

Stock symbol : 3419.TW

Wha Yu Industrial Co., Ltd

Investor Conference

2022/11/18

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Outline

- ◆ Company Overview
- ◆ Product Introduction
- ◆ 2022 Q3 Financial Result
- ◆ Market overview and Strategies
- ◆ Future prospects and Growth driving force
- ◆ Q & A

Vision 、 Mission 、 Core Value

Vision	To be a leading provider of advanced technology antennas, communication modules, and integrated solutions to realize a smarter life.
Mission	To focus on the RF industry and propel the capabilities of product development, systems integration and intelligent manufacturing, to become a leader in technical services of the wireless communications industry and to create value to our customers, partners and shareholders.
Core Value	Integrity, Innovation, Commitment, Achievement

Global Base

Suzhou Branch Office
Dongguan Aeon Tech
- Sales & FAE



WHA YU Hukou, Hsinchu
-Manufacturing Center



Dongguan Aeon Tech
- Antenna R&D center
and production



Employee : 920
Capital : NTD 1,204M
2022 ~Q3Rev. : NTD 1,419M

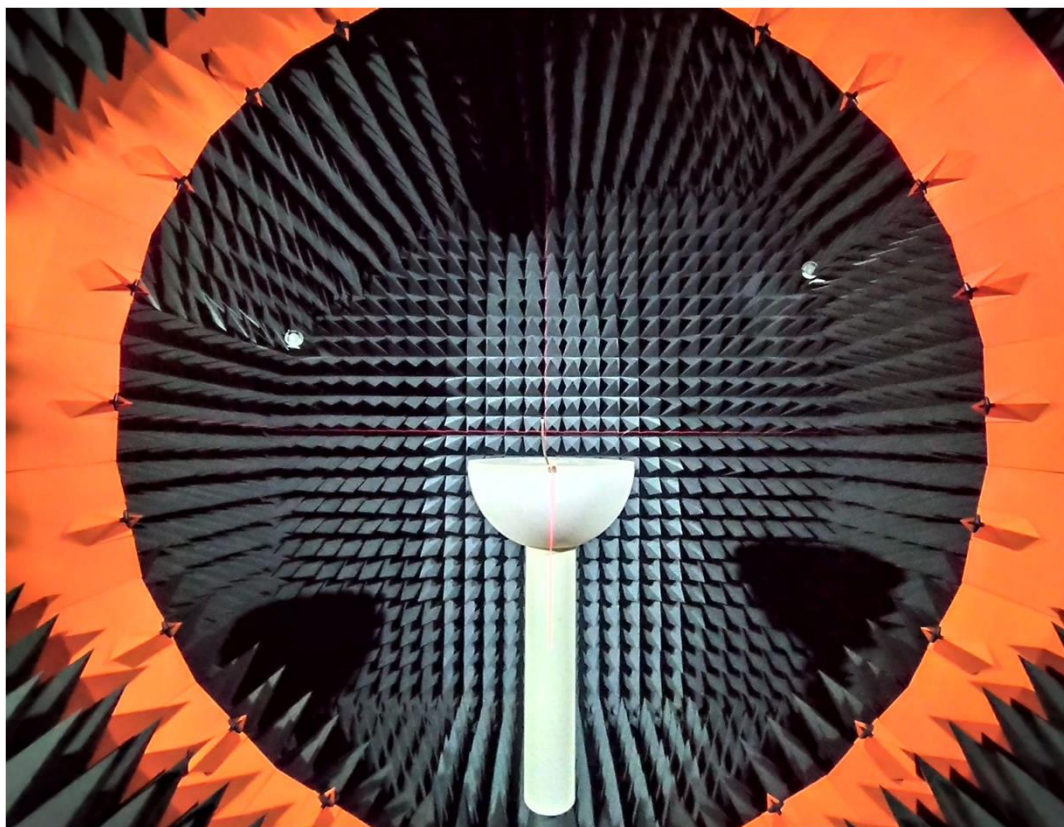
Suzhou,
China

Dongguan, China

Hsinchu,
Taiwan
WHA YU Hsinchu
-HQ & R&D Center



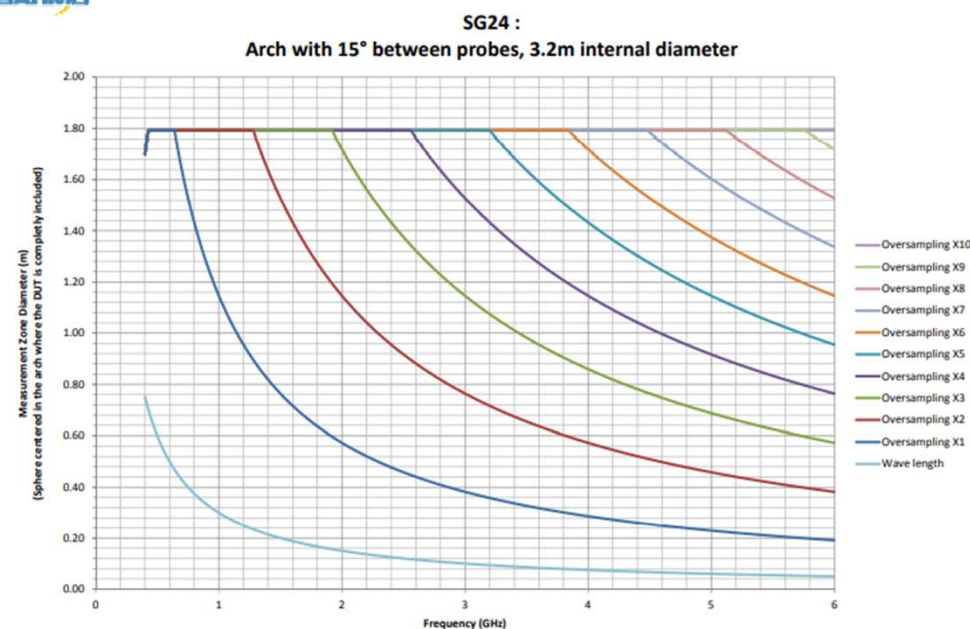
New Satimo SG24L Anechoic Chamber



Arch Diameter	3.2 M
Inside Chamber Size	5 x 5 x 5 M
Frequency Range	0.4 ~ 10.0 GHz
Max AUT Size	1.8 M



