

Datasheet

L/S-Band Feed **LSF-1125**

Introduction:

The proposed L/S-Band feed system with integrated low noise amplifier will be mounted in the focal point of a 2,4m antenna which already exists.

It receives circular polarized signals and can be delivered either with right hand circular polarization (RHCP) or left hand circular polarization (LHCP).

The components of the feed system are covered by a weather proof box.

The feed system and the low noise amplifier are specified separately, see specification tables below. To separate the two frequency bands there is a diplexer integrated which provides the two frequency bands at two N female coaxial connectors.

The low noise amplifier needs a 15V DC voltage which has to be provided via a separate DC connector

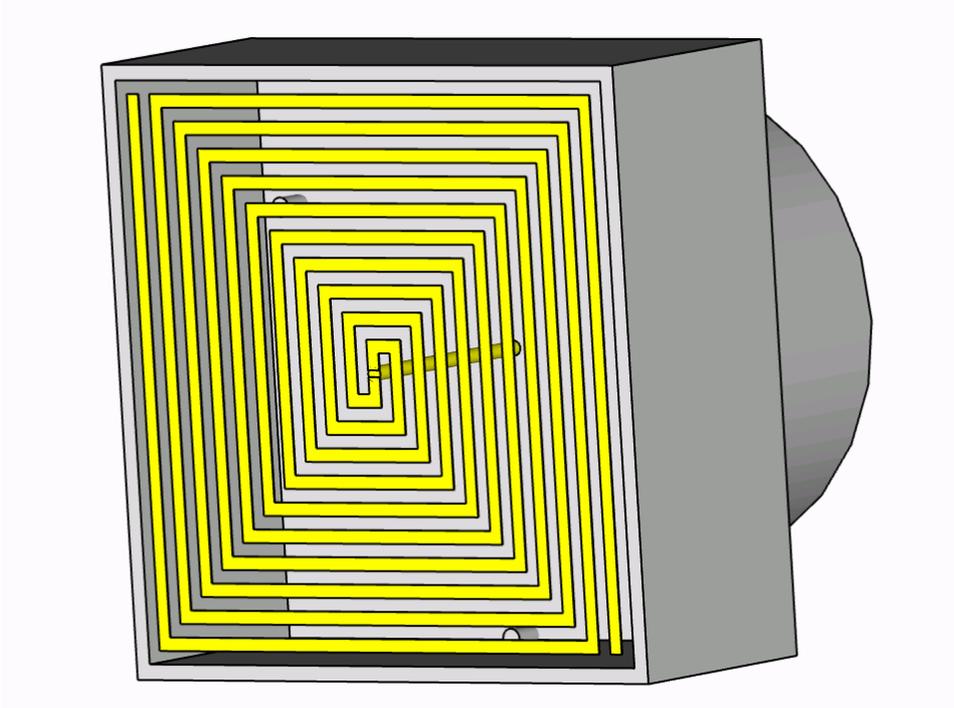
Specification Feed System:

Frequency Range	1.1 – 2.5 GHz
Gain	≥ 6 dBi
VSWR	< 2.5
Polarization	circular (right or left hand to be defined in order)
Crosspolarisation	≤ -20 dB
Dimensions(H x B x T) mm	150 x 150 x 110
weight	Approx . 0.5 kg
RF connectors	2x N-female, 1 L-band 1 S band

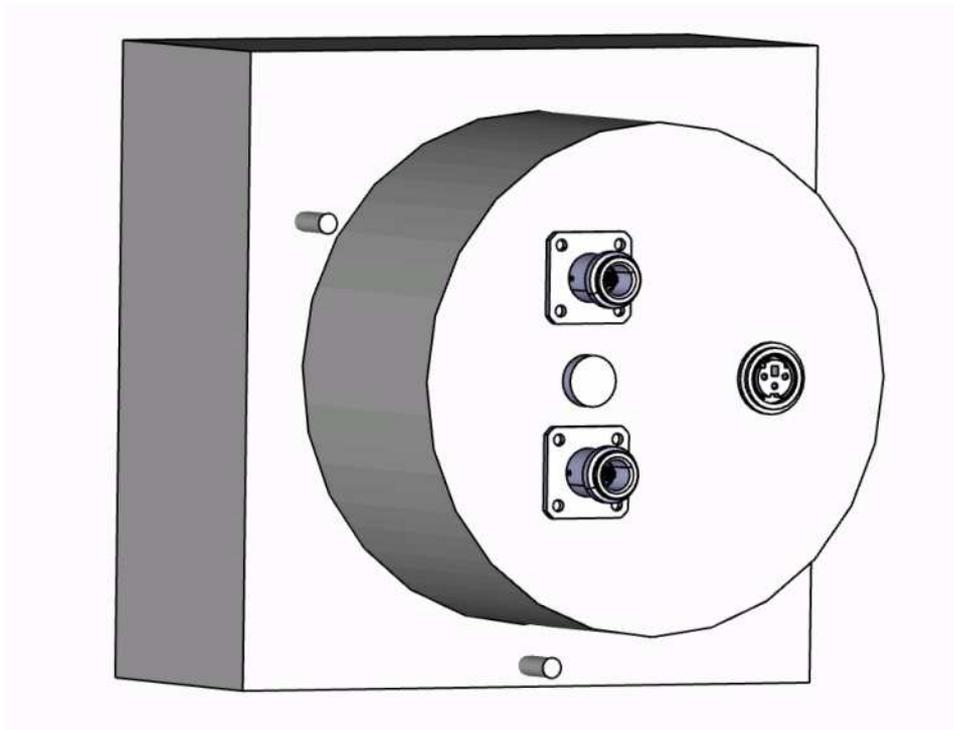
Specification LNA low noise amplifier:

