

CUSTOMER PRODUCT DATA REQUEST REPORT

Far-field Radiation Measurement of Times-7 Near-field Antennas

72057-FG	A5020NF Near-Field Antenna Wideband
75244-FG	A1130 ETSI True NearField Formed Black
75245-FG	A1130 ETSI True NearField Formed White
75246-FG	A1130 FCC True NearField Formed Black
75247-FG	A1130 FCC True NearField Formed White
75222-FG	A1130 ETSI True NearField Flat Black
75225-FG	A1130 ETSI True NearField Flat White
75223-FG	A1130 FCC True NearField Flat Black
75226-FG	A1130 FCC True NearField Flat White

Author: Daniel Eisen (R&D RF Engineer)

Document Revision: 1.1

Date: 17 March 2026

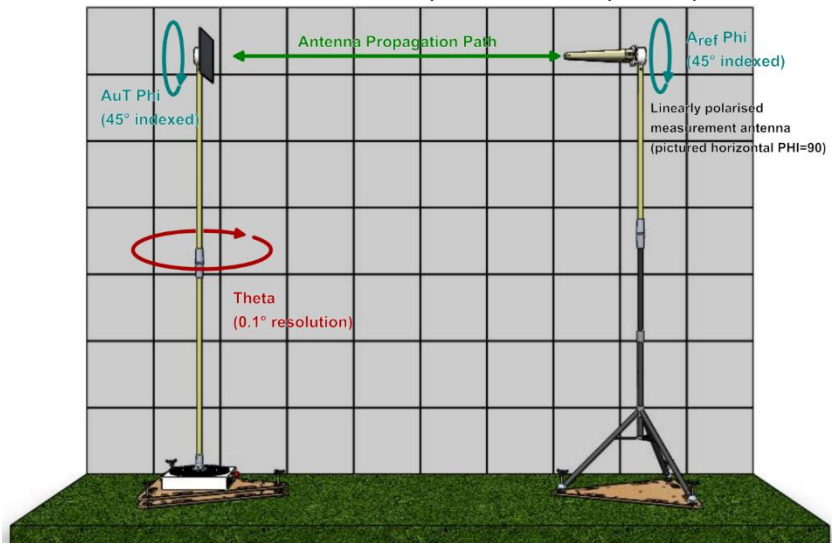
Measurement Configuration

The system is designed to operate and take radiated wireless antenna measurements over the frequency range from 800 MHz to 1 GHz required to evaluate RAIN (UHF) RFID reader antennas. The system and data processing allow for a variable path length as an input. This is set to be at least the Fraunhofer boundary distance. The system operates in a true free space environment, in a level open area with a minimum distance to boundary objects of 35m ($\sim 1000\lambda$).

The AUT is rotated through 360° (theta) about each axis per plane of interest, with at least 1° steps (down to 0.1°).

The angle (phi) of the AUT and the Reference antenna is set per plane of interest

Absolute AUT Gain is computed using the **known gain transfer method** from the calibrated Range Antenna.



