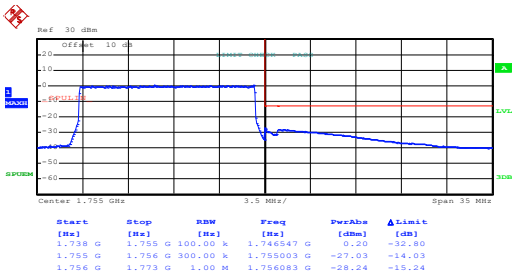
Highest channel

16QAM & RB Size 75



Date: 2.JUL.2017 10:33:38

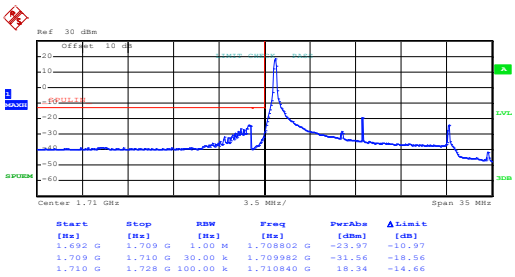
Lowest channel



Date: 2.JUL.2017 10:37:04

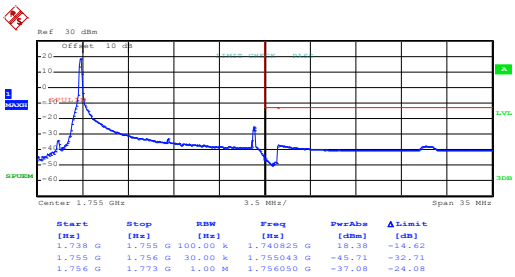
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 10:30:34

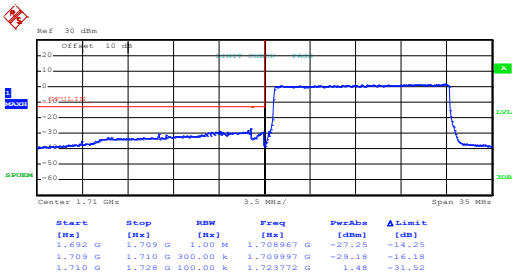
Lowest channel



Date: 2.JUL.2017 10:34:10

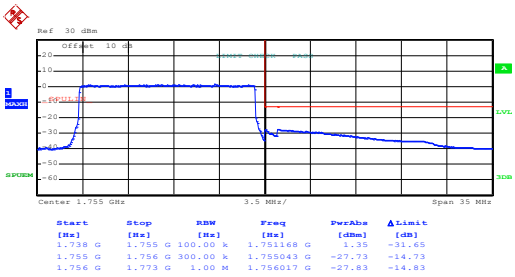
Highest channel

QPSK & RB Size 75



Date: 2.JUL.2017 10:33:29

Lowest channel

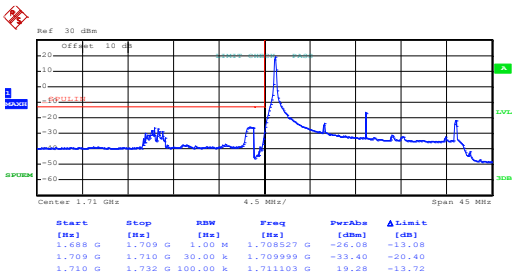


Date: 2.JUL.2017 10:36:54

Highest channel

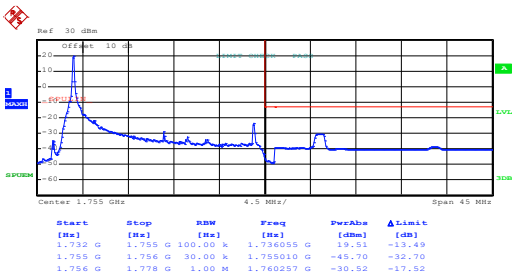
20 MHz:

