



**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
INTENTIONAL RADIATOR CERTIFICATION TO
FCC PART 15 SUBPART C REQUIREMENT**

**TEST REPORT
FOR**

903MHz RF WIRELESS BELT CLIP BASE STATION

FCC ID: NQ2AM1032

MODEL NO: AM1032

REPORT NO: 01U1110-1

DECEMBER 28, 2001

Prepared for
ADVANCED MOBILE SOLUTIONS, INC.
375 RHEEM BLVD.,
MORAGA, CA 94556, U.S.A.

Prepared by
COMPLIANCE CERTIFICATION SERVICES
561F MONTEREY ROAD
MORGAN HILL, CA 95037, U.S.A.
TEL: (408) 463-0885
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NVLAP[®]
LAB CODE:200065-0

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1. VERIFICATION OF COMPLIANCE

COMPANY NAME : ADVANCED MOBILE SOLUTIONS, INC.
 375 RHEEM BLVD.,
 MORAGA, CA 94556, U.S.A.

CONTACT PERSON : SEAN KIM / DIRECTOR OF RETAIL SALES

TELEPHONE NO : (925) 377-3200

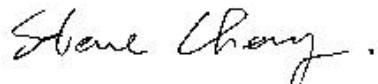
EUT DESCRIPTION : 903MHz RF WIRELESS BELT CLIP BASE STATION

MODEL NAME : AM1032

DATE TESTED : DECEMBER 28, 2001

LIMITS APPLY TO: FCC PART 15 SECTION 15.249	
TECHNICAL LIMITS	TEST RESULT
Radiated Emission of fundamental Frequency	No non-compliance found
Radiated Emission of Harmonic Frequency	No non-compliance found
Radiated Emission Outside the Band	No non-compliance found
LIMITS APPLY TO: FCC PART 15 SECTION 15.209	
Radiated Emission Digital Device	No non-compliance found
LIMITS APPLY TO: FCC PART 15 SECTION 15.207	
AC Line Conducted Emission	N/A

The above equipment was tested by Compliance Certification Services Inc. for compliance with the requirements set forth in CFR 47 PART 15 SUBPART C. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

Test by:

THU CHAN / EMC SENIORE ENGINEER
 COMPLIANCE CERTIFICATION SERVICES

Review by:

STEVE CHENG / ENGINEERING MANAGER
 COMPLIANCE CERTIFICATIONS SERVICES

Warning: This document reports conditions under which testing was conducted and results of tests performed. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revision section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document.

2. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

CHASSIS TYPE	PLASTIC
Frequency Range	903 MHz
Antenna Requirement	Permanently Built-in
Power requirement	1.5Vdc AAA battery

3. TEST LOCATION

All emissions tests were performed at:

Compliance Consulting Services
561F Monterey Road
Morgan Hill, CA 95087

CCS has site descriptions on file with the FCC for 10 and 3 meter site configurations. CCS is a NVLAP accredited facility.

4. EQUIPMENT MODIFICATIONS

To achieve compliance Levels, the following change(s) were made during compliance testing:

No changes were required in order to achieve compliance to class B levels.

5. TEST RESULT SUMMARY

Radiated Emissions (Fundamental Emission Filed Strength)

Test Requirement: 15.249(A)(B)

Measurement Equipment Used:

HP Spectrum Analyzer / 8566B (Cal Due: 5/4/02)

HP Spectrum Display / 85662A (Cal Due: 5/4/02)

