

Case Radiated Emissions Test
(Substitution Method)

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

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

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 GHz)
Search antenna: EMC0 3115 (above 1 GHz)
Substitution antenna: EMC0 3115 (above 1 GHz)
Substitution signal generator: HP83732B

Attenuation required:

90.210(d): $50 + 10 \log P(\text{watts})$ below P watts = - 20 dBm

fo = 460 MHz 3 m separation distance 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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