



**TEST REPORT OF A 2.4 GHZ LOW POWER WLAN  
INTEGRATED CARD, BRAND AGERE,  
TYPE PC24-11-FC/R, IN CONFORMITY WITH  
47 CFR PART 15 (2001-12-18), SECTION 15.247 (e)(2).**

FCC listed : 90828  
Industry Canada : IC3501

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Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

## MEASUREMENT/TECHNICAL REPORT

**Agere Systems Nederland B.V.**

**Model : PC24-11-FC/R**

**FCC ID: IMRWLPC2411R**

April 29, 2002

|                                                       |                                             |                                                 |                         |
|-------------------------------------------------------|---------------------------------------------|-------------------------------------------------|-------------------------|
| This report concerns:                                 | Original grant/certification                | <del>Class 2 change</del>                       | <del>Verification</del> |
| Equipment type:                                       | Direct Sequence Spread Spectrum Transceiver |                                                 |                         |
| Deferred grant requested per 47 CFR 0.457(d)(1)(ii) ? | <del>Yes</del>                              | No                                              |                         |
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The data taken for this test and report herein was done in accordance with 47 CFR Part 15 (2001-12-18), section 15.247 (e)(2). TNO Electronic Products & Services (EPS) B.V. at Niekerk, The Netherlands, certifies that the data is accurate on the date of the test as noted in the test report. I have reviewed the test report and find it to be an accurate description of the test(s) performed and the EUT so tested.

Date: April 29, 2002

Signature:

P. de Beer  
TNO Electronic Products & Services (EPS) B.V.



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Description of EUT: 2.4 GHz low power WLAN integrated card  
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Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

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### **Description of test item**

Test item : 2.4 GHz low power WLAN integrated PCMCIA card  
Manufacturer : Agere Systems Nederland B.V.  
Brand : Agere  
Type : PC24-11-FC/R  
Serial number : 02UT03640001  
Revision : n.a.  
Receipt number : 2  
Receipt date : March 25, 2002

### **Applicant information**

Applicant's representative : Mr. M. Koop  
Company : Agere Systems Nederland B.V.  
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City : Nieuwegein  
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### **Test(s) performed**

Location : Niekerk  
Test(s) started : March 25, 2002  
Test(s) completed : April 29, 2002  
Purpose of test(s) : Type approval / certification  
Test specification(s) : 47 CFR Part 15 (2001-12-18)

Test engineer : O.H. Hoekstra

Report written by : P.A.J.M. Robben, B.Sc.E.E.

Project leader : P.A.J.M. Robben, B.Sc.E.E.

This report is in conformity with NEN-EN-ISO/IEC 17025: 2000.

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The test results relate only to the item(s) tested.



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Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

## 1 General information.

### 1.1 Product description.

The 2.4 GHz low power WLAN integrated PCMCIA card, brand Agere, type PC24-11-FC/R, is designed to operate in the 2.4 GHz ISM frequency band, channels 1 to 11 (2412 MHz to 2462 MHz), as specified by the Federal Communications Commission in the USA.

The 2.4 GHz low power WLAN integrated PCMCIA card, brand Agere, type PC24-11-FC/R, utilizes Direct Sequence Spread Spectrum (DSSS) technology.

The 2.4 GHz low power WLAN integrated PCMCIA card, brand Agere, type PC24-11-FC/R, is intended for use with external antennas which are to be connected to the (unique) antenna connector(s). Only antennas, which have been certified by the Federal Communications Commission for use with this specific 2.4 GHz low power WLAN integrated PCMCIA card, may be connected to the antenna connector(s) of this device.

### 1.2 Related submittal(s) and/or Grant(s).

Not applicable.

### 1.3 Tested system details.

Details and an overview of the system and all its components, as it has been tested, can be found in table 1 below. FCC ID's are stated in this overview where applicable. The EUT is listed in the first row of this table 1.

| Description                                                          | Type number          | Serial number                                               | FCC ID       | Cable descriptions                                                                   |
|----------------------------------------------------------------------|----------------------|-------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------|
| 2.4 GHz low power WLAN integrated PCMCIA card                        | PC24-11-FC/R         | 02UT03640001                                                | IMRWLPC2411R | Connected to coaxial cable.                                                          |
| Notebook computer, manufacturer Dell Computer Corporation            | Latitude C600        | DS/N TW-0791UH-12800-0BR-0635<br>DP/N 0791UH C/O TW Rev A05 | n.a. (DoC)   | Unshielded DC power cord to AC/DC adapter.<br>Shielded parallel cable to printer.    |
| Dell AC/DC power adapter<br>100-240 VAC/1.5 Amps to +20 VDC/3.5 Amps | AA20031, PA-6 family | DS/N CN-09364U-12761-0C4-007R<br>DP/N 09361U/C/O CN/Rev A00 | n.a. (DoC)   | Unshielded DC power cord to notebook computer.<br>Unshielded power cord to AC mains. |
| Dell notebook computer                                               | Latitude C800        | 2QYPD01                                                     | n.a. (DoC)   | Unshielded DC power cord to AC/DC adapter.                                           |
| Dell AC/DC power adapter<br>100-240 VAC/1.5 Amps to +20 VDC/3.5 Amps | AA20031, PA-6 family | CN-09364U-12761-0C4-003K                                    | n.a. (DoC)   | Unshielded DC power cord to notebook computer.<br>Unshielded power cord to AC mains. |
| Lucent Technologies 2.4 GHz low power WLAN PCMCIA card               | PC24E-H-FC           | 01UT18361879                                                | IMRWLPCE24H  | Coaxial cable from antenna connector to test setup.                                  |

Table 1 - Tested system details overview.



**Test specification(s):** 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
**Description of EUT:** 2.4 GHz low power WLAN integrated card  
**Manufacturer:** Agere Systems Nederland B.V.  
**Brand mark:** Agere  
**Type:** PC24-11-FC/R  
**FCC ID:** IMRWLPC2411R

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## 1.4 Test methodology.

The test methodology used is based on the requirements of 47 CFR Part 15 (2001-12-18), section 15.247 (e)(2).

The processing gain is measured using the CW jamming margin method. A signal generator is stepped in 50 kHz increments across the pass-band of the system. The pass-band of the receiver is defined as being 14 MHz.

At each point the generator level required to produce a Bit Error Rate equivalent to  $BER=1.0 \times 10E-5$  is recorded as the Jammer level (J). The output power of the transmitter is measured at the same point and recorded as Signal (S). The Jammer to Signal ratio (J/S) is then calculated with 20% of the worst measurement results discarded. The lowest remaining J/S ratio is used to calculate the processing gain using formula:

$$G_p = (S/N)_o + M_j + L_{sys}$$

where the  $(S/N)_o$  value is declared by the manufacturer and  $L_{sys}$  is defined as having a maximum value of 2.0 dB.

## 1.5 Test facility.

The Federal Communications Commission has reviewed the technical characteristics of the test facilities at TNO Electronic Products & Services (EPS) B.V., located in Niekerk, 9822 TL Smidshornerweg 18, The Netherlands, and has found these test facilities to be in compliance with the requirements of 47 CFR Part 15, section 2.948, per October 23, 2000.

The description of the test facilities has been filed at the Office of the Federal Communications Commission under registration number 90828. The facility has been added to the list of laboratories performing these test services for the public on a fee basis.

The list of all public test facilities is available on the Internet at <http://www.fcc.gov>.

## 1.6 Product labeling.

In accordance with 47 CFR Part 15.19 (a)(3) the following text shall be placed on a label, which is attached to the EUT:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

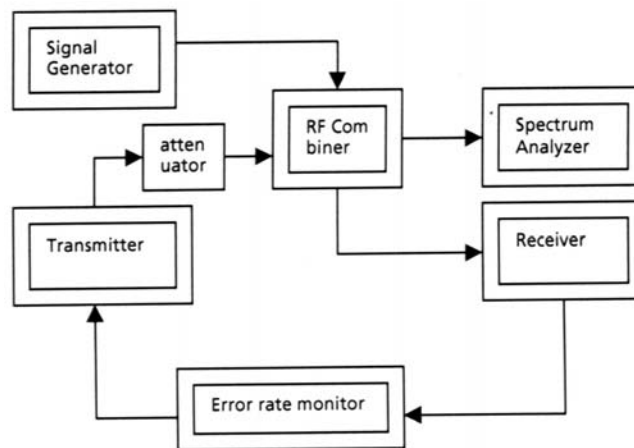
In accordance with 47 CFR Part 2.925 (a)(1), the FCC ID shall be placed on a label, which is attached to the EUT.

For further details about the labeling requirements (size, legibility, etc.) as set by the Federal Communications Commission see 47 CFR Part 15.19 (a)(3), 47 CFR Part 15.19 (b)(2), 47 CFR Part 15.19 (b)(4), 47 CFR Part 2.925 and 47 CFR Part 2.926.

## 1.7 System test configuration.

### 1.7.1 Justification.

Tests were performed at the operating frequency in the middle of the specified frequency band (channel 7: 2442 MHz).



