



Current consumption estimation tool



Features

- Allows measurement of average current consumption for various use cases
- · Excellent correlation with real measurements
- · User-friendly, easy to parameterize
- · Available input parameters:
 - Advertising/ scanning/ connection(slave or master)
 - General settings: power/ payload/intervals/ battery capacity
- Available output data:
 - Average current estimation
 - Battery life estimation
 - Data rate estimation
- · PC-based application
- · Output report in PDF
- · Save/ restore configuration
- Graphical plot of the current consumption during active phase
- · Save plot in png format

Description

The Current consumption estimation tool can predict the current consumption, under different conditions, of some RF devices.

Current supported devices are: BlueNRG-MS, BlueNRG-2N Bluetooth® Low Energy wireless network processors as well as the BlueNRG-1, BlueNRG-2, BlueNRG-LP, BlueNRG-LPS Bluetooth® Low Energy systems-on-chip.

This application allows to provide an accurate estimation of the specified RF devices power consumption and related battery life, under various operating conditions.

As a pure simulation tool, it should not, however, be considered as a substitute for real measurements taken on the actual silicon device.

Product summary	
BlueNRG current consumption estimation tool	STSW-BNRG001
Bluetooth® low energy/ wireless system-on-chip	BlueNRG-1
	BlueNRG-2
	BlueNRG-2N
	BlueNRG-LPS
	BlueNRG-LP
	BlueNRG-MS
Evaluation platform based on the BluNRG- MS, BlueNRG-1, BlueNRG-2, BlueNRG-LP	STEVAL-IDB007V2
	STEVAL-IDB008V2
	STEVAL-IDB008V1M
	STEVAL-IDB009V1
	STEVAL-IDB011V1
	STEVAL-IDB012V1
	STEVAL-IDB011V2
	STEVAL-IDB005V1
	STEVAL-IDB006V1



Product summary

Applications wireless connectivity

DB2288 - Rev 7 page 2/5



1 STSW-BNRG001 main window

Current Consumption Estimation v.3.0.0 - □ × File Plot Settings Window Help BlueNRG-LPS DC-DC Converter Active Time of active phase (ms): BLE-Advertising Radio Event 0 ~ TX Output Power (dBm) Average current during the active phase (mA): 3.31 3.30 0 Supply Voltage (V) Radio Coding Advertising Data Length (byte) Retention RAM (KB) Advertising Interval (ms) ٠ Battery capacity (mAh): 230 Slave SCA (ppm) 100 **‡** DIRECT_HSE 2 year(s), 8 month(s), 0 day(s) Radio Clock (MHz) ΔT:300us μ:0.36mA (T1=300 - T2=600) Time (kus)

Figure 1. STSW-BNRG001 main window

DB2288 - Rev 7 page 3/5



Revision history

Table 1. Document revision history

Date	Version	Changes
04-Apr-2014	1	Initial release.
08-Jun-2015	08-Jun-2015 2	The document has been updated to refer to both BlueNRG and
00-Juli-2015 2	BlueNRG-MS devices.	
30-Jun-2016	3	Added reference to BlueNRG-1
19-Jun-2017 4	4	Added reference to BlueNRG-2
	Updated Figure 1. STSW-BNRG001 main window	
28-Jul-2020 5	5	Updated the cover page and the Figure 1. STSW-BNRG001 main window.
	3	Added reference to the BlueNRG-LP.
09-Dec-2020	6	Updated Figure 1. STSW-BNRG001 main window.
01-Jul-2022	7	Section Description, Section Product status / summary and Figure 1. STSW-BNRG001 main window

DB2288 - Rev 7 page 4/5



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DB2288 - Rev 7 page 5/5