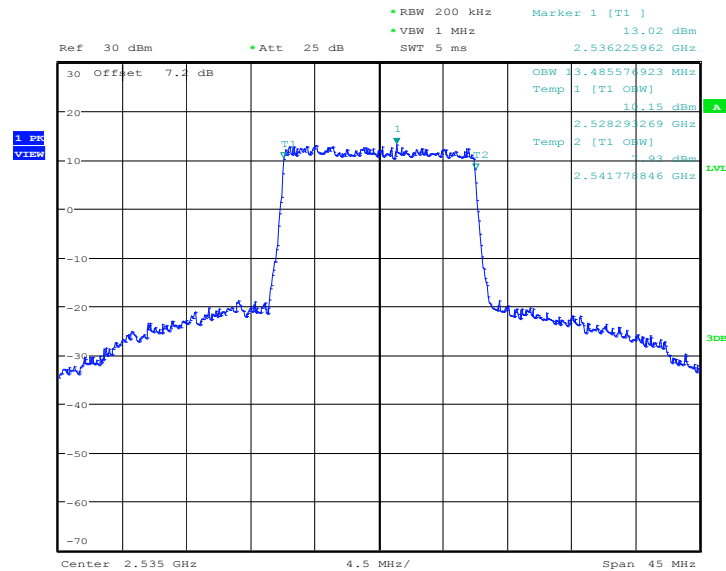


### LTE band 7, 15MHz (99%)

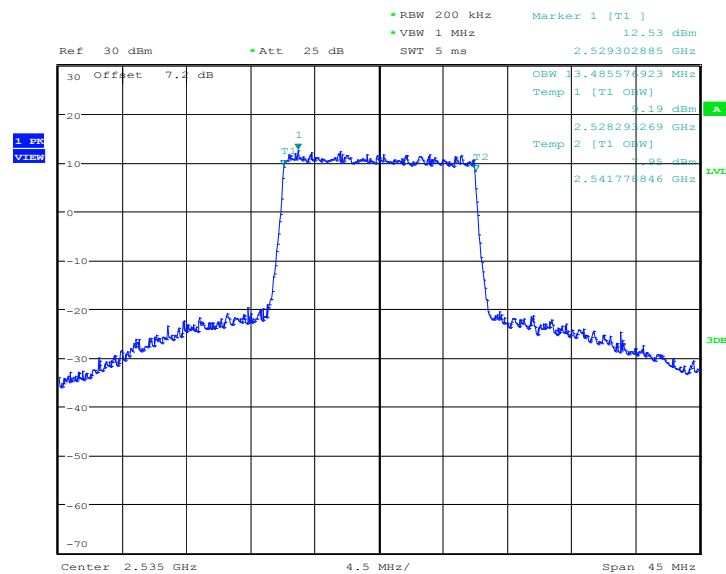
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |          |
|----------------|--------------------------------|----------|
| 2535.0         | QPSK                           | 16QAM    |
|                | 13485.58                       | 13485.58 |

### LTE band 7, 15MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 03:46:14

### LTE band 7, 15MHz Bandwidth, 16QAM (99% BW)

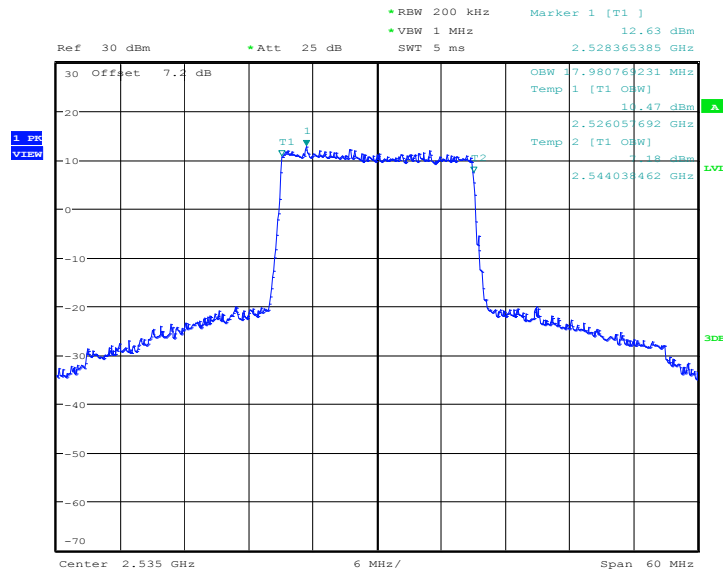


Date: 15.FEB.2017 03:46:44

### LTE band 7, 20MHz (99%)

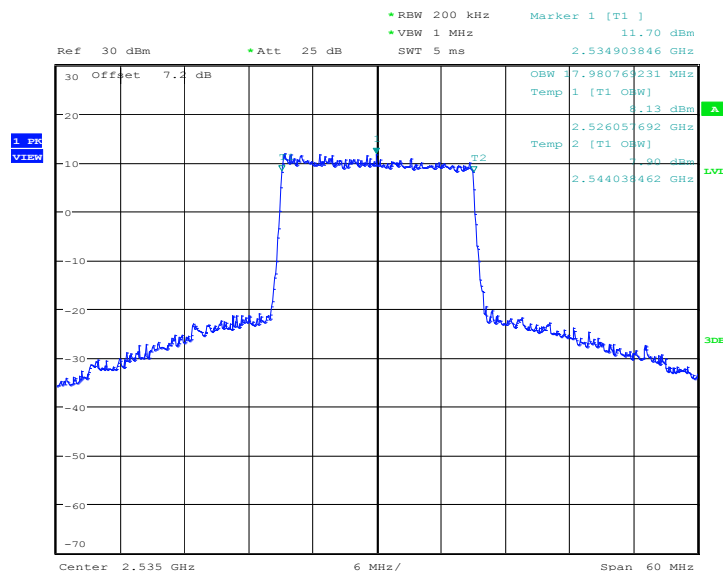
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |          |
|----------------|--------------------------------|----------|
| 2535.0         | QPSK                           | 16QAM    |
|                | 17980.77                       | 17980.77 |

### LTE band 7, 20MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 03:59:05

### LTE band 7, 20MHz Bandwidth, 16QAM (99% BW)

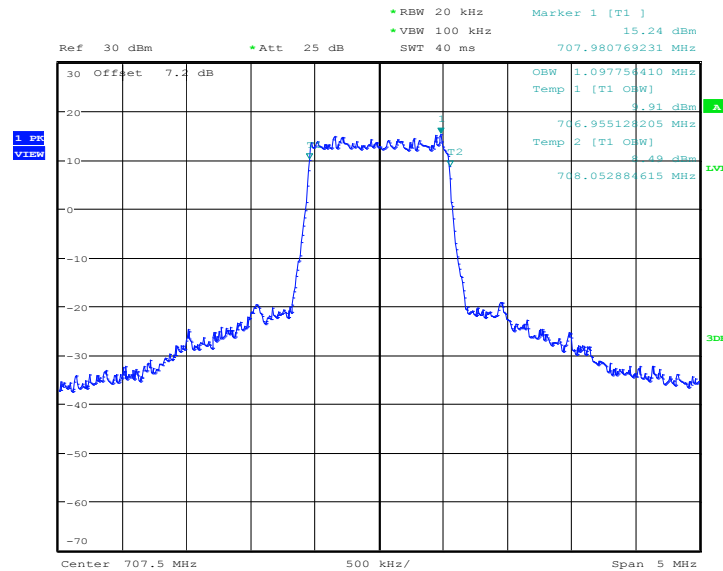


Date: 15.FEB.2017 03:59:41

### LTE band 12, 1.4MHz (99%)

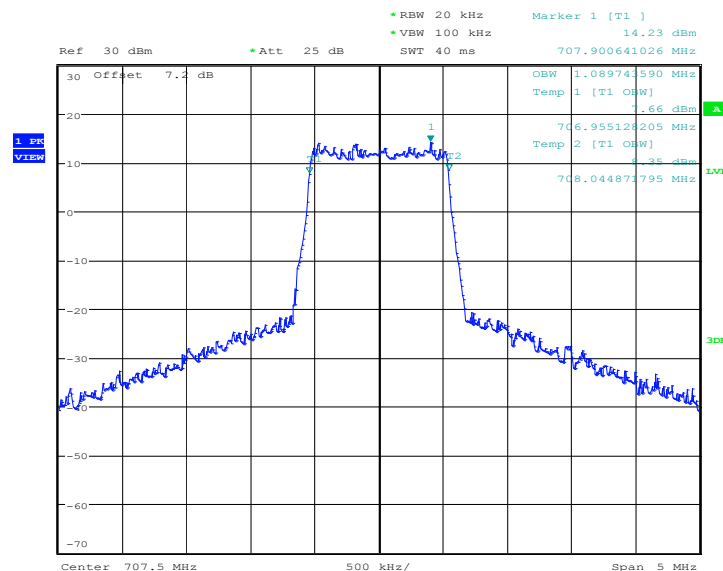
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 707.5          | QPSK                           | 16QAM   |
|                | 1097.76                        | 1089.74 |

### LTE band 12, 1.4MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 01:46:24

### LTE band 12, 1.4MHz Bandwidth, 16QAM (99% BW)

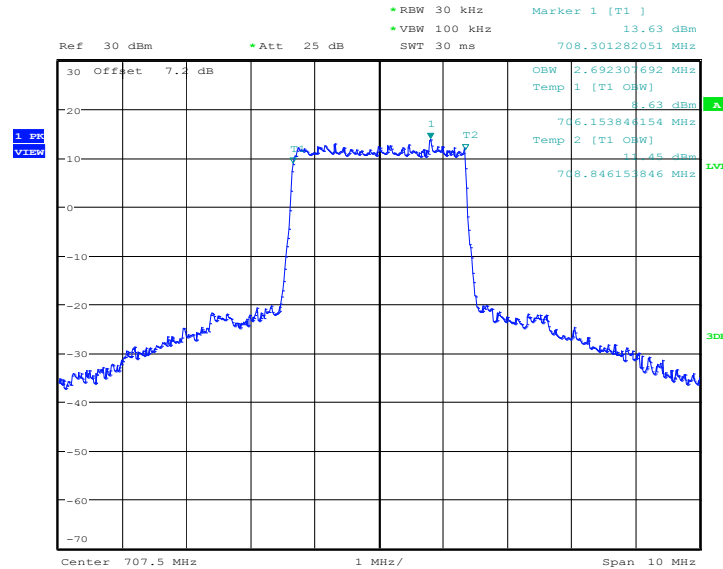


Date: 15.FEB.2017 01:45:40

### LTE band 12, 3MHz (99%)

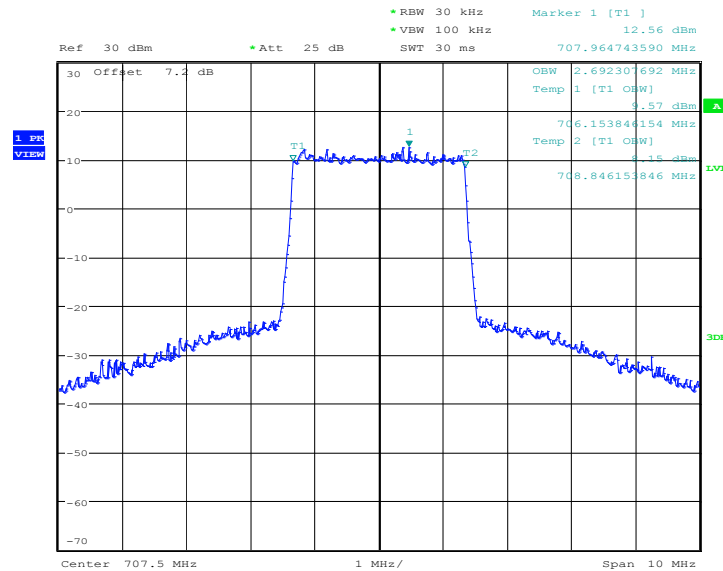
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 707.5          | QPSK                           | 16QAM   |
|                | 2692.31                        | 2692.31 |

### LTE band 12, 3MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 02:03:44

### LTE band 12, 3MHz Bandwidth, 16QAM (99% BW)

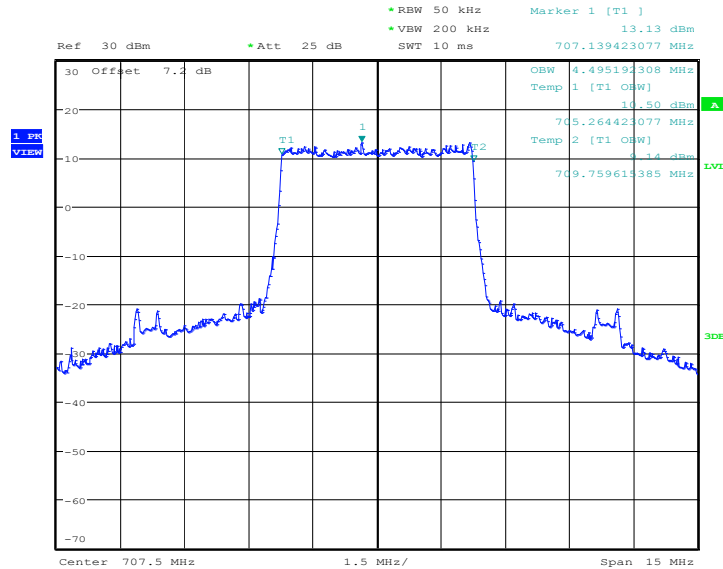


Date: 15.FEB.2017 02:04:22

### LTE band 12, 5MHz (99%)

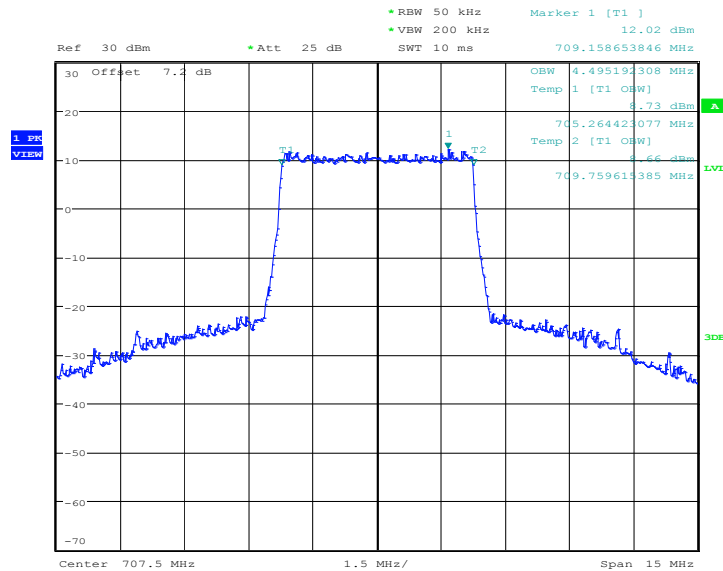
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 707.5          | QPSK                           | 16QAM   |
|                | 4495.19                        | 4495.19 |

### LTE band 12, 5MHz Bandwidth, QPSK (99% BW)

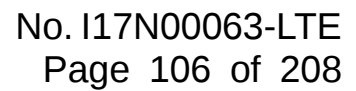


Date: 15.FEB.2017 02:41:11

### LTE band 12, 5MHz Bandwidth,16QAM (99% BW)



Date: 15.FEB.2017 02:41:58



| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 707.5          | QPSK                           | 16QAM   |
|                | 8990.38                        | 8942.31 |

• RBW 100 kHz  
 • Att 25 dB  
 • VBW 300 kHz  
 SWT 15 ms  
 Marker 1 [T1]  
 13.21 dBm  
 704.230769231 MHz

30 Offset 7.2 dB  
 1.98 V  
 13.21 dBm  
 707.5 MHz  
 30 MHz  
 10.19 dBm  
 702.980769231 MHz  
 Temp 2 [T1 BW]  
 711.97115846 MHz  
 10.20 dBm  
 707.5 MHz  
 30 MHz

Ref 30 dBm Att 25 dB SWT 15 ms

Marker 1 [T1] 709.663461538 MHz 12.30 dBm

OBW 8.942307692 MHz  
Temp 1 [T1 OBW] 9.77 dBm  
703.028844154 MHz  
Temp 2 [T1 OBW] 11.90 dBm  
711.97153846 MHz

1.98 View

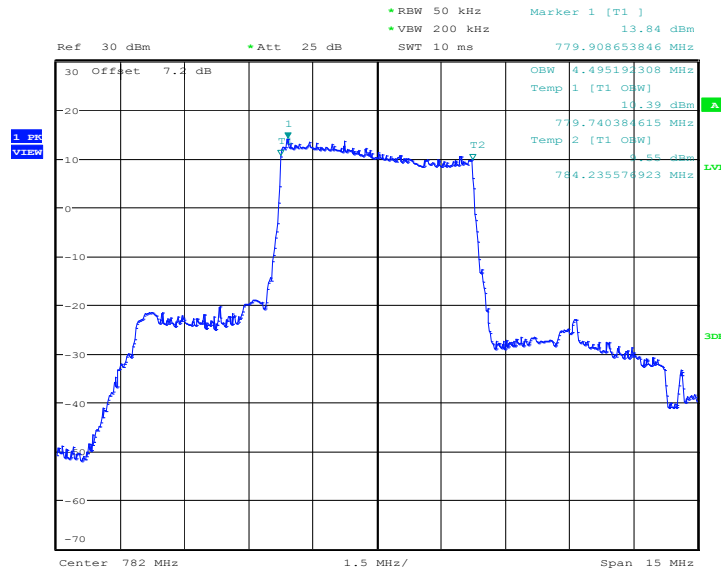
Center 707.5 MHz 3 MHz/ Span 30 MHz

Date: 15.FEB.2017 03:22:07

### LTE band 13, 5MHz (99%)

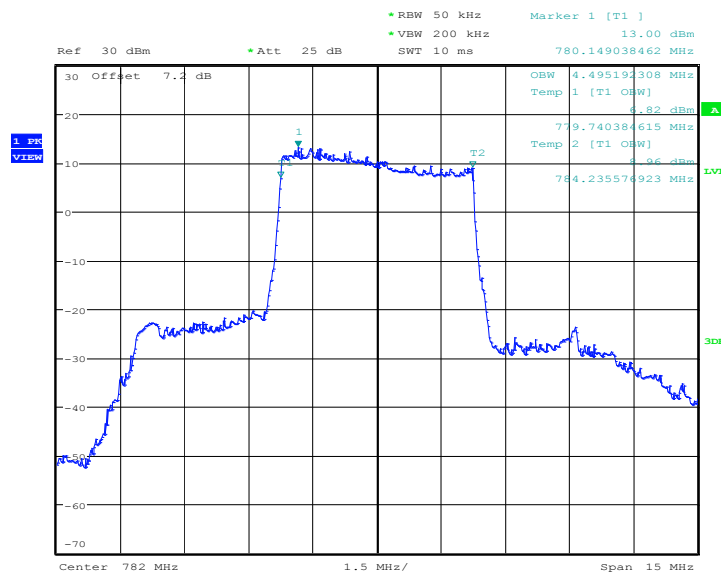
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 782.0          | QPSK                           | 16QAM   |
|                | 4495.19                        | 4495.19 |

### LTE band 13, 5MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 02:47:10

### LTE band 13, 5MHz Bandwidth,16QAM (99% BW)

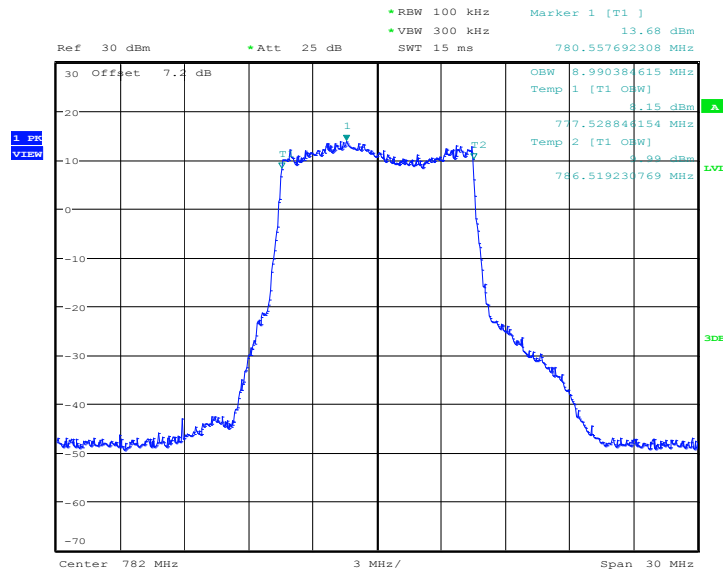


Date: 15.FEB.2017 02:46:35

### LTE band 13, 10MHz (99%)

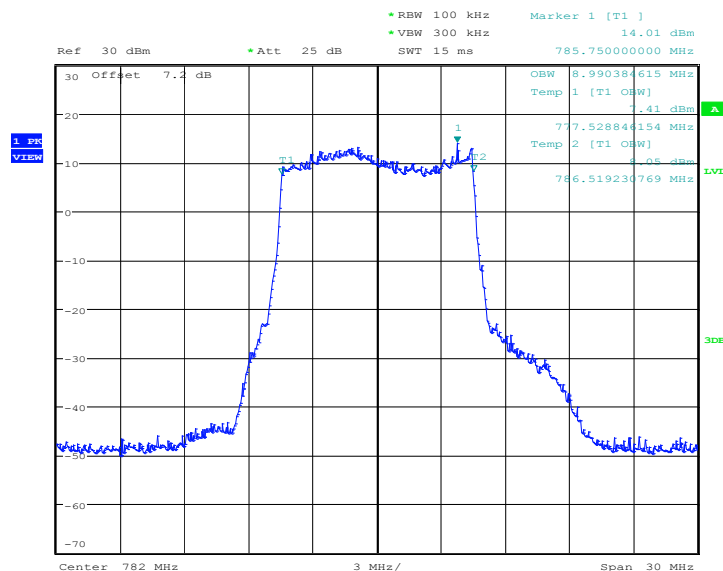
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 782.0          | QPSK                           | 16QAM   |
|                | 8990.38                        | 8990.38 |

### LTE band 13, 10MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 03:17:17

### LTE band 13, 10MHz Bandwidth, 16QAM (99% BW)



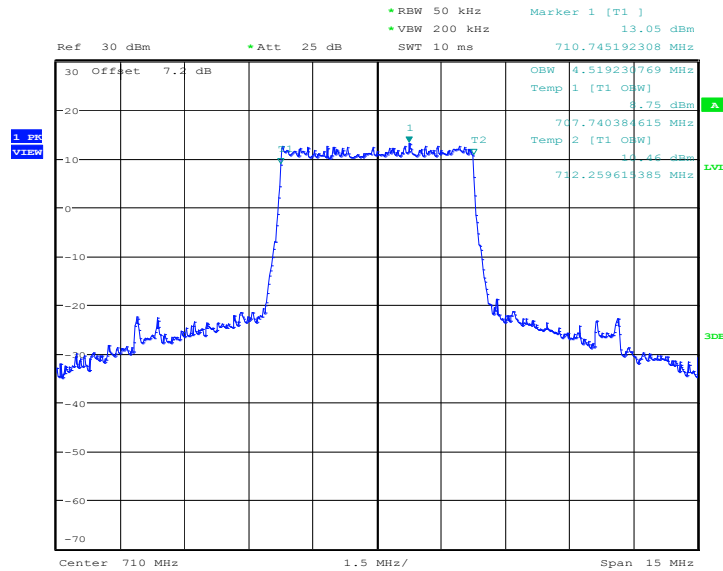
Date: 15.FEB.2017 03:18:38



**LTE band 17, 5MHz (99%)**

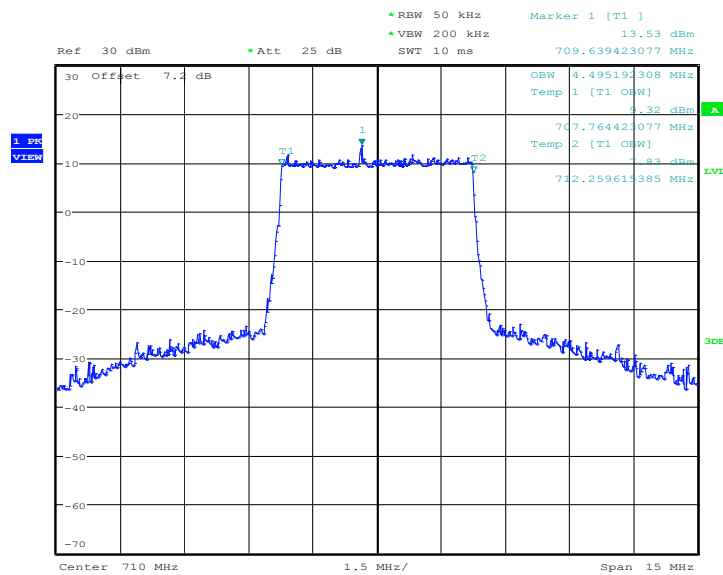
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 710.0          | QPSK                           | 16QAM   |
|                | 4519.23                        | 4495.19 |

**LTE band 17, 5MHz Bandwidth, QPSK (99% BW)**

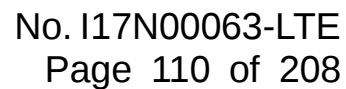


Date: 15.FEB.2017 02:48:40

**LTE band 17, 5MHz Bandwidth,16QAM (99% BW)**



Date: 15.FEB.2017 02:49:13



|                |                                |         |
|----------------|--------------------------------|---------|
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
| 710.0          | QPSK                           | 16QAM   |
|                | 8942.31                        | 8942.31 |

1 MHz  
VZSW

Ref 30 dBm Att 25 dB RBW 100 kHz VBW 300 kHz SWT 15 ms Marker 1 [T1 ]

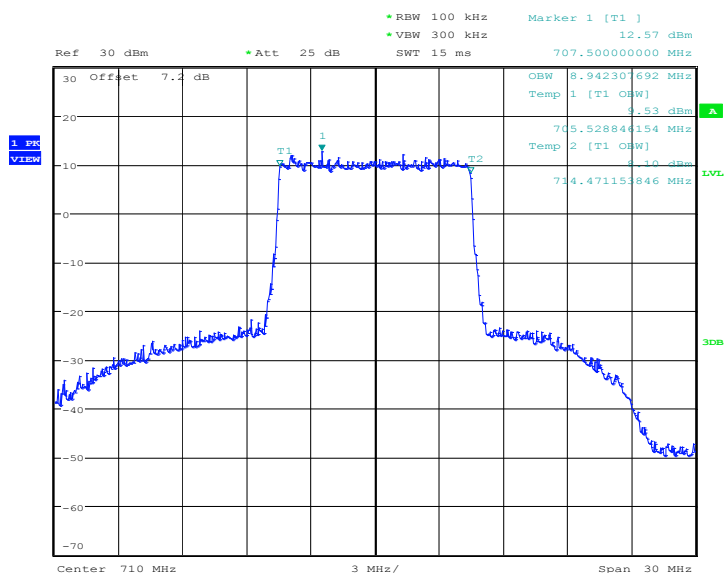
30 Offset 7.1 dB

OBW 8.942301692 MHz  
Temp 1 [T1 OHW] 9.58 dBm  
705.528844154 MHz  
Temp 2 [T1 OHW] 9.68 dBm  
714.471153846 MHz

30dB

Center 710 MHz 3 MHz/ Span 30 MHz

### LTE band 17, 10MHz Bandwidth, 16QAM (99% BW)

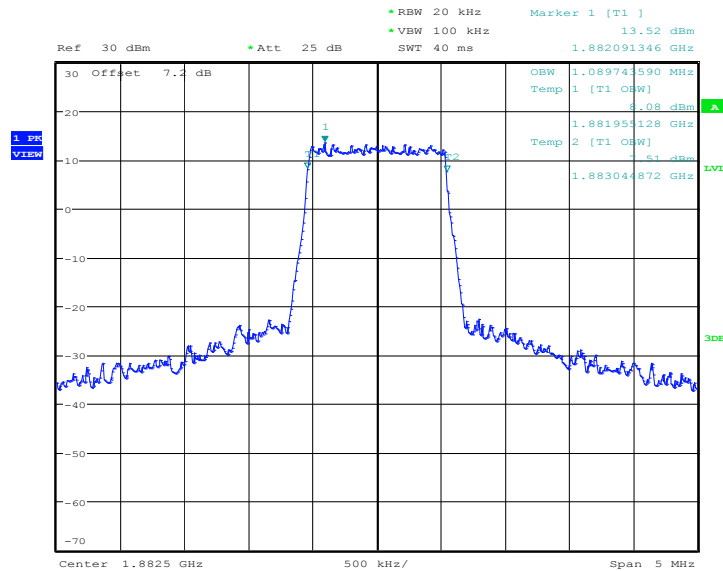


Date: 15.FEB.2017 03:15:39

### LTE band 25, 1.4MHz (99%)

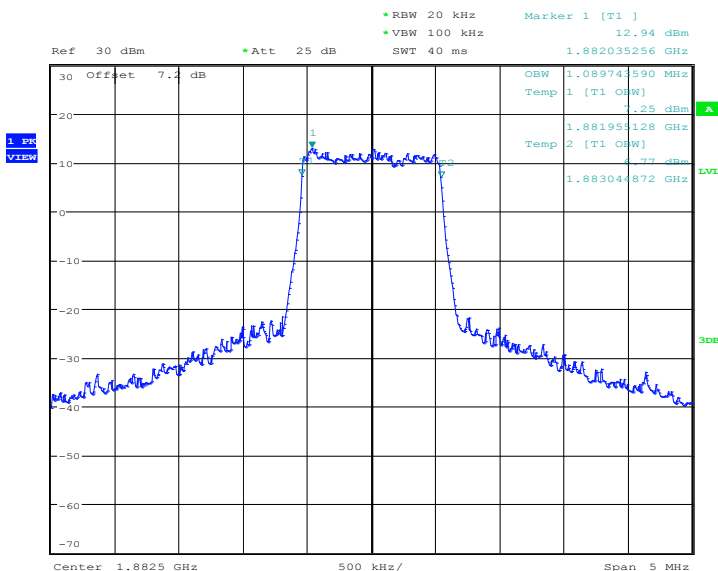
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 1882.5         | QPSK                           | 16QAM   |
|                | 1089.74                        | 1089.74 |

### LTE band 25, 1.4MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 01:47:34

### LTE band 25, 1.4MHz Bandwidth, 16QAM (99% BW)

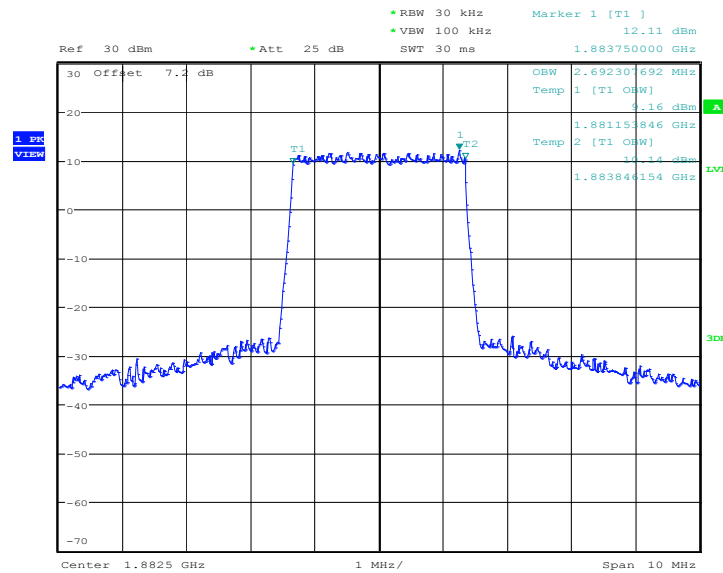


Date: 15.FEB.2017 01:48:06

### LTE band25, 3MHz (99%)

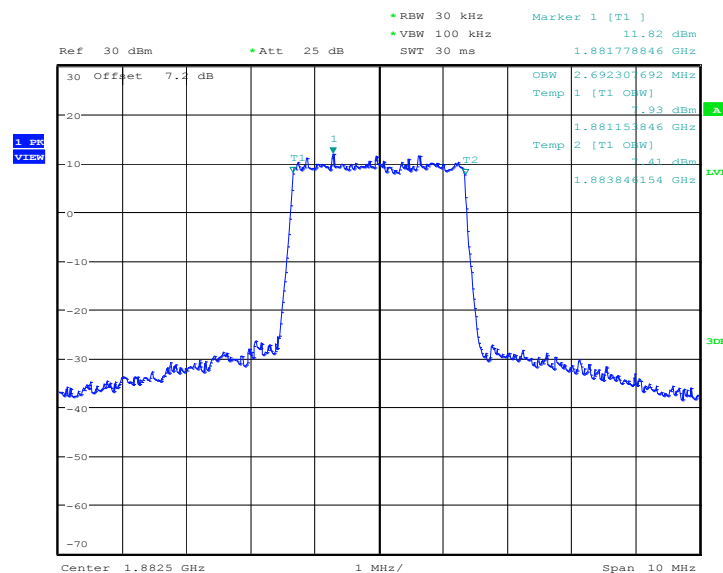
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 1882.5         | QPSK                           | 16QAM   |
|                | 2692.31                        | 2692.31 |

### LTE band 25, 3MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 02:02:26

### LTE band 25, 3MHz Bandwidth, 16QAM (99% BW)

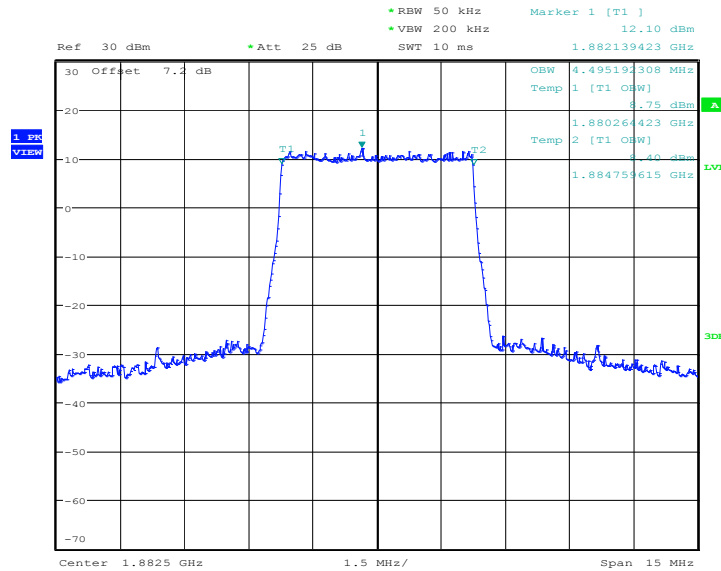


Date: 15.FEB.2017 02:01:28

### LTE band 25, 5MHz (99%)

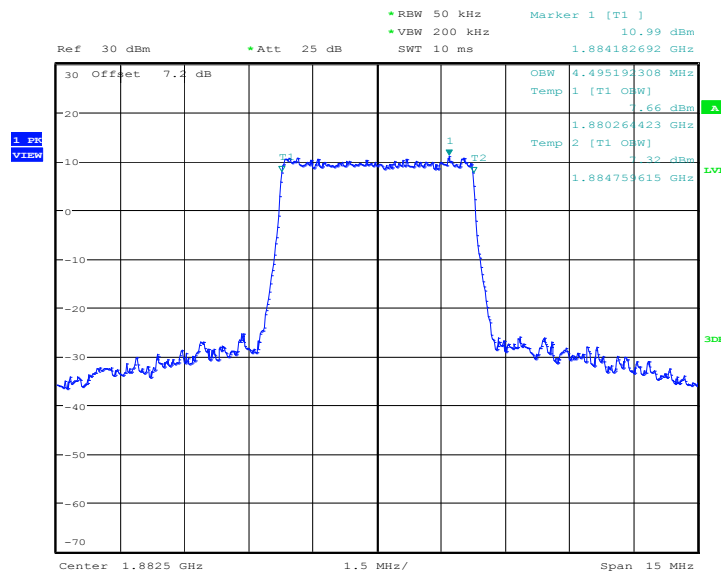
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 1882.5         | QPSK                           | 16QAM   |
|                | 4495.19                        | 4495.19 |

