

**RADIATED EMISSIONS**

**DATA**

**FOR**

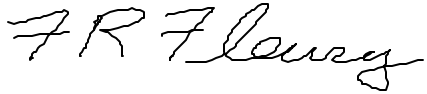
**QUALCOMM, INC.  
10300 Campus Point Drive  
San Diego, CA 92121**

**Prepared by**

**TÜV PRODUCT SERVICE  
10040 Mesa Rim Road  
San Diego, CA 92121-2912**

Measurement Requirements (CFR 47 Part 25, Paragraph 25.202)

The measurements which follow were performed by TÜV Product Service. To the best of my knowledge these tests were conducted in accordance with the procedures outlined in Part 2 of the Commission's Rules and Regulations. The data presented below demonstrates compliance with the appropriate technical standards.



---

Floyd R. Fleury  
EMC Manager

**Emissions Test Conditions: SPURIOUS RADIATED EMISSIONS**

Roof (small open area test site)

**The *Spurious Radiated Emissions* measurements were performed using the following equipment:****Test Equipment Used :**

<b>Model No.</b>	<b>Prop. No.</b>	<b>Description</b>	<b>Manufacturer</b>	<b>Serial No.</b>	<b>Cal Due Date</b>
HP8566B	407	Spectrum Analyzer	Hewlett Packard	2311A02209	02/02
HP8445B	809	Automatic Preselector	Hewlett Packard	1442A01127	N/A*
AMF-3D-010180-35-10P	752	Amplifier 20 dB	Miteq	614344	N/A*
FF6548-2	781	2000 MHz High Pass Filter	Sage Laboratories	004	N/A*
3115	251	Double Ridge Antenna	EMCO	2495	10/01
AA-190-30.00.0	732	30 foot HFreq. Cable ( 1 - 18 GHz )	United Microwave Pro --		N/A*
AA-190-06.00.0	657	High Freq. Cable	United Microwave Pro --		N/A*

Remarks: (\*) Verified

**FCC Part 25, Paragraph 25.202**

**Globalstar ODU and Globalstar AFUT**

**Low, mid and high channels tested. All emissions (spurious and harmonics) were greater than 20 dB below the limit. Frequency range investigated from lowest RF frequency generated up to the 10th harmonic.**

Operating Mode: Transmit Full Power

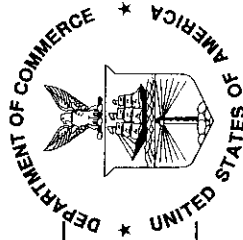
RBW and VBW = 1 MHz for peak for fundamental and harmonics.

RBW and VBW = 30 kHz 20 video samples for average for fundamental.

Testing Facilities  
Certificates of Approval

United States Department of Commerce  
National Institute of Standards and Technology

**NVLAP**<sup>®</sup>



ISO/IEC GUIDE 25:1990  
ISO 9002:1987

## Certificate of Accreditation

**TUV PRODUCT SERVICE, INC.**  
SAN DIEGO, CA

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for:

### ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

December 31, 2001

Effective through

*David E. Alderman*

For the National Institute of Standards and Technology

NVLAP Lab Code: 100268-0

NVLAP-01C (11-96)

National Institute  
of Standards and Technology



National Voluntary  
Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990  
ISO 9002:1987

## Scope of Accreditation



Page: 1 of 3

**ELECTROMAGNETIC COMPATIBILITY  
AND TELECOMMUNICATIONS**

NVLAP LAB CODE 100268-0

### TUV PRODUCT SERVICE, INC.

10040 Mesa Rim Road

San Diego, CA 92121-1034

Mr. R. Barry Wallen

Phone: 619-546-3999 Fax: 619-546-0364

E-Mail: [bwallen@TUVps.com](mailto:bwallen@TUVps.com)

URL: <http://www.tuvps.com>

### NVLAP Code Designation / Description

#### Emissions Test Methods:

12/CIS22	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1:1995, and Amendment 2:1996.
12/CIS22b	CNS 13438:1997: Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/F01	FCC Method - 47 CFR Part 15 - Digital Devices
12/F01a	Conducted Emissions, Power Lines, 450 KHz to 30 MHz
12/F01b	Radiated Emissions

