

Curbside Valet TRANSMITTER TUNE UP PROCEDURE

PERFORMANCE TEST

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

1. Selected reason of the frequency :
→ Use were selected at random from the desired frequency band.
2. How to adjust the maximum output power:
→ Not adjust.
3. Max output power and Output power tolerance :
→ Max output power: 16dBm
→ Output power tolerance : -3dB

Recommended test equipment

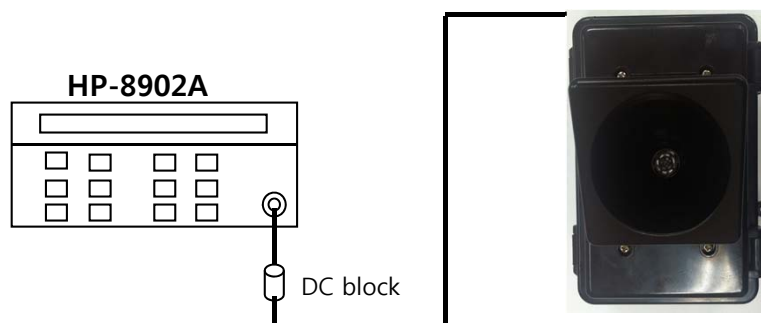
Description	Minimum specification	Model
Power meter	+ / - 0.2dB, - 60 to -20dBm. 100 KHz to 1GHz	HP-436A/8481D
Spectrum analyzer	100KHz to 12GHz, up to -120 dBm	HP-8591E
Measuring receiver	0.2 to 1300MHz, 0 to -125dBm, Freq Counter	HP-8902A
Oscilloscope	DC to 100MHz, 5mV to 1V/div, Rise Time capavity	TEK TDS360
Frequency Counter	+ / - 0.1ppm, 10Hz ~ 1GHz, 9digit	HP-53181A
Attenuator	10W, 20dB Att, DC to 1GHz	Tescom 99910

1. Frequency Accuracy

Frequency : 457.5750MHz

Stability : Same as reference TCXO accuracy. $\pm 2.0\text{ppm}$

1. Test Setup (Connect RF cable to directly Curbside Valet transmitter)



Carrier frequency accuracy test

2. HP-8902A : auto tuning, frequency display
3. Restroom Valet Transmitter
 - 1) Connect DC block
 - 2) Power On or Detecting ultrasonic sensor

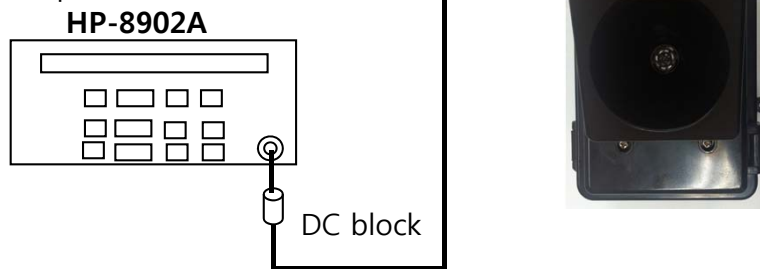
3) Read the frequency accuracy

2. RF Conducted Output power Level Accuracy

RF conducted output power level : 14dBm below

Accuracy : +/-1dB

1. Test Setup



(Connect RF cable to directly Curbside Valet transmitter)

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

3. Restroom Valet Transmitter

1) Connect DC block

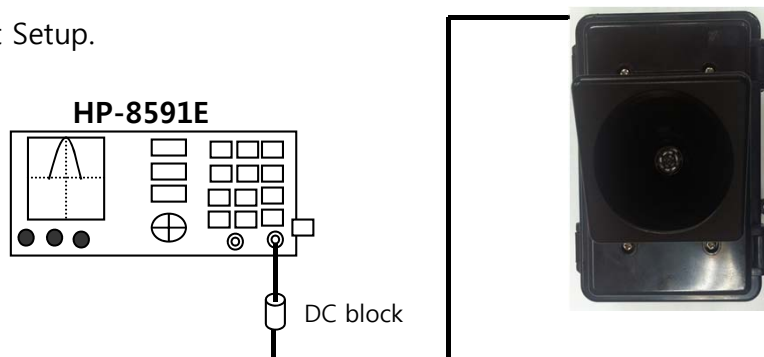
2) Power On or Detecting ultrasonic sensor

3) Read the RF power level

3. Conducted Harmonic Spurious

Harmonic Level at 2xFOUT : <-40dBc

1. Test Setup.



Harmonice test

(Connect RF cable to directly Curbside Valet transmitter)

2. HP 8591E : Span = 2GHz, RBW = 100KHz, VBW = 100KHz. Amplitude = 20dBm

3. Restroom Valet Transmitter

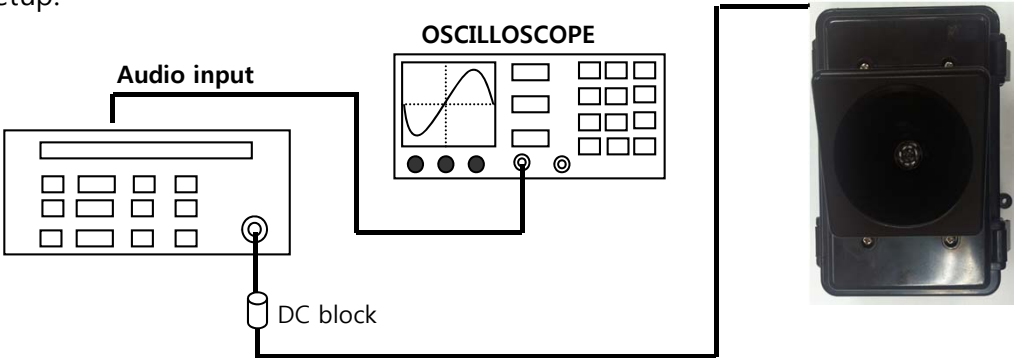
- 1) Connect DC block
- 2) Power On or Detecting ultrasonic sensor
- 3) Read the harmonic spurious level

Restroom Valet Transmitter Harmonic Spurious					
Fout(MHz)	Spurious(MHz)	Level(dBm)	Fout-2*Fout	Limit	Remark
457.5750MHz	915.15Mhz			- 40dbc	

4. Modulation

Modulation Format : GFSK (FM), Max deviation = $\pm 4.5\text{ kHz}$

1. Test Setup.



GFSK Deviation and Noise Test
 (Connect RF cable to directly Curbside Valet transmitter)

2. Equipment
 - HP-8902A : FM
 - TDS360 : 250us/div, 500mV/div Average : 16
3. Restroom Valet Transmitter
 - 1) Connect DC block
 - 2) Power On or Detecting ultrasonic sensor
 - 3) Read the deviation (peak to peak)