### LTE band 25, 5MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 02:54:30

### LTE band 25, 5MHz Bandwidth,16QAM (99% BW)

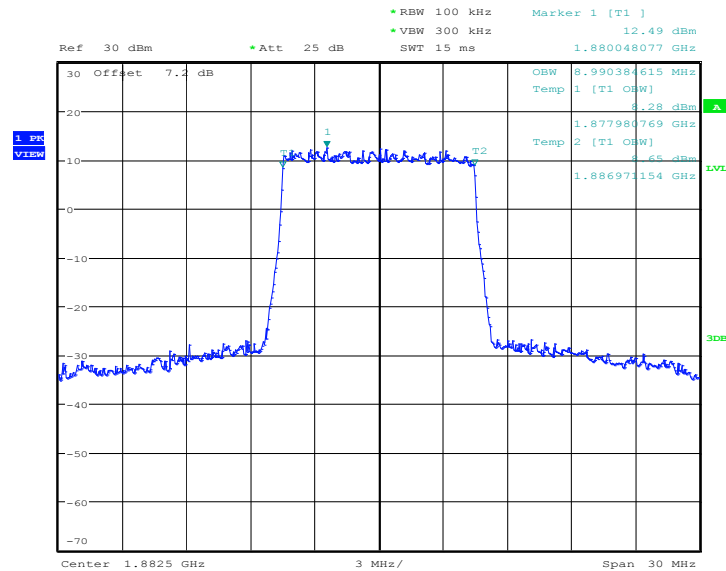


Date: 15.FEB.2017 02:53:52

### LTE band 25, 10MHz (99%)

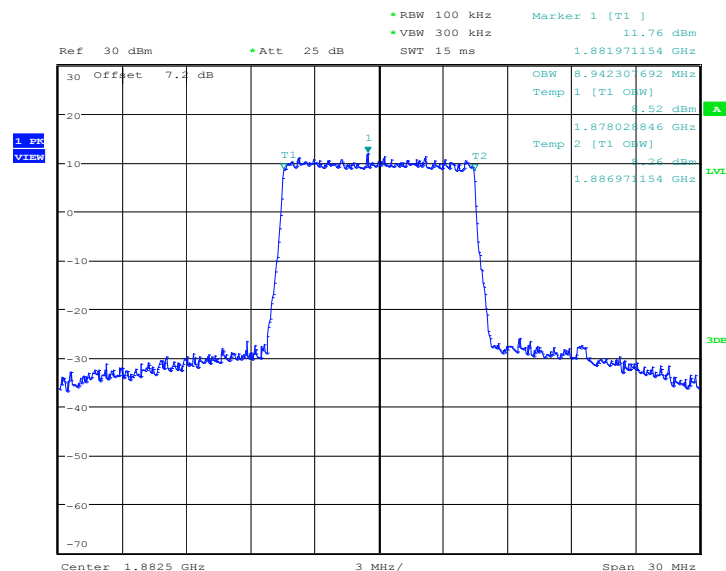
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 1882.5         | QPSK                           | 16QAM   |
|                | 8990.38                        | 8942.31 |

### LTE band 25, 10MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 03:09:35

### LTE band 25, 10MHz Bandwidth, 16QAM (99% BW)

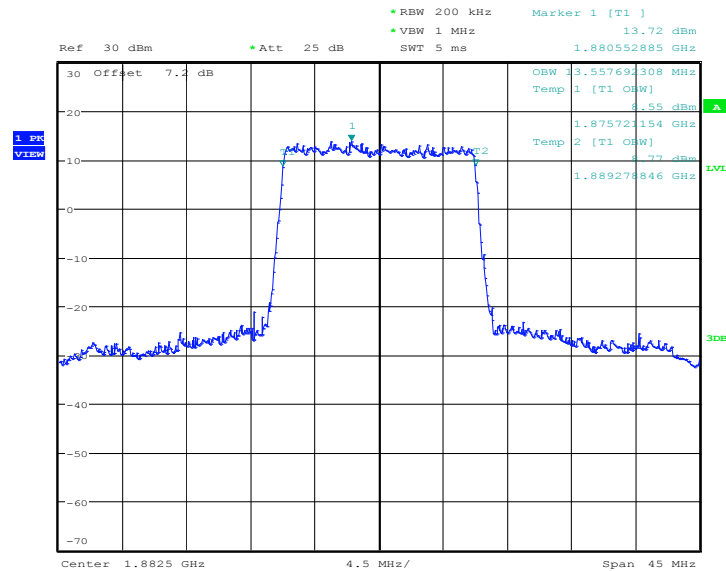


Date: 15.FEB.2017 03:10:14

### LTE band 25, 15MHz (99%)

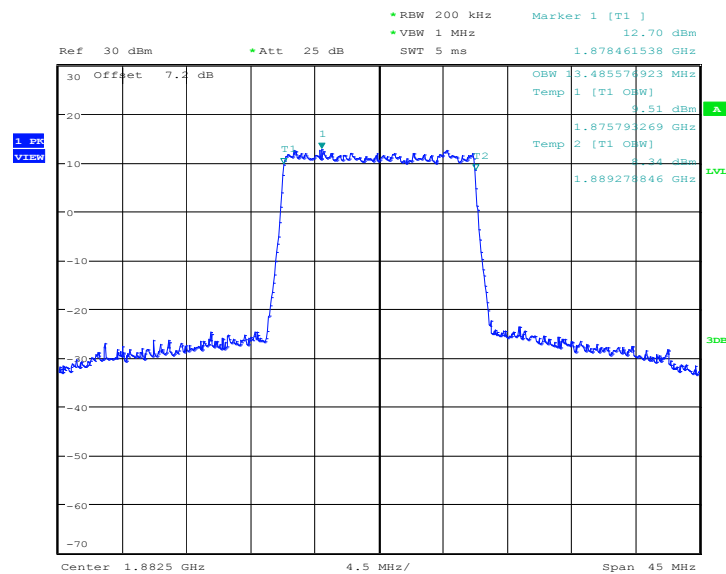
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |          |
|----------------|--------------------------------|----------|
| 1882.5         | QPSK                           | 16QAM    |
|                | 13557.69                       | 13485.58 |

### LTE band 25, 15MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 03:51:04

### LTE band 25, 15MHz Bandwidth, 16QAM (99% BW)

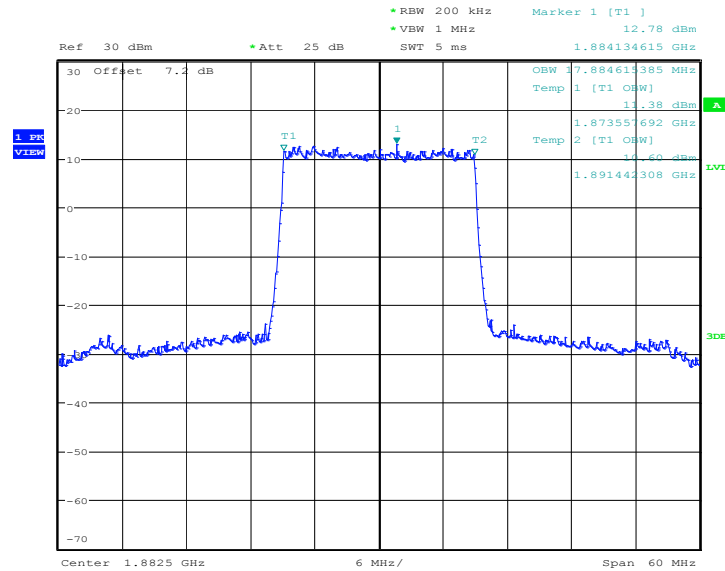


Date: 15.FEB.2017 03:50:35

### LTE band 25, 20MHz (99%)

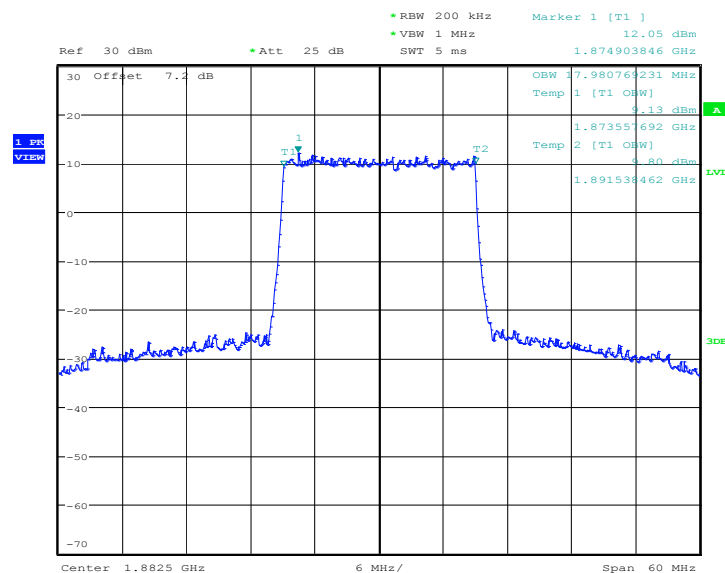
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |          |
|----------------|--------------------------------|----------|
| 1882.5         | QPSK                           | 16QAM    |
|                | 17884.62                       | 17980.77 |

### LTE band 25, 20MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 03:57:45

### LTE band 25, 20MHz Bandwidth, 16QAM (99% BW)

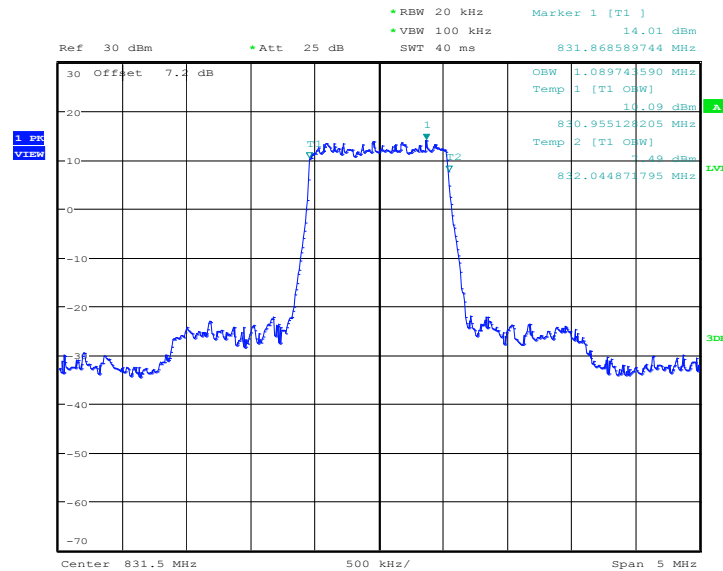


Date: 15.FEB.2017 03:57:09

### LTE band 26, 1.4MHz (99%)

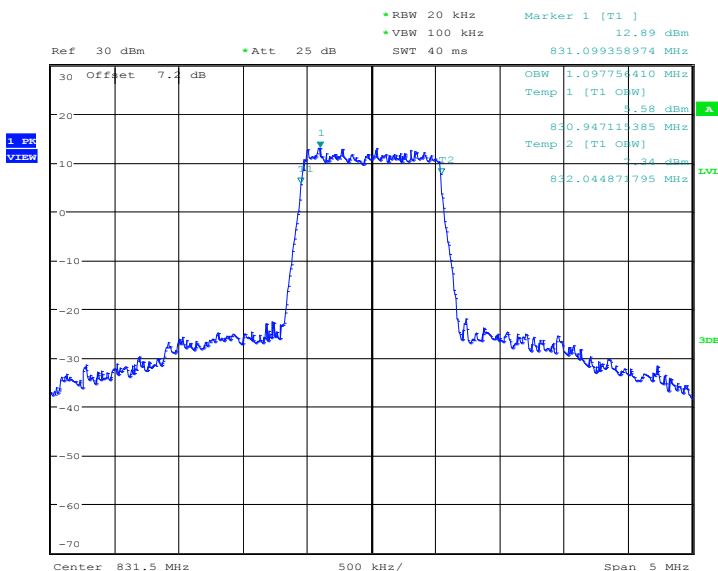
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 831.5          | QPSK                           | 16QAM   |
|                | 1089.74                        | 1097.76 |

### LTE band 26, 1.4MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 01:52:51

### LTE band 26, 1.4MHz Bandwidth, 16QAM (99% BW)

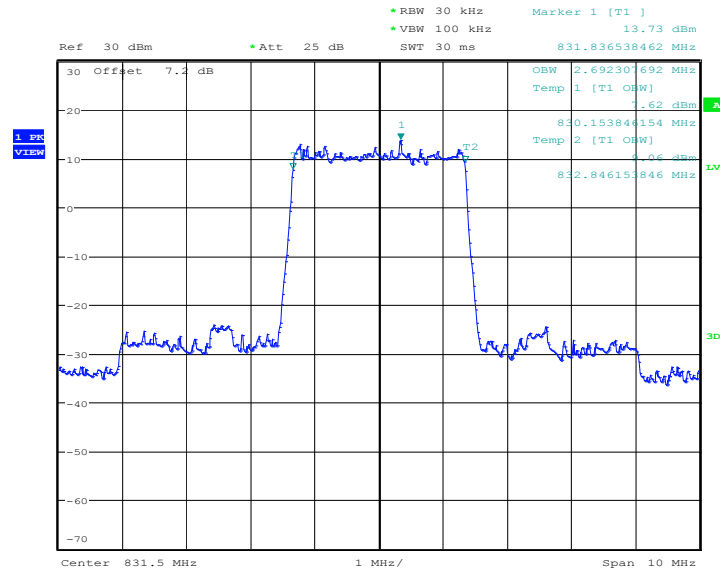


Date: 15.FEB.2017 01:52:11

### LTE band26, 3MHz (99%)

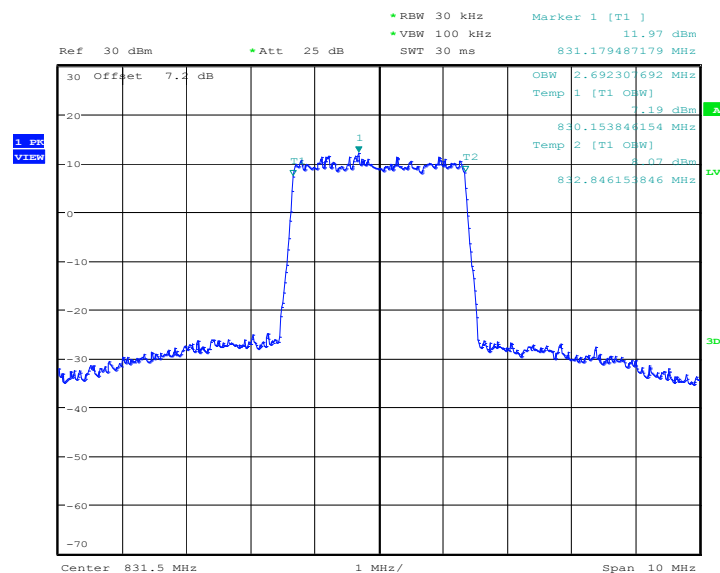
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 831.5          | QPSK                           | 16QAM   |
|                | 2692.31                        | 2692.31 |

### LTE band 26, 3MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 01:54:55

### LTE band 26, 3MHz Bandwidth, 16QAM (99% BW)

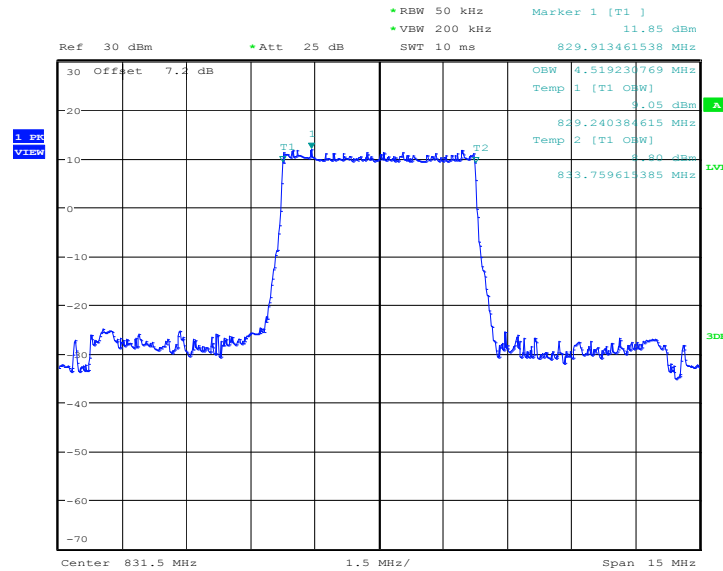


Date: 15.FEB.2017 01:56:05

### LTE band 26, 5MHz (99%)

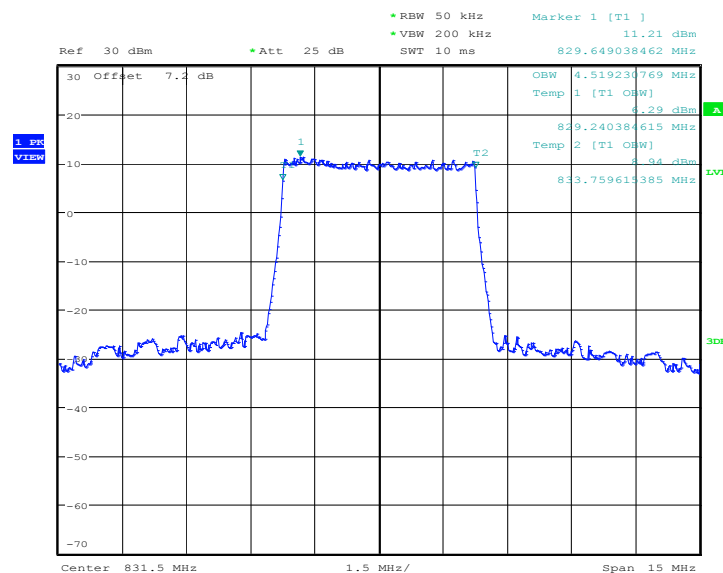
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 831.5          | QPSK                           | 16QAM   |
|                | 4519.23                        | 4519.23 |

### LTE band 26, 5MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 02:55:34

### LTE band 26, 5MHz Bandwidth,16QAM (99% BW)

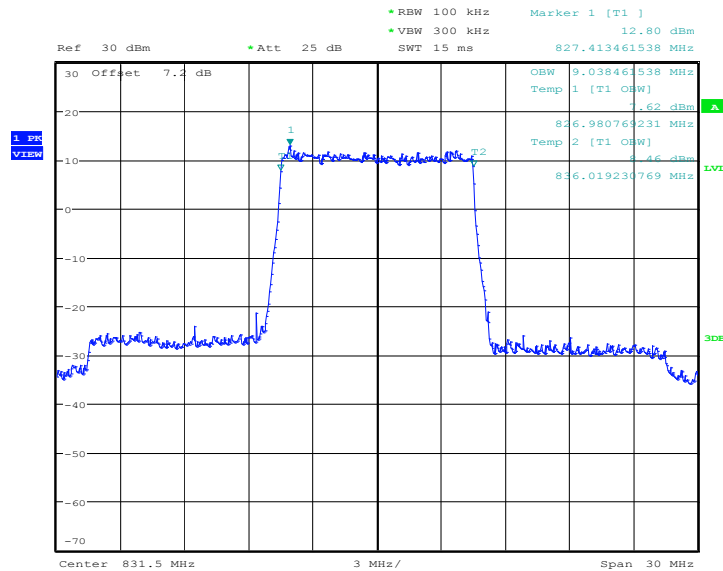


Date: 15.FEB.2017 02:57:27

### LTE band 26, 10MHz (99%)

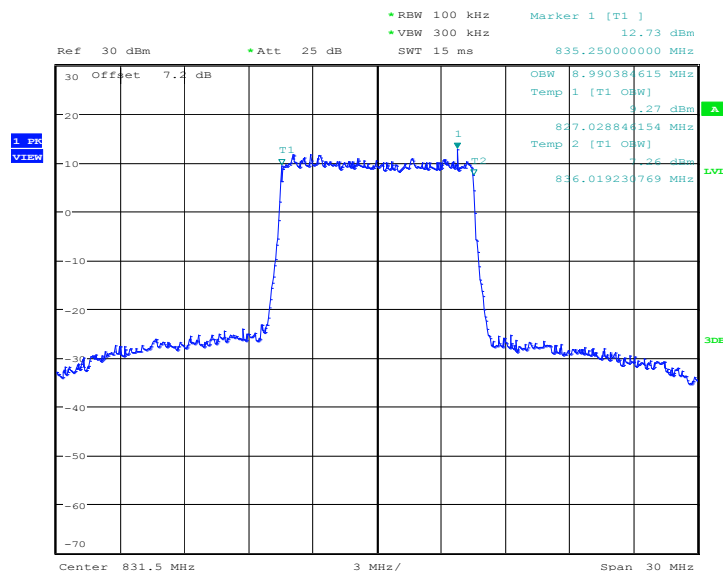
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 831.5          | QPSK                           | 16QAM   |
|                | 9038.46                        | 8990.38 |

### LTE band 26, 10MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 03:08:31

### LTE band 26, 10MHz Bandwidth, 16QAM (99% BW)

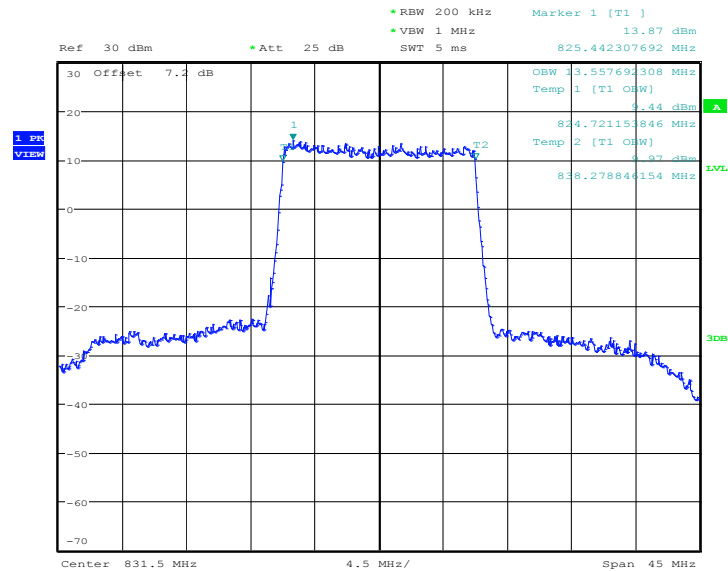


Date: 15.FEB.2017 03:07:35

### LTE band 26, 15MHz (99%)

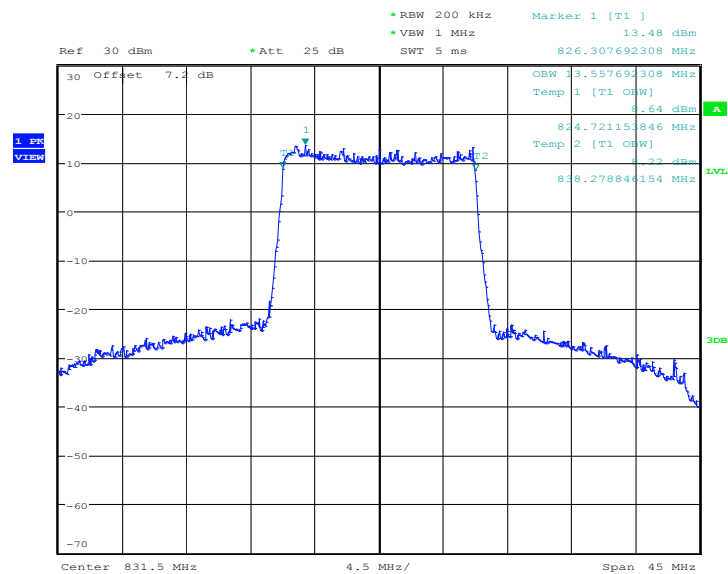
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |          |
|----------------|--------------------------------|----------|
| 831.5          | QPSK                           | 16QAM    |
|                | 13557.69                       | 13557.69 |

### LTE band 26, 15MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 03:51:53

### LTE band 26, 15MHz Bandwidth, 16QAM (99% BW)



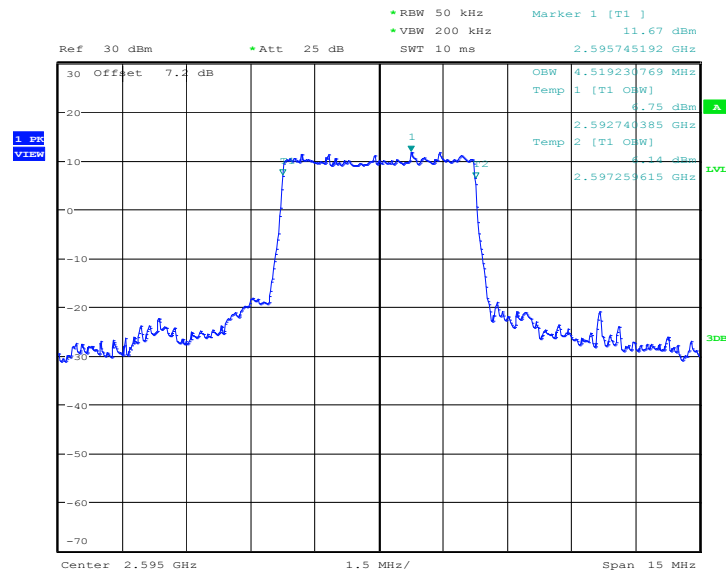
Date: 15.FEB.2017 03:52:22



**LTE band 38, 5MHz (99%)**

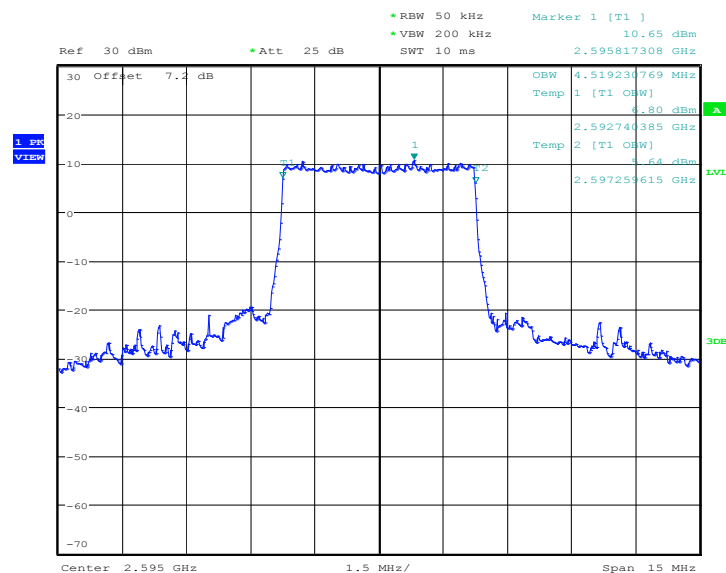
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
|----------------|--------------------------------|---------|
| 2595.0         | QPSK                           | 16QAM   |
|                | 4519.23                        | 4519.23 |

**LTE band 38, 5MHz Bandwidth, QPSK (99% BW)**

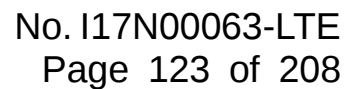


Date: 15.FEB.2017 05:31:01

**LTE band 38, 5MHz Bandwidth,16QAM (99% BW)**



Date: 15.FEB.2017 05:33:33



|                |                                |         |
|----------------|--------------------------------|---------|
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |         |
| 2595.0         | QPSK                           | 16QAM   |
|                | 8990.38                        | 8990.38 |

• RBW 100 kHz  
 • VBW 300 kHz  
 SWT 15 ms

Ref 30 dBm  
 • Att 25 dB

Marker 1 [T1]  
 11.44 dBm  
 2.598653846 GHz

30 Offset 7.2 dB  
 20  
 10  
 0  
 -10  
 -20  
 -30  
 -40  
 -50  
 -60  
 -70

1.00  
 V10W

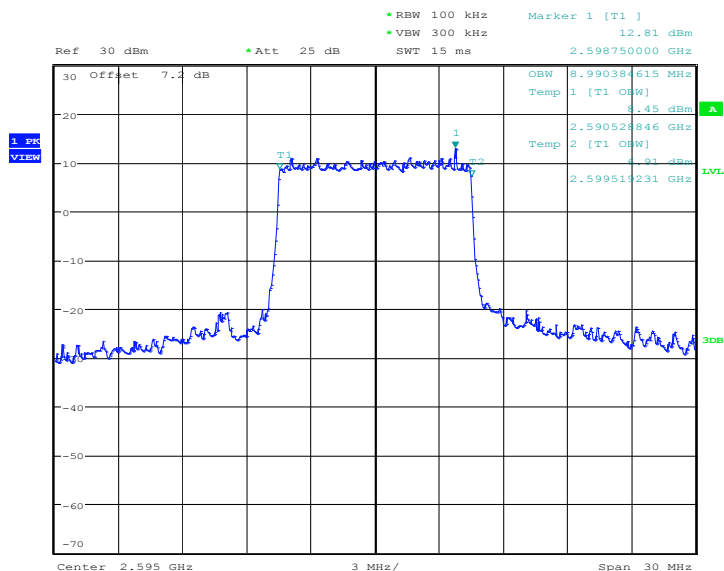
CW 8.990384615 MHz  
 Temp 1 [T1 CW]  
 2.590528846 GHz  
 2 [T1 CW]  
 2.599519231 GHz

1.48 dBm  
 1.68 dBm

LVL  
 30dB

Center 2.595 GHz  
 3 MHz/  
 Span 30 MHz

### LTE band 38, 10MHz Bandwidth, 16QAM (99% BW)

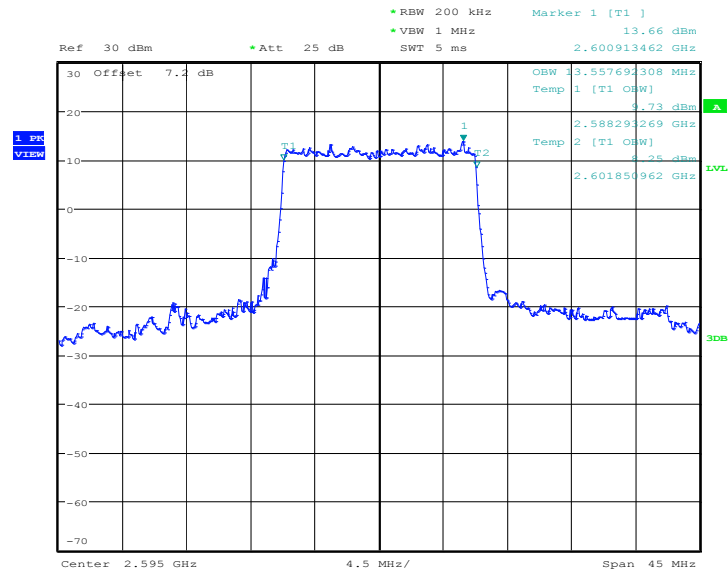


Date: 15.FEB.2017 05:27:09

### LTE band 38, 15MHz (99%)

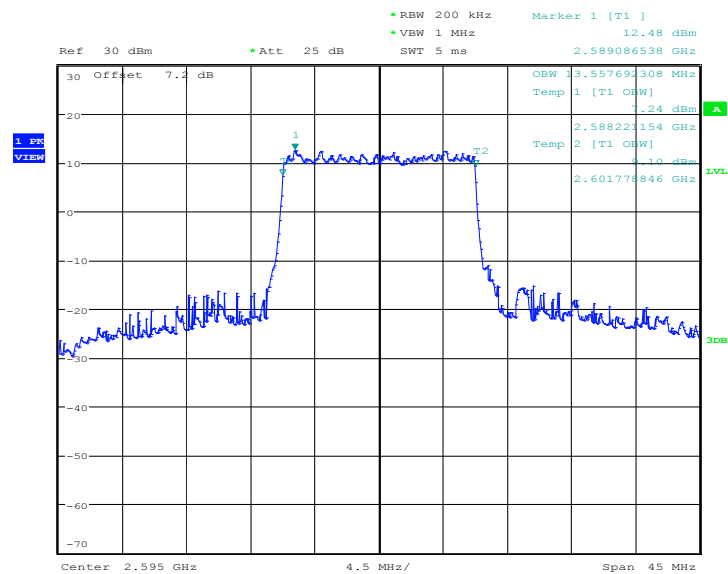
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |          |
|----------------|--------------------------------|----------|
| 2595.0         | QPSK                           | 16QAM    |
|                | 13557.69                       | 13557.69 |

### LTE band 38, 15MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 05:16:05

### LTE band 38, 15MHz Bandwidth, 16QAM (99% BW)

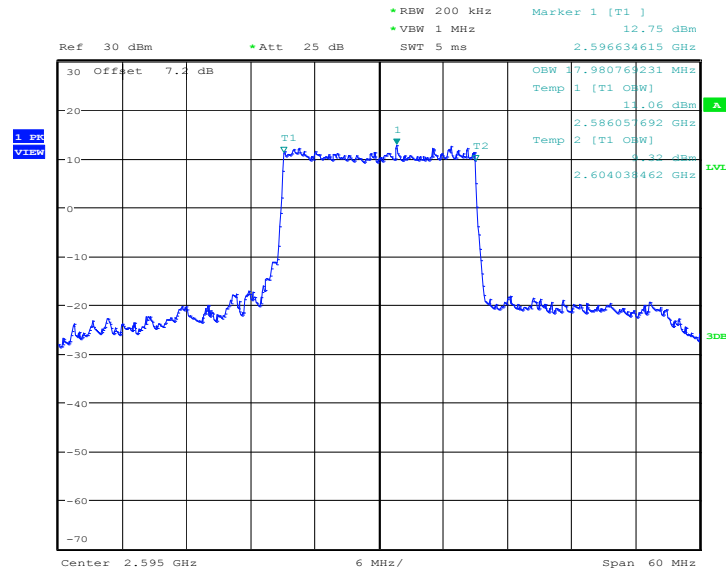


Date: 15.FEB.2017 05:17:37

### LTE band 38, 20MHz (99%)

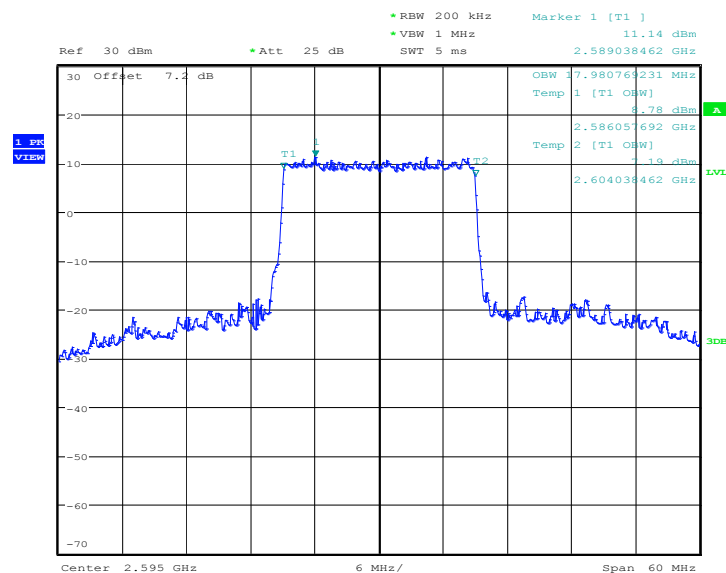
| Frequency(MHz) | Occupied Bandwidth (99%)( kHz) |          |
|----------------|--------------------------------|----------|
| 2595.0         | QPSK                           | 16QAM    |
|                | 17980.77                       | 17980.77 |

### LTE band 38, 20MHz Bandwidth, QPSK (99% BW)



Date: 15.FEB.2017 05:14:05

### LTE band 38, 20MHz Bandwidth, 16QAM (99% BW)



Date: 15.FEB.2017 05:11:15

## A.5 EMISSION BANDWIDTH

### Reference

FCC: CFR Part 22.917(b), 24.238(a), 27.53(h)

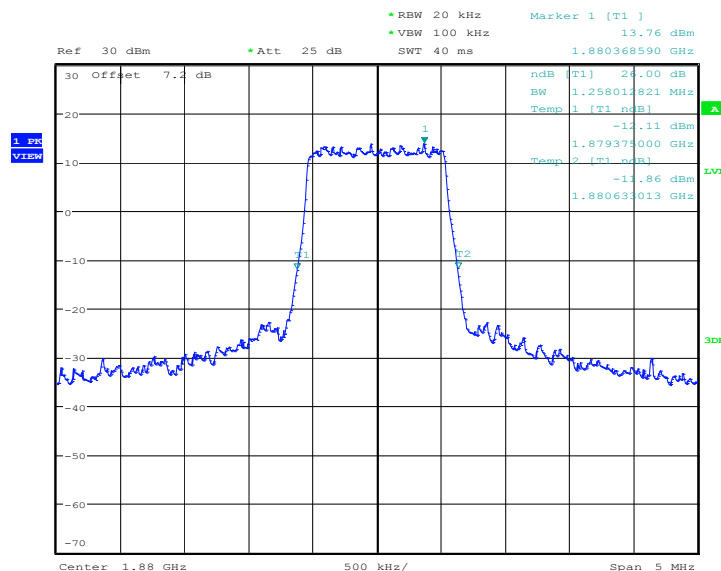
### A.5.1 Emission Bandwidth Results

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.

