

TENTATIVE

SPECIFICATION

Version V0.2(DA)

MODEL : SBT - 5003T

DESCRIPTION : FM TRANSMITTER

W/ Crystal

DATE OF ISSUE : 14. NOV. 2005		
Approved	Checked	Issued

SBtron

#301-4, Samju Bldg., 954 Doksan-Dong
Geumcheon-Gu , Seoul, KOREA

TEL : 82-2-858-3947 , 851-7921 FAX : 82-2-856-8349

www.sbtron.co.kr



CONTENTS

1. Scope	_____	2/8
2. General Description	_____	2/8
3. Features	_____	2/8
4. General Specification	_____	2/8
5. Standard Test Condition	_____	3/8
6. Electrical Specification	_____	3/8
7. Terminal Interface	_____	4/8
8. Circuit of Measurement	_____	5/8
9. Outline Layout	_____	6/8
10. Revision	_____	8/8

TEMPORATIVE

Date



Design	Check	Approval

1. Scope

This specification is applied to Transmitter Module.

2. General Description

The SBT - 5003T is a FM band low power output transmitter IC designed for handheld applications.

3. Features

- * Coverage Transmitting frequency=87.5 to 108 MHz with 8.192KHz or 100KHz step
- * Stereo modulator with 19KHz pilot tone
- * Less external components,these size are below 1005 except power de-coupling Capacitor
- * External reference frequency input available
- * MOS varactor for local oscillator incorporated
- * No alignment available
- * Fully CMOS process
- * IIC bus or 3-wire serial Interface between MPU
- * Operating Voltage = 2.7 to 3.6 V (3.0V Type)

4. General specification

NO	ITEM	Test condition	SPEC				Note
			MIN	TYP	MAX	UNIT	
1	TX Frequency		87.5	—	108	MHz	
2	TX output Voltage	fo = 91MHz	1		2	mW	
3	Modulation Deviation		75		95	KHz	
4	Operating Voltage	DC Supply Voltage	2.7	3.0	3.6	V	
5	Operating Temp.	—	-20	—	+60	°C	
6	Supply Current	Vdd = 3.6V	—	35	50.0	mA	
7	Stand-by Current	Vdd = 3.6V	—	2	20	μA	
8	Audio Input Level		100		200	mV	

Date



Design

Check

Approval

SPECIFICATION

PAGE

FM TRANSMITTER MODULE : SBT-5003T

3 / 7

5. Standard Test Condition

NO	ITEM	CONDITION	
		MONO	STEREO
1	Standard Supply Voltage	3.0V _i 0.1V DC	
2	Temperature	25±2°C	
3	Relative Humidity	65 _i 5%	
4	External Clock Frequency	32.768 KHz	
5	Audio input impedance	60 Kohm	
6	Audio input level	100 mV(rms)	

6. Electrical Specification

NO	ITEM	Test				SPEC			
		Freq.	CONDITION			MIN	TYP	MAX	UNIT
1	TX Frequency Range		CEX : 3			87.5		90	MHz
			CEX : 2			90.1		97.2	
			CEX : 1			97.3		101	dB _v
			CEX : 0			101.1		108	
					-	6	12		
2	TX Output Voltage	91	R1=50 ohm Mod = 75 KHz	PL : 2 PL : 3		1 2		mW	
3	Modulation Distortion	91	Mono, Mod = 75 KHz				0.4	1.0	%
4	Stereo Separation	91	Stereo : 60dBu, Mod.=75kHz			25	35		dB
5	Audio Freq.response	91	pre-emphasis = on (-3 dB)	Low High	50		15	Hz KHz	
6	Audio Channel balance	91	Mono, Mod = 75 KHz L <----> R			-1	0	1	dB

Date		Design	Check	Approval

7. Terminal Interface

7-1. IIC Interface Type

NO	TERMINAL	I/O	Description
1	RF - OUT	O	RF - OUT
2	CK	I	Serial Clock Input
3	LA	I	Address Selection(Connected VDD or GND)
4	DA	I/O	Serial Data Input/Output
5	IIC / 3WIRE	I	IIC/3Wire Switching(Connected VDD)
6	GND	-	Ground
7	VCC + 3V	I	VCC + 3 Volt
8	R - INPUT	I	Audio R-ch Output
9	X-TAL	I	Not Connected
10	L - INPUT	I	Audio L-ch Output
11	TBD	O	ULD Output

7-2. 3Wire Interface Type

NO	TERMINAL	I/O	Description
1	RF - OUT	O	RF - OUT
2	CK	I	Serial Clock Input
3	LA	I	Latch Input
4	DA	I/O	Serial Data Input/Output
5	IIC / 3WIRE	I	IIC/3Wire Switching(Connected GND)
6	GND	-	Ground
7	VCC + 3V	I	VCC + 3 Volt
8	R - INPUT	I	Audio R-ch Output
9	X-TAL	I	Not Connected
10	L - INPUT	I	Audio L-ch Output
11	TBD	O	ULD Output

