

MPE CALCULATIONS

1.0 APPLICANT:

DATE:04/24/2014

NAME OF APPLICANT:HONEYWELL INTERNATIONAL INC.

FCC ID:CFS8DLVAM

IC:573F-VAM

2.0 FCC RULES CONCERNING MAXIMUM PERMISSIBLE RF EXPOSURE:

§ CFR 47 1.1310 Radiofrequency radiation exposure limits.

The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter. Further information on evaluating compliance with these limits can be found in the FCC’s OST/OET Bulletin Number 65, “Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation.”

NOTE TO INTRODUCTORY PARAGRAPH:

These limits are generally based on recommended exposure guidelines published by the National Council on Radiation Protection and Measurements (NCRP) in “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” NCRP Report No. 86, Sections 17.4.1, 17.4.1.1, 17.4.2 and 17.4.3. Copyright NCRP, 1986, Bethesda, Maryland 20814. In the frequency range from 100 MHz to 1500 MHz, exposure limits for field strength and power density are also generally based on guidelines recommended by the American National Standards Institute (ANSI) in Section 4.1 of “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” ANSI/IEEE C95.1–1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers.

3.0 MPE CALCULATIONS:

FCC GENERAL POPULATION / UNCONTROLLED EXPOSURE LIMITS:

FOR 300 MHz to 1,500 MHz = F / 1500 mW/cm²;
FOR 1,500 to 100,000 MHz use 1 mW/cm²

$$P=20 \times \text{LOG } E -95.2289$$

$$\text{THE FRIIS TRANSMISSION EQUATION} = \text{EIRP} \times \text{DUTY CYCLE} / (4 \times \text{PI} \times 20 \text{ CM}^2)$$

NOTE: THE Z-WAVE LEVEL CAME FROM "EXHIBIT 5-3A A", AND THE WIFI LEVEL CAME FROM "EXHIBIT 5-3B" (Channel 1, 2.412GHz, Data Rate=54M)

CALCULATIONS:

BAND:	CHANNEL	FREQ:	uV/M @ 3M:	MAXIMUM (dbm):	ANTENNA GAIN(dbi):	MAXIMUM EIRP (mW):	DUTY CYCLE:	FRISS mW/CM ² :	EXP LIMIT mW/CM ² :	% OF LIMIT:
WIFI	1-Jan	2412.0	N/A	22.68	2.79	352.371	100%	0.0701020	1.000000	7.0102
Z-WAVE	N/A	908.4	45,300	-2.11	INTEGRAL	0.615	100%	0.0001224	0.6056	0.0202

4.0 RESULTS:

CO-MPE % : 7.0304

TEST RESULT: PASS

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