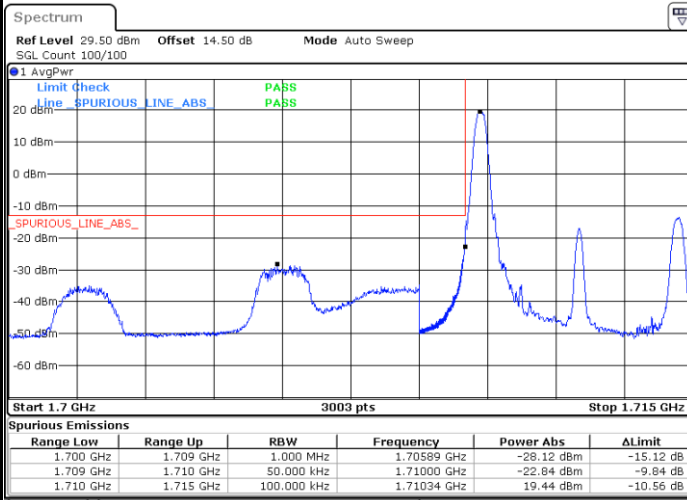




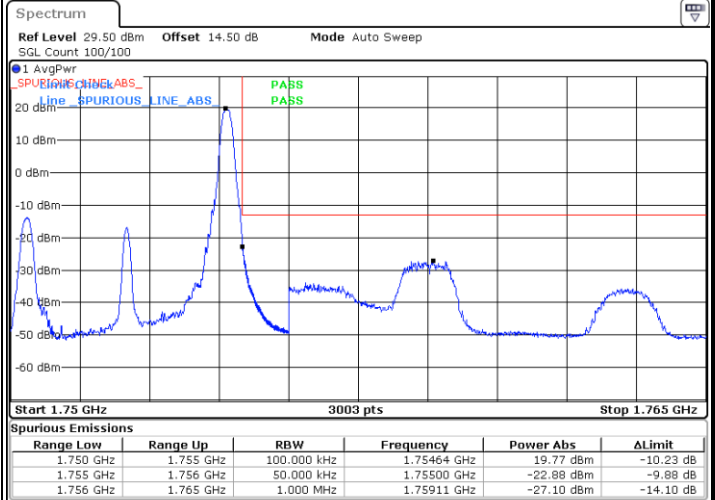
LTE Band 4 / 5MHz / 16QAM

Lowest Band Edge / 1RB



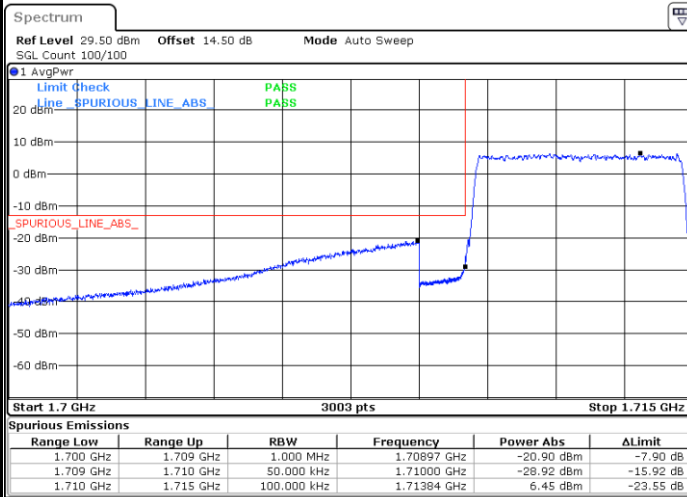
Date: 14.DEC.2020 16:26:03

Highest Band Edge / 1 RB



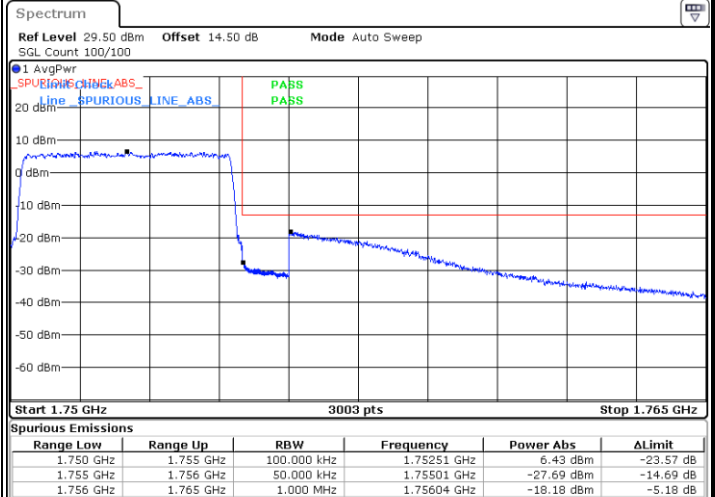
Date: 14.DEC.2020 16:32:54

Lowest Band Edge / Full RB



Date: 14.DEC.2020 16:27:25

Highest Band Edge / Full RB

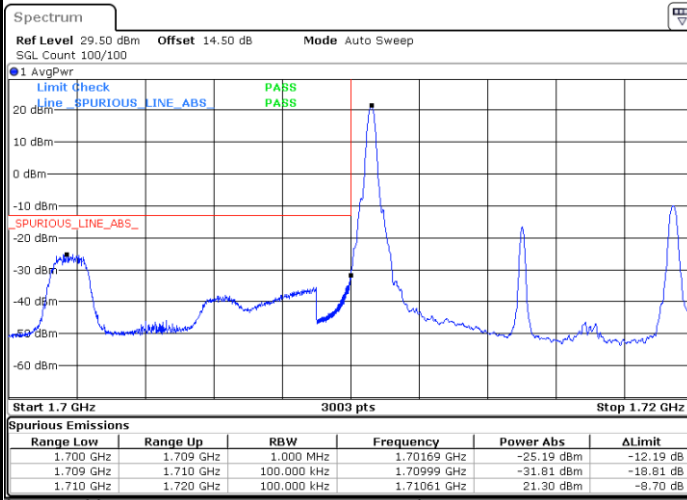


Date: 14.DEC.2020 16:34:17



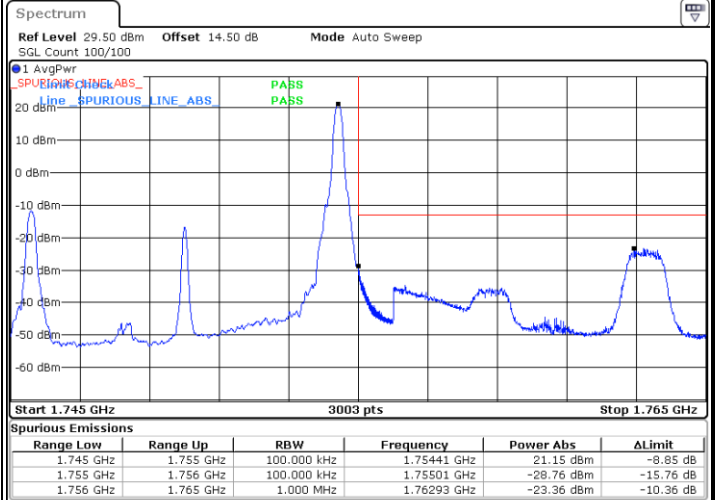
LTE Band 4 / 10MHz / QPSK

Lowest Band Edge / 1 RB



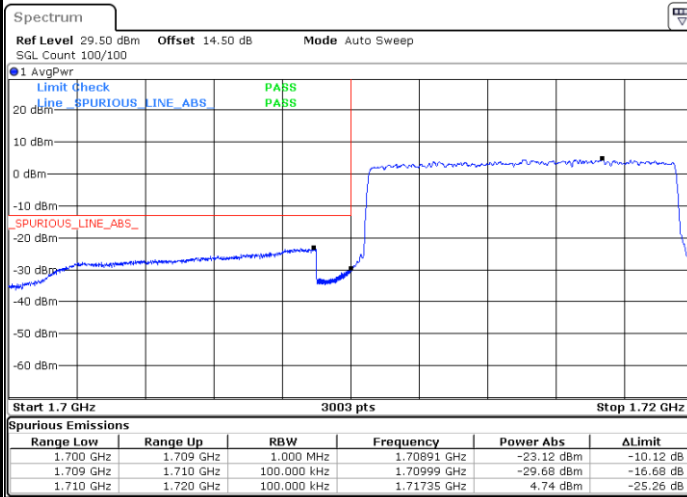
Date: 14.DEC.2020 16:37:01

Highest Band Edge / 1 RB



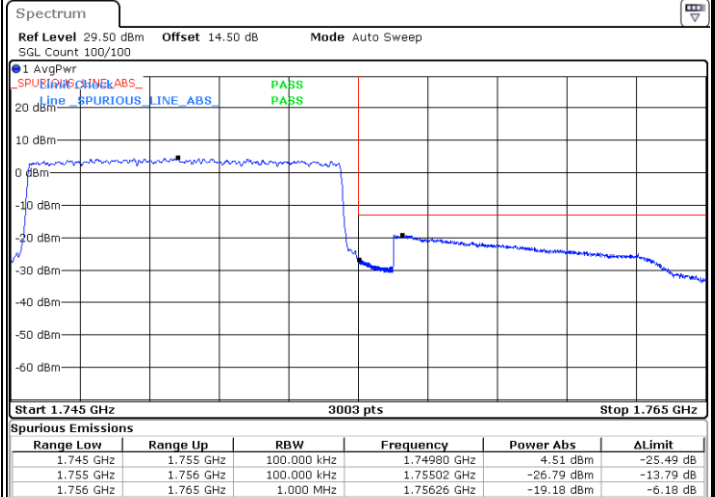
Date: 14.DEC.2020 16:43:53

Lowest Band Edge / Full RB



Date: 14.DEC.2020 16:38:24

Highest Band Edge / Full RB

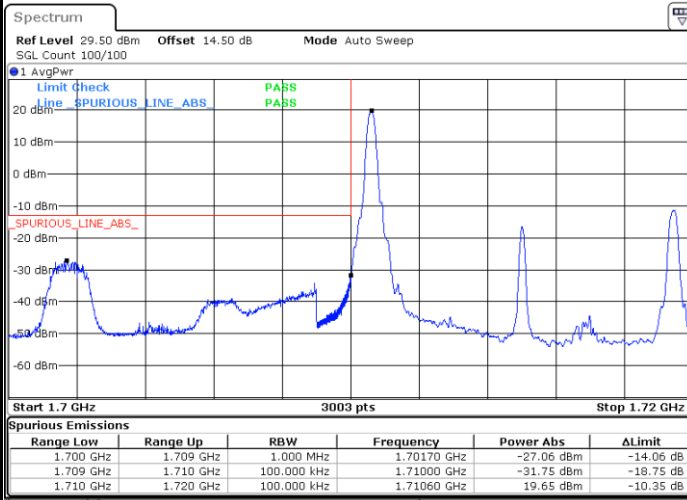


Date: 14.DEC.2020 16:45:15



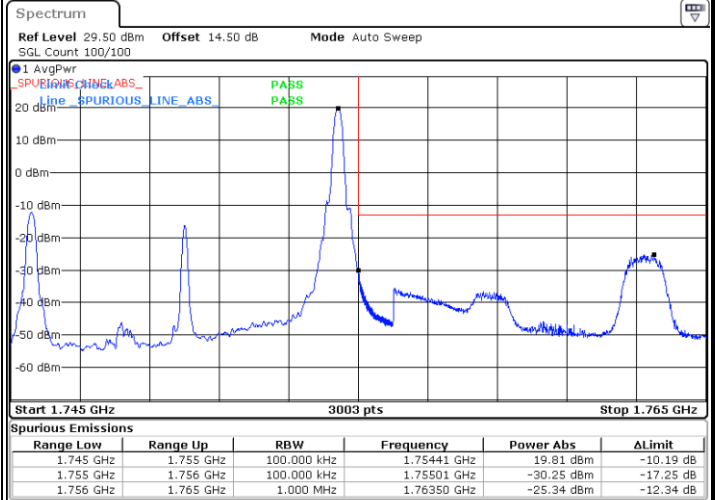
LTE Band 4 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



