EXHIBITS

EXHIBIT 1: Letter Requesting Confidentiality under Sec. 0.457(d)

EXHIBIT 2: Information for which Confidentiality is Requested

Schematics
Block Diagrams
System Functional Description

EXHIBIT 3: Product Photographs

EXHIBIT 4: Parts List of Active Devices

EXHIBIT 5: User Manual and FCC ID Label

EXHIBIT 6: Report of Measurements

EXHIBIT 7: Data Graphs - Occupied Bandwidth

EXHIBIT 8: Data Graphs - Out of Band Emissions

EXHIBIT 9: Data Graphs - Temperature Stability Data

EXHIBIT 1: Letter Requesting Confidentiality under Sec. 0.457(d)

- See file named "fccath.jpg" submitted separately-

EXHIBIT 2: Information for which Confidentiality is Requested

Schematics

Block Diagrams

Theory of Operation

refer to request for confidentiality "SWIconf.doc" submitted separately

Schematics

-refer to jpg files submitted separately

Block Diagrams

- refer to jpg files submitted separately

Theory of Operation

- refer to jpg files submitted separately

EXHIBIT 3: Product Photographs

- refer to jpg files submitted separately

EXHIBIT 4: Parts List of Active Devices

- imbedded in overall Bill of Materials (BOM) for SWI's product. New programming would be required to create a separate active device list. Please refer to schematics

EXHIBIT 5: User Manual and FCC ID Label

- submitted as separate files:

newmanual.pdf

SWIlab1.jpg

SWIlab2.jpg

EXHIBIT 6: Report of Measurements

FCC TYPE ACCEPTANCE INFORMATION

The following information is in accordance with FCC Rules, 47CFR Part 2, Subpart J, sections 2.983 - 2.999.

2.983(a) Applicant:

Silicon Wireless Inc..
2025 Garcia Ave
Mountain View, CA 94043

2.983(b) FCC ID: MY3XTS1900-100

2.983(c) Quantity production is planned.

2.983(d) Technical Description

The XTS1900-100 is a 100 watt broadband PCS base station. Modulation used is GSM. The base station is available in two types of enclosures, one for indoor or protected environment use, the other for outdoor installation.

Subsections

(1) Types of Emissions

GSM

(2) Frequency Range

Blocks A-F

Forward RF: 1930-1990 MHz
Reverse RF: 1850-1910 MHz

(3) Range of Operating Power

GSM standard

(4) Maximum Power Rating

100 watt

(5) Complete Circuit Diagrams and Functional Block Diagram

Refer to Exhibit 2.

(6) Instructions/Installation Manual

Refer to Exhibit 5.

(7) Tune-up/Optimization Procedure

as per product Maintenance Manual (not provided)

(8) Means for Frequency Stabilization

The master clock oscillator for transmitter PLL and digital electronics is 13 Mhz from a GPS receiver (Odetics Model 714-780-7684).

(9) Means for Limiting Modulation

Modulating signal is a digital input from T1 lines and is at fixed logic levels. Integrated circuits U27, U13, and U1 of Side A Modulator, Dual Upconverter maintain I and Q signal and reference levels within tolerances required.

(10) Means for Limiting Power

Refer to MPD schematic DA500710, “Control/Regulator Schematic Diagram”

(11) Means for Attenuating Higher Audio Frequencies

Not applicable - intelligence to EUT is digital input via T1

(12) Description of Digital Modulation Techniques

GSM -K

2.983(e) Standard Test Conditions

The transmitter was tested under the following conditions:

Room Temperature: 20 - 23 °C

Relative Humidity: 35 - 50%

The transmitter was aligned and tuned up according to manufacturer's alignment procedure, prior to testing. All data presented represents the worst case parameter being measured.

Section 2.983(f) Equipment Identification

A drawing of the equipment identification nameplate appears in Exhibit 5.

Section 2.983(g) Photographs

Photographs of the equipment, internal and external views, are found in Exhibit 3.

Section 2.983 Description of Various Base Station Configurations

The XTS is available in an outdoor enclosure and an indoor enclosure.

Section 2.983 Use of Various Power Supplies

The XTS is powered from a 75 ampere 220-240 volt AC power input provided by the customer. An internal breaker panel distributes power via 20 ampere breakers to AC circuits and to AC/DC power supplies with 24 volt DC outputs.

Emergency backup power for the XTS is provided by 12 volt DC lead-acid batteries, supplying the unit with 24 volts DC emergency backup power to provide a minimum of 15 minutes operation (airconditioning will be OFF).

Section 2.987 Measurement Required: Modulation Characteristics

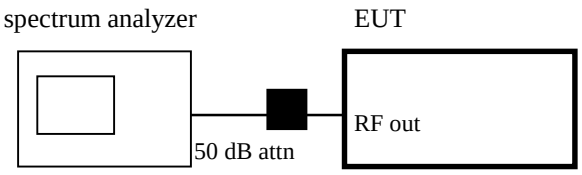
Standard GSM modulation is used.