Date



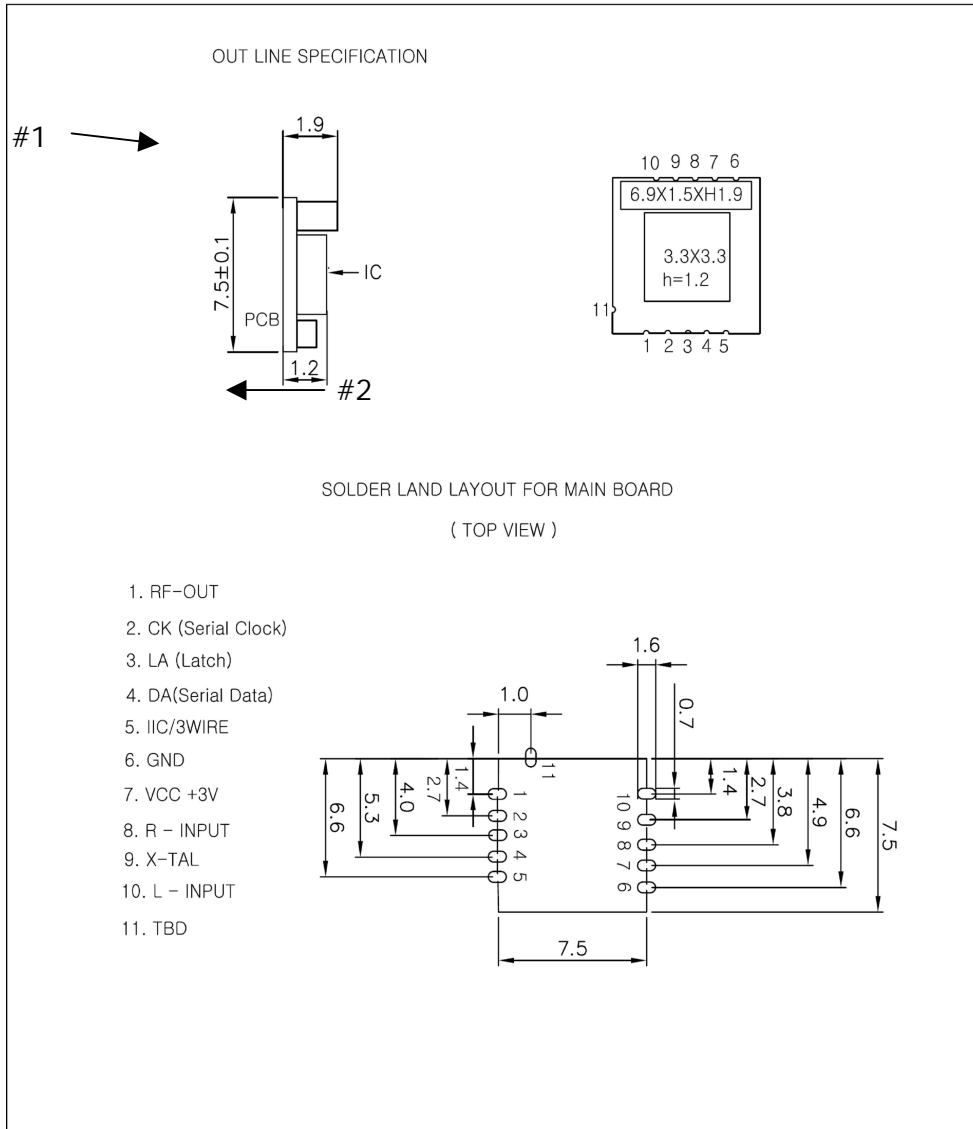
Design	Check	Approval

SPECIFICATION

FM TRANSMITTER MODULE : SBT-5003T

6 / 7

Outline Layout



No.	Dwg No.	Parts Name	Q'ty	Material	Surface Treatment	Weight(g)	Remark
TOLERANCE	1	up to 6	± 0.1	Scale	Material	Date	Surface tr. Model.
	7	" 30	± 0.2				
	31	" 120	± 0.3				
	121	" 315	± 0.5	Approved	Title. FM TRANSMITTER MODULE YTS-5003T		
	316	" 1000	± 0.8				
Notes				Checked	Designed	Drawn	Dwg no.

Date
1 : 06-04-10 Thickness Change 1.9mm-->2.1mm
2 : 06-04-10 1.2mm-->1.4mm



Design	Check	Approval

