TABLE 2

Power Dividers, Couplers, Quad Hybrids, & Hybrid Junction Screening

(Non-Connectorized)

100% of Lot (or as Specified)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

TEST	METHOD	CONDITION
Internal Visual	2017	
Stabilization Bake	1008	B
Temperature Cycling	1010	A (Dwell per Table 14)
Acceleration	2001	A (Y1 Direction Only, 1 Minute / Axis)
Electrical Test	Verify Specs @ + 25 Deg. C	
High Temp. Burn-in	168 Hours @ + 125 Deg. C	
Elect. Test @ Temp. Extremes	- 55 Deg. C	
3 Pcs Or 10% / Lot, Whichever Is Greater, unless otherwise specified by contract or PO	+85 Deg. C	
Final Electrical Test	+25 Deg. C	
Leak Test	**MIL-STD-202**	
Fine	112	C
Gross	112	D
X-Ray	2012	(.005 Max. Particle Size)
External Visual	2009	

Note: PIND testing is not applicable – Foam-Filled Devices

TABLE 3

Power Dividers, Couplers, Quad Hybrids, & Hybrid Junction Screening (Connectorized)

100% of Lot (or as Specified)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified).

TEST	METHOD	CONDITION
Internal Visual	2017	
Stabilization Bake	1008	B
Temperature Cycling	1010	A (Dwell per Table 14)
Vibration	**MIL-STD-202** 214	1 F (3 Minutes / Axis)
Electrical Test	Verify Specs @ + 25 Deg. C	
High Temp. Burn-In	168 Hours @ + 125 Deg. C	
Elect. Test @ Temp. Extremes 3 Pcs Or 10% / Lot, Whichever Is Greater, unless otherwise specified by contract or PO.	- 55 Deg. C +85 Deg. C	
Final Electrical Test	+25 Deg. C	
X-Ray (Y1 direction Only for Stripline Devices)	2012	(.005 Max. Particle Size)
External Visual	2009	
Vacuum Bake & Moisture Resistant Packaging	CMFG-0002 CSOP-16-P	

Note: PIND Testing is not applicable – Foam-Filled or Stripline Devices
Vacuum Bake and Moisture Resistant Packaging to be done at the end of production and right before shipping

TABLE 4

Power Dividers, Couplers, Quad Hybrids, & Hybrid Junction Qualification

(Non-Connectorized)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

SUB-GROUP 1 (5 Samples)

TEST	METHOD	CONDITION
External Visual	2009	
Temperature Cycling	1010	(100 Cycles) (-65 to +125 Deg. C) (Dwell per Table 14)
Electrical Test	Verify Specs @ + 25 Deg. C	
Vibration	**MIL-STD-202** 204	G (30 G's)
Electrical Test @ Temp. Extremes	-55 Deg. C +85 Deg. C	
Final Electrical Test	+25 Deg. C	
Leak Test	**MIL`-STD-202**	
Fine	112	C
Gross	112	D
X-Ray	2012	Y Axis (.005 Max. Particle Size)
Visual Examination	1010	

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TABLE 4 (Continued)

Power Dividers, Couplers, Quad Hybrids, & Hybrid Junction Qualification

(Non-Connectorized)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

SUB-GROUP 2 (2 Samples From Sub-Group 1)

TEST	METHOD	CONDITION
Life Test	1005	1000 Hours @ +125 Deg. C
Electrical Test	+25 Deg. C	

SUB-GROUP 3 (3 Samples From Sub-Group 1)

TEST	METHOD	CONDITION
Solderability	**MIL-STD-202** 208	(With 8 Hours of Steam Aging) (245 +/-5 Deg. C, 5 Seconds)
Resistance to Solder Heat	**MIL-STD-202** 210	C (260 +/- 5 Deg. C, 10 +/-2 Seconds) (Standard Soldering Construction)
OR		
	MIL-STD-202 210	J (235 +/-5 Deg. C, 30 +/-5 Seconds) (Welded or Bonded Construction)
Resistance to Solvents	**MIL-STD-202** 215	(Not applicable to Laser Marked Units)
Terminal Strength	**MIL-STD-202** 211	C* For Leaded Devices - - Bend Test, 0.5 Lb., 90 Deg., 3 Repetitions

*For Surface Mount Devices, Use Test Condition A (Modified, Pull at Right Angle to the Lead Axis @ 0.5 Lbs.)