16QAM & RB Size 1



Date: 2.JUL.2017 10:39:32

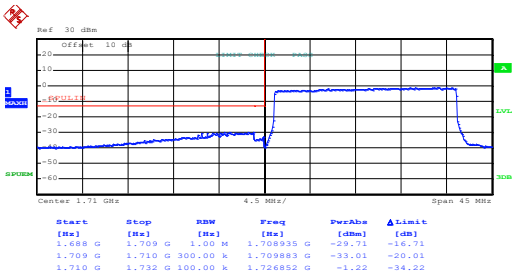
Lowest channel



Date: 2.JUL.2017 10:44:05

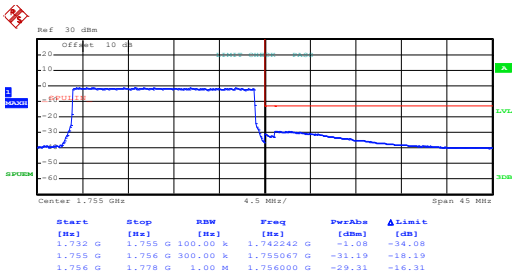
Highest channel

16QAM & RB Size 100



Date: 2.JUL.2017 10:41:58

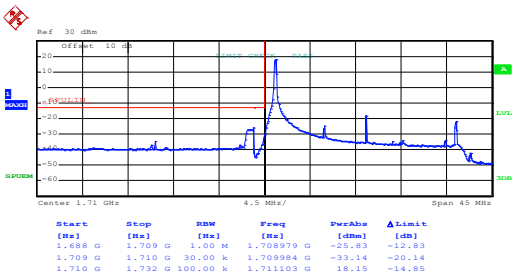
Lowest channel



Date: 2.JUL.2017 10:46:21

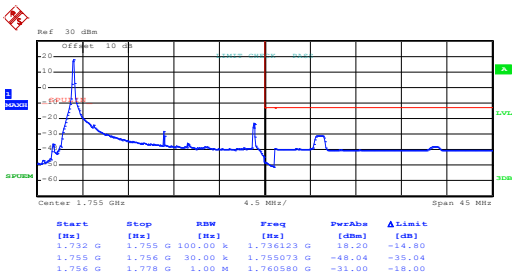
Highest channel

QPSK & RB Size 1



Date: 2.JUL.2017 10:39:04

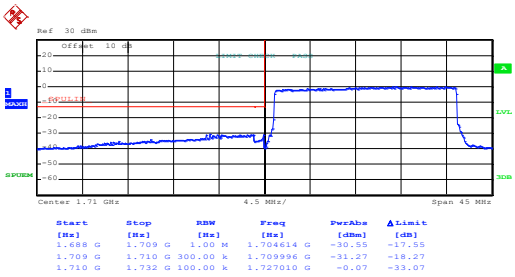
Lowest channel



Date: 2.JUL.2017 10:43:47

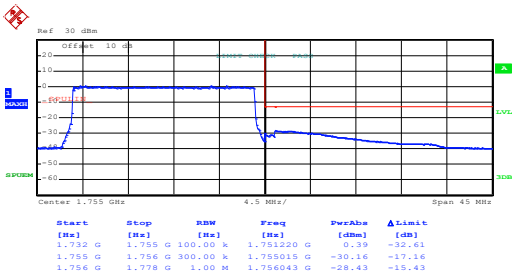
Highest channel

QPSK & RB Size 100



Date: 2.JUL.2017 10:41:48

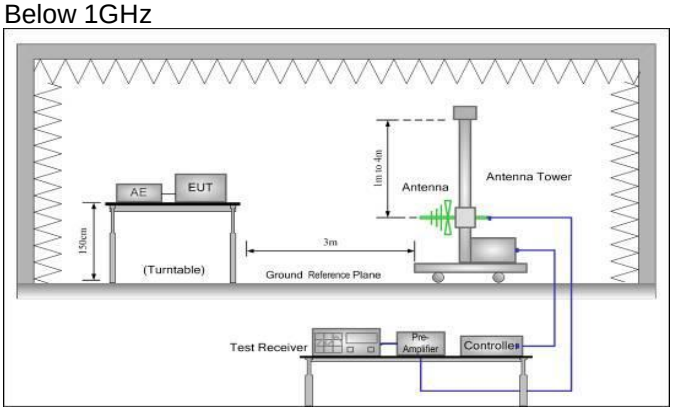
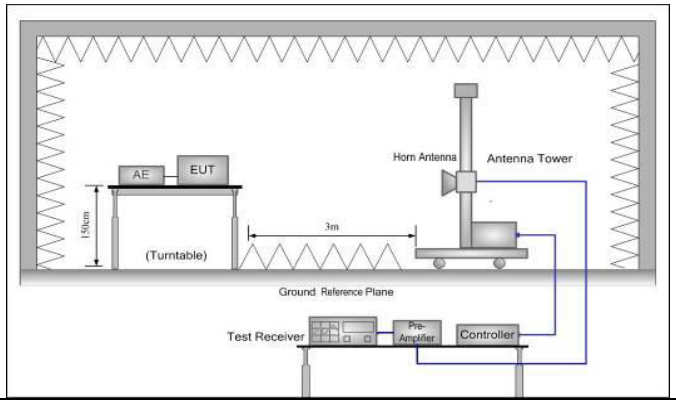
Lowest channel



