

MEASUREMENT AND TECHNICAL REPORT

DIRECTED ELECTRONICS INCORPORATED
1 Viper Way
Vista, CA 92083

DATE: 13 July 2006

This Report Concerns:	Original Grant:	Class II Change: ☒ X
Equipment Type:	Responder SST IVU, Model 6701T	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: Defer until:	No: ☒ X
Company Name agrees to notify the Commission by: of the intended date of announcement of the product so that the grant can be issued on that date.	N/A	
Transition Rules Request per 15.37?	Yes:	No: ☒ X*
(*) FCC Part 15, Paragraph(s) 15.247(a), 15.247(b), 15.247(c), 15.209(a) and RSS-Gen 4.4.1; 4.4.2; 4.6; 7.2.2; and 7.2.3.2		
Report Prepared by: TÜV AMERICA, INC 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone: 858 678 1400 Fax: 858 546 0364		

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GENERAL INFORMATION

Testing was performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8-M1983.

Test Facility

The open area test site and conducted measurement data were tested by:

TÜV AMERICA, INC
10040 Mesa Rim Road
San Diego, CA 92121-2912
Phone: 858 678 1400
Fax: 858 546 0364

The Test Site Data and performance comply with ANSI C63.4 and are registered with the FCC, 7435 Oakland Mills Road, Columbia Maryland 21046. All Measurement Data is acquired according to the content of FCC Measurement Procedure and ANSI C63.4, unless supplemented with additional requirements as noted in the test report.

SYSTEM TEST CONFIGURATION

See Test Setup Photos Exhibit

Test Conditions: BANDWIDTH: FCC Part 15.247(a)(1)(i) and RSS-Gen 4.4.1
 CHANNEL SEPARATION: FCC 15.247(a)(1) and RSS-210, Annex 8.1
 NUMBER OF HOPPING CHANNELS: FCC Part 15.247(a)(1)(i) and RSS-210, Annex 8.1
 PEAK OUTPUT POWER: FCC Part 15.247(b)(1) and RSS-Gen 4.6
 BANDEDGE: FCC Part 15.247(c) and RSS-Gen 4.4.2
 RF CONDUCTED EMISSIONS: FCC Part 15.247(c) and RSS-Gen 7.2.2
 RADIATED SPURIOUS EMISSIONS: FCC Part 15.209(a), 15.247(c) and RSS-Gen 7.2.3.2

The following measurements were performed at the San Diego Testing Facility:

☐ - Test not applicable

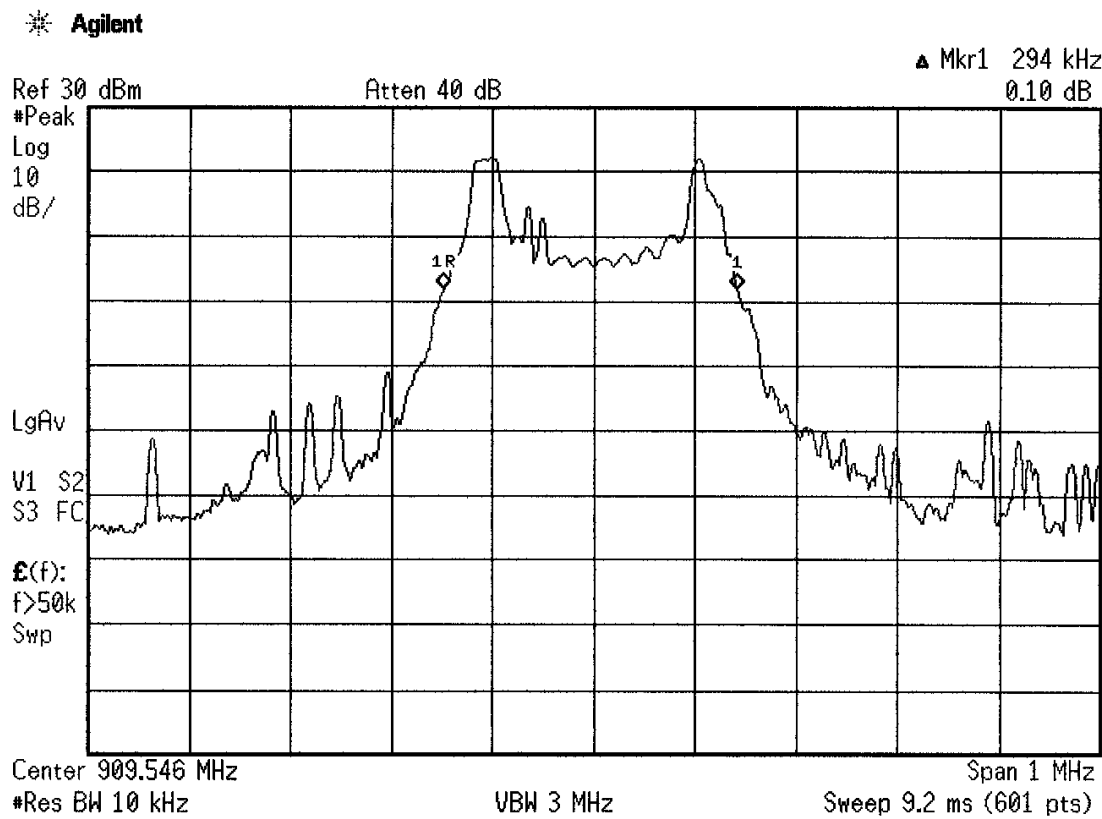
- - SR 3, Shielded Room, 12' x 20' x 8', Metal Chamber
- - Roof (Small Open Area Test Site)

Test Equipment Used:

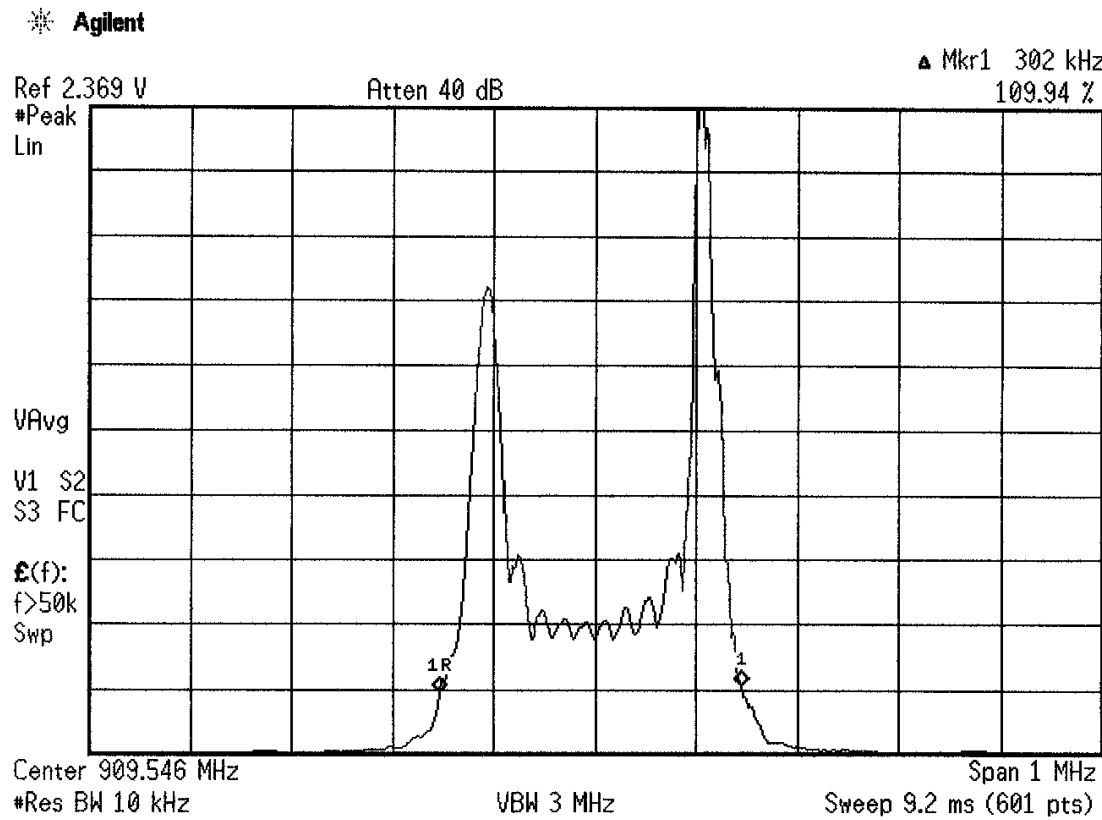
Model No.	Prop. No.	Description	Manufacturer	Serial No.	Date Cal'ed
E4440A	6814	Spectrum Analyzer	Hewlett Packard	MY42510441	02/06
3110B	6644	Biconical Antenna	EMCO	9508-2134	10/05
3146	6641	Antenna, Log Periodic Dipole	EMCO	106X	06/06
3115	6669	Double Ridge Antenna	EMCO	9412-4364	08/05
AMF-5D-010180-35-10P	719	Preamplifier	Miteq	549460	Verified
E4446A	6823	Spectrum Analyzer	Agilent	US44300486	04/06
CBL6111	6527	Bilog Antenna	Chase Electronics	1013	Verified
AA-19030.00.0	7492	30' Coaxial Cable	United Microwave	--	--

Remarks: One year calibration cycle for all test equipment and sites.