TABLE 5

Power Dividers, Couplers, Quad Hybrids, & Hybrid Junction Qualification

(Connectorized)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified).

5 Samples **TEST**	**METHOD**	**CONDITION**
External Visual	2009	
Temperature Cycling	1010	(100 Cycles) (-65 to +125 Deg. C) (Dwell per Table 14)
Electrical Test	Verify Specs @ + 25 Deg. C	
Vibration (Random)	**MIL-STD-202** 214	2 H (6 Min. / Axis)
Electrical Test	Verify @ +25 Deg. C	
Mechanical Shock	MIL-STD-202 213	F (Except 750 G's)
Electrical Test	Verify @ +25	
Thermal Vacuum	Merrimac Procedure HI-REL-0008	5 cycles, -50 to +85 C, 10(E(-5)) Torr or less
Electrical Test @ Temp. Extremes	-55 Deg. C + 85 Deg. C	
X-Ray	2012	Y Axis (.005 Max. Particle Size)
Life Test	1005	1000 Hours
Resistance to Solvents	**MIL-STD-202** 215	3 Samples (Not applicable to Laser Marked Units)
Final Electrical Test	+25 Deg. C	
Visual Examination	1010	

Note: PIND Testing is not applicable-Foam Filled or Stripline Devices

TABLE 6

Mixer, I&Q Networks, Bi-Phase Modulators Screening

(Non-Connectorized)

100% of Lot (or as Specified)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

TEST	METHOD	CONDITION
Internal Visual	2017	
Stabilization Bake	1008	B
Temperature Cycling	1010	A (Dwell per Table 14)
Acceleration	2001	A (Y1 Direction Only, 1 Minute / Axis)
Electrical Test	Verify Specs @ + 25 Deg. C	
Burn-in	1015, Class Level S	A, B or D (30 mA Peak 60 Hz AC),
Elect. Test @ Temp. Extremes	- 55 Deg. C	
3 Pcs Or 10% / Lot, Whichever Is Greater, unless otherwise specified by contract or PO	+85 Deg. C	
Final Electrical Test	+25 Deg. C	
Leak Test	**MIL-STD-202**	
Fine	112	C
Gross	112	D
X-Ray	2012	(.005 Max. Particle Size)
External Visual	2009	

Note: PIND testing is not applicable – Foam-Filled Devices

TABLE 7

Mixer, I&Q Networks, Bi-Phase Modulators Screening

(Connectorized – Lumped Element)

100% of Lot (or as Specified)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified).

TEST	METHOD	CONDITION
Internal Visual	2017	
Stabilization Bake	1008	B
Temperature Cycling	1010	A (Dwell per Table 14)
Vibration	**MIL-STD-202** 214	1 F (3 Minutes / Axis)
Electrical Test	Verify Specs @ + 25 Deg. C	
Burn-In	1015	D (30 mA Peak 60 Hz AC)
Elect. Test @ Temp. Extremes 3 Pcs Or 10% / Lot, Whichever Is Greater, unless otherwise specified by contract or PO	- 55 Deg. C +85 Deg. C	
Final Electrical Test	+25 Deg. C	
X-Ray	2012	(.005 Max. Particle Size)
External Visual	2009	
Vacuum Bake & Moisture Resistant Packaging	CMFG-0002 CSOP-16-P	

Note: PIND Testing is not applicable – Foam-Filled
Vacuum Bake and Moisture Resistant Packaging to be done at the end of production process and right before shipping

TABLE 8

Mixer, I&Q Networks, Bi-Phase Modulators Qualification (Non-Connectorized)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

SUB-GROUP 1 (5 Samples)

TEST	METHOD	CONDITION
External Visual	2009	
Temperature Cycling	1010	(100 Cycles) (-65 to +125 Deg. C) (Dwell per Table 14)
Electrical Test	Verify Specs @ + 25 Deg. C	
Vibration	**MIL-STD-202** 204	G (30 G's)
Electrical Test @ Temp. Extremes	-55 Deg. C +85 Deg. C	
Final Electrical Test	+25 Deg. C	
Leak Test Fine Gross	**MIL-STD-202** 112 112	 C D
X-Ray	2012	Y Axis (.005 Max. Particle Size)
Visual Examination	1010	

Note: PIND Testing is Not Applicable – Foam Filled Devices.

