

Company: DOVEN LLC

Evaluation of: DVD21-POE

To: FCC CFR 47 Part 1.1310

Report No.: JANU02-U6B\_MPE Rev A

**MPE/RF EXPOSURE TEST REPORT**



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To: FCC CFR 47 Part 1.1310

Report Serial No.: JANU02-U6B\_MPE Rev A

This report supersedes: NONE

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Issue Date: 30<sup>th</sup> April 2019

## **This Test Report is Issued Under the Authority of:**

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## 1. MAXIMUM PERMISSABLE EXPOSURE

### Calculations for Maximum Permissible Exposure Levels

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

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

P = Peak output power (mW)

G = Antenna numeric gain (numeric)

d = 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.

| Freq. Band (MHz) | Ant Gain (dBi) | Numeric Gain (numeric ) | Peak Output Power (dBm) | Peak Output Power (mW) | Calculated Power Density (mW/cm <sup>2</sup> ) @ 20cm | Power Density Limit (mW/cm <sup>2</sup> ) | Min Calculated safe distance for Limit (cm) |
|------------------|----------------|-------------------------|-------------------------|------------------------|-------------------------------------------------------|-------------------------------------------|---------------------------------------------|
| 3500 (DVD21POE)  | 9.28           | 8.47                    | -45.53                  | 2.80E-05               | 4.718E-08                                             | 1.0                                       | 20                                          |

**Note:** for mobile or fixed location transmitters the minimum separation distance is 20cm, even if calculations indicate the MPE distance to be less.

### §1.1310 Radiofrequency radiation 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 <sup>2</sup> ) | Averaging time (minutes) |
|----------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| <b>(A) Limits for Occupational/Controlled Exposure</b>         |                               |                               |                                     |                          |
| 0.3-3.0                                                        | 614                           | 1.63                          | *100                                | 6                        |
| 3.0-30                                                         | 1842/f                        | 4.89/f                        | *900/f <sup>2</sup>                 | 6                        |
| 30-300                                                         | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300-1,500                                                      | --                            | --                            | f/300                               | 6                        |
| 1,500-100,000                                                  | --                            | --                            | 5                                   | 6                        |
| <b>(B) Limits for General Population/Uncontrolled Exposure</b> |                               |                               |                                     |                          |
| 0.3-1.34                                                       | 614                           | 1.63                          | *100                                | 30                       |
| 1.34-30                                                        | 824/f                         | 2.19/f                        | *180/f <sup>2</sup>                 | 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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