



LTE Band 4

Peak-to-Average Ratio

| Mode | LTE Band 4 / 20MHz | | | | |
|------------|--------------------|---------|-------|---------|-------------|
| Mod. | QPSK | | 16QAM | | Limit: 13dB |
| RB Size | 1RB | Full RB | 1RB | Full RB | Result |
| Lowest CH | 4.7 | 4.87 | 5.59 | 6.03 | PASS |
| Middle CH | 4.06 | 5.1 | 4.96 | 6.14 | |
| Highest CH | 4.55 | 5.16 | 5.33 | 6.09 | |



LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB



Date: 27_JUN_2015 10:35:39

Lowest Channel / Full RB



Date: 27_JUN_2015 10:35:53

Middle Channel / 1RB



Date: 27_JUN_2015 10:36:08

Middle Channel / Full RB



Date: 27_JUN_2015 10:36:23

Highest Channel / 1RB



Date: 27_JUN_2015 10:36:37

Highest Channel / Full RB



Date: 27_JUN_2015 10:36:57



LTE Band 4 / 20MHz / 16QAM

Lowest Channel / 1RB



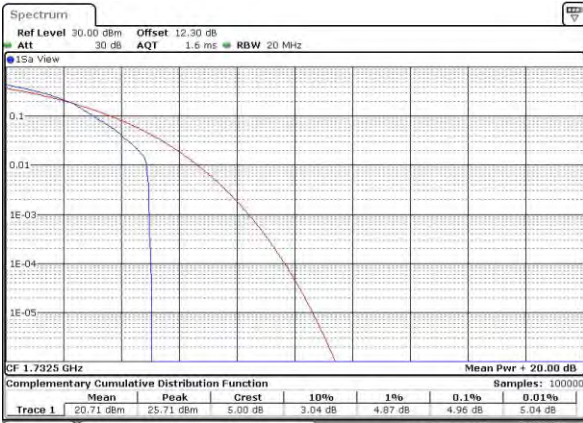
Date: 27_JUN,2015 10:33:20

Lowest Channel / Full RB



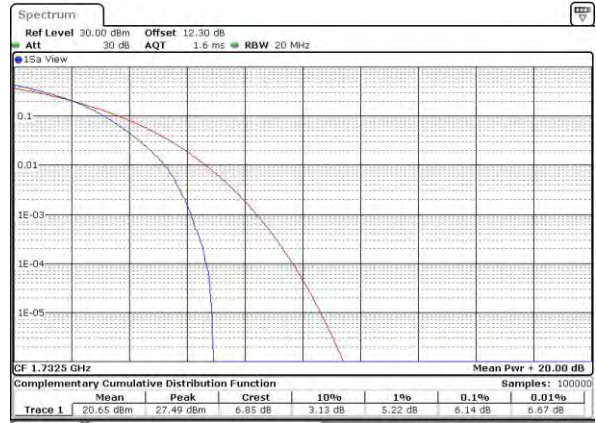
Date: 27_JUN,2015 10:33:44

Middle Channel / 1RB



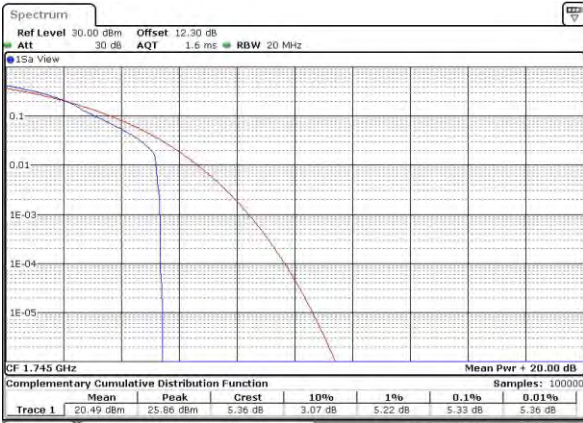
Date: 27_JUN,2015 10:34:12

Middle Channel / Full RB



Date: 27_JUN,2015 10:34:26

Highest Channel / 1RB



Date: 27_JUN,2015 10:35:10

Highest Channel / Full RB



Date: 27_JUN,2015 10:35:25



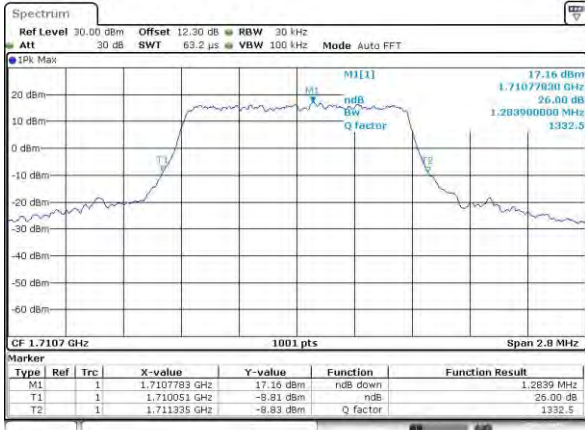
26dB Bandwidth

| Mode | LTE Band 4 : 26dB BW(MHz) | | | | | | | | | | | |
|------------|---------------------------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| BW | | | | | | | | | | | | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Lowest CH | 1.28 | 1.3 | 3.05 | 3.05 | 5.01 | 5.03 | 9.89 | 9.97 | 14.66 | 14.81 | 20.26 | 20.14 |
| Middle CH | 1.29 | 1.3 | 3.06 | 3.05 | 5.05 | 5.07 | 10.07 | 9.97 | 14.63 | 14.72 | 20.58 | 20.42 |
| Highest CH | 1.28 | 1.31 | 3.06 | 3.06 | 5.04 | 5.04 | 10.05 | 9.97 | 14.78 | 14.66 | 20.38 | 20.46 |



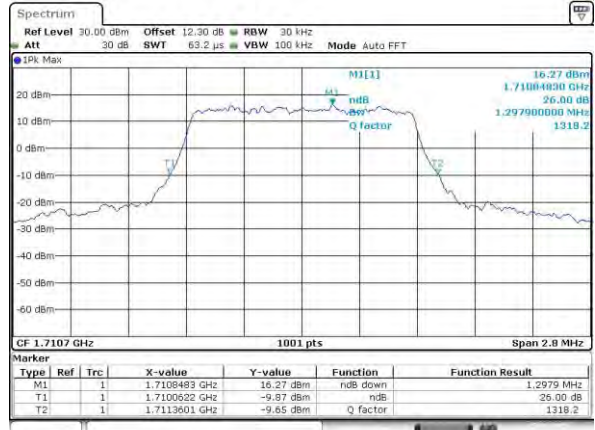
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



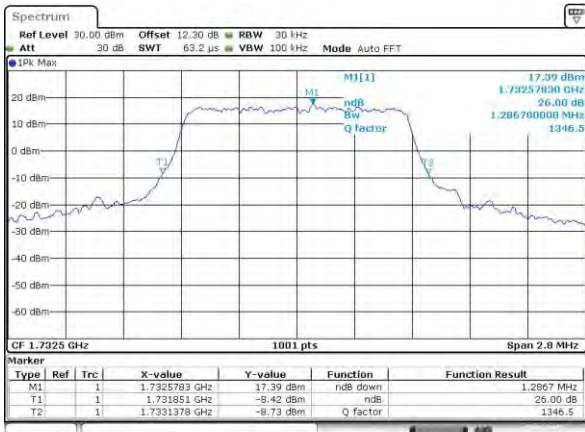
Date: 27-Jun-2015 10:13:29

Lowest Channel / 1.4MHz / 16QAM



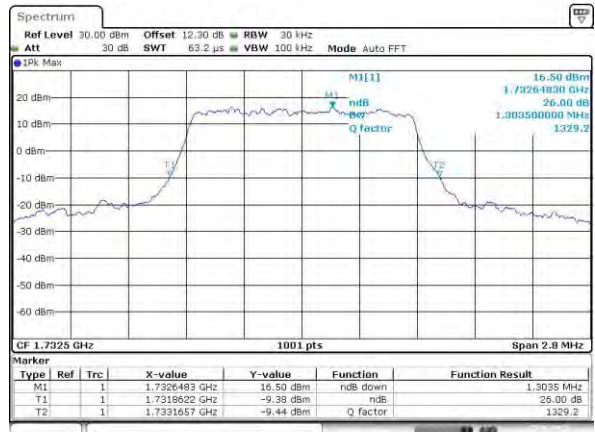
Date: 27-Jun-2015 10:13:42

Middle Channel / 1.4MHz / QPSK



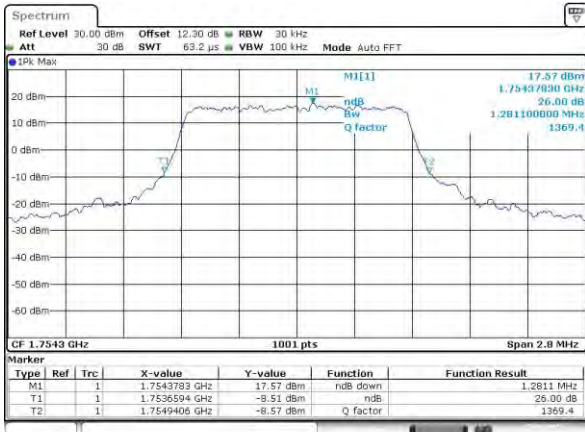
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Middle Channel / 1.4MHz / 16QAM



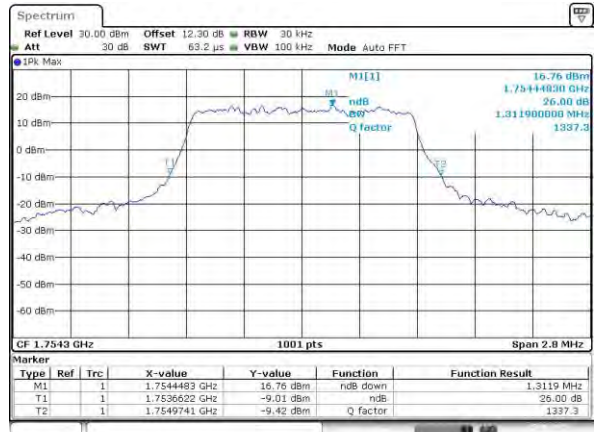
Date: 27-Jun-2015 10:21:43

Highest Channel / 1.4MHz / QPSK



Date: 27-Jun-2015 10:24:49

Highest Channel / 1.4MHz / 16QAM

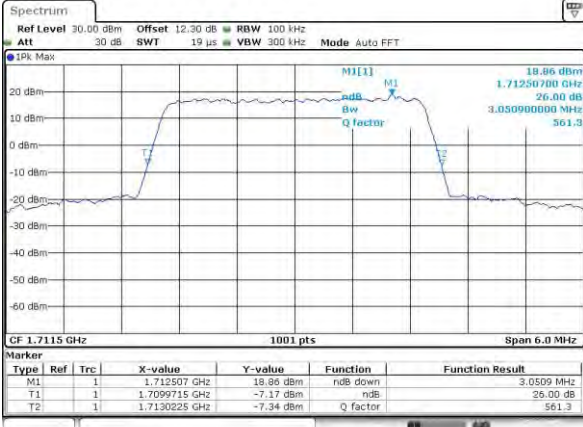


Date: 27-Jun-2015 10:25:03



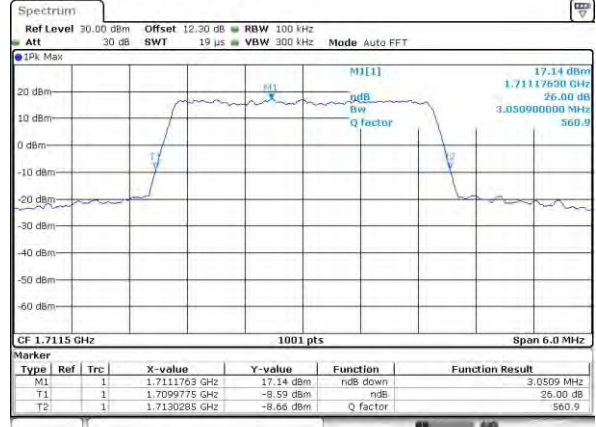
LTE Band 4

Lowest Channel / 3MHz / QPSK



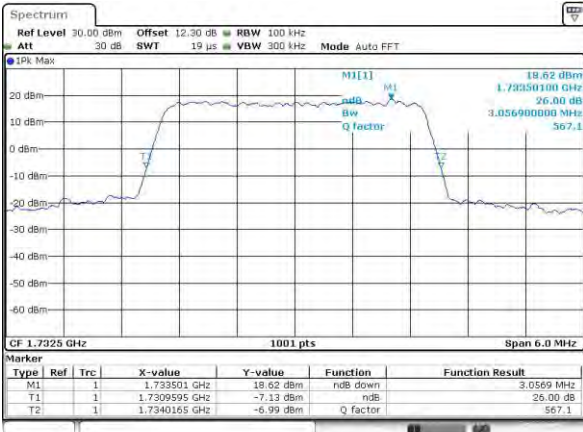
Date: 27-Jun-2018 09:28:41

Lowest Channel / 3MHz / 16QAM



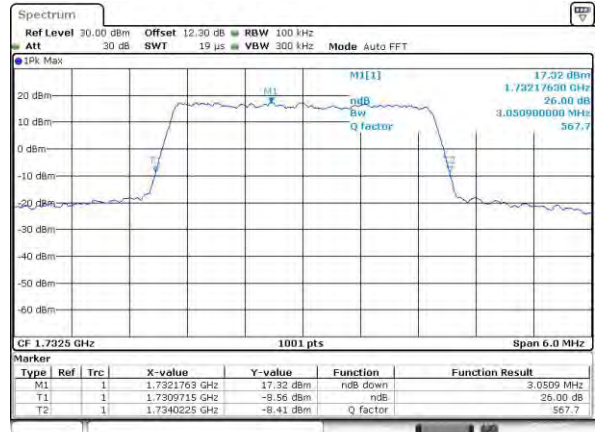
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Middle Channel / 3MHz / QPSK



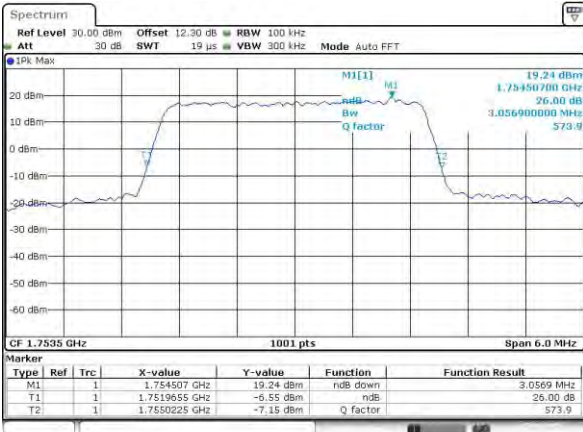
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Middle Channel / 3MHz / 16QAM