Section 2.989 Measurement Required: Occupied Bandwidth
Limits: 24.238

Measurement Equipment Used:

HP 8563E Spectrum Analyzer
QIM "The Workhorse" low loss cable, 9 ft (loss: 0.85 dB/ft@ 26 GHz)

Test Set-up



Data on the bandwidth occupied by this transmitter is presented in graphical form using spectrum analyzer plots. Emission bandwidth (per 24.238b, the 26 dB BW) was measured two ways: first using display line and cursors, and next using the occupied bandwidth function of the HP spectrum analyzer's digital personality card.

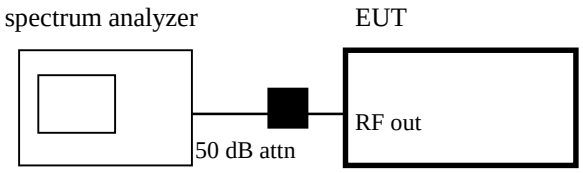
Occupied bandwidth: 246 kHz. Refer to spectrum analzyer graph for test results.

Section 2.991 Measurements Required: Spurious and Harmonic Emissions at Antenna Terminals
Section 24.238: Limits

Measurement Equipment Used:

HP 8563E Spectrum Analyzer
QIM "The Workhorse" low loss cable, 9 ft (loss: 0.85 dB/ft@ 26 GHz)

Test Set-up



Minimum standard: The magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under conditions specified in the instruction manual and/or alignment procedure, shall not be less than 43+10 log(mean output power in watts) dBc below the mean power output outside a licensee's frequency block.

24.238(b)&(c) Compliance with out of band emissions requirement is based on test being performed with 1 MHz analyzer RES BW. At block edges, RES BW may be adjusted to a level at least as large as 1% of emission bandwidth. For the EUT this is at least

.01 * 246 kHz = 2.46 kHz. A RES BW of 3 kHz was used for measurement.

Test Results

Spectrum analyzer charts labeled "BAND EDGE 737" and 'BAND EDGE 736" show the emissions bandwidth and transmitter emissions at frequency block edges.

Power output at these bandedge channels is limited to 27 dBm in order for emissions outside the allowed channel passband to remain within specification.

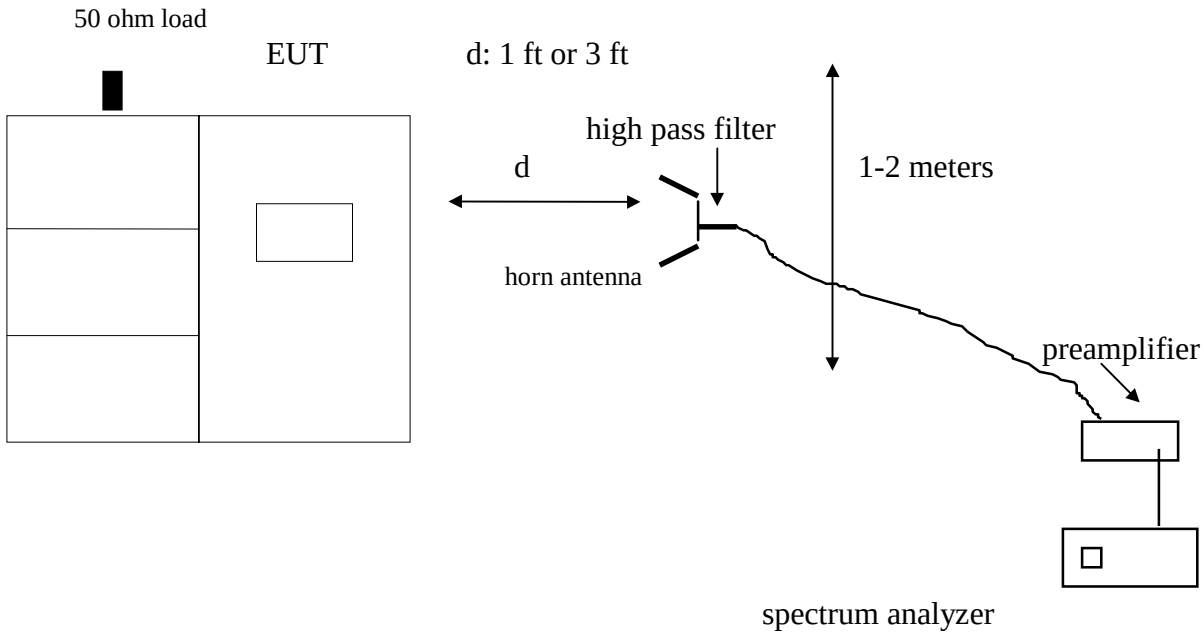
Data shows the EUT complies with all out of band emissions requirements.

