

CERTIFICATE OF COMPLIANCE **FCC PART 24 CERTIFICATION**

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Applicant Information:

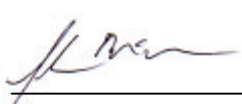
AIRPRIME INC.
5201 Great America Parkway #432
Santa Clara, CA 95054
Contact: Steve Burrington

FCC Classification:	Part 24 Licensed Portable Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§24(E), §2
FCC ID:	PNF-SB3000P
Model No.:	SB3000P
Equipment Type:	PCS CDMA Voice/Data Modem Module for HandSpring Visor, Visor Deluxe, Visor Prism, Visor Edge, & Visor Platinum Handheld PDAs
Tx Frequency Range:	1851.25 - 1908.75 MHz
Rx Frequency Range:	1931.25 - 1988.75 MHz
Max. RF Output Power:	0.571 Watts EIRP (SB3000P with Handspring Visor Prism) 0.557 Watts EIRP (SB3000P with Handspring Visor Edge) 0.513 Watts EIRP (SB3000P with Handspring Visor Platinum)
Frequency Tolerance:	2.5 PPM
Emission Designator:	1M25F9W

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Celltech Research Inc. certifies that no party to this application has been denied FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853(a).



Shawn McMillen
General Manager
Celltech Research Inc.



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MEASUREMENT REPORT - FCC PART 24

1.1 SCOPE

Measurement and determination of electromagnetic emissions (EME) from radio frequency devices for compliance with the technical rules and regulations of the Federal Communications Commission.

§2.1033(a) General Information

<u>APPLICANT:</u> AIRPRIME INC. 5201 Great America Parkway #432 Santa Clara, CA 95054 Contact: Steve Burrington	
FCC ID	PNF-SB3000P
Model No.	SB3000P
EUT Type	PCS CDMA Voice/Data Modem Module for Handspring Visor Handheld PDAs
FCC Classification	Part 24 Licensed Portable Transmitter Held to Ear (PCE)
FCC Rule Part(s)	§24(E), §2
Max. RF Output Power	0.571 Watts EIRP (with Handspring Visor Prism) 0.557 Watts EIRP (with Handspring Visor Edge) 0.513 Watts EIRP (with Handspring Visor Platinum)
Tx Freq. Range	1851.25 - 1908.75 MHz
Rx Freq. Range	1931.25 - 1988.75 MHz
Emission Designator	1M25F9W
Modulation	PCS CDMA
Antenna Type	Fixed Stubby
Battery Type(s)	3.8V Lithium Ion Rechargeable Battery

2.1 MEASUREMENT PROCEDURES

2.2 OCCUPIED BANDWIDTH - §2.1049(c)

The antenna output terminal of the EUT was connected to the input of a 50Ω spectrum analyzer through a matched 30dB attenuator. The radio transmitter was operating at maximum output power with and without internal data modulation. 100% of the in-band modulation was below the specified mask per §24.238.

2.3 OCCUPIED BANDWIDTH EMISSION LIMITS - §24.238

1. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log(P)$ dB.
2. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.
3. When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.
4. The measurement of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

2.4 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL - §2.1051

The level of the carrier and the various conducted spurious and harmonic frequencies was measured by means of a calibrated spectrum analyzer. The spectrum was scanned from 10MHz to 20GHz. The transmitter was modulated with a 2500Hz tone at a level of 16dB greater than that required to provided 50% modulation. The antenna output terminal of the EUT was connected to the input of a 50Ω spectrum analyzer through a matched 30dB attenuator and coaxial cable. The transmitter was operating at maximum power with internal data modulation.

2.5 RADIATED SPURIOUS AND HARMONIC EMISSIONS - §2.1053

Radiated and harmonic emissions above 1 GHz were measured at our 3-meter outdoor site. The EUT was placed on the turntable with the transmitter transmitting into a non-radiating load. A receiving antenna located 3 meters from the turntable received any signal radiated from the transmitter and its operating accessories. The receiving antenna was varied from 1 to 4 meters and the polarization was varied (horizontal and vertical) to determine the worst-case emission level.