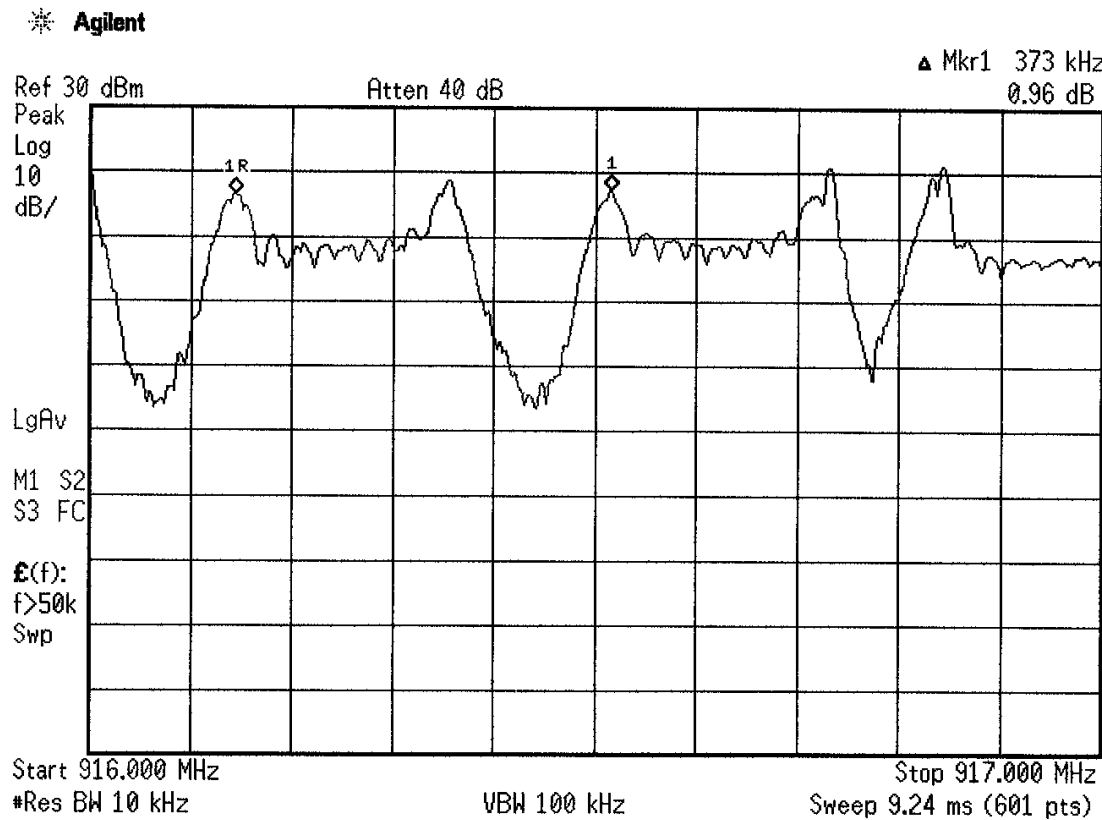
15.247(a), 20 dB bandwidth



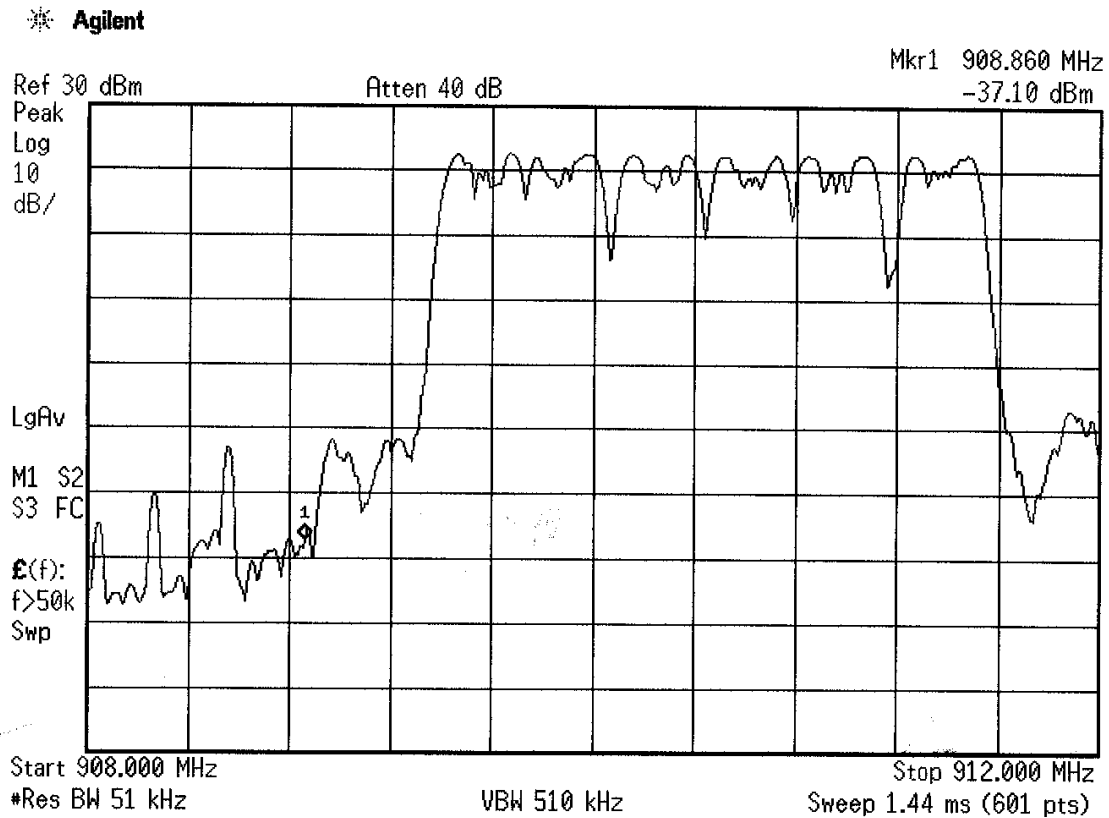
RSS-GEN 4.4.1 20 dB bandwidth



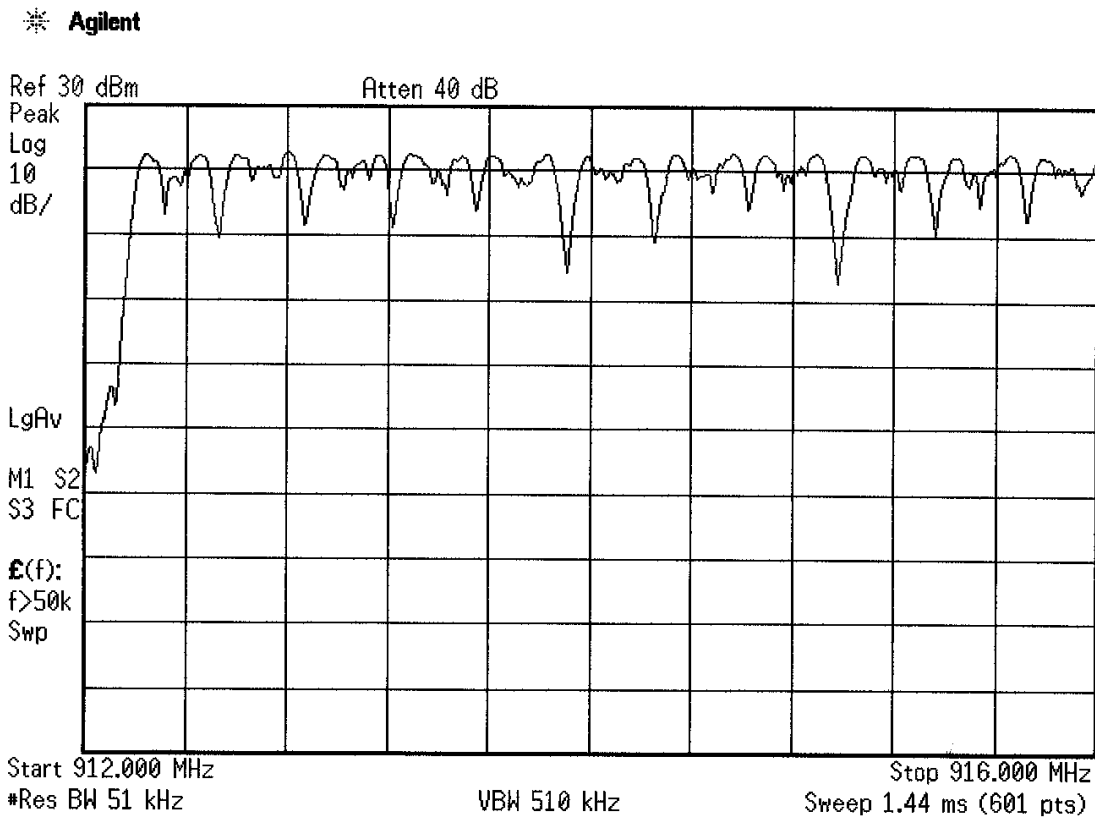
15.247(a), (RSS 210, Annex 8.1) Channel separation



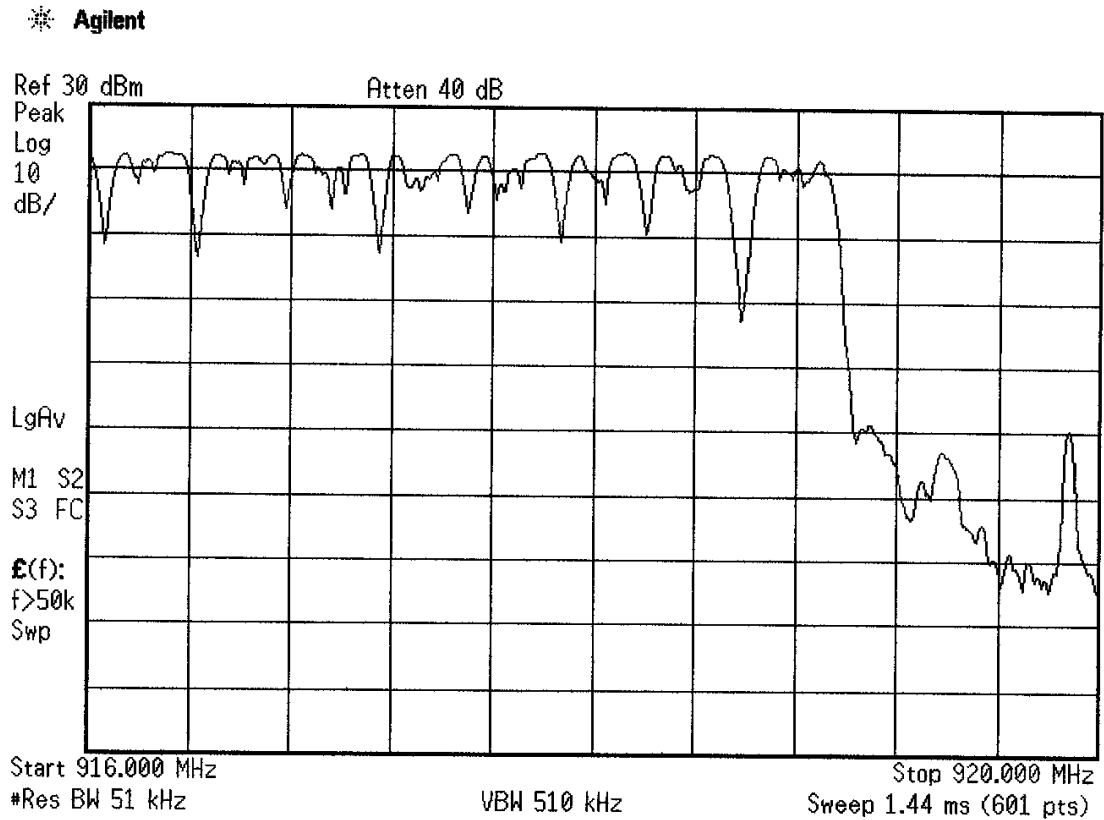
15.247(a), (RSS 210, Annex 8.1) Number of hops



