

## 13.1 SAR TEST DATA SUMMARY

|                            |      |
|----------------------------|------|
| 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): 1.7 cm

## 13.2 Measurement Results (AMPS Head SAR)

| FREQUENCY  |             | Modulation  | POWER<br>(dBm)                 | Phantom<br>Position   | Antenna<br>Position | SAR<br>(W/kg) |
|--|-------------|-------------|--------------------------------|---|---------------------|---------------|
| MHz  | Ch.         |             |                                |   |                     |               |
| 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         |
| <b>848.97</b>  | <b>0799</b> | <b>AMPS</b> | <b>27.0 [Extended Battery]</b> | <b>Left Ear</b>   | <b>Fixed</b>        | <b>1.150</b>  |
| <b>ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br/>                     Spatial Peak<br/>                     Uncontrolled Exposure/General Population</b> |             |             |                                | <b>Brain<br/>                     1.6 W/kg (mW/g)<br/>                     averaged over 1 gram</b> |                     |               |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- All modes of operation were investigated and the worst-case are reported.
- Battery Type  Standard  Extended
- \*Power Measured  Conducted  EIRP  ERP
- SAR Measurement System  SPEAG  IDX
- SAR Configuration  Head  Body  Hand

  
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 President

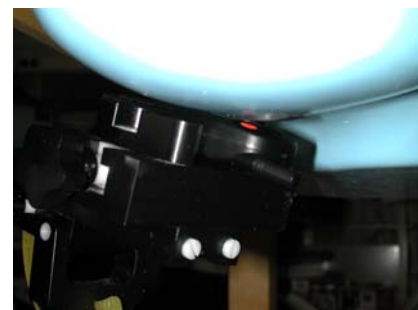


Figure 17. Head SAR Test Setup

## 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): 1.7 cm

## 13.3 Measurement Results (Cellular CDMA Head SAR)

| FREQUENCY  |             | Modulation  | POWER<br>(dBm)                 | Phantom<br>Position                                       | Antenna<br>Position | SAR<br>(W/kg) |
|--|-------------|-------------|--------------------------------|---|---------------------|---------------|
| MHz  | Ch.         |             |                                |   |                     |               |
| 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         |
| <b>848.31</b>  | <b>0777</b> | <b>CDMA</b> | <b>25.5 [Extended Battery]</b> | <b>Left Ear</b>   | <b>Fixed</b>        | <b>0.961</b>  |
| <b>ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br/>Spatial Peak<br/>Uncontrolled Exposure/General Population</b> |             |             |                                | <b>Brain<br/>1.6 W/kg (mW/g)<br/>averaged over 1 gram</b> |                     |               |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- All modes of operation were investigated and the worst-case are reported.
- Battery Type  Standard  Extended
- \*Power Measured  Conducted  EIRP  ERP
- SAR Measurement System  SPEAG  IDX
- SAR Configuration  Head  Body  Hand

  
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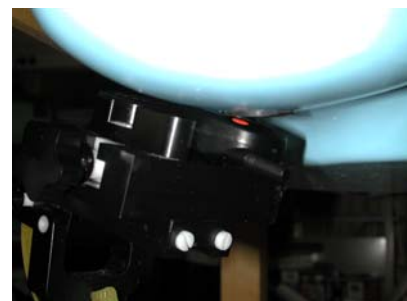


Figure 18. Head SAR Test Setup

## 13.1 SAR TEST DATA SUMMARY (Continued)

|                            |      |
|----------------------------|------|
| Ambient TEMPERATURE (°C)   | 20.7 |
| Relative HUMIDITY (%)      | 59.2 |
| Atmospheric PRESSURE (kPa) | 99.5 |

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

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

| FREQUENCY  |             | Modulation  | POWER *<br>(dBm)               | Separation<br>Distance (cm)** | Antenna<br>Position                                      | SAR<br>(W/kg) |
|--|-------------|-------------|--------------------------------|-------------------------------|--|---------------|
| MHz  | Ch.         |             |                                |                               |  |               |
| 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         |
| <b>848.97</b>  | <b>0799</b> | <b>AMPS</b> | <b>27.0 [Extended Battery]</b> | <b>2.5 cm [w/ Holster]</b>    | <b>Fixed</b>   | <b>0.395</b>  |
| <b>ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak<br/>Uncontrolled Exposure/General Population</b> |             |             |                                |                               | <b>Body<br/>1.6 W/kg (mW/g)<br/>averaged over 1 gram</b> |               |

NOTES:

- All modes of operation were investigated and the worst-case are reported.
  - Battery condition is fully charged for all readings.
  - Battery Type  Standard  Extended
  - \* Power Measured  Conducted  EIRP  ERP
  - SAR Measurement System  SPEAG  IDX
  - SAR Configuration  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.*


  
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 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 |

