1. General Specification

1-1 Input Frequency Range	2.4 GHz - 2.4835 GHz	
1-3 One Input Connector	SMA Connector	
1-4 Nominal Input Impedance	75 Ohm	**Note:**
1-5 Tuning Circuit	Built-in PLL	U6239B (TEMIC)
1-6 IF Frequency	479.50 MHz Center	
1-7 IF Bandwidth	18 MHz Nominal (Selectable)	**Note:**
1-8 Demodulation	Phase Locked Loop	TA8804F
1-9 Video Output Polarity	Negative	
1-10 Operating Voltage	+28V (+/-5%)	
	+5V (+/-5%)	
1-11 Operating Temperature	-10°C ~ +60°C	
1-12 Operating Humidity	less than 80% R. H. (at 40°C)	
1-13 Storage Temperature	-20°C ~ +70°C	
1-14 Storage Humidity	less than 95% R. H. (at 40°C)	

2. Standard Test Condition

test for electrical specification shall be preformed at following condition unless otherwise specified.

2-1 Ambient Condition

Temperature 25°C +/- 2°C
Humidity 65% +/- 5% R. H.
if no doubt on test results
Temperature 5°C +/- 30°C
Humidity 45% ~ 80% R. H.
could be applied

2-2 Measurement to Start

30 minutes after DC power supplied

2-3 Power Supply

Terminal	Supply Voltage
+5V	+5V (+/-) 0.1V
+12V	+12V (+/-) 0.1V
SDA	specified tuning
SCL	pulse

3. Current Consumption

Terminal	Min.	Typ.	Max.	Unit
+5V	190	240	290	mA
+12V	0.5	1.0	3.0	mA

4. Absolute Maximum Voltage

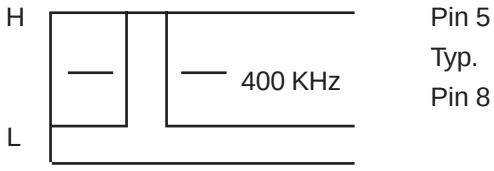
Terminal	Max. Supply Voltage
+5V	DC +5.25V
+12V	DC +30V

Terminal	Max. Take Off Current
B. B. Output	0.5 mA

5. Electrical Specification

under standard test condition
Test Channel: DBS 20 CH
Input Level: -45 dBm
unless otherwise specified

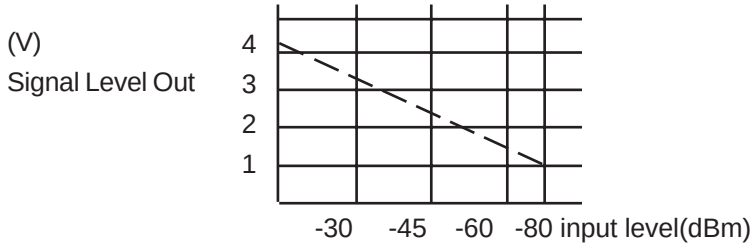
	Condition	Min.	Typ.	Max.	Note
5-1 Input VSWR	2.4 ~ 2.4835 GHz		2.0	3.0	
5-2 Noise Figure	2.4 ~ 2.4835 GHz		3.5 dB		AGC fullgain
5-3 Local Leakage at Input Terminal	1.920 ~ 2.4835 GHz			-63.0	dBm
5-4 Tuning Voltage Curve	2.4 ~ 2.4835 GHz	5V		10V	with tuing PLL locked
5-5 Local Oscillator +B Shift	tuning voltage shift with +B +/- 5%			+/- 0.8	
5-6 Local Oscillator Temperature Drift	tuning voltage shift with -10°C ~ +60°C			+/- 1.3	
5-7 IF 3dB Bandwidth	3dB down		18		MHz
5-8 AFT Output (2 bit Output)	Center Frequency Error (f0)	-2		+2	MHz