Date: 2.JUL.2017 10:46:10

Highest channel

6.5 ERP, EIRP Measurement

Test Requirement:	Part 24.232(c), part 27.50(c), part 27.50(d), part 27.50 (h)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 2: 2W EIRP, LTE Band 4: 1W EIRP LTE Band 7: 2W EIRP, LTE Band 17: 3W EIRP
Test setup:	Below 1GHz  Above 1GHz 
Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated. 3. ERP in frequency band below 1GHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows: ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable Loss (dB) 4. EIRP in frequency band above 1GHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows: EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB) 5. The worse case was relating to the conducted output power.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

LTE Band 2

(1.4MHz)

Lowset channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1850.70	18607	QPSK	1.4	H	V	20.23	33.00	Pass
					H	19.28		
1850.70	18607	16QAM	1.4	H	V	19.89		
					H	20.09		
1.4MHz(RB size 3 & RB offset 0)								
1850.70	18607	QPSK	1.4	H	V	20.08	33.00	Pass
					H	20.05		
1850.70	18607	16QAM	1.4	H	V	19.85		
					H	19.61		
1.4MHz(RB size 6 & RB offset 0)								
1850.70	18607	QPSK	1.4	H	V	19.22	33.00	Pass
					H	18.51		
1850.70	18607	16QAM	1.4	H	V	18.61		
					H	18.36		

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1880.00	18900	QPSK	1.4	H	V	19.58	30.00	Pass
					H	19.87		
1880.00	18900	16QAM	1.4	H	V	19.24		
					H	20.03		
1.4MHz(RB size 3 & RB offset 0)								
1880.00	18900	QPSK	1.4	H	V	19.15	30.00	Pass
					H	20.20		
1880.00	18900	16QAM	1.4	H	V	19.63		
					H	19.95		
1.4MHz(RB size 6 & RB offset 0)								
1880.00	18900	QPSK	1.40	H	V	18.85	30.00	Pass
					H	19.21		
1880.00	18900	16QAM	1.40	H	V	18.57		
					H	18.69		

Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1909.30	19193	QPSK	1.4	H	V	19.24	33.00	Pass
					H	19.76		
1909.30	19193	16QAM	1.4	H	V	19.51		
					H	20.15		
1.4MHz(RB size 3 & RB offset 0)								
1909.30	19193	QPSK	1.4	H	V	19.22	33.00	Pass
					H	20.31		
1909.30	19193	16QAM	1.4	H	V	19.35		
					H	19.82		
1.4MHz(RB size 6 & RB offset 0)								
1909.30	19193	QPSK	1.4	H	V	18.79	33.00	Pass
					H	19.14		
1909.30	19193	16QAM	1.4	H	V	18.41		
					H	18.83		

(20MHz)

Lowset channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1860.00	18700	QPSK	20	H	V	17.55	33.00	Pass
					H	18.66		
1860.00	18700	16QAM	20	H	V	16.60		
					H	18.60		
20MHz(RB size 50 & RB offset 0)								
1860.00	18700	QPSK	20	H	V	16.34	33.00	Pass
					H	18.03		
1860.00	18700	16QAM	20	H	V	16.53		
					H	18.03		
20MHz(RB size 100 & RB offset 0)								
1860.00	18700	QPSK	20	H	V	14.73	33.00	Pass
					H	15.16		
1860.00	18700	16QAM	20	H	V	15.18		
					H	15.79		