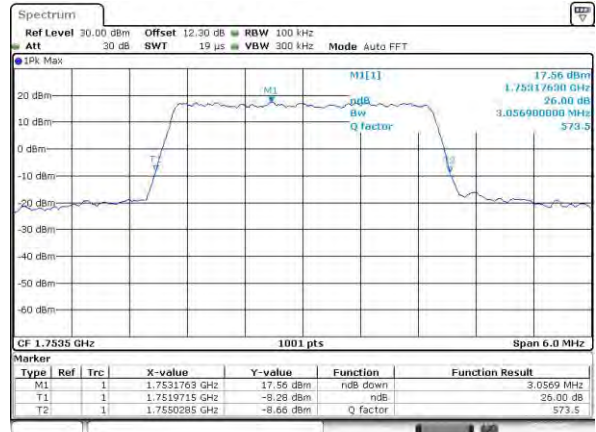
Date: 27-Jun-2018 09:36:58

Highest Channel / 3MHz / QPSK



Date: 27-Jun-2018 09:40:04

Highest Channel / 3MHz / 16QAM

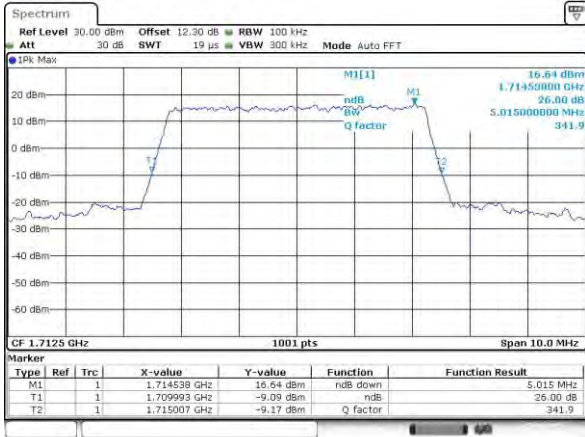


Date: 27-Jun-2018 09:40:18



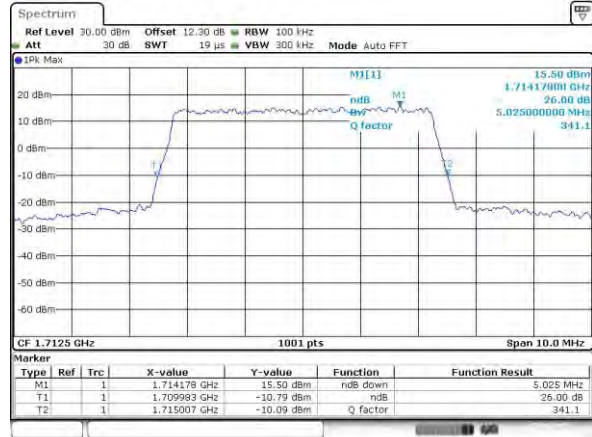
LTE Band 4

Lowest Channel / 5MHz / QPSK



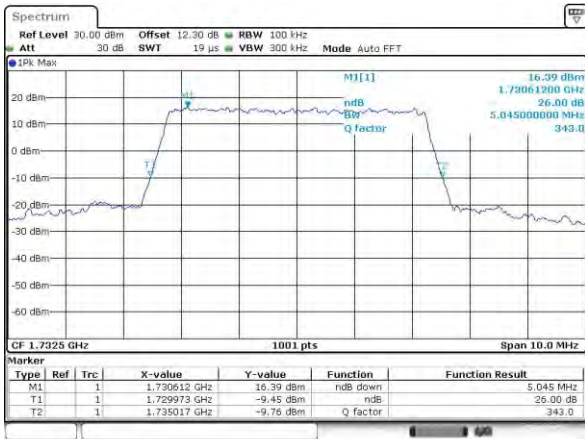
Date: 27-Jun-2018 09:48:05

Lowest Channel / 5MHz / 16QAM



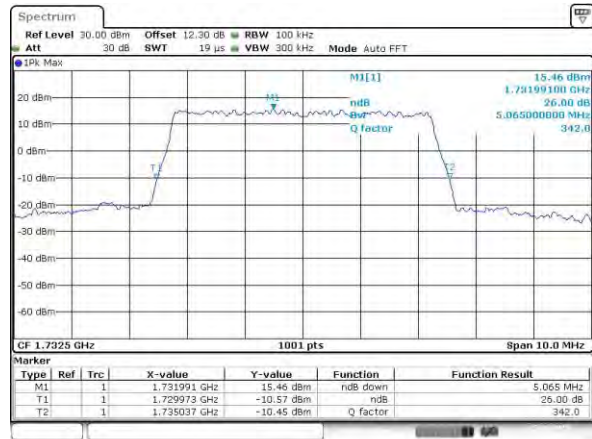
Date: 27-Jun-2018 09:48:19

Middle Channel / 5MHz / QPSK



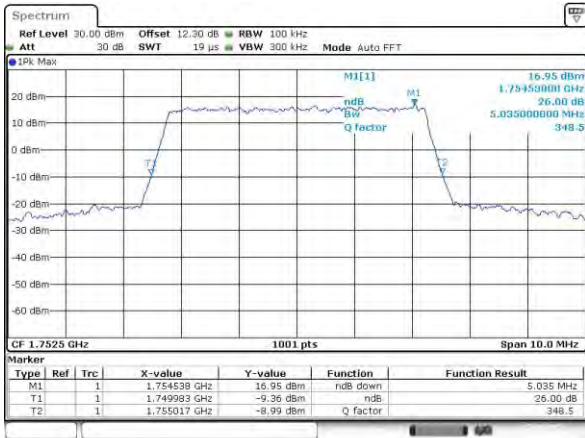
Date: 27-Jun-2018 09:56:06

Middle Channel / 5MHz / 16QAM



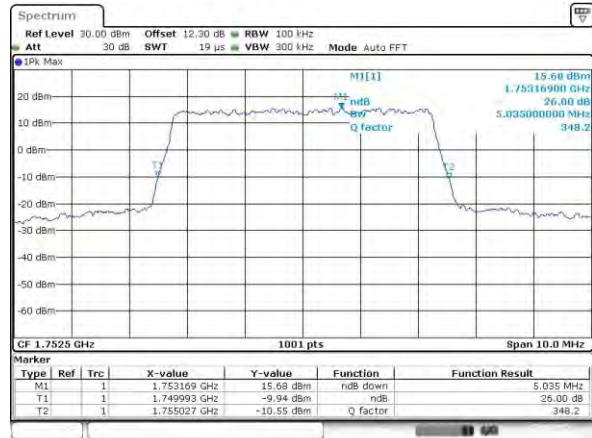
Date: 27-Jun-2018 09:56:10

Highest Channel / 5MHz / QPSK



Date: 27-Jun-2018 09:59:26

Highest Channel / 5MHz / 16QAM

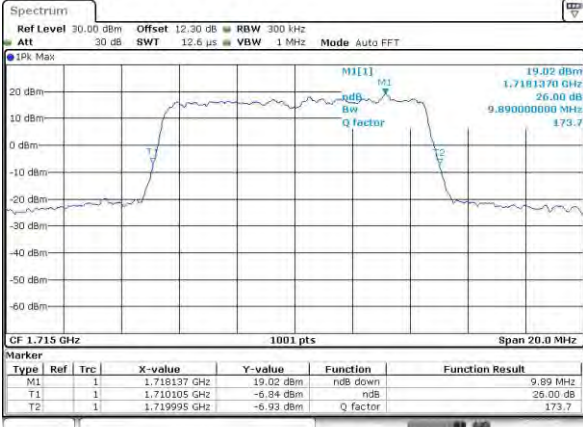


Date: 27-Jun-2018 09:59:40



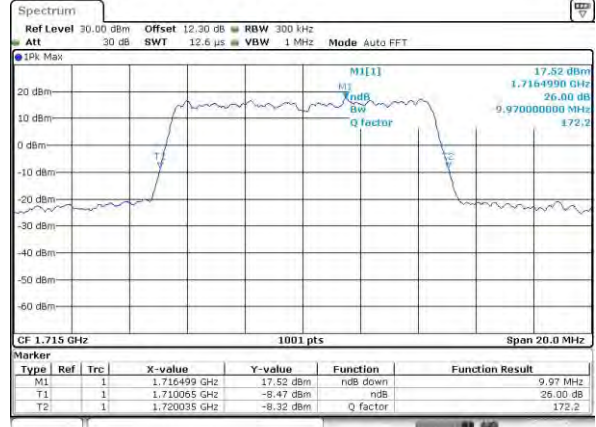
LTE Band 4

Lowest Channel / 10MHz / QPSK



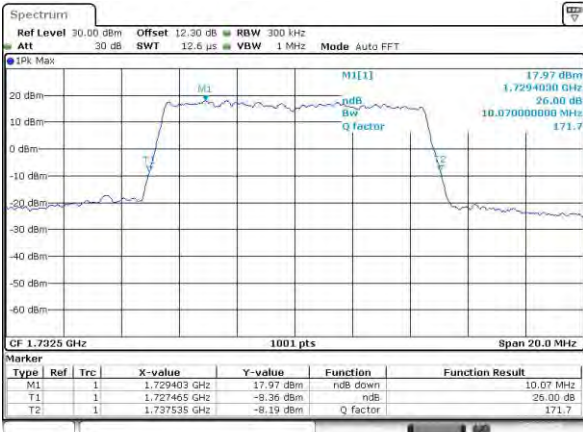
Date: 27-Jun-2015 09:07:27

Lowest Channel / 10MHz / 16QAM



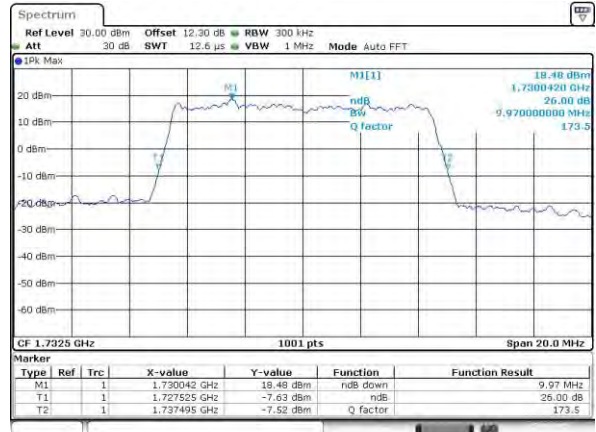
Date: 27-Jun-2015 09:07:41

Middle Channel / 10MHz / QPSK



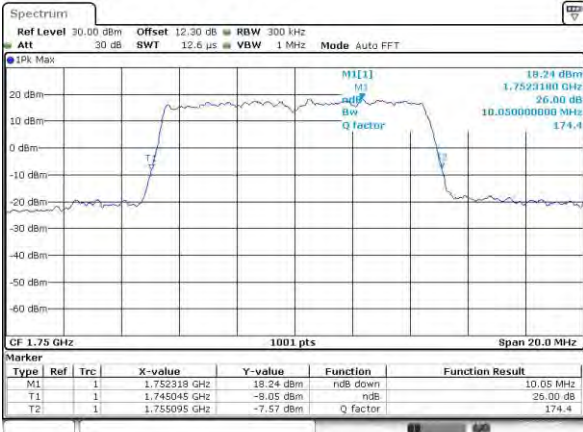
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Middle Channel / 10MHz / 16QAM



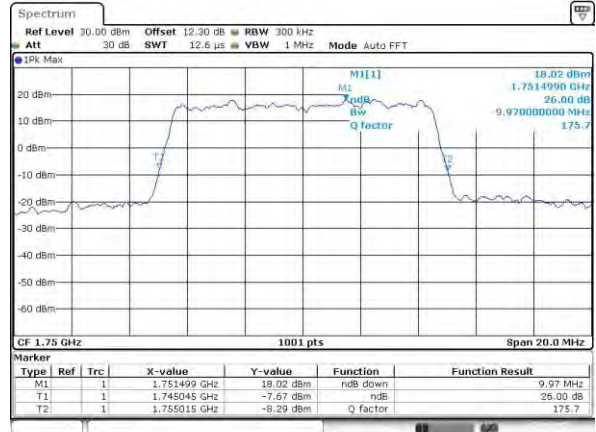
Date: 27-Jun-2015 09:15:42

Highest Channel / 10MHz / QPSK



Date: 27-Jun-2015 09:18:48

Highest Channel / 10MHz / 16QAM

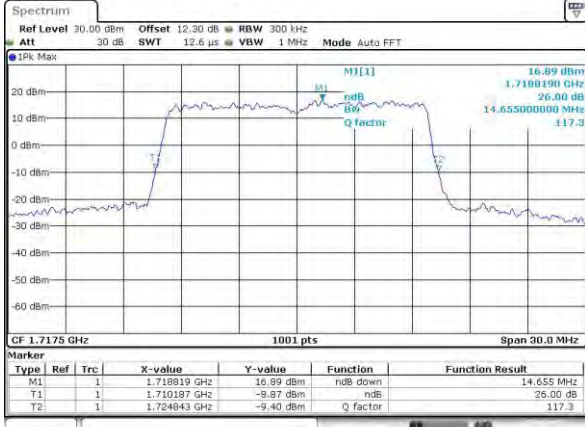


Date: 27-Jun-2015 09:19:02



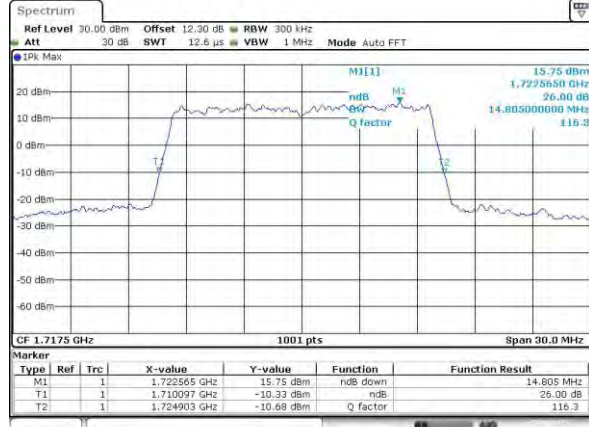
LTE Band 4

Lowest Channel / 15MHz / QPSK



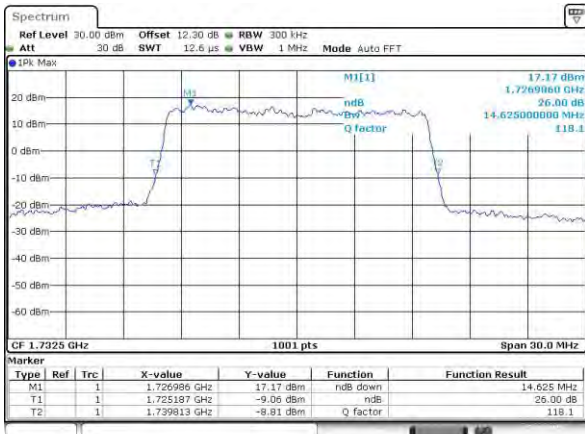
Date: 27-Jun-2015 09:26:40

Lowest Channel / 15MHz / 16QAM



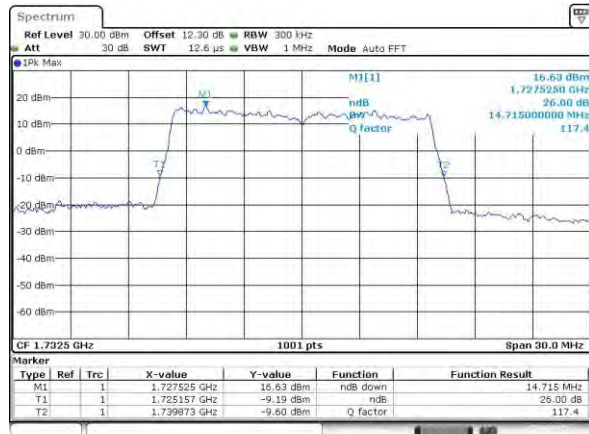
Date: 27-Jun-2015 09:27:03

Middle Channel / 15MHz / QPSK



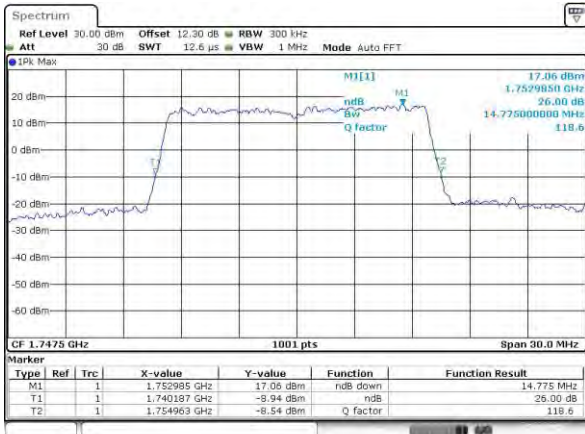
Date: 27-Jun-2015 09:34:40

Middle Channel / 15MHz / 16QAM



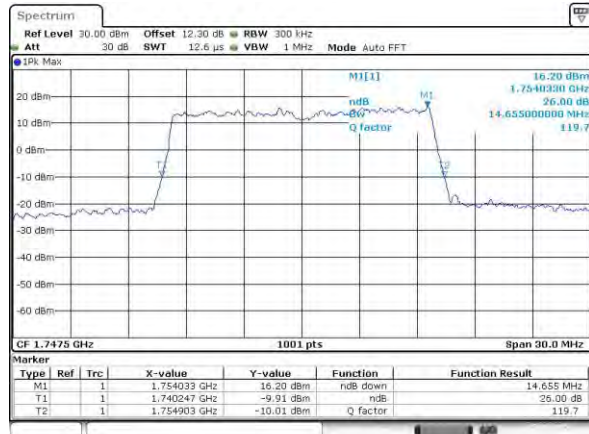
Date: 27-Jun-2015 09:35:03

Highest Channel / 15MHz / QPSK



Date: 27-Jun-2015 09:38:00

Highest Channel / 15MHz / 16QAM

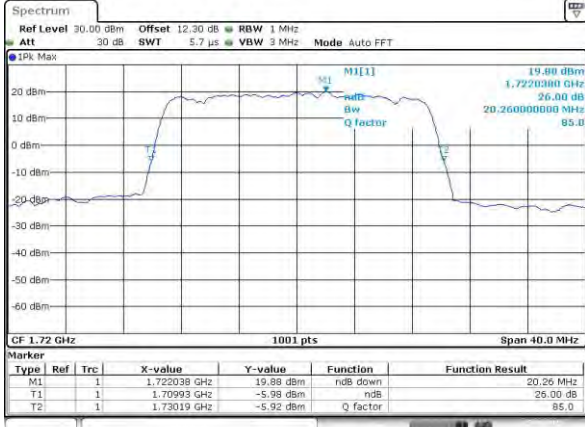


Date: 27-Jun-2015 09:38:23



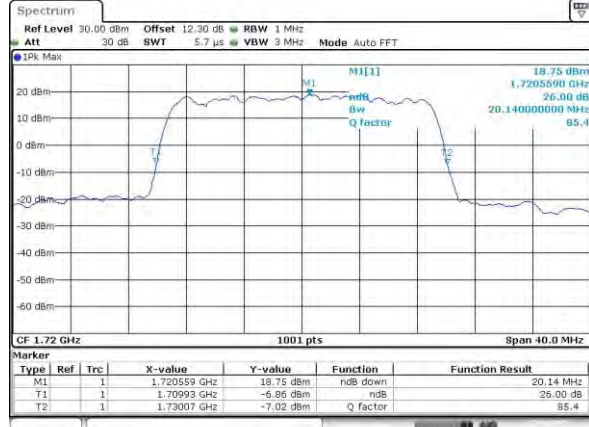
LTE Band 4

Lowest Channel / 20MHz / QPSK



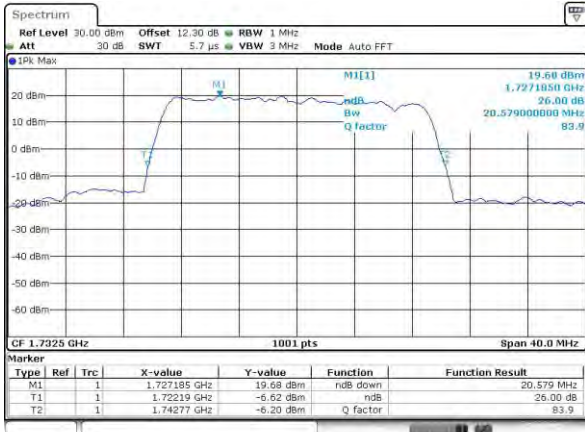
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Lowest Channel / 20MHz / 16QAM



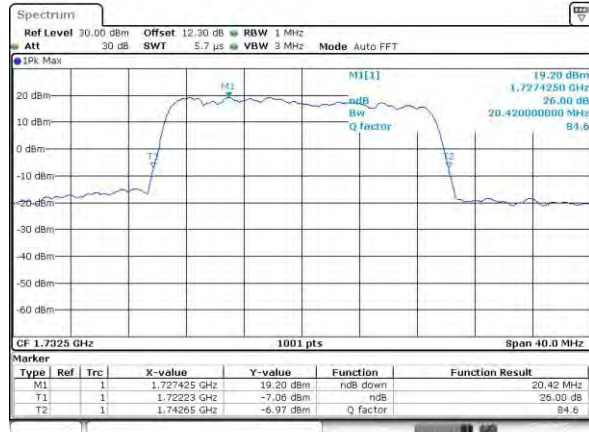
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Middle Channel / 20MHz / QPSK



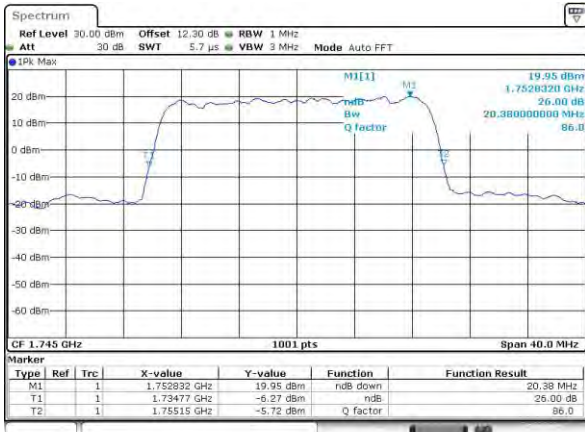
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Middle Channel / 20MHz / 16QAM



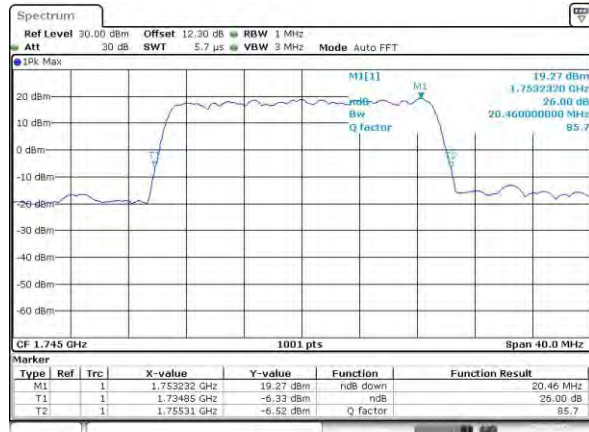
Date: 27-Jun-2015 09:48:23

Highest Channel / 20MHz / QPSK



Date: 27-Jun-2015 09:57:30

Highest Channel / 20MHz / 16QAM



Date: 27-Jun-2015 09:57:44



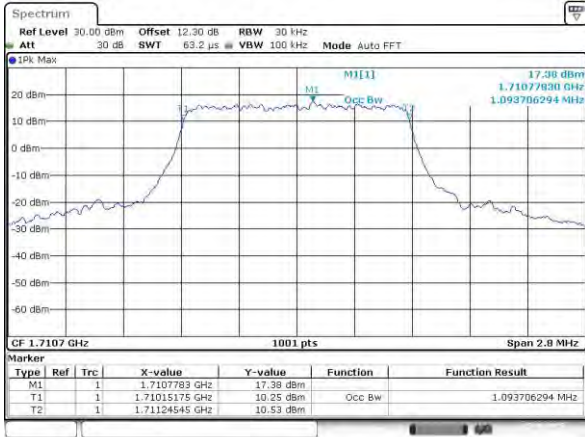
Occupied Bandwidth

| Mode | LTE Band 4 : 99%OBW(MHz) | | | | | | | | | | | |
|------------|--------------------------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| BW | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Lowest CH | 1.09 | 1.1 | 2.73 | 2.73 | 4.5 | 4.51 | 9.03 | 9.01 | 13.43 | 13.46 | 18.34 | 18.18 |
| Middle CH | 1.1 | 1.1 | 2.73 | 2.73 | 4.5 | 4.51 | 9.03 | 9.03 | 13.52 | 13.49 | 18.38 | 18.46 |
| Highest CH | 1.1 | 1.1 | 2.73 | 2.73 | 4.5 | 4.5 | 9.09 | 9.01 | 13.46 | 13.49 | 18.3 | 18.46 |



