#### **13.1 SAR TEST DATA SUMMARY**

	Ambient TEMPERATURE (°C)	20.7
	Relative HUMIDITY (%)_	59.2
	Atmospheric PRESSURE (kPa)	99.5
835MHz Brain		

Mixture Type:	835MHz Brain	
Dielectric Constant:	41.5	
Conductivity:	0.90	

Closest Distance (between E-Probe & Phone): <u>1.7 cm</u>

#### **13.2 Measurement Results (AMPS Head SAR)**

FREQU MHz	JENCY Ch.	Modulation	POWER (dBm)	Phantom Position	Antenna Position	SAR (W/kg)
824.04	0991	AMPS	27.0 [Standard Battery]	Left Ear	Fixed	1.230
836.49	0383	AMPS	27.0 [Standard Battery]	Left Ear	Fixed	1.080
848.97	0799	AMPS	27.0 [Standard Battery]	Left Ear	Fixed	1.310
848.97	0799	AMPS	27.0 [Extended Battery]	Left Ear	Fixed	1.150
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population			Brain W/kg (mW/	0,		

NOTES:

5.

- 1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- 2. All modes of operation were investigated and the worst-case are reported.

X

- 3. Battery Type 4.
- $\mathbf{X}$ Standard X X Conducted
- Extended ERP

- \*Power Measured SAR Measurement System
- SPEAG
- Head

EIRP

IDX

Body

SAR Configuration  $\mathbf{X}$ 6.

tRandy Ortanez

President



Hand

Figure 17. Head SAR Test Setup

HYUNDAI FCC ID: PP4DX-20B (Model: DX-20B) Dual-Mode Analog Phone (AMPS/CDMA)

### 13.1 SAR TEST DATA SUMMARY (Continued)

		Ambient TEMPERATURE (°C)	20.7
		Relative HUMIDITY (%)	59.2
		Atmospheric PRESSURE (kPa)	99.5
Mixture Type:	835MHz Brain		

-	
Dielectric Constant:	41.5
Conductivity:	0.90

Closest Distance (between E-Probe & Phone): <u>1.7 cm</u>

#### **13.3 Measurement Results (Cellular CDMA Head SAR)**

FREQL MHz	JENCY Ch.	Modulation	POWER (dBm)	Phantom Position	Antenna Position	SAR (W/kg)
824.70	1013	CDMA	25.5 [Standard Battery]	Left Ear	Fixed	0.957
835.89	0363	CDMA	25.5 [Standard Battery]	Left Ear	Fixed	0.757
848.31	0777	CDMA	25.5 [Standard Battery]	Left Ear	Fixed	1.000
848.31	0777	CDMA	25.5 [Extended Battery]	Left Ear	Fixed	0.961
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population			Brain W/kg (mW/	•,		

NOTES:

6.

- 1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- 2. All modes of operation were investigated and the worst-case are reported.

X

 $\mathbf{X}$ 

- 3. Battery Type
- X Standard X  $\mathbf{X}$ Conducted
- Extended
  - ERP

4. \*Power Measured 5. SAR Measurement System SAR Configuration

SPEAG Head

- IDX Body

EIRP

Hand 





Figure 18. Head SAR Test Setup

HYUNDAI FCC ID: PP4DX-20B (Model: DX-20B) Dual-Mode Analog Phone (AMPS/CDMA)

## 13.1 SAR TEST DATA SUMMARY (Continued)

	Ambient TEMPERATURE (°C)	20.7
	Relative HUMIDITY (%) _ Atmospheric PRESSURE (kPa)	<u> </u>
835MHz Muscle		

Mixture Type:	835MHz Muscle		
Dielectric Constant:	56.2		
Conductivity:	0.95		

#### 13.4 Measurement Results (AMPS Body SAR w/Holster)

	JENCY	Modulation	-	Separation	Antenna	SAR
MHz	Ch.		(dBm)	Distance (cm)**	Position	(W/kg)
824.04	0991	AMPS	27.0 [Standard Battery]	2.5 cm [w/ Holster]	Fixed	0.358
836.49	0363	AMPS	27.0 [Standard Battery]	2.5 cm [w/ Holster]	Fixed	0.258
848.97	0799	AMPS	27.0 [Standard Battery]	2.5 cm [w/ Holster]	Fixed	0.419
848.97	0799	AMPS	27.0 [Extended Battery]	2.5 cm [w/ Holster]	Fixed	0.395
AI	ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population				Bo 1.6 W/kg averaged o	(mW/g)

#### NOTES:

4.

6.

7.

