



UniMax

华硕
ASUS Group

UNIMAX AUTOMOTIVE ELECTRONICS

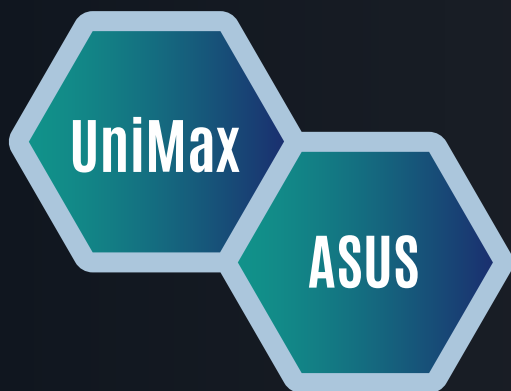
INFOTAINMENT

MOBILITY & IOTIVITY

VEHICLE MANAGEMENT ACCESSORIES

ASUS Group

ASUS Group has more than 100 subsidiaries
in IT industry 17,000 employees worldwide
world-class R&D team of 5,500+.

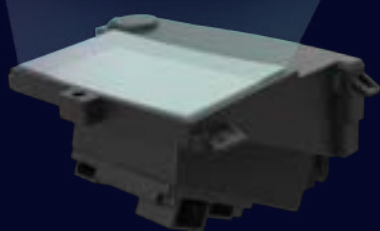


Over 100 Tech Companies



Automotive Electronics Expert

Birdbath HUD



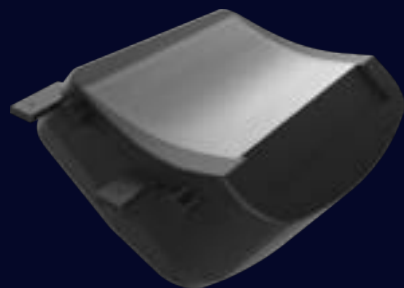
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Cluster of Motorcycle



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Rear Armrest HMI



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LTE DASH CAM



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UniMax Electronics Inc.

UniMax, an ASUS Group subsidiary, is a professional automotive electronics design and manufacturing company.

UniMax is devoted to develop and apply innovations in HUD 、Automotive Wireless Charger 、Child Presence Detection 、Dash Cam.



UniMax Electronics Inc.

ASUS GROUP SYNERGY



- Healthy financial environment
- New techs and innovations
- Strong bargaining power
- Solid quality control

STRONG RELATIONSHIP WORLD-CLASS VENDORS



- Open Automotive Alliance
- NXP
- Google
- Intel/ Microsoft
- Nvidia/ AMD
- Qualcomm

EXPERT MANAGEMENT



- Solid experience in product production(IATF16949)
- Production in China 、Taiwan 、Vietnam and Thailand

Quality Policy

ZERO DEFECT

With innovation and quality as core values, we shape a culture of excellence and continuous improvement, steadily advancing towards the ultimate goal - Zero defects.

We aim to achieve customersatisfaction, while establishing long-term partnerships based on mutual benefit and trust.



ZERO DEFECT

UniMax Global Production Base Layout

Taiwan : Shulin、Guishan

China : Wujiang、Shanghai

Vietnam : Hanoi

Thailand: ChonBuri



World-Class Certified production and testing lab



ISO/IEC 26262



ISO9001/TL9000



IATF 16949



QC080000



ISO14001



ISO14064



CMMI level 5



ESD S20.20



ISO45001



ISO13485



IPC QML

Test & Verification

Test and Verification Center Laboratory Services

With ISO/IEC 17025 certificate, the laboratory services cover a wide variety of tests/analysis aiming to assure and improve the design and quality.



ISO/IEC 17025
Laboratory Accreditation
Certificate

Test & Verification

Material Analysis

RoHS Compliance

Halogen Free Compliance

Other Restricted Substance Test

Product Reliability Test

Environment Reliability Test

Mechanical Reliability Test

MTBF Prediction & Demo MTBF

Reliability Failure Analysis

Component Analysis

Component Level Failure Analysis

Component Quality Verification

Component Reliability Test

Dimension Analysis



Lab Capability – Components

Chemical Analysis

Equipments:
ICP-OES, GC/MS, UV-VIS spectrometry...