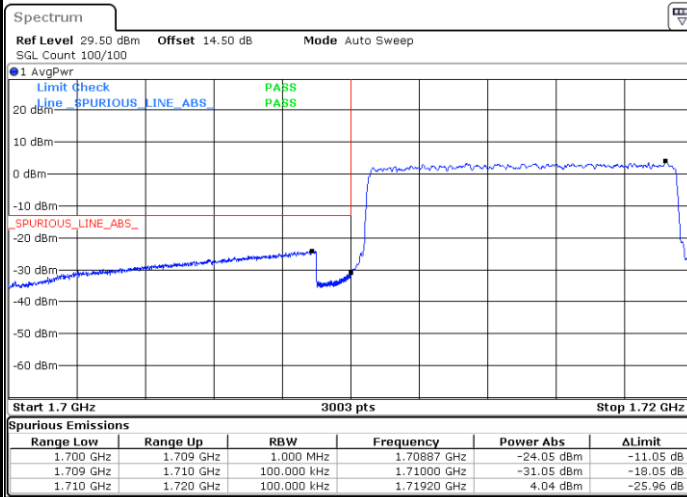
Date: 14.DEC.2020 16:37:42

Highest Band Edge / 1 RB



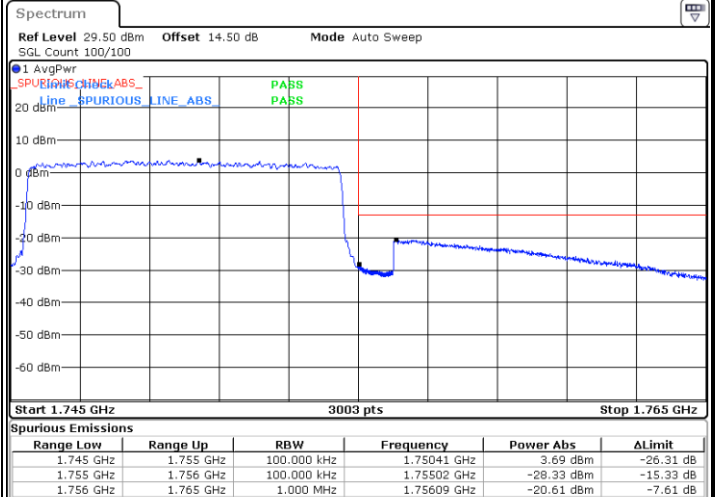
Date: 14.DEC.2020 16:44:34

Lowest Band Edge / Full RB



Date: 14.DEC.2020 16:39:05

Highest Band Edge / Full RB

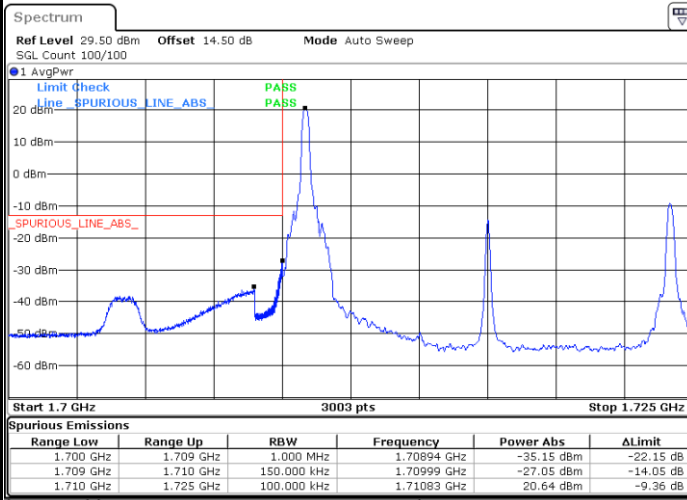


Date: 14.DEC.2020 16:45:56



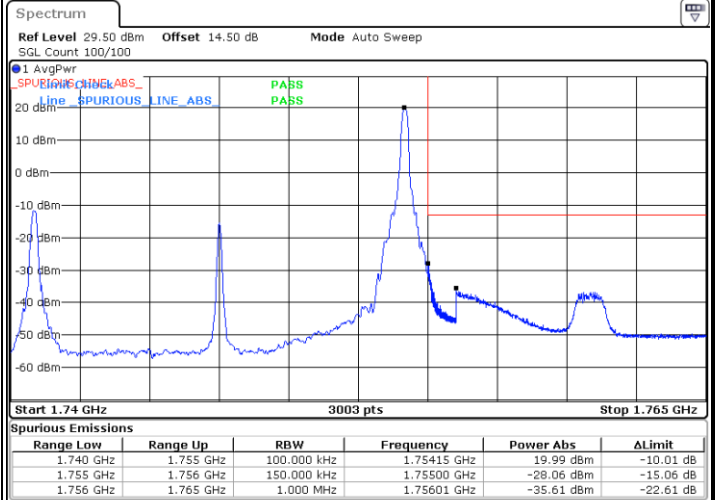
LTE Band 4 / 15MHz / QPSK

Lowest Band Edge / 1 RB



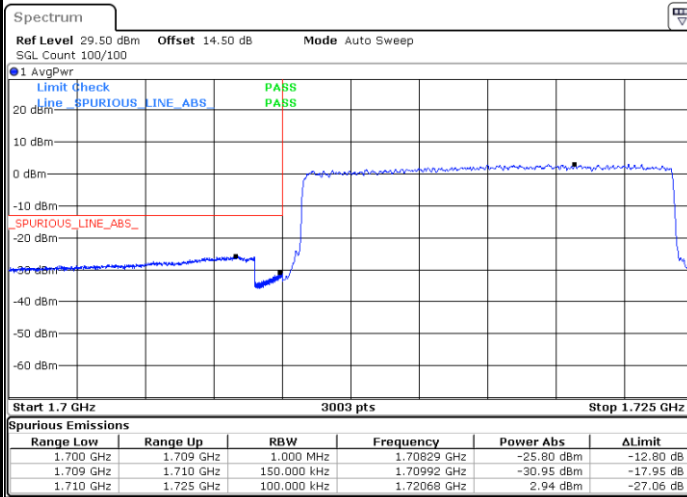
Date: 14.DEC.2020 16:48:40

Highest Band Edge / 1 RB



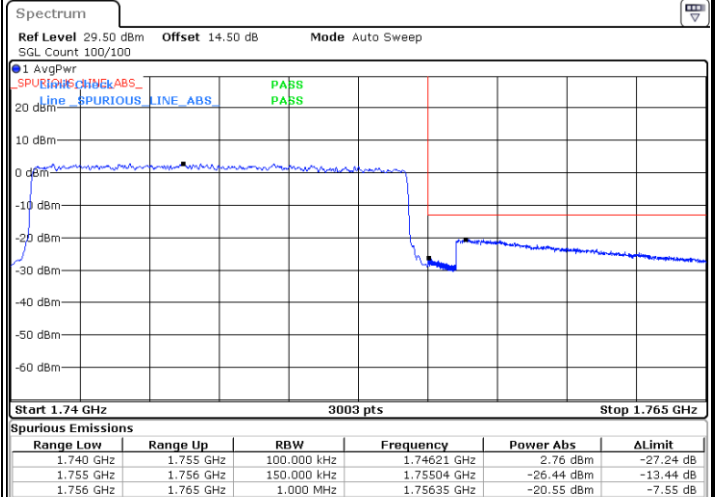
Date: 14.DEC.2020 16:55:31

Lowest Band Edge / Full RB



Date: 14.DEC.2020 16:50:03

Highest Band Edge / Full RB

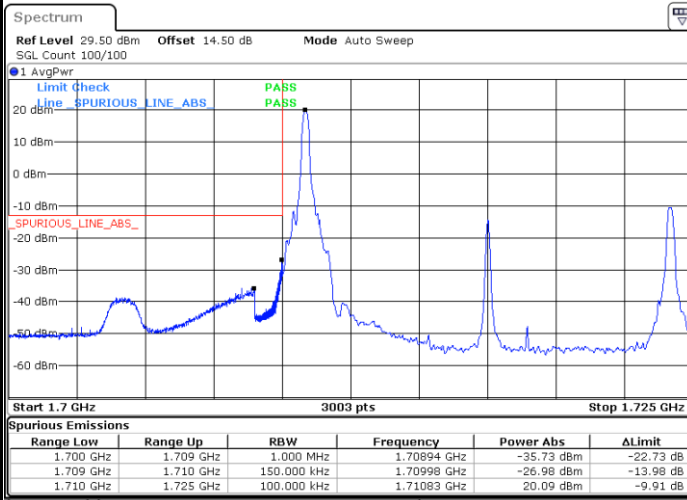


Date: 14.DEC.2020 16:56:53



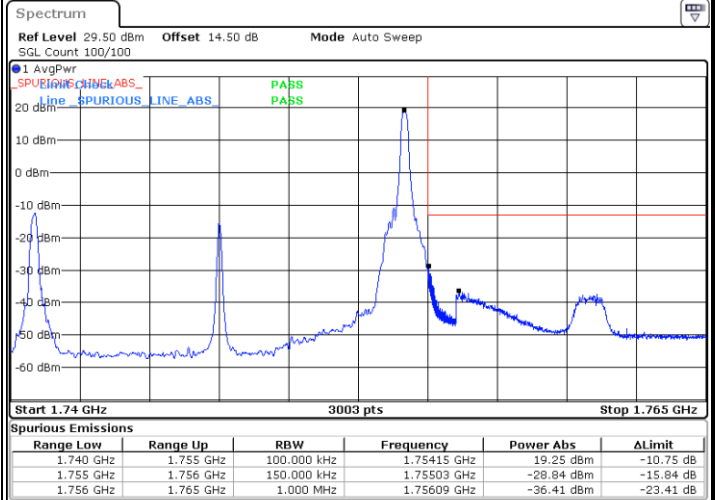
LTE Band 4 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



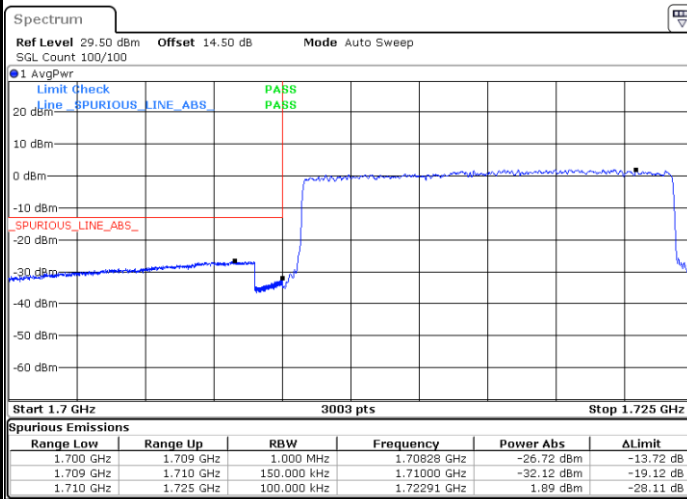
Date: 14.DEC.2020 16:49:22

Highest Band Edge / 1 RB



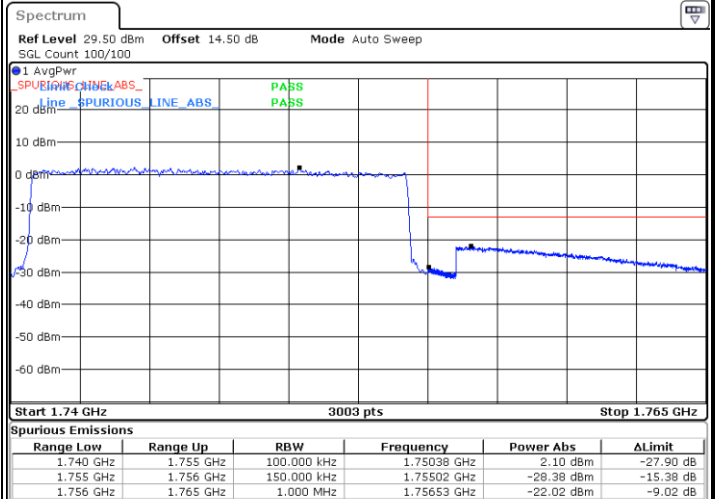
Date: 14.DEC.2020 16:56:12

Lowest Band Edge / Full RB

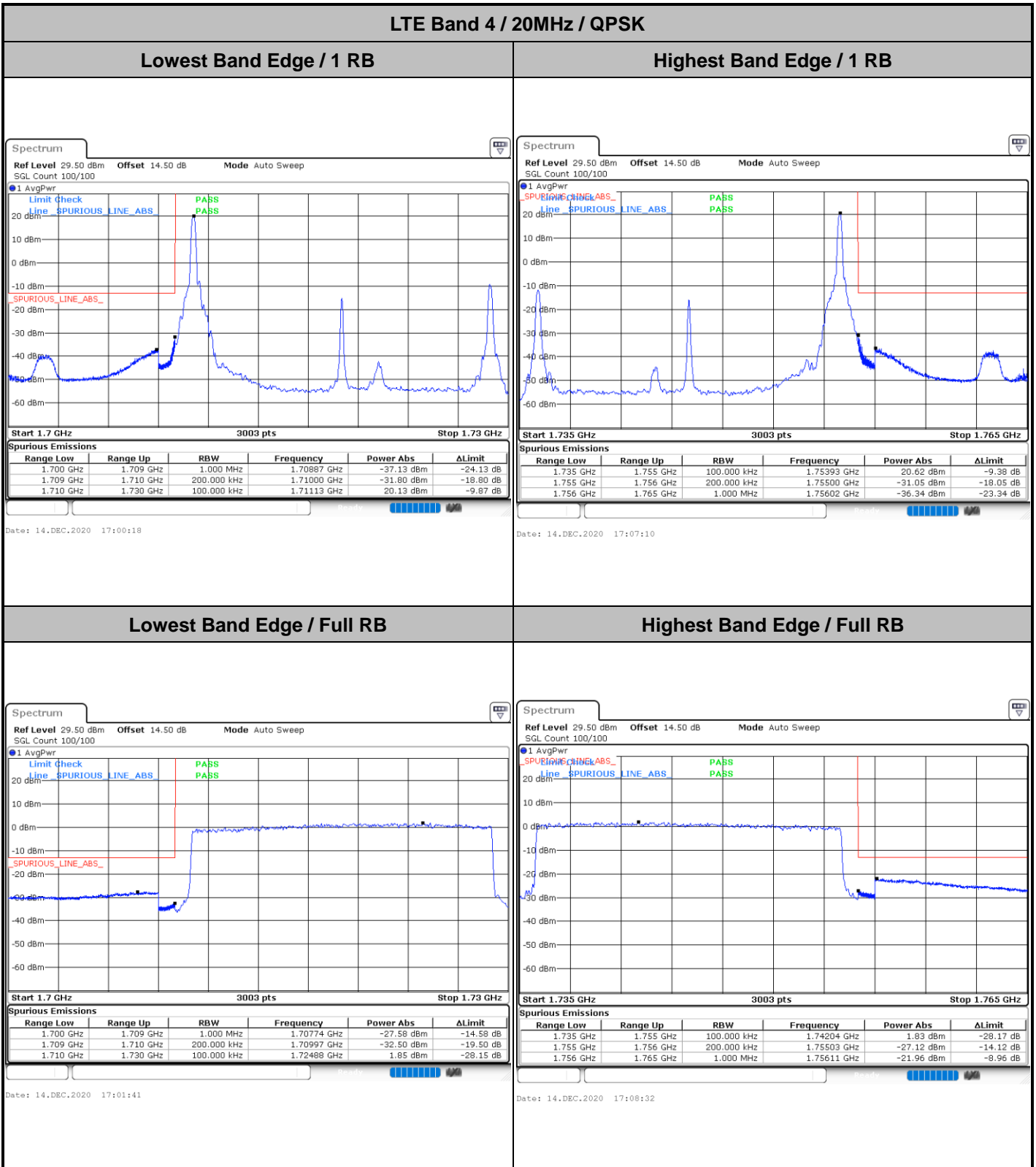


Date: 14.DEC.2020 16:50:44

Highest Band Edge / Full RB



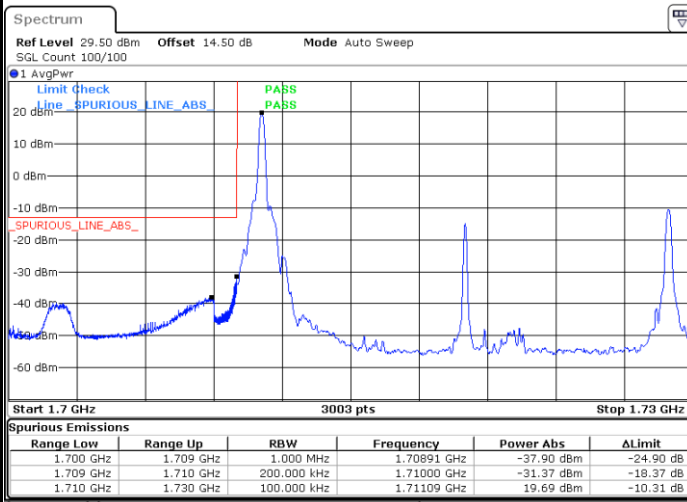
Date: 14.DEC.2020 16:57:34





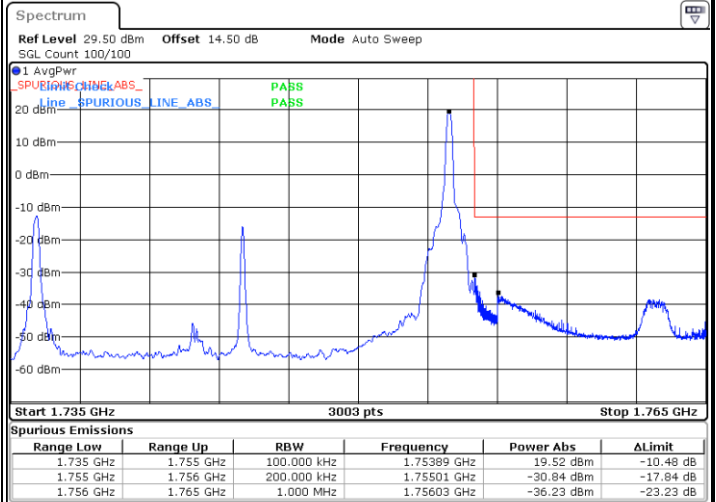
LTE Band 4 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