Frequency range	0.8 – 2.5 GHz
gain	> 45 dB
Noise figure	< 0.6 dB
Output power P1dB	> 13 dBm
VSWR	≤ 2:1
DC supply voltage	15 VDC, 200 mA max.
RF connector	SMA-Buchse

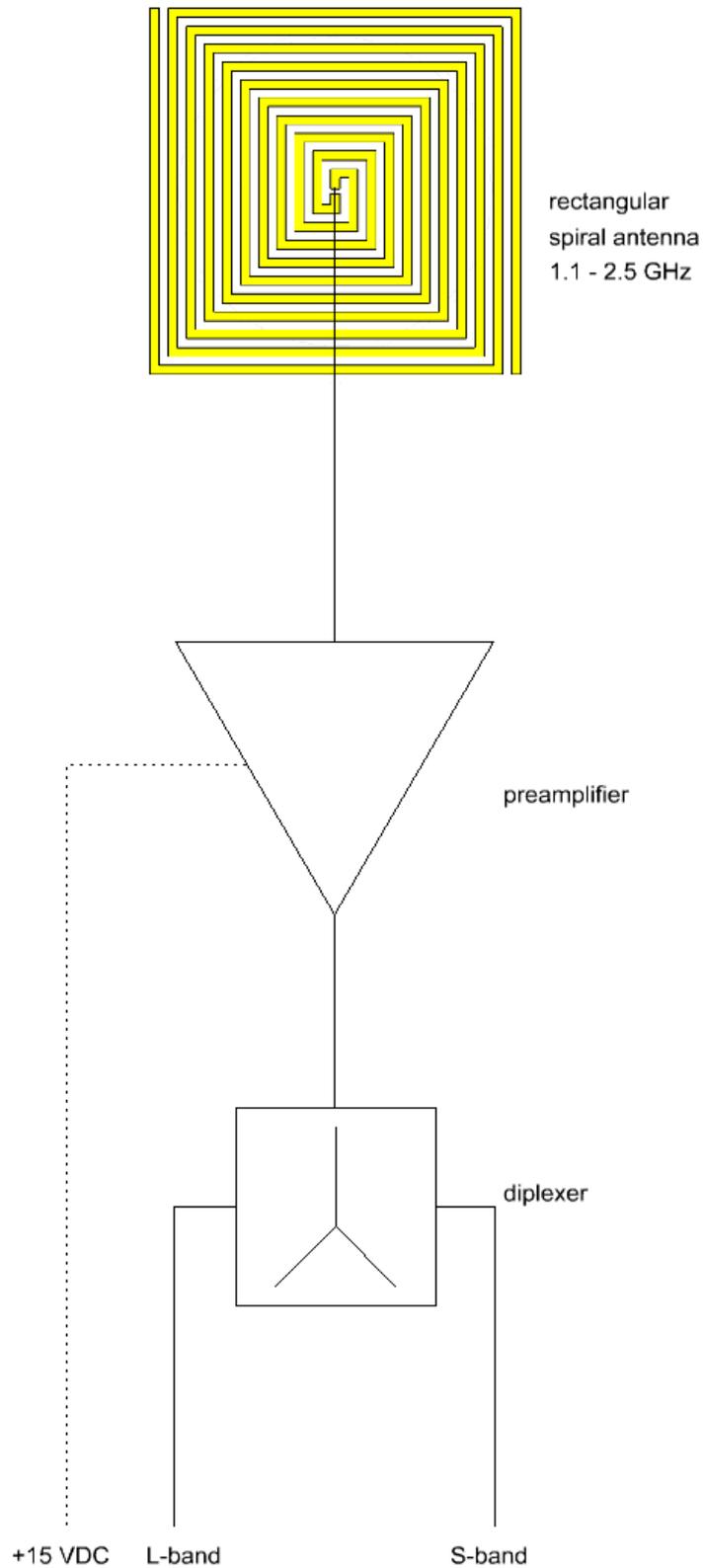
Front View



Rear View