Middle Channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1880.00	18900	QPSK	20	H	V	17.43	33.00	Pass
					H	18.57		
1880.00	18900	16QAM	20	H	V	16.69		
					H	18.17		
20MHz(RB size 50 & RB offset 0)								
1880.00	18900	QPSK	20	H	V	16.68	33.00	Pass
					H	18.11		
1880.00	18900	16QAM	20	H	V	16.85		
					H	17.89		
20MHz(RB size 100 & RB offset 0)								
1880.00	18900	QPSK	20	H	V	14.86	33.00	Pass
					H	15.64		
1880.00	18900	16QAM	20	H	V	15.52		
					H	15.95		

Highest Channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1900.00	19100	QPSK	20	H	V	17.56	33.00	Pass
					H	18.67		
1900.00	19100	16QAM	20	H	V	16.84		
					H	18.52		
20MHz(RB size 50 & RB offset 0)								
1900.00	19100	QPSK	20	H	V	16.79	33.00	Pass
					H	18.34		
1900.00	19100	16QAM	20	H	V	16.77		
					H	18.05		
20MHz(RB size 100 & RB offset 0)								
1900.00	19100	QPSK	20	H	V	14.96	33.00	Pass
					H	15.72		
1900.00	19100	16QAM	20	H	V	15.57		
					H	15.88		

LTE Band 4

(1.4MHz)

Lowset channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	16.71	30.00	Pass
					H	17.83		
1710.70	19957	16QAM	1.4	H	V	16.20		
					H	17.87		
1.4MHz(RB size 3 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	16.83	30.00	Pass
					H	18.32		
1710.70	19957	16QAM	1.4	H	V	15.92		
					H	16.82		
1.4MHz(RB size 6 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	15.90	30.00	Pass
					H	17.90		
1710.70	19957	16QAM	1.4	H	V	15.37		
					H	17.78		

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	16.69	30.00	Pass
					H	17.92		
1732.50	20175	16QAM	1.4	H	V	16.35		
					H	17.93		
1.4MHz(RB size 3 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	16.85	30.00	Pass
					H	18.53		
1732.50	20175	16QAM	1.4	H	V	16.04		
					H	16.86		
1.4MHz(RB size 6 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	15.82	30.00	Pass
					H	17.95		
1732.50	20175	16QAM	1.4	H	V	15.54		
					H	17.86		

Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 3 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	16.69	30.00	Pass
					H	17.92		
1732.50	20175	16QAM	1.4	H	V	16.35		
					H	17.93		
1.4MHz(RB size 3 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	16.85	30.00	Pass
					H	18.53		
1732.50	20175	16QAM	1.4	H	V	16.04		
					H	16.86		
1.4MHz(RB size 6 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	15.82	30.00	Pass
					H	17.95		
1732.50	20175	16QAM	1.4	H	V	15.54		
					H	17.86		

(20MHz)

Lowset channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	16.02	30.00	Pass
					H	18.52		
1720.00	20050	16QAM	20	H	V	16.02		
					H	18.45		
20MHz(RB size 50 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	15.88	30.00	Pass
					H	18.75		
1720.00	20050	16QAM	20	H	V	16.52		
					H	19.00		
20MHz(RB size 100 & RB offset 0 for QPSK & RB size 99)								
1720.00	20050	QPSK	20	H	V	12.83	30.00	Pass
					H	16.56		
1720.00	20050	16QAM	20	H	V	13.34		
					H	17.08		

