

Data Sheet

# VIAVI 3550R

Touch-Screen Radio Test System

## **General Specifications**

Frequency	
Range	2 MHz - 1 GHz (usable from 500 kHz)
Resolution	1 Hz
Output Level	
Range	T/R Port: -50 to -125 dBm / 707.107 μV to 0.126 μV ANT Port: -30 to -90 dBm / 7071.068 μV to 7.071 μV SWR Port: -5 to -65 dBm / 125743.344 μV to 125.743 μV
Resolution	Step size 0.1 dB
Accuracy	±2 dB; ±1.5 dB typical ±3 dB (<-100 dBm); ±1.5 dB typical
SSB Phase No	nise
-80 dBc / Hz	at 20 kHz offset
-95 dBc / Hz a	at 1 GHz typical at 20 kHz offset
Spurious	
Harmonics	-30 dBc, -42 dBc typical
Non- Harmonics	-40 dBc, -50 dBc typical
Residual FM	
<40 Hz in 300	) Hz to 3 kHz BW; 6 Hz typical
Residual AM	
<5% in 300 H	z to 3 kHz BW; 0.65%
Port Input Pr	otection
ANT Port	+20 dBm typical
SWR Port	+20 dBm typical
T/R Port	+44 dBm typical
Port VSWR	
ANT Port	<1.5:1
SWR Port	<1.5:1
T/R Port	<1.25:1
FM Modulati	on (GEN 1 and GEN 2)
Modulation Fr	equency Rate
Range	0 Hz to 20 kHz
Resolution	0.1 Hz

Accuracy	Timebase ±2 Hz	
FM Modulation		
Range	Off, 0 Hz to 100 kHz	
Resolution	1 Hz	
Accuracy	±10% (2 kHz to 50 kHz deviation, 150 Hz to 3 kHz rate) Typically <4% (5.6 kHz deviation, 1 kHz rate)	
Total Harmonics Distortion	3%, 1% typical (1 kHz rate, >2 kHz deviation, 300 Hz - 3 kHz BP filter)	
External FM Mo	dulation	
Microphone In	-	
Input Range	Range 1: 2-15 mVrms (8 mVrms nominal) MIC E-OPEN, F-GND Range 2: 35-350 mVrms (100 mVrms nominal) MIC E-GND, F-OPEN Range 3: 2-32 mVrms (20 mVrms nominal) MIC E-OPEN, F-OPEN	
Frequency Range	300 Hz to 3 kHz	
Deviation Range	Off, 0 Hz to 80 kHz	
Modulation Accuracy	±20% (300 Hz to 1.2 kHz) ±30% (>1.2 kHz)	
Slope	Positive voltage yields positive deviation	
Audio In		
Switchable Loads	150 ohms, 600 ohms, 1 K ohms, High-Z DIV 10 (1 K ohms, 30 Vrms maximum input)	
Input Levels	0.05 to 3 Vrms	
Frequency Range	300 Hz to 5 kHz	
Level Sensitivity	1 kHz / 35 mVrms	
Slope	Positive voltage yields positive deviation	
AM Modulation	(GEN 1 and GEN 2)	
Modulation Frequ	uency Rate	
Range	0 Hz to 20 kHz	
Resolution	0.1 Hz	

