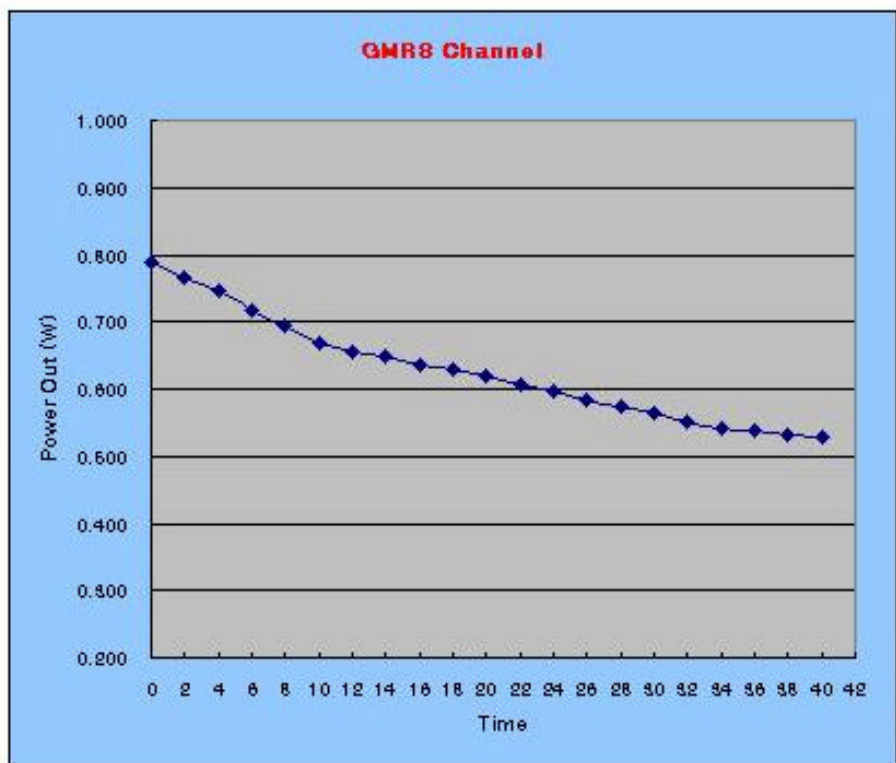


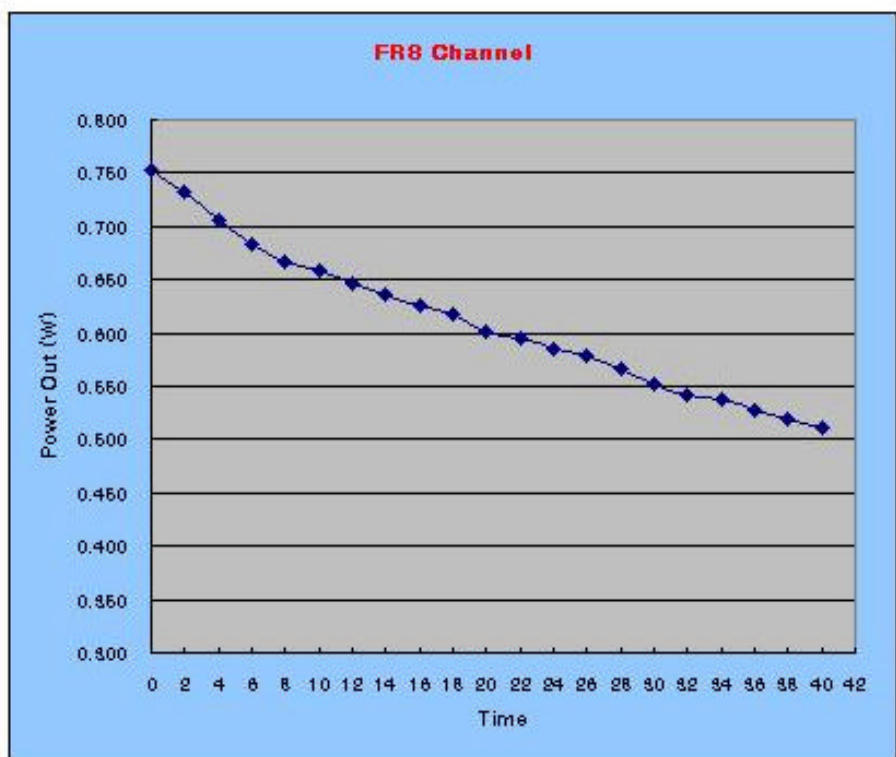
■ Battery Type: Rocket (Alkaline)

