

April 7, 1998

Federal Communications Commission
Equipment Approval Services
PO Box 358315
Pittsburgh, PA 15251-5315

Dear Sir/Madam:

Enclosed you will find an application for Certification of a Electronic Server Pad (ESPIII), Model No. 3000, FCC ID: OOUESPIII. Certification is requested under Part 2 and Part 90 of the Commission's rules. This application is being filed by Retlif Testing Laboratories on behalf of Remanco International, Inc., a subsidiary of Geac Computers, Inc. You should soon receive a hard copy of the 159 form and applicable filing fee.

I trust that you will find the enclosed application to be complete; however, should you have any questions or require any additional information, please feel free to contact us.

Very truly yours,

RETLIF TESTING LABORATORIES

Scott Wentworth
Branch Manager

Enc. (as stated)

Certification Application

in accordance with

**47CFR Ch. 1 (10-1-98) Part 2, Subpart J
Equipment Authorization Procedures,
Part 90, Subpart C, Industrial/Business Radio Pool,
including additional referenced subparts and subsections**

covering

Body Worn Electronic Server Pad (ESPIII)

in which is a RF Digitally Synthesized Radio Module Transceiver Operating in 450-470MHz Range,
part of the

Electronic Server Pad System,

A table service restaurant order entry and information retrieval system

TECHNICAL REPORT

47CFR Part 2.1022(c)

Applicant/Manufacturer: Remanco International, Inc.
A subsidiary of Geac Computers, Inc.
175 Ledge Street
Nashua, NH 03060

Test Sample: Electronic Server Pad (ESPIII)

FCC ID No.: OOUESPIII

Model No.: 3000

Power Requirements: Internal NiCAD Battery Pack

The ESP System RF module can operate within, and is capable of being programmed for, any frequency in the allocated frequency range of 450-470MHz. The antenna is integral to the lid of the ESPIII. The lid protects the antenna and the keypad and display when it is closed and switches the ESPIII to unpower mode.

When the lid is open, the ESPIII is activated and the antenna is positioned away from the user and oriented for operation. The internal rechargeable NiCAD battery pack has 5 AA size cells connected in series. The pack is removed from the EUT when in need of charge and a freshly charged pack is installed.

TECHNICAL REPORT

47CFR Part 2.1022(c)

Type of Emission: 16K0F1D
Frequency Range: 450 - 470MHz
Test Frequency: 467.875MHz
ERP: .768w

The following information is supplied as electronic attachments:

- Installation and Operating Instructions
- Tune-up Procedure
- Block Diagram
- Schematics
- Circuit Description
- FCC ID Label
- Internal and External Photographs

The following test methods were performed on the test sample in accordance with FCC Rules and Regulations Part 2 and Part 90. Actual test data as well as test setup photographs are supplied as electronic attachments.

- §2.1046 RF Output (§90.205) (ERP Measurements were used)
- §2.1049 Occupied Bandwidth (§90.209)
- §2.1053 Field Strength of Spurious Emissions (§90.205)
- §2.1055 Frequency Stability (§90.213)
- Transient Frequency Behavior (§90.214)

The following test methods were not applicable to this EUT

- §2.1047 Modulation Characteristics (§90.211)
- §2.1051 Spurious Emissions at Antenna Terminals (§90.210)

TECHNICAL REPORT

47CFR Part 2.1022(c)

§2.1046 RF Output (§90.205) (ERP Measurements were used)

ERP was calculated from measured field strength of ESPIII emissions at 467.875MHz, taken with measurement system on approved OATS.

Measured Field Strength:

Field Strength at 3 meters = 124.0dBuV/M
124.0dBuV/M converts to = 1584893.192uV/M
1584893.192uV/M converts to = 1.584V/M
1.584V/M rounded off to = **1.6V/M**

ERP Calculation:

ERP formula derived from $V/M = \text{Square root of } (30 \times \text{ERP}) \text{ divided by } 3$

- 1) $\text{ERP} = [(3)(V/M)]^2 \text{ divided by } 30$
- 2) $\text{ERP} = (4.8)^2 \text{ divided by } 30$
- 3) $\text{ERP} = 23.04 \text{ divided by } 30$
- 4) **ERP = .768 watts**

ERP Confirmation:

