

Jennifer Sanchez

From: Cai, Cai (Shanghai) [Cai.Cai@sgs.com]
Sent: Wednesday, December 10, 2008 11:40 PM
To: Jennifer Sanchez; Jenn Warnell
Subject: FW: FCC Equipment Authorization System--F188
Importance: High
Attachments: Appendix of F188.pdf; F188 test report.pdf

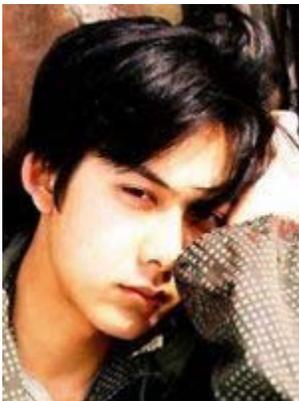
Dear Two

Please find the below email. FYI

The test report of F188 we have updated accordingly. As it is a big file, I have to spit it into two parts. FYI
Please help upload the response and report of F188 onto the FCC website.

Many thanks and your kindly help will be highly appreciated.

Best Regards
Cai Cai



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From: Ni, Will (Shanghai)
Sent: Thursday, December 11, 2008 11:43
To: Ni, Will (Shanghai); Xue, Peter (Shanghai); Cai, Cai (Shanghai); Yuan, Zhiang (Shanghai)
Cc: Wang, Ken-GH (Shanghai); Shen, Joseph (Shanghai)
Subject: RE: FCC Equipment Authorization System

Dear Cai cai,

Please upload the following answers and revised report in EAS after review by peter.

1, the device has two transmitters, one is for 2G/3G cellular, the other is for Bluetooth, and it operates at frequency

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band 835MHz/1900MHz /2450 MHz.

2, under the following conditions,

The alternative system verification method B is implemented to verify 835MHz (GSM850) system with the 900MHz dipole.

(1) According to DASY4 handbook, the relation between SAR and ConvF are inversely proportional, ConvF increasing 5% can result in SAR decreasing 5%. Since probe conversion factor is validity to cover 900;Å100MHz for DASY4 V4.7 system according to probe calibration certificates, SAR discrepancies due to probe conversion factors at dipole (900MHz) and device measurement (835MHz) frequencies can be neglect or <5%.

(2) The one type of tissue liquid can cover frequency range 820MHz-920MHz under the same recipe, and the corresponding dielectric parameter properties deviation are within 10% for both 835MHz and 900MHz.

Band	Frequency	Permittivity		Conductivity	
		Measured	deviation	Measured	deviation
835MHz Target Per.= 55.2;Å5% Con.= 0.97;Å5%	824.2MHz	53.84	-2.5%	0.9595	-1.1%
	835MHz (device)	53.76	-2.6%	0.9705	0
	848.8MHz	53.66	-2.8%	0.984	1.5%
	880.2MHz	53.33	-3.4%	1.013	4.4%
	900MHz (dipole)	53.01	-4.0%	1.032	6.4%
	914.8MHz	52.86	-4.2%	1.047	7.9%

(4) According to dipole calibration certificates, the reference dipole operate in frequency 900MHz with return loss -19.1dB (<-15dB).

(5) New target SAR is established with a coefficient of variation<3% and also within 15% of the original target.

835MHz body

Item	1	2	3	4	5	New Target	Original
SAR (W/Kg)	2.77	2.65	2.74	2.66	2.75	2.71	2.9
Variation	2.2%	-2.2%	1.1%	-1.8%	1.5%	0.0%	7.0%

835MHz head

Item	1	2	3	4	5	New Target	Original
SAR (W/Kg)	2.63	2.68	2.69	2.72	2.74	2.69	2.73
Variation	-2.2%	-0.4%	0.0%	1.1%	1.9%	0.0%	-1.5%

3, uncertainty table is updated as follows

DASY4 SAR System Measurement uncertainty

a	b	c	d	e = f (d,k)	f	g	h = cxf/e	i = cxg/e	k
Uncertainty Component	Clause	(%)	Prob . Dist.	Div.	Ci (1g)	Ci (10g)	1g ui (%)	10g ui (%)	Vj (Veff)
Probe calibration	E.2.1	6.3	N	1	1	1	6.3	6.3	jP
Axial isotropy	E.2.2	0.5	R	2	$(1 - C_p)^{1/2}$	$(1 - C_p)^{1/2}$	0.18	0.18	jP

hemispherical isotropy	E.2.2	2.6	R	2	$\sqrt{2}$	$\sqrt{2}$	0.92	0.92	iP	
Boundary effect	E.2.3	0.8	R	$\sqrt{2}$	1	1	0.46	0.46	iP	
Linearity	E.2.4	0.6	R	2	1	1	0.3	0.3	iP	
System detection limit	E.2.5	1.0	R	$\sqrt{2}$	1	1	0.58	0.58	iP	
Readout electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	iP	
Response time	E.2.7	0	R	$\sqrt{2}$	1	1	0.00	0.00	iP	
Integration time	E.2.8	2.6	R	$\sqrt{2}$	ii	1	1.50	1.50	iP	
RF ambient Condition -Noise	E.6.1	3.0	R	$\sqrt{2}$	ii	1	1.73	1.73	iP	
RF ambient Condition - reflections	E.6.1	3.0	R	$\sqrt{2}$	ii	1	1.73	1.73	iP	
Probe positioning mechanical tolerance	E.6.2	0.4	R	$\sqrt{2}$	ii	1	0.23	0.23	iP	
Probe positioning with respect to phantom	E.6.3	2.9	R	$\sqrt{2}$	ii	1	1.67	1.67	iP	
Max. SAR evaluation	E.5	1.0	R	$\sqrt{2}$	ii	1	0.58	0.58	iP	
Test sample positioning	E.4.2	4.2	N	1	1	1	4.2	4.2	9	
Device holder uncertainty	E.4.1	3.6	N	1	1	1	3.6	3.6	5	
Output power variation -SAR drift measurement	6.6.3	5.0	R	$\sqrt{2}$	ii	1	2.89	2.89	iP	
Phantom uncertainty (shape and thickness tolerances)	E.3.1	4.0	R	$\sqrt{2}$	ii	1	2.31	2.31	iP	
Liquid conductivity - deviation from target values	E.3.2	10.0	R	$\sqrt{2}$	ii	0.64	0.43	3.70	2.48	iP
Liquid conductivity - measurement uncertainty	E.3.3	0.6	N	1.00	ii	0.64	0.43	0.37	0.25	5
Liquid permittivity - deviation from target values	E.3.2	10.0	R	$\sqrt{2}$	ii	0.6	0.49	3.46	2.83	iP
Liquid permittivity - measurement uncertainty	E.3.3	0.8	N	1.00	ii	0.64	0.49	0.54	0.42	5
Combined standard uncertainty		ii	ii	RSS	ii	ii	11.11	10.57	180	
Expanded uncertainty (95% CONFIDENCE INTERVAL)	ii	ii	ii	K=2	ii	ii	22.2	21.1	ii	

Note 1: $C_p = 0.5$

Note 2: Liquid deviation from target values 10% is special for method B validation