2.6 FREQUENCY STABILITY / TEMPERATURE VARIATION - §2.1055, §24.135

Minimum Standard:

The minimum frequency stability shall be $\pm 0.00005\%$ ($\pm 300\text{Hz}$) referenced to a received carrier frequency from a base station. This meets the requirement for operational accuracy of 0.00005% for digital mode.

Measurement Method:

The frequency stability of the transmitter was measured by:

1. **Temperature:** The temperature was varied from -30°C to $+60^{\circ}\text{C}$ at intervals no more than 10°C throughout the temperature range using an environmental chamber. A period of time sufficient to stabilize all of the components in the equipment shall be allowed prior to each frequency measurement.
2. **Primary Supply Voltage:** The primary supply voltage was varied from 85% to 115% of the voltage normally at the input to the device or at the power supply terminals if cables are not normally supplied. The EUT was tested down to the battery endpoint.

Time Period and Procedure:

1. The carrier frequency of the transmitter was measured at room temperature (25°C to 27°C to provide a reference).
2. The equipment was subjected to an overnight "soak" at -30°C without any power applied.
3. After the overnight "soak" at -30°C , the measurement of the carrier frequency of the transmitter was made within a three-minute interval after applying power to the transmitter.
4. Frequency measurements were made at 10°C intervals up to $+60^{\circ}\text{C}$, then back to room temperature. A minimum period of one hour was provided to allow stabilization of the equipment at each temperature level.

3.1 TEST DATA

3.2 EFFECTIVE ISOTROPIC RADIATED POWER OUTPUT - §24.232(B)

EUT WITH HANDSPRING VISOR PRISM PDA

Frequency Tuned	EUT Conducted Power	Max. Field Strength of EUT (Horiz. Pol.)	Horn Gain	Horn Forward Conducted Power	EIRP of EUT Horn Gain + Horn Forward Conducted Power	
(MHz)	(dBm)	(dBm)	(dBi)	(dBm)	(dBm)	Watts
1851.25	24.80	- 11.21	6.67	20.06	26.73	0.471
1880.00	24.55	- 11.19	6.68	20.27	26.95	0.495
1908.75	24.80	- 12.01	6.69	20.88	27.57	0.571

Notes:

EIRP Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The spectrum analyzer was set to measure channel power for PCS CDMA mode. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested, and for both EUT antenna polarizations and modes. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

EFFECTIVE ISOTROPIC RADIATED POWER OUTPUT - §24.232(B)

EUT WITH HANDSPRING VISOR EDGE PDA

Frequency Tuned	EUT Conducted Power	Max. Field Strength of EUT (Horiz. Pol.)	Horn Gain	Horn Forward Conducted Power	EIRP of EUT Horn Gain + Horn Forward Conducted Power	
(MHz)	(dBm)	(dBm)	(dBi)	(dBm)	(dBm)	Watts
1851.25	24.80	- 11.14	6.67	20.13	26.80	0.479
1880.00	24.55	- 11.20	6.68	20.32	27.00	0.501
1908.75	24.80	- 12.11	6.69	20.77	27.46	0.557

Notes:

EIRP Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The spectrum analyzer was set to measure channel power for PCS CDMA mode. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested, and for both EUT antenna polarizations and modes.. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

EFFECTIVE ISOTROPIC RADIATED POWER OUTPUT - §24.232(B)

EUT WITH HANDSPRING VISOR PLATINUM PDA

Frequency Tuned	EUT Conducted Power	Max. Field Strength of EUT (Horiz. Pol.)	Horn Gain	Horn Forward Conducted Power	EIRP of EUT Horn Gain + Horn Forward Conducted Power	
(MHz)	(dBm)	(dBm)	(dBi)	(dBm)	(dBm)	Watts
1851.25	24.80	- 11.08	6.67	20.43	27.10	0.513
1880.00	24.55	- 11.64	6.68	20.00	26.68	0.466
1908.75	24.80	- 12.45	6.69	20.32	27.01	0.502