Visual Inspection

Equipments: 3D Scanner, Optical Microscope,
Metallographic microscope

Physical Analysis

Equipments:
SAM, X-ray Tester, Curve Tracer, SEM...

Solderability Analysis

Equipments: Cross Section, Grinding &
Polishing, Microscope...



Lab Capability – Components

Mechanical Reliability Test

Equipments:

Drop Tester

Vibration Tester

Mechanical Shock Tester

Compression Tester

Tumble Tester

Key Life Tester

Abrasion Tester

Skill Simulation Endurance Tester

Environmental Reliability Test

Equipments:

Humidity/ Temperature Chamber

Thermal Shock Tester

Salt Mist Tester

Dust Proof Tester

Water Proof Tester...

Drop test with high speed camera monitor



About UniMax

A professional automotive electronics design and manufacturing subsidiary, fully owned by ASUS Group.

2015

UniMax was established as an independent company

2015

7-in-1 2DIN head unit has been released

2015

In-vehicle multimedia box has been introduced to the market

2015

World's first in-vehicle media streamingbox has been introduced to the market

2015

Intelligent Navigation System has been designed for Toyota iQ cars

2015

Launches Toyota Intelligent System (detachable tablet-based solution) for Wish and Prius C

2017

Launched smart mirroring and back control IVI

About UniMax

2018

- IVI systems has entered Hyundai Taiwan's supply chain
- Wireless Charger has entered NISSAN Taiwan's supply chain
- Gesture Control has entered CHERY China's supply chain

2019

- Cooperated with JP tier1 and launched 1st CHUD
- Became a qualified supplier to Cowin carmaker

2020

Launched Flat type AR HUD(MAVE)

2021

Launched Wi-Fi Child Presence Detection

2022

- DVR had entered Pioneer Japan's supply chain
- Wireless Charger had entered TOYOTA Japan's supply

2023

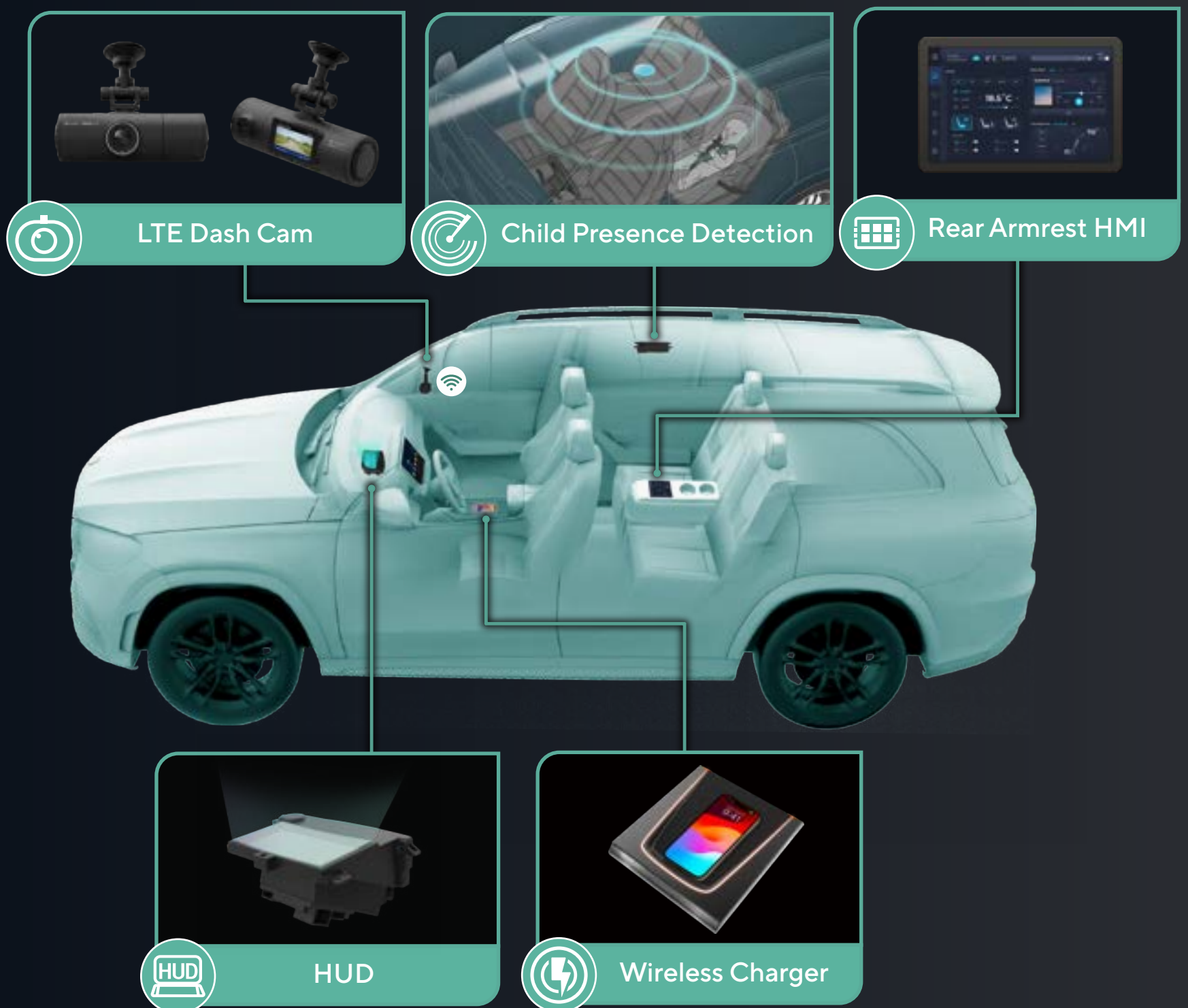
- The development of mmWAVE Child Presence Detection
- The development of advanced Qi 1.3/2.0 WLC

