

RF Exposure Evaluation

FCC ID: 2AQOO-X13C

1. Client Information

Applicant	:	GROUPSFIT
Address	:	80/84 route de la Liberation PONTAULT COMBAULT France 77340
Manufacturer	:	SEMMAX(HONGKONG)LIMITED
Address	:	Room 01, 21/F, Prosper Commercial Building 9 Yin Chong Street, Kowloon, HongKong

2. General Description of EUT

EUT Name	:	13.3-INCH NOTEBOOK
Models No.	:	WWNEOX13C-4PK32, WWNEOX13C-4GR32, WWNEOX13C-4BK32
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only different is colors.
Product Description	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz Bluetooth 4.0(BT): 2402MHz~2480MHz
	RF Output Power:	802.11b: 8.69dBm 802.11g: 8.66dBm 802.11n (HT20):7.46dBm 802.11n (HT40):5.74dBm BLE:0.099 dBm
	Antenna Gain:	1.87dBi FPC Antenna
Power Supply	:	AC Adapter(B124-125): Input: AC 100-240V, 50/60Hz, 0.6A Output: DC 12V, 2.0A DC 7.6V by 4000mAh Li-ion Battery.
Software Version	:	WIN10
Hardware Version	:	N/A
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.

SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

- (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:

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR}$$

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 7.5.0 \text{ for 10-g SAR}$$

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 (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	8.54	8±1	9	7.943	2.467	3.0
2.437	8.69	8±1	9	7.943	2.480	3.0
2.462	8.29	8±1	9	7.943	2.493	3.0
WiFi Mode(802.11g)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	8.40	8±1	9	7.943	2.467	3.0
2.437	7.96	8±1	9	7.943	2.480	3.0
2.462	8.66	8±1	9	7.943	2.493	3.0
WiFi Mode(802.11n(HT20))						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.412	7.46	7±1	8	6.310	1.960	3.0
2.437	6.93	7±1	8	6.310	1.970	3.0
2.462	6.68	7±1	8	6.310	1.980	3.0
WiFi Mode(802.11n(HT40))						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.422	5.62	5±1	6	3.981	1.239	3.0
2.437	5.18	5±1	6	3.981	1.243	3.0
2.452	5.74	5±1	6	3.981	1.247	3.0

Test separation: 5mm						
BLE Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	0.099	0±1	1	1.259	0.390	3.0
2.442	-0.055	0±1	1	1.259	0.393	3.0
2.480	-0.219	0±1	1	1.259	0.397	3.0

Test separation: 5mm			
The worst RF Exposure Evaluation			
Worst Calculation Value		Total Calculation Value	Threshold Value
WiFi Mode	Bluetooth Mode		
2.493	0.397	2.89	3.0

Because the WiFi and Bluetooth can be operated simultaneously, So the worst RF Exposure Evaluation is calculated as $2.493+0.397=2.89 / cm^2 < limit 3.0$, So standalone SAR measurements are not required.

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