



# Maximum Permissible Exposure Evaluation

**FCC ID: 2A9FYSL02**

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b).

**EUT Specification**

Product Name:	Smart Load loadcell amplifier
Trade Mark:	/
Model/Type Reference:	SG02
Listed Model(s):	SG03, SG04, IN406, 7860, WP00, TS10, TS11, TS12, SE05, SE06
Model Differences:	All these models are identical in the same PCB, layout, electrical circuit and enclosure. The difference is the model name.
Frequency Band (Operating)	BT: 2402MHz ~ 2480MHz
Device Category	<input type="checkbox"/> Portable (<5mm separation) <input type="checkbox"/> Mobile (>20cm separation) <input checked="" type="checkbox"/> Fixed (>20cm separation) <input type="checkbox"/> Others ____
Exposure Classification	<input type="checkbox"/> Occupational/Controlled exposure ( $S=5\text{mW}/\text{cm}^2$ ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure ( $S=1\text{mW}/\text{cm}^2$ )
Antenna Diversity	<input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> TX diversity <input type="checkbox"/> RX diversity <input type="checkbox"/> TX/RX diversity
Antenna Gain (Max)	0.93dBi
Evaluation Applied	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

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**Limits for Maximum Permissible Exposure (MPE)**

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposure				
300-1500	--	--	F/300	<6
1500-100000	--	--	5	<6
(B) Limits for General Population/Uncontrolled Exposure				
300-1500	--	--	F/1500	<30
1500-100000	--	--	1	<30

**Calculation Method**

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where:

$P_d$  = Power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi$  = 3.1416

$R$  = distance between observation point and center of the radiator in cm

$P_d$  limit of MPE is 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

**Measurement Result**

Mode	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Max. Tune Up Power (dBm)	Power Density at 20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
BLE	2480	0.93	-11.28	-11.00	0.00002	1	Pass

Note:

1. Calculate in the worst-case mode.
2. Max. Tune Up Power is declared by manufacturer, and used to calculate.
3. For a more detailed features description, please refer to the RF Test Report.

\*\*\*\*\*THE END\*\*\*\*\*