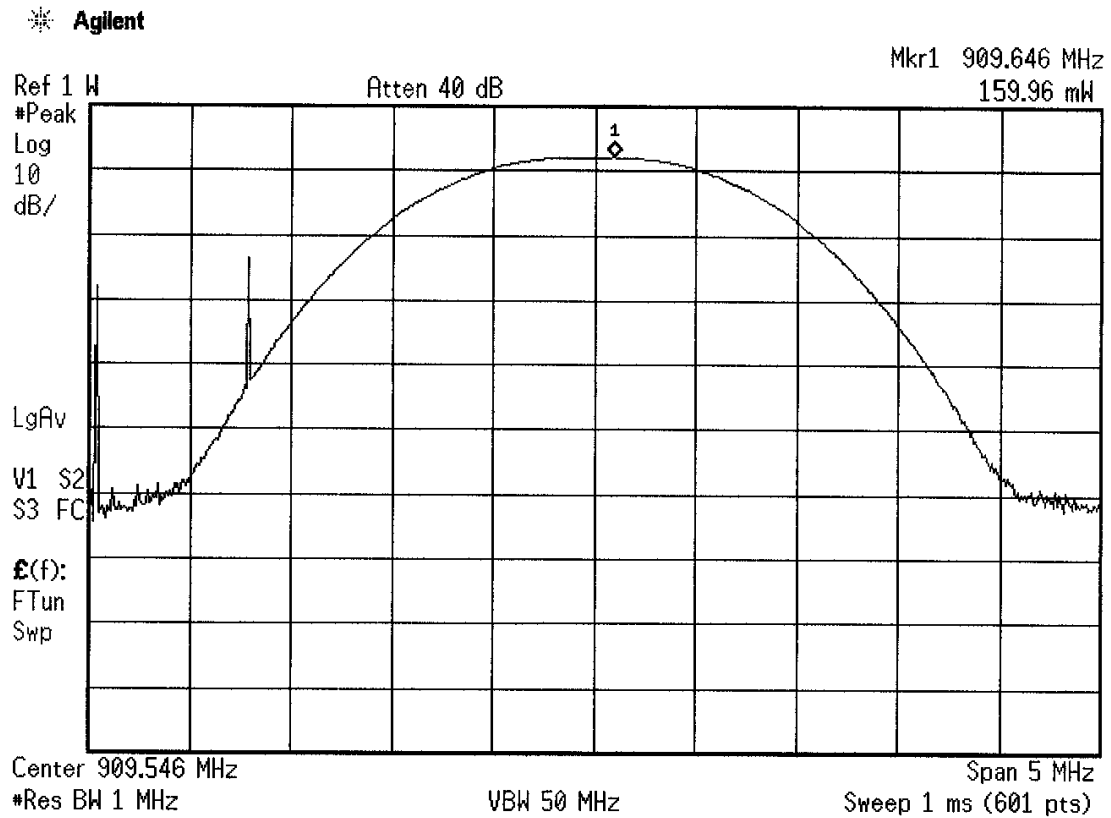
15.247(a), (RSS 210, Annex 8.1) Number of hops



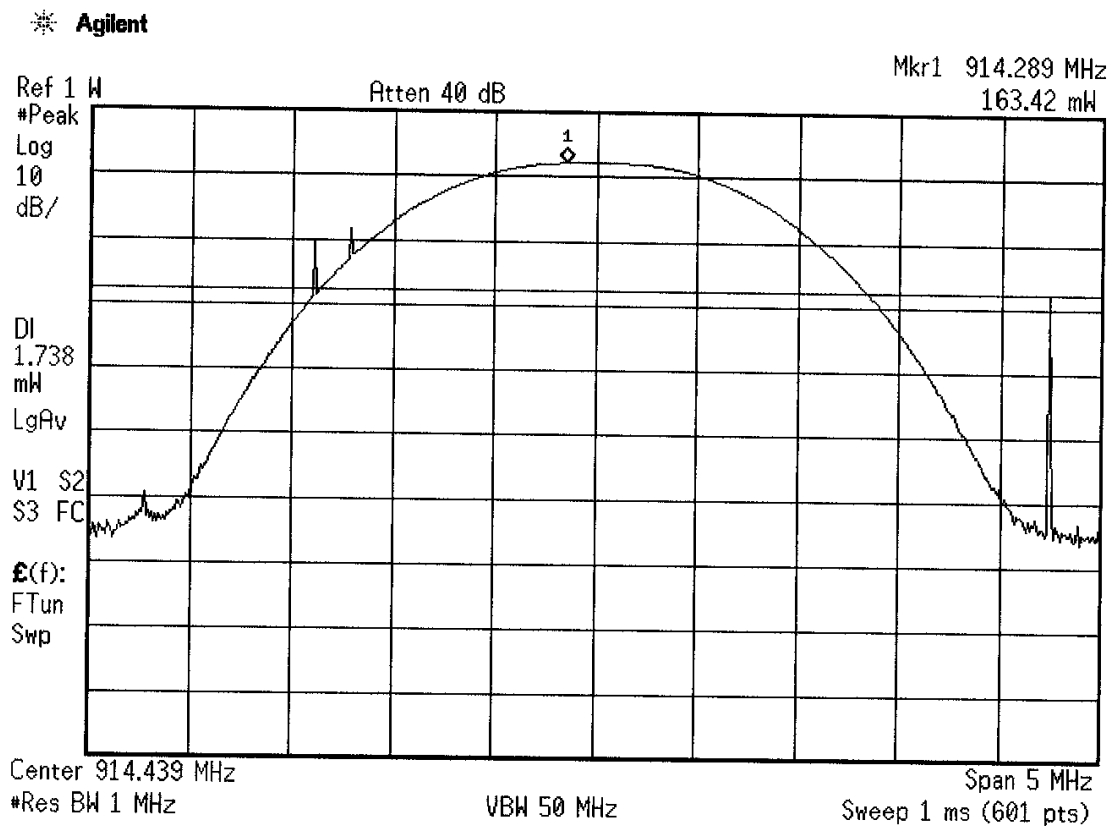
15.247(a), (RSS 210, Annex 8.1) Number of hops



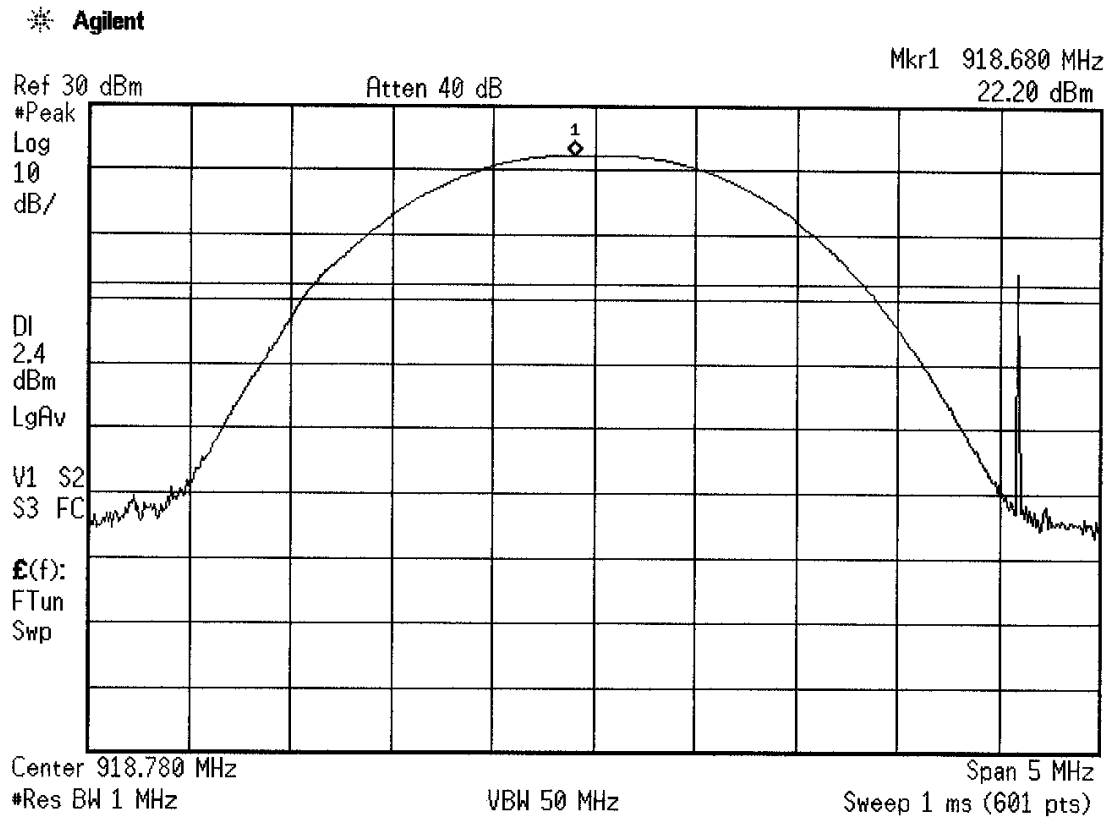
15.247(b), (RSS-Gen 4.6) Peak output power, low channel



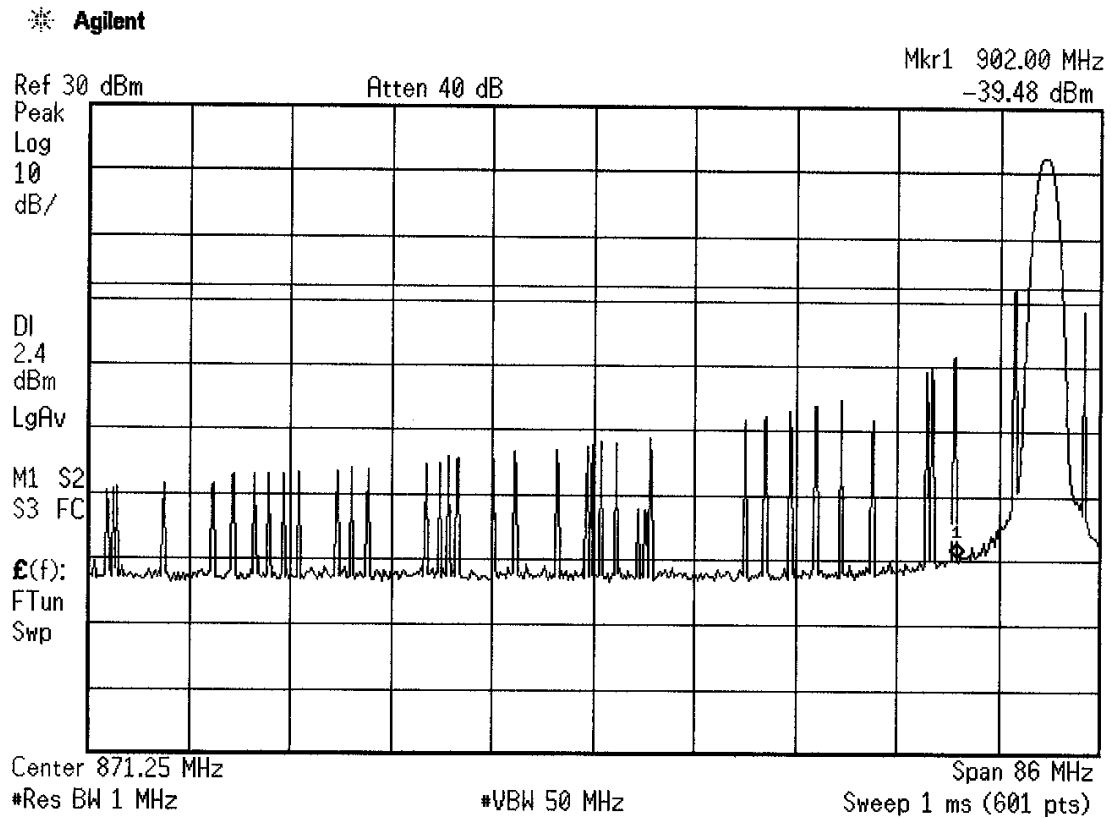
15.247(b), (RSS-Gen 4.6) Peak output power, mid channel