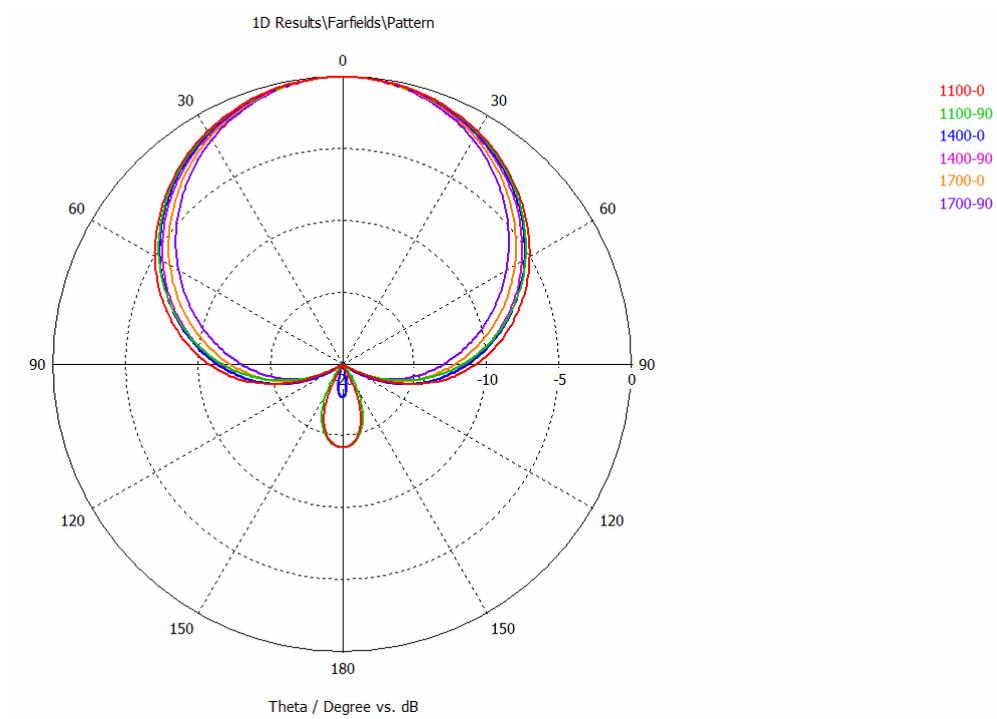


Blockdiagramm

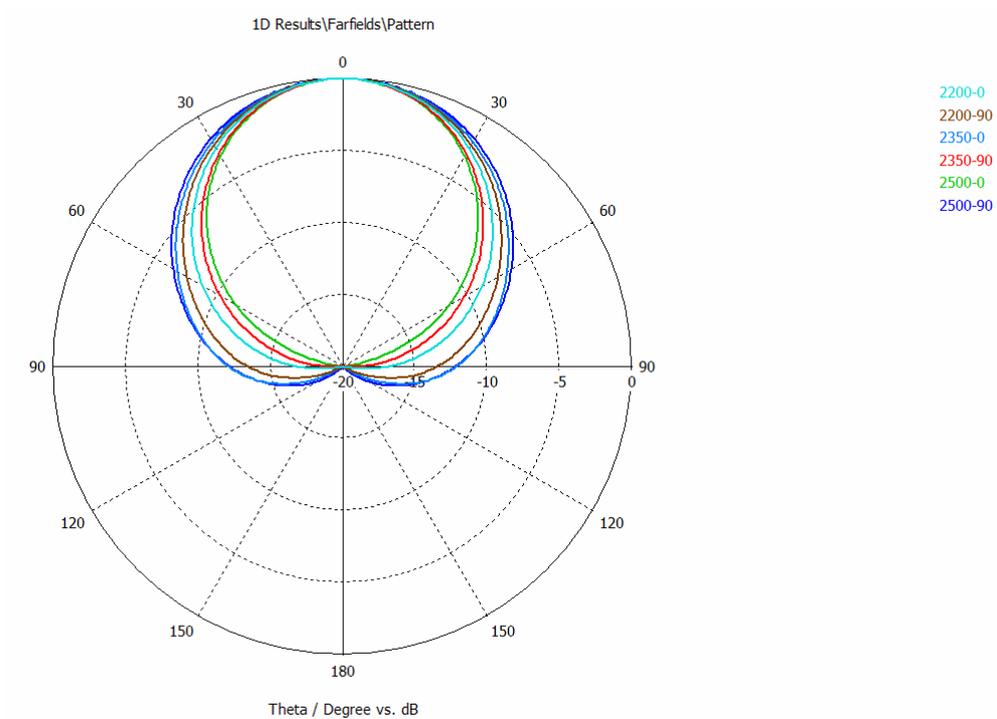


Antenna diagram of feed system alone

L-Band



S-Band



Simulated antenna diagram of the feed system within the already delivered 2.4m reflector

