RF Exposure Evaluation declaration

Product Name : Security Appliance

Model No. : ZA-SA3500G

FCC ID : 2AA5WSA3500G

Applicant : NEC Platforms, Ltd.

Address : 800 Shimomata, Kakegawa, Shizuoka 436-8501 Japan

Date of Receipt : Apr. 28, 2016

Date of Declaration : Jun. 06, 2016

Report No. : 1650058R-RFUSP25V00

Issued Date: Jun. 06, 2016
Report No.: 1650058R-RFUSP25V00

Product Name	Security Appliance
Applicant	NEC Platforms, Ltd.
Address	800 Shimomata, Kakegawa, Shizuoka 436-8501 Japan
Manufacturer	NEC Platforms, Ltd.
Model No.	ZA-SA3500G
FCC ID.	2AA5WSA3500G
EUT Rated Voltage	AC 100V~240V, 50/60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	NEC
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

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Tested By : Jen Chen

(Assistant Engineer / Jen Chen)

Approved By :

(Director / Vincent Lin)

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 : Security Appliance
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

Operation Frequency	2412~2462, 2422-2452MHz
Maximum Conducted output power	25.59dBm
Antenna gain	External Antenna: 3.57 dBi Internal Antenna: -1.6 dBi

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

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
362.2429984	0.1640

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

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

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
362.2429984	0.0499

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