5-8 B. B. Output Characteristics

	Condition	Min.	Typ.	Max.	Note
1) Video Output Level	video waveform white 100% PAL frequency deviation 8 MHz p-p without pre-emphasis				
	white to SYNC	0.72	0.90	1.12	Vp-p
2) Gain-Frequency Response	test modulation frequency: 60 Hz ~ 8 MHz without energy disposal modulation, reference frequency 100 KHz, IF BW: 18 MHz				
	Freugency Response		+/- 1	+/- 3	dB
3) Group Delay Response	test frequency: 60 Hz ~ 8 MHz without energy disposal modulation, reference frequency 100 KHz, IF BW: 18 MHz				
	Group Delay		+/- 10	+/- 50	nsec
4) DG/DP	10 step siaircase 8 MHz p-p PAL without energy disposal modulation, positive video amplifier with de-emphasis should be applied IF BW: 18 MHz				
	DG (APL 50%)		4.0	8.0	%
	DP (APL 50%)		3.0	5.0	deg
5) S/N	input C/N = 14 dB (Noise BW: 16 MHz) white 100% video 8 MHz p-p PAL with audio subcarrier modulation 3.4 MHz p-p DEV. @6.5 MHz positive video amplifier with de-emphasis should be applied 100 Hz ~ 5 MHz unweighted S/N, POR: power on reset indicator				
	S/N	34.0	36.0		dB

7-1 Signal Level Out Voltage



7-2 IIC Bus

1) SDA, SCL Input Voltage — under standard test condition

Condition	Min.	Typ.	Max.	Note
High Voltage	3		5	V
Low Voltage	0		1.5	V

2) Address — C2 (on write data 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) Date Format

	MSB							LSB		
Address	1	1	0	0	0	MA1	MA0	0	A	BYTE 1
Programmable Divider	0	2^{14}	2^{13}	2^{12}	2^{11}	2^{10}	2^{9}	2^{8}	A	BYTE 2
Programmable Divider	2^{7}	2^{6}	2^{5}	2^{4}	2^{3}	2^{2}	2^{1}	2^{0}	A	BYTE 3
Charge Pump and Test Bits	1	CP	T1	T0	1	1	1	OS	A	BYTE 4
I/O Port Control Bits	P7	P6	P5	P4	P3	P2	P1	P0	A	BYTE 5

table 1 write data format (MSB is transmitted first)

Address	1	1	0	0	0	MA1	MA0	1	A	BYTE1
Status Byte	FOR	FL	I2	I1	I0	A2	A1	A0	A	BYTE 2

table 2 read data format

A: acknowledge bit

MA1, MA0: voltage address bits

CP: charge pomp current select

T1: test mode selection

T0: charge pump disable

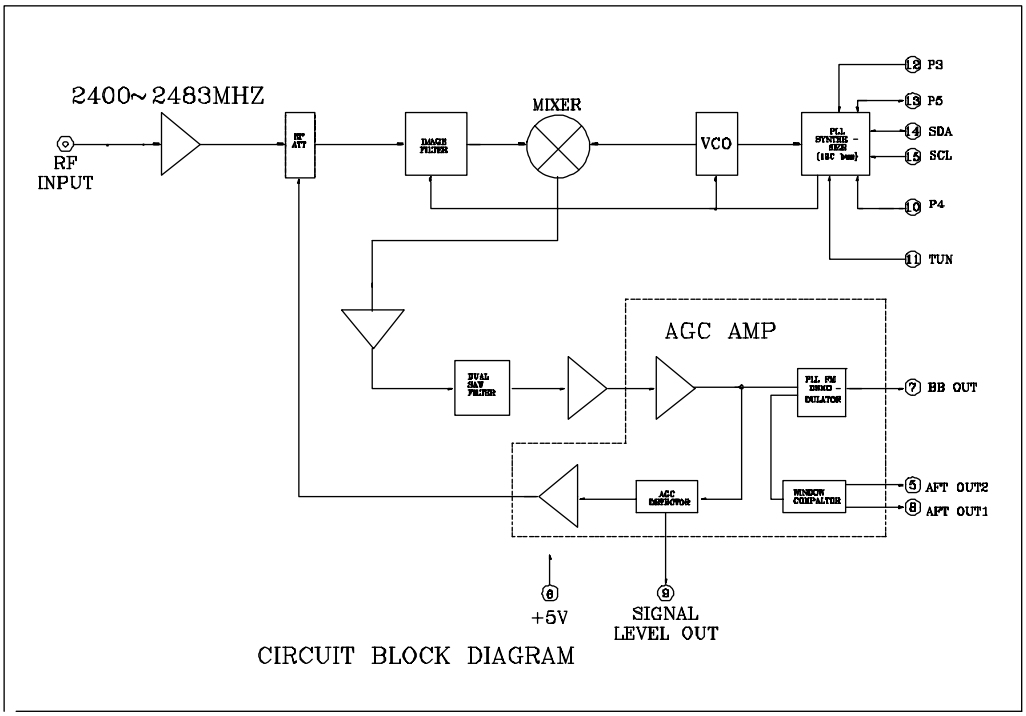
OS: varactor drive output disable switch

