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

OF

FCC ID: BW3DB-8214

DIRECT SEQUENCE SPREAD SPECTRUM CORDLESS PHONE

MODEL NO: DB8214

BRAND NAME: DBTEL

SERIAL NO: N/A

REPORT NO:98E7288

DATE:SEPT 29,1998

Prepared for

DBTEL INC.
NO. 29 TZU CHIANG ST., TU-CHENG
TAIPEI, TAIWAN

Prepared by

COMPLIANCE ENGINEERING SERVICES, INC.
1366 BORDEAUX DRIVE
SUNNYVALE, CA 94089, U.S.A.
TEL: (408) 752-8166
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1. VERIFICATION OF COMPLIANCE

COMPANY NAME : DBTEL INC.
NO. 29 TZU CHIANG ST., TU-CHENG
TAIPEI, TAIWAN

CONTACT PERSON : ABRAHAM CHANG

TELPHONE NO : (02)2268-2081

EUT DESCRIPTION : DIRECT SEQUENCE SPREAD SPECTRUM CORDLESS PHONE

MODEM NAME : DB8214

DATE TESTED : JULY 22,1998

LIMIT APPLY TO: FCC PART 15 SECTION 15.247	
TECHNICAL LIMITS	**TEST RESULT**
Minimum 6dB Bandwidth@ > 500kHz	Passed
RF Power Output < 1 Watt	Passed
Out of Band Measurements	Passed
DSSS Power Density < 8dBm @ 3kHz bandwidth	Passed
Processing Gain of a DSSS > 10dB	Passed
LIMIT APPLY TO: FCC PART 15 SECTION 15.205/SECTION 15.209	
Restricted Band of Operation	Passed
LIMIT APPLY TO: FCC PART 15 SECTION 15.109	
Radiated Emission Limits	Passed
LIMIT APPLY TO: FCC PART 15 SECTION 15.207	
AC Line Conducted Emission	Passed

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

MIKE KUO, VICE PRESIDENT
COMPLIANCE ENGINEERING SERVICES, INC.

2. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

CHASSIS TYPE	**PLASTIC**
Frequency Range	**904-925MHZ**
No. Of Channel	**20**
Modulation Type	**TDMA/ Spread Spectrum**
Power Cord	**Unshielded**
Security Code	**12-Bite P/N code, 8-Bite scramble, 16-bit 2D**

Channel Mapping

Channel No.	Base(Frequency)	Hand Set(Frequency)
1	904.2	904.2
2	904.8	904.8
3	906.0	906.0
4	907.2	907.2
5	908.4	908.4
6	909.6	909.6
7	910.8	910.8
8	912.0	912.0
9	913.2	913.2
10	914.4	914.4
11	915.6	915.6
12	916.8	916.8
13	918.0	918.0
14	919.2	919.2
15	920.4	920.4
16	921.6	921.6
17	922.8	922.8
18	924.0	924.0
19	925.2	925.2
20	925.8	925.8

3. TEST FACILITIES

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.

Radiated emissions from the digital portion of the EUT were performed on site A, one of the 10 meter sites.

4. ACCREDITATION AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code:200065-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission (reference no: 31040/SIT (1300B3) and 31040/SIT(1300F2))

5. MEASUREMENT INSTRUMENTATION

Radiated emissions were measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, BI-log, ridged waveguide, liner horn. EMI receivers were used for line conducted readings, spectrum analyzers with pre-selectors and quasi-peak detectors were used to perform radiated measurements. Receiving equipment (i.e., receiver, analyzer, quasi-peak adapter, pre-selector) and LISNs conform to CISPR specification for "Radio Interference Measuring Apparatus and Measurement Methods," Publication 16.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

6. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

7. UNITS OF MEASUREMENT

Measurements of radiated interference are reported in terms of dB(uV/m) at a specified distance. The indicated readings on the spectrum analyzer were converted to dB(uV/m) by use of appropriate conversion factors. Measurements of conducted interference are reported in terms of dB(uV).

The field strength is calculated by adding the Antenna Factor and Cable Factors, then by subtracting the Amplifier Gain from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG

Where FS = Field Strength
RA = Receiver Amplitude
AF = Antenna Factor
CF = Cable Attenuation Factor
AG = Amplifier Gain

Assume a receiver reading of 52.5 dBuV is obtained. The Antenna Factor of 7.4dB/m and a Cable Factor of 1.1dB is added. The Amplifier Gain of 29 dB is subtracted, giving a field strength of 32 dBuV/m. The 32 dBuV/m value was mathematically converted to its corresponding level in uV/m.

FS = 52.5 + 7.4 + 1.1 - 29 = 32 dBuV/m
Level in uV/m = Common Antilogarithm [(32 dBuV/m)/20] = 39.8 uV/m

8. ANTENNAS

The calibrated antennas used to sample the radiated field strength are mounted on a non-conductive, motorized antenna mast 3 meters from the leading edge of the turn table.

9. CLASSIFICATION OF DIGITAL DEVICE

Class A includes digital devices that are marketed for use in commercial, industrial or business environments, excluding devices which are marketed for use by the general public or are intended to be used in the home.

Class B includes digital devices that are marketed for use in residential environments, notwithstanding use in commercial, business and industrial environments.

Note: The responsible party may also qualify a device intended to be marketed in a commercial, business or industrial environment as Class B device, and in fact is encouraged to do so provided the device complies with the technical specifications for a Class B digital device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B digital device, regardless of its intended use.

10. RADIATED EMISSION LIMITS

FCC PART 15 CLASS A

MEASURING DISTANCE OF 10 METER		
FREQUENCY RANGE (MHz)	FIELD STRENGTH (Microvolts/m)	FIELD STRENGTH (dBuV/m)
30-88	90	39.1
88-216	150	43.5
216-960	210	46.4
Above 960	300	49.5

FCC PART 15 CLASS B

MEASURING DISTANCE OF 3 METER		
FREQUENCY RANGE (MHz)	FIELD STRENGTH (Microvolts/m)	FIELD STRENGTH (dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

FCC RADIATED EMISSION ALTERNATIVE METHOD
(CISPR 22/EN55022)

Limits for radiated disturbance of Class A ITE at
measuring distance of 10 m

Frequency range MHz	Quasi-peak limits dB(uV/m)
30 to 230	**40**
230 to 1000	**47**
NOTES 1. The lower limit shall apply at the transition frequency. 2. Additional provisions may be required for cases where interference occurs.	

Limits for radiated disturbance of Class B ITE at
Measuring distance of 10 m

Frequency range MHz	Quasi-peak limits dB(uV/m)
30 to 230	**30**
230 to 1000	**37**
NOTES 1. The lower limit shall apply at the transition frequency. 2. Additional provisions may be required for cases where interference occurs.	

11. CONDUCTED EMISSION LIMITS

FCC CLASS A

FREQUENCY RANGE	FIELD STRENGTH (Microvolts)	FIELD STRENGTH (dBuV)/QP
450kHz-1.705MHz	1000	60
1.705MHz - 30MHz	3000	69.54

FCC CLASS B

FREQUENCY RANGE	FIELD STRENGTH (Microvolts)	FIELD STRENGTH (dBuV)/QP
450kHz-30MHz	250	48

FCC CONDUCTED EMISSION ALTERNATIVE METHOD
(CISPR 22/EN55022)

Limits for conducted disturbance at the mains ports of
Class A ITE

Frequency range MHz	Limits dB(uV)	
	Quasi-peak	**Average**
0.15 to 0.50	**79**	**66**
0.5 to 30	**73**	**60**
Note- The lower limit shall apply at the transition frequency.		

Limits of Conducted disturbance at the mains ports of Class B ITE

Frequency range MHz	Limits dB(uV)	
	Quasi-peak	**Average**
0.15 to 0.50	**66 to 56**	**56 to 46**
0.50 to 5	**56**	**46**
5 to 30	**60**	**50**
Note 1.The lower limit shall apply at the transition frequencies 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

12. CONDUCTED EMISSION TEST PROCEDURE

The EUT is located so that the distance between the boundary of the EUT and the closest surface to the LISN is 0.8m.