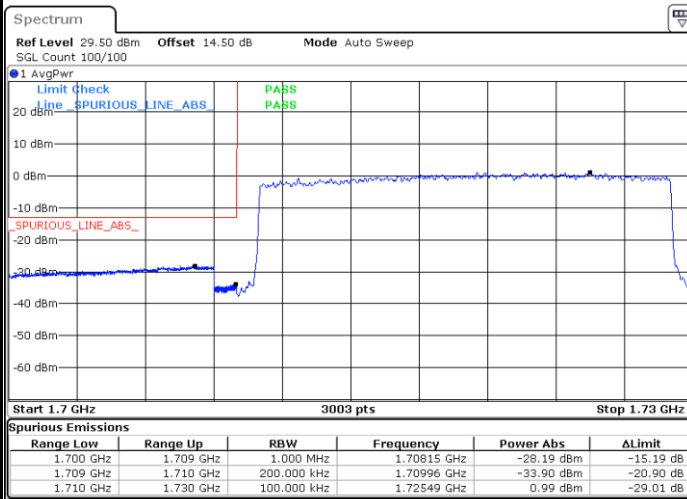
Date: 14.DEC.2020 17:01:00

Highest Band Edge / 1 RB



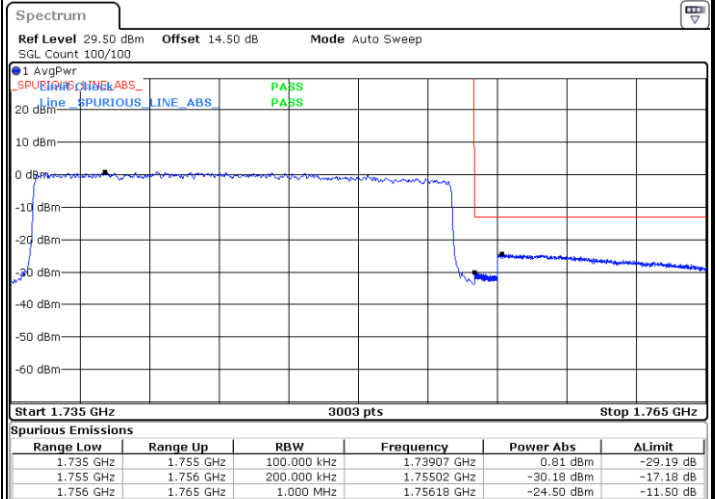
Date: 14.DEC.2020 17:07:51

Lowest Band Edge / Full RB



Date: 14.DEC.2020 17:02:22

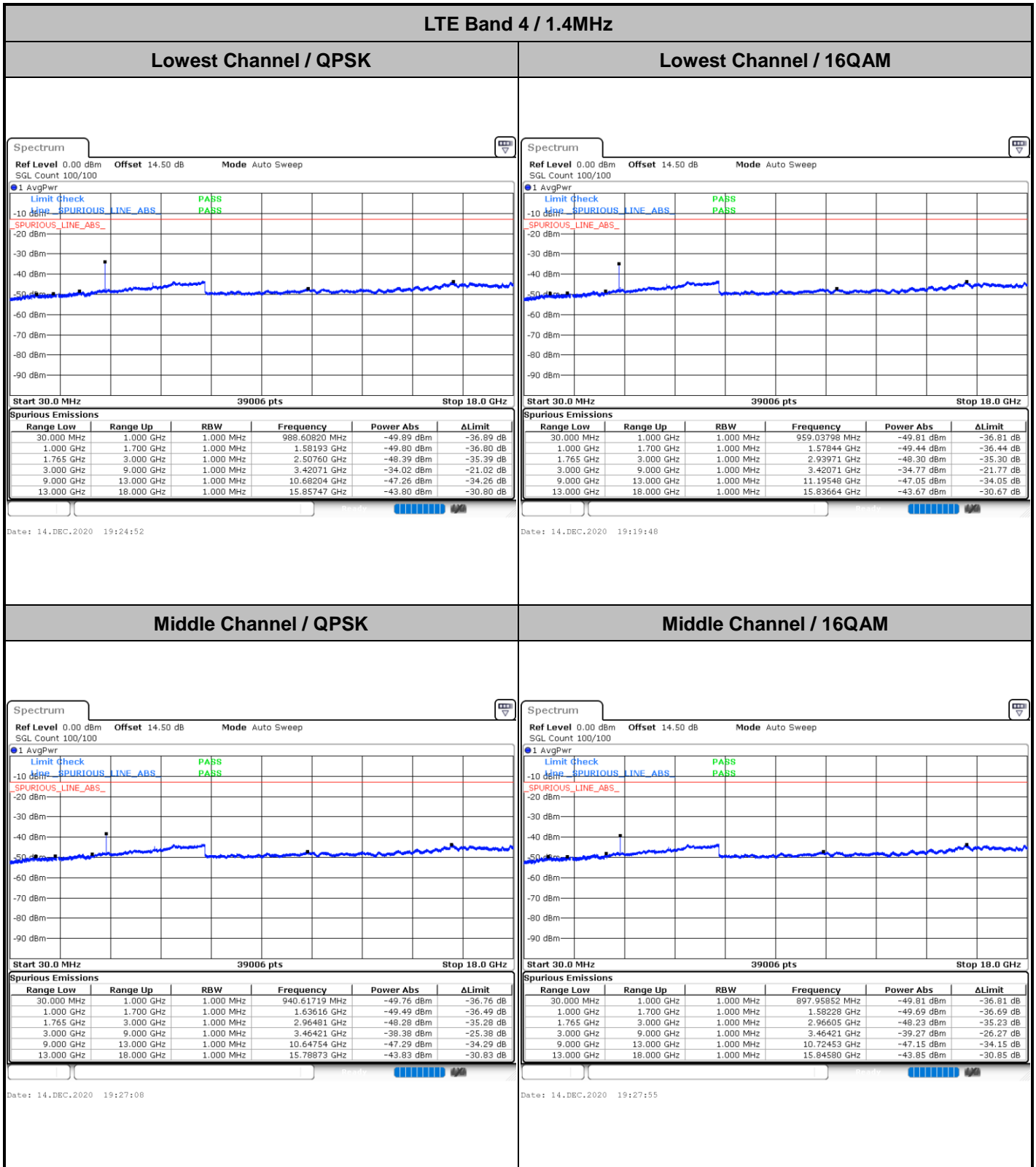
Highest Band Edge / Full RB



Date: 14.DEC.2020 17:09:13



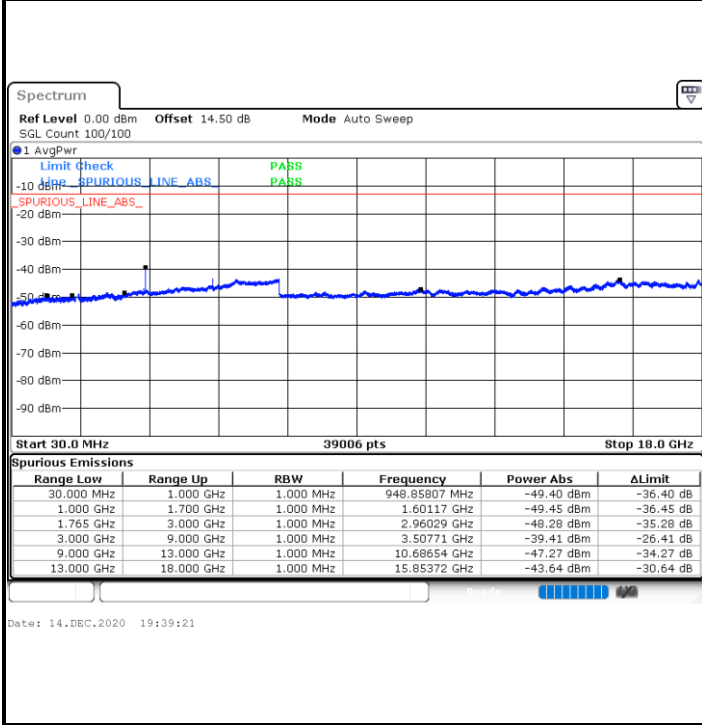
Conducted Spurious Emission



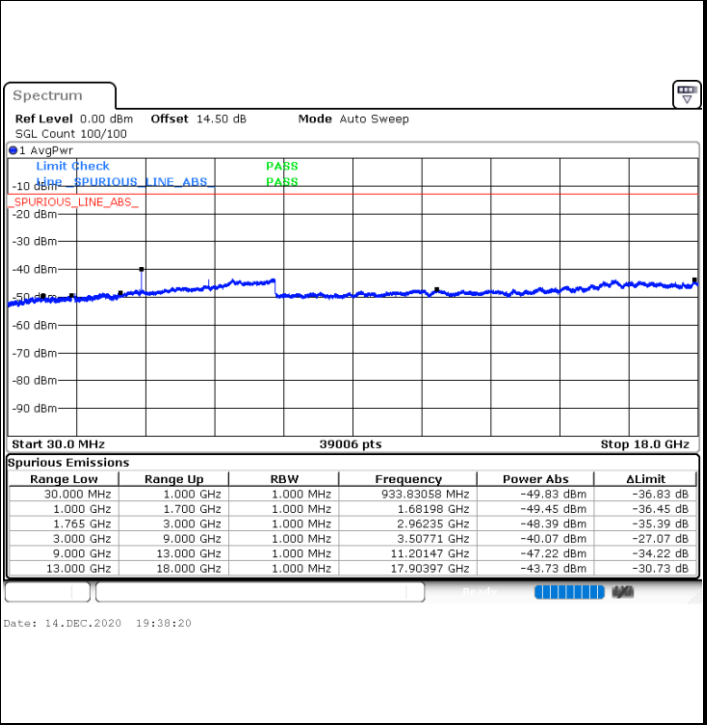


LTE Band 4 / 1.4MHz

Highest Channel / QPSK

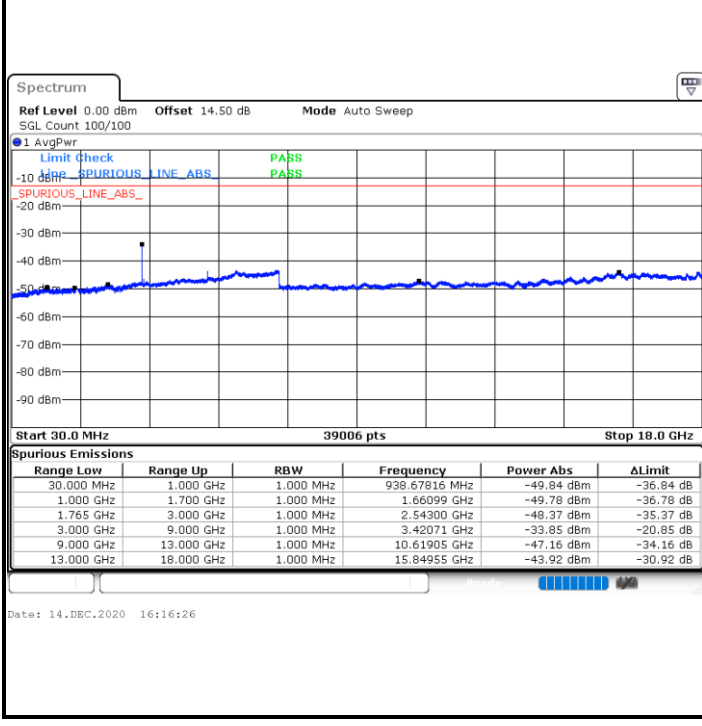


Highest Channel / 16QAM

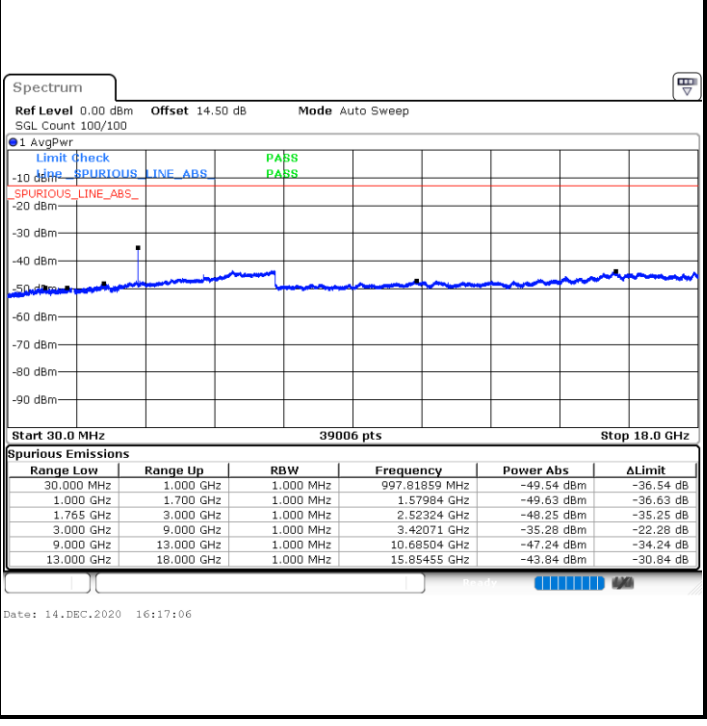


LTE Band 4 / 3MHz

Lowest Channel / QPSK



Lowest Channel / 16QAM

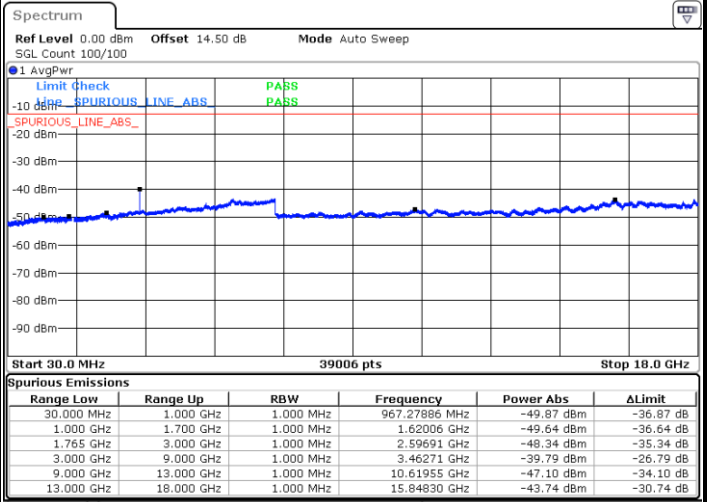
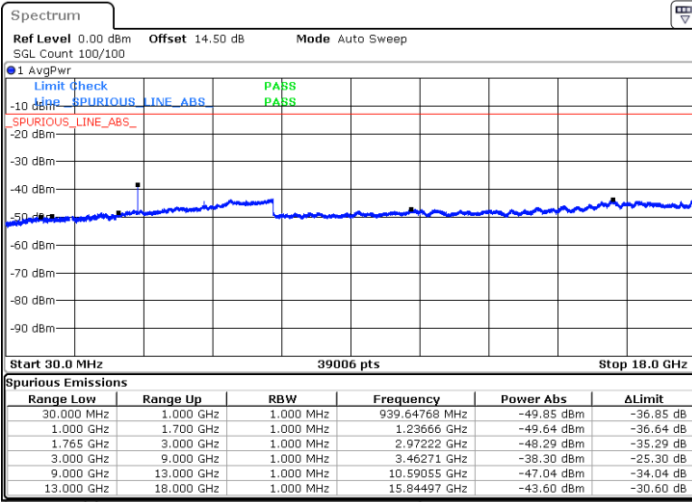