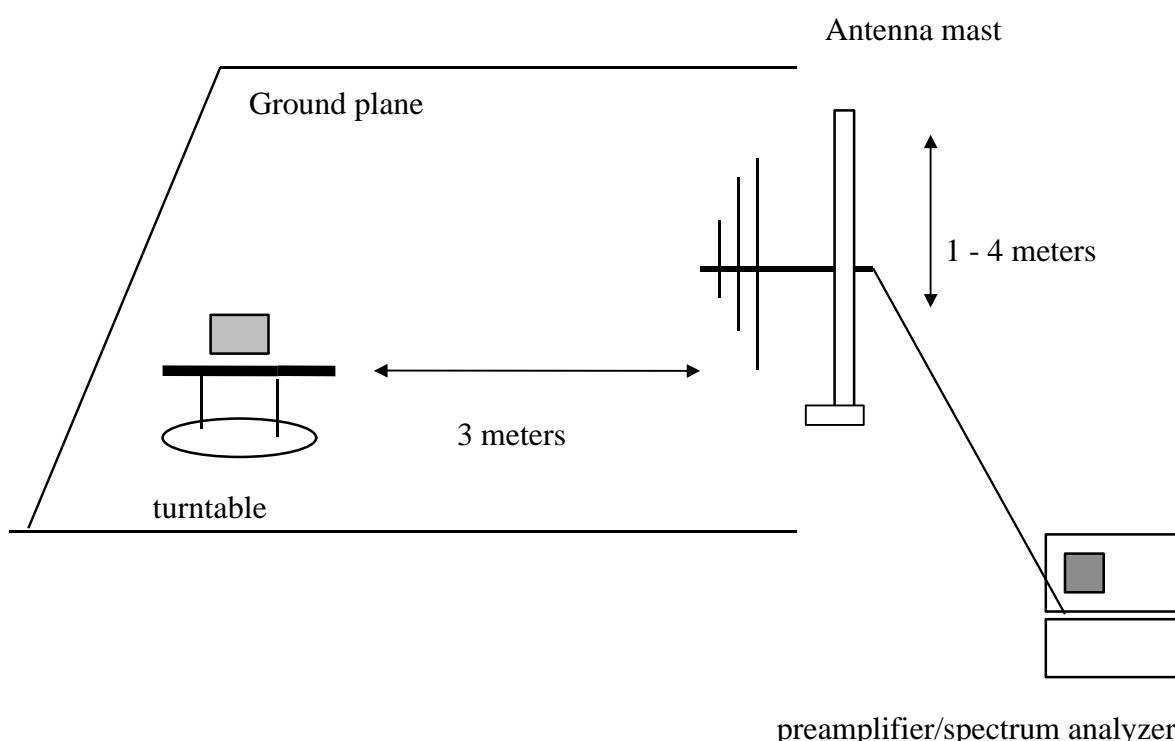
HP Quasi-Peak Detector / 85650A (Cal Due: 5/4/02)

HP Pre-Amp (P5) / 8447D (Cal Due: 8/10/02)

EMCO LP Antenna / 3146 (Cal Due: 8/2/02)

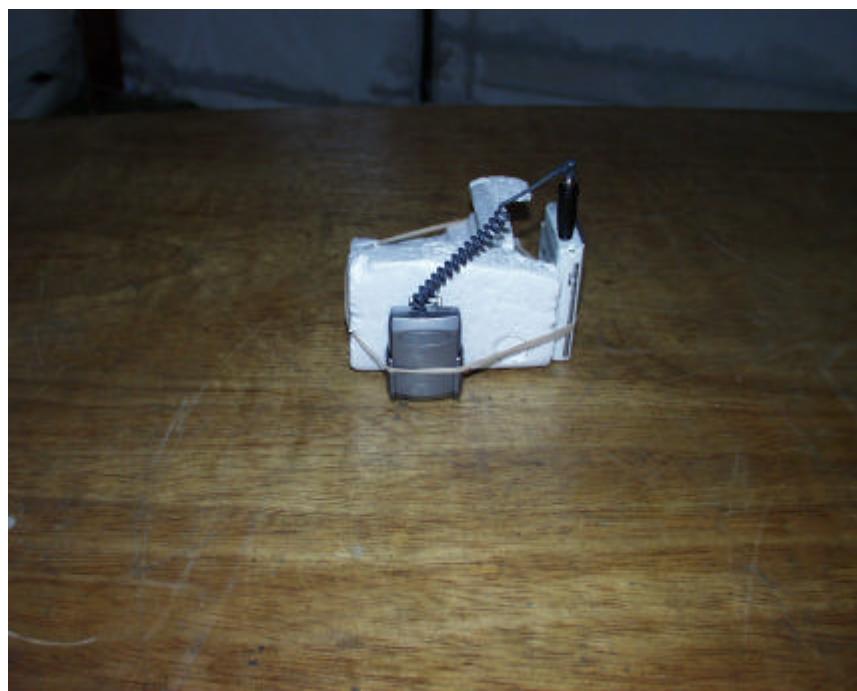
EATON Biconical Antenna / 94455-1 (Cal Due: 8/2/02)