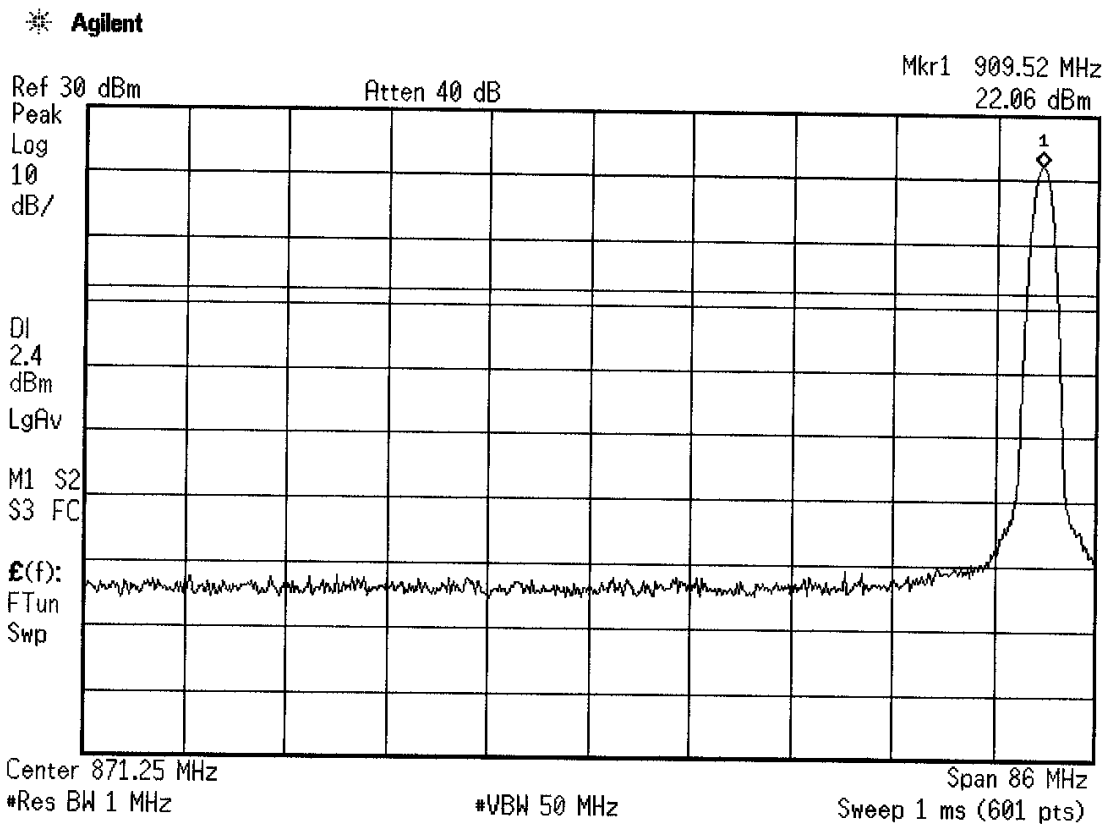
15.247(b), (RSS-Gen 4.6) Peak output power, high channel



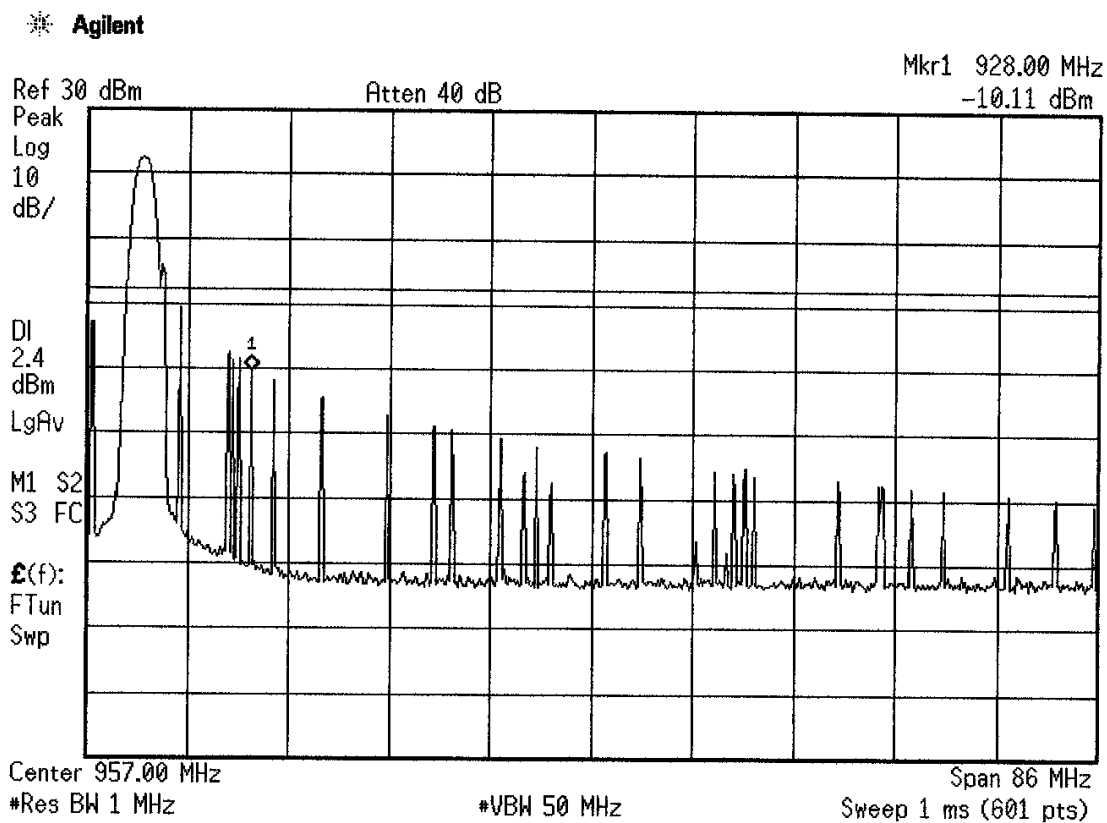
15.247(c), (RSS-Gen 7.2.2) RF conducted modulated lower band edge



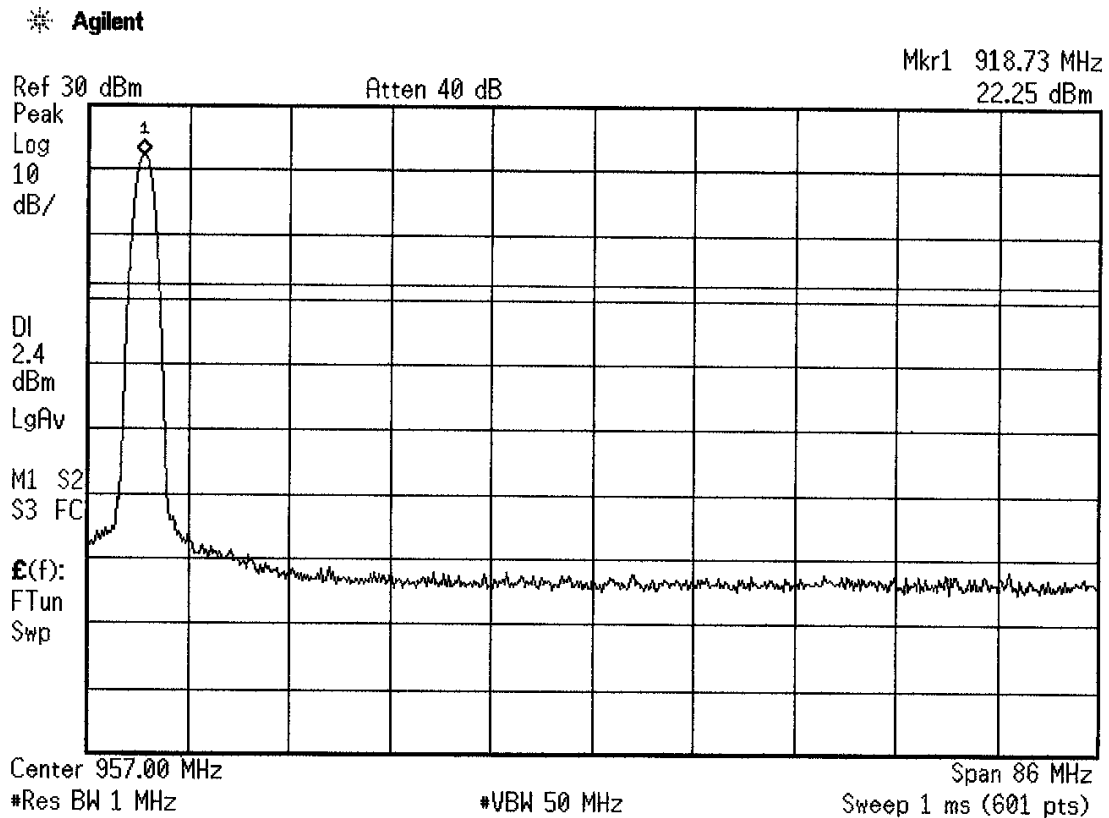
15.247(c), (RSS-Gen 7.2.2) RF conducted un modulated lower band edge



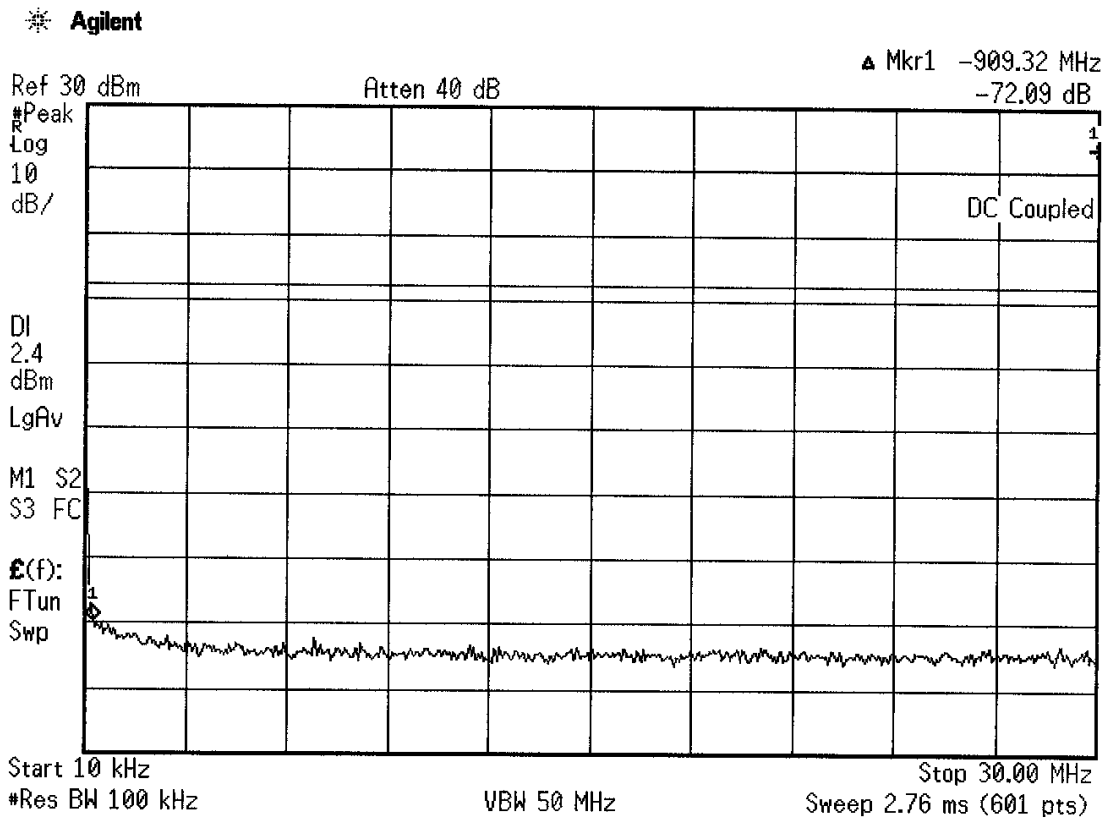
15.247(c), (RSS-Gen 7.2.2) RF conducted modulated upper band edge