- 1. All modes of operation were investigated and the worst-case are reported.
- 2. Battery condition is fully charged for all readings.
- Battery Type 3. \* Power Measured
- Standard Conducted
- Extended  $\times$

🗵 Body

□ EIRP □ ERP □ IDX

- SAR Measurement System 5.
- SPEAG □ Head

X

 $\mathbf{X}$ 

- SAR Configuration \*\* Test Configuration
  - Body Holster
    - Without Body Holster

□ Hand

Separation Distance of 2.5cm is measured from the flat phantom to the back panel of the phone.

Randy Ortanez President



Figure 19. Body SAR **Test Setup** 

## 13.1 SAR TEST DATA SUMMARY (Continued)

	Ambient TEMPERATURE (°C)	20.7
	Relative HUMIDITY (%)_	59.2
	Atmospheric PRESSURE (kPa)	99.52
835MHz Muscle		

<u>IVIIXture Type:</u>	835IVIHZ IVIUSCIE
Dielectric Constant:	56.2
Conductivity:	0.95

#### 13.5 Measurement Results (Cellular CDMA Body SAR w/Holster)

FREQU MHz	ENCY Ch.	Modulation	POWER * (dBm)	Separation Distance (cm)**	Antenna Position	SAR (W/kg)
824.70	1013	CDMA	25.5 [Standard Battery]	2.5 cm [w/ Holster]	Fixed	0.267
835.89	0363	CDMA	25.5 [Standard Battery]	2.5 cm [w/ Holster]	Fixed	0.239
848.31	0777	CDMA	25.5 [Standard Battery]	2.5 cm [w/ Holster]	Fixed	0.248
824.70	1013	CDMA	25.5 [Extended Battery]	2.5 cm [w/ Holster]	Fixed	0.220
AN	ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population				1.6 W/kg	ody g (mW/g) over 1 gram

#### NOTES:

4.

7.

1. All modes of operation were investigated and the worst-case are reported.

X

 $\mathbf{X}$ 

- 2. Battery condition is fully charged for all readings.
- Battery Type 3. \* Power Measured
- Standard Conducted
- X Extended
- □ EIRP □ ERP

- SAR Measurement System 5.
- SAR Configuration 6.
- SPEAG □ Head
- 🗵 Body □ Hand

- \*\* Test Configuration
- Body Holster Without Body Holster

Separation Distance of 2.5cm is measured from the flat phantom to the back panel of the phone.

Randy Ortanez President

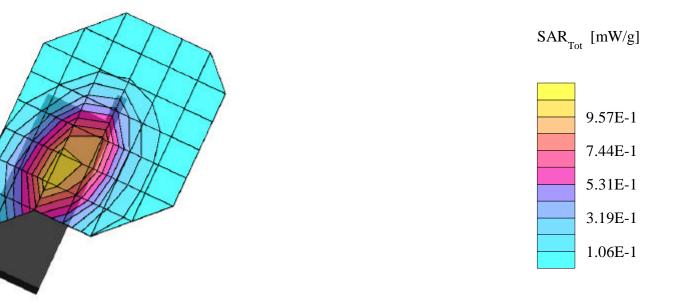


Figure 20. Body SAR **Test Setup** 

#### HYUNDAI FCC ID:PP4DX-20B -- FM Head SAR

 $\begin{array}{l} \mbox{Generic Twin Phantom; Left Hand Section; Probe: ET3DV6 - SN1560 -- Probe Cal Date 20/02/01 \\ \mbox{Med. Parameters 835 MHz Brain: } \sigma = 0.90 \mbox{ mho/m } \epsilon_r = 41.5 \mbox{ } \rho = 1.00 \mbox{ g/cm}^3; \mbox{ Antenna Position -- Out; Crest Factor 1.0 } \\ \mbox{SAR (1g): 1.15 } \mbox{ mW/g, SAR (10g): 0.819 } \mbox{ mW/g} \end{array}$ 

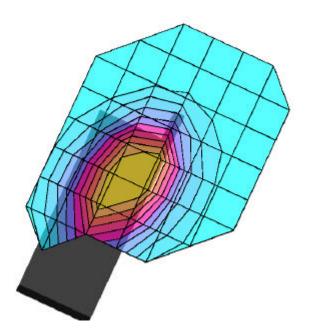
HYUNDAI DualMode Model:DX-20B FM Mode, Ch.0799 [848.97MHz] Conducted Power = 27.0dBm Test Date -- 06/11/2001

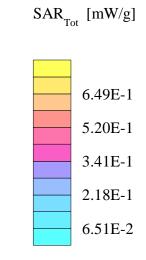


### HYUNDAI FCC ID:PP4DX-20B -- Cellular CDMA Head SAR

Generic Twin Phantom; Left Hand Section; Probe: ET3DV6 - SN1560 -- Probe Cal Date 20/02/01 Med. Parameters 835 MHz Brain:  $\sigma = 0.90$  mho/m  $\epsilon_r = 41.5 \rho = 1.00$  g/cm<sup>3</sup>; Antenna Position -- Out; Crest Factor 1.0 SAR (1g): 0.961 mW/g, SAR (10g): 0.698 mW/g

