Skydio

Antenna Under Test report (AUT)

Model Name: 360-205976-000
Equipment: Drone
Manufacturer: Skydio Inc.
Test Location: EMT Labs (ElectoMagnetic Test, Inc.) - 1547 Plymouth Street, Mountain View, CA 94043-1229
Report Date:6/26/2023
Report Number: 360-205976-000-B_AUT_008

Report Release History

Report Version	Description	Date Issued
001	Preliminary R35 Dual Band Antenna Report	11/05/2021
006	Final R35 Dual Band Antenna Report	11/15/2021
007	Correct typo in 2.4GHz Correlated Gain	11/15/2021
008	Correct model name	06/16/2023

Test Condition:

Test Condition	Test Engineer	Test Environment (^{O}C / %)	Test Date
Radiated	Manan Modi	20-24 / 45-60	11/01/2021

Test Engineer signature : 

Test Frequency:

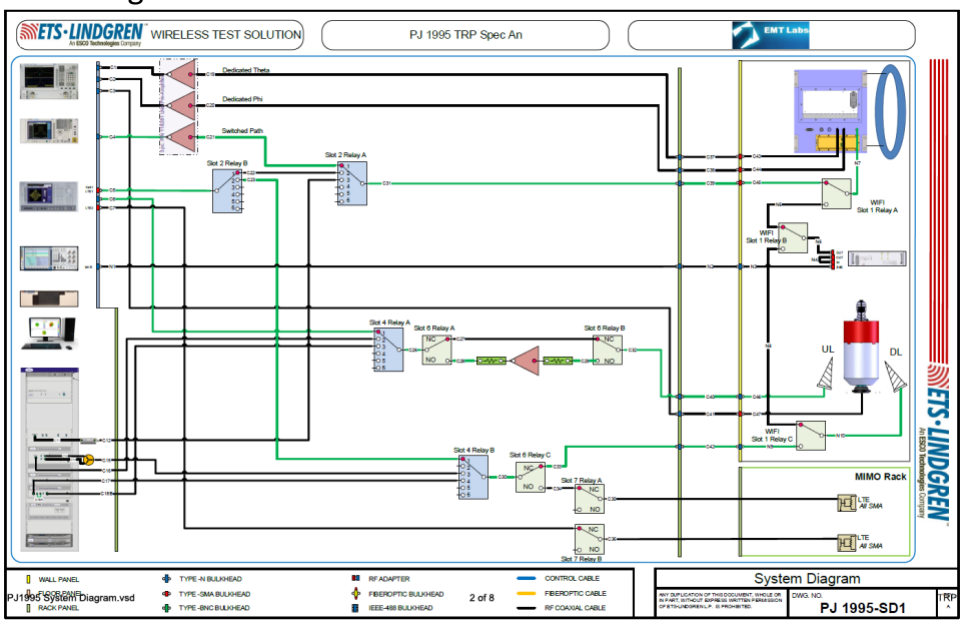
Band (MHz)	Test Frequency (MHz)
2400-2480	2462
5150-5250	5200
5250-5350	5300
5470-5725	5600
5725-5850	5805

Antenna Information:

Ant. Position	Brand Name	Model Name	Ant. Type	Connector
Antenna 1	Skydio	360-205976-000	Dipole	u.FL
Antenna 2	Skydio	360-205976-000	Dipole	u.FL

Test Configuration:

Block diagram for ETS 8923 Chamber



Description of the test chamber:

Length: 13 ft Width: 13 ft Height: 13 ft
Turntable height: adjusted to center antenna in center of chamber.

Measurement antenna height? N/A, 23 dual polarized antennas are mounted in a ring configuration, spaced 15 degrees apart.

The measurement uncertainty associated with the data collected in this report is 1.90 dB.

