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## 4.1 VERIFICATION DATA SHEET

Technician: \_\_\_\_\_ Date: \_\_\_\_\_  
Test Set S/N: \_\_\_\_\_

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STEP	PROCEDURE
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### 4.13.3.B Generator Output Frequency

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6. 1 GHz ( $\pm 101$  Hz) \_\_\_\_\_

### 4.13.3.C Generator Output Power

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4. +10 dBm	+10 dBm ( $\pm 1.0$ dB)	_____
0 dBm	0 dBm ( $\pm 1.0$ dB)	_____
-10 dBm	-10 dBm ( $\pm 1.0$ dB)	_____
-20 dBm	-20 dBm ( $\pm 1.0$ dB)	_____
-30 dBm	-30 dBm ( $\pm 1.0$ dB)	_____
-40 dBm	-40 dBm ( $\pm 1.0$ dB)	_____
-50 dBm	-50 dBm ( $\pm 1.0$ dB)	_____
-60 dBm	-60 dBm ( $\pm 1.0$ dB)	_____

### 4.13.3.D Generator Level Flatness

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3. 50 MHz	0 dBm ( $\pm 1$ dB)	_____
100 MHz	0 dBm ( $\pm 1$ dB)	_____
150 MHz	0 dBm ( $\pm 1$ dB)	_____
200 MHz	0 dBm ( $\pm 1$ dB)	_____
250 MHz	0 dBm ( $\pm 1$ dB)	_____
300 MHz	0 dBm ( $\pm 1$ dB)	_____
350 MHz	0 dBm ( $\pm 1$ dB)	_____
400 MHz	0 dBm ( $\pm 1$ dB)	_____
450 MHz	0 dBm ( $\pm 1$ dB)	_____
500 MHz	0 dBm ( $\pm 1$ dB)	_____
550 MHz	0 dBm ( $\pm 1$ dB)	_____
600 MHz	0 dBm ( $\pm 1$ dB)	_____
650 MHz	0 dBm ( $\pm 1$ dB)	_____
700 MHz	0 dBm ( $\pm 1$ dB)	_____
750 MHz	0 dBm ( $\pm 1$ dB)	_____
800 MHz	0 dBm ( $\pm 1$ dB)	_____
850 MHz	0 dBm ( $\pm 1$ dB)	_____
900 MHz	0 dBm ( $\pm 1$ dB)	_____
950 MHz	0 dBm ( $\pm 1$ dB)	_____
1000 MHz	0 dBm ( $\pm 1$ dB)	_____
1050 MHz	0 dBm ( $\pm 1$ dB)	_____

3901 / 3920 Stop Here

3902 / 3920 /3920B with frequency extension option continue

STEP	PROCEDURE	
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**4.13.3.D Generator Level Flatness (cont)**