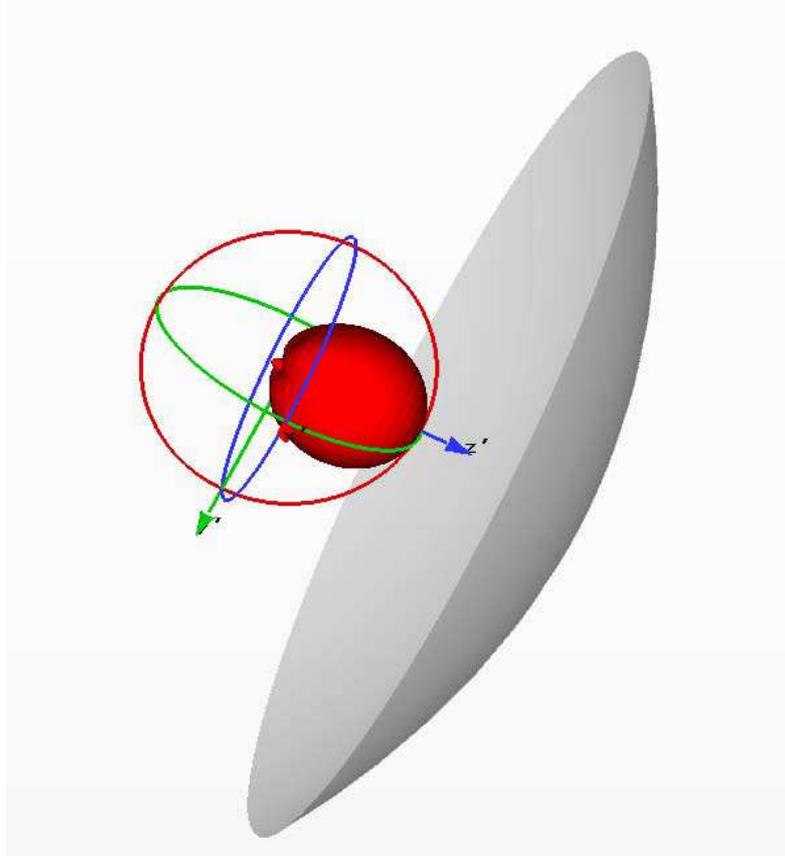
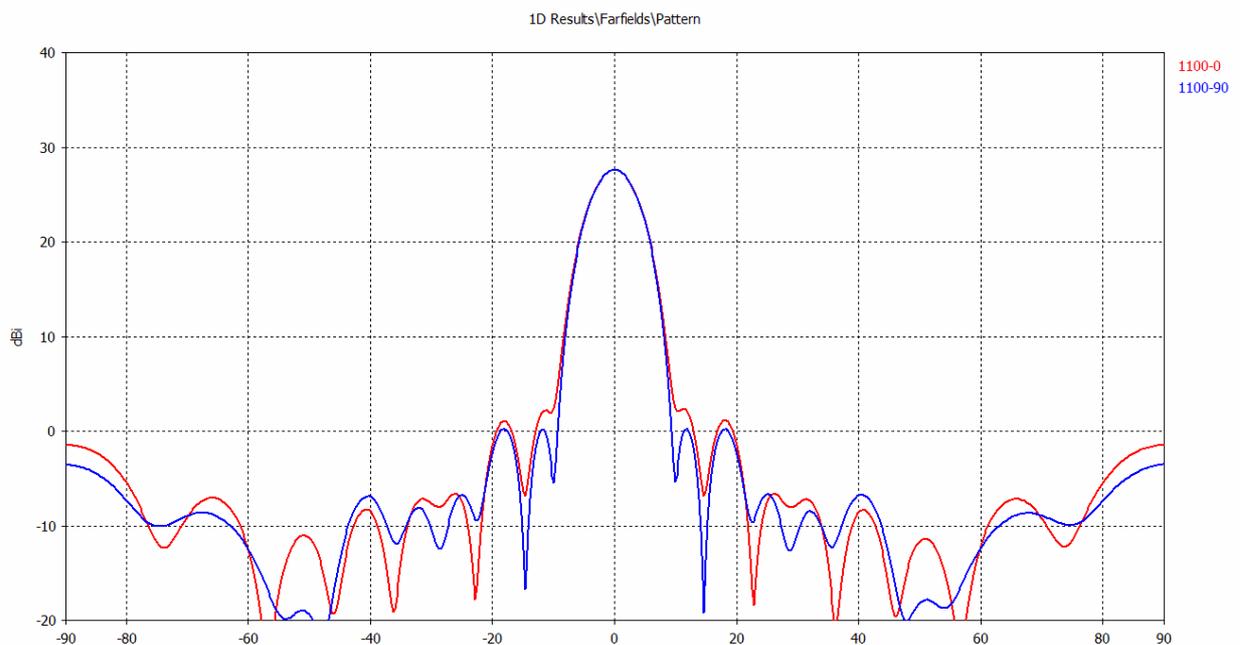