Test Equipment list:

Equipment Name	Manufacturer	Model Number	Serial Number	Cal Cycle	Cal Date
Amplifier, Limiting	ETS Lindgren	109646	001695339	N.C.R.	N/A
Analyzer, Network (PNA-L)	Agilent Technologies	N5239A	MY52291042	1 Year	6/22/2022
Analyzer, Signal	Rohde & Schwarz	FSW8	104071	1 Year	2/15/2023
EMCenter 2-Slot RF System	ETS Lindgren	7000-004	00116754	N.C.R.	N/A
EMCenter 7-Slot RF System	ETS Lindgren	7000-001	00159836	N.C.R.	N/A
EMQuest Data Acquisition and Analysis Software	ETS Lindgren	Version 1.13 Build 21271	1438	N/A	N/A
System Amplifier Modules	ETS Lindgren	SAM-01	00169708	N.C.R.	N/A
System Amplifier Modules	ETS Lindgren	SAM-01	00169709	N.C.R.	N/A
System Amplifier Modules	ETS Lindgren	SAM-01	00169710	N.C.R.	N/A

Test Method:

The ETS AMS 8923 OTA chamber uses the “great circle” cut method, whereby the measurement antenna ring remains fixed with 15 degree spacing and the EUT is rotated about two axes in sequential order. The radiated RF performance of the Equipment Under Test (EUT) is measured by sampling the radiated transmit power of the mobile at various locations surrounding the device. A three-dimensional characterization of the 'transmit' performance of the EUT is pieced together by analyzing the data from the spatially distributed measurements. Data points taken every 15 degrees in the theta and in the phi axes are deemed sufficient to fully characterize the EUT's Far-Field radiation pattern and total radiated power. All of the measured power values will be integrated.

Measured Values and Calculation of Correlated / Uncorrelated Gains:

Peak Gain Table

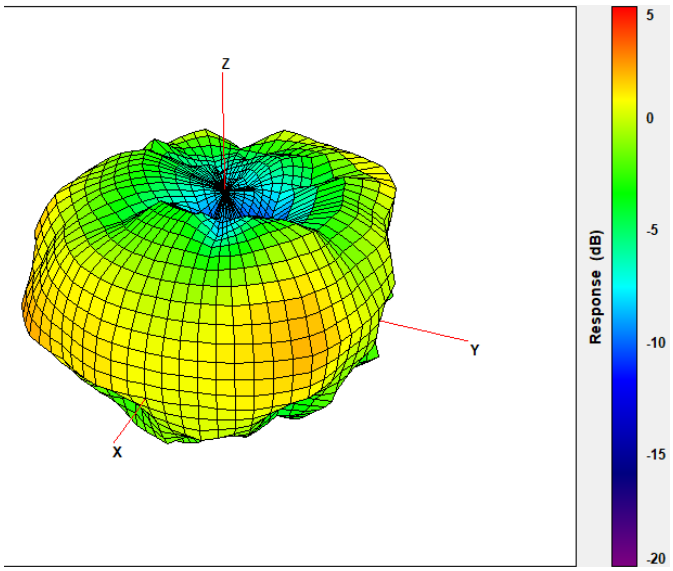
Band (MHz)	2400-2480	5150-5250	5250-5350
Frequency (MHz)	2462	5200	5300
Ant.1 Max Gain (dBi)	1.91	1.35	1.9
Ant.2 Max Gain (dBi)	1.90	1.33	2.1
Max Gain (dBi)	1.91	1.35	2.1

Band (MHz)	5470-5725	5725-5850	
Frequency (MHz)	5600	5805	
Ant.1 Max Gain (dBi)	1.33	1.4	
Ant.2 Max Gain (dBi)	1.37	1.35	
Max Gain (dBi)	1.37	1.4	