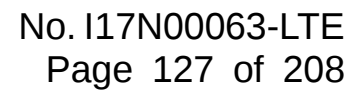
#### LTE band 2, 1.4MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1880.0         | QPSK                              | 16QAM   |
|                | 1258.01                           | 1274.04 |

#### LTE band 2, 1.4MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 01:36:00

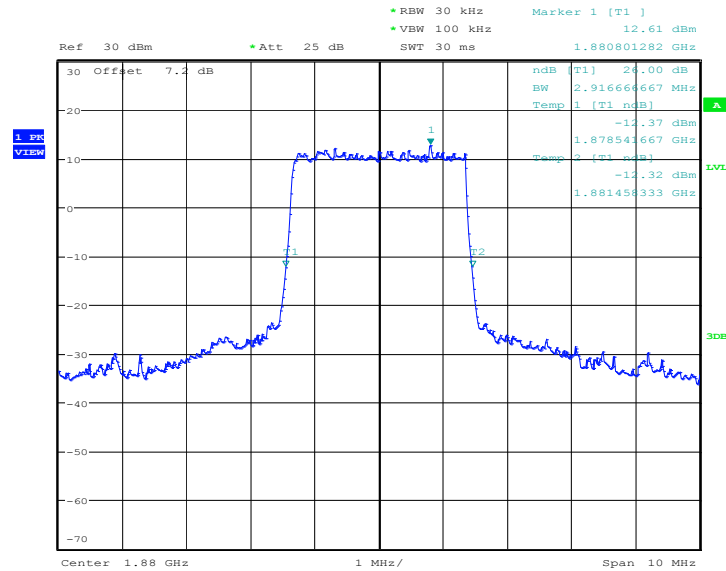
[illegible]

Date: 15.FEB.2017 01:35:09

### LTE band 2, 3MHz (-26dBc)

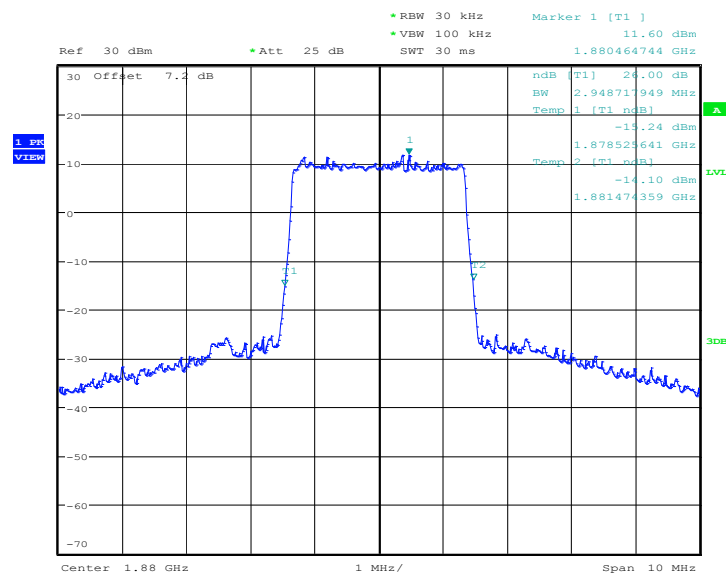
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1880.0         | QPSK                              | 16QAM   |
|                | 2916.67                           | 2948.72 |

### LTE band 2, 3MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 02:16:11

### LTE band 2, 3MHz Bandwidth, 16QAM (-26dBc BW)

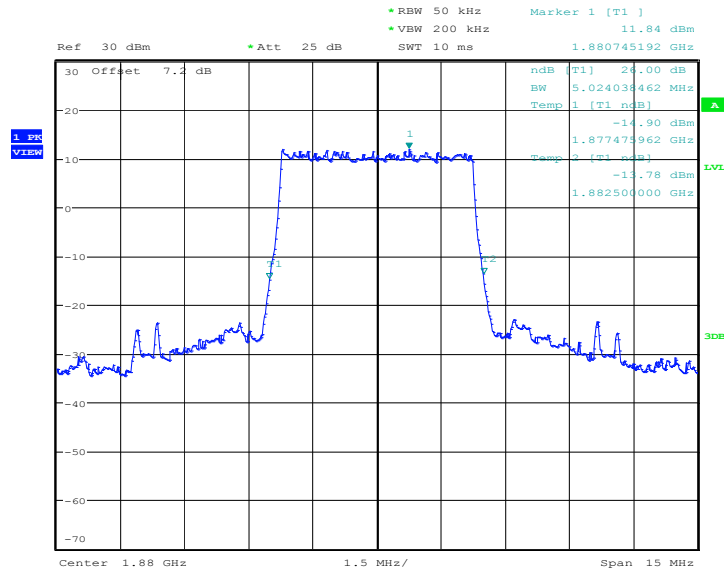


Date: 15.FEB.2017 02:16:57

### LTE band 2, 5MHz (-26dBc)

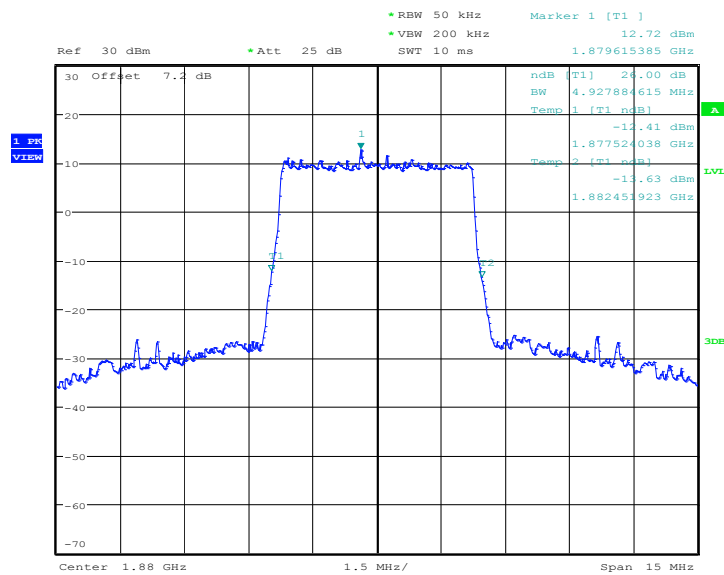
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1880.0         | QPSK                              | 16QAM   |
|                | 5024.04                           | 4927.88 |

### LTE band 2, 5MHz Bandwidth, QPSK (-26dBc BW)

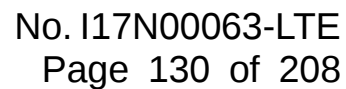


Date: 15.FEB.2017 02:30:39

### LTE band 2, 5MHz Bandwidth, 16QAM (-26dBc BW)



Date: 15.FEB.2017 02:28:47



| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1880.0         | QPSK                              | 16QAM   |
|                | 9711.54                           | 9807.69 |

1. RBW 100 kHz  
2. VBW 300 kHz  
3. SWT 15 ms

Ref 30 dBm  
\* Att 25 dB

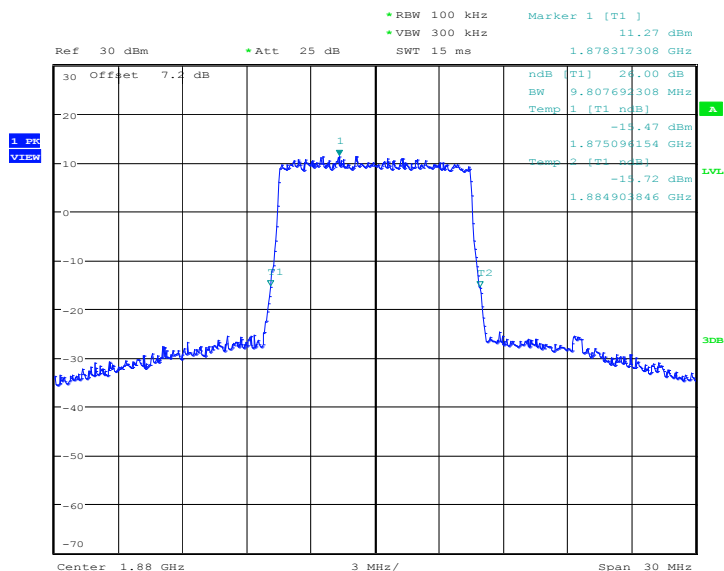
Marker 1 [T1]  
12.85 dBm  
1.877884615 GHz

30 Offset 7.2 dB

ndB [T1] 24.00 dB  
BW 9.711538462 MHz  
Temp 1 [T1 ndB] -12.87 dBm  
1.87514231 GHz  
Temp 2 [T1 ndB] -13.39 dBm  
1.88485769 GHz

1.88 GHz  
3 MHz/  
Span 30 MHz

**LTE band 2, 10MHz Bandwidth, 16QAM (-26dBc BW)**

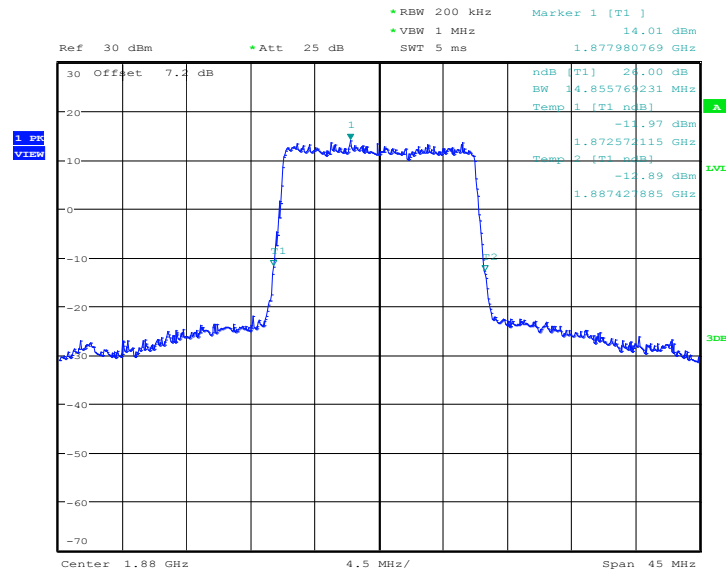


Date: 15.FEB.2017 03:34:34

### LTE band 2, 15MHz (-26dBc)

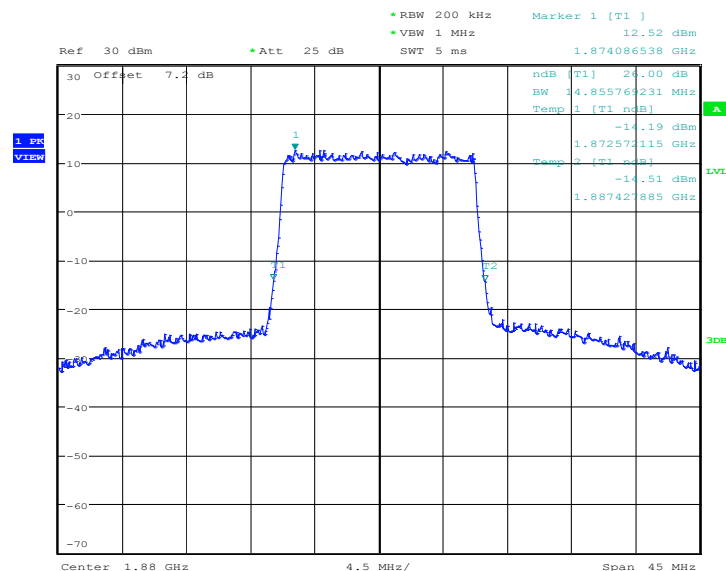
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 1880.0         | QPSK                              | 16QAM    |
|                | 14855.77                          | 14855.77 |

### LTE band 2, 15MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:41:31

### LTE band 2, 15MHz Bandwidth, 16QAM (-26dBc BW)

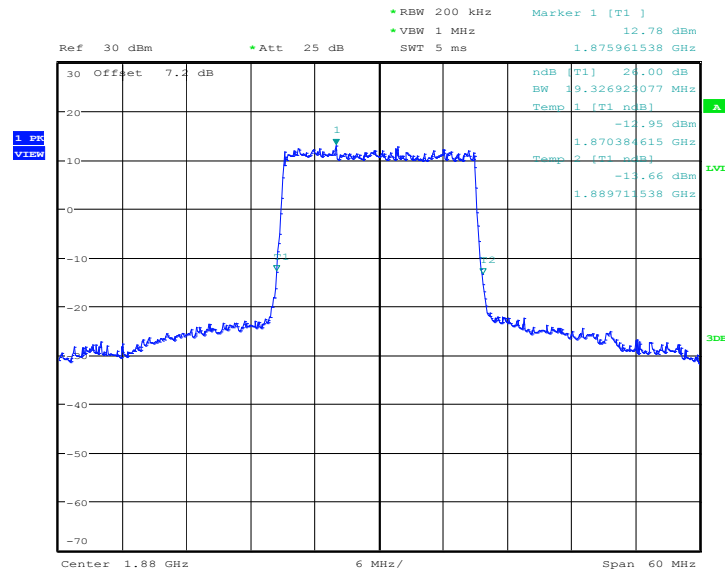


Date: 15.FEB.2017 03:40:53

### LTE band 2, 20MHz (-26dBc)

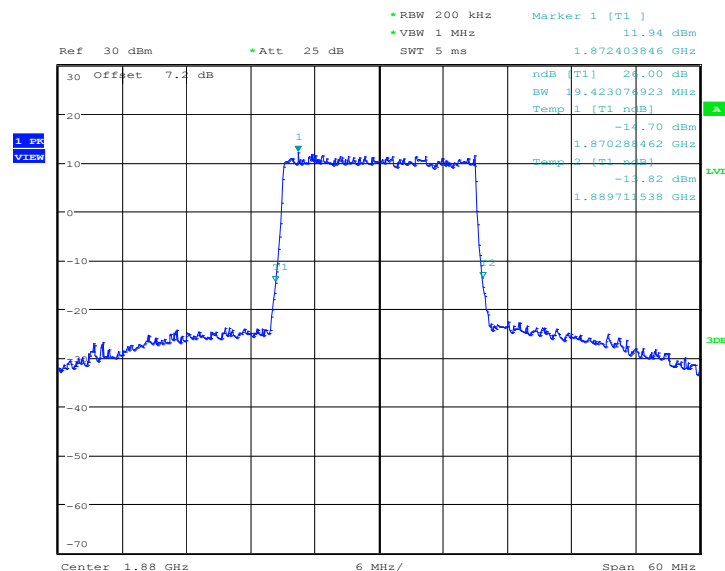
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 1880.0         | QPSK                              | 16QAM    |
|                | 19326.92                          | 19423.08 |

### LTE band 2, 20MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 04:07:32

### LTE band 2, 20MHz Bandwidth, 16QAM (-26dBc BW)

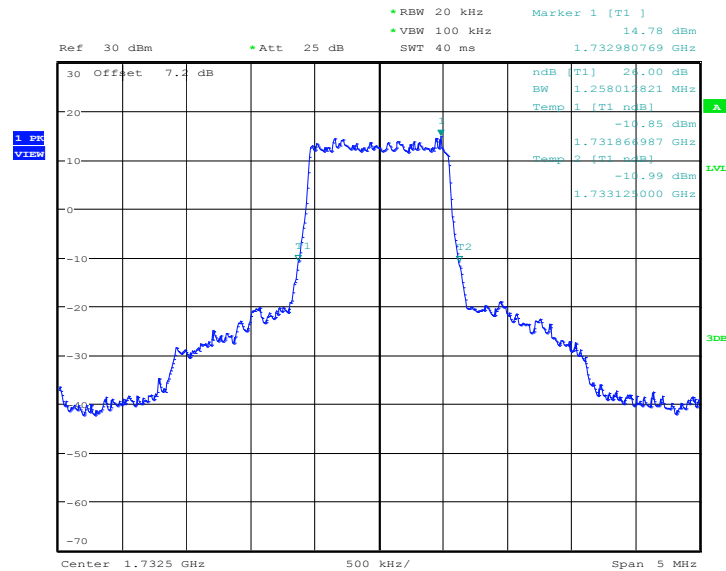


Date: 15.FEB.2017 04:06:49

### LTE band 4, 1.4MHz (-26dBc)

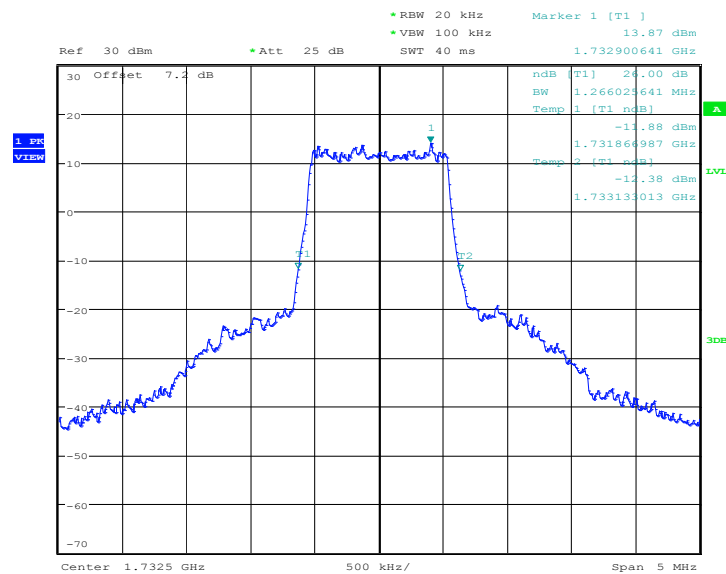
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1732.5         | QPSK                              | 16QAM   |
|                | 1258.01                           | 1266.03 |

### LTE band 4, 1.4MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 01:37:24

### LTE band 4, 1.4MHz Bandwidth, 16QAM (-26dBc BW)

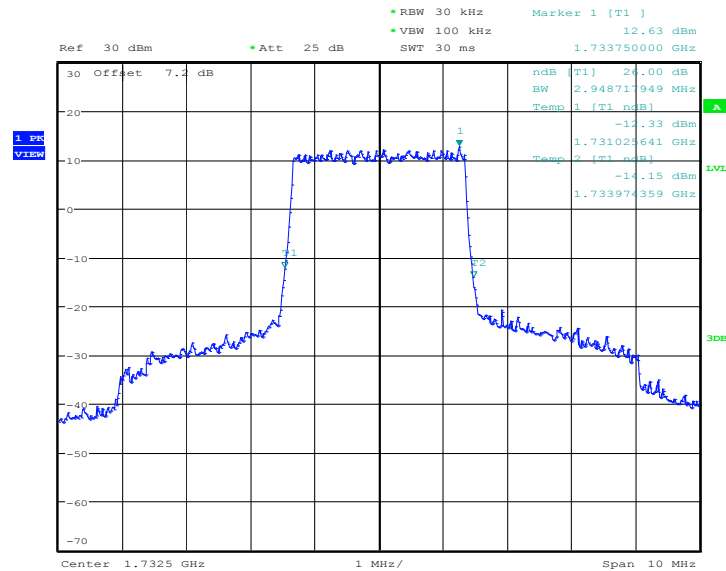


Date: 15.FEB.2017 01:38:37

### LTE band 4, 3MHz (-26dBc)

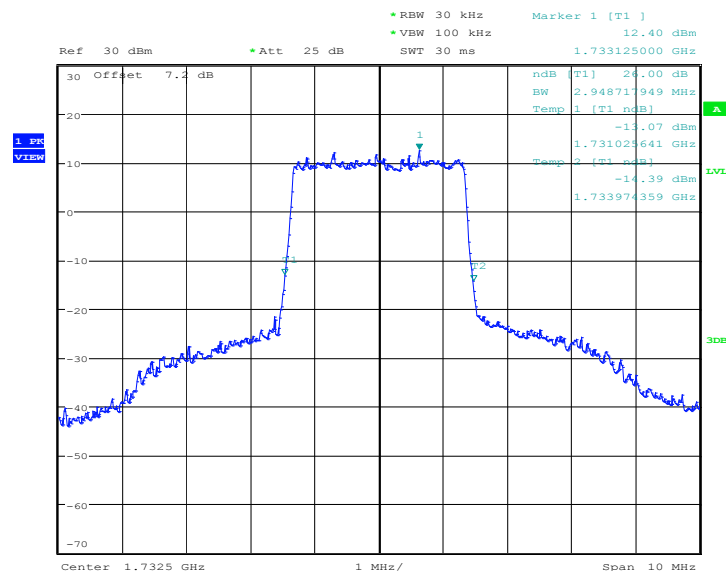
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1732.5         | QPSK                              | 16QAM   |
|                | 2948.72                           | 2948.72 |

### LTE band 4, 3MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 02:14:14

### LTE band 4, 3MHz Bandwidth, 16QAM (-26dBc BW)

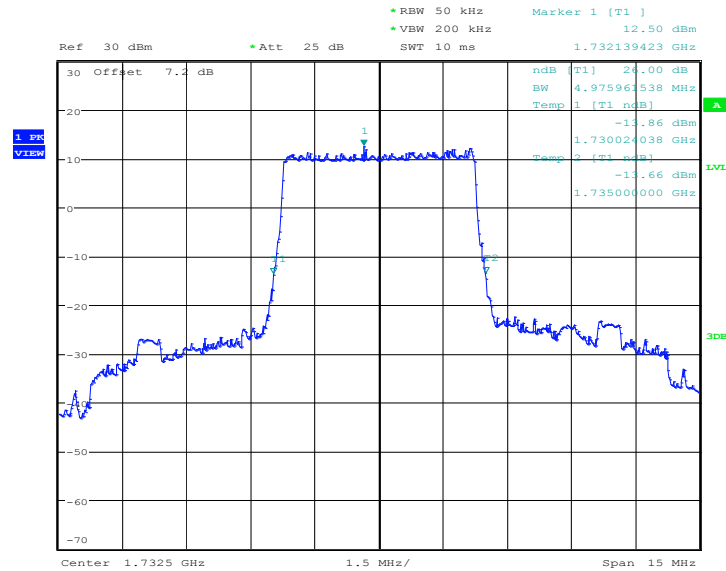


Date: 15.FEB.2017 02:13:32

### LTE band 4, 5MHz (-26dBc)

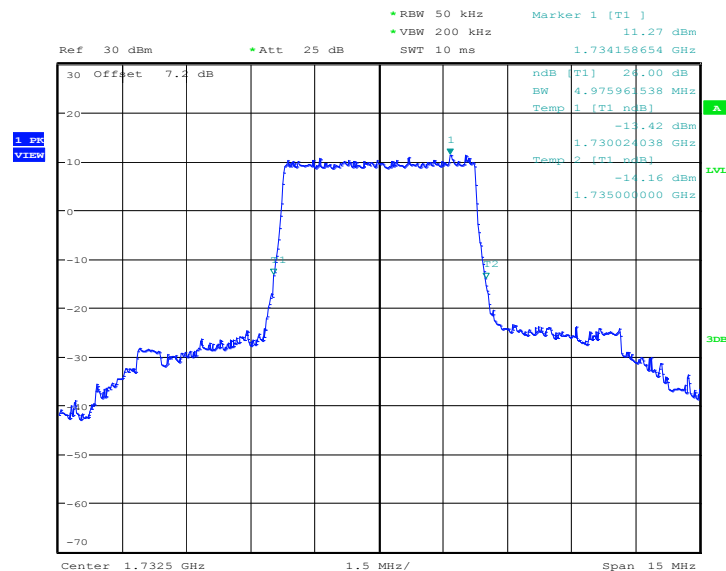
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1732.5         | QPSK                              | 16QAM   |
|                | 4975.96                           | 4975.96 |

### LTE band 4, 5MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 02:31:40

### LTE band 4, 5MHz Bandwidth,16QAM (-26dBc BW)

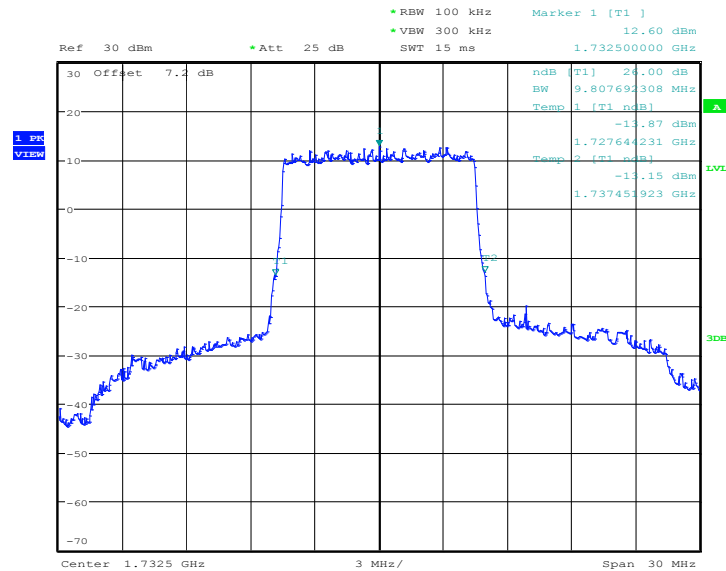


Date: 15.FEB.2017 02:32:18

### LTE band 4, 10MHz (-26dBc)

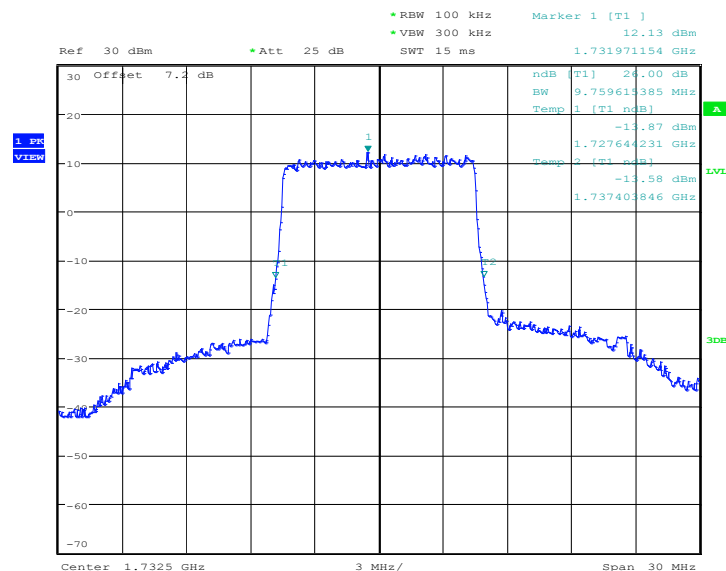
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1732.5         | QPSK                              | 16QAM   |
|                | 9807.69                           | 9759.62 |

### LTE band 4, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:33:07

### LTE band 4, 10MHz Bandwidth, 16QAM (-26dBc BW)

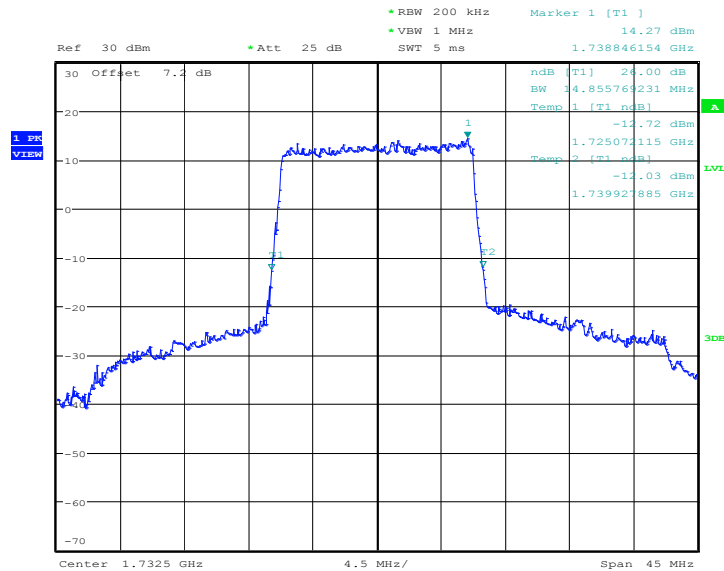


Date: 15.FEB.2017 03:32:31

### LTE band 4, 15MHz (-26dBc)

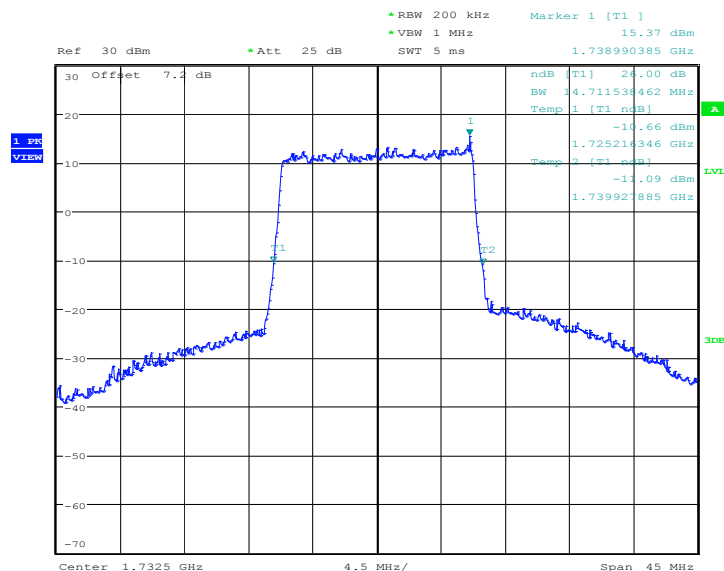
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 1732.5         | QPSK                              | 16QAM    |
|                | 14855.77                          | 14711.54 |

### LTE band 4, 15MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:42:28

### LTE band 4, 15MHz Bandwidth, 16QAM (-26dBc BW)

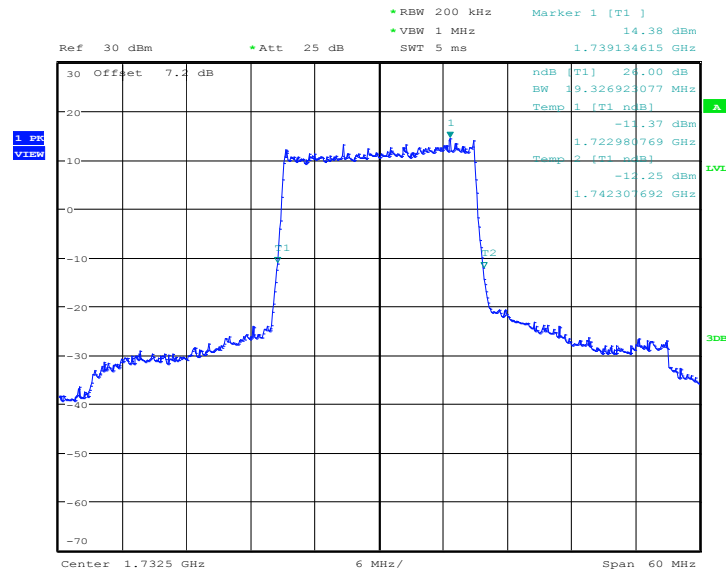


Date: 15.FEB.2017 03:43:18

### LTE band 4, 20MHz (-26dBc)

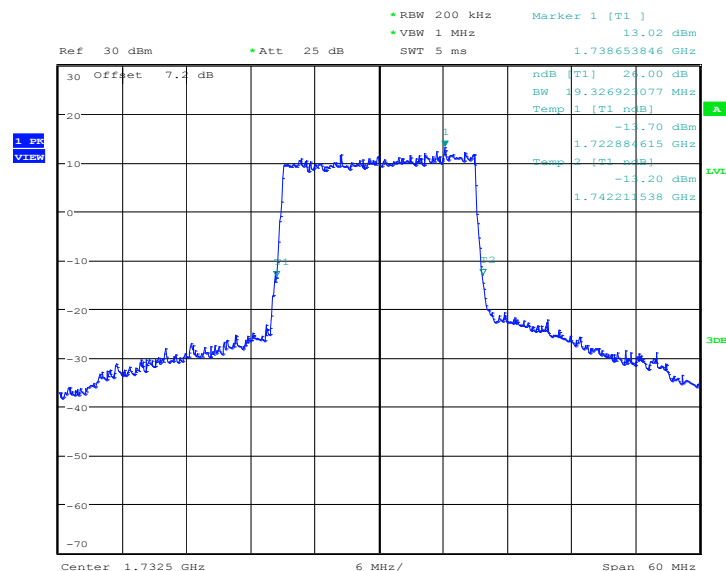
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 1732.5         | QPSK                              | 16QAM    |
|                | 19326.92                          | 19326.92 |