December 31, 2001

Effective through

*David F. Alderman*

For the National Institute of Standards and Technology

NVLAP-01S (11-95)

National Institute  
of Standards and Technology



National Voluntary  
Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990  
ISO 9002:1987

## Scope of Accreditation



Page: 2 of 3

**ELECTROMAGNETIC COMPATIBILITY  
AND TELECOMMUNICATIONS**

NVLAP LAB CODE 100268-0

**TUV PRODUCT SERVICE, INC.**

**NVLAP Code    Designation / Description**

12/T51            AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of  
Information Technology Equipment

### **MIL-STD-462 : Conducted Emissions:**

12/A01            MIL-STD-462 Method CE01  
12/A04            MIL-STD-462 Method CE02  
12/A06            MIL-STD-462 Method CE03  
12/A08            MIL-STD-462 Method CE04  
12/A10            MIL-STD-462 Method CE06  
12/A12            MIL-STD-462 Method CE07

### **MIL-STD-462 : Conducted Susceptibility:**

12/B01            MIL-STD-462 Method CS01  
12/B02            MIL-STD-462 Method CS02  
12/B04            MIL-STD-462 Method CS03/CS04/CS05/CS08  
12/B05            MIL-STD-462 Method CS06

December 31, 2001

Effective through

*David F. Alderman*

For the National Institute of Standards and Technology

NVLAP-01S (11-95)



National Institute  
of Standards and Technology



National Voluntary  
Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990  
ISO 9002:1987

## Scope of Accreditation



Page: 3 of 3

**ELECTROMAGNETIC COMPATIBILITY  
AND TELECOMMUNICATIONS**

NVLAP LAB CODE 100268-0

TUV PRODUCT SERVICE, INC.

**NVLAP Code    Designation / Description**

12/B06            MIL-STD-462 Method CS07

12/B07            MIL-STD-462 Method CS09

**MIL-STD-462 : Radiated Emissions:**

12/D01            MIL-STD-462 Method RE01

12/D02            MIL-STD-462 Method RE02

12/D03            MIL-STD-462 Method RE03

**MIL-STD-462 : Radiated Susceptibility:**

12/E01            MIL-STD-462 Method RS01

12/E02            MIL-STD-462 Method RS02

12/E03            MIL-STD-462 Method RS03 (Consult laboratory for field strengths available)

12/E04            MIL-STD-462 Method RS03 employing RADHAZ procedures for high level testing  
(Consult laboratory for field strengths available)

December 31, 2001

Effective through

A handwritten signature in black ink that reads "David F. Alderman".

For the National Institute of Standards and Technology

NVLAP-01S (11-95)

## **Exhibit 14 Frequency Stability**

The test results reported in the following 2 tables are abstracted from the conducted design verification test (DVT) results on 8 sample DVT RAU RF Boards as will be reported in the in-progress Fixed Phone RF Board Design Verification Test Plan, 80-98415-1 X3.

Table 1 presents the mean values of measured frequency variation in parts per million (ppm) at cold (-30° C), ambient, and hot (60° C) temperatures. Table 2 presents the minimum, maximum, and mean values over all temperatures for the 7 boards tested.

**Test Equipment**

Equipment	Serial Number	Cal Date	Cal Due
Leader DC Power Supply	DE14268	September 14, 2000	September 14, 2001
HP 8593EM Spectrum Analyzer	3412A00107	February 1, 2001	February 12, 2002

Table 1. Mean Variation in TX Frequency with Temperature

		Delta				
		-30 C	Ambient	60 C	Spec.	Amb. To Cold
TX ppm		1.18	0.31	0.36	5.00	0.87

Table 2. Variation Range for TX Frequency over Temperature Range

	Data for Hot, Cold, Ambient			Test Limit	Std. Dev.	Design Cpk
	Min.	Max.	Mean			
TX ppm	-0.49	2.30	0.65	5.00	0.78	1.9

Statistical Manufacturing Margin

$Cpk = (\text{Average} - \text{spec. Limit}) / 3 * \text{Sigma Value}$