

PBLN52832 DataSheet

V1.2.3

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Revision History

No	Version	Date	Part	Description
1	1.0.0	2017-01-25	ALL	First release of the product specification
2	1.1.0	2017-02-20	3,7	Pin 1 GND delete, Pin number renaming. Pin account 42 pin to 41 pin.
3	1.2.0	2017-02-21	ALL	ADD Introduction and Reference. Update table of contents.
4	1.2.1	2017-05-02	7	Update certification
5	1.2.2	2017-07-24	7	Update certification
6	1.2.3	2017-08-25	1	Update Spec.

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1. PBLN52832 Introduction

Features

- Single chip, highly flexible, 2.4 GHz multi-protocol SoC
- 32-bit ARM Cortex-M4F Processor
- 1.7v to 3.6v operation
- 512kB flash + 64kB RAM
- Supports concurrent Bluetooth low energy/ANT protocol operation
- On-chip NFC tag for Out-of-Band (OOB) pairing
- Up to +4dBm output power
- -96dBm sensitivity, Bluetooth low energy
- Thread safe and run-time protected
- Event driven API
- On air compatible with nRF24L and nRF24AP series
- 2 data rates (2Mbps/1Mbps)
- PPI - maximum flexibility for power-efficient applications and code simplification
- Automated power management system with automatic power management of each peripheral
- Configurable I/O mapping for analog and digital I/O
- 3 x Master/Slave SPI
- 2 x Two-wire interface (I²C)
- UART (RTS/CTS)
- 3 x PWM
- AES HW encryption
- Real Time Counter (RTC)
- Digital microphone interface (PDM)
- On-chip balun

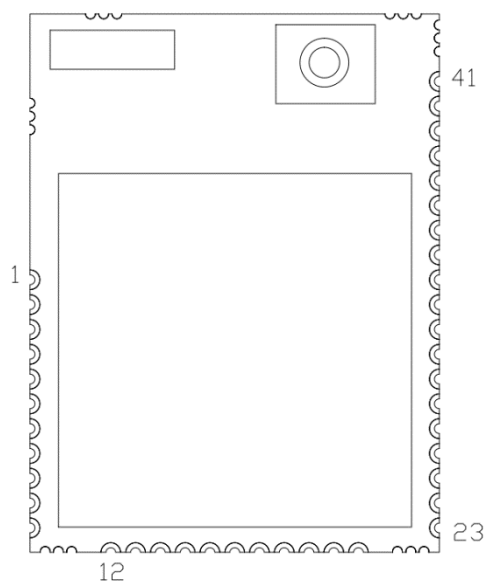
Applications

- Internet of Things (IoT)
- Wearables
- SmartHome sensors
- Connected white goods
- Computer peripherals
- Voice-command smart remotes
- A4WP 'Rezence' wireless charging
- Beacons
- Sports and fitness sensors and hubs
- Connected health products
- Smart watches
- RC Toys
- Interactive games
- Building automation and sensor networks

Specifications

Manufacturer:	Nordic Semiconductor
RoHS:	 RoHS
Type:	Bluetooth
Core:	ARM Cortex M4F
Operating Frequency:	2.4 GHz
Maximum Data Rate:	2 Mb/s
Output Power:	+ 4 dBm to - 20 dBm
Sensitivity:	- 96 dBm
Operating Supply Voltage:	1.7 V to 3.6 V
Supply Current Receiving:	5.4 mA
Supply Current Transmitting:	5.3 mA
Program Memory Size:	512 kB
Operating Temperature Range:	- 40 C to + 85 C
Package / Case:	QFN-48
ADC Resolution:	12 bit
Brand:	Nordic Semiconductor
Data Bus Width:	32 bit
Data RAM Size:	64 kB
Data RAM Type:	SRAM
Interface Type:	2-Wire, I2C, I2S, PDM, SPI, UART
Maximum Clock Frequency:	64 MHz
Maximum Operating Temperature:	+ 85 C
Minimum Operating Temperature:	- 40 C
Mounting Style:	SMD/SMT
Number of ADC Channels:	8 Channel
Number of I/Os:	32 I/O
Number of Timers:	5 x 32 bit
Processor Series:	nRF52
Program Memory Type:	Flash