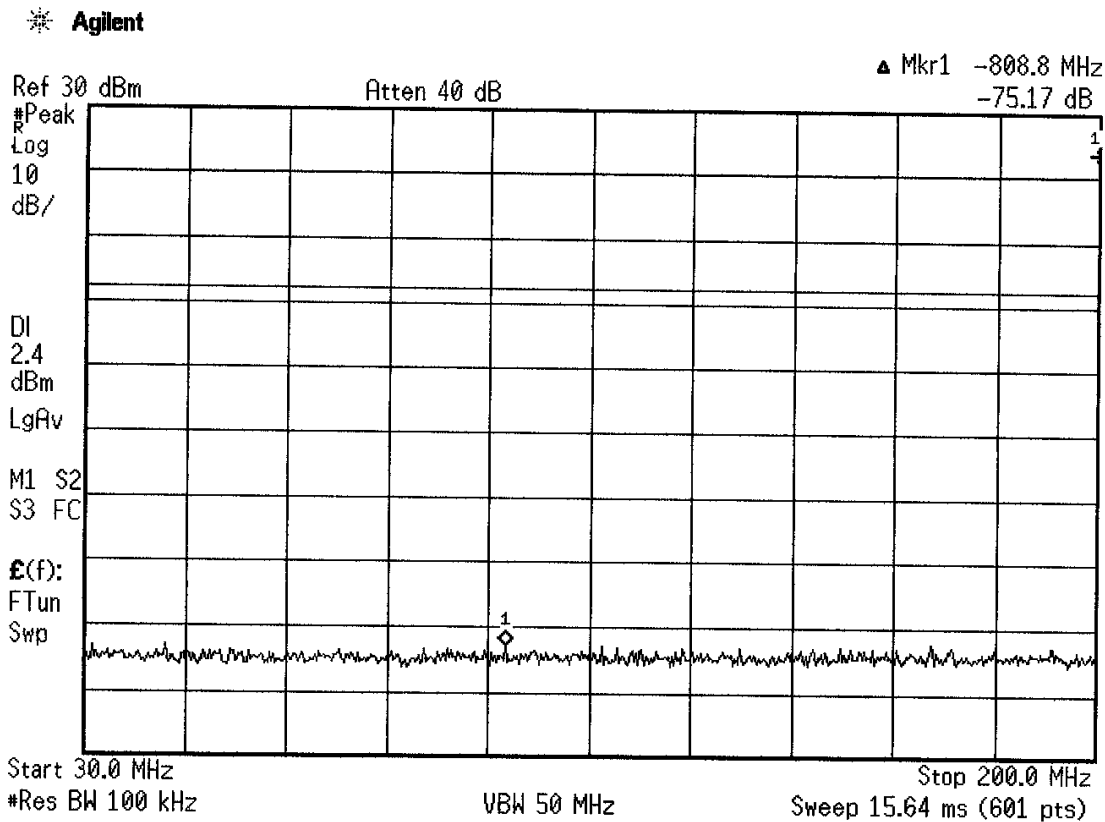
15.247(c), (RSS-Gen 7.2.2) RF conducted unmodulated upper band edge



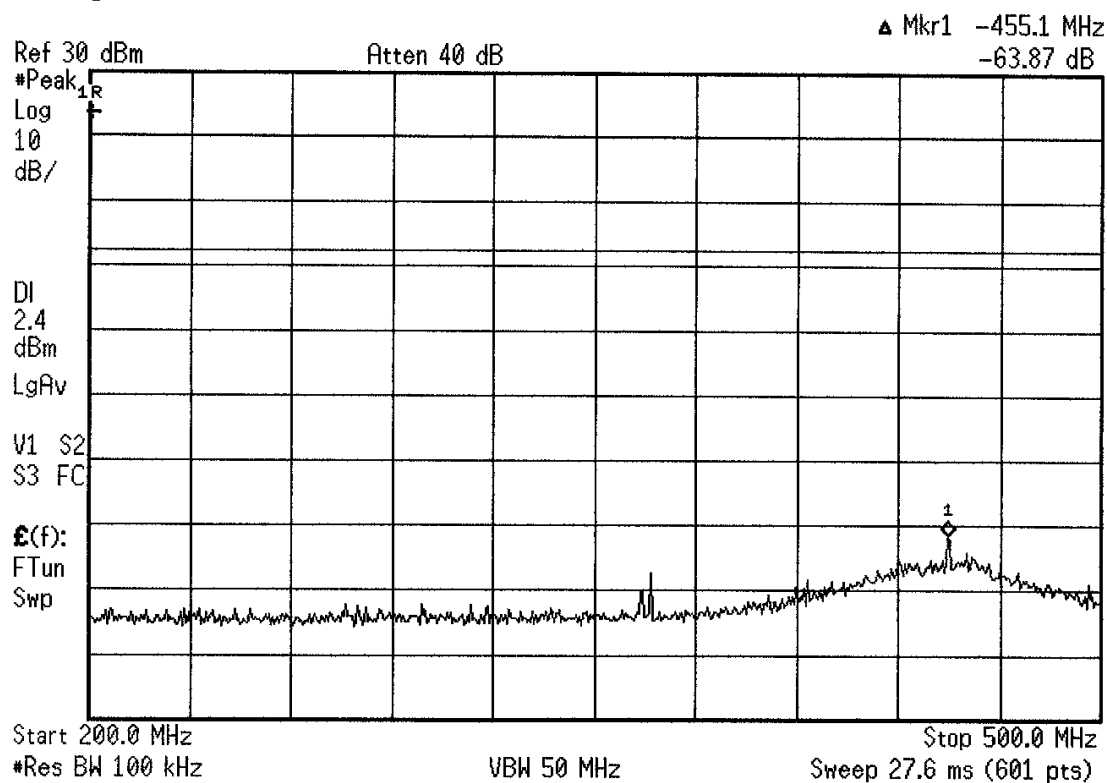
15.247(c), (RSS-Gen 7.2.2) RF conducted low channel



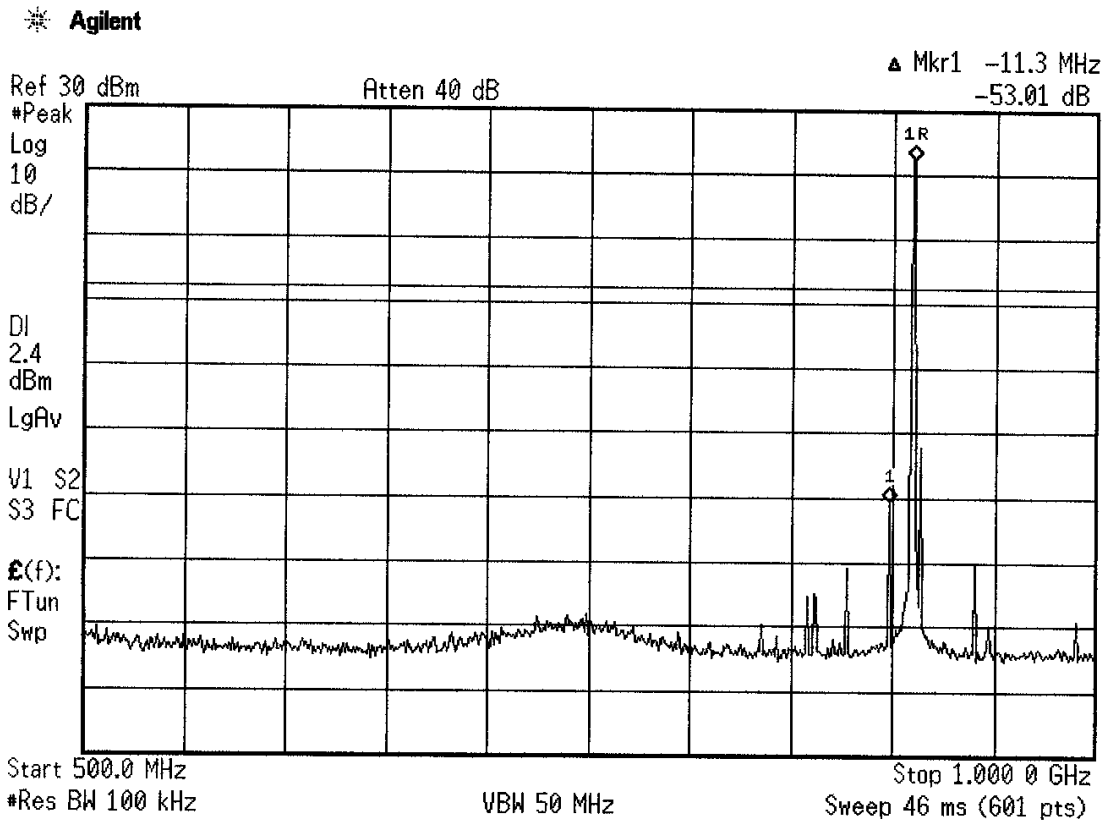
15.247(c), (RSS-Gen 7.2.2) RF conducted low channel



