

# RF Exposure Evaluation declaration

Product Name	SoundBar Speaker
Model No.	Motion Vision X
FCC ID	R48-SB218

Applicant	Meiloon Industrial Co., Ltd.
Address	No. 99, Xingfu Road, Taoyuan Dist., Taoyuan City 330, Taiwan

Date of Receipt	Mar. 19, 2015
Date of Declaration	Sep. 28, 2015
Report No.	1530388R-RFUSP02V00

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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## 1. RF Exposure Evaluation

### 1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

$P_d$  = power density in  $\text{mW/cm}^2$

$P_{out}$  = output power to antenna in mW

$G$  = gain of antenna in linear scale

$\pi = 3.1416$

$R$  = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE,  $1 \text{ mW/cm}^2$ . If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance  $r$  where the MPE limit is reached.

### 1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity:  $18^\circ\text{C}$  and 78% RH.

### 1.3. Test Result of RF Exposure Evaluation

Product : SoundBar Speaker  
 Test Item : RF Exposure Evaluation  
 Test Site : No.3 OATS

#### For 2.4GHz Band:

Operation Frequency	2412-2462MHz 2422-2452MHz
Maximum Conducted output power	21.02dBm
Antenna gain	2.28dBi

#### Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
126.7651	0.0426

Power density is lower than the limit (1 mW/cm<sup>2</sup>).

#### For 5GHz Band:

Operation Frequency	5180-5240MHz, 5190-5230MHz, 5260-5320MHz, 5270-5310MHz, 5500-5700MHz, 5510-5670MHz, 5745-5825MHz, 5755-5795MHz
Maximum Conducted output power	12.86dBm
Antenna gain	3.92dBi

#### Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
19.31968	0.0095

Power density is lower than the limit (1 mW/cm<sup>2</sup>).