LTE Band 4 / 3MHz

Middle Channel / QPSK

Middle Channel / 16QAM

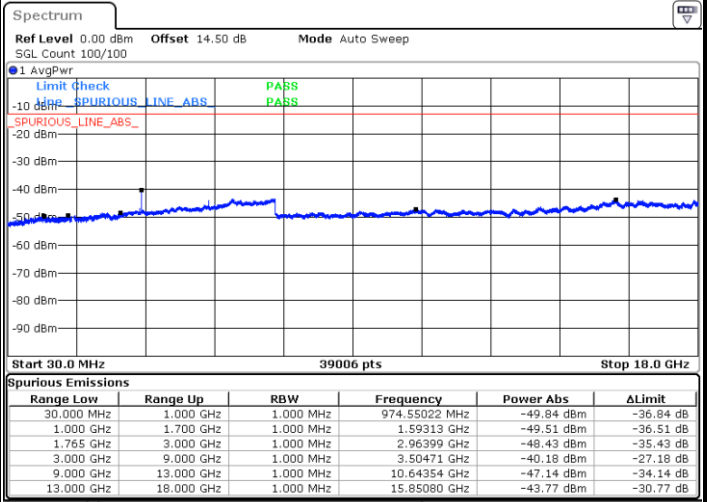
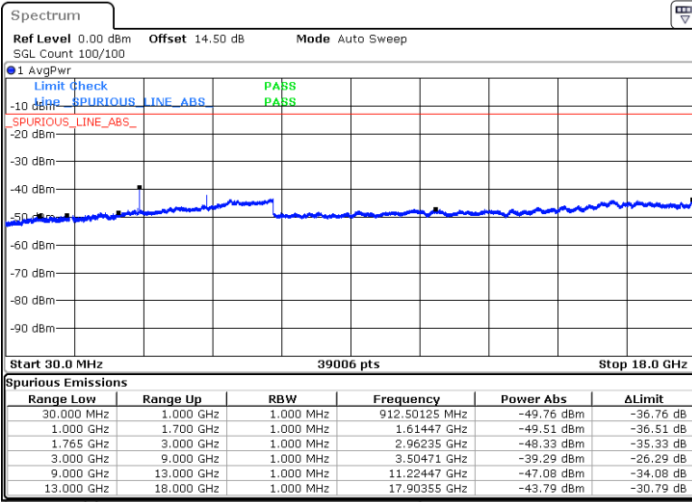


Date: 14.DEC.2020 16:18:29

Date: 14.DEC.2020 16:19:09

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 14.DEC.2020 16:23:17

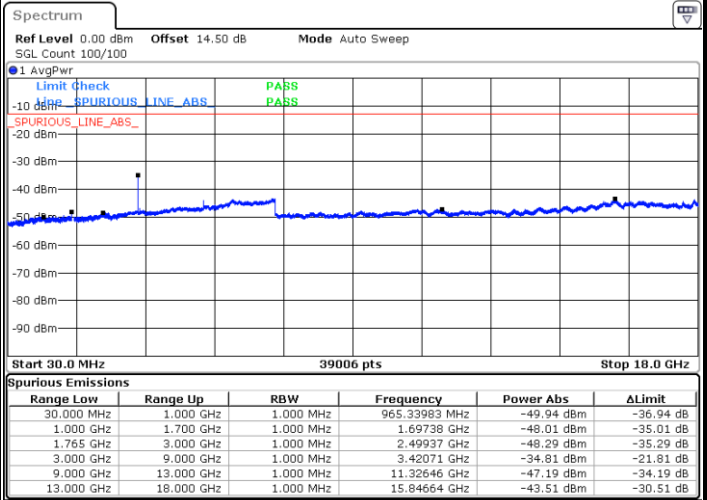
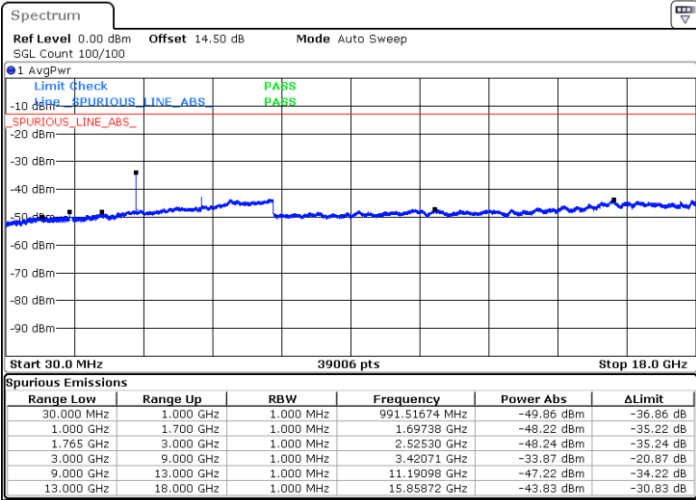
Date: 14.DEC.2020 16:23:57



LTE Band 4 / 5MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM

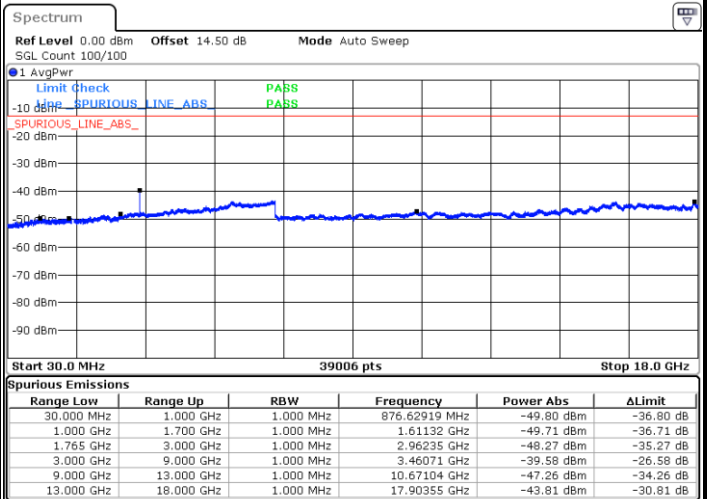
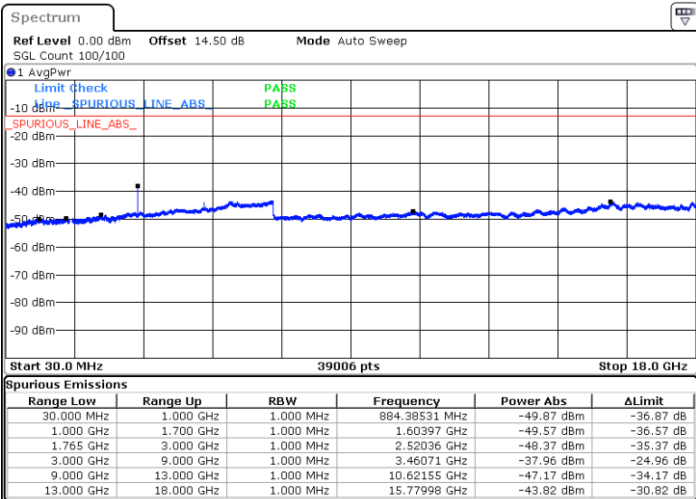


Date: 14.DEC.2020 16:28:05

Date: 14.DEC.2020 16:28:45

Middle Channel / QPSK

Middle Channel / 16QAM



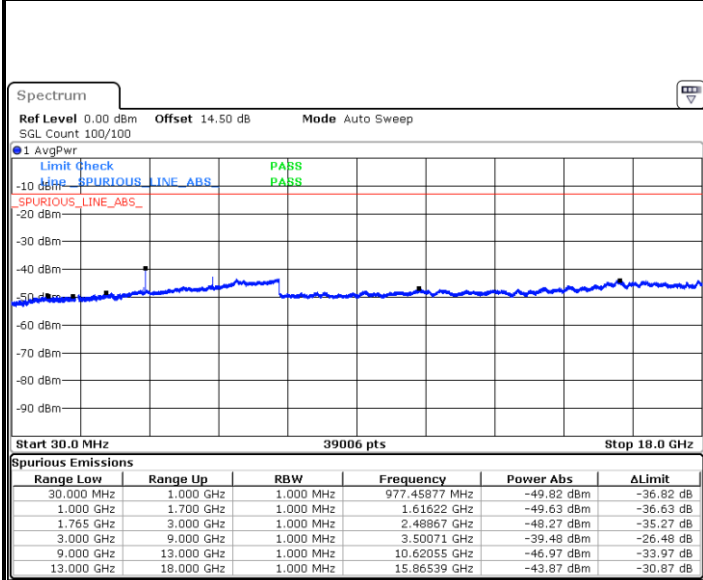
Date: 14.DEC.2020 16:30:09

Date: 14.DEC.2020 16:30:48



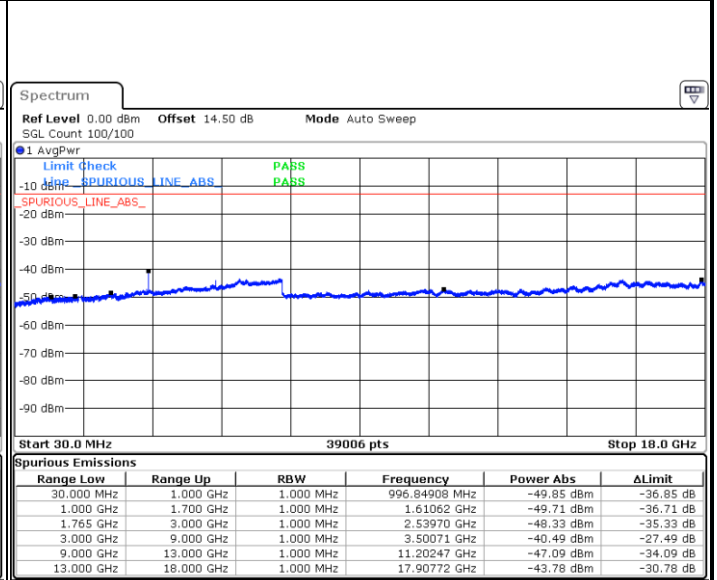
LTE Band 4 / 5MHz

Highest Channel / QPSK



Date: 14.DEC.2020 16:34:57

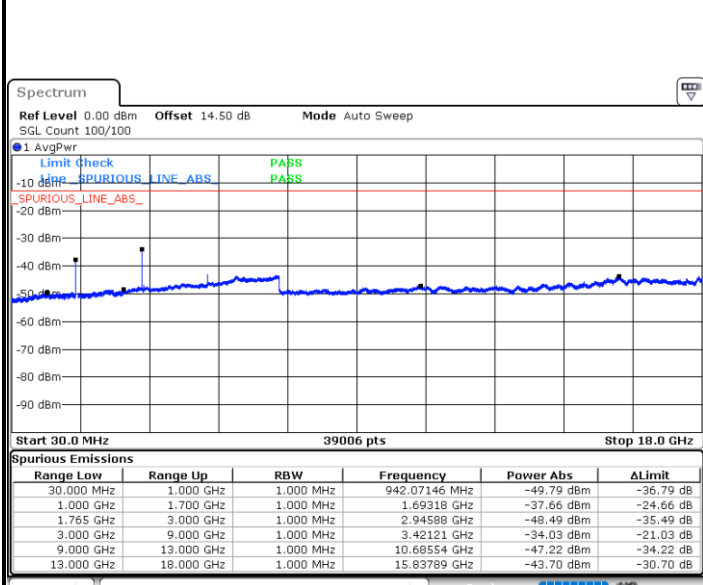
Highest Channel / 16QAM



Date: 14.DEC.2020 16:35:36

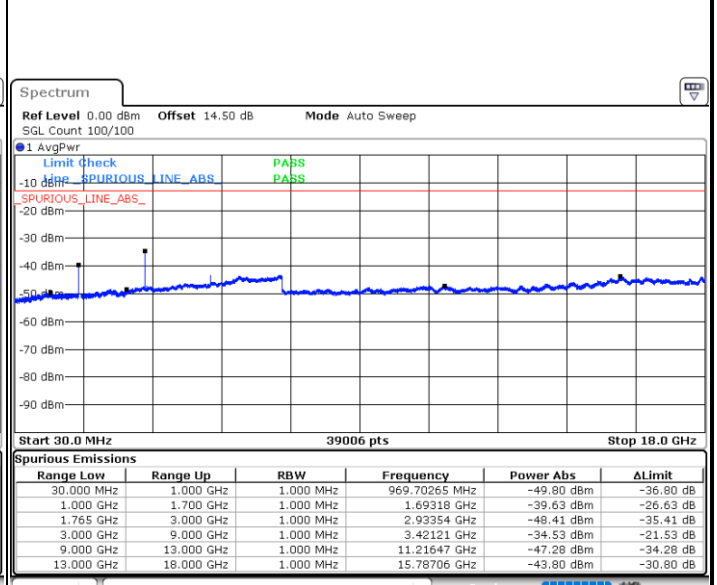
LTE Band 4 / 10MHz

Lowest Channel / QPSK



Date: 14.DEC.2020 16:39:45

Lowest Channel / 16QAM



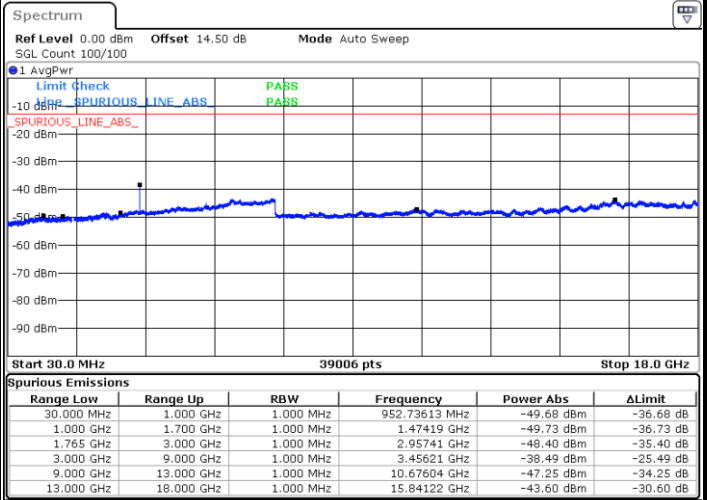
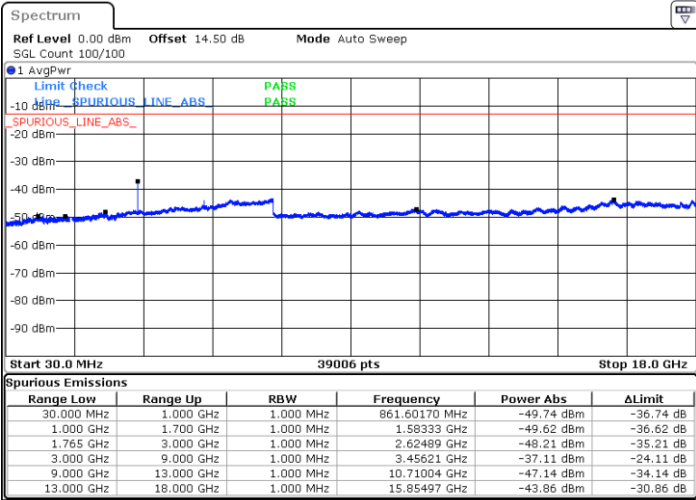
Date: 14.DEC.2020 16:40:24



LTE Band 4 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

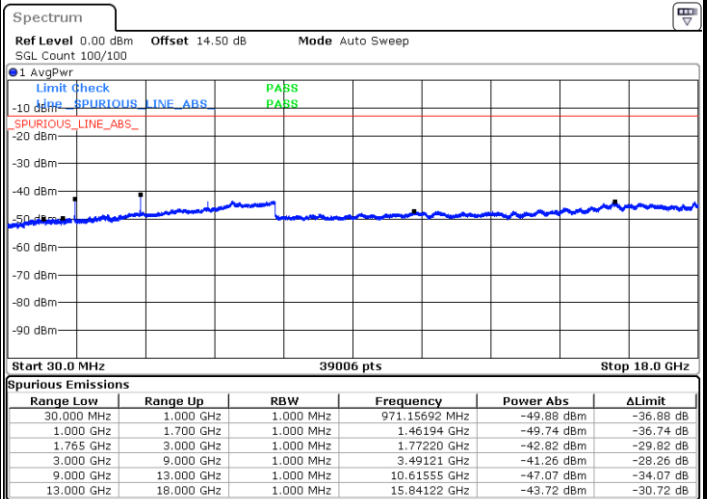
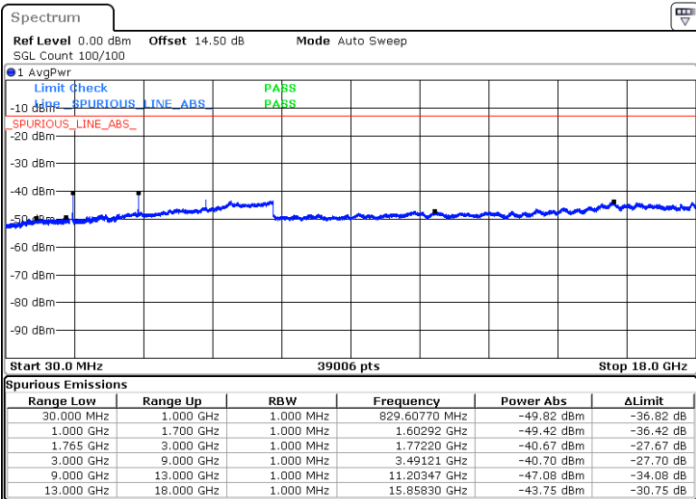


