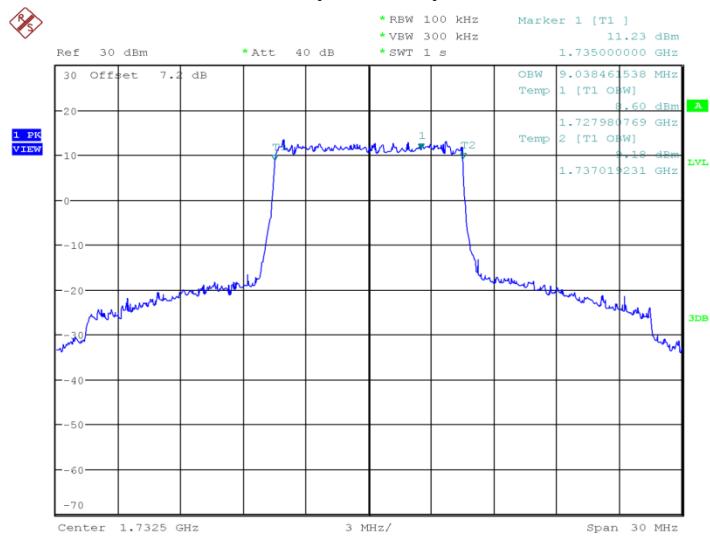
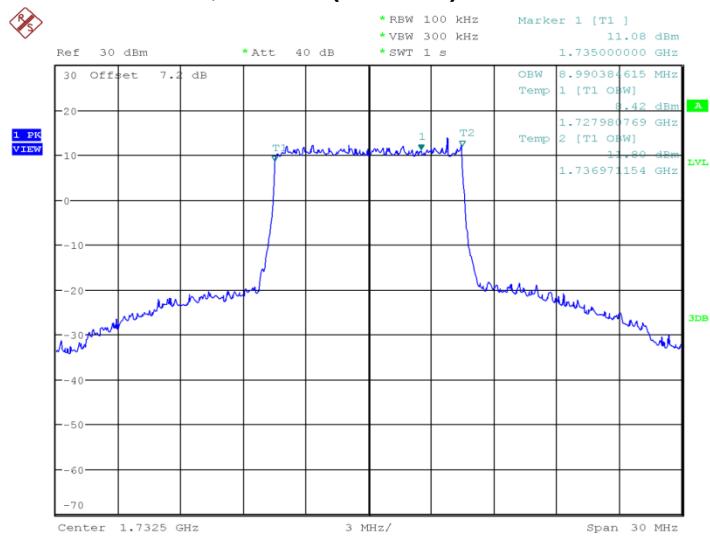


LTE band 4, 10MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| 1732.5 | QPSK | 16QAM |
| | 9.038 | 8.99 |

LTE band 4, 10MHz Bandwidth, QPSK (99% BW)


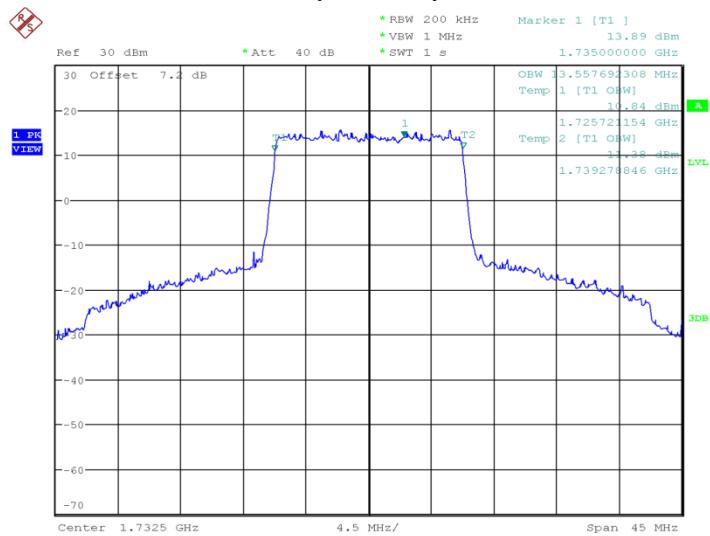
IF Overload
Date: 2.JAN.2003 09:58:03

LTE band 4, 10MHz Bandwidth, 16QAM (99% BW)


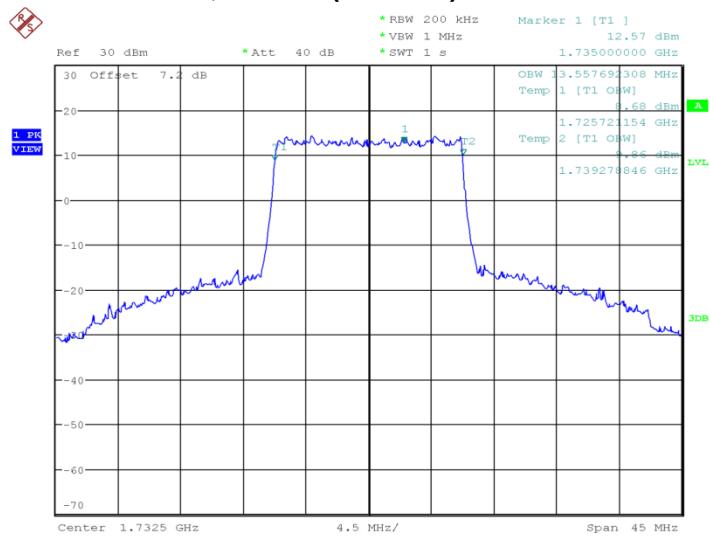
IF Overload
Date: 2.JAN.2003 09:58:30

LTE band 4, 15MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|--------|
| 1732.5 | QPSK | 16QAM |
| | 13.558 | 13.558 |

LTE band 4, 15MHz Bandwidth, QPSK (99% BW)


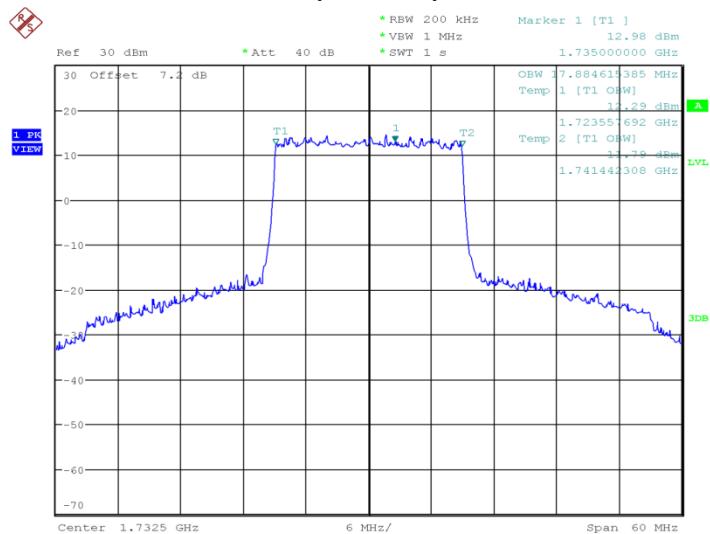
IF Overload
Date: 2.JAN.2003 09:59:05

LTE band 4, 15MHz Bandwidth, 16QAM (99% BW)


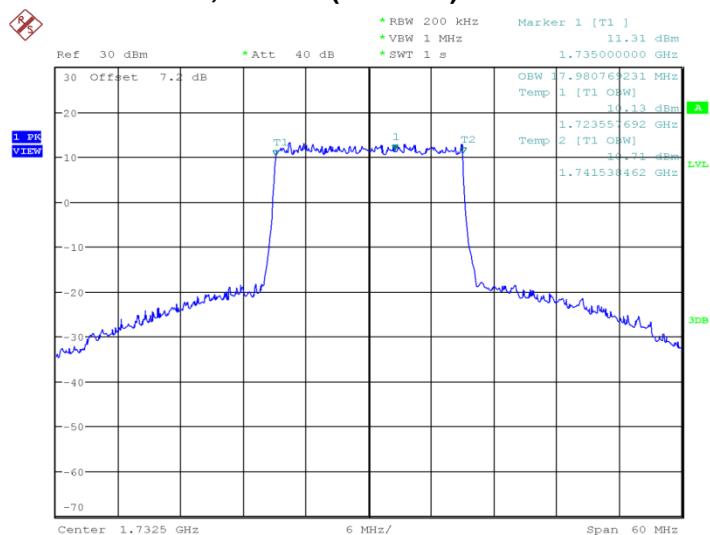
IF Overload
Date: 2.JAN.2003 09:59:32

LTE band 4, 20MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|--------|
| 1732.5 | QPSK | 16QAM |
| | 17.885 | 17.981 |

LTE band 4, 20MHz Bandwidth, QPSK (99% BW)


IF Overload
Date: 2.JAN.2003 10:00:07

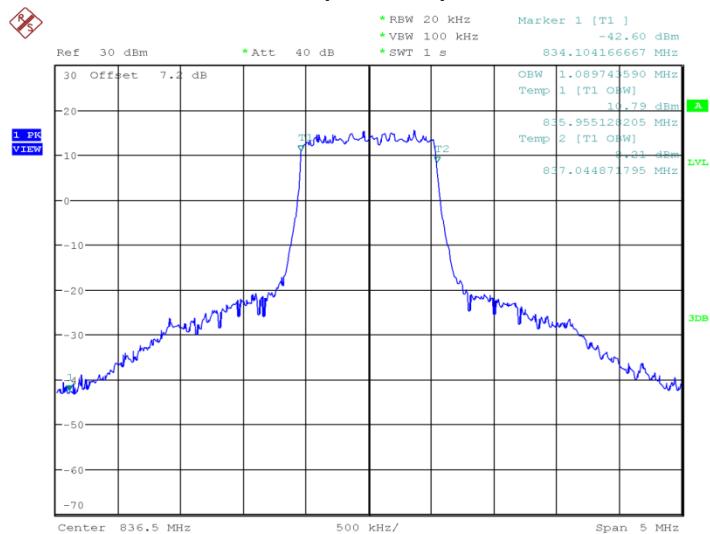
LTE band 4, 20MHz Bandwidth, 16QAM (99% BW)


IF Overload
Date: 2.JAN.2003 10:00:34

LTE band 5, 1.4MHz (99%)

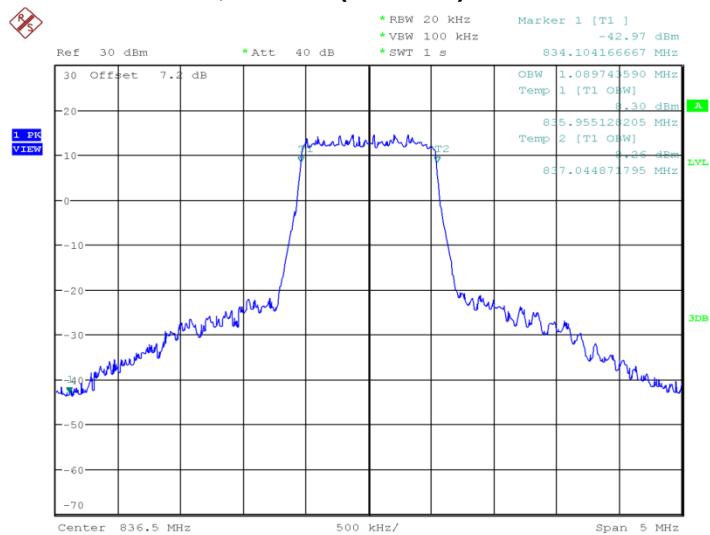
| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| 836.5 | QPSK | 16QAM |
| | 1.09 | 1.09 |

LTE band 5, 1.4MHz Bandwidth, QPSK (99% BW)