### LTE band 4, 20MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 04:02:11

### LTE band 4, 20MHz Bandwidth, 16QAM (-26dBc BW)

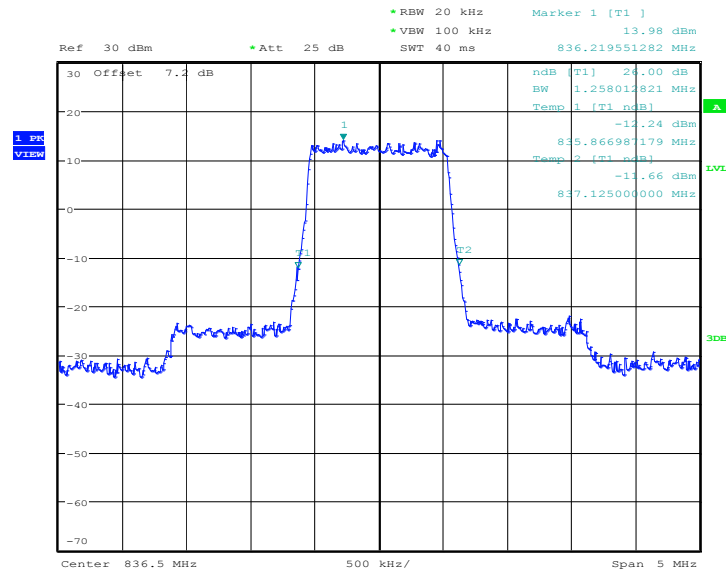


Date: 15.FEB.2017 04:02:46

### LTE band 5, 1.4MHz (-26dBc)

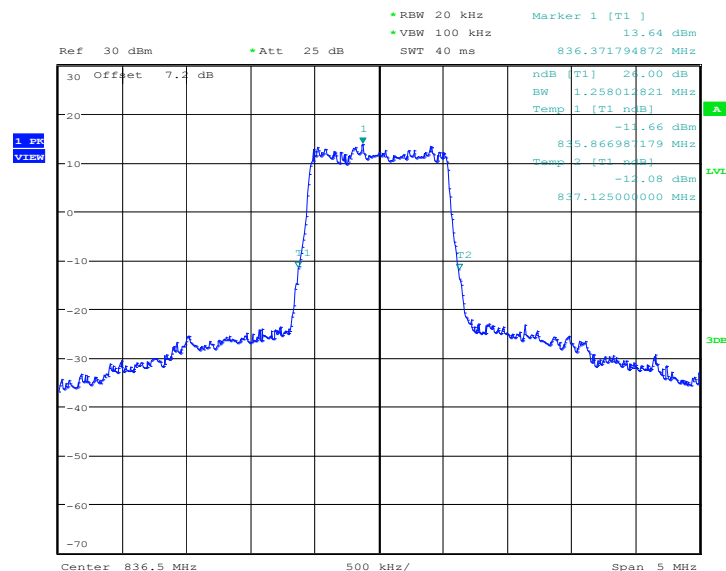
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 836.5          | QPSK                              | 16QAM   |
|                | 1258.01                           | 1258.01 |

### LTE band 5, 1.4MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 01:43:32

### LTE band 5, 1.4MHz Bandwidth, 16QAM (-26dBc BW)

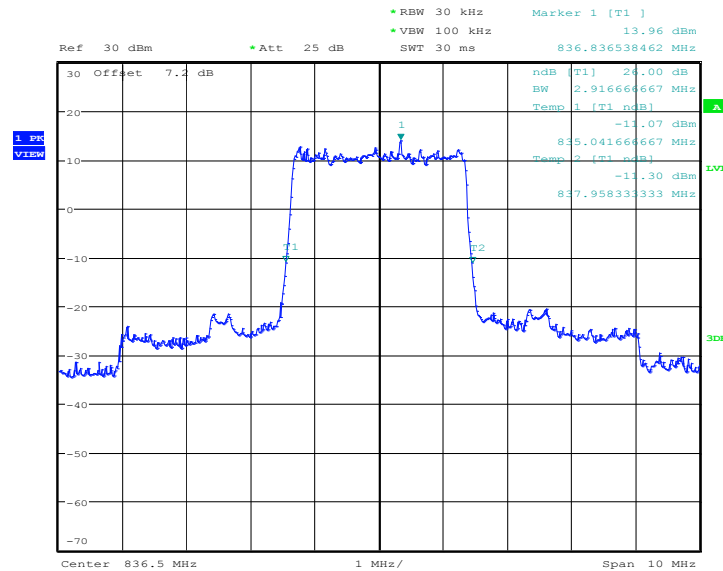


Date: 15.FEB.2017 01:43:00

### LTE band 5, 3MHz (-26dBc)

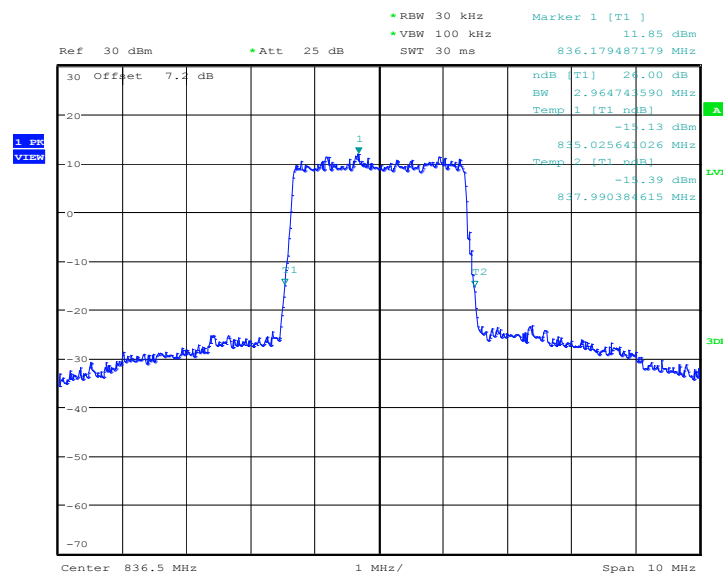
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 836.5          | QPSK                              | 16QAM   |
|                | 2916.67                           | 2964.74 |

### LTE band 5, 3MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 02:08:29

### LTE band 5, 3MHz Bandwidth, 16QAM (-26dBc BW)

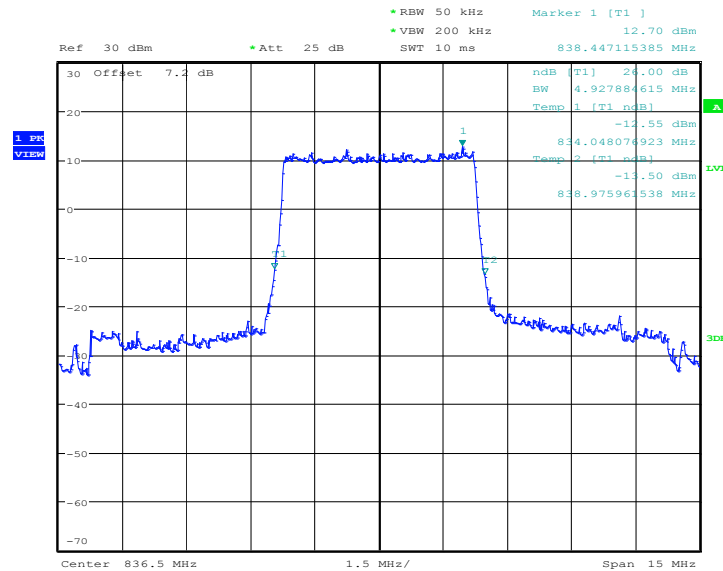


Date: 15.FEB.2017 02:09:06

### LTE band 5, 5MHz (-26dBc)

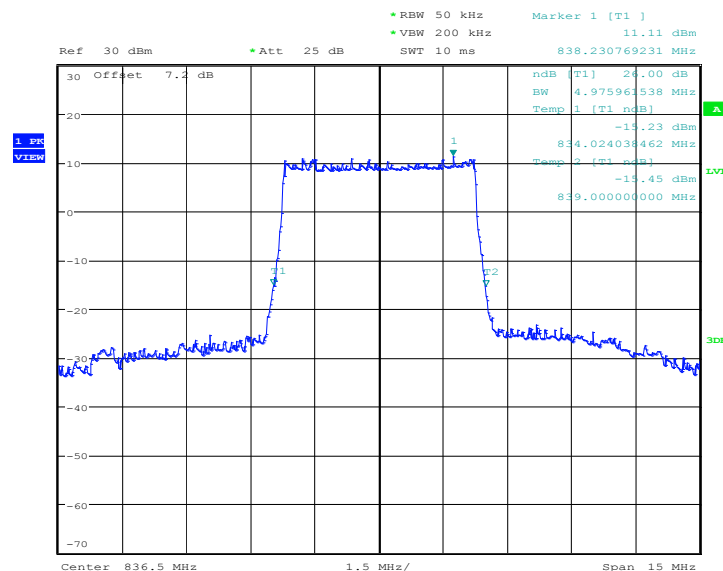
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 836.5          | QPSK                              | 16QAM   |
|                | 4927.88                           | 4975.96 |

### LTE band 5, 5MHz Bandwidth, QPSK (-26dB BW)



Date: 15.FEB.2017 02:36:33

### LTE band 5, 5MHz Bandwidth,16QAM (-26dB BW)

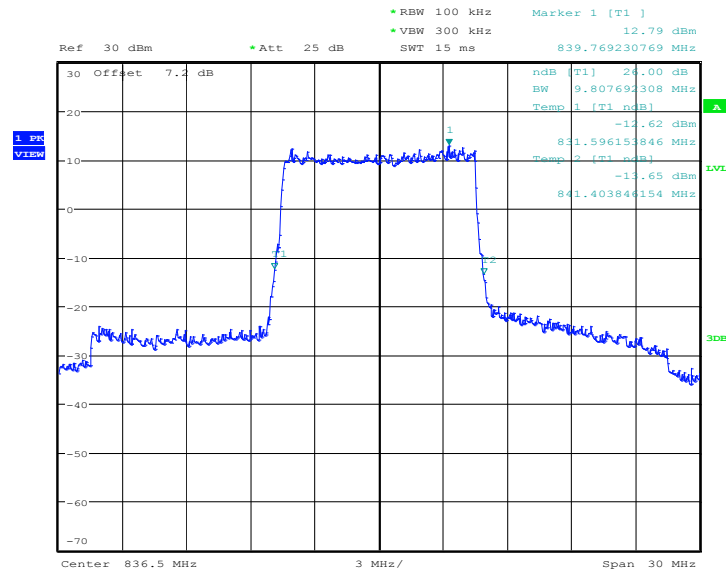


Date: 15.FEB.2017 02:35:32

### LTE band 5, 10MHz (-26dBc)

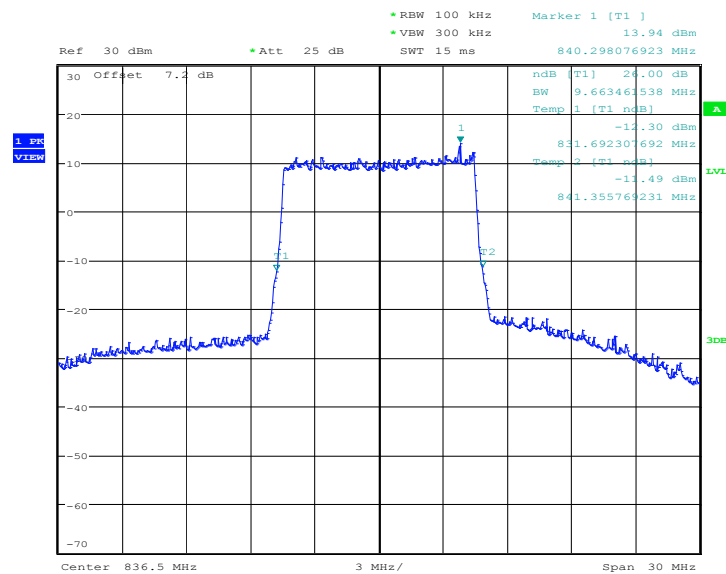
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 836.5          | QPSK                              | 16QAM   |
|                | 9807.69                           | 9663.46 |

### LTE band 5, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:27:29

### LTE band 5, 10MHz Bandwidth, 16QAM (-26dBc BW)



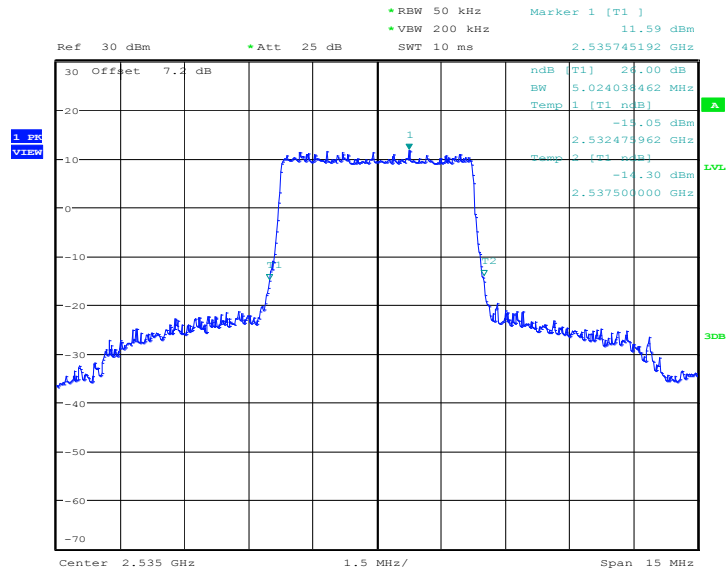
Date: 15.FEB.2017 03:28:36



### LTE band 7, 5MHz (-26dBc)

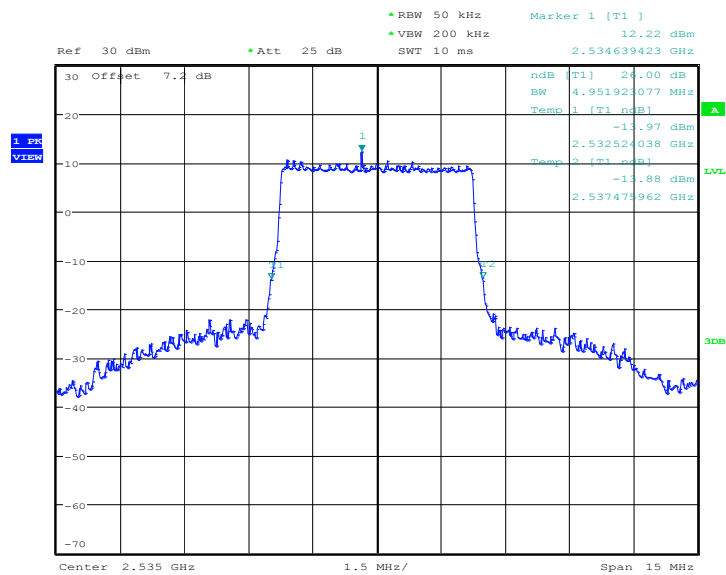
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 2535.0         | QPSK                              | 16QAM   |
|                | 5024.04                           | 4951.92 |

### LTE band 7, 5MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 02:37:43

### LTE band 7, 5MHz Bandwidth,16QAM (-26dBc BW)

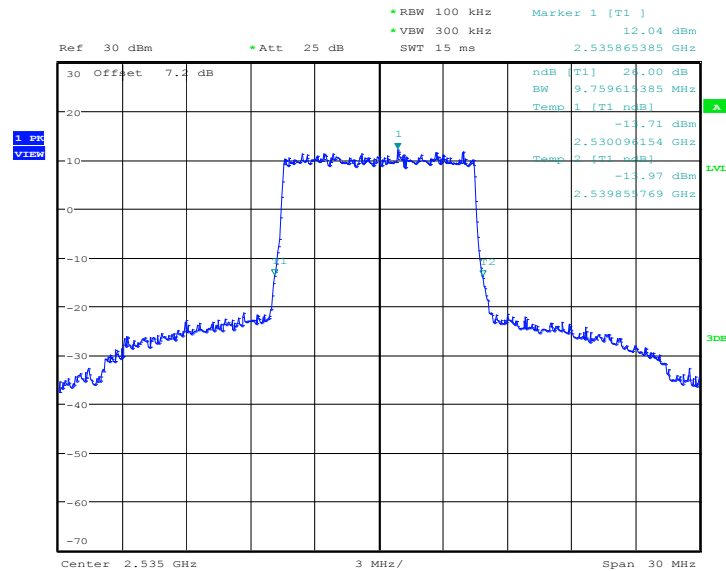


Date: 15.FEB.2017 02:38:26

### LTE band 7, 10MHz (-26dBc)

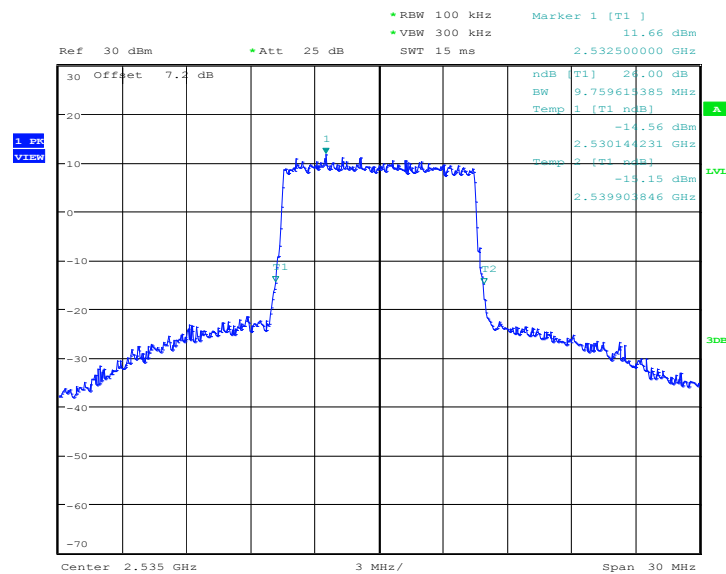
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 2535.0         | QPSK                              | 16QAM   |
|                | 9759.62                           | 9759.62 |

### LTE band 7, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:26:38

### LTE band 7, 10MHz Bandwidth, 16QAM (-26dBc BW)

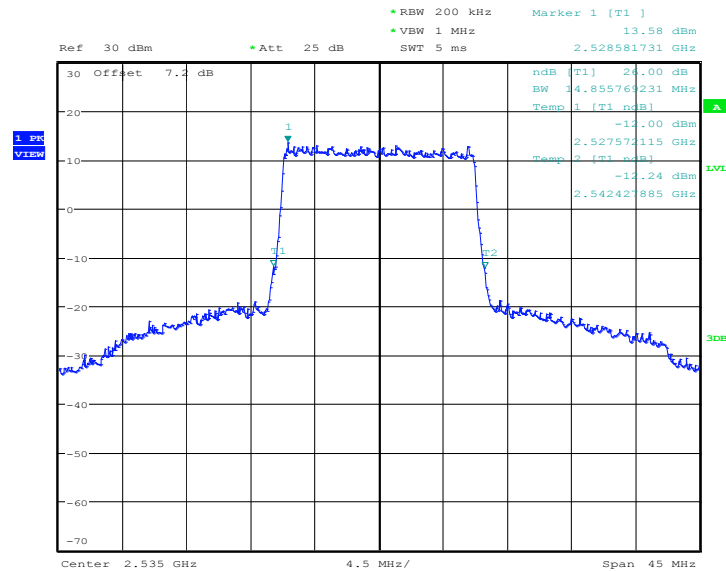


Date: 15.FEB.2017 03:25:57

### LTE band 7, 15MHz (-26dBc)

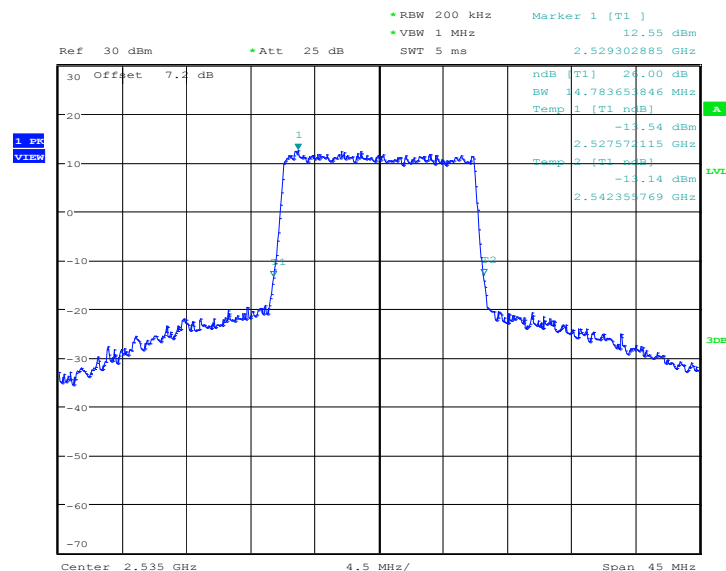
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 2535.0         | QPSK                              | 16QAM    |
|                | 14855.77                          | 14783.65 |

### LTE band 7, 15MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:47:59

### LTE band 7, 15MHz Bandwidth, 16QAM (-26dBc BW)

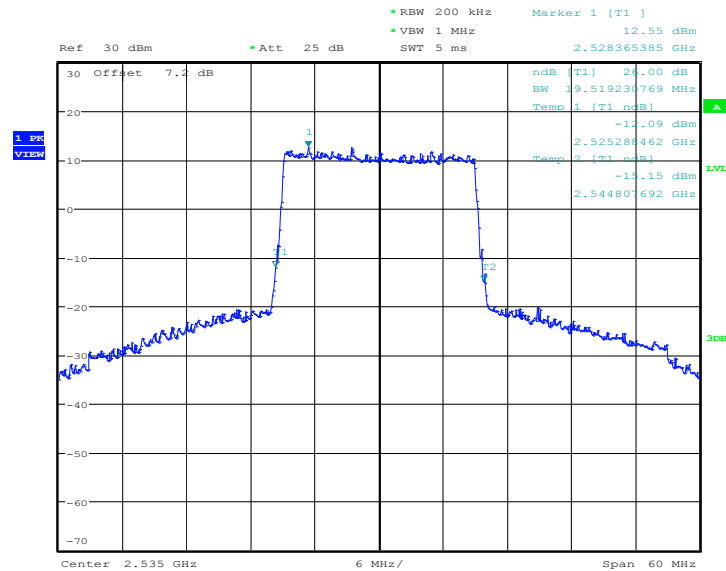


Date: 15.FEB.2017 03:47:24

### LTE band 7, 20MHz (-26dBc)

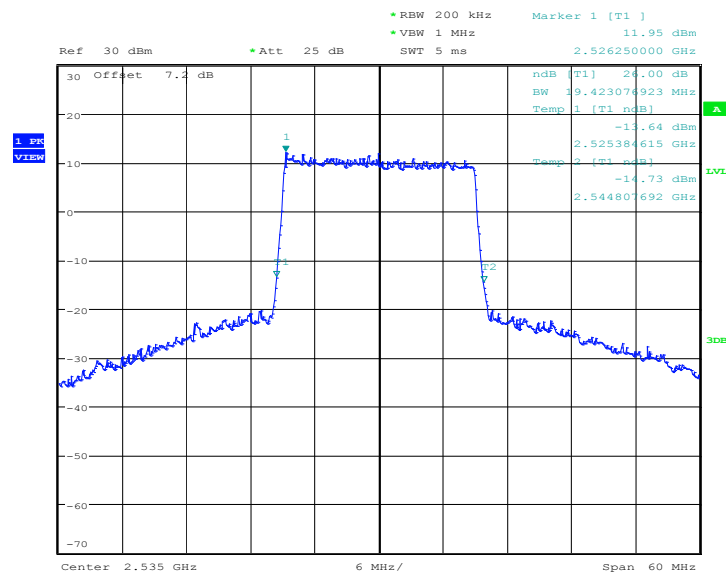
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 2535.0         | QPSK                              | 16QAM    |
|                | 19519.23                          | 19423.08 |

### LTE band 7, 20MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 04:01:05

### LTE band 7, 20MHz Bandwidth, 16QAM (-26dBc BW)

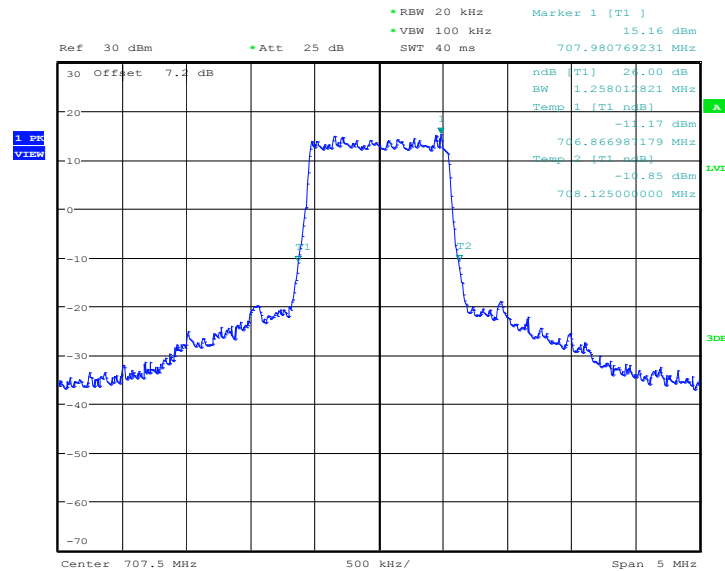


Date: 15.FEB.2017 04:00:24

### LTE band 12, 1.4MHz (-26dBc)

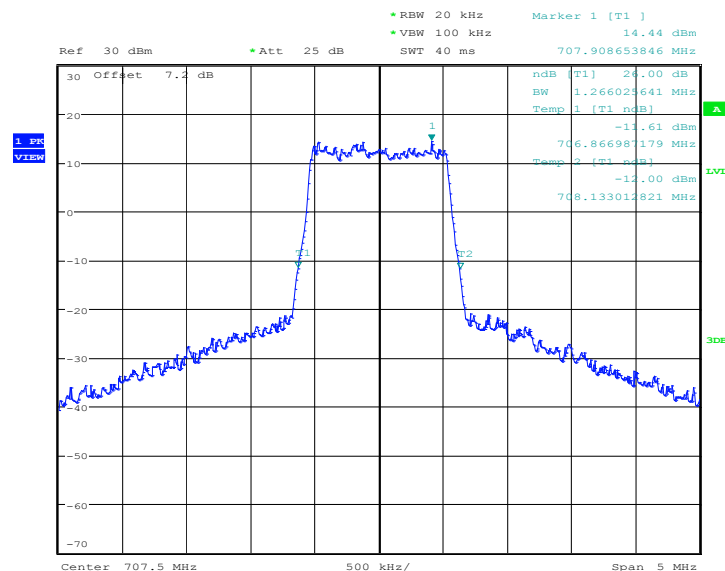
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 707.5          | QPSK                              | 16QAM   |
|                | 1258.01                           | 1266.03 |

### LTE band 12, 1.4MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 01:44:36

### LTE band 12, 1.4MHz Bandwidth, 16QAM (-26dBc BW)

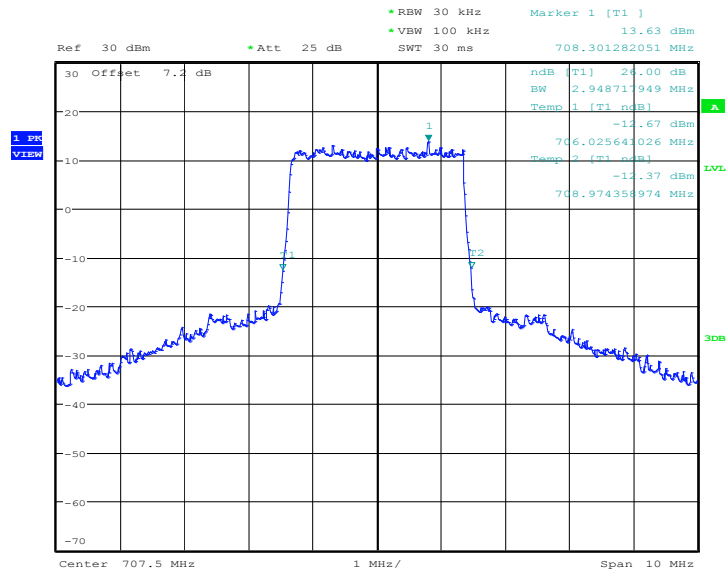


Date: 15.FEB.2017 01:45:14

### LTE band 12, 3MHz (-26dBc)

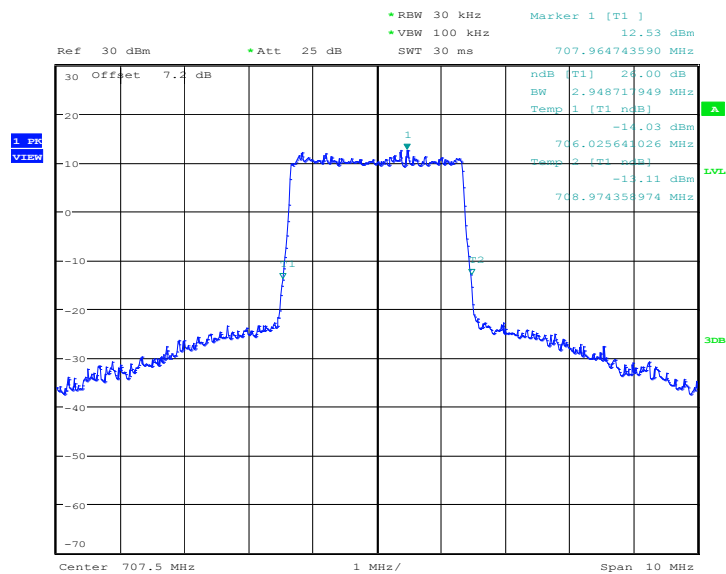
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 707.5          | QPSK                              | 16QAM   |
|                | 2948.72                           | 2948.72 |

### LTE band 12, 3MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 02:06:31

### LTE band 12, 3MHz Bandwidth, 16QAM (-26dBc BW)

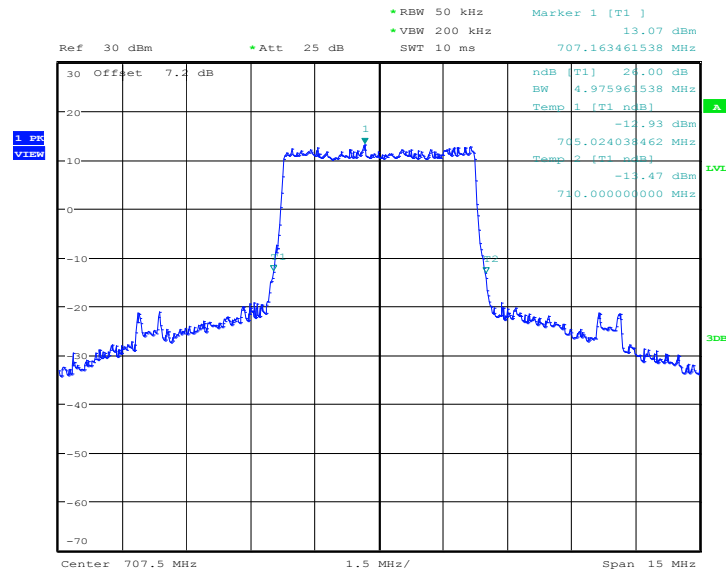


Date: 15.FEB.2017 02:05:21

### LTE band 12, 5MHz (-26dBc)

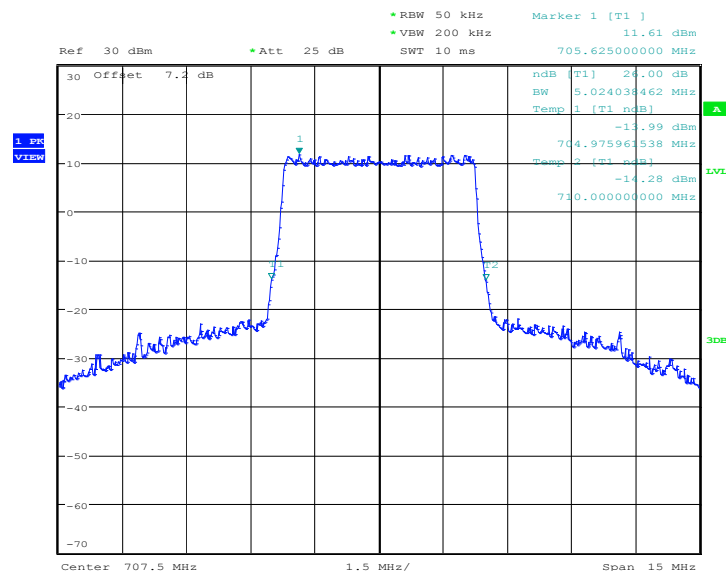
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 707.5          | QPSK                              | 16QAM   |
|                | 4975.96                           | 5024.04 |

### LTE band 12, 5MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 02:43:39

### LTE band 12, 5MHz Bandwidth,16QAM (-26dBc BW)

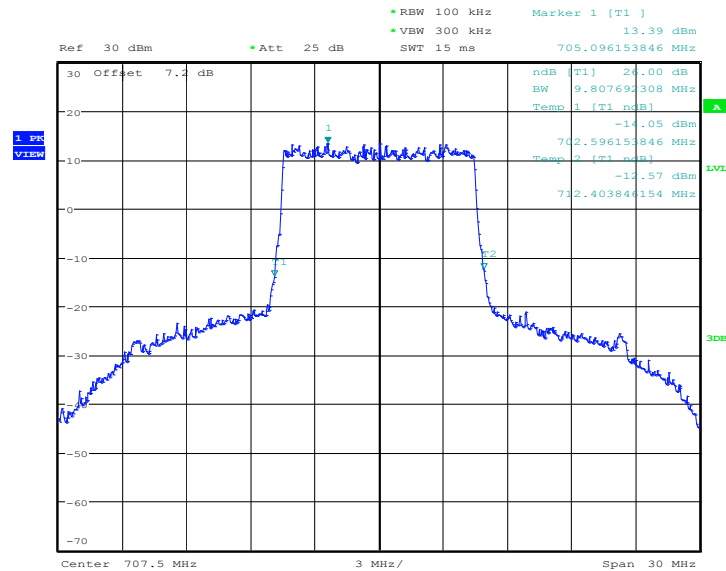


Date: 15.FEB.2017 02:42:48

### LTE band 12, 10MHz (-26dBc)

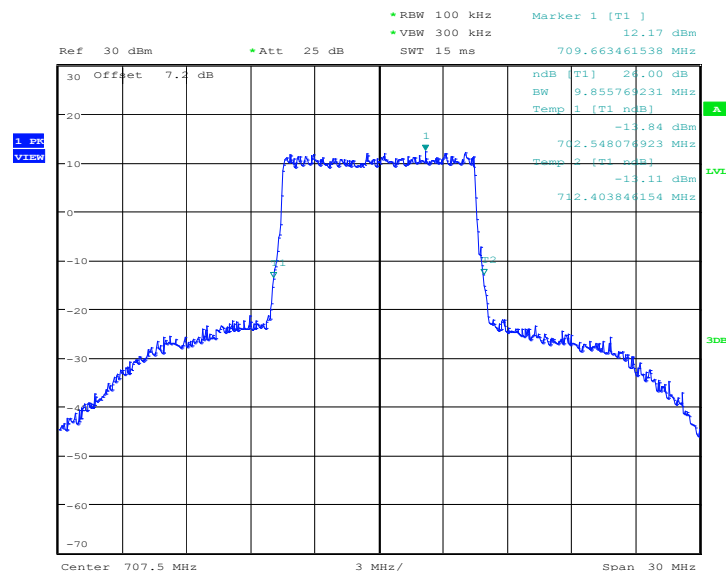
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 707.5          | QPSK                              | 16QAM   |
|                | 9807.69                           | 9855.77 |

