Table 1. (Cont.)

Test Instrument (TI) Characteristics	Performance Specifications		Test Method
Amplitude Modulation			
Depth	Range: to 99% depth: (Std and Opt H15 and G18) 20 Hz to 10 kHz for 150 kHz to 10 MHz carrier; 20 Hz to 100 kHz for 10 to 1300 MHz carrier (PATEC) 20 Hz to 10 kHz for 150 kHz to 10 MHz carrier; 20 Hz to 20 kHz for 10 to 1300 MHz carrier		Measured using an AM/FM Test Set
	Accuracy:		
AM ACCURACY (±1 digit)	FREQUENCY RANGE	RATES	DEPTH
(Std)			
±2% of reading	150 kHz to 10 MHz	50 Hz to 10 kHz	5% to 99%
±3% of reading	150 kHz to 10 MHz	20 Hz to 10 kHz	to 99%
±1% of reading	10 to 1300 MHz	50 Hz to 50 kHz	5% to 99%
±3% of reading	10 to 1300 MHz	20 Hz to 100 kHz	to 99%
(PATEC)			
±2% of reading	150 kHz to 10 MHz	50 Hz to 10 kHz	5% to 99%
±3% of reading	150 kHz to 10 MHz	20 Hz to 10 kHz	to 99%
±1% of reading	10 to 1300 MHz	50 Hz to 20 kHz	5% to 99%
±3% of reading	10 to 1300 MHz	20 Hz to 20 kHz	to 99%
(Opt H15 and G18)			
±1.75% of reading	150 kHz to 10 MHz	50 Hz to 10 kHz	5% to 99%
±3% of reading	150 kHz to 10 MHz	20 Hz to 10 kHz	to 99%
±3% of reading	10 to 1300 MHz	20 Hz to 100 kHz	to 99%
±0.75% of reading	10 to 1300 MHz	50 Hz to 50 kHz	5% to 99%
±0.4% of reading	108 to 112 MHz	90 Hz	5% to 40%
±0.4% of reading	108 to 112 MHz	150 Hz	5% to 40%
±0.4% of reading	332 to 335 MHz	90 Hz	5% to 40%
±0.4% of reading	332 to 335 MHz	150 Hz	5% to 40%
±0.45% of reading	332 to 335 MHz	90 Hz	41% to 80%
±0.45% of reading	332 to 335 MHz	150 Hz	41% to 80%

Table 1. (Cont.)

Test Instrument (TI) Characteristics	Performance Specifications	Test Method
Amplitude Modulation *(Cont.)*		
Flatness	Range: (Std and Opt H15 and G18) 10 to 1300 MHz carrier, 90 Hz to 10 kHz rates, 20 to 80% depth (PATEC) 250 kHz to 10 MHz carrier, 400 Hz and 1 kHz rates, 20 to 80% depth; 10 to 1300 MHz carrier, 90 Hz to 10 kHz rates, 20 to 80% depth Accuracy: ±0.3% of reading ±1 digit	Measured using an AM/FM Test Set
Demodulated Output Distortion	Range: (Std and Opt H15 and G18) ≤95% depth Accuracy: <0.3% THD for ≤50% depth; <0.6% THD for ≤95% depth Range: (PATEC) <95% depth Accuracy: <1% THD	Measured with an Audio Analyzer
FM Rejection	Range: 250 kHz to 1300 MHz at 50 Hz to 3 kHz BW Accuracy: (Std and Opt H15 and G18) <0.2% AM, 250 kHz to 10 MHz carrier: <5 kHz peak deviation at 400 Hz or 1 kHz rate; <0.2% AM, 10 to 1300 MHz carrier: <50 kHz peak deviation at 400 Hz or 1 kHz rate (PATEC) <0.2% AM, 250 kHz to 1300 MHz carrier: <5 kHz peak deviation at 400 Hz or 1 kHz rate	
Residual AM	Range: 50 Hz to 3 kHz BW Accuracy: <0.01% rms	

Table 1. (Cont.)