Notes:

EIRP Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The spectrum analyzer was set to measure channel power for PCS CDMA mode. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested, and for both EUT antenna polarizations and modes.. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

3.3 Field Strength of Spurious Radiation – §2.1053

PCS CDMA Mode - with Handspring Visor Prism PDA

Operating Frequency (MHz): 1851.25
Channel: 25
Measured Conducted Power: 24.8 dBm
Modulation: CDMA (Internal)
Distance: 3 Meters
Limit: $43 + 10 \log (W) = 38.13 \text{ dBc}$

Frequency (MHz)	Field Strength of Spurious Radiation (dBm)	Horn Forward Cond. Pwr. (dBm)	Standard Gain Horn Antenna Gain (dBi)	POL (H/V)	EIRP (dBm)	dBc
3702.50	-87.91	-54.02	9.4	H	-44.62	69.42
5553.75	-91.56	-58.46	10.4	H	-48.06	72.86
7405.00	-101.94	-61.09	10.6	H	-50.49	75.29
9256.25	-101.28	-64.92	11.4	H	-53.52	78.32
11107.50	-101.04	-62.22	12.4	H	-49.82	74.62
12958.75	-101.63	-64.13	12.2	H	-51.93	76.73
14810.00	-101.24	-63.35	13.7	H	-49.65	74.45
16661.25	-100.67	-62.21	14.7	H	-47.51	72.31
18512.50	-100.55	-73.23	7.5	H	-65.73	90.53

Radiated Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

Field Strength of Spurious Radiation – §2.1053

PCS CDMA Mode - with Handspring Visor Prism PDA

Operating Frequency (MHz): 1880.00
Channel: 600
Measured Conducted Power: 24.55 dBm
Modulation: CDMA (Internal)
Distance: 3 Meters
Limit: $43 + 10 \log (W) = 38.13 \text{ dBc}$

Frequency (MHz)	Field Strength of Spurious Radiation (dBm)	Horn Forward Cond. Pwr. (dBm)	Standard Gain Horn Antenna Gain (dBi)	POL (H/V)	EIRP (dBm)	dBc
3760.00	-75.22	-41.33	9.4	H	-31.93	56.73
5640.00	-91.4	-58.30	10.4	H	-47.90	72.70
7520.00	-99.41	-58.56	10.6	H	-47.96	72.76
9400.00	-101.02	-64.66	11.4	H	-53.26	78.06
11280.00	-101.33	-62.51	12.4	H	-50.11	74.91
13160.00	-101.93	-64.43	12.2	H	-52.23	77.03
15040.00	-101.21	-63.32	13.7	H	-49.62	74.42
16920.00	-100.72	-62.26	14.7	H	-47.56	72.36
18800.00	-101.58	-74.26	7.5	H	-66.76	91.56

Radiated Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

Field Strength of Spurious Radiation – §2.1053

PCS CDMA Mode - with Handspring Visor Prism PDA

Operating Frequency (MHz): 1908.75
Channel: 1175
Measured Conducted Power: 24.8 dBm
Modulation: CDMA (Internal)
Distance: 3 Meters
Limit: $43 + 10 \log (W) = 38.13 \text{ dBc}$