.768 ERP used in original formula

- 1) $V/M = \text{Square root of } (30 \times \text{ERP}) \text{ divided by } 3$
- 2) $V/M = \text{Square root of } (23.04) \text{ divided by } 3$
- 3) $V/M = 4.8 \text{ divided by } 3$
- 4) **V/M = 1.6**

TEST EQUIPMENT LIST

Occupied Bandwidth

<u>EN</u>	<u>Type</u>	<u>Manufacturer</u>	<u>Frequency Range</u>	<u>Model No.</u>	<u>Cal Date</u>	<u>Due Date</u>
3117	Power Supply	B&K Precision	0-30 Vdc, 3.0A	1630	2/17/99	2/17/00
3128B	20dB Attenuator	Lucas Weinscher	DC-18GHz	2	12/18/98	12/18/99
4016	Double Ridge Guide	EMCO	200MHz - 2GHz	3106	4/9/99	4/9/00
4895	Spectrum Analyzer	Hewlett Packard	9kHz - 22GHz	8593EM	9/18/98	9/18/99

Field Strength of Spurious Emissions

<u>EN</u>	<u>Type</u>	<u>Manufacturer</u>	<u>Frequency Range</u>	<u>Model No.</u>	<u>Cal Date</u>	<u>Due Date</u>
3116	Pre-Amplifier	Miteq	0.1GHz - 18GHz	AFS42-35	12/3/98	12/3/99
3118	Broadband Pre-Amp	Electro-Metrics	10kHz - 1GHz	BPA-1000	6/24/98	6/24/99
3258	Double Ridge Guide	EMCO	1-18GHz	3115	4/7/99	4/7/00
4029	Open Area Test Site	Retlif	3 / 10 Meters	RNH	6/15/98	6/15/99
4202	Biconilog	EMCO	26MHz - 2GHz	3142	6/10/98	6/10/99
4895	Spectrum Analyzer	Hewlett Packard	9kHz - 22GHz	8593EM	9/18/98	9/18/99

Frequency Stability

<u>EN</u>	<u>Type</u>	<u>Manufacturer</u>	<u>Frequency Range</u>	<u>Model No.</u>	<u>Cal Date</u>	<u>Due Date</u>
159	Frequency Counter	Leader	10Hz - 1GHz	LDC-825	9/18/98	9/18/99
507	AC Power Supply	Staco	0-140VAC	E1010VA	9/18/98	9/18/99
520F	Digital Multimeter	Wavetek	N/A	DM25XT	7/6/99	7/6/00

Transient Frequency Behavior

<u>EN</u>	<u>Type</u>	<u>Manufacturer</u>	<u>Frequency Range</u>	<u>Model No.</u>	<u>Cal Date</u>	<u>Due Date</u>
073	Interference Analyzer	Electro-Metrics	10kHz-1GHz	EMC-25	3/9/99	3/9/00
3117	Power Supply	B&K Precision	0-30VDC, 3.0A	1630	2/17/99	2/17/00
3128B	20dB Attenuator	Lucas Weinscher	DC-18GHz	2	12/18/98	12/18/99
3139	10dB Atten. (50ohm)	Narda	DC-5GHz	768-10	4/9/99	4/9/00
3233	Graphics Plotter	Hewlett Packard	N/A	7470A	4/9/99	4/9/00
3448	0-11dB Stepatten.	Midwest Microwave	DC-18GHz	1092	2/17/99	2/17/00
375	Power Divider	Weinschel Eng.	DC-18GHZ	1506A	1/28/99	1/28/00
4001	Oscilloscope	Tektronix	N/A	TDS 520A	3/5/99	3/5/00
4004	RF Millivoltmeter	Boonton Electronics	10kHz - 1.2GHz	92B	10/15/98	10/15/99
4895	Spectrum Analyzer	Hewlett Packard	9kHz - 22GHz	8593EM	9/18/98	9/18/99
4910	Tee Adapter	Bruel and Kjaer	10kHz-1GHz	91-14A	10/15/98	10/15/99
530A	AM/FM Signal Gen.	Marconi Instruments	10kHz - 1.2GHz	2023	3/8/99	3/8/00
532	High Pwr. Dir. Coup.	Werlatone Inc.	.01-1000MHz	C2630	12/15/98	12/15/99