

Chris Harvey

From: SunHee Kim (HCT) [alondra@hct.co.kr]
Sent: Monday, April 06, 2009 8:31 PM
To: Chris Harvey; charvey-tcb@ccsemc.com; Mike Kuo; Chris Harvey
Cc: □□□ (HCT); □□□□□ (HCT); □□□ (HCT); Lucy Tsai; □□□ (HCT); □□□ (HCT)
Subject: Re: PANTECH&CURITEL COMMUNICATIONS, INC., FCC ID: PP4ELVISPLUS, Assessment NO.: AN09T8991, Notice#1
Attachments: TXT8026_SAR Test Report_Rev.2.pdf

Dear Chris,

Many thanks for your help.

We send the revised SAR Test Report.

As you can find, PCS Head tissue parameters are less than the target value.

Therefore, we re-measured only the PCS Head SAR testing with the properly matched probe.

Please check and response me if you need more explanation.

Best Regards,
SunHee Kim

----- Original Message -----

From: [Chris Harvey](#)
To: [SunHee Kim \(HCT\)](#) ; [Chris Harvey](#) ; [Mike Kuo](#) ; [charvey-tcb@ccsemc.com](#) ; [Chris Harvey](#)
Cc: [Lucy Tsai](#)
Sent: Tuesday, April 07, 2009 8:27 AM
Subject: Re: PANTECH&CURITEL COMMUNICATIONS, INC., FCC ID: PP4ELVISPLUS, Assessment NO.: AN09T8991, Notice#1

I will be able to review the materials very late tonight, and if everything is acceptable the grant can be issued tomorrow.

Thank you for your help and patience.

BR,

Chris

Sent via BlackBerry from T-Mobile

----- Original Message -----

From: [SunHee Kim \(HCT\)](#)
To: [Chris Harvey](#) ; [Mike Kuo](#) ; [charvey-tcb@ccsemc.com](#) ; [Chris Harvey](#)
Cc: [Lucy Tsai](#)
Sent: Monday, April 06, 2009 11:39 PM
Subject: Re: PANTECH&CURITEL COMMUNICATIONS, INC., FCC ID: PP4ELVISPLUS, Assessment NO.: AN09T8991, Notice#1

Hello CCS,

Could you check this project again?
If this is insufficient to review, please let me know.
Then, we'll re-test for the PCS Head portion with the properly calibrated probe.
I'm waiting for your response now.
Should you have any questions, please let me know.

Best Regards,
SunHee Kim

----- Original Message -----

From: [SunHee Kim \(HCT\)](#)

To: [Chris Harvey](#) ; [Mike Kuo](#) ; charvey-tcb@ccsemc.com ; [Chris Harvey](#)

Cc: [Jae-Sang So \(HCT\)](#) ; [Lucy Tsai](#)

Sent: Monday, April 06, 2009 10:20 PM

Subject: Re: PANTECH&CURITEL COMMUNICATIONS, INC., FCC ID: PP4ELVISPLUS, Assessment NO.: AN09T8991, Notice#1

Hello Chris and Mike,

Thank you for your cooperation.
Please find the attached file regarding the SAR issue.
As for the question #2, please find the revised SAR report on page 31 and 68.

We used the 1810 Head Probe conversion factor for PCS Head SAR testing.
And the 1900 MHz tissue parameters are within +/- 5 % at 1900 MHz.

Please check the file and help me.
Thank you.

Best Regards,
SunHee Kim

----- Original Message -----

From: [Chris Harvey](#)

To: [SunHee Kim \(HCT\)](#) ; charvey-tcb@ccsemc.com

Cc: [Mike Kuo](#) ; chris.harvey@ccsemc.com ; [Lucy Tsai](#)

Sent: Friday, April 03, 2009 9:57 PM

Subject: Re: PANTECH&CURITEL COMMUNICATIONS, INC., FCC ID: PP4ELVISPLUS, Assessment NO.: AN09T8991, Notice#1

Dear SunHee, as I am reviewing your response to my original question #1 I noticed that I do not have any response to my original request #2 (head measurement made using body ConvF values). Please provide this additional response.