IF Overload

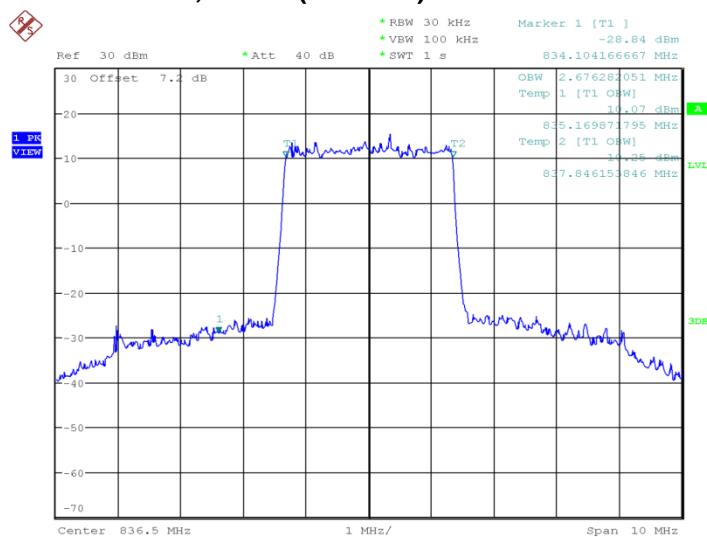
LTE band 5, 1.4MHz Bandwidth, 16QAM (99% BW)



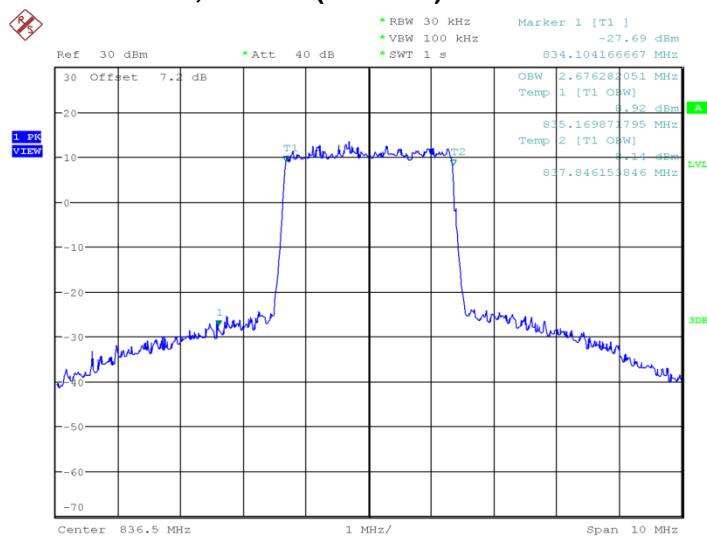
IF Overload

LTE band 5, 3MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| | QPSK | 16QAM |
| 836.5 | 2.676 | 2.676 |

LTE band 5, 3MHz Bandwidth, QPSK (99% BW)


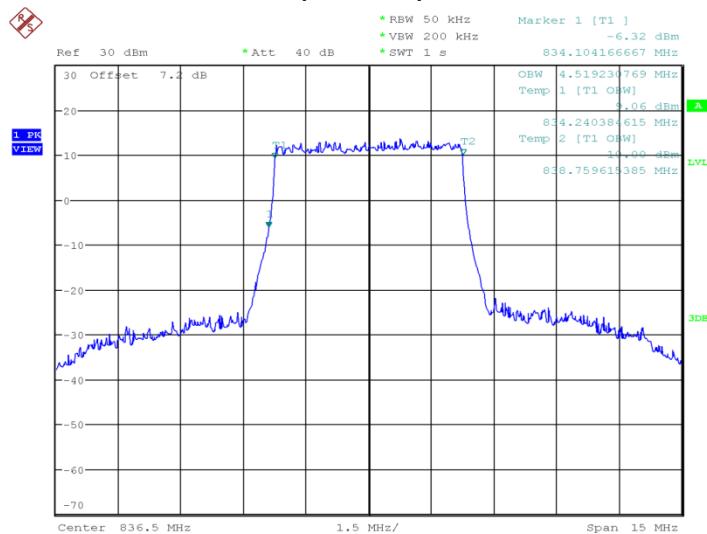
IF Overload
Date: 2.JAN.2003 10:03:44

LTE band 5, 3MHz Bandwidth, 16QAM (99% BW)


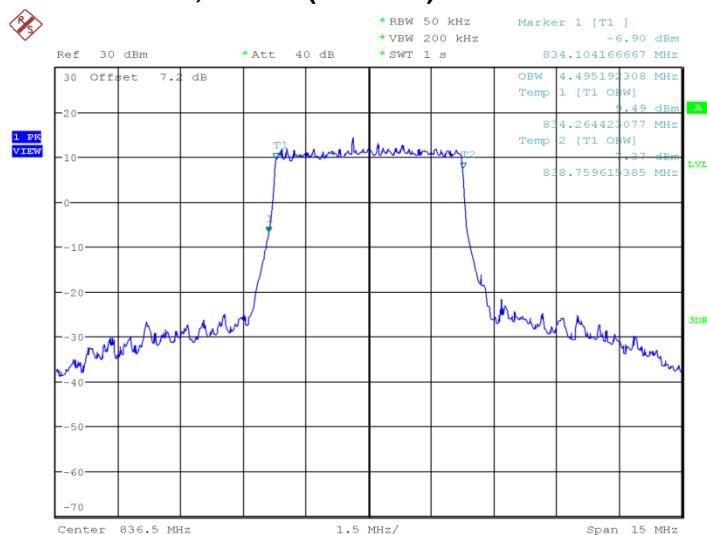
IF Overload
Date: 2.JAN.2003 10:04:11

LTE band 5, 5MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| 836.5 | QPSK | 16QAM |
| | 4.519 | 4.495 |

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


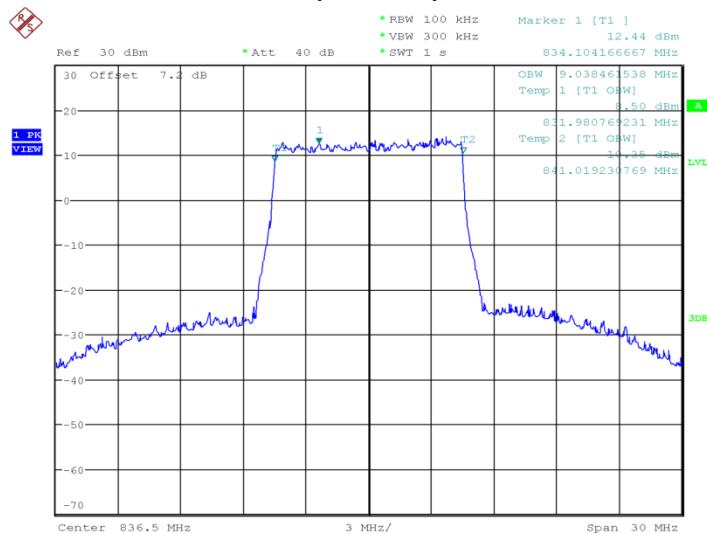
IF Overload
Date: 2.JAN.2003 10:04:46

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


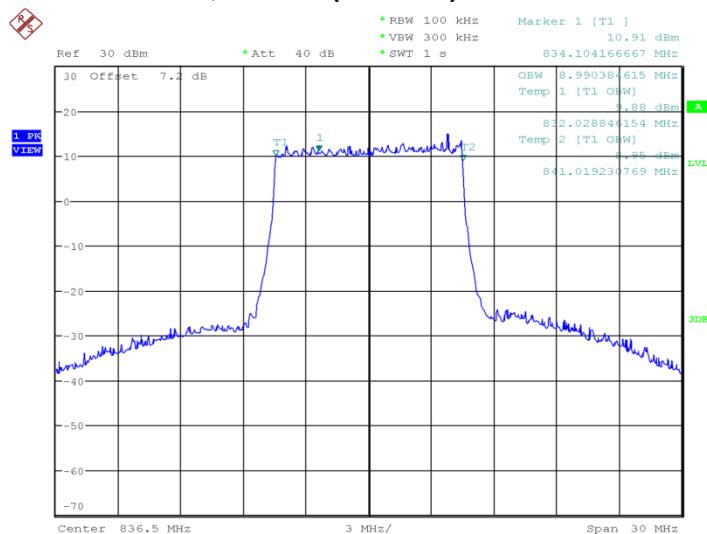
IF Overload
Date: 2.JAN.2003 10:05:14

LTE band 5, 10MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| 836.5 | QPSK | 16QAM |
| | 9.038 | 8.99 |

LTE band 5, 10MHz Bandwidth, QPSK (99% BW)


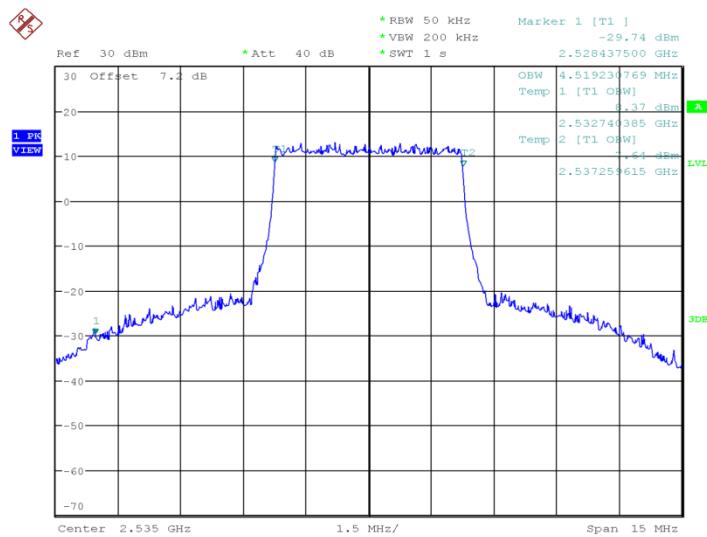
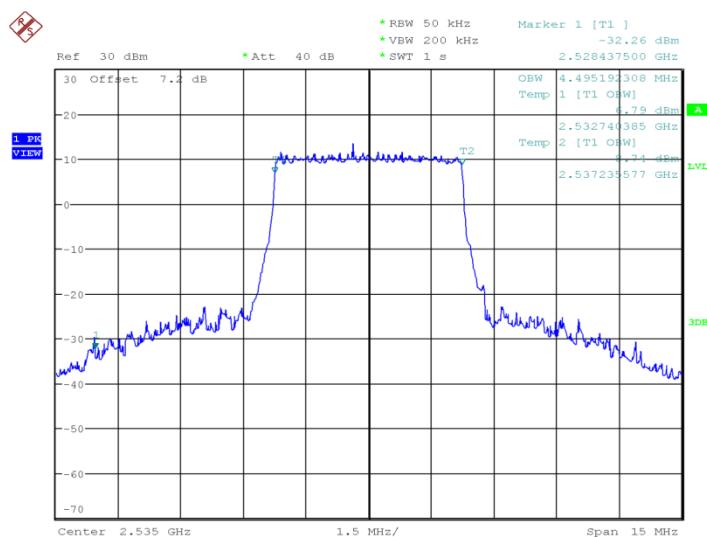
IF Overload
Date: 2.JAN.2003 10:05:48

LTE band 5, 10MHz Bandwidth, 16QAM (99% BW)


IF Overload
Date: 2.JAN.2003 10:06:16

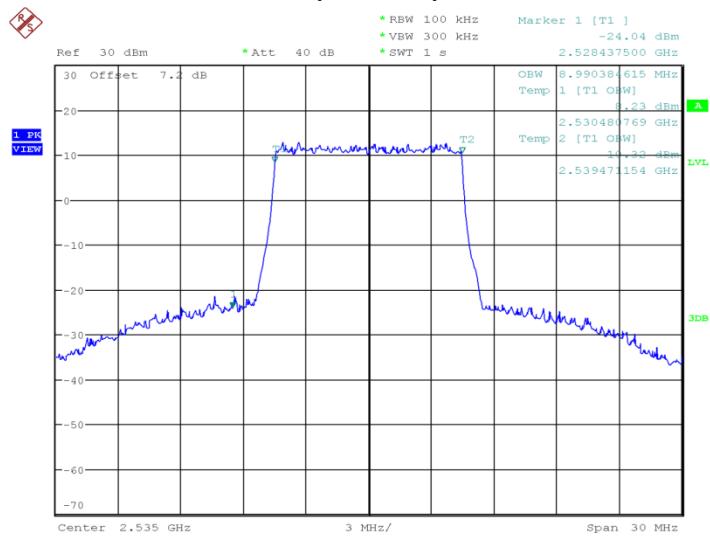
LTE band 7, 5MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| 2535.0 | QPSK | 16QAM |
| | 4.519 | 4.495 |