The EUT was tested while inside of the PCMCIA slot of a notebook computer and while connected to the RF combiner by means of a coaxial cable. A second notebook computer, fitted with a 2.4 GHz low power WLAN PCMCIA card, was used to transmit continuously. The 2.4 GHz low power PCMCIA card was connected to the attenuator/RF combiner by means of a coaxial cable. The signal generator was used to generate the jamming signal, while the spectrum was monitored by means of a spectrum analyzer.

### 1.7.2 EUT exercise software.

The EUT could be enabled to transmit or receive continuously on channel 7 (2442 MHz) by means of test software, which was supplied by the manufacturer of the EUT. The utilized test software also enables various transmission bit-rate settings in the range of 1 Mbit/s, 2 Mbit/s, 5.5 Mbit/s and 11 Mbit/s. Furthermore, the test software has also a built-in frame/bit-error-rate monitor, allowing the test engineer to monitor the bit-error-rate during all tests.

## 1.8 Special accessories.

No special accessories are used and/or needed to achieve compliance with the appropriate sections of 47 CFR Part 15.

## 1.9 Equipment modifications.

No modifications have been made to the equipment in order to achieve compliance with the appropriate sections of 47 CFR Part 15.

## 1.10 Configuration of the tested system.

Not applicable. See table 1 in section 1.3 of this test report.

## 1.11 Block diagram(s) of the EUT.

The block diagram is available as part of the documentation which is to be submitted to the FCC/TCB.



## 2 Theoretical processing gain calculation.

| Data-rate (Mbps) | Modulation type | Symbol-rate (Mpsps) | Chip-rate (Mcps) | Chip/symbol ratio | Theoretical PG | (S/N) <sub>o</sub> (dB) | L <sub>sys</sub> (dB) | Calculated J/S (dB) | Allowed J/S (dB) |
|------------------|-----------------|---------------------|------------------|-------------------|----------------|-------------------------|-----------------------|---------------------|------------------|
| 2                | DQPSK           | 1                   | 11               | 11:1              | 10.4           | 13.3                    | 2.0                   | -4.9                | -5.3             |
| 11               | CCK             | 1.375               | 8                | 8:1               | 9.0            | 17.0                    | 2.0                   | -10.0               | -9.0             |

Table 2

### Explanation of theoretical processing gain calculations.

#### **BER = 1.E-5, Data-rate = 2 Mbps**

Chip-rate = 11 Mcips/s, Symbol-rate = 1 Msymbols/s, Bit-rate = 2 Mbits/s

Ratio chip/symbol = 11:1

Theoretical processing gain:  $G_p = 10\log(11) = 10.4$  dB

$E_b/N_0 = 10.3$  dB

$(S/N)_o = E_s/N_0 = E_b/N_0 + \text{correction factor for 2 bits/symbol} = 10.3 \text{ dB} + 10\log(2) \text{ dB} = 10.3 \text{ dB} + 3.0 \text{ dB} = 13.3 \text{ dB}$

$L_{sys} = 2.0$  dB max.

$G_p = (S/N)_o + M_j + L_{sys}$

Calculated  $M_j = J/S = G_p - (S/N)_o - L_{sys} = 10.4 \text{ dB} - 13.3 \text{ dB} - 2.0 \text{ dB} = -4.9 \text{ dB}$

Allowed J/S for 10 dB PG =  $G_p - (S/N)_o - L_{sys} = 10.0 \text{ dB} - (S/N)_o - L_{sys} = 10.0 \text{ dB} - 13.3 \text{ dB} - 2.0 \text{ dB} = -5.3 \text{ dB}$

#### **BER = 1.E-5, Data-rate = 11 Mbps**

Chip-rate = 11 Mcips/s, Symbol-rate = 1.375 Msymbols/s, Bit-rate = 11 Mbits/s

Ratio chip/symbol = 8:1

Theoretical processing gain:  $G_p = 10\log(8) = 9.0$  dB

$E_b/N_0 = 8.0$  dB

$(S/N)_o = E_s/N_0 = E_b/N_0 + \text{correction factor for 8 bits/symbol} = 8.0 \text{ dB} + 10\log(8) \text{ dB} = 8.0 \text{ dB} + 9.0 \text{ dB} = 17.0 \text{ dB}$

$L_{sys} = 2.0$  dB max.

$G_p = (S/N)_o + M_j + L_{sys}$

Calculated  $M_j = J/S = G_p - (S/N)_o - L_{sys} = 9.0 \text{ dB} - 17.0 \text{ dB} - 2.0 \text{ dB} = -10.0 \text{ dB}$

Allowed J/S for 10 dB PG =  $G_p - (S/N)_o - L_{sys} = 10.0 \text{ dB} - (S/N)_o - L_{sys} = 10.0 \text{ dB} - 17.0 \text{ dB} - 2.0 \text{ dB} = -9.0 \text{ dB}$



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### 3 Test results of measurements in conformity with 47 CFR Part 15.247 (e)(2).

#### 3.1 Test results at a transmission bit-rate of 2 Mbps.

The results of tests on the EUT, carried out in accordance with 47 CFR Part 15.247 (e)(2), are depicted in table 3.

Pass band :  $f_0 \pm 7$  MHz  
 Channel : 2442.0 MHz (channel 7)  
 Transmission bit-rate : 2 Mbps

| Step | Frequency (MHz) | Transmission bit-rate (Mbps) | J (dBm) | S (dBm) | J/S (dB) |
|------|-----------------|------------------------------|---------|---------|----------|
| 1    | 2449.00         | 2                            | -51.70  | -52.00  | 0.30     |
| 2    | 2448.95         | 2                            | -51.50  | -52.00  | 0.50     |
| 3    | 2448.90         | 2                            | -51.40  | -52.00  | 0.60     |
| 4    | 2448.85         | 2                            | -51.30  | -52.00  | 0.70     |
| 5    | 2448.80         | 2                            | -51.10  | -52.00  | 0.90     |
| 6    | 2448.75         | 2                            | -50.90  | -52.00  | 1.10     |
| 7    | 2448.70         | 2                            | -50.80  | -52.00  | 1.20     |
| 8    | 2448.65         | 2                            | -50.60  | -52.00  | 1.40     |
| 9    | 2448.60         | 2                            | -50.40  | -52.00  | 1.60     |
| 10   | 2448.55         | 2                            | -52.00  | -52.00  | 0.00     |
| 11   | 2448.50         | 2                            | -51.10  | -52.00  | 0.90     |
| 12   | 2448.45         | 2                            | -51.60  | -52.00  | 0.40     |
| 13   | 2448.40         | 2                            | -51.60  | -52.00  | 0.40     |
| 14   | 2448.35         | 2                            | -51.90  | -52.00  | 0.10     |
| 15   | 2448.30         | 2                            | -51.00  | -52.00  | 1.00     |
| 16   | 2448.25         | 2                            | -51.10  | -52.00  | 0.90     |
| 17   | 2448.20         | 2                            | -51.50  | -52.00  | 0.50     |
| 18   | 2448.15         | 2                            | -51.40  | -52.00  | 0.60     |
| 19   | 2448.10         | 2                            | -51.40  | -52.00  | 0.60     |
| 20   | 2448.05         | 2                            | -51.60  | -52.00  | 0.40     |
| 21   | 2448.00         | 2                            | -51.20  | -52.00  | 0.80     |
| 22   | 2447.95         | 2                            | -51.50  | -52.00  | 0.50     |
| 23   | 2447.90         | 2                            | -51.40  | -52.00  | 0.60     |
| 24   | 2447.85         | 2                            | -51.10  | -52.00  | 0.90     |
| 25   | 2447.80         | 2                            | -51.30  | -52.00  | 0.70     |
| 26   | 2447.75         | 2                            | -51.00  | -52.00  | 1.00     |
| 27   | 2447.70         | 2                            | -51.00  | -52.00  | 1.00     |
| 28   | 2447.65         | 2                            | -50.90  | -52.00  | 1.10     |
| 29   | 2447.60         | 2                            | -51.00  | -52.00  | 1.00     |
| 30   | 2447.55         | 2                            | -51.40  | -52.00  | 0.60     |
| 31   | 2447.50         | 2                            | -51.40  | -52.00  | 0.60     |
| 32   | 2447.45         | 2                            | -52.00  | -52.00  | 0.00     |
| 33   | 2447.40         | 2                            | -52.10  | -52.00  | -0.10    |
| 34   | 2447.35         | 2                            | -52.40  | -52.00  | -0.40    |
| 35   | 2447.30         | 2                            | -51.80  | -52.00  | 0.20     |
| 36   | 2447.25         | 2                            | -53.00  | -52.00  | -1.00    |
| 37   | 2447.20         | 2                            | -52.80  | -52.00  | -0.80    |



