BS TUNER

SPECIFICATION

BS TUNER

NO.	ITEM	SPECIFICATION	NOTES
1-1	INPUT FREQUENCY RANGE	900.0 MHz-2150.0 MHz	
1-3.	ONE INPUT CONNECTOR	SMA FEMALE	
1-4.	NOMINAL INPUT IMPEDANCE	75 OHM	
1-5.	TUNING CIRCUIT	BUILT IN PLL	SP5055
1-6.	IF FREQUENCY	479.50 MHz CENTER	
1-7.	IF BAND WIDTH	18/27 MHz NOMINAL (SELECTABLE)	
1-8.	DEMODULATION	PHASE LOCKED LOOP	TA8804F
1-9.	VEDIO OUTPUT POLARITY	POSITIVE GOING	
1-10.	OPERATING VOLTAGE	+28V (+/-5%)(TUNING) +5V (+/-5%)(B+)	
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)	
1-15	INPUT LEVEL	-60 ~ -30dBm	
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 AND HUMIDITY 45% ~80% R.H. COULD BE APPLLIED.	
2-2.	MEASUREMENT TO START	30 MINUTES AFTER DC POWER SUPPLIED.	
2-3.	POWER SUPPLY		

TERMINAL	SUPPLY VOLTAGE
LNB POWER +5V +28V	 +5V(+/-)0.1V +28V(+/-)0.1V
SDA SCL	SPECIFIED TUNING PULSE

COMTECH TECHNOLOGY CO., LTD BSM479TXIDW (1/5)

BS TUNER

SPECIFICATION

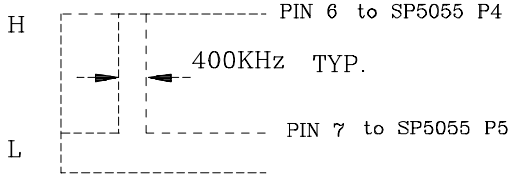
BS TUNER

NO.	ITEM	SPECIFICATION					NOTES
3.	CURRENT CONSUMPTION						
		TERMINAL	MIN.	TYP.	MAX.		
		+5V	190	240	290	mA	
		+28V	0.5	1.0	3.0	mA	
4.	ABSOLUTE MAXIMUM VOLTAGE	TERMINAL	MAX. SUPPLY VOLTAGE				
		LNB POWER	DC +25V				
		+5V	DC +5.25V				
		+28V	DC +30V				
		SDA,SCL	OV TO THE SAME VOLTAGE AS +5V TERMINAL				
		TERMINAL	MAX. TAKE OFF CURRENT				
		LNB POWER	500mA				
		B.B OUTPUT	0.5mA				
5.	ELECTRICAL SPECIFICATION	UNDER STANDARD TEST CONDITION TEST CHANNEL : DBS 20 CH INPUT LEVEL : −45dBm UNLESS OTHERWISE SPECIFICIED.					
		CONDITION		MIN.	TYP.	MAX.	
5−1.	INPUT VSWR	900MHz−2150MHz			2.0	3.0	
5−2.	NOISE FIGURE	900.0 MHz ~2150 MHz			8.0	12.0	AGC FULLGAIN dB
5−3.	LOCAL LEAKAGE AT INPUT TERMINAL	900MHz~2630MHz			−70	−50	dBm
5−4.	TUNING VOLTAGE CURVE	900 MHz 950 MHz 1150 MHz 1250 MHz 1450 MHz 1650 MHz 1850 MHz 2050 MHz 2150 MHz		1	1.6 2.2 4.0 5.0 7.0 9.2 12.1 15.9 21.0	 26.6	V
5−5.	LOCAL OSCILLATOR +B SHIFT	TUNING VOLTAGE SHIFT WITH +B +/− 5%			± 10		MHZ
5−6.	LOCAL OSCILLATOR TEMPERATURE DRIFT	TUNING VOLTAGE SHIFT WITH −10°C~+60°C			± 10		MHZ
5−7.	IF 3dB BAND WIDTH	IIC BUS PORT6 WRIGHT	HIGH LOW		27 18		MHz

