

### FCC ID: PQSWAVENET-DUAL-V Class II Permissive Changes

# Exhibit 1

- a) Application overview
- b) Equipment Identification
- c) Authorization Letter /Agent Designated (Jay Sarkar)
- d) Request for confidentiality
- e) Letter from Wavenet Pty Ltd. Describing Permissive Change



### **APPLICATION OVERVIEW**

May 24, 2002

Federal Communications Commission FCC Application Processing Branch 7435 Oakland Mills Road Columbia, MD 21406 U.S.A.

Subject: Submitting Class II Permissive Change to the Filling PQSWAVENET-DUAL-V filling, DWV 100D, Wireless Modem attachment for Palm V/Vx.

#### Gentlemen:

We wish to file a Class II Permissive Change in accordance with 47CFR 2.1001(b)(2) to the PQSWAVENET-DUAL-V filing on behalf of Wavenet Technology Pty. Ltd.

The purpose of this change is to allow component value adjustments to improve production yields and compensate for some changes in properties in production PCBs. Electrical and Mechanical parameters are unchanged. Product specifications remain the same.

These changes have negligible effect on EMC or SAR performance. These changes have no impact on the approval of the unit.

#### FCC Filing Information:

FCC ID: PQSWAVENET-DUAL-V

Product: PDA Wireless Modem attachment for Palm V/Vx

Model: DWV 100D

**Serial No.:** 01450021

**EUT Type:** Licensed Non-Broadcast Station transmitter (TNB)

**TX Frequency:** 806 - 821 MHz

Max. Power Output: 1.820W/32.6dBm ERP

Max. SAR Value: 0.33 W/kg Hand SAR

0.71 W/kg Body (Partial) SAR

FCC Rule Parts: 2 and 90

**Application Type:** Certification



#### The Changes are as follows:

#### Transmit circuit (See Exhibits 5 and 6)

The PA Output filter. The production PCB material has a higher capacitance than pre-production PCB with greater loss and the 4x3pF (C131, C133, C134, C136) is changed to 2p2F to compensate for this.

**Impact due to changes:** Field Strength of Spurious Emissions was measured again and the data obtained in accordance with 47 CFR 2.1053. The data as shown in the measurement report attached (Exhibit 2b) shows that all Radiated Spurious Emissions are between –53.7dBm and - 29dBm and are well below FCC limits of –13dBm. They are also below to those submitted to the FCC in the original filing.

#### PAIC matching circuit:

The PA in production has insufficient power margin to give good yields. The Output Match parts C70 are changed from 15pF to 18pF to allow improvement in the production yields on power output of 1.820W (ERP). This is to reduce production variations in the output power.

The de-coupling capacitor C116 is changed from 33pF to 100pF to allow improve production yield on power output specification of 1.6W.

The tuning inductor L15 is changed from 1nH to 0R to allow improvement of the PA gain flatness in production.

**Impact due to changes:** PA output is still calibrated to specification in each unit. It does not have any bearing in the compliance.

#### **VCO Tuning Range:**

The VCO in production has insufficient tuning range and low level output to give good yields. As such, the vericaps D1 and D2 are changed from BB131 to ISV304, which gives a lower loss and a small increase in tuning range margin.

To give a small adjustment down in VCO center frequency C57 is changed from 3p9 to 4p7 and C58 is changed from 3p3 to 3p9.

**Impact due to changes:** Frequency stability is still determined by the master reference VCTCXO and frequency stability as reported in the original filing is unchanged.

#### Receive circuit (See Exhibit 5 and 6)

Receive Temperature drift



The following components are changed to improve temperature drift in the receiver:

R8: 39k to 12k, R7: 47k to 82k, C35: 10pF to 18pF, R56: 150k to 390k, R56: 68k to 56k, R57: 1M2 to 1M5, R61: 220k to 150k.

**Impact due to changes:** These have no effect either on transmit (intentional) spurious emissions or receive (unintentional) spurious emissions. These have been verified to be within the FCC limits. Please see Exhibits 2b and 3a.

The changes above are implemented to facilitate overall improvement in the production yield. The mechanical and electrical specifications are unchanged.

The Wavenet Dualwave V Handheld Device is a stand alone, wireless, two-way data communications device, operating on the worldwide DataTAC packet switched wireless data network in the USA. The intended users are business people away from work, mobile computer users, cellular telephone users and pocket pager users. Used in conjunction with a Palm V or equivalent Personal Digital Assistant (PDA) the combination is an integrated wireless Email/Internet solution designed specifically for professional applications.