EUT test configuration is according to Section 7 of ANSI C63.4/1992.

Conducted disturbance shall be measured between the phase lead and the ground, and between the neutral lead and the ground. The frequency 0.450 - 30 MHz (or 0.150 - 30 MHz in case of CISPR 22/EN55022 method) shall be investigated.

Set the EMI receiver to PEAK detector setting and sweep continuously over the frequency range to be investigated. Set resolution bandwidth to 9kHz minimum. Connect EMI receiver input cable to LINE 1 RF measurement connection on the LISN. Connect a 50ohm terminator to the unused RF connection on the LISN. For each mode of EUT operation, maximize emissions readings by manipulating cable and wire positions. Record the configuration for each EUT power cord, which produces emissions closest to the limit. Repeat the same procedure for LINE 2 of each EUT power cord.

13. RADIATED EMISSION TEST PROCEDURE

The EUT and all other support equipment are placed on a wooden table 80-cm above the ground screen. Antenna to EUT distance is either 3 meters or 10 meters (Class B or Class A). During the test, the table is rotated 360 degrees to maximize emissions and the antenna is positioned from 1 to 4 meters above the ground screen to further maximize emissions. The antenna is polarized in both vertical and horizontal positions.

EUT test configuration is according to Section 8 of ANSI C63.4/1992.

Monitor the frequency range of interest at a fixed antenna height and EUT azimuth. Frequency span should be small enough to easily differentiate between broadcast stations and intermittent ambients. Rotate EUT 360 degrees to maximize emissions received from EUT. If emission increases by more than 1 dB, or if another emission appears that is greater by 1 dB, return to azimuth where maximum occurred and perform additional cable manipulation to further maximize received emission.

Move antenna up and down to further maximize suspected highest amplitude signal. If emission increased by 1 dB or more, or if another emission appears that is greater by 1dB or more, return to antenna height where maximum signal was observed and manipulate cables to produce highest emissions, noting frequency and amplitude.

14. AMBIENT CONDITIONS

The ambient conditions at the time of final tests were as follows:

	Radiated Emission	Conducted Emission
Temperature	**13** ^{o}C	**17**^{o}C
Humidity	**90%**	**72%**

15. TEST PROCEDURES AND TEST RESULTS

Radiated Emissions (General Requirements)

TEST REQUIREMENT: 15.205

Measurement Equipment Used:

HP 8563E Spectrum Analyzer
HP 8449 B Preamplifier, 1 - 26 GHz
ARA DRG-118/A Double Ridged Horn antenna, 1 - 18 GHz
QIM "The Workhorse" low loss cable, 9ft (loss: 0.85 dB/ft @ 26 GHz)

Test Set-Up

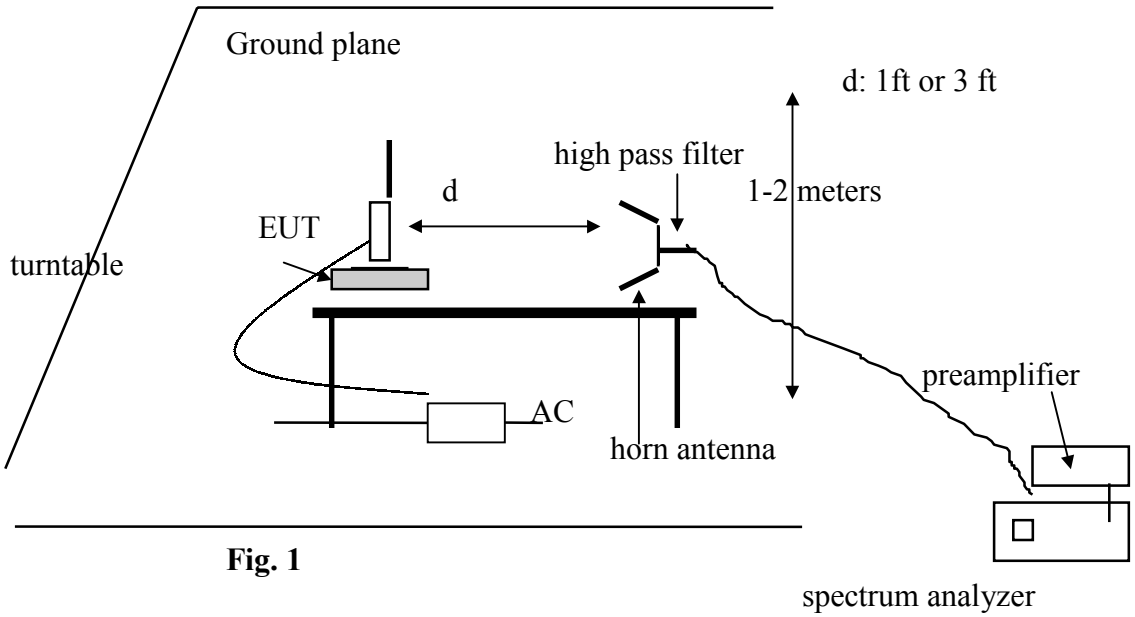


Fig. 1

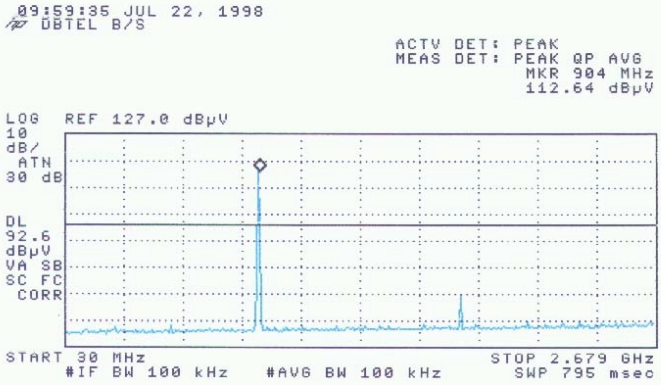
Test Procedures

1. The EUT was placed on a wooden table on the outdoor ground plane. The search antenna was placed 3 ft from the EUT. The EUT antenna was mounted vertically as per normal installation.

2. The turntable was slowly rotated to locate the direction of maximum emission at each emission falling in the restricted bands of 15.205.

3. Once maximum direction was determined, the search antenna was raised and lowered in both vertical and horizontal polarizations. The maximum readings so obtained are recorded in the data listed below.

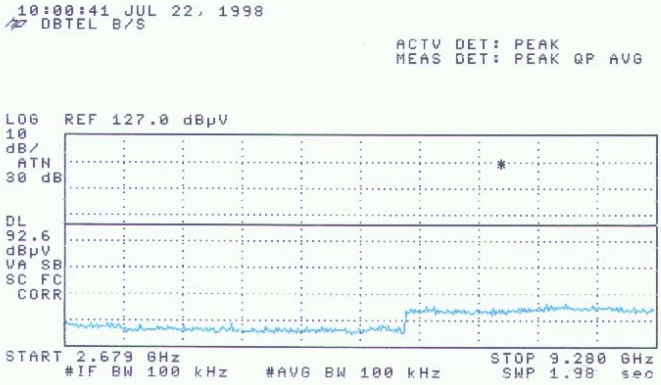
Test Results: Refer to attached tabular data sheets