2025

ISO26262

UniMax Automotive Product Line-up

A professional automotive electronics design and manufacturing subsidiary, fully owned by ASUS Group.



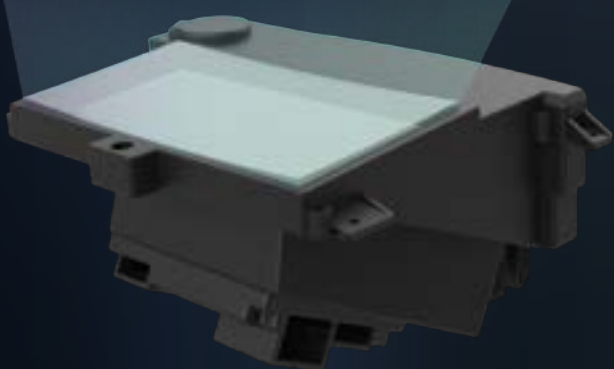
Products

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Birdbath HUD

- No wedge windshield required
- Birdbath HUD architecture enables a cost-efficient solution
- Supports longer virtual image distance (VID) to reduce ghosting
- On-axis optical path minimizes distortion and enhances image quality
- Lower anti-solar load impact compared with off-axis designs
- Birdbath module can be customized for a wide range of vehicle platforms



Combiner Type HUD



- The virtual image is 2.3 meters ahead of the driver.
- Customize the projected information, showing instant driving information, navigation data, etc.
- Automatically brightness adjustment ensures an excellent image display day and night.
- High efficiency of brightness conversion with only 1-watt power consumption, which is 50% lower than competitors.
- A compact volume with a great thermal design stabilizes high functionality.
- Mature C-HUD has been implemented and cooperated with international carmakers.



