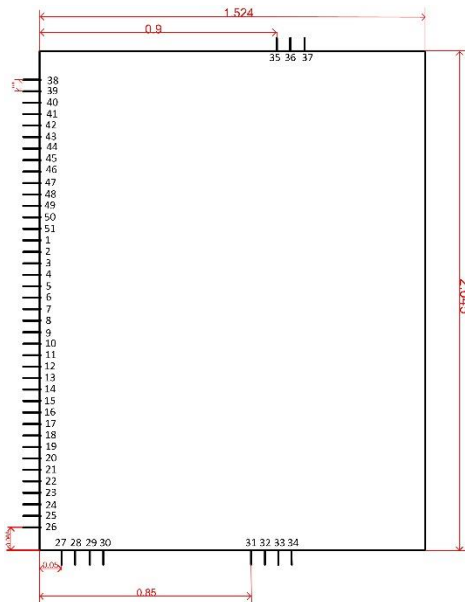


# Smart Cellular Module

## Features

- Supports LTE Cat. -M1 and NB-IoT technologies.
- Low Power
- Small form factor (1.524"X2.045")
- Better coverage than regular cellular networks.
- Has the priority over other cellular networks
- 



## Applications:

- Measuring and controlling systems
- Industrial applications
- Smart lighting control
- Smart irrigation system
- Gas leak detection

### 1.0 Device Overview:

The SCM-1 is a small form factor, low power cellular cloud-based module, it provides verity of analog and digital functionality. It has been designed with LTE Category-M1 and NB-IoT cellular technologies. LTE Category-M1 is a low-power wide area (LPWA) cellular technology, specifically designed for the Internet of Things (IoT) and machine-to-machine (M2M) communications. LTE Cat M1 needs significantly less bandwidth, requiring total 1.4MHz bandwidth, and supports download and upload data speed less than 1Mbps. which make it suitable for different IoT (Internet of Things) applications.

## 2.0 Pin Assignments:

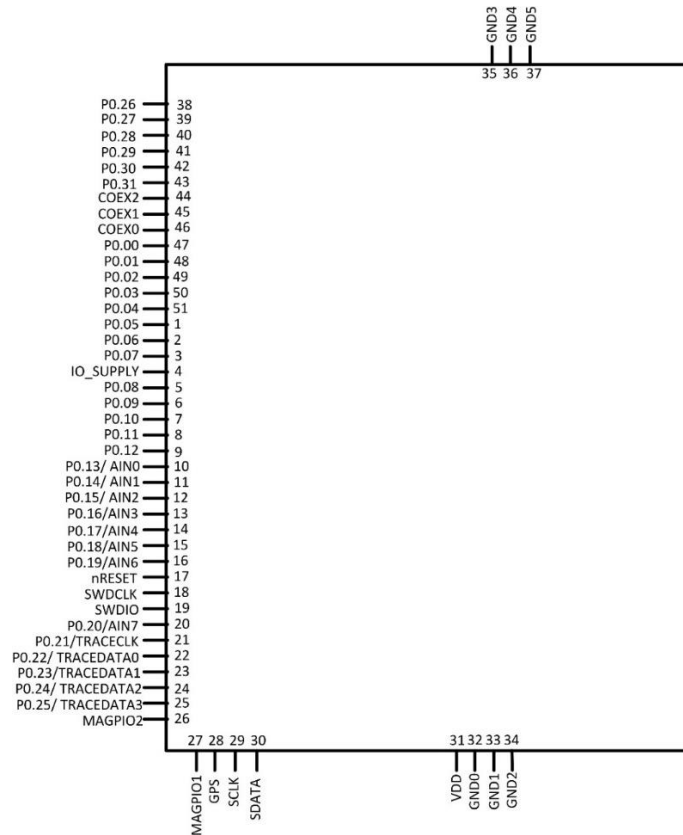


Figure1: SCM-1 Diagram

Table1: Pin Assignments

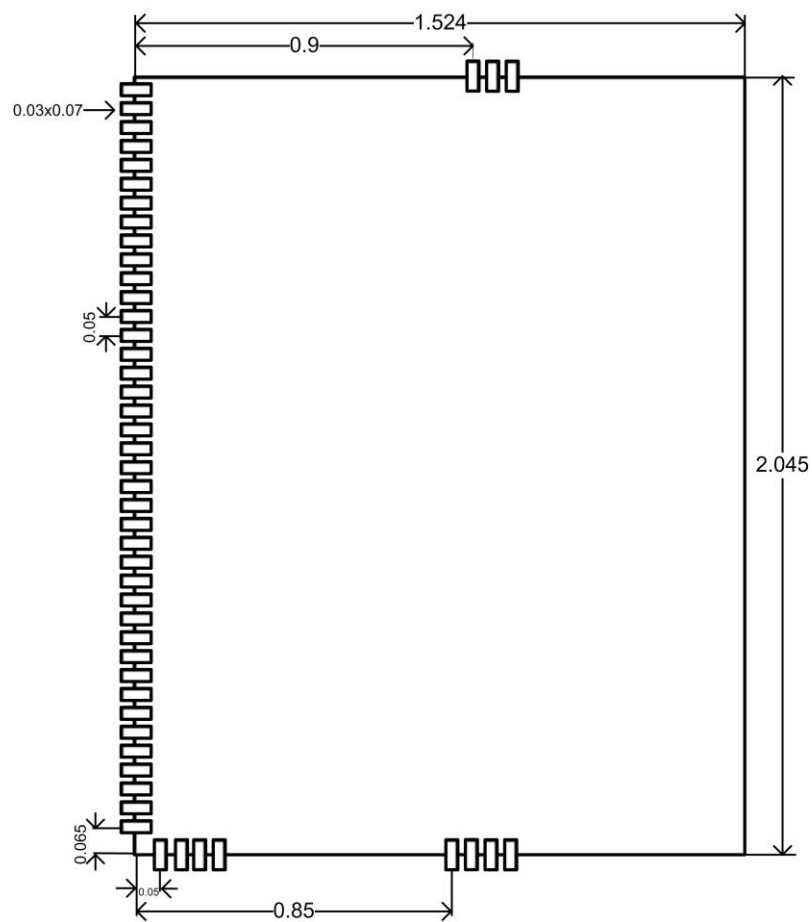
#	Pin name	Function	Description
1	P0.05	Digital I/O (SoC)	General purpose I/O
2	P0.06	Digital I/O (SoC)	General purpose I/O
3	P0.07	Digital I/O (SoC)	General purpose I/O
4	IO_SUPPLY	Power	Reserved for Nordic use
5	P0.08	Digital I/O (SoC)	General purpose I/O
6	P0.09	Digital I/O (SoC)	General purpose I/O
7	P0.10	Digital I/O (SoC)	General purpose I/O
8	P0.11	Digital I/O (SoC)	General purpose I/O
9	P0.12	Digital I/O (SoC)	General purpose I/O
10	P0.13/ AIN0	Digital I/O (SoC)/ Analog input	General purpose I/O/ Analog input
11	P0.14/ AIN1	Digital I/O (SoC)/ Analog input	General purpose I/O/ Analog input