> HYUNDAI DualMode Model:DX-20B Cellular CDMA Mode, Ch.0777 [848.31MHz] Conducted Power = 25.5dBm Test Date -- 06/11/2001

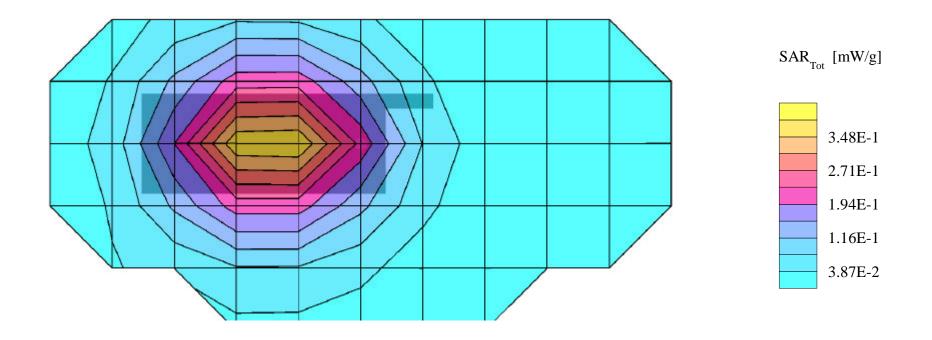




### HYUNDAI FCC ID:PP4DX-20B -- FM Body SAR

Generic Twin Phantom; Flat Section; Probe: ET3DV6 - SN1560 -- Probe Cal Date 20/02/01 Med. Parameters 835 MHz Muscle:  $\sigma = 0.95$  mho/m  $\epsilon_r = 56.2 \ \rho = 1.00 \ g/cm^3$ ; Antenna Position -- Out; Crest Factor 1.0 SAR (1g): 0.395 mW/g, SAR (10g): 0.282 mW/g

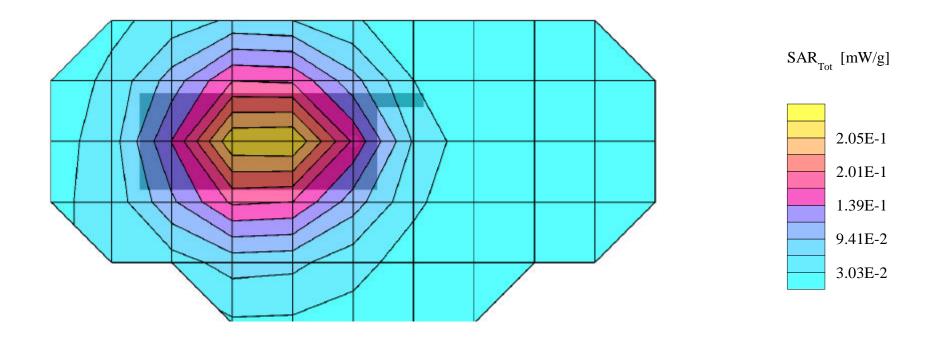
> HYUNDAI DualMode Model:DX-20B FM Mode, Ch.0799 [848.97MHz] Conducted Power = 27.0dBm; Spacing = 2.5cm from flat phantom to phone, w/Holster Test Date -- 06/11/2001



# HYUNDAI FCC ID:PP4DX-20B -- Cellular CDMA Body SAR

 $\begin{array}{l} \mbox{Generic Twin Phantom; Flat Section; Probe: ET3DV6 - SN1560 -- Probe Cal Date 20/02/01} \\ \mbox{Med. Parameters 835 MHz Muscle: $\sigma = 0.95 mho/m $\varepsilon_r = 56.2 $\rho = 1.00 g/cm^3$; Antenna Position -- Out; Crest Factor 1.0 $$ SAR (1g): 0.220 mW/g, SAR (10g): 0.158 mW/g$ } \end{array}$ 

HYUNDAI DualMode Model:DX-20B Cellular CDMA Mode, Ch.1013 [824.70MHz] Conducted Power = 25.5dBm; Spacing = 2.5cm from flat phantom to phone, w/Holster Test Date -- 06/11/2001





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HYUNDAI FCC ID: PP4DX-20B (Model: DX-20B) Dual-Mode Analog Phone (AMPS/CDMA)

NVLAP Lab Code: 100431-0



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HYUNDAI FCC ID: PP4DX-20B (Model: DX-20B) Dual-Mode Analog Phone (AMPS/CDMA)

NVLAP Lab Code: 100431-0