2. PBLN52832 Pin Definitions

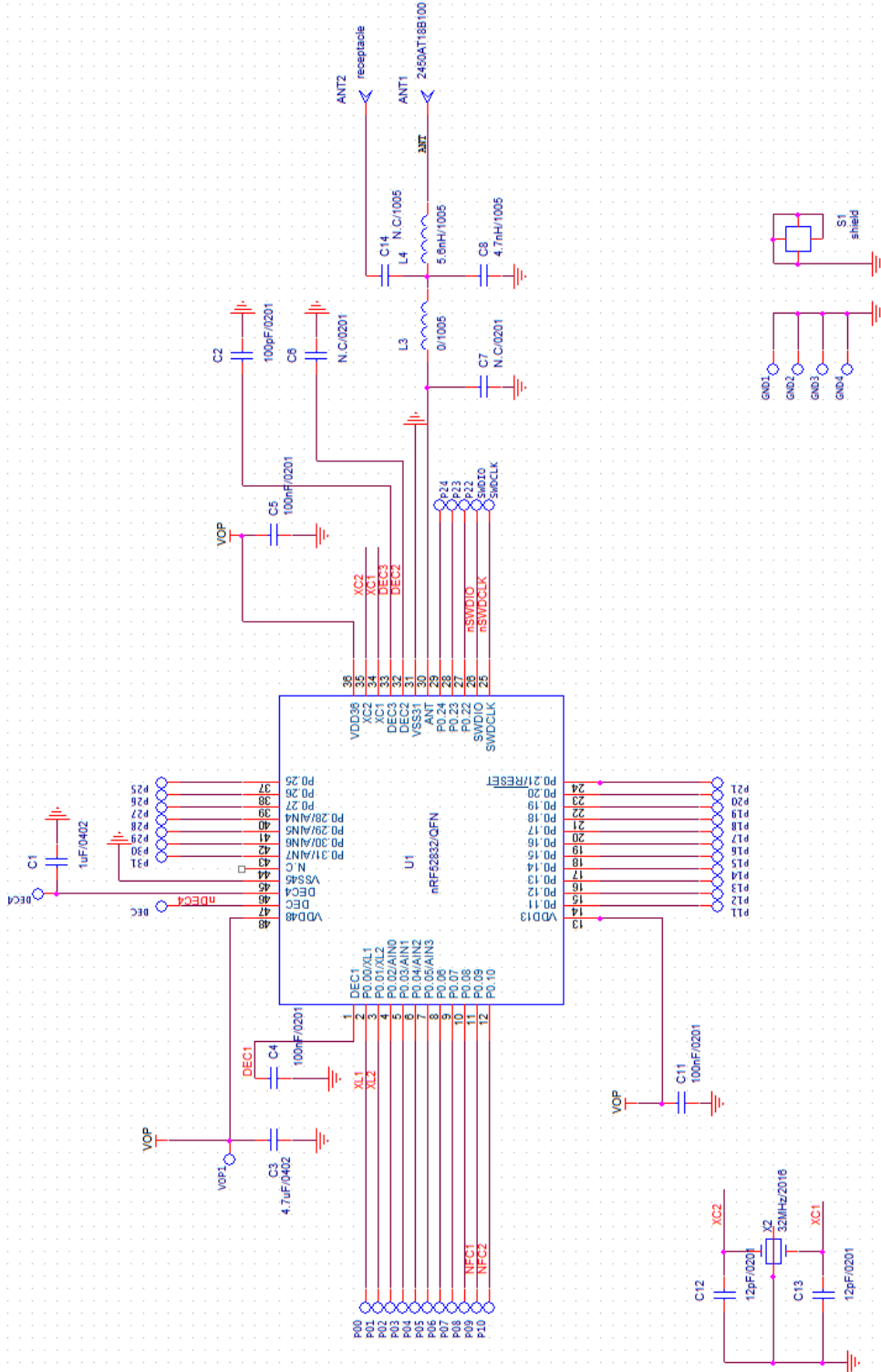


Pin #	Pin Name	nRF52832 QFN Pin	Comment
11,23,37,38	GND	31,45	VSS GND
1	VOP	13,36,48	VDD
2	P25	37	
3	P26	38	
4	P27	39	
5	P28	40	AIN4
6	P29	41	AIN5
7	P30	42	AIN6
8	P31	43	AIN7
9	DEC4	46	
10	DEC	47	