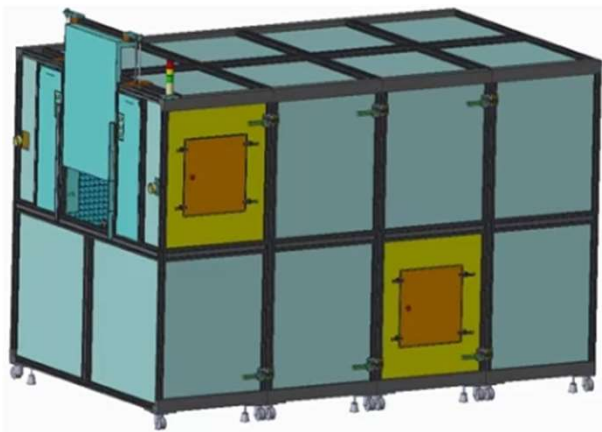
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End-of-Line Chamber

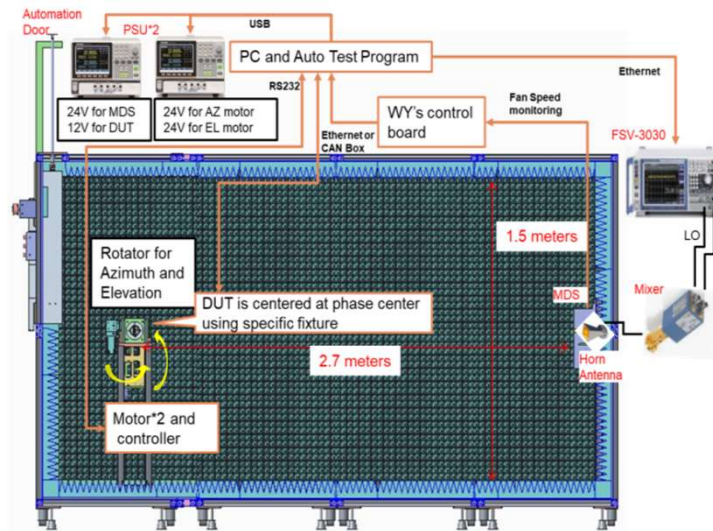
- ◆ Whayu can offer sensor and radar module at 5.8/10.6/24/60/77/79GHz in automotive/industrial grade from SMT to final assembly test and pack.
- ◆ Meanwhile, Whayu can offer antenna/radar housing/radar circuit hardware customized design for ODM project.
- ◆ A semi-automation EOL chamber is designed to measure and calibrate radar module.
- ◆ Based on different radar application to test RTS, MDS, Corner Reflector.

Chamber Outlook



Size : 3.5*2*2 meters

Radar Calibration & TX Measurement



Turn Table inside Chamber



Product Portfolio

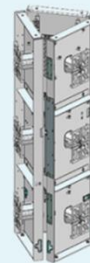
Mobile/Vehicle Wireless Solutions

Automotive , UAV, Marine,
DSRC, C-V2X,
GNSS, AM, FM, SDARS
Radar Sensor



ISM RF Cable and Antenna

WLAN AP, Router, Outdoor CPE enclosure



Telecom RF and Antenna

4G LTE, 5G, Small cell,
Base station, DAS,
mmWave, LEO



Antenna
RF



Product agency and Test Service

Zebra barcode scan engine,
GAN dynamic element test



IOT Subsystem

Radar, BLE,
M2M/LPWAN module,
RFID Smart Rack, Cloud



EMS/JDM Service

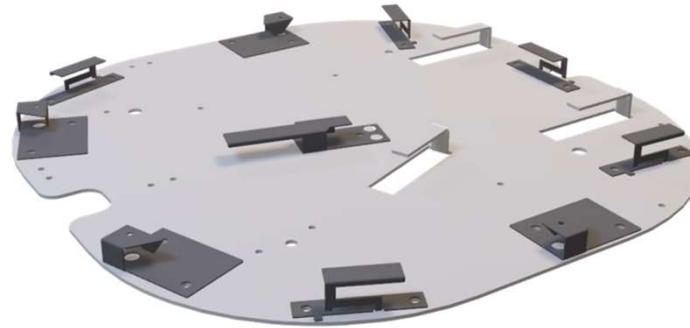
Keyless module, Health care,
Electric controller,
Audio Mixer and Video Device

