RF EXPOSURE EVALUATION

Product Name	:	FireMaster	
Model Name	:	SJ03M	
Technology	:	Zigbee:	Bluetooth:
Operation Frequency	:	2405-2480MHz	2402-2480MHz
Number of Channel	:	16	40
Type of Modulation	:	O-QPSK	GFSK
Antenna installation	:	External antenna	PCB Antenna
Antenna Gain	:	0 dBi	0 dBi
Power supply	:	DC 6V Battery	
Hardware Version	:	V1.4	
Software Version	:	N/A	

Standard Requirement

According to § 15.247(i) and § 1.1307b(1), 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 KDB 447498 D01 General RF Exposure Guidance v05, section 4. 3. 1.

The 1-g and 10-g SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances ≤ 50mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]*[√f(GHz)] ≤3.0 for 1-g SAR and ≤7.5 for 10-g SAR extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison.

The test exclusions are applicable only when the minimum test separation distance is ≤ 50mm and for transmission frequencies between 100MHz and 6GHz. When the minimum test separation distance is <5mm, a distance of 5mm is applied to determine SAR test exclusion. Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to quality for TCB approval.

Channel (MHz)	Maximum output power (dBm)	Tune up tolerance (dBm)	Max Tune Up Power (dBm)	Distance (mm)	Calculation results	Limit	Operating Mode
2405	1.424	1.424±1	2.424	5	0.542	3	Zigbee TX
2480	0.340	0.340±1	1.340	5	0.429	3	Bluetooth TX

Zigbee and Bluetooth can transmit at the same time, so total result is:
0.542+0.429=0.971 < 3 .
According to KDB 447498, SAR measurement is not required.

Signature

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