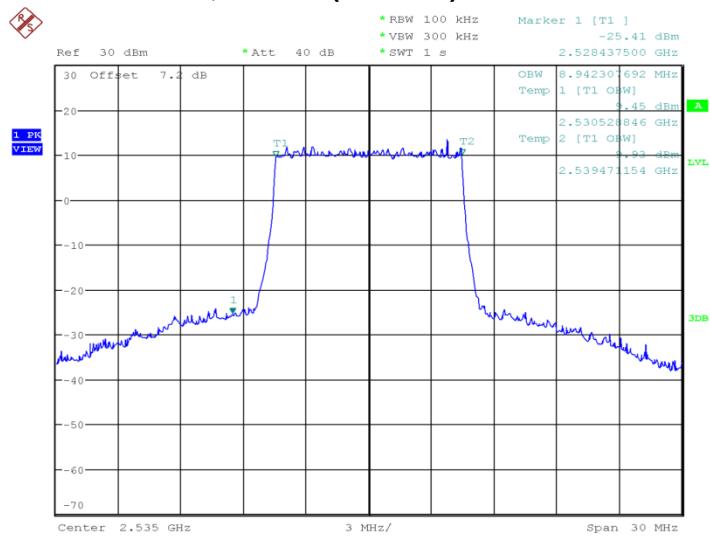
LTE band 7, 5MHz Bandwidth, QPSK (99% BW)

LTE band 7, 5MHz Bandwidth,16QAM (99% BW)


LTE band 7, 10MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| | QPSK | 16QAM |
| 2535.0 | 8.99 | 8.942 |

LTE band 7, 10MHz Bandwidth, QPSK (99% BW)


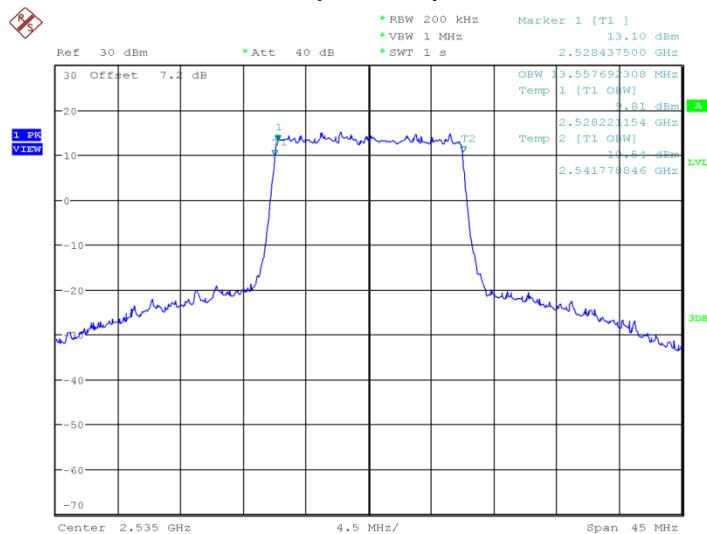
IF Overload
Date: 2.JAN.2003 10:10:54

LTE band 7, 10MHz Bandwidth, 16QAM (99% BW)


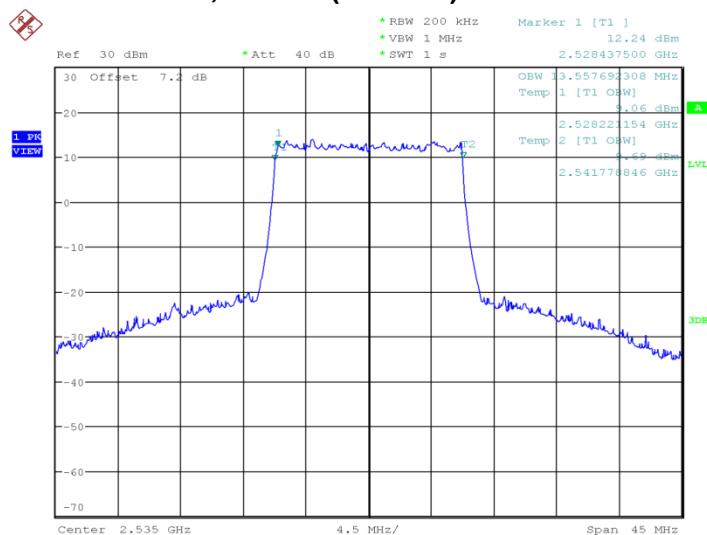
IF Overload
Date: 2.JAN.2003 10:11:21

LTE band 7, 15MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|--------|
| 2535.0 | QPSK | 16QAM |
| | 13.558 | 13.558 |

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


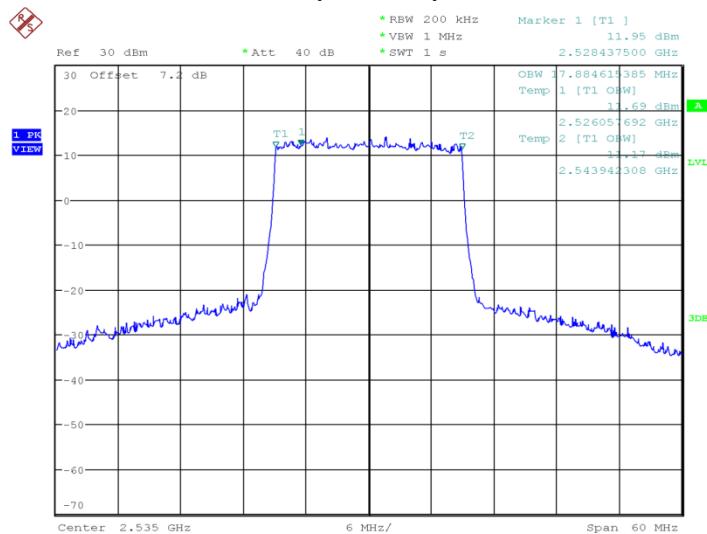
IF Overload
Date: 2.JAN.2003 10:11:56

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


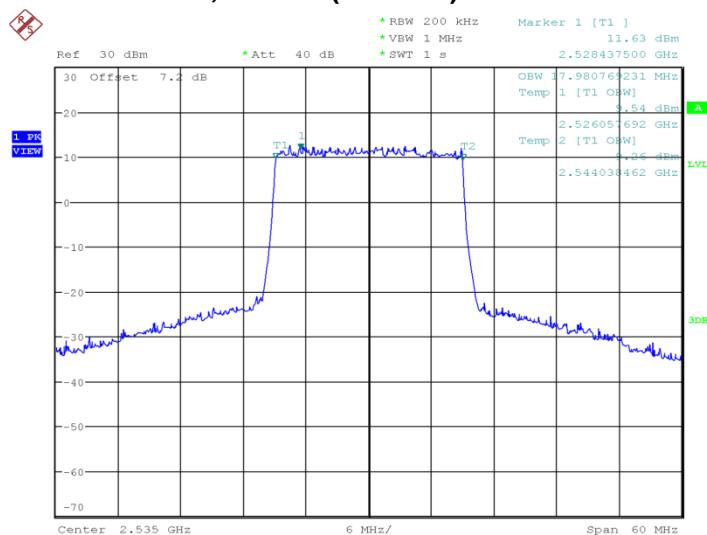
IF Overload
Date: 2.JAN.2003 10:12:23

LTE band 7, 20MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|--------|
| 2535.0 | QPSK | 16QAM |
| | 17.885 | 17.981 |

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


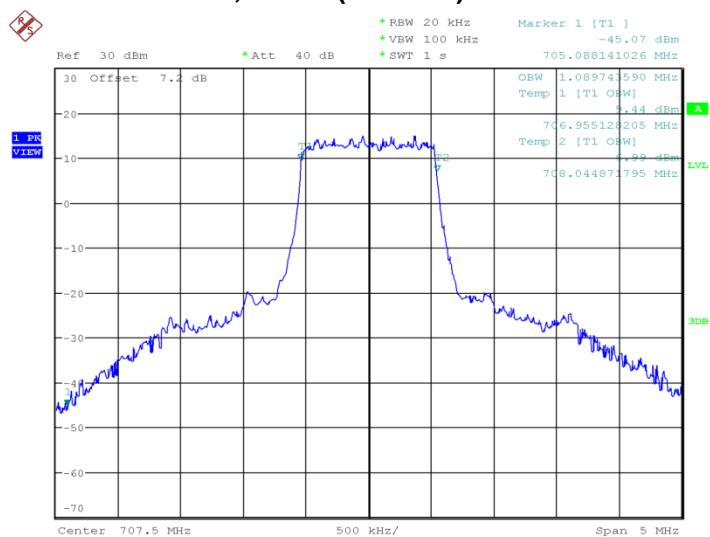
IF Overload
Date: 2.JAN.2003 10:12:58

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


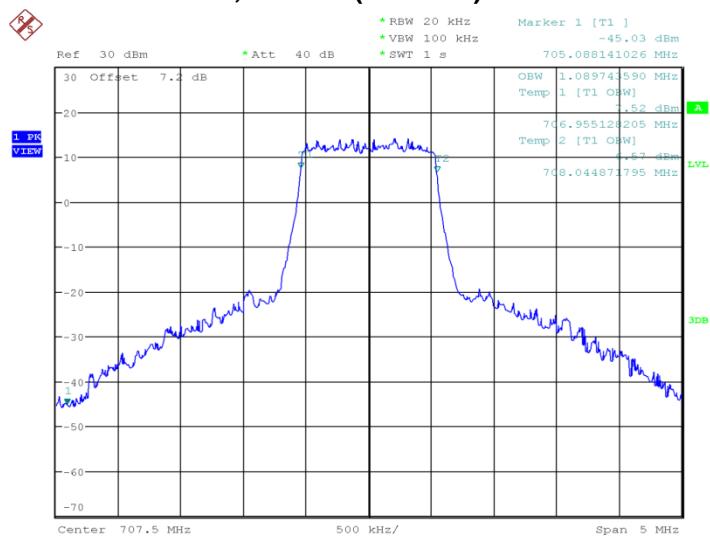
IF Overload
Date: 2.JAN.2003 10:13:25

LTE band 12, 1.4MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| 707.5 | QPSK | 16QAM |
| | 1.09 | 1.09 |

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


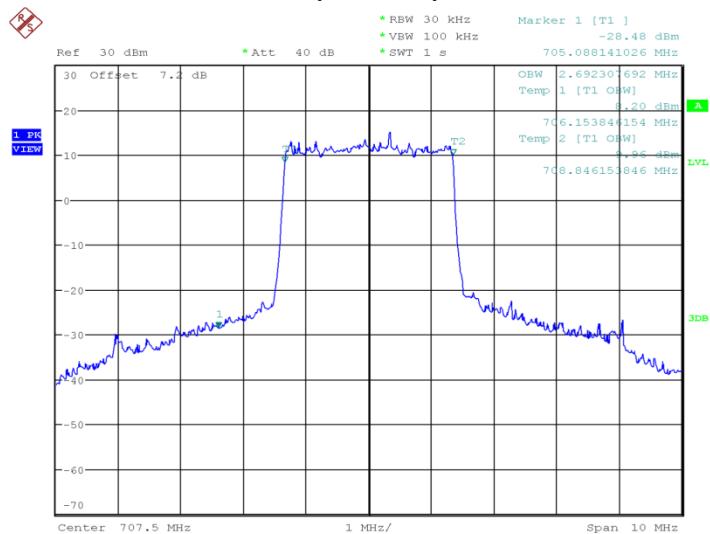
IF Overload
Date: 2.JAN.2003 10:14:35

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


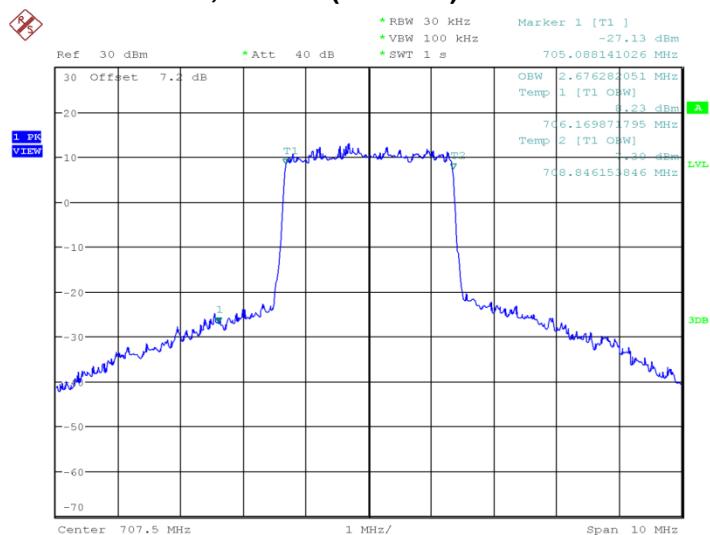
IF Overload
Date: 2.JAN.2003 10:15:02

LTE band 12, 3MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| 707.5 | QPSK | 16QAM |
| | 2.692 | 2.676 |