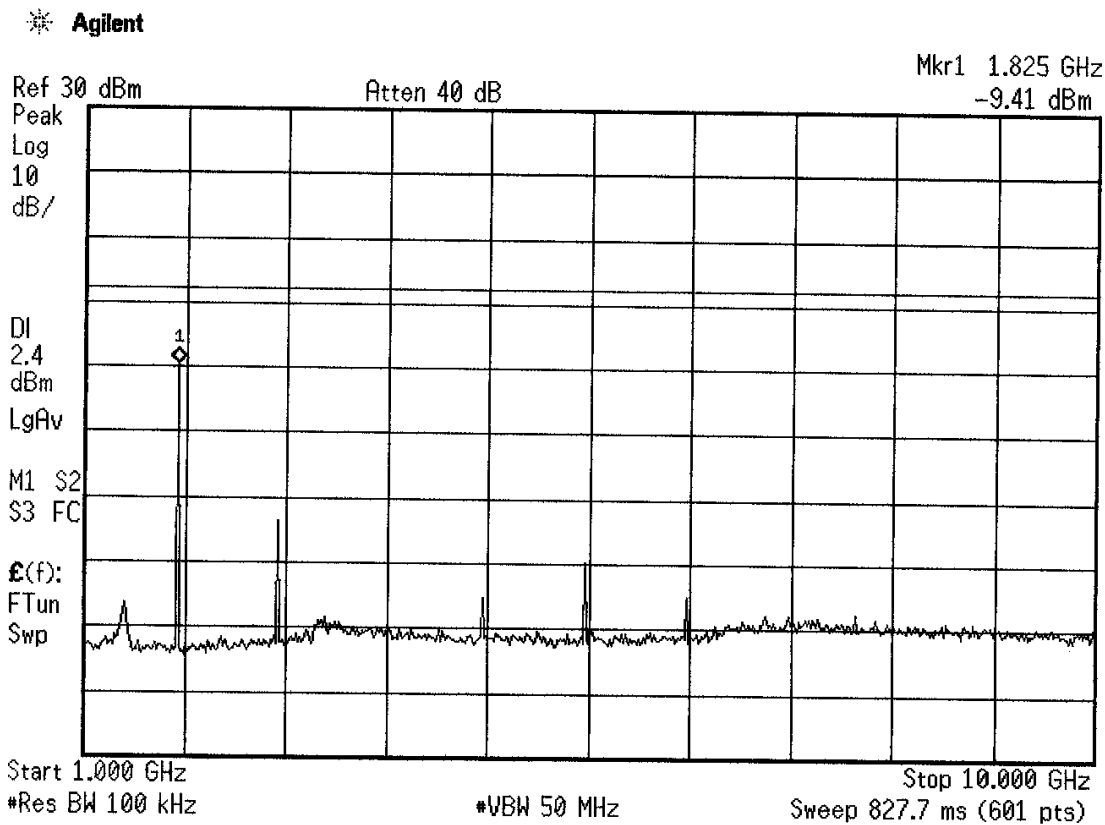
Agilent



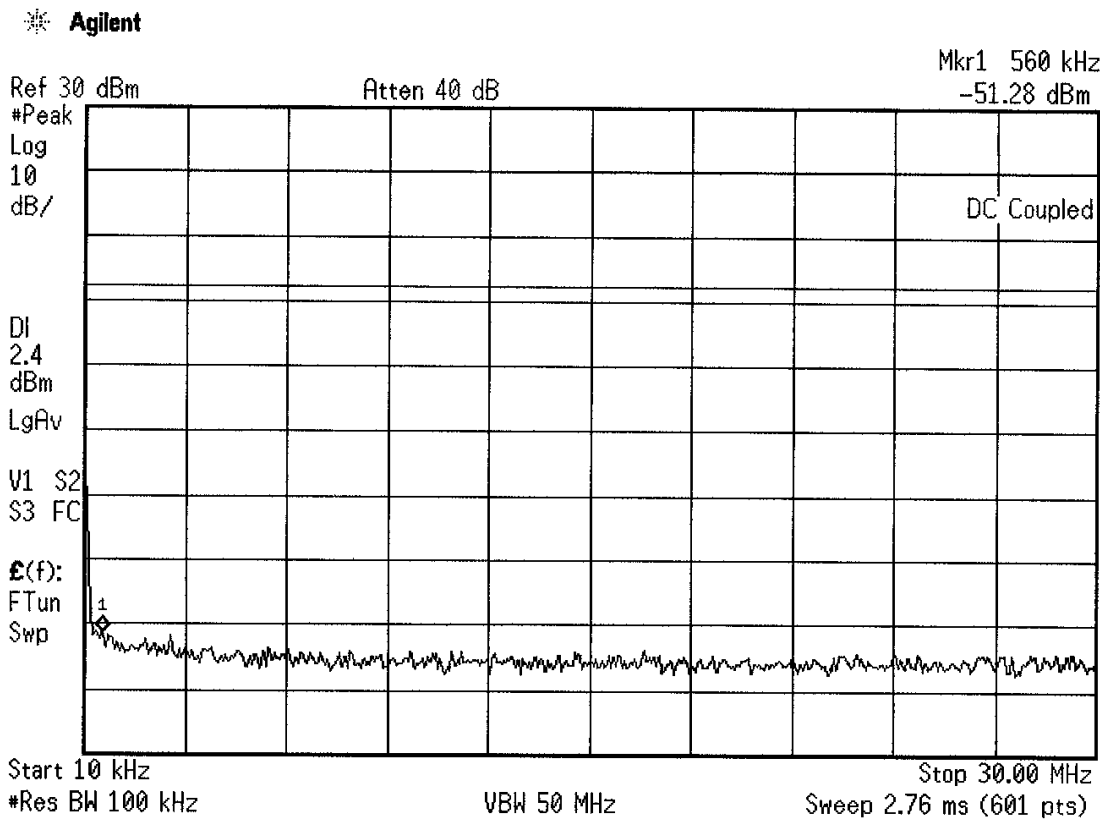
15.247(c), (RSS-Gen 7.2.2) RF conducted low channel

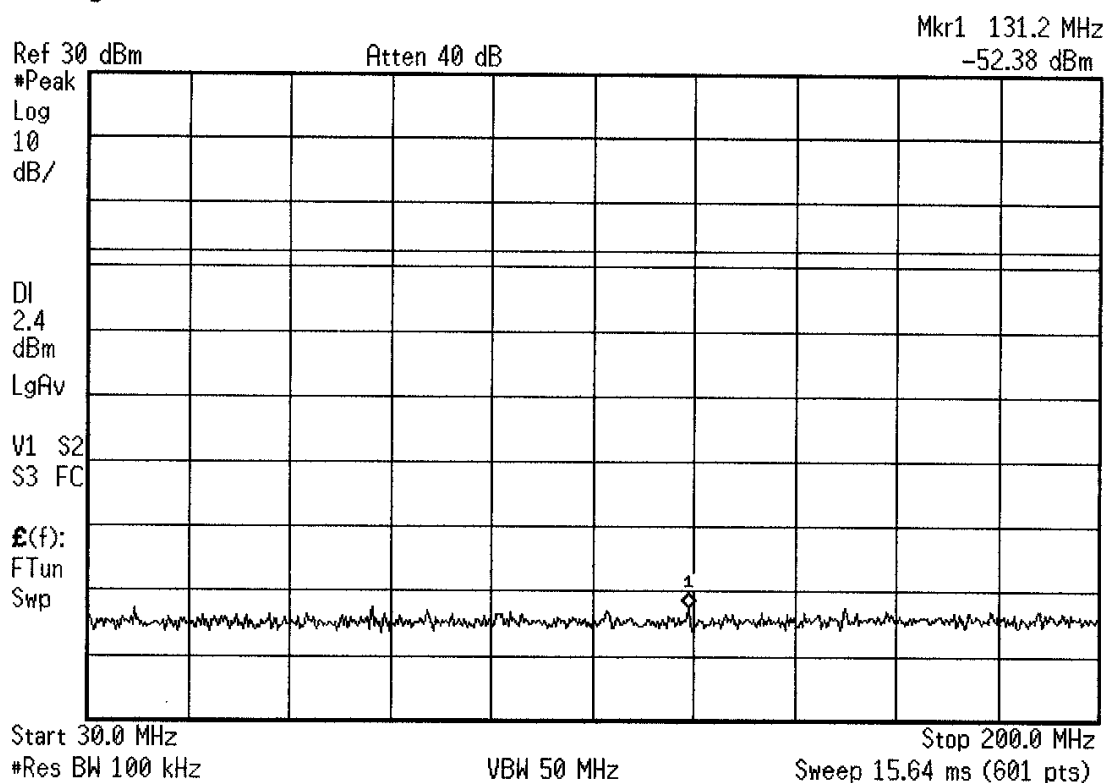


15.247(c), (RSS-Gen 7.2.2) RF conducted low channel

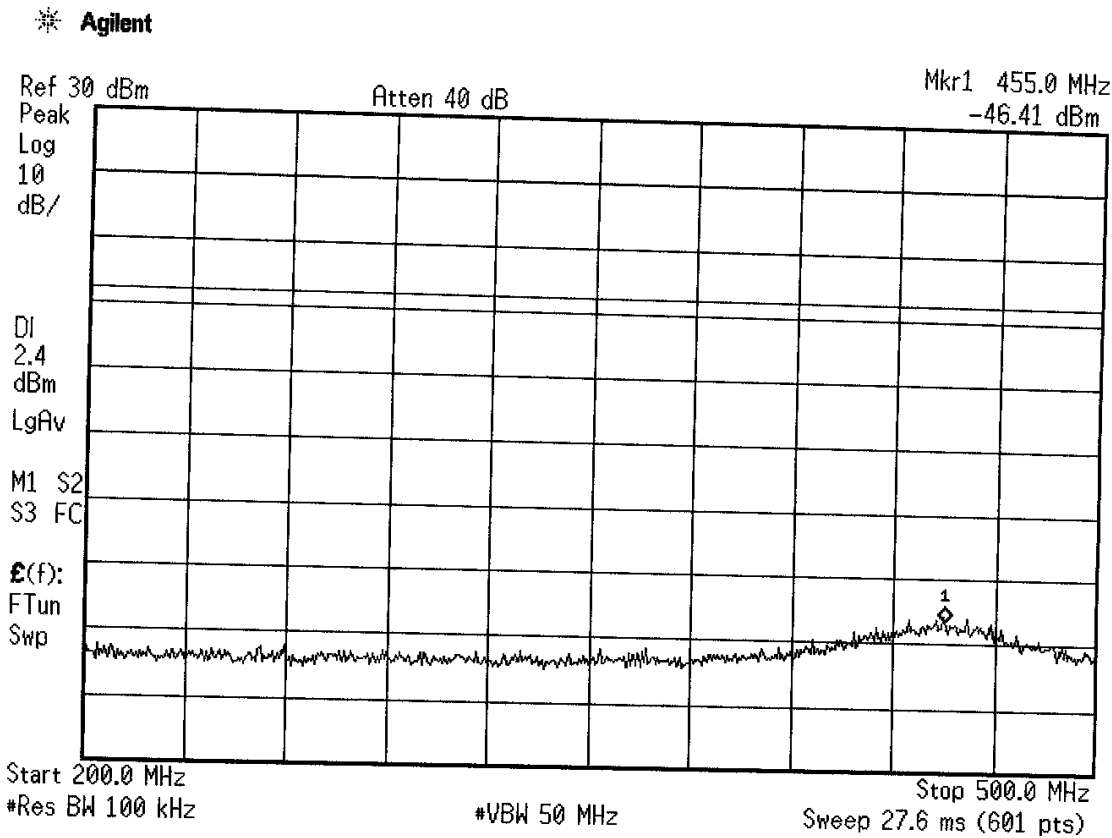


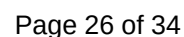
15.247(c), (RSS-Gen 7.2.2) RF conducted mid channel



