

SPURIOUS 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 2, Paragraph 2.993 & Part 22, Paragraph 22.917)

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

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Emissions Test Conditions: SPURIOUS RADIATED EMISSIONS

The Spurious Radiated Emissions measurements were performed using the following equipment:

Test	Εa	ıdibi	ment	U	sed	:

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Date
8566B	720/721	Spectrum Analyzer & Display	Hewlett Packard	2115A00842	2 02/18/99
				2112A02185	5
AA-190-10.00.0	655	Cable	United Microwave		N/A
			Prod.		
AA-190-06.00.0	657	Cable	United Microwave		N/A
			Prod.		
AA-190-30.00.0	733	Cable	United Microwave		N/A
			Prod.		
AMF-5D-010180-35-10P	719	Pre-amplifier	Miteq	549460	04/07/99
3115	453	Double Ridge Antenna	EMCO	9412-4364	03/10/99
3146	244	Log Periodic Antenna	EMCO	1063	03/09/99
3146	418	Log Periodic Antenna	EMCO	9402-3775	06/25/99
F4777		High Pass Filter	Qualcomm		N/A

Remar	ks:
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REPORT No:

S8590

TESTED BY: MW

SPEC: FCC Part 2, Para. 2.993 & Part 22, Para. 22.917

CUSTOMER: Qualcomm, Inc.

TEST DIST: 3 Meters

EUT:

Model PDQ-800 Cellular Phone

TEST SITE: 3

EUT MODE: Transmit, FM

BICONICAL: N/A

DATE:

08-Dec-98

LOG PERIODIC: 244

NOTES:

Thumper, 800 MHz Phone.

OTHER: 453

RBW & VBW = 100 kHz below 1 GHz.

RBW & VBW = 1 MHz above 1 GHz.

FREQ (MHz)	VERT (dB pk		HORIZONTAL (dBuv) pk av		CORRECTION FACTOR (dB/m)	MAX L (dBu) pk		SPEC LIMIT (dBuV/m) pk av				EUT Rotatio	Antenna Height	
824	93.5		99		26.1	125.1		•		-		96	2	
1648	33		40		31.3	71.3		84.4		-13.1		157	1.6	
2472	27.8		30.2		34.8	65.0		84.4		-19.4				
3296	34.1		32		39.2	73.3		84.4		-11.1		154	1.1	
4120	18.1		15.7		43.0	61.1		84.4		-23.3				
4944	8.1		9.2		42.8	52.0		84.4		-32.4				
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Rev.No 1.0



REPORT No:

S8590

TESTED BY: MW

SPEC: FCC Part 2, Para. 2.993 & Part 22, Para. 22.917

CUSTOMER: Qualcomm, Inc.

TEST DIST: 3 Meters

EUT:

Model PDQ-800 Cellular Phone

TEST SITE: 3

EUT MODE: Transmit, FM

BICONICAL: N/A

DATE:

08-Dec-98

LOG PERIODIC: 244

NOTES:

Thumper, 800 MHz Phone.

OTHER: 453

RBW & VBW = 100 kHz below 1 GHz.

FREQ (MHz)	VER1 (dB pk		v pk av (dB/m)		FACTOR	MAX L (dBu\ pk		SPEC (dBu\		MARGIN (dB) pk av		EUT Rotatio	Antenna Height	
836.49	93.3		99.1		26.2	125.3	•	-		-		97	1.6	
1672.98	34.8		41.3		31.3	72.6		84.4		-11.8		156	1.5	
2509.47	32.2		32.2		36.4	68.6		84.4		-15.8				
3345.96	34.3		36.1		39.3	75.4		84.4		-9		158	1	
4182.45	16.4		19.6		42.9	62.5		84.4		-21.9				
5018.94	7.3	<u> </u>	10.3		44.6	54.9		84.4		-29.5				
5855.43	11.7	i	14.3		46.0	60.3		84.4		-24.1				
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S8590

TESTED BY: MW mw SPEC: FCC Part 2, Para. 2.993 & Part 22, Para. 22.917

CUSTOMER: Qualcomm, Inc.

TEST DIST: 3 Meters

EUT:

Model PDQ-800 Cellular Phone

TEST SITE: 3

EUT MODE: Transmit, FM

BICONICAL: N/A

DATE:

08-Dec-98

LOG PERIODIC: 244

NOTES:

Thumper, 800 MHz Phone.

