RF Exposure Evaluation declaration

Product Name	WAH0001
Model No.	QI-150P
FCC ID	2AOV3QI-150P

Applicant	Hitachi Information & Telecommunication Engineering, Ltd.
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Date of Declaration	Aug. 24, 2018
Report No.	1850118R-RFUSP06V00-A

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 : WAH0001
Test Item : RF Exposure Evaluation
Test Site : No.3 OATS

For 2.4GHz:

Operation Frequency Range	2412-2472MHz, 2422-2462MHz, 2402-2480MHz
Maximum Conducted output power	26.15dBm
Antenna gain	0.65dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
412.0975191	0.0952

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

For 5GHz:

Operation Frequency Range	5180-5240MHz, 5260-5320MHz, 5500-5700MHz, 5745-5825MHz, 5190-5230MHz, 5270-5310MHz, 5510-5670MHz, 5755-5795MHz, 5720 MHz, 5710MHz, 5210-5290MHz, 5530-5690MHz, 5775MHz
Maximum Conducted output power	18.27dBm
Antenna gain	2.87dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm2)
67.14288529	0.0259

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