PLOT 4

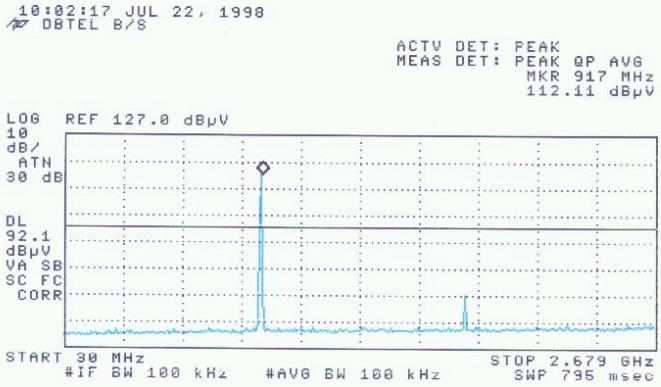
BASE STATION OUT OF BAND 20dBC

channel 1



PLOT 5

SAME AS ABOVE

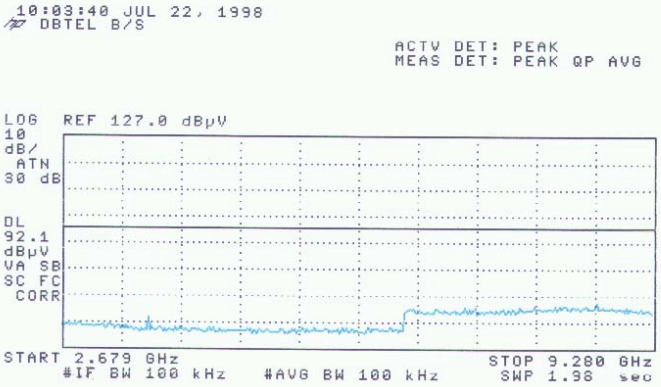


PLOT 6

BASE STATION

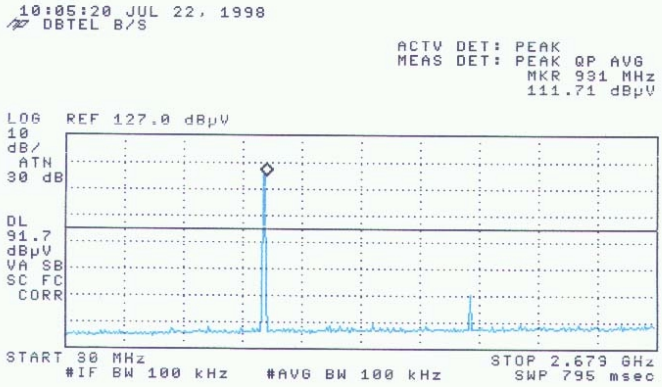
OUT OF BAND 20dBC

channel 10

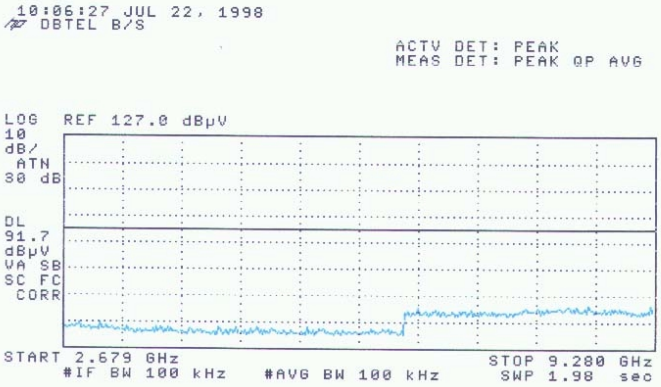


PLOT 7

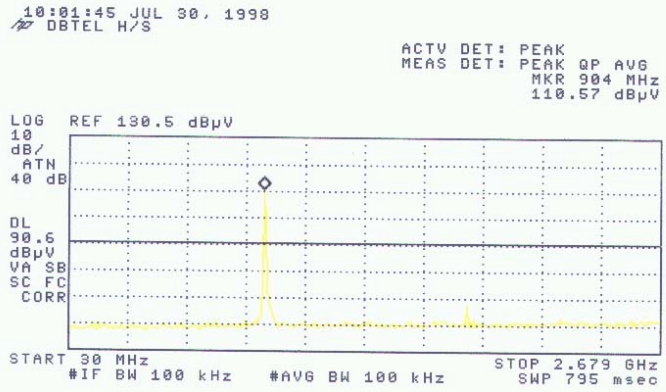
SAME AS ABOVE



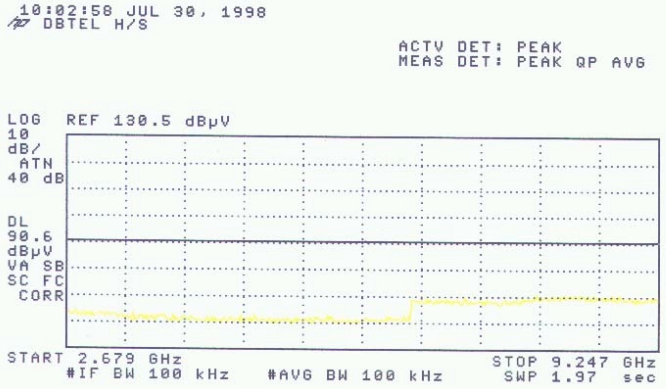
PLOT 8
BASE STATION
OUT OF BAND 20dBc
channel 20



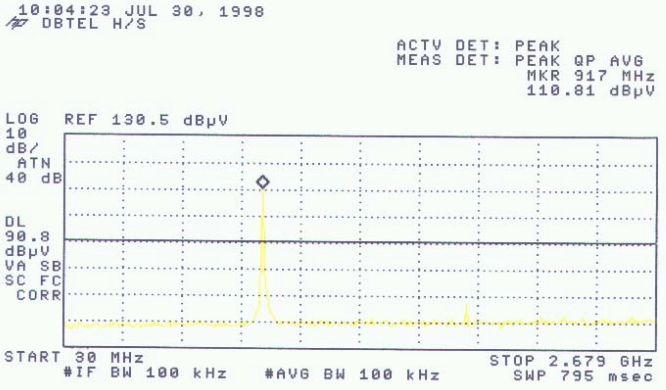
PLOT 9
SAME AS ABOVE



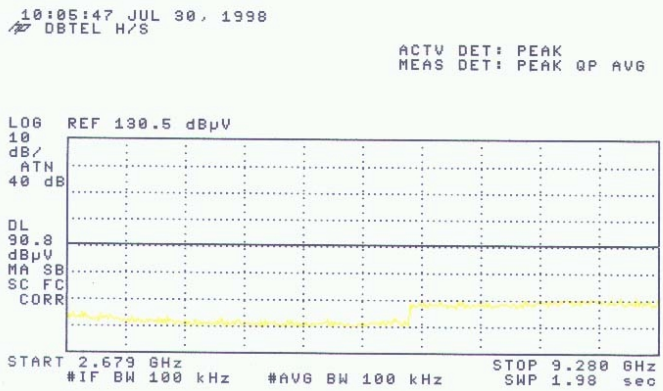
PLOT 16
HANDSET
OUT OF BAND 20dBC
Channel 1



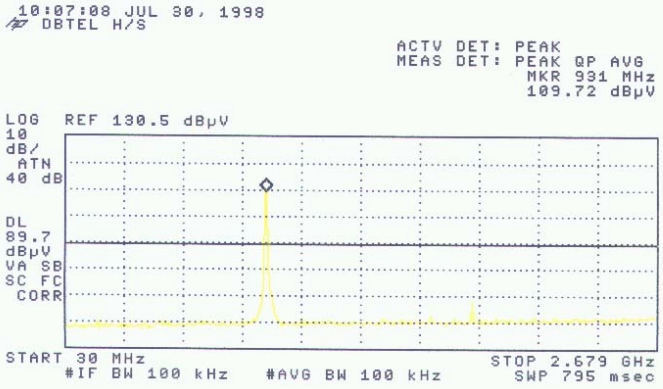
PLOT 17
SAME AS ABOVE



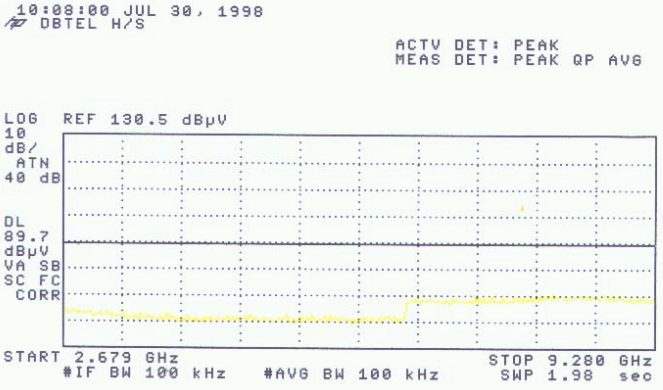
PLOT 18
HANDSET
OUT OF BAND 20dBC
Channel 10