Networking Antenna

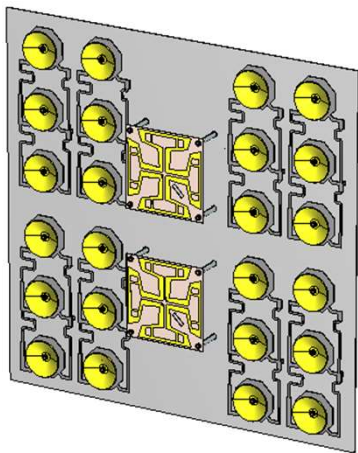
Networking Communication

- Wi-Fi 6, 6E
- 5G / 4G LTE / BT
- CPE Enclosure
- Small Cell
- IOT / LPWAN

Integrated PIFA Metal Plate
2.4GHz/5GHz efficiency >70%

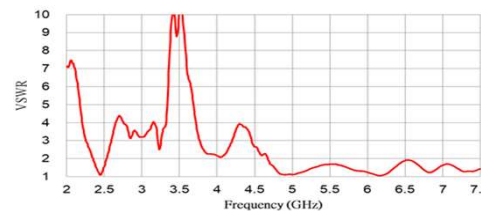


4G/5G NR MIMO Directional Panel

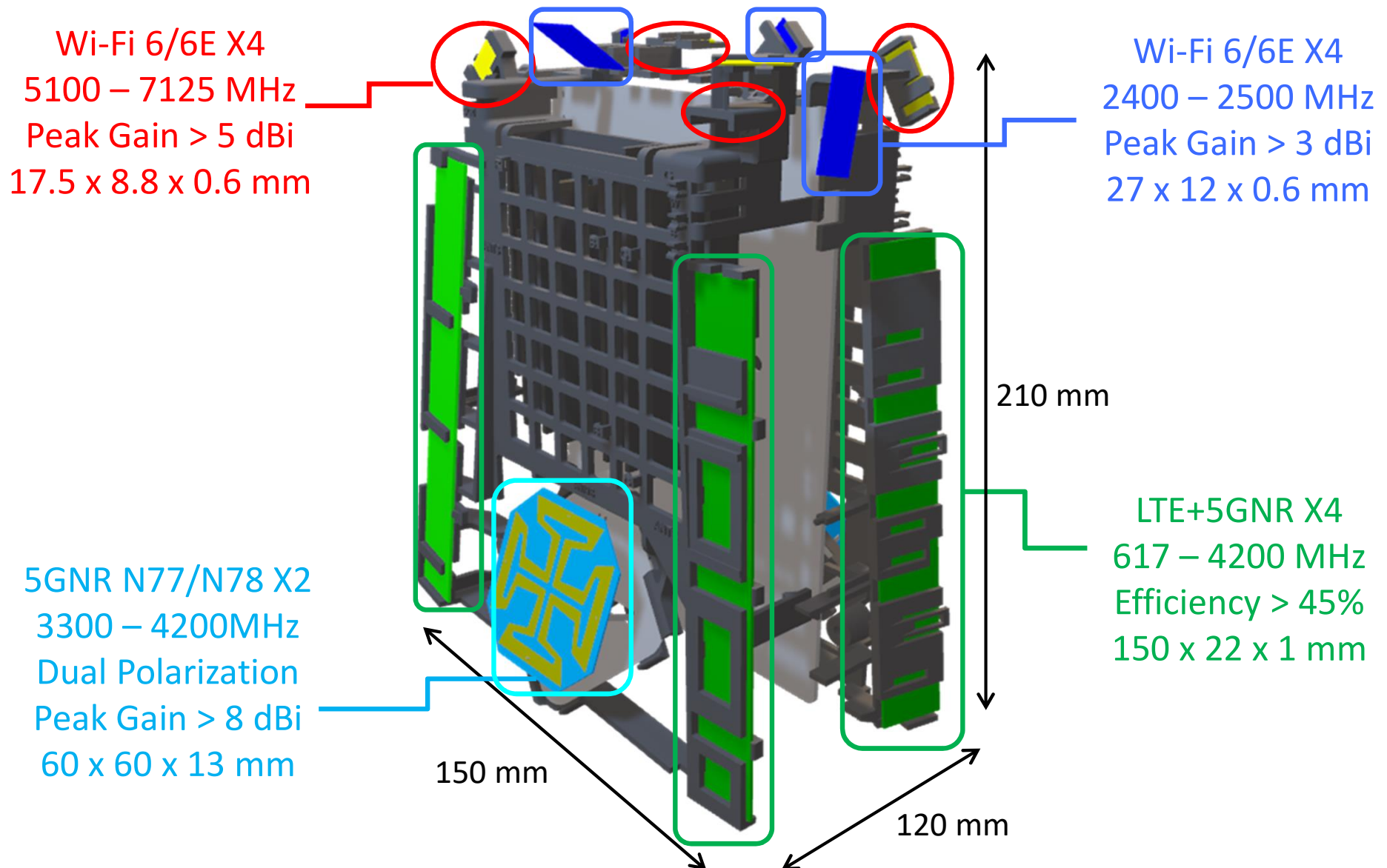


