RF EXPOSURE EVALUATION

EUT Specification

<table>
<tr><td>EUT</td><td>Cell Phone Signal Booster</td></tr>
<tr><td>Model Number</td><td>T5-A</td></tr>
<tr><td>FCC ID</td><td>2BB6MT5-A</td></tr>
<tr><td>Antenna gain (Max)</td><td>
<table>
<tr><th>Mode</th><th>Frequency(MHz)</th><th>Antenna Gain(dBi)</th><th>Cable loss(dB)</th></tr>
<tr><td rowspan="8">UP LINK</td><td>1850-1910</td><td>10</td><td>3</td></tr>
<tr><td>824 - 849</td><td>10</td><td>3</td></tr>
<tr><td>1710 - 1755</td><td>10</td><td>3</td></tr>
<tr><td>704 - 716</td><td>10</td><td>3</td></tr>
<tr><td>777 - 787</td><td>10</td><td>3</td></tr>
<tr><td>699 - 716</td><td>10</td><td>3</td></tr>
<tr><td>1850-1915</td><td>10</td><td>3</td></tr>
<tr><td rowspan="8">DOWNLINK</td><td>1930-1990</td><td>9</td><td>3</td></tr>
<tr><td>869 - 894</td><td>9</td><td>3</td></tr>
<tr><td>2110 - 2155</td><td>9</td><td>3</td></tr>
<tr><td>734-746</td><td>9</td><td>3</td></tr>
<tr><td>746 - 756</td><td>9</td><td>3</td></tr>
<tr><td>729 - 746</td><td>9</td><td>3</td></tr>
<tr><td>1930-1995</td><td>9</td><td>3</td></tr>
</table>
</td></tr>
<tr><td>Operation Frequency</td><td>Cellular:
Uplink: 824 - 849MHz, Downlink: 869 - 894MHz
AWS-1:
Uplink: 1710 - 1755MHz, Downlink: 2110 - 2155MHz
Broadband PCS:
Uplink: 1850-1915MHz, Downlink: 1930-1995MHz
Low A-E Blocks:
Uplink:699-716MHz, Downlink: 729-746MHz
700 MHz Upper C Block:
Uplink:777-787MHz, Downlink: 746-756MHz</td></tr>
<tr><td>Input Rating</td><td>DC 5V from Switching Power Supply</td></tr>
<tr><td>Max. output power</td><td>Cellular:
Uplink: 824 - 849MHz,22.09dBm, Downlink: 869 - 894MHz,9.8dBm
AWS-1:
Uplink: 1710 - 1755MHz, 19.34dBm, Downlink: 2110 - 2155MHz, 9.63dBm
Broadband PCS:
Uplink: 1850-1915MHz, 19.78dBm, Downlink: 1930-1995MHz, 9.57dBm
Low A-E Blocks:
Uplink:699-716MHz, 18.28dBm,Downlink: 729-746MHz, 9.70dBm
700 MHz Upper C Block:
Uplink:777-787MHz,18.62dBm, Downlink: 746-756MHz, 9.73dBm</td></tr>
</table>

Test Requirement:

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm^2)	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	..	..	**F/300**	**6**
1500-100000	..	..	**5**	**6**
(B) Limits for General Population/Uncontrol Exposures				
300-1500	..	..	**F/1500**	**6**
1500-100000	..	..	**1**	**30**

11.1 Friis transmission formula: Pd= (Pout*G)\ (4*pi*R^2)

Where

Pd= Power density in mW/cm^2

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.14

R= distance between observation point and center of the radiator in cm=20cm

Pd the limit of MPE, 1mW/cm^2 . If we know the maximum gain of the nd total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

11.2 Measurement Result

Operating Mode Frequency(MHz)	Tune up tolerance (dBm)	Max tune up conducted power(dBm)	Cable loss	EIRP(mW)	Ant. Gain(dBi)	Power density at 20cm (mW/ cm2)	Power density Limits(mW/cm2)
UL824 -849	22±1	23	3	1000.000	10	0.199044	0.55
DL 869-894	9±1	10	3	39.811	9	0.007924	0.58
UL1710 -1755	19±1	20	3	501.187	10	0.099758	1
DL 2110-2155	9±1	10	3	39.811	9	0.007924	1
UL 777 -787	18±1	19	3	398.107	10	0.079241	0.52
DL 746-756	9±1	10	3	39.811	9	0.007924	0.52
UL 699-716	18±1	19	3	398.107	10	0.079241	0.47
DL 729-746	9±1	10	3	39.811	9	0.007924	0.49
UL1850-1915	19±1	20	3	501.187	10	0.099758	1
DL 1930-1995	9±1	10	3	39.811	9	0.007924	1

Signature:

Esson Diao

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Date: 2023-08-07