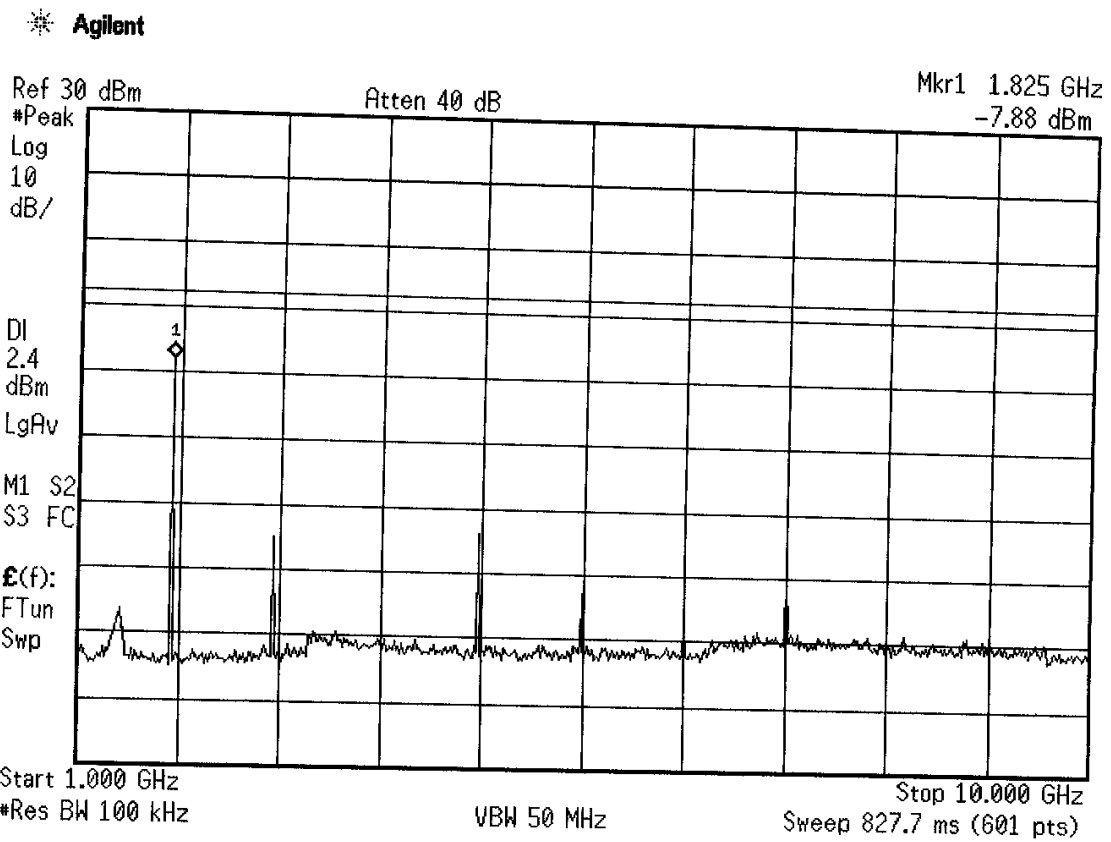


15.247(c), (RSS-Gen 7.2.2) RF conducted mid channel

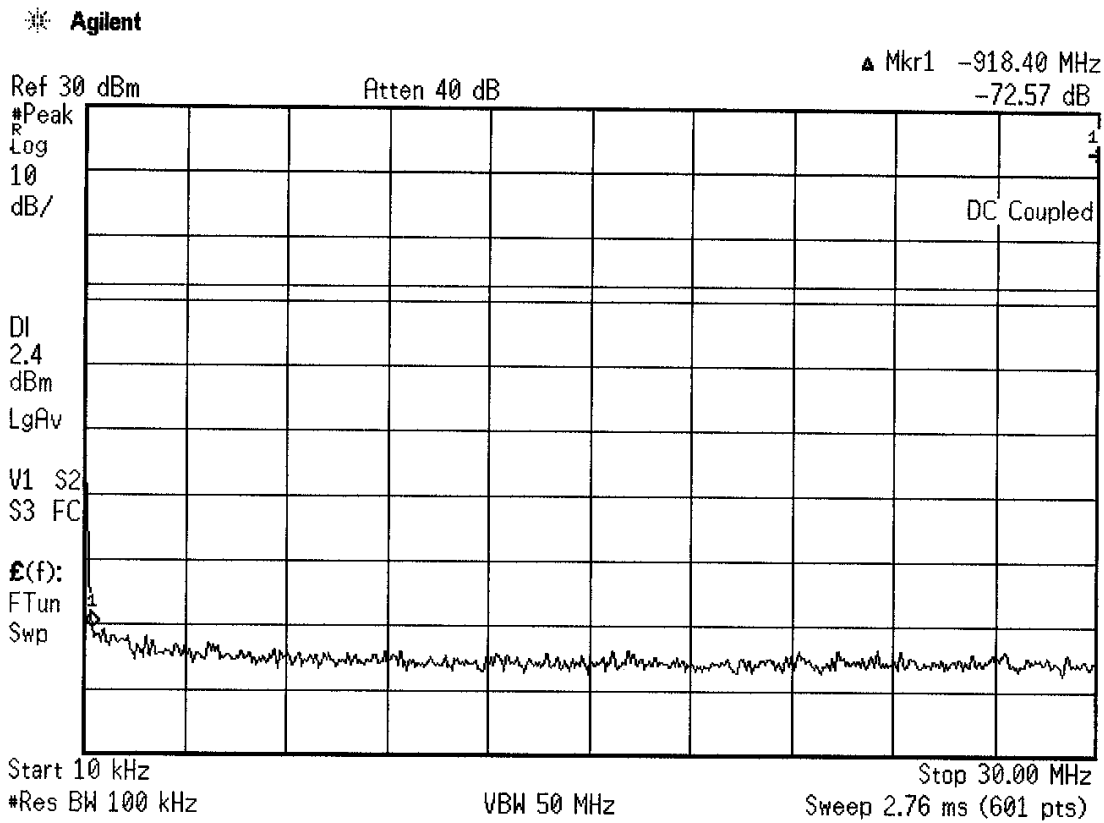




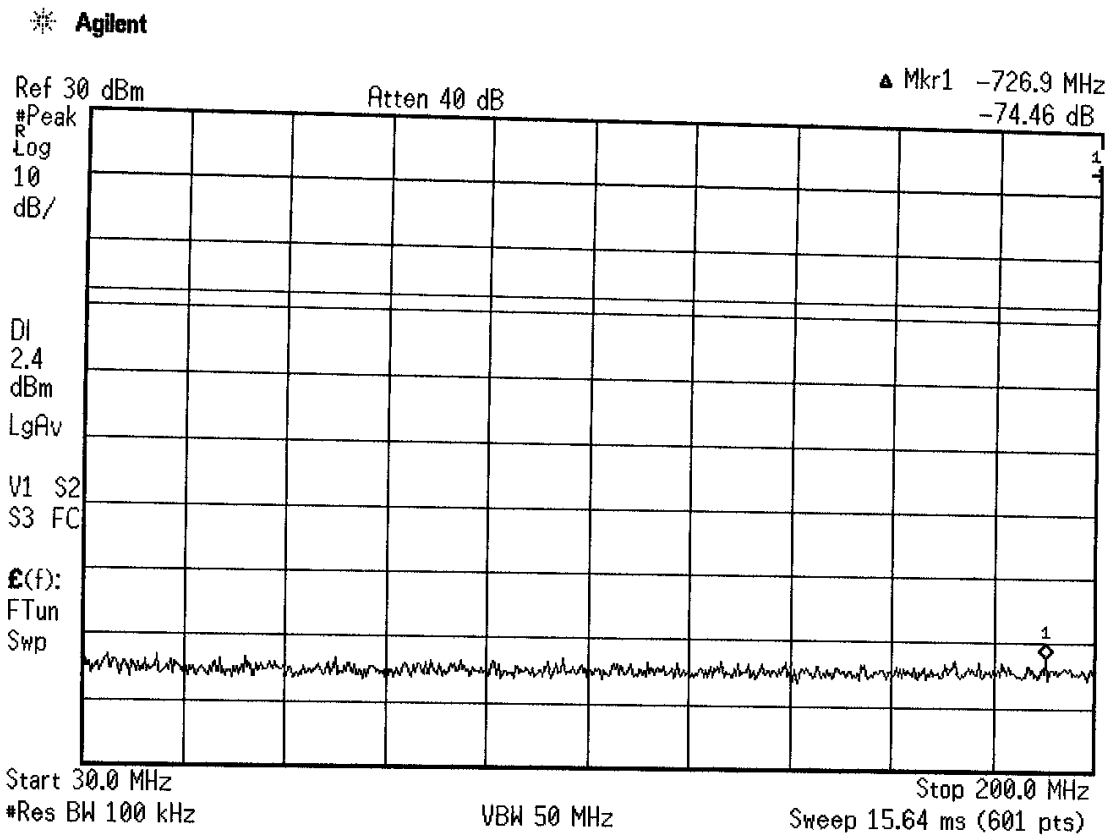
15.247(c), (RSS-Gen 7.2.2) RF conducted mid channel



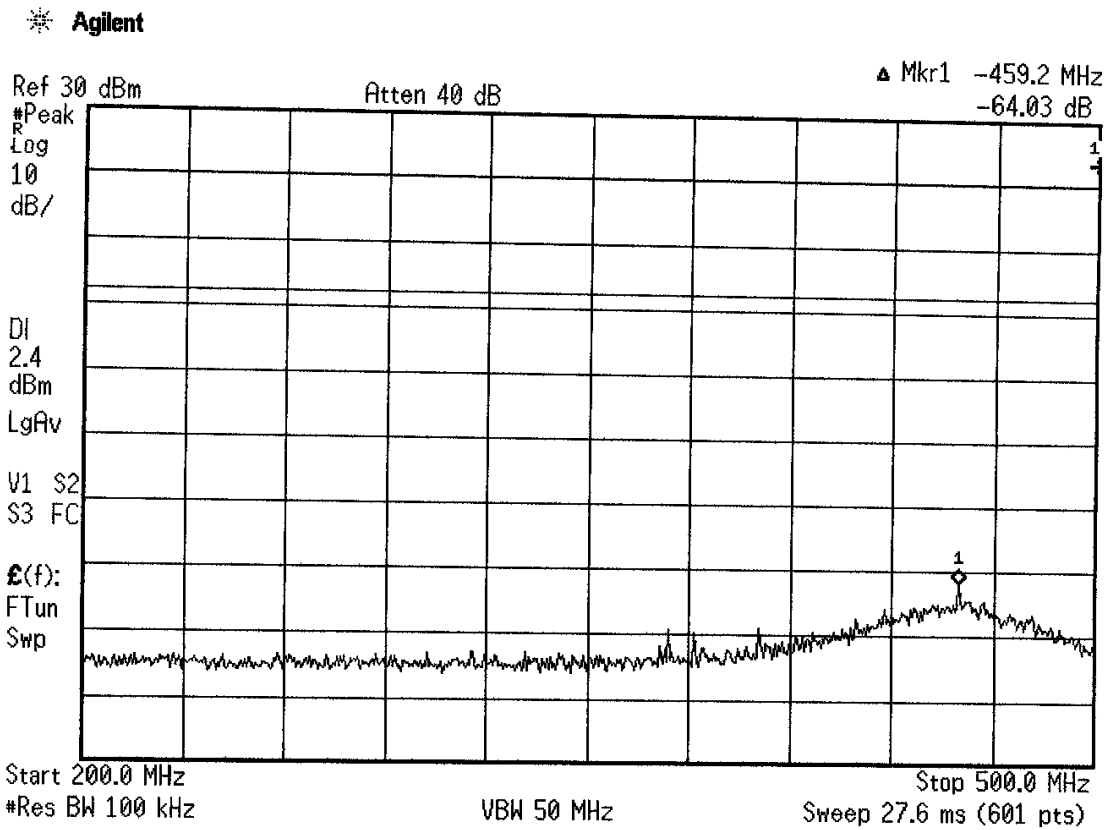
15.247(c), (RSS-Gen 7.2.2) RF conducted high channel