Modulation Frequency Rate - Continued			ANT: -60 dBm (-80 dBm with RF Amp On) to -10 dBm (RF Error, Distortion, Modulation, AF Counter	
Accuracy	Timebase ±2 Hz		and AF Level)	
AM Modulation		Usable Input	ANT: -90 dBm (-110 dBm with RF Amp On) to -10	
Range	Off, 0 to 100%	Level Range	dBm (RSSI) T/R: -20 dBm (RF Error, Distortion, Modulation, AF	
Resolution	0.1%		Counter and AF Level)	
Modulation	10% off setting, 150 Hz to 5 kHz rate, 10% to 90%		T/R: -50 dBm to maximum input level (RSSI)	
Accuracy	modulation (based on ±peak / 2 measurement)		ANT: +20 dBm / 0.1 W for 10 seconds) T/R: +43 dBm / 20 W (FM) and +37 dBm (AM)	
Total Harmonics	3% (20% to 90% mod, 1 kHz rate, 300 Hz to 3 kHz	Maximum	+47 dBm / 50 W (FM) and +41 dBm (AM) with 50	
Distortion BP filter)		Input Level	W attenuator	
External AM Mo	odulation		+51.76 dBm / 150 W (FM) and 45.76 dBm (AM) with 150 W attenuator	
Microphone IN		AM / FM Demod		
	Range 1: 2-15 mVrms (8 mVrms nominal) MIC		FM: 5 kHz, 6.25 kHz, 8.33 kHz, 10 kHz, 12.5 kHz, 25	
	E-OPEN, F-GND	IF Bandwidth	kHz, 30 kHz, 100 kHz, 300 kHz	
Input Range	Range 2: 35-350 mVrms (100 mVrms nominal) MIC E-GND, F-OPEN	ii banawiatii	AM: 5 kHz, 6.25 kHz, 8.33 kHz, 10 kHz, 12.5 kHz, 25 kHz, 30 kHz	
	Range 3: 2-32 mVrms (20 mVrms nominal) MIC		0.3-20 kBP, 0.3-5 kBP, 0.3-3 kBP, 0.3 kHP, CCITT BP,	
	E-OPEN, F-OPEN	Audio Filters Bandwidth	C-Wt BP, 15 K LP, 5 K LP, 3 K LP, 0.3 K LP, 0.02 kHP,	
Frequency Range	300 Hz to 3 kHz	Danawiath	0.02-3 kBP, 0.02-5 kBP	
Modulation		Audio	FM: (3 Vrms / kHz Dev) * IF BW (kHz) ±15%	
Range	0% to 80%	Output Level Sensitivity	AM: 7 mVrms / % AM ±15%	
Audio IN		Speaker		
Switchable	150 ohms, 600 ohms, 1 K ohms, High-Z	Output	75 dBa min at 0.5 m, 600 - 1800 Hz, max volume)	
Loads	DIV 10 (1 K ohm, 30 Vrms maximum input)	Volume Control		
Input Levels	0.05 to 3 Vrms	Range	0 to 100	
Frequency	300 Hz to 5 kHz	LO EMISSIONS	>-50 dBc	
Range		•		
Laval		RF Frequency Er	ror Meter	
Level Sensitivity	1% / 35 mVrms nominal	RF Frequency En	±200 kHz	
Sensitivity  AFGEN 1 and AFGEN 1		Range	±200 kHz	
Sensitivity  AFGEN 1 and AFG  Frequency	GEN 2	Range Resolution Accuracy	±200 kHz 1 Hz	
Sensitivity  AFGEN 1 and AFGEN 1		Range Resolution Accuracy	±200 kHz 1 Hz Timebase ±2 Hz	
Sensitivity  AFGEN 1 and AFG  Frequency	GEN 2  30 Hz to 5 kHz (spec)	Range Resolution Accuracy	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)	
AFGEN 1 and AFGEN 1 and AFGEN 2 and AFGEN	30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)	Range Resolution Accuracy RSSI Indicator (I	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext	
Sensitivity  AFGEN 1 and AFG  Frequency  Range  Resolution	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)  0.1 Hz	Range Resolution Accuracy  RSSI Indicator (I	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)	
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Resolution Accuracy Output Level	30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable) 0.1 Hz Timebase ±2 Hz	Range Resolution Accuracy  RSSI Indicator (I	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm  ANT Port (without RF amp on): -90 dBm to -10 dBm	
Sensitivity  AFGEN 1 and AFG  Frequency  Range  Resolution  Accuracy  Output Level  Range	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable) 0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω)	Range Resolution Accuracy  RSSI Indicator (I  Display Range  Usable Meter Reading RF Level Range	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm  ANT Port (without RF amp on): -90 dBm to -10 dBm  ANT Port (with RF amp on): -110 dBm to -10 dBm	
Resolution  Accuracy  Coutput Level  Resolution  Resolution	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)  0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω)  0.01 Vrms	Range Resolution Accuracy  RSSI Indicator (I  Display Range  Usable Meter Reading RF	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm  ANT Port (without RF amp on): -90 dBm to -10 dBm  ANT Port (with RF amp on): -110 dBm to -10 dBm  0.01 dBm	
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Resolution Accuracy Range Resolution Accuracy Cutput Level Range Resolution Accuracy Distortion	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)  0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω)  0.01 Vrms  ±10%; Typical 3%	Range Resolution Accuracy  RSSI Indicator (I  Display Range  Usable Meter Reading RF Level Range  Resolution	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm  ANT Port (without RF amp on): -90 dBm to -10 dBm  ANT Port (with RF amp on): -110 dBm to -10 dBm  0.01 dBm  ±3 dB; 1.5 dB typical (>-50 dBm into T/R, >-90	
Resolution Accuracy Range Resolution Accuracy Cutput Level Range Resolution Accuracy Distortion RF Receiver	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)  0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω)  0.01 Vrms  ±10%; Typical 3%	Range Resolution Accuracy  RSSI Indicator (I Display Range  Usable Meter Reading RF Level Range  Resolution  Accuracy  RF Power Meter	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm ANT Port (without RF amp on): -90 dBm to -10 dBm ANT Port (with RF amp on): -110 dBm to -10 dBm  0.01 dBm  ±3 dB; 1.5 dB typical (>-50 dBm into T/R, >-90 dBm into ANT or >-110 dBm into ANT with RF Amp On)  r (Broadband RF Power Into T/R Port)	
Resolution Accuracy Output Level Range Resolution Accuracy Output Indiana Resolution Accuracy Range Resolution Accuracy Distortion RF Receiver Frequency	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable) 0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω) 0.01 Vrms ±10%; Typical 3% 3% (1 kHz rate, sine, 300 Hz to 3 kHz); 1% typical	Range Resolution Accuracy  RSSI Indicator (I Display Range  Usable Meter Reading RF Level Range  Resolution  Accuracy	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm  ANT Port (without RF amp on): -90 dBm to -10 dBm  ANT Port (with RF amp on): -110 dBm to -10 dBm  0.01 dBm  ±3 dB; 1.5 dB typical (>-50 dBm into T/R, >-90 dBm into ANT or >-110 dBm into ANT with RF Amp On)	
Resolution Accuracy Output Level Range Resolution Accuracy Output Indiana Resolution Accuracy Parage Resolution Accuracy Distortion Resolution Resolution Resolution Resolution Resolution	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)  0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω)  0.01 Vrms ±10%; Typical 3%  3% (1 kHz rate, sine, 300 Hz to 3 kHz); 1% typical  2 MHz to 1 GHz (usable from 750 kHz)	Range Resolution Accuracy  RSSI Indicator (I Display Range  Usable Meter Reading RF Level Range  Resolution  Accuracy  RF Power Meter Display Range  Minimum Input	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm ANT Port (without RF amp on): -90 dBm to -10 dBm ANT Port (with RF amp on): -110 dBm to -10 dBm  0.01 dBm  ±3 dB; 1.5 dB typical (>-50 dBm into T/R, >-90 dBm into ANT or >-110 dBm into ANT with RF Amp On)  r (Broadband RF Power Into T/R Port)	
Resolution Accuracy Output Level Range Resolution Accuracy Output Indianal Accuracy Distortion RF Receiver Frequency Range Resolution	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)  0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω)  0.01 Vrms ±10%; Typical 3%  3% (1 kHz rate, sine, 300 Hz to 3 kHz); 1% typical  2 MHz to 1 GHz (usable from 750 kHz)  1 Hz  Same as timebase	Range Resolution Accuracy  RSSI Indicator (I Display Range  Usable Meter Reading RF Level Range  Resolution  Accuracy  RF Power Meter Display Range  Minimum Input Level	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm ANT Port (without RF amp on): -90 dBm to -10 dBm ANT Port (with RF amp on): -110 dBm to -10 dBm  0.01 dBm  ±3 dB; 1.5 dB typical (>-50 dBm into T/R, >-90 dBm into ANT or >-110 dBm into ANT with RF Amp On)  (Broadband RF Power Into T/R Port)  0 to 43 dBm (0 to 20 W)  0.10 W / +20 dBm	
Resolution Accuracy Distortion  RF Receiver Frequency  Range Resolution Accuracy	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)  0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω)  0.01 Vrms ±10%; Typical 3%  3% (1 kHz rate, sine, 300 Hz to 3 kHz); 1% typical  2 MHz to 1 GHz (usable from 750 kHz)  1 Hz  Same as timebase	Range Resolution Accuracy  RSSI Indicator (I Display Range  Usable Meter Reading RF Level Range  Resolution  Accuracy  RF Power Meter Display Range  Minimum Input Level  Maximum	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm ANT Port (without RF amp on): -90 dBm to -10 dBm ANT Port (with RF amp on): -110 dBm to -10 dBm  0.01 dBm  ±3 dB; 1.5 dB typical (>-50 dBm into T/R, >-90 dBm into ANT or >-110 dBm into ANT with RF Amp On)  r(Broadband RF Power Into T/R Port)  0 to 43 dBm (0 to 20 W)	
Resolution Accuracy Distortion  RF Receiver Frequency  Range Resolution Accuracy Distortion  Accuracy Distortion  Accuracy  Input Amplitude Minimum Input Level, Audio	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)  0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω)  0.01 Vrms ±10%; Typical 3%  3% (1 kHz rate, sine, 300 Hz to 3 kHz); 1% typical  2 MHz to 1 GHz (usable from 750 kHz)  1 Hz  Same as timebase  ANT: -80 dBm (22.4 μV), typical 10 dB SINAD (-110 dBm with preamp)	Range Resolution Accuracy  RSSI Indicator (I Display Range  Usable Meter Reading RF Level Range  Resolution  Accuracy  RF Power Meter Display Range  Minimum Input Level	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm ANT Port (without RF amp on): -90 dBm to -10 dBm ANT Port (with RF amp on): -110 dBm to -10 dBm  0.01 dBm  ±3 dB; 1.5 dB typical (>-50 dBm into T/R, >-90 dBm into ANT or >-110 dBm into ANT with RF Amp On)  (Broadband RF Power Into T/R Port)  0 to 43 dBm (0 to 20 W)  0.10 W / +20 dBm	
Resolution Accuracy Distortion  RF Receiver Frequency  Range Resolution Accuracy Distortion  RF Receiver Frequency Range Resolution Accuracy Distortion  RIPUT Amplitude Minimum Input	GEN 2  30 Hz to 5 kHz (spec) 0.0 Hz to 20.0 kHz (usable)  0.1 Hz  Timebase ±2 Hz  0 to 1.57 Vrms (into 600 Ω)  0.01 Vrms  ±10%; Typical 3%  3% (1 kHz rate, sine, 300 Hz to 3 kHz); 1% typical  2 MHz to 1 GHz (usable from 750 kHz)  1 Hz  Same as timebase  ANT: -80 dBm (22.4 μV), typical 10 dB SINAD (-110	Range Resolution Accuracy  RSSI Indicator (II Display Range  Usable Meter Reading RF Level Range  Resolution  Accuracy  RF Power Meter Display Range Minimum Input Level  Maximum Input Level	±200 kHz  1 Hz  Timebase ±2 Hz  RF Power Within Receiver IF Bandwidth)  dBm: -120 dBm to +43 dBm (+53 dBm with Ext Attn dB set to 20 dB)  Watts: 10 pW to 20 W (200 W with Ext Attn dB set to 20 dB)  T/R Port: -50 dBm to +43 dBm ANT Port (without RF amp on): -90 dBm to -10 dBm ANT Port (with RF amp on): -110 dBm to -10 dBm 0.01 dBm  ±3 dB; 1.5 dB typical (>-50 dBm into T/R, >-90 dBm into ANT or >-110 dBm into ANT with RF Amp On)  *(Broadband RF Power Into T/R Port)  0 to 43 dBm (0 to 20 W)  0.10 W / +20 dBm  20 W / 43 dBm for 10 minutes at +25° C or until thermal alarm sounds	