BR,

Chris

Sent via BlackBerry from T-Mobile

----- Original Message -----

From: [Mike Kuo](#)

To: [SunHee Kim \(HCT\)](#) ; [Chris Harvey](#)

Cc: lgy0213@hct.co.kr ; [Chris Harvey](#) ; [Lucy Tsai](#) ; [Jae-Sang So \(HCT\)](#)

Sent: Saturday, April 04, 2009 6:27 AM

Subject: RE: PANTECH&CURITEL COMMUNICATIONS, INC., FCC ID: PP4ELVISPLUS, Assessment NO.: AN09T8991, Notice#1

Hi SunHee:

The probe conversion assessment to address KDB 450824 requirement is not enough to resolve all the issues. HCT probe is calibrated with the following frequencies:

Head

900 MHz : can be used for 850 -950 MHz frequency range

1810 MHz: can be used for 1760 – 1860 MHz frequency range

1950 MHz : can be used for 1900 – 2000 MHz frequency range

Body

835 MHz : Can be used for 785 – 885 MHz frequency range

1810 MHz: can be used for 1760 – 1860 MHz frequency range

1900 MHz: can be used for 1850 – 1950 MHz frequency range

1. As indicated in the SAR test report, HCT is using 1810 MHz head conversion factor for AWS band (1711 – 1753 MHz) and PCS band (1851-1909 MHz) which is beyond +/-50 MHz requirement with 1810 MHz conversion factor. Probe conversion assessment is required per KDB 450824 for AWS and PCS head evaluation.
2. Page 68 of SAR test report, 1900 MHz body conversion factor is used for 1880 MHz head measurement.
3. HCT is using 1810 MHz body conversion factor for AWS band (1711-1753 MHz) band measurement, Probe conversion assessment is required per KDB 450824.

CCS SAR probe has the following conversion factors for your future reference :

f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
450	± 50 / ± 100	Head	43.5 ± 5%	0.87 ± 5%	0.50	0.46	10.66 ± 13.3% (k=2)
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.64	0.68	10.95 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.67	0.66	10.97 ± 11.0% (k=2)
1450	± 50 / ± 100	Head	40.5 ± 5%	1.20 ± 5%	0.65	0.67	9.85 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.62	0.62	9.31 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.47	0.74	8.99 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.54	0.67	8.52 ± 11.0% (k=2)
2000	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.45	0.73	8.68 ± 11.0% (k=2)
2300	± 50 / ± 100	Head	39.4 ± 5%	1.71 ± 5%	0.47	0.71	8.38 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.39	0.80	8.05 ± 11.0% (k=2)
2600	± 50 / ± 100	Head	39.0 ± 5%	1.96 ± 5%	0.30	1.02	7.90 ± 11.0% (k=2)
3500	± 50 / ± 100	Head	37.9 ± 5%	2.91 ± 5%	0.36	1.02	7.35 ± 13.1% (k=2)
4950	± 50 / ± 100	Head	36.3 ± 5%	4.40 ± 5%	0.30	1.75	5.25 ± 13.1% (k=2)
5200	± 50 / ± 100	Head	36.0 ± 5%	4.66 ± 5%	0.35	1.75	4.95 ± 13.1% (k=2)
5300	± 50 / ± 100	Head	35.9 ± 5%	4.76 ± 5%	0.35	1.75	4.61 ± 13.1% (k=2)
5500	± 50 / ± 100	Head	35.6 ± 5%	4.96 ± 5%	0.35	1.75	4.59 ± 13.1% (k=2)
5600	± 50 / ± 100	Head	35.5 ± 5%	5.07 ± 5%	0.33	1.75	4.39 ± 13.1% (k=2)
5800	± 50 / ± 100	Head	35.3 ± 5%	5.27 ± 5%	0.28	1.80	4.63 ± 13.1% (k=2)