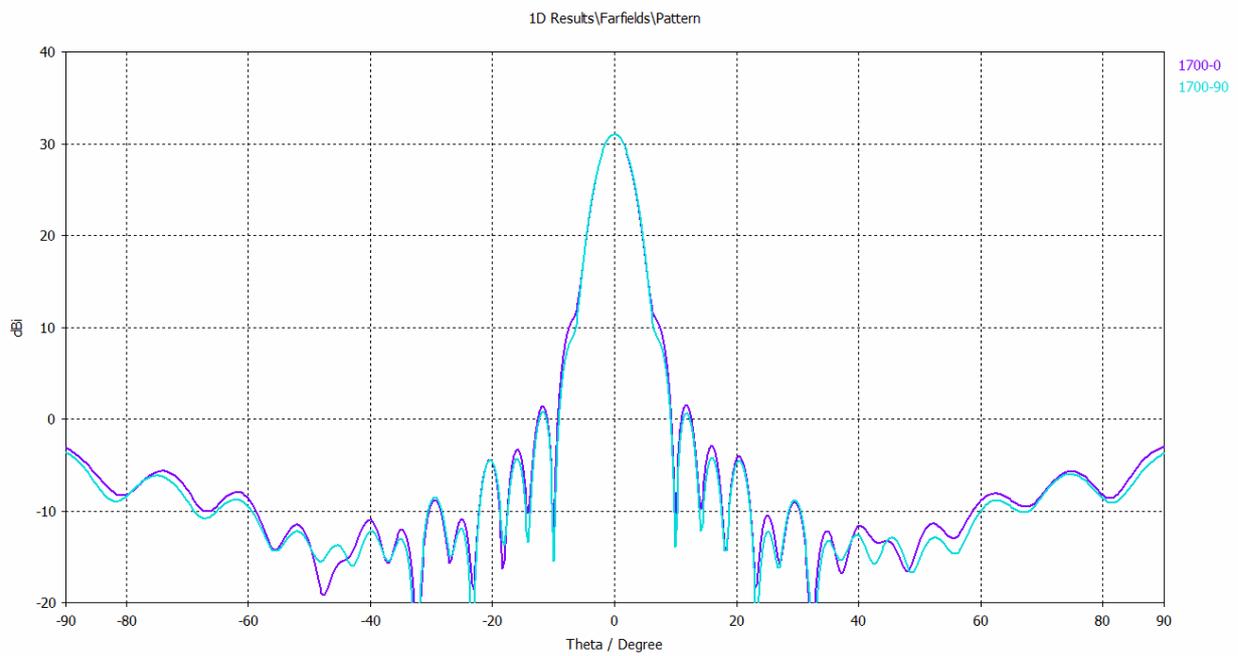
