January 14, 2022

Telecommunication Certification Body
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Subject: RF Exposure Considerations for Radio Board 60556R-F-915

FCC ID: 2A3M2-25A080

The FCC requires that the Maximum ERP be less than the threshold value at a distance of 20 cm from a device to the body of a user.
The transmitter operation for the Radio Board 60556R-F-915 utilizes 915 MHz LoRa and 915 MHz FSK.
Simultaneous transmission of LoRa and FSK cannot take place.

The following FCC Rule Parts and procedures are applicable:
Part 1.1310 – Radiofrequency radiation exposure limits
Part 2.1091 – Radiofrequency radiation exposure evaluation: mobile devices

KDB447498 D01 v07
Mobile and Portable Devices RF Exposure Procedures and Equipment Authorisation Policies

EIRP Calculation

For 915 MHz LoRa
Transmitter frequency range = 915.25 MHz to 927.5MHz
Maximum Conducted Power = 22dBm
Antenna gain: +0dBi
EIRP = 22dBm + 0dBi = 22dBm
ERP = EIRP-2.15dBm = +19.85dBm (**96.61mW**)

For 915 MHz FSK
Transmitter frequency range = 915.9 MHz to 927.1MHz
Maximum Conducted Power = 22dBm
Antenna gain: +0dBi
EIRP = 22dBm + 0dBi = 22dBm
ERP = EIRP-2.15dBm = +19.85dBm (**96.61mW**)

Power Thresholds

From Appendix A of KDB 447498 Do1 v07. RF exemption applies if the maximum transmitted power is less than the maximum of the following three criteria:

i)   Less than 1 mw Blanket exemption. PTH = 0.001 W (the Radio Board 60556R-F-915 is not compliant)
ii)   determination of exemption under the MPE-based §1.1307(b)(3)(i)(C), if i) not meet
iii)   determination of exemption under the SAR-based §1.1307(b)(3)(i)(B) if both i) and ii) are not met.

Determination of threshold power (PTH) under the MPE-based §1.1307(b)(3)(i)(C)
From table 1 - § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation for 915 MHz:

Threshold ERP (watts) PTH = 0.0128 * R2 * f (f in MHz)
For
        R = 0.2 m
        f = 915 MHz
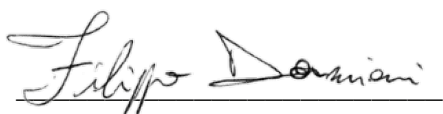   PTH = 0.0128 * 0.22 * 915
        PTH = 0.0128 * 0.04 * 915
        PTH = 0.468 W (**468mW**)

Conclusion

The maximum ERP is below the applicable 0.468W threshold for operation at 915MHz, and therefore RF Exposure Evaluation is not required for the Radio Board 60556R-F-915 with a user/antenna separation distance of 20cm and is exempt from evaluation in accordance with §1.1307(b)(3).

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