OTHER: 453

RBW & VBW = 100 kHz below 1 GHz.

RBW & VBW = 1 MHz above 1 GHz.

FREQ (MHz)	VERTICAL (dBuv) pk av		HORIZONTAL (dBuv) pk av		CORRECTION FACTOR (dB/m)	MAX Li (dBu\ pk		SPEC LIMIT (dBuV/m) pk av		MAR (di pk		EUT Rotatio	Antenna Height	
848.97	92.6		98.9		26.3	125.2		-		-		99	1.8	
1697.94	35.4		37.7		31.3	69.0		82.4		-13.4				
2546.91	31.9		38.1		36.4	74.5		82.4		-7.9		231	1.4	
3395.88	32.7		32.5		39.3	72.0		82.4		-10.4		110	1.1	
5093.82	8.8		10.1		44.6	54.7		82.4		-27.7				
5942.63	12.5		11.9		46.0	58.5		82.4		-23.9				
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REPORT No:

S8590 TESTED BY: DM

SPEC: FCC Part 2, Para. 2.993 & Part 22, Para. 22.917

CUSTOMER: Qualcomm, Inc.

TEST DIST: 3 Meters

EUT:

Model PDQ-800 Cellular Phone

TEST SITE: 3

EUT MODE: Transmit, CDMA

BICONICAL: N/A

DATE:

09-Dec-98

LOG PERIODIC: 418

NOTES:

Thumper, 800 MHz Phone.

OTHER: 453

RBW & VBW = 100 kHz below 1 GHz.

RBW & VBW = 1 MHz above 1 GHz.

FREQ (MHz)	VER1 (dB pk	rical uv) av	HORIZ (dB pk	ONTAL uv) av	CORRECTION FACTOR (dB/m)	MAX L (dBu\ pk	EVEL //m) av	SPEC (dBu)	LIMIT V/m) av	MAR (di pk	GIN 3) av	EUT Rotatio	Antenna Height	
824.04	87.9		97.6		25.8	123.4		-		-				
1648.08	27		31.4		28.1	59.5		84.4		-24.9				
2472.1	17		25.5		32.3	57.8		84.4		-26.6				
3296.2	23.8		26.3		34.3	60.6		84.4		-23.8				
4120.2	7.8		9,1		43.0	52.1		84.4		-32.3				
4944.2	-1.9		-1.9		42.8	40.9		84.4		-43.5				
5768.3	-1.9		0.4		45.9	46.3		84.4		-38.1		_		
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OTHER: 453

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FREQ (MHz)	VERT (dB		HORIZ((dB		CORRECTION FACTOR	MAX LI (dBu\		SPEC (dBu)		MAR (di	EGIN B)	EUT Rotatio	Antenna Height	
(1011/2)	pk	av	pk	av	(d8/m)	pk	av	pk	av	pk	av	ö	¥ 3	
836.49	91.7		97.4		25.8	123.2				-				
1672.98	29.3		36.3		28.1	64.4		84.4		-20				
2509.5	24.5		25.3		32.3	57.6		84.4		-26.8				
3346	26.5		28.7		34.3	63.0		84.4		<i>-</i> 21.4				:
4182.5	7.9		9.9		43.1	53.0		84.4		-31.4				
5018.9	-1.3		-0.8		44.6	43.8		84.4		-40.6				
5855.4	-1.9		4.6		46.0	50.6		84.4		-33.8				
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FREQ (MHz)	VERT (dB pk	ICAL uv) av	HORIZ((dB pk		CORRECTION FACTOR (dB/m)	MAX L (dBu\ pk	EVEL //m) av	SPEC ((dBu\ pk	LIMIT //m) av	MAR (di pk	GIN 3) av	EUT Rotatio	Antenna Height	
848.97	91.2		97		25.8	122.8		•		ı				
1698	31.7	-	37.4		28.1	65.5		84.4		-18.9				
2546.9	17.6		28.3		32.3	60.6		84.4		-23.8				
3395.9	25.1		27.6		34.3	61.9		84.4		-22.5				
4244.8	7.6		9		43.1	52.1		84.4		-32.3				
5093.9	-0.8		-1		44.6	43.8		84.4		-40.6		l		
5942.8	-1.9		-1.9		46.0	44.1		84.4		-40.3				
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Testing Facilities

Certificates of Approval



National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990 ISO 9002:1987

Scope of Accreditation

TATES OF ME

Page: 1 of 1

NVLAP LAB CODE 100268-0

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

TUV PRODUCT SERVICE, INC.