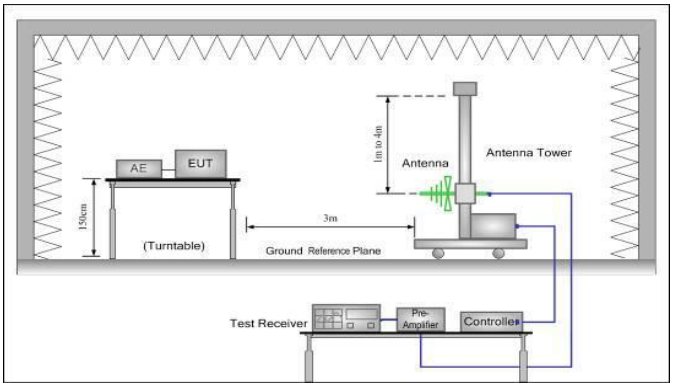
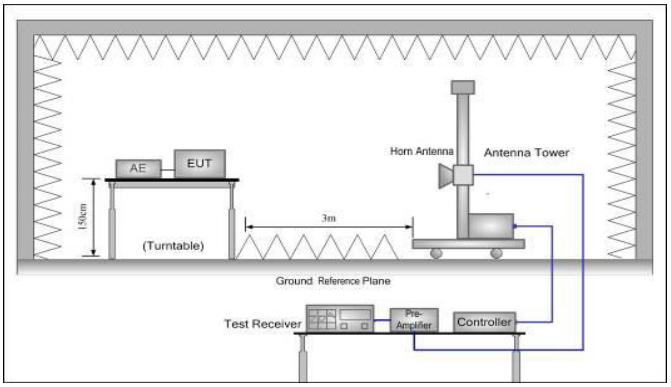
Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	16.11	30.00	Pass
					H	18.75		
1732.50	20175	16QAM	20	H	V	16.17		
					H	18.37		
20MHz(RB size 50 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	15.96	30.00	Pass
					H	18.82		
1732.50	20175	16QAM	20	H	V	16.38		
					H	18.87		
20MHz(RB size 100 & RB offset 0 for QPSK & RB size 99)								
1732.50	20175	QPSK	20	H	V	13.52	30.00	Pass
					H	16.45		
1732.50	20175	16QAM	20	H	V	13.58		
					H	17.15		

High channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	16.12	30.00	Pass
					H	18.69		
1745.00	20300	16QAM	20	H	V	16.23		
					H	18.55		
20MHz(RB size 50 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	15.91	30.00	Pass
					H	18.75		
1745.00	20300	16QAM	20	H	V	16.44		
					H	18.85		
20MHz(RB size 100 & RB offset 0 for QPSK & RB size 99)								
1745.00	20300	QPSK	20	H	V	13.27	30.00	Pass
					H	16.35		
1745.00	20300	16QAM	20	H	V	13.61		
					H	17.10		

6.6 Field strength of spurious radiation measurement

Test Requirement:	Part 24.238 (a), Part 27.53(h)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 2, LTE Band 4, LTE Band 5 and LTE Band 17: < -13dBm, LTE Band 7: < -25dBm
Test setup:	Below 1GHz  Above 1GHz 
Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. ERP / EIRP = S.G. output (dBm) + Antenna Gain(dB/dBi) – Cable Loss (dB)
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed

Measurement Data:

LTE Band 2 / 1.4 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3701.40	Vertical	-51.17	-13.00	Pass
5552.10	V	-43.53		
7402.00	V	-40.26		
3701.40	Horizontal	-50.09		
5552.10	H	-43.24		
7402.00	H	-41.52		
Middle				
3760.00	Vertical	-50.89	-13.00	Pass
5640.00	V	-43.52		
7520.00	V	-41.27		
3760.00	Horizontal	-49.36		
5640.00	H	-41.46		
7520.00	H	-41.59		
Highest				
3816.60	Vertical	-49.99	-13.00	Pass
5724.90	V	-43.45		
7633.20	V	-40.39		
3816.60	Horizontal	-46.83		
5724.90	H	-42.78		
7633.20	H	-41.22		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 2 / 3 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3703.00	Vertical	-50.72	-13.00	Pass
5554.50	V	-42.36		
7406.00	V	-40.36		
3703.00	Horizontal	-49.89		
5554.50	H	-43.69		
7406.00	H	-41.15		
Middle				
3760.00	Vertical	-50.28	-13.00	Pass
5640.00	V	-43.36		
7520.00	V	-41.75		
3760.00	Horizontal	-50.46		
5640.00	H	-42.79		
7520.00	H	-40.37		
Highest				
3817.00	Vertical	-51.33	-13.00	Pass
5725.50	V	-43.96		
7634.00	V	-40.88		
3817.00	Horizontal	-50.18		
5725.50	H	-43.23		
7634.00	H	-41.59		