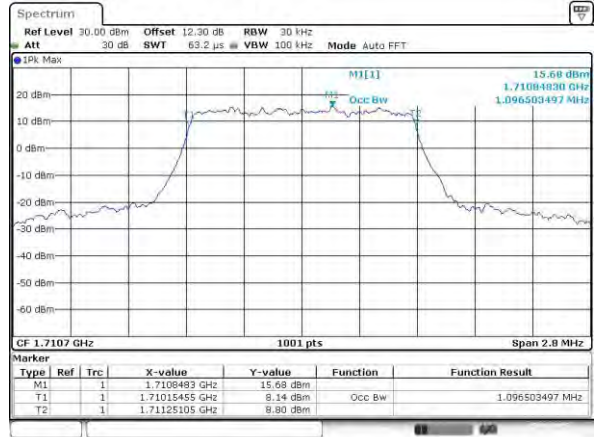
LTE Band 4

Lowest Channel / 1.4MHz / QPSK



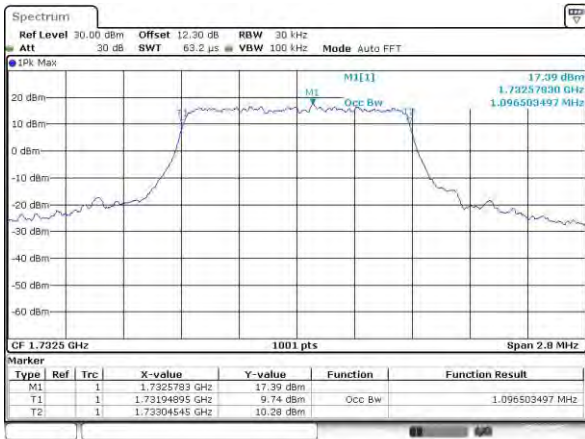
Date: 27-Jun-2018 10:13:10

Lowest Channel / 1.4MHz / 16QAM



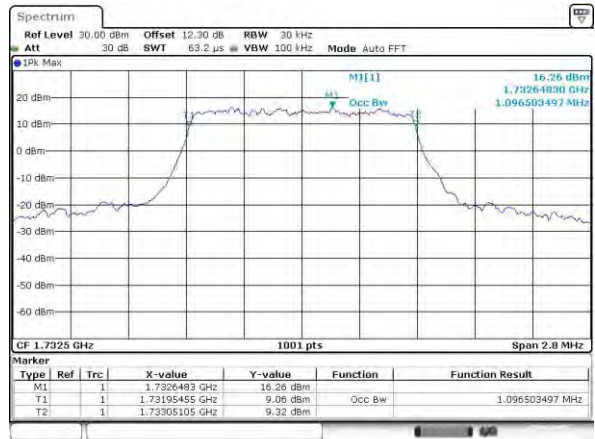
Date: 27-Jun-2018 10:13:13

Middle Channel / 1.4MHz / QPSK



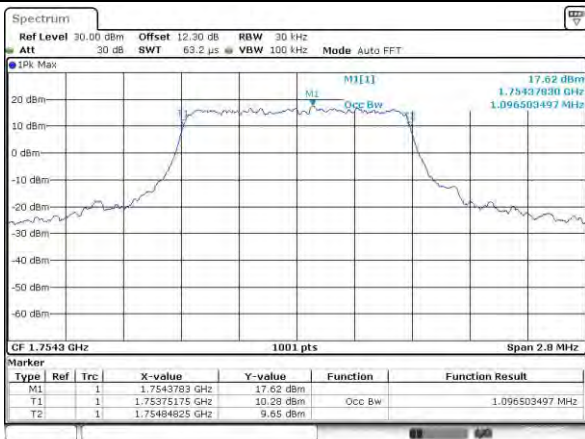
Date: 27-Jun-2018 10:21:02

Middle Channel / 1.4MHz / 16QAM



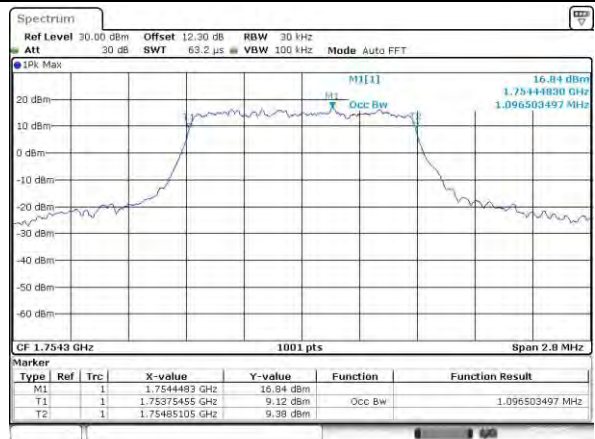
Date: 27-Jun-2018 10:21:13

Highest Channel / 1.4MHz / QPSK



Date: 27-Jun-2018 10:24:22

Highest Channel / 1.4MHz / 16QAM

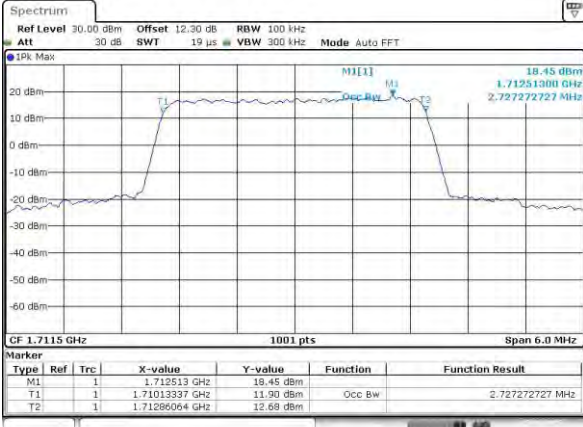


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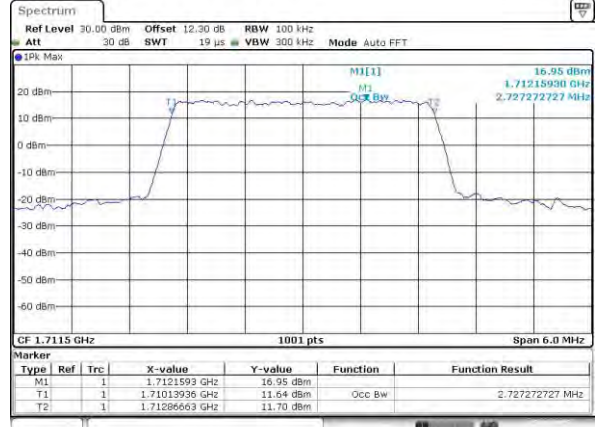
LTE Band 4

Lowest Channel / 3MHz / QPSK



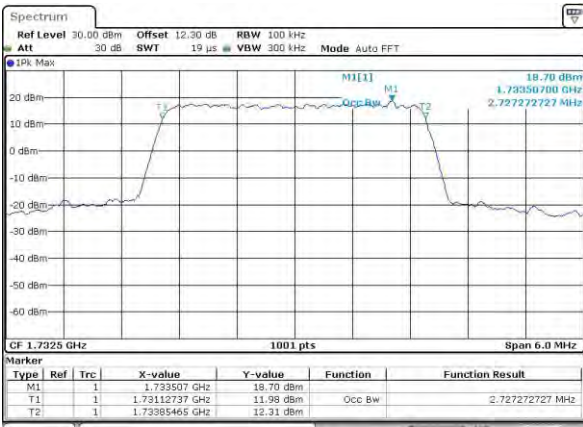
Date: 27-Jun-2018 09:28:14

Lowest Channel / 3MHz / 16QAM



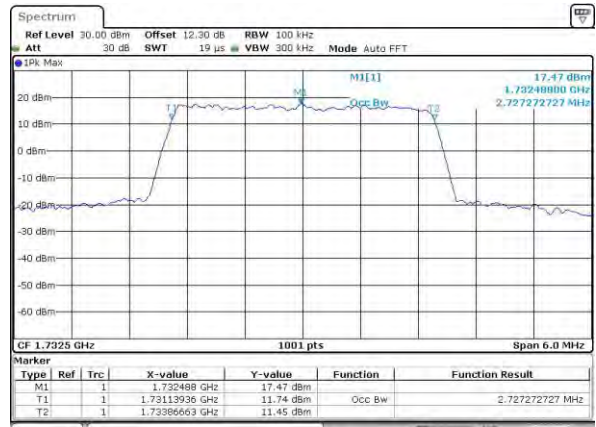
Date: 27-Jun-2018 09:28:27

Middle Channel / 3MHz / QPSK



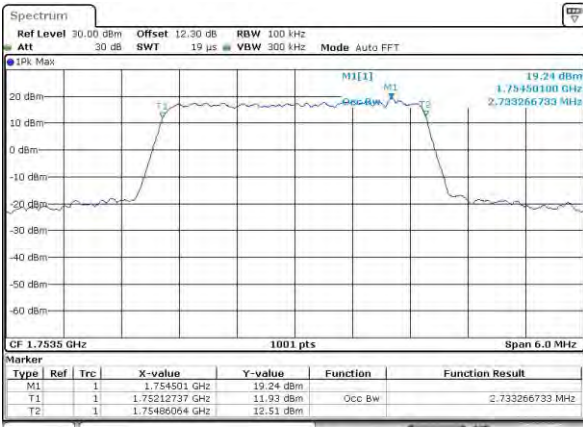
Date: 27-Jun-2018 09:36:17

Middle Channel / 3MHz / 16QAM



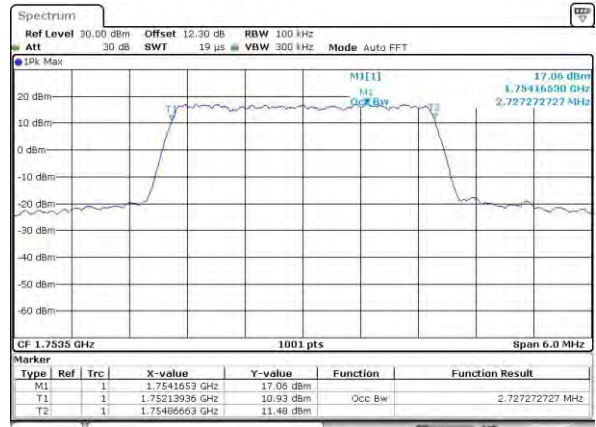
Date: 27-Jun-2018 09:36:29

Highest Channel / 3MHz / QPSK



Date: 27-Jun-2018 09:39:38

Highest Channel / 3MHz / 16QAM

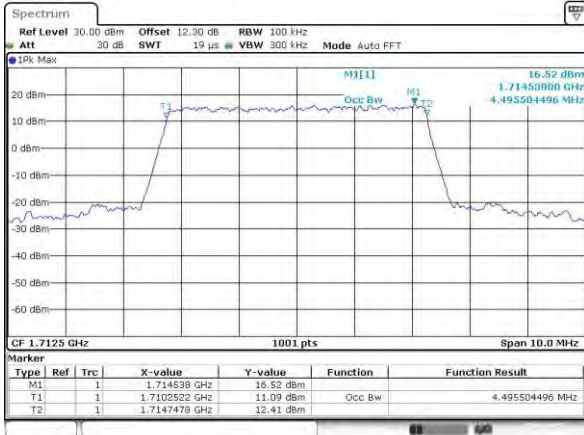


Date: 27-Jun-2018 09:39:50



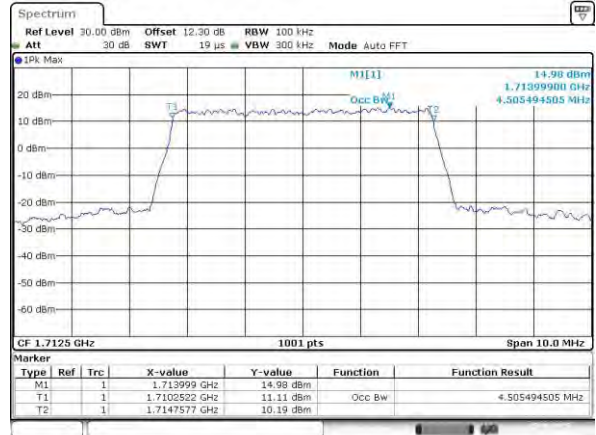
LTE Band 4

Lowest Channel / 5MHz / QPSK



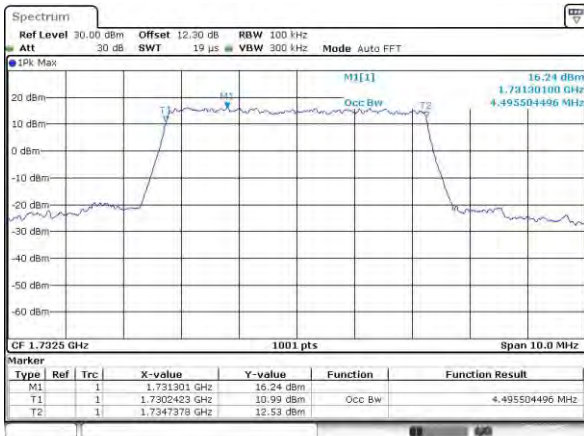
Date: 27-Jun-2018 09:47:30

Lowest Channel / 5MHz / 16QAM



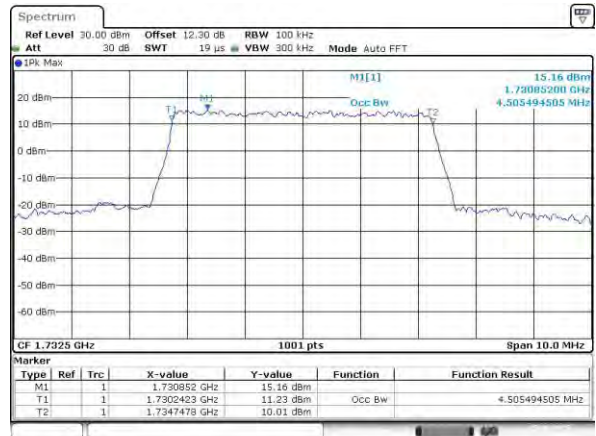
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Middle Channel / 5MHz / QPSK



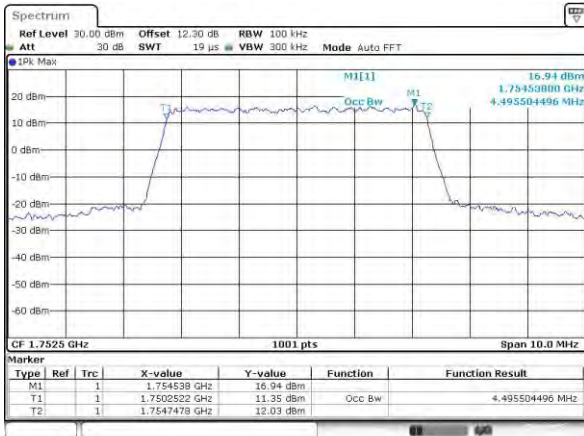
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Middle Channel / 5MHz / 16QAM



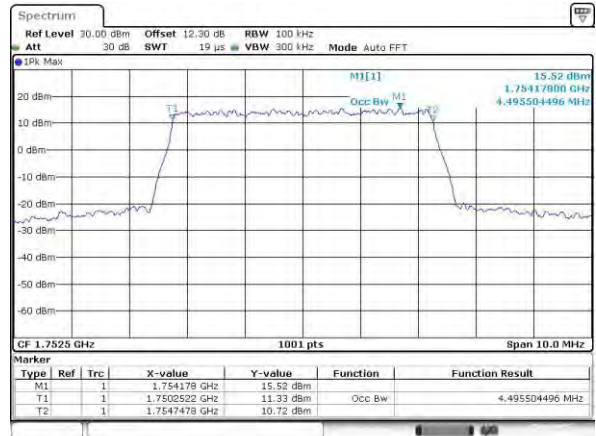
Date: 27-Jun-2018 09:55:52

Highest Channel / 5MHz / QPSK



Date: 27-Jun-2018 09:59:00

Highest Channel / 5MHz / 16QAM

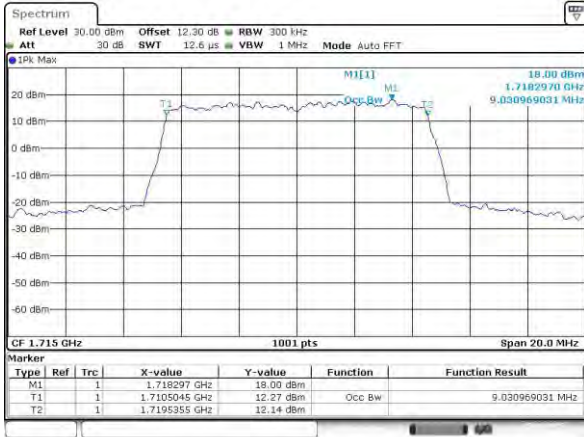


Date: 27-Jun-2018 09:59:12



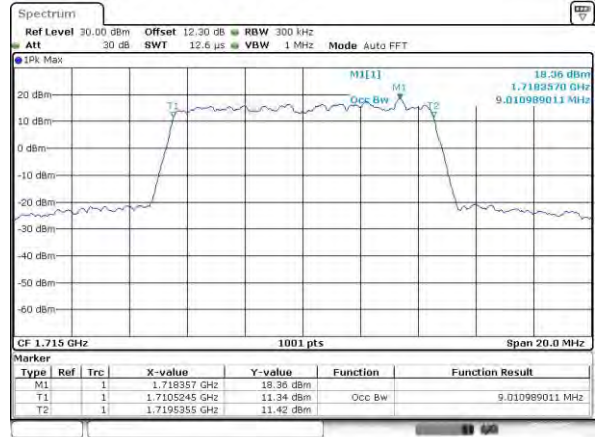
LTE Band 4

Lowest Channel / 10MHz / QPSK



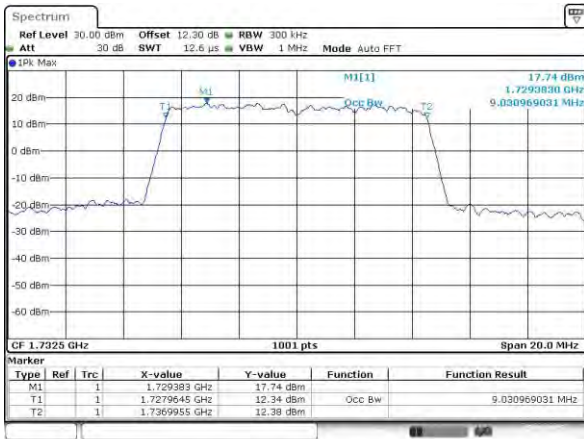
Date: 27-Jun-2015 09:07:10

Lowest Channel / 10MHz / 16QAM



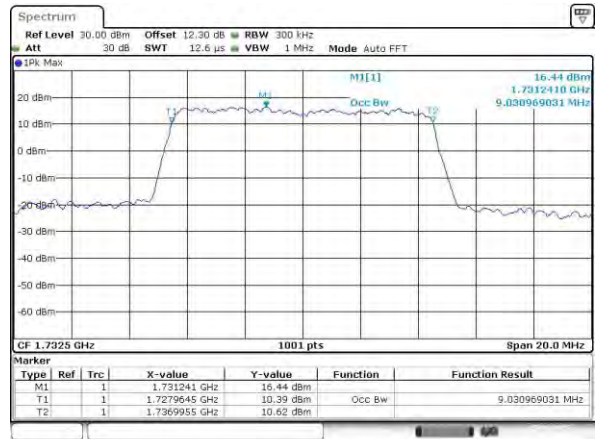
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Middle Channel / 10MHz / QPSK