PLOT 19
HANDSET
OUT OF BAND
20 dBC
channel 10



PLOT 20
HANDSET
OUT OF BAND 20dBC
channel 20



PLOT 21

SAME AS ABOVE

Radiated Emissions

TEST REQUIREMENT: 15.109

Measurement Equipment Used:
HP 8568A Spectrum Analyzer
Eaton 94455-1 Biconical Antenna, 30- 200 MHz
EMCO 3146 Log Periodic Antenna, 200 - 1000 MHz

Test Set-up

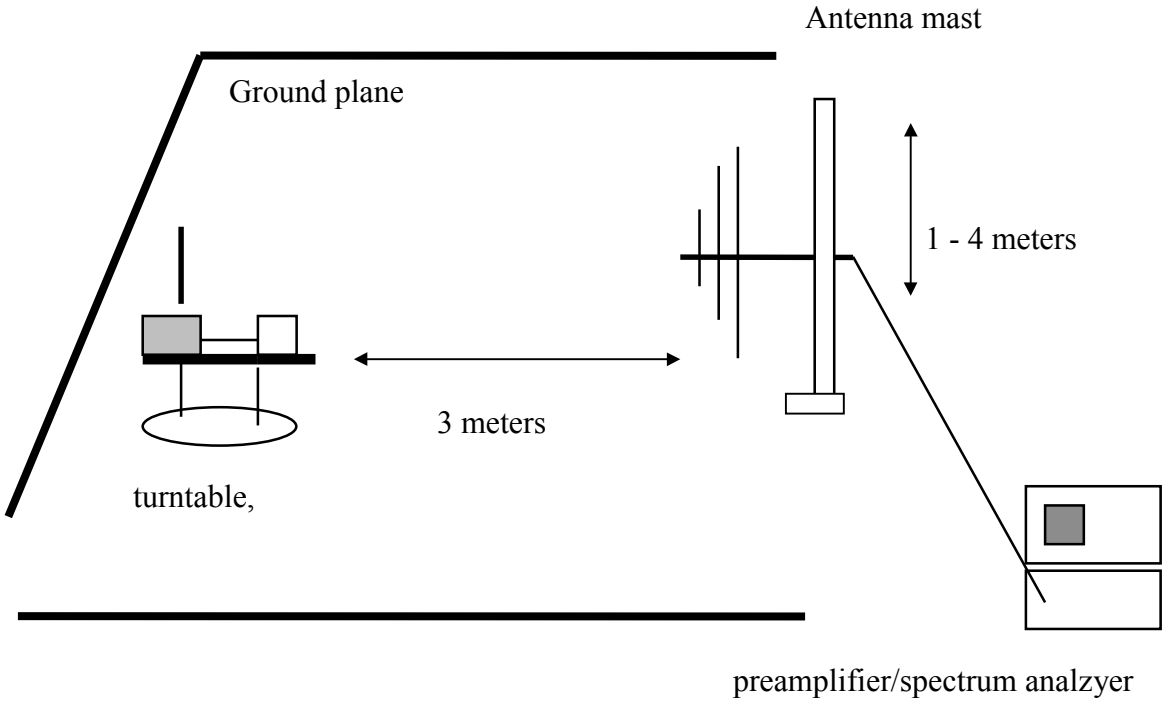


Fig.3

The EUT was placed on a turntable at a distance of 3 meters from a biconical or log periodic search antenna. The antenna was raised and lowered, the EUT rotated on the turntable, until the EUT azimuth, antenna elevation, and antenna polarity were found which yielded maximum received emission levels on the spectrum analyzer.

Test Result: Refer to attached tabular data sheets.

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Compliance Engineering Services Inc.

Project No. : 98E7288
Report No. : 980708B1
Date : 07/08/1998
Time : 11:37
Test Engr : PETE K

>> 3 M RADIATED EMISSION DATA <<

Company : DBTEL INC
Equipment Under Test : SS CORDLESS PHONE DB8214
Test Configuration : EUT HANDSET AND BASE UNIT
Type of Test : FCC CLASS B
Mode of Operation : RX/TX PHONE CALL

Freq.	dBuV	PreAmp	Ant	Cable	dBuV/m	Limit	Margin	Pol	Hgt(m)	Az
x-axis										
LP 2120 ; Pre-pamp = 8447D-P8 2944A06589:										
307.20	34.30	-26.77	15.43	3.43	26.39	46.00	-19.61	V	1.0	0
230.40	36.50	-26.94	12.33	2.98	24.87	46.00	-21.13	V	1.0	0
364.80	37.00	-27.07	15.79	3.72	29.45	46.00	-16.55	V	1.0	270
384.00	36.10	-27.17	15.91	3.82	28.66	46.00	-17.34	V	1.0	270
451.20	35.00	-27.57	16.80	4.16	28.39	46.00	-17.61	V	1.0	270
451.20	37.80	-27.57	16.76	4.16	31.15	46.00	-14.85	H	1.0	270
422.40	40.20	-27.39	16.25	4.01	33.08	46.00	-12.92	H	1.0	270
403.20	43.50	-27.27	15.92	3.92	36.06	46.00	-9.94	H	1.0	270
384.00	45.50	-27.17	15.76	3.82	37.92	46.00	-8.08	H	1.0	270
364.80	44.90	-27.07	15.65	3.72	37.20	46.00	-8.80	H	1.0	90
345.60	42.80	-26.97	15.53	3.62	34.99	46.00	-11.01	H	1.0	90
278.43	41.70	-26.77	14.07	3.26	32.26	46.00	-13.74	H	1.0	90
y-axis										
211.22	43.80	-27.04	12.17	2.88	31.81	43.50	-11.69	V	1.0	0
259.22	36.20	-26.81	13.03	3.14	25.56	46.00	-20.44	V	1.0	0
345.62	38.00	-26.97	15.67	3.62	30.33	46.00	-15.67	V	1.0	0
364.82	40.90	-27.07	15.79	3.72	33.35	46.00	-12.65	V	1.0	270
384.02	42.00	-27.17	15.91	3.82	34.56	46.00	-11.44	V	1.0	180
422.42	40.70	-27.39	16.36	4.01	33.68	46.00	-12.32	V	1.0	270
537.62	36.50	-27.94	17.85	4.58	30.98	46.00	-15.02	V	1.0	180
384.00	40.20	-27.17	15.76	3.82	32.62	46.00	-13.38	H	1.0	270
211.22	42.50	-27.04	12.15	2.88	30.49	43.50	-13.01	H	1.0	0
364.82	40.90	-27.07	15.65	3.72	33.20	46.00	-12.80	H	1.0	270
403.22	41.30	-27.27	15.92	3.92	33.86	46.00	-12.14	H	1.0	270
z-axis										
384.00	44.90	-27.17	15.76	3.82	37.32	46.00	-8.68	H	1.0	90
211.22	42.70	-27.04	12.15	2.88	30.69	43.50	-12.81	H	1.0	270
364.82	43.50	-27.07	15.65	3.72	35.80	46.00	-10.20	H	1.0	270
403.20	43.40	-27.27	15.92	3.92	35.96	46.00	-10.04	H	1.0	90
211.22	43.80	-27.04	12.17	2.88	31.81	43.50	-11.69	V	1.0	270

