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**PRODUCT CHANGE NOTICE**  
PCN Form (D4-E000-73)

**PCN#11-007-1**

**NOTIFICATION DATE: October 14, 2011**

**MODEL(S) AFFECTED:**

ERA-3+ and derivatives  
ERA-3SM+ and derivatives

**EXTENT OF CHANGE:**

Updated Data Sheet (see [www.minicircuits.com](http://www.minicircuits.com)), resulting from change of die to alternate qualified supplier part.

**EFFECT OF CHANGE:**

- Change in typical performance curves
- Change in Gain

Frequency (MHz)	GAIN(dB)	
	From	To
100	24.3 Max.	24.4 Max.
	22.1 Typ.	23.4 Typ.
2000	19.5 Max.	20.7 Max.
3000	17.3 Max.	18.5 Max.

- No change in mechanical specifications

**REASON FOR CHANGE:**

Non-availability of old chip.

**EFFECTIVE DATE OF CHANGE:**

Immediate

**DELIVERY:**

Immediate

**ATTACHMENTS:**

ERA Performance Report

**QUESTIONS?**

**PLEASE CONTACT US.**

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Attachment to **PCN#11-007-1**

**PRODUCT CHANGE NOTICE REPORT**

MODEL: ERA-3SM+, ERA-3+

RELIABILITY PERFORMANCE: Replacement design is previously supplied alternate part, qualification report available.

MECHANICAL PERFORMANCE: Package is same as existing

ELECTRICAL PERFORMANCE: Die used is a previously qualified and offered design. Swept RF characterization is performed in support of customer application support.

CHANGE BACKGROUND: The following Product Change Notice Report addresses re-introduction of a previously qualified part. The part to be supplied under this PCN was previously supplied under the same part number.

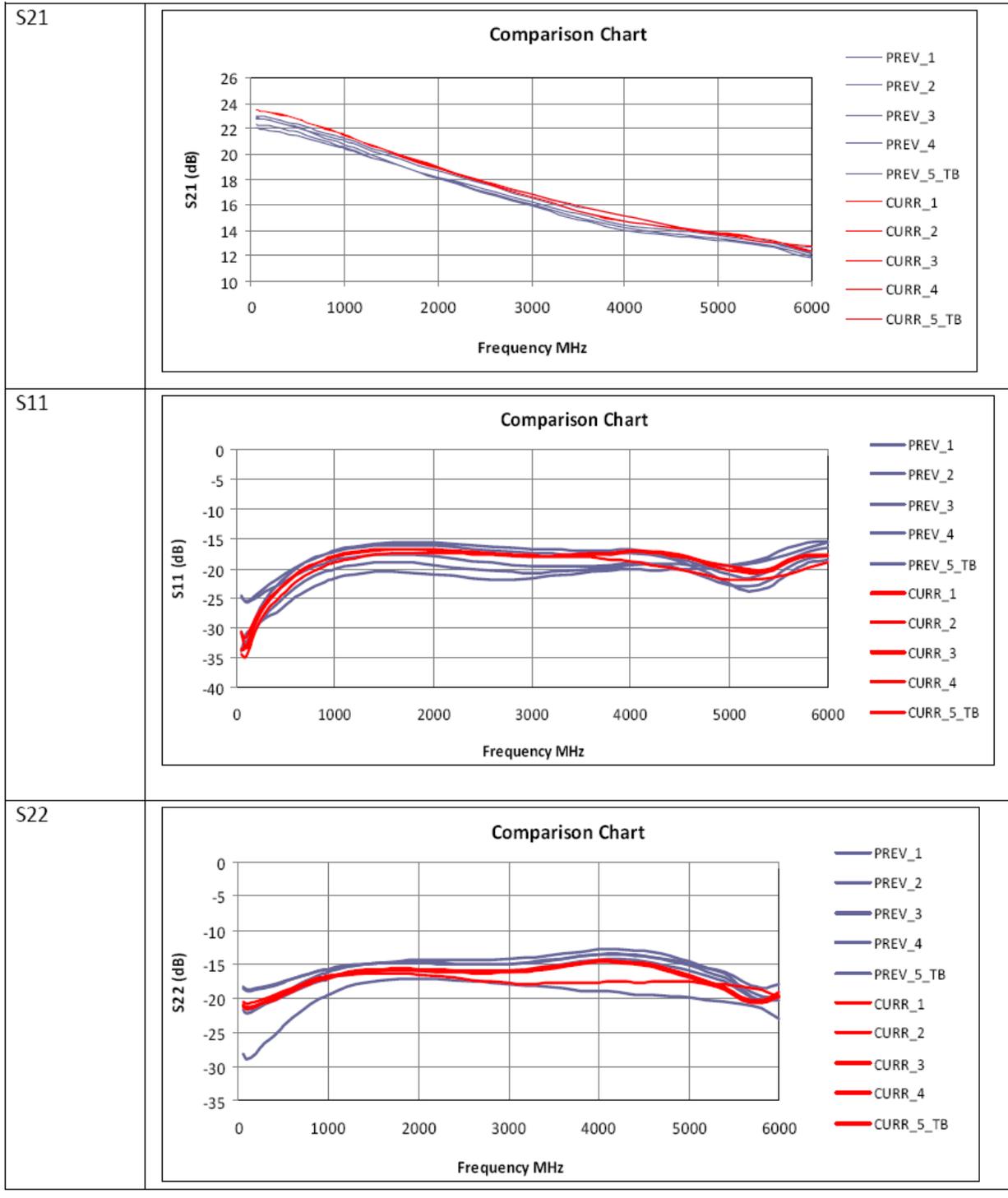
DATA SUPPLIED: Comparison Curves: S Parameters  
FOR ERA-3SM+ Output Power at 1dB and 3 dB Compression  
(ERA-3+ is straight lead Output IP3  
Version of ERA-3SM+) Noise Figure  
Device Voltage at Operating Current

