



Antenna Specifications

for metraTec Echo6p FCC UHF RFID Antenna

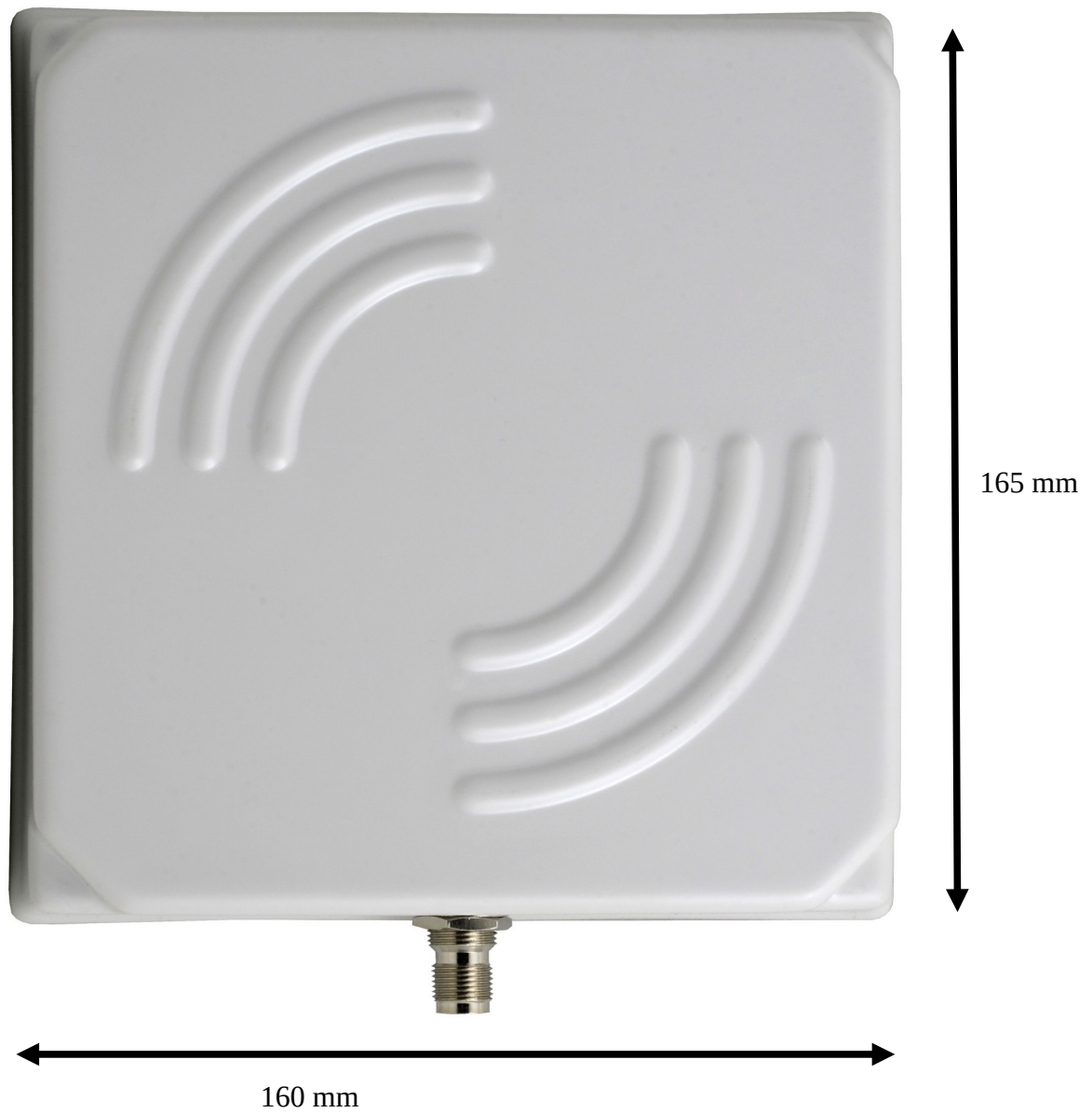
Date: March 2025

Version: 1.0

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1 Mechanical Dimensions



2 Peak Gain

The antenna peak gain was measured using a nose to nose test with two Echo6 at 3m distance and using a dipole reference antenna at the same distance.

Both measurements result in:

$G = 3.5 \text{ dBi}$

3 Radiation Pattern

The directivity pattern in azimuth was measured using a dipole reference antenna. The diagram is shown in Fig. 1. The half power beamwidth was measured to be:

