

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 ΔS_{21} max/typical
- 2.10 Gain Variation over Operating Frequency ΔS_{12} 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)