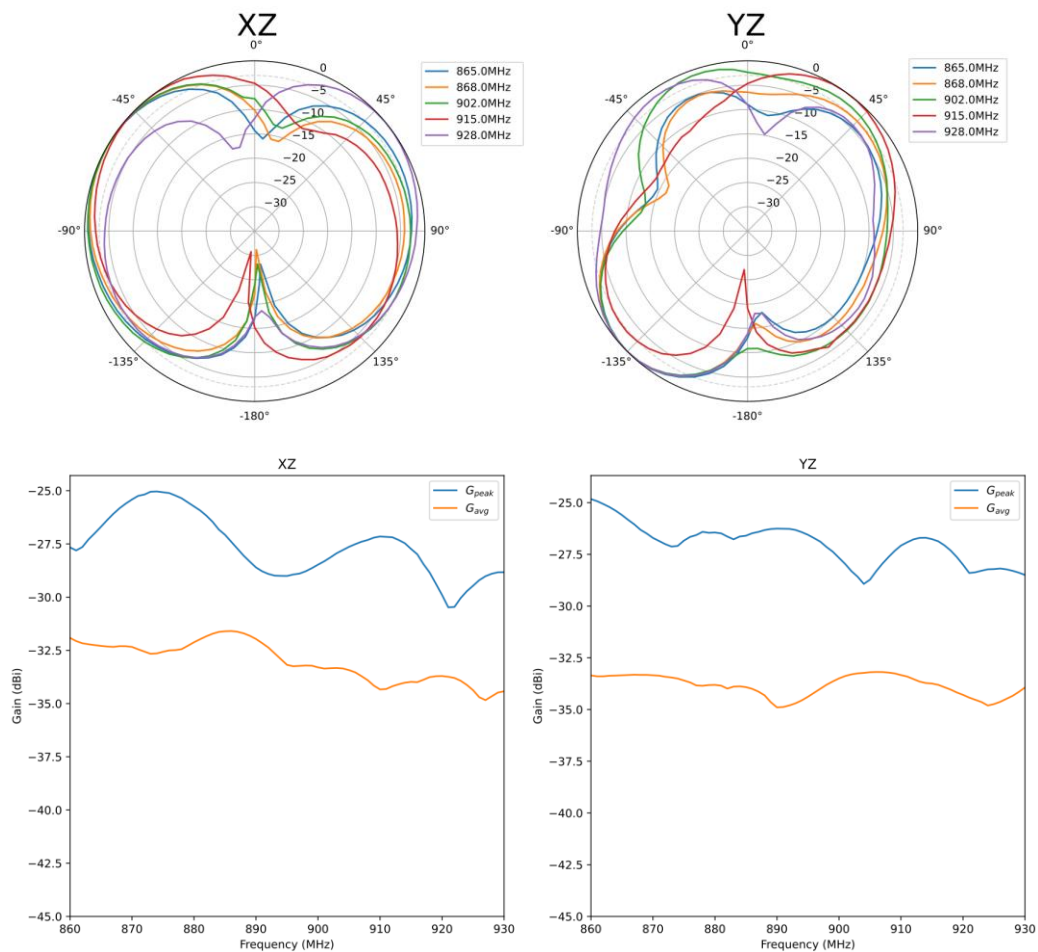
Equipment	Manufacturer	Model Number	Calibration (IF APL)
Network Analyser	Copper Mountain	TR1300/1	Factory – April 2025
AUT Positioning Turntable	Portland Tool & Die	MDT-4000	Factory – Jan 2024
Host Laptop	HP	Elitebook 840	N.C.R
Reference Antenna (9.72dBi Directional)	Intech	ANT-205	26-11-2025
5m N-N Cables	Connection Technologies	Custom Built	N.C.R
Antenna(s) Under Test	Times-7	See Cover Page	AUT

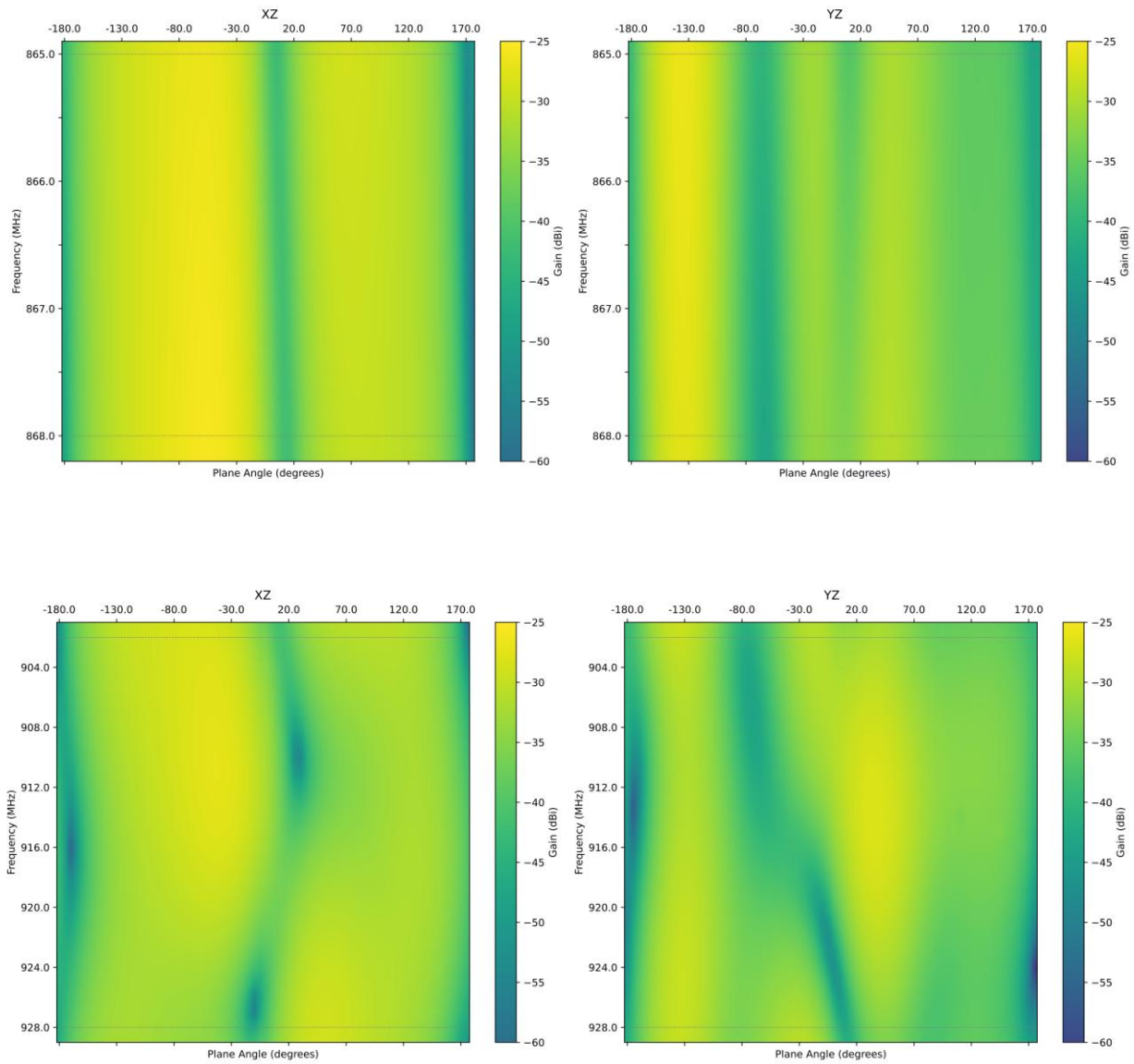
Note that the Antenna's under test (AUTs) are not intentional far-field radiators and primarily operate to transfer power and information via inductive coupling with RAIN RFID Tags. The results in this report are the far-field radiation patterns and measurements but may not clearly represent their operational performance.