Note:
3. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
4. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 2 / 5 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3705.00	Vertical	-50.75	-13.00	Pass
5557.50	V	-43.69		
7410.00	V	-40.75		
3705.00	Horizontal	-51.24		
5557.50	H	-43.29		
7410.00	H	-41.96		
Middle				
3760.00	Vertical	-51.75	-13.00	Pass
5640.00	V	-42.86		
7520.00	V	-41.27		
3760.00	Horizontal	-50.08		
5640.00	H	-42.59		
7520.00	H	-41.14		
Highest				
3815.00	Vertical	-49.86	-13.00	Pass
5722.50	V	-43.78		
7630.00	V	-40.55		
3815.00	Horizontal	-48.67		
5722.50	H	-42.33		
7630.00	H	-40.37		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 2 / 10 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3710.00	Vertical	-50.74	-13.00	Pass
5565.00	V	-43.69		
7420.00	V	-41.35		
3710.00	Horizontal	-50.85		
5565.00	H	-43.22		
7420.00	H	-41.14		
Middle				
3760.00	Vertical	-51.42	-13.00	Pass
5640.00	V	-43.86		
7520.00	V	-41.27		
3760.00	Horizontal	-50.11		
5640.00	H	-42.98		
7520.00	H	-41.52		
Highest				
3810.00	Vertical	-51.12	-13.00	Pass
5715.00	V	-43.69		
7620.00	V	-40.77		
3810.00	Horizontal	-50.77		
5715.00	H	-42.86		
7620.00	H	-40.26		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. .For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 2 /15 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3715.00	Vertical	-51.42	-13.00	Pass
5572.50	V	-43.36		
7430.00	V	-40.21		
3715.00	Horizontal	-50.75		
5572.50	H	-42.89		
7430.00	H	-41.36		
Middle				
3760.00	Vertical	-51.63	-13.00	Pass
5640.00	V	-43.56		
7520.00	V	-40.72		
3760.00	Horizontal	-51.47		
5640.00	H	-42.55		
7520.00	H	-40.59		
Highest				
3805.00	Vertical	-50.74	-13.00	Pass
5707.50	V	-43.26		
7610.00	V	-40.86		
3805.00	Horizontal	-50.48		
5707.50	H	-42.96		
7610.00	H	-40.31		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 2 / 20 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3720.00	Vertical	-50.80	-13.00	Pass
5580.00	V	-43.70		
7440.00	V	-41.27		
3720.00	Horizontal	-50.26		
5580.00	H	-43.50		
7440.00	H	-41.85		
Middle				
3760.00	Vertical	-50.68	-13.00	Pass
5640.00	V	-43.41		
7520.00	V	-40.38		
3760.00	Horizontal	-51.36		
5640.00	H	-44.38		
7520.00	H	-40.45		
Highest				
3800.00	Vertical	-50.87	-13.00	Pass
5700.00	V	-43.86		
7600.00	V	-40.72		
3800.00	Horizontal	-50.63		
5700.00	H	-43.47		
7600.00	H	-41.28		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 4 / 1.4 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3421.40	Vertical	-51.07	-13.00	Pass
5132.10	V	-44.24		
6842.80	V	-39.69		
3421.40	Horizontal	-51.09		
5132.10	H	-41.97		
6842.80	H	-40.15		
Middle				
3465.00	Vertical	-48.53	-13.00	Pass
5197.50	V	-35.26		
6930.00	V	-40.17		
3465.00	Horizontal	-47.42		
5197.50	H	-35.87		
6930.00	H	-38.56		
Highest				
3508.60	Vertical	-50.14	-13.00	Pass
5262.90	V	-44.01		
7017.20	V	-39.65		
3508.60	Horizontal	-48.39		
5262.90	H	-45.34		
7017.20	H	-39.27		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2 For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 4 / 3 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3423.00	Vertical	-50.52	-13.00	Pass
5134.50	V	-43.63		
6846.00	V	-40.23		
3423.00	Horizontal	-51.85		
5134.50	H	-43.23		
6846.00	H	-39.65		
Middle				
3465.00	Vertical	-49.62	-13.00	Pass
5197.50	V	-42.58		
6930.00	V	-38.56		
3465.00	Horizontal	-48.75		
5197.50	H	-43.36		
6930.00	H	-39.53		
Highest				
3507.00	Vertical	-50.27	-13.00	Pass
5260.50	V	-44.26		
7014.00	V	-40.24		
3507.00	Horizontal	-51.20		
5260.50	H	-44.78		
7014.00	H	-39.78		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 4 / 5 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3425.00	Vertical	-50.42	-13.00	Pass
5137.50	V	-42.38		
6850.00	V	-39.68		
3425.00	Horizontal	-51.10		
5137.50	H	-41.36		
6850.00	H	-40.25		
Middle				
3465.00	Vertical	-49.69	-13.00	Pass
5197.50	V	-37.58		
6930.00	V	-39.56		
3465.00	Horizontal	-48.55		
5197.50	H	-36.56		
6930.00	H	-38.45		
Highest				
3505.00	Vertical	-50.25	-13.00	Pass
5257.50	V	-44.21		
7010.00	V	-39.85		
3505.00	Horizontal	-48.75		
5257.50	H	-47.92		
7010.00	H	-40.16		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 4 / 10 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3430.00	Vertical	-51.25	-13.00	Pass
5145.00	V	-44.13		
6860.00	V	-39.56		
3430.00	Horizontal	-50.27		
5145.00	H	-43.69		
6860.00	H	-38.45		
Middle				
3465.00	Vertical	-50.55	-13.00	Pass
5197.50	V	-44.69		
6930.00	V	-39.63		
3465.00	Horizontal	-49.12		
5197.50	H	-43.27		
6930.00	H	-38.47		
Highest				
3500.00	Vertical	-49.75	-13.00	Pass
5250.00	V	-44.25		
7000.00	V	-38.15		
3500.00	Horizontal	-50.17		
5250.00	H	-44.51		
7000.00	H	-39.26		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