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3.	1100 MHz	0 dBm ( $\pm 1$ dB)	
	1150 MHz	0 dBm ( $\pm 1$ dB)	
	1200 MHz	0 dBm ( $\pm 1$ dB)	
	1250 MHz	0 dBm ( $\pm 1$ dB)	
	1300 MHz	0 dBm ( $\pm 1$ dB)	
	1350 MHz	0 dBm ( $\pm 1$ dB)	
	1400 MHz	0 dBm ( $\pm 1$ dB)	
	1450 MHz	0 dBm ( $\pm 1$ dB)	
	1500 MHz	0 dBm ( $\pm 1$ dB)	
	1550 MHz	0 dBm ( $\pm 1$ dB)	
	1600 MHz	0 dBm ( $\pm 1$ dB)	
	1650 MHz	0 dBm ( $\pm 1$ dB)	
	1700 MHz	0 dBm ( $\pm 1$ dB)	
	1750 MHz	0 dBm ( $\pm 1$ dB)	
	1800 MHz	0 dBm ( $\pm 1$ dB)	
	1850 MHz	0 dBm ( $\pm 1$ dB)	
	1900 MHz	0 dBm ( $\pm 1$ dB)	
	1950 MHz	0 dBm ( $\pm 1$ dB)	
	2000 MHz	0 dBm ( $\pm 1$ dB)	
	2050 MHz	0 dBm ( $\pm 1$ dB)	
	2100 MHz	0 dBm ( $\pm 1$ dB)	
	2150 MHz	0 dBm ( $\pm 1$ dB)	
	2200 MHz	0 dBm ( $\pm 1$ dB)	
	2250 MHz	0 dBm ( $\pm 1$ dB)	
	2300 MHz	0 dBm ( $\pm 1$ dB)	
	2350 MHz	0 dBm ( $\pm 1$ dB)	
	2400 MHz	0 dBm ( $\pm 1$ dB)	
	2450 MHz	0 dBm ( $\pm 1$ dB)	
	2500 MHz	0 dBm ( $\pm 1$ dB)	
	2550 MHz	0 dBm ( $\pm 1$ dB)	
	2600 MHz	0 dBm ( $\pm 1$ dB)	
	2650 MHz	0 dBm ( $\pm 1$ dB)	
	2700 MHz	0 dBm ( $\pm 1$ dB)	

**4.13.3.E Generator T/R Power Level Accuracy**

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4.	-30 dBm	-30 dBm ( $\pm 1$ dB)	
	-40 dBm	-40 dBm ( $\pm 1$ dB)	
	-50 dBm	-50 dBm ( $\pm 1$ dB)	
	-60 dBm	-60 dBm ( $\pm 1$ dB)	

STEP PROCEDURE

**4.13.3.F Generator T/R Power Level Flatness**

3.	50 MHz	-30 dBm ( $\pm 1$ dB)	_____
	100 MHz	-30 dBm ( $\pm 1$ dB)	_____
	150 MHz	-30 dBm ( $\pm 1$ dB)	_____
	200 MHz	-30 dBm ( $\pm 1$ dB)	_____
	250 MHz	-30 dBm ( $\pm 1$ dB)	_____
	300 MHz	-30 dBm ( $\pm 1$ dB)	_____
	350 MHz	-30 dBm ( $\pm 1$ dB)	_____
	400 MHz	-30 dBm ( $\pm 1$ dB)	_____
	450 MHz	-30 dBm ( $\pm 1$ dB)	_____
	500 MHz	-30 dBm ( $\pm 1$ dB)	_____
	550 MHz	-30 dBm ( $\pm 1$ dB)	_____
	600 MHz	-30 dBm ( $\pm 1$ dB)	_____
	650 MHz	-30 dBm ( $\pm 1$ dB)	_____
	700 MHz	-30 dBm ( $\pm 1$ dB)	_____
	750 MHz	-30 dBm ( $\pm 1$ dB)	_____
	800 MHz	-30 dBm ( $\pm 1$ dB)	_____
	850 MHz	-30 dBm ( $\pm 1$ dB)	_____
	900 MHz	-30 dBm ( $\pm 1$ dB)	_____
	950 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1000 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1050 MHz	-30 dBm ( $\pm 1$ dB)	_____

3901 / 3920 Stop Here

3902 / 3920 /3920B with frequency extension option continue

STEP	PROCEDURE
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**4.13.3.F**

**Generator T/R Power Level Flatness (cont)**

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3.	1100 MHz	-30 dBm ( $\pm 1$ dB)	
	1150 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1200 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1250 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1300 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1350 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1400 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1450 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1500 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1550 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1600 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1650 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1700 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1750 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1800 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1850 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1900 MHz	-30 dBm ( $\pm 1$ dB)	_____
	1950 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2000 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2050 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2100 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2150 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2200 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2250 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2300 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2350 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2400 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2450 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2500 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2550 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2600 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2650 MHz	-30 dBm ( $\pm 1$ dB)	_____
	2700 MHz	-30 dBm ( $\pm 1$ dB)	_____