Total # of data 29 V. b2.2•

AC Line Conducted Emissions

TEST REQUIREMENT: 15.207

Measurement Equipment Used:

Rhode & Schwarz EMI Receiver ESHS-20
Fischer Custom Communication LISN, FCC-LISN-50/250-25-2

Test Set-up

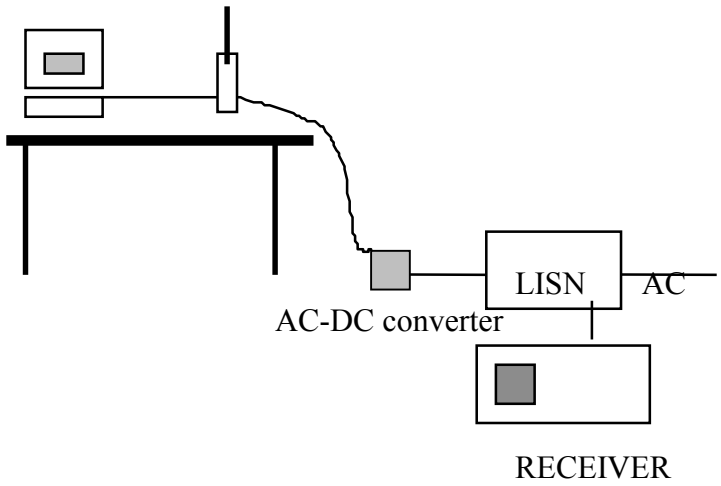


Fig. 2

Test Procedure

1. The EUT was placed on a wooden table 40 cm from a vertical ground plane and approximately 80 cm above the horizontal ground plane on the floor. The EUT was set to transmit.
2. Line conducted data was recorded for both NEUTRAL and HOT lines.

Test Results

Refer to attached graph.

COMPLIANCE ENGINEERING SERVICES INC. 28. Jul 98 12:02
RFI VOLTAGE

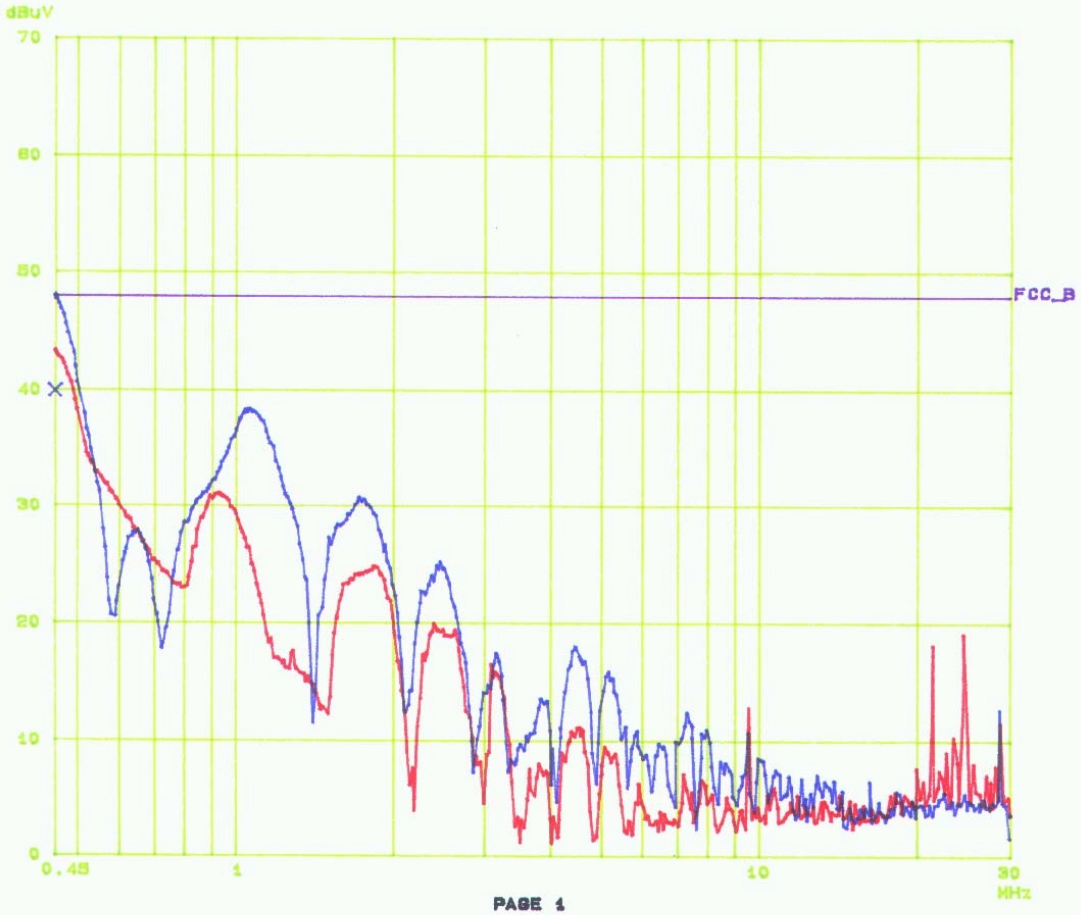
EUT: SS CORDLESS PHONE DB8214
Manuf: DBTEL
Op Cond: CHARGING
Operator: PETE KREBILL
Test Spec: FCC B
Comment: LINE: HOT (RED) NEUTRAL (BLUE)
120VAC 60Hz.

Scan Settings (2 Ranges)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	DpRge
450k	500k	500Hz	10k	PK	100ms	AUTO	LN OFF	60dB
500k	30M	5k	10k	PK	20ms	AUTO	LN OFF	60dB

Final Measurement: x QP
Meas Time: 1 s
Subranges: 25
Acc Margin: 8dB

Transducer No. Start Stop Name
1 5k 30M FISCHER



PAGE 1

Final Measurement Results:

L2

Frequency MHz	QP Level dB	QP Limit dB
0.45000	38.8	48.0

* limit exceeded

PAGE 2

Minimum 6 dB Bandwidth for DSSS

TEST REQUIREMENT: 15.247(A)(2)

Measurement Equipment Used:

HP 8568A Spectrum Analyzer

Test Set-up

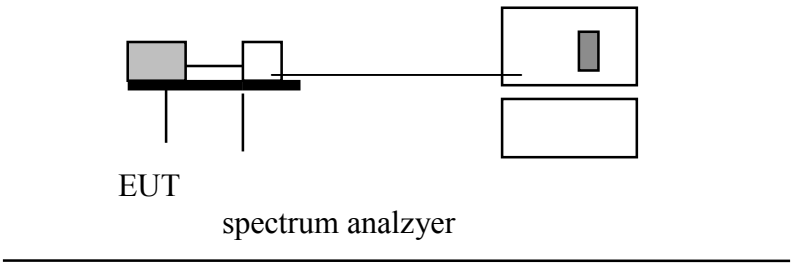
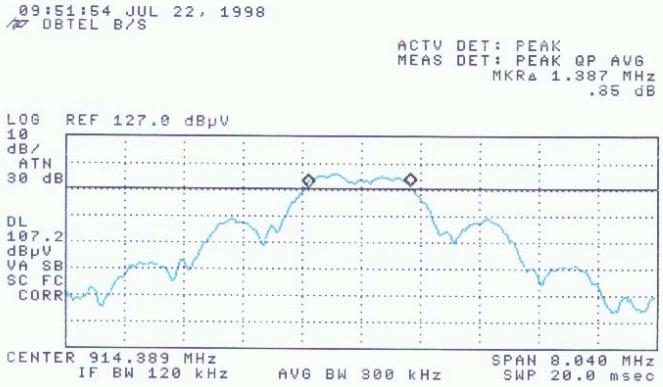


Fig.4

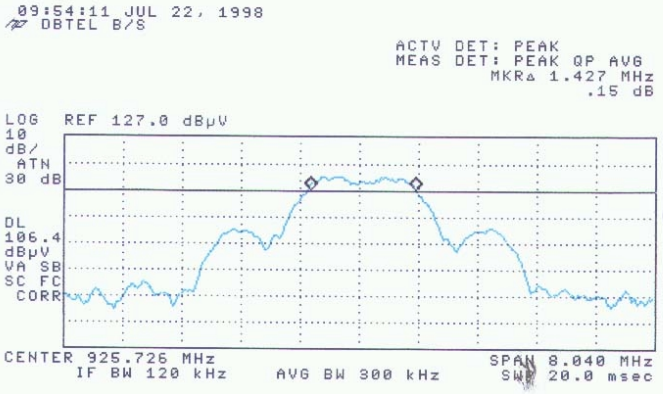
Test Procedure: EUT was connected to spectrum analyzer. Display line was set to 6dB below peak and marker delta was used to show bandwidth.

