BC26

Power Consumption Report

NB-IoT Module Series

Rev. BC26_Power_Consumption_Report_V1.0

Date: 2018-03-14

Status: Preliminary

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About the Document

History

Revision	Date	Author	Description
1.0	2018-03-14	Speed SUN	Initial

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1 Introduction

This document describes the power consumption of BC26 module under different states, which can help customers quickly understand the current consumption.

2 Product Consumption

The following illustrate the power consumption of BC26 under NB-IoT network.

2.1.1. Power Consumption under Different Modes

Table 1: Power Consumption under Different States

Description	Conditions	Typ.	Max.	Unit
Power off	Leakage Current	3.7	-	μA
Power Saving Mode	PSM @Real Network	4.1	-	μA
Sleep Mode	DRX=TBD @Real Network	TBD	-	mA
	eDRX=81.92s, PTW=40.96s	TBD	-	μA
	eDRX=20.48s, PTW=10.24s	TBD	-	uA
Idle Mode	@Real Network	5.4	-	mA
Active Mode	Band 1, 23dBm @Instrument	122	335	mA
	Band 3, 23dBm @Instrument	121	329	mA
	Band 5, 23dBm @Instrument	124	343	mA
	Band 8, 23dBm @Instrument	145	413	mA
	Band 20, 23dBm @Instrument	134	378	mA
	Band 1, 0dBm @Instrument	27	62	mA
	Band 3, 0dBm @Instrument	29	61	mA
	Band 5, 0dBm @Instrument	25	49	mA
	Band 8, 0dBm @Instrument	25	49	mA
	Band 20, 0dBm @Instrument	23	48	mA