# SCM-1

12	P0.15/ AIN2	Digital I/O (SoC)/ Analog input	General purpose I/O/ Analog input
13	P0.16/AIN3	Digital I/O (SoC)/ Analog input	General purpose I/O/ Analog input
14	P0.17/AIN4	Digital I/O (SoC)/ Analog input	General purpose I/O/ Analog input
15	P0.18/AIN5	Digital I/O (SoC)/ Analog input	General purpose I/O/ Analog input
16	P0.19/AIN6	Digital I/O (SoC)/ Analog input	General purpose I/O/ Analog input
17	nRESET	Digital I/O (SoC)	System reset
18	SWDCLK	Digital input	Serial wire debug clock input for debug and programming
19	SWDIO	Digital I/O	Serial wire debug I/O for debug and programming
20	P0.20/AIN7	Digital I/O (SoC)/ Analog input	General purpose I/O/ Analog input
21	P0.21/TRACECLK	Digital I/O (SoC)/ Trace clock	General purpose I/O/ Trace buffer clock (optional).
22	P0.22/ TRACEDATA0	Digital I/O (SoC)/ Trace data	General purpose I/O/Trace buffer TRACEDATA [0] (optional).
23	P0.23/TRACEDATA1	Digital I/O (SoC)/ Trace data	General purpose I/O /Trace buffer TRACEDATA [1] (optional)
24	P0.24/ TRACEDATA2	Digital I/O (SoC)/ Trace data	General purpose I/O/ Trace buffer TRACEDATA [2] (optional).
25	P0.25/ TRACEDATA3	Digital I/O (SoC)/ Trace data	General purpose I/O/ Trace buffer TRACEDATA [3] (optional).
26	MAGPIO2	Digital I/O (SoC)	Reserved for Nordic use
27	MAGPIO1	Digital I/O (SoC)	Reserved for Nordic use
28	GPS	RF	GPS receiver input
29	SCLK	Digital I/O (SoC)	Reserved for Nordic use
30	SDATA	Digital I/O (SoC)	Reserved for Nordic use
31	VDD	Power	Supply voltage
32	GND0	Power	Ground
33	GND1	Power	Ground
34	GND2	Power	Ground
35	GND3	Power	Ground
36	GND4	Power	Ground
37	GND5	Power	Ground
38	P0.26	Digital I/O (SoC)	General purpose I/O
39	P0.27	Digital I/O (SoC)	General purpose I/O
40	P0.28	Digital I/O (SoC)	General purpose I/O
41	P0.29	Digital I/O (SoC)	General purpose I/O
42	P0.30	Digital I/O (SoC)	General purpose I/O
43	P0.31	Digital I/O (SoC)	General purpose I/O

44	COEX2	Digital I/O (SoC)	Coexistence interface
45	COEX1	Digital I/O (SoC)	Coexistence interface
46	COEX0	Digital I/O (SoC)	Coexistence interface
47	P0.00	Digital I/O (SoC)	General purpose I/O
48	P0.01	Digital I/O (SoC)	General purpose I/O
49	P0.02	Digital I/O (SoC)	General purpose I/O
50	P0.03	Digital I/O (SoC)	General purpose I/O
51	P0.04	Digital I/O (SoC)	General purpose I/O

### 3.0 Mechanical Specifications:



SCM-1 Dimensions and footprint

# SCM-1

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## 4.0 Technical and Environmental Specifications:

### 4.1 Recommended Operation Conditions

Table2: Recommended Operation Conditions

Symbol	Parameter	Notes	Min.	Nom.	Max.	Units
VDD	Battery input voltage	- Including voltage drop, ripple and spikes. - RF 3GPP compliancy requires 3.3 V.	3.0	3.8	5.5	V
GPIOH	GPIO high level voltage				VDD_GPIO	V
MAGPIOH	MAGPIO high level voltage			1.8	1.8	V
TA	Operating temperature		-40	25	85	°C

### 4.2 Absolute Maximum Ratings

Table3: Absolute Ratings

	Min.	Max.	Unit
VDD	-0.3	5.5	V
Storage temperature	-40	125	°C
Moisture Sensitivity Level		2	

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