. RF EXPOSURE EVALUATION

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
(A) Limits for Occupational / Control Exposures				
300-1,500	--	--	F/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Population / Uncontrol Exposures				
300-1,500	--	--	F/1500	6
1,500-100,000	--	--	1	30

1 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/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.

2 EUT Operating Condition

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

3 Test Result of RF Exposure Evaluation

Test Item ： RF Exposure Evaluation Data
Test Mode ： Normal Operation

3.1 Antenna Gain

Antenna Gain：The maximum Gain measured in fully anechoic chamber is 1dBi、5dBi、6dBi and 9dBi linear scale.

3.2 Maximum PEAK Output Power

Refer to 5.6 Maximum peak Output Power is : 14.7 dBm (for 802.11b mode CH6),
13.1 dBm (for 802.11g mode CH6).

3.3 Output Power into Antenna & RF Exposure Evaluation Distance

Outpower (max) (dBm)	Cable length to antenna (m)	Min Cable Loss (dB)	Input Power to Antenna (dBm)	Antenna Model	Antenna Type	Antenna Gain (dBi)	EIRP (dBm)	EIRP (Watts)	MPE Distance (cm)	Pd at 20cm (mW/cm^2)	Comments
14.7	1.6	0	14.7	CAF28927	Omnidirctional	1	15.7	0.037154	1.72	0.007392	Minimum separation shall be 20cm
14.7	1.6	1	13.7	CAF94554	Bi-directional	5	18.7	0.074131	2.43	0.014748	Minimum separation shall be 20cm
14.7	1.6	1	13.7	CAF94519	Omnidirctional	6	19.7	0.093325	2.73	0.018566	Minimum separation shall be 20cm
14.7	1.6	1	13.7	CAF95950	Directional	9	22.7	0.186209	3.85	0.037045	Minimum separation shall be 20cm

Note : 1. For 802.11b Mode.
2. The power density Pd (4th column) at a distance of 20cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm^2 . The EUT is classified as mobile product. So, RF exposure limit warning or SAR test are not required.

Outpower (max) (dBm)	Cable length to antenna (m)	Min Cable Loss (dB)	Input Power to Antenna (dBm)	Antenna Model	Antenna Type	Antenna Gain (dBi)	EIRP (dBm)	EIRP (Watts)	MPE Distance (cm)	Pd at 20cm (mW/cm^2)	Comments
13.1	1.6	0	13.1	CAF28927	Omnidirctional	1	14.1	0.025704	1.43	0.005114	Minimum separation shall be 20cm
13.1	1.6	1	12.1	CAF94554	Bi-directional	5	17.1	0.051286	2.02	0.010203	Minimum separation shall be 20cm
13.1	1.6	1	12.1	CAF94519	Omnidirctional	6	18.1	0.064565	2.27	0.012845	Minimum separation shall be 20cm
13.1	1.6	1	12.1	CAF95950	Directional	9	21.1	0.128825	3.20	0.025629	Minimum separation shall be 20cm

Note : 1. For 802.11g Mode.
2. The power density Pd (4th column) at a distance of 20cm calculated from the Friis transmission formula is far below the limit of 1 mW/cm^2 . The EUT is classified as mobile product. So, RF exposure limit warning or SAR test are not required.