TEST SETUP FOR MEASUREMENT OF FUNDAMENTAL FREQUENCY



Test Procedures

- 1) Place the EUT on the turntable as shown. The EUT was placed as close as possible to the center of the turntable with the axis of rotation going through the EUT antenna when in vertical or horizontal polarization. Activated Eut to transmit.
- 2) The Bilog search antenna was place at a distance of 3 meters. The antenna was raised and lowered and the EUT rotated on the turntable to produce maximum emission levels on the spectrum analyzer.
- 3) The EUT (Belt-Clip) was placed standing-up (x-axis), laying down right side (y-axis) and laying down facing up (z-axis). Step (1) and (2) were repeated for each orientation.

Test Setup Photo & Results:**X-Position**



Y-Position



Z-Position



FCC, VCCI, CISPR, CE, AUSTEL, NZ
UL, CSA, TUV, BSMI, DHHS, NVLAP

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Project #: 01U1111-1

Report #: 011219C1

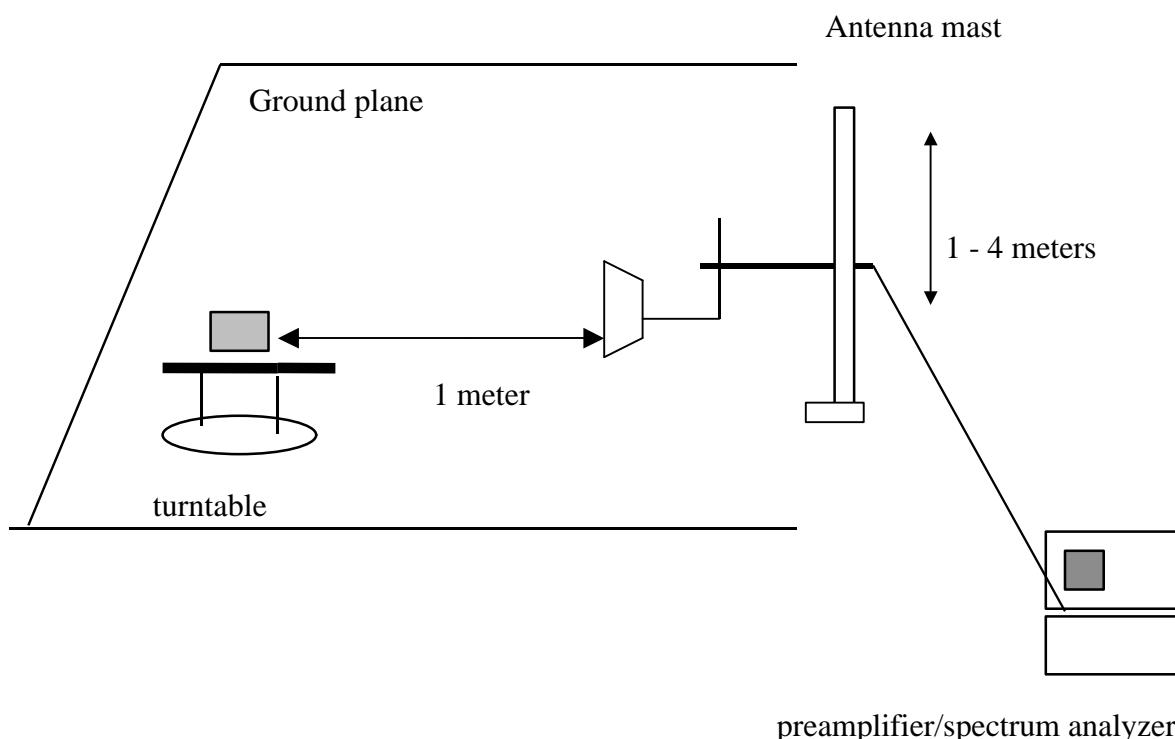
Date & Time: 12/19/01 12:24 PM

Test Engr: Thu Chan

Company: Advanced Mobile Solutions
EUT Description: 903MHz / 927MHz RF Wireless Hands-Free Headset
Test Configuration: EUTs only (Belt-Clip & Headset)
Type of Test: FCC 15.249
Mode of Operation: Continued communication between two units

