ANSI/IEEE Std. C95.1-1992
In accordance with the requirements of
FCC Report and Order: ET Docket 93-62, and OET Bulletin 65 Supplement C

FCC SAR TEST REPORT

For

Bluetooth Module

Model: BTC04R

Trade Name: Getac

Issued to

Getac Technology Corp.
No.1, R&D Road 2, Hsinchu Science Based Industrial Park,
Hsinchu , Taiwan

Issued by

Compliance Certification Services Inc.
No. 11, Wugong 6th Rd., Wugu Industrial Park,
Taipei Hsien, 248 Taiwan.
http://www.ccsrf.com.tw
service@ccsrf.com

Testing Laboratory
1309

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1. CERTIFICATE OF COMPLIANCE (SAR EVALUATION)

Applicant	Getac Technology Corp. No.1, R&D Road 2, Hsinchu Science Based Industrial Park, Hsinchu , Taiwan
Equipment Under Test:	Bluetooth Module
Trade Name:	Getac
Model Number:	BTC04R
Date of Test:	September 16, 2010
Device Category:	PORTABLE DEVICES
Exposure Category:	GENERAL POPULATION/UNCONTROLLED EXPOSURE

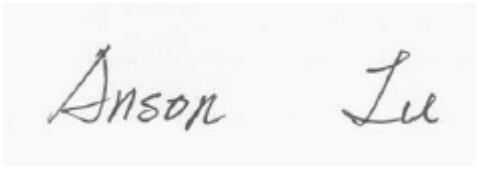
APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC OET 65 Supplement C	No non-compliance noted
Deviation from Applicable Standard	
None	

The device was tested by Compliance Certification Services Inc. in accordance with the measurement methods and procedures specified in OET Bulletin 65 Supplement C(Edition 01-01). The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved by:

Rex Lai
Section Manager
Compliance Certification Services Inc.

Tested by:



Anson Lu
Test Engineer
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	Bluetooth Module
Trade Name	Getac
Model Number	BTC04R
Model Discrepancy	N/A
Frequency Range	2402 ~ 2480 MHz
Transmit Power(Average)	1.45 dBm
Max. SAR (1g)	*Bluetooth SAR is not required, Please refer to page 8.*
Modulation Technique	GFSK for 1Mbps; π/4-DQPSK for 2Mbps; 8DPSK for 3Mbps
Number of Channels	79 Channels
Antenna Specification	Gain: 4 dBi
Antenna Designation	PIFA Antenna
Notes	Add portable category for the platform. The platform information is list as below. And the module is the same. After verification, the worst case is V1002X. Product name: Notebook Computer Model: V1002X, V100X, V200X All the specification and layout are identical except they come with different model numbers for marketing purposes.
Battery Specification	DC11.1V, 7800mAh; 87Wh

The sample selected for test was production product and was provided by manufacturer.

3. REQUIREMENTS FOR COMPLIANCE TESTING DEFINED BY THE FCC

The US Federal Communications Commission has released the report and order “Guidelines for Evaluating the Environmental Effects of RF Radiation", ET Docket No. 93-62 in August 1996. The order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g for an uncontrolled environment and 8.0 mW/g for an occupational/controlled environment as recommended by the ANSI/IEEE standard C95.1-1992. According to the Supplement C of OET Bulletin 65 “Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under “worst-case” conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