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 FCC ID: IMRWLPC2411R

| Step | Frequency (MHz) | Transmission bit-rate (Mbps) | J (dBm) | S (dBm) | J/S (dB) |
|------|-----------------|------------------------------|---------|---------|----------|
| 38   | 2447.15         | 2                            | -52.80  | -52.00  | -0.80    |
| 39   | 2447.10         | 2                            | -52.70  | -52.00  | -0.70    |
| 40   | 2447.05         | 2                            | -51.90  | -52.00  | 0.10     |
| 41   | 2447.00         | 2                            | -51.20  | -52.00  | 0.80     |
| 42   | 2446.95         | 2                            | -50.90  | -52.00  | 1.10     |
| 43   | 2446.90         | 2                            | -50.80  | -52.00  | 1.20     |
| 44   | 2446.85         | 2                            | -50.70  | -52.00  | 1.30     |
| 45   | 2446.80         | 2                            | -50.80  | -52.00  | 1.20     |
| 46   | 2446.75         | 2                            | -51.50  | -52.00  | 0.50     |
| 47   | 2446.70         | 2                            | -51.20  | -52.00  | 0.80     |
| 48   | 2446.65         | 2                            | -51.50  | -52.00  | 0.50     |
| 49   | 2446.60         | 2                            | -51.80  | -52.00  | 0.20     |
| 50   | 2446.55         | 2                            | -51.80  | -52.00  | 0.20     |
| 51   | 2446.50         | 2                            | -52.00  | -52.00  | 0.00     |
| 52   | 2446.45         | 2                            | -51.00  | -52.00  | 1.00     |
| 53   | 2446.40         | 2                            | -50.90  | -52.00  | 1.10     |
| 54   | 2446.35         | 2                            | -50.80  | -52.00  | 1.20     |
| 55   | 2446.30         | 2                            | -51.30  | -52.00  | 0.70     |
| 56   | 2446.25         | 2                            | -51.60  | -52.00  | 0.40     |
| 57   | 2446.20         | 2                            | -51.70  | -52.00  | 0.30     |
| 58   | 2446.15         | 2                            | -52.20  | -52.00  | -0.20    |
| 59   | 2446.10         | 2                            | -52.50  | -52.00  | -0.50    |
| 60   | 2446.05         | 2                            | -52.80  | -52.00  | -0.80    |
| 61   | 2446.00         | 2                            | -53.20  | -52.00  | -1.20    |
| 62   | 2445.95         | 2                            | -52.70  | -52.00  | -0.70    |
| 63   | 2445.90         | 2                            | -53.00  | -52.00  | -1.00    |
| 64   | 2445.85         | 2                            | -52.70  | -52.00  | -0.70    |
| 65   | 2445.80         | 2                            | -52.90  | -52.00  | -0.90    |
| 66   | 2445.75         | 2                            | -53.40  | -52.00  | -1.40    |
| 67   | 2445.70         | 2                            | -53.00  | -52.00  | -1.00    |
| 68   | 2445.65         | 2                            | -53.30  | -52.00  | -1.30    |
| 69   | 2445.60         | 2                            | -52.00  | -52.00  | 0.00     |
| 70   | 2445.55         | 2                            | -51.80  | -52.00  | 0.20     |
| 71   | 2445.50         | 2                            | -51.50  | -52.00  | 0.50     |
| 72   | 2445.45         | 2                            | -51.20  | -52.00  | 0.80     |
| 73   | 2445.40         | 2                            | -51.10  | -52.00  | 0.90     |
| 74   | 2445.35         | 2                            | -51.20  | -52.00  | 0.80     |
| 75   | 2445.30         | 2                            | -53.00  | -52.00  | -1.00    |
| 76   | 2445.25         | 2                            | -53.10  | -52.00  | -1.10    |
| 77   | 2445.20         | 2                            | -53.70  | -52.00  | -1.70    |
| 78   | 2445.15         | 2                            | -54.30  | -52.00  | -2.30    |
| 79   | 2445.10         | 2                            | -54.70  | -52.00  | -2.70    |
| 80   | 2445.05         | 2                            | -54.50  | -52.00  | -2.50    |
| 81   | 2445.00         | 2                            | -54.60  | -52.00  | -2.60    |
| 82   | 2444.95         | 2                            | -53.90  | -52.00  | -1.90    |
| 83   | 2444.90         | 2                            | -53.50  | -52.00  | -1.50    |
| 84   | 2444.85         | 2                            | -52.90  | -52.00  | -0.90    |
| 85   | 2444.80         | 2                            | -53.30  | -52.00  | -1.30    |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

| Step | Frequency (MHz) | Transmission bit-rate (Mbps) | J (dBm) | S (dBm) | J/S (dB) |
|------|-----------------|------------------------------|---------|---------|----------|
| 86   | 2444.75         | 2                            | -52.50  | -52.00  | -0.50    |
| 87   | 2444.70         | 2                            | -53.30  | -52.00  | -1.30    |
| 88   | 2444.65         | 2                            | -52.60  | -52.00  | -0.60    |
| 89   | 2444.60         | 2                            | -52.30  | -52.00  | -0.30    |
| 90   | 2444.55         | 2                            | -52.00  | -52.00  | 0.00     |
| 91   | 2444.50         | 2                            | -51.60  | -52.00  | 0.40     |
| 92   | 2444.45         | 2                            | -52.10  | -52.00  | -0.10    |
| 93   | 2444.40         | 2                            | -51.70  | -52.00  | 0.30     |
| 94   | 2444.35         | 2                            | -52.70  | -52.00  | -0.70    |
| 95   | 2444.30         | 2                            | -54.20  | -52.00  | -2.20    |
| 96   | 2444.25         | 2                            | -54.60  | -52.00  | -2.60    |
| 97   | 2444.20         | 2                            | -54.90  | -52.00  | -2.90    |
| 98   | 2444.15         | 2                            | -54.80  | -52.00  | -2.80    |
| 99   | 2444.10         | 2                            | -54.80  | -52.00  | -2.80    |
| 100  | 2444.05         | 2                            | -54.60  | -52.00  | -2.60    |
| 101  | 2444.00         | 2                            | -54.20  | -52.00  | -2.20    |
| 102  | 2443.95         | 2                            | -52.90  | -52.00  | -0.90    |
| 103  | 2443.90         | 2                            | -53.30  | -52.00  | -1.30    |
| 104  | 2443.85         | 2                            | -52.40  | -52.00  | -0.40    |
| 105  | 2443.80         | 2                            | -52.60  | -52.00  | -0.60    |
| 106  | 2443.75         | 2                            | -52.70  | -52.00  | -0.70    |
| 107  | 2443.70         | 2                            | -53.00  | -52.00  | -1.00    |
| 108  | 2443.65         | 2                            | -53.50  | -52.00  | -1.50    |
| 109  | 2443.60         | 2                            | -53.70  | -52.00  | -1.70    |
| 110  | 2443.55         | 2                            | -53.80  | -52.00  | -1.80    |
| 111  | 2443.50         | 2                            | -53.60  | -52.00  | -1.60    |
| 112  | 2443.45         | 2                            | -53.80  | -52.00  | -1.80    |
| 113  | 2443.40         | 2                            | -53.10  | -52.00  | -1.10    |
| 114  | 2443.35         | 2                            | -53.40  | -52.00  | -1.40    |
| 115  | 2443.30         | 2                            | -54.70  | -52.00  | -2.70    |
| 116  | 2443.25         | 2                            | -54.90  | -52.00  | -2.90    |
| 117  | 2443.20         | 2                            | -54.60  | -52.00  | -2.60    |
| 118  | 2443.15         | 2                            | -54.30  | -52.00  | -2.30    |
| 119  | 2443.10         | 2                            | -54.40  | -52.00  | -2.40    |
| 120  | 2443.05         | 2                            | -53.70  | -52.00  | -1.70    |
| 121  | 2443.00         | 2                            | -54.00  | -52.00  | -2.00    |
| 122  | 2442.95         | 2                            | -53.10  | -52.00  | -1.10    |
| 123  | 2442.90         | 2                            | -53.60  | -52.00  | -1.60    |
| 124  | 2442.85         | 2                            | -53.30  | -52.00  | -1.30    |
| 125  | 2442.80         | 2                            | -53.70  | -52.00  | -1.70    |
| 126  | 2442.75         | 2                            | -54.00  | -52.00  | -2.00    |
| 127  | 2442.70         | 2                            | -54.50  | -52.00  | -2.50    |
| 128  | 2442.65         | 2                            | -53.60  | -52.00  | -1.60    |
| 129  | 2442.60         | 2                            | -52.80  | -52.00  | -0.80    |
| 130  | 2442.55         | 2                            | -51.50  | -52.00  | 0.50     |
| 131  | 2442.50         | 2                            | -50.90  | -52.00  | 1.10     |
| 132  | 2442.45         | 2                            | -49.60  | -52.00  | 2.40     |
| 133  | 2442.40         | 2                            | -48.50  | -52.00  | 3.50     |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