FM Deviation M	leter
Range	500 Hz to ±100 kHz
Modes	Peak+, Peak-, (Peak+ - Peak-) / 2 RMS, dBr
Resolution	0.1 Hz
Accuracy	±10%, 6% typical; of reading 500 Hz to 100 kHz deviation ±5%, 4% typical 1 kHz to 10 kHz deviation, 150 Hz and 1 kHz rate
AM Percent Me	ter
Range	5% to 100%
Modes	Peak+, Peak-, (Peak+ - Peak-) / 2 RMS, dBr
Resolution	1%
Accuracy	±5% of reading, 1 kHz rate, 30% to 90% modulation, 3 kHz LPF; 2% typical
Ant-Cable Test	
Frequency Range	2.0 MHz to 1000.0 MHz
Span Range	10.0 MHz to 998 MHz
Start Range	2.0 MHz to 990.0 MHz
Stop Range	12.0 MHz to 1000.0 MHz
Frequency Resolution	0.1 MHz
Markers	6
Immunity to Interfering Signal	Typically -30 dBm
SWR Measurem	ent
VSWR Range	1.00 to 20.00
Resolution	0.01
VSWR Accuracy	±20% of SWR readings (calibrated) <300 MHz; typical ±30% of SWR readings (calibrated) ≥300 MHz; typical
Return Loss (RL	) Measurement
Range	0.0 to -50.0 dB
Resolution	0.01 dB
Cable Loss Meas	surement
Range	0.0 to -50.0 dB
Resolution	0.01 dB
DTF Measureme	ent
Measurement Range	3 ft to 328 ft 1 m to 100 m
Return Loss Bridge	0.0 to -50.0 dB
Cable Types	USER, RG-8x, RG-8, RG-8foam, RF-8A, RF-55, RF- 55A, RF55B, RG-58, RG-58foam, RG-58A, RG-58B, RG-58C, RG-174, RG-213, RG-214, RG-223, RG-400
Velocity	0.00 to 1.00, automatically selected to cable type
Loss	o.00 to 100.00 dB per 100 ft, automatically selected by cable type
Est Length	40, 80, 200 or 400 ft 12.2, 24.4, 61 or 121.9 m

