

Narrative Response for Question No. 7

a. Describe the complete program, experimentation, equipment and theory.

1) Setup and Subsystem Check

- a. Preinstall test of passive devices, hybrids, antenna panels, RF cables, power dividers and filters, for VSWR
- b. Preinstall test of active devices, TMB, TMA (LNA), monitoring & control, for IO interface / addressability, current, gain, temperature and power (forward & reverse)
- c. System install PIM verification

2) Site Start-up, System Alignment and Optimization

- a. Confirm site setup and configuration
- b. Capture downlink noise profile and report to Network Planning
- c. CW test left / right ports of each sector
- d. Balance the links with signal source and detector at fixed coverage points
 - i. 1, 5, 10, 20km, elevated and line-of-site
 - ii. Set LNA gain from results in i above

3) Drive Test and Data Collection / Analysis

- a. Idle mode, long and short calls w/ multiple test phone on main bore, side lobes, back lobe and near field
- b. Outdoor CW and voice coverage analysis
- c. Indoor voice coverage analysis
- d. Handoffs sector to sector and site to site
- e. Data and voice quality performance testing

4) Data Processing and Results

- a. Assimilate all results using standard reporting templates for internal review
- b. Document and review lessons learned

b. Objectives to be accomplished

Demonstrate performance superiority of Dielectric's antenna system relative to current technology in the wireless communications industry.

c. Expected contribution to the radio art or related to something not already investigated.

Test the coverage and capacity of a new wireless system. Currently, internationally, there are no known cost effective solutions for wireless service in rural areas.