Date: 14.DEC.2020 16:41:48

Date: 14.DEC.2020 16:42:28

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 14.DEC.2020 16:46:36

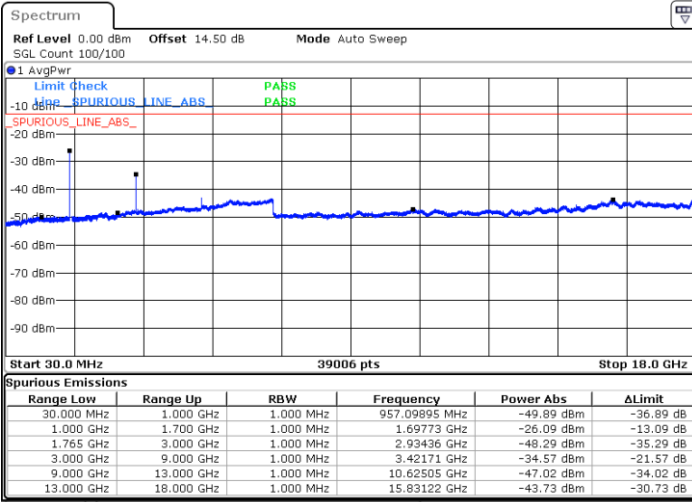
Date: 14.DEC.2020 16:47:15



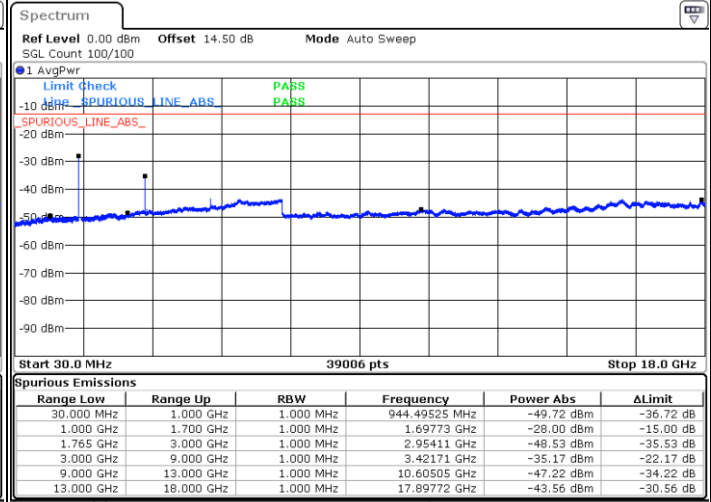
LTE Band 4 / 15MHz

Lowest Channel / QPSK

Lowest Channel / 16QAM



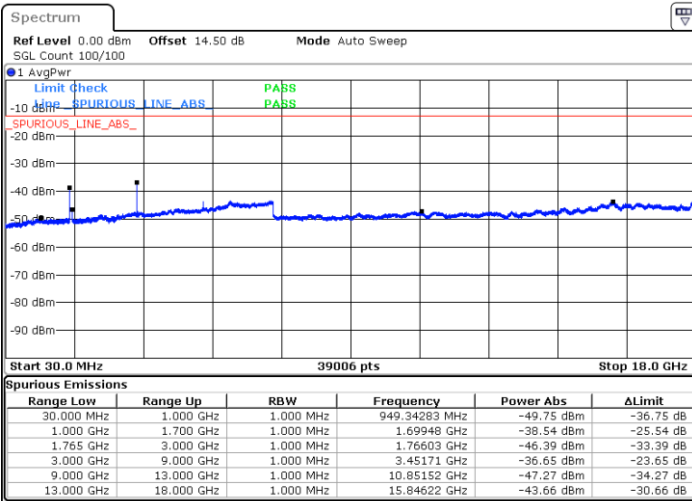
Date: 14.DEC.2020 16:51:24



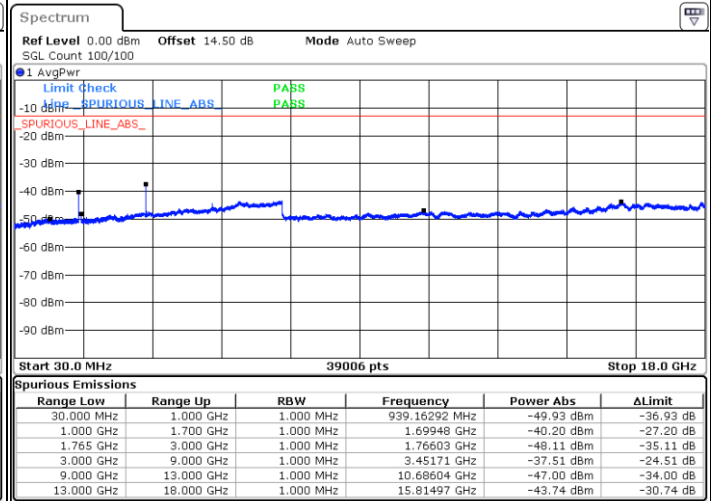
Date: 14.DEC.2020 16:52:03

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 14.DEC.2020 16:53:26

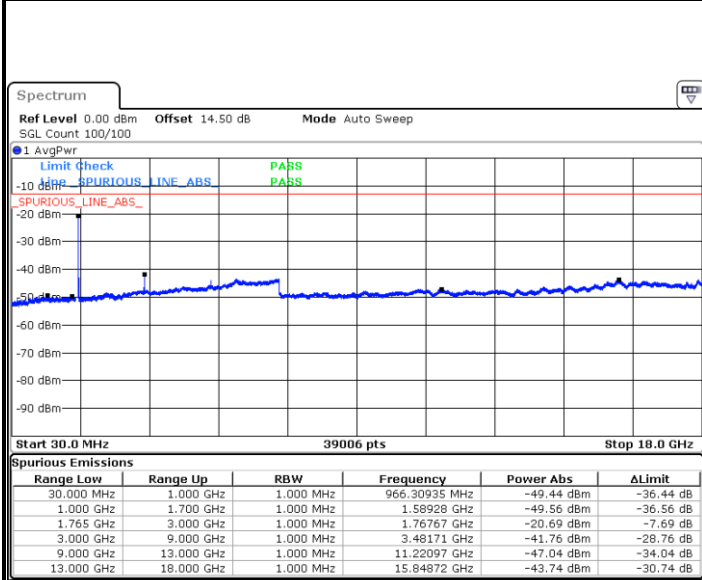


Date: 14.DEC.2020 16:54:06



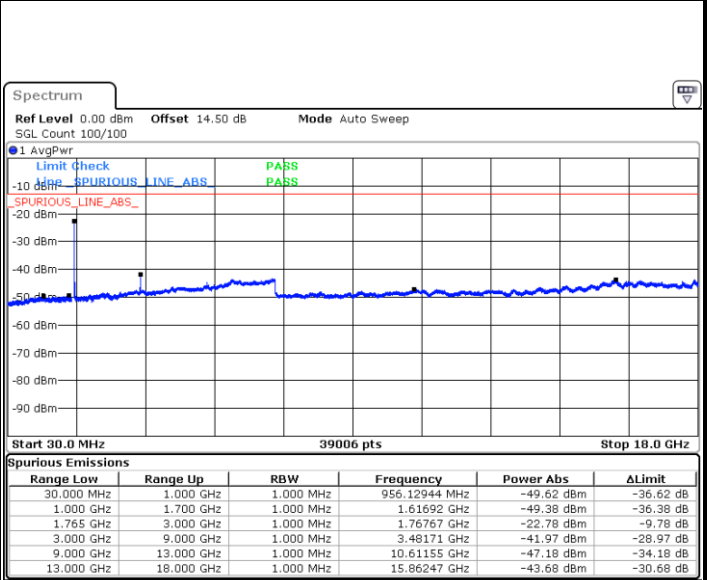
LTE Band 4 / 15MHz

Highest Channel / QPSK



Date: 14.DEC.2020 16:58:14

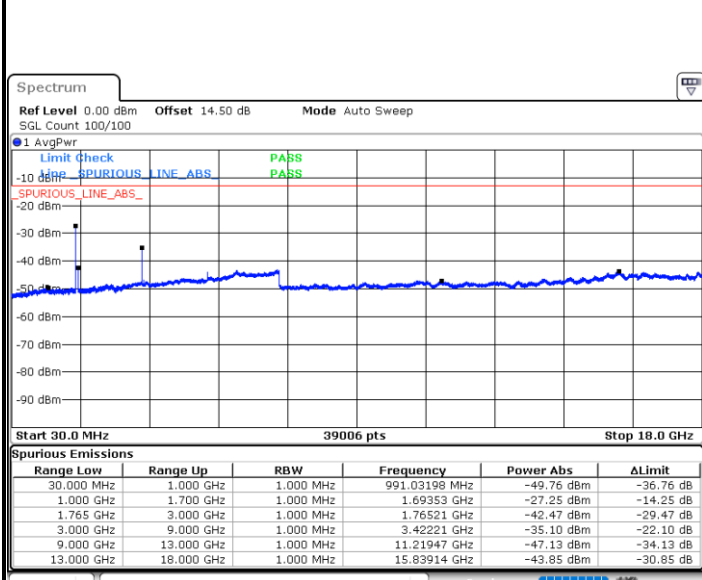
Highest Channel / 16QAM



Date: 14.DEC.2020 16:58:53

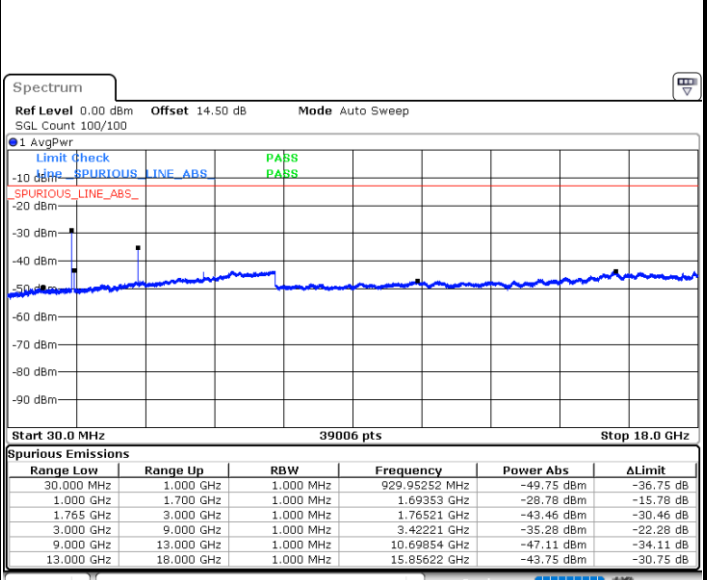
LTE Band 4 / 20MHz

Lowest Channel / QPSK



Date: 14.DEC.2020 17:03:02

Lowest Channel / 16QAM



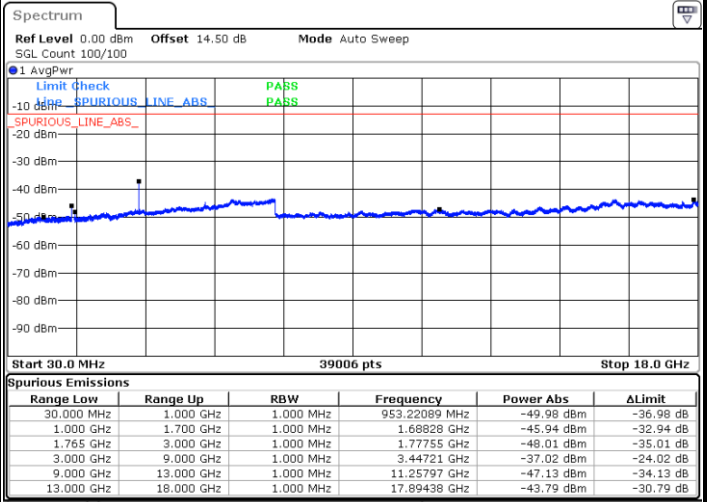
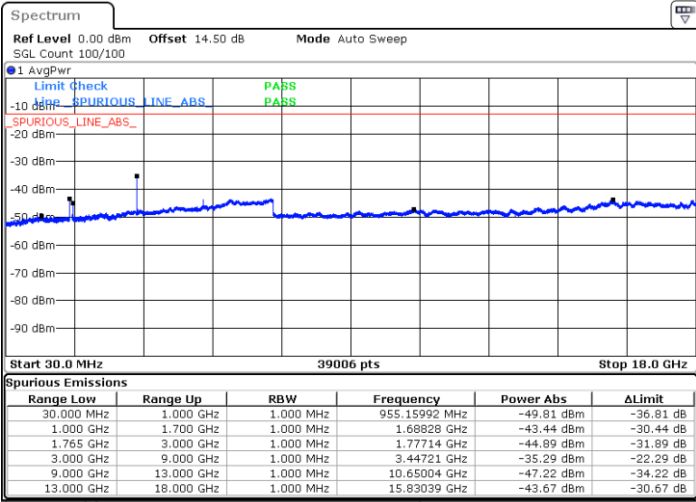
Date: 14.DEC.2020 17:03:41



LTE Band 4 / 20MHz

Middle Channel / QPSK

Middle Channel / 16QAM

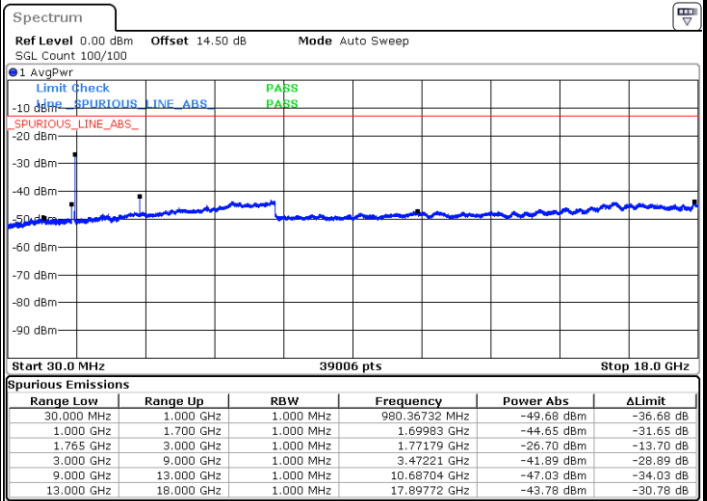
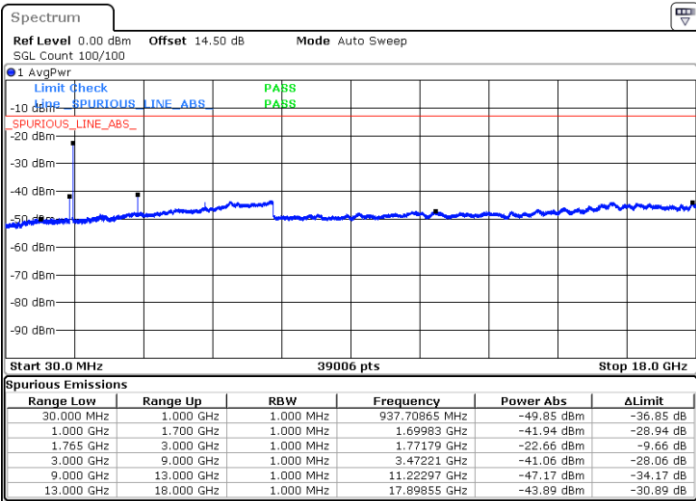


