古河AS株式会社
FURUKAWA AUTOMOTIVE SYSTEMS INC.

FURUKAWA ELECTRIC GROUP

User Manual for

24GHz Multi Mode Radar

Model: 24GMMR20 (24GHz Pulse radar for vehicle use)

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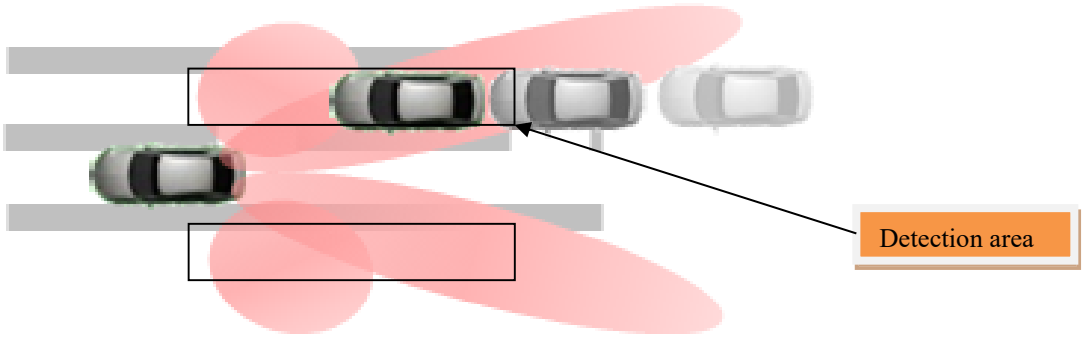
24GHz High Resolution Multi-Mode Radar

Furukawa’s new 24-HR-MMR radar will improve safety,
comfort of passengers, and will provide pedestrian
protection function to automotive.

Product Features
・Small dimensions
・Behind bumper installation
・Low power consumption
・Multi-mode operation for plural applications
・Automotive interface with warning information and /or target lists

Operating temperature：－40℃~＋85℃
Operating voltage：+8V~+16V(typ.12V)　※Vehicular battery power
Current consumption：240mA(typ.)@13.5V ※Depending on operating voltage.
Operating frequency ：24.15GHz

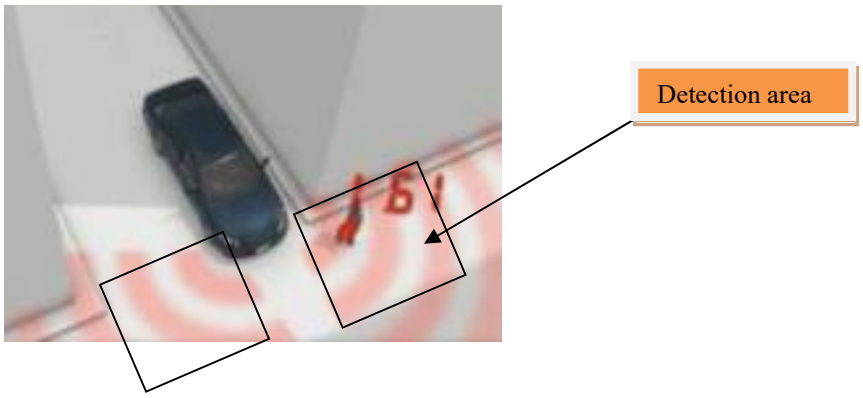
1. BSM System
   The Blind Spot Monitoring(BSM) system is designed to assist the driver by monitoring the detection areas on both sides of the vehicle to the rear.
   BSM will alert the driver to possible vehicles in these areas in certain situations such as when changing lanes on roads and freeways.



Multi-Mode operation
Regarding car information on the CAN-bus, radar can change its application mode to fit for the situation automatically.

Application:
  Blind Spot Detection
  Lane Change Assist
  Rear Cross Traffic Alert

2. FCTA System
   The Front Cross Traffic Alert(FCTA) system is designed to assist the driver by monitoring the detection areas on both sides of the vehicle to the front.
   FCTA function is a function of performing a warning to the driver when the object approaching from the front side satisfy the warning conditions.



Application:
  Front Cross Traffic Alert
  Intersection Cross Traffic Alert

3.Sensor Components

The 24GMMR20 sensor consists of the following components:

- Housing: Plastic
- EMC Shield:
- RF and ECU board:
- Radome: Plastic

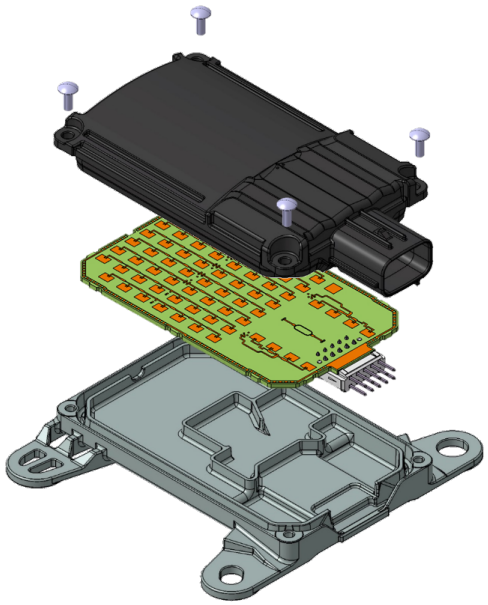


Figure 1: 24GMMR20 Components

FCC ID：2AHE9-24GMMR20

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This
device may not cause harmful interference, and (2) this device must accept any interference received, including
interference that may cause undesired operation.

FCC CAUTION
Changes or modifications not expressly approved by the party responsible for compliance could void the user's
authority to operate the equipment.

RSS-Gen Sec 8.4 User manual notice

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditons:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'éme4eur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
1) L'appareil ne doit pas produire de brouillage;
2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.