13.1 SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	21.8
Relative HUMIDITY (%)	60.2
Atmospheric PRESSURE (kPa)	99.4

Mixture Type:	**1900MHz Brain**		
Dielectric Constant:	**40.0**	**Measured Depth of Simulating Tissue:**	**15.0 cm**
Conductivity:	**1.62**	**Measured Tissue TEMPERATURE (°C)**	**21.6**

13.2 Measurement Results (PCS CDMA Left Head SAR - Touch)

FREQUENCY MHz	FREQUENCY Ch.	Modulation	Begin POWER* (dBm)	End POWER* (dBm)	Battery	Device Test Position	Antenna Position	SAR (W/kg)
1851.25	0025	CDMA	24.5	24.5	Extended	Cheek / Touch	Fixed	0.954
1880.00	0600	CDMA	24.5	24.7	Extended	Cheek / Touch	Fixed	0.809
1908.75	1175	CDMA	24.5	24.5	Extended	Cheek / Touch	Fixed	1.000
1908.75	1175	CDMA	24.5	24.5	Standard	Cheek / Touch	Fixed	0.965
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**Brain 1.6 W/kg (mW/g)** averaged over 1 gram		

NOTES:

1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supp.C [July 2001].
2. All modes of operation were investigated and the worst-case are reported.
3. *Power Measured (24.5dBm) ☒ Conducted ☐ EIRP ☐ ERP
   Battery condition is fully charged for all readings.
4. SAR Measurement System ☒ SPEAG ☐ IDX
   Phantom configuration ☒ Left Head ☐ Right Head
5. SAR Configuration ☒ Head ☐ Body ☐ Hand

Randy Ortanez
President

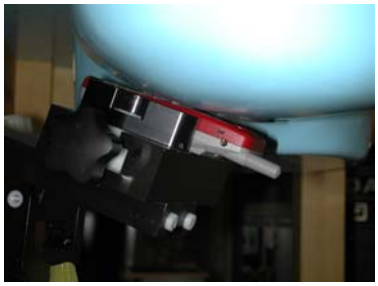

Figure 16. Left Head SAR Test Setup -- Check / Touch Position --

13.1 SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	21.8
Relative HUMIDITY (%)	60.2
Atmospheric PRESSURE (kPa)	99.4

Mixture Type:	**1900MHz Brain**		
Dielectric Constant:	**40.0**	**Measured Depth of Simulating Tissue:**	**15.0 cm**
Conductivity:	**1.62**	**Measured Tissue TEMPERATURE (°C)**	**21.6**

13.3 Measurement Results (PCS CDMA Left Head SAR - Tilt)

FREQUENCY MHz	FREQUENCY Ch.	Modulation	Begin / End POWER* (dBm)		Battery	Device Test Position	Antenna Position	SAR (W/kg)
1851.25	0025	CDMA	24.5	24.5	Extended	Ear / 15° Tilt	Fixed	1.410
1880.00	0600	CDMA	24.5	24.6	Extended	Ear / 15° Tilt	Fixed	1.140
1908.75	1175	CDMA	24.5	24.5	Extended	Ear / 15° Tilt	Fixed	1.470
1908.75	1175	CDMA	24.5	24.5	Standard	Ear / 15° Tilt	Fixed	1.400
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**Brain 1.6 W/kg (mW/g)** averaged over 1 gram		

NOTES:

1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supp.C [July 2001].
2. All modes of operation were investigated and the worst-case are reported.
3. *Power Measured (24.5dBm) ☒ Conducted ☐ EIRP ☐ ERP
   Battery condition is fully charged for all readings.
4. SAR Measurement System ☒ SPEAG ☐ IDX
   Phantom configuration ☒ Left Head ☐ Right Head
5. SAR Configuration ☒ Head ☐ Body ☐ Hand

Randy Ortanez
President

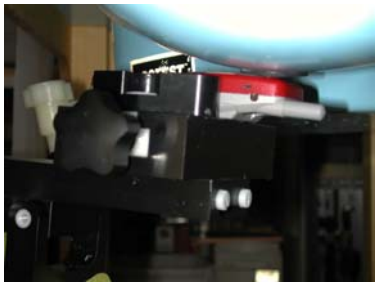

Figure 17. Left Head SAR Test Setup -- Ear / Tilt Position --

13.1 SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	21.8
Relative HUMIDITY (%)	60.2
Atmospheric PRESSURE (kPa)	99.4

Mixture Type:	**1900MHz Brain**		
Dielectric Constant:	**40.0**	**Measured Depth of Simulating Tissue:**	**15.0 cm**
Conductivity:	**1.62**	**Measured Tissue TEMPERATURE (°C)**	**21.6**

