February 3, 2025

FCC ID: ACJ-SH-GNW30

To whom it may concern,

We, UL Japan, Inc, hereby declare that Wireless Transmitter, model: SH-GNW30 (FCC ID: ACJ-SH-GNW30) of Panasonic Corporation of North America is exempt from RF exposure SAR evaluation because the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula according to the Code of Federal Regulation title 47 section 1.1307(b)(3)(i)(B). This method is used at separation distances d (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive) for single RF sources. P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} \, (d \, / \, 20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20 \text{ cm}}\sqrt{f}}\right) \text{ and } f \text{ is in GHz}$$

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

When the minimum separation distance is shorter than 0.5 cm, 0.5 cm is applied.

The SAR evaluation exemption threshold is calculated as below.

[Bluetooth (LE/ BR / EDR) part]

Pth (mW)	3060
f (GHz)	2480
$ERP_{20 \text{ cm}}$ (mW)	3060
d (cm)	20.0

Conducted Power	(dBm)	6.50
	(mW)	4.47
Antenna Gain (dBi)		1.80
EIRP (dBm)		8.30
ERP	(dBm)	6.16
	(mW)	4.13

The Maximum time-averaged power or ERP whichever greater is 4.5 mW.
(Rounded up to two decimals place)

[Wireless 2.4 GHz Audio module part]

Pth (mW)	3060
f (GHz)	2476.4
$ERP_{20 \text{ cm}}$ (mW)	3060
d (cm)	20.0

Conducted Power	(dBm)	4.13
	(mW)	2.59
Antenna Gain (dBi)		3.90
EIRP (dBm)		8.03
ERP	(dBm)	5.89
	(mW)	3.88

The Maximum time-averaged power or ERP whichever greater is 3.9 mW.
(Rounded up to two decimals place)

Transmitters used in mobile exposure conditions for simultaneous transmission operations according to KDB447498 D04.

Value is calculated using the following formula according to the Code of Federal Regulation title 47 section 1.1307(b)(3)(ii)(B).

$$\sum_{i=1}^{a} \frac{P_i}{P_{th,i}} + \sum_{j=1}^{b} \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^{a} \frac{Evaluated_k}{Exposure\ Limit_k} \leq 1$$

[Bluetooth (BR/EDR/LE)] and [Wireless 2.4 GHz Audio module]

4.5 / 3060 + 3.9 / 3060 = 0.0015 + 0.0013 = **0.0027** <1

Thank you for your attention to this matter.

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