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

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

| FREQUENCY  |             | Modulation  | POWER *<br>(dBm)               | Separation<br>Distance (cm)** | Antenna<br>Position | SAR<br>(W/kg)  |
|--|-------------|-------------|--------------------------------|-------------------------------|---------------------|--|
| MHz  | Ch.         |             |                                |                               |                     |  |
| 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  |
| <b>824.70</b>  | <b>1013</b> | <b>CDMA</b> | <b>25.5 [Extended Battery]</b> | <b>2.5 cm [w/ Holster]</b>    | <b>Fixed</b>        | <b>0.220</b>   |
| <b>ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak<br/>Uncontrolled Exposure/General Population</b> |             |             |                                |                               |                     | <b>Body<br/>1.6 W/kg (mW/g)</b><br><small>averaged over 1 gram</small> |

NOTES:

- All modes of operation were investigated and the worst-case are reported.
  - Battery condition is fully charged for all readings.
  - Battery Type  Standard  Extended
  - \* Power Measured  Conducted  EIRP  ERP
  - SAR Measurement System  SPEAG  IDX
  - SAR Configuration  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.*


  
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 President

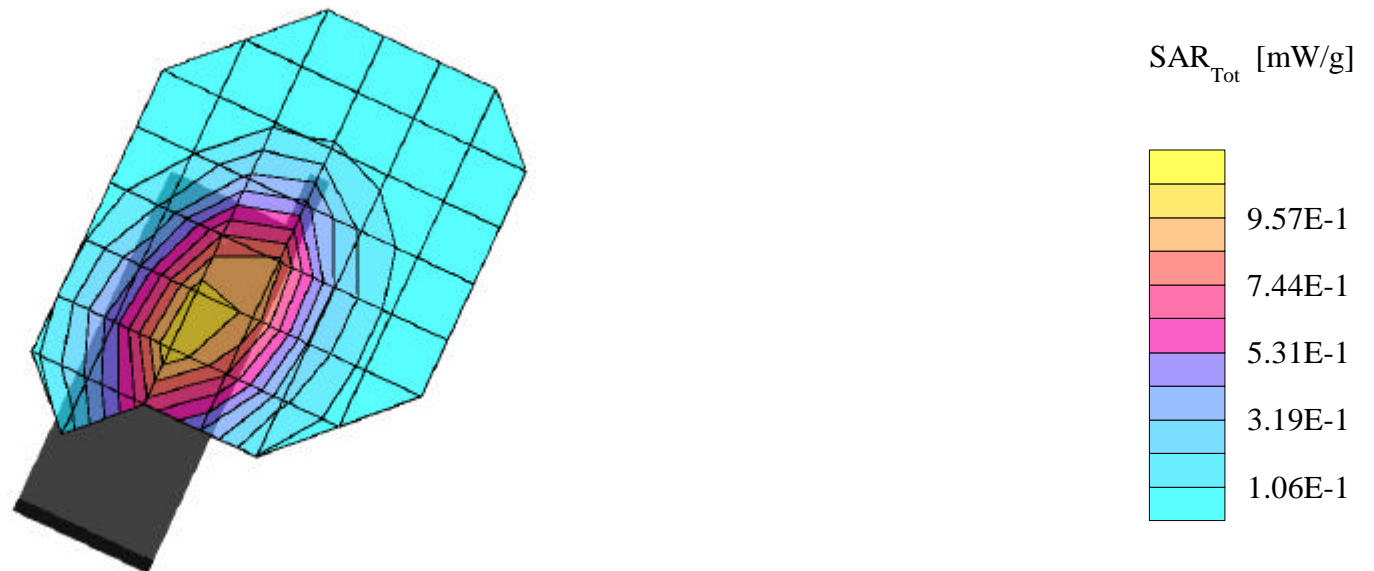


Figure 20. Body SAR  
 Test Setup

# HYUNDAI FCC ID:PP4DX-20B -- FM 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): 1.15 mW/g, SAR (10g): 0.819 mW/g**

