

Acceptance Test Data
 MTI Model SMF-0101
 Frequency Reference Module

Parameter	Connector Port and Frequency	Units of Measure	Test Data by Serial Number and Test Date					Comments
			001 1/23/2001	002 3/1/2001	003 3/16/2001	004 4/6/2001	005 4/13/2001	
Thermal Stability	-40°C to +60°C	All RF Outputs	2.00E-08	2.20E-08	1.50E-08	2.40E-08	2.00E-08	
Output Level	J1-10 MHz	dBm	3.1	3.7	4.3	4.1	3.5	
	J2-10 MHz	dBm	3.1	3.5	4.3	4	3.5	
	J3-100 MHz	dBm	9	7.1	8.9	8.9	8.1	
	J4-100 MHz	dBm	9.2	7.7	9.3	9.4	8.5	
Harmonics	J1-10 MHz	dBc	-36.4	-43.8	-44	-42.7	-42.7	
	J2-10 MHz	dBc	-33.7	-43	-40	-40	-40	
	J3-100 MHz	dBc	-32.5	-29.9	-30.2	-30.6	-30.3	
	J4-100 MHz	dBc	-34.2	-30.8	-31.5	-30.2	-30	
Spurious	J1-10 MHz	dBc	-80.8	-83	-83	-83	-82.8	
	J2-10 MHz	dBc	-80.9	-82	-83	-82.9	-82.7	
	J3-100 MHz	dBc	-88.8	-83	-84	-81.4	-86.6	
	J4-100 MHz	dBc	-88.6	-82	-83.1	-84	-85.7	
Output Symmetry	E2	%	52	49	50	50	50	
	E2	%	52	49	50	50	50	
	E3	%	52	49	50	50	50	
	E5	%	52	49	50	50	50	
	E6	%	52	49	50	50	50	
	E8	%	52	49	50	50	50	
	E9	%	52	49	50	50	50	

THE TEST DATA ABOVE WAS TAKEN ON A SPECIFIC SYNTHESIZER CONFIGURATION FOR A SPECIFIC CUSTOMER APPLICATION, IT IS PRESENTED AS AN OVERVIEW OF THE CAPABILITY, TECHNOLOGY AND PRODUCTS AT MTI-MILLIREN TECHNOLOGIES

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Phase Noise								
	1 Hz J1-10 MHz	dBc/Hz	-99	-93	-98	-100	-98	
	2.2 Hz	dBc/Hz	-109	-103	-110	-106	-108	
	2.8 Hz	dBc/Hz	-111	-105	-112	-108	-108	
	10 HZ	dBc/Hz	-112	-113	-113	-120	-120	
	100 Hz	dBc/Hz	-139	-148	-148	-146	-147	
	1 KHz	dBc/Hz	-160	-160	-160	-161	-161	
	10 KHz	dBc/Hz	-165	-164	-165	-165	-165	
	100 KHz	dBc/Hz	-166	-166	-167	-167	-167	
	1 Hz J2-10 MHz	dBc/Hz	-100	-93	-99	-98	-102	
	2.2 Hz	dBc/Hz	-111	-113	-110	-108	-106	
	2.8 Hz	dBc/Hz	-111	-115	-110	-108	-108	
	10 HZ	dBc/Hz	-108	-116	-115	-120	-120	
	100 Hz	dBc/Hz	-140	-147	-148	-146	-148	
	1 KHz	dBc/Hz	-160	-161	-161	-160	-161	
	10 KHz	dBc/Hz	-165	-164	-165	-166	-165	
	100 KHz	dBc/Hz	-166	-165	-166	-167	-167	
	1 Hz J3-100 MHz	dBc/Hz	-65	-61	-57	-62	-62	
	2.2 Hz	dBc/Hz	-70	-71	-70	-70	-71	
	2.8 Hz	dBc/Hz	-72	-72	-73	-72	-71	
	10 HZ	dBc/Hz	-84	-87	-86	-86	-88	
	100 Hz	dBc/Hz	-118	-121	-121	-118	-121	
	1 KHz	dBc/Hz	-150	-153	-153	-150	-153	
	10 KHz	dBc/Hz	-170	-169	-168	-168	-168	
	100 KHz	dBc/Hz	-170	-170	-170	-170	-170	
	1 Hz J4-100 MHz	dBc/Hz	-60	-59	-58	-60	-63	
	2.2 Hz	dBc/Hz	-70	-68	-70	-72	-70	
	2.8 Hz	dBc/Hz	-71	-69	-71	-72	-71	
	10 HZ	dBc/Hz	-87	-86	-88	-87	-87	
	100 Hz	dBc/Hz	-118	-121	-121	-120	-121	
	1 KHz	dBc/Hz	-150	-153	-153	-150	-152	
	10 KHz	dBc/Hz	-170	-170	-168	-166	-168	
	100 KHz	dBc/Hz	-170	-170	-170	-169	-170	

Under PHASE NOISE, the measured results as stated reflect phase noise power from two equal sources. Actual phase noise performance for each unit is 3dB below the stated results

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Supply Voltage Sensitivity	+15V	All RF Outputs		4.00E-10	3.00E-10	5.00E-10	4.00E-10	4.00E-10	
	+8V	All RF Outputs		4.00E-10	2.00E-10	2.00E-10	3.00E-10	2.00E-10	
	-8V	All RF Outputs		4.00E-10	2.00E-10	2.00E-10	3.00E-10	2.00E-10	
Warm-up Time	+25°C	All RF Outputs	Minutes	2	1.8	0.9	0.7	1.5	
	-40°C	All RF Outputs	Minutes	2.3	2.4	2.3	2.2	2	
Warm-up dff	+25°C	All RF Outputs		8.00E-09	9.50E-10	1.10E-08	2.10E-09	1.50E-09	
	-40°C	All RF Outputs		1.50E-09	1.00E-08	9.50E-09	6.70E-09	7.50E-09	
Retrace		All RF Outputs		1.50E-09	3.20E-09	6.60E-10	1.00E-09	4.00E-09	
Level Monitor Trigger Level		J1-10 MHz	dBm	-3.8					
		J2-10 MHz	dBm	-3.5					
		J3-100 MHz	dBm	-2.1					
		J4-100 MHz	dBm	-2.1					
Level Monitor	Low	E13	V	0.1	0.1	0.1	0.1	0.1	
	High	E13	V	4.7	4.7	4.7	4.7	4.7	
Lock Status	Low	E14	V	0.1	0.1	0.1	0.1	0.1	
	High	E14	V	4.7	4.7	4.7	4.7	4.7	
Isolation		J1-J2	dB	-40					
		J2-J1	dB	-40					
		J3-J4	dB	-55					
		J4-J3	dB	-55					
		J1-J4	dB	-90					
		J4-J1	dB	-80					

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