4G 1710~2690MHz 4x4MIMO
5G 3300~4200MHz 8x8MIMO

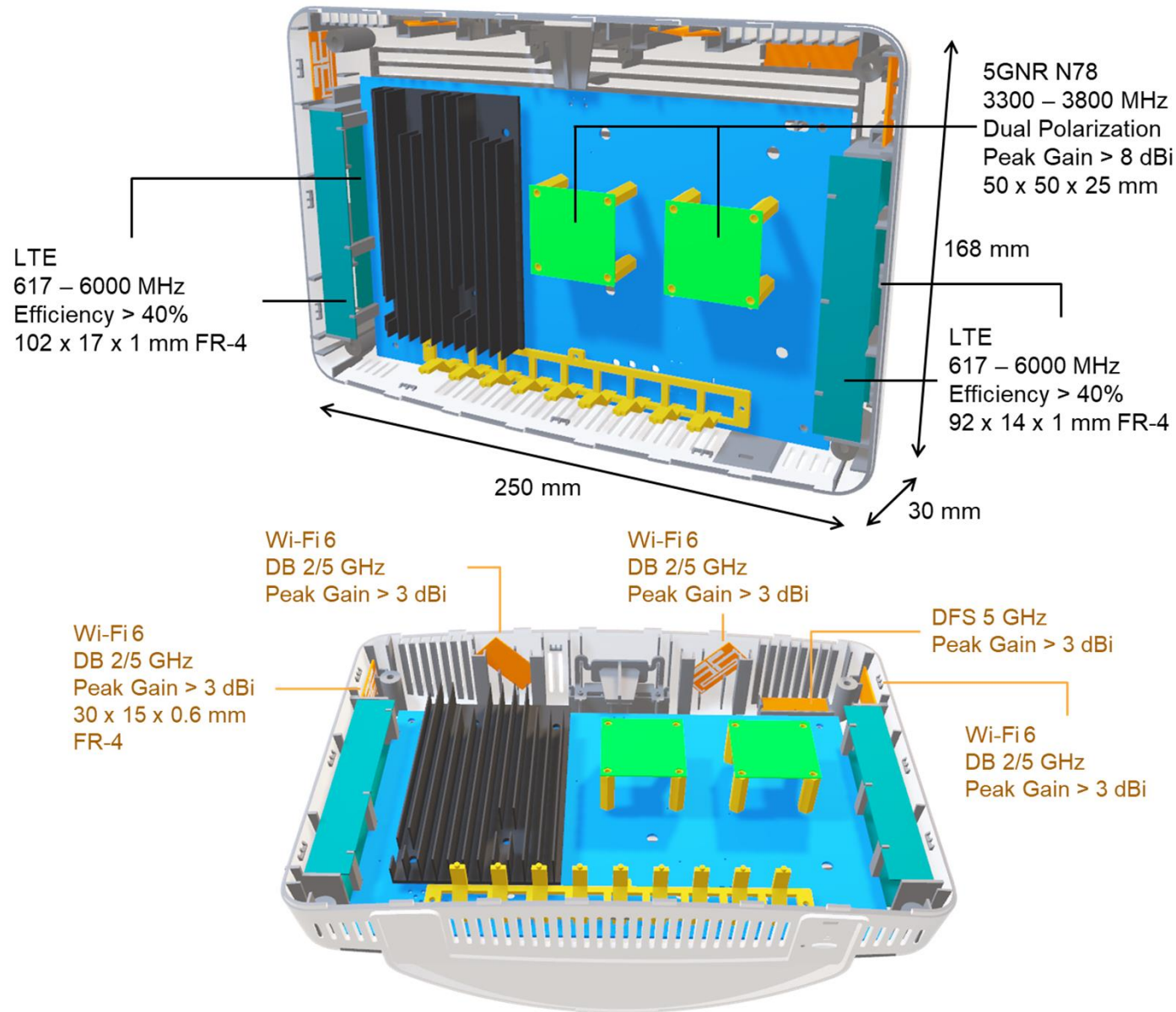
Wi-Fi 6/6E 4/5dBi Omni-Antenna



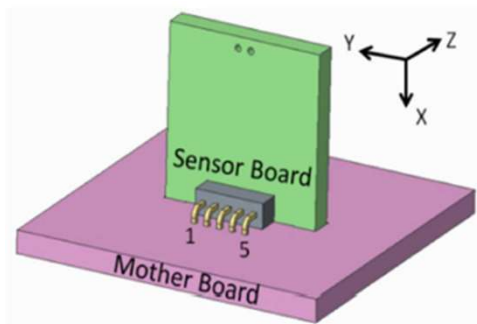
Small Cell – LTE/5GNR/Wi-Fi 6/6E – **14 Antennas**



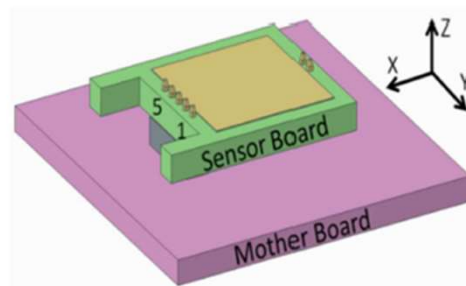
Small Cell Multi-Band LTE / 5G NR / Wi-Fi 6/6E