**4.13.3.G**

**RF Power Meter Accuracy**

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6.	10.5 dBm ( $\pm 0.4$ dB)		
			_____

STEP PROCEDURE

**4.13.3.H Inband Power Meter Accuracy**

3. No User Cal Errors message

RF Generator Level	7. Nominal Value	8. 3900 Inband Power Meter	9. Difference is <math>\leq \pm 1</math> dB
-60 dBm	_____	_____	_____
-50 dBm	_____	_____	_____
-40 dBm	_____	_____	_____
-30 dBm	_____	_____	_____
-20 dBm	_____	_____	_____

**4.13.3.I Analyzer Level Accuracy**

	10. Nominal Value	14. Marker 1 Level Reading	15. Difference is <math>\leq \pm 1</math> dB
10 MHz	_____	_____	_____
50 MHz	_____	_____	_____
100 MHz	_____	_____	_____
150 MHz	_____	_____	_____
200 MHz	_____	_____	_____
250 MHz	_____	_____	_____
300 MHz	_____	_____	_____
350 MHz	_____	_____	_____
400 MHz	_____	_____	_____
450 MHz	_____	_____	_____
500 MHz	_____	_____	_____
550 MHz	_____	_____	_____
600 MHz	_____	_____	_____
650 MHz	_____	_____	_____
700 MHz	_____	_____	_____
750 MHz	_____	_____	_____
800 MHz	_____	_____	_____
850 MHz	_____	_____	_____
900 MHz	_____	_____	_____
950 MHz	_____	_____	_____
1000 MHz	_____	_____	_____
1050 MHz	_____	_____	_____

3901 / 3920 Stop Here

3902 / 3920 /3920B with frequency extension option continue

STEP

PROCEDURE

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**4.13.3.I**

**Analyzer Level Accuracy (cont)**

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	10. Nominal Value	14. Marker 1 Level Reading	15. Difference is <math>\leq \pm 1\text{ dB}</math>
1100 MHz	_____	_____	_____
1150 MHz	_____	_____	_____
1200 MHz	_____	_____	_____
1250 MHz	_____	_____	_____
1300 MHz	_____	_____	_____
1350 MHz	_____	_____	_____
1400 MHz	_____	_____	_____
1450 MHz	_____	_____	_____
1500 MHz	_____	_____	_____
1550 MHz	_____	_____	_____
1600 MHz	_____	_____	_____
1650 MHz	_____	_____	_____
1700 MHz	_____	_____	_____
1750 MHz	_____	_____	_____
1800 MHz	_____	_____	_____
1850 MHz	_____	_____	_____
1900 MHz	_____	_____	_____
1950 MHz	_____	_____	_____
2000 MHz	_____	_____	_____
2050 MHz	_____	_____	_____
2100 MHz	_____	_____	_____
2150 MHz	_____	_____	_____
2200 MHz	_____	_____	_____
2250 MHz	_____	_____	_____
2300 MHz	_____	_____	_____
2350 MHz	_____	_____	_____
2400 MHz	_____	_____	_____
2450 MHz	_____	_____	_____
2500 MHz	_____	_____	_____
2550 MHz	_____	_____	_____
2600 MHz	_____	_____	_____
2650 MHz	_____	_____	_____
2700 MHz	_____	_____	_____

