


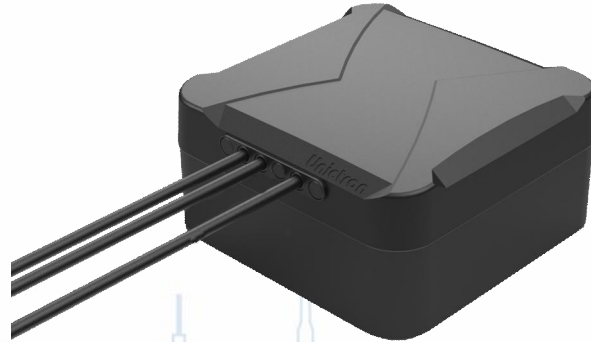
APPROVAL SHEET

RoHS
compliance

CUSTOMER : 亞旭電腦(股)公司
ISSUE DATE : 2023.04.06

APPROVED

COMPANY	APPROVED BY	CHECKED BY	PREPARED BY
	Herbert Chou	Mike Yang	Eva Chou
APPROVAL NO :	MT-25B-AS-B2W01		
MODEL :	MT-25B Multi-Antenna 3-in-1 (ES4_For C3084)		
Customer NO :	1415D0000300		



Product Name: 3-in-1 GNSS/ WiFi Combination Antenna

Part Number: MT-25B-AS-B2W01

Features:

- 1*GNSS, 2*WiFi Antenna Combination
- Support GPS L1 / GLONASS L1 / BeiDou L1/ GPS L2/ GPS L5 Bands
- Support WiFi Dual Bands, 2400-2500MHz, 5150-5850MHz
- Excellent Out of Band Rejection, Up to 65dB
- 36dBi Active Peak Gain
- Customizable Cables and Connectors
- RoHS & REACH Compliant

Applications:

- Fleet Management & Telematics
- Vehicle Navigation



3-in-1 GNSS/ WiFi Combination Antenna

MODEL: MT-25B-AS-B2W01

Rev.A

I. Specifications:

Items	GNSS(Ant.9) Specifications				
Passive Antenna Performance					
Application Bands	GPS_L5	GPS_L2	BeiDou_L1	GPS_L1	GLONASS _L1
Frequencies (MHz)	1176	1227	1561	1575.42	1602
Efficiency (%)	7.48 Typ.	5.02 Typ.	54.58 Typ.	43.95 Typ.	29.04 Typ.
Average Gain (dBi)	-11.26 Typ.	-12.99 Typ.	-2.63 Typ.	-3.57 Typ.	-5.37 Typ.
Peak Gain (dBi)	-6.14 Typ.	-7.53 Typ.	3.24 Typ.	2.48 Typ.	0.69 Typ.
Axial Ratio	<3 Typ.				
V.S.W.R*	< 2				
Return loss (dB)*	< -10				
Test Condition	Free Space				
Impedance (Ω)	50				
Polarization	R.H.C.P. (Right Handed Circular Polarization)				
Active Antenna Performance					
Application bands	GPS_L5	GPS_L2	BeiDou_L1	GPS_L1	GLONASS _L1
Frequencies (MHz)	1176 \pm 5	1227 \pm 5	1561 \pm 5	1575.42 \pm 1.023	1602 \pm 5
Gain (dB)	37 Typ.	38 Typ.	37 Typ.	39 Typ.	36 Typ.
Noise Figure (dB)	1.4 Typ.	1.3 Typ.	1.5 Typ.	1.5 Typ.	1.6 Typ.
Operation Voltage (V)	3.3 ~ 5.0				
Current Consumption (mA)	20 \pm 3				
Output Impedance (Ω)	50				

*Center Frequency

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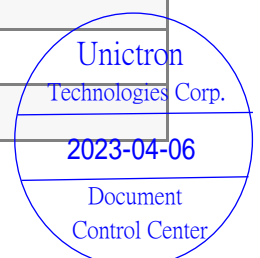


Out of Band Rejection										
Application bands	GPS_L5		GPS_L2		BeiDou_L1		GPS_L1		GLONASS_L1	
Frequencies (MHz)	600 ~ 1100	1650 ~ 3000	600 ~ 1100	1650 ~ 3000	600 ~ 1100	1650 ~ 3000	600 ~ 1100	1650 ~ 3000	600 ~ 1100	1650 ~ 3000
Out of Band Rejection (dB)	56	65	57	66	56	65	58	67	55	64
ESD Protection	+/- 8 KV (direct discharge) +/- 15KV (air discharge)									
Cable / Length	H-100, 5 meters									
Connector	FAKRA II (C Type)									

