RF Exposure Evaluation declaration

Product Name	JukeBlox Networked Media Module
Model No.	CX870-3B-D,CX870-3B-D60
FCC ID	ZQO-CX8703B

Applicant	STANDARD MICROSYSTEMS CORPORATION
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Date of Receipt	March 19, 2012
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Report No.	123296R-RFUSP42V01

The declaration results relate only to the samples calculated.

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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^2)	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: $Pd = (Pout*G)/(4*pi*r^2)$

Where
Pd = power density in mW/cm^2
Pout = 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

Pd id the limit of MPE, 1 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℃and 78％ RH.

1.3. Test Result of RF Exposure Evaluation

Product : JukeBlox Networked Media Module
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

External Antenna Gain (CX870-3B-D)

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 1.7 dBi in logarithm scale.

802.11b

Output Power Into Antenna & RF Exposure Evaluation Distance (1.7 dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
1	2412.00	131.8257	0.038791
6	2437.00	129.4196	0.038083
11	2462.00	88.5116	0.026045

Power density in column 4 is much lower than the limit (1 mW/cm^2).

802.11g

Output Power Into Antenna & RF Exposure Evaluation Distance (1.7 dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
1	2412.00	224.9055	0.066181
6	2437.00	248.8857	0.073237
11	2462.00	148.5936	0.043725

Power density in column 4 is much lower than the limit (1 mW/cm^2).

External Antenna Gain (CX870-3B-D60)

Antenna Gain: The maximum Gain measured in fully anechoic chamber is 2 dBi in logarithm scale.

802.11b

Output Power Into Antenna & RF Exposure Evaluation Distance (2 dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
1	2412.00	141.9058	0.044744
6	2437.00	140.2814	0.044231
11	2462.00	93.1108	0.029358

Power density in column 4 is much lower than the limit (1 mW/cm^2).

802.11g

Output Power Into Antenna & RF Exposure Evaluation Distance (2 dBi):

Channel	Frequency (MHz)	Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
1	2412.00	235.5049	0.074256
6	2437.00	260.6154	0.082173
11	2462.00	158.1248	0.049858

Power density in column 4 is much lower than the limit (1 mW/cm^2).