

Approval Specification

**PATHFINDER2 COMPASS
BLE ANT**

Data : 2025. 8. 27

Version : 1.0

PATHFINDER COMPANY

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1. Approval Check List

Version		Date	Description	Remarks
Approval issue	Set issue			
Ver 1.0	Ver 1.0	2025.08.27	Initial apply	

DESIGN	CHECK	APPROVAL
D.Y KIM		E.G CHOI

2. Application

2.1 Application

- This specification was described for the PATHFDINER2 COMPASS BLE ANT Specifications.

3. Test Procedure & Measurement

3.1 Electrical Test

3.1.1 Test Equipment

Device	model	Quantity	Spec	Cal. Date
Cable	L-5D2W	1EA	· N(M) to SMA(M) 0.5m · DC ~ 4GHz VSWR : 1.2	N/A
Cable	SR085-SF1	1EA	· SMA(M) to Jack(Pig tail) · DC ~ 20GHz	N/A
Calibration Kit	Keysight 85033E	1Set	· DC ~ 9GHz (3.5mm Connector)	25-08-13
Network Analyzer	Keysight E5071C	1EA	· Freq. Range : 100KHz ~ 8.5GHz · Accuracy : ± 5 ppm · Dynamic Range : 123dB · Resolution : 1Hz · Impedance : 50 Ω	25-08-13

3.1.2 Test Setup

A. Device Setting and Calibration

1) Device Setting

- Ⓐ Frequency Band : Center Frequency: 2450MHz, Span :200.0MHz
- Ⓑ Source Power : 0dBm
- Ⓒ IF Bandwidth : 70kHz
- Ⓓ Number of Point : 501

2) Calibration

Connect N to SMA cable to E5071C port 1.

Using the 3.5mm Cal Kit and 1 Port Calibration to O.S.L method.

- Ⓐ S₁₁ Calibration : The Port 1 Calibration (Open, Short, Load)
- Ⓑ Port Extension : SR085-SF1 cable length extension

