



June 14, 2016

TUV SUD BABT
Octagon House, Concorde Way
Segensworth Rd N, Fareham
PO15 5RL

Attention: Director of Certification

RE: Analysis of RF Exposure for Portable and Mobile use per KDB 447498 D01 Mobile Portable RF Exposure v05r02.

FCC ID: 2AA7FRMSA7070882

1. Limits

Limits for General Population/Uncontrolled Exposure (Title 47 Subpart J §2.1091 and KDB 447498 D01 referring to limits under §1.1310)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Electric Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time (minutes)
0.3 - 1.34	614	1.63	*(100)	30
1.34 - 30	824/f	2.19/f	*(180/f ²)	30
30 - 300	27.5	0.073	0.2	30
300 - 1500	-	-	f/1500	30
1500 - 100,000	-	-	1.0	30

f = frequency in MHz

**Plane-wave equivalent power density*



2. Mobile MPE Calculation Summary using a 20cm separation distance per FCC 2.1091::

Worst Case Channel and model	Output Power (mW)	Power Density (mW/cm ²)
High Channel 921MHz EUT with external antenna	0.0005985	0.0001191
High Channel 921MHz EUT with external antenna	0.0005716	0.0002269

3. Mobile MPE Calculation using a 20cm separation distance EUT with external antenna:

Using Power Density formula:

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to isotropic

R = distance to the center of radiation of the antenna

Measured Field Strength --Radiated:	93.0	(dBuV/m)
Maximum peak output power --Radiated:	0.0005985	(mW)
Antenna gain(typical):	-1.3	(dBi)
Maximum antenna gain:	0.74	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	921	(MHz)
FCC Limit at prediction frequency:	0.614	(mW/cm ²)
Power density at prediction frequency:	0.0000883	(mW/cm ²)
FCC Margin of Compliance:	-38.42	(dB)



4. Mobile MPE Calculation using a 20cm separation distance EUT with internal antenna:

Using Power Density formula:

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to isotropic

R = distance to the center of radiation of the antenna

Measured Field Strength --Radiated:	92.8	(dBuV/m)
Maximum peak output power --Radiated:	0.0005716	(mW)
Antenna gain(typical):	3.0	(dBi)
Maximum antenna gain:	2.0	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	908	(MHz)
FCC Limit at prediction frequency:	0.605	(mW/cm ²)
Power density at prediction frequency:	0.0002269	(mW/cm ²)
FCC Margin of Compliance:	-34.26	(dB)

Sincerely,

A handwritten signature in blue ink that reads 'Alex Chang'.

Alex Chang

Name

Authorized Signatory

Title: EMC/Wireless Test Engineer