

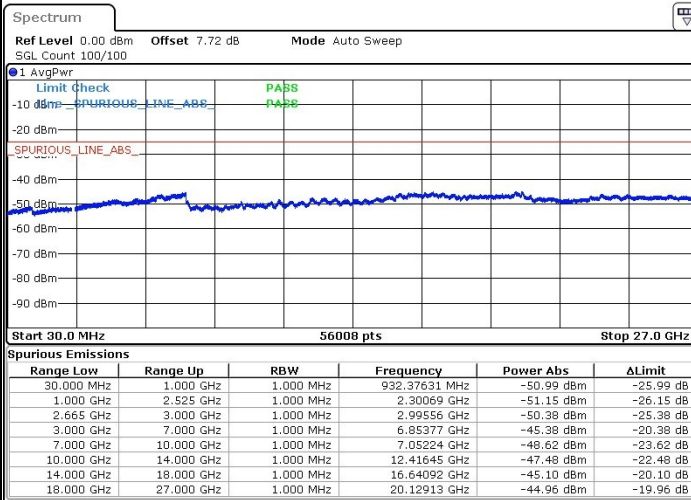


LTE Band 38 / 20MHz+20MHz

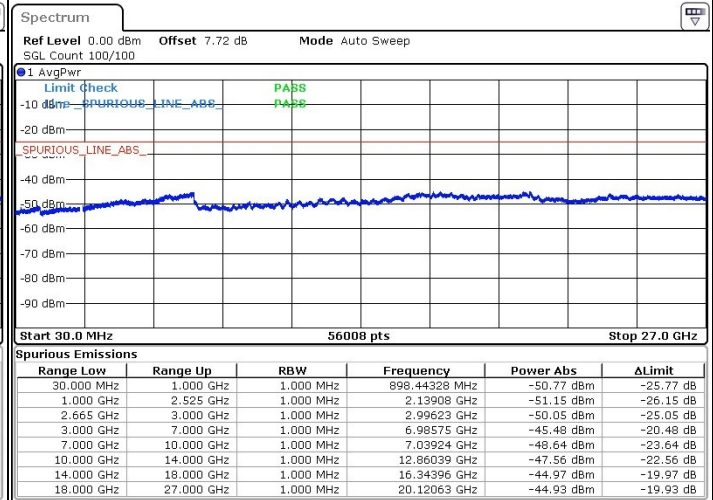
QPSK

Lowest Channel

Middle Channel



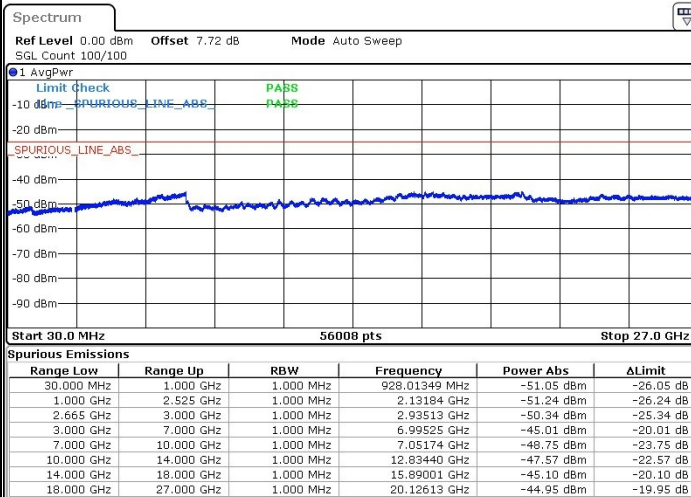
Date: 4 APR 2019 18:55:59



Date: 4 APR 2019 18:54:54

Highest Channel

N/A



Date: 4 APR 2019 18:53:51

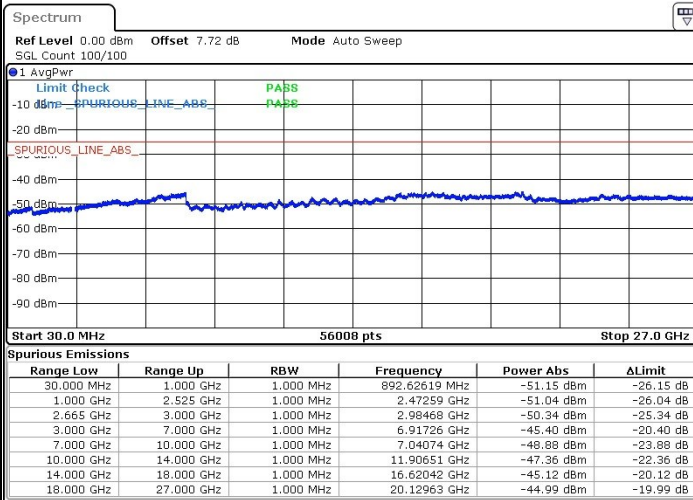


LTE Band 38 / 20MHz+20MHz

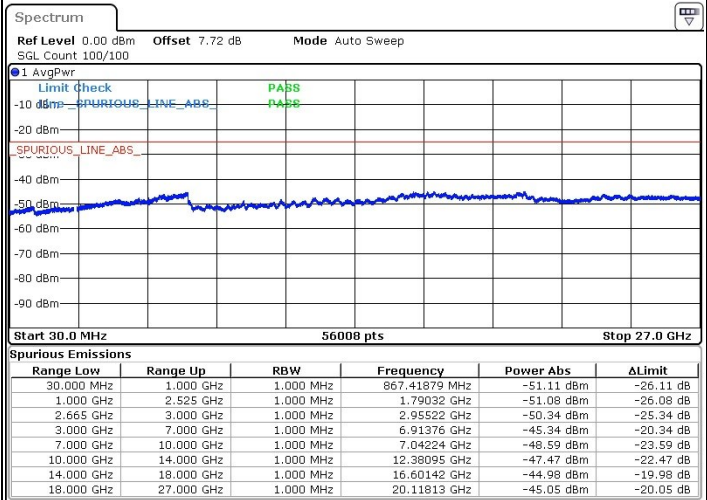
16QAM

Lowest Channel

Middle Channel



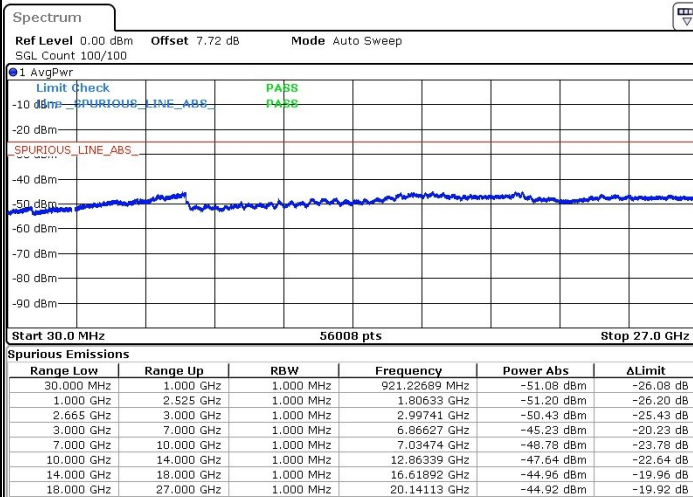
Date: 4 APR 2019 18:57:31



Date: 4 APR 2019 18:58:22

Highest Channel

N/A



Date: 4 APR 2019 18:59:30

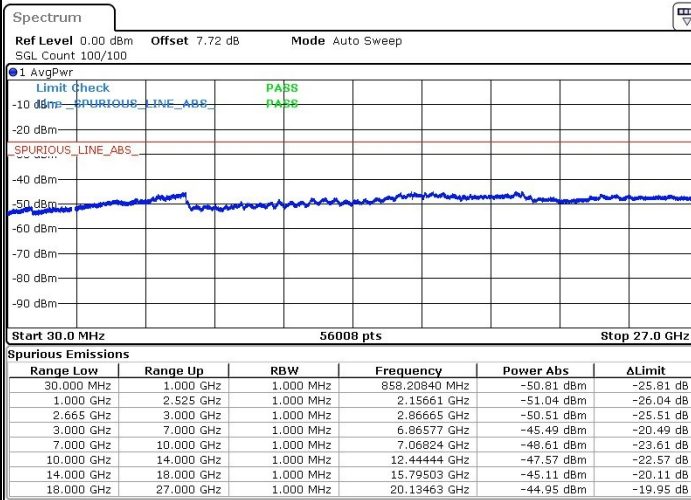


LTE Band 38 / 20MHz+20MHz