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Items		WiFi Specifications						
Frequencies (MHz)		2400	2450	2500	5150	5350	5750	5850
Efficiency (%)	Ant.10	42.95 Typ.	43.55 Typ.	44.98 Typ.	26.85 Typ.	24.83 Typ.	19.91 Typ.	26.92 Typ.
	Ant.11	48.19 Typ.	45.92 Typ.	46.99 Typ.	27.29 Typ.	27.16 Typ.	26.06 Typ.	20.70 Typ.
Average Gain (dBi)	Ant.10	-3.67 Typ.	-3.61 Typ.	-3.47 Typ.	-5.71 Typ.	-6.05 Typ.	-7.01 Typ.	-5.70 Typ.
	Ant.11	-3.17 Typ.	-3.38 Typ.	-3.28 Typ.	-5.64 Typ.	-5.66 Typ.	-5.84 Typ.	-6.84 Typ.
Peak Gain (dBi)	Ant.10	1.00 Typ.	1.14 Typ.	1.15 Typ.	-0.77 Typ.	-0.77 Typ.	-0.57 Typ.	-1.42 Typ.
	Ant.11	2.66 Typ.	1.32 Typ.	1.64 Typ.	-0.83 Typ.	-0.09 Typ.	0.22 Typ.	0.49 Typ.
V.S.W.R*		< 2						
Return Loss (dB)*		< -10						
Test Condition		Free Space						
Impedance (Ω)		50						
Polarization		Linear						
Cable		SNC-200, 5 meters						
Connector		FAKRA II (E Type)						

* Center Frequency

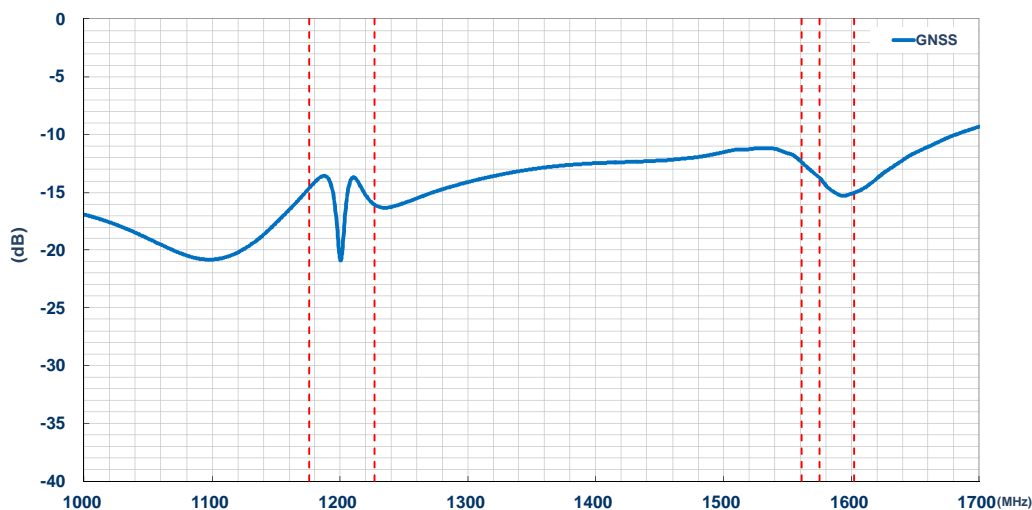


Mechanical	
Dimension (mm)	136.47(L) x 135.95(W) x 27.44(H)
Casing	ABS + PC
Waterproof Resistant	IP67
Maximum Assembly Torque	40 N-m
Environmental Conditions	
Operation Temperature (°C)	-40 ~ +85
Storage Temperature (°C)	-40 ~ +85
Humidity	Non-condensing 65 °C 95% RH