HPBW=84°

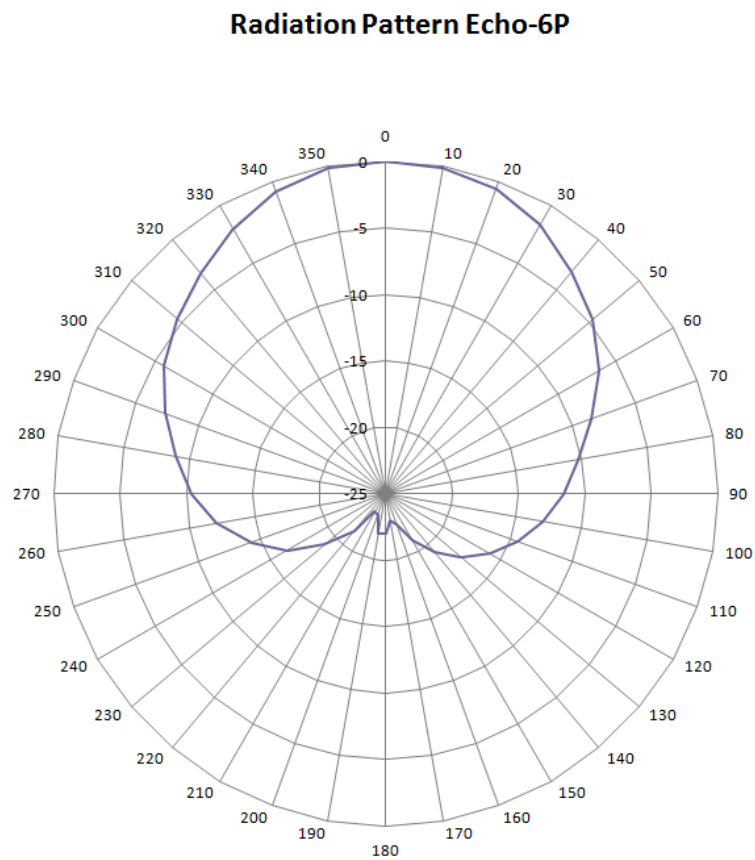
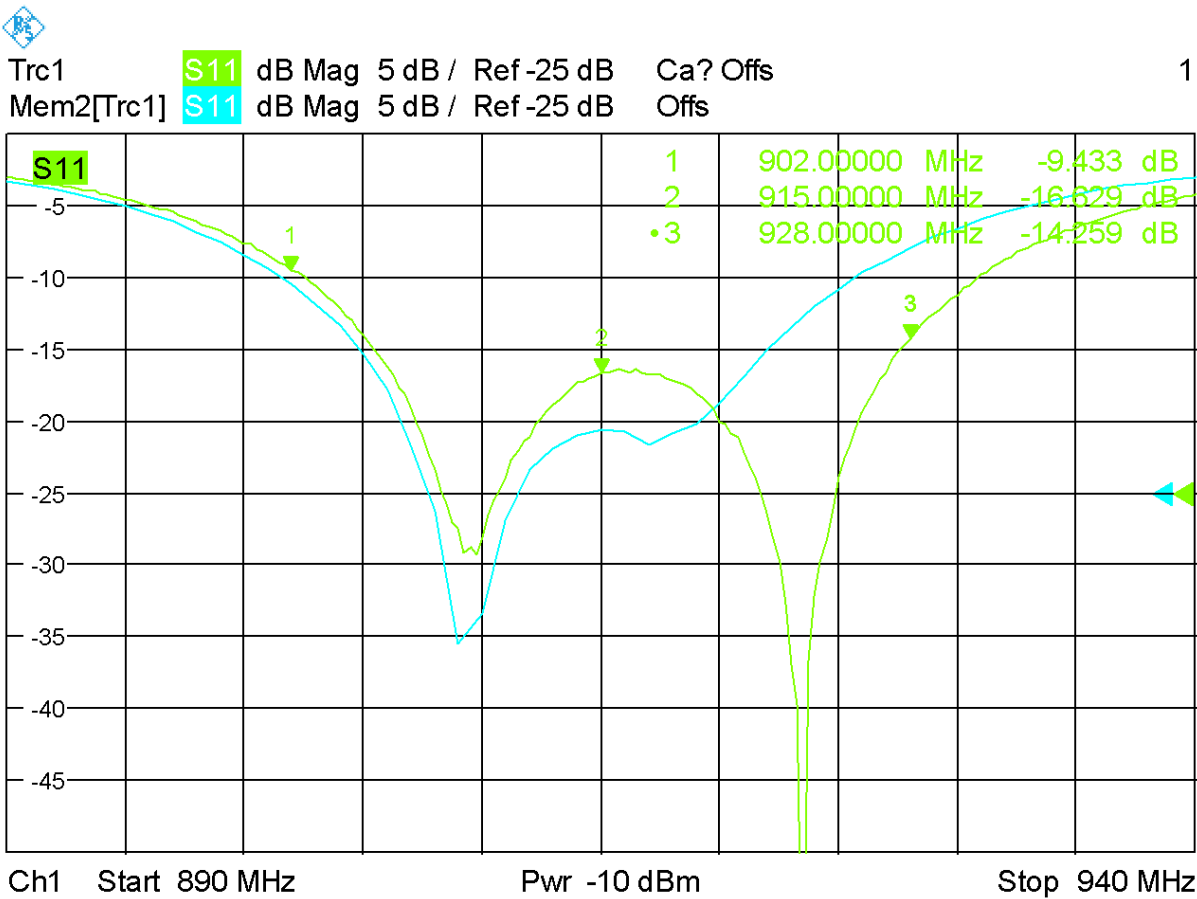


Fig. 1: Radiation Diagram of the Echo6p

4 Return Loss

The return loss measurement is shown in Fig. 2. The antenna is well matched and better then -10dB for the entire band ranging from 902 to 928 MHz.

