



## CONCLUSION:

- 1) **FORM-FIT-FUNCTIONAL COMPATIBLE<sub>a</sub>**: Replacement part is Form Fit compatible. Following is a summary of changes/improvements:

Parameter			DAT-31R5-SN+ (Original Part)	DAT-31R5A-SN+ (Replacement Part)
Frequency (GHz)			DC-2.4	DC-4
V <sub>DD</sub> (V)			+2.7 to +3.3	+2.3 to +3.6, usable to +5.2V
V <sub>SS</sub> (V)			-3.3 min to -2.7 max	-3.6 min to -3.2 max
Control input High (V)			0.7V <sub>DD</sub> to V <sub>DD</sub>	+1.17 to +3.6
Control input Low (V)			0 to 0.3V <sub>DD</sub>	-0.3 to +0.6
I <sub>DD</sub> (μA)			100 μA max. During turn-on and transition between attenuation states, device may draw up to 2mA.	100 μA max.
I <sub>SS</sub> (μA)			100 max	40 max
Control Current (μA)			1 max	1 max, except, 30μA typ for C0.5, C16, PUP1 and 2μA typ. for LE at +3.6V
Attenuation accuracy	Step (dB)	Freq (GHz)	<u>Spec max</u>	<u>Spec max</u>
		8	0.25	0.5
	16	1-2.4	0.3	0.7
		2.4-4	Not Specified	0.8
		2.4-4	Not Specified	1.45
VSWR (:1) (1-2.4 GHz)			1.5 max	1.6 Max
Operating Temperature (°C)			-40 to 85	-40 to 105
Storage Temperature(°C)			-55 to 100	-65 to 150
ESD (HBM)			Pass 500V	Pass 1500V
Max Operating Power			Not Specified	From 10 kHz to 50 MHz per Figure 1 (in Model Data Sheet) and +24 dBm above 50 MHz
Absolute Max input Power (dBm)			+24	+30

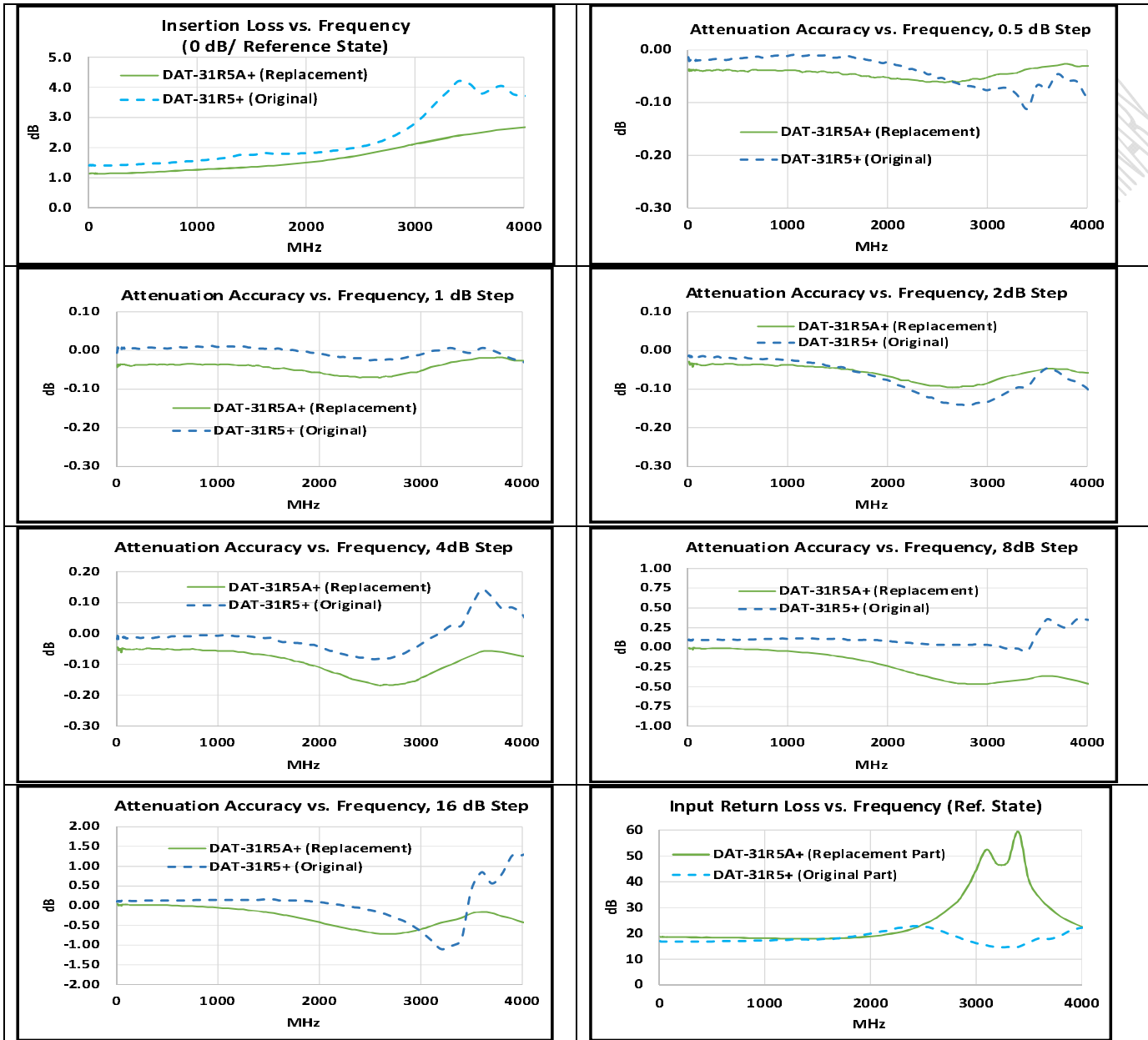
Notes:  
a. Suitability for model replacement within a particular system must be determined by and is solely the responsibility of the customer based on, among other things, electrical performance criteria, stimulus conditions, application, compatibility with other components and environmental conditions and stresses.