Frequency (MHz)	Field Strength of Spurious Radiation (dBm)	Horn Forward Cond. Pwr. (dBm)	Standard Gain Horn Antenna Gain (dBi)	POL (H/V)	EIRP (dBm)	dBc
3817.50	-65.45	-31.56	9.4	H	-22.16	46.96
5726.25	-70.36	-37.26	10.4	H	-26.86	51.66
7635.00	-94.22	-53.37	10.6	H	-42.77	67.57
9543.75	-99.65	-63.29	11.4	H	-51.89	76.69
11452.50	-101.45	-62.63	12.4	H	-50.23	75.03
13361.25	-101.03	-63.53	12.2	H	-51.33	76.13
15270.00	-102.71	-64.82	13.7	H	-51.12	75.92
17178.75	-101.16	-62.70	14.7	H	-48.00	72.80
19087.50	-102.56	-75.24	7.5	H	-67.74	92.54

Radiated Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

Field Strength of Spurious Radiation – §2.1053

PCS CDMA Mode - with Handspring Visor Edge PDA

Operating Frequency (MHz): 1851.25
Channel: 25
Measured Conducted Power: 24.8 dBm
Modulation: CDMA (Internal)
Distance: 3 Meters
Limit: $43 + 10 \log (W) = 38.13 \text{ dBc}$

Frequency (MHz)	Field Strength of Spurious Radiation (dBm)	Horn Forward Cond. Pwr. (dBm)	Standard Gain Horn Antenna Gain (dBi)	POL (H/V)	EIRP (dBm)	dBc
3702.50	-86.64	-52.75	9.4	H	-43.35	68.15
5553.75	-94.79	-61.69	10.4	H	-51.29	76.09
7405.00	-104.18	-63.33	10.6	H	-52.73	77.53
9256.25	-102.18	-65.82	11.4	H	-54.42	79.22
11107.50	-104.89	-66.07	12.4	H	-53.67	78.47
12958.75	-103.28	-65.78	12.2	H	-53.58	78.38
14810.00	-102.37	-64.48	13.7	H	-50.78	75.58
16661.25	-102.52	-64.06	14.7	H	-49.36	74.16
18512.50	-104.64	-77.32	7.5	H	-69.82	94.62

Radiated Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

Field Strength of Spurious Radiation – §2.1053

PCS CDMA Mode - with Handspring Visor Edge PDA

Operating Frequency (MHz): 1880.00
Channel: 600
Measured Conducted Power: 24.55 dBm
Modulation: CDMA (Internal)
Distance: 3 Meters
Limit: $43 + 10 \log (W) = 38.13 \text{ dBc}$

Frequency (MHz)	Field Strength of Spurious Radiation (dBm)	Horn Forward Cond. Pwr. (dBm)	Standard Gain Horn Antenna Gain (dBi)	POL (H/V)	EIRP (dBm)	dBc
3760.00	-88.34	-54.45	9.4	H	-45.05	69.85
5640.00	-94.46	-61.36	10.4	H	-50.96	75.76
7520.00	-95.16	-54.31	10.6	H	-43.71	68.51
9400.00	-96.52	-60.16	11.4	H	-48.76	73.56
11280.00	-97.67	-58.85	12.4	H	-46.45	71.25
13160.00	-96.37	-58.87	12.2	H	-46.67	71.47
15040.00	-95.19	-57.30	13.7	H	-43.60	68.40
16920.00	-95.87	-57.41	14.7	H	-42.71	67.51
18800.00	-94.64	-67.32	7.5	H	-59.82	84.62

Radiated Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

Field Strength of Spurious Radiation – §2.1053

PCS CDMA Mode - with Handspring Visor Edge PDA

Operating Frequency (MHz): 1908.75
Channel: 1175
Measured Conducted Power: 24.8 dBm
Modulation: CDMA (Internal)
Distance: 3 Meters
Limit: $43 + 10 \log (W) = 38.13 \text{ dBc}$