Test Instrument (TI) Characteristics	Performance Specifications		Test Method
Frequency Modulation			
Maximum Peak Deviation	Range: 40 kHz peak maximum, 150 kHz to <10 MHz carrier; 400 kHz peak maximum, 10 to 1300 MHz carrier; 40 kHz peak maximum, 10 to 1300 MHz carrier, 750 µs de-emphasis		Measured using an AM/FM Test Set
	Accuracy:		
FM ACCURACY (±1 digit)	FREQUENCY RANGE	RATES	PEAK DEVIATION
(Std)			
±2% of reading	250 kHz to 10 MHz	20 Hz to 10 kHz	≤40 kHz
±1% of reading	10 to 1300 MHz	50 Hz to 100 kHz	≤400 kHz
±5% of reading	10 to 1300 MHz	20 Hz to 200 kHz	≤400 kHz
(PATEC)			
±2% of reading	250 kHz to 10 MHz	20 Hz to 10 kHz	≤40 kHz
±1% of reading	10 to 1300 MHz	50 Hz to 20 kHz	≤400 kHz
±5% of reading	10 to 1300 MHz	20 Hz to 20 kHz	≤400 kHz
(Opt H15 and G18)			
±2% of reading	250 kHz to 10 MHz	20 Hz to 10 kHz	≤40 kHz
±1.75% of reading	250 kHz to 10 MHz	50 Hz to 10 kHz	≤40 kHz
±0.75% of reading	10 to 1300 MHz	50 Hz to 100 kHz	≤400 kHz
±5% of reading	10 to 1300 MHz	20 Hz to 200 kHz	≤400 kHz
Demodulated Output Distortion			
THD	FREQUENCY RANGE	RATES	DEVIATION
(Std)			
<0.1%	400 kHz to 10 MHz	20 Hz to 10 kHz	<10 kHz
<0.1%	10 to 1300 MHz	20 Hz to 100 kHz	<100 kHz
(PATEC)			
<0.1%	400 kHz to 10 MHz	20 Hz to 10 kHz	<10 kHz
<0.1%	10 to 1300 MHz	50 Hz to 20 kHz	<100 kHz

Table 1. (Cont.)

Test Instrument (TI) Characteristics	Performance Specifications		Test Method
Frequency Modulation *(Cont.)*			
Demodulated Output Distortion (Opt H15 and G18)			Measured using an AM/FM Test Set
THD	Frequency Range	Rates	Deviation
<0.1%	400 kHz to 10 MHz	20 Hz to 10 kHz	<10 kHz
<0.1%	10 to 1300 MHz	20 Hz to 100 kHz	<100 kHz
<0.25%	400 kHz to 10 MHz	50 Hz to 10 kHz	<40 kHz
<0.25%	10 to 1300 MHz	50 Hz to 100 kHz	<400 kHz
AM Rejection	Range: 150 kHz to 1300 MHz Accuracy: <2.0 Hz peak deviation for ≤50% AM depth at 1 kHz or 400 Hz rates; 50 Hz to 3 kHz BW		
Residual FM	Range: 50 Hz to 3 kHz BW Accuracy: <8 Hz rms at 1300 MHz decreasing linearly with frequency to <1 Hz rms for ≤100 MHz		
Phase Modulation	Range: 200 Hz to 10 kHz for 150 kHz to <10 MHz carrier; 200 Hz to 20 kHz for 10 to 1300 MHz carrier		Generated by frequency modulating a carrier at a known peak deviation and rate
	Accuracy:		
	Frequency Range	PM Accuracy (±1 digit)	
	(Std and PATEC)		
	150 kHz to <10 MHz Carrier	±4% of reading	
	10 to 1300 MHz Carrier	±3% of reading	
	(Opt H15 and G18)		
	150 kHz to <10 MHz Carrier	±3.5% of reading	
	10 to 1300 MHz Carrier	±2.75% of reading	

Table 1. (Cont.)

Test Instrument (TI) Characteristics	Performance Specifications	Test Method
Phase Modulation *(Cont.)*		
Demodulated Output Distortion	Accuracy: (Std and PATEC) ≤0.1% THD (Opt H15 and G18) ≤0.25% THD	Measured with an Audio Analyzer
AM Rejection	Range: 150 kHz to 1300 MHz Accuracy: (Std and Opt H15 and G18) <0.03 radians peak for 1 kHz rate at 50% AM depth; 50 Hz to 3 kHz BW (PATEC) <0.03 radians peak for 1 kHz and 400 Hz rate at 50% AM depth; 50 Hz to 3 kHz BW	
RF Power		
Power Reference Output	Range: 1 mW at 50 MHz Accuracy: ±1.2%	Measured with a Power Meter and Thermistor Mount or Power Measurement System
RF Range Linearity *[3]	Range: 10 μW to 1 W Accuracy: ±0.03 dB, RF Range 1; ±0.02 dB, RF Ranges 2 to 5	Measured with a Range Calibrator
RF Range-to-Range Change Error *[3]	Range: 10 μW to 1 W Accuracy: ±0.02 dB/RF Range Change from Reference Range	
Zero Set	Range: 10 μW to 1 W Accuracy: ±0.5% of full scale ± 1 count	

See footnotes at end of Table.

Table 1. (Cont.)