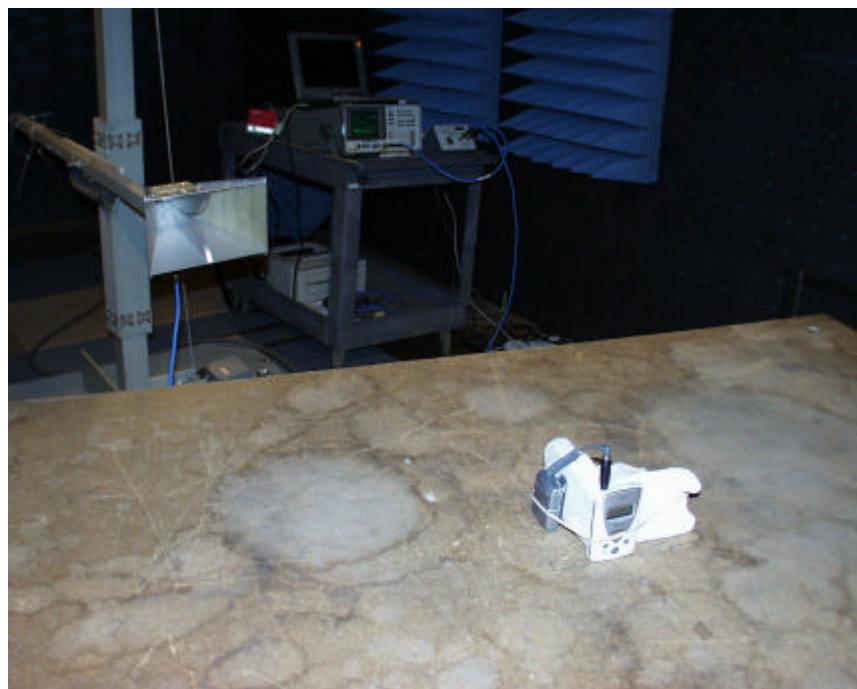
A-Site B-Site C-Site F-Site 6 Worst Data Descending

Freq. (MHz)	Reading (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC_B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q/A)
X-Position Standup:											
903.07	86.20	21.75	4.96	27.52	85.39	93.98	-8.58	3mV	180.00	1.20	P
927.06	80.50	22.05	5.00	27.43	80.12	93.98	-13.85	3mV	180.00	1.00	P
927.06	69.00	22.84	5.00	27.43	69.41	93.98	-24.57	3mH	180.00	1.30	P
903.07	74.20	22.50	4.96	27.52	74.15	93.98	-19.83	3mH	180.00	1.20	P
Y-Position Side Lay down:											
903.07	77.00	22.50	4.96	27.52	76.95	93.98	-17.03	3mH	180.00	1.00	P
927.06	74.50	22.84	5.00	27.43	74.91	93.98	-19.07	3mH	180.00	1.00	P
927.06	66.00	22.05	5.00	27.43	65.62	93.98	-28.36	3mV	180.00	1.00	P
903.07	79.00	21.75	4.96	27.52	78.19	93.98	-15.78	3mV	180.00	1.20	P
Z-Position Back Lay Down:											
903.07	74.00	21.75	4.96	27.52	73.19	93.98	-20.78	3mV	180.00	2.00	P
927.05	66.00	22.05	5.00	27.43	65.62	93.98	-28.36	3mV	180.00	1.00	P
927.05	74.00	22.84	5.00	27.43	74.41	93.98	-19.57	3mH	180.00	1.50	P
903.07	81.50	22.50	4.96	27.52	81.45	93.98	-12.53	3mH	180.00	1.00	P
Total data #:	12										
V.2c											

Radiated Emissions (Harmonics and Spurious Emission)**Test Requirement: 15.249(A)(B)(C)****Measurement Equipment Used:****HP EMC Receiver / 8593EM (Cal Due: 6/20/02)****EMCO Horn Antenna / 3115 (Cal Due: 5/4/02)****MITEQ Pre-Amp (1 – 26GHz) / NSP2600-44 (Cal Due: 4/12/02)****FLEXCO SMA able / 20761; 16ft. Cable (loss: .9dB/ft @ 26GHz)**TEST SETUP FOR MEASUREMENT OF FUNDAMENTAL HARMONICS
& OUT-OF-BAND ABOVE 1GHz

Test Procedures

1. The EUT was placed on a wooden turntable. The search antenna was placed at 1 meter from the EUT.
2. The turntable was slowly rotated to locate the direction of maximum emission. Once maximum direction was determined, the search antenna was raised and lowered in both vertical and horizontal polarizations.
3. The EUT was placed standing-up (x-axis), laying down right side (y-axis) and laying down facing up (z-axis). Step (1) and (2) were repeated for each orientation.