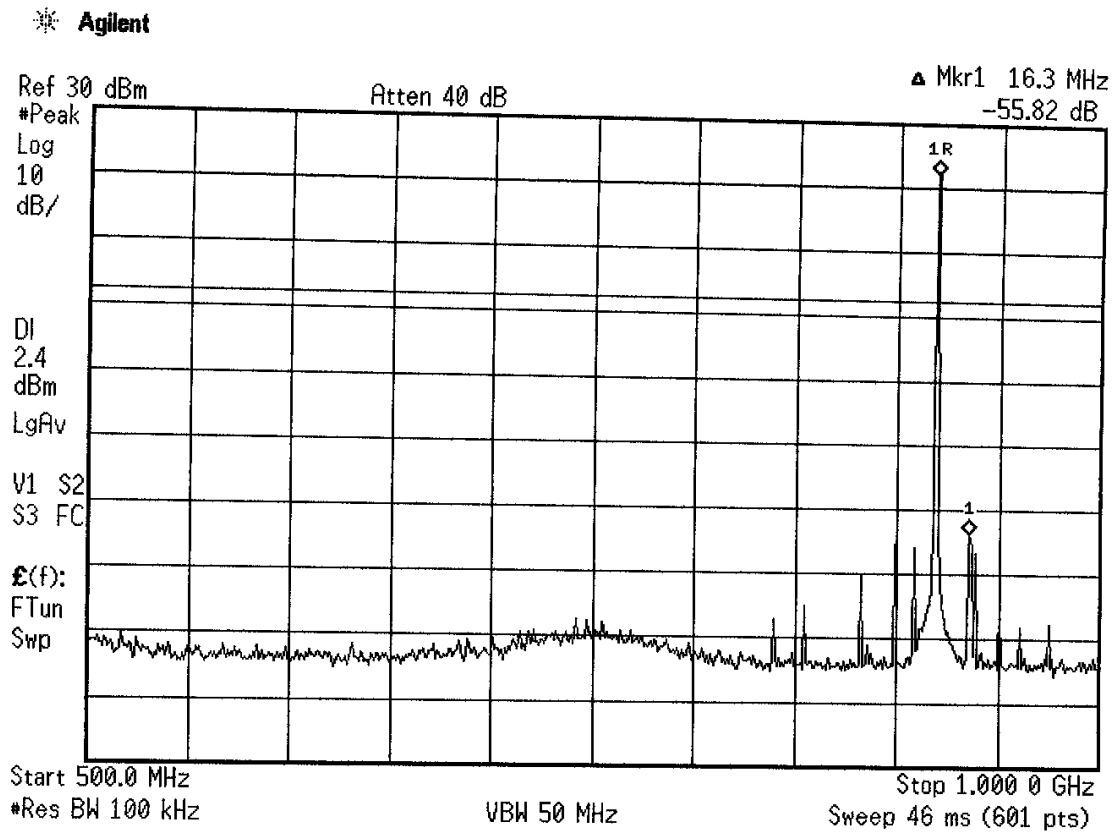
15.247(c), (RSS-Gen 7.2.2) RF conducted high channel



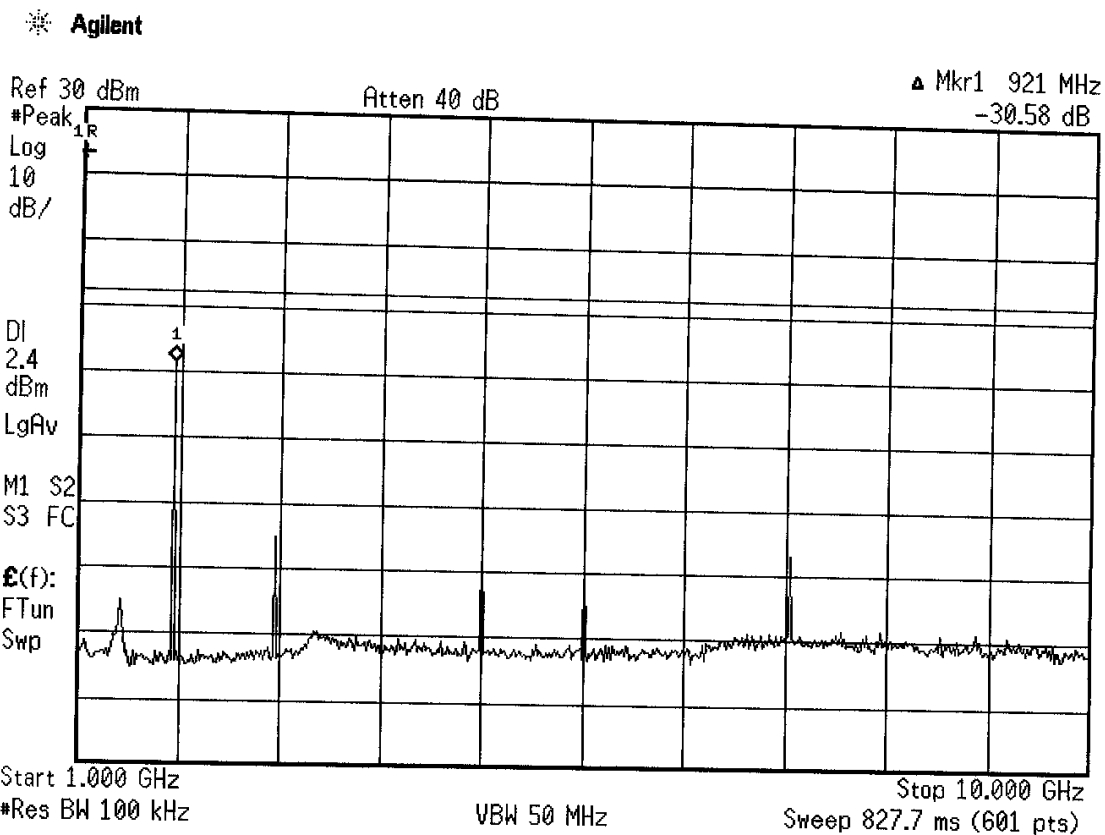
15.247(c), (RSS-Gen 7.2.2) RF conducted high channel



15.247(c), (RSS-Gen 7.2.2) RF conducted high channel



15.247(c), (RSS-Gen 7.2.2) RF conducted high channel





REPORT No. SC604004 TESTER: David Gray SPEC: FOC Part 15 para 15.209(a)
CUSTOMER: Directed Electronics TEST DIST: 3 Motors
E U T: Responder SST IVU TEST SITE: Roof
EUT MODE: Transmitting BICONICAL: N/A
DATE: July 6, 2006 LOG: N/A
NOTES: *** Duty Cycle Correction = 4.5dB *** OTHER: 453
above 1GHz: RBW & VBW 1 MHz for Pk, RBW 1MHz and VBW 10Hz for AVG
below 1GHz: RBW & VBW 100 kHz for Pk, RBW 100kHz and VBW 10Hz for AVG
CF = Antenna Factor + Cable Loss - Preamp/plier Gain + Preselector Loss

FREQ (MHz)	VERTICAL (dBuV)		HORIZONTAL (dBuV)		CF (dB/m)		MAX LEVEL (dBuV/m)		SPEC LIMIT (dBuV/m)		MARGIN (dB)		EUT Rotation	Antenna Height	Notes
	pk	av	pk	av			pk	av	pk	av	pk	av			
909.546															Low Channel
2726.638	57.2	53.6	58.9	55.5	-4.08244	54.82	51.4	74	54	-19.2	-7.08	180	1.8		
3638.184	48	35.3	45.9	35.2	-0.30654	47.89	35	74	54	-26.3	-23.5	180	1.7		
4547.73	60.8	55.7	54.1	48	-1.38999	59.41	54.3	74	54	-14.6	-4.19	150	1.4		
5457.276	58.8	52	55.4	48.3	3.61802	62.42	55.6	74	54	-11.6	-2.88	0	1.9		
7276.368	52	41.7	48	37	7.73164	59.73	49.4	74	54	-14.3	-9.07	116	2		
8185.914	54.3	42.8	51.7	40.6	8.78591	63.09	51.6	74	54	-10.9	-6.91	120	1.4		
9095.46	47.5	34.6	45.5	33.6	10.0709	57.57	44.7	74	54	-16.4	-13.8	300	1.1		
914.439															Mid Channel
2743.317	55.6	51.6	49	44.2	-3.99143	51.61	47.6	74	54	-22.4	-10.9	270	2		
3657.756	45.2	36.5	44.7	34.1	-0.27914	44.92	36.2	74	54	-29.1	-22.3	140	1.6		
4572.195	61	56	59	53.9	-1.28234	59.72	54.7	74	54	-14.3	-3.78	270	1.7		
7315.512	53.6	43.4	47.1	36.8	7.77861	61.38	51.2	74	54	-12.6	-7.32	100	1.7		
8229.951	51.9	40.6	50.6	39.8	8.82955	60.73	49.4	74	54	-13.3	-9.07	120	1.4		
9144.39	50.5	39	45.6	34.5	9.95346	60.45	49	74	54	-13.5	-9.55	70	1.7		
918.78															High Channel
2756.34	55.2	52	56.8	53.7	-3.91060	52.89	49.8	74	54	-21.1	-8.71	160	1.7		
3675.12	48.2	39.4	46.8	34.1	-0.25483	47.95	39.1	74	54	-26.1	-19.4	160	1.8		
4593.9	63.2	58.9	60.2	55.9	-1.18684	62.01	57.7	74	54	-12	-0.79	200	1.5		
7350.24	53.6	44.2	47.3	36.8	7.82029	61.42	52	74	54	-12.6	-6.48	240	1.5		
9187.8	46.3	35	46.8	34.5	9.84928	56.65	44.8	74	54	-17.4	-13.7	60	1.1		

ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

All tests were performed per: CFR 47, Part(s) 15.247(a), 15.247(b), 15.247(c), 15.109(a), and 15.209(a)
RSS-Gen 4.4.1; 4.4.2; 4.6; 7.2.2; and 7.2.3.2

■ - **Performed**

The Equipment Under Test

■ - **Fulfills** the requirements of: CFR 47, Part(s) 15.247(a), 15.247(b), 15.247(c), 15.109(a), and 15.209(a)
RSS-Gen 4.4.1; 4.4.2; 4.6; 7.2.2; and 7.2.3.2

Testing Start Date: 06 July 2006

Testing End Date: 06 July 2006

- TÜV AMERICA, INC. -

Reviewing Engineer:



Chuck Rickard
(EMC Engineer)

Test Engineer:



David Gray
(EMC Engineer In Charge)