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TABLE 8 (Continued)

Mixer, I&Q Networks, Bi-Phase Modulators Qualification

(Non-Connectorized)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

SUB-GROUP 2 (2 Samples From Sub-Group 1)

TEST	METHOD	CONDITION
Life Test	1005	D 1000 Hours @ +85 Deg. C 30 mA Peak 60 Hz AC
Electrical Test	+25 Deg. C	

SUB-GROUP 3 (3 Samples From Sub-Group 1)

TEST	METHOD	CONDITION
Solderability	**MIL-STD-202** 208	(With 8 Hours of Steam Aging) (245 +/-5 Deg. C, 5 Seconds)
Resistance to Solder Heat	**MIL-STD-202** 210	C (260 +/- 5 Deg. C, 10 +/-2 Seconds) (Standard Soldering Construction)
OR		
	MIL-STD-202 210	J (235 +/-5 Deg. C, 30 +/-5 Seconds) (Welded or Bonded Construction)
Resistance to Solvents	**MIL-STD-202** 215	(Not applicable to Laser Marked Units)
Terminal Strength	**MIL-STD-202** 211	C* For Leaded Devices - - Bend Test, 0.5 Lb., 90 Deg., 3 Repetitions
	*For Surface Mount Devices, Use Test Condition A (Modified, Pull at Right Angle to the Lead Axis @ 0.5 Lbs.)	
Electrical Test	+ 25 Deg. C	

TABLE 9

Mixer, I&Q Networks, Bi-Phase Modulators Qualification

(Connectorized – Lumped Element)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified).

SUB-GROUP 1 (5 Samples)

TEST	METHOD	CONDITION
External Visual	2009	
Temperature Cycling	1010	(100 Cycles) (-65 to +125 Deg. C) (Dwell per Table 14)
Electrical Test	Verify Specs @ + 25 Deg. C	
Vibration (Random)	**MIL-STD-202** 214	2 H (6 Min. / Axis)
Electrical Test	Verify @ +25 Deg. C	
Mechanical Shock	**MIL-STD-202** 213	F (Except 750 G's)
Electrical Test	Verify @ +25 Deg. C	
Electrical Test @ Temp. Extremes	-55 Deg. C + 85 Deg. C	
X-Ray	2012	Y Axis (.005 Max. Particle Size)
Life Test	1005	D 1000 Hours @ +85 Deg. C 30 mA Peak 60 Hz AC
Resistance to Solvents	**MIL-STD-202** 215	3 Samples (Not applicable to Laser Marked Units)
Final Electrical Test	+25 Deg. C	
Visual Examination	1010	

Note: PIND Testing is Not Applicable – Foam Filled or Stripline Devices

TABLE 10
Power Dividers, Couplers, Quad Hybrids, & Hybrid Junction
Lot Acceptance
(Non-Connectorized)
Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

(2 Samples)

TEST	METHOD	CONDITION
External Visual	2009	
Temperature Cycling	1010	(50 Cycles) (-65 to +125 Deg. C) (Dwell per Table 14)
Electrical Test	Verify Specs @ + 25 Deg. C	
Vibration	MIL-STD-202 204	G (30 G's)
Electrical Test @ Temp. Extremes	-55 Deg. C +85 Deg. C	
Final Electrical Test	+25 Deg. C	
Leak Test Fine Gross	MIL`-STD-202 112 112	 C D
X-Ray	2012	Y Axis (.005 Max. Particle Size)
Visual Examination	1010	

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TABLE 10 (Continued)

Power Dividers, Couplers, Quad Hybrids, & Hybrid Junction Lot Acceptance

(Non-Connectorized)

Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

Solderability	MIL-STD-202 208	(With 8 Hours of Steam Aging) (245 +/-5 Deg. C, 5 Seconds)
Resistance to Solder Heat	MIL-STD-202 210	C (260 +/- 5 Deg. C, 10 +/-2 Seconds) (Standard Soldering Construction)
OR		
	MIL-STD-202 210	J (235 +/-5 Deg. C, 30 +/-5 Seconds) (Welded or Bonded Construction)
Resistance to Solvents	MIL-STD-202 215	(Not applicable to Laser Marked Units)
Terminal Strength	MIL-STD-202 211	C* For Leaded Devices - - Bend Test, 0.5 Lb., 90 Deg., 3 Repetitions

*For Surface Mount Devices, Use Test Condition A
(Modified, Pull at Right Angle to the Lead Axis @ 0.5 Lbs.)

