July 12, 2017 Microwave Division New Japan Radio Co., Ltd.

Instructions of NJR4234 Evaluation Kit

Evaluation Kit



- Preparation
 - 1. Install ".NET Framework (ver 4.5 or latest version)" and CP210x Windows Drivers enclosed.
 - 2. Connect the evaluation kit of NJR4234 to PC with USB cable.
 - 3. Start GUI software of "NJR4234.exe".
- Explanation of GUI software

NR4234 viewer	DISTANCE	• Peak1 • Peak2 • Peak3
36 E 24		
Vew 3 Vscale 60 → X scale 2000 → Vew Select Peak1 Peak2 Peak3	CLEAR STOP Command I Parameter I Parameter 2 Postivity Pow Adjust I Peak Destance 5 Peak 28.0 Peak 63.0 Peak 63.0 No Peak 83.2 SAVE Command Power	CLEAR
TTC New Japan Radio Co. Ltd.	Send Lock 29.5[dB] 7	00 V Close

1. Connection

Select COM port and click Open button (Open button turns to Close button, and WINDOWS CLOSE button hides).

- Distance graph
 Vertical: Distance of peak power on moving objects in meter.
 Horizontal: Point of measurement, one point is around 50 msec.
- 3. Graph Control panel
 - \succ X scale/Y scale: graph scale
 - View Select: select draw point
 - CLEAR: Clear graph
 - STOP/START: Stop/Restart Distance graph
 - > SAVE: Save the distance of Peak1/Peak2/Peak3 & power data.
- 4. Command send panel

Command	Command
Control Parameter1 Parameter2 Pow Adjust	Control Parameter1 Parameter2 Pow Adjust
Control SoftReset Version Gain OFF ↓ 29.5 ↓ Sleep ON ↓	Parameter 1 ○ Output select ○ Calibration ■ Range select Max 100 Min 0
Send	Send
Control Parameter1 Parameter2 Pow Adjust Parameter2 M_Average(A/D) 2 Interference avoidance ON •	Command Control Parameter1 Parameter2 Pow Adjust Sensitivity 1 Peak emphasis 5
Send	Send

Command panel is used to send commands for MCU.

How to use:

- 1. Select command's radio button (and select parameters).
- 2. Put "Send button".
- Control panel
 - SoftReset: Software reset command.
 - > Version: Read software version.
 - Gain: ON->Auto Gain mode, OFF->Gain fixed right selectbox value(29.5 or 41.5dB)
 - Sleep: ON->Sleep mode, OFF->Sleep mode is ended.

- Parameter1 panel
 - > Output select: Select output peak data(Unselected peak become 0xffff).
 - > Calibration: Send calibration command (DC offset is canceled).
 - Range select: Select target search range (170~0m).
- Parameter2 panel
 - M_Average(A/D): Moving average number of A/D signal.
 (0: Not used, 1: 2 times, 2: 4times)
 - Interference avoidance: ON->Processing cycle(50ms)+random time(0~10ms, 10ms/256 step) OFF-> Processing cycle fixed(50ms).
- Pow Adjust Power Adjuster is function to fix FFT peak power, and ignore low-power signal.
 - > Sensitivity: If input signal power under this value, processing is not done.
 - Peak emphasis: Largest peak is emphasized. This number is ratio of largest peak and other peaks. Peaks that under ratio are ignored.
- 5. Output data

There are output data of NJR4234.

- Distance: Distance to target. MAX 3 targets (=FFT peaks).
- > Gain: The present value of Gain.
- > Power: Power of A/D signal. This value compared to "Sensitivity" value.
- > STATUS(Lock detect): If PLL is unlocked, this field change "Unlock".
- 6. TEXT BOX and CLEAR button
 - > To check command (Tx and Rx). Put CLEAR button to clear TEXT BOX.
- Other
 - > Setting is recorded in a 'NJR4234.ini' file.