Combiner Type HUD



Specifications

Specification			Remark
Display	Panel size	1.24"	Meet car grade standard
	Resolution	336x168x3	
	Viewing Distance (mm)	2,300mm	
	Virtual image size (inch)	10.5	
	Brightness (nits)	30,000	
	Contrast ratio	500	
	Eyebox(mm)	100x30	
PGU	Operation temp.	-30~+85 °C	via UART connection with customized NAVI apps inHead-Unit or via BT connection with smart phone
	Non-operation temp.	-40~+90 °C	
	Combiner size (mm)	167 x 61mm	
Function	Turn-by turn navigation		
	Speed		from CAN Bus
	Car information		via UART connection with specific apps in Head-Unit or via BT connection with smart phone
	Speed limited warning		

Windshield Type HUD

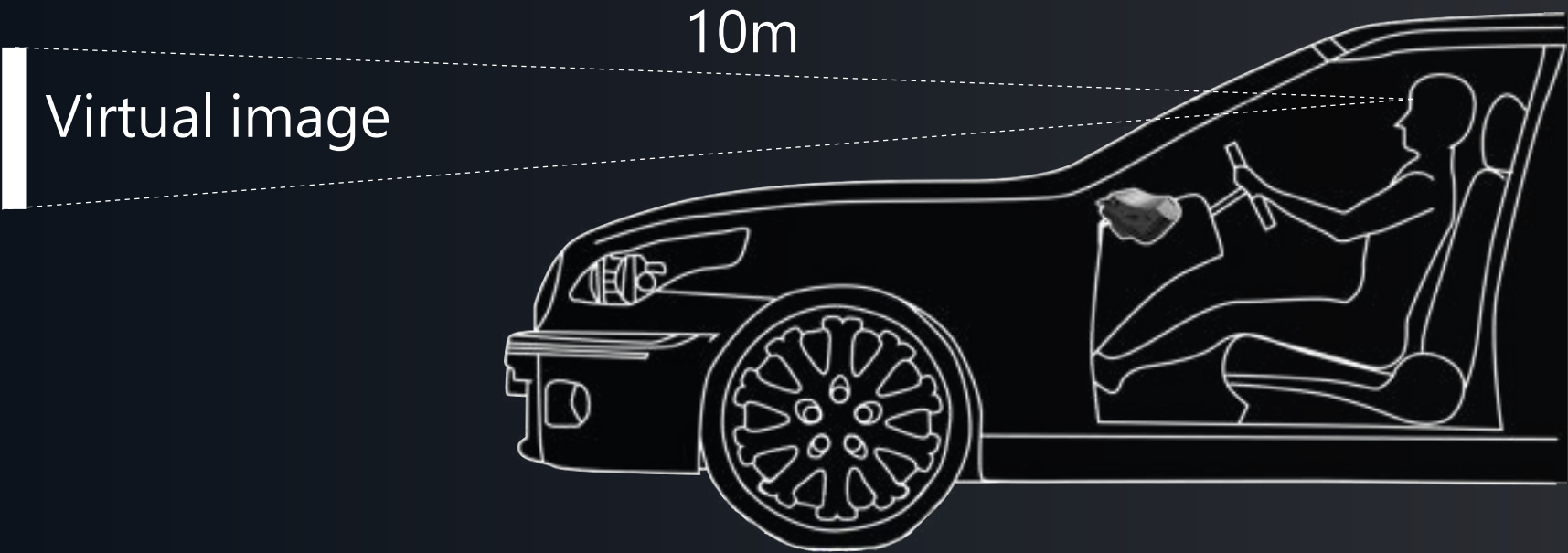
- The virtual image is metered ahead of the driver
- Excellent display during day and night
- High efficiency of brightness conversion
- Only 2 watts of power consumption, which is 50% lesser than other competitors
- Design with great thermal performance in smaller volume and lightweight benefits space-use effectively
- Customized design and total solution supplier



