

Operation Description

433.92 MHz Wireless Device - Transmitter

Applicant Neurosmith Ltd.
Product name MUSINI MAGIC BATON
Description WIRELESS DEVICE

The MIDI controller is a wireless unit for communication with the MIDI sound card. The MIDI controller takes 3 “AAA” alkaline batteries. After you install the batteries and press the button on the controller, the LED’s will light up in sequence. You just need to shake the controller to send data in 433.92 MHz in ASK modulation. The MIDI sound card with super-regenerative receiver will translate the RF data into standard MIDI protocol to a special MIDI decoder with wavetable and amplifiers. The tempo of the MIDI signal varies according to how fast the baton is waved.

For each time the transmitter is activated, it will transmit a single pack of data for a duration less than 1 second no matter how long the button is pressed. There are only 2 different sets of data sequence and no live data is involved. Each transmission must be manually activated and the device will not transmit automatically in any circumstances. If the baton cannot detect any motion in 2 minutes, it will enter sleep mode and will not transmit even if moved. Press the button to activate and leave sleep mode.

Specifications:

Transmitter frequency	433.92MHz +/- 100kHz (ASK modulation)
Max range	6 ~13 feet
Receiver sensitivity	-105dBm
Transmit Time	0.056 second
Indoor/Outdoor	Indoor only

Product: **Magic Wand**Phase: **Pilot run**Date: **09-JUN-03**RF Range: **8 m**

Specifications

Transmitter:



	Parameter	Conditions	Limit	Typical	Unit
1	Transmit power* (433.92MHz) ASK (OOK)	Ant. Gain =0dB, Avg det	<-14		dBm
		Peak	< 0		dBm
2	Tx ant. gain (~15cm)	D=1.0 MM			dB
3	TX frequency	433.92MHZ +/- 500KHZ			MHZ
4	Battery	AAA x3	>=3.5	4.5	V
5	Sleep mode Current		< 10		μA
	Standby mode Current				
7	Working Current		< 25		mA

Receiver:



2"w x 3 1/8" h x 3/4" d

	Parameter	Conditions	Limit	Typical	Unit
1	Sensitivity	Assume no ant. Gain		-105	dBm
2	Receiver radiation*	Assume no ant. Gain; measured at antenna port (only under testing at DVT)	<-50		dBm
3	Rx ant. gain (open-loop wire)				dB
4	Temperature		< 45	n/a	°C
5	Power supply			3.90	V
6	Sleep mode Current		< 30		μA
7	Working/Standby Current		< 15		mA
8	Selectivity	3 db degradation (Base on 433.92MHZ) (only under testing at DVT)		+/- 1.5	MHZ
9	RF range	8 m radius at full 360 deg.		8	m

Prepared by:

Approval by:

10,JUN 2003