Test Results: Refer to attached spectrum analyzer data chart.

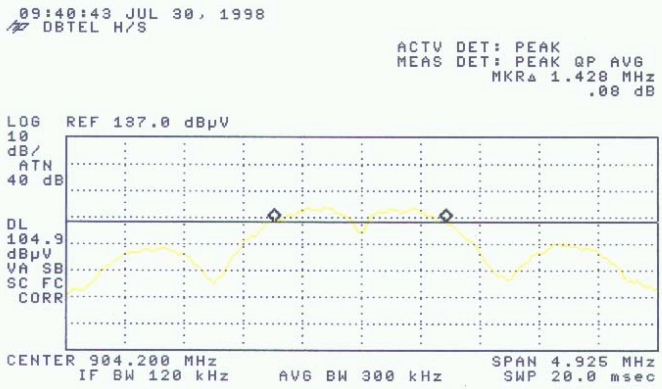
PLOT 1
BASE STATION
6dB BANDWIDTH Channel 1



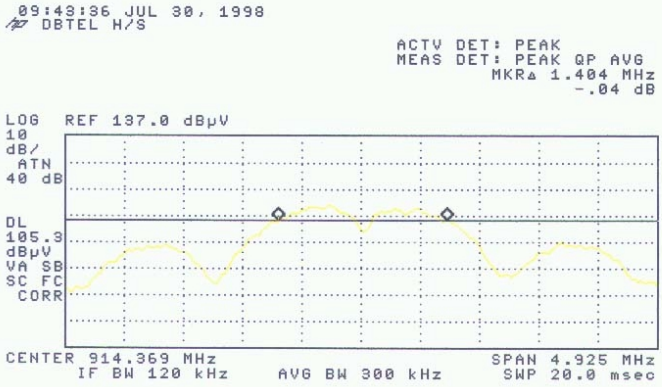
PLOT 2
BASE STATION
6dB BANDWIDTH Channel 2



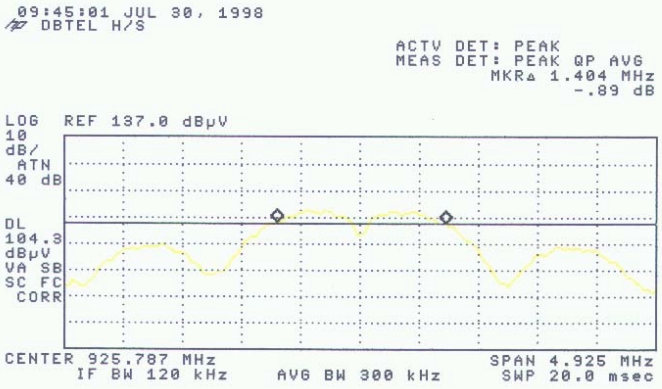
PLOT 3
BASE STATION
6dB BANDWIDTH Channel 20



PLOT 13
HANDSET
6dB BANDWIDTH
channel 1



PLOT 14
HANDSET
6dB BAND WIDTH
channel 10



PLOT 15
HANDSET
6 dB BAND WIDTH
channel 20

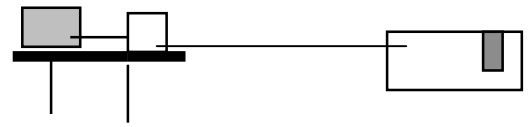
RF Power Output

TEST REQUIREMENT: 15.247(B)

Measurement Equipment Used:

HP 8568A Spectrum Analyzer

Test Set-up



EUT

spectrum analzyer

FIG 4.

Test Results

Maximum Base Station Output: 14dBm on channel 20, 925.95MHz
Maximum Hand Set Output: 13.1dBm on channel 20, 925.95MHz

Out of Band Measurements

TEST REQUIREMENT: 15.247(C)

Measurement Equipment Used:

HP 8563E Spectrum Analyzer
HP 8449 B Preamplifier, 1-26 GHz
ARA DRG-118/A Double Ridged Horn antenna, 1 - 18 GHz
QIM "The Workhorse" low loss cable, 9ft (loss: 0.85 dB/ft @ 26 GHz)

Test Set-Up

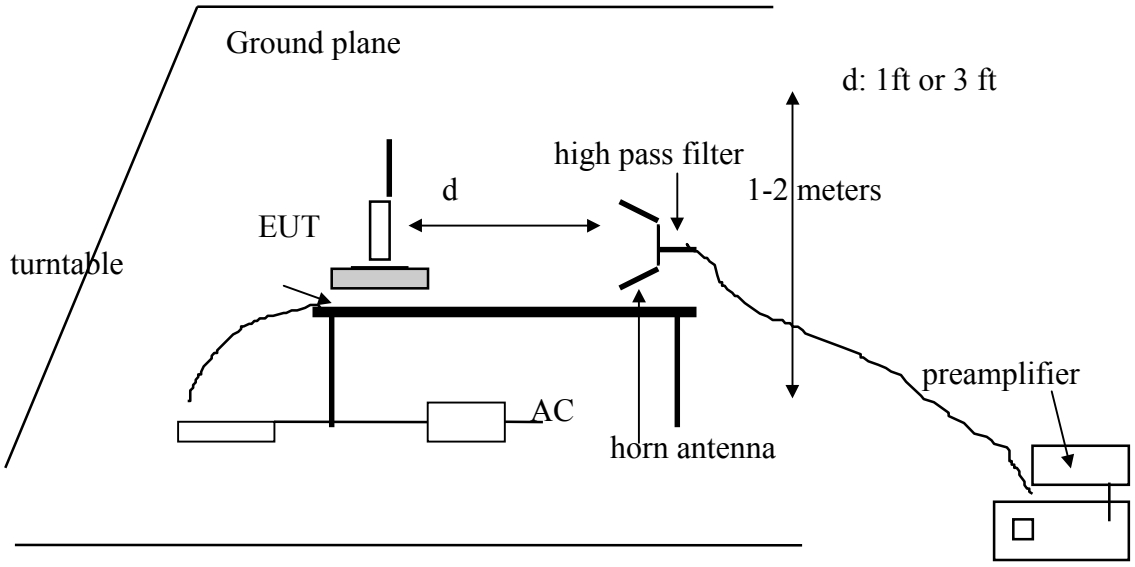


Fig. 1

Test Procedure:
Radiated emissions from the transmitter were compared against the radiated field strength of the fundamental frequency. The only emissions detected up to the 10th harmonic of the operating frequency were harmonics of the fundamental. All harmonics were at levels less than 54 dBuV/m, as per measurements taken to show compliance with 15.205.

Test Results:
Refer to attached tabular data sheets for 15.205. All out of band emissions are no greater than 54 dBuV/m, or at least 40 dB below field strength of fundamental.