**Note:** Unit #5 of previous and current version is mounted on test board (\_TB) and others mounted in test fixture during testing.

# PRODUCT CHANGE NOTICE

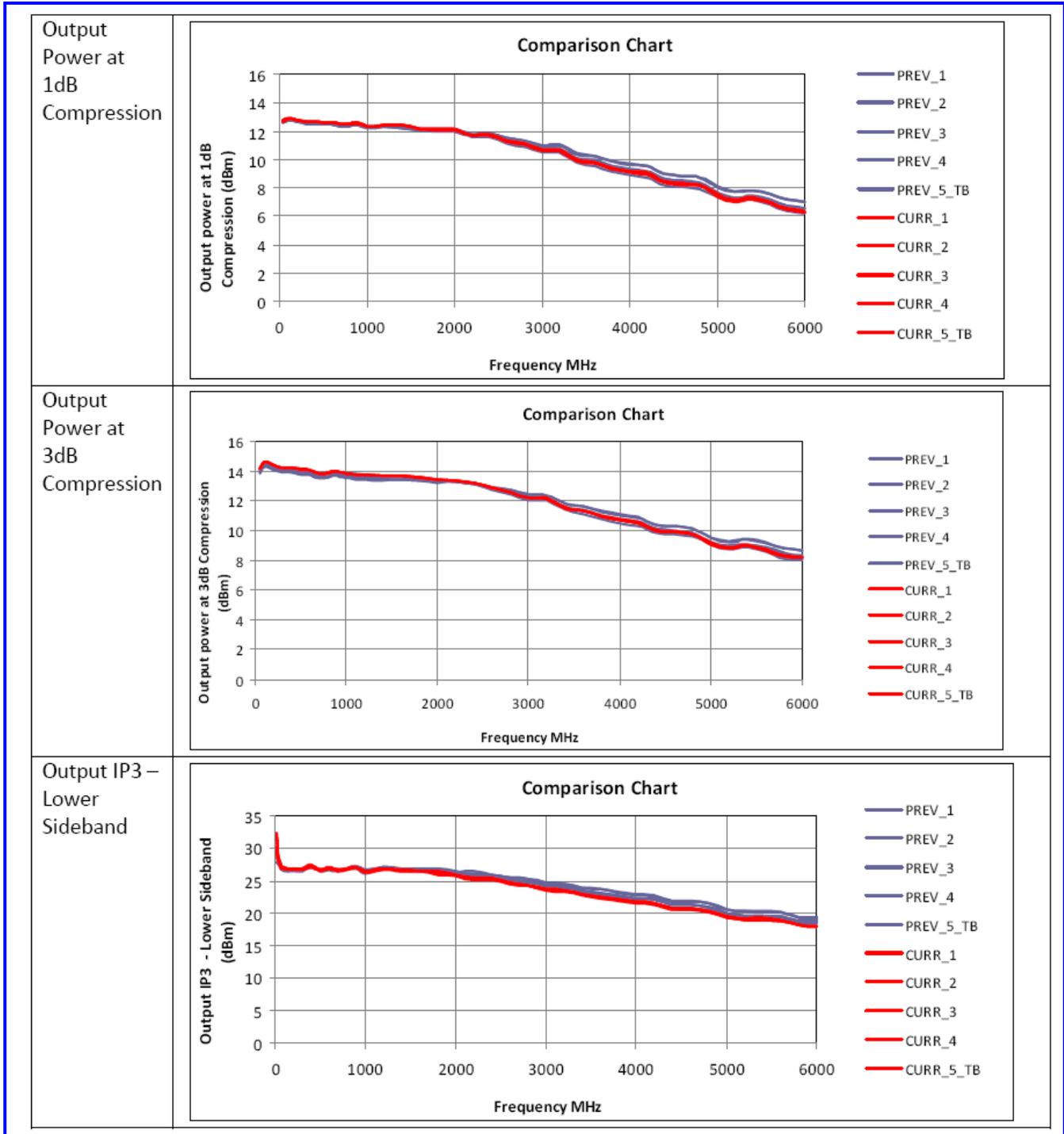
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### RF PERFORMANCE CURVES