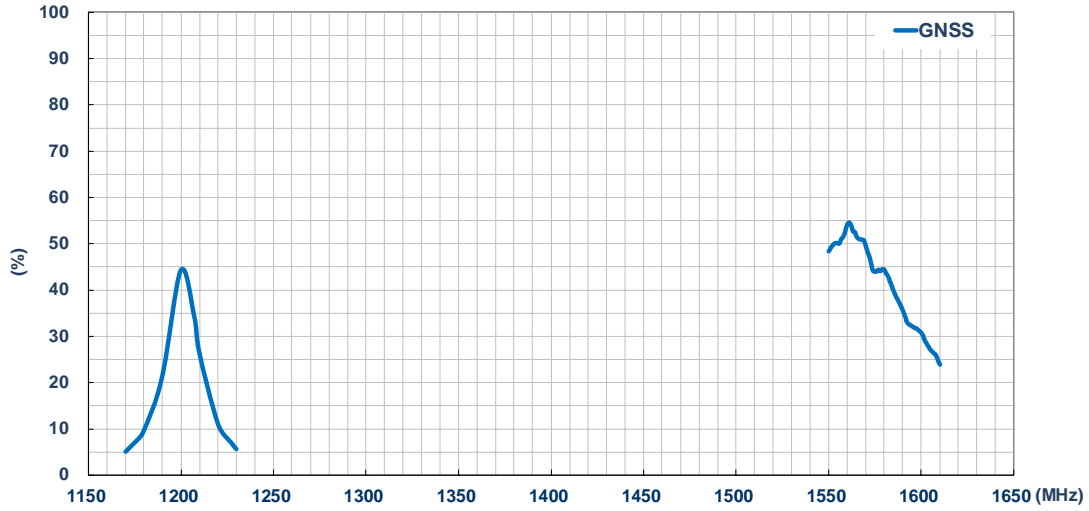
II. Antenna Electrical Properties:

GNSS (Ant.9)

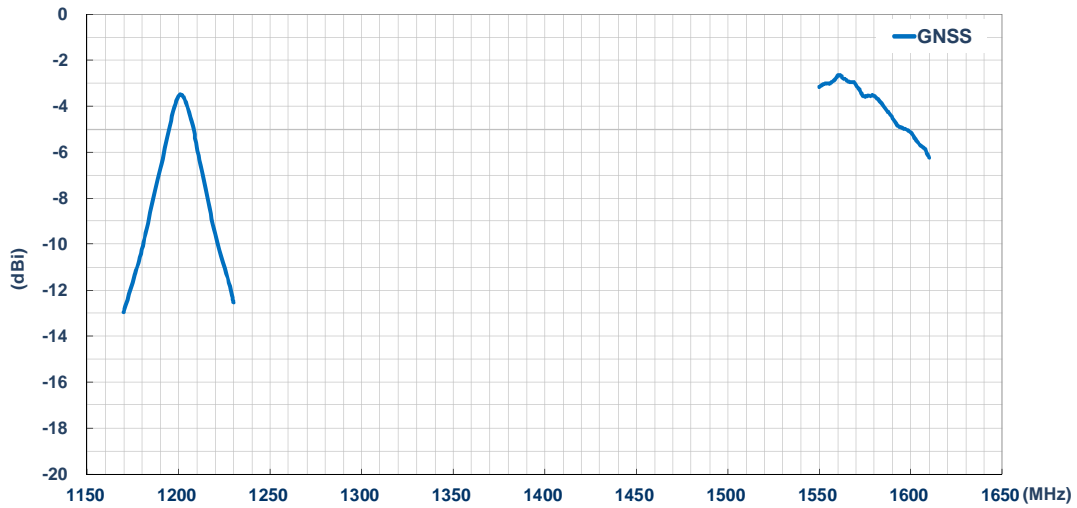
S11 (dB)