Radar Sensor Product

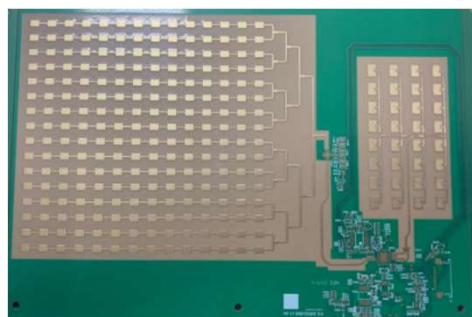


Vertical configuration

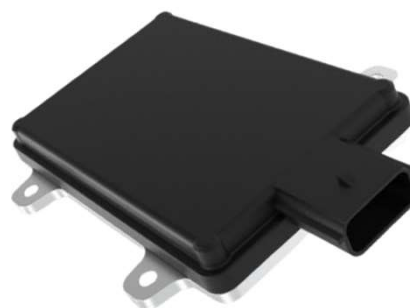


Horizontal configuration

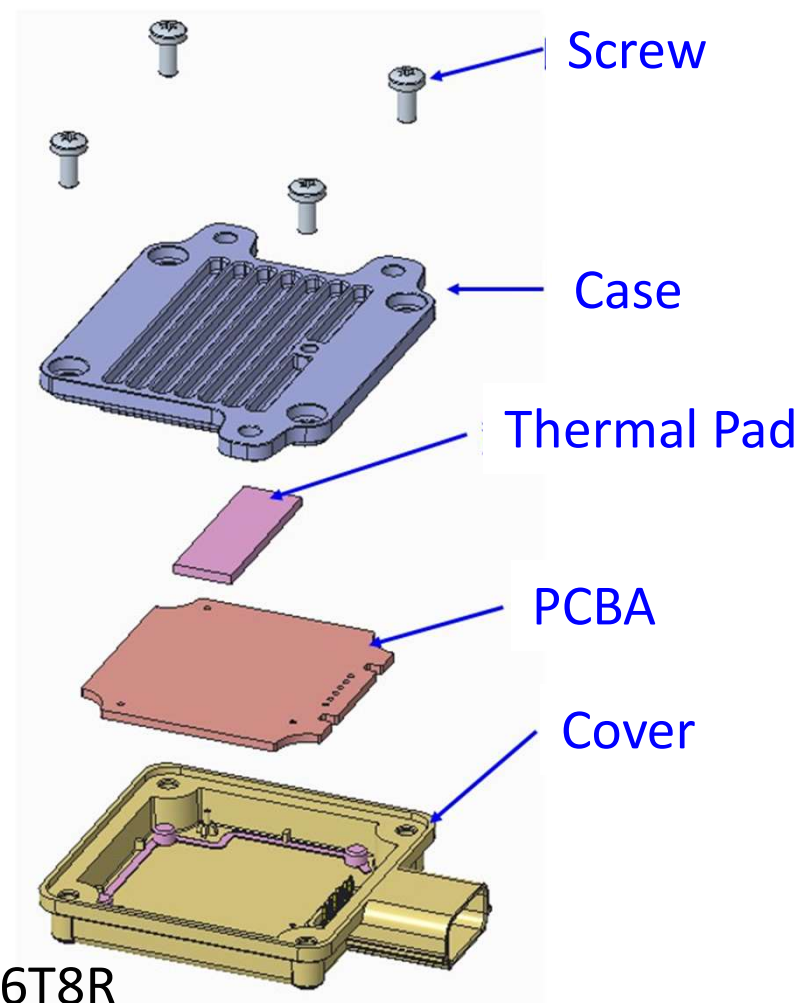
5.8GHz Radar



24GHz Radar

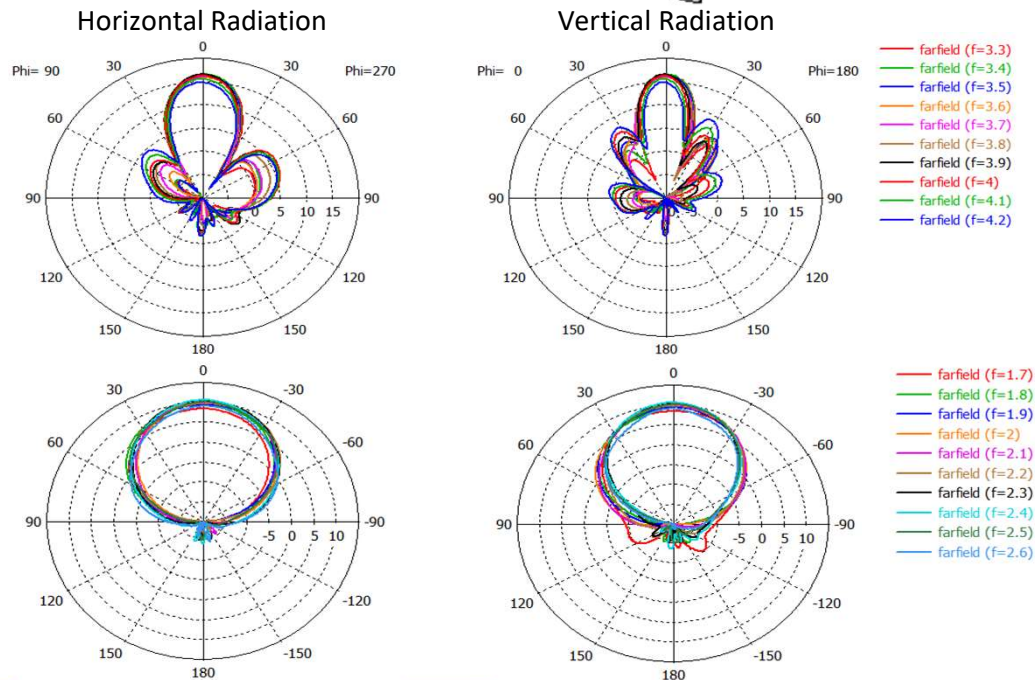
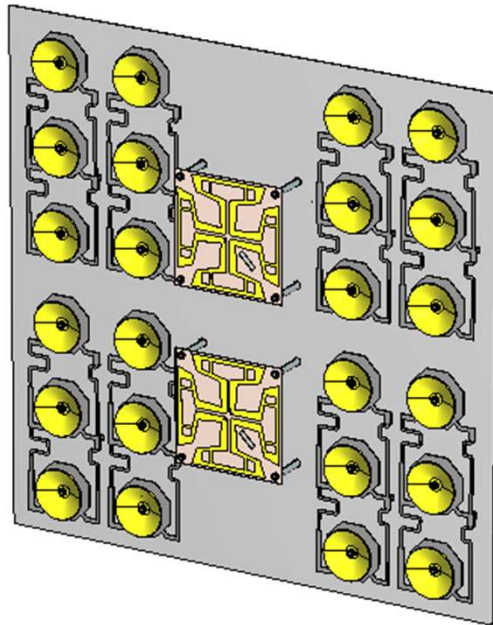


76-77GHz 4D Radar 6T8R



The product range cover 5.8 、 10.6 、 24 、 60 、 77 、 79GHz radar sensor.

5G NR MIMO Directional Panel



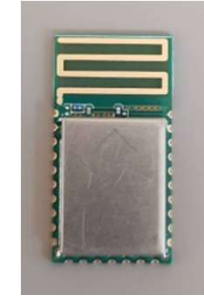
Electrical Characteristic

	ANT1-8	ANT 9-12
Frequency Range	3300 – 4200 MHz	1700 -2600 MHz
Peak Gain	15 dBi	8 dBi
VSWR (max.)	≤ 2.0 : 1	≤ 2.0 : 1
HPBW / H	30±5 degree	55±5 degree
HPBW / V	20±5 degree	55±5 degree
Impedance	50 Ω	50 Ω
Polarization	±45 degree	±45 degree
Connector	IPEX*8	IPEX*4
Cable / Length	1.37 Low loss*8 / 200 mm	1.37 Low loss*4 / 200 mm
Isolation	≥ 15 dB	≥ 25 dB
Dimension	400 x 400 x 35 mm	

