IEEE C95.1

KDB 447498 D01 v06

47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

4-port RFID smart Reader

Model: F741-SD

Data Applies To: F741

Trade Name: Favite

Issued for

Favite Inc.

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Issued by

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0240

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	03/21/2016	Initial Issue	All Page	Vera Hsu

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1. Limit

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.

2. EUT Specification

Product Name	4-port RFID smart Reader
Model Number	F741-SD
Identify Number	T160119S03
Received Date	January 19, 2016
Frequency band (Operating)	902.75MHz ~ 927.25MHz
Device category	Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm^2) ☒ General Population/Uncontrolled exposure (S=0.610mW/cm^2)
Antenna Specification	Antenna Gain : 5.85 dBi (Numeric gain: 3.85)
Maximum Peak output power	29.86 dBm (968.278 mW)
Evaluation applied	MPE Evaluation*

Remark:

1. For more details, please refer to the User's manual of the EUT.

2. This submittal(s) (test report) is intended for FCC ID: XLG-F741-SD filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.

3. Test Results

No non-compliance noted.

Calculation

Given $E = \dfrac{\sqrt{30 \times P \times G}}{d}$ & $S = \dfrac{E^2}{3770}$

Where   E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2}$$ ***Equation 1***

Where   d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm^2

4. Maximum Permissible Exposure

Substituting the MPE safe distance using d = 23 cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm^2

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
915.25	968.278	3.85	23	0.5608	0.610