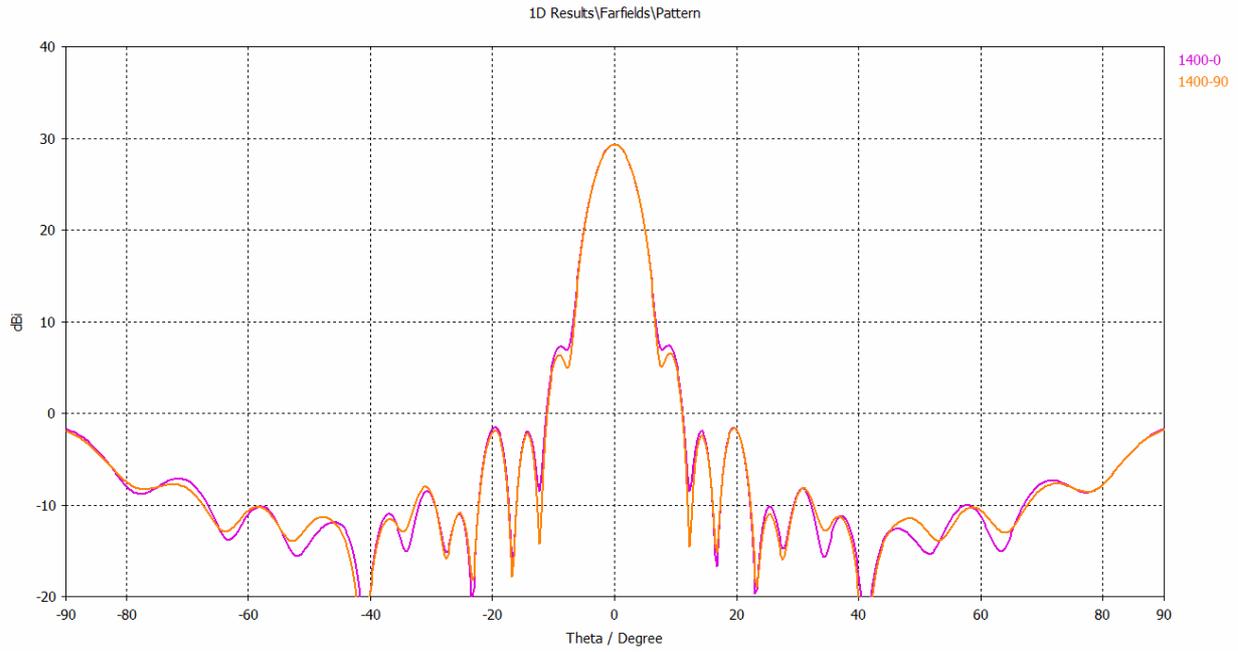
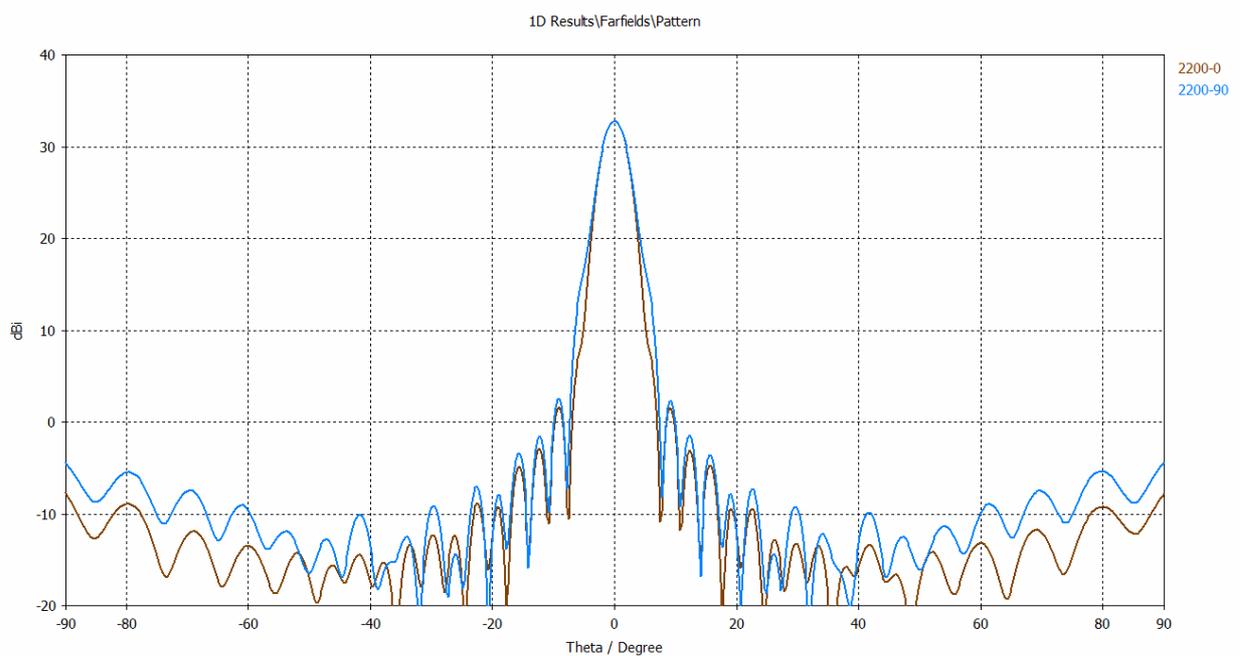
