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Declaration of compliance to RF Exposure Limits for Humans

The Model PMV-107J with 314.94MHz tire pressure monitoring transmitter complies with RF exposure limits for humans as called out in RSS-102. The transmitter is used in a tire of a vehicle. It is exempt from RF Evaluation based on its operating frequency of 314.94MHz, and effective radiated power 17.86 microwatts.

$$E(\text{dBuV/m}) = 106.92 + \text{ERP (dBk)} - 20 \log D (\text{km})$$
$$\text{ERP (dBk)} = E(\text{dBuV/m}) - 106.92 + 20 \log D (\text{km})$$

where:

$$E=79.9 \text{ dBuV/m(peak)}, D=0.003 \text{ km}$$

Therefore:

$$\begin{aligned} \text{ERP (dBk)} &= 79.9 - 106.92 + 20 \log 0.003 \\ &= -27.02 - 50.45 \\ &= -77.47 \end{aligned}$$

$$\begin{aligned} \text{ERP (W)} &= 10^{-77.47/10} \\ &= 17.9 \times 10^{-9} \text{ kW} \\ &= 17.9 \times 10^{-6} \text{ W} \\ &= 17.9 \text{ microwatts} \end{aligned}$$

This would be less than the 1.5 watt requirement for a mobile device (>20 cm separation) and the 200 mw requirement for a portable device (<20 cm separation) operating at 314.94 MHz.

A handwritten signature in black ink, appearing to read "K. Kuga".

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