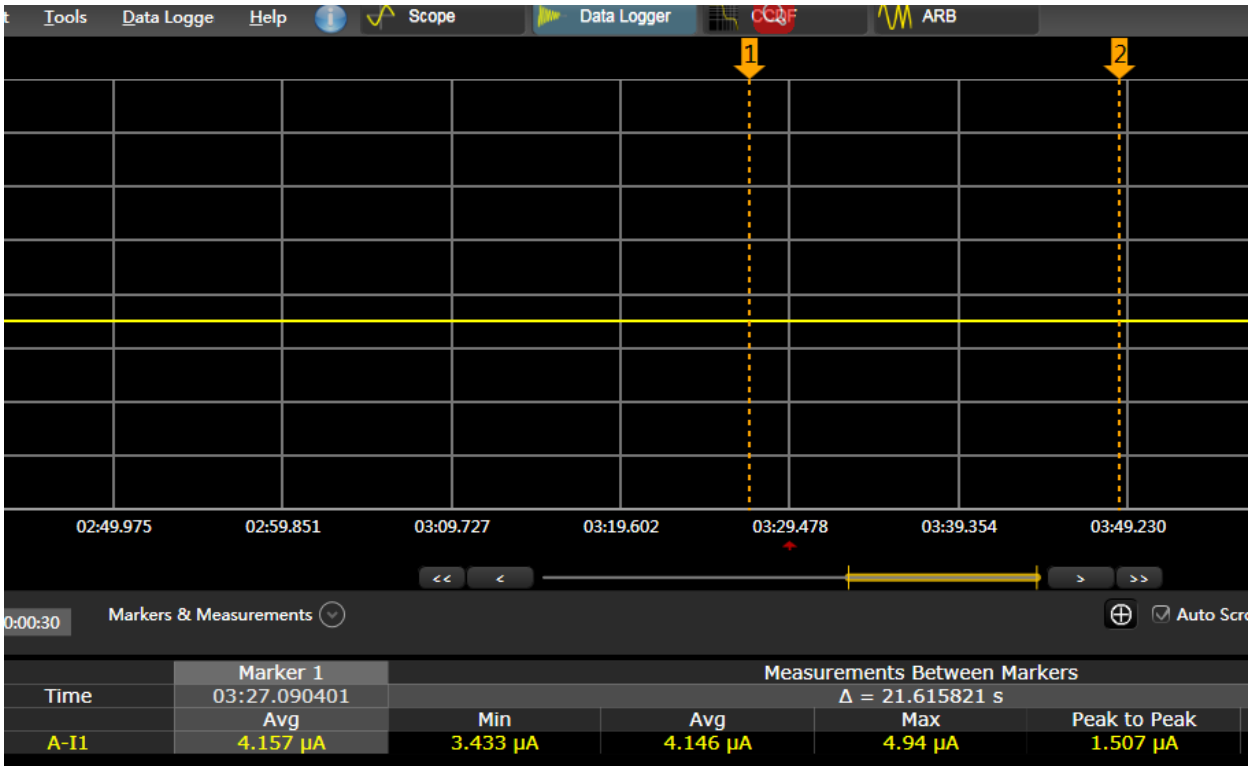

Figure 1: Current Consumption under PSM

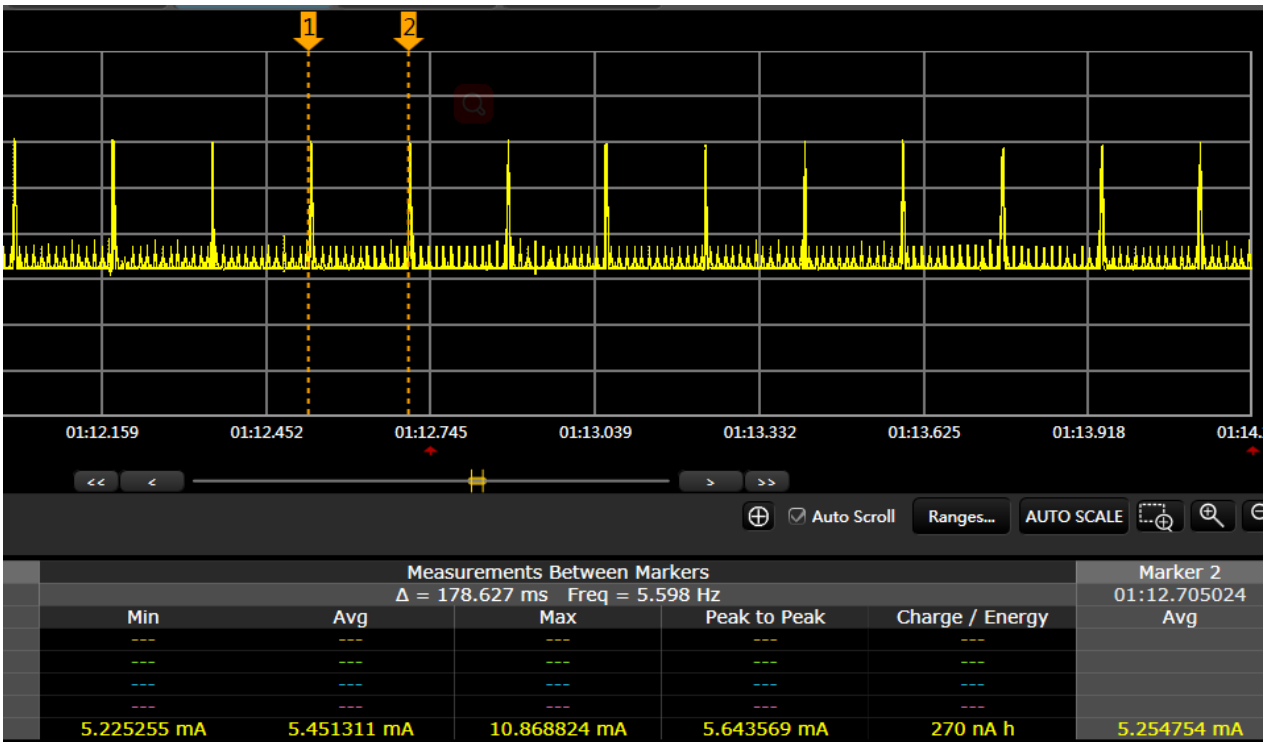

Figure 2: Current Consumption under Idle (Paging Cycle 178ms)

