1. SCOPE

This specification outlines the pertinent electrical requirements of the RF output modulator which converts the FM video and FM audio signal into the RF signal for television standard transmission system.

2.GENERAL SPECIFICATIONS

2-1. Output frequency	2350~2420MHz (I^2C PLL controller from outside)
2-2. Supply voltage	B1 9.0+/-0.5V
	B2 5V Max
	B3 -1.0~-1.6V
2-3. Consumption current	B1 95+/-10mA
	B2 500mA Max (B3-1.2V)
2-4. Operation and storage	Temperature 0-50°C
2-5 Conditions for guarantee	Humidity 85% or less

3.Test Conditions

3-1. Testing ambient conditions

Defined as temperature of 25+/-2°C and humidity of 65+/-5% RH.

Note: That temperatures of 5-30°C and humidity of 45-85%RH may be regarded as standard.

3-2. Unit setting conditions

(1). Picture --10 step wave signal 1.5Vp-p(82Ohm load)

(2). Audio -- 1.0Vp-p of sine wave 1KHz

4. Electrical Performance

4-1. Video system characteristics

	Parameter	Specification Min	Typ	Max	Unit	Remark
4-1-1	Input impedance		1.3		K	Measure at 0.5-5MHz
4-1-2	Input signal level		1.0		Vp-p	Load of 82Ohm connected negative synchronous
4-1-3	Modulation Fp: 2480 MHz sine wave 300 KHz 1Vp-p	2	3	4	MHz	Superimposed sinuous wave. (3.58MHz)is 20% of the step input level measure under the apl of 10-90% differential gain of demodulator unit is to be compensated
4-1-4	Differential gain	-8		8	%	
4-1-5	Differential phase	-8		8	deg	-ditto-
4-1-6	S/N	45			dB	Measure with respect to standard demodulator output.
4-1-7	Out level taper		4	6	dB	fp 2350~2420MHz

4-2. Audio system characteristics

4-2-1	Input impedance		1.4		KOhm	Measure at 0.1-10KHz
4-2-2	Modulation	35	40	45	KHz	
4-2-3	Distortion factor			3	%	Audoi input signal 1.0Vp-p 1KHz modulation 50% (sine wave) video input signal all black (sync only) use standard demodulator of inter -carrier system. De-emphasis(50 usec) is on.
4-2-4	S/N	40			dB	The same as 4-2-3

4-3. Output system characteristics

	Parameter	Specification. Min	Typ	Max	Unit	Remark
4-3-1	Video carrier frequency	-50	fp	+50	KHz	Test at 25°C temperature and 65%RH of humidity Fp 2350~2420MHz Fs1 6.0 MHz Fs2 6.5 MHz *output channel
4-3-2	Video output level (B3 -1.2V)	23	24	26	dBm	
4-3-3	Audio output level difference(p/s ratio)	22	27	32	dB	
4-3-4	Audio carrier frequency	-8	fs	+8	KHz	Input signal none the measurement is taken after 30 sec. from the power-on.
4-3-5	Audio modulator fs1 fs2	35 35	50 50	65 65	KHz	Measurement difference video of carrier frequency output level for 2350~2420MHz. except to fp. fp +/- fs against video carrier output level
4-3-6 4-3-7	Out-band spurious In-band spurious with bandwidth	45 60	50		dB dB	
4-3-8	Output impedance		50		Ohm	Unbalanced.

5-1. PLL section characteristics

No	Item	Specification	notes
5-2.	IIC Bus (1) SDA.SCL Input voltage	Under standard test condition Condition / Min / Typ / Max High voltage / 3 / / 5 Low voltage / 0 / / 1.5	V
	(2) Address	C2 (on write date format)	
	(3) SDA SCL Input impedance	SDA/SCL are in the high impedance and there should be no reliablity problem with 5V continually on the SDA/SCL,if power supply is switched off.	

(4) Data format

	MSB							LSB		
Address	1	1	0	0	0	MA1	MA0	0	A	Byte1
Programmable Divider	0	14 2	13 2	12 2	11 2	10 2	9 2	8 2	A	Byte2
Programmable Divider	7 2	6 2	5 2	4 2	3 2	2 2	1 2	0 2	A	Byte3
Charge pump and test bits	1	(0) cp	t1	t0	1	1	1	(0) os	A	Byte4
I/O port control bits	p7	p6	p5	p4	p3	p2	p1	p0	A	Byte5

Table 1 write data format (MSB is transmitted first)

Address	1	1	0	0	0	MA1	MA2	1	A	Byte1
Status byte	POR	FL	I2	I1	I0	A2	A1	A0	A	Byte2

Table 2 read date format

A: Acknowledge bit.