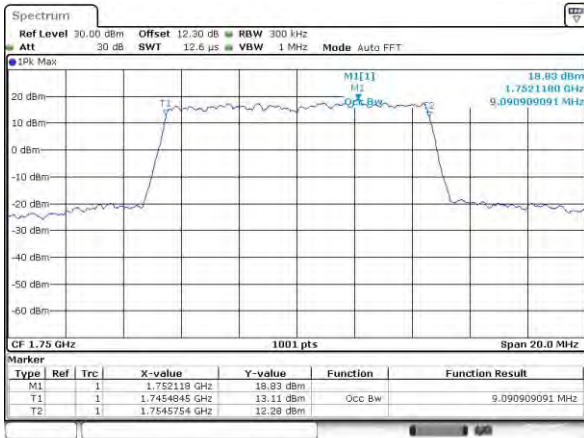
Date: 27-Jun-2015 09:15:02

Middle Channel / 10MHz / 16QAM



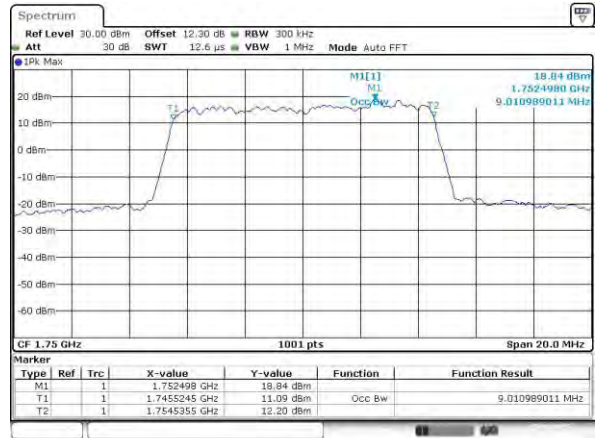
Date: 27-Jun-2015 09:15:14

Highest Channel / 10MHz / QPSK



Date: 27-Jun-2015 09:18:22

Highest Channel / 10MHz / 16QAM

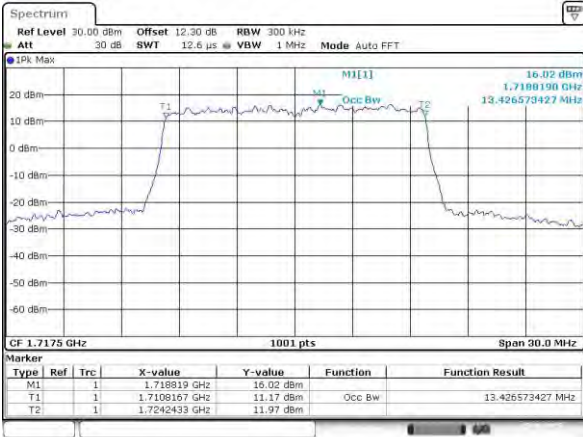


Date: 27-Jun-2015 10:37:30



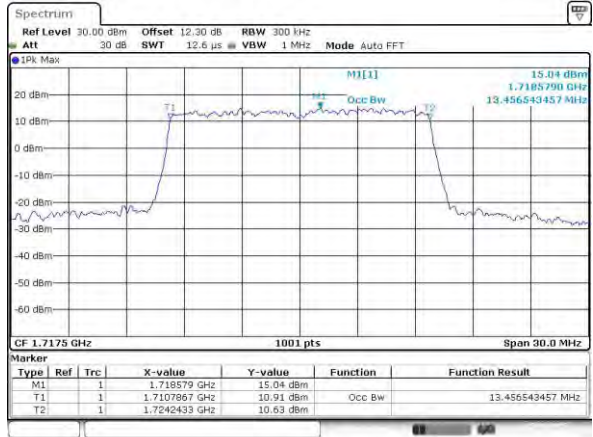
LTE Band 4

Lowest Channel / 15MHz / QPSK



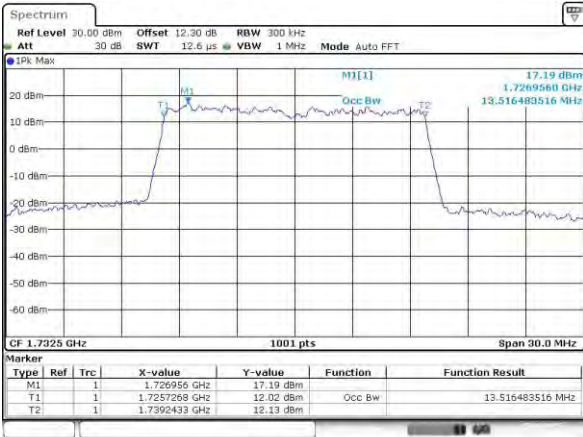
Date: 27 JUN 2015 09:26:22

Lowest Channel / 15MHz / 16QAM



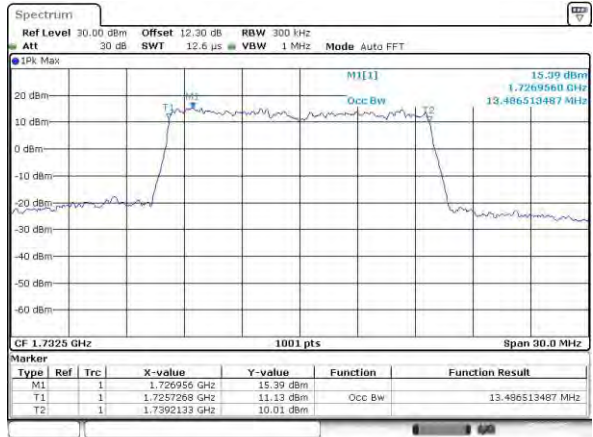
Date: 27 JUN 2015 09:26:35

Middle Channel / 15MHz / QPSK



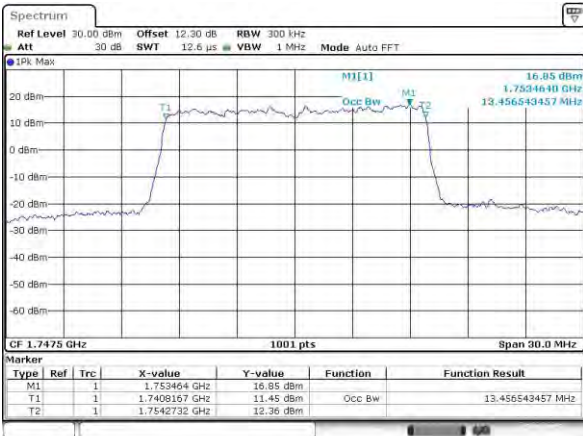
Date: 27 JUN 2015 09:34:23

Middle Channel / 15MHz / 16QAM



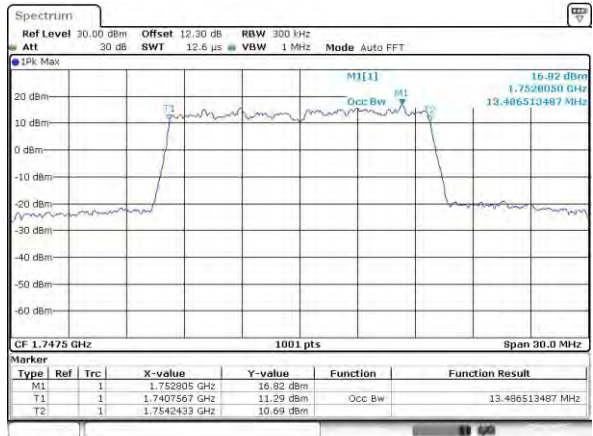
Date: 27 JUN 2015 09:34:35

Highest Channel / 15MHz / QPSK



Date: 27 JUN 2015 09:37:43

Highest Channel / 15MHz / 16QAM

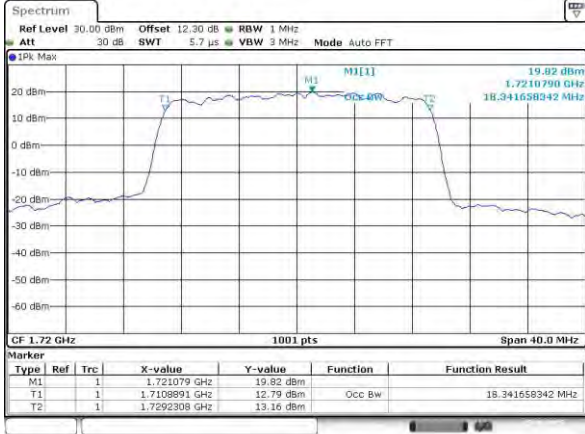


Date: 27 JUN 2015 09:37:55



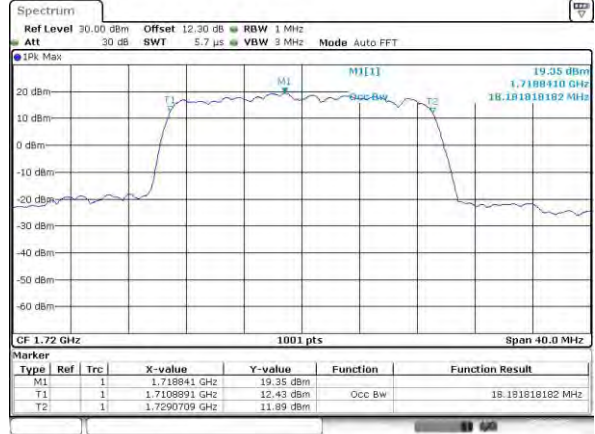
LTE Band 4

Lowest Channel / 20MHz / QPSK



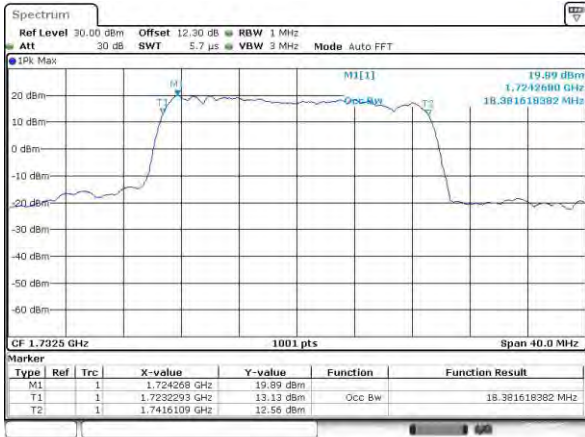
Date: 27-Jun-2015 09:45:14

Lowest Channel / 20MHz / 16QAM



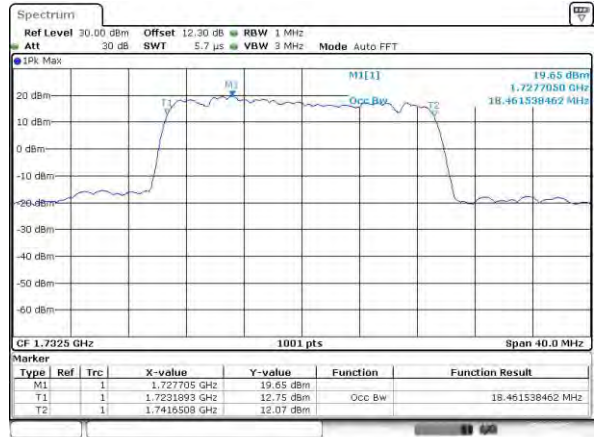
Date: 27-Jun-2015 09:45:56

Middle Channel / 20MHz / QPSK



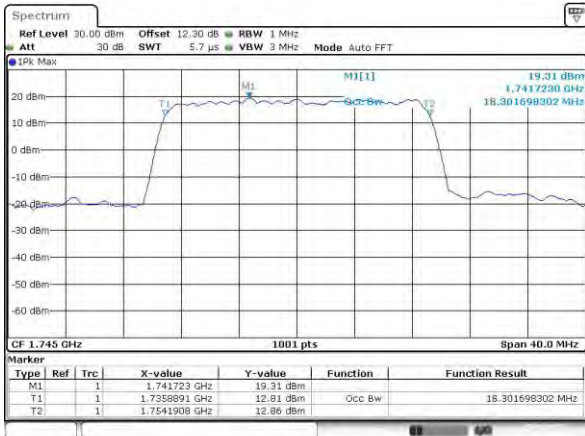
Date: 27-Jun-2015 09:53:44

Middle Channel / 20MHz / 16QAM



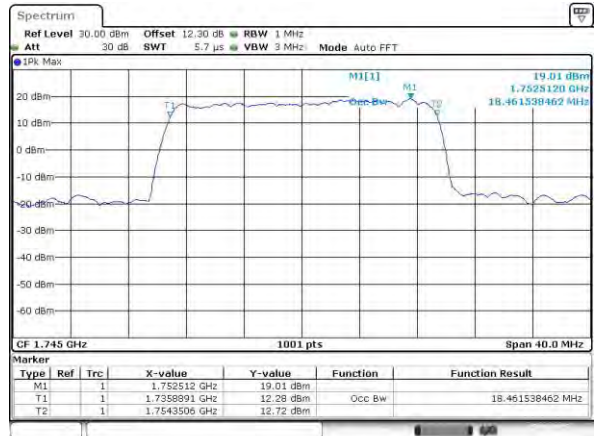
Date: 27-Jun-2015 09:53:56

Highest Channel / 20MHz / QPSK



Date: 27-Jun-2015 09:57:04

Highest Channel / 20MHz / 16QAM



Date: 27-Jun-2015 09:57:16



Conducted Band Edge



LTE Band 4 / 1.4MHz / QPSK

Lowest Band Edge / 1RB



Date: 27.JUN.2015 10:14:51

Highest Band Edge / 1RB



Date: 27.JUN.2015 10:26:13

Lowest Band Edge / Full RB



Date: 27.JUN.2015 10:17:12

Highest Band Edge / Full RB



Date: 27.JUN.2015 10:28:33



LTE Band 4 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



Date: 27 JUN 2015 10:16:01

Highest Band Edge / 1 RB



Date: 27 JUN 2015 10:27:23

Lowest Band Edge / Full RB



Date: 27 JUN 2015 10:18:22

Highest Band Edge / Full RB

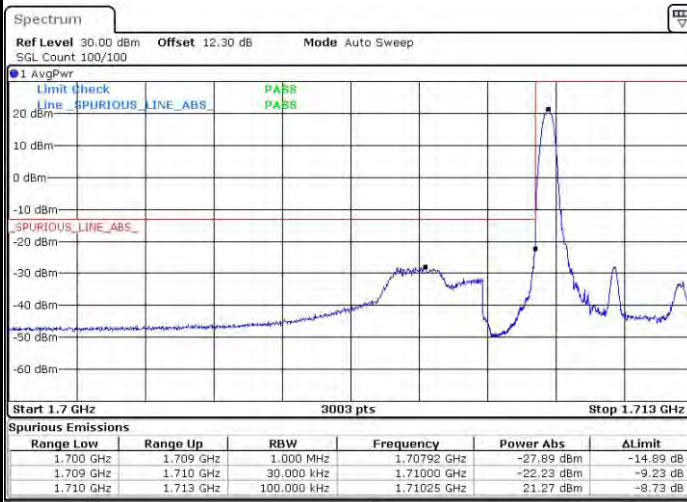


Date: 27 JUN 2015 10:29:43



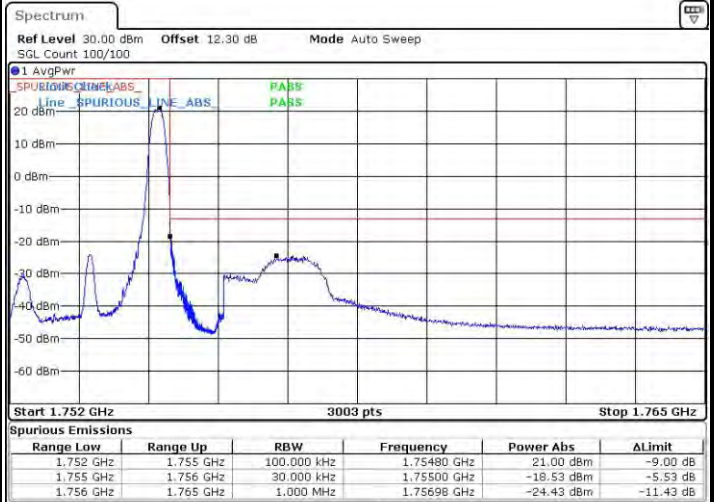
LTE Band 4 / 3MHz / QPSK

Lowest Band Edge / 1RB



Date: 27 JUN 2015 08:30:06

Highest Band Edge / 1 RB



Date: 27 JUN 2015 08:41:26

Lowest Band Edge / Full RB



Date: 27 JUN 2015 08:32:27

Highest Band Edge / Full RB

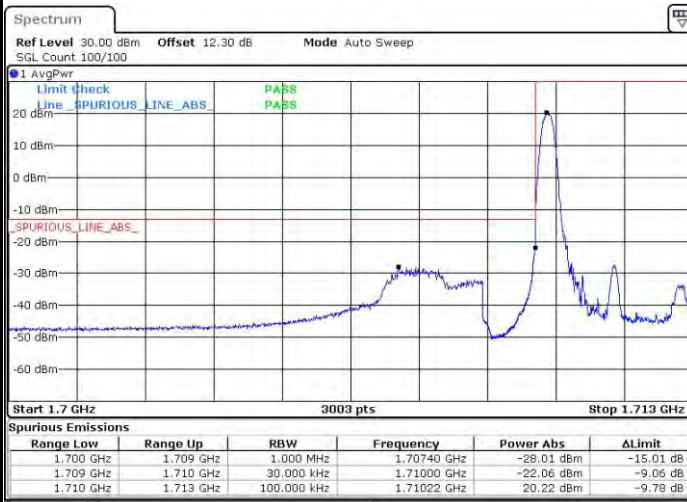


Date: 27 JUN 2015 08:43:46



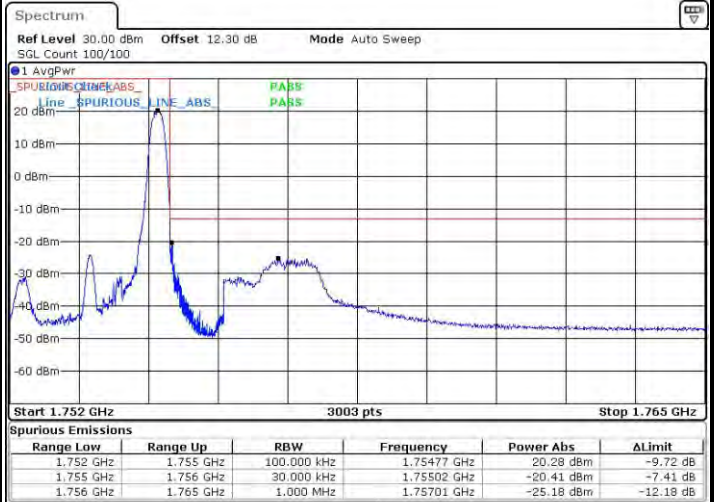
LTE Band 4 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



