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RF Exposure Information for IPH-01102291
GSM transmitters operating under Part 22 and Part 24 of the rules require routine SAR evaluation for portable exposure conditions. Based on the very low transmission duty factor, per the pre-filing consultation with FCC an exception is being given in requiring SAR test data to support compliance. Note that this is not an exemption from compliance. The 60/f factor indicated in the document is generally intended for unlicensed devices with respect to some of the FCC SAR procedures; it normally does not apply to devices that require routine SAR evaluation. Because SAR is related to near-field and average conducted power; ERP and EIRP are generally not directly used to determine duty factor and other considerations for RF exposure. Source-based time-averaged conducted power must be used for RF exposure analysis.

note: for part 22/24 devices radiated power test results are required for Form-731 and 2.1033(c)(7) device rated power. For GSM signals, part 22/24 rated power is burst power, whereas RF exposure analysis uses frame-average power (i.e. burst power

Bluetooth RF Exposure Information
The included Bluetooth module is not functionally coupled to the GPRS/EDGE radio, and is intended for use as a generic handsfree speakmaximum average powerhone device paired to a customer's separate external handset. Since the Bluetooth radio is not functionally coupled to the integrated GPRS/EDGE radio, it may or may not operate simultaneously, as this would be a matter of chance.
The Bluetooth radio power is exceedingly low (measured at 6.4dBm), so this falls well under the threshold established by
Output power <= 60/f(GHz) mW
6.4dBm = 4.4mW < 60/2.402 mW = 25 mW
4.4 mW < 25mW, so the Bluetooth radio does not need a SAR test data to demonstrate compliance to exposure limits.

GPRS/EDGE Radio Information
This device employs infrequent short duration data communications over GPRS and EDGE and does not support GSM voice. The maximum average power was measured during a sustained data call and does not reflect the actual operation of the device. In actual use, a typical transfer takes between 500 ms – 5 seconds depending on the network latency, and there is a hard timeout of any data transmission at 15 seconds.
Garmin supplies a prepaid service plan for an introductory period, so the data minimization is designed to control costs and ensure that the consumer's costs to continue the data service are minimal once the prepaid introductory service period expires. Garmin has intentionally formatted the data sent to and from the device such that it utilizes as few bytes as possible. This accounts for the exceedingly short transmission times.
The device can only transmit for a maximum of 15 seconds during a 3 minute period.
Based on the maximum average power of 454.9mW for operation GPRS/EDGE in the GSM850 band, and maximum average power of 217.7 mW for operation of GPRS/EDGE in the GSM1900 band, the following maximum transmission time correction can be applied to establish that SAR test data is not required:

For GPRS/EDGE in the GSM 850 band:
The device can transmit for a maximum of 15 seconds during a 3 minute time period. (8.4% duty cycle).
Given an maximum averaged power of 454.9 mW, 8.4% of 454.9 mW = 38.2 mW.
Comparing this to the formula Output power <= 60/f(GHz) mW, the calculation is as follows:
38.2 mW < 60/(0.842) mW
38.2 mW < 71.3 mW.
Thus the radio is does not need SAR test data to demonstrate compliance to exposure limits while operating in the GSM 850 band.

For GPRS/EDGE in the GSM 1900 band:
The device can transmit for a maximum of 15 seconds during a 3 minute time period. (8.4% duty cycle).
Given an maximum averaged power of 217.7 mW, 8.4% of 217.7 mW = 18.3 mW.
Comparing this to the formula Output power <= 60/f(GHz) mW, the calculation is as follows:
18.3 mW < 60/(1.850) mW
18.3 mW < 32.4 mW.
Thus the radio is does not need SAR test data to demonstrate compliance to exposure limits while operating in the GSM 1900 band.

Signed:

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