Frequency (MHz)	Field Strength of Spurious Radiation (dBm)	Horn Forward Cond. Pwr. (dBm)	Standard Gain Horn Antenna Gain (dBi)	POL (H/V)	EIRP (dBm)	dBc
3817.50	-64.22	-30.33	9.4	H	-20.93	45.73
5726.25	-72.73	-39.63	10.4	H	-29.23	54.03
7635.00	-94.23	-53.38	10.6	H	-42.78	67.58
9543.75	-98.98	-62.62	11.4	H	-51.22	76.02
11452.50	-100.19	-61.37	12.4	H	-48.97	73.77
13361.25	-101.25	-63.75	12.2	H	-51.55	76.35
15270.00	-102.19	-64.30	13.7	H	-50.60	75.40
17178.75	-101.73	-63.27	14.7	H	-48.57	73.37
19087.50	-103.35	-76.03	7.5	H	-68.53	93.33

Radiated Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

Field Strength of Spurious Radiation – §2.1053

PCS CDMA Mode - with Handspring Visor Platinum PDA

Operating Frequency (MHz): 1851.25
Channel: 25
Measured Conducted Power: 24.8 dBm
Modulation: CDMA (Internal)
Distance: 3 Meters
Limit: $43 + 10 \log (W) = 38.13 \text{ dBc}$

Frequency (MHz)	Field Strength of Spurious Radiation (dBm)	Horn Forward Cond. Pwr. (dBm)	Standard Gain Horn Antenna Gain (dBi)	POL (H/V)	EIRP (dBm)	dBc
3702.50	-87.17	-53.28	9.4	H	-43.88	68.68
5553.75	-93.43	-60.33	10.4	H	-49.93	74.73
7405.00	-104.8	-63.95	10.6	H	-53.35	78.15
9256.25	-102	-65.64	11.4	H	-54.24	79.04
11107.50	-103.8	-64.98	12.4	H	-52.58	77.38
12958.75	-103.2	-65.70	12.2	H	-53.50	78.30
14810.00	-105.2	-67.31	13.7	H	-53.61	78.41
16661.25	-104.8	-66.34	14.7	H	-51.64	76.44
18512.50	-106.5	-79.18	7.5	H	-71.68	96.48

Radiated Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

Field Strength of Spurious Radiation – §2.1053

PCS CDMA Mode - with Handspring Visor Platinum PDA

Operating Frequency (MHz): 1880.00
Channel: 600
Measured Conducted Power: 24.55 dBm
Modulation: CDMA (Internal)
Distance: 3 Meters
Limit: $43 + 10 \log (W) = 38.13 \text{ dBc}$

Frequency (MHz)	Field Strength of Spurious Radiation (dBm)	Horn Forward Cond. Pwr. (dBm)	Standard Gain Horn Antenna Gain (dBi)	POL (H/V)	EIRP (dBm)	dBc
3760.00	-83.51	-49.62	9.4	H	-40.22	65.02
5640.00	-93.63	-60.53	10.4	H	-50.13	74.93
7520.00	-103.8	-62.95	10.6	H	-52.35	77.15
9400.00	-107	-70.64	11.4	H	-59.24	84.04
11280.00	-106.2	-67.38	12.4	H	-54.98	79.78
13160.00	105.6	143.10	12.2	H	155.30	-130.50
15040.00	-107.1	-69.21	13.7	H	-55.51	80.31
16920.00	-106.1	-67.64	14.7	H	-52.94	77.74
18800.00	-104.7	-77.38	7.5	H	-69.88	94.68

Radiated Measurements by Substitution Method:

The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

Field Strength of Spurious Radiation – §2.1053

PCS CDMA Mode - with Handspring Visor Platinum PDA

Operating Frequency (MHz): 1908.75
Channel: 1175
Measured Conducted Power: 24.8 dBm
Modulation: CDMA (Internal)
Distance: 3 Meters
Limit: $43 + 10 \log (W) = 38.13 \text{ dBc}$

