

# 337966F7 Tune Up Procedure Test

## Testing model(进入测试模式):

Entering the test pattern before test: Under the SMS state, input" \*\*00000000##OK" , Enter the main menu, Then "1=TALK RX; 2=TALK TX; 3=SMS RX; 4=SMS TX; 9=change ID; 0=clear 24C64 message :

(在对产品进行测试时先进入测试模式:在 SMS 状态下按:\*\*00000000##OK 进入主菜单:按 1=TALK RX; 2=TALK TX ;3=SMS RX; 4=SMS TX; 9=更改 ID; 0=清除 24C64 的信息J

## Note(注意事项) :

1. Remove 24C64 content before test (meaning a new 24C64) (在测试前先清除 24C64 的内容(即是新的 24C64)
2. ID should become 00000000 before Ex-factory (在出厂前要把 ID 设成 00000000(八个 0)

## Recommended Test Equipment (推荐的测试设备 ):

1. HP8920A -Integrated Communication Tester (HP8920A 通信综合测试仪)
2. Digital Voltmeter (数字电压表)
3. Digital Power Adjustable Regulators (数字可调稳压电源)
4. Digital ammeter (数字电流表)

## Equipment connected before the test(测试前的设备连接):

- 1、Put 6V DC Power connect with COB board power supply end, please pay attention for polarity (把直流 6V 电源接到 COB 板的电源供应端, 注意极性。)
- 2、Put COB plate antenna output connect with comprehensive tester's end of RF/INPUT/OUTPUT/ (把 COB 板的天线输出端接到综合测试仪的 RF/INPUT/OUTPUT/端 )
- 3、Connecting a 4 Ohm resistance to the COB plate SPK end. (连接一个 4 奥姆的电阻到 COB 板的 SPK 端).
- 4、SPK port of the positive test should receive comprehensive instrument on AUDIO IN HI (SPK 埠的正极应接到综合测试仪的 AUDIO IN HI 上)
- 5、Negative of SPK port should be connect with Comprehensive Test Instrument's AUDIO IN LO, (SPK 埠的负极应接到综合测试仪的 AUDIO IN LO 上)

## One . Current Testing(电流测试)

1. Standby current(待机电流):

Note : the power supply of the products has been opened at the standby current. (说明: 指产品的电源已打开在待机的电流)

2. Transmit current (发射电流):

Note : Working current while pressing the PTT switch(说明: 指产品在按下 PTT 开关下的工作电流)

3. Off Electricity (关机电流):

Note : The current after products shut down(说明: 指产品关机后的电流)

## Two .VCO Debugging (VCO 调试)

- 1、 TALK /TX/VCO voltage (TALK /TX/VCO 电压)

Description : the test voltage in TALK-TX VCO mode, if the VCO is not rated voltage reference, can adjust VCO coils (说明: 在 TALK-TX 模式下的 VCO 测试电压, 如果 VCO 的电压不在额定范围时, 可以适当调节 VCO 线圈)

#### 2、TALK/RX/VCO voltage (TALK/RX/VCO 电压)

Description : VCO test voltage in TALK-RX VCO mode, if the VCO is not rated voltage reference, can adjust VCO coils(说明: 在 TALK-RX 模式下的 VCO 测试点电压, 如果 VCO 的电压不在额定范围时, 可以适当调节 VCO 线圈)

#### 3、SMS/TX/VCO voltage (SMS/TX/VCO 电压)

Description : VCO test voltage in SMS-TX VCO mode, if the VCO is not rated voltage reference, can adjust VCO coils(说明: 在 SMS-TX 模式下的 VCO 测试点电压, 如果 VCO 的电压不在额定范围时, 可以适当调节 VCO 线圈)

#### 4、SMS/RX/VCO voltage (SMS/RX/VCO 电压)

Description : VCO test voltage in SMS-RX VCO mode, if the VCO is not rated voltage reference, can adjust VCO coils (说明: 在 SMS-RX 模式下的 VCO 测试点电压, 如果 VCO 的电压不在额定范围时, 可以适当调节 VCO 线圈),