Test Instrument (TI) Characteristics	Performance Specifications	Test Method
Tuned RF Level		Measured using a Voltage Doubler

(Opt H15 and G18) IF Synchronous Detector - 200 Hz BW

Range (dBm)	Frequency	Detector Linearity Error	IF Range-Range Error	Digit Error	Noise Error
0 to -110	2.5 to 10 MHz	±(0.02 dB	+0.02 dB/IF Range	+1 digit	+ Noise Error)
-110 to -127	2.5 to 10 MHz	±(0.02 dB	+0.05 dB/IF Range	+1 digit	+ Noise Error)
0 to -80	10 to 1300 MHz	±(0.02 dB	+0.01 dB/IF Range	+1 digit	+ Noise Error)
-80 to -110	10 to 1300 MHz	±(0.02 dB	+0.02 dB/IF Range	+1 digit	+ Noise Error)
-110 to -127	10 to 1300 MHz	±(0.02 dB	+0.05 dB/IF Range	+1 digit	+ Noise Error)

(Opt H15 and G18) IF Average Detector - 30 kHz BW

Range (dBm)	Frequency	Detector Linearity Error	IF Range-Range Error	Digit Error	Noise Error
0 to -85	2.5 to 1300 MHz	±(0.04 dB	+0.02 dB/IF Range	+1 digit	+ Noise Error)
-85 to -100	2.5 to 1300 MHz	±(0.04 dB	+0.05 dB/IF Range	+1 digit	+ Noise Error)

(PATEC and TFCU) IF Synchronous Detector - 200 Hz BW

Range (dBm)	Frequency	Detector Linearity Error	IF Range-Range Error	Digit Error	Noise Error
0 to -127	10 to 1300 MHz	±(0.02 dB	+0.02 dB/IF Range	+1 digit	+ Noise Error)

Table 1. (Cont.)

Test Instrument (TI) Characteristics	Performance Specifications	Test Method
Tuned RF Level *(Cont.)*		Measured using a Voltage Doubler

(PATEC and TFCU) IF Average Detector - 30 kHz BW

Range (dBm)	Frequency	Detector Linearity Error	IF Range-Range Error	Digit Error	Noise Error
0 to -85	2.5 to 1300 MHz	±(0.04 dB	+0.02 dB/IF Range	+1 digit	+ Noise Error)
-85 to -100	2.5 to 1300 MHz	±(0.04 dB	+0.05 dB/IF Range	+1 digit	+ Noise Error)

(Std) IF Synchronous Detector - 200 Hz BW

Range (dBm)	Frequency	Detector Linearity Error	IF Range-Range Error	Digit Error	Noise Error
0 to -110	2.5 to 1300 MHz	±(0.02 dB	+0.02 dB/IF Range	+1 digit	+ Noise Error)
-110 to -127	2.5 to 1300 MHz	±(0.02 dB	+0.05 dB/IF Range	+1 digit	+ Noise Error)

(Std) IF Average Detector - 30 kHz BW

Range (dBm)	Frequency	Detector Linearity Error	IF Range-Range Error	Digit Error	Noise Error
0 to -85	2.5 to 1300 MHz	±(0.04 dB	+0.02 dB/IF Range	+1 digit	+ Noise Error)
-85 to -100	2.5 to 1300 MHz	±(0.04 dB	+0.05 dB/IF Range	+1 digit	+ Noise Error)

Noise Error <0.18 dB for levels <-120 dBm or <0.18 dB for levels <-110 dBm when using SP1.9

Table 1. (Cont.)

Test Instrument (TI) Characteristics	Performance Specifications	Test Method
Tuned RF Level *(Cont.)*		Measured using a Verification Kit
(Opt 050) IF Synchronous Detector - 200 Hz BW		

Range (dBm)	Frequency	Detector Linearity Error	IF Range-Range Error	Digit Error	Noise Error
0 to -100.000	30 MHz	±(0.015 dB	+0.010 dB/10 dB	+1 digit	+ Noise Error)
-100.001 to -127		±(0.015 dB	+0.050 dB/10 dB	+1 digit	+ Noise Error)

Audio Measurements		
Audio RMS Level	Range: 50 Hz to 40 kHz, 0.1 to 3 V rms Accuracy: ±4%	Measured with an Audio Analyzer
Audio Frequency Counter	Range: 20 Hz to 250 kHz Accuracy: reference ±3 digits >1 kHz; reference ±0.02 Hz <1 kHz	External frequency varied and TI display observed for proper indication
Audio Distortion	Range: 400 and 1000 Hz, 0.1 to 3 V rms, 20 Hz to 50 kHz BW Accuracy: Frequency: ±5%; Residual Noise: <0.3% (-50.4 dB); Distortion: ±1 dB of rdg; Sensitivity: 0.1 to 3 V rms, external	Measured with an Audio Analyzer