Date: 27 JUN 2015 08:31:16

Highest Band Edge / 1 RB



Date: 27 JUN 2015 08:42:38

Lowest Band Edge / Full RB



Date: 27 JUN 2015 08:33:37

Highest Band Edge / Full RB

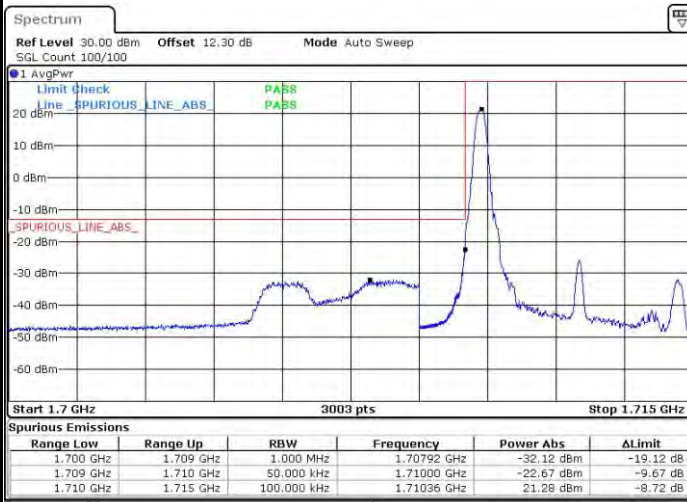


Date: 27 JUN 2015 08:44:58



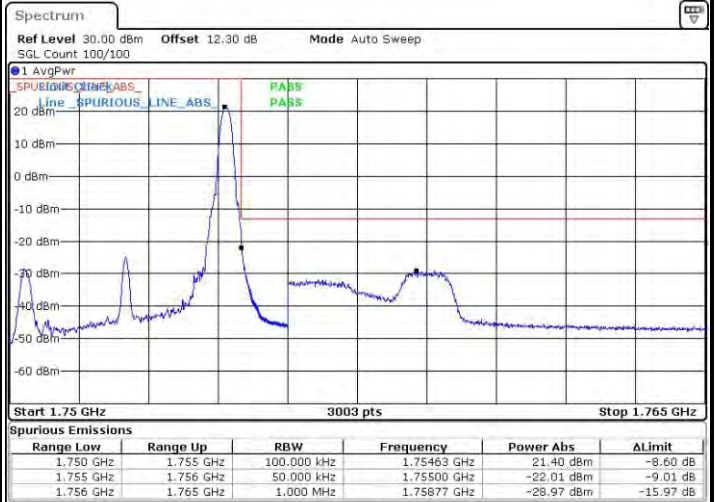
LTE Band 4 / 5MHz / QPSK

Lowest Band Edge / 1 RB



Date: 27.JUN.2015 08:49:29

Highest Band Edge / 1 RB



Date: 27.JUN.2015 09:00:50

Lowest Band Edge / Full RB



Date: 27.JUN.2015 08:51:49

Highest Band Edge / Full RB

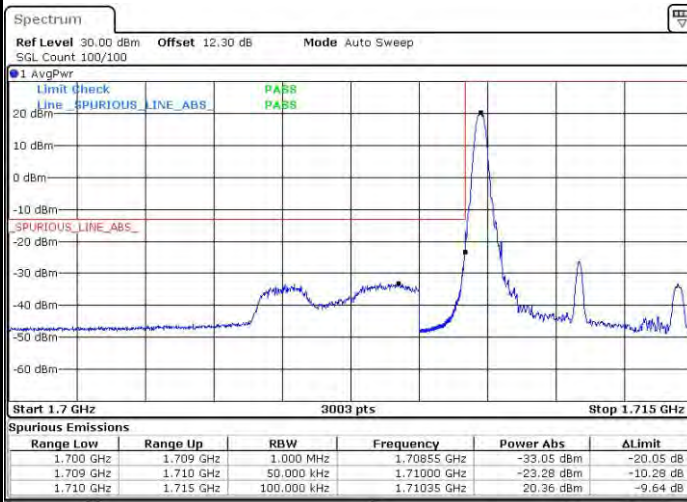


Date: 27.JUN.2015 09:03:10



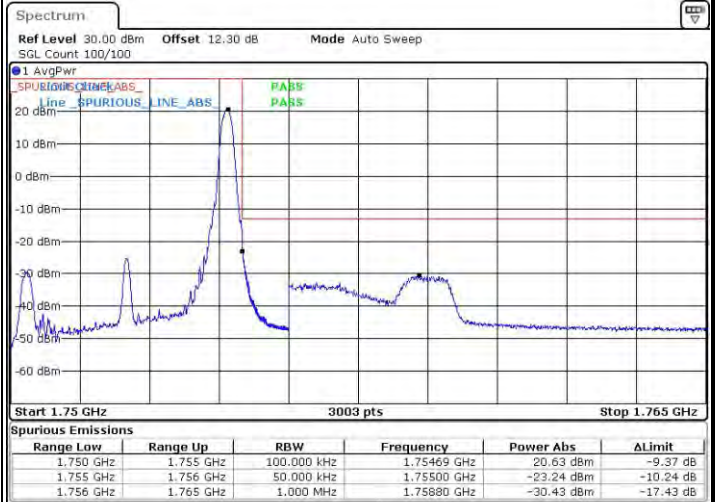
LTE Band 4 / 5MHz / 16QAM

Lowest Band Edge / 1RB



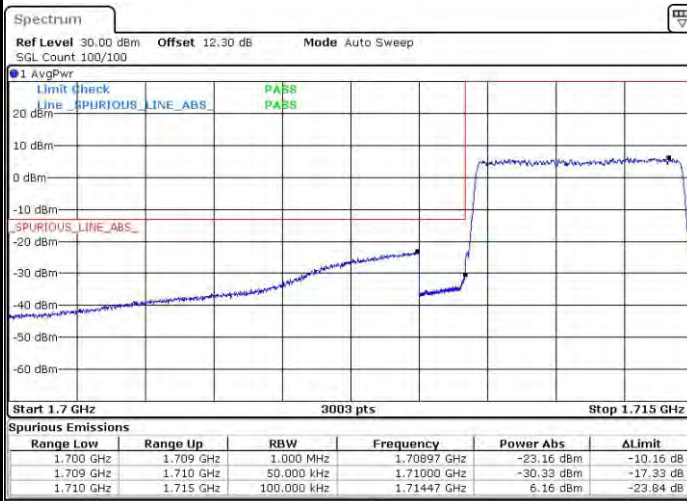
Date: 27.JUN.2015 08:50:39

Highest Band Edge / 1 RB



Date: 27.JUN.2015 09:02:00

Lowest Band Edge / Full RB



Date: 27.JUN.2015 08:52:59

Highest Band Edge / Full RB

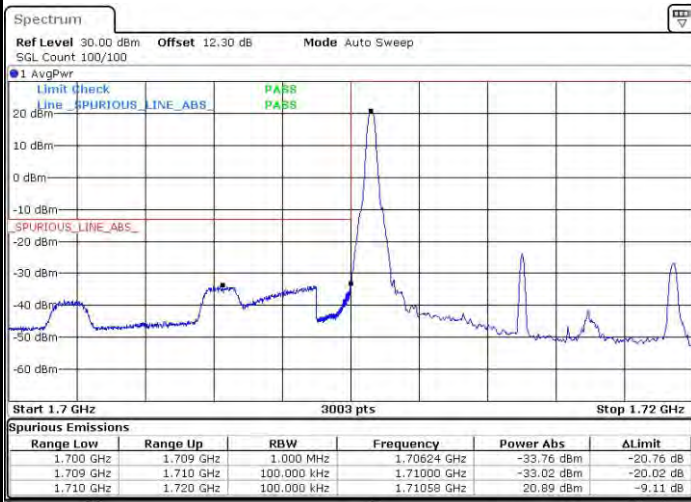


Date: 27.JUN.2015 09:04:21



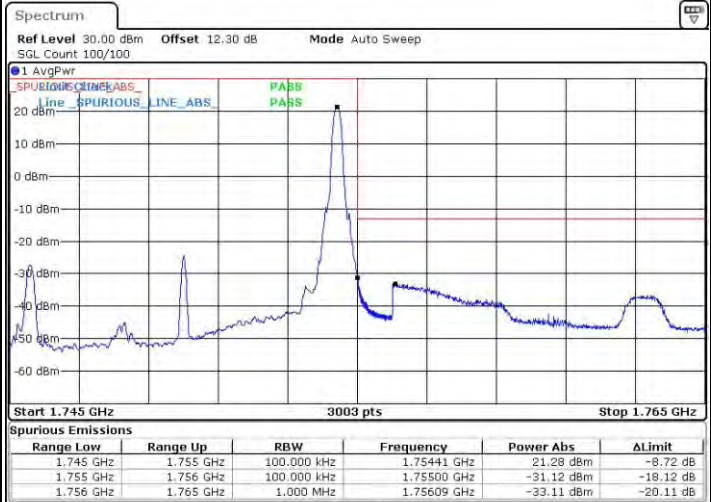
LTE Band 4 / 10MHz / QPSK

Lowest Band Edge / 1 RB



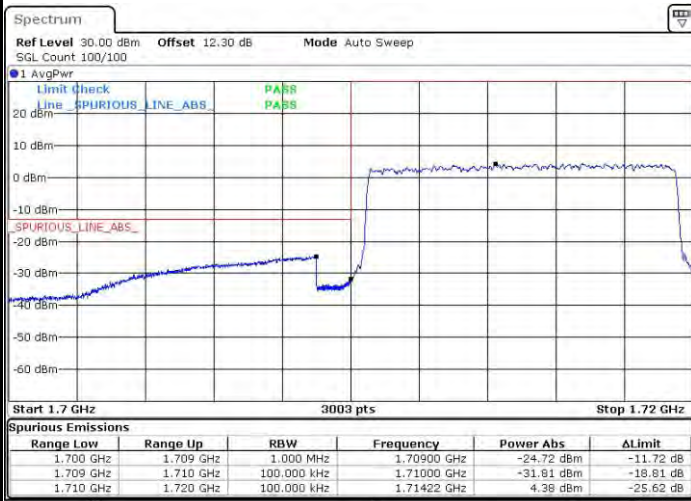
Date: 27.JUN.2015 09:08:51

Highest Band Edge / 1 RB



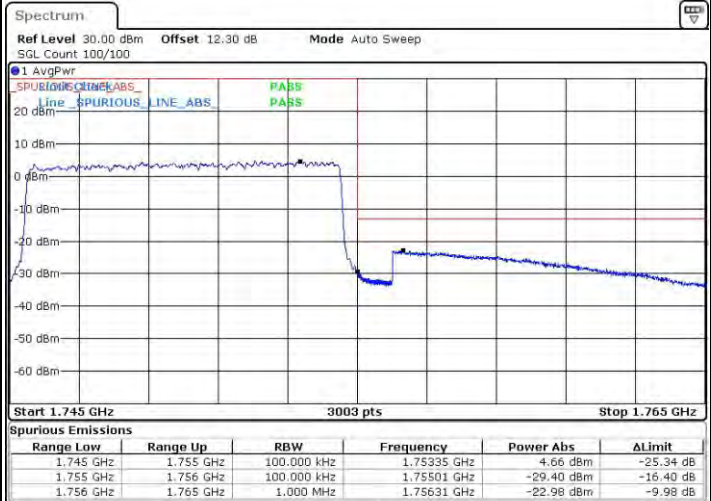
Date: 27.JUN.2015 09:20:12

Lowest Band Edge / Full RB



Date: 27.JUN.2015 09:11:11

Highest Band Edge / Full RB

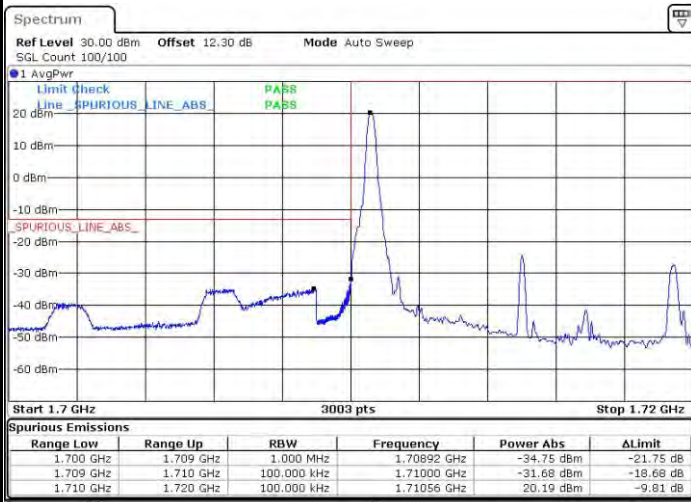


Date: 27.JUN.2015 09:22:32



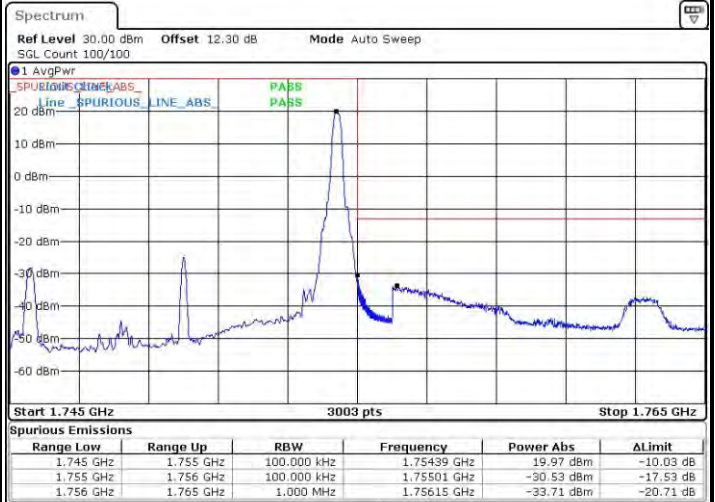
LTE Band 4 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



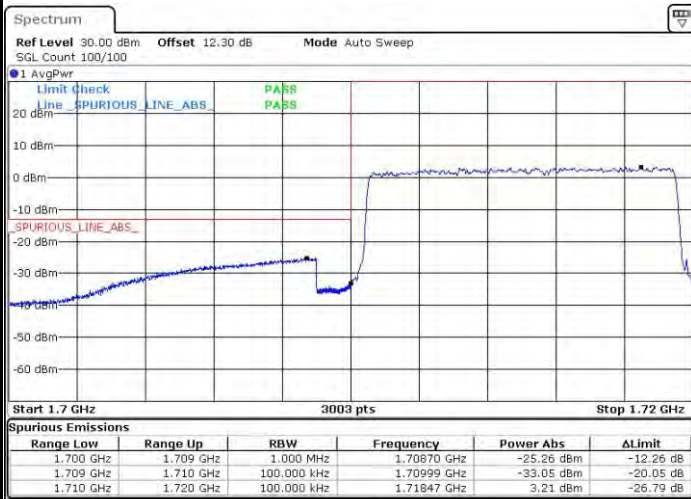
Date: 27 JUN 2015 09:10:01

Highest Band Edge / 1 RB



Date: 27 JUN 2015 09:21:22

Lowest Band Edge / Full RB



Date: 27 JUN 2015 09:12:21

Highest Band Edge / Full RB

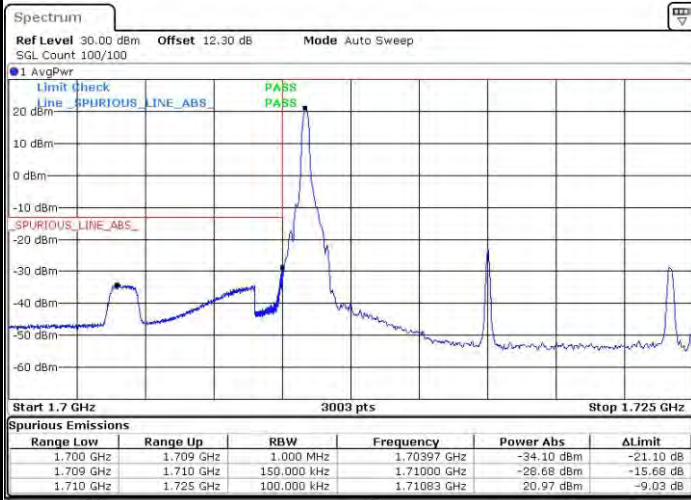


Date: 27 JUN 2015 09:23:42



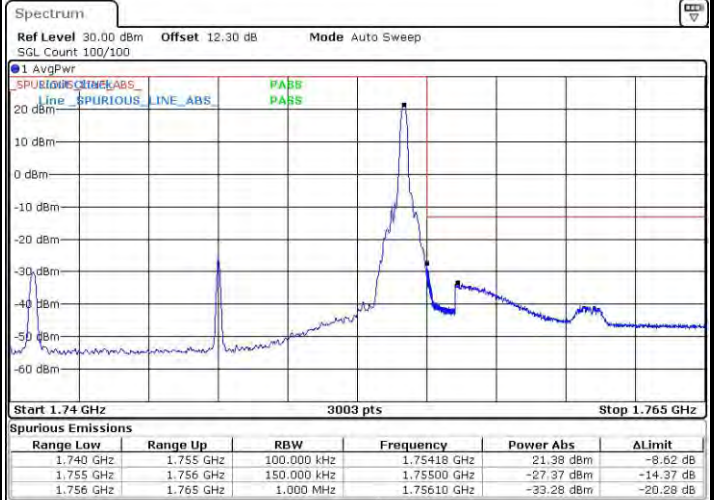
LTE Band 4 / 15MHz / QPSK

Lowest Band Edge / 1 RB



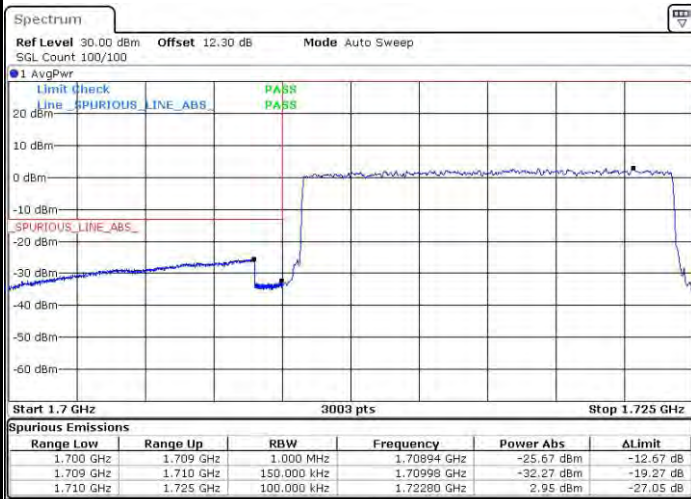
Date: 27 JUN 2015 09:28:13

Highest Band Edge / 1 RB



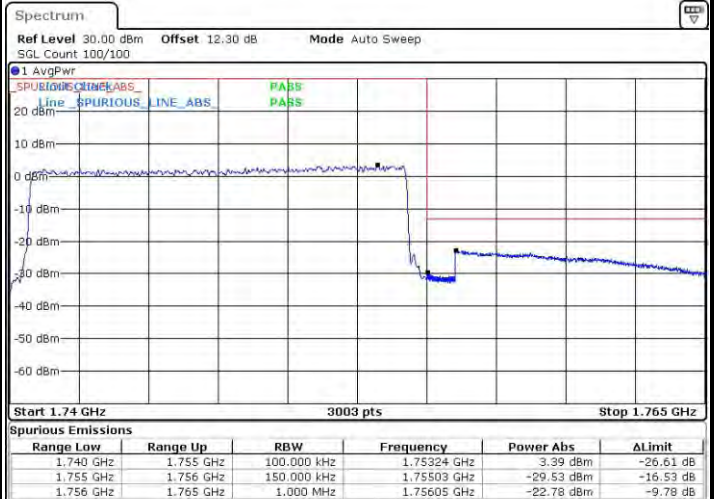
Date: 27 JUN 2015 09:39:33

Lowest Band Edge / Full RB



Date: 27 JUN 2015 09:30:33

Highest Band Edge / Full RB

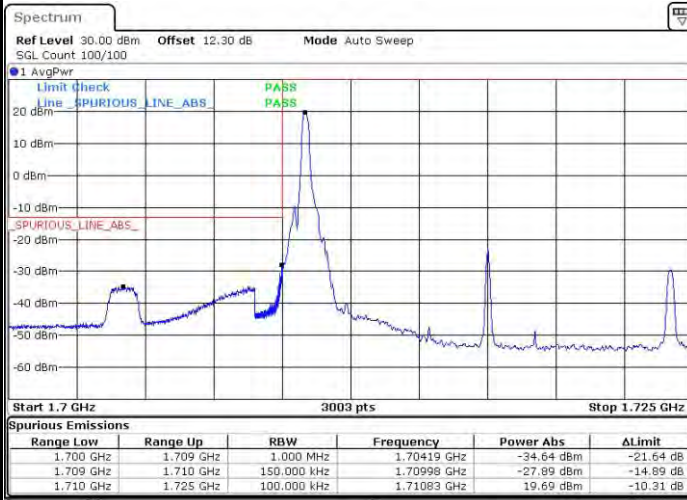


Date: 27 JUN 2015 09:41:53



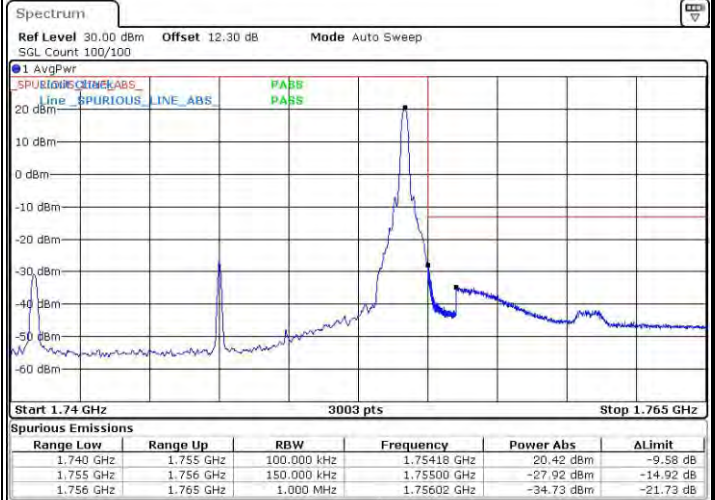
LTE Band 4 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



