APPENDIX I
RADIO FREQUENCY EXPOSURE

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.

EUT Specification

<table>
<tr><td>EUT</td><td colspan="4">AP Router</td></tr>
<tr><td>Trade Name / Model Number</td><td colspan="4"><table>
<tr><th>Trade Name</th><th>Model</th><th>Trade Name</th><th>Model</th></tr>
<tr><td>LanReady</td><td>WCB1105H10DX</td><td>GTT</td><td>AC-GTT-11N-O</td></tr>
<tr><td>D-Link</td><td>DAP-3311</td><td>Trendnet</td><td>TEW-739APBO</td></tr>
<tr><td>Cerio</td><td>DT-300N</td><td>Pheenet</td><td>WLO-12410N</td></tr>
<tr><td>Airlink101</td><td>AOP8012</td><td>Cerio</td><td>OW-310N2</td></tr>
<tr><td>D-Link</td><td>DAP-3310</td><td>Wiborne</td><td>CAP-2410D</td></tr>
<tr><td>Pheenet</td><td>WLO-12410NP</td><td>ALCON</td><td>AMS-D24</td></tr>
<tr><td>Wiborne</td><td>CAP-2410P</td><td>Wavecore</td><td>WV-110CPE</td></tr>
<tr><td>Trendnet</td><td>TEW-734APB</td><td>Airlink101</td><td>AOP8010</td></tr>
<tr><td>ALCON</td><td>AMS-P24</td><td>LanReady</td><td>WCB1110H10X</td></tr>
<tr><td>Wavecore</td><td>WV110BR</td><td>Pheenet</td><td>WLO-12400N</td></tr>
<tr><td>Airlink101</td><td>AOP8016</td><td>Cerio</td><td>OW-300N2</td></tr>
<tr><td>Lanready</td><td>WCB1110H10DX</td><td>Wiborne</td><td>CAP-2410E</td></tr>
<tr><td>LanReady</td><td>WCB1100H10DX</td><td>ALCON</td><td>AMS-D24-N</td></tr>
<tr><td>D-Link</td><td>DAP-3312</td><td>Wavecore</td><td>WV-100CPE</td></tr>
<tr><td>GTT</td><td>AC-GTT-11N-D</td><td>Airlink101</td><td>AOP8000</td></tr>
<tr><td>Trendnet</td><td>TEW-738APBO</td><td>LanReady</td><td>WCB1100H10X</td></tr>
</table></td></tr>
<tr><td>Frequency band (Operating)</td><td colspan="4">☒ 802.11b/g/n HT20: 2.412GHz ~ 2.462GHz
802.11n HT40: 2.422GHz ~ 2.452GHz
☐ Others</td></tr>
<tr><td>Device category</td><td colspan="4">☐ Portable (<20cm separation)
☒ Mobile (>20cm separation)
☐ Others</td></tr>
<tr><td>Exposure classification</td><td colspan="4">☐ Occupational/Controlled exposure (S = 5mW/cm^2)
☒ General Population/Uncontrolled exposure (S=1mW/cm^2)</td></tr>
<tr><td>Antenna Specification</td><td colspan="4">1. LanReady / Dipole Antenna
Gain: 9.12492 dBi (Reverse polarity SMA)
2. Grand-Tek / Patch Antenna
Gain: 10 dBi (Numeric gain: 10)
3. WHA YU / Omni Antenna
Gain: 4.55 dBi
4. LanReady / DipoleAntenna
Gain: 5 dBi (Reverse polarity SMA)</td></tr>
<tr><td>Max. output power</td><td colspan="4">IEEE 802.11b : 11.43 dBm (13.900mW)
IEEE 802.11g : 8.13 dBm (6.501mW)
IEEE 802.11n HT20 : 10.46 dBm (11.117mW)
IEEE 802.11n HT40 : 10.04 dBm (10.093mW)</td></tr>
</table>

Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A
Remark: *The maximum output power is 11.43dBm (13.900mW) at 2437MHz (with 10 numeric antenna gain.)*	

TEST RESULTS

No non-compliance noted.

Calculation

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

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:

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

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

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^2

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
6	2437	13.900	10	20	0.0277	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
6	2437	6.501	10	20	0.0129	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
1	2412	11.117	10	20	0.0221	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm^2	Limit (mW/cm2)
9	2452	10.093	10	20	0.0201	1