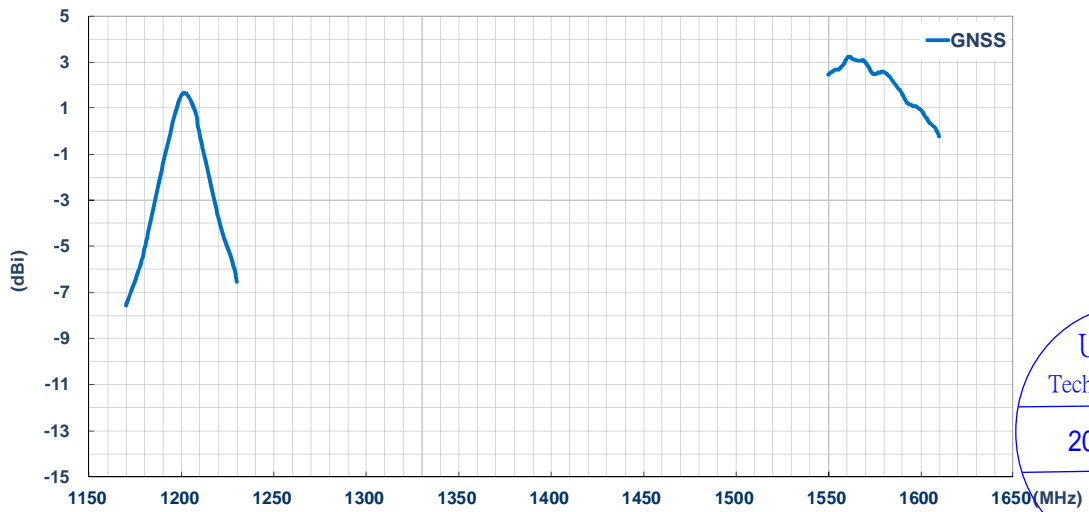
Efficiency (%)



Average Gain (dBi)



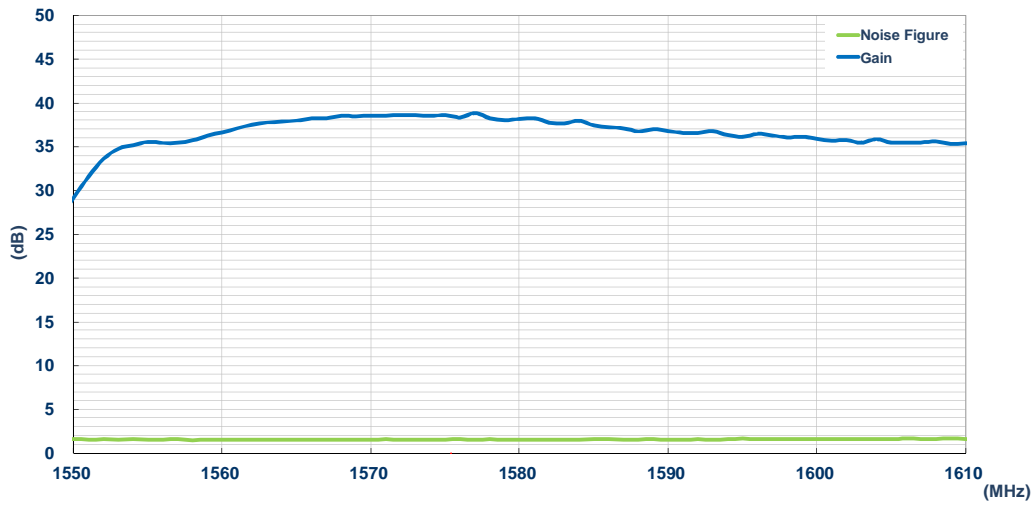
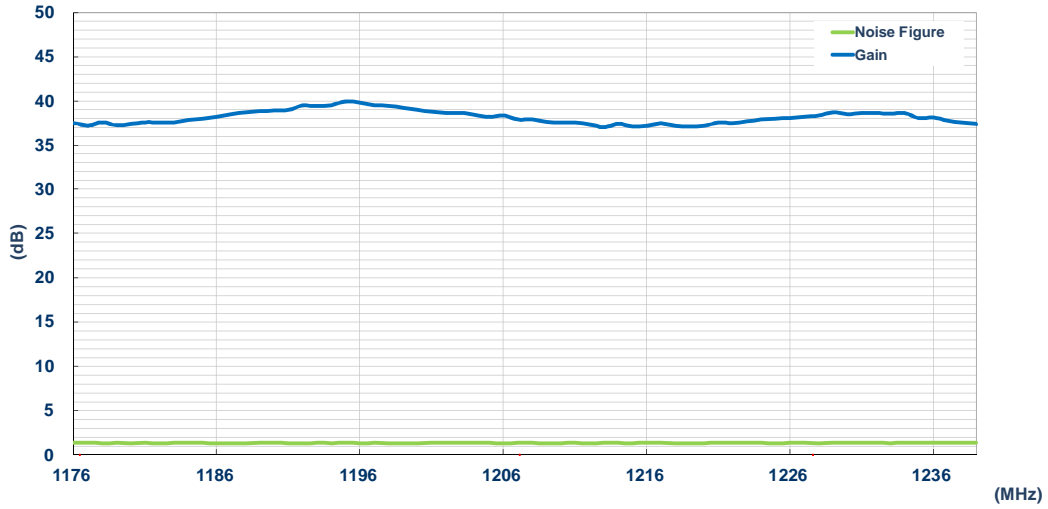
Peak Gain (dBi)



