

LTK-1600T TABLECALL TRANSMITTER TUNE UP PROCEDURE

PERFORMANCE TEST

The procedure in this chapter allows the verification of the electrical performance of tablecall. These tests do not require access to the interior of the instrument.

Recommended test equipment

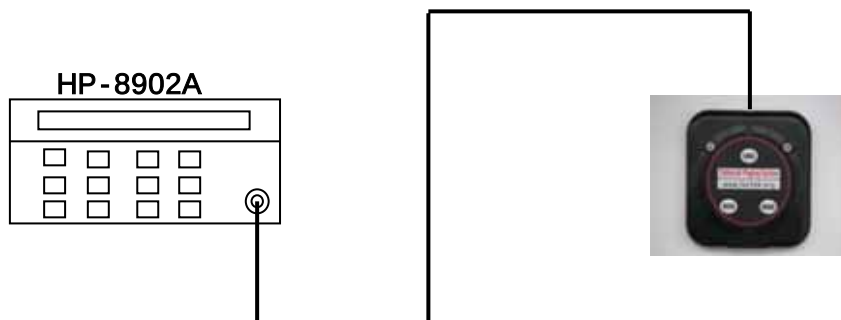
Description	Minimum specification	Model
Power meter	+ / - 0.2dB, - 60 to -20dBm. 100 KHz to 1GHz	HP-436A/8481D
Spectrum analyzer	100KHz to 3GHz, up to -120 dBm	HP-8591E
Measuring receiver	0.2 to 1300MHz, 0 to -125dBm, Freq Counter	HP-8902A
Oscilloscope	DC to 100MHz, 5mV to 1V/div, Rise Time capavity	TEK TDS360
Frequency Counter	+ / - 0.1ppm, 10Hz ~ 1GHz, 9digit	HP-53181A

1. Frequency Accuracy

Frequency : 457.5750MHz

Stability : Same as reference oscillator accuracy. Internal 1ppm 0 to 50degC

1.Test Setup



Carrier frequency accuracy test

2. HP-8902A : auto tuning, frequency display

3. TABLECALL

1) Press the Manager key - RF on

Press the Cancel key - RF off

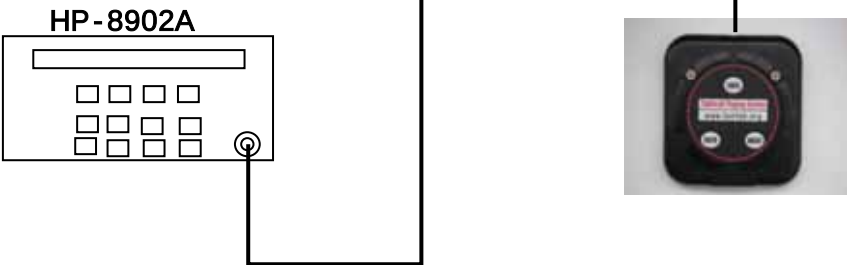
Press the Waiter key - RF on

Press the Cancel key - RF off

TC-1950A FREQ	Lower Limit	Actual	Upper Limit	Remarks
457.5750MHz	457.5748		457.5752	

2. RF Output Level Accuracy
- RF level : 10 dBm
- Accuracy : +/- 1dB

1.Test Setup



2.HP-8902A : Auto-tuning, RF Power

3.TABLECALL :

- 1) Press the Manager key - RF on
- Press the Cancel key - RF off
- Press the Waiter key - RF on
- Press the Cancel key - RF off

Level	TABLECALL Output mod on/off (MHz)	Lower Limit	Actual	Upper Limit	Remark
10 dBm	Service Off	9		11	

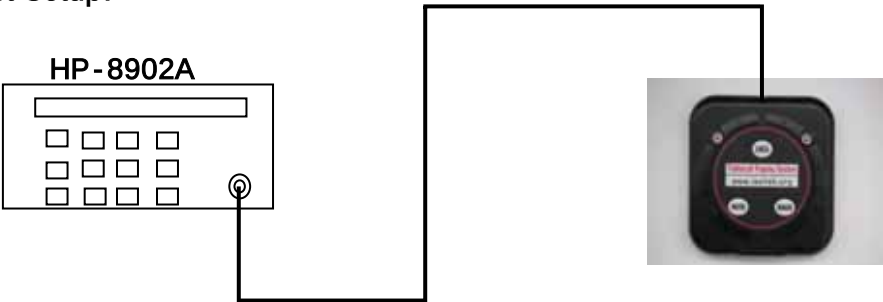
3. Spectral Purity

3.1. Residual FM Noise

RMS Noise : <10Hz Typ, 300Hz ~ 3KHz

<70Hz Typ, 50Hz ~ 3KHz

1. Test Setup.



2. HP 8902A : FM, RMS, Filter BW 300Hz ~ 3KHz

3.TABLECALL :

