Summary of KDB information: (Tracking Number: 189479)

FCC ID: XYANUM8

The Num8 Device is a wrist-worn tracking device that supports only GPRS and has no support for voice. The device transmits user location information where the transactions are very short. During the transaction 21 bytes of data are transmitted over the GPRS network. The device only operates with the wrist strap/bracelet attached. The device uses only one transmitter which is a Wavecom WMP100 module with FCC ID: O9EWMP100.

Consideration for exemption:

The Num8 device has two mode of operation:

LT (live track) – where the device is put into this function so it report back its position every 2, 5, 10, 15 or 30 minutes.

SF (safe zone) – where an area can be designated that the device is allowed to be in and it will check its position every 2, 5, 10, 15 or 30 minutes. If the position is outside of the pre-determined zone than an alert will be sent.

The device has no conducted ports therefore the conducted average power of the Wavecom WMP100 module in the FCC grant (33 dBm / 2 watts) is used. The minimum transaction time was < 1 second as only 21 bytes is transmitted and fits within a single GPRS time slot of 570 microseconds.

For the purpose of this KDB the worst case repetition time of 2 minutes / 120 seconds was used, as this is the shortest time in which the Num8 device is idle for.

The NuM8 device creates a pdp context connection to the NuM8 Server at boot up; this connection allows the sending of UDP data from the device, the device sends no data during idle. To enter idle we sent AT+W32K=1. If Num8 is placed into its worst case mode which is 120 second live track mode, the device sends data for a single GPRS Time slot every 120 seconds. This is performed by the WMP100 under its standard pdp context connection handling system. In the 2 minute Live Track mode, the device goes into idle mode for 120 seconds between transmissions. At this point a transmitting of 21 bytes is sent which fits within a single GPRS time slot of 570 microseconds, as stated. The device stays registered with the network and the carrier does not remain on.

Therefore:
1 single slot is used in the entire 120 second period or 1 slot in 210526 slots.
Duty factor = 570microseconds / 120 second = 0.0000047
Average Power in transmission = 2watts (worst-case average power from Wavecom WMP100 module) * 0.0000047 (Duty factor) = 0.0000094watts

Idle mode does not disable the module. Disabling the module would require it to register on the network every time we need to send data and would cause more overhead than is required. When idle the device is still registered on the network but is not transmitting data at all. The 2 minute Live Track is the harshest mode for the device.

Because of the extremely low duty factor and the source-based time-averaged conducted output is less than 60/f, SAR testing is excluded for this device.