Date: 14.DEC.2020 17:05:05

Date: 14.DEC.2020 17:05:45

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 14.DEC.2020 17:09:53

Date: 14.DEC.2020 17:10:33



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 | 0.0009 | PASS |
| 40 | Normal Voltage | 0.0004 | |
| 30 | Normal Voltage | 0.0003 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0006 | |
| 0 | Normal Voltage | 0.0013 | |
| -10 | Normal Voltage | 0.0019 | |
| -20 | Normal Voltage | 0.0009 | |
| -30 | Normal Voltage | 0.0007 | |
| 20 | Maximum Voltage | 0.0006 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | End Point Voltage | 0.0012 | |

Note:

1. Normal Voltage =3.8 V. ; End Point (BEP) =3.4 V. ; Maximum Voltage =4.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 12

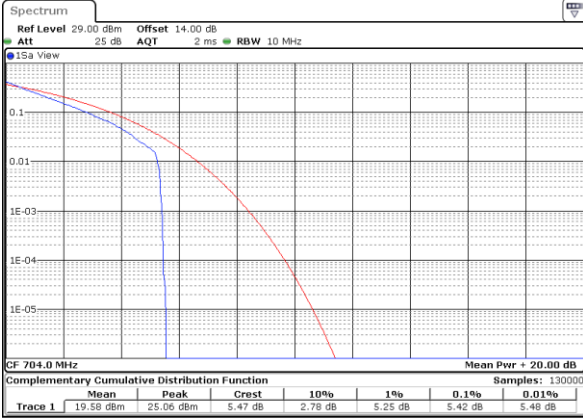
Peak-to-Average Ratio

| Mode | LTE Band 12 / 10MHz | | | | |
|------------|---------------------|---------|-------|---------|-------------|
| Mod. | QPSK | | 16QAM | | Limit: 13dB |
| RB Size | 1RB | Full RB | 1RB | Full RB | Result |
| Lowest CH | 5.42 | 5.01 | 5.86 | 5.94 | PASS |
| Middle CH | 4.67 | 5.51 | 5.30 | 6.17 | |
| Highest CH | 4.29 | 5.25 | 5.36 | 6.17 | |



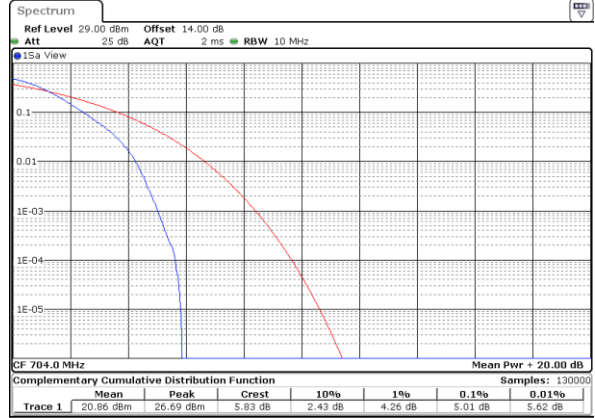
LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



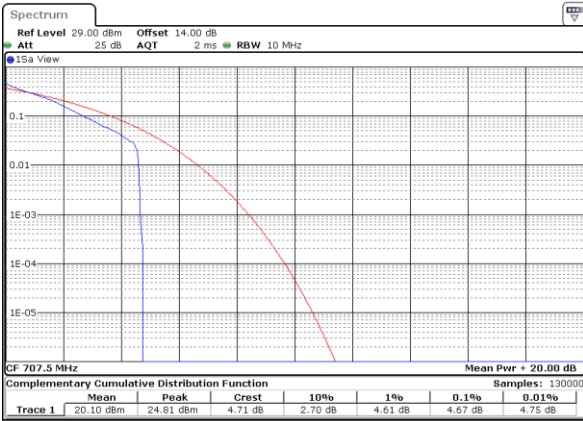
Date: 16.DEC.2020 11:53:30

Lowest Channel / Full RB



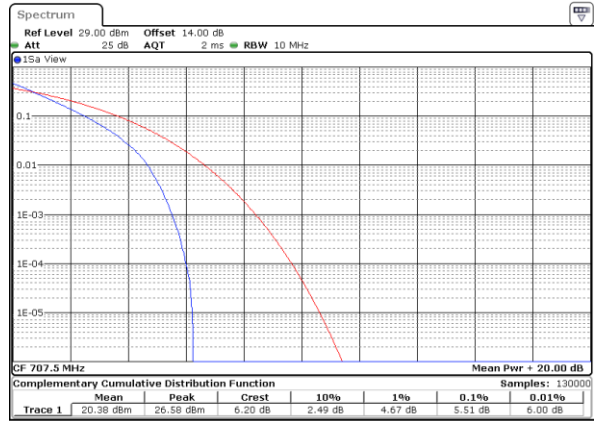
Date: 16.DEC.2020 10:40:49

Middle Channel / 1RB



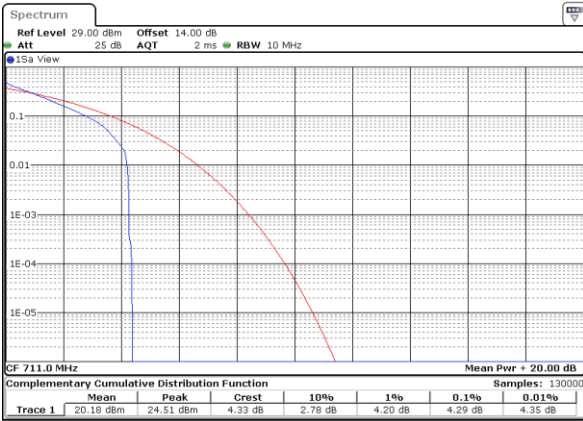
Date: 16.DEC.2020 11:56:11

Middle Channel / Full RB



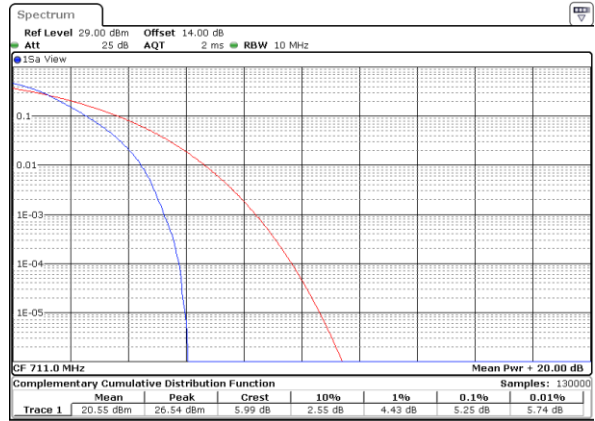
Date: 16.DEC.2020 13:45:09

Highest Channel / 1RB



Date: 16.DEC.2020 20:11:53

Highest Channel / Full RB

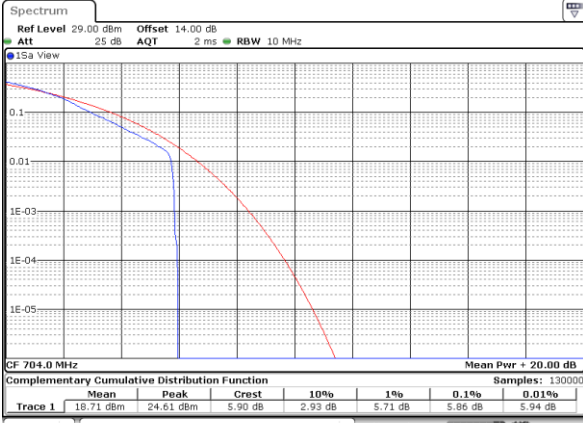


Date: 16.DEC.2020 13:48:27



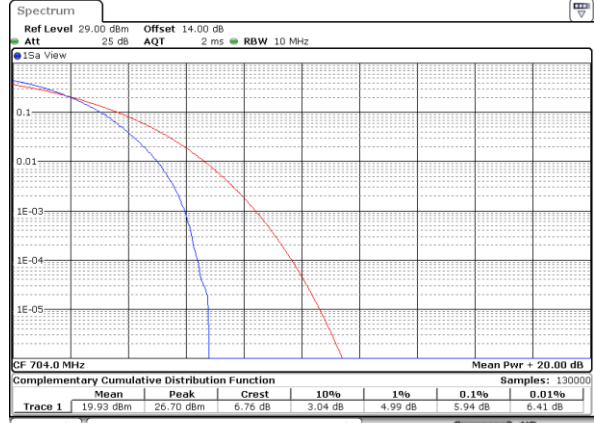
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



Date: 16.DEC.2020 10:46:32

Lowest Channel / Full RB



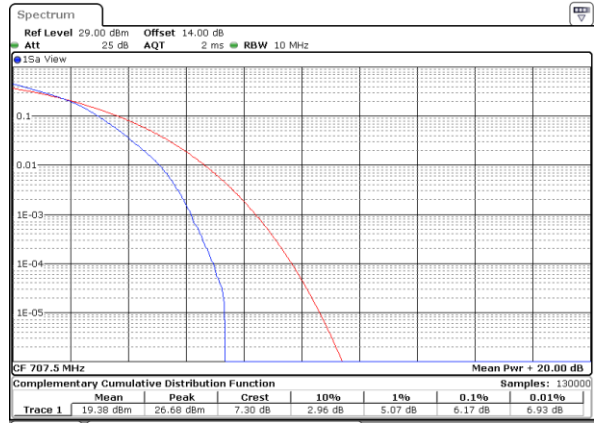
Date: 16.DEC.2020 10:41:08

Middle Channel / 1RB



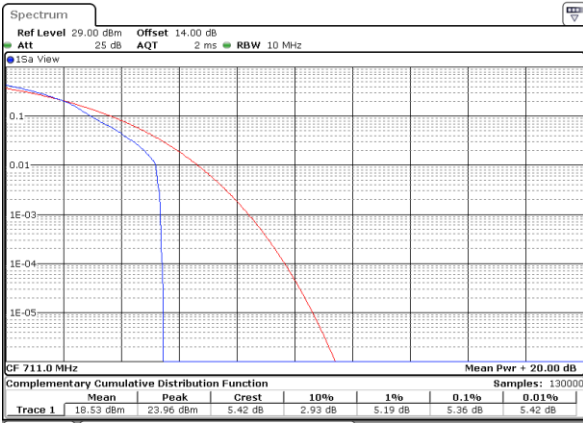
Date: 16.DEC.2020 11:57:10

Middle Channel / Full RB



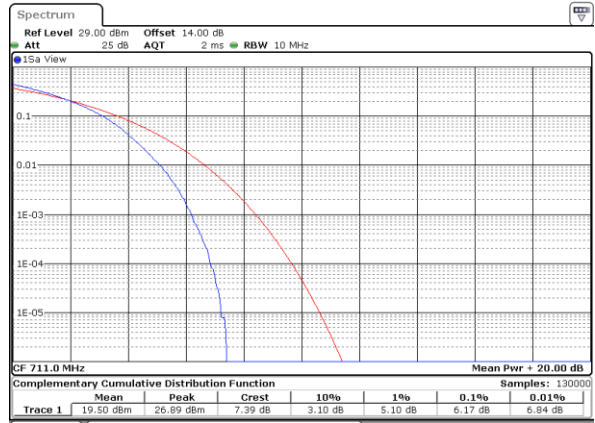
Date: 16.DEC.2020 13:43:06

Highest Channel / 1RB



Date: 16.DEC.2020 14:00:56

Highest Channel / Full RB



Date: 16.DEC.2020 13:49:43



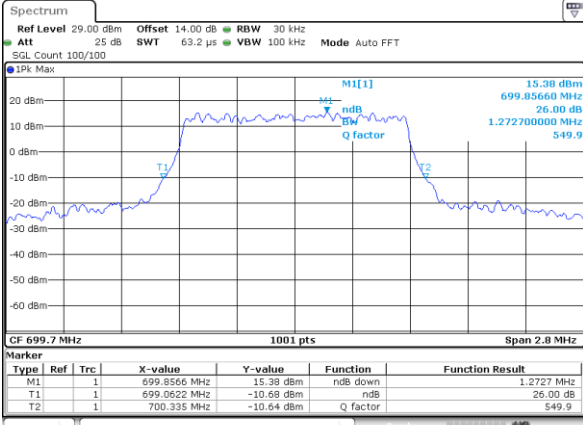
26dB Bandwidth

| Mode | LTE Band 12 : 26dB BW(MHz) | | | | | | | | | | | |
|------------|----------------------------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| BW | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Lowest CH | 1.27 | 1.28 | 3.00 | 3.02 | 5.01 | 4.91 | 9.71 | 9.83 | - | - | - | - |
| Middle CH | 1.30 | 1.29 | 3.00 | 2.99 | 4.90 | 4.81 | 10.05 | 9.89 | - | - | - | - |
| Highest CH | 1.28 | 1.28 | 3.02 | 3.03 | 4.91 | 4.93 | 9.77 | 9.67 | - | - | - | - |



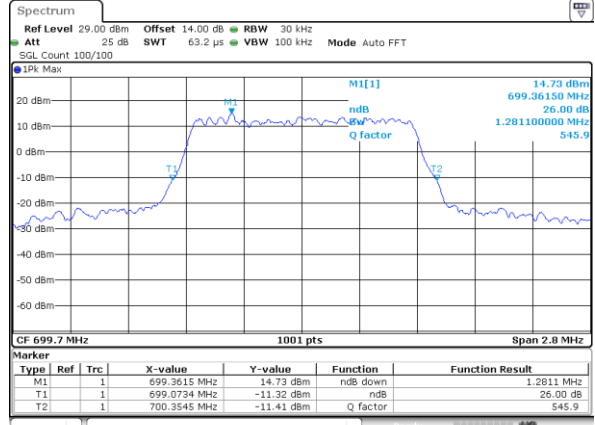
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