GMRS	
Time	Power Out
0	0.787
2	0.765
4	0.746
6	0.718
8	0.694
10	0.667
12	0.656
14	0.648
16	0.637
18	0.628
20	0.619
22	0.607
24	0.598
26	0.584
28	0.574
30	0.565
32	0.550
34	0.542
36	0.539
38	0.532
40	0.527



■ Battery Type: Cencell (Alkaline)

FRS	
Time	Power Out
0	0.753
2	0.732
4	0.705
6	0.684
8	0.667
10	0.658
12	0.647
14	0.637
16	0.625
18	0.617
20	0.602
22	0.596
24	0.584
26	0.579
28	0.566
30	0.552
32	0.541
34	0.538
36	0.527
38	0.519
40	0.512



Date : February 5, 2003

Federal Communications Commission
Authorization and Evaluation Division
7435 Oskland Mills Road
Columbia, MD21046

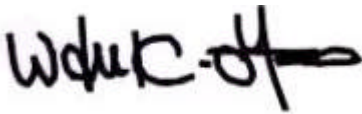
Subject : GMRSWP1 Battery Type

To whom it may concern

Here we would like to confirm that the 'AAA' type batteries only should be used

For this subject model GMRSWP1.(FCC ID: PDHGMRSWP1)

Sincerely Yours,
TTI tech Co., Ltd.



President / W. K. You

APPENDIX C – EUT PROFILE PHOTOGRAPHS







APPENDIX D – DIPOLE VALIDATION PLOTS

Dipole 450 MHz

SAM I Phantom: Flat Section; Position: (90°,90°); Frequency: 450 MHz

Probe: ET3DV6 - SN1609; ConvF(7.40,7.40,7.40); Crest factor: 1.0; Brain 450 MHz: $s = 0.86 \text{ mho/m}$, $\epsilon_r = 43.7$, $\rho = 1.00 \text{ g/cm}^3$ Cubes (2): SAR (1g): $4.94 \text{ mW/g} \pm 0.01 \text{ dB}$, SAR (10g): $3.17 \text{ mW/g} \pm 0.01 \text{ dB}$ Coarse: $D_x = 20.0$, $D_y = 20.0$, $D_z = 10.0$: Powerdrift: -0.06 dB

Comment:

Dipole Validation (D450V2/ S.N: 1007)