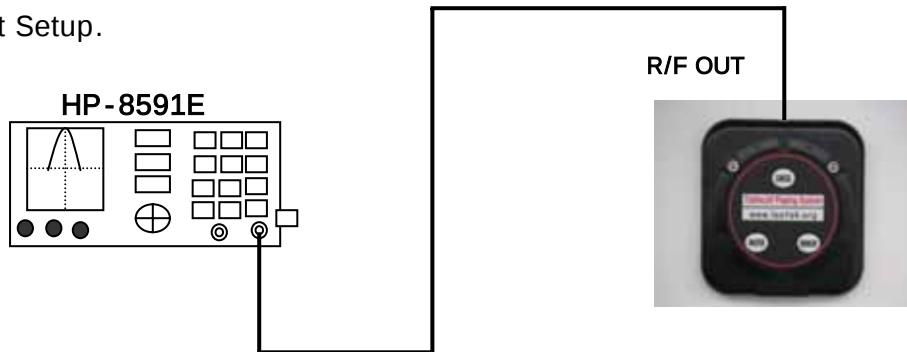
- 1) Press the Manager key - RF on
- Press the Cancel key - RF off
- Press the Waiter key - RF on
- Press the Cancel key - RF off

8902 Filter BW		Actual	Limit (Hz)	Remark
HPF	LPF			
300Hz	3KHz		10Hz	
50Hz	3KHz		70Hz	

3.2. Harmonic Spurious :

Harmonic Level at 2xFOUT : < -60dBc

1. Test Setup.



Harmonice test

2. HP 8591E : Span = 500KHz, RBW = 10KHz, VBW = 30KHz.

3. TABLECALL :

- 1) Press the Manager key - RF on
- Press the Cancel key - RF off
- Press the Waiter key - RF on
- Press the Cancel key - RF off

TABLECALL Harmonic Spurious

Fout(MHz)	Spurious(MHz)	Level(dBm)	Fout - 2 * Fout	Limit	Remark
457,.575	915.15			-60dbc	

4. Modulation

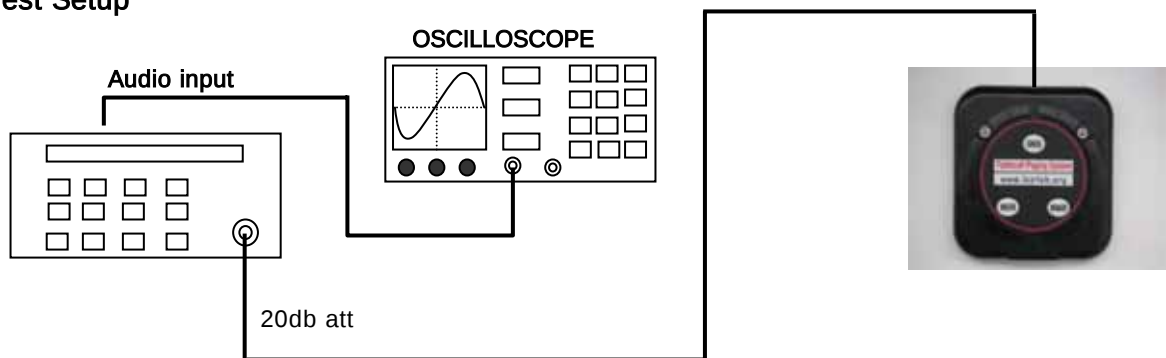
4.1. FM(RECT) (Internal F S K Test Patterns)

Deviation Accuracy

Deviation : 4.5KHz,

Accuracy : +/- 5% (4.275 < FM < 4.725)@4.5KHz

1. Test Setup



FSK Deviation and Noise Test

2. Equipment

HP-8902A : FM, AVG, HPF=OFF, LPF=15KHz

TDS360 : 250us/div, 500mV/div Average : 16

3. TABLECALL

1) Press the Manager key - RF on

Press the Cancel key - RF off

Press the Waiter key - RF on

Press the Cancel key - RF off

4. Read FM Deviation in RMS.

DEV(TABLECALL)

4.5KHz

Limit

4.5KHz + - 5%

Table : F S K Deviation Accuracy

Item	Lower	Actual	Upper	Remark
Deviation (AVG)	4.275		4.725	