Audio Meters	io INI)
Audio Input (Aud	· · · · · · · · · · · · · · · · · · ·
Source	BNC, Input on front panel
Frequency Range	300 Hz to 10 kHz
Level Range	0.2 Vp-p to 5 Vp-p
SINAD Meter (w	ith 1 kHz Audio)
Measurement Sources	Audio in, demod
Audio Frequency	1 kHz
Display Range	0 to 40 dB
Resolution	0.1 dB
Accuracy	±1.5 dB from 8 to 40 dB; ±1.0 dB typical
Distortion Mete	r
Measurement Sources	Audio in, demod
Audio Frequency	1 kHz
Reading Range	0% to 100%
Resolution	0.1%
Accuracy	±10 from 1% to 20%; ±1 count
Audio Frequency	
Input Demodulation Range	FM: 15 Hz to 20 kHz (IF BW set appropriately for received modulation BW) AM: 100 Hz to 10 kHz (IF BW set appropriately for received modulation BW) Audio Input Level: 10 mVp-p to 5 Vp-p
Audio Input Range	15 Hz to 20 kHz
Ext Audio Input	10 mVp-p to 5 Vp-p
Resolution	0.1 Hz
Accuracy	±1 Hz
Audio Frequency	/ Level Meter
Measurement Sources	Audio in, DVM
Frequency Range	200 Hz to <5 kHz
Input Level	Audio in 10 mV rms to 3 V rms (x1) 1 V rms to 30 V rms (/10) DVM 10 mV rms to 3 V rms (x1) 1 V rms to 30 V rms (/20)
Display Unit Resolution	Volts 0.001 V mV 0.001 mV dBuV 0.001 dBuV dBm 0.001 dBm Watts 0.001 W
Accuracy	±5%; ±2% typical; Audio In
Channel Analyze	r (Optional)
Frequency	
Range	2 MHz to 1 GHz (Usable from 250 kHz)
Resolution	1 Hz
Accuracy	Same as timebase