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


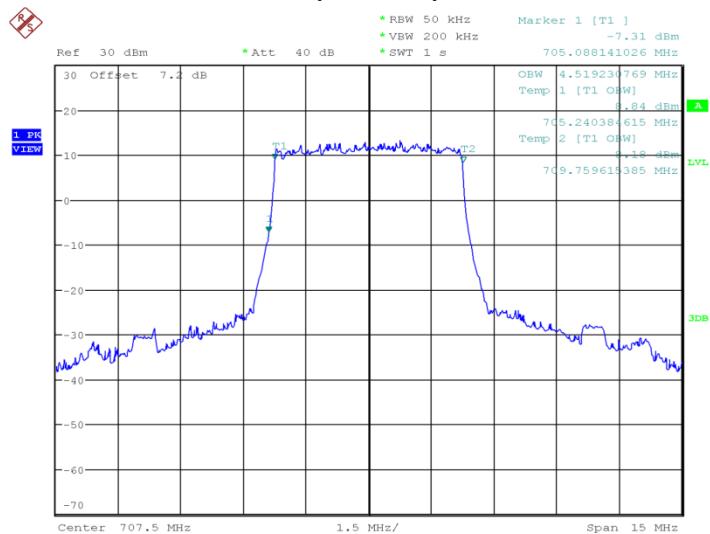
IF Overload
Date: 2.JAN.2003 10:15:37

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


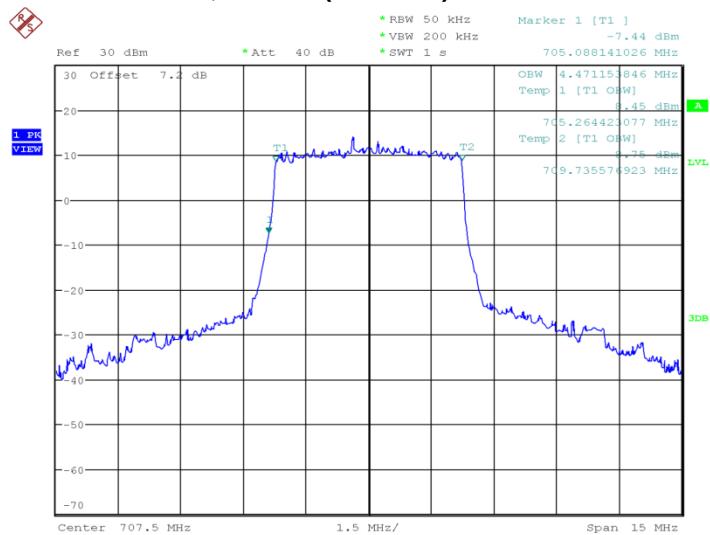
IF Overload
Date: 2.JAN.2003 10:16:04

LTE band 12, 5MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| 707.5 | QPSK | 16QAM |
| | 4.519 | 4.471 |

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


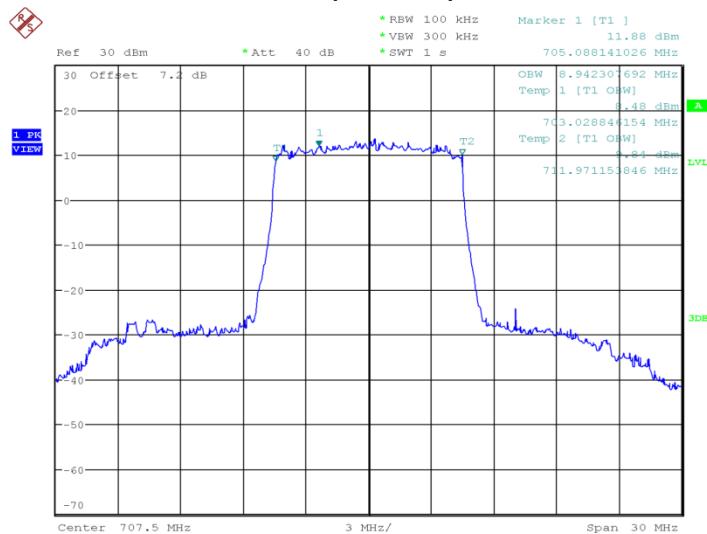
IF Overload
Date: 2.JAN.2003 10:16:40

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


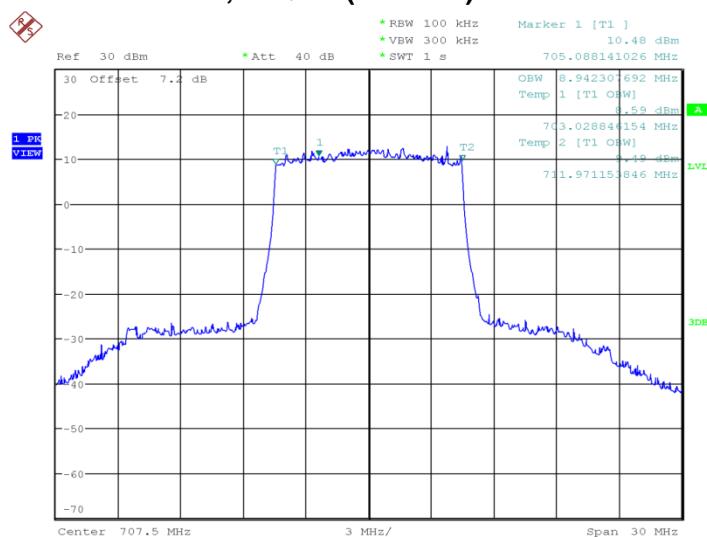
IF Overload
Date: 2.JAN.2003 10:17:08

LTE band 12, 10MHz (99%)

| Frequency(MHz) | Occupied Bandwidth (99%)(MHz) | |
|----------------|--------------------------------|-------|
| 707.5 | QPSK | 16QAM |
| | 8.942 | 8.942 |

LTE band 12, 10MHz Bandwidth, QPSK (99% BW)


IF Overload
Date: 2.JAN.2003 10:17:44

LTE band 12, 10MHz Bandwidth, 16QAM (99% BW)


IF Overload
Date: 2.JAN.2003 10:18:11

ANNEX A.5. EMISSION BANDWIDTH

Reference

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

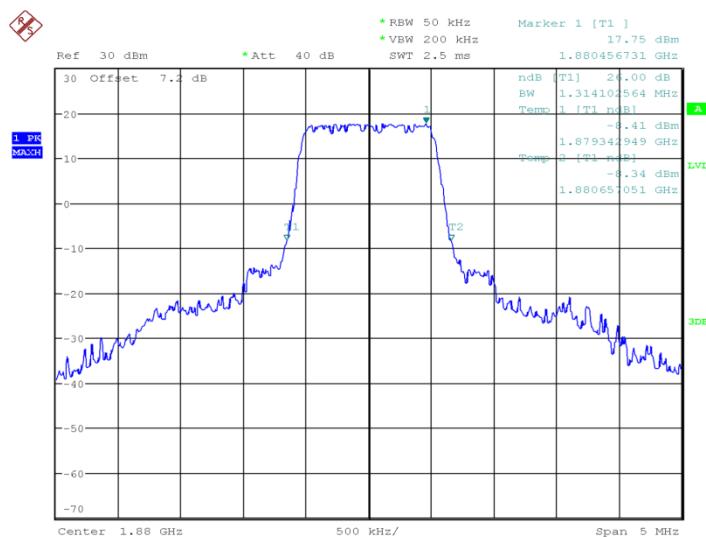
A.5.1 Emission Bandwidth Results

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)

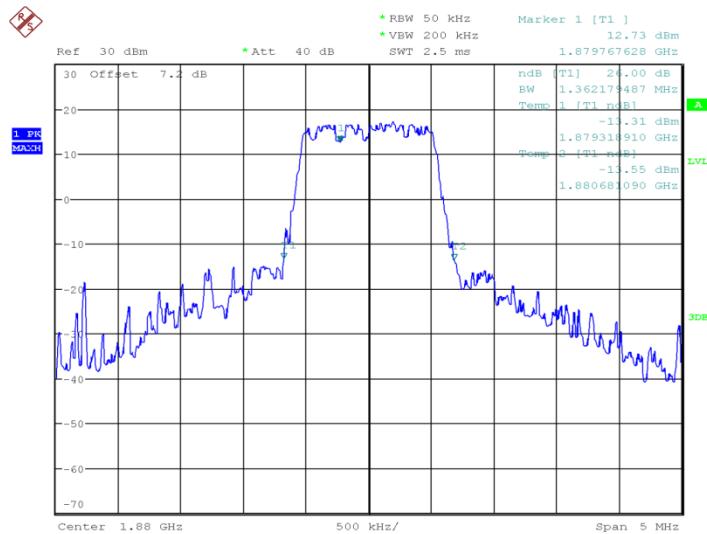
| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| 1880.0 | QPSK | 16QAM |
| | 1.314 | 1.362 |

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



IF Overload
Date: 2.JAN.2003 09:04:48

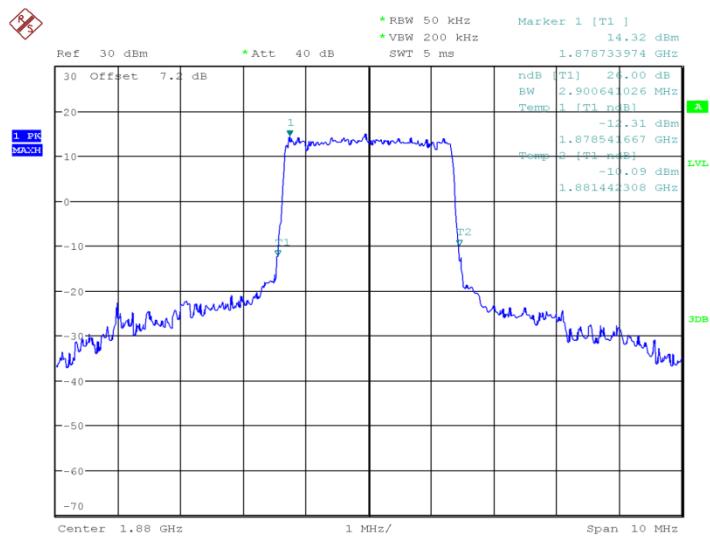
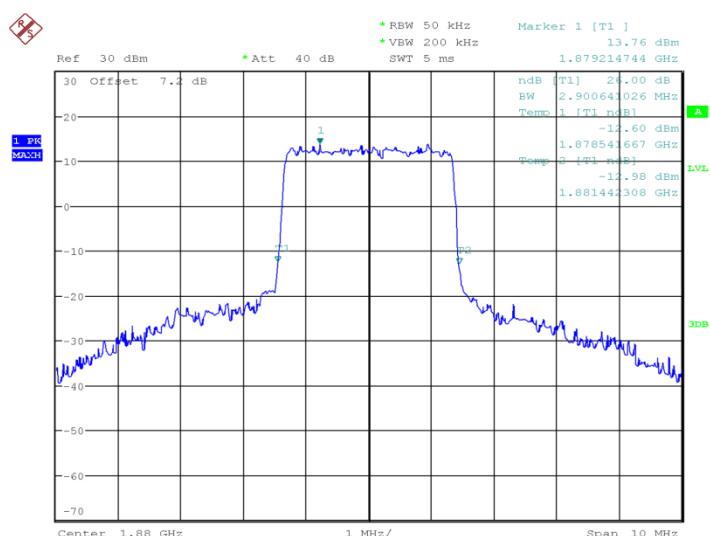
LTE band 2, 1.4MHz Bandwidth, 16QAM (-26dBc BW)