STEP	PROCEDURE
<b>4.13.3.J</b>	<b>Generator FM Residual</b> <hr/> <p>4. Record Generator FM Level reading Modulation Analyzer FM Level &lt;15 Hz rms</p>
<b>4.13.3.K</b>	<b>Generator AM Residual</b> <hr/> <p>4. Record Residual AM Level reading Modulation Analyzer AM Level &lt;0.1%</p>
<b>4.13.3.L</b>	<b>Generator FM Deviation Accuracy</b> <hr/> <p>4. Record FM Deviation reading FM Residual reading from Step 4 of the Generator FM Residual Verification Procedure</p> <p>5. Subtract FM Residual reading from FM Deviation reading FM deviation is 10 kHz (<math>\pm 0.30</math> kHz)</p>
<b>4.13.3.M</b>	<b>Generator FM Modulation Rate</b> <hr/> <p>4. Record FM Deviation readings 50.0 Hz 300.0 Hz 10000.0 Hz FM Residual reading from Step 4 of the Generator FM Residual Verification Procedure</p> <p>5. Subtract FM Residual reading from each Modulation Analyzer FM reading 50.0 Hz (6 kHz (<math>\pm 0.18</math> kHz) ) 300.0 Hz (6 kHz (<math>\pm 0.18</math> kHz) ) 10000.0 Hz (6 kHz (<math>\pm 0.18</math> kHz) )</p>
<b>4.13.3.N</b>	<b>Generator FM Modulation Distortion</b> <hr/> <p>6. Modulation Distortion is &lt;1%</p>
<b>4.13.3.O</b>	<b>Generator AM Modulation Accuracy</b> <hr/> <p>4. Record AM Modulation reading Residual AM Level reading Step 4 of the Generator AM Residual Verification Procedure</p> <p>5. Subtract AM Level reading from AM Modulation reading AM Modulation is 30% (<math>\pm 1\%</math>)</p>
<b>4.13.3.P</b>	<b>RF Offset Meter Accuracy</b> <hr/> <p>3. RF Offset Meter +10000 Hz (<math>\pm 1</math> Hz) 5. RF Offset Meter -10000 Hz (<math>\pm 1</math> Hz)</p>
<b>4.13.3.Q</b>	<b>Demod Frequency Meter Accuracy</b> <hr/> <p>5. Demod Frequency 1000 Hz (<math>\pm 0.4</math> Hz)</p>

STEP	PROCEDURE
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**4.13.3.R FM Deviation Meter Accuracy**

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- |     |               |           |
|-----|---------------|-----------|
| 4.  | 8901 Residual | kHz       |
| 5.  | 3900 Residual | _____ kHz |
| 7.  | 8901 FM       | _____ kHz |
| 8.  | 3900 FM       | _____ kHz |
| 9.  | 8901 Nominal  | _____ kHz |
| 10. | 3900 Measured | _____ kHz |

**4.13.3.S AM Modulation Meter Accuracy**

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- |     |               |         |
|-----|---------------|---------|
| 4.  | 8901 Residual | %       |
| 5.  | 3900 Residual | _____ % |
| 7.  | 8901 FM       | _____ % |
| 8.  | 3900 FM       | _____ % |
| 9.  | 8901 Nominal  | _____ % |
| 10. | 3900 Measured | _____ % |

**4.13.3.T Analyzer Frequency and Span Accuracy**

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- |     |  |       |
|-----|--|-------|
| 6.  | Marker Frequency (400.000000 MHz $\pm$ 0.003500 MHz) |       |
| 10. | 200 MHz Marker Frequency                             | _____ |
| 13. | 600 MHz Marker Frequency                             | _____ |
| 14. | Difference (400.000000 MHz $\pm$ 5.000000 MHz)       | _____ |

**4.13.3.U Analyzer Bandwidth Switching Error**

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- |     |  |       |
|-----|--|-------|
| 9.  | 300 Hz RBW Filter Marker Level reading                               |       |
| 12. | 3 kHz RBW Filter Marker Level reading                                | _____ |
| 16. | 30 kHz RBW Filter Marker Level reading                               | _____ |
| 19. | 60 kHz RBW Filter Marker Level reading                               | _____ |
| 22. | 300 kHz RBW Filter Marker Level reading                              | _____ |
| 25. | 6 MHz RBW Filter Marker Level reading                                | _____ |
| 26. | Difference between highest and lowest Marker Level readings<br><1 dB | _____ |



