DEKRA

RF EXPOSURE REPORT

Equipment Under Test	Car AVN
Model Name	DGU-12T5-J116SA-3
Variant Model Name	DGU-12T5-J116SA-2, DGU-12T5-J116SA-3, DGU-12T5-J116SA-4, DGU-12T5-J116SA-5, DGU-12T5-J116SA-6, DGU-12T5-J116SA-7, DGU-12T5-J120SA-2, DGU-12T5-J120SA-3, DGU-12T5-J120SA-4, DGU-12T5-J120SA-5, DGU-12T5-J120SA-6, DGU-12T5-J120SA-7
FCC ID	2AE77DGU12T5J116SA3
IC Number	-
Applicant	DIGEN
Manufacturer	DIGEN
Date of Test(s)	2024. 01. 29 ~ 2024. 02. 02
Date of Issue	2024. 02. 07

In the configuration tested, the EUT complied with the standards specified above.

Issue to	Issue by
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RF EXPOSURE

1. Regulation

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this Chapter.

Limits for Maximum Permissive Exposure: RF exposure is calculated.

Frequency Range	Electric Field Strength [V/m]	Magnetic Field Strength [A/m]	Power Density [mW/cm^2]	Averaging Time [minute]
Limits for General Population / Uncontrolled Exposure				
0.3 ~ 1.34	614	1.63	*(100)	30
1.34 ~ 30	824/f	2.19/f	*(180/f2)	30
30 ~ 300	27.5	0.073	0.2	30
300 ~ 1 500	/	/	f/1 500	30
1 500 ~ 15 000	/	/	1	30

f=frequency in MHz, *= plane-wave equivalent power density

MPE (Maximum Permissive Exposure) Prediction

Predication of MPE limit at a given distance: Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2 \quad \left(\Rightarrow R = \sqrt{PG/4\pi S} \right)$$

S = power density [mW/cm^2]
P = Power input to antenna [mW]
G = Power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna [cm]

2. RF Exposure Compliance Issue

The information should be included in the user's manual:

This appliance and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter. A minimum separation distance of 20 cm must be maintained between the antenna and the person for this appliance to satisfy the RF exposure requirements.

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MPE Calculations : Bluetooth BDR

- Frequency Range : <u>2 402</u> MHz ~ <u>2 480</u> MHz

- Measured RF Output Power (Peak) : <u>2.93</u> dBm

- Target Power & Tolerance <u>2.00</u> dBm & ± <u>1.00</u> dB

         (Maximum : <u>3.00</u> dBm & Minimum : <u>1.00</u> dBm)

- Maximum Peak Antenna Gain : <u>-0.56</u> dBi

- Maximum Output Power for the Calculation : <u>**3.00**</u> **dBm**

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the
The MPE calculation for this exposure is shown below.

- EIRP = P + G	- NOTE
= <u>3.00</u> dBm + <u>-0.56</u> dBi	P : Max tuneup Power (dBm)
= <u>2.44</u> dBm	G : Maximum Peak Antenna Gain (dBi)
= <u>1.75</u> mW	

Power Density at the specific separation

- S = EIRP / (4 X $R^2\pi$)	- NOTE
= 1.75 / (4 X 20^2 X π)	S : Maximum Power Density (mW/cm^2)
= **0.000 349** mW/cm^2	EIRP : Equivalent Isotropic Radiated Power (mW)
	R : Distance to the center of the radiation of the
	antenna (<u>20</u> cm)

MPE Calculations : Bluetooth EDR

- Frequency Range : <u>2 402</u> MHz ~ <u>2 480</u> MHz

- Measured RF Output Power (Peak) : <u>3.28</u> dBm

- Target Power & Tolerance <u>2.50</u> dBm & ± <u>1.00</u> dB

       (Maximum : <u>3.50</u> dBm & Minimum : <u>1.50</u> dBm)

- Maximum Peak Antenna Gain : <u>-0.56</u> dBi

- Maximum Output Power for the Calculation : <u>3.50</u> dBm

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the
The MPE calculation for this exposure is shown below.

- EIRP = P + G	- NOTE
= <u>3.50</u> dBm + <u>-0.56</u> dBi	P : Max tuneup Power (dBm)
= <u>2.94</u> dBm	G : Maximum Peak Antenna Gain (dBi)
= <u>1.97</u> mW	

Power Density at the specific separation

- S = EIRP / (4 X $R^2\pi$)	- NOTE
= 1.97 / (4 X 20^2 X π)	S : Maximum Power Density (mW/cm^2)
= **0.000 391** mW/cm^2	EIRP : Equivalent Isotropic Radiated Power (mW)
	R : Distance to the center of the radiation of the
	antenna (<u>20</u> cm)