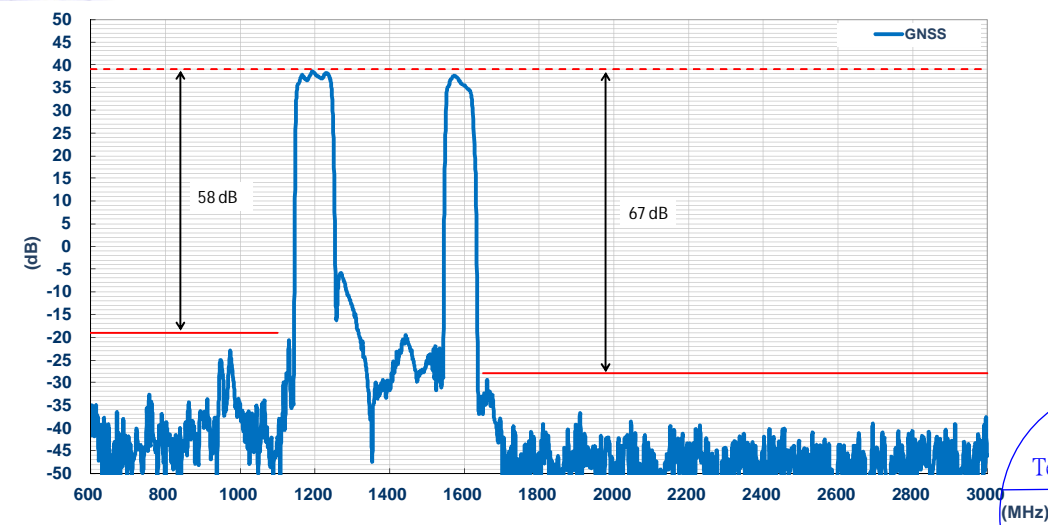
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Noise Figure & Gain (dB)



Out of Band Rejection (dB)