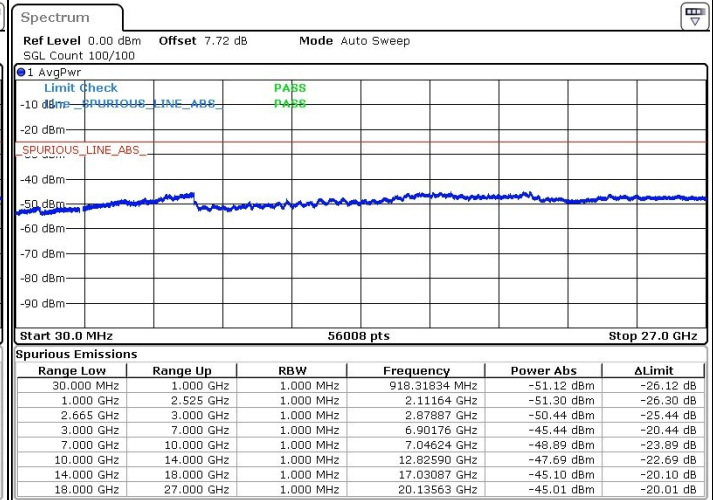
64QAM

Lowest Channel

Middle Channel



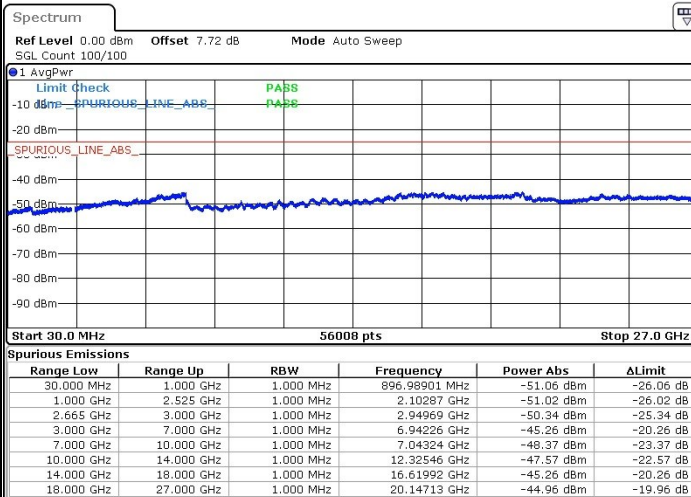
Date: 4 APR 2019 19:09:41



Date: 4 APR 2019 19:07:22

Highest Channel

N/A



Date: 4 APR 2019 19:06:17

Frequency Stability

| Test Conditions | | LTE Band 2 (QPSK) / Middle Channel | Limit |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0020 | PASS |
| 40 | Normal Voltage | 0.0018 | |
| 30 | Normal Voltage | 0.0003 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0028 | |
| 0 | Normal Voltage | 0.0007 | |
| -10 | Normal Voltage | 0.0003 | |
| -20 | Normal Voltage | 0.0008 | |
| -30 | Normal Voltage | 0.0012 | |
| 20 | Maximum Voltage | 0.0001 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0018 | |

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

| Test Conditions | | LTE Band 4 (QPSK) / Middle Channel | Limit |
|------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0020 | PASS |
| 40 | Normal Voltage | 0.0017 | |
| 30 | Normal Voltage | 0.0003 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0026 | |
| 0 | Normal Voltage | 0.0007 | |
| -10 | Normal Voltage | 0.0003 | |
| -20 | Normal Voltage | 0.0008 | |
| -30 | Normal Voltage | 0.0013 | |
| 20 | Maximum Voltage | 0.0001 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0019 | |