Windshield Type HUD

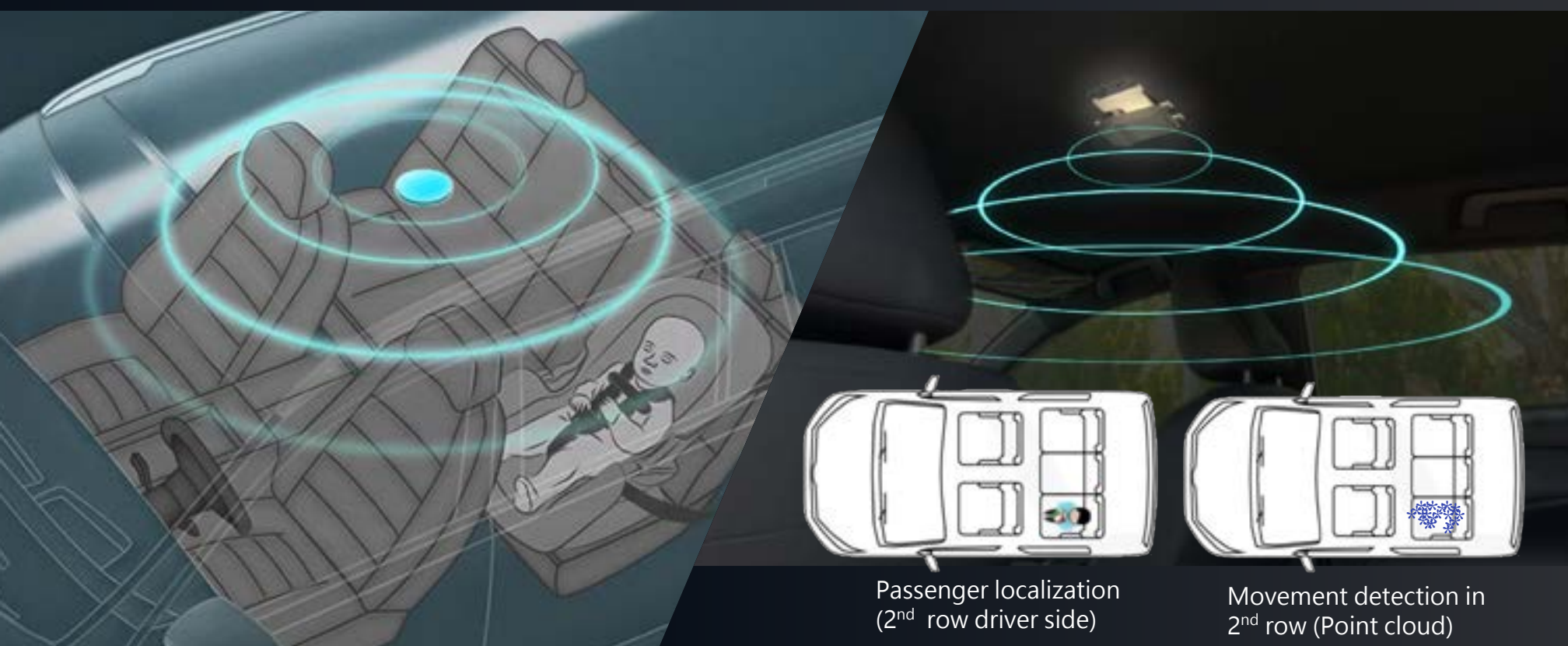
Specifications

Items	Specification
Panel size	3.1"
Resolution	800 x 480
PGU Brightness	60,000 nits
LED power	<2.5W
Image distance	$\geq 10\text{ m}$
Eye box	130 x 50 mm
Volume (Optical only, and depends on car models)	~17.3L
Working temp.	-40°C ~ 105 °C
Storage	-40°C ~ 105 °C



mmWave Child Presence Detection

- mmWave CPD utilizes radar technology on realizing compact, accurate and efficient CPD design for easy integration.
- CPD emits 60 Ghz radio signals and interprets signal reflections to provide accurate presence detection of child and adult & passenger localization.
- CPD is able to differentiate between living object and in-animated object to avoid false alarm by detecting the slightest motions of an occupant.
- With high sensitivity and wide FoV (Field of View), it can detect sleeping babies in car seats and provide wide coverage up to 2 row-seats includes foot-well.
- Designed with high accuracy & short response time (<10s), CPD is fully compliant with Euro NCAP Child Presence Detection standards.



mmWave

Child Presence Detection



mmWave Sensor

Size : 55 x 65 mm (PCBA)