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

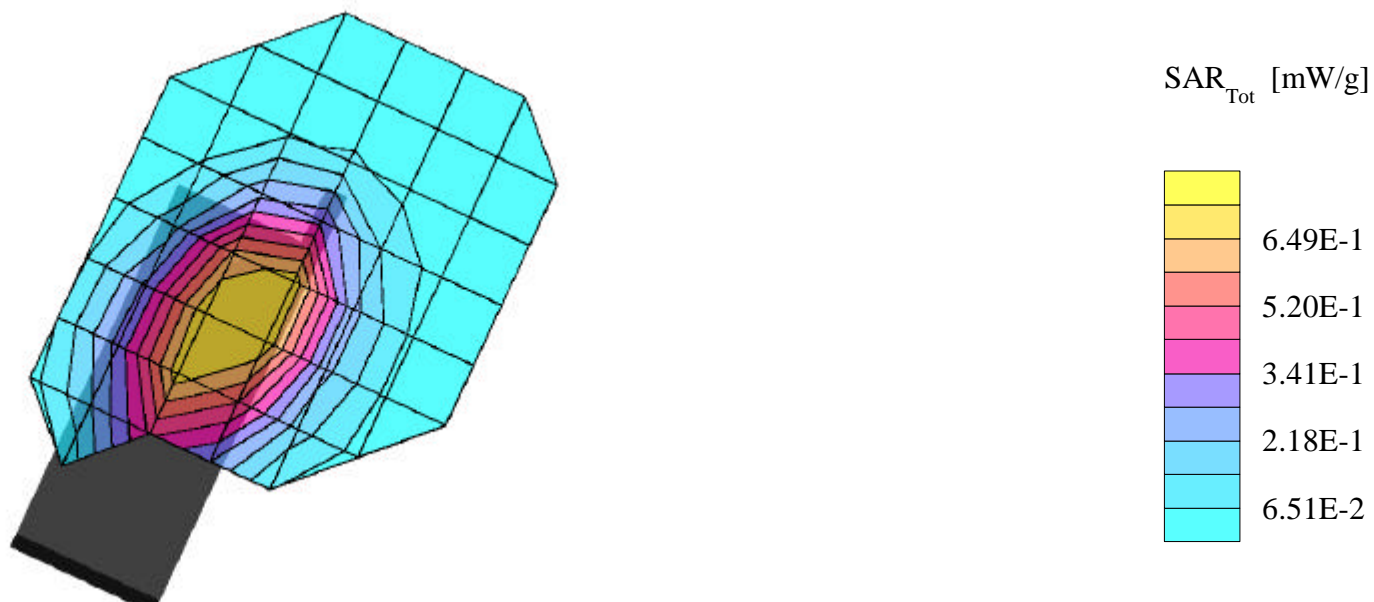
**SAR (1g): 0.961 mW/g, SAR (10g): 0.698 mW/g**

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<sup>3</sup>; Antenna Position -- Out; Crest Factor 1.0

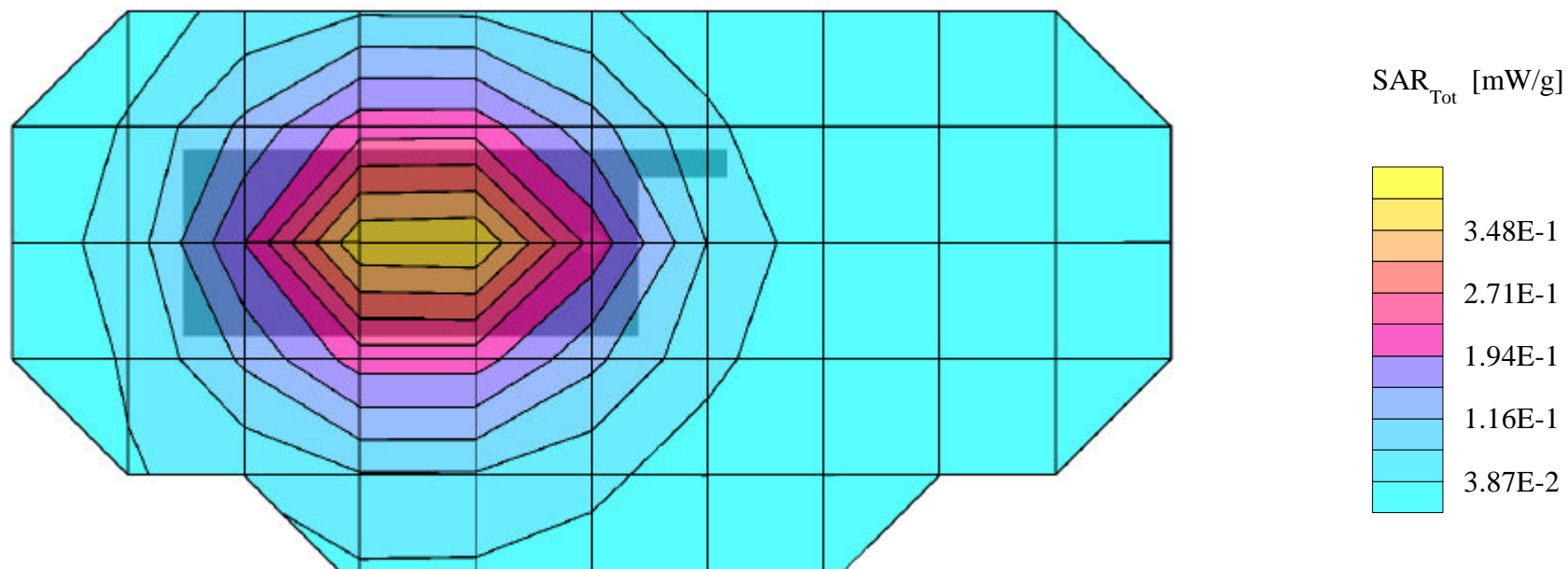
**SAR (1g): 0.395 mW/g, SAR (10g): 0.282 mW/g**

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

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<sup>3</sup>; Antenna Position -- Out; Crest Factor 1.0

**SAR (1g): 0.220 mW/g, SAR (10g): 0.158 mW/g**

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