f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
450	± 50 / ± 100	Body	56.7 ± 5%	0.94 ± 5%	0.40	0.25	11.55 ± 13.3% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.64	0.70	10.22 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.65	0.69	10.21 ± 11.0% (k=2)
1450	± 50 / ± 100	Body	54.0 ± 5%	1.30 ± 5%	0.55	0.72	9.33 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.56	0.64	9.14 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.48	0.70	8.70 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.47	0.69	9.06 ± 11.0% (k=2)
2000	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.49	0.70	8.63 ± 11.0% (k=2)
2300	± 50 / ± 100	Body	52.8 ± 5%	1.85 ± 5%	0.32	0.98	8.09 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.27	1.22	7.91 ± 11.0% (k=2)
2600	± 50 / ± 100	Body	52.5 ± 5%	2.16 ± 5%	0.26	1.25	7.58 ± 11.0% (k=2)
3500	± 50 / ± 100	Body	51.3 ± 5%	3.31 ± 5%	0.22	1.73	6.63 ± 13.1% (k=2)
4950	± 50 / ± 100	Body	49.4 ± 5%	5.01 ± 5%	0.35	1.85	4.41 ± 13.1% (k=2)
5200	± 50 / ± 100	Body	49.0 ± 5%	5.30 ± 5%	0.35	1.85	4.21 ± 13.1% (k=2)
5300	± 50 / ± 100	Body	48.5 ± 5%	5.42 ± 5%	0.35	1.85	3.92 ± 13.1% (k=2)
5500	± 50 / ± 100	Body	48.6 ± 5%	5.65 ± 5%	0.32	1.85	3.99 ± 13.1% (k=2)
5600	± 50 / ± 100	Body	48.5 ± 5%	5.77 ± 5%	0.33	1.85	3.50 ± 13.1% (k=2)
5800	± 50 / ± 100	Body	48.2 ± 5%	6.00 ± 5%	0.33	1.85	3.70 ± 13.1% (k=2)

Best Regards

Mike Kuo
 Compliance Certification Services
 47173 Benicia Street
 Fremont, CA 94538
 Direct: (510) 771-1105
 Fax: (510) 661-0888
 Main: (510) 771-1000
 e-mail:mike.kuo@ccsemc.com
 Web Site:www.ccsemc.com

From: SunHee Kim (HCT) [mailto:alondra@hct.co.kr]
 Sent: Wednesday, April 01, 2009 7:43 PM
 To: Chris Harvey
 Cc: ljoy0213@hct.co.kr; Mike Kuo; Chris Harvey; Lucy Tsai; Jae-Sang So (HCT)
 Subject: Re: PANTECH&CURITEL COMMUNICATIONS, INC., FCC ID: PP4ELVISPLUS, Assessment NO.: AN09T8991, Notice#1

Dear Chris,

We attach the explained document regarding SAR issue.
 And the FCC ID: JYCC790 is same situation with FCC ID: P4ELVISPLUS.
 Please check and let me know it this is unsuffieient to continue with the review.

FYI. HCT probe was calibrated within +/- 50 MHz of the probe calibration frequency a few days ago.
 From next project, this requirement will be okay.

We appreciate your immediate attention to this matter, and look forward to hearing from you soon.

Best regards,
SunHee Kim

=====

Ms. SunHee Kim

Engineer, Product Compliance Division
HCT Co.,Ltd (Hyundai Calibration&Certification Technologies Co., Ltd.)
San 136-1, Ami-ri , Bubal-eup, Icheon-si, Kyounki- do, Korea (467-701)

TEL.: (82-31) 639-8565
FAX : (82-31) 639-8535
C.P: (82-10) 8838-9875

=====

----- Original Message -----

From: <charvey-tcb@ccsemc.com>
To: <alondra@hct.co.kr>
Cc: <chris.harvey@ccsemc.com>; <lucy.tsai@ccsemccom.asti.co.kr>
Sent: Friday, March 27, 2009 10:39 PM
Subject: PANTECH&CURITEL COMMUNICATIONS, INC., FCC ID: PP4ELVISPLUS, Assessment NO.: AN09T8991, Notice#1

> Dear Sun Hee,

>

> You are listed as the Technical Contact for the above referenced TCB application. The following items need to be resolved before the review can be continued:

>

> 1. FCC KDB 450824, page 3, there are additional steps that should be performed when the SAR measurement frequency is >50MHz from the SAR probe calibration frequency. The Head calibrations at 900MHz, 1810Mhz are >50MHz removed from the SAR measurement frequencies of 824MHz, 1910MHz and 1710MHz. Please follow the guideline of this FCC KDB for the additional Measurement Uncertainty considerations.

>

> 2. Additionally, the ConvF values that were used for the Head SAR measurements at 1880MHz on page 68 of 125 were the calibration ConvF values for body calibration at 1900MHz. Please correct or re-measure as appropriate.

>

> The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal and forfeiture of the filing fee. Also, please note that partial responses increase processing time and should not be submitted. Any questions about the content of this correspondence should be directed to the e-mail address listed below the name of the sender.

>

> Best regards,

>

> Chris Harvey

> Charvey-tcb@ccsemc.com

>

>

>