MA1,MA0: Voltage address bits.

CP: Charge pump current select.

T1: Test mode selection,T0:Charge pump disable

OS: Varactor drive output disable switch.

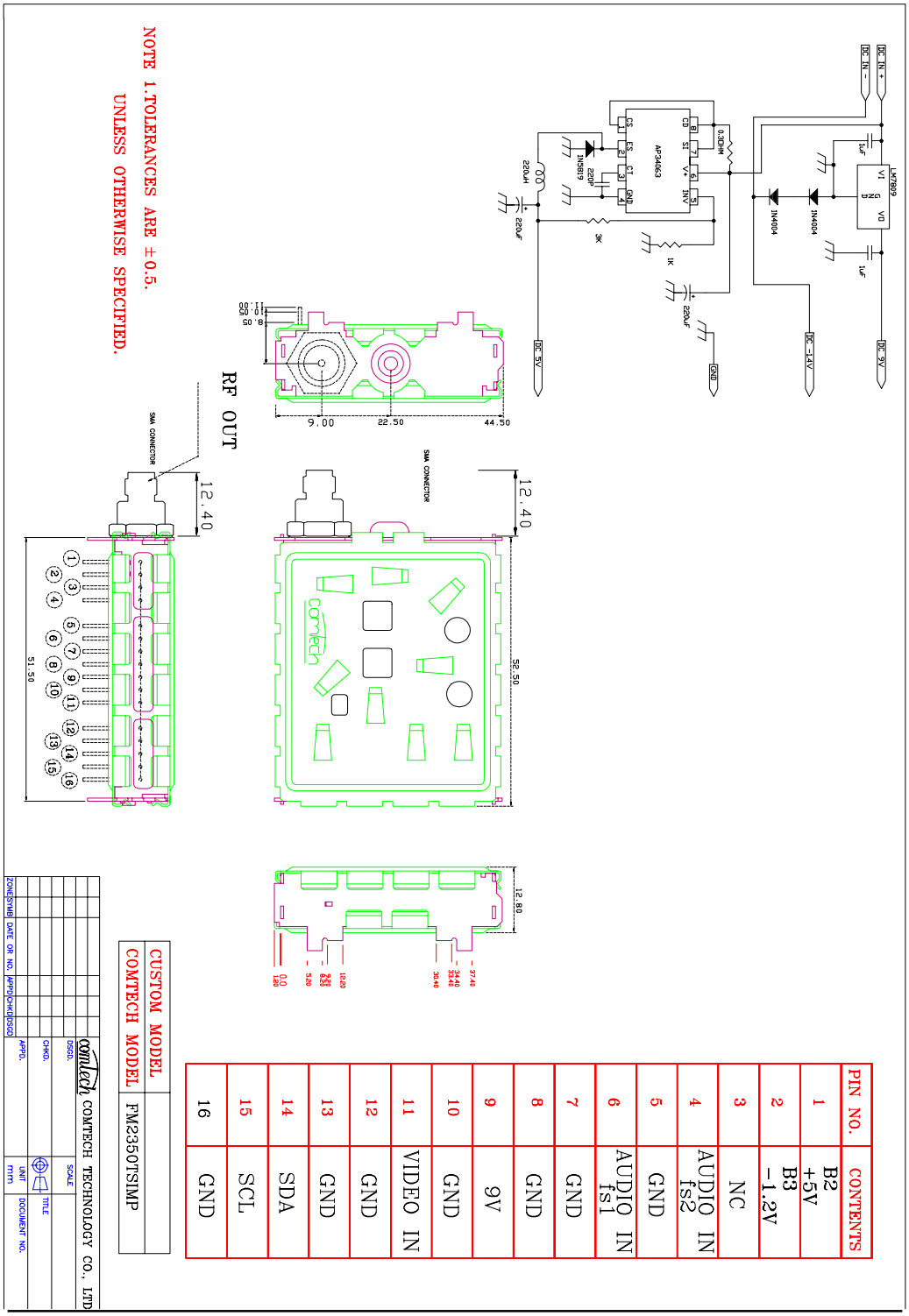
P7,P6,P5,P4,P3,P2,P1,P0: Control output states.

POR: Power on reset indicator

FL: Phase lock detect flag

I2,I1,I0: Digital information from ports P7,P5,and P4.

A2,A1,A0: 5 level adc data from P6



PIN NO.	CONTENTS
1	B2 +5V B3 −1.2V
2	
3	NC
4	AUDIO IN fs2
5	GND
6	AUDIO IN fs1
7	GND
8	GND
9	9V
10	GND
11	VIDEO IN
12	GND
13	GND
14	SDA
15	SCL
16	GND