_	10 111 1 5 1 1 2 5
Span	10 kHz to 5 MHz in 1, 2, 5 sequence
Wide Analyzer	10 kHz to 50 MHz in 1, 2, 5 sequence
Effective RBW	Т
Range	19 Hz to 25 kHz (Effective RBW calculated based on FFT window type and Span)
Power Bandwid	lth
Offset Range	0 to ±2.495 MHz
Bandwidth Range	1 kHz to 5 MHz in a 1, 2, 5 sequence (maximum bandwidth is the selective span)
Power Bandwidth Display Range	-137 dBm to +43 dBm
Power Bandwidth Display Resolution	0.001 dBm
Power Bandwidth Accuracy	±3 dB (>-50 dBm into T/R, >-90 dBm into ANT or >-110 dBm into ANT with RF Amp On)
Markers	6
Displayed Average Noise Level (DANL)	-120 dBm (typical, 10 kHz span) -14 dBm with pre- amp enabled
Oscilloscope (Op	otional)
Source	DVM, Audio In, Demod
Traces	One
Markers	Six
Maximum Input Level	+30 Vrms
Trigger	
Туре	Auto, Norm
Edge	Rising, Falling
Trigger Level Range	-30 to +30 Vrms
Horizontal Range	0.5 ms / div to 0.1 sec / div
Accuracy	3% of full scale
Vertical Range	
FM demod	0.1 kHz to 50 kHz / div in a 1, 2, 5 sequence
AM demod	5, 10, 20, 50% / div
DVM and Audio in	10 mV to 10 V / div in a 1, 2, 5 sequence
Accuracy	10% of full scale
Coupling	DVM Input: AC, DC and GND Audio in: AC
Input Impedance	DVM Input: $1 \text{ M}\Omega$ Audio in: $150 \Omega$ , $600 \Omega$ , $1 \text{ K}\Omega$ , High-Z, Div by $10$
Bandwidth	5 kHz
Occupied Bandv Option)	width (Optional) (Requires Channel Analyzer
Frequency	
Range	2 MHz to 1 GHz (Usable from 250 kHz)