Test Setup Photo & Results:

12/27/01 FCC Measurement.
Compliance Certification Services, Morgan Hill Open Field Site

Company: Advanced Mobile Solutions
EUT: 903MHz RF Wireless Hands-Free Headset
MIN: AM1032 (Belt-Clip)

Equipment for 1.26.5 GHz
HP0593EM EMC Receiver
Mitem NSP2600-44 Preamp
EMCO 3115 Antenna
Cable: 16.0 feet

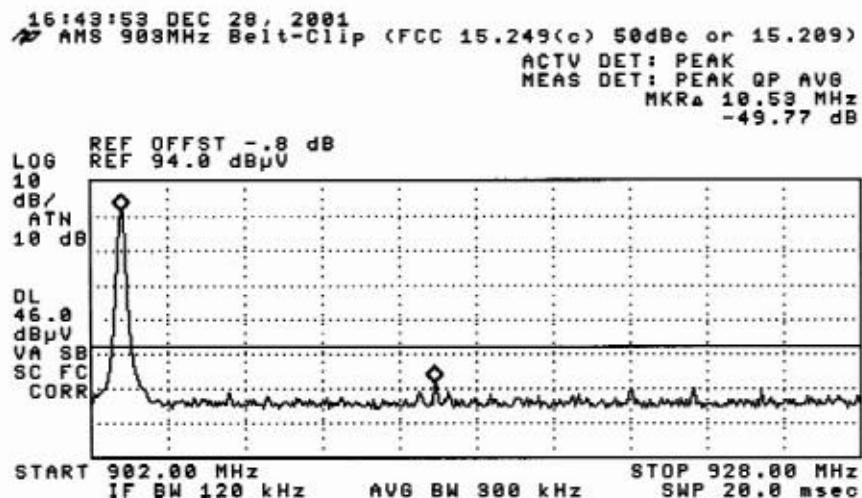
Average Measurements:
1 MHz Resolution Bandwidth
10Hz Video Bandwidth

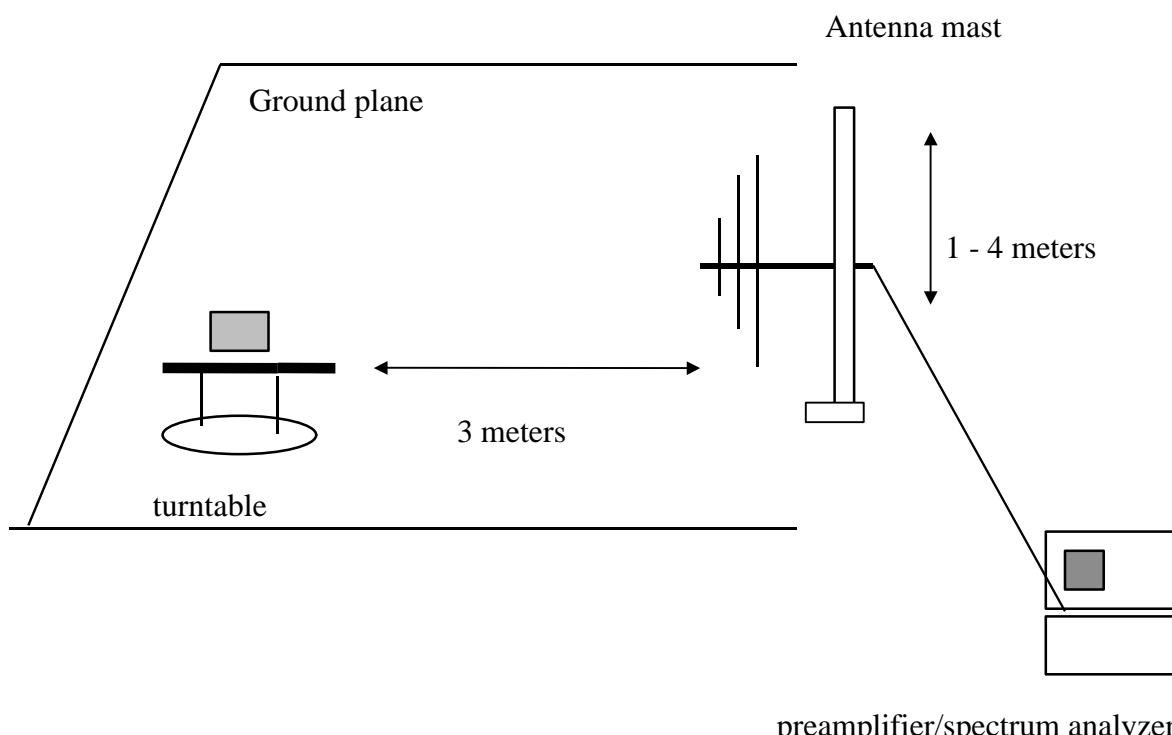
Peak Measurements:
1MHz Resolution Bandwidth
1MHz Video Bandwidth