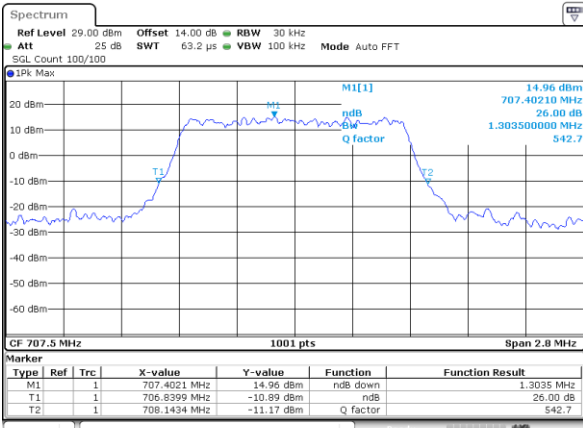
Date: 14. DEC. 2020 17:20:45

Lowest Channel / 1.4MHz / 16QAM



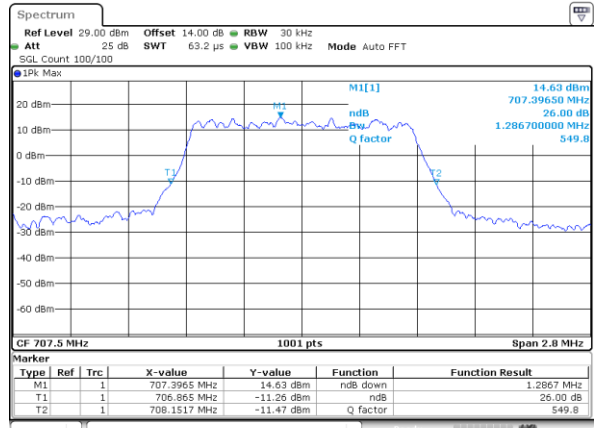
Date: 14. DEC. 2020 17:20:34

Middle Channel / 1.4MHz / QPSK



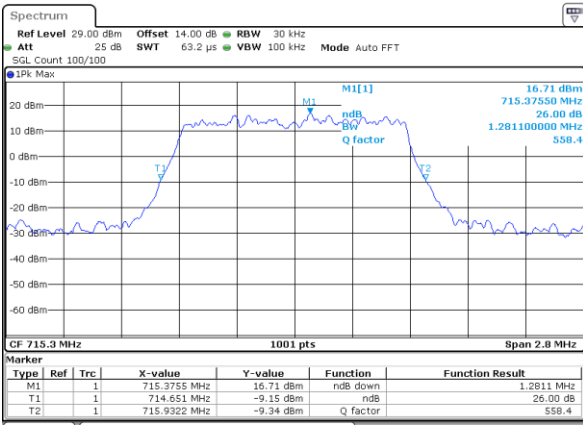
Date: 14. DEC. 2020 17:25:46

Middle Channel / 1.4MHz / 16QAM



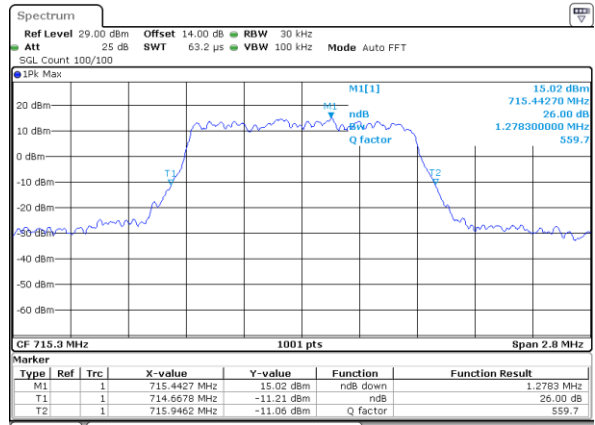
Date: 14. DEC. 2020 17:25:57

Highest Channel / 1.4MHz / QPSK



Date: 14. DEC. 2020 17:28:14

Highest Channel / 1.4MHz / 16QAM

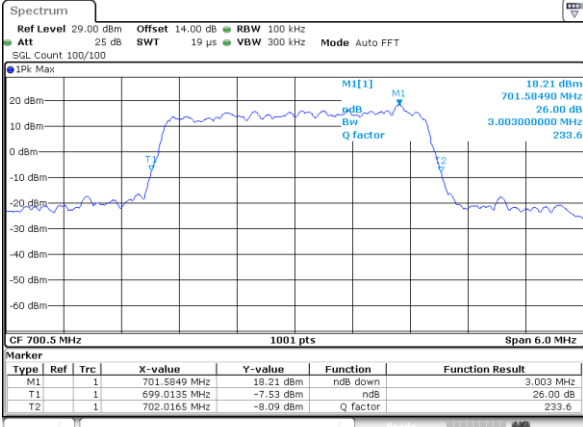


Date: 14. DEC. 2020 17:28:03



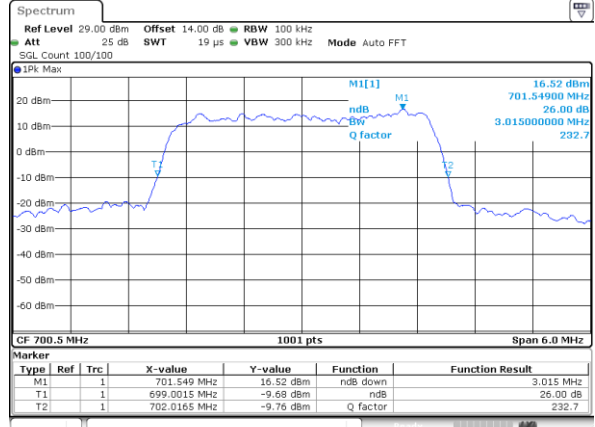
LTE Band 12

Lowest Channel / 3MHz / QPSK



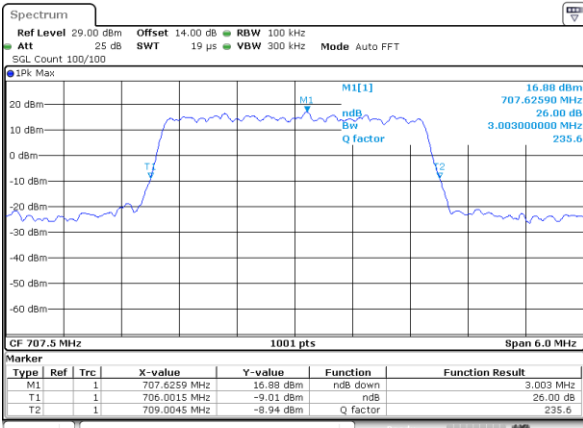
Date: 14. DEC. 2020 17:55:11

Lowest Channel / 3MHz / 16QAM



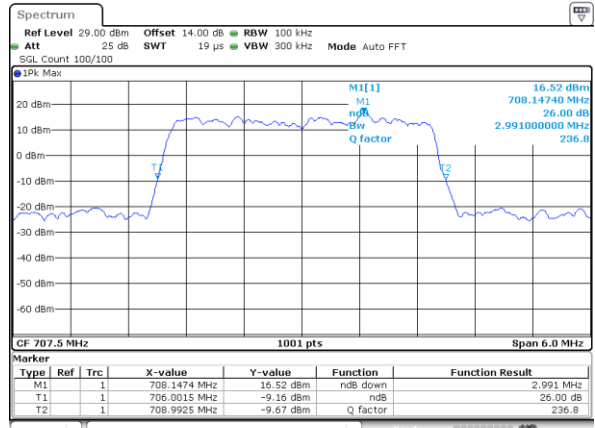
Date: 14. DEC. 2020 17:55:00

Middle Channel / 3MHz / QPSK



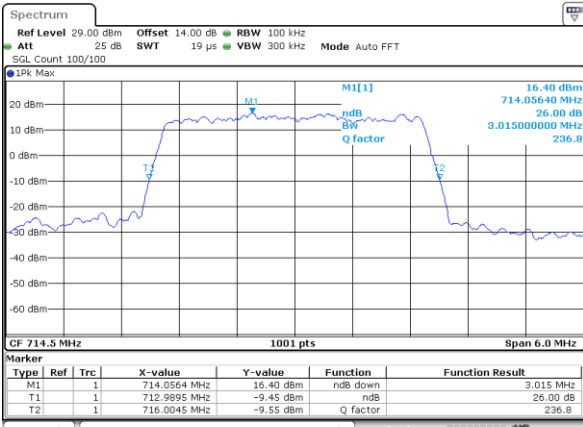
Date: 14. DEC. 2020 18:02:55

Middle Channel / 3MHz / 16QAM



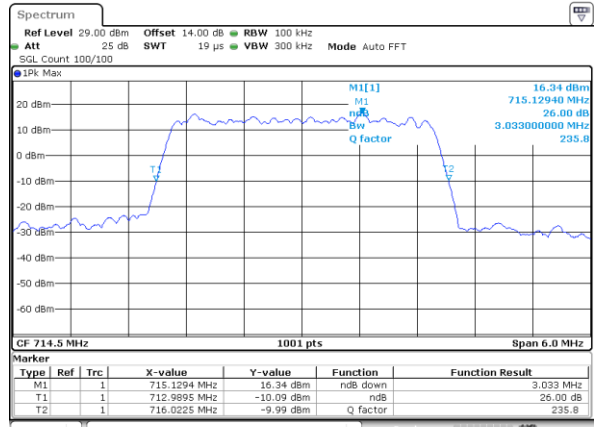
Date: 14. DEC. 2020 18:03:06

Highest Channel / 3MHz / QPSK



Date: 14. DEC. 2020 18:05:41

Highest Channel / 3MHz / 16QAM

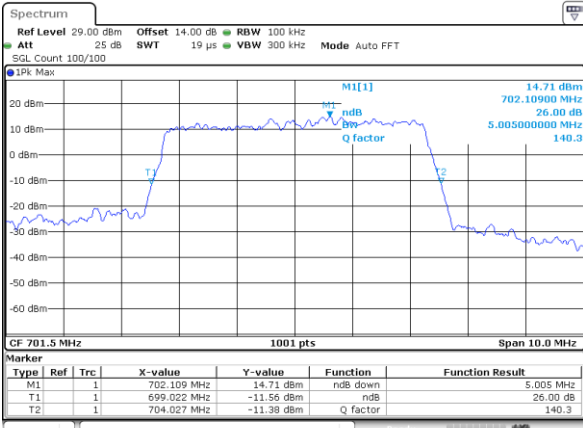


Date: 14. DEC. 2020 18:05:28



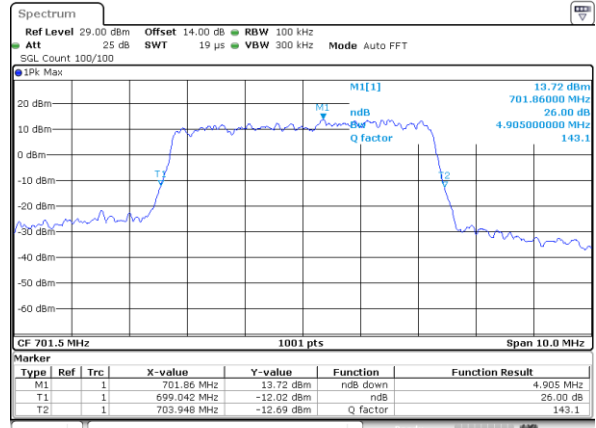
LTE Band 12

Lowest Channel / 5MHz / QPSK



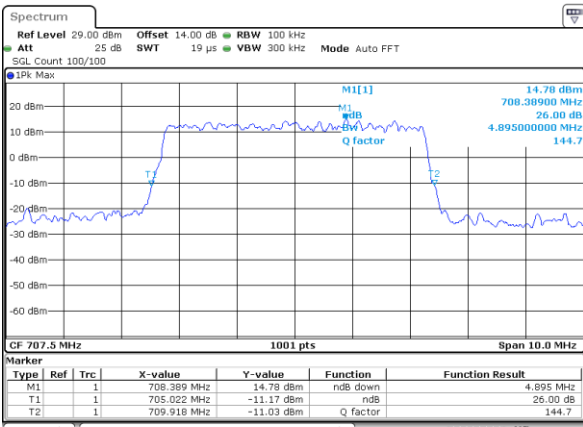
Date: 16, DEC, 2020 09:59:04

Lowest Channel / 5MHz / 16QAM



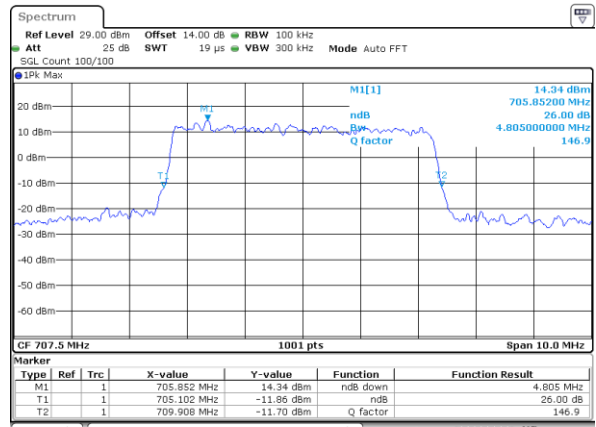
Date: 16, DEC, 2020 10:00:12

Middle Channel / 5MHz / QPSK



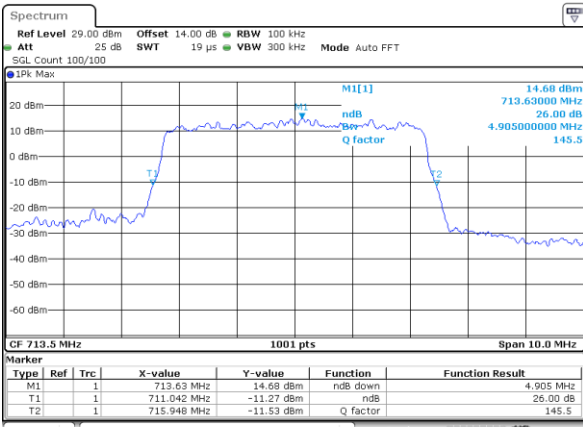
Date: 16, DEC, 2020 10:38:44

Middle Channel / 5MHz / 16QAM



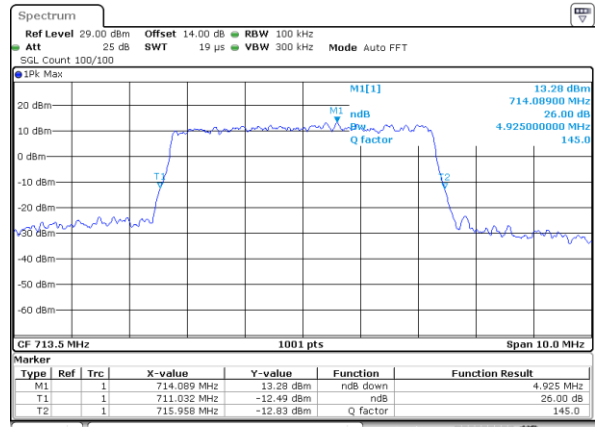
Date: 16, DEC, 2020 10:38:20

Highest Channel / 5MHz / QPSK



Date: 16, DEC, 2020 20:05:04

Highest Channel / 5MHz / 16QAM

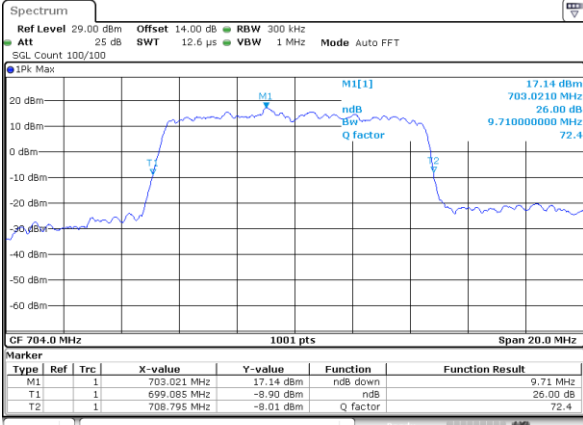


Date: 16, DEC, 2020 10:32:23



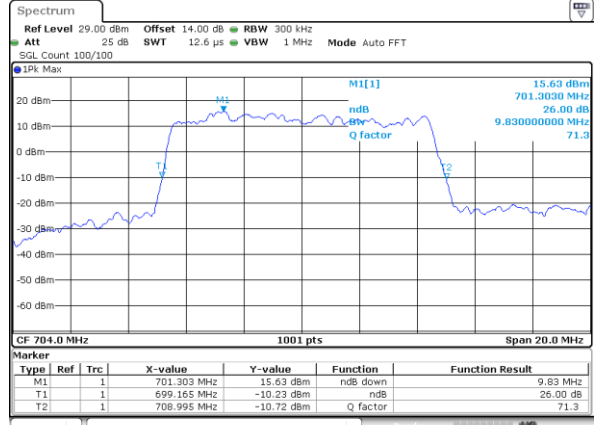
LTE Band 12

Lowest Channel / 10MHz / QPSK



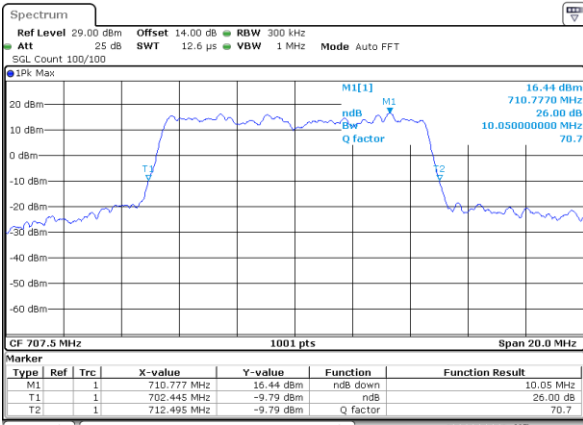
Date: 16, DEC, 2020 10:39:51

Lowest Channel / 10MHz / 16QAM