Percentile	10%+	o 100%, selectable in 0.1% steps	
OBW Display	1.0% to 100%, selectable III 0.1% steps		
Obvi Display	10 1411	- 20 14 1- 50 14 1- 100 14 1- 200 14 1- 500 14 1-	
Span Range	10 kHz, 20 kHz, 50 kHz, 100 kHz, 200 kHz, 500 kHz, 1 MHz, 2 MHz, and 5 MHz; selectable		
OBW Power Resolution	0.01 dB		
OBW Frequency Resolution	1 Hz (step size = span range / 128)		
Accuracy			
OBW Power	±3 dB (±1.5 dB typical)		
OBW Frequency	±1% of span range (Hanning window selected)		
Modes	Live		
Timebase			
Temperature Stability	±0.15	ppm at -20° C to 70° C	
Aging	0.5 ppm / First Year 0.3 ppm / After First Year		
Warm-up Time	3 min		
Environme	ental	/ Physical	
Overall Dimension	ons	231 mm x 285 mm x 70 mm (W X L X D) 9.1 in x 11.2 in x 2.8 in	
Weight		8.3 lbs (3.75 kg); 12 lbs (5.4 kg) with accessories	
Temperature		Storage: 51° C to +71° C storage Note: Battery must not be subjected to tem- peratures below –20° C, nor above +60° C	
Operation		3550R - DC only Operation: -20° C to +55° C (battery removed, contingent upon applied RF power over time). 3550R Battery Operation: -20° C to +40° C (typical based on internal temperature rise and usage of the instrument). Note: Battery to be charged as temperature between 0° C to +45° C	
Altitude		4600 M - MIL-PRF-28800F Class 2	
Humidty		95% Maximum (Non-condensing) MIL-PRF- 28800F Class 2	
Shock, Functiona	I	30 G - MIL-PRF-28800F Class 2	
Bench Handling		MIL-PRF-28800F Class 2	
Vibration		MIL-PRF-28800F Class 2	
	(AC to	DC Converter / Charger Unit)	
AC Input Voltage Range		100 to 240 VAC, 1.5 A max, 47 Hz - 63 Hz	
Operating Temperature		0° C to +40° C	
Storage Tempera	ture	-20° C to +85° C	
EMI		EN55022 Class B, EN61000-3-2 Class D	
Safety		UL 1950, CSA 22.2 No. 234 and No. 950, IEC 950 / EN 60950	