Specifications

Main Chip	mmWave AoB
Algorithm	Edge AI-Driven (Machine Learning)
Detection Method	60GHz mmWave Signal
Field of View	±60°
Operating Voltage	9~16V
Rated Voltage	12V
Dimensions	55 mm x 65 mm (PCBA)
Operating Temp. Range	-30°~+85°
Storage Temp. Range	-40°~+85°
Features	(1) Child Presence Detection (CPD) (2)Occupant Localization (3) Intruder Detection (4)High-resolution point cloud sensing (5)Low-power sensing mode (6)AI/ML- based human/ non-human classification

Automotive Wireless Charger

- WPC Qi standard
- FOD (Foreign Object Detection)
- Charging efficiency up to 85%
- Customized LED status indicator lights (standby/charging/foreign object detection)
- Interference-resistant keyless function
- Thermal Solution - metal casing, fan or thermoelectric cooling (optional)
- NFC/CAN/LIN functions (optional)
- Power switch (optional)
- Supports fast charging for iPhone/Samsung PPDE/HUAWEI/OPPO/XIAOMI
- Toyota Genuine Accessory/Nissan Design Specification



Automotive Wireless Charger

Category	
PCBA TYPE	PRODUCT PICTURE
Magnetic Coil	
Two sets of Dual Coil	
Triple Coil	
Dual Coil	
Single Coil	

Automotive Wireless Charger

Specifications

Technical Spec.	• WPC Qi Standard • Type : magnetic coil, two sets of dual coil, triple coil, dual coil, single coil
Electrical Spec.	• Operating voltage : 9~16V (16~32V for customized) • Output Power : 15W, 25W or 50W max/each device • Efficiency : UP to 85%
Features	• Prevent interference Keyless Function • FOD (Foreign Object Detection) • Charging efficiency up to 85%. • LED status indicator (Standby/Charging/FOD) for customized • Power switch (option) • NFC/CAN/LIN function (option) • Thermal Solution - metal casing, fan or thermoelectric cooling (optional)

Automotive Wireless Charger Actual Case



TOYOTA



CAMRY : Indonesia, GCC
ALTIS : GCC, Taiwan



TOYOTA



NEW PRIUS : Europe, America,
Japan and South Korea

The trademark ownership is owned by the manufacturer.

Automotive Wireless Charger Actual Case



TOYOTA



YARIS CROSS : Southeast Asia,
Mexico, South America



HYUNDAI



ELANTRA : Taiwan

The trademark ownership is owned by the manufacturer.

Automotive Wireless Charger Actual Case



NISSAN



Kicks (P15 、 P15-MC) : Taiwan
New Sentra (B18) : Taiwan



COWIN AUTO



Showjet : China

The trademark ownership is owned by the manufacturer.

Automotive Wireless Charger Actual Case



CHERY

All in China

- **ARRIZO** (M1E 、 M1D 、 M1A)
- **Tiggo** (T19 、 T19MY 、 T1E 、 T1D 、 A13TFL2))
- **Omoda** (T19C)
- **Explore 06** (T1J)



The trademark ownership is owned by the manufacturer.

Cluster of Motorcycle

- Smartphone screen mirroring
- Auto dimming design
- Supporting ADAS signal display (BSD, TPMS)
- Bluetooth, Wi-Fi connectivity
- Audio-out, video-in
- Interface: CANBUS & UART
- Supporting diversity accessory such as Monitor, DVR
- Safety enhancement



Cluster of Motorcycle

Specifications

Description			
	CLIT03-WS	CLIT0BA-WS	CLIT04-WS
Panel size	3-inch	3.5-inch	4.2-inch
Image resolution	432 x 432 pixels	800 x 800 pixels	720 x 720 pixels
Panel luminance	1000 nits	1550 nits	1300 nits
Communication	CAN BUS 、Speaker Out 、 Video-in 、Manual Keys		
Connectivity	Bluetooth & Wi-Fi		
Working voltage	DC 9V ~ 16V		
Quiescent current	≤ 1mA		
Independent warning light	LED indicators		
Video input	CVBS		
Light sensor	YES		
Operating temp.	-30°C ~80°C		
Storage temp.	-40°C ~ 90°C		
Enclosure rating	IP66		
Operation System	RTOS		
Supported video codec format	H.264		
FW update	CAN BUS		
Supporting accessory	DVR 、Navigation		

