



8. Radio Frequency Exposure

8.1. Applicable Standards

The measurements shown in this test report were made in accordance with the procedures given in FCC Part 2 (Section 2.1091)

8.2. EUT Specification

Frequency band (Operating)	13.553MHz~13.567MHz
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation)
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure <input checked="" type="checkbox"/> General Population/Uncontrolled exposure
Antenna diversity	<input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A

Remark:

1. For ANT B ,The maximum Fundamental Emission is 97.13dBuV/m at 13.56MHz (with 0dBi antenna gain.)
2. For ANT C,The maximum Fundamental Emission is 95.06dBuV/m at 13.56MHz (with 0dBi antenna gain.)
3. DTS device is not subject to routine RF evaluation; MPE estimate is used to justify the compliance.
4. For mobile or fixed location transmitters, no SAR consideration applied. The maximum power density is 1.0 mW/cm² even if the calculation indicates that the power density would be larger.



8.3. Test Results

No non-compliance noted.

8.4. Calculation

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

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:

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

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

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

**8.5. Maximum Permissible Exposure**

For ANT B:

Modulation Mode	Channel Frequency (MHz)	Fundamental Emission (dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
ASK	13.56	-7.64	-7.14	0.00	20	0.00004	0.97893

Antenna Gain (dBi)	Antenna Gain (linear)	Distance (m)	Fundamental Emission (dBuV/m)	Fundamental Emission (V/m)	Fundamental Emission (W)	Fundamental Emission (dBm)
0.00	1	1	97.13	0.0719	0.0002	-7.64

For ANT C:

Modulation Mode	Channel Frequency (MHz)	Fundamental Emission (dBm)	Max. Tune up power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
ASK	13.56	-9.71	-9.21	0.00	20	0.00002	0.97893

Antenna Gain (dBi)	Antenna Gain (linear)	Distance (m)	Fundamental Emission (dBuV/m)	Fundamental Emission (V/m)	Fundamental Emission (W)	Fundamental Emission (dBm)
0.00	1	1	95.06	0.0566	0.0001	-9.71

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