IF Overload
Date: 2.JAN.2003 09:05:01

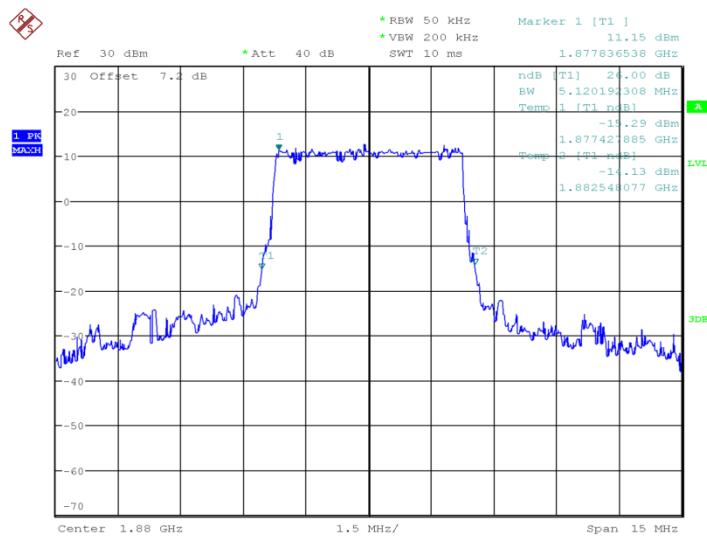
LTE band 2, 3MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| 1880.0 | QPSK | 16QAM |
| | 2.901 | 2.901 |

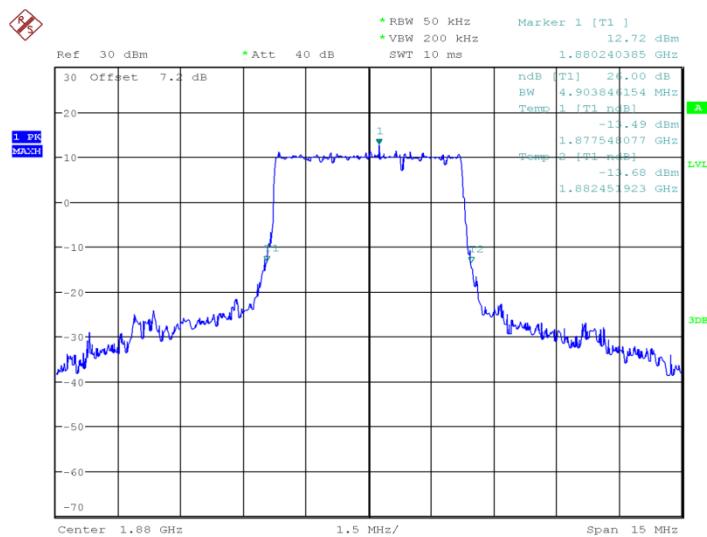
LTE band 2, 3MHz Bandwidth, QPSK (-26dBc BW)

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


LTE band 2, 5MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| 1880.0 | QPSK | 16QAM |
| | 5.120 | 4.904 |

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


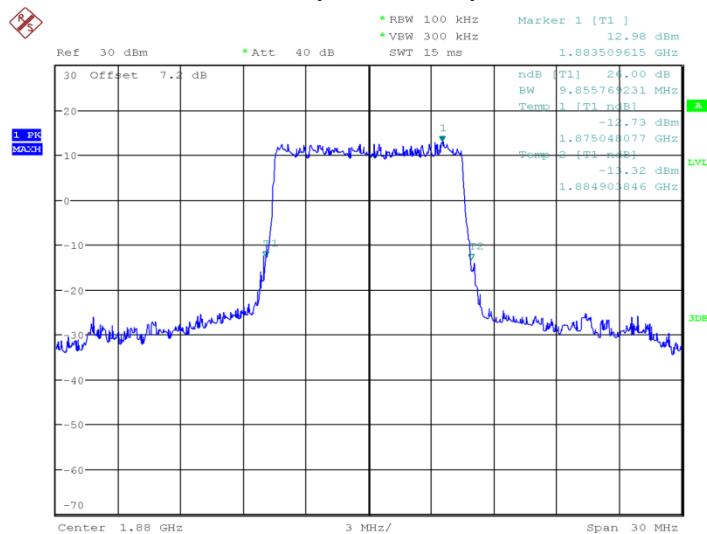
IF Overload
Date: 2.JAN.2003 09:05:58

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


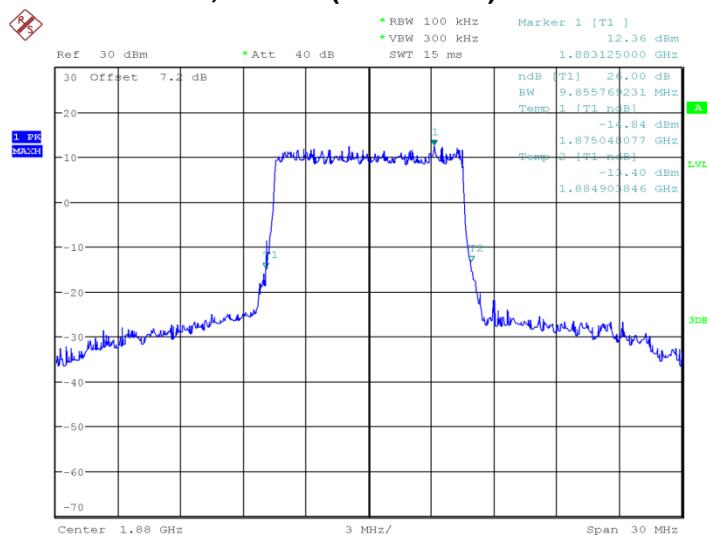
IF Overload
Date: 2.JAN.2003 09:06:11

LTE band 2, 10MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| 1880.0 | QPSK | 16QAM |
| | 9.856 | 9.856 |

LTE band 2, 10MHz Bandwidth, QPSK (-26dBc BW)


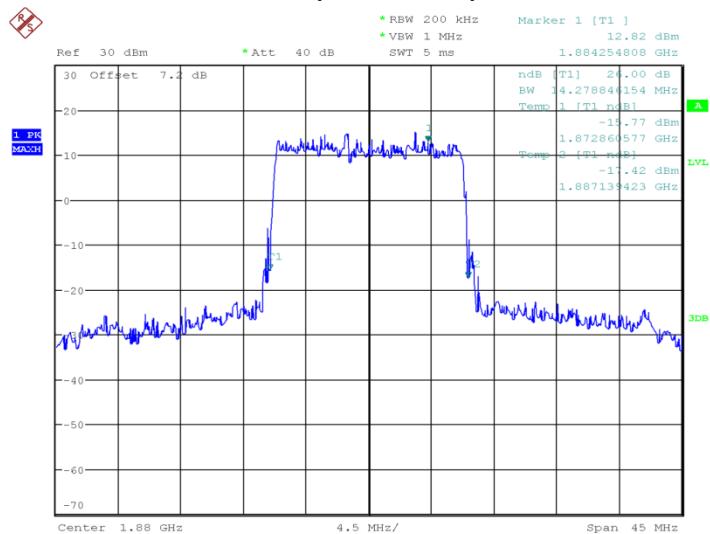
IF Overload
Date: 2.JAN.2003 09:06:32

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


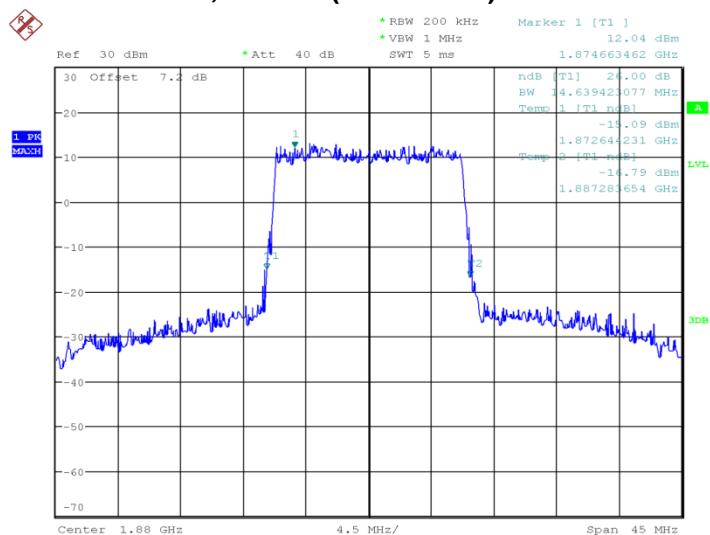
IF Overload
Date: 2.JAN.2003 09:06:45

LTE band 2, 15MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|--------|
| 1880.0 | QPSK | 16QAM |
| | 14.279 | 14.639 |

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


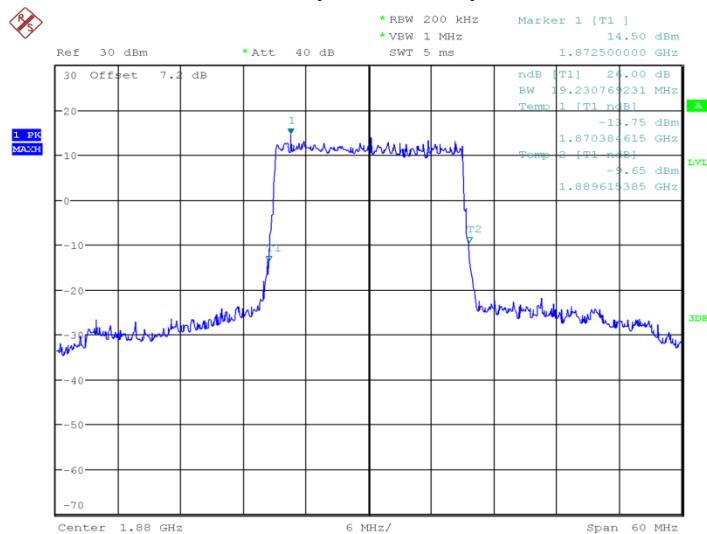
IF Overload
Date: 2.JAN.2003 09:07:07

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


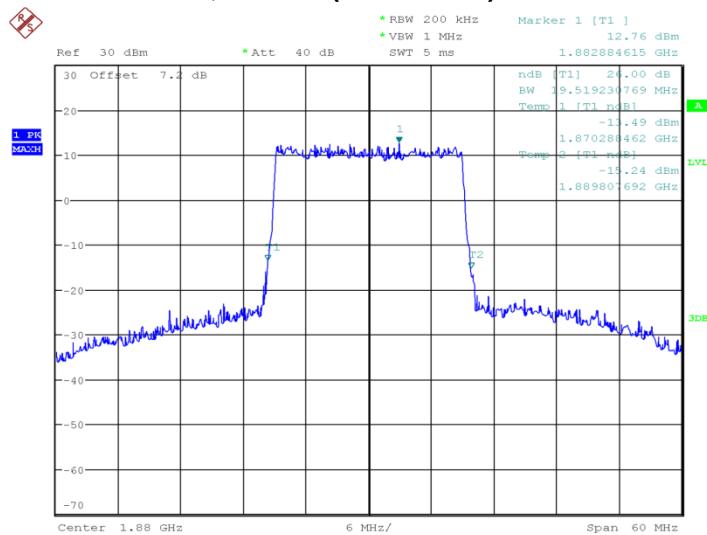
IF Overload
Date: 2.JAN.2003 09:07:19

LTE band 2, 20MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|--------|
| 1880.0 | QPSK | 16QAM |
| | 19.231 | 19.519 |