## 2) TYPICAL PERFORMANCE COMPARISON<sub>a</sub>:

Parameter	Frequency (GHz)	Original Part DAT-31R5-SN+	Replacement Part DAT-31R5A-SN+
		Average	Average
I.Loss(dB)	0.01 to 1	1.42	1.20
	1 to 2.4	1.77	1.46
	2.4 to 4	2.99	2.16
Step Accuracy 0.5 dB Step (+/-dB)	0.01 to 1	0.02	0.03
	1 to 2.4	0.01	0.04
	2.4 to 4	0.06	0.04
Step Accuracy 1.0 dB Step (dB)	0.01 to 1	0.00	0.03
	1 to 2.4	0.00	0.04
	2.4 to 4	0.01	0.04
Step Accuracy 2.0 dB Step (dB)	0.01 to 1	0.02	0.03
	1 to 2.4	0.06	0.05
	2.4 to 4	0.10	0.07
Step Accuracy 4.0 dB Step (dB)	0.01 to 1	0.02	0.03
	1 to 2.4	0.03	0.07
	2.4 to 4	0.00	0.10
Step Accuracy 8.0 dB Step (dB)	0.01 to 1	0.08	0.02
	1 to 2.4	0.08	0.13
	2.4 to 4	0.10	0.37
Step Accuracy 16 dB Step (dB)	0.01 to 1	0.10	0.06
	1 to 2.4	0.08	0.23
	2.4 to 4	0.08	0.43
Step Accuracy 31.5 dB Step (dB)	0.01 to 1	0.28	0.11
	1 to 2.4	0.88	0.18
	2.2 to 4	1.86	1.46
Input R.Loss (dB)	0.01 to 1	17.0	18.2
	1 to 2.4	19.3	18.5
	2.2 to 4	18.8	18.2
Output R.Loss (dB)	0.01 to 1	17.4	18.7
	1 to 2.4	18.94	18.7
	2.2 to 4	18.5	17.8

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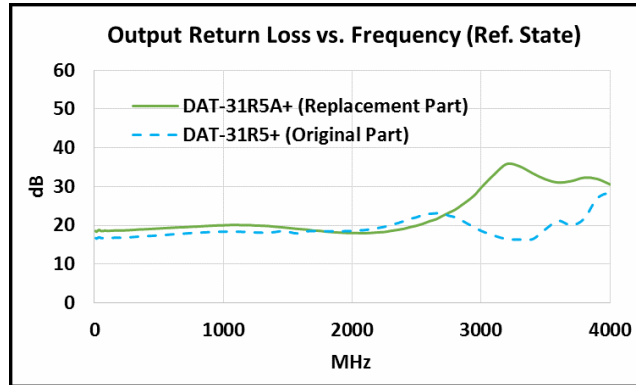
### 3) PERFORMANCE COMPARISON CURVES (TYPICAL):



Note: DAT-31R5+ is same as DAT-31R5-SN+ and  
 DAT-31R5A+ is same as DAT-31R5A-SN+

Notes:  
 a. Suitability for model replacement within a particular system must be determined by and is solely the responsibility of the customer based on, among other things, electrical performance criteria, stimulus conditions, application, compatibility with other components and environmental conditions and stresses.

**3) COMPARISON PERFORMANCE CURVES<sub>a</sub> (Continued)**



Note: DAT-31R5+ is same as DAT-31R5-SN+ and  
DAT-31R5A+ is same as DAT-31R5A-SN+

Notes:  
a. Suitability for model replacement within a particular system must be determined by and is solely the responsibility of the customer based on, among other things, electrical performance criteria, stimulus conditions, application, compatibility with other components and environmental conditions and stresses.