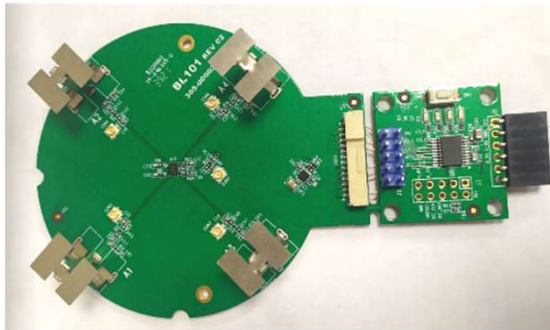
Module Product



AMI Module JDM



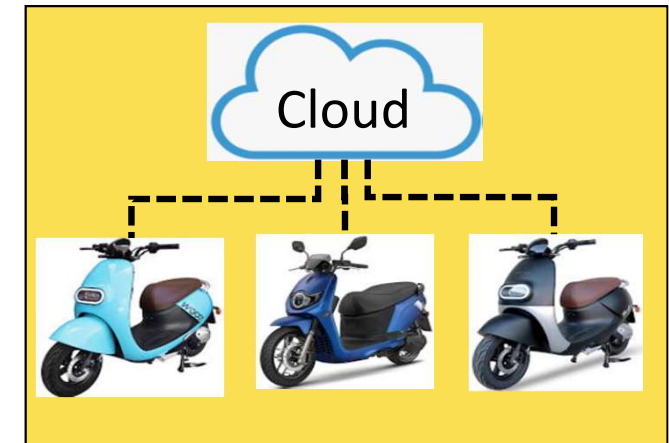
BT Module



In-building
Position BLE

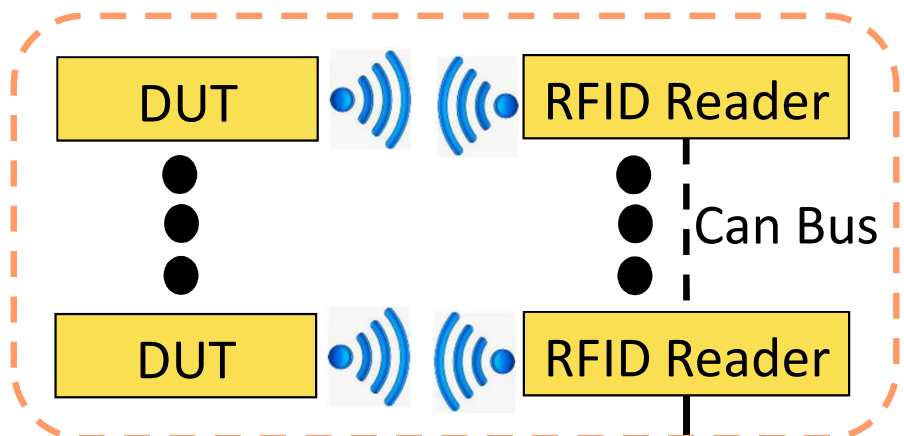


Keyless Module

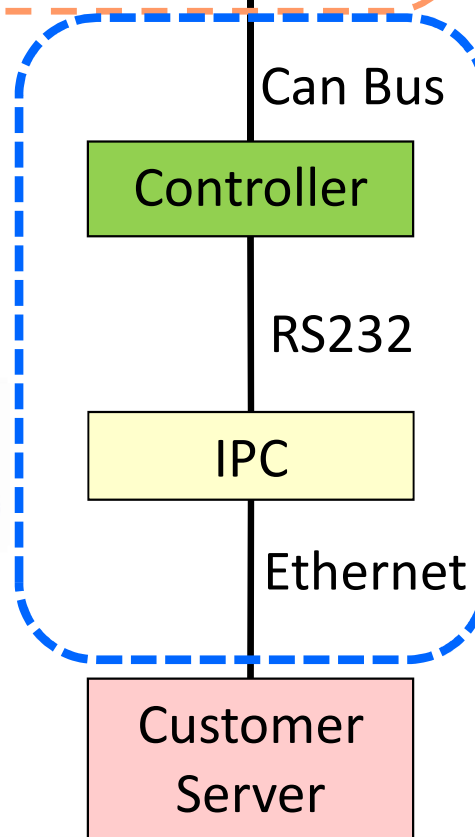


We have RD teams include EE 、 SW can support customer to ODM and JDM radio module.

