



**Maximum Permissible Exposure (MPE) Report**

**FCC ID:** YJV-CHG410  
**IC:** 9073A-CHG410

**Model:** MIC-WRL-CHG-410  
**Product Marketing Name:** Base Station

**APPLICANT:** Watchguard Video  
415 Century Parkway  
Allen TX, 75013

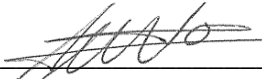
**TEST SITE(S):** National Technical Systems - Plano  
1701 E Plano Pkwy #150  
Plano, TX 75074

**REPORT DATE:** Nov 1<sup>st</sup> 2015

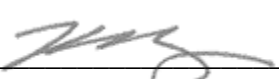
**FINAL TEST DATES:** October 5<sup>th</sup> 2015

**TOTAL NUMBER OF PAGES:** 6

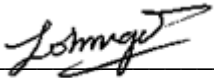
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**REVISION HISTORY**

Rev#	Date	Comments	Modified By
0	Nov 1 <sup>st</sup> , 2015	Original	Armando Del Angel
1	May 25, 2016	Changed Model, and FCC/IC ID number per TCB comments	Armando Del Angel
2	July 6, 2016	Revised calculations and limits per TCB comment.	Armando Del Angel

## **SCOPE**

Watchguard Video product Base Station Model MIC-WRL-CHG-410, is evaluated in accordance with the following guidelines

- OET Guide 65
- ANSI C95.1 for the US and
- Health Canada Safety Code 6
- RSS 102 for Canada.

## **OBJECTIVE**

To demonstrate compliance with United States and Canada RF Exposure requirements for Mobile Equipment (devices used >20cm from the body), where Maximum Permissible Exposure (MPE) Calculations apply.

## **STATEMENT OF COMPLIANCE**

This device demonstrates compliance under the operating conditions specified in this document. Under normal operating conditions, the antenna is designed to be installed in accordance with the manufacturer's instructions in such a manner to maintain the minimum separation distance. The MPE calculations shown in this report demonstrate compliance to the provisions of US and Canadian requirements.

As can be seen from the MPE results, this device passes the specified limits at a distance of 20cm at the maximum output power under normal operating conditions.

**United States MPE Limits in accordance with 1.1310:****Occupational / Controlled Exposure**

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f <sup>2</sup> )	6
30-300	61.4	0.163	1	6
300-1500	---	---	f/300	6
1500-100,000	---	---	5	6

**General Population / Uncontrolled Exposure**

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	---	---	f/1500	30
1500-100,000	---	---	1	30

**Canadian MPE Limits in accordance with RSS-102:****Occupational / Controlled Exposure:**

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m <sup>2</sup> )	Reference Period (minutes)
0.003-10 <sup>23</sup>	170	180	-	Instantaneous*
1-10	-	1.6/ $f$	-	6**
1.29-10	193/ $f^{0.5}$	-	-	6**
10-20	61.4	0.163	10	6
20-48	129.8/ $f^{0.25}$	0.3444/ $f^{0.25}$	44.72/ $f^{0.5}$	6
48-100	49.33	0.1309	6.455	6
100-6000	15.60 $f^{0.25}$	0.04138 $f^{0.25}$	0.6455 $f^{0.5}$	6
6000-15000	137	0.364	50	6
15000-150000	137	0.364	50	616000/ $f^{1.2}$
150000-300000	0.354 $f^{0.5}$	9.40 x 10 <sup>-4</sup> $f^{0.5}$	3.33 x 10 <sup>-4</sup> $f$	616000/ $f^{1.2}$
<b>Note:</b> $f$ is frequency in MHz. *Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

**General Population / Uncontrolled Exposure**

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m <sup>2</sup> )	Reference Period (minutes)
0.003-10 <sup>21</sup>	83	90	-	Instantaneous*
0.1-10	-	0.73/ $f$	-	6**
1.1-10	87/ $f^{0.5}$	-	-	6**
10-20	27.46	0.0728	2	6
20-48	58.07/ $f^{0.25}$	0.1540/ $f^{0.25}$	8.944/ $f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 $f^{0.3417}$	0.008335 $f^{0.3417}$	0.02619 $f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ $f^{1.2}$
150000-300000	0.158 $f^{0.5}$	4.21 x 10 <sup>-4</sup> $f^{0.5}$	6.67 x 10 <sup>-5</sup> $f$	616000/ $f^{1.2}$
<b>Note:</b> $f$ is frequency in MHz. *Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

**MPE Calculations:**

***Limit used:***

	Occupational / Controlled Exposure
X	General Population / Uncontrolled Exposure

$$PowerDensity(mW / cm^2) = \frac{EIRP}{4\pi d^2}$$

Given: **EIRP** in *mW* and **d** in *cm*

EIRP (mW)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Power Density (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )
192	20	0.038	0.6	0.38	2.74