2.1.2. Power Consumption under Real Network Conditions

Table 2: Power Consumption under NB-IoT Real Network Conditions

Description	RSRP	Duration	Consumption
Startup →Sleep Mode (DRX)→ PSM	-85dBm	41s	159μAh
PSM → TAU → Idle → PSM	-85dBm	6.7s	11μAh
PSM → Attach → sending 200B →Sleep Mode (DRX)→ PSM	-85dBm	44s	223μAh

NOTES

- DRX time=1.28s
- Active time (T3324)=2s

2.1.3. UE Networking Process

The following diagrams illustrate the UE networking process under NB-IoT real network conditions.

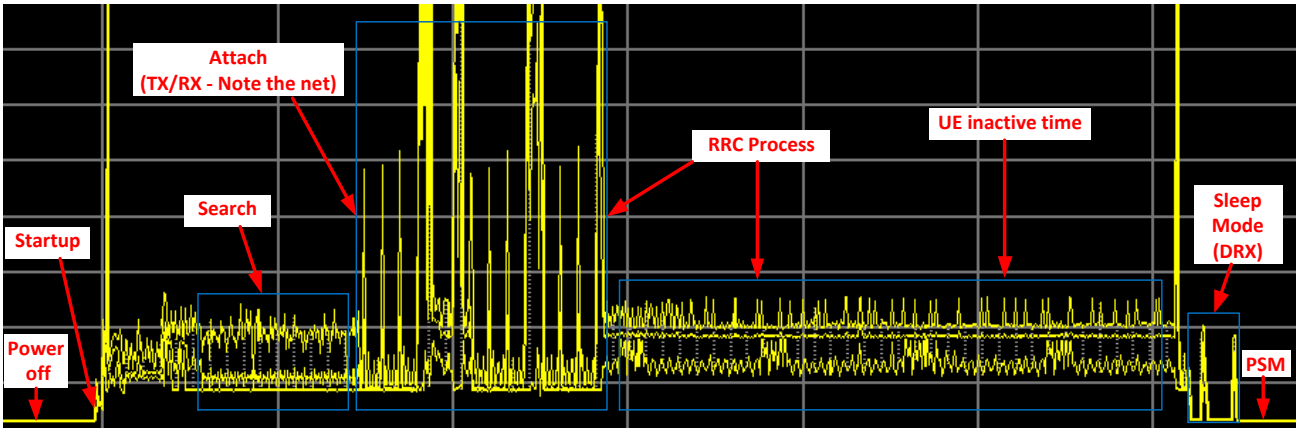

Figure 3: Schematic Diagram of UE Real Networking Process (1)

