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1. Table of date-revision

2. Description:

The RF Flex Pointer is a FSK (Frequency Shift Key) Transmitter for the frequency band 433-435 MHz. The Flex Pointer offers a full-integrated PLL synthesizer and a high efficiency power amplifier to drive a loop antenna, A special circuit design and an unique power amplifier design are used to save current consumption and to save battery life.

This RF Flex Pointer is a best companion of Microsoft Power Point designed, lets you Slide Forward, Slide Back , Blank functions , F5 and Esc as desired, when browsing the Internet or scrolling through any Windows documents gives reliable control and accuracy. Flex Pointer RF's radio frequency wireless technology solves all of your presentation input needs.

For the RF Receiver use with USB 1.1 compliant can be easily actuated without affecting the position of the Flex Pointer.

The Radio Frequency designed in this Version of RF Flex Pointer is FSK 433.92MHz and can be use in a range of up to 10 Meter from the Receiver at any directions. The Flex Pointer can operate for 6 months with CR2032 DC 3V Lithium batteries.

3. Physical Description and Specification:

3.1 Dimensions

The approximate dimensions of the remote's transmitter is as follows:

Length 120mm

Width 30mm

Height 15.2mm

3.2 Weight

The approximate weight of the remote's transmitter is as follows:

Weight of the RF Flex Pointer not to exceed 35 grams (with batteries).

4.RF Flex Pointer Specification

The RF Flex Pointer consists of three major parts; a baseband controller, a radio that suitable for 433-435 MHz frees ISM band applications, and a low power uC-controlled, includes RF antenna supporting circuitry, together with basic RF software level.

4- 1 Range in meters: 10 Meter from the Receiver
4- 2 Frequency Range: 433.92MHz+/-100KHz (64 channels ID for Flex-Pointer)
4- 3 Data transmitting by transistor module
4- 4 Operational voltage: 2.4~3.3 V
4-5 Low power consumption: On normal operation less than 6 mA
On sleep mode. Less than 10 uA.
4-6 Support Power down Mode and high efficiency power amplifier.
4-7 Receiver Fully Compliant Low Speed (1.5Mbps) USB 1.1 Interface
4-8 Suspend/resume operation and device remote wakeup

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4.RF Flex Pointer Specification

4-9 Application

Symbo		Key definition
B	**Black**	**Display a black screen or return to the slide show from a black screen**
	Slide Forward	**Perform the next animation or advance to the next slide**
	Slide Back	**Perform the previous animation or return to the previous**
F5	**F5/ESC**	**F5: Running your slide show in full screen mode** **ESC:End a Slide show**
		Laser pointer on/off

NOTE: 1.ID Change : Press Both " " and " " buttons simultaneously more than 3 seconds will change the currend ID .

2. Remote **Power On/Off** : In the remote **ON** mode , press and hold the " " key and press " " buttons more than 3 seconds the remote will be Power Off .

In the remote **Off** mode , press and hold the " " key and press " " buttons more than 3 seconds the remote will be Power On ..

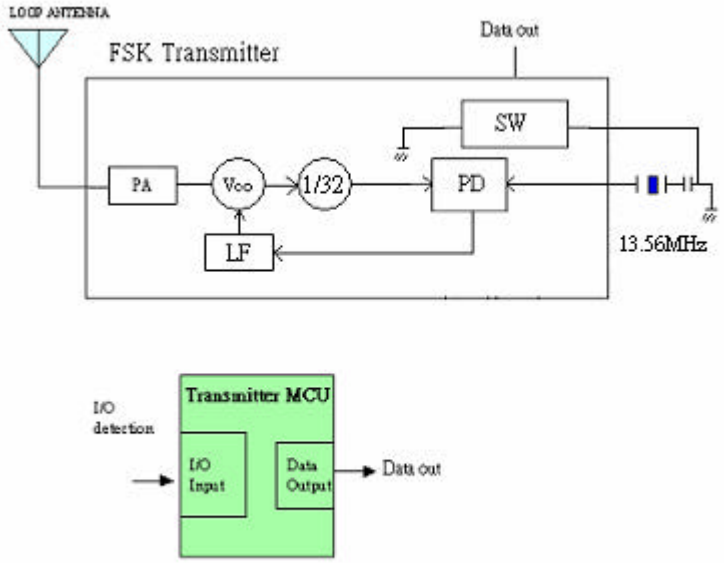
4.RF Flex Pointer Specification

4-10

Frequency Range	433.92 MHz
Modulation	FSK
Channel No.	1
Channel I.D	6 bits → 64
Operation Voltage	2.4-3.3V
Battery	CR2032 DC 3V Lithium batteries.
Batter Life	6 months
TX Power	< 0dBm (1mW)
Transmission rate	6.6 K bps
TX FM frequency deviation	60 KHz- 160 KHz
Frequency tolerance	+/- 20ppm
Button	5
Transmission Distance	10 Meter