Solutions for RFID Smart Rack

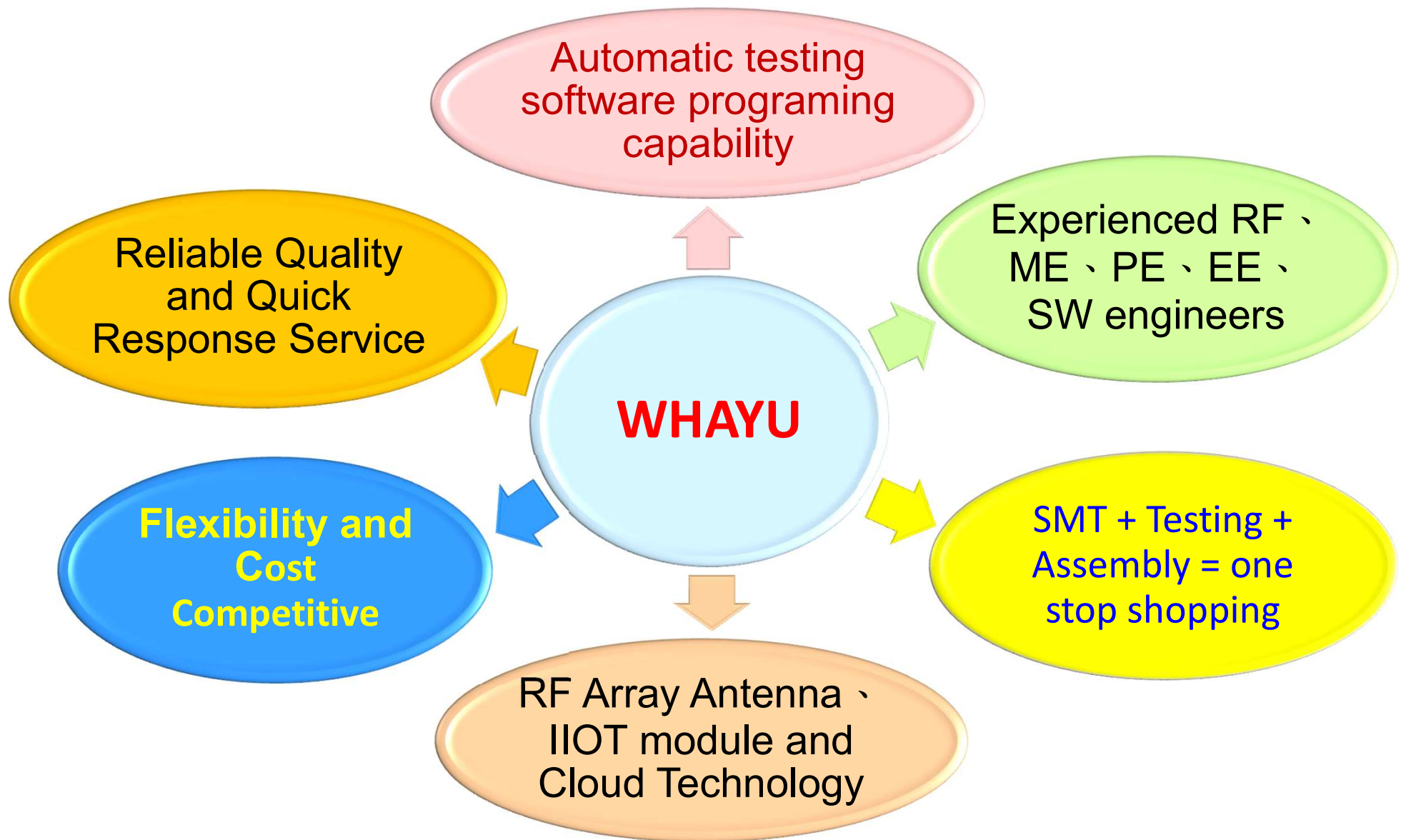


Hardware
Antenna 、 RF module



Software
System Integration

Core Competence



2022 Finance Report

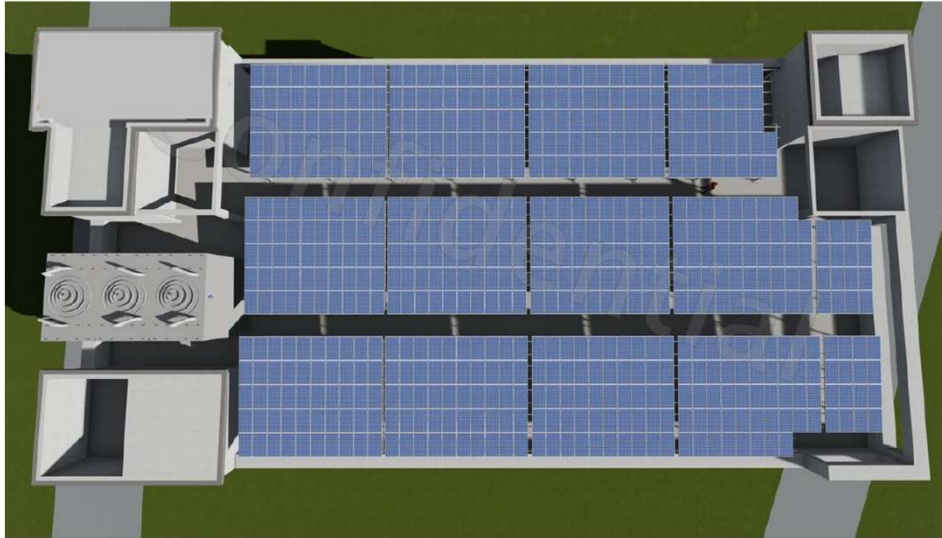
Unit: KNTD

Accounts	ACTUAL							
	Q1	%	Q2	%	Q3	%	2022 1/1~9/30	%
Operating revenue	351,395	100.0%	484,356	100.0%	583,514	100.0%	1,419,265	100.0%
Operating costs	306,297	87.2%	402,345	83.1%	461,417	79.1%	1,170,059	82.4%
Gross profit	45,098	12.8%	82,011	16.9%	122,097	20.9%	249,206	17.6%
Selling and marketing	33,447	9.5%	34,979	7.2%	34,507	5.9%	102,933	7.3%
General and administrative	23,486	6.7%	28,560	5.9%	32,409	5.6%	84,455	6.0%
Research and development	24,503	7.0%	31,073	6.4%	32,613	5.6%	88,189	6.2%
Total operating expenses	81,436	23.2%	94,612	19.5%	99,529	17.1%	275,577	19.4%
Profit (loss) from operations	(36,338)	-10.3%	(12,601)	-2.6%	22,568	3.9%	(26,371)	-1.9%
Total non-operating income and expenses	10,822	3.1%	23,872	4.9%	49,291	8.4%	83,985	5.9%
Profit (Loss) before income tax	(25,516)	-7.3%	11,271	2.3%	71,859	12.3%	57,614	4.1%
Income tax expense	1,702	0.5%	(6,889)	-1.4%	0	0.0%	(5,187)	-0.4%
Net Profit (loss)	(27,218)	-7.7%	18,160	3.7%	71,859	12.3%	62,801	4.4%
Other operationing income and expenses								
Non-controlling interests	(142)	0.0%	(1,423)	-0.3%	(568)	-0.1%	(2,133)	-0.2%
Owners of the Company	(27,076)	-7.7%	19,582	4.0%	72,427	12.4%	64,934	4.6%
Basic earnings (loss) per share	(0.22)		0.16		0.60		0.54	

Operating expense Q1 27,145 per month , Q2 31,537 per month , Q3 33,176 per month, our target is 31,372 average for whole year.