Cluster of Motorcycle

Specifications

Description		
	CLIT07-WS	CLIT10-WS
Panel size	7 inch	10.25 inch
Image resolution	800 × 480 pixels	1280 x 480/1920 x 720 pixels
Panel luminance	800/1000 nits	800/1000 nits
Communication	CAN BUS 、Speaker Out 、Video-in 、Manual Keys	CAN BUS 、Speaker Out 、Video-in 、Manual Keys
Connectivity	Bluetooth & Wi-Fi	Bluetooth & Wi-Fi
Working voltage	DC 9V ~ 16V	DC 9V ~ 16V
Quiescent current	≤ 1mA	≤ 1mA
Independent warning light	LED indicators	LED indicators
Video input	CVBS	CVBS
Light sensor	YES	YES
Operating temp.	-30℃ ~ 80℃	-30℃ ~ 80℃
Storage temp.	-40℃ ~ 90℃	-40℃ ~ 90℃
Enclosure rating	IP66	IP66
Operation System	RTOS	RTOS
Supported video codec format	H.264	H.264
FW update	CAN BUS	CAN BUS
Supporting accessory	DVR 、Mirroring 、Navigation	DVR 、Mirroring 、Navigation

Cluster of Motorcycle Actual Case



Rear Armrest HMI

- Touchscreen multifunction control panel
- Manages in-car multimedia system
- High sensitivity capacitive touch for easy single-finger operation
- Power-saving sleep mode
- Integrated with rear armrest base
- High resolution
- Precision touchscreen display
- Adjustable screen brightness
- Customizable interface design
- Intuitive ICON design, easy to operate and understand
- Temperature (air conditioning) control for heating and cooling
- Adjustable volume for FM/AM/TV channels
- Adjustable air outlet direction and strength
- Operating temperature: -20 ~ 70°C
- Storage temperature: -30 ~ 80°C
- CAN BUS

* All specifications can be customized according to customer requirements



Rear Armrest HMI

Actual Case Reference Specification

HMI	Automotive grade
Size	7 inches
Color	16.7M at least
Viewing Direction	All 75°
Resolution	800*480 dots(at least)
Brightness	1000nits
Contrast Ratio	1:500
Interface	RGB
Touch Panel Type	Capacitive
Number of Touch Point	2 at least
Operation Temperature	-30~80℃
Storage Temperature	-30~80℃
CAN BUS	Implement

LTE Dash Cam

Customizable LTE Dash Cam service

- Automatically calls the rescue center at the first sign of vehicle collision, ensuring immediate assistance for customers
- Cloud-based services for Car Dashcams
 - In the event of an accident, critical recordings are promptly uploaded to the cloud for detailed information retrieval by the rescue center
 - Recordings stored in the cloud can be instantly viewed and downloaded via mobile apps
- The Wi-Fi hotspot feature of the Car Dashcam provides LTE data connectivity for personal devices within the vehicle
- Future updates via wireless (OTA) may add additional functionalities to keep the device up to date
- Parking monitoring : G-sensor detects vehicle vibrations, triggering recording
- Starlight-grade sensitivity ensures clear footage even in low-light conditions
- Real-time monitoring inside and outside the vehicle, with the option to expand to a rear camera



Customization of the appearance

LTE Dash Cam

Specifications

Image sensor	SONY CMOS Sensor
Aperture	F1.8
Resolution	1920 x 1080(FHD)
Angle of view	Wide angle lens
GNSS	GPS/GLONASS/Galileo/QZSS
G-sensor	3 Axis
LTE module	Cat 4
Wi-Fi	802.11 a/b/g/n/ac
Bluetooth	5.1
Speaker/Microphone	Yes
MicroSD Card Socket	Micro SDXC
Nano SIM Slot	Nano SIM
Operation Guarantee Environment Condition	-10°C ~ +60°C
Storage Guarantee Environment Condition	-20°C ~ +85°C

* Open for customization business.

* Specifications can be adjusted according to customer’s request.





UniMax

ASUS® Group

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