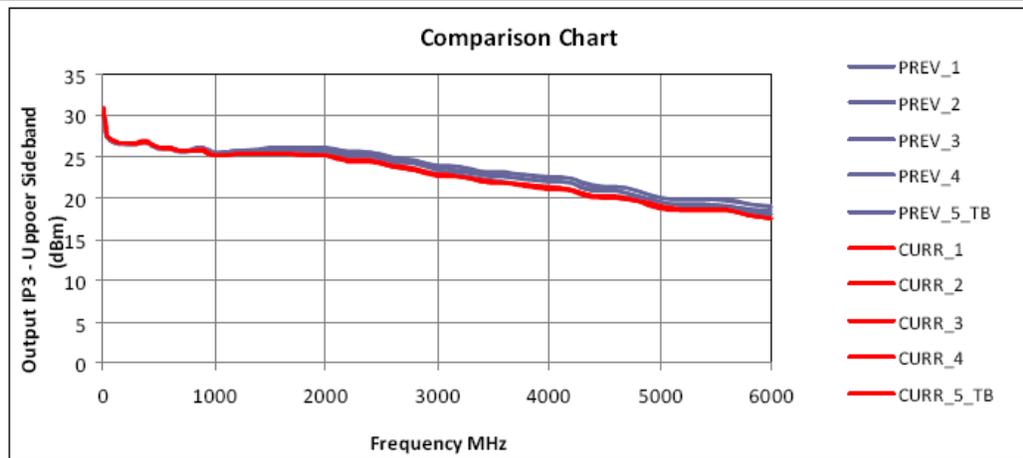
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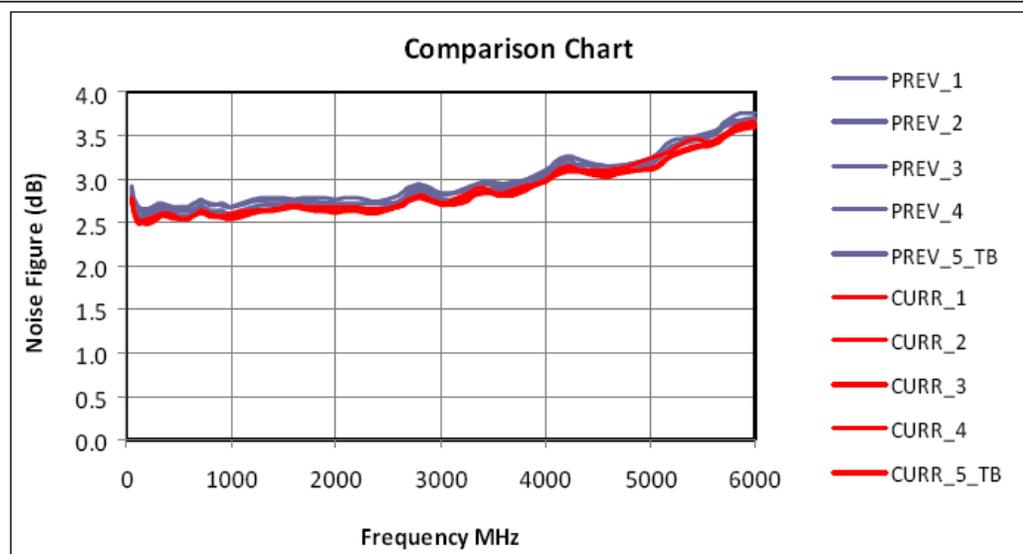