4. Antenna

4.1 Antenna Type

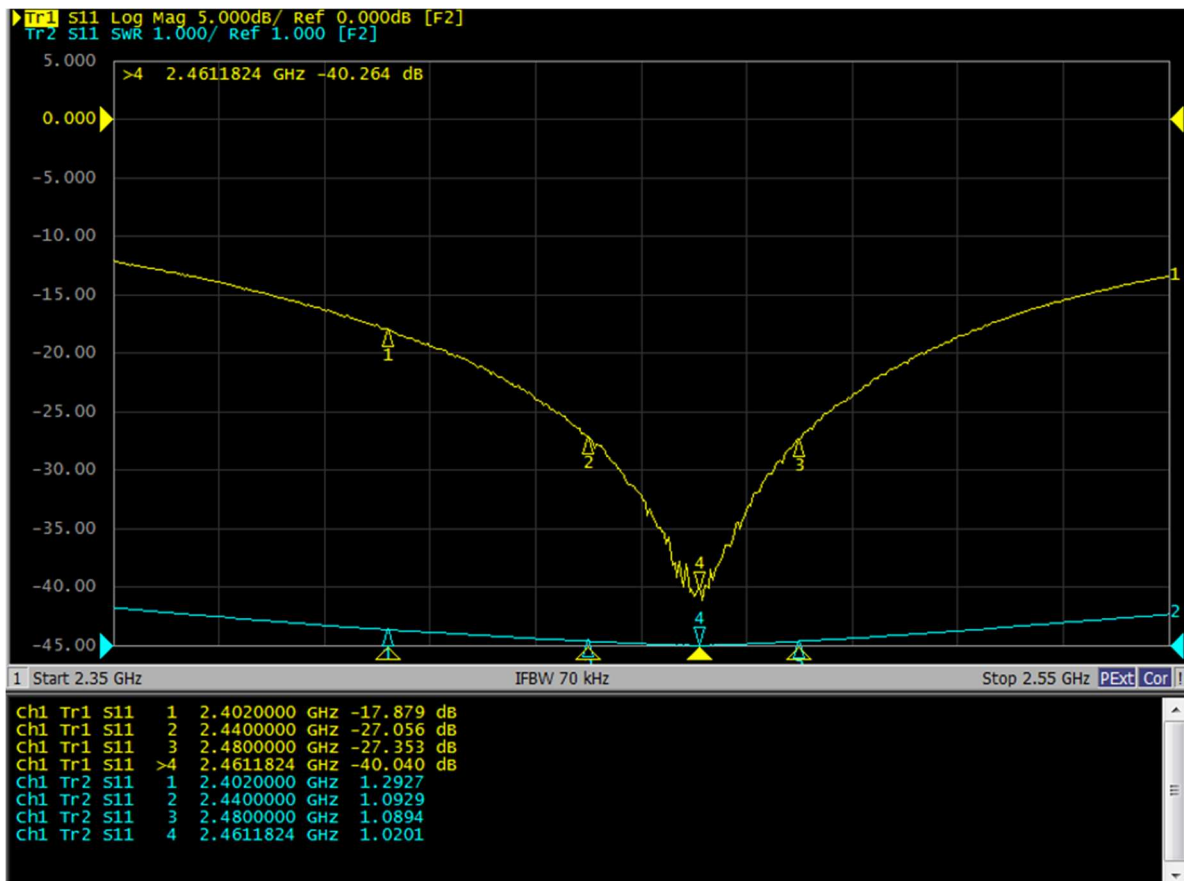
- PCB Pattern Antenna

4.2 Electrical Performance Data

4.2.1 Electrical Specifications

No	Item	Spec	Remark
1	Frequency Range [GHz]	2.4 ~ 2.485	
2	VSWR	Max 2.5:1	
3	Peak Gain [dBi]	Typ 2.5	
4	Total Avg. Gain [dBi]	Typ -1.0	
5	Efficiency [%]	Typ 80	
6	Impedance [Ω]	Normal 50	

4.2.2 VSWR/RL



4.2.3 Radiation Pattern

- Data -		Sum												H(φ=90)				E1(φ=90)				E2(φ=90)			
Frequency	φ[Deg]	φ[Deg]	Max[dB]	Avg[dB]	EIRP[dB]	φ[Deg]	Max[dB]	Avg[dB]	Sum[dB]	φ[Deg]	Max[dB]	Avg[dB]	Sum[dB]	φ[Deg]	Max[dB]	Avg[dB]	Sum[dB]	φ[Deg]	Max[dB]	Avg[dB]	Sum[dB]				
2.400.000	30.0	240.0	2.373	-1.548	70.017	120.0	0.951	-1.776	0.00	-30.0	1.537	-0.873	198.32	-30.0	2.032	-2.649	60.84								
2.412.000	30.0	240.0	2.132	-1.799	68.547	120.0	0.667	-2.096	0.00	-30.0	1.405	-1.092	198.70	-30.0	1.875	-2.869	63.84								
2.420.000	30.0	240.0	2.471	-1.400	71.449	120.0	0.923	-1.728	0.00	-30.0	1.732	-0.768	198.05	-30.0	1.875	-2.554	64.95								
2.440.000	30.0	240.0	2.434	-1.305	74.046	120.0	1.008	-1.667	0.00	-30.0	1.911	-0.633	228.62	-30.0	1.885	-2.583	76.63								
2.445.000	30.0	240.0	2.444	-1.011	79.241	120.0	1.323	-1.315	0.00	-30.0	2.182	-0.857	228.62	-30.0	2.062	-2.092	78.16								
2.460.000	45.0	285.0	2.453	-1.227	78.382	120.0	1.148	-1.468	214.12	-30.0	2.063	-0.868	198.26	-30.0	1.886	-2.341	84.45								
2.472.000	45.0	255.0	2.482	-1.289	74.200	120.0	1.098	-1.573	212.19	-45.0	2.290	-0.477	183.47	-15.0	1.829	-2.296	83.25								
2.485.000	30.0	120.0	2.398	-1.585	72.095	120.0	0.927	-1.664	211.09	-45.0	2.164	-0.829	180.46	-15.0	1.885	-2.549	82.92								
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4.3 Antenna Drawing