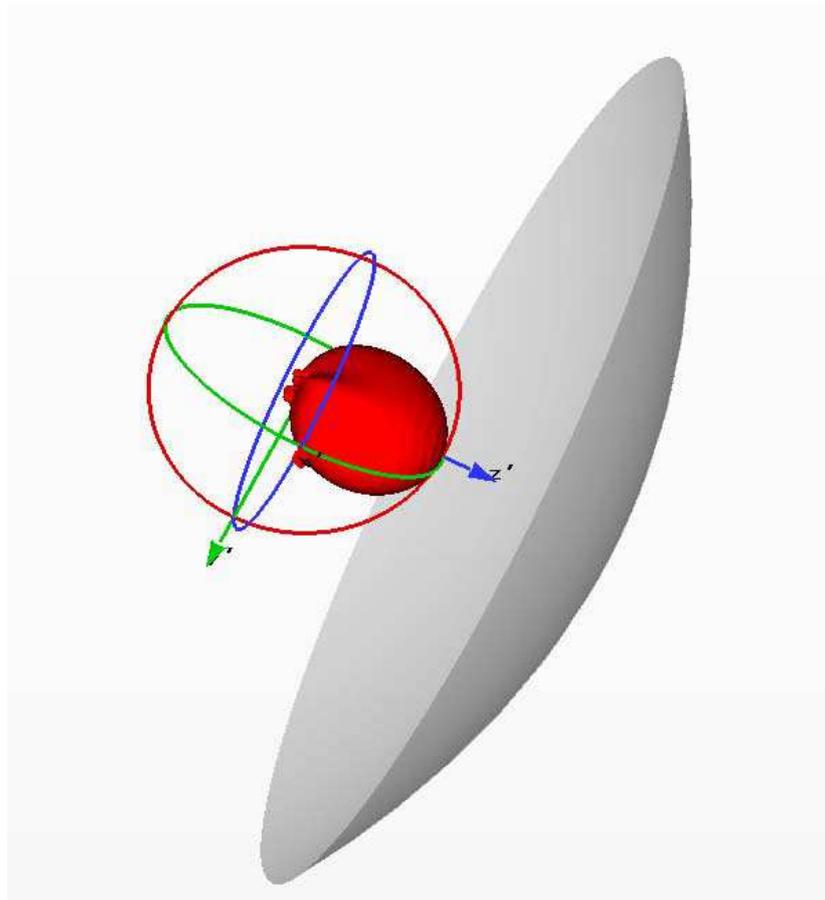