### Three、VCO frequency of the lock-in debugging ( VCO 锁相频率的调试)

Description : Adjust TC301 In TALK/TX model, so that the nominal frequency is in range of 462.6625MHZ. Switch to TALK/RX mode frequency is 441.2625MHZ (说明: 在 TALK/TX 模式下调节 TC301, 使频率在额定的 462.6625MHZ 范围内。切换为 TALK/RX 模式时频率为: 441.2625MHZ)

### Four、Transmit power Test(发射功率测试)

#### 1、Transmit power in Talk model (TALK 模式下的发射功率)

Measure the conducted transmit power between >25dBm and <= 26dBm (6.5dB antenna loss)

Note : the output power on 50 Ohm load (说明: 50 欧姆负载下对讲机的输出功率)

Measure the conducted transmit power between >25dBm and <= 26dBm (6.5dB antenna loss)

#### 2、Transmit power in SMS model (SMS 模式下的发射功率)

Note : the output power on 50 Ohm load (说明: 50 欧姆负载下对讲机的输出功率)

### Five、Sensitivity tests (灵敏度的测试)

#### 1, Receiver sensitivity in TALK mode (TALK 模式下接收灵敏度)

Note: Sensitivity in TALK model(说明: 在 TALK 模式的灵敏度)

#### 2,Receiver sensitivity in SMS mode(SMS 模式下接收灵敏度)

Note: Sensitivity in SMS model(说明: 在 SMS 模式的灵敏度)

### Six、Transmit modulation Test (发射调制的测试)

#### 1、TALK modulation (TALK 调制)

Note: Transmit modulation in Talk model (说明: 在 TALK 模式的发射调制)

#### 2、SMS modulation (SMS 调制)

Note: Transmit modulation in SMS model (说明: 在 SMS 模式的发射调制)

NOTE: If transmit modulation isn't in rating scope, Can appropriate adjustments VR2(注意: 如果发射调制不在额定范围时, 可以适当调节 VR2)

### Seven、RSSI control debugging (RSSI 控制调试)

Note: Adjust VR201 so that RSSI control sensitivity is in nominal range(说明: 调节 VR201 使 RSSI 控制灵敏度在额定的范围内。)

## Eight、Output Radio level 输出音频电平

Note : When modulation frequency of Signal Source is 1KHZ, modulation is 1.5KHZ,and volume is turned up at the largest, Speakers output will have four ohm load output level (说明：信号源的调制频率=1KHZ 调制度=1.5KHZ 时在音量电位器拨到最大，喇叭输出端带 4 欧负载的输出电平)

## Walkie talkie Specification

Model:Tw309(USA)

Item	Min	Typical	Max	Units
TALK Transmit Frequency	462.662	462.6625	462.663	MHz
SMS Transmit Frequency	462.687	462.6875	462.688	MHz
TALK Reveiver Frequency	462.662	462.6625	462.663	MHz
SMS Reveiver Frequency	462.687	462.6875	462.688	MHz
TALK TX VCO Frequency	462.662	462.6625	462.663	MHz
TALK RX VCO Frequency	441.262	441.2625	441.263	MHz
SMS TX VCO Frequency	462.687	462.6875	462.688	MHz
SMS RX VCO Frequency	441.287	441.2875	441.288	MHz
RF Bandwidth	3	4	5	KHZ
IF Frequency	21.399	21.4	21.401	MHz
IF Limiting Sensitivity (Sina=20db)	-95	-100	-105	dBm
RF Output Power (Load=50ohm)	25	25.5	26	dBm
Limiting Sensitivity (Sina= 10dB)	-120	-115	-110	dBm
Transmitter Deviation (Mic Input 50mv 1KHz)	1	1.5	2	KHz
RSSI Control Sensitivity	-115	-	-110	dBm
Audio Output Power ( Load =4ohm)	230	250	270	mW
Audio Distortion Amp Output	1	5	10	%
S/N Ratio	45	50	55	dB
Operation Voltage	4	5	6	V
Talk Current	150	170	200	mA
No Talk Current	9	15	20	mA

Standby Current	4	4.5	4.8	mA
Battery size		AAA		
VCO voltage range in TX/RX (TX/RX 模式下的 VCO 电压范围)	1	1.6	2	V