13.4 Measurement Results (PCS CDMA Right Head SAR - Touch)

FREQUENCY MHz	FREQUENCY Ch.	Modulation	Begin POWER* (dBm)	End POWER* (dBm)	Battery	Device Test Position	Antenna Position	SAR (W/kg)
1851.25	0025	CDMA	24.5	24.5	Extended	Cheek / Touch	Fixed	0.869
1880.00	0600	CDMA	24.5	24.7	Extended	Cheek / Touch	Fixed	0.789
1908.75	1175	CDMA	24.5	24.5	Extended	Cheek / Touch	Fixed	0.987
1908.75	1175	CDMA	24.5	24.5	Standard	Cheek / Touch	Fixed	0.978
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**Brain 1.6 W/kg (mW/g) averaged over 1 gram**		

NOTES:

1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supp.C [July 2001].
2. All modes of operation were investigated and the worst-case are reported.
3. *Power Measured (24.5dBm) ☒ Conducted ☐ EIRP ☐ ERP
   Battery condition is fully charged for all readings.
4. SAR Measurement System ☒ SPEAG ☐ IDX
   Phantom configuration ☐ Left Head ☒ Right Head
5. SAR Configuration ☒ Head ☐ Body ☐ Hand

Randy Ortanez
President

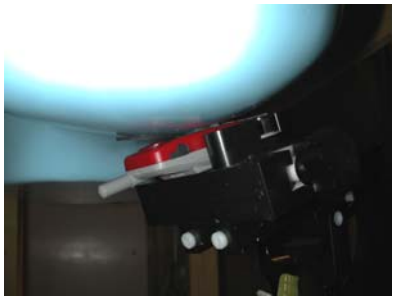

Figure 18. Right Head SAR Test Setup
-- Check / Touch Position --

13.1 SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	21.8
Relative HUMIDITY (%)	60.2
Atmospheric PRESSURE (kPa)	99.4

Mixture Type:	**1900MHz Brain**		
Dielectric Constant:	**40.0**	**Measured Depth of Simulating Tissue:**	**15.0 cm**
Conductivity:	**1.62**	**Measured Tissue TEMPERATURE (°C)**	**21.6**

13.5 Measurement Results (PCS CDMA Right Head SAR - Tilt)

FREQUENCY MHz	FREQUENCY Ch.	Modulation	Begin POWER* (dBm)	End POWER* (dBm)	Battery	Device Test Position	Antenna Position	SAR (W/kg)
1851.25	0025	CDMA	24.5	24.5	Extended	Ear / 15° Tilt	Fixed	1.380
1880.00	0600	CDMA	24.5	24.6	Extended	Ear / 15° Tilt	Fixed	1.000
1908.75	1175	CDMA	24.5	24.5	Extended	Ear / 15° Tilt	Fixed	1.400
1908.75	1175	CDMA	24.5	24.5	Standard	Ear / 15° Tilt	Fixed	1.400
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**Brain 1.6 W/kg (mW/g)** averaged over 1 gram		

NOTES:

1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supp.C [July 2001].
2. All modes of operation were investigated and the worst-case are reported.
3. *Power Measured (24.5dBm) ☒ Conducted ☐ EIRP ☐ ERP
   Battery condition is fully charged for all readings.
4. SAR Measurement System ☒ SPEAG ☐ IDX
   Phantom configuration ☐ Left Head ☒ Right Head
5. SAR Configuration ☒ Head ☐ Body ☐ Hand

Randy Ortanez
President

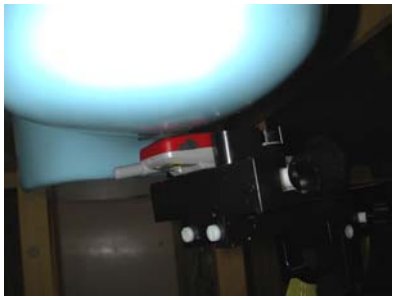

Figure 19. Right Head SAR Test Setup
-- Ear / Tilt Position --

13.1 SAR TEST DATA SUMMARY (Continued)

Ambient TEMPERATURE (°C) 21.4
Relative HUMIDITY (%) 60.0
Atmospheric PRESSURE (kPa) 99.5

Mixture Type: **1900MHz Muscle**

Dielectric Constant: **53.3** **Measured Depth of Simulating Tissue:** **15.5 cm**

Conductivity: **1.52** **Measured Tissue TEMPERATURE (°C)** **21.3**

13. 6 Measurement Results (PCS CDMA Body SAR w/ BeltClip)

FREQUENCY MHz	FREQUENCY Ch.	Modulation	Begin POWER* (dBm)	End POWER* (dBm)	Battery	Separation Distance (cm)**	Antenna Position	SAR (W/kg)
1851.25	0025	CDMA	24.5	24.5	Extended	2.0 [w/ BeltClip]	Fixed	0.418
1880.00	0600	CDMA	24.5	24.6	Extended	2.0 [w/ BeltClip]	Fixed	0.398
1908.75	1175	CDMA	24.5	24.6	Extended	2.0 [w/ BeltClip]	Fixed	0.458
1908.75	1175	CDMA	24.5	24.6	Standard	2.0 [w/ BeltClip]	Fixed	0.423
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**Body 1.6 W/kg (mW/g) averaged over 1 gram**		