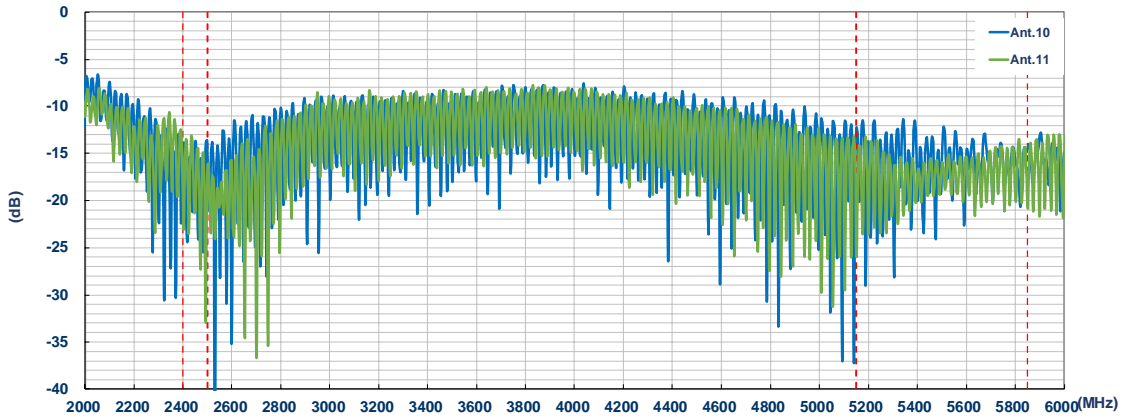


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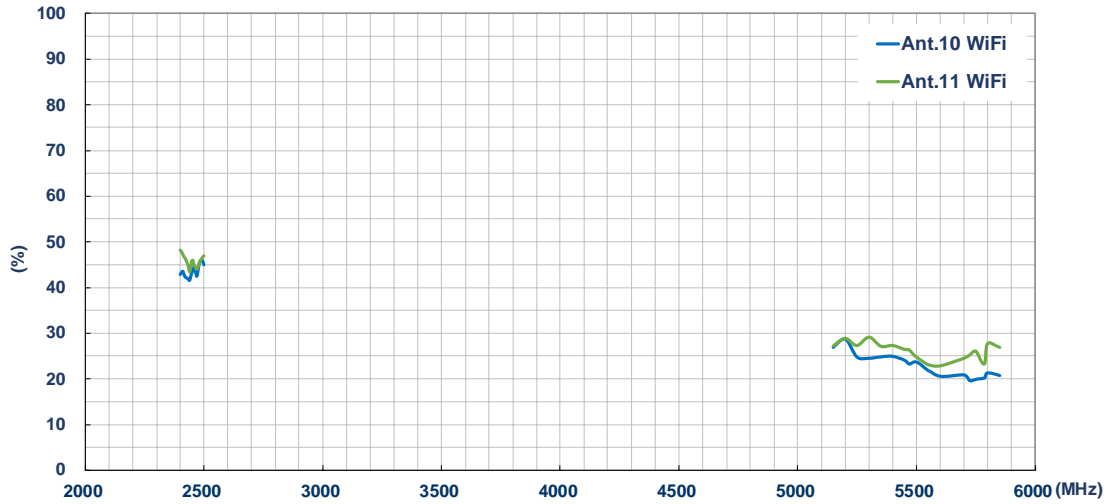
WiFi

S11 (dB) – Ant.10 & Ant.11

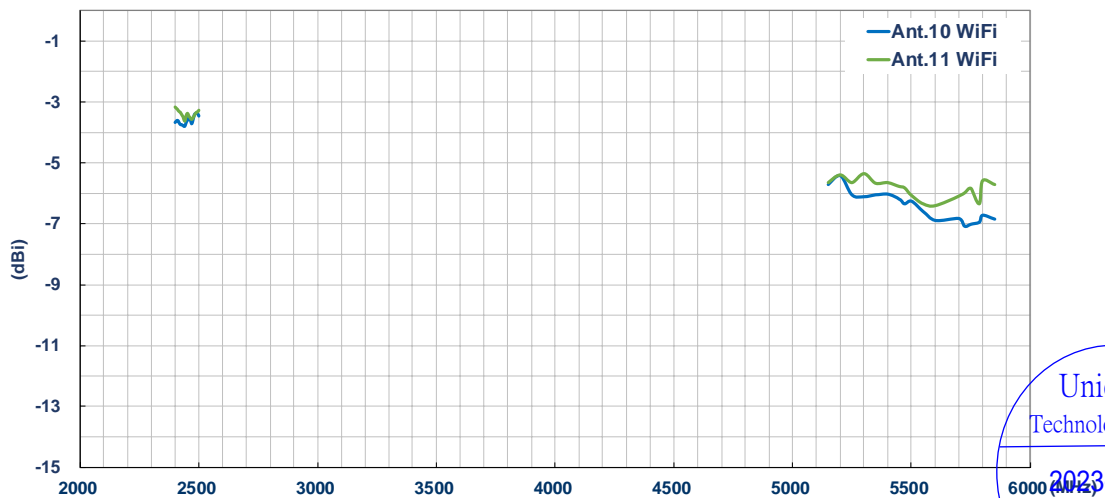


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Efficiency (%) - Ant.10 & Ant.11