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Output IP3 –  
Upper  
Sideband



Noise Figure



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#### PERFORMANCE SUMMARY

MHz	S21			S11			S22		
	PREV	CURR	DELTA	PREV	CURR	DELTA	PREV	CURR	DELTA
50	22.6	23.5	0.9	-29.0	-32.7	-3.7	-21.5	-20.9	0.6
100	22.5	23.4	0.9	-29.5	-33.3	-3.8	-22.1	-21.3	0.8
500	21.9	22.7	0.8	-23.0	-22.7	0.3	-19.6	-19.3	0.3
1000	20.7	21.4	0.7	-18.9	-18.2	0.7	-16.8	-16.9	-0.1
1600	19.3	19.9	0.6	-17.7	-16.9	0.9	-15.5	-15.9	-0.4
2000	18.4	18.9	0.5	-18.0	-17.0	1.1	-15.4	-16.0	-0.6
2600	17.1	17.5	0.4	-18.9	-17.5	1.4	-15.6	-16.4	-0.8
3000	16.3	16.7	0.3	-19.3	-17.8	1.5	-15.6	-16.4	-0.8
4000	14.5	14.7	0.3	-18.6	-17.4	1.1	-14.6	-15.1	-0.5
4600	13.9	14.1	0.3	-19.7	-18.7	1.0	-15.0	-15.6	-0.6
5000	13.5	13.8	0.3	-21.1	-20.4	0.7	-16.1	-16.9	-0.8
5600	12.9	13.1	0.3	-18.8	-19.2	-0.5	-18.9	-19.7	-0.9
6000	12.2	12.4	0.2	-16.8	-17.9	-1.1	-20.2	-19.5	0.7

MHz	OP1dB			OP3dB			OIP3L			OIP3H		
	PREV	CURR	DELTA									
50	12.6	12.7	0.1	14.0	14.0	0.1	27.4	27.5	0.1	27.4	27.5	0.1
100	12.8	12.8	0.0	14.5	14.5	0.1	26.8	27.0	0.1	26.8	27.0	0.1
500	12.5	12.6	0.1	13.9	14.0	0.1	26.1	26.2	0.0	26.1	26.2	0.0
1000	12.3	12.3	0.1	13.7	13.7	0.1	25.4	25.2	-0.2	25.4	25.2	-0.2
1600	12.1	12.1	0.0	13.5	13.6	0.1	26.0	25.4	-0.6	26.0	25.4	-0.6
2000	12.1	12.1	0.0	13.3	13.4	0.0	25.8	25.2	-0.7	25.8	25.2	-0.7
2600	11.4	11.3	-0.1	12.8	12.8	0.0	24.6	23.8	-0.8	24.6	23.8	-0.8
3000	10.8	10.7	-0.1	12.3	12.2	-0.1	23.6	22.7	-0.8	23.6	22.7	-0.8
4000	9.4	9.2	-0.2	10.8	10.7	-0.1	22.1	21.3	-0.8	22.1	21.3	-0.8
4600	8.5	8.3	-0.2	10.1	10.0	-0.1	21.0	20.1	-0.9	21.0	20.1	-0.9
5000	7.7	7.4	-0.3	9.3	9.2	-0.1	19.8	18.9	-0.9	19.8	18.9	-0.9
5600	7.3	6.9	-0.3	8.9	8.8	-0.1	19.3	18.5	-0.9	19.3	18.5	-0.9
6000	6.7	6.3	-0.4	8.4	8.3	-0.1	18.5	17.5	-1.0	18.5	17.5	-1.0

MHz	NF			DEVICE VOLTAGE at 35 mA		
	PREV	CURR	DELTA	PREV	CURR	DELTA
50	2.9	2.8	-0.1	3.27	3.26	-0.01
100	2.6	2.5	-0.1			
500	2.6	2.5	-0.1			
1000	2.6	2.6	-0.1			
1600	2.7	2.7	-0.1			
2000	2.7	2.6	-0.1			
2600	2.7	2.7	-0.1			
3000	2.8	2.7	-0.1			
4000	3.1	3.0	-0.1			
4600	3.1	3.1	-0.1			
5000	3.2	3.1	-0.1			
5600	3.5	3.4	-0.1			
6000	3.7	3.6	-0.1			

#### CONCLUSION

Current version of the ERA-3SM+ exhibits comparable performance of the previous fabricated version with the exception of gain at low frequency is higher by about 0.9 dB at 50 MHz