

User manual

DCM (Data Communication Module)

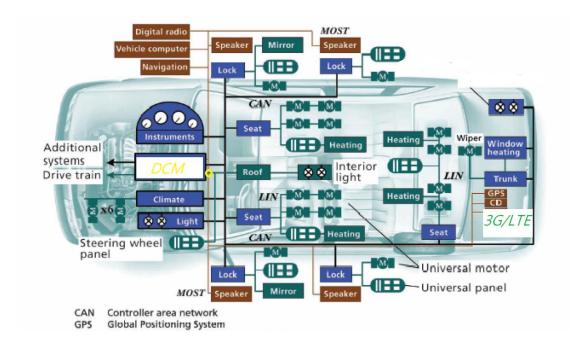
5-104348-192

DENSO CORPORATION



Installation

Installed by the depot operators in the car's engine room.

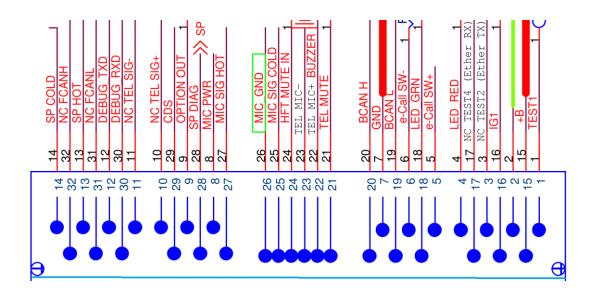


CAN bus connected to the vehicle computer,

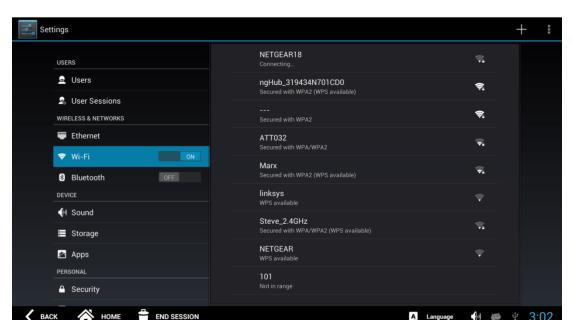
for data transmission and other control.



CAN bus define



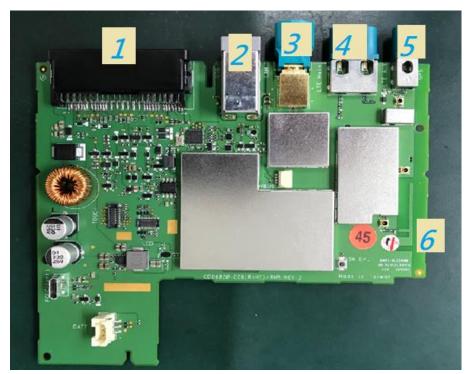
RF, speaker, GPS, MIC control by Android OS





DCM function instruction

- 1. Power supply and data transmission
- 2. USB port, data transmission
- 3. Connected to the camera module
- 4. LTE antenna connector
- 5. GPS antenna connector
- 6. Support WIFI communication



Use for car communication.

DCM will be installed in the space that is near dashboard, similar to 1D or 2D car entertainment device. DCM will connect with car computer and exchange information via CAN bus and be responsible for communicating with external system via WiFi or LTE(e.g. car control center, 911 for emergency call...)

This radio transmitter FCCID: H8NCDD6020 has been approved by FCC to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Antenna List

N	lo.	Manufacturer	Part No.	Antenna Type	Peak Gain
1		ASKEY	CDD6020	PIFA Antenna	2.74dBi for 2.4GHz

For 3G

No	Manufacturer	Part No	Peak Gain
1	STAF	N/A	2.56 dBi for 746-960 MHz
		(WWAN Main or Aux)	3.32 dBi for 1575.42-2170 MHz
2	taoglas	MA250.A.LBI.001	0.99 dBi for 824-894 MHz
		(WWAN Main or Aux MIMO-1 Cable 3m)	3.29 dBi for 1710-1880 MHz
			3.29 dBi for 1850-1990 MHz
3	taoglas	MA250.A.LBI.001	0.44 dBi for 824-894 MHz
		(WWAN Main or Aux MIMO-2 Cable 3m)	3.23 dBi for 1710-1880 MHz
			1.77 dBi for 1850-1990 MHz

For LTE

No.	Manufacturer	Part No.	Peak Gain
1	STAF	N/A	2.56 dBi for 746-960 MHz
		(WWAN Main or Aux)	3.32 dBi for 1575.42-2170 MHz
			2.69 dBi for 2496-2690 MHz
2	taoglas	MA250.A.LBI.001	0.42 dBi for 698-803 MHz
		(WWAN Main or Aux MIMO-1 Cable 3m)	0.99 dBi for 824-894 MHz
			3.29 dBi for 1710-1880 MHz
			3.29 dBi for 1850-1990 MHz
			2.35 dBi for 2490-2690 MHz
3	taoglas	MA250.A.LBI.001	2.95 dBi for 698-803 MHz
		(WWAN Main or Aux MIMO-2 Cable 3m)	0.44 dBi for 824-894 MHz
			3.23 dBi for 1710-1880 MHz
			1.77 dBi for 1850-1990 MHz
			2.37 dBi for 2490-2690 MHz

Operating temperature:-30~60 degree.



FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- -Reorient or relocate the receiving antenna.
- -Increase the separation between the equipment and receiver.
- -Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- -Consult the dealer or an experienced radio/ TV technician for help.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

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.



End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: H8NCDD6020"

Information for the OEMs and Integrators

The following statement must be included with all versions of this document supplied to an

OEM or integrator, but should not be distributed to the end user.

1) This device is intended for OEM integrators only.

This module is for development test only, not for sale. Only professionals(OEMs) can install it.