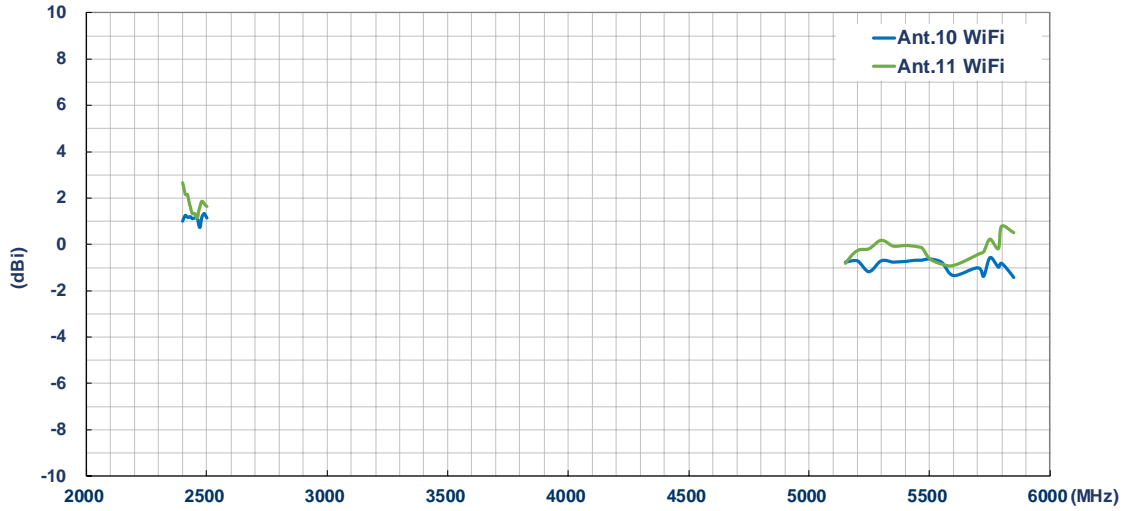


Average Gain (dBi) - Ant.10 & Ant.11



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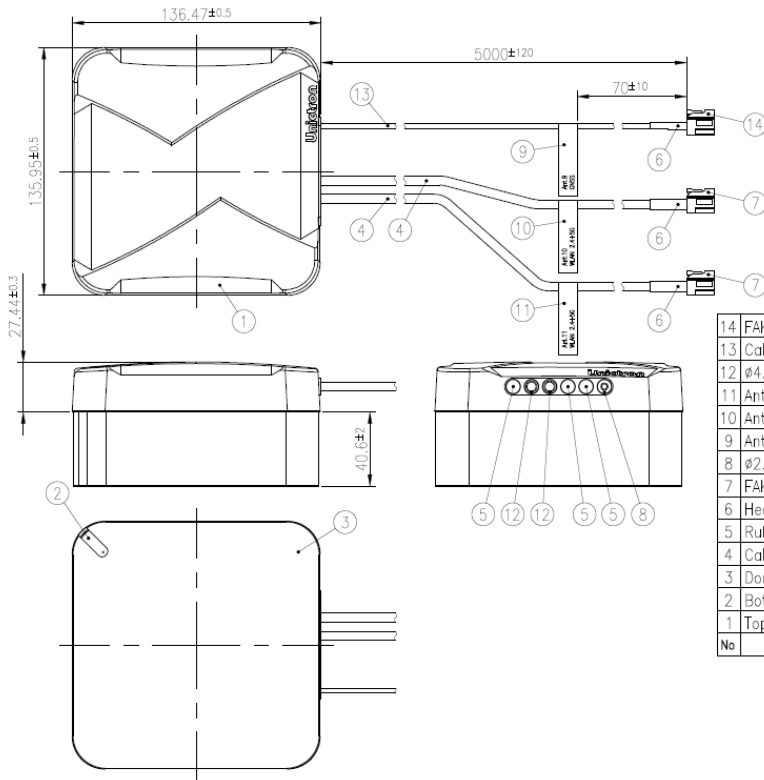
Peak Gain (dBi) - Ant.10 & Ant.11



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III. Mechanical Drawing (Unit:mm):

Automotive Antenna



Notes:
• IP Code: IP67.

14	FAKRA II CRIMP (C Type)	PA66	Blue	1
13	Cable H100	PVC	Black	1
12	∅4.95 Cable Rubber	Silicone	Black	2
11	Ant.11 Label	PET	Silver	1
10	Ant.10 Label	PET	Silver	1
9	Ant.9 Label	PET	Silver	1
8	∅2.80 Cable Rubber	Silicone	Black	1
7	FAKRA II CRIMP (E Type)	PA66	Green	2
6	Heat Shrink Tube	EVA	Black	3
5	Rubber Stopper	Silicone	Black	3
4	Cable SNC200	PVC	Black	2
3	Double Adhesive Foam	EVA	White Liner	1
2	Bottom Housing	PC+ABS	Black	1
1	Top Housing	PC+ABS	Black	1
No	NAME	MATERIAL	FINISH	QTY

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Connector Vender

GNSS→FAKRA II (C Type/Blue)

Vender: 夏尼(SHINING)



WiFi→FAKRA II (E Type/Green)

Vender: 祥峰(AIMMET)



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