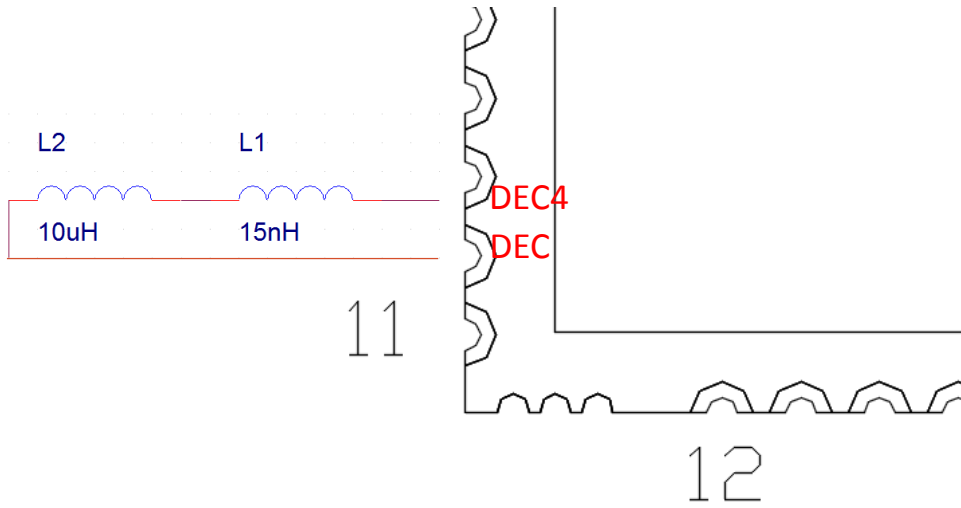
Pin #	Pin Name	nRF52832 QFN Pin	Comment
12	P00	2	XL1
13	P01	3	XL2
14	P02	4	AIN0
15	P03	5	AIN1
16	P04	6	AIN2
17	P05	7	AIN3
18	P06	8	
19	P07	9	
20	P08	10	
21	P09	11	
22	P10	12	
24	P11	14	
25	P12	15	
26	P13	16	
27	P14	17	
28	P15	18	
29	P16	19	
30	P17	20	
31	P18	21	
32	P19	22	
33	P20	23	
34	P21	24	/RESET
35	SWDCLK	25	
36	SWDIO	26	
39	P22	27	
40	P23	28	
41	P24	29	

3. PBLN52832 Schematic

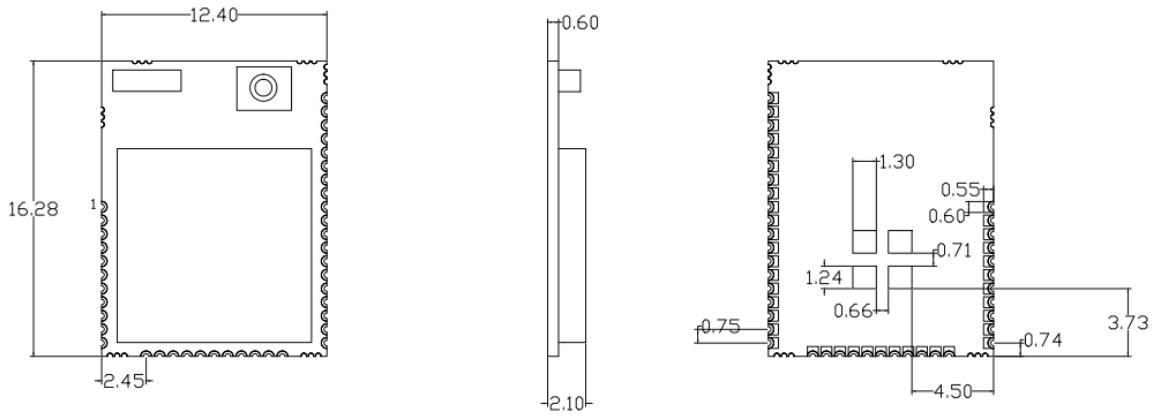
Internal LDO mode



When using 'DC / DC Regulator mode', it is necessary to configure external circuit.