DC Input Power	
DC Input Voltage Range (DC INPUT CONNECTOR)	11 VDC to 32 VDC
DC Power Input, Max (DC INPUT CONNECTOR)	55 W
DC Power Input, Nominal (DC INPUT CONNECTOR)	25 W
DC Fuse Requirement (DC INPUT CONNECTOR)	5 A, 32 VDC, Type F
Battery	
Battery Type	Lithium Ion (Li Ion) hattery nack

Battery		
Battery Type	Lithium Ion (Li Ion) battery pack Note: Battery must not be subjected to tem- peratures below –20° C, nor above +60° C	
Battery Operation Time	100% Backlight: 3 1/2 hours typical 40% Backlight: 4 hours typical Minimum Backlight: 4 1/2 hours typical	
Battery Charge Time	4 hours Note: Battery to be charged at temperatures between 0° C and +45° C only	

## **Compliance**

EMC		
Emissions	MIL-PRF-28800F EN61326: 1998 Class A EN61000-3-2 EN61000-3-3	
Immunity	MIL-PRF-28800F EN61326: 1998	
Safety		
Standard	UL 61010-1, CSA	
Environmental		
Acoustic Noise	MIL-PRF-28800F Class 2	
Explosive Atmosphere	MIL-PRF-28800F Class 2	
Dust Resistance	MIL-PRF-28800F Class 2	
Drip Proof	MIL-PRF-28800F Class 2	
Blowing Rain	MIL-PRF-28800F Class 2	
Solar Radiation	MIL-PRF-28800F Class 2	

<sup>&</sup>quot;Specifications" describe product performance over the specified operating temperature range and frequency range are covered by the product warranty. "Typical" numbers are specified at ambient, room temperature (23° C) and describes a characteristic that 95% of product exhibit (±2 standard deviations) with a 95% confidence level at room temperature (23° C). Typical characteristics are not covered by product warranty.

## **Ordering Information**

#### **Versions and Options**

Order Number	Description
90849	3550R Handheld 1 GHz Radio Test System (Ruggedized)
Standard Acc	cessories
External DC	Power Supply
Getting Star	ted Manual (Paper)
Operation /	ICW Manual (CD)
Opt01 Chanr	nel Analyzer
Opt02 Oscill	oscope
Options	
83346	35XXOPT07 P25 Test
83347	35XXOPT08 Tracking Generator
89509	35XXOPT09 dPMR Test
89510	35XXOPT10 ARIB T98 Test
92468	3550OPT13 AAR Channel Plan
92803	3550OPT14 Internal Bird 5017D Wideband Power Sensor
112401	3550OPT15 Occupied Bandwidth (Requires 3550OPT01)
114327	3550OPT16 Positive Train Control
142130	TETRA Base Station Test
89261	35XXOPT33 NXDN Test
89262	35XXOPT34 DMR Test
Languages	
91830	Arabic
91827	Simplified Chinese
91828	Traditional Chinese
92240	French
91820	German
91821	Japanese
91822	Korean
91823	Malay / Indonesian
91824	Polish
91826	Russian
91829	Spanish
Regional Kits	1
Accessories Sup	plied with 3550 Regional Kits
	Power Cable (AC)
	Handset
	Short-Open-Load VSWR Calibrator
	Cable (TNC) (M-M) (48 in)
	Cable (BNC) (M-M) (48 in) Qty 2
	1