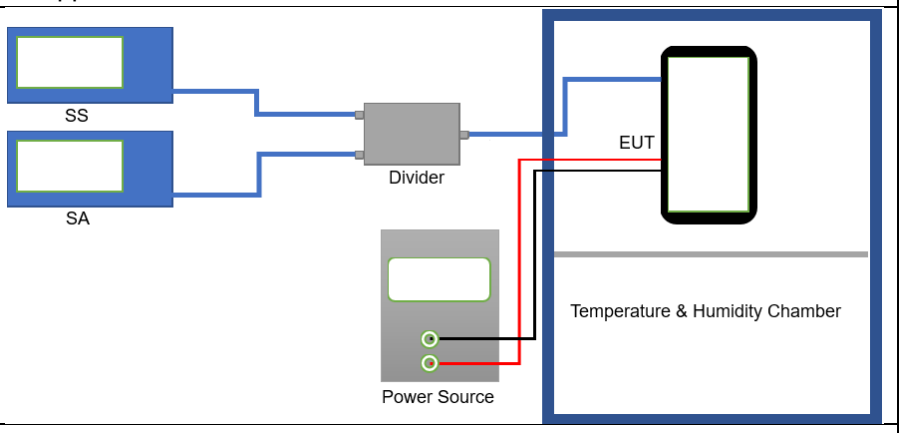
LTE Band 4 / 15 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3435.00	Vertical	-50.45	-13.00	Pass
5152.50	V	-43.69		
6870.00	V	-41.21		
3435.00	Horizontal	-50.45		
5152.50	H	-42.78		
6870.00	H	-38.53		
Middle				
3465.00	Vertical	-50.13	-13.00	Pass
5197.50	V	-39.56		
6930.00	V	-39.63		
3465.00	Horizontal	-48.59		
5197.50	H	-38.47		
6930.00	H	-39.26		
Highest				
3495.00	Vertical	-51.21	-13.00	Pass
5242.50	V	-45.25		
6990.00	V	-40.27		
3495.00	Horizontal	-49.51		
5242.50	H	-48.57		
6990.00	H	-40.37		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 4 / 20 MHz / RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3440.00	Vertical	-50.57	-13.00	Pass
5160.00	V	-45.46		
6880.00	V	-40.25		
3440.00	Horizontal	-50.50		
5160.00	H	-44.03		
6880.00	H	-40.72		
Middle				
3465.00	Vertical	-51.20	-13.00	Pass
5197.50	V	-44.18		
6930.00	V	-39.62		
3465.00	Horizontal	-49.68		
5197.50	H	-45.37		
6930.00	H	-39.53		
Highest				
3490.00	Vertical	-50.62	-13.00	Pass
5235.00	V	-46.20		
6980.00	V	-39.74		
3490.00	Horizontal	-50.32		
5235.00	H	-44.42		
6980.00	H	-39.26		

