



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 2300~2500MHz (I²C PLL controller from outside)
- 2-2. Supply voltage 12V+/-0.2V
- 2-3. Consumption current 140+/-20mA
- 2-4. Operation and storage Temperature 0-50°C
 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			Unit	Remark
		Min	Typ	Max		
4-1-1	Input impedance		1.3		KOhm	Measure at 0.5-5MHz
4-1-2	Input signal level		1		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
4-1-4	Differential gain	-8		8	%	10-90% differential gain of demodulator unit is to be compensated
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 1100~1300MHz

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	%	Audio 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.				Remark
		Min	Typ	Max	Unit	
4-3-1	Video carrier frequency	-50	fp	+50	KHz	Test at 25°C temperature and 65%RH of humidity Fs1 6.5 MHz Fs2 6.5 MHz *output channel FP:2300~2500MHz
4-3-2	Video output level SW=12V SW=0V	6 -9	9 -6	13 -3		
4-3-3	Audio output level difference(p/s ratio) fp:1100~1300MHz	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 2.3-2.5GHz. except to fp. fp+/-fs . against video carrier output level.
4-3-6	Out-band spurious	50	55		dB	
4-3-7	In-band spurious within bandwidth	60				
4-3-8	Output impedance		75		Ohm	Unbalanced.



5-1. PLL section characteristics												
No	Item	Specification									notes	
5-2.	IIC Bus										V	
	(1) Sda.scl Input voltage	Under standard test condition										
		Condition	Min	Typ	Max							
		High voltage	3		5							
		Low voltage	0		1.5							
	(2) Address	C2 (on write date format)										
	(3) Sda scl Input impedance	SDA/SCLI are in the high impedance and there should be no reliability 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	2	2	2	2	2	2	2	A	Byte2	
	Programmable Divider	7	6	5	4	3	2	1	0	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												