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


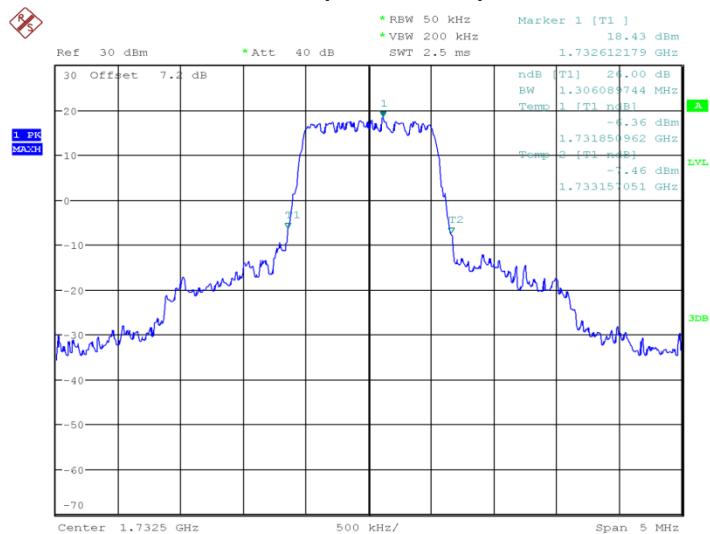
IF Overload
Date: 2.JAN.2003 09:07:41

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


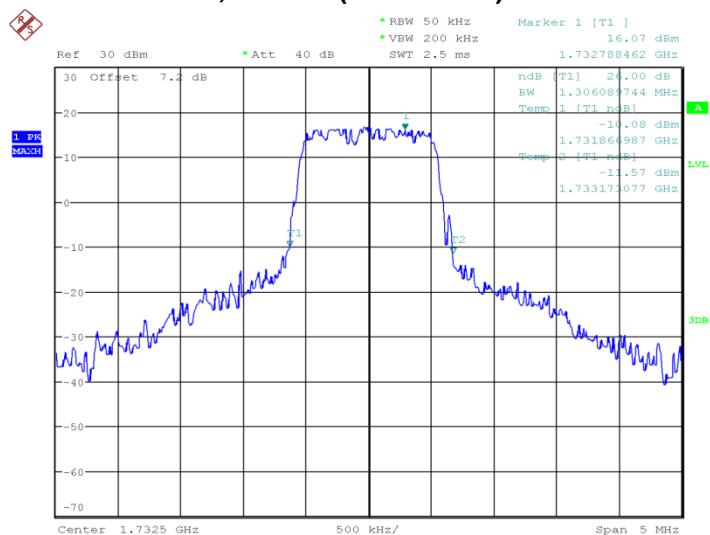
IF Overload
Date: 2.JAN.2003 09:07:53

LTE band 4, 1.4MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| 1732.5 | QPSK | 16QAM |
| | 1.306 | 1.306 |

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


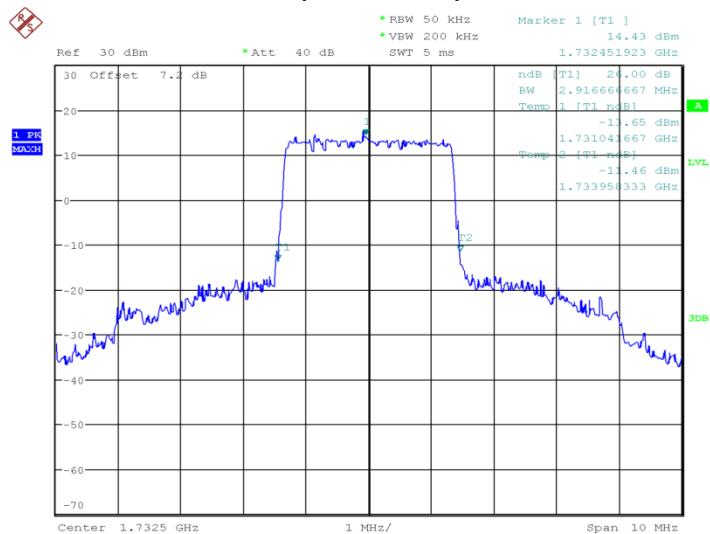
IF Overload
Date: 2.JAN.2003 09:08:15

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


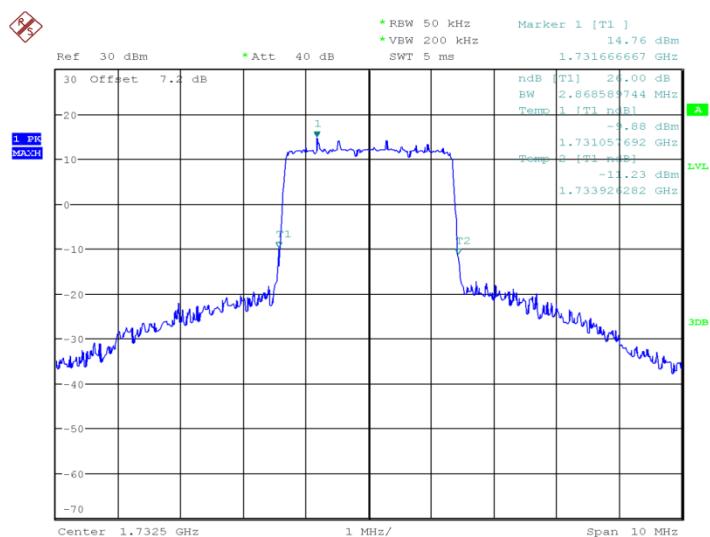
IF Overload
Date: 2.JAN.2003 09:08:28

LTE band 4, 3MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| 1732.5 | QPSK | 16QAM |
| | 2.917 | 2.869 |

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


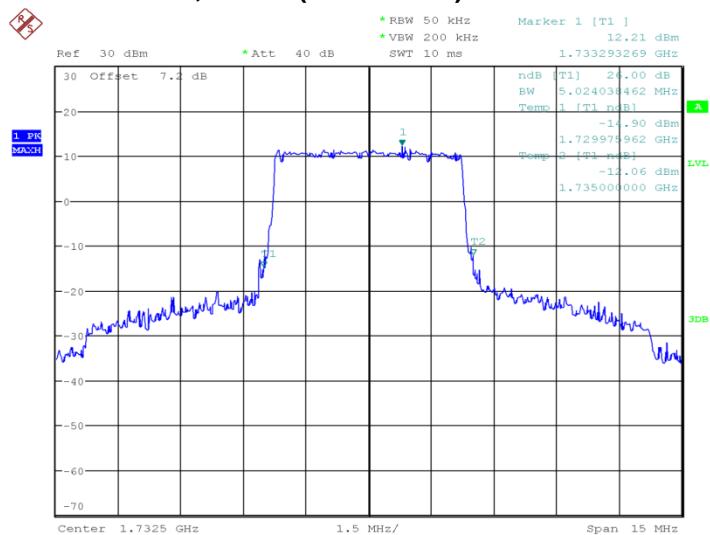
IF Overload
Date: 2.JAN.2003 09:08:49

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


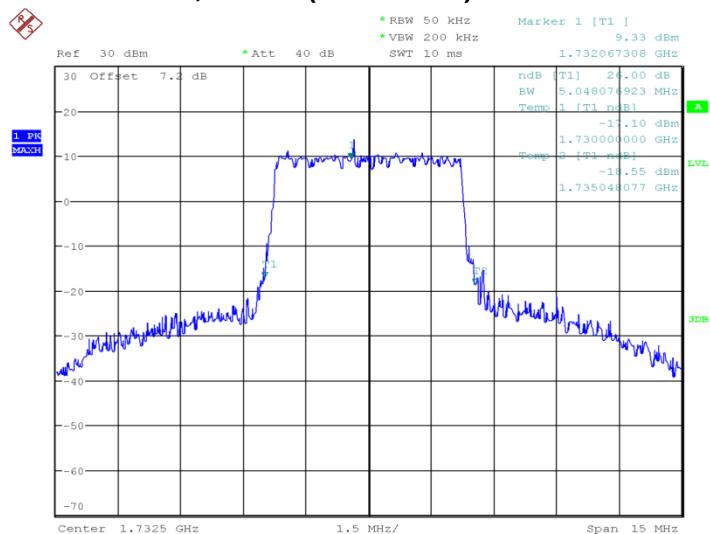
IF Overload
Date: 2.JAN.2003 09:09:02

LTE band 4, 5MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| 1732.5 | QPSK | 16QAM |
| | 5.024 | 5.048 |

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


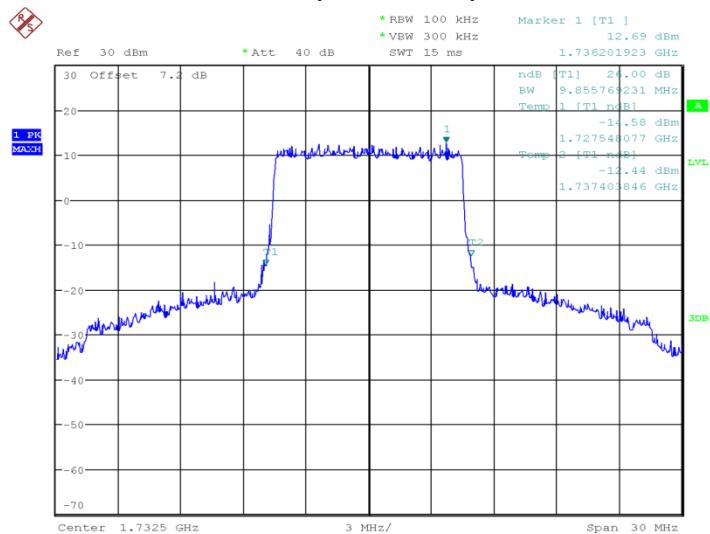
IF Overload
Date: 2.JAN.2003 09:09:24

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


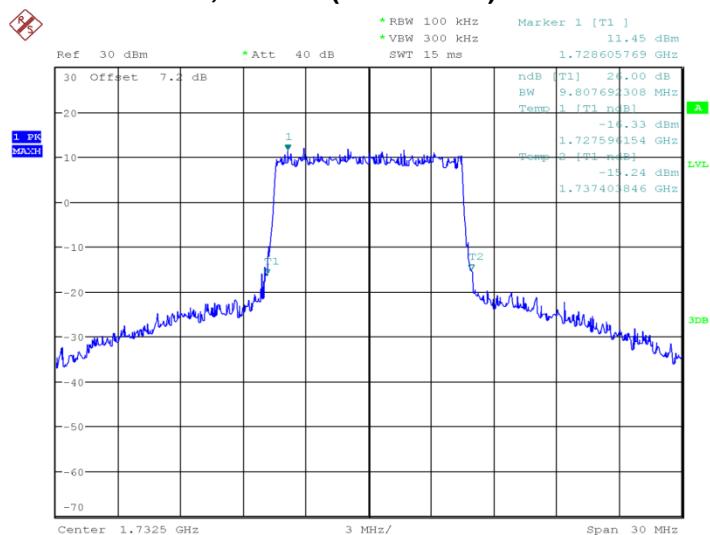
IF Overload
Date: 2.JAN.2003 09:09:37

LTE band 4, 10MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| 1732.5 | QPSK | 16QAM |
| | 9.856 | 9.808 |

