

RF Exposure Evaluation

FCC ID: 2AK8F-W23257

1. Client Information

Applicant : GSM, LLC
Address : 3385 Roy Orr Blvd. Suite B, Grand Prairie, TX 75050, U.S.A
Manufacturer : WUDOU MI ELECTRONICS TECHNOLOGY CO., LTD
Address : 3F, 5TH BUILDING, XINJIHUI INDUSTRIAL ZONE, HESHU ROAD, BANTIAN STREET, LONGGANG, SHENZHEN, CHINA.

2. General Description of EUT

EUT Name	:	WIFI OTG CARD READER
Models No.	:	STC-WIFICR, WDM-E18
Model Difference	:	All these models are identical in the same PCB layout and electrical circuit, the only difference is model name for commercial.
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 see note(3) 802.11n(HT40): 7 channels see note(3)
	Max Peak Output Power:	802.11b: 9.34 dBm 802.11g: 9.32 dBm 802.11n (HT20): 9.36 dBm 802.11n (HT40): 9.25 dBm
	Antenna Gain:	2 dBi Ceramic Antenna
	Modulation Type:	802.11b: DSSS(CCK, QPSK, BPSK) 802.11g: OFDM 802.11n: OFDM
Power Supply	:	DC Voltage Supply by the host system DC Voltage Supply by the Battery
Power Rating	:	DC 5.0 V by the USB cable from the PC system DC 3.8 V by the Internal Battery
Connecting I/O Port(S)	:	Please refer to the User's Manual

Note:

More test information about the EUT please refer to 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														
Mode	N _{TX}	Freq. (MHz)	Conducted Power(max) (dBm) [P]		Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)			Max power of tune up tolerance (mw)			Worst Maximum Calculatio n Value	Threshold Value	Result
			Ant 1	Ant 2		Ant 1	Ant 2	Sum	Ant 1	Ant 2	Sum			
802.11b	1	2412	9.26	9.10	9±0.5	9.5	/	/	8.913	/	/	2.768	3.0	PASS
		2437	9.34	9.01	9±0.5	9.5	/	/	8.913	/	/	2.783		
		2462	9.21	9.22	9±0.5	9.5	/	/	8.913	/	/	2.797		
802.11g	1	2412	9.32	8.87	9±0.5	9.5	/	/	8.913	/	/	2.768		
		2437	9.16	8.99	9±0.5	9.5	/	/	8.913	/	/	2.783		
		2462	9.23	8.98	9±0.5	9.5	/	/	8.913	/	/	2.797		
802.11n (HT20)	2	2412	6.46	6.16	6±0.5	6.5	6.5	9.51	4.467	4.467	8.93	2.775		
		2437	6.45	6.25	6±0.5	6.5	6.5	9.51	4.467	4.467	8.93	2.789		
		2462	6.49	6.03	6±0.5	6.5	6.5	9.51	4.467	4.467	8.93	2.803		
802.11n (HT40)	2	2422	6.16	5.95	6±0.5	6.5	6.5	9.51	4.467	4.467	8.93	2.780		
		2437	6.06	6.09	6±0.5	6.5	6.5	9.51	4.467	4.467	8.93	2.789		
		2452	6.21	6.26	6±0.5	6.5	6.5	9.51	4.467	4.467	8.93	2.798		

So standalone SAR measurements are not required.

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