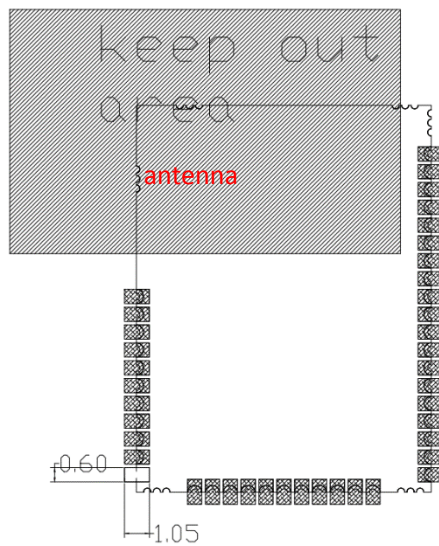


4. PBLN52832 Dimension



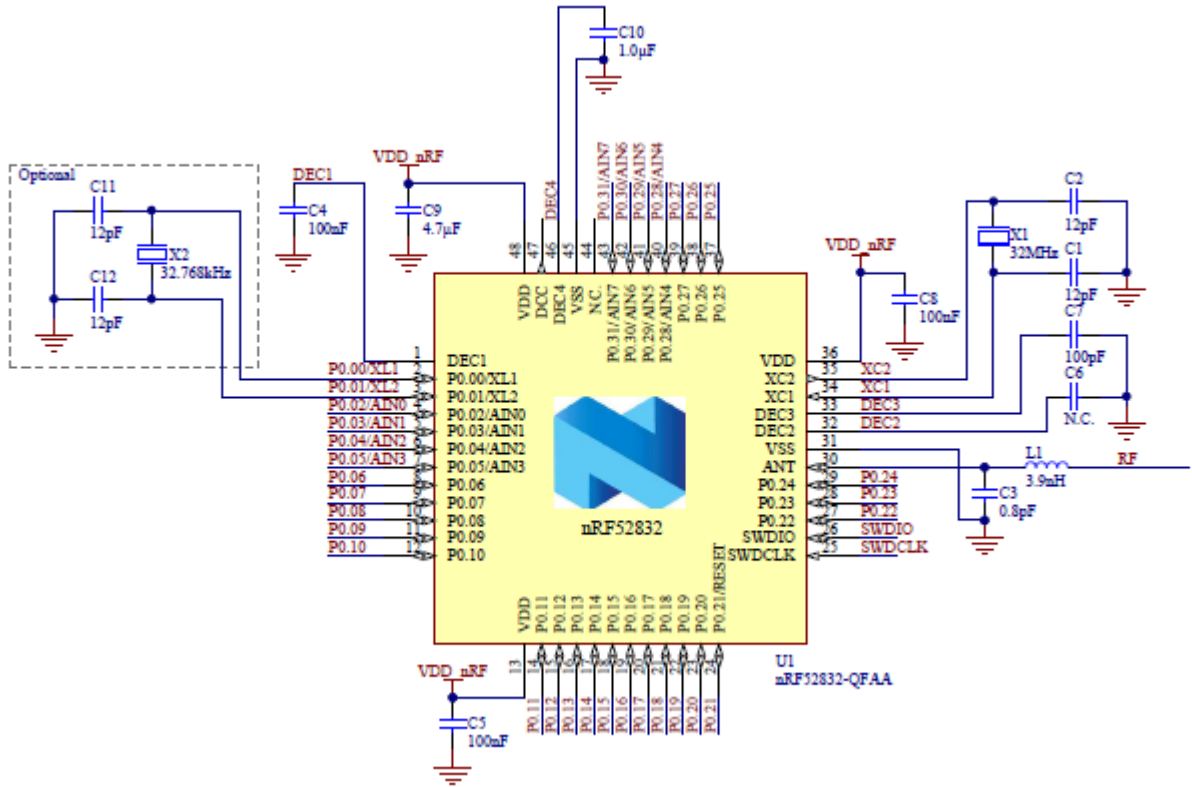
tolerance : ± 0.1 unit : [mm]

