

RF Exposure Evaluation declaration

Product Name	Evoko Liso Room Manager /Evoko Liso
Model No.	ERM2001
FCC ID	2AH64-ERM2001

Applicant	Evoko Unlimited AB
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Date of Receipt	Apr. 26, 2016
Date of Declaration	May 18, 2016
Report No.	1650010R-RFUSP06V00

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 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/cm²

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 is the limit of MPE, 1 mW/cm². 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°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product : Evoko Liso Room Manager /Evoko Liso
 Test Item : RF Exposure Evaluation

For 2.4GHz Band WLAN:

Operation Frequency	802.11b/g/n-20MHz: 2412-2462MHz, 802.11n-40MHz: 2422-2452MHz
Maximum Conducted output power	25.45dBm
Antenna gain	2.89dBi for 2.4 GHz

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
350.751874	0.1357

Power density in column is much lower than the limit (1 mW/cm²).

For 5GHz Band WLAN:

Operation Frequency	802.11a/n-20MHz: 5180-5240MHz, 5260-5320MHz, 5500-5700MHz, 5745-5825MHz 802.11n-40MHz: 5190-5230MHz, 5270-5310MHz, 5510-5670MHz, 5755-5795MHz
Maximum Conducted output power	17.86dBm
Antenna gain	4.50dBi For 5.15~5.25GHz 4.50dBi For 5.25~5.35GHz 4.82dBi For 5.47~5.725GHz 4.35dBi For5.725~5.850GHz

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
61.09420249	0.0369

Power density in column is much lower than the limit (1 mW/cm²).

For Bluetooth:

Operation Frequency	2402-2480MHz
Maximum Conducted output power	7.67dBm
Antenna gain	2.89dBi for 2.4 GHz

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
5.847900841	0.0023

Power density in column is much lower than the limit (1 mW/cm²).