| Step | Frequency<br>(MHz) | Transmission bit-rate<br>(Mbps) | J<br>(dBm) | S<br>(dBm) | J/S<br>(dB) |
|------|--------------------|---------------------------------|------------|------------|-------------|
| 134  | 2442.35            | 2                               | -47.10     | -52.00     | 4.90        |
| 135  | 2442.30            | 2                               | -47.40     | -52.00     | 4.60        |
| 136  | 2442.25            | 2                               | -47.70     | -52.00     | 4.30        |
| 137  | 2442.20            | 2                               | -47.60     | -52.00     | 4.40        |
| 138  | 2442.15            | 2                               | -47.60     | -52.00     | 4.40        |
| 139  | 2442.10            | 2                               | -48.30     | -52.00     | 3.70        |
| 140  | 2442.05            | 2                               | -50.20     | -52.00     | 1.80        |
| 141  | 2442.00            | 2                               | -51.90     | -52.00     | 0.10        |
| 142  | 2441.95            | 2                               | -52.30     | -52.00     | -0.30       |
| 143  | 2441.90            | 2                               | -53.10     | -52.00     | -1.10       |
| 144  | 2441.85            | 2                               | -53.90     | -52.00     | -1.90       |
| 145  | 2441.80            | 2                               | -54.20     | -52.00     | -2.20       |
| 146  | 2441.75            | 2                               | -54.40     | -52.00     | -2.40       |
| 147  | 2441.70            | 2                               | -55.50     | -52.00     | -3.50       |
| 148  | 2441.65            | 2                               | -55.50     | -52.00     | -3.50       |
| 149  | 2441.60            | 2                               | -54.50     | -52.00     | -2.50       |
| 150  | 2441.55            | 2                               | -53.90     | -52.00     | -1.90       |
| 151  | 2441.50            | 2                               | -53.30     | -52.00     | -1.30       |
| 152  | 2441.45            | 2                               | -53.10     | -52.00     | -1.10       |
| 153  | 2441.40            | 2                               | -52.60     | -52.00     | -0.60       |
| 154  | 2441.35            | 2                               | -53.20     | -52.00     | -1.20       |
| 155  | 2441.30            | 2                               | -54.80     | -52.00     | -2.80       |
| 156  | 2441.25            | 2                               | -54.90     | -52.00     | -2.90       |
| 157  | 2441.20            | 2                               | -55.10     | -52.00     | -3.10       |
| 158  | 2441.15            | 2                               | -54.70     | -52.00     | -2.70       |
| 159  | 2441.10            | 2                               | -54.30     | -52.00     | -2.30       |
| 160  | 2441.05            | 2                               | -54.40     | -52.00     | -2.40       |
| 161  | 2441.00            | 2                               | -54.60     | -52.00     | -2.60       |
| 162  | 2440.95            | 2                               | -52.80     | -52.00     | -0.80       |
| 163  | 2440.90            | 2                               | -53.30     | -52.00     | -1.30       |
| 164  | 2440.85            | 2                               | -52.90     | -52.00     | -0.90       |
| 165  | 2440.80            | 2                               | -52.80     | -52.00     | -0.80       |
| 166  | 2440.75            | 2                               | -52.90     | -52.00     | -0.90       |
| 167  | 2440.70            | 2                               | -53.70     | -52.00     | -1.70       |
| 168  | 2440.65            | 2                               | -54.60     | -52.00     | -2.60       |
| 169  | 2440.60            | 2                               | -54.40     | -52.00     | -2.40       |
| 170  | 2440.55            | 2                               | -54.40     | -52.00     | -2.40       |
| 171  | 2440.50            | 2                               | -53.80     | -52.00     | -1.80       |
| 172  | 2440.45            | 2                               | -53.90     | -52.00     | -1.90       |
| 173  | 2440.40            | 2                               | -53.80     | -52.00     | -1.80       |
| 174  | 2440.35            | 2                               | -54.30     | -52.00     | -2.30       |
| 175  | 2440.30            | 2                               | -54.90     | -52.00     | -2.90       |
| 176  | 2440.25            | 2                               | -54.70     | -52.00     | -2.70       |
| 177  | 2440.20            | 2                               | -54.30     | -52.00     | -2.30       |
| 178  | 2440.15            | 2                               | -54.00     | -52.00     | -2.00       |
| 179  | 2440.10            | 2                               | -54.00     | -52.00     | -2.00       |
| 180  | 2440.05            | 2                               | -53.50     | -52.00     | -1.50       |
| 181  | 2440.00            | 2                               | -52.70     | -52.00     | -0.70       |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

| Step | Frequency<br>(MHz) | Transmission bit-rate<br>(Mbps) | J<br>(dBm) | S<br>(dBm) | J/S<br>(dB) |
|------|--------------------|---------------------------------|------------|------------|-------------|
| 182  | 2439.95            | 2                               | -51.60     | -52.00     | 0.40        |
| 183  | 2439.90            | 2                               | -51.70     | -52.00     | 0.30        |
| 184  | 2439.85            | 2                               | -51.60     | -52.00     | 0.40        |
| 185  | 2439.80            | 2                               | -52.50     | -52.00     | -0.50       |
| 186  | 2439.75            | 2                               | -53.80     | -52.00     | -1.80       |
| 187  | 2439.70            | 2                               | -54.00     | -52.00     | -2.00       |
| 188  | 2439.65            | 2                               | -54.50     | -52.00     | -2.50       |
| 189  | 2439.60            | 2                               | -54.00     | -52.00     | -2.00       |
| 190  | 2439.55            | 2                               | -54.10     | -52.00     | -2.10       |
| 191  | 2439.50            | 2                               | -53.50     | -52.00     | -1.50       |
| 192  | 2439.45            | 2                               | -53.60     | -52.00     | -1.60       |
| 193  | 2439.40            | 2                               | -53.20     | -52.00     | -1.20       |
| 194  | 2439.35            | 2                               | -52.80     | -52.00     | -0.80       |
| 195  | 2439.30            | 2                               | -53.20     | -52.00     | -1.20       |
| 196  | 2439.25            | 2                               | -52.90     | -52.00     | -0.90       |
| 197  | 2439.20            | 2                               | -52.60     | -52.00     | -0.60       |
| 198  | 2439.15            | 2                               | -52.10     | -52.00     | -0.10       |
| 199  | 2439.10            | 2                               | -51.50     | -52.00     | 0.50        |
| 200  | 2439.05            | 2                               | -51.80     | -52.00     | 0.20        |
| 201  | 2439.00            | 2                               | -51.60     | -52.00     | 0.40        |
| 202  | 2438.95            | 2                               | -51.80     | -52.00     | 0.20        |
| 203  | 2438.90            | 2                               | -51.90     | -52.00     | 0.10        |
| 204  | 2438.85            | 2                               | -51.80     | -52.00     | 0.20        |
| 205  | 2438.80            | 2                               | -52.80     | -52.00     | -0.80       |
| 206  | 2438.75            | 2                               | -53.70     | -52.00     | -1.70       |
| 207  | 2438.70            | 2                               | -53.90     | -52.00     | -1.90       |
| 208  | 2438.65            | 2                               | -53.80     | -52.00     | -1.80       |
| 209  | 2438.60            | 2                               | -53.10     | -52.00     | -1.10       |
| 210  | 2438.55            | 2                               | -52.70     | -52.00     | -0.70       |
| 211  | 2438.50            | 2                               | -52.00     | -52.00     | 0.00        |
| 212  | 2438.45            | 2                               | -51.10     | -52.00     | 0.90        |
| 213  | 2438.40            | 2                               | -51.30     | -52.00     | 0.70        |
| 214  | 2438.35            | 2                               | -50.80     | -52.00     | 1.20        |
| 215  | 2438.30            | 2                               | -51.60     | -52.00     | 0.40        |
| 216  | 2438.25            | 2                               | -51.40     | -52.00     | 0.60        |
| 217  | 2438.20            | 2                               | -51.00     | -52.00     | 1.00        |
| 218  | 2438.15            | 2                               | -52.20     | -52.00     | -0.20       |
| 219  | 2438.10            | 2                               | -51.90     | -52.00     | 0.10        |
| 220  | 2438.05            | 2                               | -52.50     | -52.00     | -0.50       |
| 221  | 2438.00            | 2                               | -52.40     | -52.00     | -0.40       |
| 222  | 2437.95            | 2                               | -51.30     | -52.00     | 0.70        |
| 223  | 2437.90            | 2                               | -51.50     | -52.00     | 0.50        |
| 224  | 2437.85            | 2                               | -51.60     | -52.00     | 0.40        |
| 225  | 2437.80            | 2                               | -52.10     | -52.00     | -0.10       |
| 226  | 2437.75            | 2                               | -51.70     | -52.00     | 0.30        |
| 227  | 2437.70            | 2                               | -51.00     | -52.00     | 1.00        |
| 228  | 2437.65            | 2                               | -51.10     | -52.00     | 0.90        |
| 229  | 2437.60            | 2                               | -50.90     | -52.00     | 1.10        |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
 Description of EUT: 2.4 GHz low power WLAN integrated card  
 Manufacturer: Agere Systems Nederland B.V.  
 Brand mark: Agere  
 Type: PC24-11-FC/R  
 FCC ID: IMRWLPC2411R

