KONGTOP INDUSTRIAL (SZ) CO.,LTD

Manufactor Guide

TO：Marketing department□、R&D ■、PMC□、Purchasing department□、Quality control department■、Project department■、Production department■

MODEL	KT-100	No.		Order No.	
DEPARTMENT	R&D Department	Sulotion		Quantity	
DATE	2009-11-17	Version	V1	Leadtime	

KT-100 Manufactor Guide

Transmit Test Test Condition: inpout Voltage：4.5V, Channel CH1=462.5625MHz

一、Transmit electric current:

1 Test Items:Transmit electric current:

2、instrument: Ammeter、DC Power

3、Test Methods

Connect the ammeter, press PTT,test the transmet current: ≤370mA

二、Transmit frequency and power

1、Test Items: Transmit frequency Transmit power

2、instrument: HP8921 Cell Site Test Set、DC Power

3、Test Methods

3.1 Turn on the instrument to the transmit status,frequency is : 462.5625MHz

3.2 Turn off the Audio Signal Generator function of HP8921 Cell Site Test Set

3.3 Press PTT ,adjust the frequency by VC,ranges: 462.5625MHZ±500HZ

3.4 Inspecting the transmit power: between 25 ~ 27dBm.

三、Transmit modulattion and distortion

1、Test Items：Transmit modulattion and distortion

2、instrument: HP8921 Cell Site Test Set、DC Power

3、Test Methods

3.1 Turn on the instrument to the transmit status,frequency is : 462.5625MHZ,Input the Audio signal(1KHZ/50MV) on TP11 spot.

3.2 Set the terminal to CH1, CTCSS OFF on Transmit status.

3.3 Inspecting the modulation limiting between 2.0--2.5 KHz

3.4 Inspecting the distortion : < 5%

3.5 Inspecting SNR: > 38dB

3.6 Audio requency response

3.6.1 Input the Audio signal(1KHZ/50MV) on TP11 spot.Press PTT.

Change another audio signal frequency,compare with 1KHZ

500Hz: 0.76KHZ ±0.2KHZ

2.5KHz: 2.1KHZ.±0.2KHZ

（Filter Setting HPF 50Hz LPF 15KHz PK +-/2）

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六：ACP Test

1、Test Items：ACP

2、instrument： HP8921 Cell Site Test Set、DC Power

3、Test Methods：

3.1 Turn on the instrument to the transmit status,frequency is : 462.5625MHz

3.2 Set the terminal to CH1, CTCSS OFF on Transmit status.;

3.3 Set the output Audio Signal frequency as 1.25KHZ, level as 150Mv. on HP8921 Cell Site Test Set

3.4 Enter the menu of ACP on HP8921 Cell Site Test Set, Press PTT

3.5 measure and note the ACP data: ≤-58dB

Filter Setting HPF 50Hz LPF 15KHz PK +-/2

七、 CTCSS modulattion deviation

1. Test Items： CTCSS modulattion deviation
2. instrument： HP8921 Cell Site Test Set、DC Power
3. Test Methods：

3.1 Turn on the instrument to the transmit status,frequency is : 462.5625MHz

3.2 Set the terminal to CH1, CTCSS 01 on Transmit status.

3.3 Turn off the Audio Signal Generator function of HP8921 Cell Site Test Set

3.4 Press PTT

3.5 Measure and note the deviation between 0.3~0.65KHZ on HP8921 Cell Site Test Set; modulattion frequency is :67HZ

Filter Setting HPF 50Hz LPF 300Hz PK +-/2

六：VOX test

1、Test Items：VOX

2、instrument： HP8921 Cell Site Test Set、DC Power、 Low-frequency signal Generator

3、Test Methods：

3.1 Input the Audio signal(1KHZ/50MV) on TP11 spot

3.2 *Set the terminal to CH1,VOX level1 (or level2,level3)*

3.3：Change the output level of AF,Inspect the terminal meet the fllowing:

A、at vox sens level 1 15 ±2mV

B、at vox sens level 2 10±2 mV

C、at vox sens level 3 5±2 mV

八：CALL modulattion deviation

1. Test Items: CALL modulattion deviation
2. instrument： HP8921 Cell Site Test Set、DC Power
3. Test Methods

3.1 Set the terminal to CH1, CTCSS 01 on Transmit status

3.2Inspecting the CALL modulattion deviation between 1.2—1.7 KHz

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KT-100 Manufactor Guide

Receiver Test Test Condition: inpout Voltage: 4.5V, Channel CH1=462.5625MHz

一、 Receive AUDIO signal test

1、Test Items：AUDIOoutput、AUDIO distortion、AUDIO S/N、Audio requency response

2、instrument： HP8921 Cell Site Test Set、DC Power

3、Test Methods

3.1 Turn on the instrument to the receiving status,set frequency as : 462.5625MHz,RF level output as -47dBm and 1.5K frequency deviation,1KHZ modulattion signal.

