

## OD1025-01 Theory of Operation:

The OD1025-01 device is an infotainment display used in various outdoor vehicle applications.

The device is powered by an on-vehicle 12V battery.

The microprocessor is the Renesas RCAR G1N.

The device uses three identical Bluetooth modules to pair between a phone and two headsets to stream audio.

The output power of each Bluetooth module is 8dBm.

The BT antennas are ceramic chip type with a gain of 1.5 dBi, typ peak.

The BT antennas have a frequency range of 2.4 to 2.5GHz.

The BT antennas are Johanson P/N 2450AT18D0100.

The modulation type is GFSK.

This device uses BR/EDR modes for BT operation. (BLE is not used for this application).

The device is also capable of communicating over WiFi to download Over The Air software updates.

The WLAN module FCC ID is Z64-WL18DBMOD.

The WLAN module IC is 451I-WL18DBMOD.

The output power of the WiFi module is 17.3dBm max.

The WLAN antenna is the Pulse W3006.

The WLAN antenna is a Dualband WLAN ceramic chip type with a gain of 3.2dBi peak in the 2.4GHz band and a gain of 4.2dB- peak in the 5GHz band.

The WLAN antenna has a frequency range of 2.412 to 2.484GHz, 2.4Ghz Band.

The WLAN antenna has a frequency range of 4.910 TO 5.825GHz, 5GHz Band.

The WiFi channels used are 32, 34, 36, 38, 40, 42, 44, 46, 48, 52, 54, 56, 58, 60, 62, 64, 68, 96, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 132, 134, 136, 138, 140, 142, 144, 149, 151, 153, 155, 157, 159, 161, 165