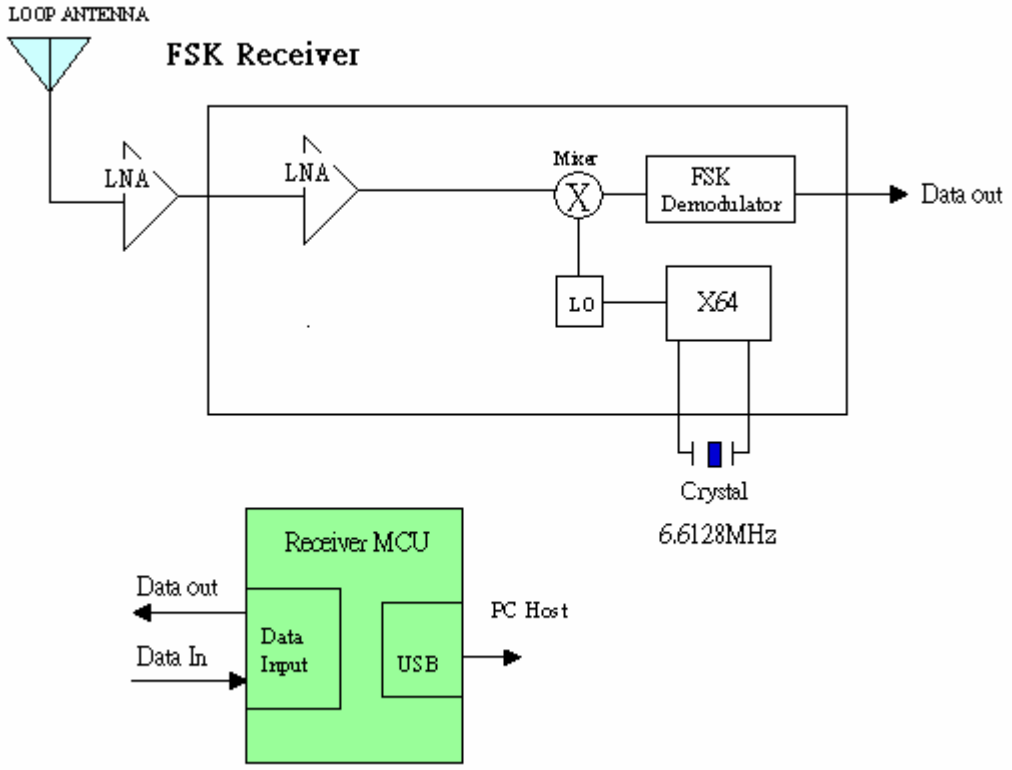
5. Electrical Block Diagram

FSK (433.92MHz) Transmitter



5. Electrical Block Diagram

FSK (433.92MHz) Receiver



USB 1.1 compliant The module is a USB high-speed class device (12 Mbps) and has the full functionality of a USB slave

6. Electrical Characteristics**:**

6.1 GENERAL SPECIFICATION

6.1.1 Operation temperature range : -10 ~ + 55 ℃

6.1.2 Storage temperature range : - 25 ~ + 65 ℃

6.1.3 Operation Relative humidity range : 10 %~ 85 % RH

6.1.4 Storage humidity range : 10 %~ 95 % RH

6.2 Operational Range

Parameter	Min	Max	Unit
Supply Voltage	**2.4**	**3.3**	**V**
Frequency	**433.92MHz +/- 100KHz**		**MHZ**

6.3 Electrostatic Discharge (ESD) Sensitivity

Direct discharge:

Test Voltage: Not less than 8 KV for Air discharge

Not less than 4 KV for Contact discharge

Indirect discharge:

Test Voltage: Not less than 4 KV for HCP

Not less than 4 KV for VCP

6.4 AC/DC Characteristics

Supply Voltage: VS= 3.0 V

Parameter		Min	Typ	Max	Unit
Current Consumption	Sleep mode		10		uA
	Transmit Mode		5	7	mA
Data rate			6.6 K		bps
Sensitivity			-100		dbm
Transmitter settling time			2.2		ms
Output power (Transmit mode)		-9	-5	-2	dbm

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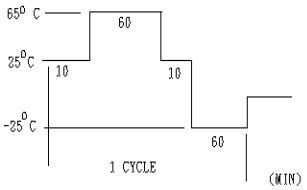
7.Mechanical Specification

ITEM	SPECIFICATION
7.1 Push Button Operating force	Max. 150gf in any direction.
7.2 Push Button Action distance	(1) Apply vertical to the center of the push button pin Dia 4mm
7.3 Push Button strength	A static Force of 3 Kg being applied vertically to the center of the push button for 1 minute.

8.Endurance

ITEM	SPECIFICATION
8.1 button life test	(1) Switching frequency 1~2cycles/sec (2) Switch Actuation force: 50-100 gram force (3) Minimum Actuation per Switch 500,000 actuation
8.3 Drop test	(1)Height 700±20mm (2) Test surface concrete (3) Direction free (4) Test times 3 times
8.4 ESD test	(1) Air Discharge: over 8KV (2) Contact Discharge: over 4KV

9. Environmental Tests

ITEM	SPECIFICATION
9.1 Heat load test	Measure initial value at standard testing conditions. Leave samples in 65±2。C for 72 hours, and in standard testing conditions for 2 hours, then take measurements within 1 hour.
9.2 Humidity load test	Leave samples in 50±5。C for 24±2 hours, and in standard testing conditions for 2 hours, then take measurements. Leave samples in 50±5。C, 90~95%RH, for 72 hours, and in standard testing conditions for 2 hours, then take measurements within 1 hour.
9.3 Cold test	Measure initial value at standard testing conditions. Leave samples in -25±2。C for 72 hours, and in Standard testing conditions for 2 hours, then take Measurements within 1 hour.
9.4 Vibration test	Vibration test fixture is used to vibrate the tuner with a total amplitude 1mm and frequency ranging from 10 to 55Hz, once per minute onsecutively, for 40 minutes in each of three directions. X. Y and Z
9.5 HEAT CYCLE TEST	Measure initial value at standard testing conditions. 1. Conditions 

NOTE: When using RF products, keep away from hi-frog electric products.