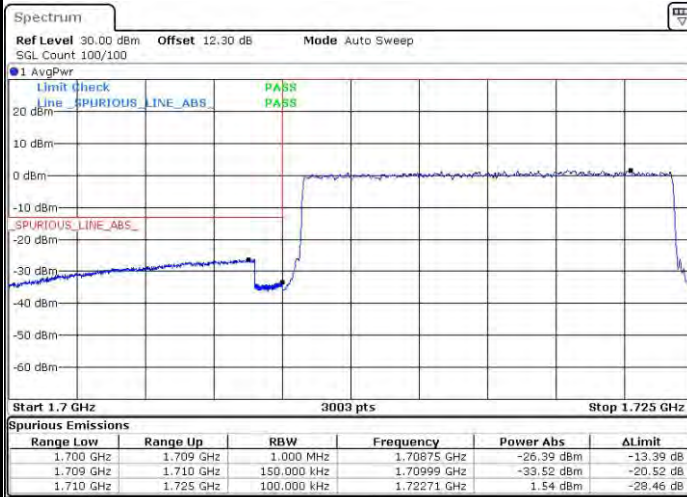
Date: 27 JUN 2015 09:29:23

Highest Band Edge / 1 RB



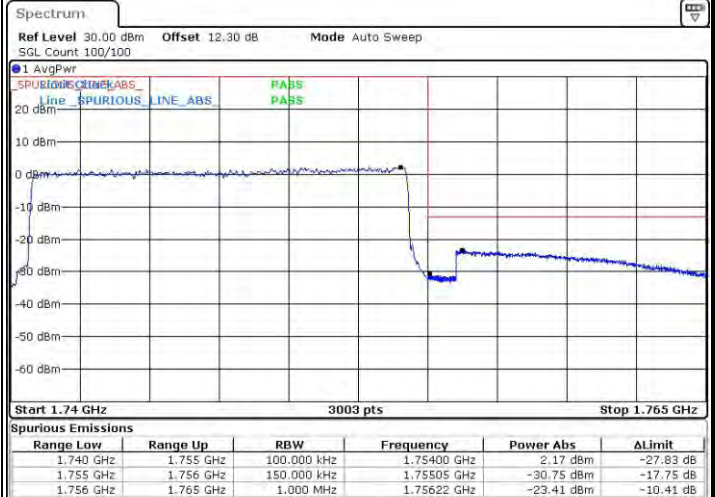
Date: 27 JUN 2015 09:40:43

Lowest Band Edge / Full RB



Date: 27 JUN 2015 09:31:43

Highest Band Edge / Full RB

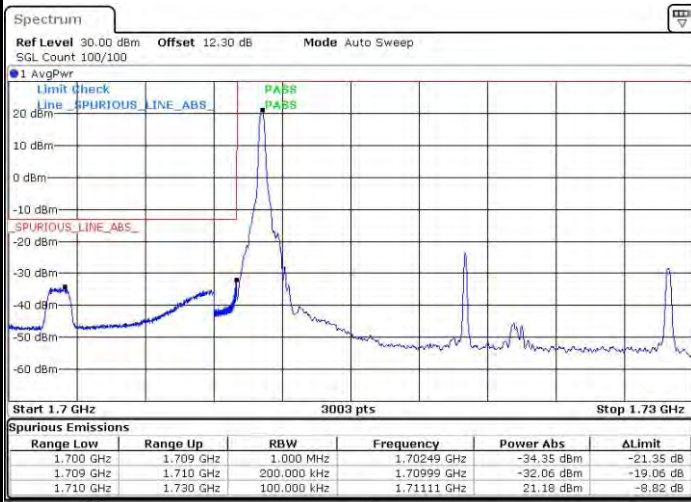


Date: 27 JUN 2015 09:43:03



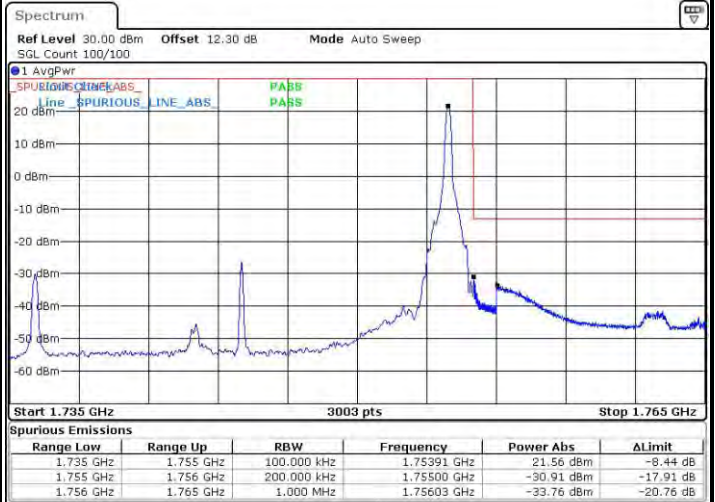
LTE Band 4 / 20MHz / QPSK

Lowest Band Edge / 1 RB



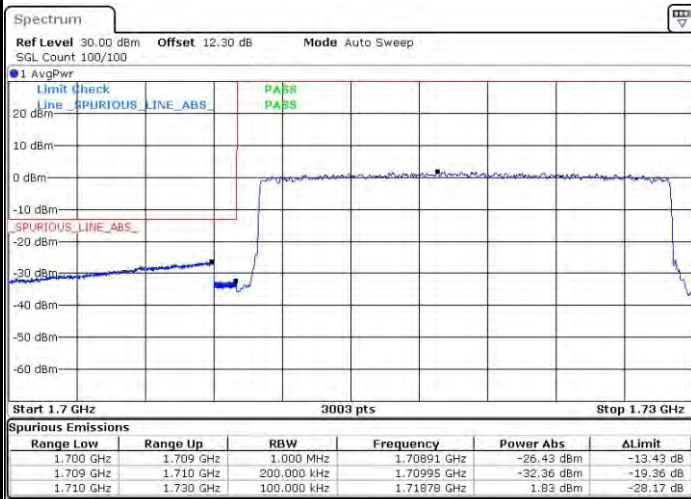
Date: 27 JUN 2015 09:47:33

Highest Band Edge / 1 RB



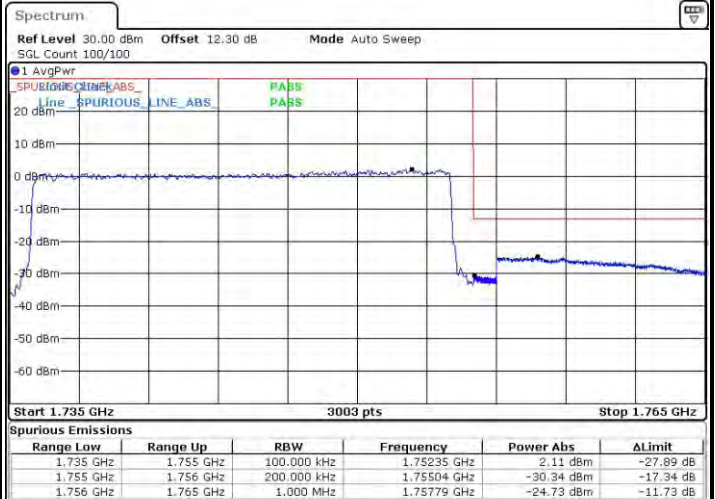
Date: 27 JUN 2015 09:58:54

Lowest Band Edge / Full RB



Date: 27 JUN 2015 09:49:54

Highest Band Edge / Full RB

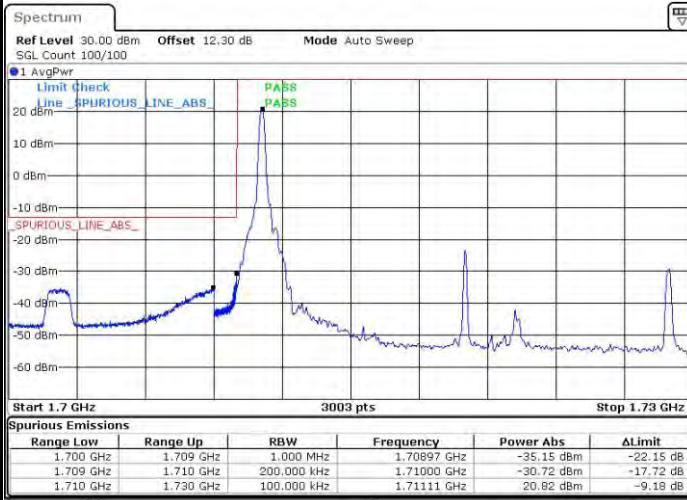


Date: 27 JUN 2015 10:01:14



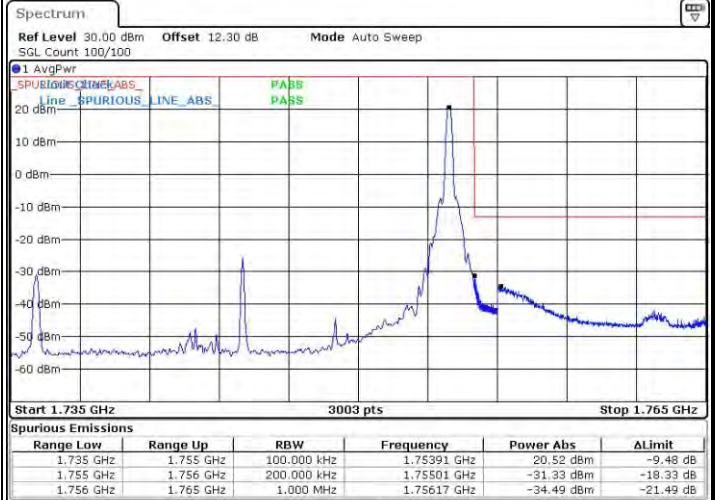
LTE Band 4 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



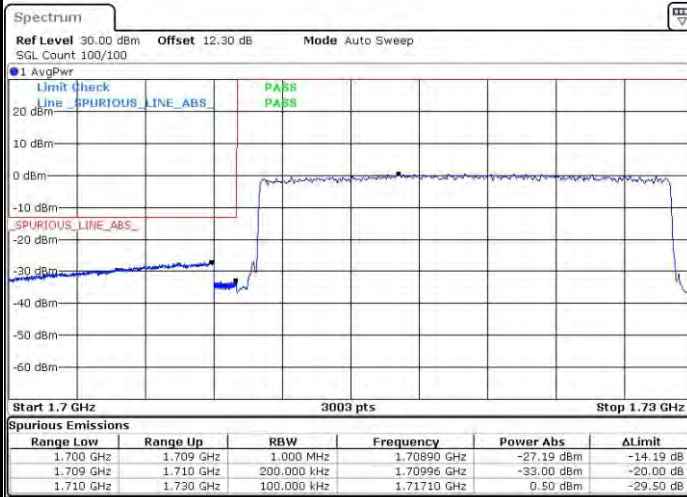
Date: 27 JUN 2015 09:48:44

Highest Band Edge / 1 RB



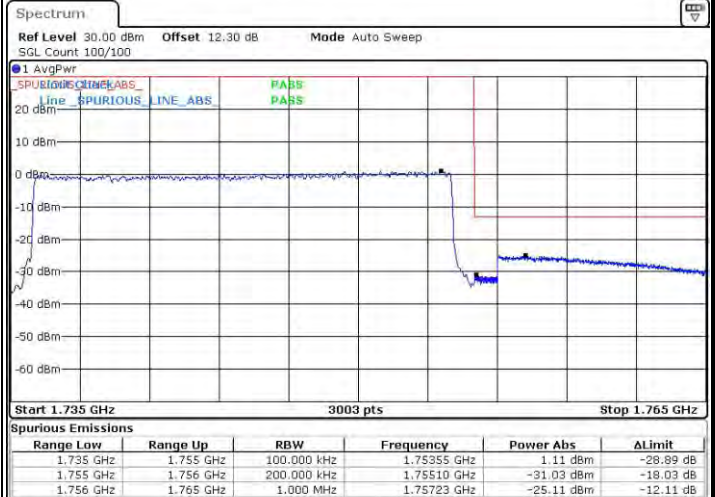
Date: 27 JUN 2015 10:00:04

Lowest Band Edge / Full RB



Date: 27 JUN 2015 09:51:04

Highest Band Edge / Full RB



Date: 27 JUN 2015 10:02:24



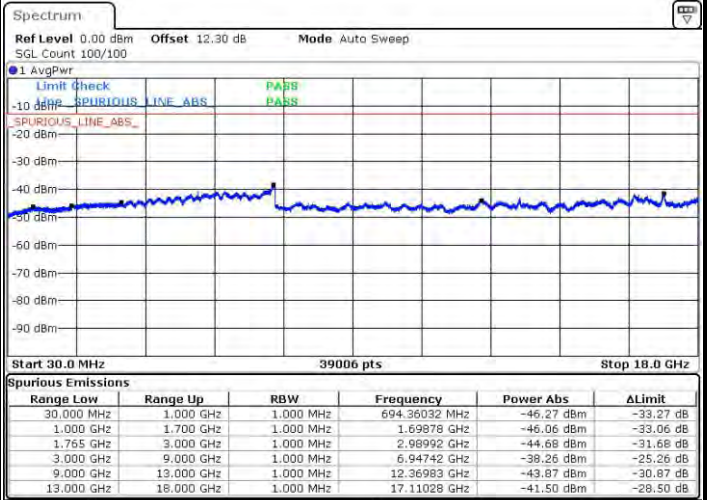
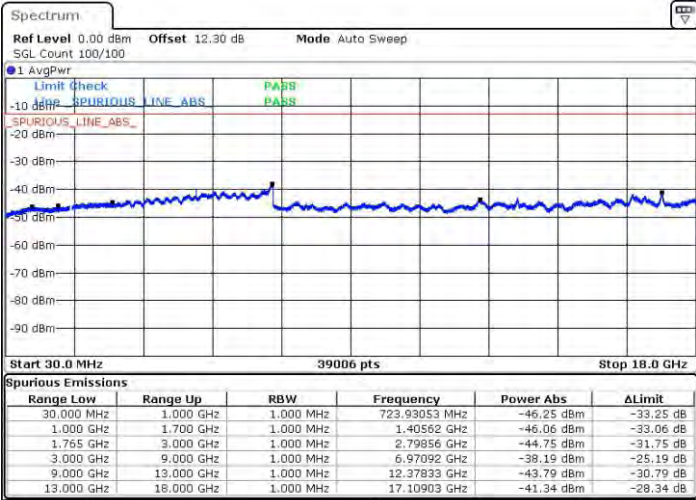
Conducted Spurious Emission



LTE Band 4 / 1.4MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

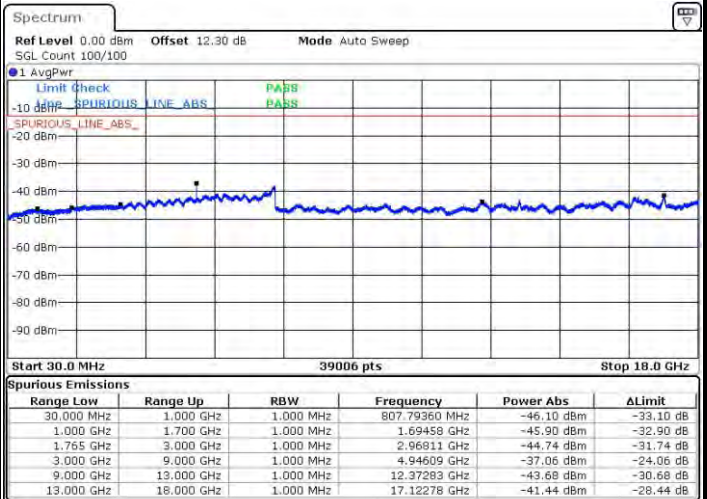
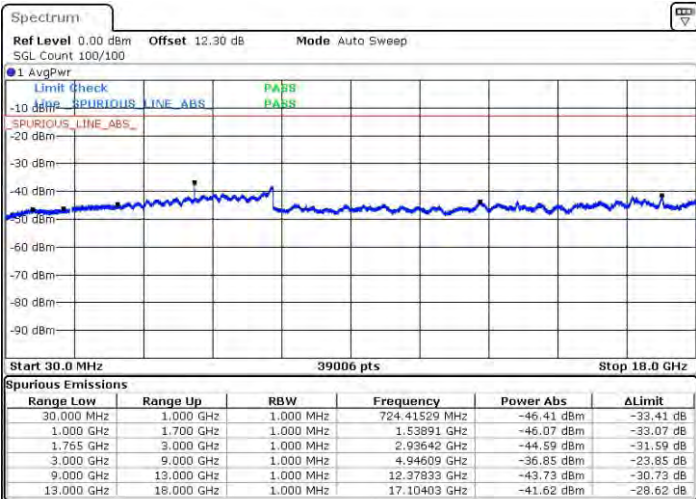