### LTE band 12, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:21:02

### LTE band 12, 10MHz Bandwidth, 16QAM (-26dBc BW)



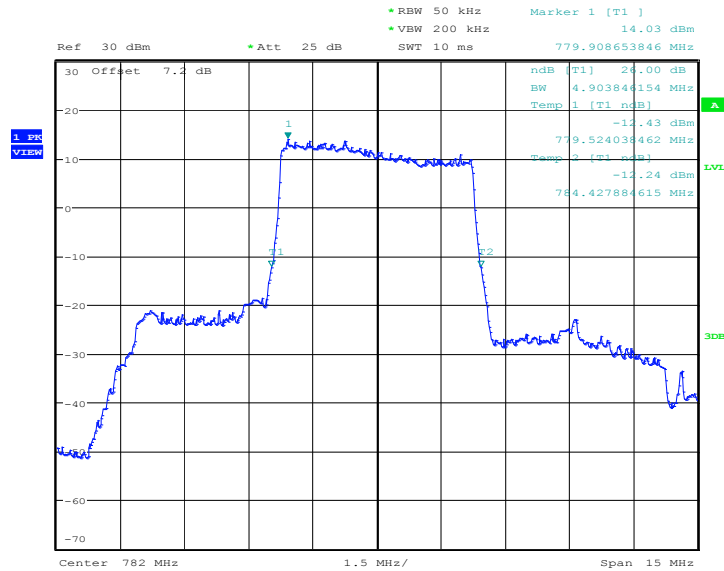
Date: 15.FEB.2017 03:21:39



**LTE band 13, 5MHz (-26dBc)**

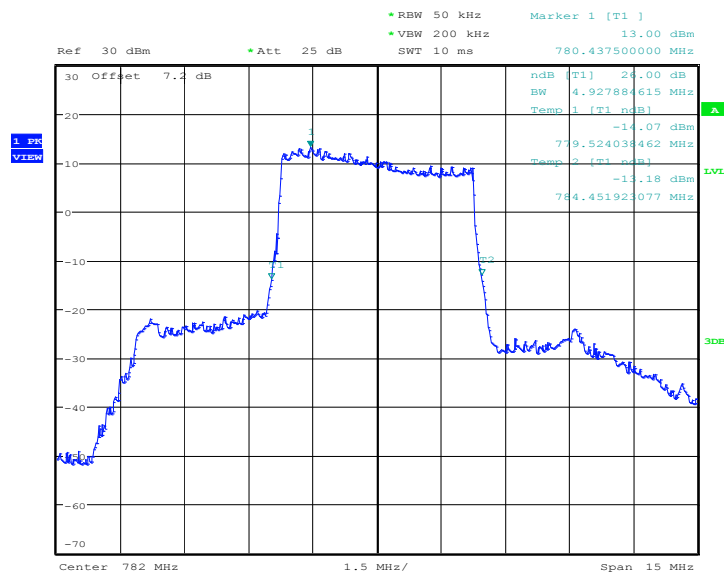
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 782.0          | QPSK                              | 16QAM   |
|                | 4903.85                           | 4927.88 |

**LTE band 13, 5MHz Bandwidth, QPSK (-26dBc BW)**



Date: 15.FEB.2017 02:45:14

**LTE band 13, 5MHz Bandwidth,16QAM (-26dBc BW)**

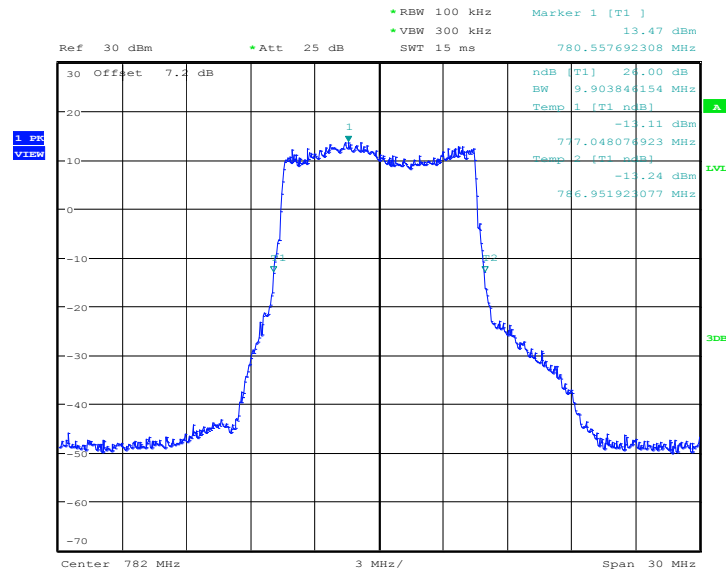


Date: 15.FEB.2017 02:45:55

### LTE band 13, 10MHz (-26dBc)

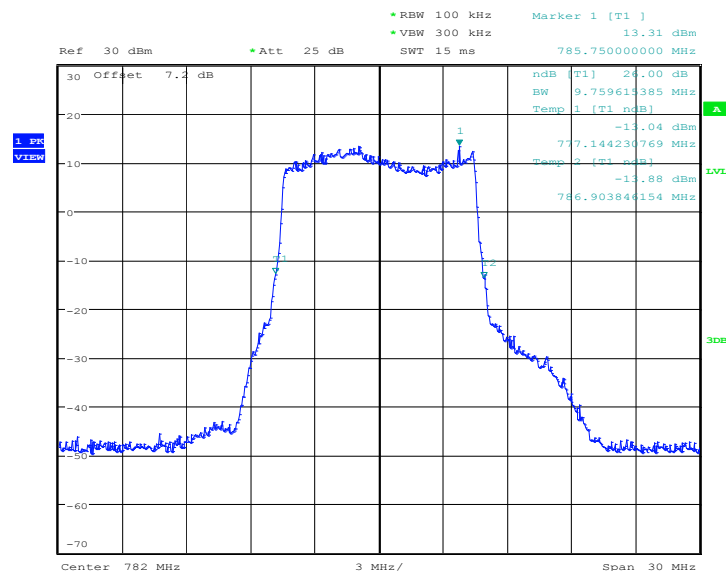
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 782.0          | QPSK                              | 16QAM   |
|                | 9903.85                           | 9759.62 |

### LTE band 13, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:19:51

### LTE band 13, 10MHz Bandwidth, 16QAM (-26dBc BW)

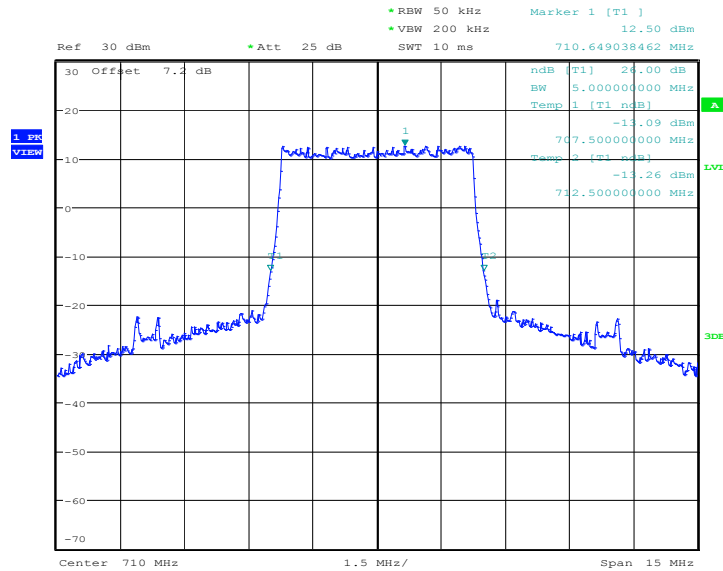


Date: 15.FEB.2017 03:19:20

### LTE band 17, 5MHz (-26dBc)

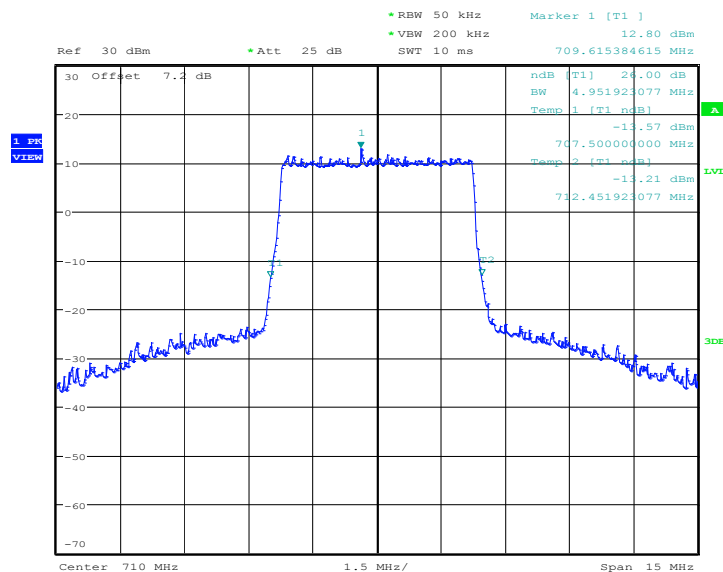
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 710.0          | QPSK                              | 16QAM   |
|                | 5000.00                           | 4951.92 |

### LTE band 17, 5MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 02:50:53

### LTE band 17, 5MHz Bandwidth, 16QAM (-26dBc BW)

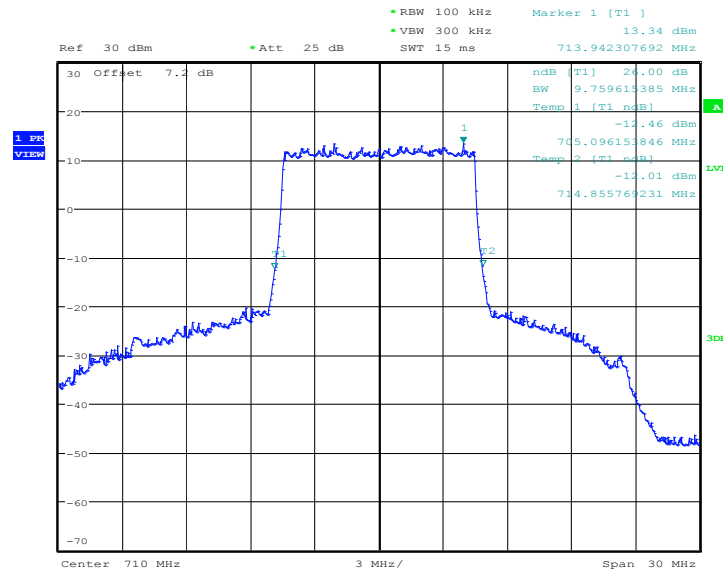


Date: 15.FEB.2017 02:49:50

### LTE band 17, 10MHz (-26dBc)

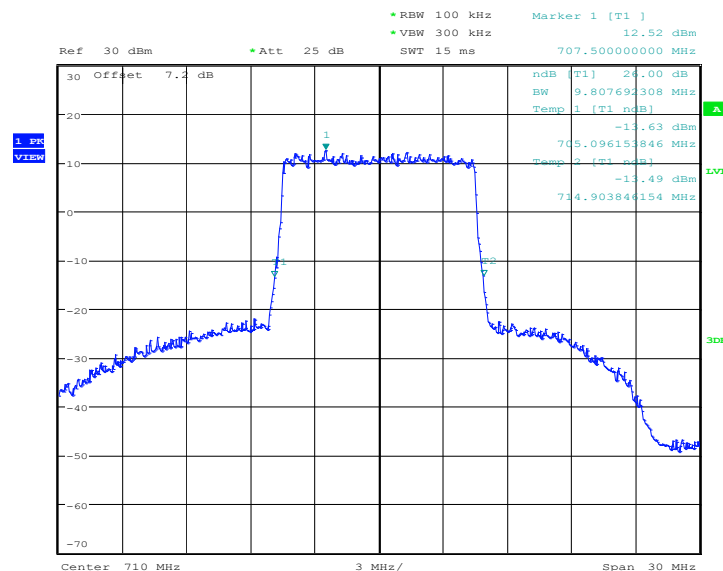
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 710.0          | QPSK                              | 16QAM   |
|                | 9759.62                           | 9807.69 |

### LTE band 17, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:14:04

### LTE band 17, 10MHz Bandwidth, 16QAM (-26dBc BW)

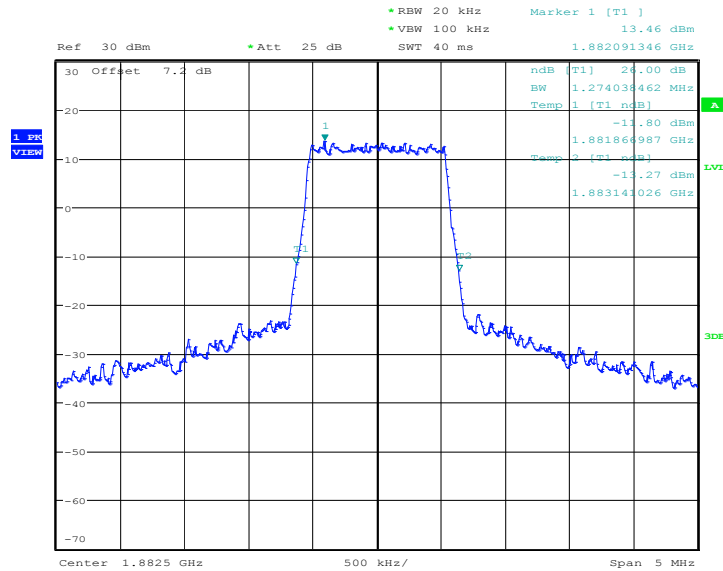


Date: 15.FEB.2017 03:15:09

### LTE band 25, 1.4MHz (-26dBc)

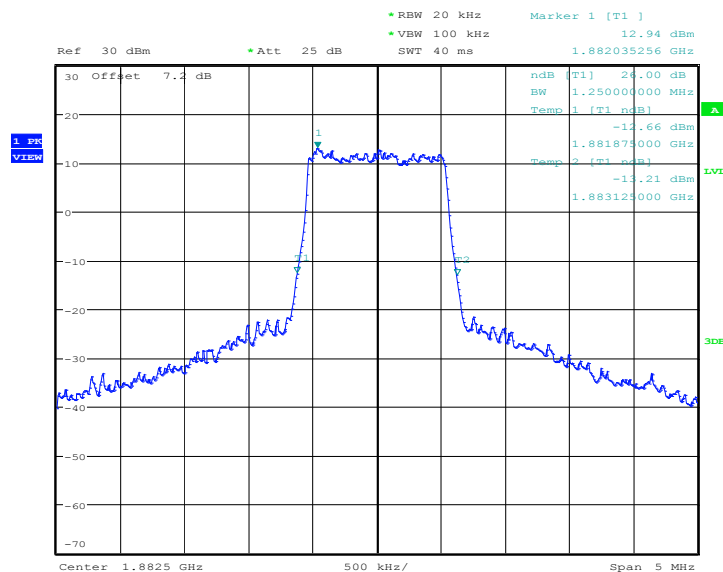
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1882.5         | QPSK                              | 16QAM   |
|                | 1274.04                           | 1250.00 |

### LTE band 25, 1.4MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 01:50:01

### LTE band 25, 1.4MHz Bandwidth, 16QAM (-26dBc BW)



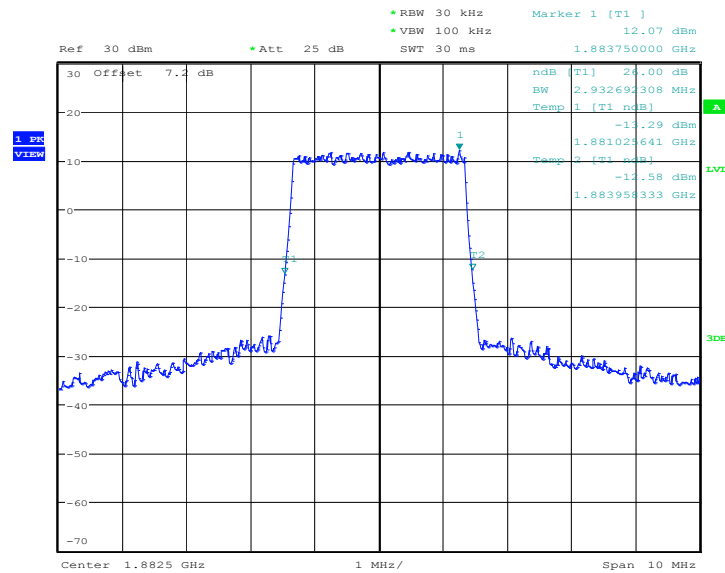
Date: 15.FEB.2017 01:49:17



### LTE band 25, 3MHz (-26dBc)

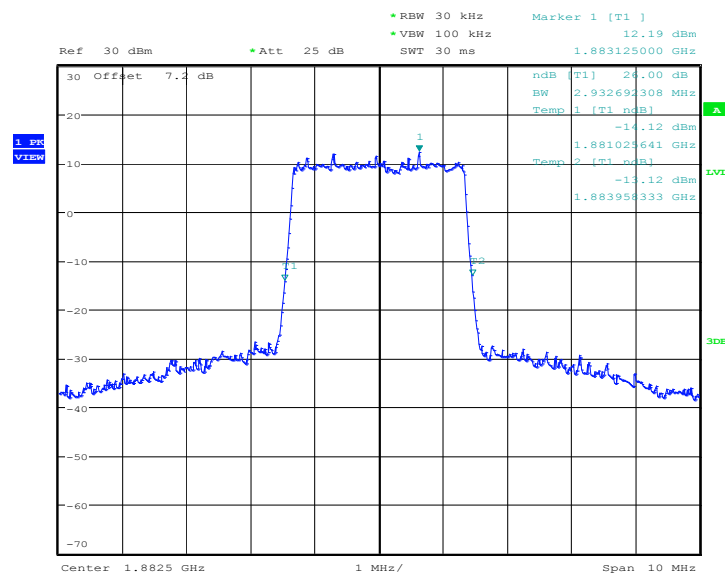
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1882.5         | QPSK                              | 16QAM   |
|                | 2932.69                           | 2932.69 |

### LTE band 25, 3MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 01:59:34

### LTE band 25, 3MHz Bandwidth, 16QAM (-26dBc BW)

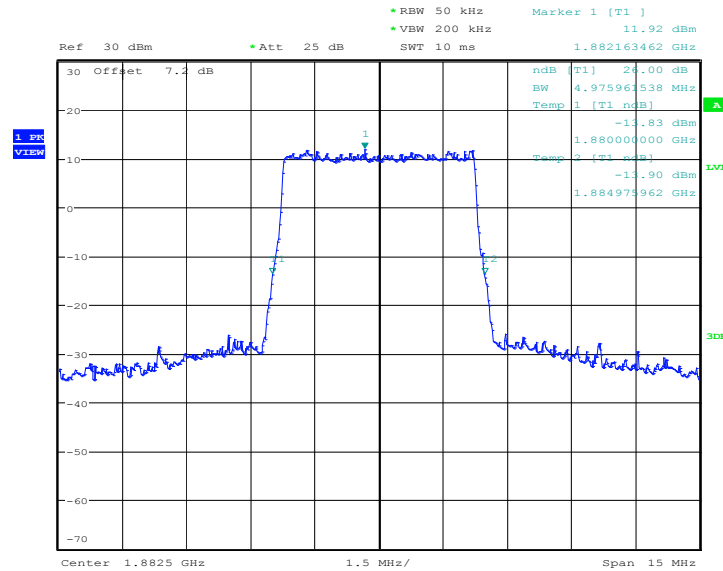


Date: 15.FEB.2017 02:00:33

### LTE band 25, 5MHz (-26dBc)

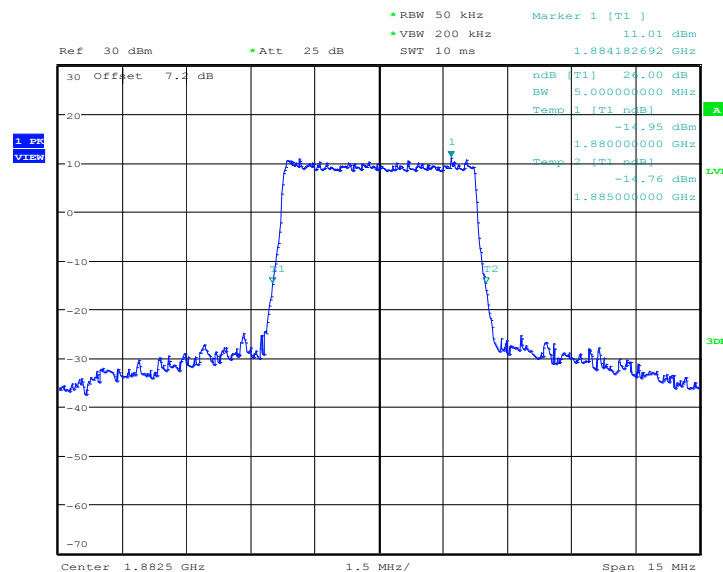
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1882.5         | QPSK                              | 16QAM   |
|                | 4975.96                           | 5000.00 |

### LTE band 25, 5MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 02:52:04

### LTE band 25, 5MHz Bandwidth,16QAM (-26dBc BW)



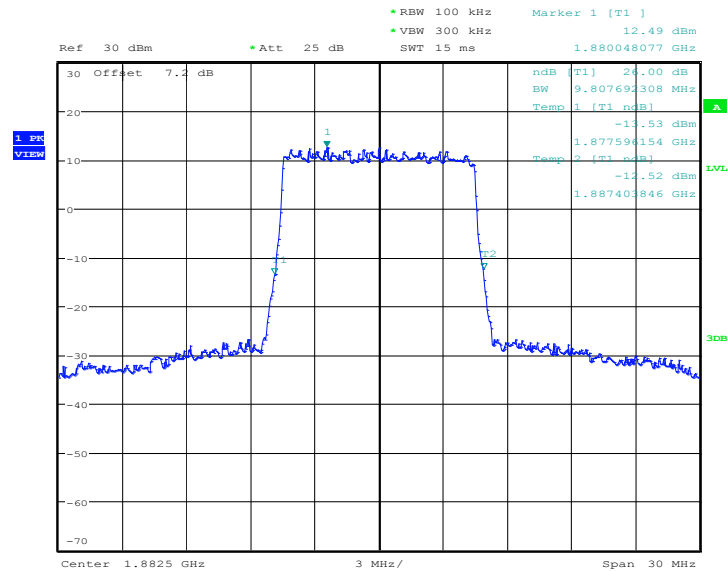
Date: 15.FEB.2017 02:52:42



### LTE band 25, 10MHz (-26dBc)

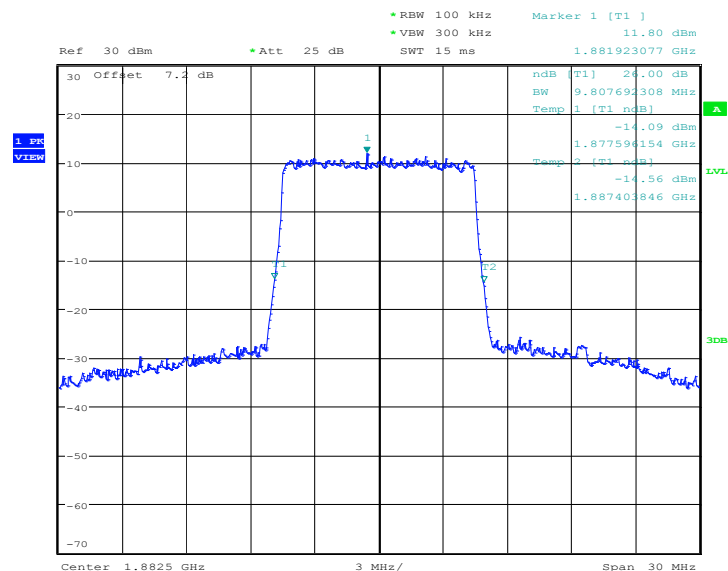
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 1882.5         | QPSK                              | 16QAM   |
|                | 9807.69                           | 9807.69 |

### LTE band 25, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:12:30

### LTE band 25, 10MHz Bandwidth, 16QAM (-26dBc BW)

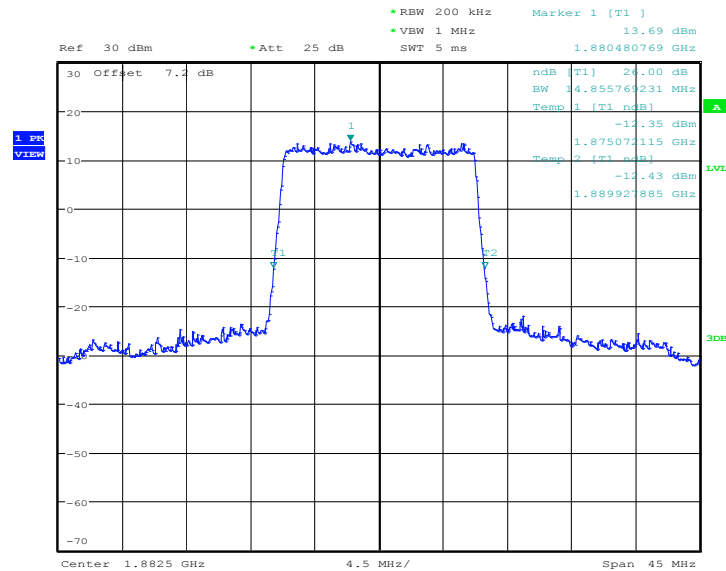


Date: 15.FEB.2017 03:11:19

### LTE band 25, 15MHz (-26dBc)

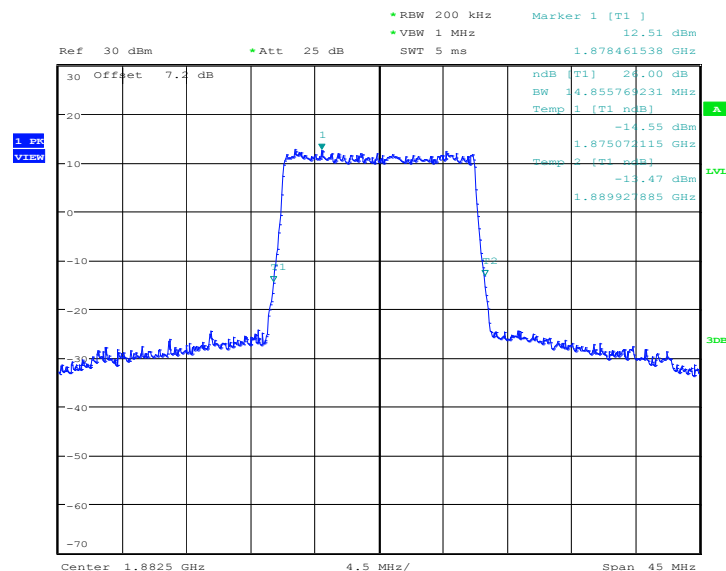
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 1882.5         | QPSK                              | 16QAM    |
|                | 14855.77                          | 14855.77 |

### LTE band 25, 15MHz Bandwidth, QPSK (-26dB BW)



Date: 15.FEB.2017 03:49:16

### LTE band 25, 15MHz Bandwidth, 16QAM (-26dB BW)

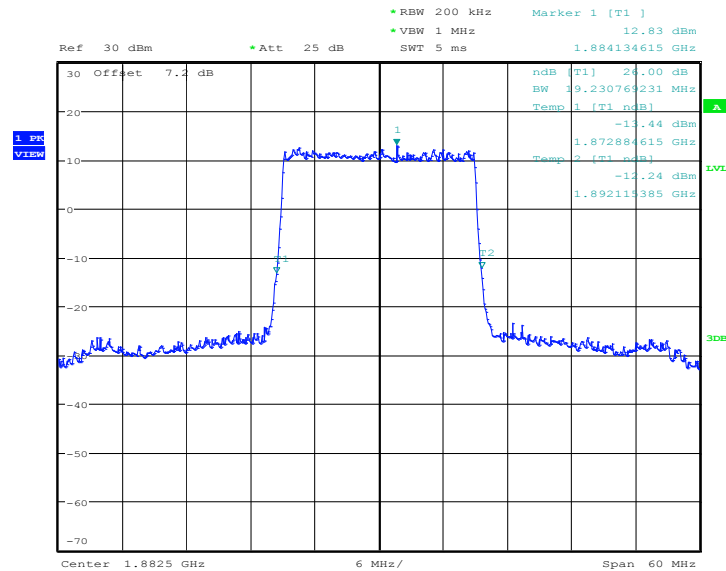


Date: 15.FEB.2017 03:49:48

### LTE band 25, 20MHz (-26dBc)

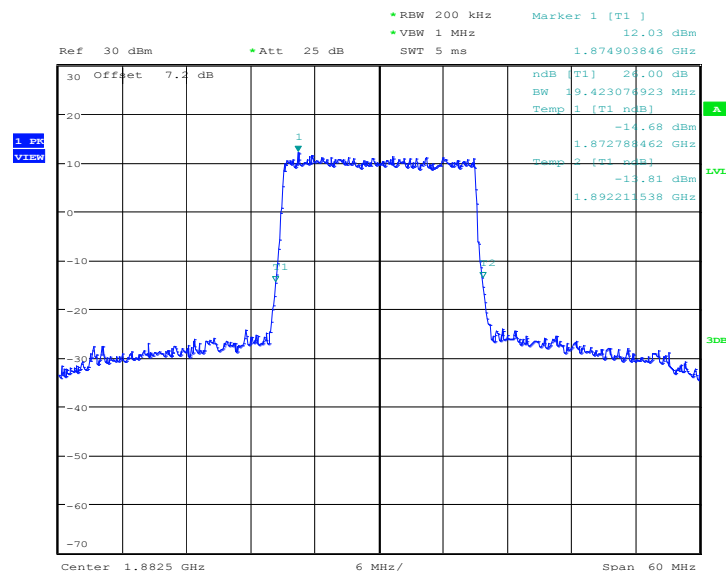
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 1882.5         | QPSK                              | 16QAM    |
|                | 19230.77                          | 19423.08 |

### LTE band 25, 20MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:55:33

### LTE band 25, 20MHz Bandwidth, 16QAM (-26dBc BW)

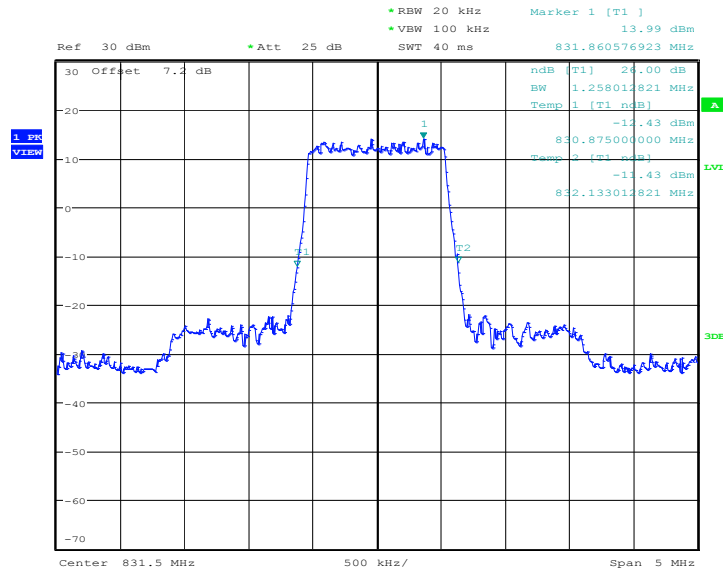


Date: 15.FEB.2017 03:56:09

### LTE band 26, 1.4MHz (-26dBc)

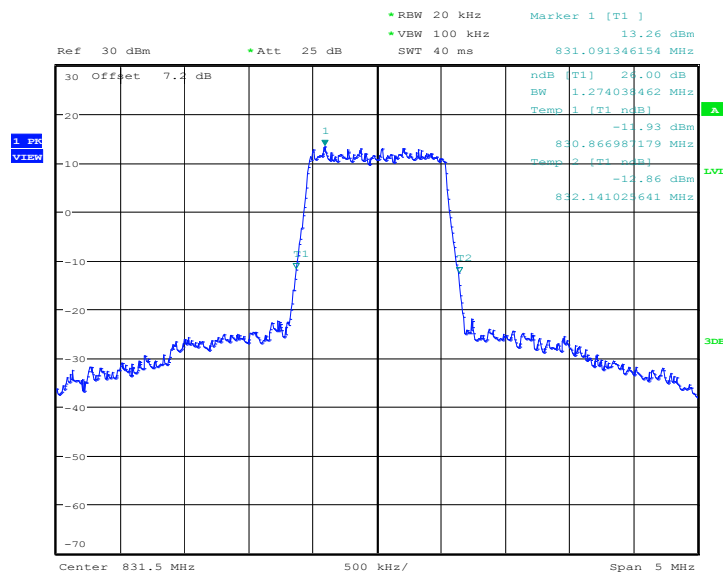
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 831.5          | QPSK                              | 16QAM   |
|                | 1258.01                           | 1274.04 |

### LTE band 26, 1.4MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 01:51:02

### LTE band 26, 1.4MHz Bandwidth, 16QAM (-26dBc BW)

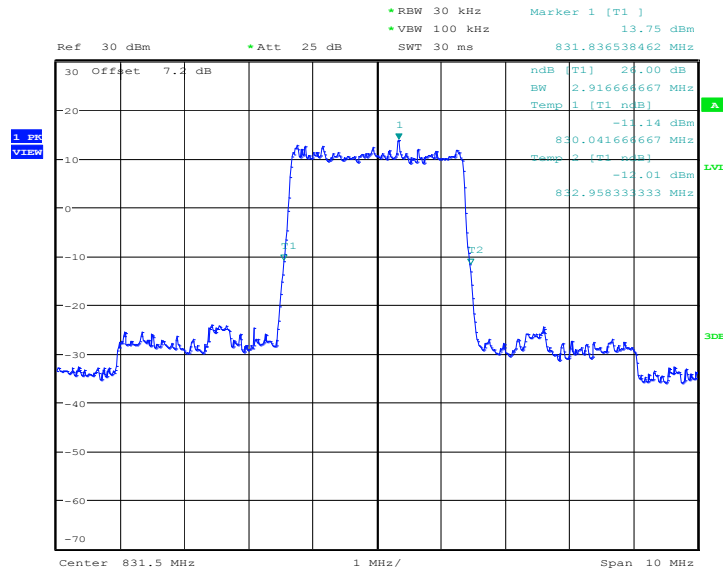


Date: 15.FEB.2017 01:51:42

### LTE band 26, 3MHz (-26dBc)

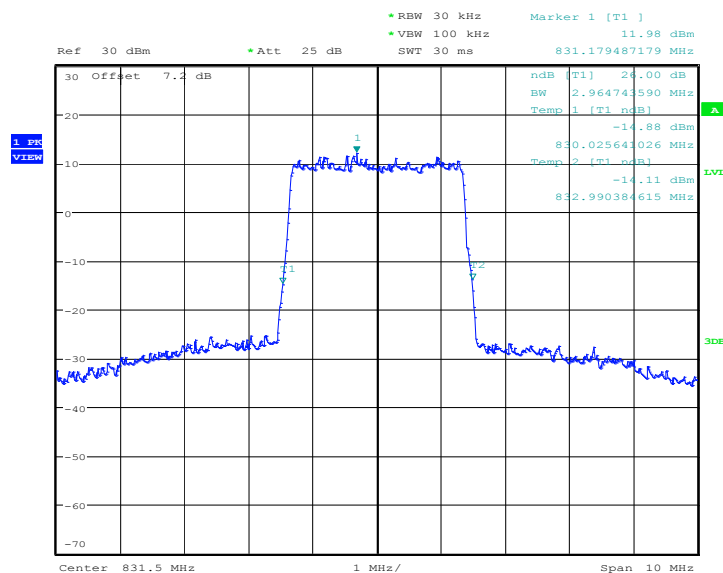
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 831.5          | QPSK                              | 16QAM   |
|                | 2916.67                           | 2964.74 |