| Step | Frequency (MHz) | Transmission bit-rate (Mbps) | J (dBm) | S (dBm) | J/S (dB) |
|------|-----------------|------------------------------|---------|---------|----------|
| 230  | 2437.55         | 2                            | -51.20  | -52.00  | 0.80     |
| 231  | 2437.50         | 2                            | -51.30  | -52.00  | 0.70     |
| 232  | 2437.45         | 2                            | -51.10  | -52.00  | 0.90     |
| 233  | 2437.40         | 2                            | -51.00  | -52.00  | 1.00     |
| 234  | 2437.35         | 2                            | -51.10  | -52.00  | 0.90     |
| 235  | 2437.30         | 2                            | -51.70  | -52.00  | 0.30     |
| 236  | 2437.25         | 2                            | -51.30  | -52.00  | 0.70     |
| 237  | 2437.20         | 2                            | -51.20  | -52.00  | 0.80     |
| 238  | 2437.15         | 2                            | -50.70  | -52.00  | 1.30     |
| 239  | 2437.10         | 2                            | -50.10  | -52.00  | 1.90     |
| 240  | 2437.05         | 2                            | -48.60  | -52.00  | 3.40     |
| 241  | 2437.00         | 2                            | -47.70  | -52.00  | 4.30     |
| 242  | 2436.95         | 2                            | -51.40  | -52.00  | 0.60     |
| 243  | 2436.90         | 2                            | -51.00  | -52.00  | 1.00     |
| 244  | 2436.85         | 2                            | -51.10  | -52.00  | 0.90     |
| 245  | 2436.80         | 2                            | -51.70  | -52.00  | 0.30     |
| 246  | 2436.75         | 2                            | -52.20  | -52.00  | -0.20    |
| 247  | 2436.70         | 2                            | -52.40  | -52.00  | -0.40    |
| 248  | 2436.65         | 2                            | -52.60  | -52.00  | -0.60    |
| 249  | 2436.60         | 2                            | -52.70  | -52.00  | -0.70    |
| 250  | 2436.55         | 2                            | -52.60  | -52.00  | -0.60    |
| 251  | 2436.50         | 2                            | -52.10  | -52.00  | -0.10    |
| 252  | 2436.45         | 2                            | -52.00  | -52.00  | 0.00     |
| 253  | 2436.40         | 2                            | -51.80  | -52.00  | 0.20     |
| 254  | 2436.35         | 2                            | -52.40  | -52.00  | -0.40    |
| 255  | 2436.30         | 2                            | -52.50  | -52.00  | -0.50    |
| 256  | 2436.25         | 2                            | -52.90  | -52.00  | -0.90    |
| 257  | 2436.20         | 2                            | -52.10  | -52.00  | -0.10    |
| 258  | 2436.15         | 2                            | -52.00  | -52.00  | 0.00     |
| 259  | 2436.10         | 2                            | -52.10  | -52.00  | -0.10    |
| 260  | 2436.05         | 2                            | -51.80  | -52.00  | 0.20     |
| 261  | 2436.00         | 2                            | -51.50  | -52.00  | 0.50     |
| 262  | 2435.95         | 2                            | -51.20  | -52.00  | 0.80     |
| 263  | 2435.90         | 2                            | -51.40  | -52.00  | 0.60     |
| 264  | 2435.85         | 2                            | -51.80  | -52.00  | 0.20     |
| 265  | 2435.80         | 2                            | -52.10  | -52.00  | -0.10    |
| 266  | 2435.75         | 2                            | -52.00  | -52.00  | 0.00     |
| 267  | 2435.70         | 2                            | -52.80  | -52.00  | -0.80    |
| 268  | 2435.65         | 2                            | -55.20  | -52.00  | -3.20    |
| 269  | 2435.60         | 2                            | -52.80  | -52.00  | -0.80    |
| 270  | 2435.55         | 2                            | -53.40  | -52.00  | -1.40    |
| 271  | 2435.50         | 2                            | -56.00  | -52.00  | -4.00    |
| 272  | 2435.45         | 2                            | -54.90  | -52.00  | -2.90    |
| 273  | 2435.40         | 2                            | -51.40  | -52.00  | 0.60     |
| 274  | 2435.35         | 2                            | -52.90  | -52.00  | -0.90    |
| 275  | 2435.30         | 2                            | -52.50  | -52.00  | -0.50    |
| 276  | 2435.25         | 2                            | -54.20  | -52.00  | -2.20    |
| 277  | 2435.20         | 2                            | -54.60  | -52.00  | -2.60    |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

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| Step | Frequency (MHz) | Transmission bit-rate (Mbps) | J (dBm) | S (dBm) | J/S (dB) |
|------|-----------------|------------------------------|---------|---------|----------|
| 278  | 2435.15         | 2                            | -52.00  | -52.00  | 0.00     |
| 279  | 2435.10         | 2                            | -51.60  | -52.00  | 0.40     |
| 280  | 2435.05         | 2                            | -51.80  | -52.00  | 0.20     |
| 281  | 2435.00         | 2                            | -51.80  | -52.00  | 0.20     |

Table 3 – Test results at a transmission bit-rate of 2 Mbps.

After 20% of the worst measurement results have been discarded, it shows that the worst remaining value of the J/S ratio is -1.8 dB (=Mj).

Measured processing gain is:  $G_p = 13.3 \text{ dB} + (-1.8 \text{ dB}) + 2.0 \text{ dB} = 13.5 \text{ dB}$  (for 2.0 Mb/s modulation)

Test engineer

Signature

: 

Name

: Onno H. Hoekstra

Date

: April 29, 2002



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
 Description of EUT: 2.4 GHz low power WLAN integrated card  
 Manufacturer: Agere Systems Nederland B.V.  
 Brand mark: Agere  
 Type: PC24-11-FC/R  
 FCC ID: IMRWLPC2411R

### 3.2 Test results at a transmission bit-rate of 11 Mbps.

The results of tests on the EUT, carried out in accordance with 47 CFR Part 15.247 (e)(2), are depicted in table 4.

Pass band :  $f_0 \pm 7$  MHz  
 Channel : 2442.0 MHz (channel 7)  
 Transmission bit-rate : 11 Mbps

| Step | Frequency (MHz) | Transmission bit-rate (Mbps) | J (dBm) | S (dBm) | J/S (dB) |
|------|-----------------|------------------------------|---------|---------|----------|
| 1    | 2449.00         | 11                           | -53.20  | -52.00  | -1.20    |
| 2    | 2448.95         | 11                           | -52.90  | -52.00  | -0.90    |
| 3    | 2448.90         | 11                           | -53.70  | -52.00  | -1.70    |
| 4    | 2448.85         | 11                           | -53.30  | -52.00  | -1.30    |
| 5    | 2448.80         | 11                           | -54.70  | -52.00  | -2.70    |
| 6    | 2448.75         | 11                           | -55.00  | -52.00  | -3.00    |
| 7    | 2448.70         | 11                           | -54.30  | -52.00  | -2.30    |
| 8    | 2448.65         | 11                           | -54.50  | -52.00  | -2.50    |
| 9    | 2448.60         | 11                           | -54.30  | -52.00  | -2.30    |
| 10   | 2448.55         | 11                           | -54.20  | -52.00  | -2.20    |
| 11   | 2448.50         | 11                           | -54.00  | -52.00  | -2.00    |
| 12   | 2448.45         | 11                           | -53.50  | -52.00  | -1.50    |
| 13   | 2448.40         | 11                           | -53.00  | -52.00  | -1.00    |
| 14   | 2448.35         | 11                           | -52.80  | -52.00  | -0.80    |
| 15   | 2448.30         | 11                           | -53.20  | -52.00  | -1.20    |
| 16   | 2448.25         | 11                           | -53.50  | -52.00  | -1.50    |
| 17   | 2448.20         | 11                           | -53.90  | -52.00  | -1.90    |
| 18   | 2448.15         | 11                           | -54.40  | -52.00  | -2.40    |
| 19   | 2448.10         | 11                           | -56.00  | -52.00  | -4.00    |
| 20   | 2448.05         | 11                           | -55.20  | -52.00  | -3.20    |
| 21   | 2448.00         | 11                           | -55.60  | -52.00  | -3.60    |
| 22   | 2447.95         | 11                           | -55.90  | -52.00  | -3.90    |
| 23   | 2447.90         | 11                           | -56.00  | -52.00  | -4.00    |
| 24   | 2447.85         | 11                           | -56.40  | -52.00  | -4.40    |
| 25   | 2447.80         | 11                           | -56.70  | -52.00  | -4.70    |
| 26   | 2447.75         | 11                           | -56.50  | -52.00  | -4.50    |
| 27   | 2447.70         | 11                           | -56.70  | -52.00  | -4.70    |
| 28   | 2447.65         | 11                           | -56.90  | -52.00  | -4.90    |
| 29   | 2447.60         | 11                           | -57.20  | -52.00  | -5.20    |
| 30   | 2447.55         | 11                           | -57.50  | -52.00  | -5.50    |
| 31   | 2447.50         | 11                           | -58.70  | -52.00  | -6.70    |
| 32   | 2447.45         | 11                           | -59.00  | -52.00  | -7.00    |
| 33   | 2447.40         | 11                           | -57.50  | -52.00  | -5.50    |
| 34   | 2447.35         | 11                           | -57.70  | -52.00  | -5.70    |
| 35   | 2447.30         | 11                           | -58.60  | -52.00  | -6.60    |
| 36   | 2447.25         | 11                           | -58.40  | -52.00  | -6.40    |
| 37   | 2447.20         | 11                           | -58.40  | -52.00  | -6.40    |
| 38   | 2447.15         | 11                           | -58.30  | -52.00  | -6.30    |
| 39   | 2447.10         | 11                           | -58.10  | -52.00  | -6.10    |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