BS TUNER

SPECIFICATION

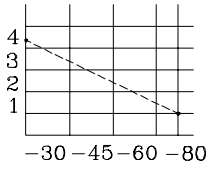
BS TUNER

NO.	ITEM	SPECIFICATION				NOTES
5-8.	AFT OUTPUT (2 BIT OUTPUT)					
		CONDITION	MIN.	TYP.	MAX.	
		CENTER FREQUENCY ERROR(f0)	−1		+1	MHz
5-9.	B.B OUTPUT CHARACTERISTICS (1) VIDEO OUTPUT LEVEL	VIDEO WAVEFORM WHITE 100% PAL FREQUENCY DEVIATION 16MHzp-p WITHOUT PRE-EMPHASIS				
		WHITE TO SYNC.	0.50	0.70	0.90	Vp-p
	(2) GAIN-FREQUENCY RESPONSE	TEST MODULATION FREQUENCY :60Hz~8MHz WITHOUT ENERGY DISPASAL MODULATION REFERENCE FREQ. 100KHz IF BW 27MHz				
		FREQ. RESPONSE		±1	±3	dB
	(3) GROUP DELAY RESPONSE	TEST FREQUENCY :60Hz~8MHz WITHOUT ENERGY DISPASAL MODULATION REFERENCE FREQ. 100KHz IF BW 27 MHz				
		GROUP DELAY		±10	±50	nsec
	(4) DG/DP	10 STEP STAIRCASE 16MHzp-p PAL WITHOUT ENERGY DISPASAL MODULATION POSITIVE VIDEO AMPLIFIER WITH DE-EMPHASIS SHOULD BE APPLIED IF BW 27MHz				
		DG (APL 50%)		2	2	%
		DP (APL 50%)		2	5.0	°
	(5) SN RATIO	INPUT C/N =14 dB (NOISE BW 27MHz) WHITE 100% VIDEO 16MHZp-p PAL WITH AUDIO SUBCARRIER MODULATION 3.4MHzp-p DEV. @6.5MHz POSITIVE VIDEO AMPLIFIEER WITH DE-EMPHASIS SHOULD BE APPLIED 100Hz~5MHz UNWEIGHTED SN FOR:POWER ON RESET INDICATOR				
		SN	34.0	36.0		dB
	(6) STATIC THRESHOLE	LT 0V		6.0	8.0	
		LT 5V		3.0	4.0	dB

BS TUNER

SPECIFICATION

BS TUNER

NO.	ITEM	SPECIFICATION	NOTES
7-1.	SIGNAL LEVEL OUT VOLTAGE	(V) SIGNAL LEVEL OUT  INPUT LEVEL (dBM)	47K Ω LOADED
7-2.	IIC BUS (1) SDA,SCL INPUT VOLTAGE	UNDER STANDARD TEST CONDITION	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.	

CONDITION	MIN.	TYP.	MAX.
HIGH VOLTAGE	3		5
LOW VOLTAGE	0		1.5

(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	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)

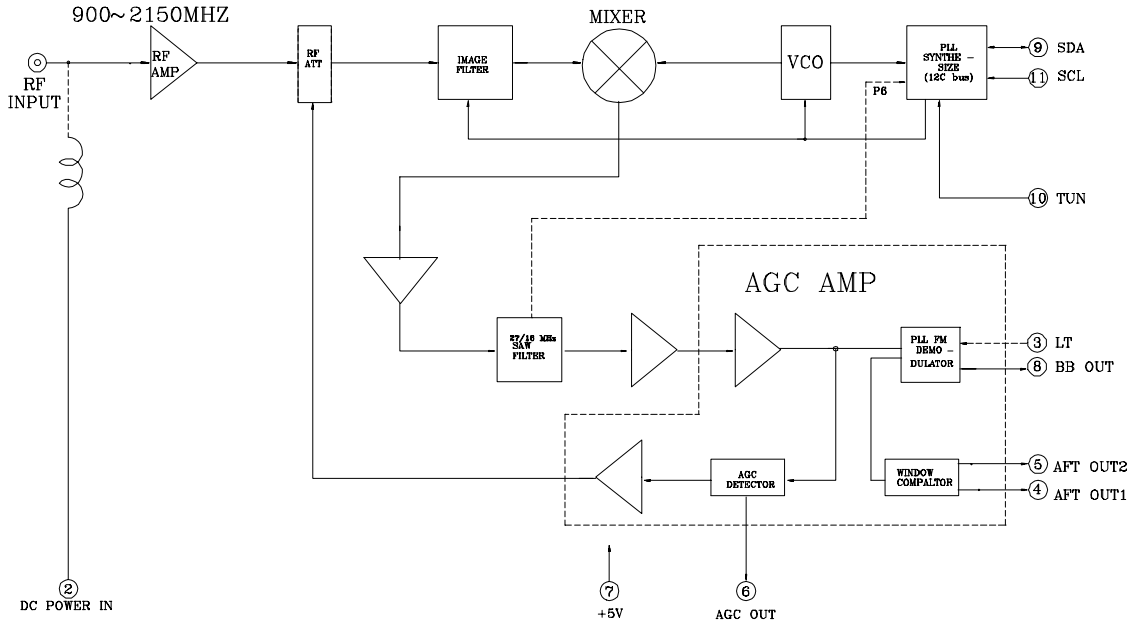
ADDRESS	1	1	0	0	0	MA1	MA0	1	A	BYTE1
STATUS BYTE	POR	FL	I2	I1	I0	A2	A1	A0	A	BYTE2