### LTE band 26, 3MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 01:57:59

### LTE band 26, 3MHz Bandwidth, 16QAM (-26dBc BW)

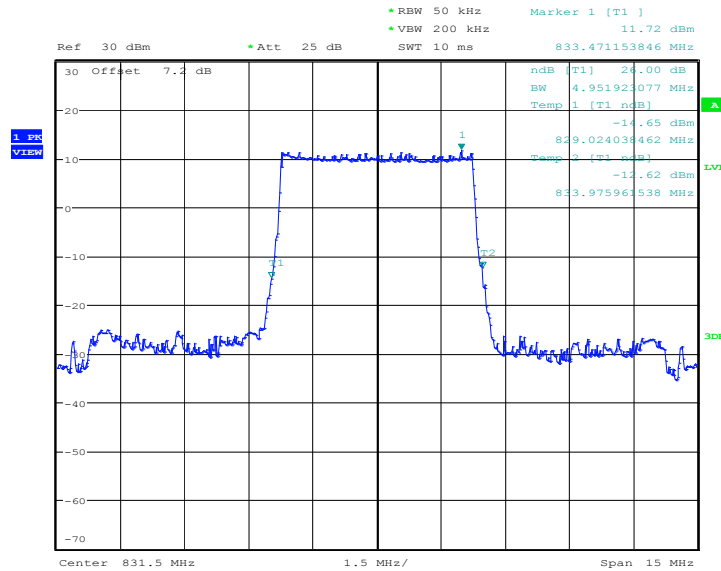


Date: 15.FEB.2017 01:56:51

### LTE band 26, 5MHz (-26dBc)

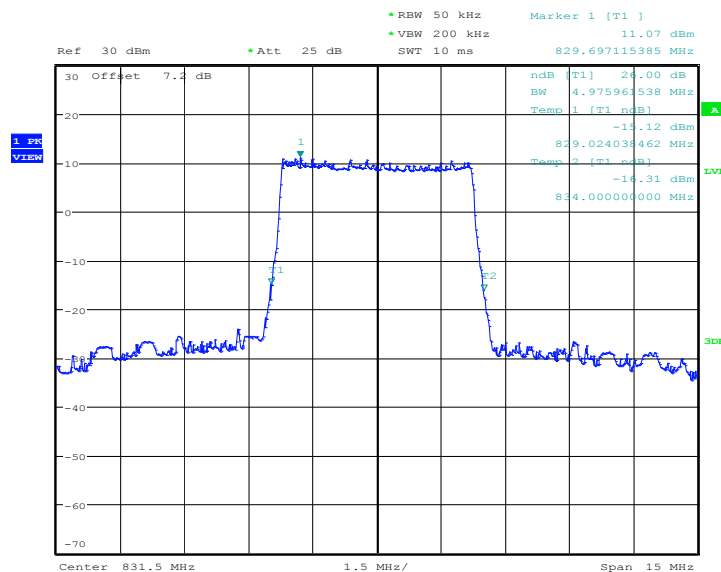
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 831.5          | QPSK                              | 16QAM   |
|                | 4951.92                           | 4975.96 |

### LTE band 26, 5MHz Bandwidth, QPSK (-26dBc BW)

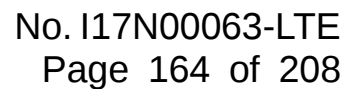


Date: 15.FEB.2017 02:58:41

### LTE band 26, 5MHz Bandwidth,16QAM (-26dBc BW)



Date: 15.FEB.2017 02:58:03



| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 831.5          | QPSK                              | 16QAM   |
|                | 9711.54                           | 9807.69 |



1.00 V100

Ref 30 dBm

Att 25 dB

RBW 100 kHz

VBW 300 kHz

SWT 15 ms

Marker 1 [T1]

12.92 dBm

827.413461538 MHz

30 Offset 7.1 dB

ndB [T1] 24.00 dB

BW 9.711538462 MHz

Temp 1 [T1 ndB] -12.41 dBm

826.644236769 MHz

Temp 2 [T1 ndB] -12.83 dBm

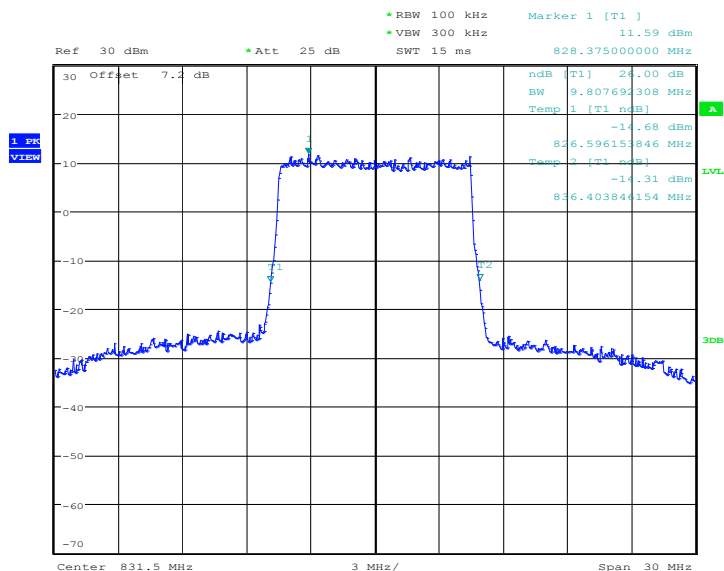
836.355764231 MHz

Center 831.5 MHz

3 MHz/

Span 30 MHz

**LTE band 26, 10MHz Bandwidth, 16QAM (-26dBc BW)**

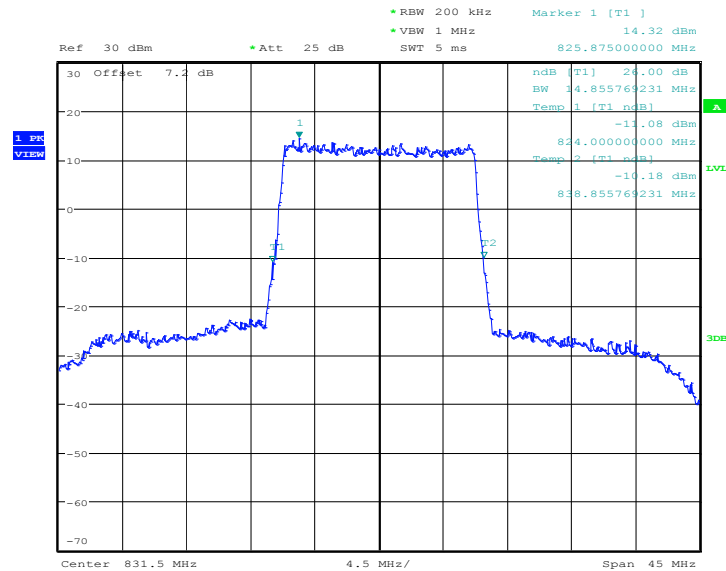


Date: 15.FEB.2017 03:06:44

### LTE band 26, 15MHz (-26dBc)

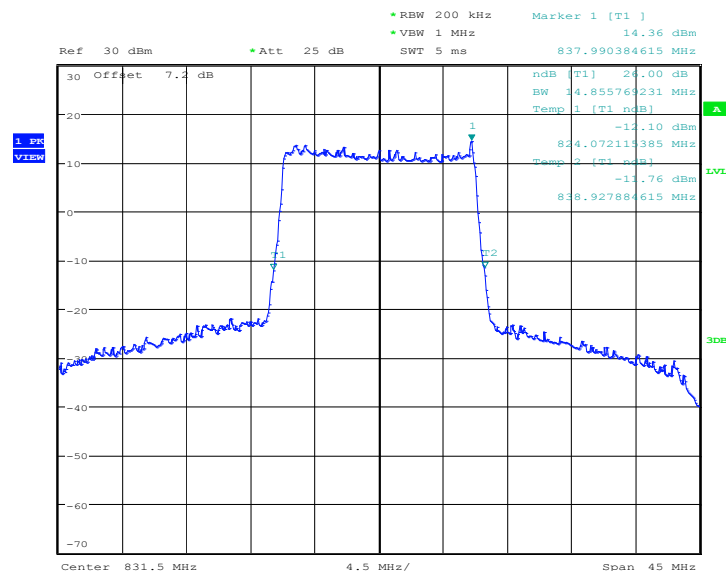
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 831.5          | QPSK                              | 16QAM    |
|                | 14855.77                          | 14855.77 |

### LTE band 26, 15MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 03:53:49

### LTE band 26, 15MHz Bandwidth, 16QAM (-26dBc BW)

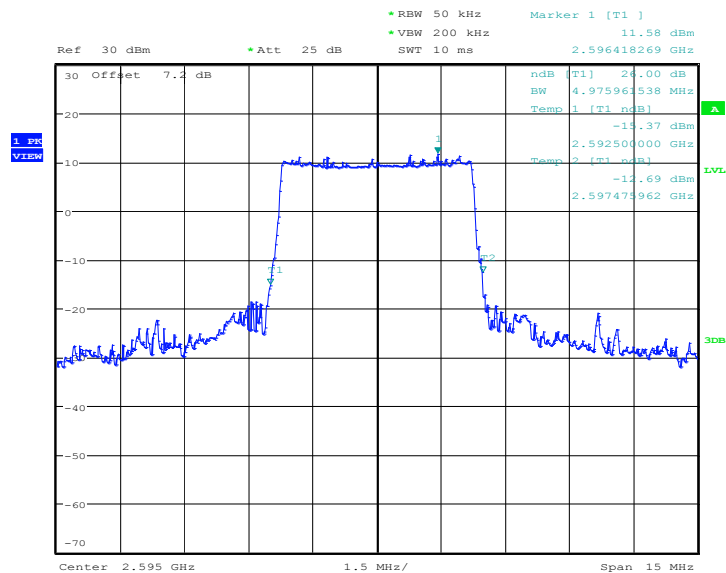


Date: 15.FEB.2017 03:53:19

### LTE band 38, 5MHz (-26dBc)

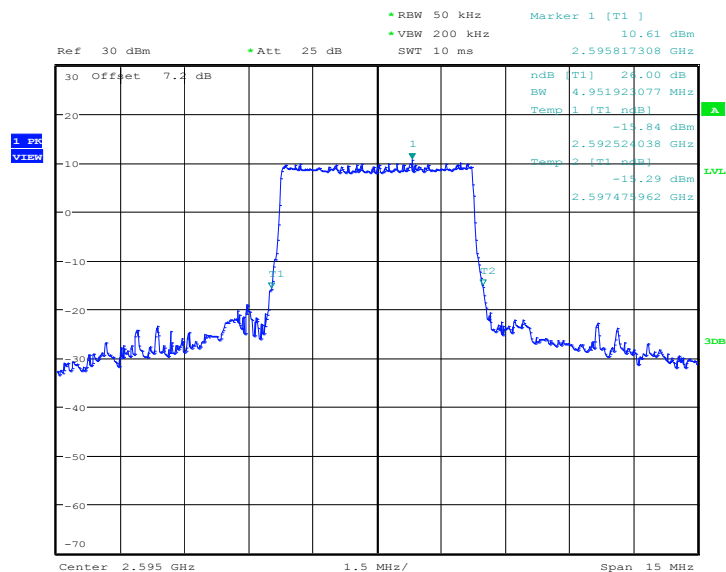
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
| 2595.0         | QPSK                              | 16QAM   |
|                | 4975.96                           | 4951.92 |

### LTE band 38, 5MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 05:37:45

### LTE band 38, 5MHz Bandwidth,16QAM (-26dBc BW)



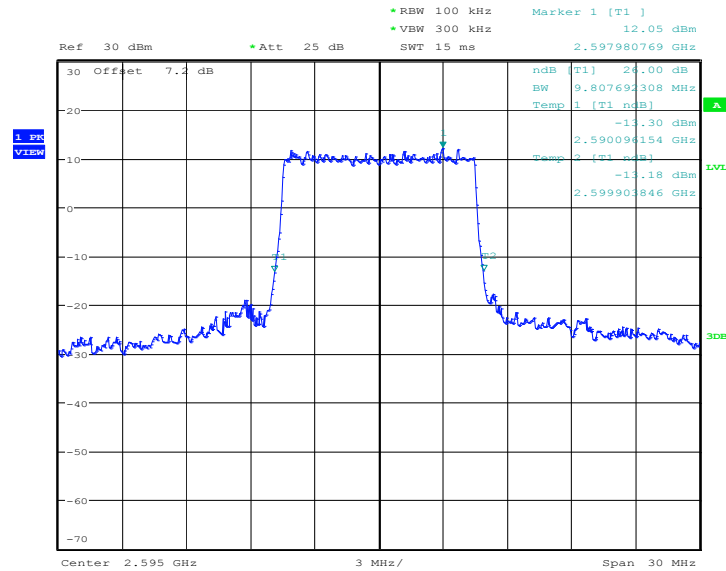
Date: 15.FEB.2017 05:34:48



### LTE band 38, 10MHz (-26dBc)

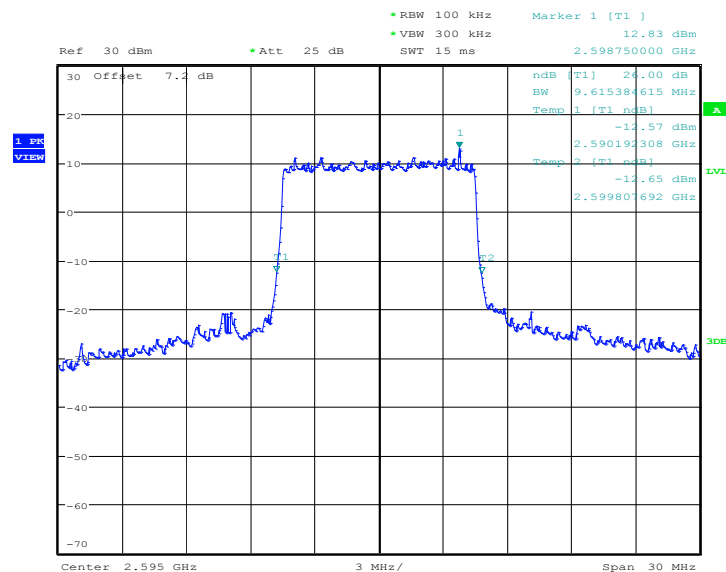
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |         |
|----------------|-----------------------------------|---------|
|                | QPSK                              | 16QAM   |
| 2595.0         | 9807.69                           | 9615.38 |

### LTE band 38, 10MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 05:22:11

### LTE band 38, 10MHz Bandwidth, 16QAM (-26dBc BW)

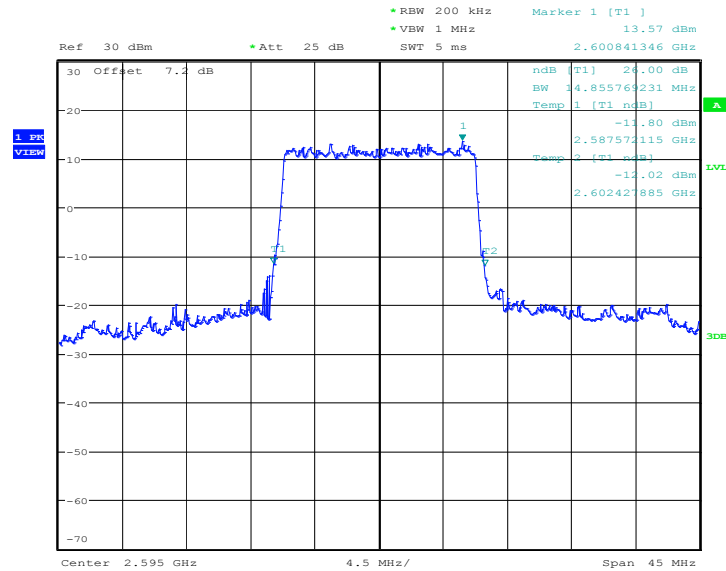


Date: 15.FEB.2017 05:24:22

### LTE band 38, 15MHz (-26dBc)

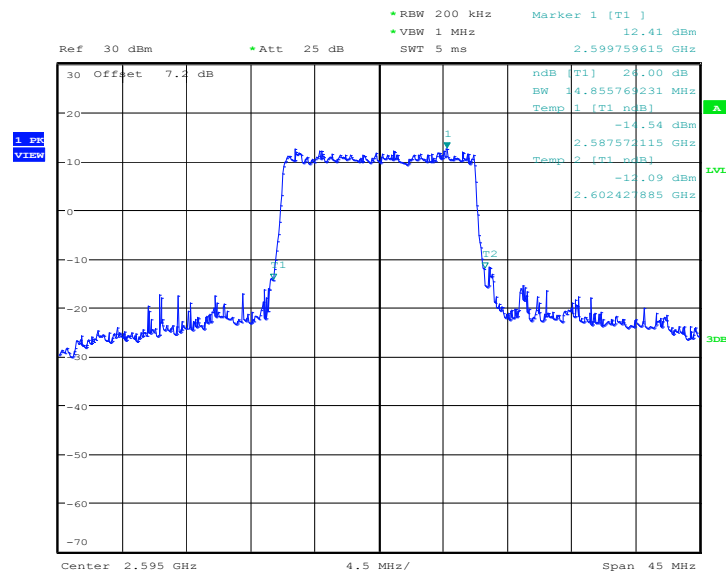
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 2595.0         | QPSK                              | 16QAM    |
|                | 14855.77                          | 14855.77 |

### LTE band 38, 15MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 05:20:02

### LTE band 38, 15MHz Bandwidth, 16QAM (-26dBc BW)

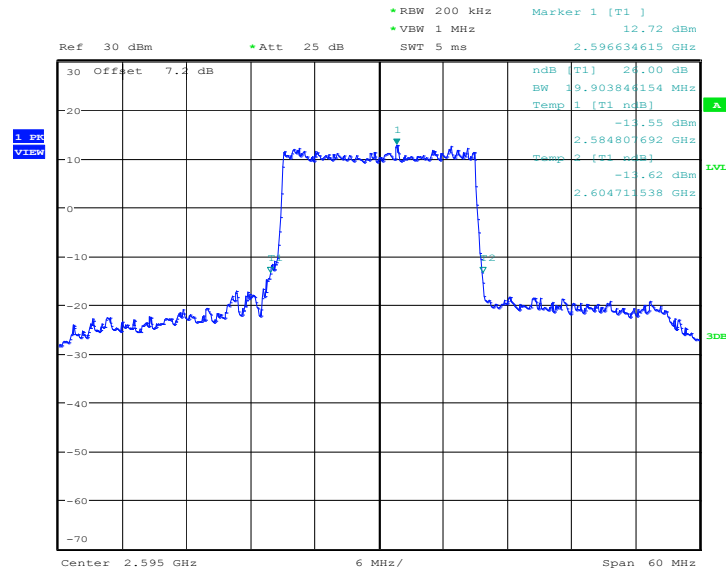


Date: 15.FEB.2017 05:19:22

### LTE band 38, 20MHz (-26dBc)

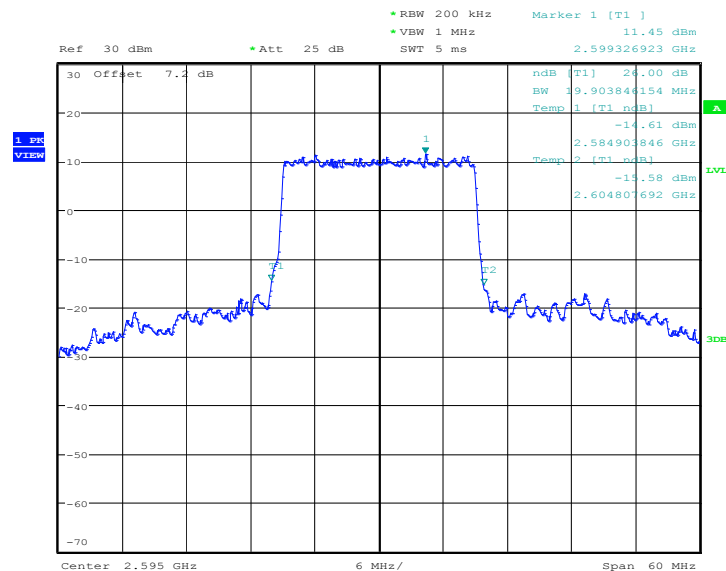
| Frequency(MHz) | Occupied Bandwidth (-26dBc)( kHz) |          |
|----------------|-----------------------------------|----------|
| 2595.0         | QPSK                              | 16QAM    |
|                | 19903.85                          | 19903.85 |

### LTE band 38, 20MHz Bandwidth, QPSK (-26dBc BW)



Date: 15.FEB.2017 05:05:09

### LTE band 38, 20MHz Bandwidth, 16QAM (-26dBc BW)



Date: 15.FEB.2017 05:10:10

## A.6 BAND EDGE COMPLIANCE

### Reference

FCC: CFR Part 22.917(b), 24.238(a), 27.53(h).

#### A.6.1 Measurement limit

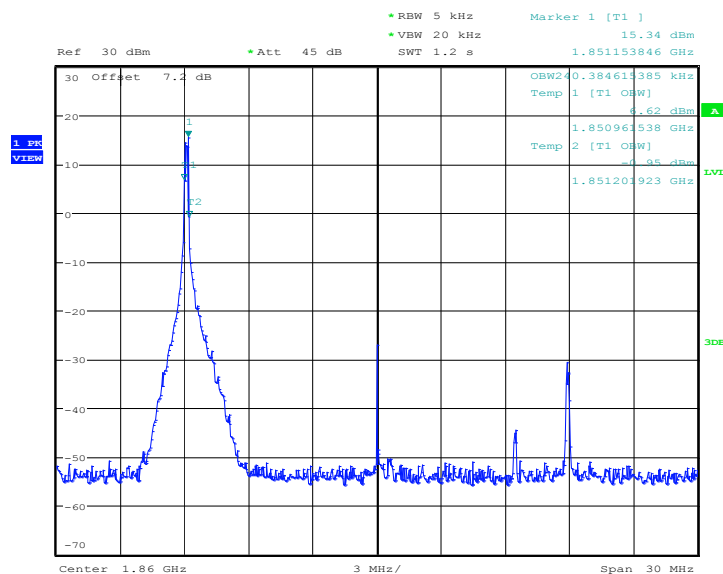
On any frequency outside frequency band of the US Cellular/PCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least  $43 + 10 \log(P)$  dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm. According to KDB 971168 6.0, a relaxation of the reference bandwidth is often provided for measurements within a specified frequency range at the edge of the authorized frequency block/band. This is often implemented by permitting the use of a narrower RBW (typically limited to a minimum RBW of 1% of the OBW) for measuring the out-of-band emissions without a requirement to integrate the result over the full reference bandwidth.

#### A.6.2 Measurement result

Only worst case result is given below

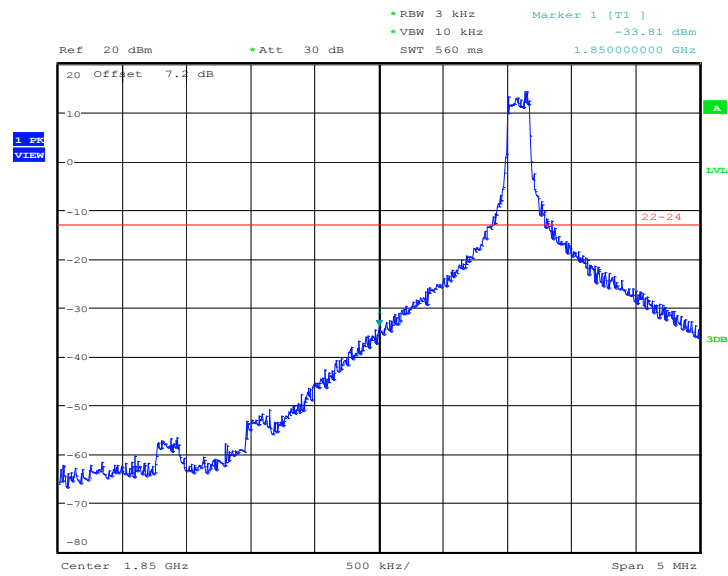
LTE band 2

OBW: 1RB-low\_offset



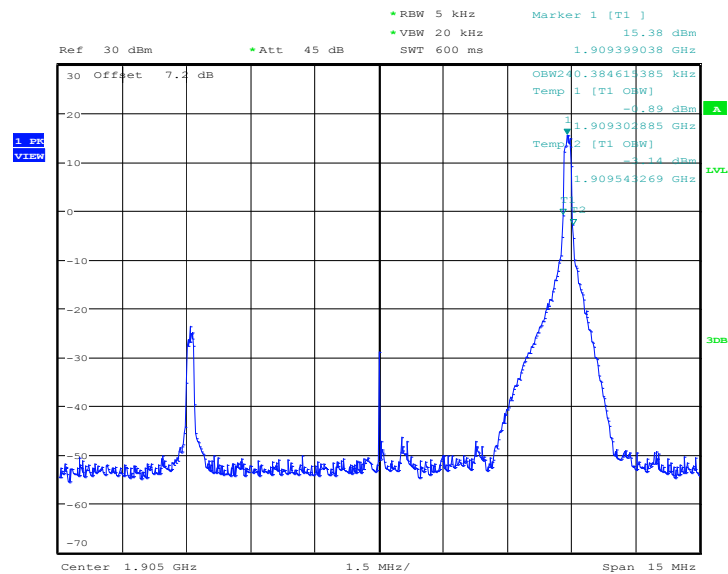
Date: 15.FEB.2017 20:09:08

## LOW BAND EDGE BLOCK-1RB-low\_offset



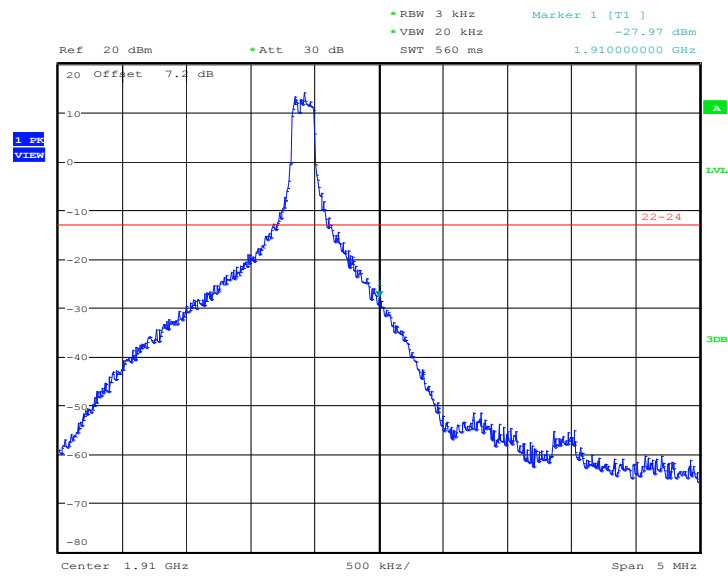
Date: 15.FEB.2017 20:10:13

## OBW: 1RB-high\_offset



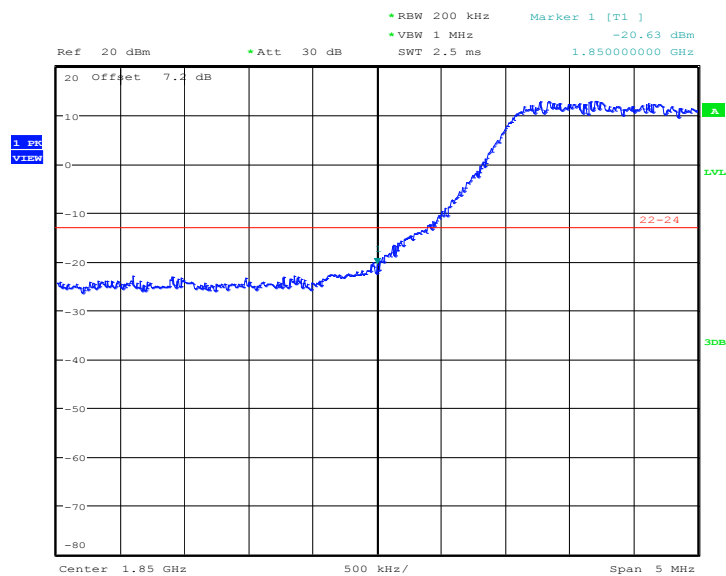
Date: 15.FEB.2017 20:19:44

## HIGH BAND EDGE BLOCK-1RB-high\_offset



Date: 15.FEB.2017 20:20:56

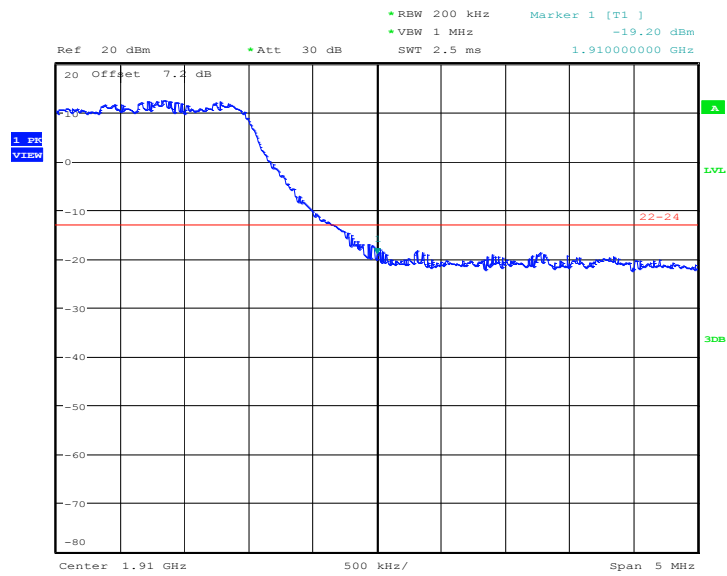
## LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 15.FEB.2017 20:07:41



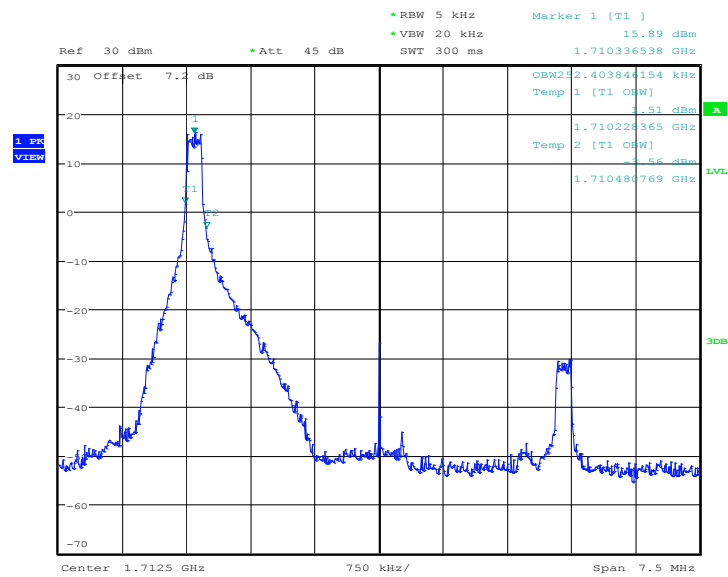
## HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 15.FEB.2017 20:06:59

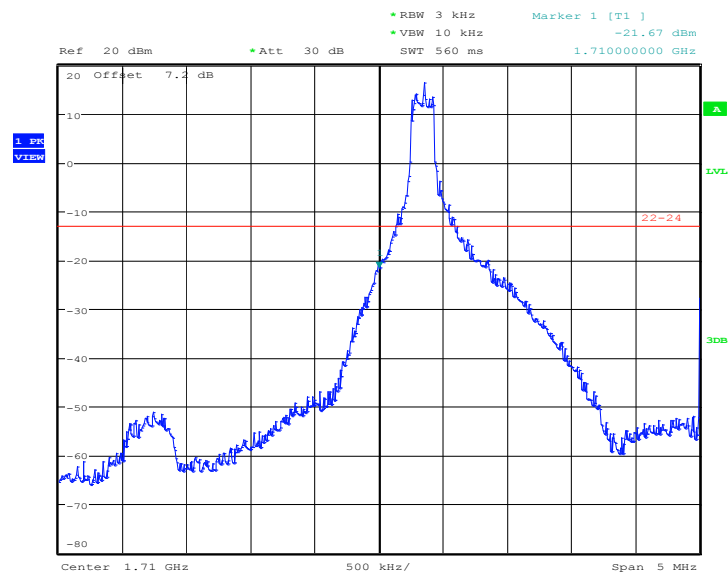


LTE band 4  
OBW: 1RB-low\_offset



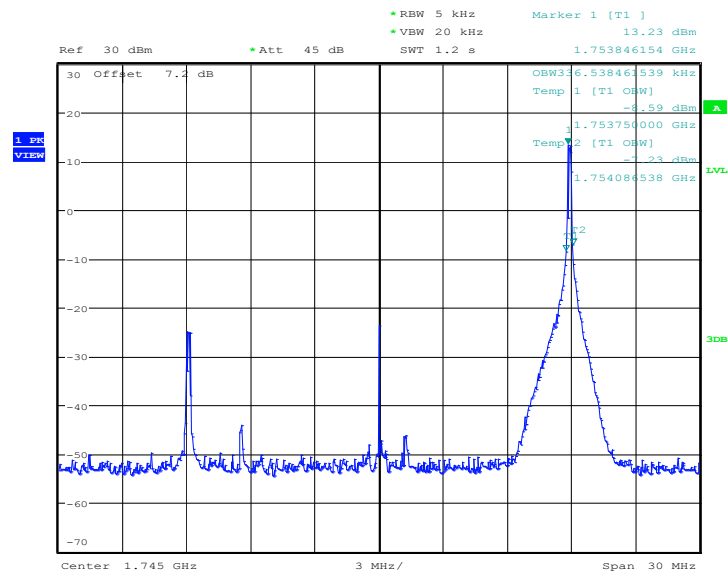
Date: 15.FEB.2017 22:42:12

LOW BAND EDGE BLOCK-1RB-low\_offset



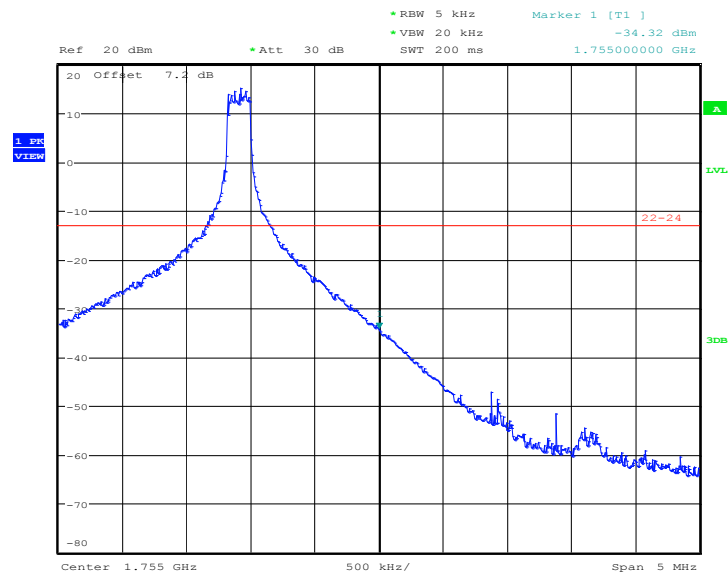
Date: 15.FEB.2017 22:43:21

### OBW: 1RB-high\_offset



Date: 15.FEB.2017 22:45:34

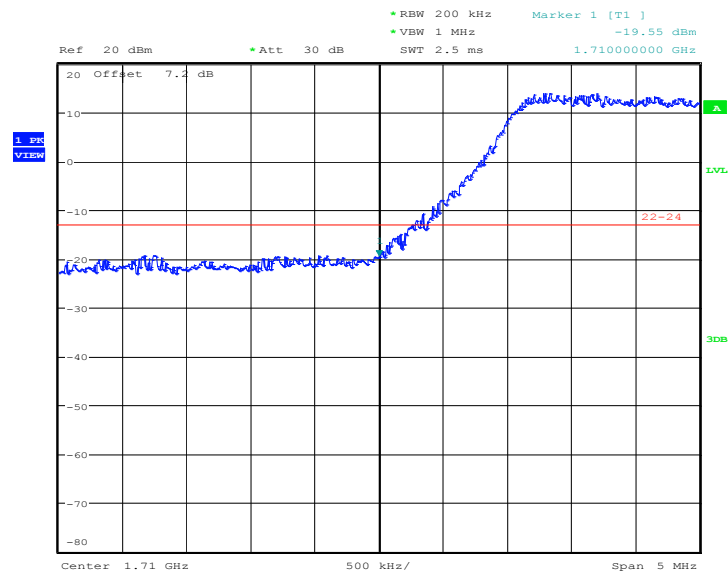
### HIGH BAND EDGE BLOCK-1RB-high\_offset



