

RF Exposure REPORT


Company: MetroTel Corp
26 First Ave SE
New London, MN 56273

Contact: Doug Ferguson

Product: WESROM MT9100-BM RMS Min- Base Unit

FCC ID: RWB-MT9100-BM
IC: 115A-MT9100-BM

Test Report No: RFE090809-01

APPROVED BY: Nic Johnson
Test Engineer 

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RF Exposure Calculations:

The minimum separation distance is calculated from FCC OET 65 Appendix B, Table 1B “Guidelines for General Population/Uncontrolled Exposure.” This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain.

RF Power Measurement

The RF output of the transceiver was connected to a spectrum analyzer using the channel power function. Measurements were made with the transmitter continuously active. Measurements were made on all channels 1, 26 and 50. Channel 1 produced the highest power measurements, and these are presented below. Measurements were made on August 31, 2009.

| Frequency (MHz) | Output Power dBm | Output Power mW |
|-----------------|------------------|-----------------|
| 920.98 | 8.22 | 6.64mW |

Test Equipment Used

| DESCRIPTION AND MANUFACTURER | MODEL NO. | SERIAL NO. | LAST CALIBRATION DATE |
|---------------------------------|-----------|------------|-----------------------|
| Rohde and Schwarz Test Receiver | ES17 | 100023 | 6/9/2009 |

Test Environment

Testing was performed at the NCEE Labs Lincoln facility. Laboratory environmental conditions varied slightly throughout the test:

Relative humidity of $40 \pm 5\%$

Temperature of $20 \pm 2^\circ$ Celsius

| | |
|--|--------|
| Exposure Limit (mW/cm^2) = $F/1200$ | 0.767 |
| Frequency (MHz) | 920.98 |
| Maximum peak output power (mW) | 6.64 |
| Antenna Gain (Numeric) | 1.5 |
| Antenna type | Dipole |

$$P_d = (P_{out} \times G) / (4\pi \times R^2)$$

$$R = \sqrt{(P_{out} \times G) / (4\pi \times P_d)}$$

P_d = Power density limit, mW/cm²

P_{out} = Peak power output, mW

G = Numeric Antenna Gain

R = Distance from antenna, cm

| P_{out} mW | G Numeric | P_d mW/cm² | R cm | Frequency MHz | Calculation |
|-------------------------------------|----------------------------|--|-----------------------|--------------------------------|--------------------------------|
| 6.64 | 1.5 | 0.767 | 1.02 | 920.98 | Minimum distance to meet limit |
| 6.64 | 1.5 | 0.002 | 20.00 | 920.98 | Power density at 20 cm |

Notes:

1. The minimum safe distance is based on a conservative “worst case” prediction, i.e. using the formula shown above and no duty factor. In practice the minimum distance will be much shorter. (Ref. 2)

References:

1. FCC OET Bulletin 65, Edition 97-01
2. FCC Supplement C to OET Bulletin 65, edition 01-01
3. IEEE C95.1, 1999