Date: 27 JUN 2015 10:19:35

Date: 27 JUN 2015 10:20:49

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 27 JUN 2015 10:22:55

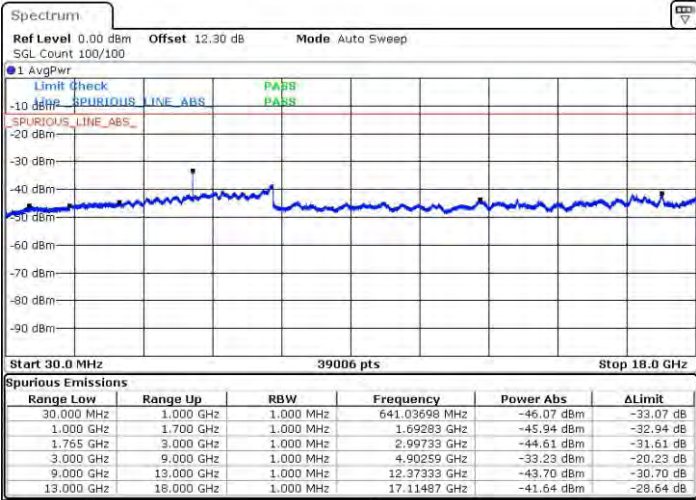
Date: 27 JUN 2015 10:24:09



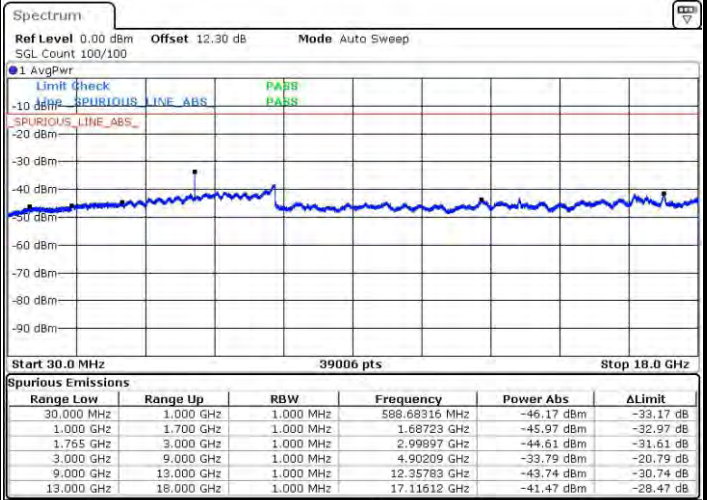
LTE Band 4 / 1.4MHz

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 27.JUN.2015 10:30:56

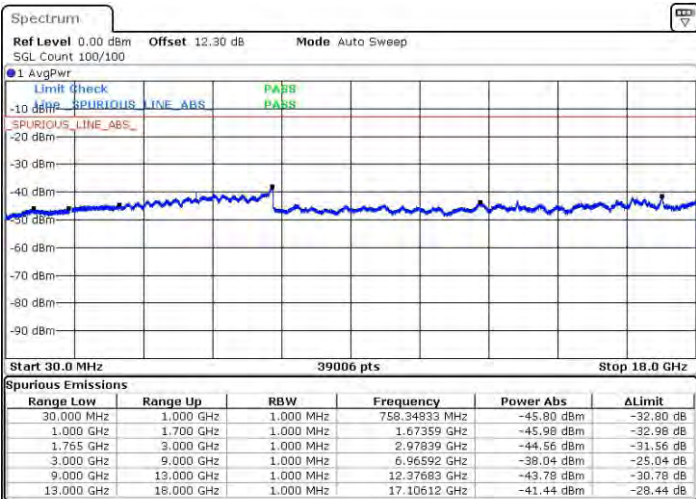


Date: 27.JUN.2015 10:32:10

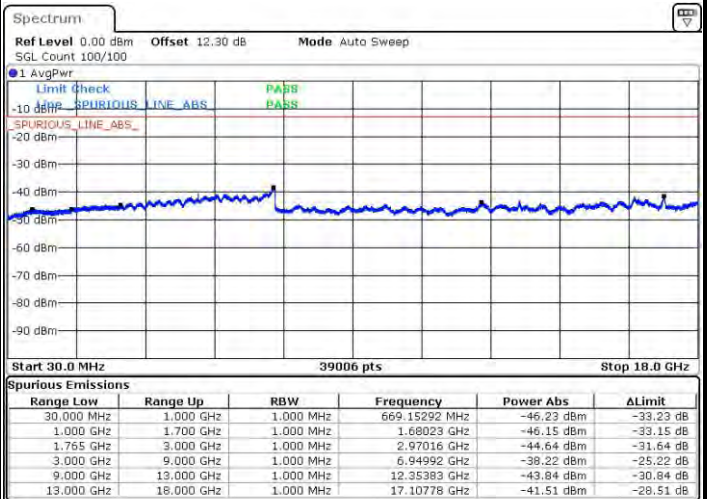
LTE Band 4 / 3MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



Date: 27.JUN.2015 08:34:50



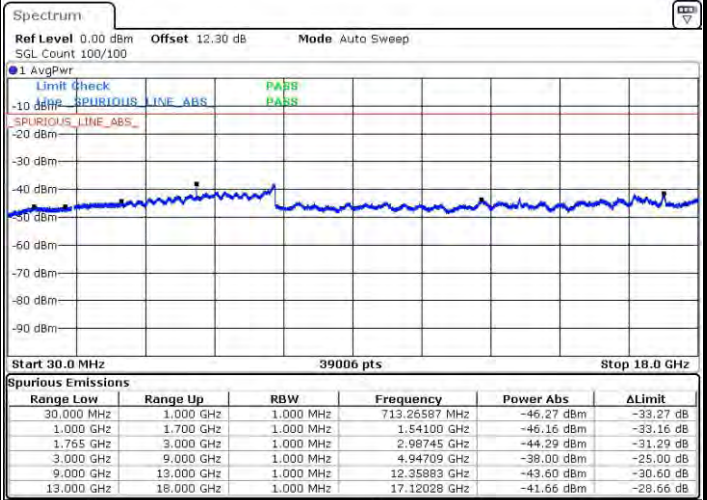
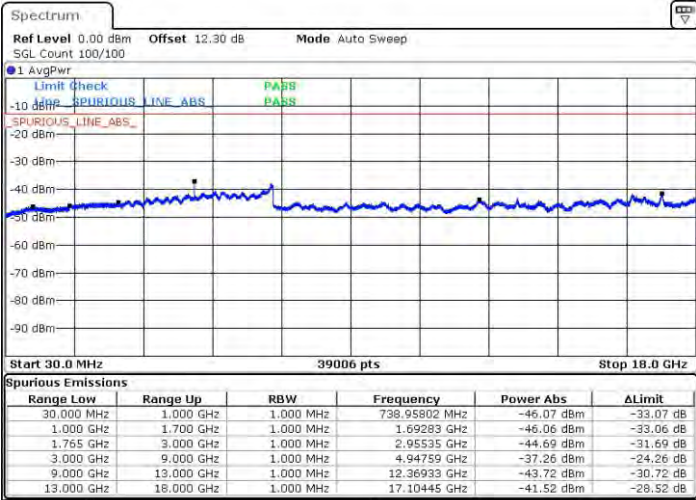
Date: 27.JUN.2015 08:36:04



LTE Band 4 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

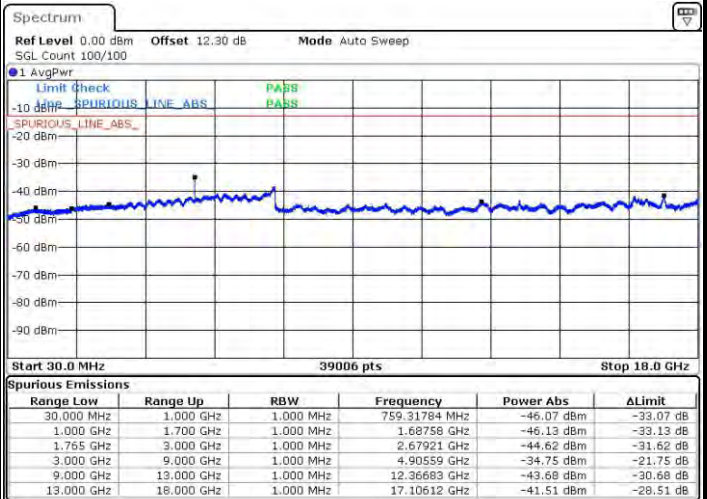
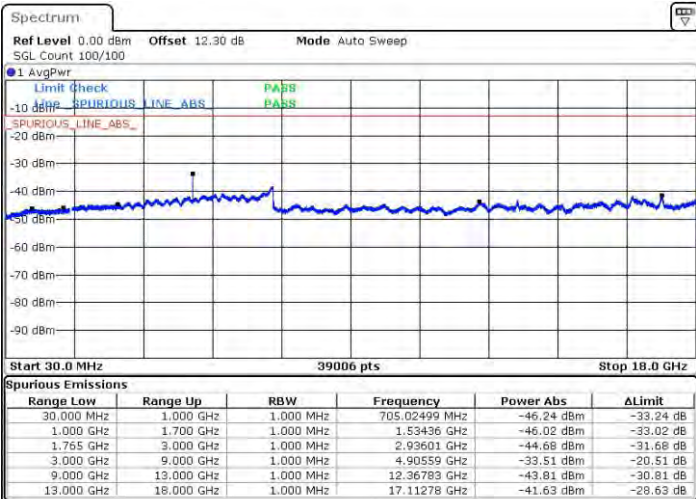


Date: 27 JUN 2015 08:38:10

Date: 27 JUN 2015 08:38:24

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 27 JUN 2015 08:46:11

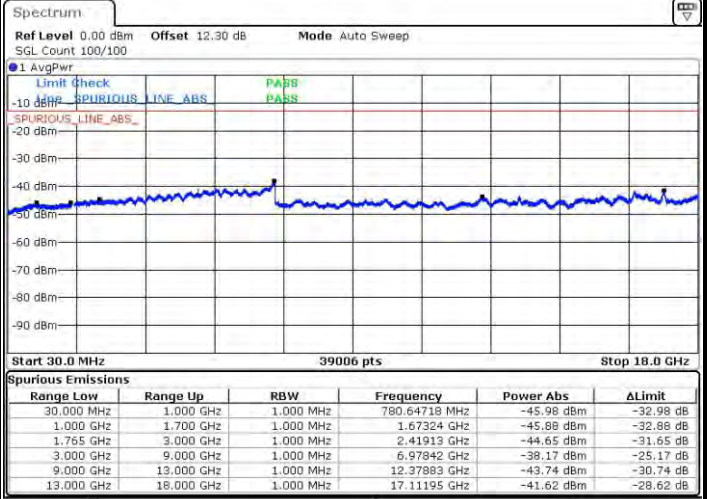
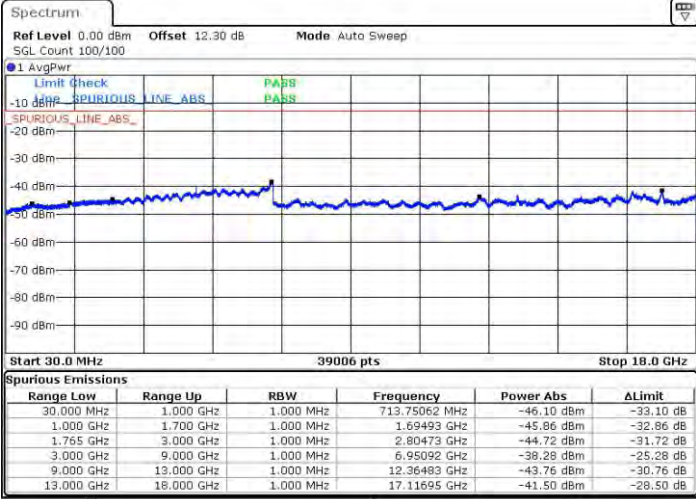
Date: 27 JUN 2015 08:47:25



LTE Band 4 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

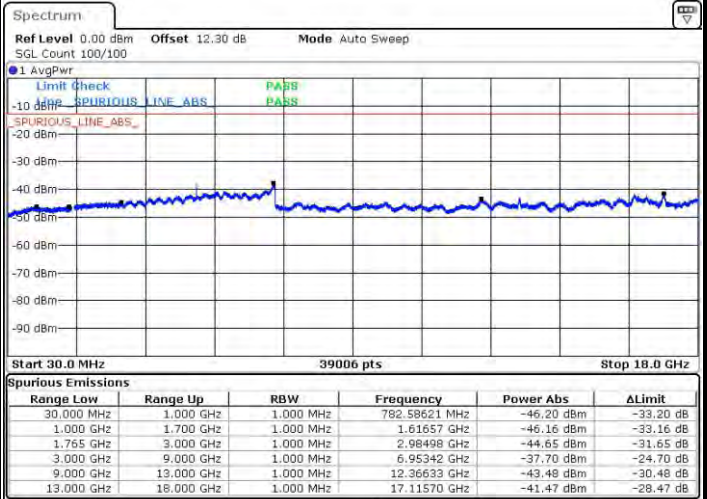
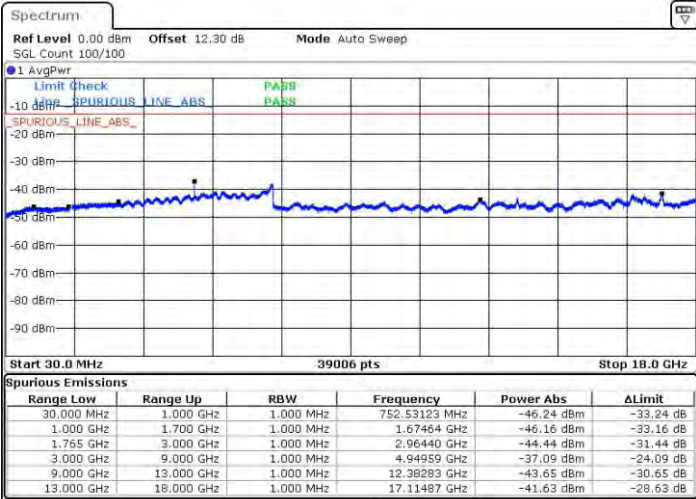


Date: 27.JUN.2015 08:54:12

Date: 27.JUN.2015 08:55:26

Middle Channel / QPSK

Middle Channel / 16QAM



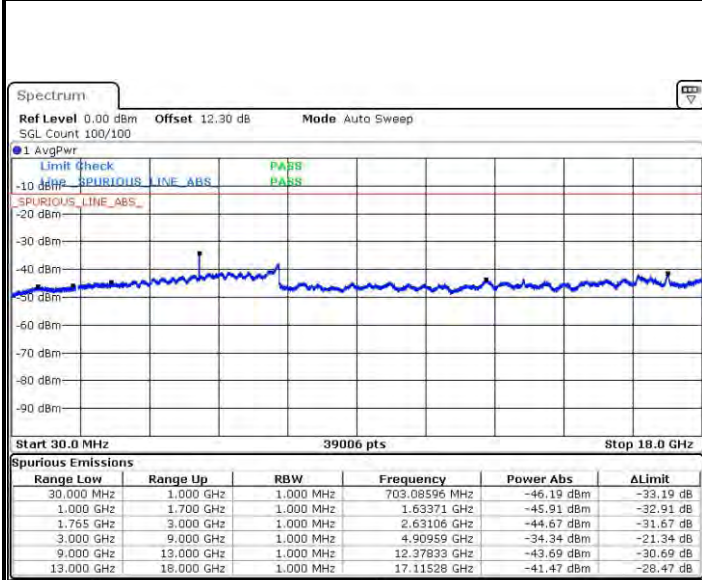
Date: 27.JUN.2015 08:57:38

Date: 27.JUN.2015 08:58:47



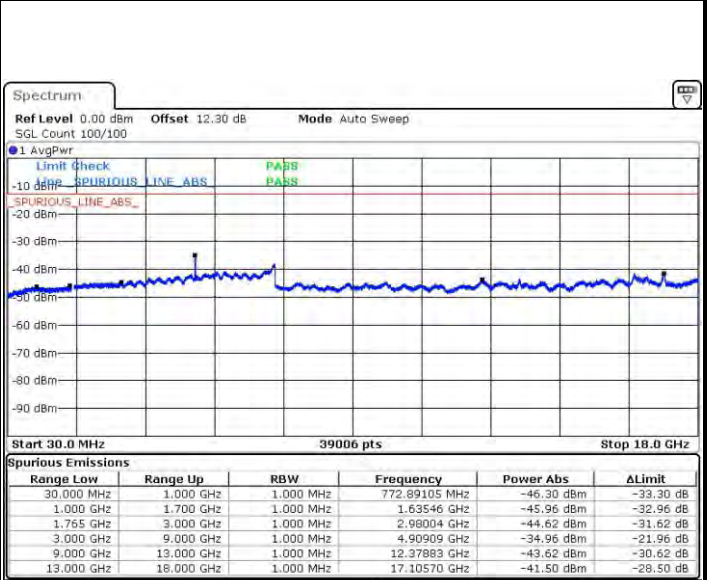
LTE Band 4 / 5MHz

Highest Channel / QPSK



Date: 27.JUN.2015 09:05:38

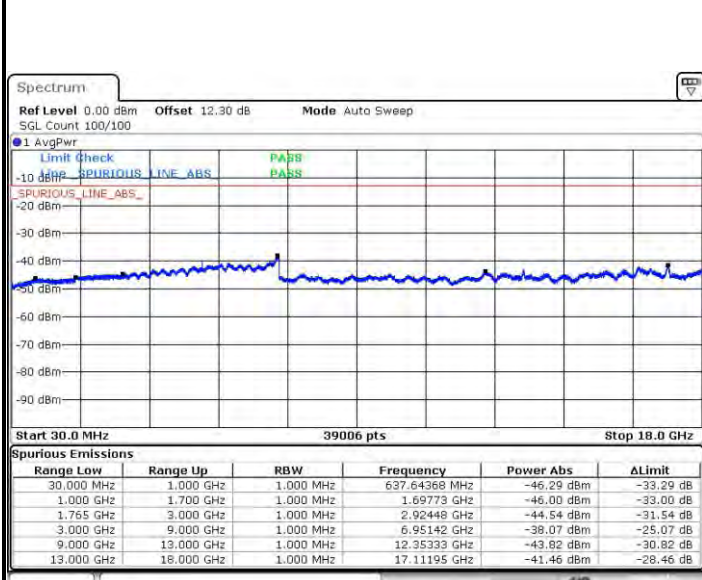
Highest Channel / 16QAM



Date: 27.JUN.2015 09:06:48

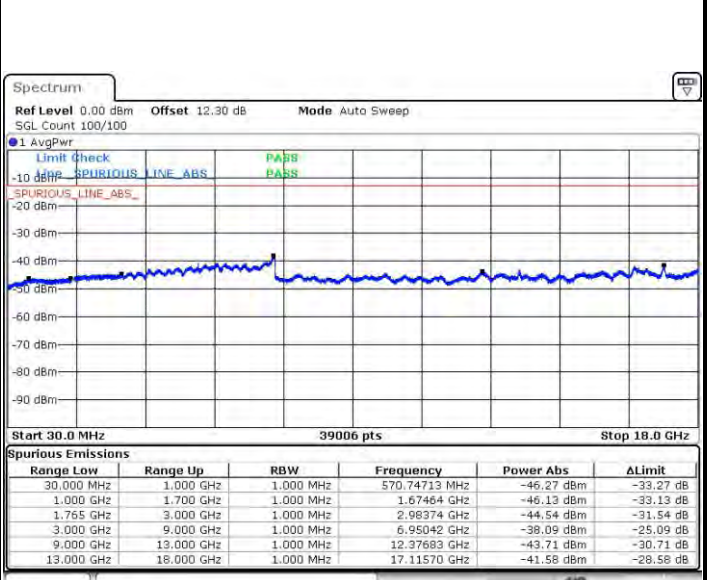
LTE Band 4 / 10MHz

Lowest Channel / QPSK



Date: 27.JUN.2015 09:13:34

Lowest Channel / 16QAM



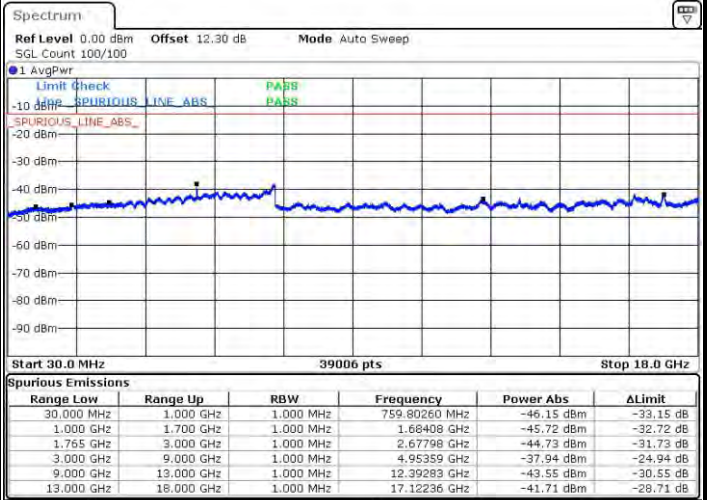
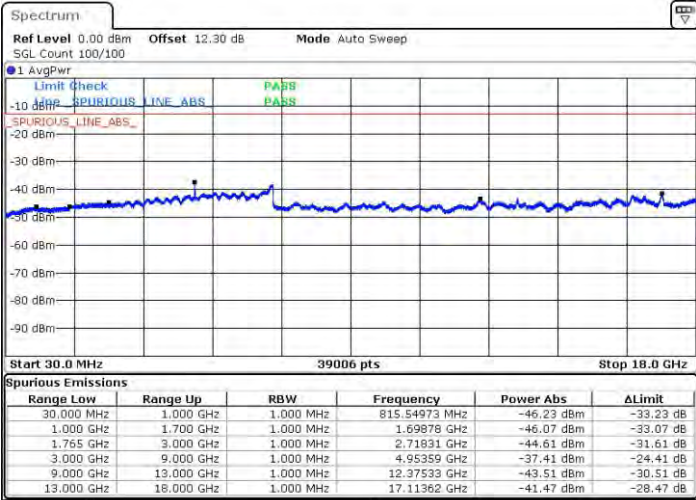
Date: 27.JUN.2015 09:14:49