Section 2.993 Measurement Required: Field Strength of Spurious and Harmonic Radiation

Measurement Equipment Used:

HP 8563E Spectrum Analyzer
EMCO 3115 Horn Antenna, 1 - 18 Ghz
EMCO 3116 Horn Antenna, 18 - 40 GHz
QIM "The Workhorse" low loss cable, 9 ft (loss: 0.85 dB/ft@ 26 GHz)

Test Set-Up



Minimum Requirement

The magnitude of each spurious and harmonic emission detected as being radiated from the EUT must be at a level more than 43 + 10 log(mean output power, watts) dB below the mean power output (= -13 dBm).

Resultant radiated field at 3 m from -13 dBm source feeding isotropic antenna: 82.4 dBuV/m

Test Method

The antenna output port of the EUT was terminated with a 50 ohm shielded termination. With the transmitter operating at full power, the search antenna was raised and lowered in both polarities, at every 22.5° around the EUT, all in an attempt to maximize the levels of the received emission for each harmonic and spurious emission up to 10 fo.

Test Results

Corrected field strength readings extrapolated to 3m: more than 25 dB below limit.

Section 9.295 Measurement Required: Frequency Stability
Section 24.235 Limits

The frequency stability is determined by an Odetic GPS receiver. Temperature stability data taken by the manufacturer indicates temperature stability better than 0.1 ppm. Data is presented as an attachment to this report.

Section 24.232: RF Power Output

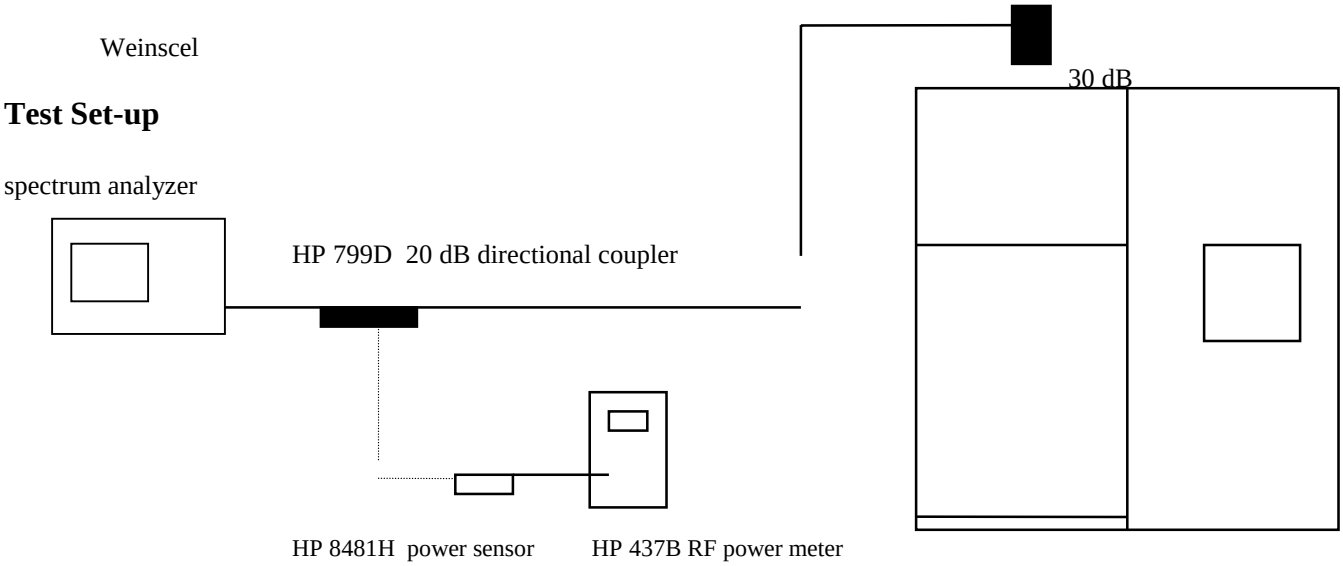
Measurement Equipment Used:

HP 8563E Spectrum Analyzer

Weinscel

30 dB

Test Set-up



Test Method

RF output power was measured with both a spectrum analyzer (set to 3 MHz RES BW) and an RF power meter.

Measured Power Output:

Analyzer Reading: 48.4 dBm + 1.2 dB (cable loss) = 49.6 dBm
Power Meter: 50.4 dBm

Power Output Setting: 100 watts (50 dBm)

Section 1.1307 Routine Environmental Evaluation

The Silicon Wireless model XTS 1900 total power output is less than 1640 watts EIRP and therefore routine evaluation for RF exposure to personnel is not considered to be a requirement.

EXHIBIT 7: Data Graphs - Occupied Bandwidth

Refer to attachment: BWocc.jpg

EXHIBIT 8: Data Graphs: Out of Band Emissions

EXHIBIT 9: Data Graphs: Temperature Stability Data