TABLE 11
Power Dividers, Couplers, Quad Hybrids, & Hybrid Junction
Lot Acceptance
(Connectorized)
Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified).

(2 Samples) TEST	METHOD	CONDITION
External Visual	2009	
Temperature Cycling	1010	(50 Cycles) (-65 to +125 Deg. C) (Dwell per Table 14)
Electrical Test	Verify Specs @ + 25 Deg. C	
Vibration (Random)	MIL-STD-202 214	2 H (6 Min. / Axis)
Electrical Test	Verify @ +25 Deg. C	
Mechanical Shock	MIL-STD-202 213	F (Except 750 G's)
Electrical Test	Verify @ +25 Deg. C	
Electrical Test @ Temp. Extremes	-55 Deg. C + 85 Deg. C	
X-Ray	2012	Y Axis (.005 Max. Particle Size)
Resistance to Solvents	MIL-STD-202 215	(Not applicable to Laser Marked Units)
Final Electrical Test	+25 Deg. C	
Visual Examination	1010	

Note: PIND Testing is Not Applicable – Foam Filled or Stripline Devices

TABLE 12
Mixer, I&Q Networks, Bi-Phase Modulators
Lot Acceptance
(Non-Connectorized)
Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

(2 Samples)

TEST	METHOD	CONDITION
External Visual	2009	
Temperature Cycling	1010	(50 Cycles) (-65 to +125 Deg. C) (Dwell per Table 14)
Electrical Test	Verify Specs @ + 25 Deg. C	
Vibration	MIL-STD-202 204	G (30 G's)
Electrical Test @ Temp. Extremes	-55 Deg. C +85 Deg. C	
Final Electrical Test	+25 Deg. C	
Leak Test Fine Gross	MIL-STD-202 112 112	 C D
X-Ray	2012	Y Axis (.005 Max. Particle Size)
Visual Examination	1010	

Note: PIND Testing is Not Applicable – Foam Filled Devices.

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TABLE 12(Continued)

Mixer, I&Q Networks, Bi-Phase Modulators
Lot Acceptance
(Non-Connectorized)
Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified)

TEST	METHOD	CONDITION
Solderability	MIL-STD-202 208	(With 8 Hours of Steam Aging) (245 +/-5 Deg. C, 5 Seconds)
Resistance to Solder Heat	MIL-STD-202 210	C (260 +/- 5 Deg. C, 10 +/-2 Seconds) (Standard Soldering Construction)
OR		
	MIL-STD-202 210	J (235 +/-5 Deg. C, 30 +/-5 Seconds) (Welded or Bonded Construction)
Resistance to Solvents	MIL-STD-202 215	(Not applicable to Laser Marked Units)
Terminal Strength	MIL-STD-202 211	C* For Leaded Devices - - Bend Test, 0.5 Lb., 90 Deg., 3 Repetitions
	*For Surface Mount Devices, Use Test Condition A (Modified, Pull at Right Angle to the Lead Axis @ 0.5 Lbs.)	
Electrical Test	+ 25 Deg. C	

TABLE 13
Mixer, I&Q Networks, Bi-Phase Modulators
Lot Acceptance
(Connectorized – Lumped Element)
Methods & Conditions are I.A.W. MIL-STD-883 (or as Specified).

(2 Samples) TEST	METHOD	CONDITION
External Visual	2009	
Temperature Cycling	1010	(50 Cycles) (-65 to +125 Deg. C) (Dwell per Table 14)
Electrical Test	Verify Specs @ + 25 Deg. C	
Vibration (Random)	MIL-STD-202 214	2 H (6 Min. / Axis)
Electrical Test	Verify @ +25 Deg. C	
Mechanical Shock	MIL-STD-202 213	F (Except 750 G's)
Electrical Test	+25 Deg. C	
Electrical Test @ Temp. Extremes	-55 Deg. C + 85 Deg. C	
X-Ray	2012	Y Axis (.005 Max. Particle Size)
Resistance to Solvents	MIL-STD-202 215	(Not applicable to Laser Marked Units)
Final Electrical Test	+25 Deg. C	
Visual Examination	1010	

Note: PIND Testing is Not Applicable – Foam Filled or Stripline Devices

Table 14: Exposure Time In Air At Temperature Extremes	
Weight of Specimen (Grams)	Dwell time (hot / cold) Minutes
28 and below	15
29 to 136	30
137 to 1360	60