<sup>2.</sup> Use reason when working with RF test instruments.All thermal ratings are dependent upon applied RF power. The 3550R will alarm once the internal temperature of the 3550R exceeds predetermined limits. Applying power continuously in high ambient temperature conditions will result in a heat build-up within any instrument. The 3550R is rated for (43 dBm) for 10 minutes at +25° C or until thermal alarm sounds. Exceeding these conditions will result in thermal shutdown.

	Adapter (BNC-F to TNC-M) Qty 5
	Fuse, Spare (5 A, 32 Vdc, Type F) Qty 2
	Case, Accessory
	Power Cable (DC cigarette lighter)
	Antenna (BNC) (800 MHz)
	Antenna (BNC) (150 MHz)
	Antenna (BNC) (450 MHz)
	Antenna (BNC) (50 MHz)
	Combo Stand and Cover
90603	3550 US Regional Kit with Black Hard Transit Case + Accessories; US Plug
92777	3550 US Regional Kit with Soft-Sided Carrying Case + Accessories; US Plug
90890	3550 China Regional Kit with Black Hard Transit Case + Accessories: China Plug
92775	3550 China Regional Kit with Soft-Sided Carrying Case + Accessories; China Plug
90889	3550 International Regional Kit with Black Hard Transit Case + Accessories; International Universal Plug
92776	3550 International Regional Kit with Soft-Sided Carrying Case + Accessories; International Universal Plug

Accessories

91600	Case, Hard Transit, Yellow
91706	Case, Hard Transit, Black
10192	AC27004 Case, Soft-Sided Carrying
91679	3550 Combo Stand and Cover
67474	AC0826 Tripod
82553	AC24006 Tripod, Dolly, Stand

67076	AC27005 Battery, Spare, Internal
82557	AC5060 Attenuator (10 dB / 150 W), 1.5 GHz
82559	AC27002 Attenuator (20 dB / 50 W), Adapter (N-F to BNC-F), Adapter (N-M to TNC-M)
82560	AC27003 Attenuator (20 dB / 150 W), Adapter (N-F to BNC-F), Adapter (N-M to BNC-F)
112681	3550 Mounting Bracket for 150 W Attenuator (82560)
92723	3550 Accessory Kit, Precision DTF / VSWR
92793	Bird 5017D Wideband Power Sensor
140747	NEON Signal Mapper Package - Tracking Unit, Software and 1 Year License
140748	NEON Signal Mapper Package - Tracking Unit, Software, and 2 Year License
140749	NEON Signal Mapper Package - Tracking Unit, Software, and 3 Year License
141586	NEON Signal Mapper Package - Tracking Unit, Software, and 5 Year License
63927	AC25081 Survey Technologies Inc. (STI) Site Survey Package (Software & GPS Antenna)

#### **Extended Warranties**

84341	3550 1 Year Extended Hardware Warranty + ANSI No-Cert Calibrations
84342	3550 1 Year Extended Hardware Warranty + Certified Calibrations
84343	3550 3 Year Extended Hardware Warranty + ANSI No-Cert Calibrations
84344	3550 3 Year Extended Hardware Warranty + Certified Calibrations

#### **Calibration Certificates**

91832	3550 Calibration Certificate



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To reach the VIAVI office nearest you, visit viavisolutions.com/contact

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