Case Radiated Emissions Test
(Substitution Method)

Applicant: Trimble Navigation Ltd.
FCC ID: JUP-9414-450
New 2 watt TX circuit
EUT Pout = 2 watts
Measurement bandwidth: 120 kHz

Attenuation required:

90.210(d): 50 + 10 log P(watts) below P watts = - 20 dBm

Test date: 11-Jan-02
Location: CCS Site A
Tested by: T. Cokenias
Test Equipment:

Spectrum analyzer: HP8593EM
Pre-amp: HP8447D, 0.1 - 1300 MHz
Pre-amp: Miteq HSP2600-44, 1 - 26 GHz
Search antenna: Chase Bilog (below 1 GHz)
Substitution antenna: Roberts dipole (below 1
Search antenna: EMCO 3115 (above 1 GHz)
Substitution antenna: EMCO 3115 (above 1 GHz)
Substitution signal generator: HP83732B

fo = 460 MHz 3 m separation distanc All readings vertical polatiry (worst case)

| Frequency GHz | SA reading dBm | Sig Gen dBm | CL dB | Gain dBi | Gain dBd | ERP dBm | Limit dBm | Margin dB |
|---|---|---|---|---|---|---|---|---|
| 920 | -75.0 | -72.0 | 0.2 | 2.2 | 0.0 | -72.2 | -20.0 | -52.2 |
| 1380 | -76.0 | -75.0 | 0.2 | 6.2 | 4.0 | -71.2 | -20.0 | -51.2 |
| 1840 | -74.2 | -75.0 | 0.5 | 7.3 | 5.1 | -70.4 | -20.0 | -50.4 |
| 2300 | -77.0 | -79.0 | 0.6 | 7.6 | 5.4 | -74.2 | -20.0 | -54.2 |
| 2760 | -69.4 | -80.0 | 0.7 | 7.9 | 5.7 | -75.0 | -20.0 | -55.0 |
| 3220 | -77.0 | -72.0 | 0.8 | 8.2 | 6.0 | -66.8 | -20.0 | -46.8 |
| 3680(AMB) | -55.2 | -55.2 | 0.8 | 8.6 | 6.4 | -49.6 | -20.0 | -29.6 |
| 4140 | -86.4 | -72.0 | 0.9 | 9.3 | 7.1 | -65.8 | -20.0 | -45.8 |
| 4600 | -85.9 | -72.0 | 1.2 | 9.0 | 6.8 | -66.4 | -20.0 | -46.4 |

to 10 fo no emission detected at 0.5 ft (15cm), noise only

1 GHz)

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