INVESTIGATIONS ON RADIO UNITS TO ASSESS UNCONDITIONAL STABILITY

1 DESIGN WALKTHROUGH

1.1 System Concept
1.2 Functioning of transmit Unit during idle/active mode
1.3 Output stages e.g. drivers and power amplifiers
1.4 Temperature behaviour of amplifiers
1.5 RF Shielding
1.6 Absorber material/ - characteristics - /ageing

2 POWER AMPLIFIER

2.1 Product description
2.2 Features
2.3 Electrical Specification
2.4 Operating Frequency min/max
2.5 Gain (S21) min/max/typical
2.6 Input/output VSWR typical
2.7 Output power at 1 dB Gain compression min/typical
2.8 Third Order Intercept typical
2.9 Noise Figure typical
2.9 Gain variation over Operating Frequency ∆S21 max/typical
2.10 Gain Variation over Operating Frequency ∆S12 max/typical

3 STABILITY CONSIDERATIONS

3.1 Scattering parameters (S11, S12, S21 and S22)
3.2 Design Objectives
   - K-factor, det S
   - Difference in forward to reverse transmission (S21-S12)
3.3 Temperature behaviour
3.4 Tolerance range

4 PRODUCTION ASPECTS

4.1 Quality control/ assurance
4.2 Screening tests (device & component level)