f GHz	Dist feet	Read Peak dBuV	Read Avg. dBuV	AF	CL	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Peak Lim dBuV/m	Avg Lim dBuV/m	Peak Mar dB	Avg Mar dB	Notes
1.806	33	56.3	54.3	26.2	3.8	-42.5	-9.5	0.0	34.0	32.0	114.0	94.0	-80.0	-62.0	V
1.806	33	47.1	39.6	26.2	3.6	-42.5	-9.5	0.0	24.7	17.3	114.0	84.0	-88.3	-76.7	H
2.709	33	55.0	51.5	28.9	4.3	-42.3	-9.5	0.0	36.4	32.9	74.0	64.0	-37.8	-21.1	V
2.709	33	56.0	54.0	28.9	4.3	-42.3	-9.5	0.0	37.4	35.4	74.0	64.0	-36.6	-16.6	H
3.812	33	46.5	38.5	31.8	5.1	-42.0	-9.5	0.0	31.9	23.9	74.0	64.0	-42.1	-30.1	V
3.812	33	46.5	38.0	31.8	5.1	-42.0	-9.5	0.0	30.9	23.4	74.0	64.0	-43.1	-30.6	H
4.515	33	44.0	34.0	32.0	5.9	-41.9	-9.5	0.0	30.5	20.5	74.0	64.0	-45.5	-33.5	V
4.515	33	44.3	34.4	32.0	5.9	-41.9	-9.5	0.0	30.8	20.9	74.0	64.0	-43.2	-33.1	H
5.419	22	42.5	31.5	34.0	6.8	-41.7	-9.5	0.0	31.9	20.9	74.0	64.0	-42.1	-30.1	V
5.419	33	43.0	32.0	34.0	6.6	-41.7	-9.5	0.0	32.4	21.4	74.0	64.0	-41.6	-32.6	H
8.321	33	42.5	32.0	34.2	7.2	-41.5	-9.5	0.0	32.8	22.3	74.0	64.0	-41.2	-31.7	Noise Floor
7.224	33	44.5	34.5	36.5	7.7	-41.2	-9.5	0.0	30.1	20.1	74.0	64.0	-36.9	-26.9	Noise Floor
8.127	33	45.2	34.5	37.0	8.2	-40.3	-9.5	0.0	40.6	20.0	74.0	64.0	-33.4	-24.1	Noise Floor
9.030	33	45.2	34.5	37.9	8.7	-39.4	-9.5	0.0	43.0	32.3	74.0	64.0	-31.0	-21.7	Noise Floor

I	Measurement Frequency	Amp	Preamp Gain	Aug Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Aug Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