Note:

1. Normal Voltage =3.85V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



| Test Conditions | | LTE Band 5 (QPSK) / Middle Channel | Limit |
|---------------------|-------------------|------------------------------------|--------|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | 2.5ppm |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0020 | PASS |
| 40 | Normal Voltage | 0.0018 | |
| 30 | Normal Voltage | 0.0003 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0028 | |
| 0 | Normal Voltage | 0.0008 | |
| -10 | Normal Voltage | 0.0003 | |
| -20 | Normal Voltage | 0.0009 | |
| -30 | Normal Voltage | 0.0013 | |
| 20 | Maximum Voltage | 0.0001 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0017 | |

Note: Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.35 V.

| Test Conditions | | LTE Band 7 (QPSK) / Middle Channel | Limit |
|---------------------|-------------------|------------------------------------|---------|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0020 | PASS |
| 40 | Normal Voltage | 0.0016 | |
| 30 | Normal Voltage | 0.0003 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0029 | |
| 0 | Normal Voltage | 0.0007 | |
| -10 | Normal Voltage | 0.0003 | |
| -20 | Normal Voltage | 0.0009 | |
| -30 | Normal Voltage | 0.0013 | |
| 20 | Maximum Voltage | 0.0008 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0013 | |

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



| Test Conditions | | LTE Band 38 (QPSK) / Middle Channel | Limit |
|------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0020 | PASS |
| 40 | Normal Voltage | 0.0016 | |
| 30 | Normal Voltage | 0.0003 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0025 | |
| 0 | Normal Voltage | 0.0006 | |
| -10 | Normal Voltage | 0.0003 | |
| -20 | Normal Voltage | 0.0009 | |
| -30 | Normal Voltage | 0.0013 | |
| 20 | Maximum Voltage | 0.0001 | |
| 20 | Normal Voltage | 0.0000 | |
| 20 | Battery End Point | 0.0018 | |

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.35 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Pre-scanned in three orthogonal panels, X, Y, Z for WWAN Bottom / Top Antenna which can't transmit simultaneously. The worse cases were recorded in this report.