NOTES:

1. All modes of operation were investigated and the worst-case are reported.
2. Battery condition is fully charged for all readings.
3. * Power Measured (24.5dBm) ☒ Conducted ☐ EIRP ☐ ERP
4. SAR Measurement System ☒ SPEAG ☐ IDX
   Phantom configuration ☒ Flat Phantom
5. SAR Configuration ☐ Head ☒ Body ☐ Hand
6. ** Test Configuration ☒ With BeltClip ☒ Without BeltClip
   Spacing = 2.0cm from flat phantom to rear top of phone, 2.0cm from flat phantom to fixed antenna and 1.4cm from flat phantom to rear base of phone. *The worst-case spacing of 2.0cm is noted and specified in the User's Manual RF Exposure Warning page.*
   --Rigid plastic BeltClip maintains the same spacing w/both Standard and Extended Batteries.

Randy Ortanez
President

Figure 20. Body SAR Test Setup

9.1 TEST POSITIONS OF THE PHONE

9.2 Handset Test Positions

The test device was placed in a normal operating position with the "test device reference point" located along the "vertical centerline" on the front of the device aligned to the "ear reference point" (See Fig. 11). The "test device reference point" was than located at the same level as the center of the earpiece region. The test device was positioned so that the "vertical centerline" was bisecting the front surface of the handset at it's top and bottom edges, positioning the "ear reference point" on the outer surface of the both the left and right head phantoms on each ear spacer.

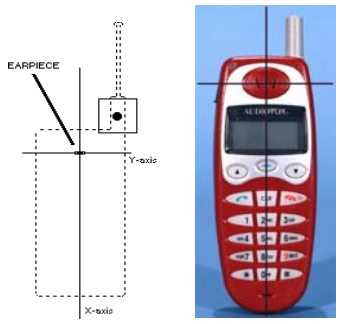

Figure 11. Ear Reference Point

9.3 EAR Reference Point

The test device was initially positioned with the earpiece region pressed against the ear spacer of both the left & right head phantoms. The device was positioned parallel to the cheek for maximum RF energy coupling. The "test device reference point" was aligned to the "ear reference point" on both head phantoms and the "vertical centerline" was aligned to the "phantom reference plane". (See Figure 12). While maintaining these three alignments, the body of the test deice was gradually adjusted to both of the following positions for SAR evaluation [5]:

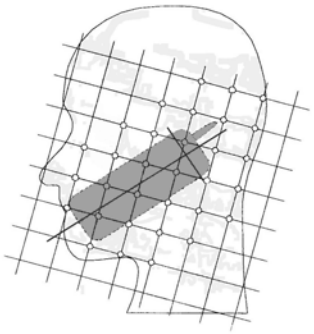

Figure 12.

A. Cheek / Touch Position

For Cheek/Touch Position, the test device was brought toward the mouth of the both head phantoms by pivoting against the "ear reference point" of the head phantoms. The test position was established:

--When any point on the display, keypad or mouthpiece portions of the test device was in contact with the head phantom, or

--When any portion of a foldout, sliding or similar keypad cover opened to its intended self-adjusting normal use potion was in contact with the cheek or mouth of the head phantom.

When the test device lost contact with the phantom at the pivoting point, rotation continued until the device touched the cheek of the head phantom or broke it's last contact from the ear spacer (See Figure 13).

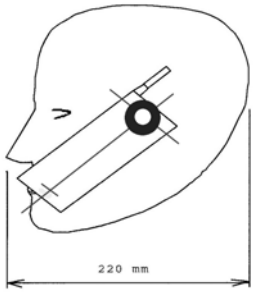

Figure 13.
Cheek/Touch Position

B. Ear / 15° Tilt Position

With the test device aligned in the "Cheek/Touch Position":

--If the earpiece of the test device was not in full contact with the head phantom's ear spacer in the Cheek/Touch Position and the peak SAR location for the "Cheek/Touch" position was located at the ear spacer region or corresponded to the earpiece region of the test device, the device was returned to the "initial ear position" by rotating it away from the mouth until the earpiece was in full contact with the ear spacer, otherwise

--The test device was moved (translated) away from the cheek perpendicular to the line that passes through both the "ear reference points". While in this position, the handset was tilted away from the mouth with respect to the "test device reference point" by 15°. After the tilt, the test device was then moved (translated) back toward the head perpendicular to the line spacer. If the antenna touched the head phantom first, then the positioning process was repeated with a tilt angle less than 15° so that the device and its antenna touched the phantom simultaneously.

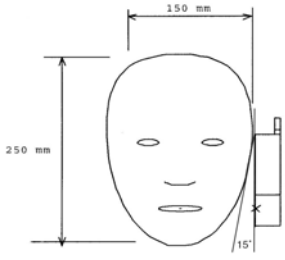

Figure 14.
Ear/15° Tilt Position