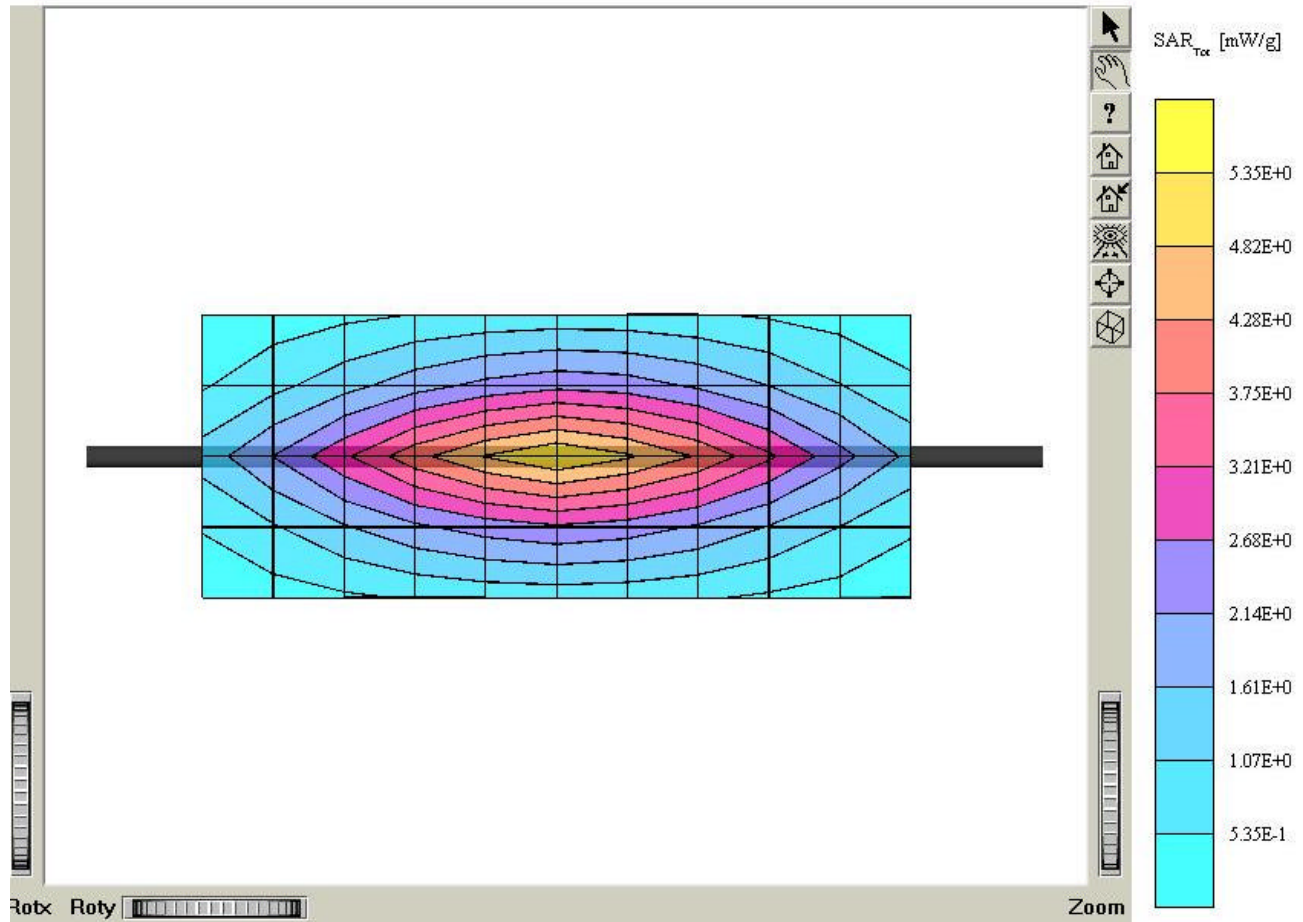
450MHz Brain

Antenna Input Power: 30dBm (1 W)

HCT Co., Ltd. Brain Tissue Simulating Liquid

Liquid Temperature: 21.4 °C

Date Tested: February 7, 2003



GMRSWP1

SAM 1 Phantom: Flat Section; Position: (90°, 90°); Frequency: 450 MHz

Probe: ET3DV6 - SN1609; ConvF(7.60, 7.60, 7.60); Crest factor: 1.0; Body 450 MHz: $s = 0.96 \text{ mho/m}$, $e_r = 56.1$, $r = 1.00 \text{ g/cm}^3$

Cube 5x5x7: SAR (1g): 0.197 mW/g, SAR (10g): 0.136 mW/g

Cube 5x5x7: $D_x = 8.0$, $D_y = 8.0$, $D_z = 5.0$

:

Comment:

FCC ID : PDHGMRSWP1

Company: TTI TECH CO., LTD.