| Step | Frequency<br>(MHz) | Transmission bit-rate<br>(Mbps) | J<br>(dBm) | S<br>(dBm) | J/S<br>(dB) |
|------|--------------------|---------------------------------|------------|------------|-------------|
| 40   | 2447.05            | 11                              | -57.80     | -52.00     | -5.80       |
| 41   | 2447.00            | 11                              | -56.00     | -52.00     | -4.00       |
| 42   | 2446.95            | 11                              | -56.70     | -52.00     | -4.70       |
| 43   | 2446.90            | 11                              | -57.00     | -52.00     | -5.00       |
| 44   | 2446.85            | 11                              | -56.60     | -52.00     | -4.60       |
| 45   | 2446.80            | 11                              | -56.70     | -52.00     | -4.70       |
| 46   | 2446.75            | 11                              | -56.50     | -52.00     | -4.50       |
| 47   | 2446.70            | 11                              | -57.80     | -52.00     | -5.80       |
| 48   | 2446.65            | 11                              | -57.90     | -52.00     | -5.90       |
| 49   | 2446.60            | 11                              | -57.90     | -52.00     | -5.90       |
| 50   | 2446.55            | 11                              | -57.10     | -52.00     | -5.10       |
| 51   | 2446.50            | 11                              | -57.20     | -52.00     | -5.20       |
| 52   | 2446.45            | 11                              | -56.70     | -52.00     | -4.70       |
| 53   | 2446.40            | 11                              | -58.70     | -52.00     | -6.70       |
| 54   | 2446.35            | 11                              | -56.90     | -52.00     | -4.90       |
| 55   | 2446.30            | 11                              | -56.10     | -52.00     | -4.10       |
| 56   | 2446.25            | 11                              | -56.30     | -52.00     | -4.30       |
| 57   | 2446.20            | 11                              | -56.40     | -52.00     | -4.40       |
| 58   | 2446.15            | 11                              | -56.10     | -52.00     | -4.10       |
| 59   | 2446.10            | 11                              | -56.80     | -52.00     | -4.80       |
| 60   | 2446.05            | 11                              | -57.20     | -52.00     | -5.20       |
| 61   | 2446.00            | 11                              | -58.00     | -52.00     | -6.00       |
| 62   | 2445.95            | 11                              | -59.70     | -52.00     | -7.70       |
| 63   | 2445.90            | 11                              | -60.20     | -52.00     | -8.20       |
| 64   | 2445.85            | 11                              | -60.80     | -52.00     | -8.80       |
| 65   | 2445.80            | 11                              | -61.30     | -52.00     | -9.30       |
| 66   | 2445.75            | 11                              | -60.80     | -52.00     | -8.80       |
| 67   | 2445.70            | 11                              | -62.00     | -52.00     | -10.00      |
| 68   | 2445.65            | 11                              | -61.70     | -52.00     | -9.70       |
| 69   | 2445.60            | 11                              | -60.80     | -52.00     | -8.80       |
| 70   | 2445.55            | 11                              | -59.60     | -52.00     | -7.60       |
| 71   | 2445.50            | 11                              | -59.40     | -52.00     | -7.40       |
| 72   | 2445.45            | 11                              | -58.90     | -52.00     | -6.90       |
| 73   | 2445.40            | 11                              | -59.10     | -52.00     | -7.10       |
| 74   | 2445.35            | 11                              | -58.70     | -52.00     | -6.70       |
| 75   | 2445.30            | 11                              | -59.00     | -52.00     | -7.00       |
| 76   | 2445.25            | 11                              | -59.20     | -52.00     | -7.20       |
| 77   | 2445.20            | 11                              | -59.40     | -52.00     | -7.40       |
| 78   | 2445.15            | 11                              | -59.90     | -52.00     | -7.90       |
| 79   | 2445.10            | 11                              | -60.10     | -52.00     | -8.10       |
| 80   | 2445.05            | 11                              | -59.90     | -52.00     | -7.90       |
| 81   | 2445.00            | 11                              | -60.70     | -52.00     | -8.70       |
| 82   | 2444.95            | 11                              | -60.60     | -52.00     | -8.60       |
| 83   | 2444.90            | 11                              | -60.30     | -52.00     | -8.30       |
| 84   | 2444.85            | 11                              | -59.90     | -52.00     | -7.90       |
| 85   | 2444.80            | 11                              | -58.90     | -52.00     | -6.90       |
| 86   | 2444.75            | 11                              | -58.80     | -52.00     | -6.80       |
| 87   | 2444.70            | 11                              | -58.60     | -52.00     | -6.60       |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

| Step | Frequency<br>(MHz) | Transmission bit-rate<br>(Mbps) | J<br>(dBm) | S<br>(dBm) | J/S<br>(dB) |
|------|--------------------|---------------------------------|------------|------------|-------------|
| 88   | 2444.65            | 11                              | -57.70     | -52.00     | -5.70       |
| 89   | 2444.60            | 11                              | -58.00     | -52.00     | -6.00       |
| 90   | 2444.55            | 11                              | -57.70     | -52.00     | -5.70       |
| 91   | 2444.50            | 11                              | -58.80     | -52.00     | -6.80       |
| 92   | 2444.45            | 11                              | -59.60     | -52.00     | -7.60       |
| 93   | 2444.40            | 11                              | -60.40     | -52.00     | -8.40       |
| 94   | 2444.35            | 11                              | -60.30     | -52.00     | -8.30       |
| 95   | 2444.30            | 11                              | -60.50     | -52.00     | -8.50       |
| 96   | 2444.25            | 11                              | -61.90     | -52.00     | -9.90       |
| 97   | 2444.20            | 11                              | -61.20     | -52.00     | -9.20       |
| 98   | 2444.15            | 11                              | -61.00     | -52.00     | -9.00       |
| 99   | 2444.10            | 11                              | -61.20     | -52.00     | -9.20       |
| 100  | 2444.05            | 11                              | -60.90     | -52.00     | -8.90       |
| 101  | 2444.00            | 11                              | -60.80     | -52.00     | -8.80       |
| 102  | 2443.95            | 11                              | -60.70     | -52.00     | -8.70       |
| 103  | 2443.90            | 11                              | -60.70     | -52.00     | -8.70       |
| 104  | 2443.85            | 11                              | -60.50     | -52.00     | -8.50       |
| 105  | 2443.80            | 11                              | -60.50     | -52.00     | -8.50       |
| 106  | 2443.75            | 11                              | -59.90     | -52.00     | -7.90       |
| 107  | 2443.70            | 11                              | -59.80     | -52.00     | -7.80       |
| 108  | 2443.65            | 11                              | -60.00     | -52.00     | -8.00       |
| 109  | 2443.60            | 11                              | -59.90     | -52.00     | -7.90       |
| 110  | 2443.55            | 11                              | -60.10     | -52.00     | -8.10       |
| 111  | 2443.50            | 11                              | -60.30     | -52.00     | -8.30       |
| 112  | 2443.45            | 11                              | -60.70     | -52.00     | -8.70       |
| 113  | 2443.40            | 11                              | -60.30     | -52.00     | -8.30       |
| 114  | 2443.35            | 11                              | -60.20     | -52.00     | -8.20       |
| 115  | 2443.30            | 11                              | -60.10     | -52.00     | -8.10       |
| 116  | 2443.25            | 11                              | -60.60     | -52.00     | -8.60       |
| 117  | 2443.20            | 11                              | -60.50     | -52.00     | -8.50       |
| 118  | 2443.15            | 11                              | -60.70     | -52.00     | -8.70       |
| 119  | 2443.10            | 11                              | -60.30     | -52.00     | -8.30       |
| 120  | 2443.05            | 11                              | -60.80     | -52.00     | -8.80       |
| 121  | 2443.00            | 11                              | -60.40     | -52.00     | -8.40       |
| 122  | 2442.95            | 11                              | -60.60     | -52.00     | -8.60       |
| 123  | 2442.90            | 11                              | -61.10     | -52.00     | -9.10       |
| 124  | 2442.85            | 11                              | -60.80     | -52.00     | -8.80       |
| 125  | 2442.80            | 11                              | -61.00     | -52.00     | -9.00       |
| 126  | 2442.75            | 11                              | -60.60     | -52.00     | -8.60       |
| 127  | 2442.70            | 11                              | -60.80     | -52.00     | -8.80       |
| 128  | 2442.65            | 11                              | -61.00     | -52.00     | -9.00       |
| 129  | 2442.60            | 11                              | -60.90     | -52.00     | -8.90       |
| 130  | 2442.55            | 11                              | -61.70     | -52.00     | -9.70       |
| 131  | 2442.50            | 11                              | -61.10     | -52.00     | -9.10       |
| 132  | 2442.45            | 11                              | -62.00     | -52.00     | -10.00      |
| 133  | 2442.40            | 11                              | -62.20     | -52.00     | -10.20      |
| 134  | 2442.35            | 11                              | -62.10     | -52.00     | -10.10      |
| 135  | 2442.30            | 11                              | -63.00     | -52.00     | -11.00      |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