Frequency (MHz)	Field Strength of Spurious Radiation (dBm)	Horn Forward Cond. Pwr. (dBm)	Standard Gain Horn Antenna Gain (dBi)	POL (H/V)	EIRP (dBm)	dBc
3817.50	-71.5	-37.61	9.4	H	-28.21	53.01
5726.25	-87.03	-53.93	10.4	H	-43.53	68.33
7635.00	-102.8	-61.95	10.6	H	-51.35	76.15
9543.75	-106	-69.64	11.4	H	-58.24	83.04
11452.50	-107.2	-68.38	12.4	H	-55.98	80.78
13361.25	-103.8	-66.30	12.2	H	-54.10	78.90
15270.00	-104.9	-67.01	13.7	H	-53.31	78.11
17178.75	-105.4	-66.94	14.7	H	-52.24	77.04
19087.50	-106.7	-79.38	7.5	H	-71.88	96.68

Radiated Measurements by Substitution Method:

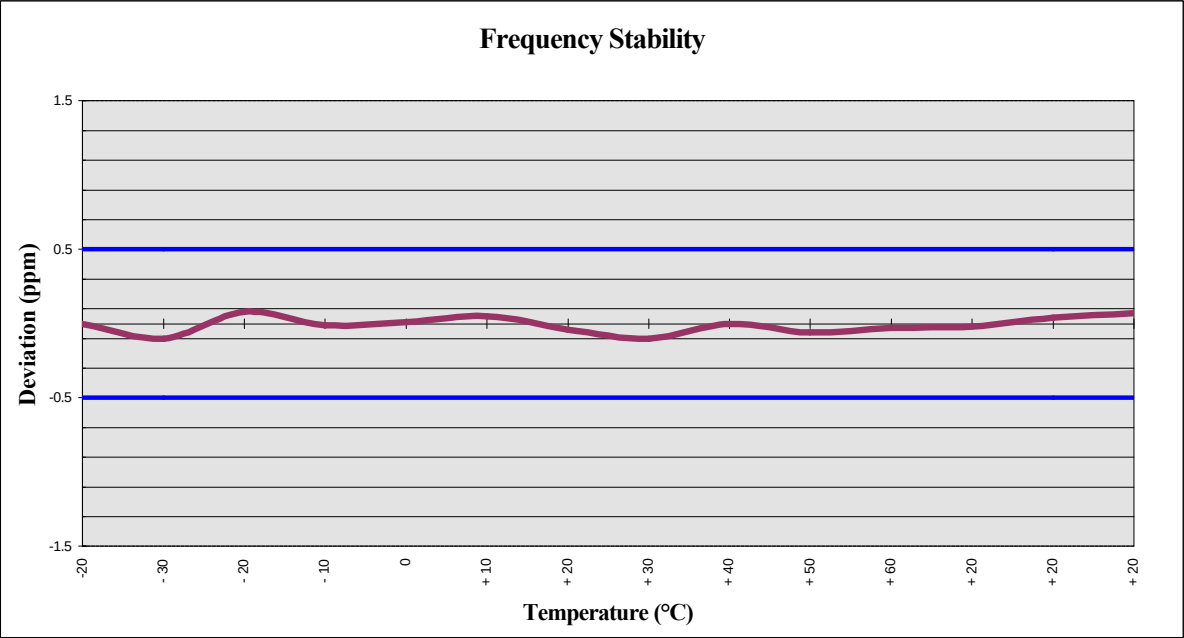
The EUT was placed on a turntable 3-meters from the receive antenna. The field of maximum intensity was found by rotating the EUT approximately 360 degrees and changing the height of the receive antenna from 1 to 4 meters. The field strength was recorded from a calibrated spectrum analyzer for each channel being tested. A standard gain horn antenna was substituted in place of the EUT. The antenna was fed through a directional coupler and the power at the coupler port was monitored. A signal generator and power amplifier controlled the antenna, and the input level of the antenna was adjusted to the same field strength level as the EUT. The feed point for the antenna was then connected to a calibrated power meter and the power adjusted to read the same as the coupler port previously recorded, this is to account for any mismatch in impedance, which may occur at the horn antenna. The conducted power at the antenna feed point was recorded. The forward power for the antenna was then determined and the EIRP level was determined by adding the forward power and the antenna gain in dB.