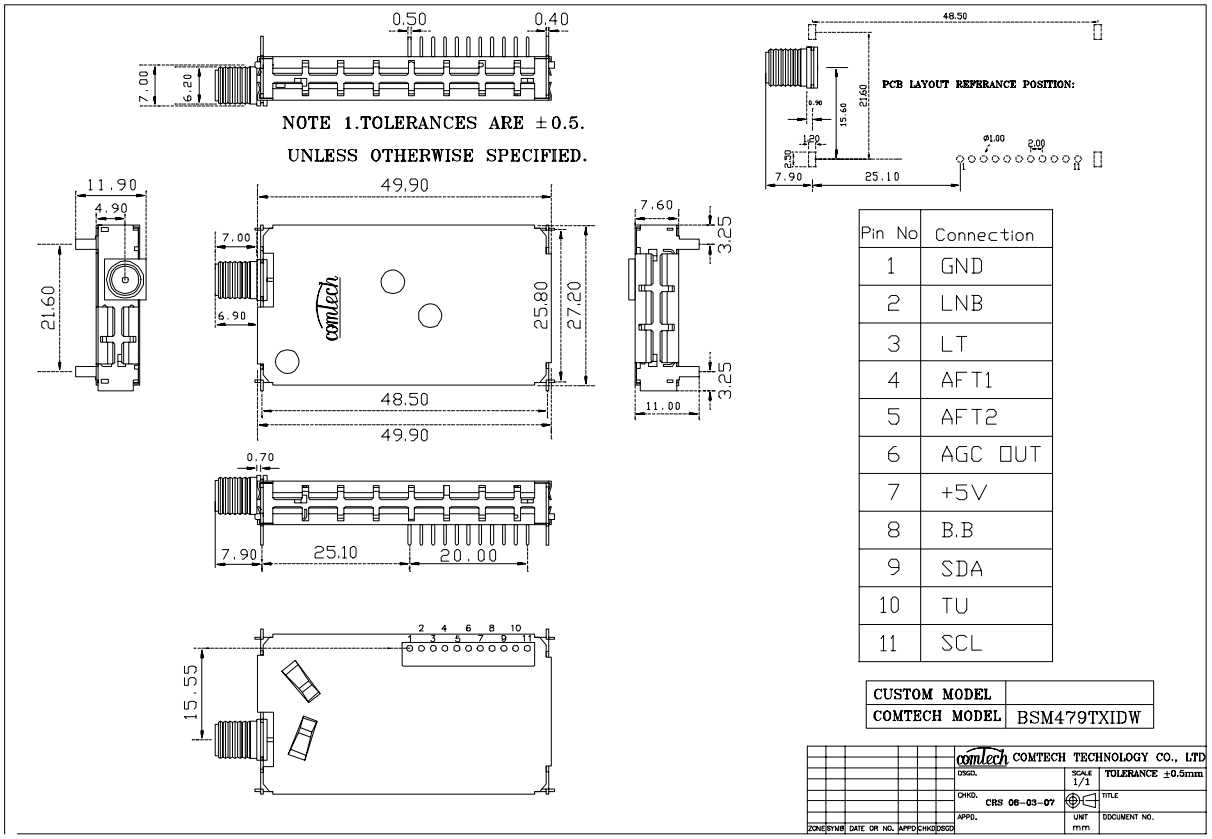
TABLE 2 READ DATA FORMAT

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.

BS TUNER

CIRCUIT BLOCK DIAGRAM





Pin No	Connection
1	GND
2	LNB
3	LT
4	AFT1
5	AFT2
6	AGC OUT
7	+5V
8	B.B
9	SDA
10	TU
11	SCL

CUSTOM MODEL	
COMTECH MODEL	BSM479TXIDW

COMTECH TECHNOLOGY CO., LTD
DSGD. SCALE 1/1 TOLERANCE ±0.5mm
CHKD. CRS 06-03-07 TITLE
APPD. UNIT mm DOCUMENT NO.