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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

Smart Touch Computer

Model: STC-1505

Trade Name:  **ADLINK**
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Issued for

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
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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	Smart Touch Computer		
Model Number	STC-1505		
Identify Number	T150629D01		
Received Date	June 29, 2015		
Frequency band (Operating)	☒ Bluetooth 2.1 + EDR / 4.0: 2402 ~ 2480 MHz 802.11b/g/gn HT20: 2412MHz ~ 2462MHz 802.11gn HT40: 2422MHz ~ 2452MHz ☐ Others		
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others		
Exposure classification	☐ Occupational/Controlled exposure ($S = 5\text{mW}/\text{cm}^2$) ☒ General Population/Uncontrolled exposure ($S=1\text{mW}/\text{cm}^2$)		
Antenna Specification	Dipole Antenna× 2 Antenna 1 / Chain 0, Antenna Gain : 1.91 dBi (Numeric gain: 1.55) Antenna 2 / Chain 1, Antenna Gain : 1.91 dBi (Numeric gain: 1.55)		

Maximum Average output power	IEEE 802.11b Mode:	23.34 dBm	(215.774 mW)
	IEEE 802.11g Mode:	26.08 dBm	(405.509 mW)
	IEEE 802.11gn HT 20 Mode:	27.66 dBm	(583.445 mW)
	IEEE 802.11gn HT 40 Mode:	25.13 dBm	(325.837 mW)
	Bluetooth 2.1+EDR Mode :	4.85 dBm	(3.055 mW)
	Bluetooth 4.0 Mode :	1.88 dBm	(1.542 mW)
Evaluation applied	☒ MPE Evaluation*		
	☐ SAR Evaluation		
	☐ N/A		

3. Test Results

No non-compliance noted.

Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{377}$$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in watts / meter

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

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

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

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

4. Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ 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 / cm²

IEEE 802.11b mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
2437	215.774	1.55	20	0.0666	1

IEEE 802.11g mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
2437	405.509	1.55	20	0.1251	1

IEEE 802.11gn HT20 mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
2437	583.445	1.55	20	0.1800	1

IEEE 802.11gn HT40 mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
2437	325.837	1.55	20	0.1005	1

Bluetooth 2.1 + EDR mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
2402	3.055	1.55	20	0.0009	1

Bluetooth 4.0 mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
2402	1.542	1.55	20	0.0005	1