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

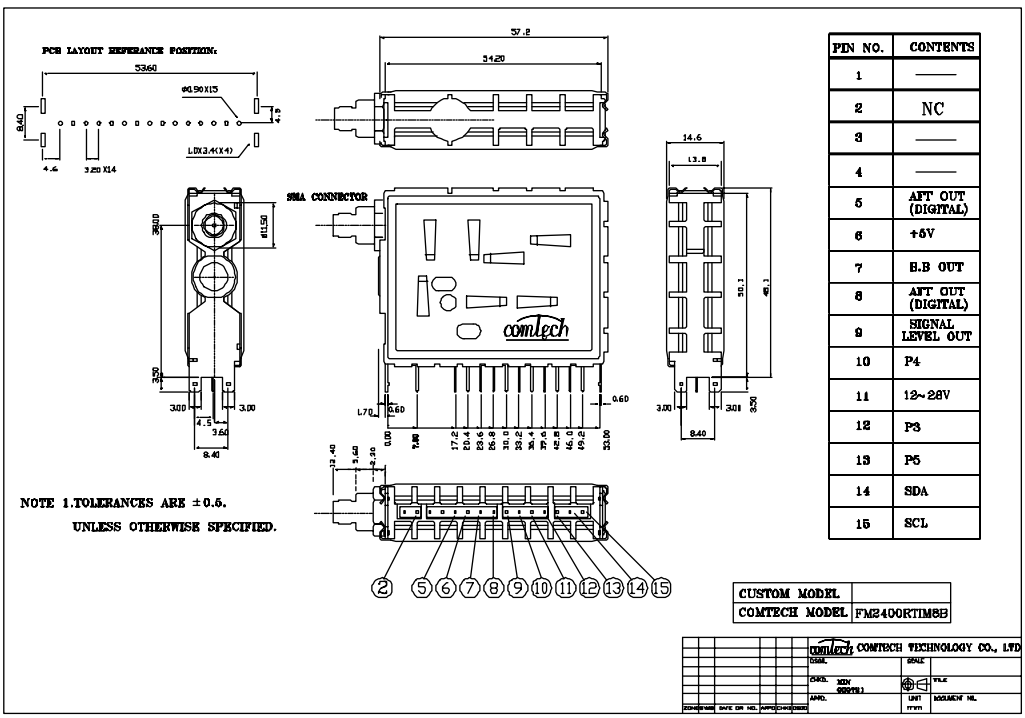
POR: power on reset indicator

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

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



CIRCUIT BLOCK DIAGRAM



PIN NO.	CONTENTS
1	——
2	NC
3	——
4	——
5	AFT OUT (DIGITAL)
6	+5V
7	B.B OUT
8	AFT OUT (DIGITAL)
9	SIGNAL LEVEL OUT
10	P4
11	12~28V
12	P3
13	P5
14	SDA
15	SCL

CUSTOM MODEL	
COMTECH MODEL	FM2400RTIM8B

COMTECH TECHNOLOGY CO., LTD