Belt-Clip Harmonic & Spurious Emissions

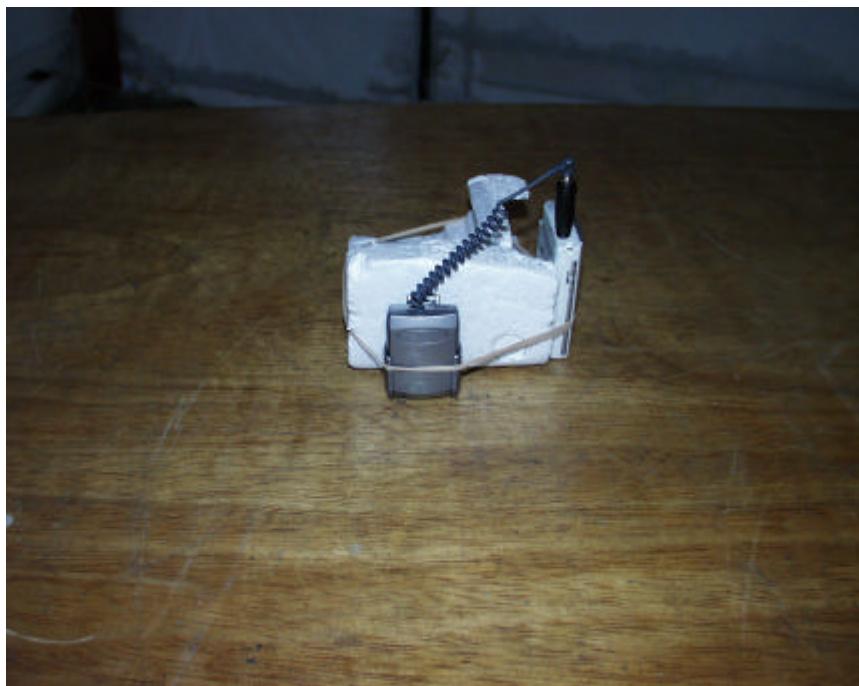


Radiated Emissions**Test Requirement: 15.209****Measurement Equipment Used:****HP Spectrum Analyzer / 8566B (Cal Due: 5/4/02)****HP Spectrum Display / 85662A (Cal Due: 5/4/02)****HP Quasi-Peak Detector / 85650A (Cal Due: 5/4/02)****HP Pre-Amp (P5) / 8447D (Cal Due: 8/10/02)****EMCO LP Antenna / 3146 (Cal Due: 8/2/02)****EATON Biconical Antenna / 94455-1 (Cal Due: 8/2/02)****TEST SETUP FOR MEASUREMENT OF DIGITAL DEVICE**

Test Procedures

- 1) Place the EUT on the turntable as shown. The EUT was placed as close as possible to the center of the turntable with the axis of rotation going through the EUT antenna when in vertical or horizontal polarization. Activated Eut to transmit.
- 2) The Bilog search antenna was place at a distance of 3 meters. The antenna was raised and lowered and the EUT rotated on the turntable to produce maximum emission levels on the spectrum analyzer.

The EUT was placed standing-up (x-axis, worst position).

Test Setup Photo & Results:



FCC, VCCI, CISPR, CE, AUSTEL, NZ
UL, CSA, TUV, BSMI, DHHS, NVLAP

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PHONE: (408) 463-0885 FAX: (408) 463-0888

Project #: 01U1111-1

Report #: 011219C1

Date & Time: 12/19/01 12:24 PM

Test Engr: Thu Chan

Company: Advanced Mobile Solutions
EUT Description: 903MHz / 927Mhz RF Wireless Hands-Free Headset
Test Configuration : EUT only
Type of Test: FCC Class B
Mode of Operation: Continued communication between two units

A-Site

B-Site

C-Site

F-Site

6 Worst Data

Descending

Freq. (MHz)	Reading (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC_B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q/A)
912.55	44.00	21.87	4.98	27.48	43.36	46.00	-2.64	3mV	180.00	1.00	P
941.55	39.00	22.23	5.03	27.38	38.88	46.00	-7.12	3mV	180.00	1.00	P
912.63	40.00	22.64	4.98	27.48	40.13	46.00	-5.87	3mH	180.00	1.00	QP
36.75	49.00	11.37	0.82	27.55	33.65	40.00	-6.36	3mV	180.00	1.00	P
36.75	42.00	15.33	0.82	27.55	30.61	40.00	-9.39	3mH	180.00	3.20	P
46.78	42.00	14.05	0.88	27.51	29.42	40.00	-10.58	3mH	180.00	3.20	P
No other emission were found within 20dB FCC class B limits up to 1GHz.											
Total data #:	6										
V.2c											

AC Line Conducted Emissions**Test Requirement: 15.207**

Not applicable. DC battery operating only.