Maximum Permissible Exposure Evaluation

FCC ID: 2AXBK-SCV500

1. Client Information

Applicant	:	SC Soft Pte Ltd
Address	:	438B Alexandra Road, #01-08 Alexandra Technopark, Singapore 119968, Singapore
Manufacturer	:	SC Soft Pte Ltd
Address	:	438B Alexandra Road, #01-08 Alexandra Technopark, Singapore 119968, Singapore

2. General Description of EUT

EUT Name	:	Validator SCV500	
Models No.	:	SCV500,SCV500+, SCV500EMV	
Sample ID	:	TBBJ-20200628-01#	
Product Description	:	Frequency Bands: 802.11b/g/n(HT20): 2412MHz~2462MHz GPRS 850: 824.20MHz-848.80MHz GPRS 1900: 1850.20MHz-1909.80MHz	
		Antenna Type:	Internal Antenna
		Antenna Gain:	2dBi
Power Rating	:	Input Voltage Range: 9 V to 38 V DC	
Software Version	:	Android 4.4, Linux 3.4	
Hardware Version	:	SCV500+ V2.0.0	

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

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MPE Calculations for GSM

1. **Antenna Gain:**
   2 dBi Internal Antenna

2. **EUT Operation Condition:**
   Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. **Exposure Evaluation:**
   Equation from page 18 of OET Bulletin 65, Edition 97-01
   $S=(PG)/4\pi R^2$
   Where
   S: power density
   P: power input to the antenna
   G: power gain of the antenna in the direction of interest relative to an isotropic radiator.
   R: distance to the center of radiation of the antenna

4. **Simultaneous transmission MPE Considerations**
   According to KDB447498 :All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1.Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density.

   Limits for General Population/ Uncontrolled Exposure

   As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure

Frequency Range (MHz)	Power density (mW/cm^2)
300-1,500	F/1500
1,500-100,000	1.0
Note: For 300-1500MHz the worst Limit is $0.54947 mW/cm^2 = (824.2/1500) mW/cm^2$	

   This means that:
   ∑ of MPE ratios ≤ 0.54947

5. Test Result:

Worst Maximum MPE Result							
Mode	N_{TX}	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm^2) [S]
2.4G WiFi	1	15.31	15±1	16	2	20	0.01255
GPRS 850	1	30.32	30±1	31	2	20	0.39696
GPRS 1900	1	28.37	28±1	29	2	20	0.25046
Note: 300-1500MHz(LTE BAND 13): The worst MPE is calculated as ***0.54947mW / cm^2 < limit 824.2/1500=0.54947 mW/cm^2***. So, RF exposure limit warning or SAR test are not required.							

6. Summary simultaneous transmission information

Synchronization transmit
2.4G+ GPRS 850
2.4G+ GPRS 1900

7. Summary simultaneous transmission results

Maximum Simultaneous transmission MPE Ratios is 2.4G and GPRS 850:

Maximum MPE ratio 2.4G	Maximum MPE ratio GPRS 850	∑MPE ratios	Limit	Results
0.01255	0.39696	0.40951	0.54947	PASS

8. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

Note

For a more detailed features description, please refer to the RF Test Report.

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