Introducing a new development tool to the PAN1026 family, the PAN1026 Experimenter Kit supplements Panasonic’s evaluation kit (EVAL_PAN1026) by emulating an application environment where a Bluetooth RF module is controlled by an external processor, an environment that reduces both software and hardware development time. This kit is for design engineers using Panasonic’s PAN1026 Bluetooth SmartReady® RF Module with embedded Bluetooth Classic and Bluetooth Low Energy protocol stacks and profiles and based on Toshiba’s TC35661, baseband controller and ARM7TDMI CPU SOC.

The PAN1026 Experimenter Kit integrates a PAN1026 RF module, Toshiba’s TMPM369 ARM Cortex-M3 based MCU with 512KB flash memory and serial, USB, CAN and Ethernet interfaces on a single board to eliminate hardware prototyping in the project’s development stages. A J-Link JTAG debugger interface incorporated in the Experimenter kit board is compatible with commonly available third party toolchains such as those from Atollic, IAR and Keil. The embedded MCU also supports standard interfaces on the board for Ethernet, CAN, USB (host and device), serial and UART connection.

The embedded dual mode Bluetooth Classic and Bluetooth Low Energy protocol stacks and profiles may be accessed using two command sets. Toshiba’s TCU command set consisting of over 100 commands is extremely flexible, allowing full access to the PAN1026’s resources and I/O. A superset of the TCU commands, (TCU Superset – TCUS) where one command executes a routine of TCU commands to perform common BT functions, is available using an Abstract Application Programming Interface – A2PI. The A2PI resides and executes Experimenter Kit’s Cortex-M3 MPU.

Application examples are available that can be compiled to run on the TMPM369 MCU with FreeRTOS™. (The operating system is available from Real Time Engineers Ltd). The application software includes a set of BLE standard reference profiles and a design guide on how to develop a proprietary BLE profiles.

**Experimenter Kit Contents**

- Toshiba TOPAS369BT Board
- Segger J-Link JTAG/SWD Emulator with USB interface including J-Link 19-pin Cortex-M Adapter and USB Cable

**Suggested IDEs**

- Keil MDK TM with µVision® IDE/Debugger
- IAR® Kickstart Edition
- Atollic® TrueStudio® Lite

**Application Examples**

- SPP Over BLE Application
- BLE Heart Rate Measurement Over BLE Application
EVAL_PAN1026EMK Physical Interfaces

- **Header Connector**
- **Serial Connector**
- **DC Supply**
- **Debug/Trace**
- **Ethernet**
- **USB Host**
- **CAN Bus**
- **USB Device**

### PAN1026 Technical Characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiver Sensitivity</td>
<td>-87 dBm typ.</td>
<td>Ideal Signal</td>
</tr>
<tr>
<td>Output Power</td>
<td>+4 dBm typ.</td>
<td>@ 50 Ohm Antenna Pin</td>
</tr>
<tr>
<td>Power Supply</td>
<td>1.7 to 3.6 V</td>
<td>Single Voltage Operation</td>
</tr>
<tr>
<td>Transmit</td>
<td>46 mA</td>
<td>ACL, DH1</td>
</tr>
<tr>
<td>Receive</td>
<td>46 mA</td>
<td>ACL, DH1</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40 to +85°C</td>
<td></td>
</tr>
</tbody>
</table>

### Additional Information

For detailed specification information on the EVAL_PAN1026EMK or the PAN1026 Place and Play Bluetooth Module, visit our website at:

http://www.panasonic.com/rfmodules/