10040 Mesa Rim Road San Diego, CA 92121-1034 Mr. Floyd R. Fleury

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

NVLAP Code Designation / Description

International Special Committee on Radio Interference (CISPR) Methods

12/CIS22

IEC/CISPR 22:1993: Limits and methods of measurement of radio disturbance

characteristics of information technology equipment

Federal Communications Commission (FCC) Methods

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

Australian Standards referred to by clauses in AUSTEL Technical Standards

12/T51

AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of

Information Technology Equipment

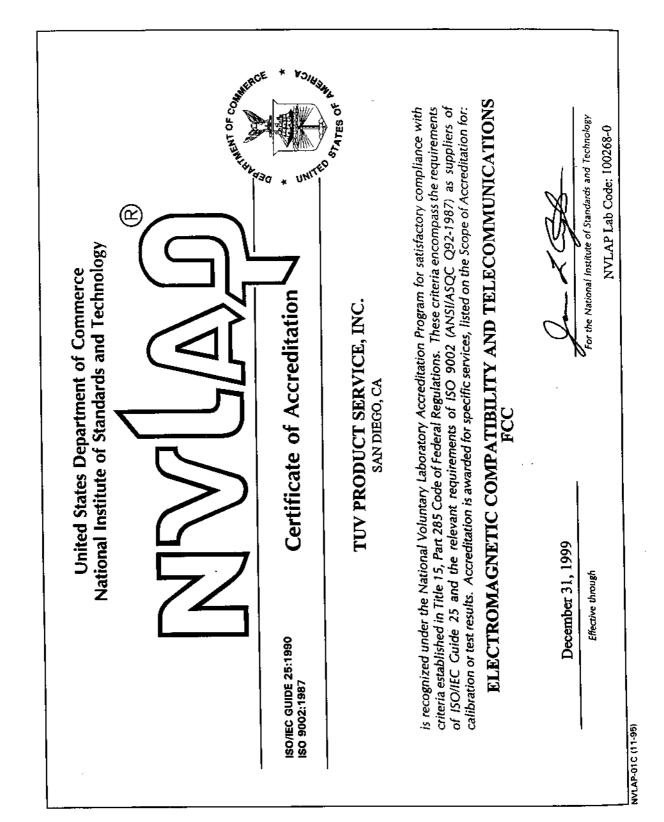
December 31, 1999

Effective through

For the National Institute of Standards and Technology

NVLAP-015 (11-95)





Page 12 of 15 Rev.No 1.0





UNITED STATES DEPARTMENT OF COMMERCE National Institute of Standards and Technology Gaithersburg, Maryland 20899-

NVLAP Lab Code: 100268-0

December 1, 1998

Mr. Floyd R. Fleury TUV Product Service, Inc. 10040 Mesa Rim Road San Diego, CA 92121-1034

Dear Mr. Fleury:

I am pleased to inform you that continuing accreditation for specific test methods in Electromagnetic Compatibility & Telecommunications, FCC is granted to your organization under the National Voluntary Laboratory Accreditation Program (NVLAP). This accreditation is effective until December 31, 1999, provided that your organization continues to comply with accreditation requirements contained in the NVLAP Procedures.

Your Certificate of Accreditation is enclosed along with a statement of your Scope of Accreditation. You may reproduce these documents in their entirety and announce your organization's accreditation status using the NVLAP logo in business publications, the trade press, and other business-oriented literature. Accreditation does not relieve your organization from observing and complying with any applicable existing laws and/or regulations.

We are pleased to have you participate in NVLAP and look forward to your continued association with this program. If you have any questions concerning your NVLAP accreditation, please direct them to Jon Crickenberger, Sr. Program Manager, Laboratory Accreditation Program, National Institute of Standards and Technology, 100 Bureau Dr. Stop 2140, Gaithersburg, MD 20899-2140; (301) 975-4016.

Sincerely.

James L. Cigler, Chief

Laboratory Accreditation Program

Enclosure(s)

NST







Photograph of Test Setup