Note:
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

6.7 Frequency stability V.S. Temperature measurement

Test Requirement:	Part 24.235, Part 27.54, Part 2.1055(a)(1)(b)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
Test setup:	
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25℃ operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

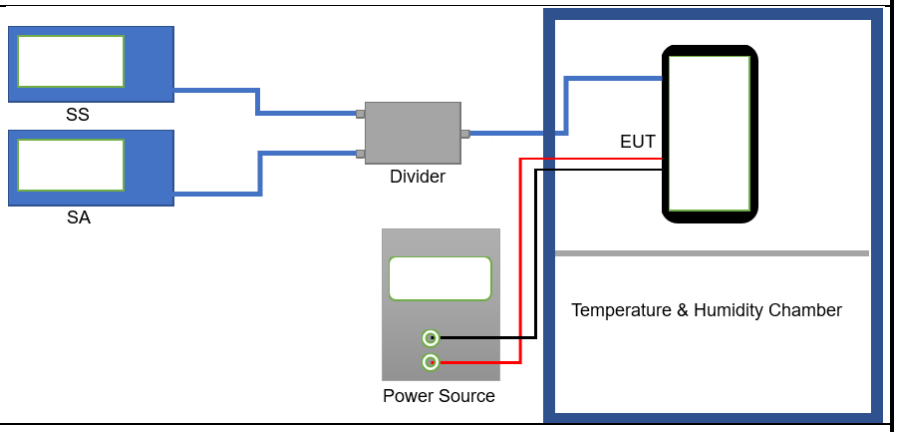
Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	151	0.080319	±2.5	Pass
	-20	155	0.082447		
	-10	163	0.086702		
	0	123	0.065426		
	10	188	0.100000		
	20	174	0.092553		
	30	114	0.060638		
	40	105	0.055851		
	50	150	0.079787		
16QAM					
3.80	-30	126	0.067021	±2.5	Pass
	-20	150	0.079787		
	-10	166	0.088298		
	0	122	0.064894		
	10	144	0.076596		
	20	140	0.074468		
	30	156	0.082979		
	40	133	0.070745		
	50	138	0.073404		

Note: Only the worst case shown in the report.

Reference Frequency: LTE Band 4 (10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	151	0.087157	±2.5	Pass
	-20	155	0.089466		
	-10	163	0.094084		
	0	123	0.070996		
	10	188	0.108514		
	20	174	0.100433		
	30	114	0.065801		
	40	105	0.060606		
	50	150	0.086580		
16QAM					
3.80	-30	146	0.084271	±2.5	Pass
	-20	150	0.086580		
	-10	166	0.095815		
	0	122	0.070418		
	10	144	0.083117		
	20	140	0.080808		
	30	156	0.090043		
	40	133	0.076768		
	50	138	0.079654		

Note: Only the worst case shown in the report.

6.8 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 24.235, Part 27.54, Part 2.1055(d)(2)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
Test setup:	
Test procedure:	1. Set chamber temperature to 25℃. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	96	0.051064	±2.5	Pass
	3.80	63	0.033511		
	3.55	72	0.038298		
16QAM					
25	4.35	82	0.043617	±2.5	Pass
	3.80	99	0.052660		
	3.55	50	0.026596		

Note: Only the worst case shown in the report.

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	93	0.053680	±2.5	Pass
	3.80	56	0.032323		
	3.55	76	0.043867		
16QAM					
25	4.35	82	0.047330	±2.5	Pass
	3.80	90	0.051948		
	3.55	84	0.048485		

Note: Only the worst case shown in the report.