RF Exposure Evaluation

FCC ID: 2AIWD-HX9100

1. Client Information

Applicant	:	Hanchang Corporation
Address	:	B-702, Woolim Lion's Valley 371-28 Gasan-Dong, Geumchun-Gu, Seoul 153-786, Korea
Manufacturer	:	Hanchang Corporation
Address	:	B-702, Woolim Lion's Valley 371-28 Gasan-Dong, Geumchun-Gu, Seoul 153-786, Korea

2. General Description of EUT

EUT Name	:	802.11N Wireless Adapter(USB Wi-Fi dongle)	
Models No.	:	HX9100	
Model Difference	:	N/A	
Product Description	:	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz	
		Number of Channel:	802.11b/g/n(HT20):11 channels 802.11n(HT40): 7 channels
		Output Power:	802.11b: 9.24 dBm 802.11g: 9.18 dBm 802.11n (HT20): 9.10 dBm 802.11n (HT40): 9.04 dBm
		Antenna Gain:	2 dBi Dipole Antenna
		Modulation Type:	802.11b: DSSS(CCK, QPSK, DBPSK) 802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK)
Power Supply	:	DC Voltage supplied from Host System by USB Port.	
Power Rating	:	DC 5.0V by USB Port.	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note:

More test information about the EUT please refer the RF Test Report.

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SAR Test Exclusion Calculations

1. **FCC: According to KDB 447498 v05r03 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v05r02.**
   (1) Clause 4.3: General SAR test reduction and exclusion guidance
   Sub clause 4.31: Standalone SAR test exclusion considerations
   1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance≤5 mm are determined by:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤3.0 for 1-g SAR
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤7.5.0 for 10-g SAR

2. Calculation:

Test separation: 5mm					
WiFi Mode(802.11b)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	9.23	±0.5	9.397	2.919	**3.0**
2.437	9.24	±0.5	9.419	2.941	**3.0**
2.462	9.19	±0.5	9.311	2.922	**3.0**
WiFi Mode(802.11g)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	9.13	±0.5	9.183	2.852	**3.0**
2.437	9.18	±0.5	9.290	2.900	**3.0**
2.462	9.14	±0.5	9.204	2.889	**3.0**
WiFi Mode(802.11n(HT20))					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	9.08	±0.5	9.078	2.820	**3.0**
2.437	9.07	±0.5	9.057	2.828	**3.0**
2.462	9.10	±0.5	9.120	2.862	**3.0**
WiFi Mode(802.11n(HT20))					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.422	9.02	±0.5	8.954	2.787	**3.0**
2.437	9.00	±0.5	8.913	2.783	**3.0**
2.452	9.04	±0.5	8.995	2.817	**3.0**

So standalone SAR measurements are not required.