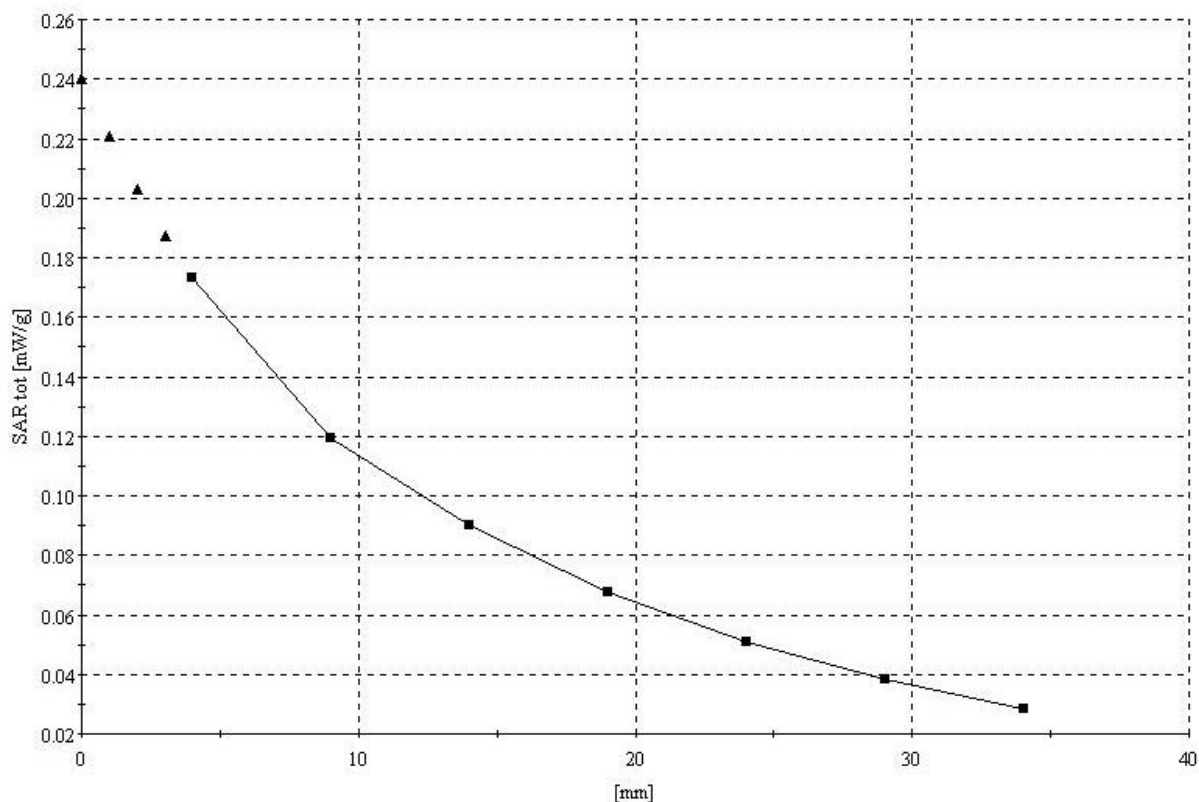
Body / Antenna: in (fixed)

Conducted Power: 0.787W (Battery Type: Rocket)

Mode: FM GMRS Channel: 22 (462.7250 MHz)

Liquid Temperature: 21.4 °C

Date Tested: February 7, 2003



Title: GMRSWP1

SubTitle: 450MHz Brain

February 07, 2003 08:22 AM

Frequency	e'	e''
400.000000 MHz	44.4026	36.7269
405.000000 MHz	43.9175	36.5738
410.000000 MHz	43.6290	36.3576
415.000000 MHz	43.2233	36.2654
420.000000 MHz	43.0694	35.9811
425.000000 MHz	43.0582	35.8412
430.000000 MHz	43.0369	35.6275
435.000000 MHz	43.1598	35.3386
440.000000 MHz	43.1812	35.0319
445.000000 MHz	43.4517	34.7498
450.000000 MHz	43.7409	34.5058
455.000000 MHz	44.0254	34.1537
460.000000 MHz	44.2058	33.7680
465.000000 MHz	44.4619	33.4304
470.000000 MHz	44.6515	33.2165
475.000000 MHz	44.8058	32.9217
480.000000 MHz	44.7599	32.6655
485.000000 MHz	44.6900	32.4707
490.000000 MHz	44.4648	32.2721
495.000000 MHz	44.2922	32.1549
500.000000 MHz	43.9798	31.9970

