

FCC CFR47 PART 15 SUBPART C
CERTIFICATION TEST REPORT

FOR

802.11N 1X1 PCIE MINICARD TRANSCEIVER

MODEL NUMBER: PA3722U-1MPC

FCC ID: CJ6UPA3722WL
IC: 248H-DPA3722W

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Prepared for
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Revision History

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: TOSHIBA CORPORATION
OME COMPLEX, 2-9, SUEHIRO-CHO
TOKYO 198-8710, JAPAN

EUT DESCRIPTION: 802.11n 1x1 PCIe Minicard Transceiver

MODEL: PA3722U-1MPC AND UNDP-1

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC CFR 47 PARTS 1 AND 2	Pass
OET BULLETIN 65	Pass
Industry Canada RSS-102	Pass

Compliance Certification Services, Inc. (CCS) calculated the MPE of the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

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2. TEST METHODOLOGY

The calculations documented in this report were performed in accordance with FCC CFR 47 Parts 1, and 2, OET Bulletin 65, and RSS-102.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

4. REFERENCES

All 800 MHz Cell band and 1900 MHz PCS bands were made as documented in Qualcomm test report.

All 2.4 GHz band measurement was made as documented in CCS Taiwan Test report 81029005.

Duty cycle data is excerpted from the applicable test reports.

Antenna gain data is excerpted from product documentation provided by the applicant.

5. CALIBRATION AND UNCERTAINTY

5.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

5.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Power Line Conducted Emission	+/- 2.3 dB
Radiated Emission	+/- 3.4 dB

Uncertainty figures are valid to a confidence level of 95%.

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The EUT is an 802.11n 1x1 PCIe MiniCard Tranceiver with both full length and half length board and is manufactured by Atheros Corp

The WWAM module is a dual band, 800/1900MHz, operates in GSM/GPRS mode. The module manufactured by Qualcomm

6.2. RADIO MODULE APPROVAL CONDITIONS

The Cellular / PCS radio module is manufactured by Qualcomm with original FCC ID: J9CUNDP-1 grant on January 18, 2008.

The WLAN radio module is manufactured by Atheros with original FCC ID: PPD-AR5B95 grant on December 12, 2008.

The Bluetooth module is manufactured by Yuden CSR with original FCC ID: RYYEYTFXCS grant on Jane 15, 2007 or manufactured by Askey Computer Corp. with original FCC ID: H8N-BTU1030 grant on March 02, 2009.

7. LIMITS AND RESULTS

7.1. CO-LOCATED MAXIMUM PERMISSIBLE EXPOSURE

LIMITS

Per OTE Bulletin 65, for frequency bands with the same MPE limits, the Power Densities produced by each transmitter are summed. The summation must be under the limit for the band.

Per OTE Bulletin 65, for frequency bands with different limits the Power Densities are calculated separately for each band, divided by the limit for the band and the results are then summed. The summation must be less than 1.

RESULTS

Mode	MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	FCC Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	FCC Fraction of Limit Dimensionless	FCC Limit (mW/cm^2)
2.4GHz	20.0	25.28	-2.84	0.03	1.00	0.03	
800 MHz	20.0	32.98	-3.16	0.19	0.55	0.35	
Colocated						0.38	1.00

Mode	MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	FCC Power Density (mW/cm^2)	FCC Limit (mW/cm^2)	FCC Fraction of Limit Dimensionless	FCC Limit (mW/cm^2)
2.4GHz	20.0	25.28	-3.17	0.03	1.00	0.03	
1900 MHz	20.0	29.47	-3.25	0.08	1.00	0.08	
Colocated						0.12	1.00

END OF REPORT