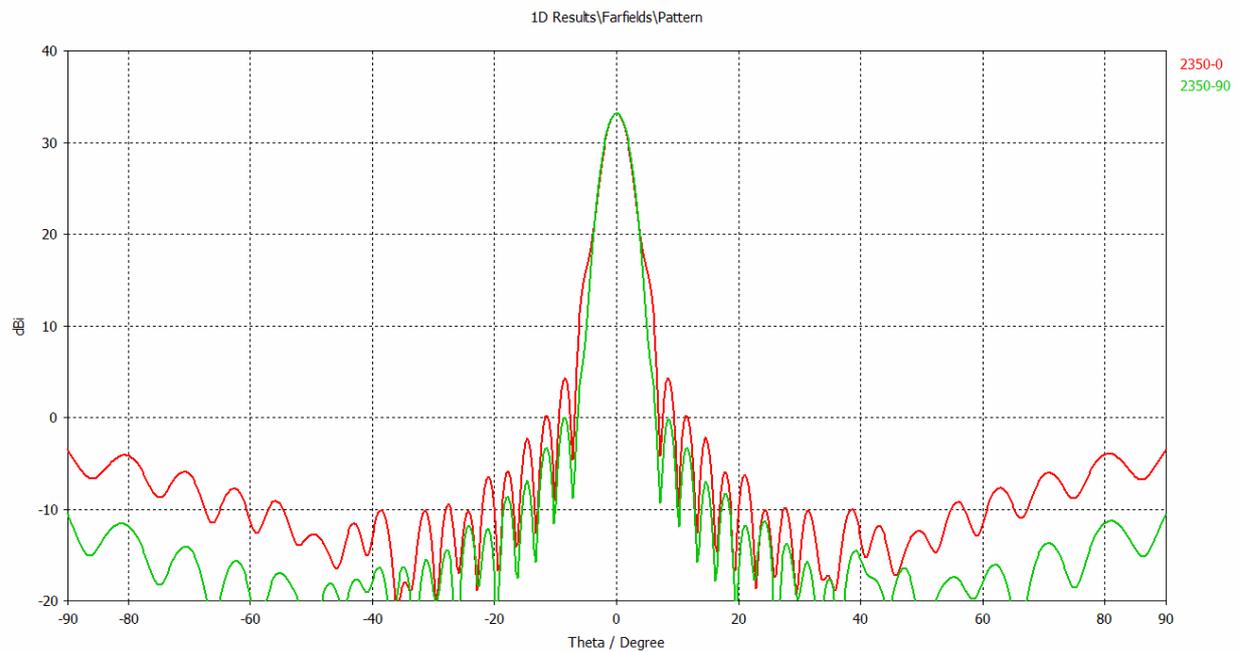
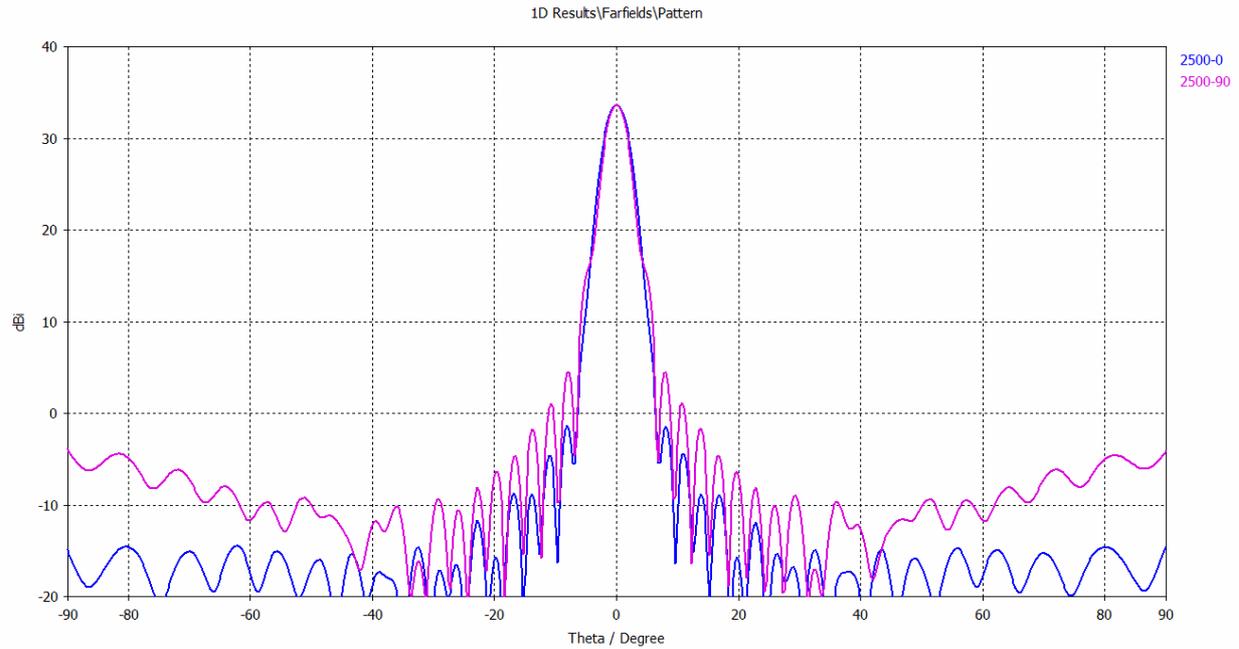
Diagram L-Band





Simulated antenna diagram of the feed system within the already delivered 2.4m reflector
S-Band





Simulated Data of the complete 2,4m antenna together with the new feed system LSF-1125

Frequency	Directivity	3dB-beamwidth E	3dB-beamwidth H	Side lobes
1.1 GHz	27.6 dBi	7.5 °	7.6 °	-25.3 dB
1.4 GHz	29.3 dBi	5.9 °	5.9 °	-21.9 dB
1.7 GHz	31.0 dBi	4.9 °	5.0 °	-29.5 dB
2.2 GHz	32.8 dBi	3.9 °	4.0 °	-30.0 dB
2.35 GHz	33.2 dBi	3.6 °	3.8 °	-28.8 dB
2.5 GHz	33.6 dBi	3.3 °	3.7 °	-29.1 dB