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RF EXPOSURE EVALUATION

Applicant : NC& CO., LTD

Applicant Address : 9F Venture Forum, 323, Pangyo-ro, Bundang-gu,
Seongnam-si, South Korea

Kind of Product : S1 4K Infinite

**Equipment
model name** : S10-UQ

FCC ID : 2BC09-S10UQ



Standard Requirement

The following RF exposure procedures are applicable :

- FCC Rules
Part 1.1310 Radiofrequency radiation exposure limits

Table 1 below sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields.

Table 1—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz

** = Plane-wave equivalent power density*



MPE Calculations

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user. The MPE calculation for this exposure is shown below.

The peak radiated output power (EIRP) is calculated as follows:

$EIRP = P + G$	Where, P = Power input to the antenna (mW) G = Power gain of the antenna (dBi)
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The numeric gain(G) of the antenna with a gain specified in dB is determined by:

$$G = \text{Log}^{-1} (\text{dB antenna gain} / 10)$$

Power density at the specific separation:

$S = PG/(4R^2\pi)$	Where, S = Maximum power density (mW/cm ²) P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (20cm = limit for MPE)
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Estimated safe separation:

$R = \sqrt{(PG / 4\pi)}$	Where, P = Power input to the antenna (mW) G = Numeric power gain of the antenna R = Distance to the center of the radiation of the antenna (20cm = limit for MPE)
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RF Exposure Results

Mode	Measured Max Output Power (dBm)	G (dBi)	Power tolerance (dB)	P (dBm)	P (mW)	Power Density (mW/cm²)	Limit (mW/cm ²)	R (cm)
BLE	11.816	2.23	+1.5	15.546	35.859	0.007 14	1	20
WLAN 2.4 GHz	11.040	2.23	+1.5	14.770	29.992	0.005 97		
WLAN 5 GHz	9.140	2.79	+1.5	13.43	22.029	0.004 38		

Note : This device does not support simultaneous operation of BLE, WLAN 2.4GHz, and WLAN 5GHz.

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