MPE Exhibit for Airvana Models 750722 &750723

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Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

750722: BC0

Maximum peak output power at the antenna terminal:	5.3	dBm
Maximum peak output power at the antenna terminal:	3.388	mW
Antenna gain (typical):	0.0	dBi
Maximum antanna gain:	1.0	numeric
Prediction distance:	20	cm
Prediction frequency:	879.6	MHz
MPE limit for uncontrolled exposure at prediction frequency:	0.586400	mW/cm^2
Power density at prediction frequency:	0.000674	mW/cm^2
Maximum allowable antenna gain:	29.394638	dBi

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

750722: BC10		
Maximum peak output power at the antenna terminal:	3.4	dBm
Maximum peak output power at the antenna terminal:	2.188	mW
Antenna gain (typical):	0.0	dBi
Maximum antanna gain:	1.0	numeric
Prediction distance:	20	cm
Prediction frequency:	862.9	MHz
MPE limit for uncontrolled exposure at prediction frequency:	0.575267	mW/cm^2
Power density at prediction frequency:	0.000435	mW/cm^2
Maximum allowable antenna gain:	31.211391	dBi

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

750722: BC1 (EVDO)

Maximum peak output power at the antenna terminal:	28.2	dBm
Maximum peak output power at the antenna terminal:	660.693	mW
Antenna gain (typical):	0.0	dBi
Maximum antanna gain:	1.0	numeric
Prediction distance:	20	cm
Prediction frequency:	1956.25	MHz
MPE limit for uncontrolled exposure at prediction frequency:	1.000000	mW/cm^2
Power density at prediction frequency:	0.131441	mW/cm^2
Maximum allowable antenna gain:	8.812699	dBi

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

750722: BC1 (One-X)

Maximum peak output power at the antenna terminal:	20.9	dBm
Maximum peak output power at the antenna terminal:	123.027	mW
Antenna gain (typical):	0.0	dBi
Maximum antanna gain:	1.0	numeric
Prediction distance:	20	cm
Prediction frequency:	1956.25	MHz
MPE limit for uncontrolled exposure at prediction frequency:	1.000000	mW/cm^2
Power density at prediction frequency:	0.024475	mW/cm^2
Maximum allowable antenna gain:	16.112699	dBi

Combined MPE Calculation for 750722

Requirement:

If [Pd(1) / LPd(1)] + [Pd(2) / LPd(2)] + ….. + [Pd(n) / LPd(n)] < 1,

then device complies with FCC's RF radiation exposure limit for general population for a mobile device.

Where;

Pd(n) = Power density of n^{th} transmitter at 20cm
LPd(n) = Power density limit for the n^{th} transmitter

The highest gain values were used for antenna gain.

Results:

MPE for entire product: 750722

	(power density) mW/cm^2	(MPE limit) mW/cm^2	(pwr density / limit) numeric
BC0/BC10	0.000674	0.5864	0.001150
BC1 (EVDO)	0.131441	1.0000	0.131441
BC1 (One-X)	0.024475	1.0000	0.024475

SUM:	0.157066
OVERALL LIMIT:	1.0
RESULT:	Pass

Model 750723

MPE for each transmitter

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

750723: BC0		
Maximum peak output power at the antenna terminal:	2.3	dBm
Maximum peak output power at the antenna terminal:	1.698	mW
Antenna gain (typical):	0.0	dBi
Maximum antanna gain:	1.0	numeric
Prediction distance:	20	cm
Prediction frequency:	879.6	MHz
MPE limit for uncontrolled exposure at prediction frequency:	0.586400	mW/cm^2
Power density at prediction frequency:	0.000338	mW/cm^2
Maximum allowable antenna gain:	32.394638	dBi

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

750723: BC10		
Maximum peak output power at the antenna terminal:	3.0	dBm
Maximum peak output power at the antenna terminal:	1.995	mW
Antenna gain (typical):	0.0	dBi
Maximum antanna gain:	1.0	numeric
Prediction distance:	20	cm
Prediction frequency:	865.4	MHz
MPE limit for uncontrolled exposure at prediction frequency:	0.576933	mW/cm^2
Power density at prediction frequency:	0.000397	mW/cm^2
Maximum allowable antenna gain:	31.623955	dBi

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

750723: BC1 (EVDO)		
Maximum peak output power at the antenna terminal:	25.4	dBm
Maximum peak output power at the antenna terminal:	346.737	mW
Antenna gain (typical):	0.0	dBi
Maximum antanna gain:	1.0	numeric
Prediction distance:	20	cm
Prediction frequency:	1931.35	MHz
MPE limit for uncontrolled exposure at prediction frequency:	1.000000	mW/cm^2
Power density at prediction frequency:	0.068981	mW/cm^2
Maximum allowable antenna gain:	11.612699	dBi

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

where: S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

750723: BC1 (One-X)

Maximum peak output power at the antenna terminal:	23.7	dBm
Maximum peak output power at the antenna terminal:	234.423	mW
Antenna gain (typical):	0.0	dBi
Maximum antanna gain:	1.0	numeric
Prediction distance:	20	cm
Prediction frequency:	1988.75	MHz
MPE limit for uncontrolled exposure at prediction frequency:	1.000000	mW/cm^2
Power density at prediction frequency:	0.046637	mW/cm^2
Maximum allowable antenna gain:	13.312699	dBi

Combined MPE Calculation for 750723

Requirement:

If [Pd(1) / LPd(1)] + [Pd(2) / LPd(2)] + ….. + [Pd(n) / LPd(n)] < 1,

then device complies with FCC's RF radiation exposure limit for general population for a mobile device.

Where;

Pd(n) = Power density of n^{th} transmitter at 20cm
LPd(n) = Power density limit for the n^{th} transmitter

The highest gain values were used for antenna gain.

Results:

MPE for entire product: 750723

	(power density) mW/cm^2	(MPE limit) mW/cm^2	(pwr density / limit) numeric
BC0/BC10	0.000397	0.5864	0.000677
BC1 (EVDO)	0.068981	1.0000	0.068981
BC1 (One-X)	0.046637	1.0000	0.046637

SUM:	0.116295
OVERALL LIMIT:	1.0
RESULT:	Pass