



A Test Lab Techno Corp.

Changan Lab : No. 140 -1, Changan Street, Bade City, Taoyuan County, Taiwan R.O.C.
Tel : 886-3-271-0188 / Fax : 886-3-271-0190



MPE Report

Test Report No.	:	1301FS12-01
Applicant	:	STANDARD MICROSYSTEMS CORPORATION
Manufacturer	:	DONG GUAN G-COM COMPUTER CO., LTD
Product Type	:	JukeBlox Networked Media Module
Trade Name	:	PICO Module
Model Number	:	CX875-3PB
Date of Received	:	Dec.27, 2012
Test Period	:	Jan.08 ~ Jan. 15, 2013
Date of Issued	:	Jan. 24, 2013
Test Specification	:	47 CFR § 2.1091 47 CFR §1.1310 ANSI / IEEE Std.C95.1-1992 H46-2/99-237E
Location of Test Lab.	:	Chang-an Lab.

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
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Approved By : Yung-Tan Tsai Tested By : Bill Hu
(Yung Tan Tsai) (Bill Hu)



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1. Description of Equipment under Test (EUT)

Applicant	STANDARD MICROSYSTEMS CORPORATION
Applicant Address	3930, EAST RAY ROAD SUITE 200, PHOENIX, ARIZONA, 85044-7176, UNITED STATES
Manufacturer	DONG GUAN G-COM COMPUTER CO., LTD
Manufacturer Address	1st Row, Yin Shan Road, Yin Hwu Industrial Area, Qingxi Town, DongGuan City, GuangDong, China
Product Type	JukeBlox Networked Media Module
Trade Name	PICO Module
Model Number	CX875-3PB
FCC ID	ZQO-CX8753PB
IC	2581A-CX8753PB
Frequency Range	IEEE 802.11 b / 802.11g: 2412 - 2462 MHz
Transmit Power (AVG. Conducted Power)	IEEE 802.11 b: 0.051 W / 17.10 dBm IEEE 802.11 g: 0.037 W / 15.67 dBm
Antenna used	Trade name: MAG.LAYERS, Model number: EDA-8709-2G4C1-A66
Antenna Type	External Antenna
Antenna Gain	2.0 dBi
Temperature Range	-30 ~ +70°C

The above equipment was tested by A Test Lab Techno Corp. For compliance with the requirements set forth in 47 CFR § 2.1091 & 47 CFR § 1.1310. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties

EUT Different Description :

This device has four versions, the different descriptions see below table.

Parts	Model Number	A1	A2	A3	A4
SDRAM	Winbond W9812G6JH-6		✓		✓
	ESMT M12L128168A-6TG2N	✓		✓	
NOR Flash	MXIC MX29GL640EHT2I-70G		✓		✓
	Winbond W29GL064CH7T	✓		✓	
C196 Capacitor	15pF			✓	✓
	18pF	✓	✓		
C197 Capacitor	15pF			✓	✓
	12pF	✓	✓		



2. Human Exposure Assessment

Due to the design and installation of this product, it is not possible to conduct SAR evaluation. This is because client either manufactures or supplies the antenna(s) that will be used in the installation of this product. Therefore, this product will be evaluated as a mobile device per 47 CFR §1.1310 titled "Radiofrequency radiation exposure limits", generally referred to as MPE limits.

In 47 CFR § 2.1091, paragraph (b) defines a mobile device as "a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons." This product is intended to be installed into a vehicle such that the unit is physically secured at one location. In the installation guide supplied with the product,

Client has made the following statement: "IMPORTANT: To meet the FCC's RF Exposure Guidelines, the antenna should be installed so there is at least 20 cm of separation between the body of the user and nearby persons and the antenna". Based on the installation of the transceiver and the antenna, the transmitters radiating structure is more than 20 cm from the user. Thus, this product is a "mobile device" as defined in section § 2.1091 paragraph (b).

Exposure evaluation

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

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.

Note: For evaluated 2G system, the transmission power P + G should be consider duty cycle.



3. RF Output Power

Band	Data Rate	CH	Frequency (MHz)	Conducted power (dBm)				Worst Case
				CON 1		CON 2		
				Avg.	Peak	Avg.	Peak	
IEEE 802.11b	1 M	01	2412	17.38	20.01	17.46	20.18	<input type="checkbox"/>
		06	2437	---	---	17.53	20.27	<input type="checkbox"/>
		11	2462	---	---	17.65	20.34	<input checked="" type="checkbox"/>
IEEE 802.11g	6 M	01	2412	15.99	24.03	15.79	23.85	<input checked="" type="checkbox"/>
		06	2437	15.89	23.86	---	---	<input type="checkbox"/>
		11	2462	12.85	22.59	---	---	<input type="checkbox"/>

Note: Find worst case between ant1 and ant2, and check with lowest data rate.

4. Test Result

Band	Data Rate	Frequency (MHz)	Limit (mw/cm ²)	Distance (cm) [R]	Tune-up power (dBm) [P]	ANT Gain (dBi) [G]	[P]+ [G] (W) [TP]	Power Density [S] (mw/cm ²)	Min. distance (cm)
IEEE 802.11b CON 2	1 M	2412	1.000	20	17.50	2.00	0.089	0.018	20cm
		2437	1.000	20	17.50	2.00	0.089	0.018	20cm
		2462	1.000	20	17.50	2.00	0.089	0.018	20cm
IEEE 802.11g CON 1	6 M	2412	1.000	20	16.00	2.00	0.063	0.013	20cm
		2437	1.000	20	16.00	2.00	0.063	0.013	20cm
		2462	1.000	20	16.00	2.00	0.063	0.013	20cm

Note: The Power [P] is max tune-up power (upper limit).