LTE Band 4 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

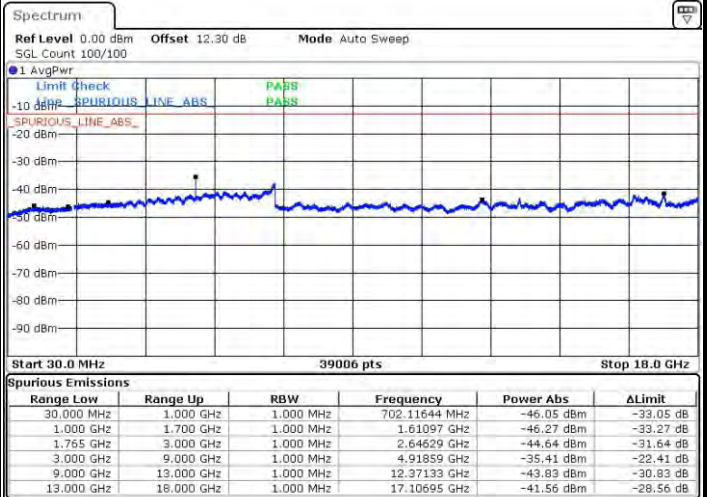
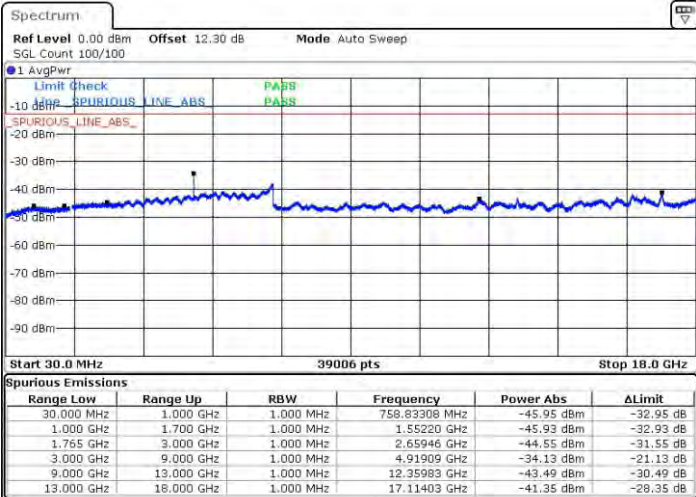


Date: 27.JUN.2015 09:16:55

Date: 27.JUN.2015 09:18:09

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 27.JUN.2015 09:24:55

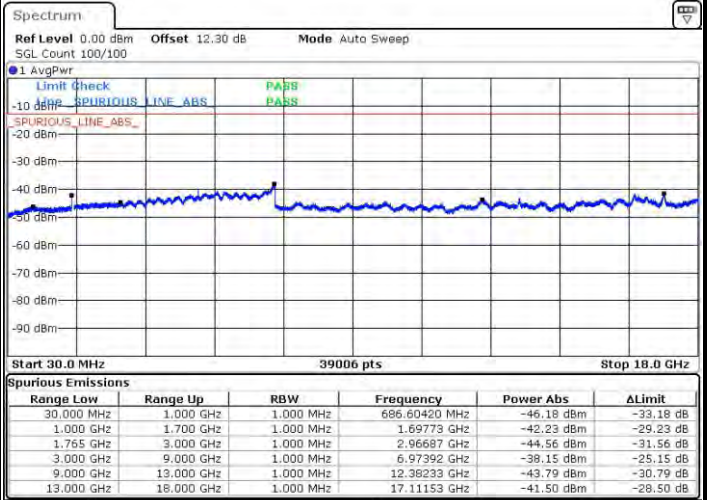
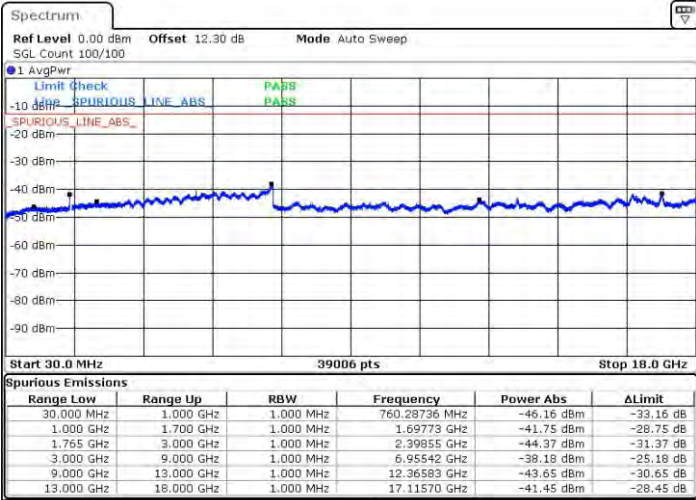
Date: 27.JUN.2015 09:26:09



LTE Band 4 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

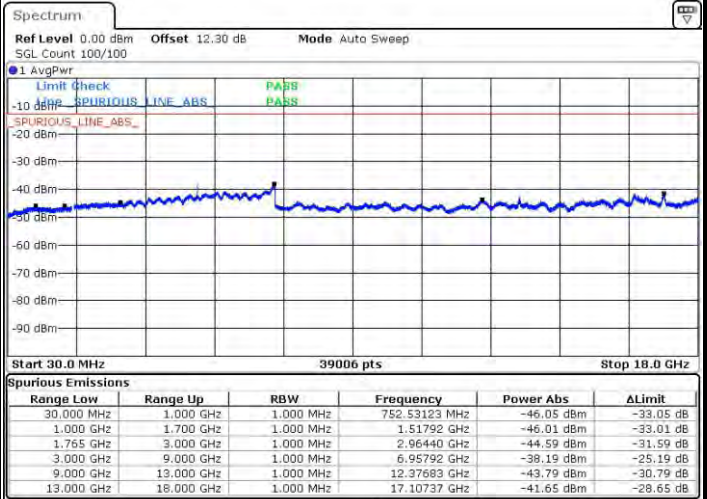
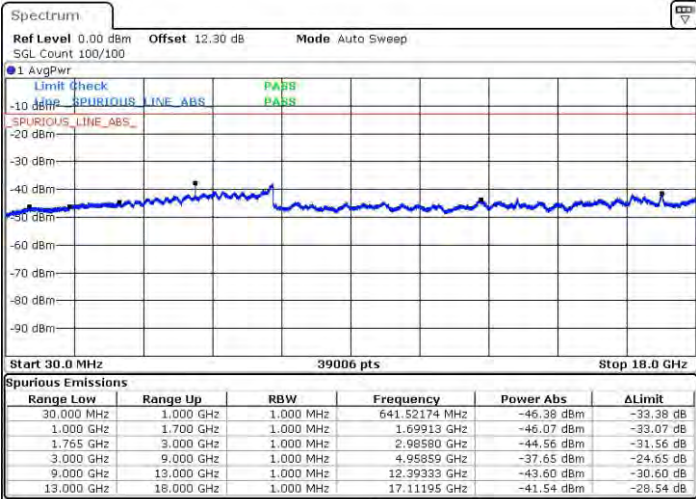


Date: 27 JUN 2015 09:32:55

Date: 27 JUN 2015 09:34:09

Middle Channel / QPSK

Middle Channel / 16QAM



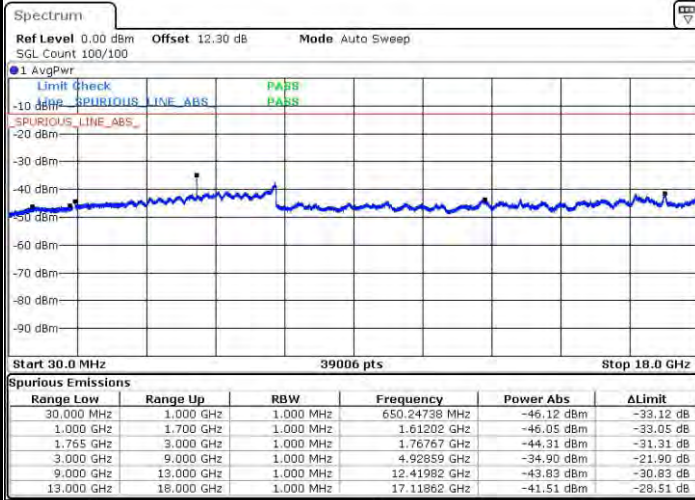
Date: 27 JUN 2015 09:36:16

Date: 27 JUN 2015 09:37:30



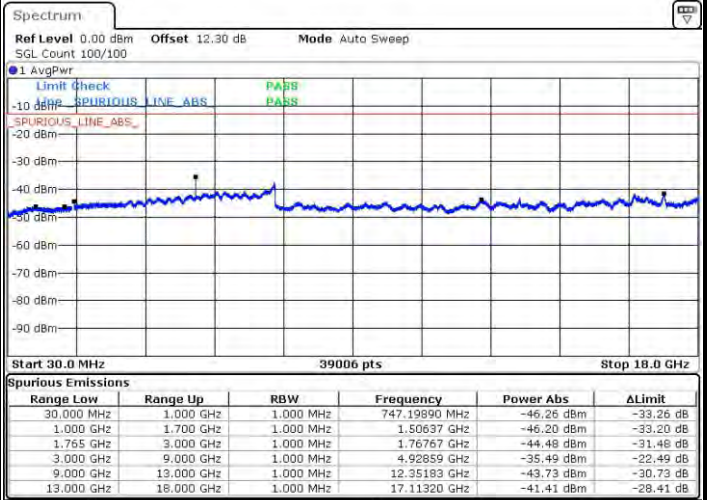
LTE Band 4 / 15MHz

Highest Channel / QPSK



Date: 27.JUN.2015 09:44:16

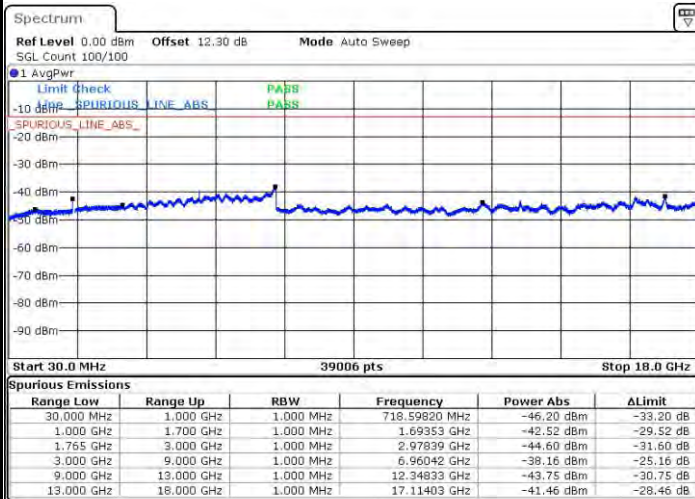
Highest Channel / 16QAM



Date: 27.JUN.2015 09:45:30

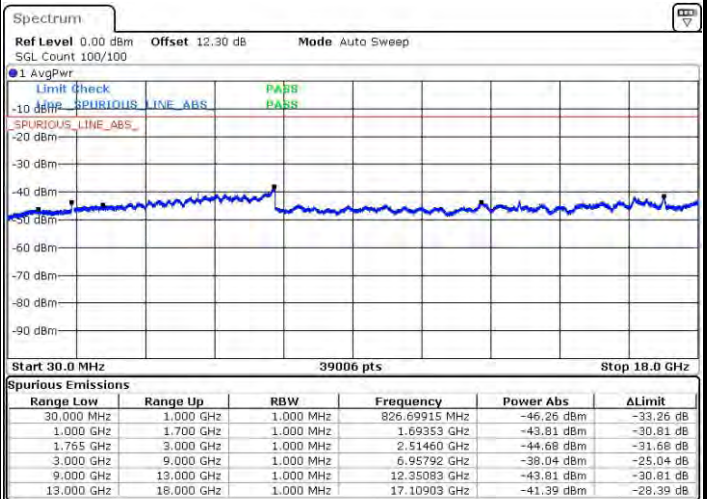
LTE Band 4 / 20MHz

Lowest Channel / QPSK



Date: 27.JUN.2015 09:52:17

Lowest Channel / 16QAM



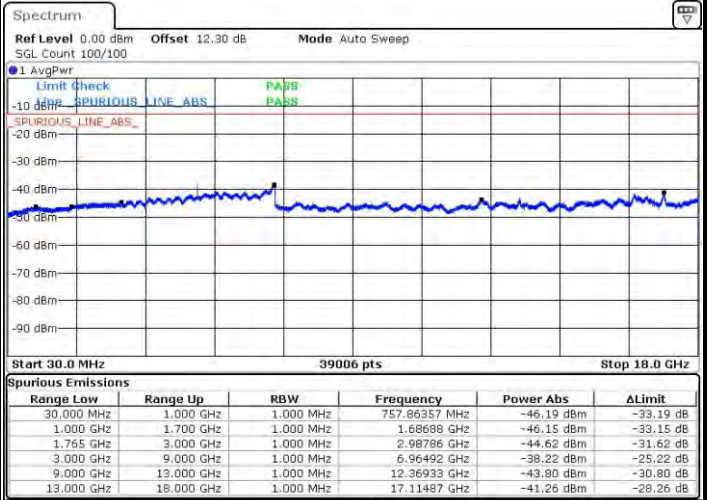
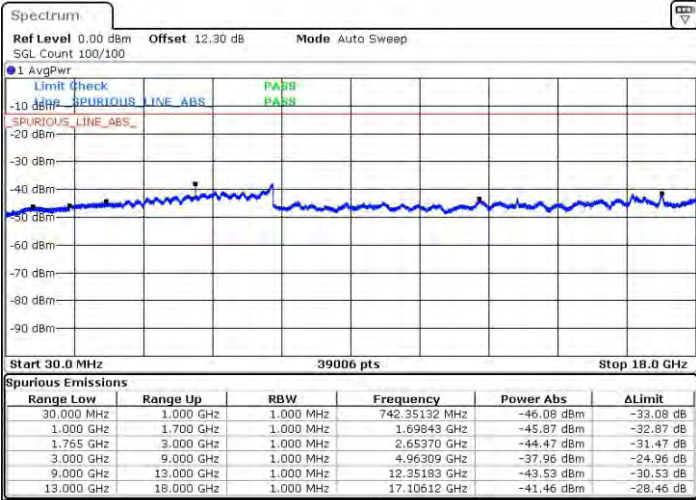
Date: 27.JUN.2015 09:53:30



LTE Band 4 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

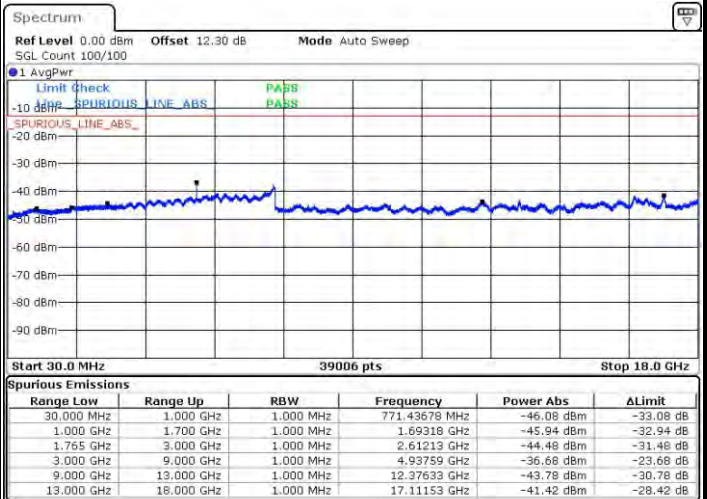
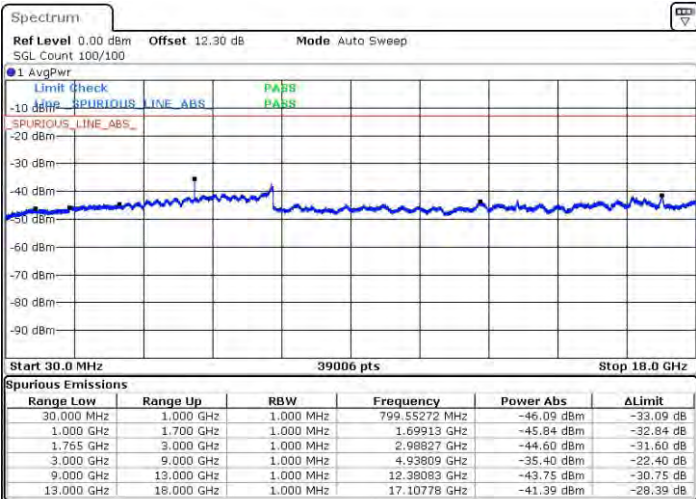


Date: 27 JUN 2015 09:55:37

Date: 27 JUN 2015 09:56:51

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 27 JUN 2015 10:03:37

Date: 27 JUN 2015 10:04:31



Frequency Stability

| Test Conditions | | LTE Band 4 (QPSK) / Middle Channel | Limit |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0047 | PASS |
| 40 | Normal Voltage | 0.0006 | |
| 30 | Normal Voltage | 0.0046 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0003 | |
| 0 | Normal Voltage | 0.0048 | |
| -10 | Normal Voltage | 0.0007 | |
| -20 | Normal Voltage | 0.0061 | |
| -30 | Normal Voltage | 0.0002 | |
| 20 | Maximum Voltage | 0.0066 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0009 | |

Note:

1. Normal Voltage = 3.9V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage =4.35 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.