STEP PROCEDURE

**4.13.3.V Oscilloscope Amplitude Accuracy**

**8 - 10. Channel 1 Input Connector**

3900 AF Generator Level	8. DMM Reading	9. Nominal Value	10. Marker Delta Level	Tolerance (Nominal ±)	Within Limits
42.4 mVrms (120.0 mVp-p)	_____	_____	_____	(±8 mV)	_____
106.1 mVrms (300.0 mVp-p)	_____	_____	_____	(±20 mV)	_____
212.1 mVrms (600 mVp-p)	_____	_____	_____	(±40 mV)	_____
424.2 mVrms (1200 mVp-p)	_____	_____	_____	(±80 mV)	_____
1.061 Vrms (3.000 Vp-p)	_____	_____	_____	(±200 mV)	_____
2.121 Vrms (6.000 Vp-p)	_____	_____	_____	(±400 mV)	_____
4.242 Vrms (12.000 Vp-p)	_____	_____	_____	(±800 mV)	_____

**16 - 18. Channel 2 Input Connector**

3900 AF Generator Level	16. DMM Reading	17. Nominal Value	18. Marker Delta Level	Tolerance (Nominal ±)	Within Limits
42.4 mVrms (120.0 mVp-p)	_____	_____	_____	(±8 mV)	_____
106.1 mVrms (300.0 mVp-p)	_____	_____	_____	(±20 mV)	_____
212.1 mVrms (600 mVp-p)	_____	_____	_____	(±40 mV)	_____
424.2 mVrms (1200 mVp-p)	_____	_____	_____	(±80 mV)	_____
1.061 Vrms (3.000 Vp-p)	_____	_____	_____	(±200 mV)	_____
2.121 Vrms (6.000 Vp-p)	_____	_____	_____	(±400 mV)	_____
4.242 Vrms (12.000 Vp-p)	_____	_____	_____	(±800 mV)	_____

**4.13.3.W Audio Level Meter Accuracy**

- 6. AF Level Meter ±10% of Digital Multimeter reading \_\_\_\_\_
- 8. AF Level Meter ±10% of Digital Multimeter reading \_\_\_\_\_
- 12. AF Level Meter ±10% of Digital Multimeter reading \_\_\_\_\_
- 14. AF Level Meter ±10% of Digital Multimeter reading \_\_\_\_\_

**4.13.3.X Function Generator Level Accuracy**

- 4. 5.000 Vrms (±50 mVrms) \_\_\_\_\_

**4.13.3.Y Function Generator Frequency Accuracy**

- 3. 5000 Hz (±0.25 Hz) \_\_\_\_\_

STEP	PROCEDURE
<b>4.13.3.Z</b>	<b>Function Generator Total Harmonic Distortion</b>
	3. Total harmonic output is <0.5%
<b>4.13.3.AA</b>	<b>Audio Frequency Meter Accuracy</b>
	5. Nominal $\pm 0.4$ Hz (5000.0 Hz)
<b>4.13.3.AB</b>	<b>Sinad/Distortion Meter Accuracy</b>
	5. Test Set Sinad Meter reading
	6. Audio Analyzer Sinad reading
	7. Sinad Meter Reading Nominal $\pm 1.01$ dB (20.0 dB)
	11. Distortion Meter Reading Nominal $\pm 0.5\%$ (20%)
<b>4.13.3.AC</b>	<b>DMM Functionality/Accuracy</b>
	5. Record DMM reading (Zero volts $\pm 10$ mV)
	8. Record DMM reading (10 DC volts $\pm .2$ V)
	11. Record DMM reading (10 AC volts $\pm 1$ V)
	14. Record DMM reading (2Kohms +++)
	16. Record DMM reading (Zero Ohms $\pm 1$ ohms)
	18. Record DMM reading (1,000 Ohms $\pm 50$ ohms)
	22. Record DMM reading (1 DC AMP $\pm .05$ AMP)
	25. Record DMM reading (1 AC AMP $\pm .05$ AMP)