COMPLIANCE CERTIFICATION SERVICE
DBTEL
SS CORDLESS PHONE M/N: DB-8214
FCC 15.247

PETE KREBILL
7/24/98
B-SITE

F(MHz)	Level (dBuV)	AF (dB)	CL (dB)	AMP (dB)	DIST (dB)	FILTER (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Polarity	EUT Axis
BASE STATION											
CH 1- 904.2MHZ											
1808PK	68.9	26	2.88	-35.5	-10	1	53.28	82	-28.72	V	N/A
1808AV	65.8	26	2.88	-35.5	-10	1	50.18	102	-51.82	V	N/A
2712PK	69.7	30	3.6	-35.5	-10	1	58.8	82	-23.2	V	N/A
2712AV	66.6	30	3.6	-35.5	-10	1	55.7	102	-46.3	V	N/A
3616PK	58.3	33	4.14	-35.5	-10	1	50.94	82	-31.06	V	N/A
3616AV	53.4	33	4.14	-35.5	-10	1	46.04	102	-55.96	V	N/A
4520PK	42.9	32.4	4.68	-35.5	-10	1	35.48	82	-46.52	V	N/A
4520AV	38.1	32.4	4.68	-35.5	-10	1	30.68	102	-71.32	V	N/A
5425PK	38	34.6	5.4	-35.5	-10	1	33.5	82	-48.5	V	N/A
5425AV	32.7	34.6	5.4	-35.5	-10	1	28.2	102	-73.8	V	N/A
6329PKNF	31.2	35.3	6.12	-35.5	-10	1	28.12	82	-53.88	V	N/A
6329AVNF	23.5	35.3	6.12	-35.5	-10	1	20.42	102	-81.58	V	N/A
7233PKNF	33.6	36.4	6.84	-35.5	-10	1	32.34	82	-49.66	V	N/A
7233AVNF	25.8	36.4	6.84	-35.5	-10	1	24.54	102	-77.46	V	N/A
8138PKNF	35.2	37.2	7.56	-35.5	-10	1	35.46	82	-46.54	V	N/A
8138AVNF	27.7	37.2	7.56	-35.5	-10	1	27.96	102	-74.04	V	N/A
9042PKNF	34.9	38.3	7.92	-35.5	-10	1	36.62	82	-45.38	V	N/A
9042AVNF	27.2	38.3	7.92	-35.5	-10	1	28.92	102	-73.08	V	N/A
CH 10-914.4MHZ											
1828PK	67.64	26	2.88	-35.5	-10	1	52.02	82	-29.98	V	N/A
1828AV	64.7	26	2.88	-35.5	-10	1	49.08	102	-52.92	V	N/A
2743PK	71.02	30	3.6	-35.5	-10	1	60.12	82	-21.88	V	N/A
2743AV	68.1	30	3.6	-35.5	-10	1	57.2	102	-44.8	V	N/A
3657PK	57.12	33	4.14	-35.5	-10	1	49.76	82	-32.24	V	N/A
3657AV	52.1	33	4.14	-35.5	-10	1	44.74	102	-57.26	V	N/A
4571PK	43.3	32.4	4.68	-35.5	-10	1	35.88	82	-46.12	V	N/A
4571AV	38.2	32.4	4.68	-35.5	-10	1	30.78	102	-71.22	V	N/A
5480PK	38.6	34.6	5.4	-35.5	-10	1	34.1	82	-47.9	V	N/A
5480AV	32.6	34.6	5.4	-35.5	-10	1	28.1	102	-73.9	V	N/A
CH20-925.9MHZ											
1851PK	71	26	2.88	-35.5	-10	1	55.38	82	-26.62	V	N/A
1851AV	67.9	26	2.88	-35.5	-10	1	52.28	102	-49.72	V	N/A
2777PK	69.8	30	3.6	-35.5	-10	1	58.9	82	-23.1	V	N/A
2777AV	66.7	30	3.6	-35.5	-10	1	55.8	102	-46.2	V	N/A
3703PK	63.4	33	4.14	-35.5	-10	1	56.04	82	-25.96	V	N/A
3703AV	58.2	33	4.14	-35.5	-10	1	50.84	102	-51.16	V	N/A
4629PK	46.4	32.4	4.68	-35.5	-10	1	38.98	82	-43.02	V	N/A
4629AV	41.2	32.4	4.68	-35.5	-10	1	33.78	102	-68.22	V	N/A
5555PK	38	43	5.4	-35.5	-10	1	41.9	82	-40.1	V	N/A
5555AV	32.7	37.1	5.4	-35.5	-10	1	30.7	102	-71.3	V	N/A
HANDSET											
CH 1- 904.2MHZ											
1808PK	72.1	26	2.88	-35.5	-10	1	56.48	82	-25.52	H	X
1808AV	67.3	26	2.88	-35.5	-10	1	51.68	102	-50.32	H	Z
2712PK	72.7	30	3.6	-35.5	-10	1	61.8	82	-20.2	H	Z

2712AV	68.9	30	3.6	-35.5	-10	1	58	102	-44	H	Z
3616PK	59.2	33	4.14	-35.5	-10	1	51.84	82	-30.16	H	Z
3616AV	52.8	33	4.14	-35.5	-10	1	45.44	102	-56.56	H	Z
4520PK	60.5	32.4	4.68	-35.5	-10	1	53.08	82	-28.92	H	Z
4520AV	53.5	32.4	4.68	-35.5	-10	1	46.08	102	-55.92	H	Z
5425PK	55.6	34.6	5.4	-35.5	-10	1	51.1	82	-30.9	H	Z
5425AV	47.9	34.6	5.4	-35.5	-10	1	43.4	102	-58.6	H	Z
6329PK	44	35.3	6.12	-35.5	-10	1	40.92	82	-41.08	H	Z
6329AV	37.5	35.3	6.12	-35.5	-10	1	34.42	102	-67.58	H	Z
CH 10-914.4MHZ											
1828PK	67.64	26	2.88	-35.5	-10	1	52.02	82	-29.98	H	Z
1828AV	64.7	26	2.88	-35.5	-10	1	49.08	102	-52.92	H	Z
2743PK	71.02	30	3.6	-35.5	-10	1	60.12	82	-21.88	H	Z
2743AV	68.1	30	3.6	-35.5	-10	1	57.2	102	-44.8	H	Z
3657PK	57.12	33	4.14	-35.5	-10	1	49.76	82	-32.24	H	Z
3657AV	52.1	33	4.14	-35.5	-10	1	44.74	102	-57.26	H	Z
4571PK	43.3	32.4	4.68	-35.5	-10	1	35.88	82	-46.12	H	Z
4571AV	38.2	32.4	4.68	-35.5	-10	1	30.78	102	-71.22	H	Z
5480PK	38.6	34.6	5.4	-35.5	-10	1	34.1	82	-47.9	H	Z
5480AV	32.6	34.6	5.4	-35.5	-10	1	28.1	102	-73.9	H	Z
6400PK	41.1	35.3	6.12	-35.5	-10	1	38.02	82	-43.98	H	Z
6400AV	35.4	35.3	6.12	-35.5	-10	1	32.32	102	-69.68	H	Z
CH20-925.9MHZ											
1851PK	71	26	2.88	-35.5	-10	1	55.38	82	-26.62	H	Z
1851AV	67.9	26	2.88	-35.5	-10	1	52.28	102	-49.72	H	Z
2777PK	69.8	30	3.6	-35.5	-10	1	58.9	82	-23.1	H	Z
2777AV	66.7	30	3.6	-35.5	-10	1	55.8	102	-46.2	H	Z
3703PK	63.4	33	4.14	-35.5	-10	1	56.04	82	-25.96	H	Z
3703AV	58.2	33	4.14	-35.5	-10	1	50.84	102	-51.16	H	Z
4629PK	46.4	32.4	4.68	-35.5	-10	1	38.98	82	-43.02	H	Z
4629AV	41.2	32.4	4.68	-35.5	-10	1	33.78	102	-68.22	H	Z
5555PK	38	43	5.4	-35.5	-10	1	41.9	82	-40.1	H	Z
5555AV	32.7	37.1	5.4	-35.5	-10	1	30.7	102	-71.3	H	Z
6480PK	43.9	35.3	6.12	-35.5	-10	1	40.82	82	-41.18	H	Z
6480AV	37.2	35.3	6.12	-35.5	-10	1	34.12	102	-67.88	H	Z