1 RESULTS

A5020NF (72057)

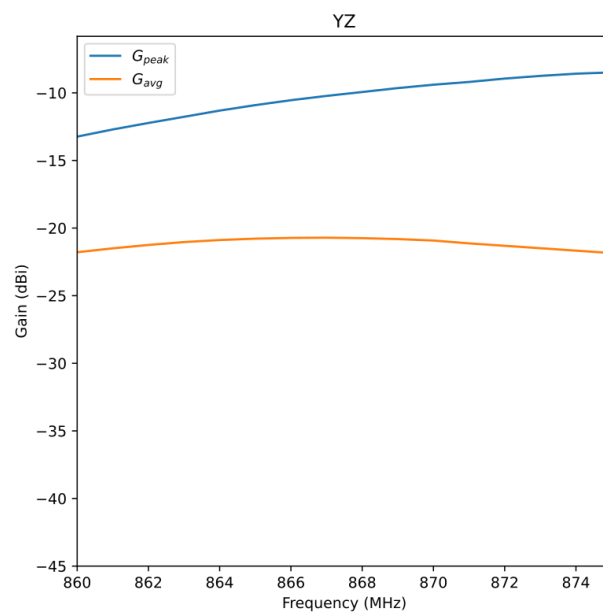
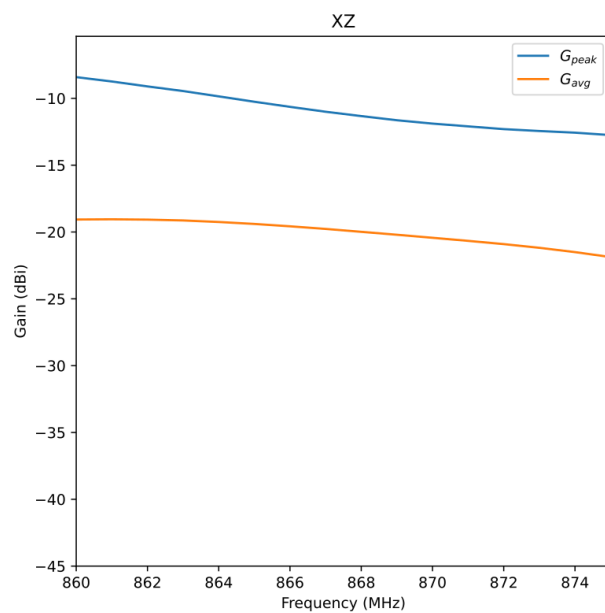
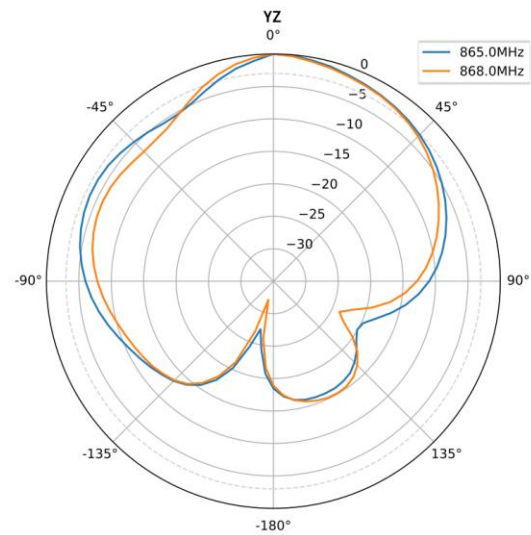
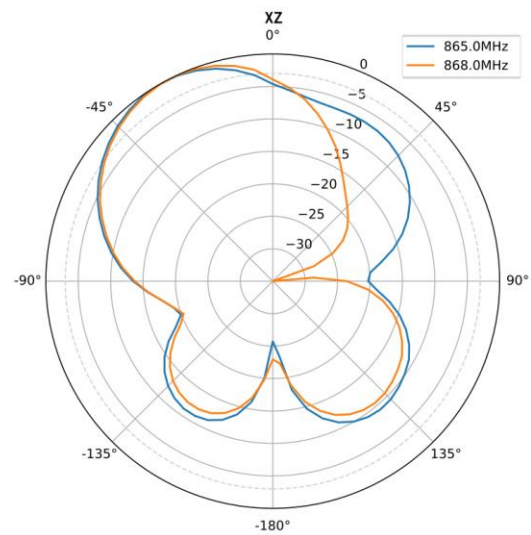
Peak Gain	-25 dBi
Average Gain	-33 dBi

