

**IEEE C95.1  
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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**

**Car Video Recorder**

**Model: DrivePro 200**

**Trade Name: Transcend**

*Issued to*

**Transcend Information Inc  
No.70, Xing Zhong Rd., NeiHu Dist., Taipei, Taiwan**

*Issued by*

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## Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
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**TABLE OF CONTENTS**

1. LIMIT ..... 4

2. EUT SPECIFICATION..... 4

3. TEST RESULTS..... 5

4. MAXIMUM PERMISSIBLE EXPOSURE ..... 6

## 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

<b>EUT</b>	Car Video Recorder
<b>Model</b>	DrivePro 200
<b>Trade Name</b>	Transcend
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> 802.11b/g/n HT20: 2.412GHz ~ 2.462GHz 802.11n HT40: 2.422GHz ~ 2.452GHz <input type="checkbox"/> Others
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )
<b>Antenna Specification</b>	Chip Antenna Antenna Gain : 3.32 dBi (Numeric gain: 2.15)
<b>Maximum Average output power</b>	IEEE 802.11b Mode: 22.28 dBm (169.044 mW) IEEE 802.11g Mode: 17.24 dBm (52.966 mW) IEEE 802.11n HT 20 Mode: 17.19 dBm (52.360 mW) IEEE 802.11n HT 40 Mode: 18.89 dBm (77.446 mW)
<b>Maximum Tune up Power</b>	IEEE 802.11b Mode: 23.00 dBm (199.526 mW) IEEE 802.11g Mode: 18.00 dBm (63.096 mW) IEEE 802.11n HT 20 Mode: 18.00 dBm (63.096 mW) IEEE 802.11n HT 40 Mode: 19.00 dBm (79.433 mW)
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> 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 milliwatts / square centimeter

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

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

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

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

Where  $d$  = Distance in cm

$P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>

## 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 / cm<sup>2</sup>

### IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
11	2462	199.526	2.15	20	0.0854	1

### IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
11	2462	63.096	2.15	20	0.0270	1

### IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
11	2462	63.096	2.15	20	0.0270	1

### IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm <sup>2</sup>	Limit (mW/cm2)
9	2452	79.433	2.15	20	0.0340	1