Date: 15.FEB.2017 22:46:29

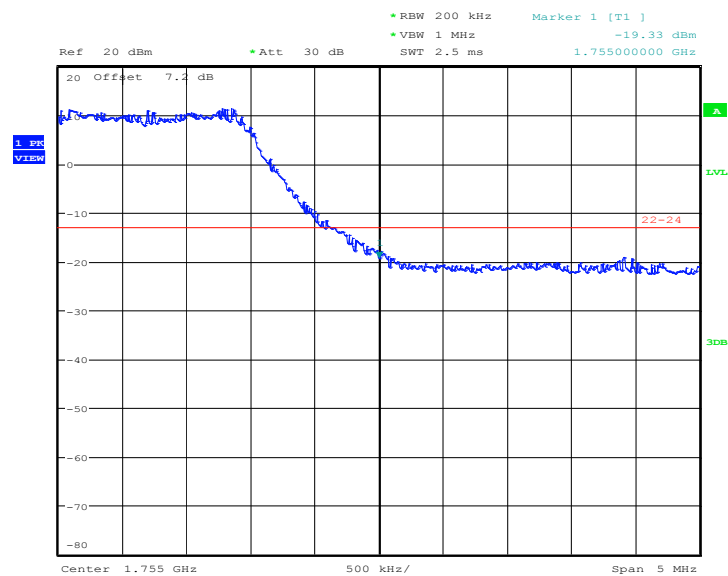


## LOW BAND EDGE BLOCK-20MHz-100%RB

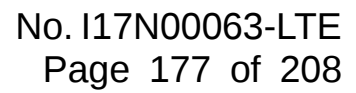


Date: 15.FEB.2017 22:50:37

## HIGH BAND EDGE BLOCK-20MHz-100%RB

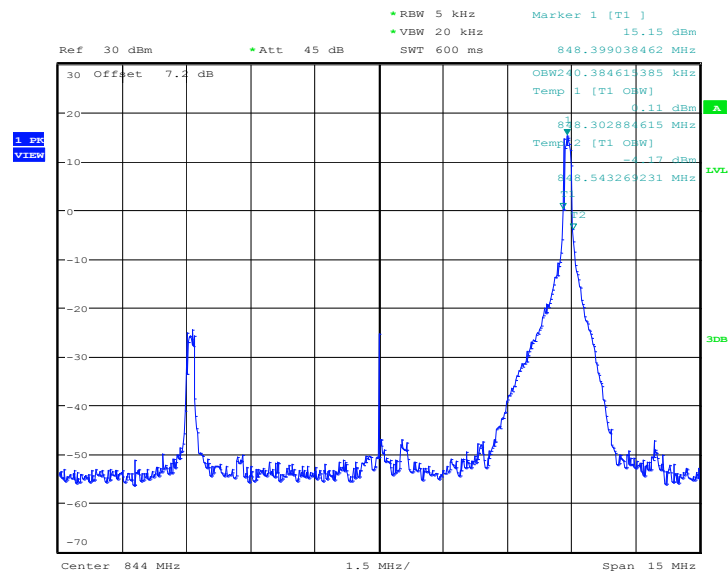


Date: 15.FEB.2017 22:47:46



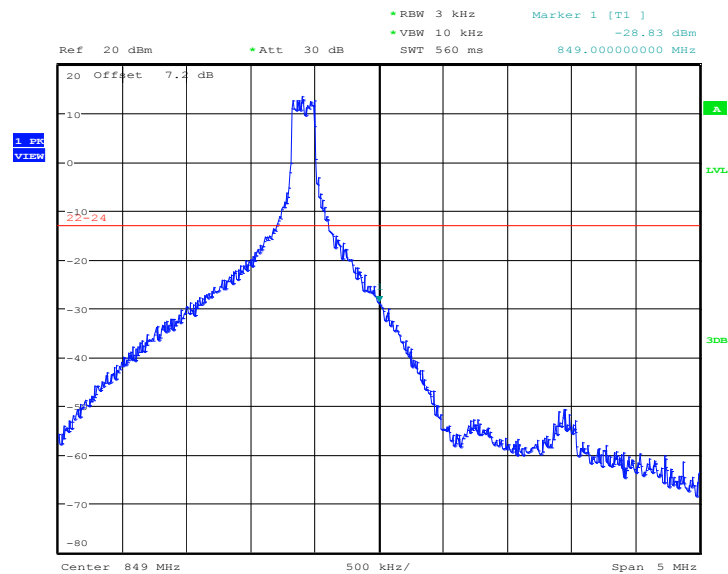
Date: 15.FEB.2017 23:00:07

### OBW: 1RB-high\_offset



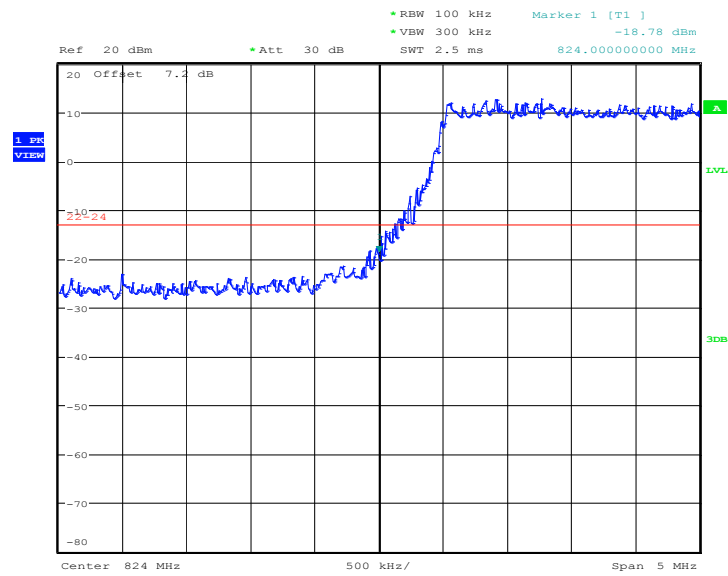
Date: 15.FEB.2017 22:57:27

### HIGH BAND EDGE BLOCK-1RB-high\_offset



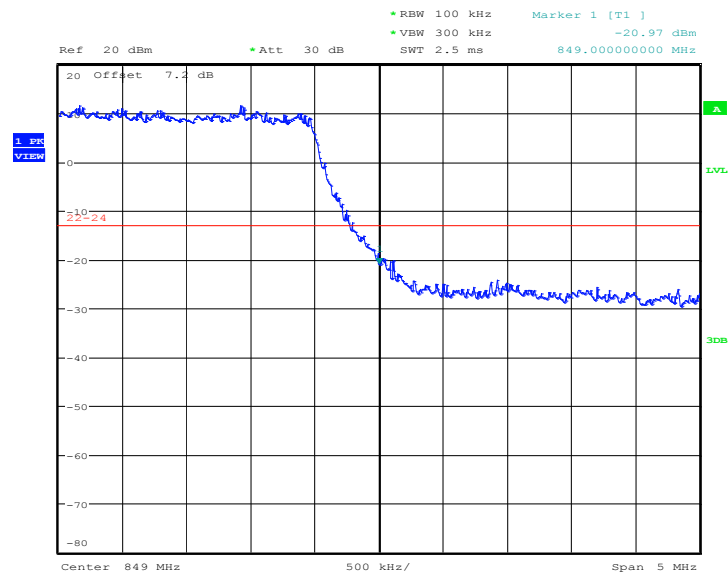
Date: 15.FEB.2017 22:56:30

## LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 15.FEB.2017 22:54:06

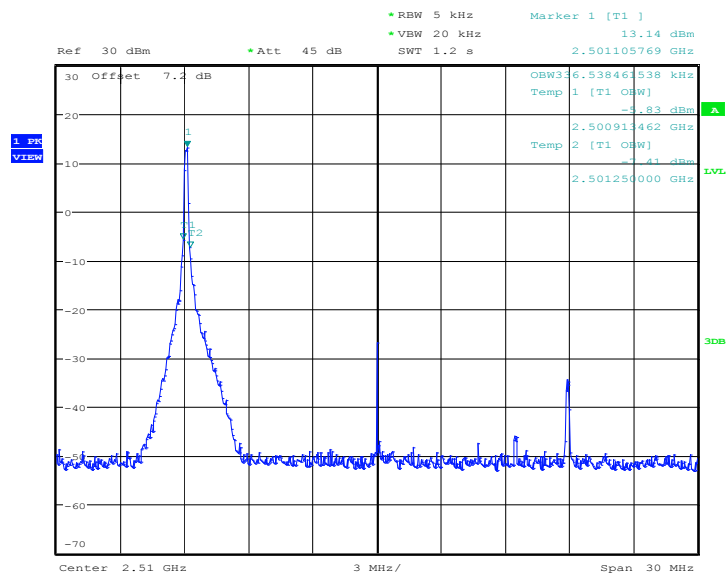
## HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 15.FEB.2017 22:53:05

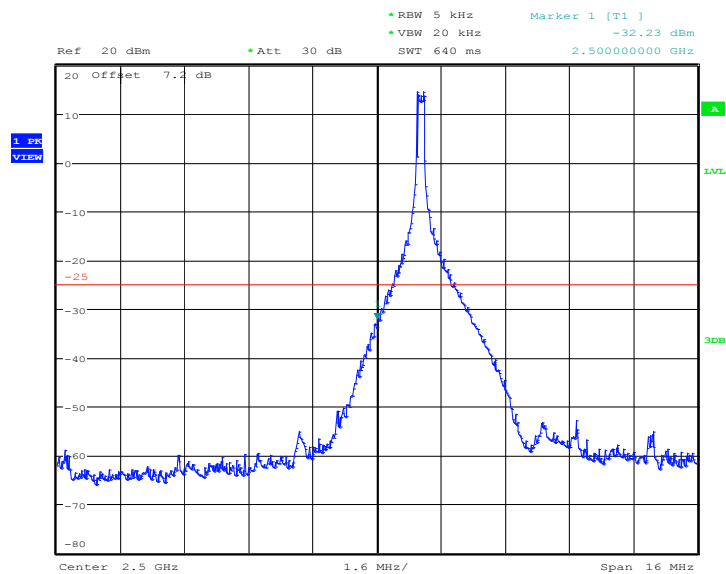


LTE band 7  
OBW: 1RB-low\_offset



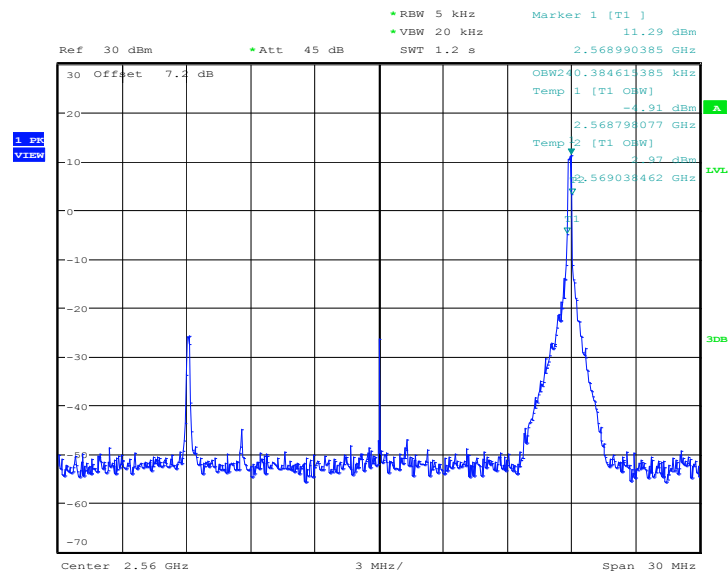
Date: 15.FEB.2017 23:06:17

LOW BAND EDGE BLOCK-1RB-low\_offset



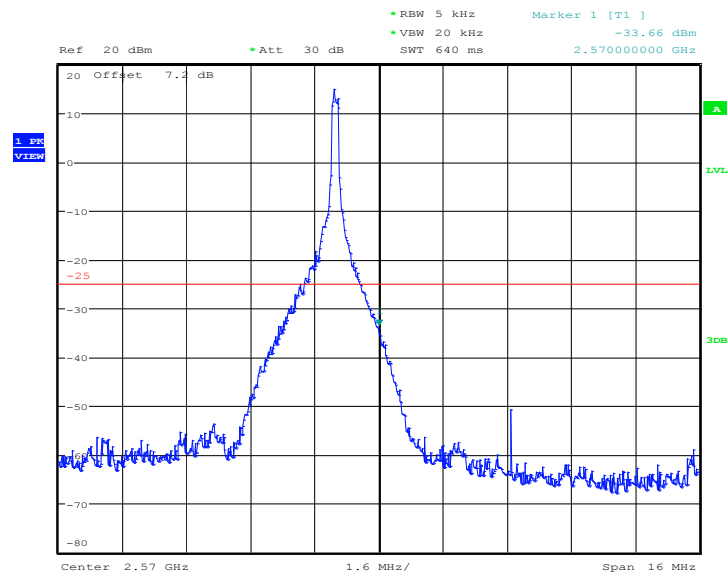
Date: 7.APR.2017 20:42:42

### OBW: 1RB-high\_offset



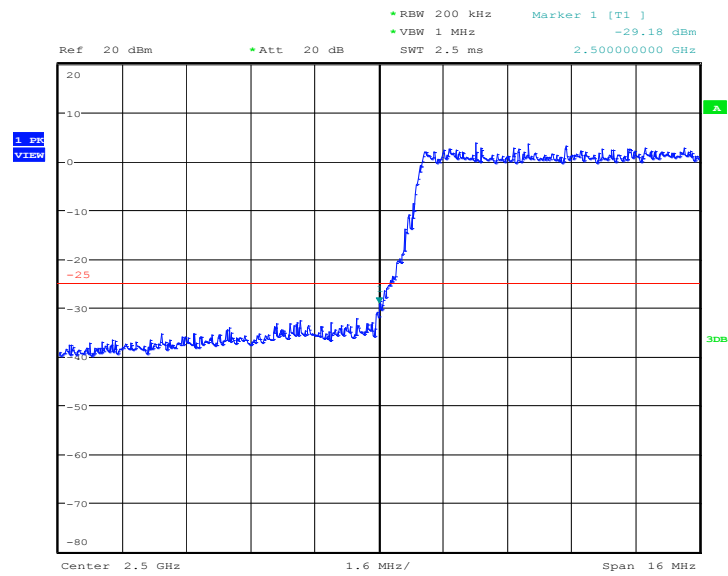
Date: 15.FEB.2017 23:03:07

### HIGH BAND EDGE BLOCK-1RB-high\_offset



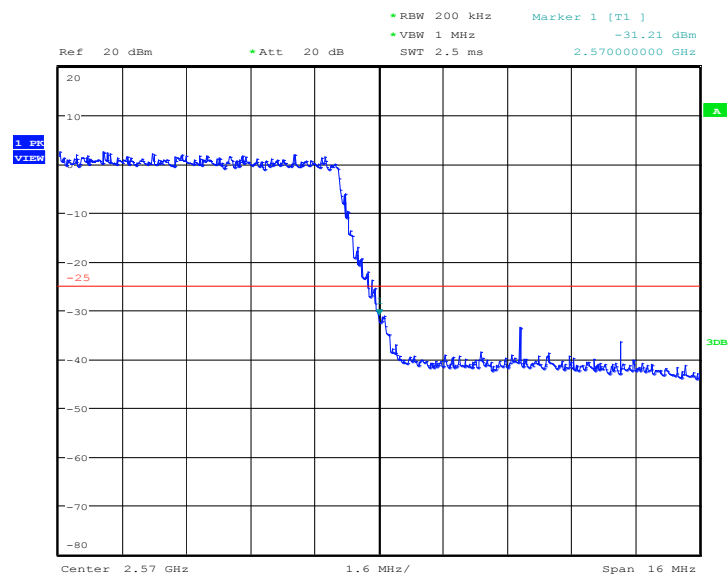
Date: 7.APR.2017 20:45:27

## LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 7.APR.2017 20:56:02

## HIGH BAND EDGE BLOCK-20MHz-100%RB

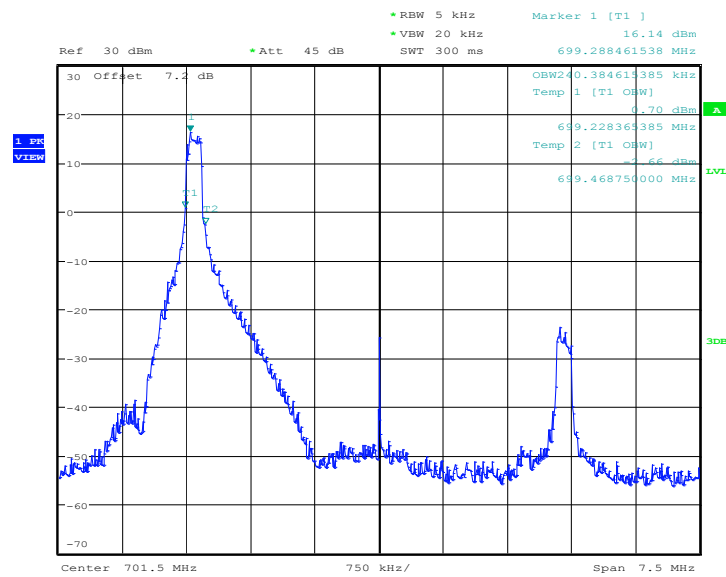


Date: 7.APR.2017 20:54:47



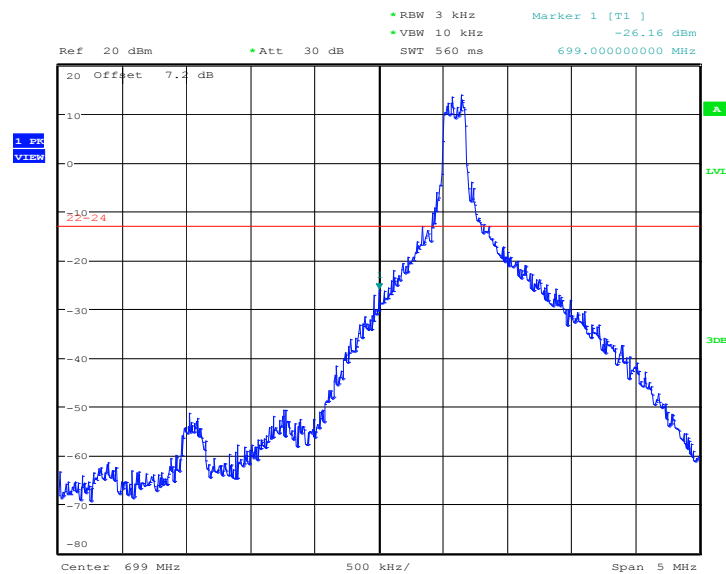
## LTE band 12

### OBW: 1RB-low\_offset



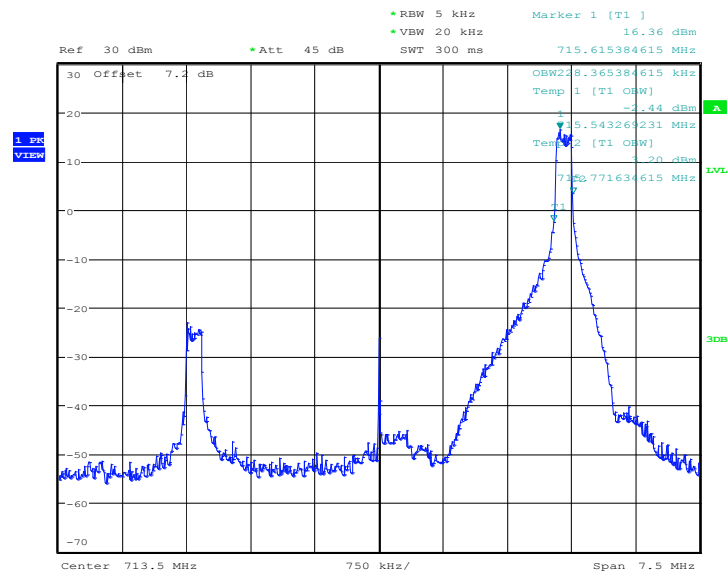
Date: 15.FEB.2017 23:16:05

### LOW BAND EDGE BLOCK-1RB-low\_offset



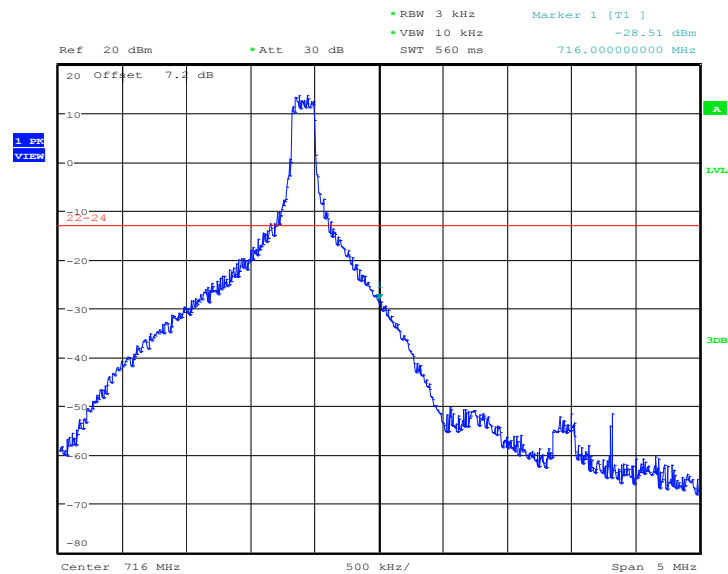
Date: 15.FEB.2017 23:13:20

### OBW: 1RB-high\_offset



Date: 15.FEB.2017 23:16:52

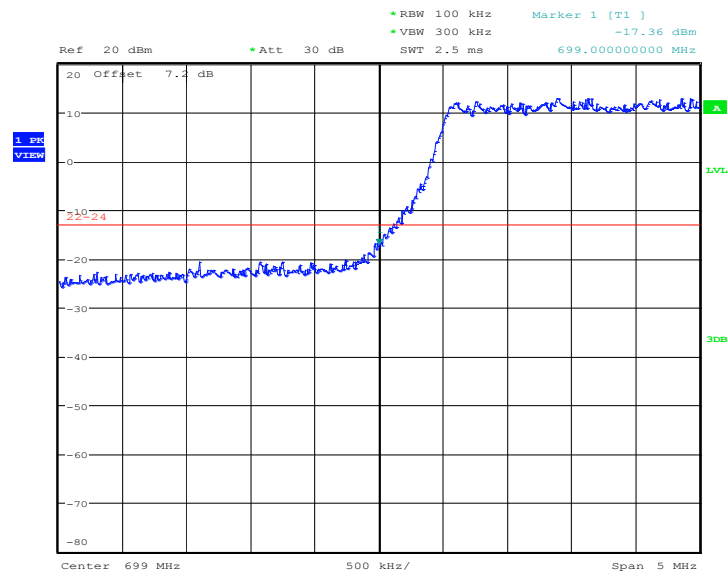
### HIGH BAND EDGE BLOCK-1RB-high\_offset



Date: 15.FEB.2017 23:14:30

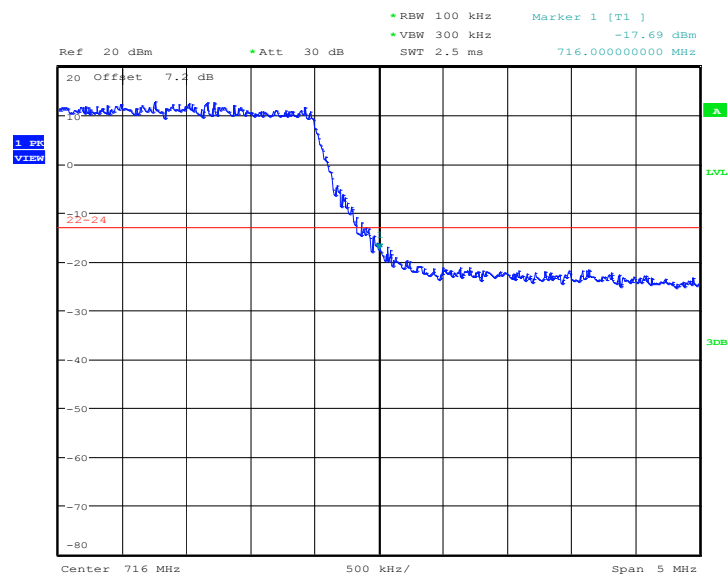


## LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 15.FEB.2017 23:11:13

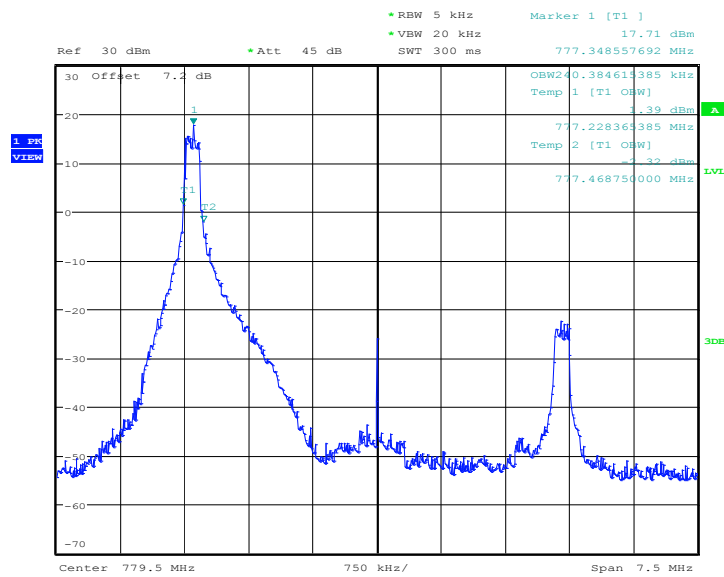
## HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 15.FEB.2017 23:10:27

