

1.0 APPLICANT:

2.0 FCC RULES CONCERNING MAXIMUM PERMISSIBLE RF EXPOSURE:

3.1 MPE CALCULATIONS:

FCC GENERAL POPULATION / UNCONTROLLED EXPOSURE LIMITS:

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

EQUATIONS:
MAX AVG EIRP (mW) = 10^{((MAX COND PWR. + ANT GAIN + DUTY FACTOR)/10)}
THE FRIIS TRANSMISSION EQUATION = EIRP X DUTY CYCLE / (4 X PI X 20 CM²)

BANDS AND FCC IDs

BAND	FCC ID
2475	CFS8DLSIXMINICT

BAND:	CH No:	FREQ(Mhz)	TRP dbm	MAX COND. PWR (dBm)	ANTENNA GAIN(db):	DUTY FACTOR (dB)	MAX AVG EIRP (mW)	FRISS mW/CM ² :	EXP LIMIT mW/CM ² :	% OF LIMIT:
2405MHZ	N/A	2475	N/A	18.50	2.98	11.56	9.817	0.0019531	1	0.1953

MAXIMUM MPE OF THE RF6 MODULE AS % OF LIMIT IS:

0.1953

4.0 RESULTS:

TEST RESULT: PASS

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

MPE CALCULATIONS - IC

1.0 APPLICANT:

DATE:12/2/2019

NAME OF APPLICANT:Ademco Inc.

IC NUMBER:573F-SIXMINICT

2.0 IC RULES CONCERNING MAXIMUM PERMISSIBLE RF EXPOSURE:

RSS-102 § 2.5.2 Exemption Limits for Routine Evaluation - RF Exposure Evaluation.

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device’s radiating element is greater than 20 cm, except when the device operates as follows:

- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834} \text{ W}$ (adjusted for tune-up tolerance), where f is in MHz;

In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the e.i.r.p. was derived.

3.0 UUT POWER OUTPUT AND ANTENNA GAIN

The maximum conducted output power from Exhibit 5 is measured as 11.01 dBm at 2405MHz.
The duty cycle from Exhibit 3 is 6.98%, or 11.56 dB
The maximum antenna gain between the two antennas is 2.4 dBi
The max time-averaged EIRP per 2.0 above is $1.31 \times 10^{-2} \times 2405^{0.6834} \text{ (W)} = 2.679\text{W} = 2679 \text{ mW}$.
The power density at 20cm corresponding to 2679 mW EIRP is $N/(4 \times \pi \times d^2)$ or $2679/(4*\pi*20^2) = 0.533 \text{ mW/CM}^2$

3.1 MPE CALCULATIONS:

IC GENERAL POPULATION / UNCONTROLLED EXPOSURE LIMITS:
FROM 300 MHz to 6 GHz use $(1.31 \times 10^{-2}) \times f^{0.6834}$ for max EIRP(W)

EQUATIONS:
 $\text{MAX AVG EIRP (mW)} = 10^{\{(\text{MAX COND PWR.} + \text{ANT GAIN} + \text{DUTY FACTOR})/10\}}$
THE FRIIS TRANSMISSION EQUATION = $\text{EIRP} \times \text{DUTY CYCLE} / (4 \times \pi \times 20 \text{ CM}^2)$

BANDS AND IC NUMBERS	
BAND	IC NUMBER:
2475	573F-SIXMINICT

BAND:	CH No:	FREQ(Mhz)	TRP dbm	MAX COND. PWR (dBm)	ANTENNA GAIN(db):	DUTY FACTOR (dB)	MAX AVG EIRP (mW)	FRISS mW/CM² :	EXP LIMIT mW/CM² :	% OF LIMIT:
2405MHz	N/A	2475	N/A	18.50	2.98	11.56	9.817	0.0019531	0.533	0.3664

MAXIMUM MPE OF THE RF6 MODULE AS % OF LIMIT IS: 0.3664

4.0 RESULTS:

TEST RESULT: PASS
In the configuration tested the EUT complied with the standards specified above.