5. PBLN52832 Pcb Artwork matters that require attention

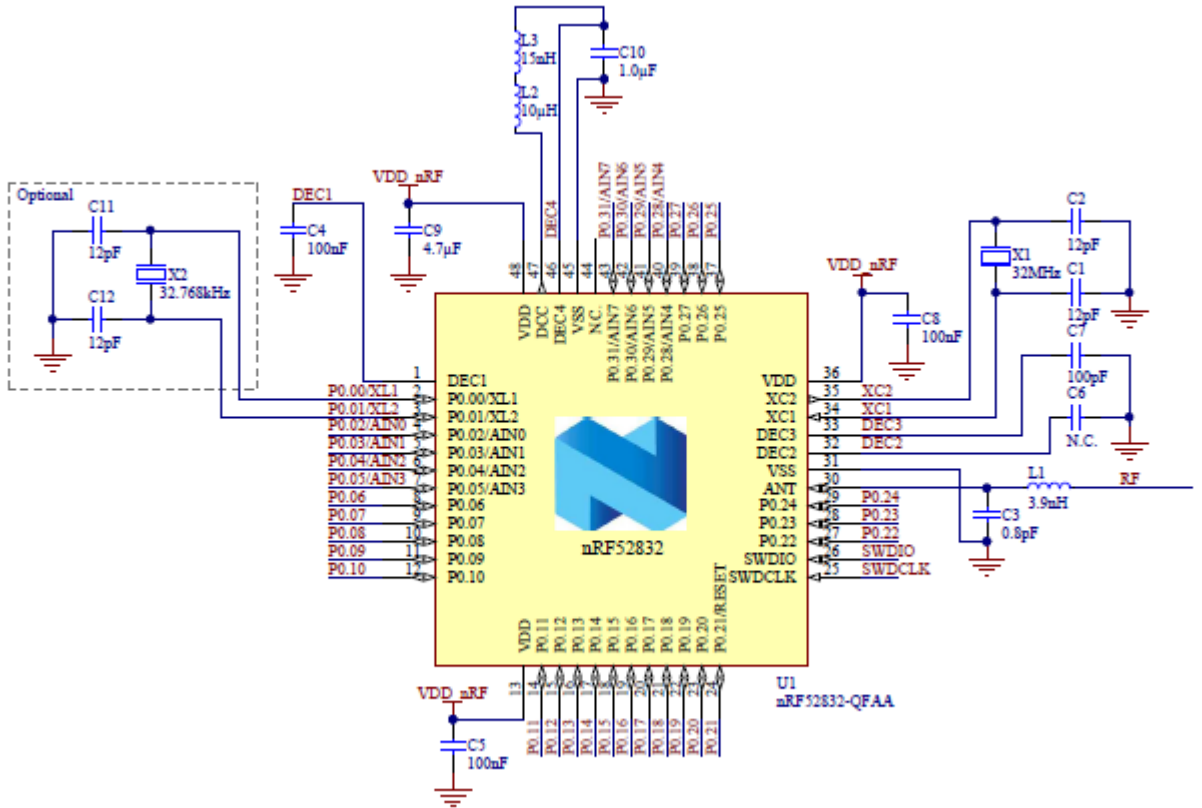


6. PBLN52832 Reference

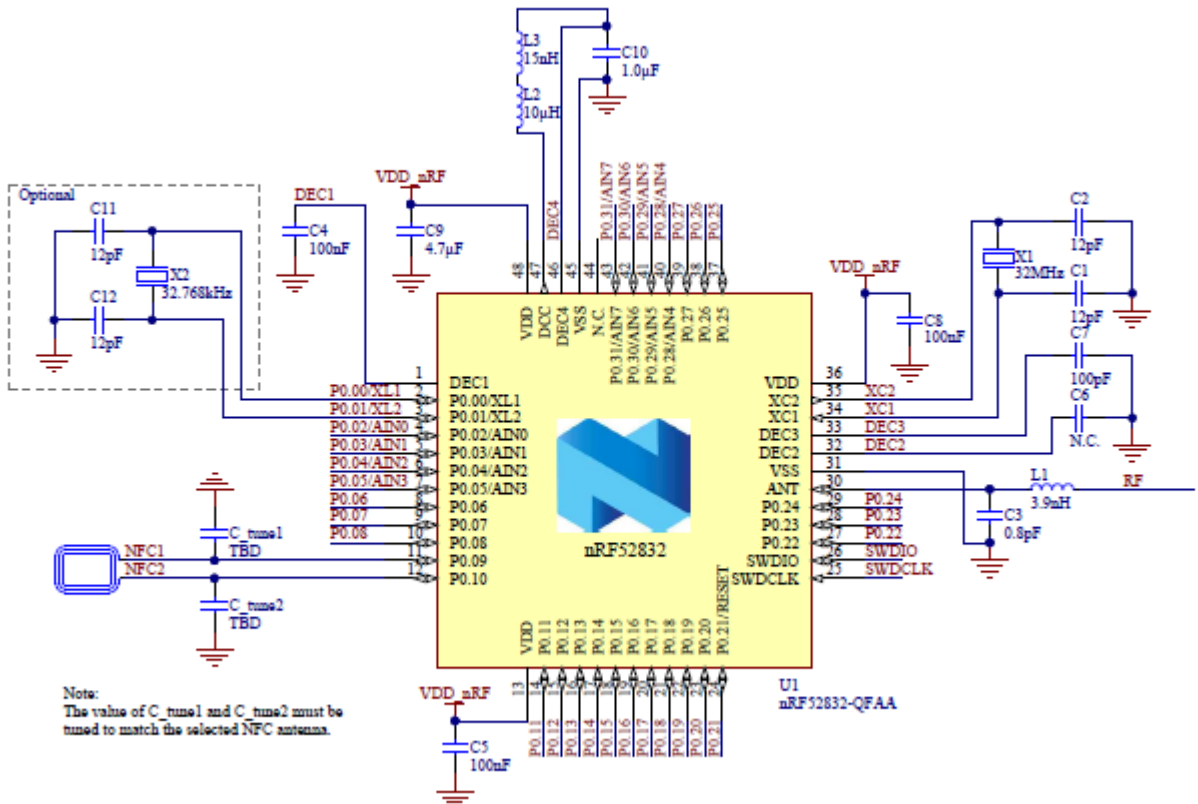
6-1. internal LDO setup



6-2. DC/DC regulator setup




6-3. DC/DC regulator and NFC setup

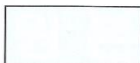


7. Certification

7-1. KC

4277-A2D4-2117-8098

방송통신기자재등의 적합인증서 <i>Certificate of Broadcasting and Communication Equipments</i>	
상호 또는 성명 <i>Trade Name or Applicant</i>	(주) 프로차일드
기자재 명칭 <i>Equipment Name</i>	특정소출력 무선기기(무선데이터통신시스템용 무선기기)
기본모델명 <i>Basic Model Number</i>	PBLN52832
파생모델명 <i>Series Model Number</i>	
인증번호 <i>Certification No.</i>	MSIP-CRM-pro-PBLN52832
제조사/제조국가 <i>Manufacturer/ Country of Origin</i>	(주) 프로차일드 / 한국
인증연월일 <i>Date of Certification</i>	2017-04-28
기타 <i>Others</i>	
<p>위 기자재는 「전파법」 제58조의2 제2항에 따라 인증되었음을 증명합니다. It is verified that foregoing equipment has been certificated under the Clause 2, Article 58-2 of Radio Waves Act.</p> <p style="text-align: right;">2017년(Year) 04월(Month) 28일(Date)</p> <p style="text-align: center;">국립전파연구원장 </p> <p style="text-align: center;"><i>Director General of National Radio Research Agency</i></p> <p style="text-align: center; font-size: small;">* 인증 받은 방송통신기자재는 반드시 "적합성평가표시"를 부착하여 유통하여야 합니다. 위반시 과태료 처분 및 인증이 취소될 수 있습니다.</p>	



7. Certification

7-2. SIG

QDL Bluetooth® qualified design listing

The Bluetooth SIG Hereby Recognizes

PROCHILD INC

Member Company

PBLN52832

Qualified Design Name

Declaration ID: **D035418**

Qualified Design ID: **96748**

Specification Name: **4.2**

Project Type: **End Product**

Model Number: **PBLN52832**

Listing Date: **19 May 2017**

Hardware Version Number: **1.2**

Assessment Date: **19 May 2017**

Software Version Number:

This certificate acknowledges the *Bluetooth*® Specifications declared by the member are achieved in accordance with the Bluetooth Qualification Process as specified within the Bluetooth Specifications and as required within the current PRD