| Step | Frequency (MHz) | Transmission bit-rate (Mbps) | J (dBm) | S (dBm) | J/S (dB) |
|------|-----------------|------------------------------|---------|---------|----------|
| 136  | 2442.25         | 11                           | -63.80  | -52.00  | -11.80   |
| 137  | 2442.20         | 11                           | -62.50  | -52.00  | -10.50   |
| 138  | 2442.15         | 11                           | -62.10  | -52.00  | -10.10   |
| 139  | 2442.10         | 11                           | -61.40  | -52.00  | -9.40    |
| 140  | 2442.05         | 11                           | -61.30  | -52.00  | -9.30    |
| 141  | 2442.00         | 11                           | -61.20  | -52.00  | -9.20    |
| 142  | 2441.95         | 11                           | -60.80  | -52.00  | -8.80    |
| 143  | 2441.90         | 11                           | -61.00  | -52.00  | -9.00    |
| 144  | 2441.85         | 11                           | -60.80  | -52.00  | -8.80    |
| 145  | 2441.80         | 11                           | -60.70  | -52.00  | -8.70    |
| 146  | 2441.75         | 11                           | -60.90  | -52.00  | -8.90    |
| 147  | 2441.70         | 11                           | -61.20  | -52.00  | -9.20    |
| 148  | 2441.65         | 11                           | -60.10  | -52.00  | -8.10    |
| 149  | 2441.60         | 11                           | -59.40  | -52.00  | -7.40    |
| 150  | 2441.55         | 11                           | -61.20  | -52.00  | -9.20    |
| 151  | 2441.50         | 11                           | -61.30  | -52.00  | -9.30    |
| 152  | 2441.45         | 11                           | -60.80  | -52.00  | -8.80    |
| 153  | 2441.40         | 11                           | -60.30  | -52.00  | -8.30    |
| 154  | 2441.35         | 11                           | -60.10  | -52.00  | -8.10    |
| 155  | 2441.30         | 11                           | -59.60  | -52.00  | -7.60    |
| 156  | 2441.25         | 11                           | -58.80  | -52.00  | -6.80    |
| 157  | 2441.20         | 11                           | -59.50  | -52.00  | -7.50    |
| 158  | 2441.15         | 11                           | -59.50  | -52.00  | -7.50    |
| 159  | 2441.10         | 11                           | -59.80  | -52.00  | -7.80    |
| 160  | 2441.05         | 11                           | -60.20  | -52.00  | -8.20    |
| 161  | 2441.00         | 11                           | -61.80  | -52.00  | -9.80    |
| 162  | 2440.95         | 11                           | -61.80  | -52.00  | -9.80    |
| 163  | 2440.90         | 11                           | -60.50  | -52.00  | -8.50    |
| 164  | 2440.85         | 11                           | -60.60  | -52.00  | -8.60    |
| 165  | 2440.80         | 11                           | -60.60  | -52.00  | -8.60    |
| 166  | 2440.75         | 11                           | -60.40  | -52.00  | -8.40    |
| 167  | 2440.70         | 11                           | -60.50  | -52.00  | -8.50    |
| 168  | 2440.65         | 11                           | -60.90  | -52.00  | -8.90    |
| 169  | 2440.60         | 11                           | -60.70  | -52.00  | -8.70    |
| 170  | 2440.55         | 11                           | -60.50  | -52.00  | -8.50    |
| 171  | 2440.50         | 11                           | -60.60  | -52.00  | -8.60    |
| 172  | 2440.45         | 11                           | -60.70  | -52.00  | -8.70    |
| 173  | 2440.40         | 11                           | -60.60  | -52.00  | -8.60    |
| 174  | 2440.35         | 11                           | -60.70  | -52.00  | -8.70    |
| 175  | 2440.30         | 11                           | -61.40  | -52.00  | -9.40    |
| 176  | 2440.25         | 11                           | -60.60  | -52.00  | -8.60    |
| 177  | 2440.20         | 11                           | -60.10  | -52.00  | -8.10    |
| 178  | 2440.15         | 11                           | -59.30  | -52.00  | -7.30    |
| 179  | 2440.10         | 11                           | -59.10  | -52.00  | -7.10    |
| 180  | 2440.05         | 11                           | -59.20  | -52.00  | -7.20    |
| 181  | 2440.00         | 11                           | -57.50  | -52.00  | -5.50    |
| 182  | 2439.95         | 11                           | -57.00  | -52.00  | -5.00    |
| 183  | 2439.90         | 11                           | -56.80  | -52.00  | -4.80    |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

| Step | Frequency<br>(MHz) | Transmission bit-rate<br>(Mbps) | J<br>(dBm) | S<br>(dBm) | J/S<br>(dB) |
|------|--------------------|---------------------------------|------------|------------|-------------|
| 184  | 2439.85            | 11                              | -57.20     | -52.00     | -5.20       |
| 185  | 2439.80            | 11                              | -58.90     | -52.00     | -6.90       |
| 186  | 2439.75            | 11                              | -58.80     | -52.00     | -6.80       |
| 187  | 2439.70            | 11                              | -59.20     | -52.00     | -7.20       |
| 188  | 2439.65            | 11                              | -59.00     | -52.00     | -7.00       |
| 189  | 2439.60            | 11                              | -60.70     | -52.00     | -8.70       |
| 190  | 2439.55            | 11                              | -60.50     | -52.00     | -8.50       |
| 191  | 2439.50            | 11                              | -59.10     | -52.00     | -7.10       |
| 192  | 2439.45            | 11                              | -60.30     | -52.00     | -8.30       |
| 193  | 2439.40            | 11                              | -59.20     | -52.00     | -7.20       |
| 194  | 2439.35            | 11                              | -59.30     | -52.00     | -7.30       |
| 195  | 2439.30            | 11                              | -59.40     | -52.00     | -7.40       |
| 196  | 2439.25            | 11                              | -59.10     | -52.00     | -7.10       |
| 197  | 2439.20            | 11                              | -58.50     | -52.00     | -6.50       |
| 198  | 2439.15            | 11                              | -58.80     | -52.00     | -6.80       |
| 199  | 2439.10            | 11                              | -59.00     | -52.00     | -7.00       |
| 200  | 2439.05            | 11                              | -59.70     | -52.00     | -7.70       |
| 201  | 2439.00            | 11                              | -59.70     | -52.00     | -7.70       |
| 202  | 2438.95            | 11                              | -60.40     | -52.00     | -8.40       |
| 203  | 2438.90            | 11                              | -59.20     | -52.00     | -7.20       |
| 204  | 2438.85            | 11                              | -58.90     | -52.00     | -6.90       |
| 205  | 2438.80            | 11                              | -60.80     | -52.00     | -8.80       |
| 206  | 2438.75            | 11                              | -62.80     | -52.00     | -10.80      |
| 207  | 2438.70            | 11                              | -61.40     | -52.00     | -9.40       |
| 208  | 2438.65            | 11                              | -60.20     | -52.00     | -8.20       |
| 209  | 2438.60            | 11                              | -59.40     | -52.00     | -7.40       |
| 210  | 2438.55            | 11                              | -58.60     | -52.00     | -6.60       |
| 211  | 2438.50            | 11                              | -56.20     | -52.00     | -4.20       |
| 212  | 2438.45            | 11                              | -56.00     | -52.00     | -4.00       |
| 213  | 2438.40            | 11                              | -55.80     | -52.00     | -3.80       |
| 214  | 2438.35            | 11                              | -55.60     | -52.00     | -3.60       |
| 215  | 2438.30            | 11                              | -56.20     | -52.00     | -4.20       |
| 216  | 2438.25            | 11                              | -57.30     | -52.00     | -5.30       |
| 217  | 2438.20            | 11                              | -57.70     | -52.00     | -5.70       |
| 218  | 2438.15            | 11                              | -57.30     | -52.00     | -5.30       |
| 219  | 2438.10            | 11                              | -57.10     | -52.00     | -5.10       |
| 220  | 2438.05            | 11                              | -57.80     | -52.00     | -5.80       |
| 221  | 2438.00            | 11                              | -58.20     | -52.00     | -6.20       |
| 222  | 2437.95            | 11                              | -57.80     | -52.00     | -5.80       |
| 223  | 2437.90            | 11                              | -59.00     | -52.00     | -7.00       |
| 224  | 2437.85            | 11                              | -58.80     | -52.00     | -6.80       |
| 225  | 2437.80            | 11                              | -58.70     | -52.00     | -6.70       |
| 226  | 2437.75            | 11                              | -58.20     | -52.00     | -6.20       |
| 227  | 2437.70            | 11                              | -57.70     | -52.00     | -5.70       |
| 228  | 2437.65            | 11                              | -56.30     | -52.00     | -4.30       |
| 229  | 2437.60            | 11                              | -56.40     | -52.00     | -4.40       |
| 230  | 2437.55            | 11                              | -56.20     | -52.00     | -4.20       |
| 231  | 2437.50            | 11                              | -56.00     | -52.00     | -4.00       |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