ESG Investment Status

1. Fengshan factory roof solar power generation construction total 208.76KW



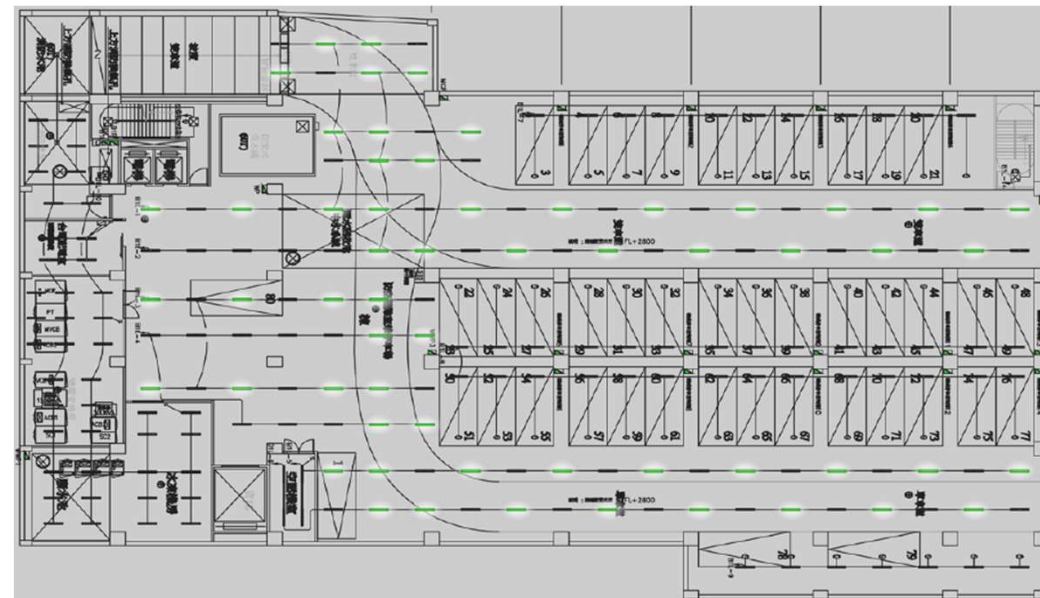
Greenhouse effect	CO ₂ reduction	kg CO ₂ / kWh	0.623
		Ton / 1st-year	147.16
		Ton / 20years	2,729.90
	NO _x reduction	kg NO _x / kWh	0.02
		Ton / 1st-year	3.54

- Wholesale Taipower 162.86KW
- Micro grid deployment 45.9KW

2. B1 parking IoT smart lighting energy-saving improvement of linked motion sensor LED: Enable 58 lamps, each lamp is fully bright 18W, half bright standby 3W. Start 13 hours a day, estimated trigger time <3 hours

Lamp Spec	Before change bill (NTD)	After change bill(NTD)	Energy Savings per Month	Saving rate	CO ₂ reduce /M(Kg)	CO ₂ reduce /Y(Kg)
LED 18W Lamp	3210	512	771	84%	408	4,896

Most of the time in the operating field, the wireless linkage sensor lamp is in standby mode, which reduces the operating temperature of related electronic components and reduces heat generation, which can greatly improve the stability and life of the lamp tube by about 2.5 times.



Operation Strategy

- **Market**---Continue to cultivate American, Japanese and European broadband communication customers, and plan to set up in the United States business base.
- **Product Portfolio**---Based on communication antennas, expand communication modules, IoT products, radar sensor, AI audio-video, LEO, etc., and provide customers with integrated solution products, continue to build up software and hardware R&D teams, and enhance product innovation and integration capability to provide customers more complete products and services.
- **Upstream and downstream cooperation** --- the current industry development is rapidly changing, and we will continue to form alliances with external partners in industry, government and academia like Chip company, SI sensors, satellite communication and other technical cooperation, improve the company in the communications industry tentacles, strengthen the company's competitiveness.
- **Manufacturing close to customers**---Complete the construction of Taiwan's smart manufacturing center, continue to invest in digital transformation, and strengthen Intelligent management such as intelligent MES system and data collection and analysis, in response to market short-chain supply demand to establish the Vietnam factory, in addition to decentralizing geopolitics risk, and provide diversified services close to customers.

Driving force of future growth

- According to statistics, 63% of mobile phone network traffic is actually shared by Wi-Fi, and it is continuing to increase. The lack of materials for chips has gradually eased. With the upgrade of Wi-Fi specifications, although the semiconductor market still has headwinds for consumer electronics products, the trend of increased penetration of Wi-Fi 6 will drive Mesh Router, CPE, Small Cell , 4G/5G enterprise private network and other products can expect growth momentum.
- Integrate RF software solutions, launch smart IoT electronic software and hardware systems with RFID technology, induct the field of semiconductor smart manufacturing, and extend to related smart identification, AI automatic storage and other application fields.
- The 5G ORAN network continues to be deployed in various countries, and the addition of the US CBRS Band will drive the growth of related base station antennas.
- The radar sensor can detect the distance, speed, angle and other data parameters of the object, and it is convenient to use the algorithm to distinguish the authenticity of the target object, and the trace of the object movement can be interpreted more accurately and effectively. It has been widely used in automobile, security, drone, industrial robot, construction equipment, smart home, emerging medical care and other product applications.
- Applications such as smart meters, indoor BLE Bluetooth positioning, 5G smart factories, and smart medical care, and the construction of seamless IoT module subsystems and solution products between people, machines, and systems have been developed successively, which will drive the company's product diversification , to enhance the stickiness of service customers.

Q & A