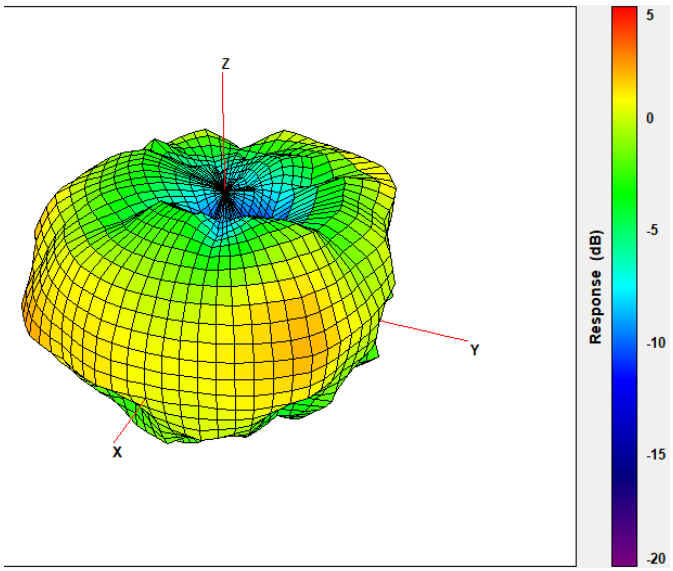
Frequency (MHz)	Theta (deg)	Correlated Gain (dBi)	Uncorrelated Gain (dBi)
2462	135	4.92	1.91
5200	75	4.35	1.34
5300	60	5.01	2.00
5600	75	4.36	1.35
5805	60	4.39	1.38

3D Radiation Pattern:

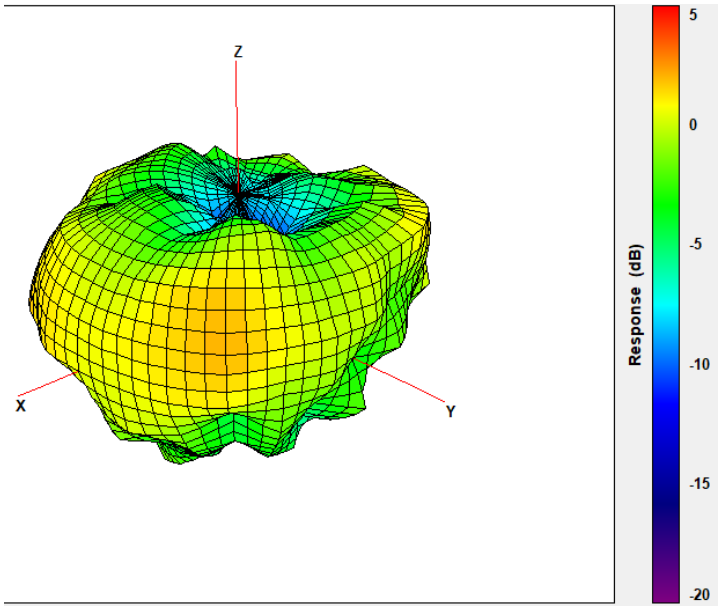
5150~5250MHz



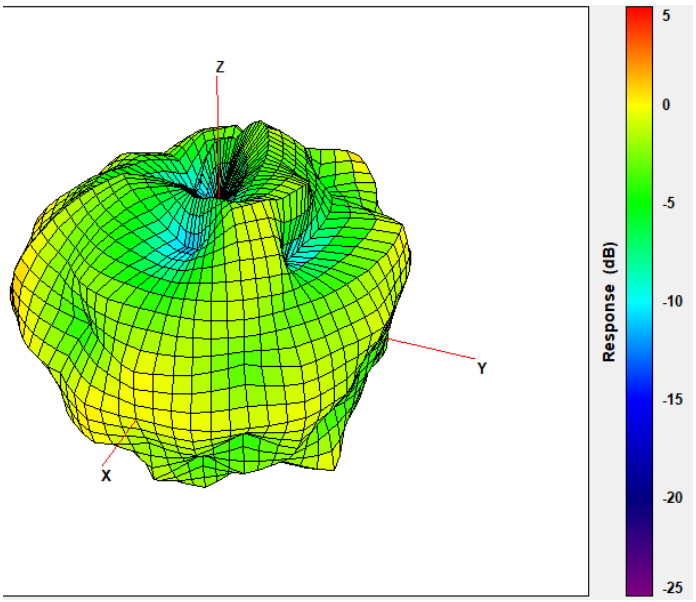
5250~5350MHz



5470~5725MHz



5725~5850MHz



2.4G (2462MHz)