1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

General:

Product Name:	Notebook Computer	
Brand Name:	HP	
Model No.:	HSN-I22C	
Hardware Version:	N/A	
Software Version:	N/A	
BT / WLAN Module:	Model No.: AX200NGW, Supplier: Intel, FCC ID: B94-AX200NGWP	
Power Supply:	7.7Vdc from Rechargeable Li-polymer Battery or 19.5Vdc from AC/DC Adapter	
	Battery:	Model No.: HSTNN-IB8U, Supplier: Simplo
	Adapter:	Model No.: TPN-CA17, Supplier: Chicony

Antenna Information:

Antenna Type	Supplier	Main / Aux	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
PIFA	HONG-BO	Main	6036B0234501 (260-27275)	2.4GHz	1.57	
		Aux	6036B0233201 (260-27274)		-2.98	
		MIMO			**2.88**	V
PIFA	AWAN	Main	6036B0234001 (ANP6Y-100282)	2.4GHz	-2.67	
		Aux	6036B0234301 (ANP6Y-100281)		-4.76	
		MIMO			**-0.58**	

Antenna Type	Supplier	Main / Aux	Antenna Part No.	Frequency (MHz)	Peak Antenna Gain (dBi)	Worst Antenna Gain
PIFA	HONG-BO	Main	6036B0234501 (260-27275)	5150~5250	1.57	
				5250~5350	-0.29	
				5470~5725	0.19	
				5725~5850	1.00	
		Aux	6036B0233201 (260-27274)	5150~5250	2.55	
				5250~5350	2.55	
				5470~5725	2.40	
				5725~5850	1.89	
		MIMO		5150~5250	**5.08**	V
				5250~5350	**4.26**	V
				5470~5725	**4.38**	V
				5725~5850	**4.47**	V
PIFA	AWAN	Main	6036B0234001 (ANP6Y-100282)	5150~5250	-3.16	
				5250~5350	-1.47	
				5470~5725	-2.19	
				5725~5850	-3.24	
		Aux	6036B0234301 (ANP6Y-100281)	5150~5250	-3.46	
				5250~5350	-3.21	
				5470~5725	-2.53	
				5725~5850	-3.55	
		MIMO		5150~5250	-0.30	
				5250~5350	0.71	
				5470~5725	0.65	
				5725~5850	-0.38	

Bluetooth BR+EDR:

BT:	Freq. Range (MHz)	Channels	Modulation Technology	Rated Power (P-burst) (dBm)
BR+EDR	2402-2480	79	GFSK + π/4DQPSK + 8DPSK	9.50

Bluetooth BLE:

BT:	Freq. Range (MHz)	Channels	Modulation Technology	Rated Power (P-burst) (dBm)
LE	2402-2480	40	GFSK	5.50

WLAN 2.4GHz:

802.11	Freq. Range (MHz)	Channels	Modulation Technology	Rated Power (P-burst) (dBm)	Worst Case
b/g/n_HT20	2412-2472	13	DSSS & OFDM	20.50	V
n_HT40				17.50	
Modulation type:		CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM			

WLAN 5GHz:

WLAN	Freq. Range (MHz)	Modulation Technology	Max. Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Worst Case
11a	5150~5250	OFDM	20.50	5.08	**25.58**	V
	5250~5350		20.50	4.26	24.76	
	5470~5725		20.50	4.38	24.88	
	5725~5850		20.50	4.47	24.97	
11n HT20 / VHT20	5150~5250		20.50	5.08	**25.58**	V
	5250~5350		20.50	4.26	24.76	
	5470~5725		20.50	4.38	24.88	
	5725~5850		20.50	4.47	24.97	
11n HT40 / VHT 40	5150~5250		20.50	5.08	**25.58**	V
	5250~5350		20.50	4.26	24.76	
	5470~5725		20.50	4.38	24.88	
	5725~5850		20.50	4.47	24.97	
11ac VHT80	5150~5250		18.50	5.08	23.58	
	5250~5350		18.25	4.26	22.51	
	5470~5725		20.50	4.38	24.88	
	5725~5850		18.75	4.47	23.22	
11ac VHT160	5150~5250		14.50	5.08	19.58	
Modulation type		64QAM, 16QAM, QPSK, BPSK for OFDM				

2 FCC MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1 FCC Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
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
300-1500	/	/	f/1500	30
1500-15000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equipment power density

2.2 Power Density Calculation (Worst Case)

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. output Power (dBm)	Antenna Gain (dBi)	Max. output Power EIRP (mW)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Pass / Fail
BT	2402.00	20	9.5	1.57	12.79	0.003	1.000	Pass
WLAN 2.4G	2412.00	20	20.5	2.88	217.77	0.043	1.000	Pass
WLAN 5G	5180.00	20	20.5	5.08	361.41	0.072	1.000	Pass

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.

2.3 Collocated Power Density Calculation

Operation Mode	Power Density (mW/cm^2)	Limit (mW/cm^2)	Power Density / Limit
WLAN 5G	0.072	1.00	0.072

Note: The collocated power density appears on WLAN 5G MIMO mode. Bluetooth and WLAN 2.4GHz mode are not available during WLAN 5 MIMO is operating.

~ End of Report ~