Title: GMRSWP1

SubTitle: 450MHz Body

February 07, 2003 09:24 AM

Frequency	e'	e''
400.000000 MHz	57.2304	41.5117
405.000000 MHz	57.1417	41.1395
410.000000 MHz	56.9813	40.7682
415.000000 MHz	56.8727	40.4376
420.000000 MHz	56.7612	40.1354
425.000000 MHz	56.7470	39.8013
430.000000 MHz	56.5904	39.5615
435.000000 MHz	56.3698	39.2803
440.000000 MHz	56.3399	38.9491
445.000000 MHz	56.2776	38.6503
450.000000 MHz	56.1065	38.3793
455.000000 MHz	56.1115	38.1169
460.000000 MHz	55.9725	37.8887
465.000000 MHz	55.8772	37.7684
470.000000 MHz	55.8209	37.4670
475.000000 MHz	55.7211	37.2171
480.000000 MHz	55.6120	37.0013
485.000000 MHz	55.5770	36.7022
490.000000 MHz	55.5483	36.5139
495.000000 MHz	55.4894	36.2648
500.000000 MHz	55.4505	36.1033

APPENDIX E – PROBE CALIBRATION DATA

Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

Calibration Certificate

Dosimetric E-Field Probe

Type:

ET3DV6

Serial Number:

1609

Place of Calibration:

Zurich

Date of Calibration:

June 20, 2002

Calibration Interval:

12 months

Schmid & Partner Engineering AG hereby certifies, that this device has been calibrated on the date indicated above. The calibration was performed in accordance with specifications and procedures of Schmid & Partner Engineering AG.

Wherever applicable, the standards used in the calibration process are traceable to international standards. In all other cases the standards of the Laboratory for EMF and Microwave Electronics at the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland have been applied.

Calibrated by:

D. Vetter

Approved by:

P. K. K. K.

**Schmid & Partner
Engineering AG**

Zeughausstrasse 43, 8004 Zurich, Switzerland, Telephone +41 1 245 97 00, Fax +41 1 245 97 79

Probe ET3DV6

SN:1609

Manufactured:	July 27, 2001
Last calibration:	August 10, 2001
Recalibrated:	June 20, 2002

Calibrated for System DASY3

ET3DV6 SN:1609

June 20, 2002

DASY3 - Parameters of Probe: ET3DV6 SN:1609

Sensitivity in Free Space

NormX	$1.74 \mu V/(V/m)^2$
NormY	$1.76 \mu V/(V/m)^2$
NormZ	$1.76 \mu V/(V/m)^2$

Diode Compression

DCP X	95	mV
DCP Y	95	mV
DCP Z	95	mV

Sensitivity in Tissue Simulating Liquid

Head	900 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.97 \pm 5\% \text{ mho/m}$
Head	835 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\% \text{ mho/m}$
ConvF X	$6.5 \pm 9.5\% (k=2)$	Boundary effect:	
ConvF Y	$6.5 \pm 9.5\% (k=2)$	Alpha	0.38
ConvF Z	$6.5 \pm 9.5\% (k=2)$	Depth	2.56
Head	1800 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
Head	1900 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
ConvF X	$5.4 \pm 9.5\% (k=2)$	Boundary effect:	
ConvF Y	$5.4 \pm 9.5\% (k=2)$	Alpha	0.60
ConvF Z	$5.4 \pm 9.5\% (k=2)$	Depth	2.14

Boundary Effect

Head	900 MHz	Typical SAR gradient: 5 % per mm	
Probe Tip to Boundary		1 mm	2 mm
SAR _{be} [%] Without Correction Algorithm		10.1	5.9
SAR _{be} [%] With Correction Algorithm		0.3	0.5
Head	1800 MHz	Typical SAR gradient: 10 % per mm	
Probe Tip to Boundary		1 mm	2 mm
SAR _{be} [%] Without Correction Algorithm		11.5	7.3
SAR _{be} [%] With Correction Algorithm		0.3	0.2

Sensor Offset

Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	1.3 ± 0.2	mm

ET3DV6 SN:1609

June 20, 2002

Receiving Pattern (ϕ), $\theta = 0^\circ$

