

FCC / IC RF Exposure Exhibit
CETECOM Inc., CA, Milpitas

Duty Cycle Analysis to support application to waive FCC/IC SAR testing for the following equipment:

Applicant: The Morey Corporation

OM400 Offender / Asset Tracker

FCC ID: AB3-OM400; IC: 10424A-OM400

Operational Description

The Omnilink Tracker is an ankle-worn offender tracking device utilizing GPS to establish an offender's location.

Positional (data) points are stored every minute. An incorporated CDMA transmitter is utilized to transmit the data back to servers at the data center. A 802.15.4 MiWi transmitter is contained for short range communication with a "Omnilink OM400B Beacon" device if such one is in range.

The device is used for data only.

The manufacturer specifies that per HW and SW simultaneous transmission of the CDMA and the MiWi transmitter is excluded.

Technical details:

CDMA Dual Band transmitter: Telit CC864-DUAL CDMA-1XRTT wireless module

FCC ID: R17CC864-DUAL; IC: 5131A-CC864DUAL;

Frequency: 824.7 - 848.31 MHz / 1851.25 - 1908.75 MHz

Max Power: 24.7 dBm (max. tune-up output power acc. to Telit documentation)

Antenna: PCB trace antenna; peak gain: -1.5 dBi @ 850 MHz, 0.7 dBi @ 1900 MHz;

802.15.4 MiWi transmitter: Microchip Technology Inc.

FCC ID: OA3MRF24J40MA; IC: 7693A-24J40MA

Frequency: 2.405 – 2.480 GHz

Max Power: 0 dBm (1 mW)

Antenna: integral;

RF Exposure Conditions:

The ankle-worn tracking device is intended for operation in the General Population / Uncontrolled RF exposure environment.

Device Dimensions (inch): HxWxD = 3.48 x 2.43 x 1.77

Power Supply: Battery, 3.3V (Low) / 3.7V (Nominal) / 4.2V (Max);

CDMA Antenna-to-Ankle Separation Distance: ~ 1.0 inches (~25mm);

Data Volume – Transmission Pattern

The Tracker collects GPS position information once a minute. This data is sent back to the datacenter via CDMA once per 30 minutes, by typically 200ms packages.

802.15.4 transmission of typically 50ms packages occurs once per minute.

Duty Factor Considerations

CDMA Mode 824.7 - 848.31 MHz / 1851.25 - 1908.75 MHz

maximum conducted output power (both bands) = 24.7 dBm;

application-based Time-averaged duty cycle = $0.2/1800 = 0.011\%$ relating to -39.5 dB;

resulting averaged output power 24.7 dBm – 39.5 dB = -14.8 dBm or rounded **0.03 mW**;

SAR test exclusion thresholds^{*} : for f = 835 MHz and d = 25mm: **82 mW**,

for f = 1900 MHz and d = 25mm: **54 mW**;

802.15.4 MiWi Transmission

maximum conducted output power = 0 dBm (1 mW),

which can be neglected since below the lowest SAR test exclusion thresholds^{*} for

f=2450 MHz and d = 5 mm of 10 mW.

Since the source-based time-averaged conducted output powers for all bands fall below their respective SAR test exclusion thresholds^{*}, SAR test exclusion is claimed.

() SAR Test Exclusion Thresholds are taken from Appendix A: SAR Test Exclusion Thresholds for 100 MHz- 6 GHz and ≤ 50 mm of KDB 447498 D01 General RF Exposure Guidance v05.*