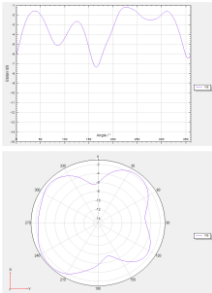


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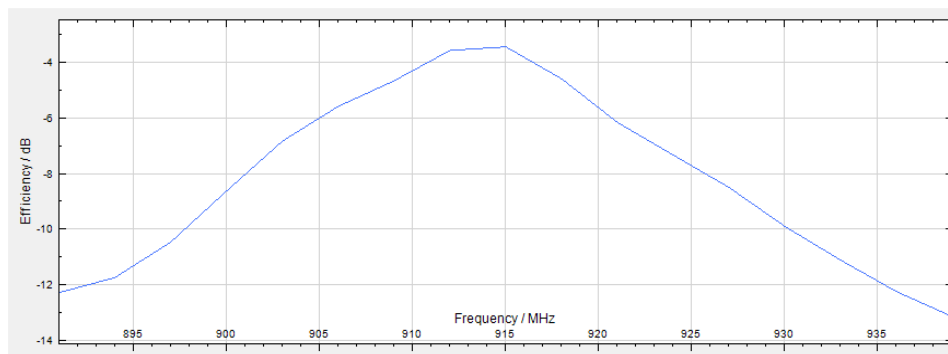
Fig. 2: Echo6p_FCC return loss

5 Version Control

<i>Version</i>	<i>Change</i>	<i>by</i>	<i>Date</i>
1.0	created	TM	15.3.2025
1.1	Gain stated in dBi	TM	29.4.2025

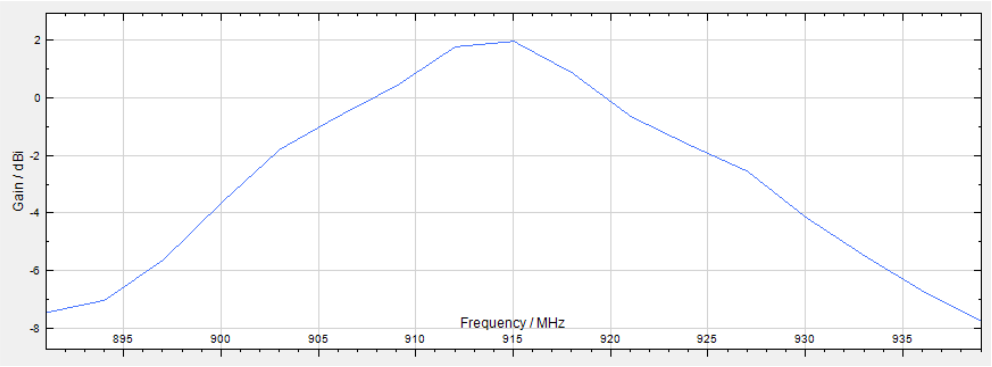
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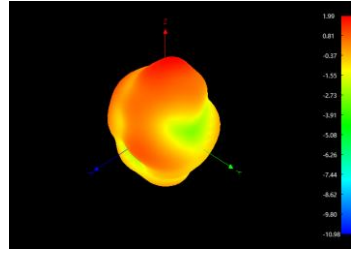
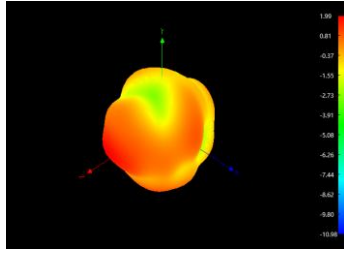
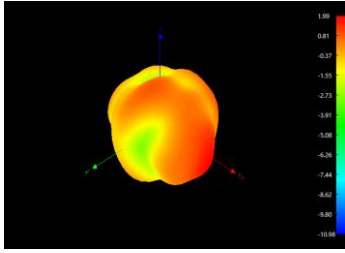
Frequency	Efficiency	Efficiency / %
891	-12.26	5.94
894	-11.72	6.73
897	-10.45	9.02
900	-8.61	13.77
903	-6.82	20.8
906	-5.57	27.73
909	-4.65	34.28
912	-3.56	44.06
915	-3.43	45.39
918	-4.58	34.83
921	-6.15	24.27
924	-7.32	18.54
927	-8.49	14.16
930	-9.89	10.26
933	-11.1	7.76
936	-12.23	5.98
939	-13.13	4.86



Frequency Gain/ dBi

891	-7.44
894	-7.01
897	-5.62
900	-3.62
903	-1.77
906	-0.62
909	0.45
912	1.8
915	1.99
918	0.89
921	-0.62
924	-1.61
927	-2.53
930	-4.13
933	-5.46
936	-6.7
939	-7.74





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