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


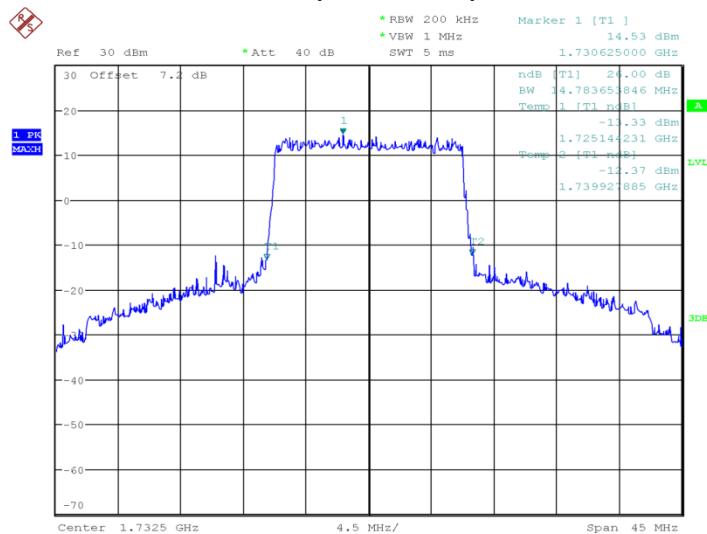
IF Overload
Date: 2.JAN.2003 09:09:57

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


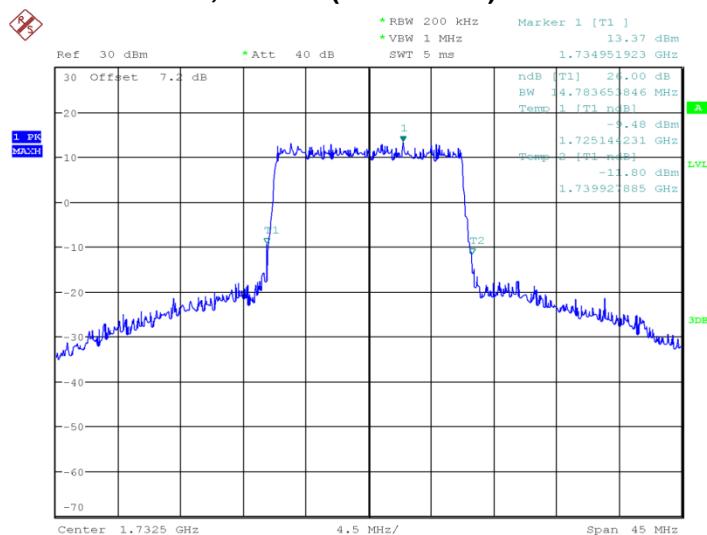
IF Overload
Date: 2.JAN.2003 09:10:10

LTE band 4, 15MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|--------|
| 1732.5 | QPSK | 16QAM |
| | 14.784 | 14.784 |

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


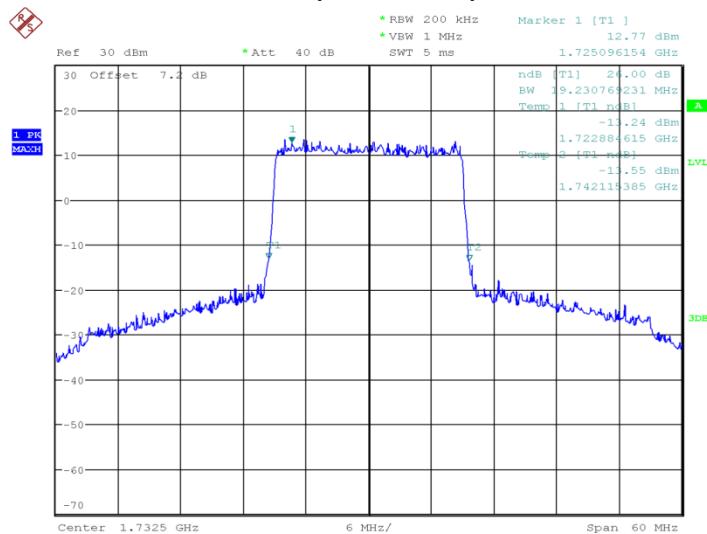
IF Overload
Date: 2.JAN.2003 09:10:30

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


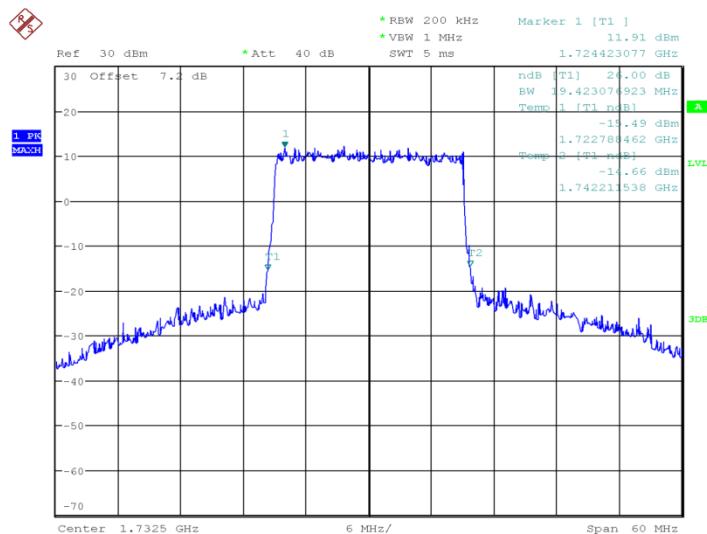
IF Overload
Date: 2.JAN.2003 09:10:42

LTE band 4, 20MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|--------|
| 1732.5 | QPSK | 16QAM |
| | 19.231 | 19.423 |

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


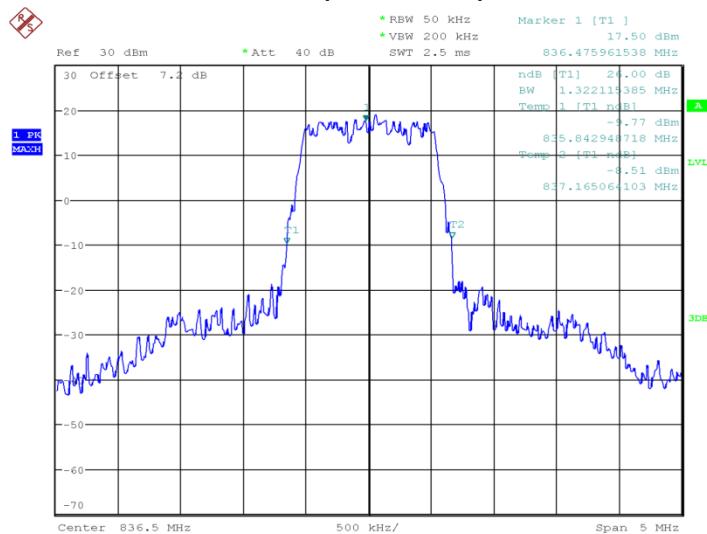
IF Overload
Date: 2.JAN.2003 09:11:04

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


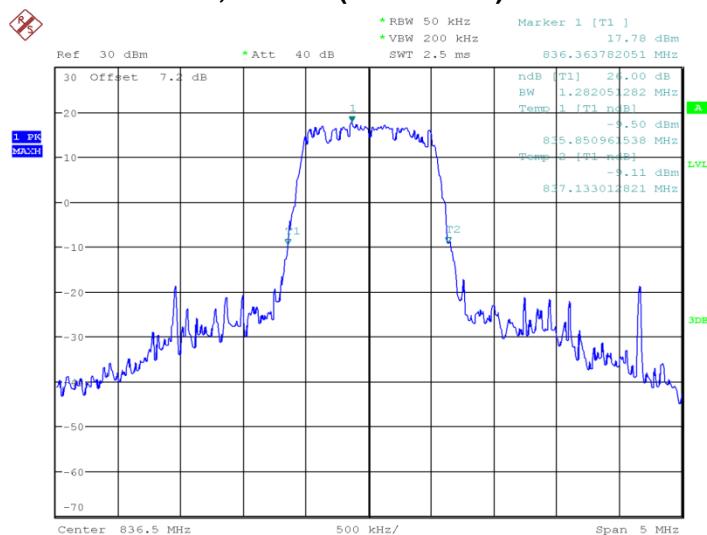
IF Overload
Date: 2.JAN.2003 09:11:17

LTE band 5, 1.4MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| | QPSK | 16QAM |
| 836.5 | 1.322 | 1.282 |

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


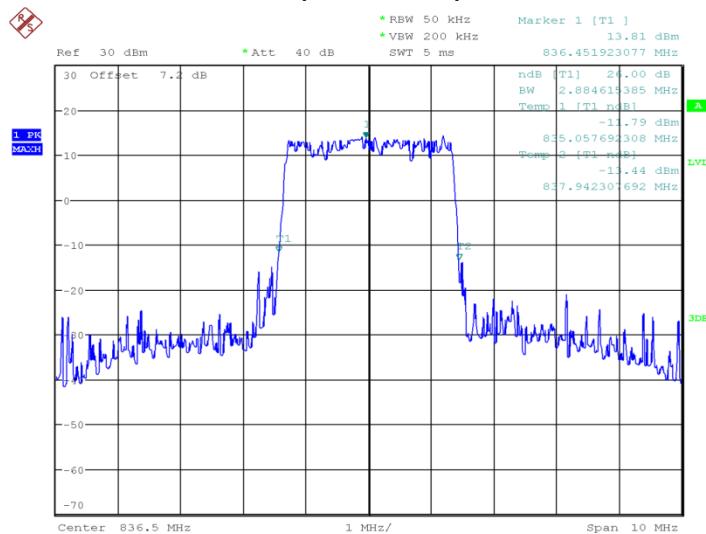
IF Overload
Date: 2.JAN.2003 09:17:36

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


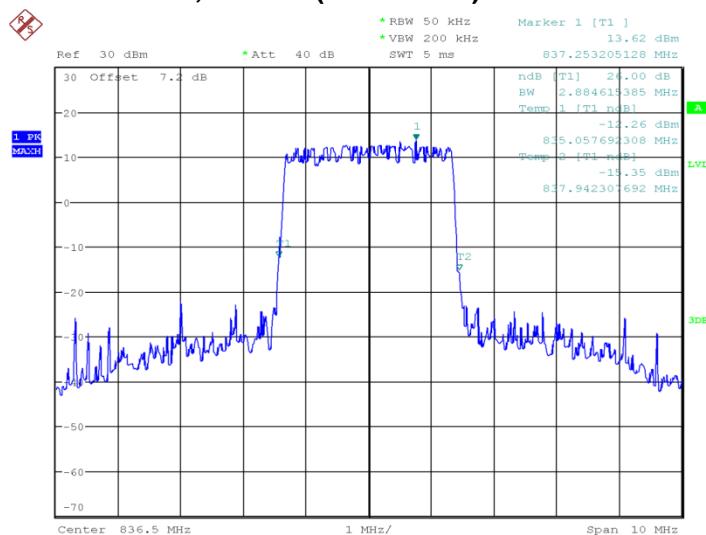
IF Overload
Date: 2.JAN.2003 09:17:50

LTE band 5, 3MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| | QPSK | 16QAM |
| 836.5 | 2.885 | 2.885 |

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


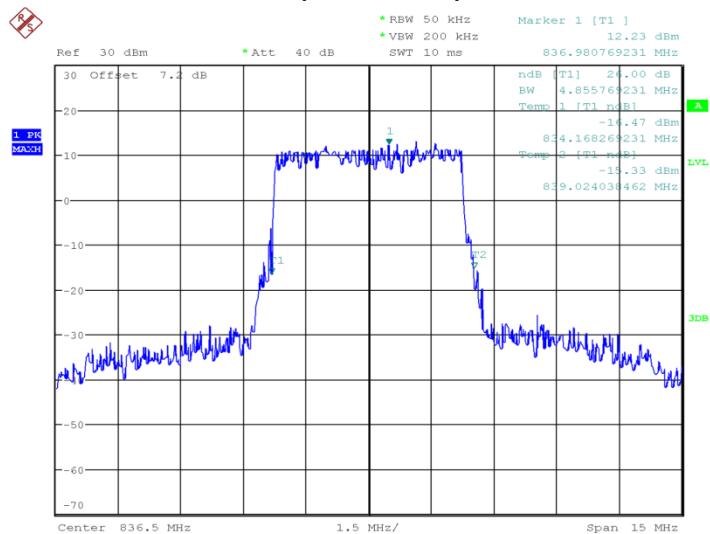
IF Overload
Date: 2.JAN.2003 09:18:11

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


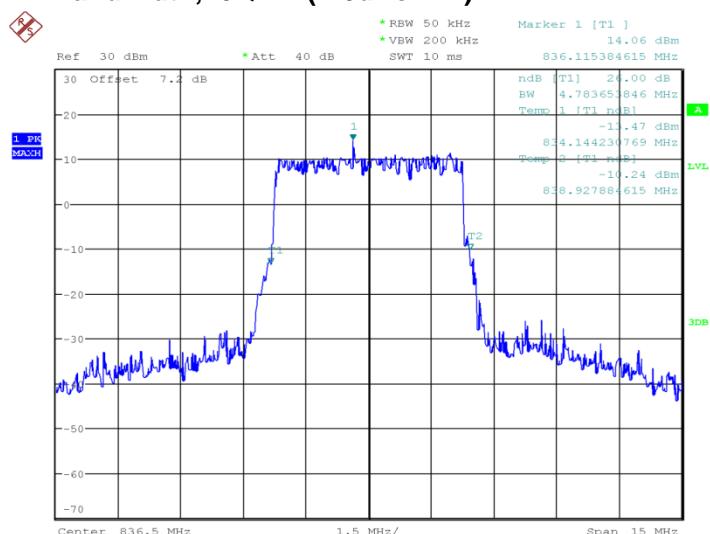
IF Overload
Date: 2.JAN.2003 09:18:24

LTE band 5, 5MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(kHz) | |
|----------------|-----------------------------------|-------|
| 836.5 | QPSK | 16QAM |
| | 4.856 | 4.784 |