| LTE Band 2 / 5MHz / QPSK for Bottom Antenna | | | | | | | | |
|---------------------------------------------|-------------------|--------------|---------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 3755.68 | -61.09 | -13 | -48.09 | -73.35 | 2.641 | 14.90 | H |
| | 5634 | -57.20 | -13 | -44.20 | -69.06 | 2.94 | 14.80 | H |
| | 7512 | -52.37 | -13 | -39.37 | -62.14 | 3.39 | 13.16 | H |
| | 3756 | -61.08 | -13 | -48.08 | -73.34 | 2.64 | 14.90 | V |
| | 5633.52 | -59.38 | -13 | -46.38 | -71.24 | 2.94 | 14.80 | V |
| | 7512 | -52.07 | -13 | -39.07 | -61.84 | 3.39 | 13.16 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| LTE Band 4 / 20MHz / QPSK for Bottom Antenna | | | | | | | | |
|----------------------------------------------|-------------------|--------------|---------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 3447 | -59.30 | -13 | -46.30 | -70.04 | 2.604 | 13.34 | H |
| | 5170.77 | -56.18 | -13 | -43.18 | -66.69 | 3.011 | 13.52 | H |
| | 6894 | -55.16 | -13 | -42.16 | -65.36 | 3.271 | 13.47 | H |
| | 3447 | -60.63 | -13 | -47.63 | -71.37 | 2.604 | 13.34 | V |
| | 5172 | -57.55 | -13 | -44.55 | -68.06 | 3.011 | 13.52 | V |
| | 6894 | -54.41 | -13 | -41.41 | -64.61 | 3.271 | 13.47 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| LTE Band 5 / 5MHz / QPSK for Bottom Antenna | | | | | | | | |
|---------------------------------------------|-------------------|-------------|---------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | ERP (dBm) | Limit (dBm) | Over Limit (dB) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 1668 | -66.86 | -13 | -53.86 | -73.83 | 1.58 | 10.70 | H |
| | 2502 | -61.34 | -13 | -48.34 | -69.59 | 2.102 | 12.50 | H |
| | 3336 | -65.42 | -13 | -52.42 | -74.31 | 2.856 | 13.90 | H |
| | 1668 | -63.06 | -13 | -50.06 | -70.03 | 1.58 | 10.70 | V |
| | 2606 | -64.04 | -13 | -51.04 | -72.29 | 2.10 | 12.50 | V |
| | 3336 | -65.12 | -13 | -52.12 | -74.01 | 2.86 | 13.90 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 7 / 20MHz / QPSK for Bottom Antenna | | | | | | | | |
|----------------------------------------------|----------------------|-----------------|------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 5050 | -59.67 | -25 | -34.67 | -69.88 | 3.03 | 13.24 | H |
| | 7580 | -49.80 | -25 | -24.80 | -59.25 | 3.56 | 13.01 | H |
| | 10107 | -56.02 | -25 | -31.02 | -65.54 | 3.92 | 13.44 | H |
| | 5050 | -60.98 | -25 | -35.98 | -71.19 | 3.03 | 13.24 | V |
| | 7580 | -48.40 | -25 | -23.40 | -57.85 | 3.56 | 13.01 | V |
| | 10107 | -55.97 | -25 | -30.97 | -65.49 | 3.92 | 13.44 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| LTE Band 38 / 15MHz / QPSK for Bottom Antenna | | | | | | | | |
|-----------------------------------------------|----------------------|-----------------|------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 5176 | -61.04 | -25 | -36.04 | -71.25 | 3.03 | 13.24 | H |
| | 7764 | -48.73 | -25 | -23.73 | -58.18 | 3.56 | 13.01 | H |
| | 10350 | -58.85 | -25 | -33.85 | -68.37 | 3.92 | 13.44 | H |
| | 5176 | -57.95 | -25 | -32.95 | -68.16 | 3.03 | 13.24 | V |
| | 7764 | -50.56 | -25 | -25.56 | -60.01 | 3.56 | 13.01 | V |
| | 10350 | -58.88 | -25 | -33.88 | -68.40 | 3.92 | 13.44 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**For CA:**

| LTE Band 7C_CA / 20M+20M / QPSK for Bottom Antenna | | | | | | | | |
|----------------------------------------------------|----------------------|-----------------|------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 5030 | -62.49 | -25 | -37.49 | -72.70 | 3.03 | 13.24 | H |
| | 7550 | -48.27 | -25 | -23.27 | -57.72 | 3.56 | 13.01 | H |
| | 10062 | -56.96 | -25 | -31.96 | -66.48 | 3.92 | 13.44 | H |
| | 5030 | -62.73 | -25 | -37.73 | -72.94 | 3.03 | 13.24 | V |
| | 7550 | -51.78 | -25 | -26.78 | -61.23 | 3.56 | 13.01 | V |
| | 10062 | -57.11 | -25 | -32.11 | -66.63 | 3.92 | 13.44 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

| LTE Band 38C_CA / 20M+20M / QPSK for Bottom Antenna | | | | | | | | |
|-----------------------------------------------------|----------------------|-----------------|------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Middle | 5150 | -60.28 | -25 | -35.28 | -70.49 | 3.03 | 13.24 | H |
| | 7728.27 | -53.21 | -25 | -28.21 | -62.66 | 3.56 | 13.01 | H |
| | 10305 | -57.78 | -25 | -32.78 | -67.30 | 3.92 | 13.44 | H |
| | 5150 | -62.34 | -25 | -37.34 | -72.55 | 3.03 | 13.24 | V |
| | 7730 | -51.12 | -25 | -26.12 | -60.57 | 3.56 | 13.01 | V |
| | 10305 | -58.35 | -25 | -33.35 | -67.87 | 3.92 | 13.44 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.