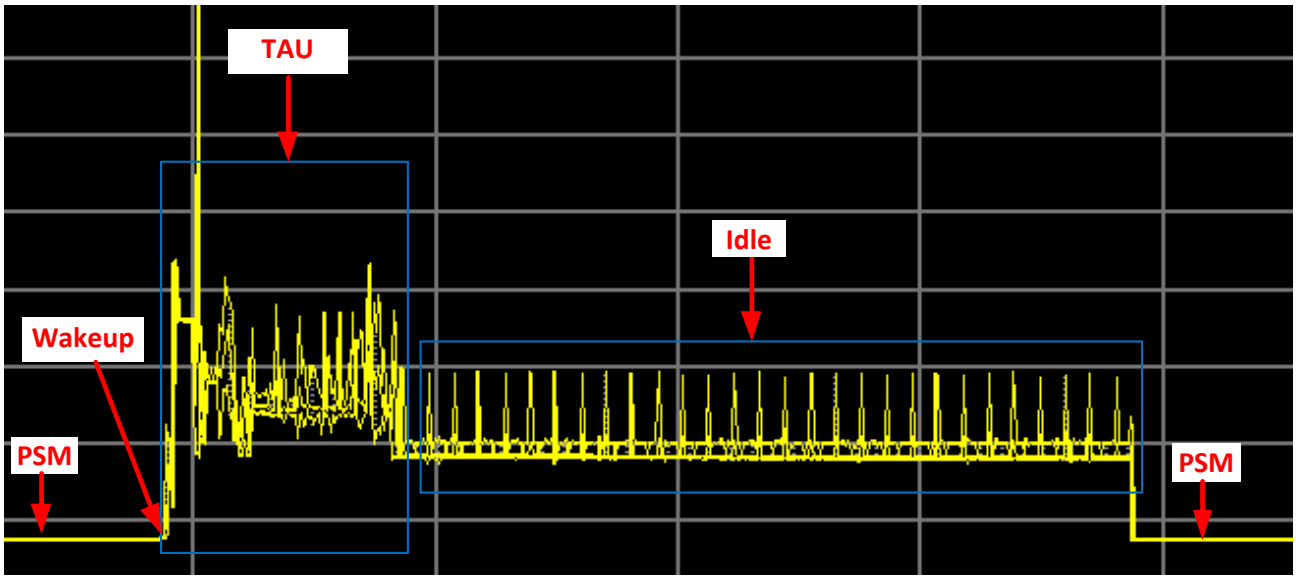

Figure 4: Schematic Diagram of UE Real Networking Process (2)

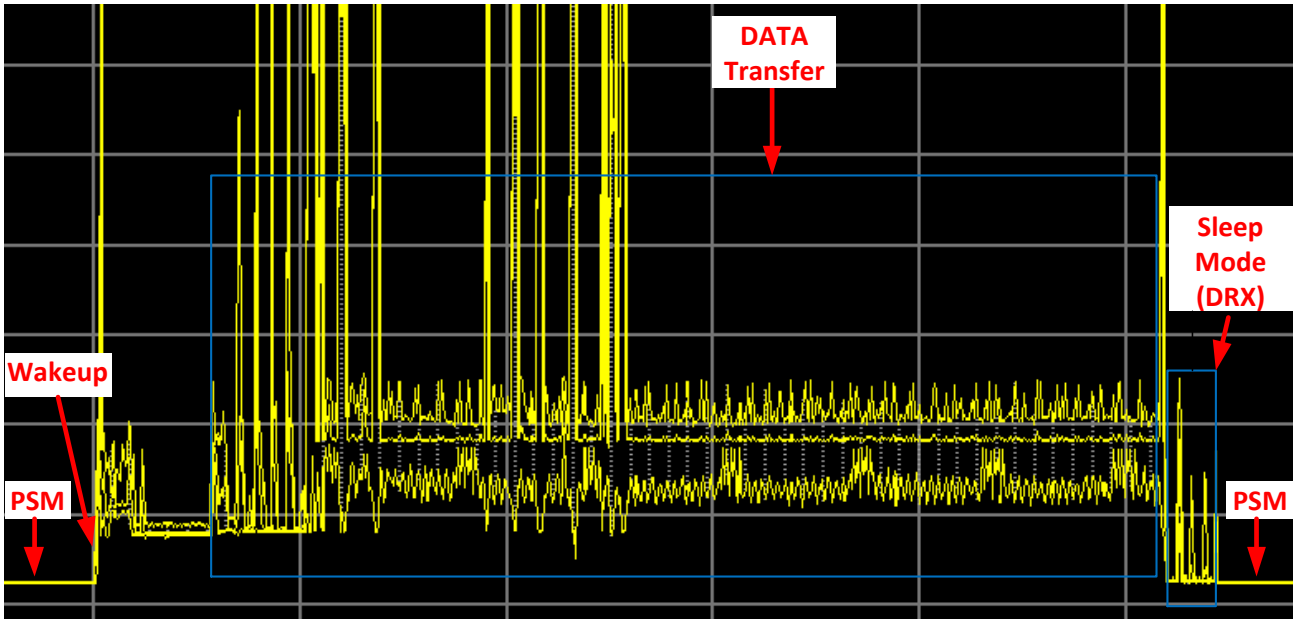

Figure 5: Schematic Diagram of UE Real Networking Process (3)