3.4 FREQUENCY STABILITY (PCS CDMA) - § 24.135

Operating Frequency: 1,880,000,000 Hz
Channel: 600
Reference Voltage: 3.8 VDC
Deviation Limit: ± 0.00005 % or 0.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQ. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	1,880,000,000	0.000000
100 %		- 30	1,880,000,188	-0.000010
100 %		- 20	1,879,999,850	0.000008
100 %		- 10	1,880,000,019	-0.000001
100 %		0	1,879,999,981	0.000001
100 %		+ 10	1,879,999,906	0.000005
100 %		+ 20	1,880,000,075	-0.000004
100 %		+ 30	1,880,000,188	-0.000010
100 %		+ 40	1,880,000,000	0.000000
100 %		+ 50	1,880,000,113	-0.000006
100 %		+ 60	1,880,000,056	-0.000003
85 %	3.23	+ 20	1,880,000,038	-0.000002
115 %	4.37	+ 20	1,879,999,925	0.000004
BATT. ENDPOINT	3.10	+ 20	1,879,999,868	0.000007

FREQUENCY STABILITY (PCS CDMA) - § 24.135



4.1 TEST EQUIPMENT

<u>Type</u>	<u>Model</u>	<u>Calib. Date</u>	<u>Serial No.</u>
HP Signal Generator	8648D (9kHz-4.0GHz)	Nov 1999	3847A00611
Rohde & Schwarz Signal Generator	SMR40 (10MHz-40GHz)	Nov 2000	835537/022
Gigatronics Power Meter	8652A	Oct 1999	1835272
Gigatronics Power Sensor (2)	80701A (0.05-18GHz)	Oct 1999	1833535, 1833542
Amplifier Research Power Amp.	5S1G4 (5W, 800MHz-4.2GHz)	N/A	26235
Microwave System Amplifier	HP 83017A (0.5-26.5GHz)	N/A	3123A00587
Network Analyzer	HP 8753E (30kHz-3GHz)	Nov 1999	US38433013
Audio Analyzer	HP 8903B	March 1999	3729A18691
Modulation Analyzer	HP 8901A	March 1999	3749A07154
Frequency Counter	HP 53181A (3GHz)	May 1999	3736A05175
DC Power Supply	HP E3611A	N/A	KR83015294
CDMA Base Station Test Set	Agilent E8285A	N/A	US40332926
Multi-Device Controller	EMCO 2090	N/A	9912-1484
Mini Mast	EMCO 2075	N/A	0001-2277
Turntable	EMCO 2080-1.2/1.5	N/A	0002-1002
Double Ridged Horn Antenna	ETS 3115 (1-18GHz)	Oct. 2000	6267
Double Ridged Horn Antenna	ETS 3115 (1-18GHz)	Oct. 2000	6276
Horn Antenna	Chase BBHA 9120-A (0.7-4.8GHz)	Sept 1998	9120A-239
Horn Antenna	Chase BBHA 9120-A (0.7-4.8GHz)	Sept 1998	9120A-240
Roberts Dipoles	Compliance Design (2 sets) 3121C	June 2000	
Spectrum Analyzer	HP 8594E	March 2000	3543A02721
Spectrum Analyzer	HP E4408B	Nov 1999	US39240170
Shielded Screen Room	Lindgren R.F. 18W-2/2-0	N/A	16297
Environmental Chamber	ESPEC ECT-2 (Temperature/Humidity)	Feb 2000	0510154-B

5.1 CONCLUSION

The data in this measurement report shows that the AIRPRIME INC. PCS CDMA Voice/Data Modem Module FCC ID: PNF-SB3000P for (5) Handspring Visor Handheld PDA Models as described in this report complies with all the requirements of Parts 2 and 24 of the FCC rules.