3.2 Set the terminal to CH1, CTCSS OFF, turn the VOL to the MAX.

3.3 Inspecting the MAX AUDIO output: ≥ 1.4V

3.4 Adjust the VOL to let the AUDIO output as 0.9V,inspect the distortion: ≤ 5%

3.5 Inspecting the AUDIO S/N: ≥45 dB.

4、3.6 Inspecting the Audio requency response(compare with 1KHZ)

500Hz: + 3.0 dB ~ +7.0 dB.

2.5KHz: -9.0 dB ~ –15.0 dB.

Filter Setting HPF 50Hz LPF 15KHz PK +-/2

二、Receiver sensitivity test

1、Test Items：Receiver sensitivity

2、 instrument： HP8921 Cell Site Test Set、DC Power

3、Test Methods：

3.1 Turn on the instrument to the receiving status,set frequency as : 462.5625MHz,RF level output as -47dBm and 1.5K frequency deviation,1KHZ modulattion signal.

3.2 Set the terminal to CH1, CTCSS OFF, SQ to level 1.

3.3 Adjust the output level,let the SNR is 12Db.

3.4 Inspect the RF level after adjust,it’s Receiver sensitivity: ≤-118dBm

Filter Setting HPF 50Hz LPF 15KHz PK +-/2

三. SQL sensitivity test

1、Test Items：SQL sensitivity test

2、instrument： HP8921 Cell Site Test Set、DC Power、 Oscilloscope

3、Test Methods：

3.1 Turn on the instrument to the receiving status,set frequency as : 462.5625MHz,RF level output as -47dBm and 1.5K frequency deviation,1KHZ modulattion signal

3.2 Set the terminal to CH1, CTCSS OFF, SQ to level 1. turn the VOL to the MAX.;

3.3 Adjust the output level, LET the AUDIO output as Waveform

3.4 Inspect the RF level after adjust,it’s SQL sensitivity: ≤-118dBm

SQ: (1-6level) the same test method.

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四. CTCSS sensitivity test

1. Test Items: CTCSS sensitivity
2. instrument： HP8921 Cell Site Test Set、DC Power
3. Test Methods:
   - 3.1 Turn on the instrument to the receiving status,set frequency as : 462.5625MHz,RF output is -47dBm, AF1:1KHz modulattion signal with 1.5K frequency deviation, AF2：67Hz modulattion signal with 0.25KHz frequency deviation
   - 3.2 Set the terminal to CH1, CTCSS OFF, SQ to level 1，turn the VOL to the MAX. inspect the TP3 test spot have waveform AUDIO output.

五. Battery Test

1. Test Items: Battery Power Test
2. instrument: DC Power、voltmeter
3. Test Methods：:
   - 3.1 Connect the 4.5V power, parallel connect the voltmeter,adjust the power from high to low;
   - 3.2 Inspect the battery mark on LCD,while reducing the first level,the voltmeter remarks 3.6V ±0.15
   - 3.3 Inspect the battery mark on LCD,while reducing the second level,the voltmeter remarks 3.4V ±0.15
   - 3.4Inspect the battery mark on LCD,while the mark is Empty,the voltmeter remarks 3.2V ±0.15

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CHANNEL	FREQUENCY(MHz)
CH1	FRS 462.5625
CH2	FRS 462.5875
CH3	FRS 462.6125
CH4	FRS 462.6375
CH5	FRS 462.6625
CH6	FRS 462.6875
CH7	FRS 462.7125
CH8	FRS 467.5625
CH9	FRS 467.5875
CH10	FRS 467.6125
CH11	FRS 467.6375
CH12	FRS 467.6625
CH13	FRS 467.6875
CH14	FRS 467.7125
CH15	GMRS 462.5500
CH16	GMRS 462.5750
CH17	GMRS 462.6000
CH18	GMRS 462.6250
CH19	GMRS 462.6500
CH20	GMRS 462.6750
CH21	GMRS 462.7000
CH22	GMRS 462.7250

CTCSS.	
1	67.0Hz
2	71.9Hz
3	74.4Hz
4	77.0Hz
5	79.7Hz
6	82.5Hz
7	85.4Hz
8	88.5Hz
9	91.5Hz
10	94.8Hz
11	97.4Hz
12	100.0Hz
13	103.5Hz
14	107.2Hz
15	110.9Hz
16	114.8Hz
17	118.8Hz
18	123.0Hz
19	127.3Hz
20	131.8Hz
21	136.5Hz
22	141.3Hz
23	146.2Hz
24	151.4Hz
25	156.7Hz
26	162.2Hz
27	167.9Hz
28	173.8Hz
29	179.9Hz
30	186.2Hz
31	192.8Hz
32	203.5Hz
33	210.7Hz
34	218.1Hz
35	225.7Hz
36	233.6Hz
37	241.8Hz
38	250.3Hz
0F	0.0Hz

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