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


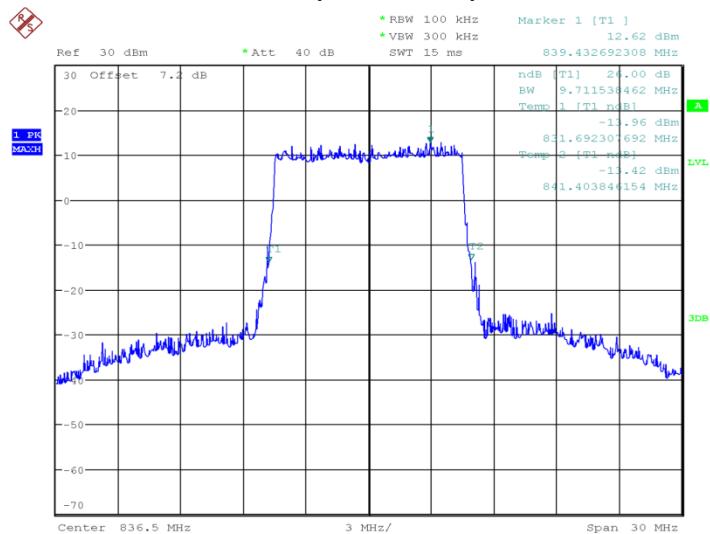
IF Overload
Date: 2.JAN.2003 09:18:45

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


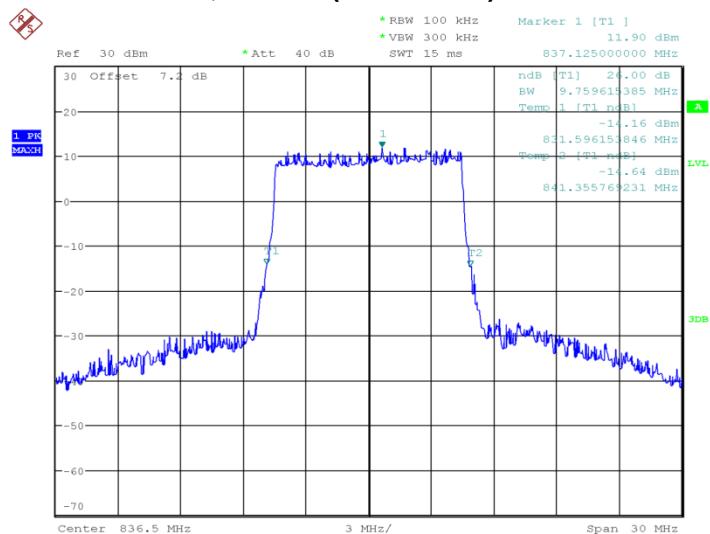
IF Overload
Date: 2.JAN.2003 09:18:59

LTE band 5, 10MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| | QPSK | 16QAM |
| 836.5 | 9.712 | 9.760 |

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


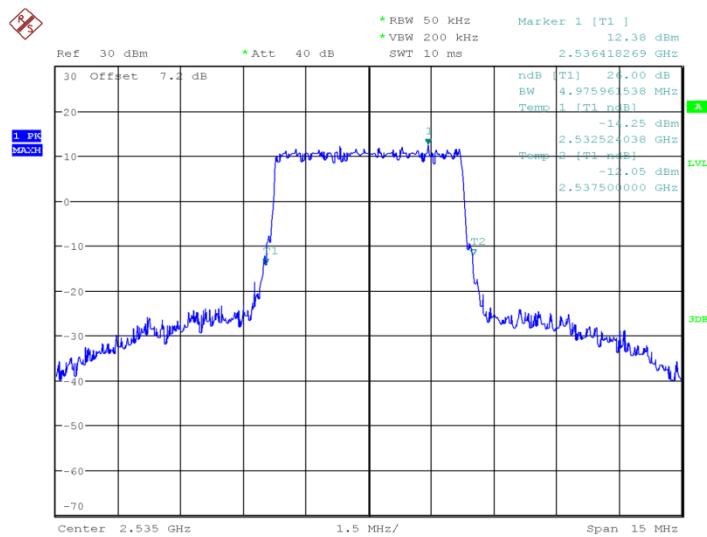
IF Overload
Date: 2.JAN.2003 09:19:19

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


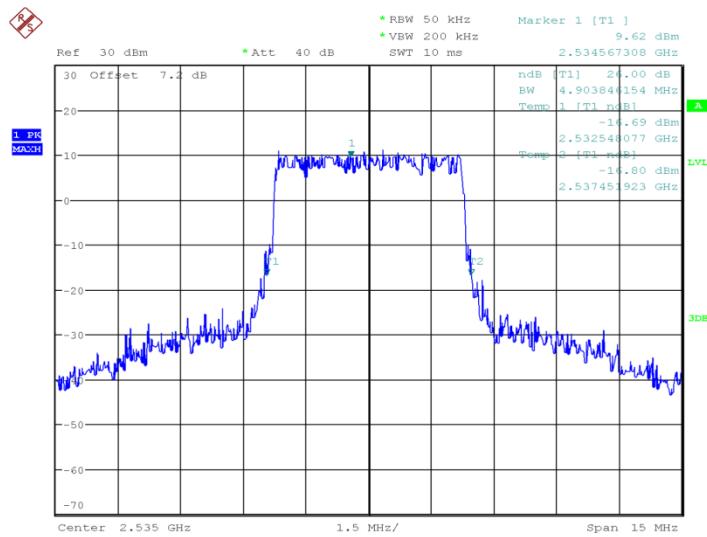
IF Overload
Date: 2.JAN.2003 09:19:31

LTE band 7, 5MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|-------|
| 2535.0 | QPSK | 16QAM |
| | 4.976 | 4.904 |

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


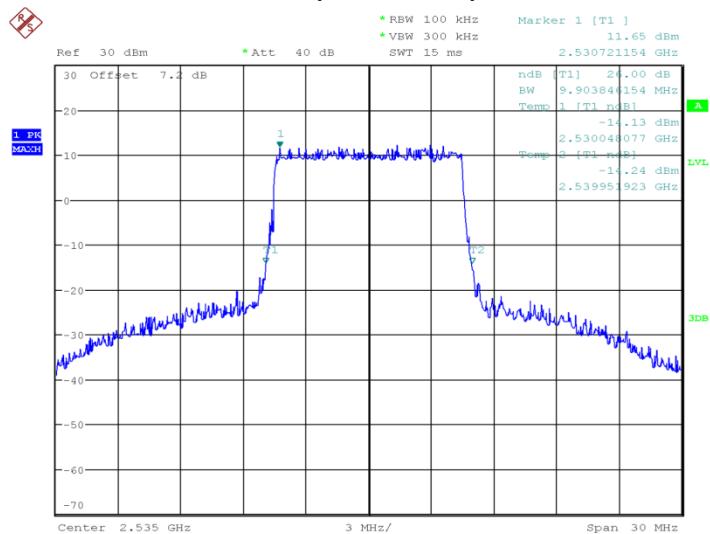
IF Overload
Date: 2.JAN.2003 09:22:35

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


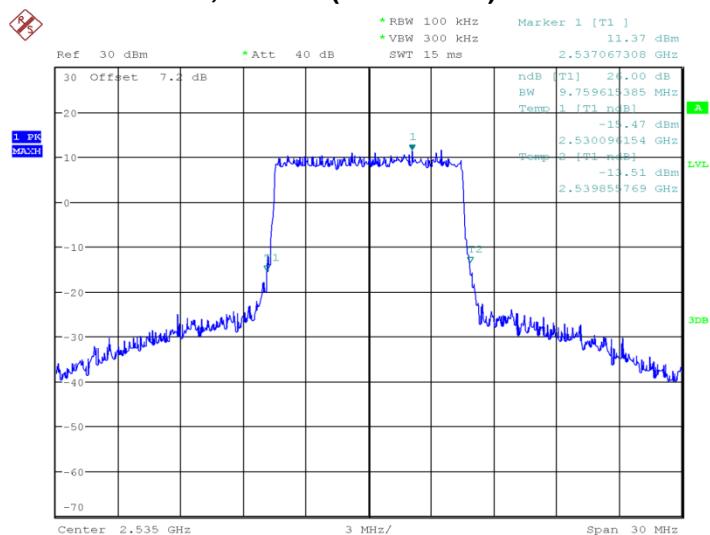
IF Overload
Date: 2.JAN.2003 09:22:48

LTE band 7, 10MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(kHz) | |
|----------------|-----------------------------------|-------|
| 2535.0 | QPSK | 16QAM |
| | 9.904 | 9.760 |

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


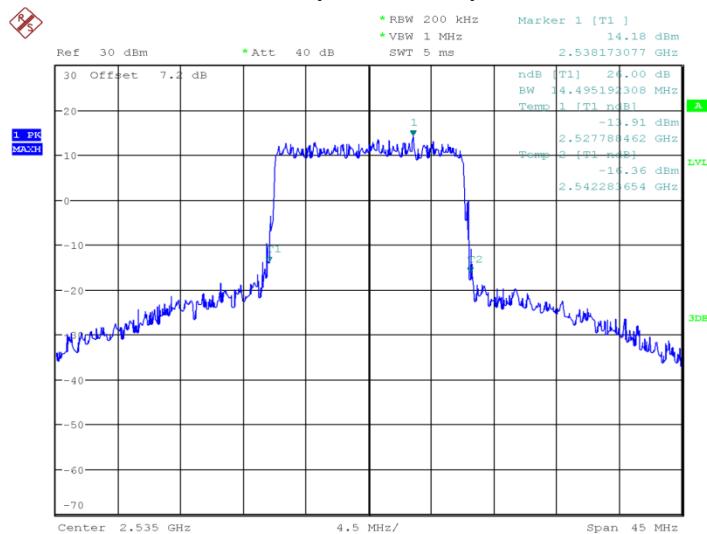
IF Overload
Date: 2.JAN.2003 09:23:10

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


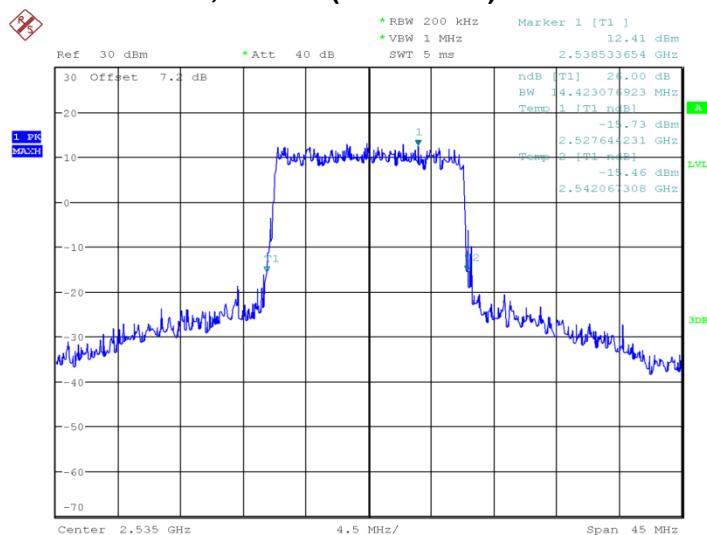
IF Overload
Date: 2.JAN.2003 09:23:22

LTE band 7, 15MHz (-26dBc)

| Frequency(MHz) | Occupied Bandwidth (-26dBc)(MHz) | |
|----------------|-----------------------------------|--------|
| 2535.0 | QPSK | 16QAM |
| | 14.495 | 14.423 |

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


IF Overload
Date: 2.JAN.2003 09:23:44

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


IF Overload
Date: 2.JAN.2003 09:23:57