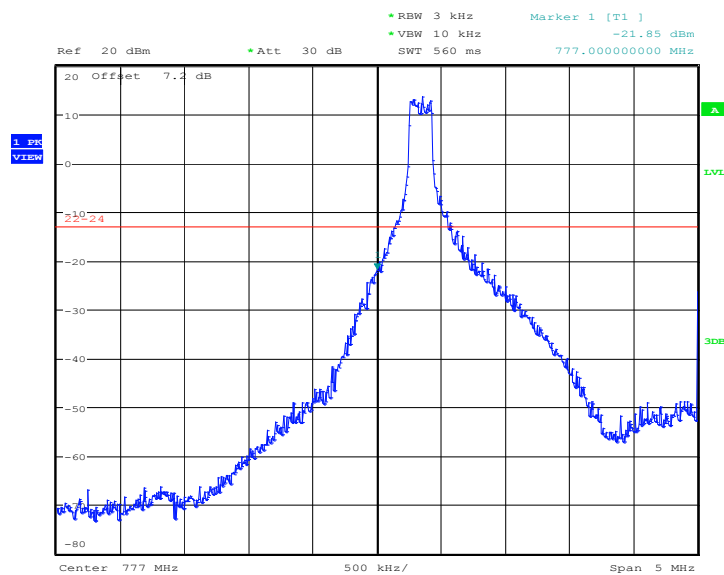


LTE band 13  
OBW: 1RB-low\_offset

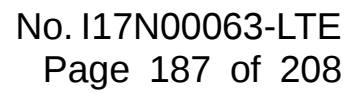


Date: 15.FEB.2017 23:32:15

LOW BAND EDGE BLOCK-1RB-low\_offset



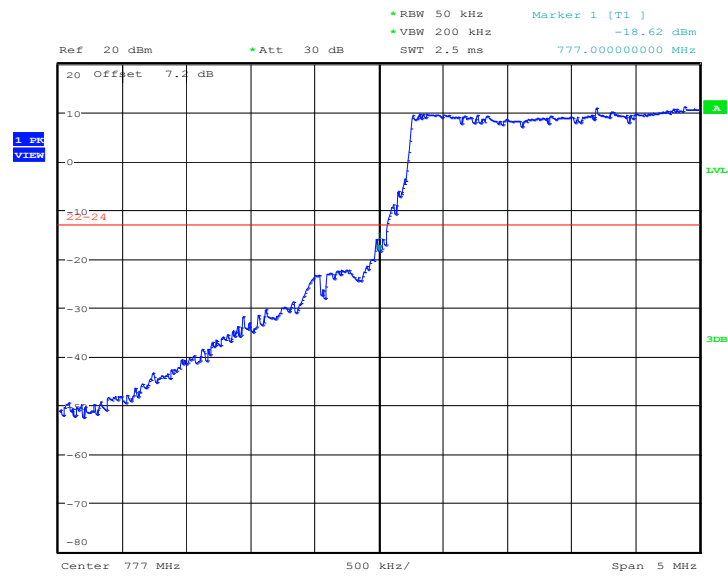
Date: 15.FEB.2017 23:33:25



Date: 15.FEB.2017 23:36:18

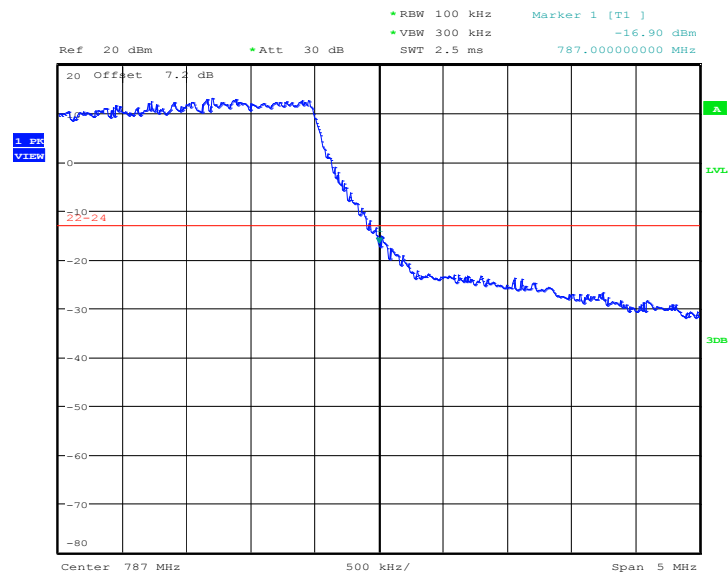
Date: 15.FEB.2017 23:35:11

## LOW BAND EDGE BLOCK-5MHz-100%RB



Date: 15.FEB.2017 23:49:48

## HIGH BAND EDGE BLOCK-5MHz-100%RB

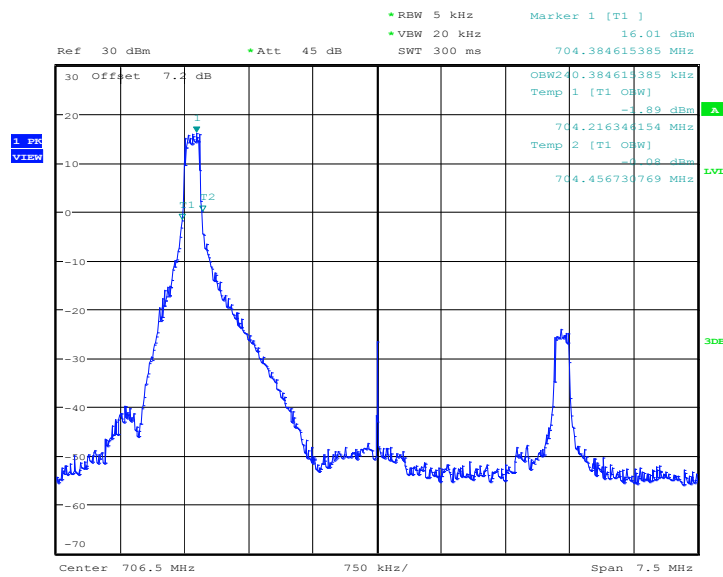


Date: 15.FEB.2017 23:43:43



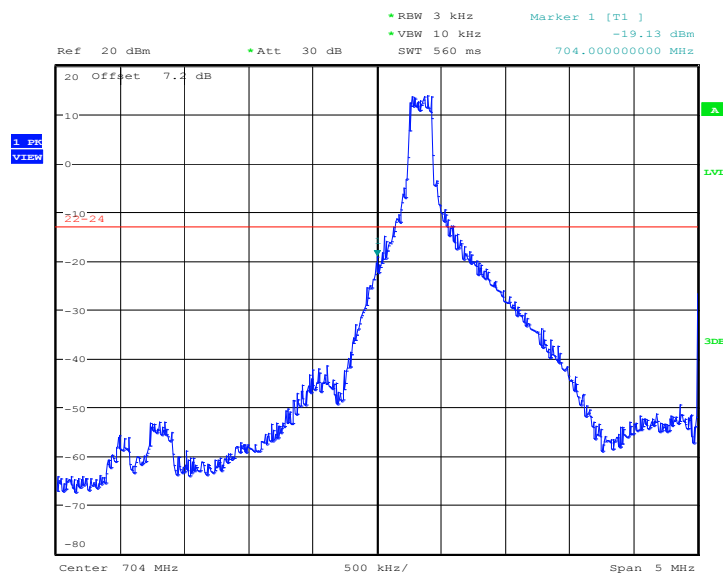
## LTE band 17

### OBW: 1RB-low\_offset



Date: 15.FEB.2017 23:19:20

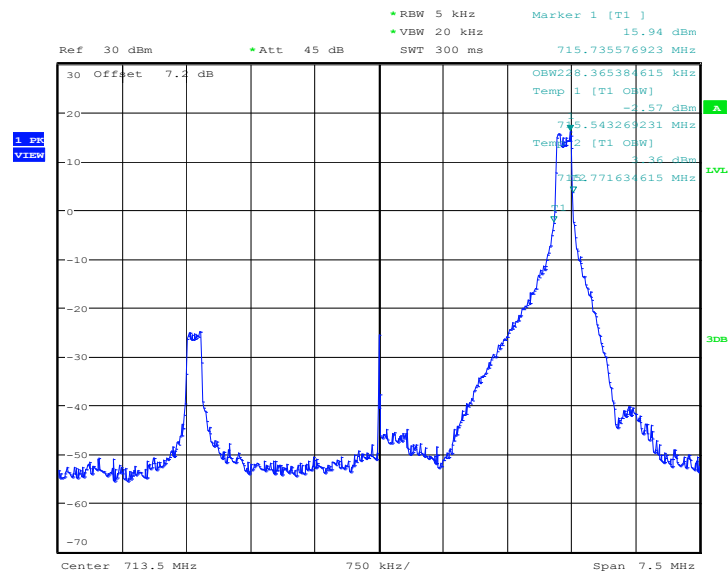
### LOW BAND EDGE BLOCK-1RB-low\_offset



Date: 15.FEB.2017 23:20:36

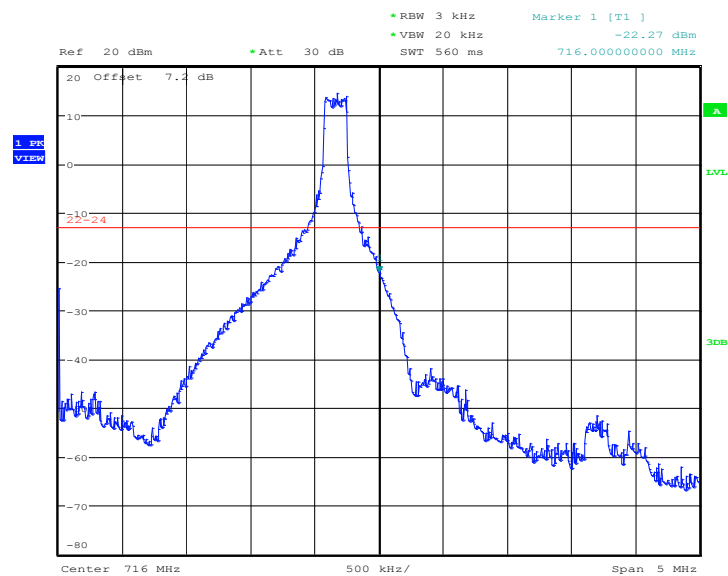


### OBW: 1RB-high\_offset



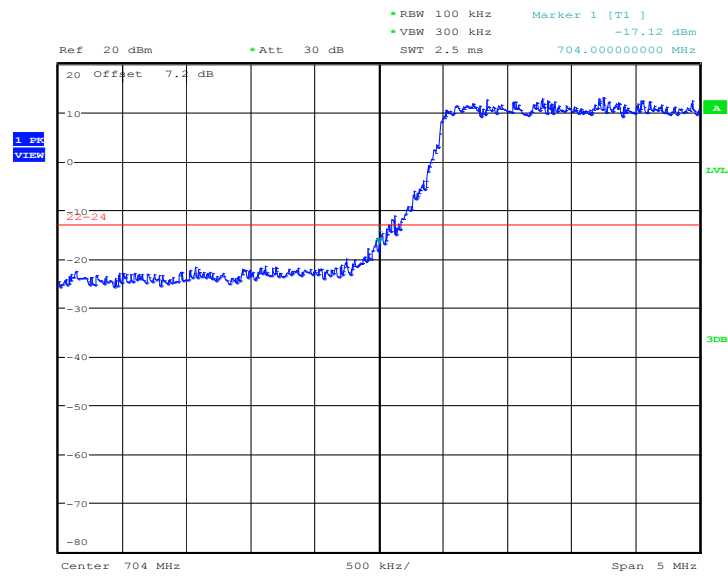
Date: 15.FEB.2017 23:24:11

### HIGH BAND EDGE BLOCK-1RB-high\_offset



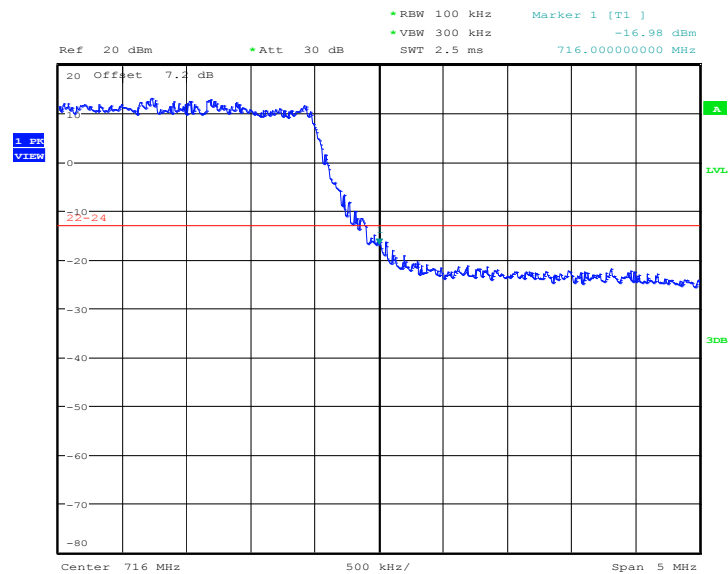
Date: 15.FEB.2017 23:21:42

## LOW BAND EDGE BLOCK-10MHz-100%RB



Date: 15.FEB.2017 23:26:26

## HIGH BAND EDGE BLOCK-10MHz-100%RB

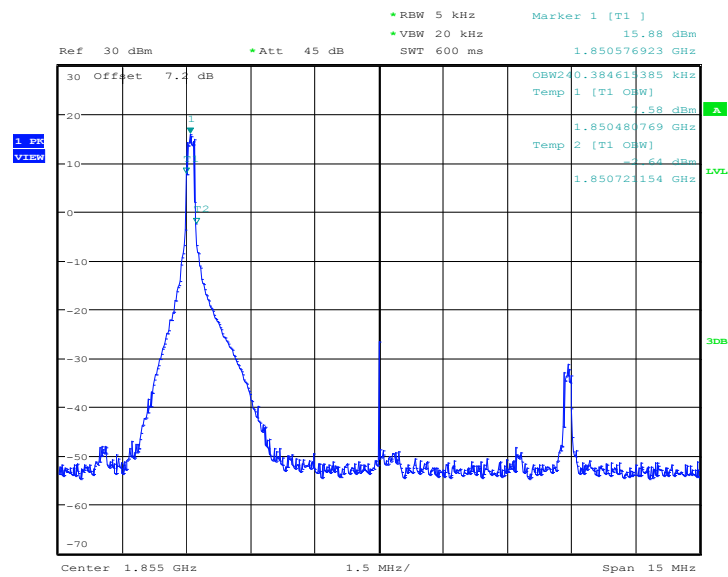


Date: 15.FEB.2017 23:27:01



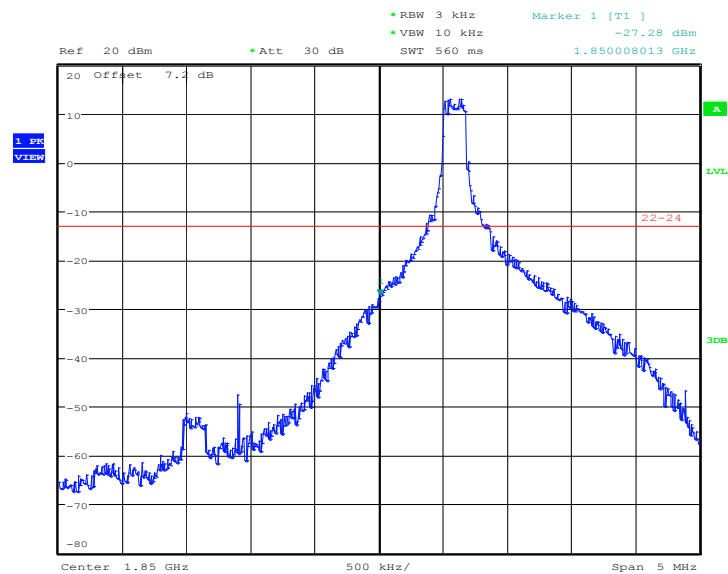
## LTE band 25

OBW: 1RB-low\_offset



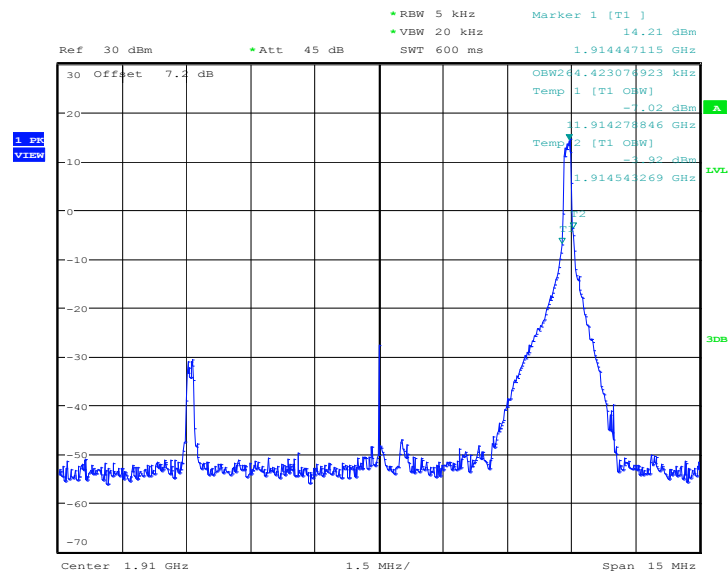
Date: 16.FEB.2017 00:03:35

## LOW BAND EDGE BLOCK-1RB-low\_offset



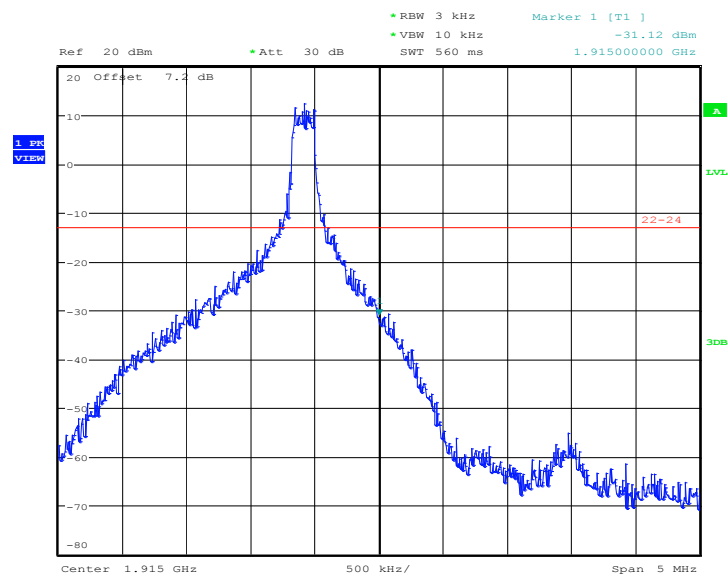
Date: 16.FEB.2017 00:07:36

### OBW: 1RB-high\_offset



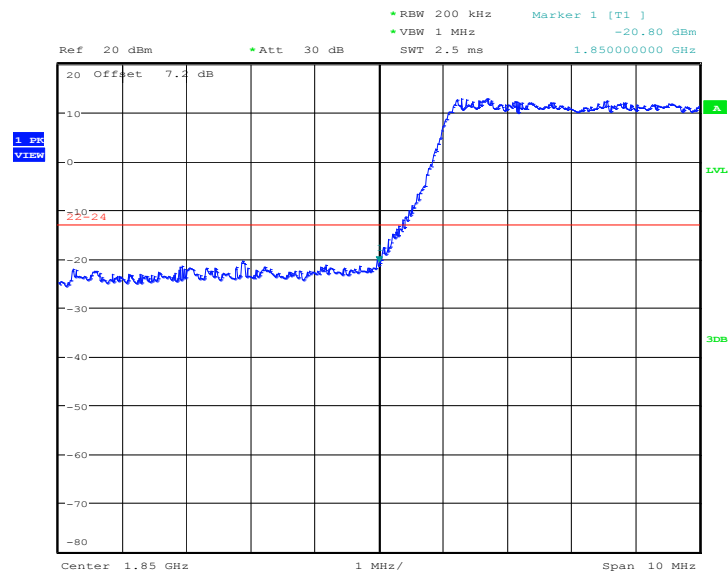
Date: 16.FEB.2017 00:04:40

### HIGH BAND EDGE BLOCK-1RB-high\_offset



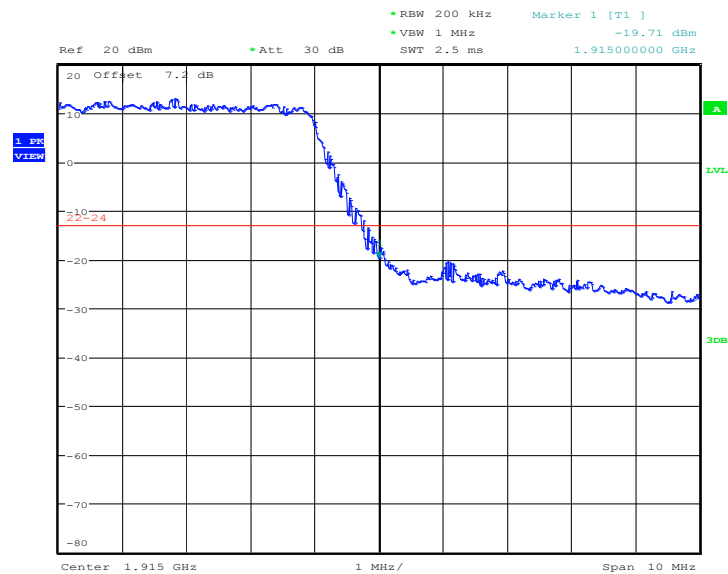
Date: 16.FEB.2017 00:06:53

## LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 16.FEB.2017 00:10:42

## HIGH BAND EDGE BLOCK-20MHz-100%RB

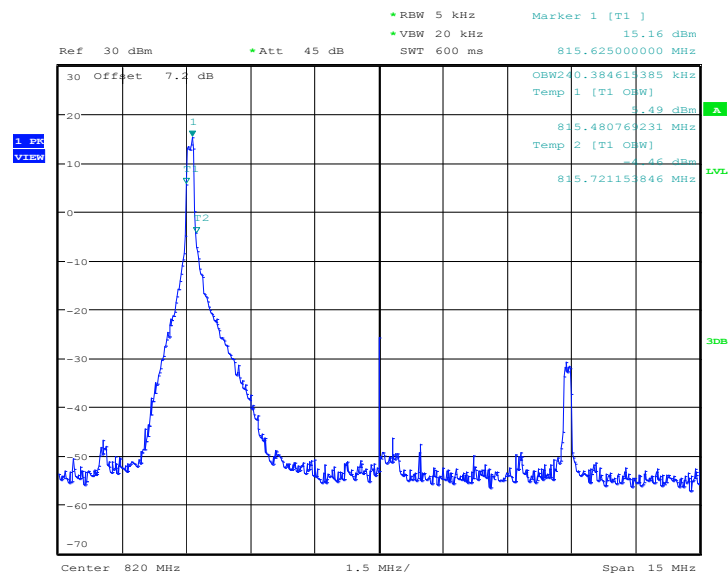


Date: 16.FEB.2017 00:11:39



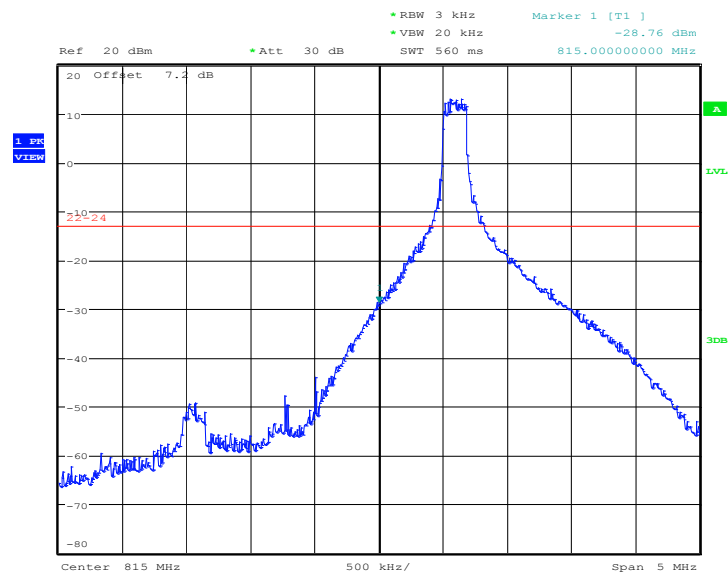
## LTE band 26

### OBW: 1RB-low\_offset



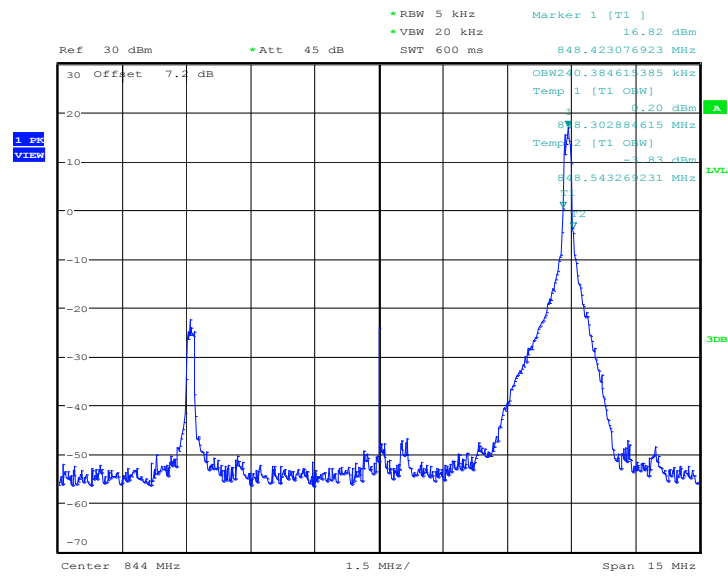
Date: 15.FEB.2017 23:57:34

### LOW BAND EDGE BLOCK-1RB-low\_offset



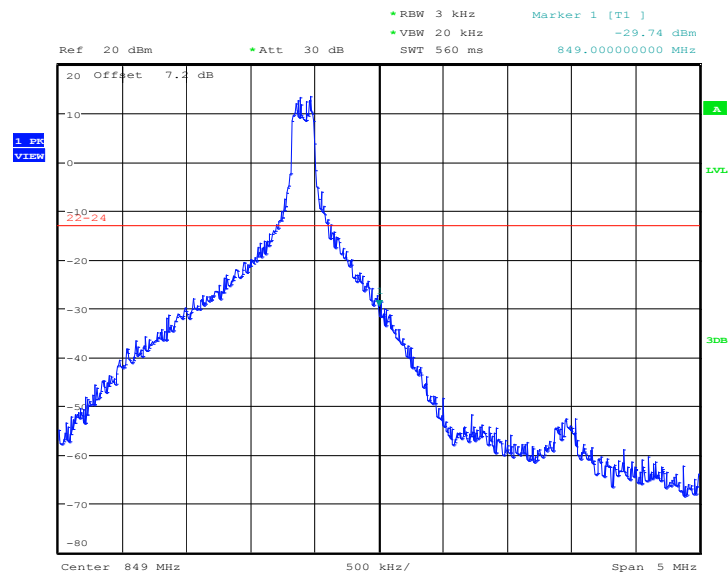
Date: 15.FEB.2017 23:56:04

### OBW: 1RB-high\_offset



Date: 15.FEB.2017 23:58:22

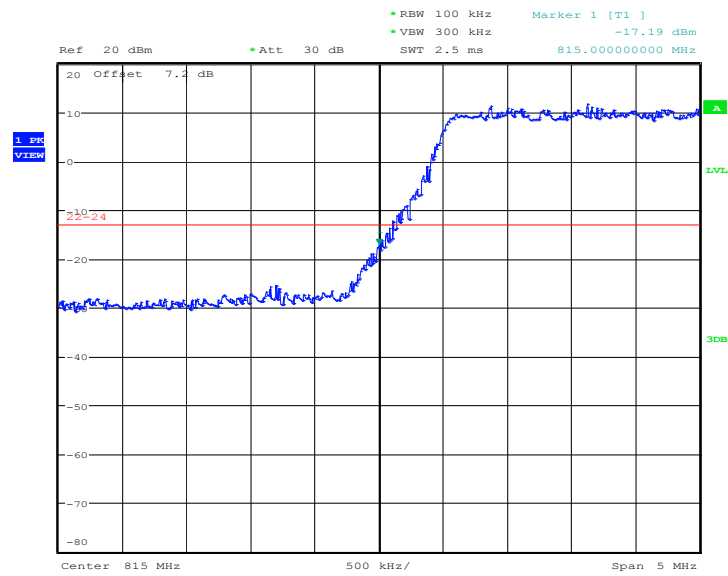
### HIGH BAND EDGE BLOCK-1RB-high\_offset



Date: 15.FEB.2017 23:54:55

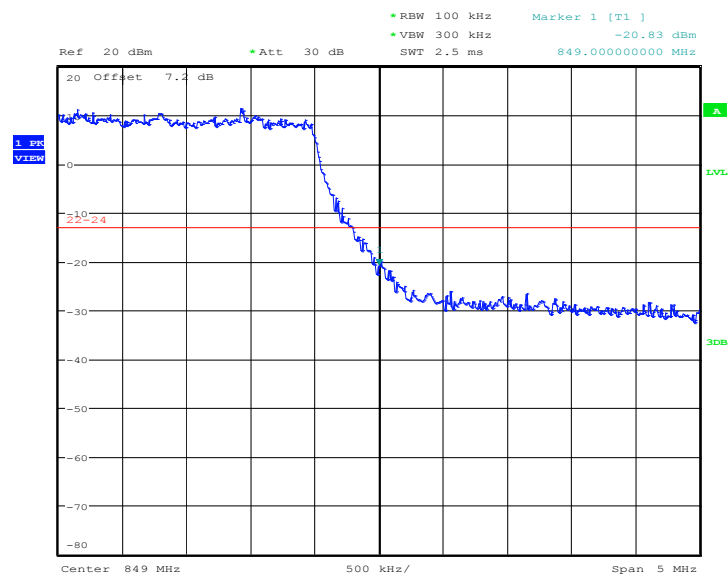


## LOW BAND EDGE BLOCK-10MHz-100%RB

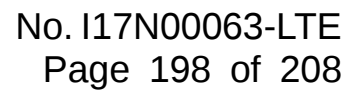


Date: 15.FEB.2017 23:51:59

## HIGH BAND EDGE BLOCK-10MHz-100%RB



Date: 15.FEB.2017 23:52:38

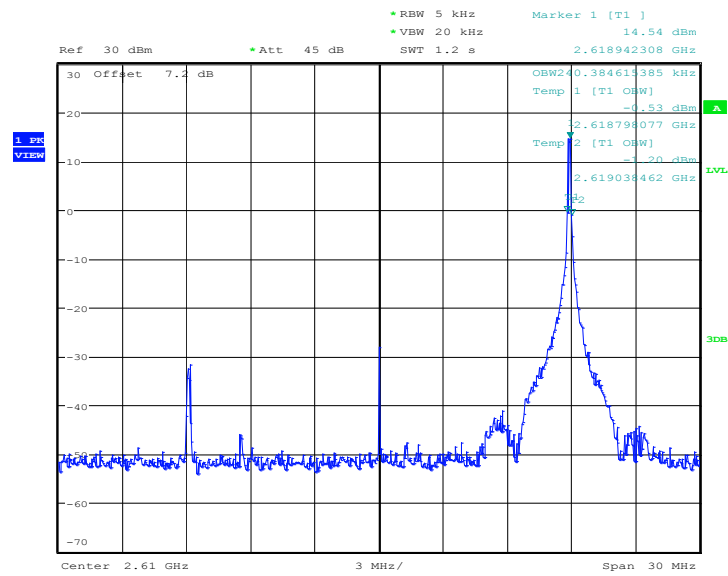


**OBW: 1RB-low\_offset**

Date: 15.FEB.2017 19:35:30

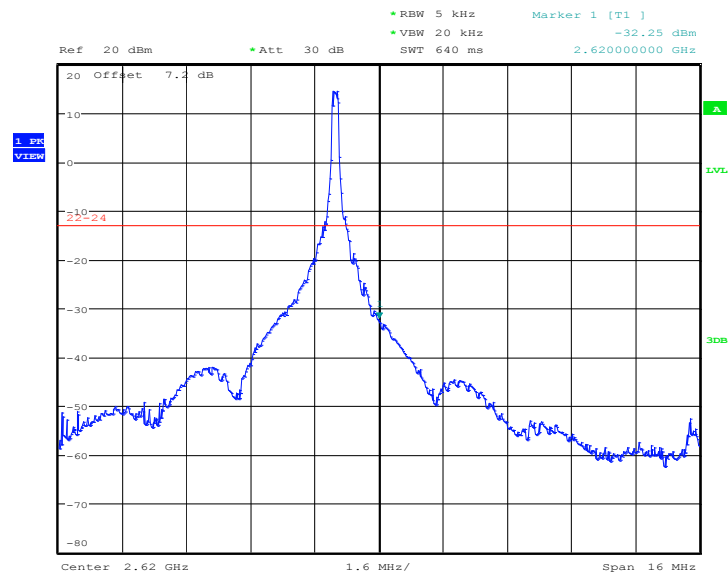
Date: 15.FEB.2017 19:39:08

### OBW: 1RB-high\_offset



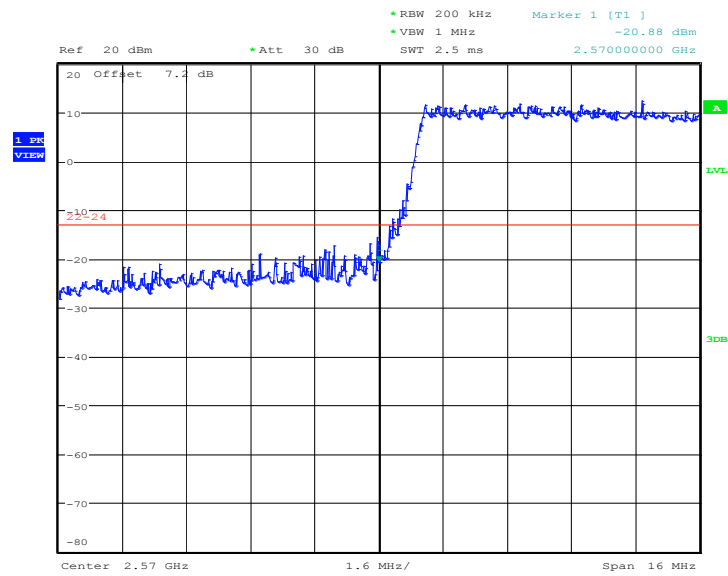
Date: 15.FEB.2017 19:41:39

### HIGH BAND EDGE BLOCK-1RB-high\_offset



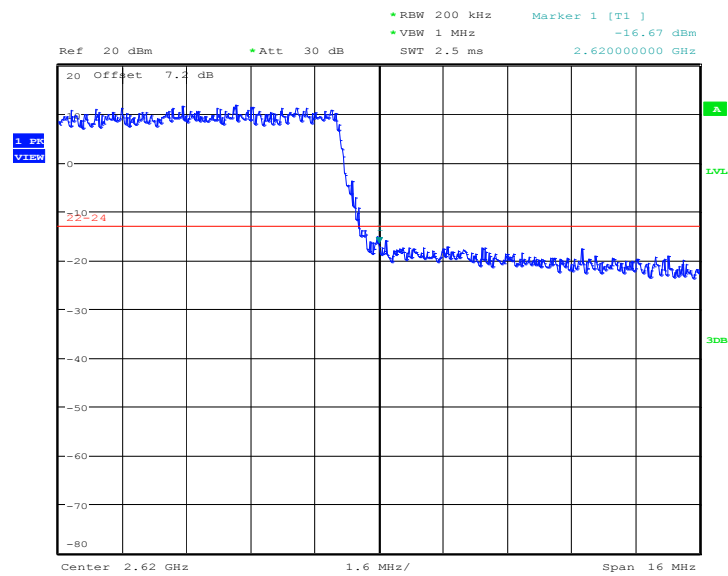
Date: 15.FEB.2017 19:45:59

## LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 15.FEB.2017 20:00:51

## HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 15.FEB.2017 20:02:21

## **A.7 CONDUCTED SPURIOUS EMISSION**

### **Reference**

FCC: CFR Part 2.1057, 22.917, 24.238, 27.53(h).

### **A.7.1 Measurement Method**

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the mobile station equipment tested, this equates to a frequency range of 13 MHz to 9 GHz, data taken from 10 MHz to 25 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

### **A. 7.2 Measurement Limit**

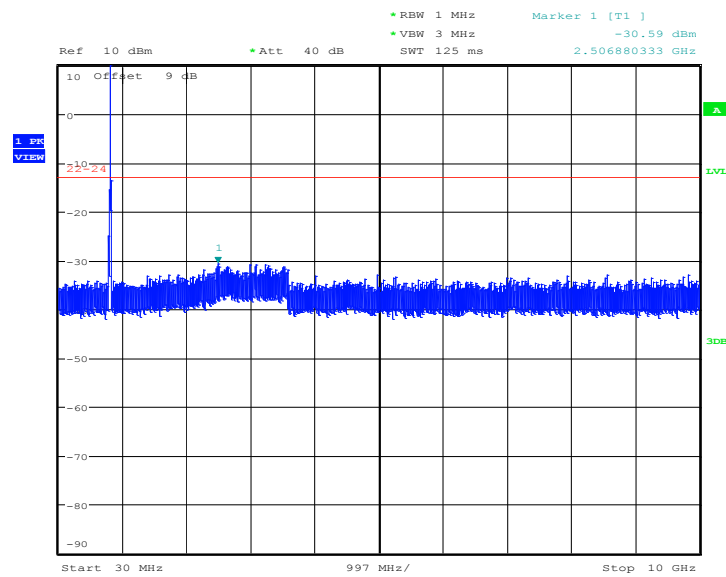
Part 22.917, Part 24.238 and Part 27.53 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

The specification that emissions shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log(P)$  dB, translates in the relevant power range (1 to 0.001 W) to -13 dBm. At 1 W the specified minimum attenuation becomes 43 dB and relative to a 30 dBm (1 W) carrier becomes a limit of -13 dBm. At 0.001 W (0 dBm) the minimum attenuation is 13 dB, which again yields a limit of -13 dBm. In this way a translation of the specification from relative to absolute terms is carried out.



### LTE band 5: 30MHz – 10GHz

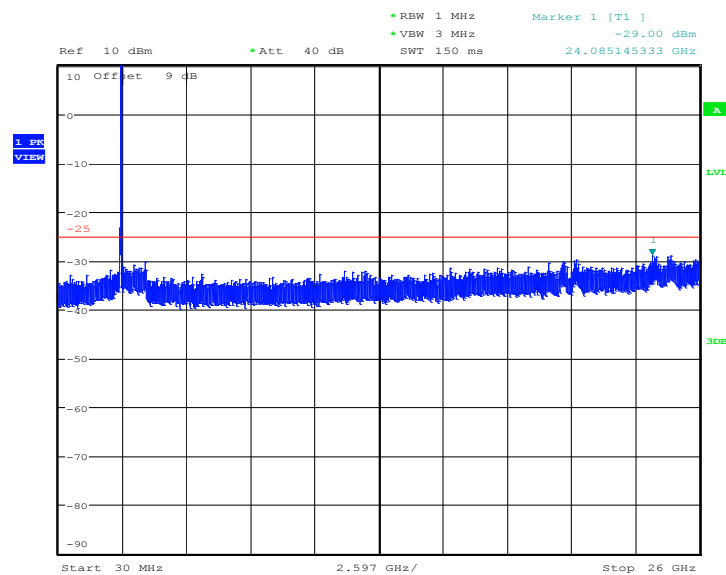
Spurious emission limit –13dBm.



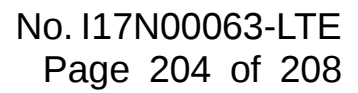
Date: 16.FEB.2017 00:20:28

### LTE band 7: 30MHz – 26GHz

Spurious emission limit –13dBm.



Date: 4.APR.2017 21:59:14

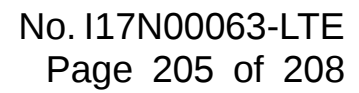


Spurious emission limit  $-13\text{dBm}$ .

Date: 16.FEB.2017 00:23:51

Spurious emission limit  $-13\text{dBm}$ .

Date: 16.FEB.2017 00:24:44



Spurious emission limit  $-13\text{dBm}$ .

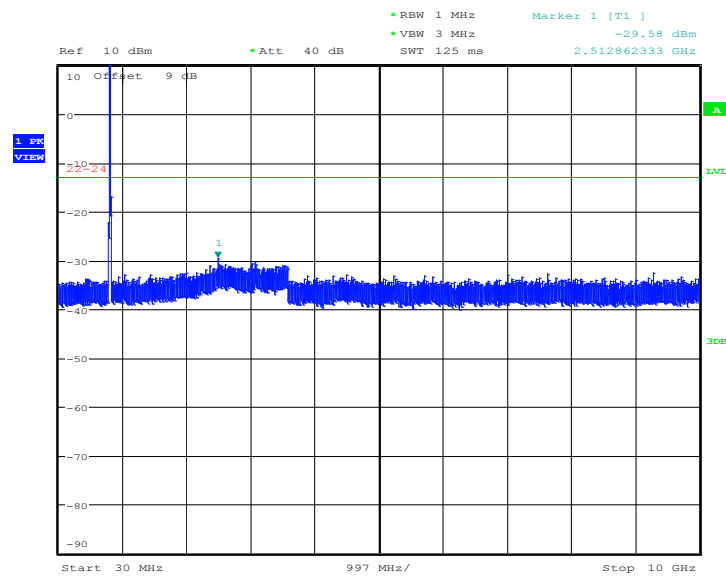
Date: 16.FEB.2017 00:26:05

Spurious emission limit  $-13\text{dBm}$ .

Date: 16.FEB.2017 00:28:25

### LTE band 26: 30MHz – 10GHz

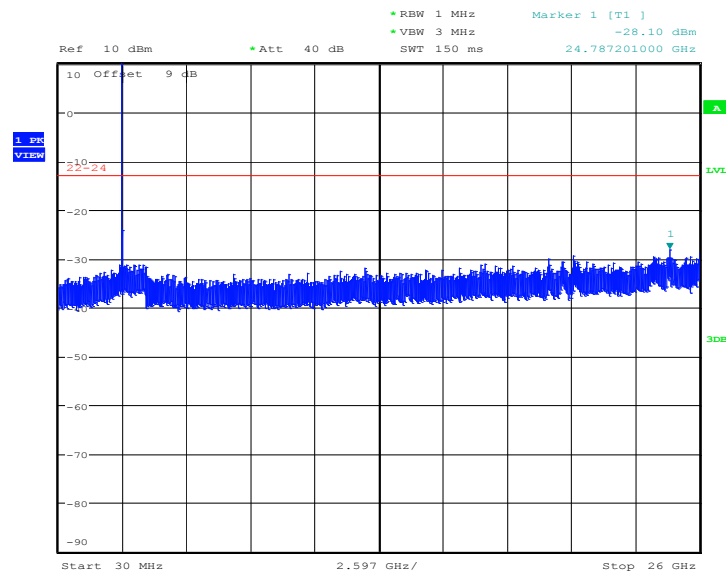
Spurious emission limit –13dBm.



Date: 16.FEB.2017 00:30:09

### LTE band 38: 30MHz – 26GHz

Spurious emission limit –13dBm.



Date: 15.FEB.2017 19:29:15

## A.8 PEAK-TO-AVERAGE POWER RATIO

### Reference

FCC: CFR Part 24.232 (d), 27.50(a)

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

According to KDB 971168 5.7.1:

- Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
- Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Set the measurement interval to 1 ms
- Record the maximum PAPR level associated with a probability of 0.1%

### A.8.1 Measurement limit

not exceed 13 dB

### A.8.2 Measurement results

#### LTE band 2, 20MHz

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 1880.0         | QPSK     | 16QAM |
|                | 6.56     | 7.48  |

#### LTE band 4, 20MHz

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 1732.5         | QPSK     | 16QAM |
|                | 6.65     | 7.55  |

#### LTE band 5, 10MHz

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 836.5          | QPSK     | 16QAM |
|                | 6.46     | 7.48  |

#### LTE band 7, 20MHz

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 2510.0         | QPSK     | 16QAM |
|                | 6.77     | 7.53  |

#### LTE band 12,10MHz

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 707.5          | QPSK     | 16QAM |
|                | 6.38     | 7.36  |

**LTE band 13,10MHz**

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 782.0          | QPSK     | 16QAM |
|                | 6.65     | 7.24  |

**LTE band 17, 10MHz**

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 710.0          | QPSK     | 16QAM |
|                | 6.52     | 7.35  |

**LTE band 25, 20MHz**

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 1882.5         | QPSK     | 16QAM |
|                | 6.47     | 7.59  |

**LTE band 26, 15MHz**

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 831.5          | QPSK     | 16QAM |
|                | 6.72     | 7.48  |

**LTE band 38, 10MHz**

| Frequency(MHz) | PAPR(dB) |       |
|----------------|----------|-------|
| 2595.0         | QPSK     | 16QAM |
|                | 6.69     | 7.44  |

\*\*\*END OF REPORT\*\*\*