

RF exposure information

Product information from applicant

Applicant	:	YAESU MUSEN CO., LTD.
Applicant address	:	Tennozu Parkside Building 2-5-8 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002, Japan
FCC ID	:	K6620825X21
ISED ID	:	511B-20825X21
Product description	:	144/430MHz DIGITAL/ANALOG TRANSCEIVER (Bluetooth)
Operating frequency range	:	2402 - 2480 MHz
Peak output power (Measured)	:	-2.7dBm @2.402GHz, -0.1dBm @2.441GHz, -0.5dBm @2.480GHz (DH5) -3.3dBm @2.402GHz, -1.2dBm @2.441GHz, -2.0dBm @2.480GHz (2DH5) -3.2dBm @2.402GHz, -1.0dBm @2.441GHz, -1.7dBm @2.480GHz (3DH5)
Maximum antenna gain	:	+2.14 dBi (Manufacturer 's declares)

Analysis for portable use

For FCC

Standalone SAR test exclusion considerations are defined in the KDB 447498 Chapter 4.3.1. 1-g head or body SAR exclusion threshold is defined with formula.

$[(\text{Max. power of channel, mW}) / (\text{Min. test separation distance, mm})] * [\sqrt{f \text{ [GHz]}}] \leq 3.0$ for 1-g SAR

The maximum Conducted Peak Output Power is -0.1dBm (Manufacture specification).

The best-case gain of the antenna is 2.14dBi.

$\text{EIRP} = (-0.1\text{dBm}) + (+2.14\text{dBi}) = 2.04\text{dBm}$

2.04dBm logarithmic terms covert to numeric result is nearby 1.60mW

General RF Exposure (worst) = $(1.60\text{mW} / 5\text{mm}) * \sqrt{2.441\text{GHz}} = 0.50 \leq 3.0$

This product meets the SAR exclusion. So, SAR evaluation is not needed.

For ISED

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in RSS-102 Table 1.

Output power level is 1.60mW e.i.r.p. < 4mW (Exemption limits at separation distance of $\leq 5\text{mm}$ @2450MHz)

This product meets the SAR exclusion. So, SAR evaluation is not needed.