Please find the following items with this application:

- 1. Form 731 (Remittance in the amount of \$45.00 + \$145.00 (Confd.) forwarded to Mellon Bank)
- 2. Application overview-Exhibit 1a
- 3. Equipment Identification-Exhibit 1b
- 4. Authorization Letter- Exhibit 1c
- 5. Request for confidentiality-Exhibit 1d
- 6. Letter from Wavenet requesting for Class II Permissive Change –Exhibit 1e
- 7. Report on Power Output Measurements, ERP (2.1046)-Exhibit 2a
- 8. Report on Field Strength of Spurious Radiation (2.1053)- Exhibit 2b
- 9. FCC Part 15 Declaration of Conformity (Doc) Certificate -Exhibit 3a
- 10. RF Exposure Compliance, SAR Report-Exhibit 4
- 11. Photographs of the Equipment-Exhibit 5



- 12. Parts List (Confidential) Exhibit-6
- 13. Schematics (Confidential) Exhibit-7

All other documents have been submitted with the original filling.

#### **SAR Measurements:**

SAR evaluation was conducted in accordance with FCC Rule Parts 2.1093 and FCC/OET Bulletin 65 Supplement C (2001). The data obtained shows compliance with the FCC limits and does not exceed those submitted to the FCC in the original filing.

All other data on file with the FCC continues to be compliant.

Based on the test data and in submitting this application, we are requesting a Class II Permissive Change to the above Certified PDA Wireless Modem attachment for Palm V/Vx.

Sincerely,

Jayanta (Jay) Sarkar

Technical Director, Standards & Certification

**Authorized Agent of Wavenet Technologies** 

E-mail: J.Sarkar@aprel.com



## **EXHIBIT 1b**

# **Equipment Identification**

FCC ID: PQSWAVENET-DUAL-V Class II Permissive Changes

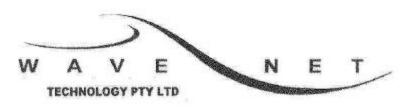
**MANUFACTURER: Wavenet Technology Pty Ltd** 

PRODUCT: PDA Wireless Modem attachment for Palm V/Vx

**MODEL: DWV 100D** 

**EUT TYPE: Licensed Non-Broadcast Station Transmitter (TNB)** 

TX Frequency: 806-821 MHz MEASURED ERP: 1.820 W



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ABN 88 079 965 003

March 12, 2002

Federal Communications Commission Equipment Authorisation Branch 7435 Oakland Mills Road Columbia MD 21406

### TO WHOM IT MAY CONCERN

RE: Wavenet Technology PTY Ltd.

Product: PDA Wireless Modem, Dualwave M

CLASS II PERMISSIVE CHANGE

FCC ID: PQSWAVENET-DUAL-V

We the undersigned, hereby authorise Jay Sarkar of APREL Laboratories, to act on our behalf in all matters relating to equipment authorisation, including the signing of all documents relating to these matters. Any and all acts carried out by APREL Laboratories on our behalf shall have the same effect as acts of our own.

We also certify that no party to this application is subject to denial of benefits, pursuant to Section 301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C.853(a).

Yours sincerely

JOHN THOMPSON Managing Director



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March 12, 2002

Federal Communications Commission Equipment Authorisation Branch 7435 Oakland Mills Road Columbia MD 21406

Gentlemen:

RE: Wavenet Technology Pty Ltd

Product: PDA Wireless Modern, Dualwave V

Request for Confidentiality

FCC ID: PQSWAVENET-DUAL-V Permissive Change

Wavenet Technology Pty Ltd, hereby requests confidentiality of the Schematic Diagrams, and Parts List for the attached test report.

These documents contain detailed system and equipment description and related information about the product which Wavenet Technology Pty Ltd considers to be proprietary, confidential, and a custom design and, otherwise, would not release to the general public. Since this design is a basis from which future technological products will evolve, Wavenet Technology Pty Ltd considers this information would be of benefit to its competitors, and that the disclosure of the information in these documents would give competitors an unfair advantage in the market.

Yours sincerely

JOHN THOMPSON Managing Director



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March 12, 2002

Federal Communications Commission 7435 Oakland Mills Road Columbia MD 21406

#### Gentlemen:

Re: Wireless Modem attachment for Palm V/Vx

FCC ID: PQSWAVENET-DUAL-V Request for Class II Permissive Change

Wavenet Technologies Pty Ltd wish to file a Class II Permissive Change in accordance with 47 CFR 2.1001(b)(2) to our Wireless Modem attachment for Palm V/Vx with FCC ID: PQSWAVENET-DUAL-V through our agent APREL Laboratories.

The purpose of this change is to allow component value adjustments to improve production yields and compensate for some changes in properties in production PCBs. Electrical and Mechanical parameters are unchanged. Product specifications remain the same.

For a more detailed description of the changes please see the engineering overview letter prepared by our agent APREL Laboratories

We have satisfied ourselves, through re-testing (see attached reports) that these changes have negligible effect upon EMC or SAR performance.

Yours sincerely

JOHN THOMPSON Managing Director