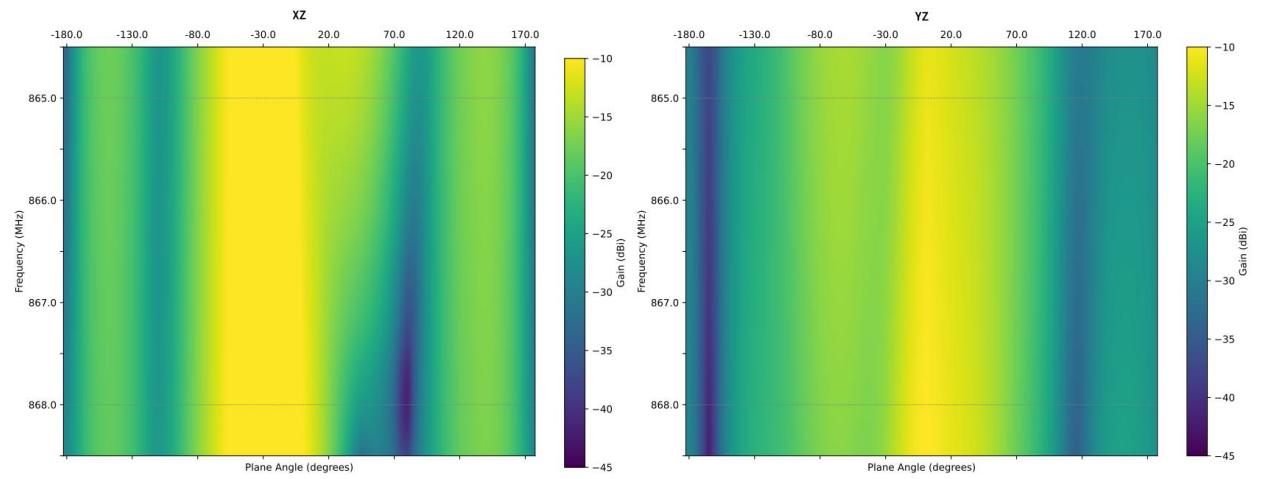




A1130 ETSI (75244, 75245, 72022, 72025)

Peak Gain	-9 dBi
Average Gain	-20 dBi





A1130 FCC (75246 ,75247, 72023, 72026)

Peak Gain	-10 dBi
Average Gain	-21 dBi