4. MEASUREMENT UNCERTAINTY

UNCERTAINTY BUDGE ACCORDING TO IEEE P1528						
Error Description	**Uncertainty Value ±%**	**Probability distribution**	**Divisor**	**C_1 1g**	**Standard unc.(1g/10g) ±%**	**V_1 or V_{eff}**
Measurement System						
Probe calibration	±4.8	normal	1	1	±4.8	∞
Axial isotropy of probe	±4.6	rectangular	√3	$(1\text{-Cp})^{1/2}$	±1.9	∞
Sph. Isotropy of probe	±9.7	rectangular	√3	$(Cp)^{1/2}$	±3.9	∞
Probe linearity	±4.5	rectangular	√3	1	±2.7	∞
Detection Limit	±0.9	rectangular	√3	1	±0.6	∞
Boundary effects	±8.5	rectangular	√3	1	±4.8	∞
Readoutelectronics	±1.0	normal	1	1	±1.0	∞
Response time	±0.9	rectangular	√3	1	±0.5	∞
Integration time	±1.2	rectangular	√3	1	±0.8	∞
Mech Constrains of robot	±0.5	rectangular	√3	1	±0.2	∞
Probe positioning	±2.7	rectangular	√3	1	±1.7	∞
Extrap. And integration	±4.0	rectangular	√3	1	±2.3	∞
RF ambient conditiona	±0.54	rectangular	√3	1	±0.43	∞
Test Sample Related						
Device positioning	±2.2	normal	1	1	±2.23	11
Device holder uncertainty	±5	normal	1	1	±5.0	7
Power drift	±5	rectangular	√3	1	±2.9	∞
Phantom and Set up						
Phantom uncertainty	±4	rectangular	√3	1	±2.3	∞
Liquid conductivity	±5	rectangular	√3	0.6	±1.7	∞
Liquid conductivity	±5	rectangular	√3	0.6	±3.5/1.7	∞
Liquid permittivity	±5	rectangular	√3	0.6	±1.7	∞
Liquid permittivity	±5	rectangular	√3	0.6	±1.7	∞
Combined Standard Uncertainty					±12.14/11.76	
Coverage Factor for 95%		kp=2				
Expanded Standard Uncertainty					±24.29/23.51	

Table: Worst-case uncertainty for DASY4 assessed according to IEEE P1528.
The budge is valid for the frequency range 300 MHz to 6G Hz and represents a worst-case analysis.

5. EXPOSURE LIMIT

(A). Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	2.0

(B). Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

NOTE: ***Whole-Body SAR*** is averaged over the entire body, ***partial-body SAR*** is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. ***SAR for hands, wrists, feet and ankles*** is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:

are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Occupational/Controlled Environments:

are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

NOTE
GENERAL POPULATION/UNCONTROLLED EXPOSURE
PARTIAL BODY LIMIT
1.6 W/kg

5.1 EUT TUNE-UP PROCEDURES

The following procedure had been used to prepare the EUT for the SAR test.

- The client supplied a special driver to program the EUT, allowing it to continually transmit the specified maximum power and change the channel frequency.
- The output power(dBm) we measured before SAR test in different channel
- Performing the highest output power channel first
- This EUT screen can't rotation 90˚(Right edge, disable via software), can rotation 180˚ and 270˚(Left).

Bluetooth Conducted Output Power(average):

Frequency (MHz)	RF Power(dBm)	
	1M	3M
2402	1.45	-2.72
2441	0.08	-4.38
2480	-1.35	-6.05

Simultaneous Transmission SAR evaluation Information:

According to KDB 447498, SAR for each individual transmitter or antenna i is not required, when Antenna Output Power (mW) Pi<=Pth. For Bluetooth module, the maximum output power of Bluetooth function is 1.45 dBm (1.40mW) and less than 24.98mW (Pth=60/2.402), the Single SAR is not required for Bluetooth module.

There are three kinds of host platforms for this BT limited module approval application. All the specification and layout between these three host platforms are identical except they come with different model numbers and panel size for marketing purposes. For these three host platforms, there are also possible to own a WLan module (FCC ID: MAU040; Model Number: WiFi Link 6200), WWan module (FCC ID: MAU039; Model Number: Gobi2) and a GPS module inside these three host platforms, however, either of this BT module, WLan module, and WWan module will be not able to transmit simultaneously for any kind of situation. This application is only an application of Limited Module Approval for this BT function.

6. EUT PHOTOS

10 inch EUT




10+12 inch EUT




12 inch EUT





7. FACILITIES

All measurement facilities used to collect the measurement data are located at

☐ No. 81-1, Lane 210, Bade Rd. 2, Luchu Hsiang, Taoyuan Hsien, Taiwan, R.O.C.

☒ No. 11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan.

☐ No. 199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.

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