| Step | Frequency<br>(MHz) | Transmission bit-rate<br>(Mbps) | J<br>(dBm) | S<br>(dBm) | J/S<br>(dB) |
|------|--------------------|---------------------------------|------------|------------|-------------|
| 232  | 2437.45            | 11                              | -55.80     | -52.00     | -3.80       |
| 233  | 2437.40            | 11                              | -55.70     | -52.00     | -3.70       |
| 234  | 2437.35            | 11                              | -55.50     | -52.00     | -3.50       |
| 235  | 2437.30            | 11                              | -55.60     | -52.00     | -3.60       |
| 236  | 2437.25            | 11                              | -55.00     | -52.00     | -3.00       |
| 237  | 2437.20            | 11                              | -54.80     | -52.00     | -2.80       |
| 238  | 2437.15            | 11                              | -54.90     | -52.00     | -2.90       |
| 239  | 2437.10            | 11                              | -54.70     | -52.00     | -2.70       |
| 240  | 2437.05            | 11                              | -54.70     | -52.00     | -2.70       |
| 241  | 2437.00            | 11                              | -55.20     | -52.00     | -3.20       |
| 242  | 2436.95            | 11                              | -57.80     | -52.00     | -5.80       |
| 243  | 2436.90            | 11                              | -58.20     | -52.00     | -6.20       |
| 244  | 2436.85            | 11                              | -58.50     | -52.00     | -6.50       |
| 245  | 2436.80            | 11                              | -59.20     | -52.00     | -7.20       |
| 246  | 2436.75            | 11                              | -59.90     | -52.00     | -7.90       |
| 247  | 2436.70            | 11                              | -59.60     | -52.00     | -7.60       |
| 248  | 2436.65            | 11                              | -59.70     | -52.00     | -7.70       |
| 249  | 2436.60            | 11                              | -60.20     | -52.00     | -8.20       |
| 250  | 2436.55            | 11                              | -58.90     | -52.00     | -6.90       |
| 251  | 2436.50            | 11                              | -60.50     | -52.00     | -8.50       |
| 252  | 2436.45            | 11                              | -60.50     | -52.00     | -8.50       |
| 253  | 2436.40            | 11                              | -58.80     | -52.00     | -6.80       |
| 254  | 2436.35            | 11                              | -58.30     | -52.00     | -6.30       |
| 255  | 2436.30            | 11                              | -56.70     | -52.00     | -4.70       |
| 256  | 2436.25            | 11                              | -56.80     | -52.00     | -4.80       |
| 257  | 2436.20            | 11                              | -55.80     | -52.00     | -3.80       |
| 258  | 2436.15            | 11                              | -56.70     | -52.00     | -4.70       |
| 259  | 2436.10            | 11                              | -57.20     | -52.00     | -5.20       |
| 260  | 2436.05            | 11                              | -57.20     | -52.00     | -5.20       |
| 261  | 2436.00            | 11                              | -57.20     | -52.00     | -5.20       |
| 262  | 2435.95            | 11                              | -57.80     | -52.00     | -5.80       |
| 263  | 2435.90            | 11                              | -57.60     | -52.00     | -5.60       |
| 264  | 2435.85            | 11                              | -57.30     | -52.00     | -5.30       |
| 265  | 2435.80            | 11                              | -57.00     | -52.00     | -5.00       |
| 266  | 2435.75            | 11                              | -56.40     | -52.00     | -4.40       |
| 267  | 2435.70            | 11                              | -56.60     | -52.00     | -4.60       |
| 268  | 2435.65            | 11                              | -56.20     | -52.00     | -4.20       |
| 269  | 2435.60            | 11                              | -56.10     | -52.00     | -4.10       |
| 270  | 2435.55            | 11                              | -55.80     | -52.00     | -3.80       |
| 271  | 2435.50            | 11                              | -55.60     | -52.00     | -3.60       |
| 272  | 2435.45            | 11                              | -56.50     | -52.00     | -4.50       |
| 273  | 2435.40            | 11                              | -55.70     | -52.00     | -3.70       |
| 274  | 2435.35            | 11                              | -56.00     | -52.00     | -4.00       |
| 275  | 2435.30            | 11                              | -55.40     | -52.00     | -3.40       |
| 276  | 2435.25            | 11                              | -55.40     | -52.00     | -3.40       |
| 277  | 2435.20            | 11                              | -55.80     | -52.00     | -3.80       |
| 278  | 2435.15            | 11                              | -56.60     | -52.00     | -4.60       |
| 279  | 2435.10            | 11                              | -55.20     | -52.00     | -3.20       |



Test specification(s): 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
Description of EUT: 2.4 GHz low power WLAN integrated card  
Manufacturer: Agere Systems Nederland B.V.  
Brand mark: Agere  
Type: PC24-11-FC/R  
FCC ID: IMRWLPC2411R

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| Step | Frequency (MHz) | Transmission bit-rate (Mbps) | J (dBm) | S (dBm) | J/S (dB) |
|------|-----------------|------------------------------|---------|---------|----------|
| 280  | 2435.05         | 11                           | -55.10  | -52.00  | -3.10    |
| 281  | 2435.00         | 11                           | -54.40  | -52.00  | -2.40    |

Table 4 – Test results at a transmission bit-rate of 11 Mbps.

After 20% of the worst measurement results have been discarded, it shows that the worst remaining value of the J/S ratio is -8.6 dB (=Mj).

Measured processing gain is:  $G_p = 17.0 \text{ dB} + (-8.6 \text{ dB}) + 2.0 \text{ dB} = 10.4 \text{ dB}$  (for 11.0 Mb/s modulation).

Test engineer

Signature

: 

Name

: Onno H. Hoekstra

Date

: April 29, 2002



**Test specification(s):** 47 CFR Part 15 (2001-12-18), sect. 15.247 (e)(2)  
**Description of EUT:** 2.4 GHz low power WLAN integrated card  
**Manufacturer:** Agere Systems Nederland B.V.  
**Brand mark:** Agere  
**Type:** PC24-11-FC/R  
**FCC ID:** IMRWLPC2411R

## 4 List of utilized test equipment.

| Inventory number | Description                    | Brand             | Type                 |
|------------------|--------------------------------|-------------------|----------------------|
| 12471            | Biconical antenna 20MHz-200MHz | EATON             | 94455-1              |
| 12473            | Log-per antenna 200-1000MHz    | EATON             | 96005                |
| 12476            | Antenna mast                   | EMCO              | TR3                  |
| 12477            | Antenna mast 1-4 mtr           | Poelstra          | --                   |
| 12482            | Loop antenna                   | EMCO              | 6507                 |
| 12483            | Guidehorn                      | EMCO              | 3115                 |
| 12484            | Guidehorn                      | EMCO              | 3115                 |
| 12488            | Guidehorn 18 - 26.5 GHz        | EMCO              | RA42-K-F-4B-C        |
| 12533            | Signalgenerator                | MARCONI           | 2032                 |
| 12559            | Digital storage oscilloscope   | Le Croy           | 9310M                |
| 12561            | DC Power Supply 20A/70V        | DELTA             | SM7020D              |
| 12567            | Plotter                        | HP                | 7440A                |
| 12605            | calibrated dipole 28MHz-1GHz   | Emco              | 3121c                |
| 12608            | HF milliwattmeter              | Hewlett Packard   | HP435a               |
| 12609            | Power sensor 10MHz-18GHz       | Hewlett Packard   | HP8481A              |
| 12636            | Polyester chamber              | Polyforce         | --                   |
| 12640            | Temperature chamber            | Heraeus           | VEM03/500            |
| 13664            | Spectrum analyzer              | HP                | HP8593E              |
| 13078            | Preamplifier 0.1 GHz - 12 GHz  | Miteq             | AMF-3D-001120-35-14p |
| 13452            | Digital multi meter            | HP                | 34401A               |
| 13526            | Signalgenerator 20 GHz         | Hewlett & Packard | 83620A               |
| 13594            | Preamplifier 10 GHz - 25 GHz   | Miteq             | AMF-6D-100250-10p    |
| 13886            | Open Area testsite             | Comtest           | --                   |
| 14051            | Anechoic room                  | Comtest           | --                   |
| 14450            | 2.4 GHz bandrejectfilter       | BSC               | XN-1783              |
| 15633            | Biconilog Testantenna          | Chase             | CBL 6111B            |
| 15667            | Measuring receiver             | R&S               | ESCS 30              |
| 99045            | DC Power Supply 3A/30V         | DELTA             | E030/3               |
| 99055            | Non-conducting support         | NMi               | --                   |
| 99061            | Non-conducting support 150cm   | NMi               | --                   |
| 99068            | Detector N-F/BNC-F             | Radiall           | R451576000           |
| 99069            | Cable 5m RG214                 | NMi               | --                   |
| 99071            | Cable 10m RG214                | NMi               | --                   |
| 99076            | Bandpassfilter 4 - 10 GHz      | Reactel           | 7AS-7G-6G-511        |
| 99077            | Regulating trafo               | RFT               | LTS006               |
| 99112            | Tripod                         | Chase             | --                   |
| 99136            | Bandpassfilter 10 - 26.5 GHz   | Reactel           | 9HS-10G/26.5G-S11    |