AF=ANTENNA FACTOR
CL=CABLE LOSS
AMP=AMPLIFIER GAIN
DIST=DISTANE CORRECTION TO 3 METERS
FILTER=FILTER LOSS

RES B/W=1MHZ PEAK
VID B/W=1MHZ PEAK
RES B/W=1MHZ AVERAGE
VID B/W=10HZ AVERAGE

ALL READING ARE MAXIMUM FOR ANTENNA POLARITY AND EUT AXIS

DSSS Power Density

TEST REQUIREMENT: 15.247(D)

Measurement Equipment Used:

HP 8568A Spectrum Analyzer

Test Set-up

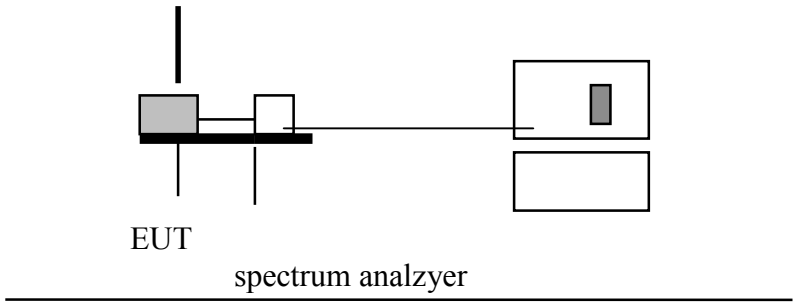


FIG 4.

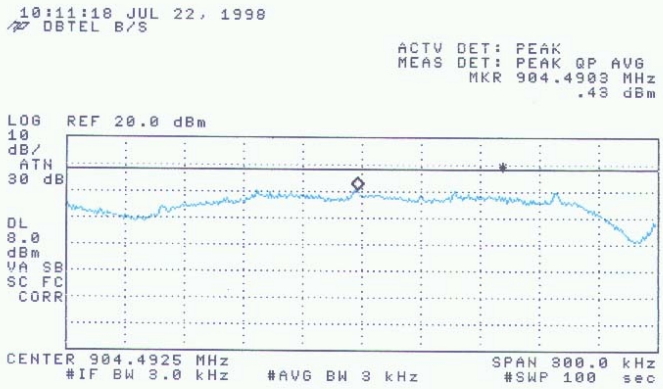
Test Procedure

Analyzer BW was set to 3 kHz. Analyzer SWEEP TIME was set according to the following formula:

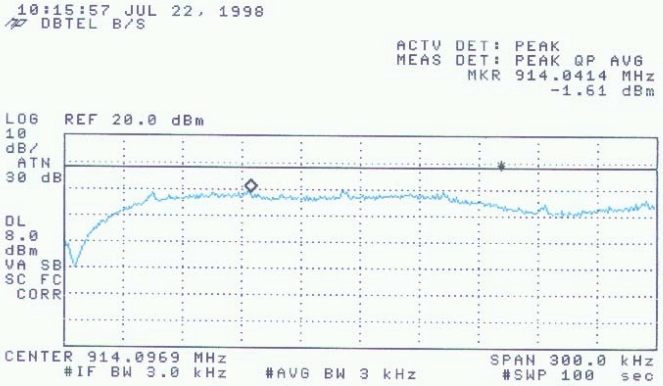
SWEEP TIME = (FSTOP,kHz - FSTART,kHz)/3 kHz.

The transmitter emissions so measured were compared to the 8 dBm limit in the Rules.

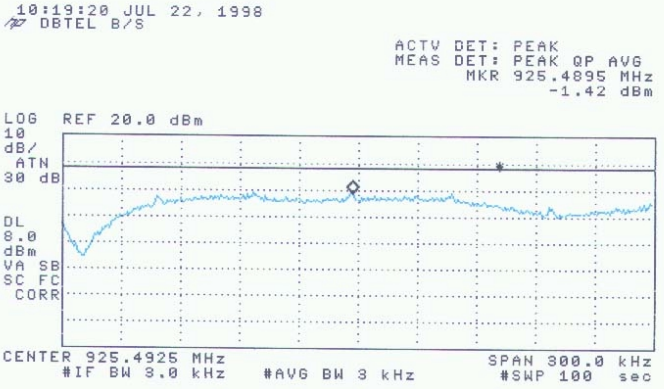
Test Results
Refer to attatched spectrum analyzer plots.



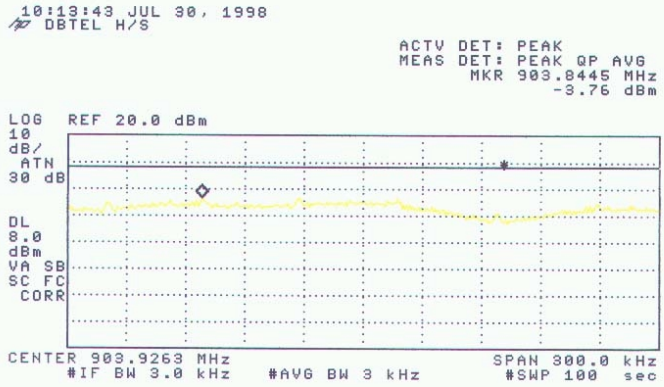
PLOT 10
BASE STATION
POWER DENSITY
Channel 1



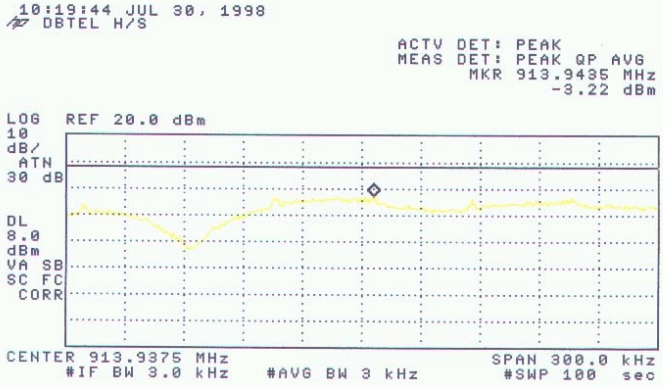
PLOT 11
BASE STATION
POWER DENSITY
Channel 10



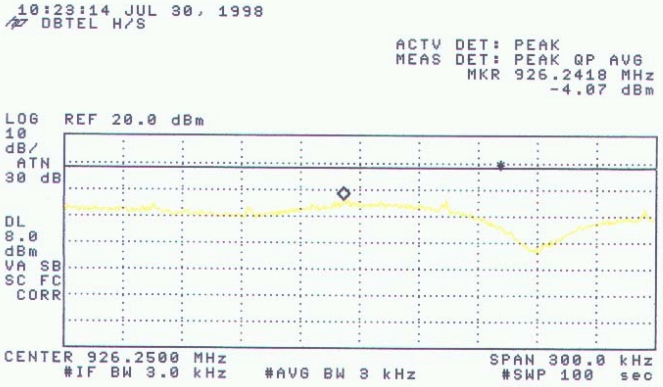
PLOT 12
BASE STATION
POWER DENSITY
Channel 20



PLOT 22
HANDSET
POWER DENSITY
channel 1



PLOT 23
HANDSET
POWER DENSITY
channel 10



PLOT 24
HANDSET
POWER DENSITY
channel 20

Processing Gain of a DSSS

TEST REQUIRMENT: 15.247(E)

Processing gain was performed by the manufacturer. Please refer to the attached processing gain information provided by the manufacturer.

TEST SETUP PHOTO