

Company: DOVEN LLC

Test of: DV11, DV21, DV31

To: FCC CFR 47 Part 1.1310

Report No.: JANU01-U2 _MPE Rev A

MPE/RF EXPOSURE TEST REPORT



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FROM



Test of: DOVEN LLC – DV11, DV21, DV31

To: FCC CFR 47 Part 1.1310

Test Report Serial No.: JANU01-U2_MPE Rev A

This report supersedes: NONE

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1. MAXIMUM PERMISSABLE EXPOSURE

Calculations for Maximum Permissible Exposure Levels

$$\text{Power Density} = P_d \text{ (mW/cm}^2\text{)} = \text{EIRP}/(4\pi d^2)$$

$$\text{EIRP} = P * G$$

$$P = \text{Peak output power (mW)}$$

$$G = \text{Antenna numeric gain (numeric)}$$

$$d = \text{Separation distance (cm)}$$

$$\text{Numeric Gain} = 10 ^ (G \text{ (dBi)}/10)$$

The calculations in the table below use the highest conducted power values together with the lowest antenna gain specified for the EUT. These calculations represent worst case in terms of the exposure levels.

Maximum Permissible Exposure

| Freq. Band (MHz) | Ant Gain (dBi) | Numeric Gain (numeric) | Peak Output Power (dBm) | Peak Output Power (mW) | Calculated Power Density (mW/cm ²) @ 20cm | Power Density Limit (mW/cm ²) | Min Calculated safe distance for Limit (cm) |
|------------------|----------------|------------------------|-------------------------|------------------------|---|---|---|
| 3650 (DV11-AC) | 13.0 | 19.95 | -42.3 | 5.89E-05 | 2.34E-07 | 1.0 | 20 |
| 3650 (DV21-AC) | 9.28 | 8.47 | -45.4 | 2.88E-05 | 4.86E-08 | 1.0 | 20 |
| 3650 (DV21-DC) | 9.28 | 8.47 | -46.1 | 2.45E-05 | 4.14E-08 | 1.0 | 20 |
| 3650 (DV31-DC) | 6.0 | 3.98 | -43.5 | 4.47E-05 | 3.54E-08 | 1.0 | 20 |

Specification - Maximum Permissible Exposure Limits

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm ²) | Averaging time (minutes) |
|--|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposure | | | | |
| 0.3-3.0 | 614 | 1.63 | *100 | 6 |
| 3.0-30 | 1842/f | 4.89/f | *900/f ² | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1,500 | -- | -- | f/300 | 6 |
| 1,500-100,000 | -- | -- | 5 | 6 |
| (B) Limits for General Population/Uncontrolled Exposure | | | | |
| 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 |
| 300-1,500 | -- | -- | f/1500 | 30 |
| 1,500-100,000 | -- | -- | 1.0 | 30 |

f = frequency in MHz * = Plane-wave equivalent power density

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