Maximum Permissible Exposure Report

Product Information

EUT	:	Label Printer
Model Number	:	S1 Pro, S1 Pro-A, S1 Pro-B, S1 Pro-C, S1 Pro-D, S1 Pro-E, S1 Pro-F, S1 Pro-G, S1 Pro-H, S1 Pro-I, S1 Pro-J, S1 Pro-K, S2 Pro, S3 Pro, S4 Pro, S5 Pro, S6 Pro, S7 Pro, S8 Pro, S9 Pro, S10 Pro
Model Declaration	:	All the same except for the model name
Test Model	:	S1 Pro
Power Supply	:	Input: DC 5V, 2A; DC 3.7V by battery
Hardware version	:	V1.0
Software version	:	V1.0

Note 1: Antenna position refer to EUT Photos.
Note 2: the above information was supplied by the applicant.

2. Limit and method

3.1Refer evaluation method

According to KDB447498 D01 General RF Exposure Guidance v06 Section 4.3.1 Standalone SAR test exclusion considerations: "Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition, listed below, is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.22 The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander (see 5) of section 4.1). To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, typically in the SAR measurement or SAR analysis report, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting is required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for the SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops & tablets etc.23 "[(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm)] • [√f (GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

- f (GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

3. Antenna Information

This Product can only use antennas certificated as follows provided by manufacturer;

Antenna Gain and type refer to Product information

6. Conducted Power

Bluetooth(BLE)

TestMode	Antenna	Frequency(MHz)	Result[dBm]
BLE_1M	Ant1	2402	0.94
		2440	1.08
		2480	0

NFC

TestMode	Antenna	Frequency(MHz)	Result[dBμV/m]	dBm
NFC	Ant2	13.56	46.75	-48.45

EIRP = Result[dBμV/m] – 95.2

7. Manufacturing Tolerance

Bluetooth(BLE)

Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	1.0	2.5	3.0
Tolerance ±(dB)	1.0	1.0	1.0

NFC

Target (dBm)	-48.0
Tolerance ±(dB)	1.0

8. Measurement Results

8.1 Standalone Evaluation Result

Bluetooth(BLE)

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	separation distance (mm)	Caculation Value	SAR Test Exclusion Threshold	SAR Test Exclusion
	dBm	mW						
GFSK(1Mbps)	1.5	1.4125	0.5	1.1220	5	0.491	3.000	Yes

NFC

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	separation distance (mm)	Caculation Value	SAR Test Exclusion Threshold	SAR Test Exclusion
	dBm	mW						
NFC	-47.0	0.000020	0	1.0000	5	0.000009	3.000	Yes

Note: Calculation Value =P $\sqrt{F}$ /D
P=Maximum turn-up power plus Antenna Gain in mW
F=Channel frequency in GHz
D=Minimum test separation distance in mm

Remark:
1. Output power including tune-up tolerance;
2. evaluate distance is 5mm from user manual provide by manufacturer;

8.2 Simultaneous Transmission

The highest estimated SAR(1g)		Summary Calculation Value	Limit	Conclusion
Ant.1(W/kg)	Ant.2(W/kg)			
0.0655	0.000001	0.0655	≤1	Pass

The highest estimated SAR = the max Calculation Value / 7.5
Summary Calculation Value = ∑of (the highest measured or estimated $SAR_{Ant.1}$+$SAR_{Ant.2}$)/1.6

9. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06, No SAR is required.

----------THE END OF REPORT----------