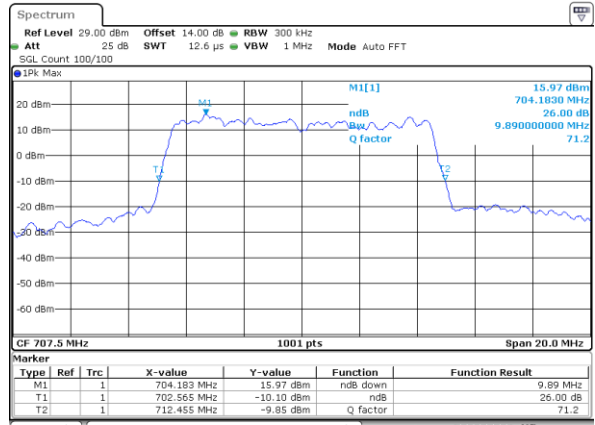
Date: 16, DEC, 2020 10:41:31

Middle Channel / 10MHz / QPSK



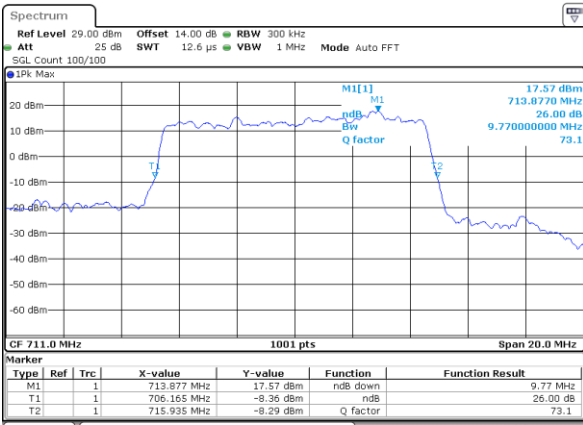
Date: 16, DEC, 2020 13:45:43

Middle Channel / 10MHz / 16QAM



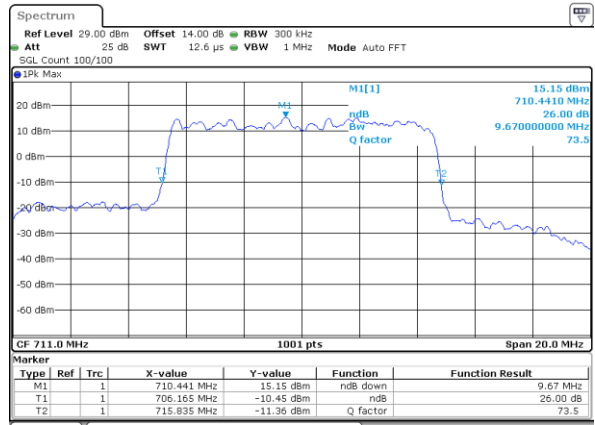
Date: 16, DEC, 2020 13:44:27

Highest Channel / 10MHz / QPSK



Date: 16, DEC, 2020 13:47:25

Highest Channel / 10MHz / 16QAM



Date: 16, DEC, 2020 13:50:03



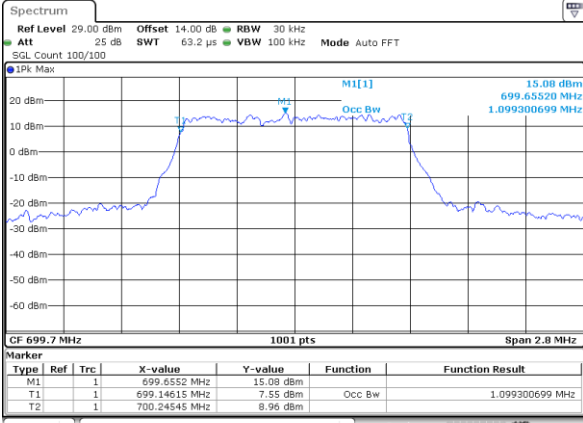
Occupied Bandwidth

| Mode | LTE Band 12 : 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 | 1.10 | 1.09 | 2.73 | 2.71 | 4.48 | 4.48 | 8.93 | 8.91 | - | - | - | - |
| Middle CH | 1.09 | 1.09 | 2.72 | 2.72 | 4.50 | 4.50 | 9.11 | 9.03 | - | - | - | - |
| Highest CH | 1.10 | 1.10 | 2.71 | 2.70 | 4.49 | 4.50 | 9.05 | 8.95 | - | - | - | - |



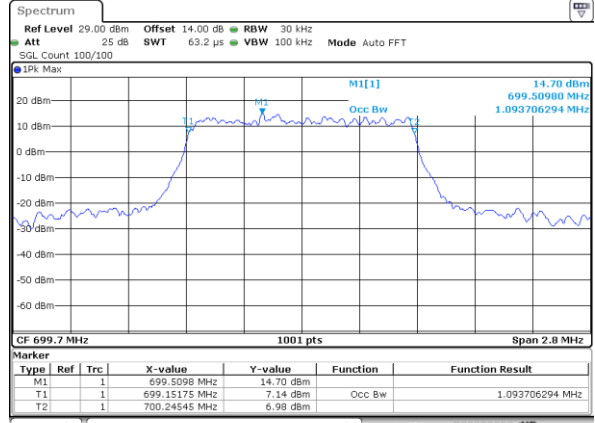
LTE Band 12

Lowest Channel / 1.4MHz / QPSK



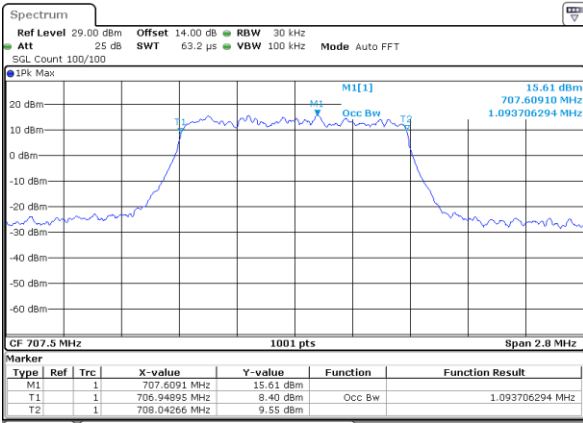
Date: 14. DEC. 2020 17:20:11

Lowest Channel / 1.4MHz / 16QAM



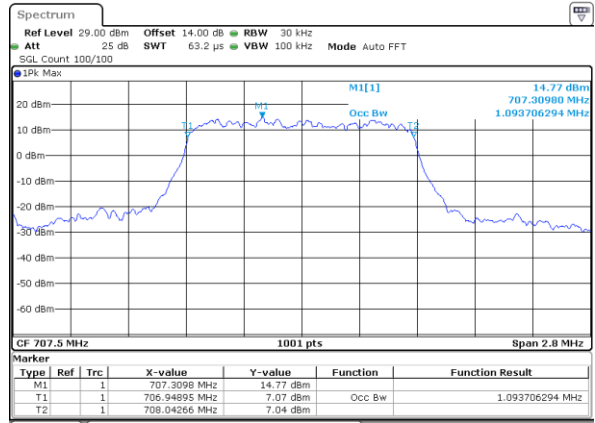
Date: 14. DEC. 2020 17:20:12

Middle Channel / 1.4MHz / QPSK



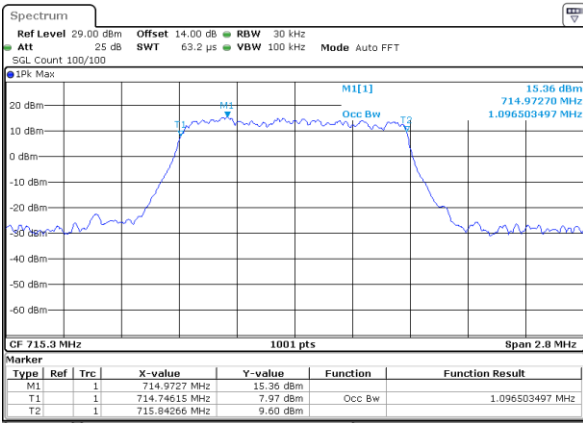
Date: 14. DEC. 2020 17:25:05

Middle Channel / 1.4MHz / 16QAM



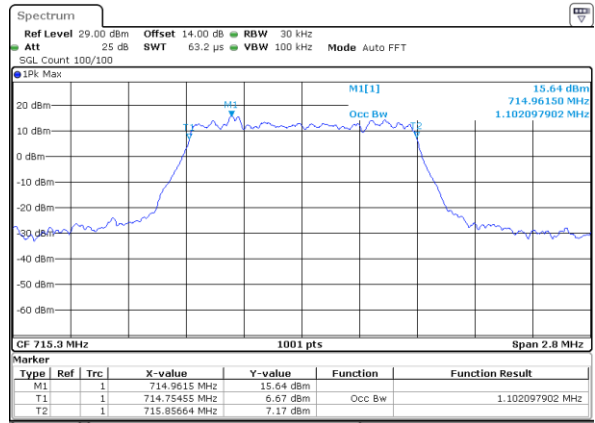
Date: 14. DEC. 2020 17:25:13

Highest Channel / 1.4MHz / QPSK



Date: 14. DEC. 2020 17:27:40

Highest Channel / 1.4MHz / 16QAM

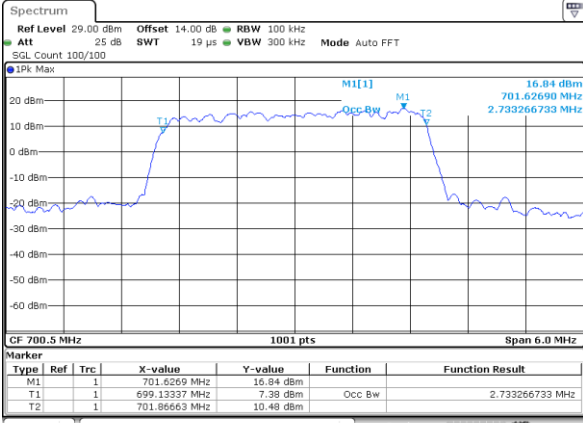


Date: 14. DEC. 2020 17:27:51



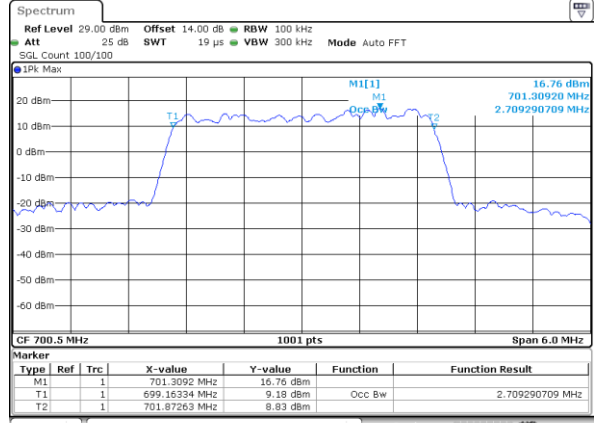
LTE Band 12

Lowest Channel / 3MHz / QPSK



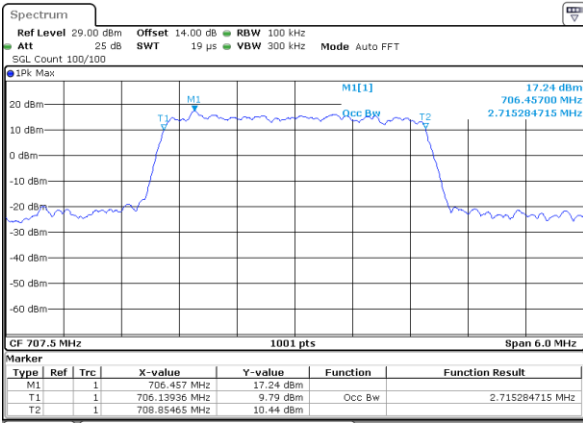
Date: 14. DEC. 2020 17:54:38

Lowest Channel / 3MHz / 16QAM



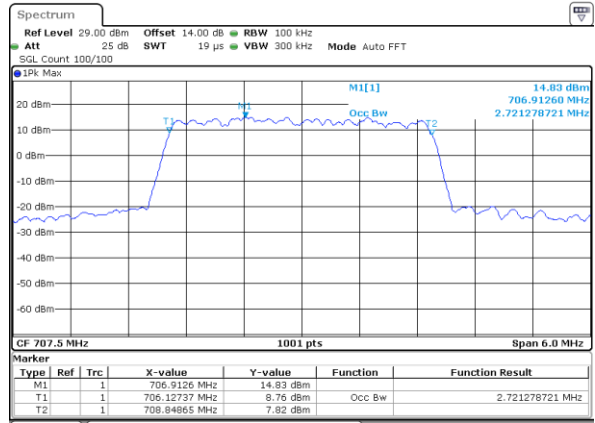
Date: 14. DEC. 2020 17:54:49

Middle Channel / 3MHz / QPSK



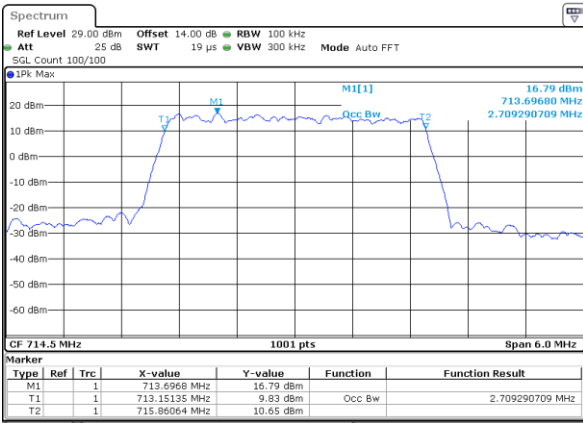
Date: 14. DEC. 2020 18:02:46

Middle Channel / 3MHz / 16QAM



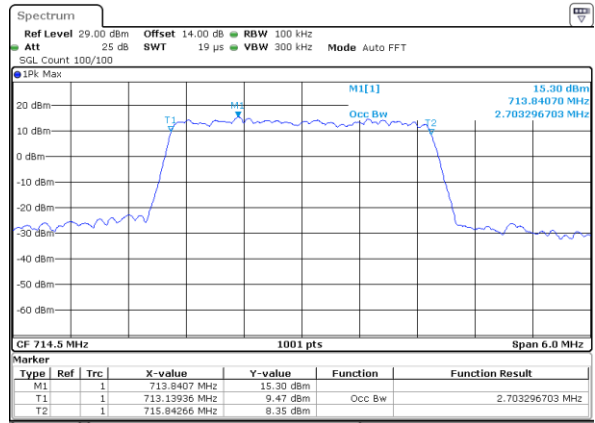
Date: 14. DEC. 2020 18:02:35

Highest Channel / 3MHz / QPSK



Date: 14. DEC. 2020 18:04:53

Highest Channel / 3MHz / 16QAM



Date: 14. DEC. 2020 18:05:03