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Operational Manual

Antenna Test & Measurement
Frequency Extenders(AET/AER)

QUALITY
ISO 9001:2015
NSAI Certified

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2.1 Whats in the box

This sub-section (page 4 & 5), introduces the various components and accessories that comes with the AET/AER-XX. Be sure to familiarise yourself with them before using the system.

1x

1x

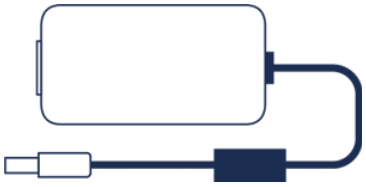
3x

RF/LO SMA Cable

2x

IF SMA Cable

2x



DC Cable

2x

Ruggedized Waveguide

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7. Technical Specifications

Table 3. AET/AER-XX Specifications

Model	Parameters																						
	Operating Frequency (GHz)		Dynamic Range (dB)		Test Port Output Power (dBm)	Magnitude Trace Stability (deg.)	Phase Trace Stability (deg.)	RF/LO Port Damage Level (dBm)	RF Input Frequency (GHz)		RF xN	RF/LO Input Power (dBm)		LO Input Frequency (GHz)		LO H.N	RF Test Port VSWR	RF Input VSWR	IF Bandwidth (MHz)		Wght. AET/AER (kg)	Dim. AET/AER (mm)	DC Power (V/A)	Test Port Interface
	min	max	min	typ	typ	typ	typ	nom	min	max	nom	min	max	min	max	nom	typ	typ	min	max	typ	typ	typ	typ
AET/AER-19-TR-0001	40	60	120	135	+9	±0.1	±1	+15	10	15	4	5	10	10	15	4	<1.4:1	<1.4:1	5	1000	2.25/1.5	280x105x60/ 205x105x60	+12/1.5	WR-19
AET/AER-19-TR-0002	40	60	130	145	+17	±0.1	±1	+15	10	15	4	5	10	10	15	4	<1.4:1	<1.4:1	5	1000	2.25/1.5	280x105x60/ 205x105x60	+12/2	WR-19
AET/AER-15-TR-0001	50	75	120	135	+7	±0.1	±1	+15	12.5	18.75	4	5	10	8.33	18.75	6	<1.4:1	<1.4:1	5	1000	1.8/1.3	230x105x60/ 170x105x60	+12/1.5	WR-15
AET/AER-15-TR-0002	50	75	130	145	+17	±0.1	±1	+15	12.5	18.75	4	5	10	8.33	18.75	6	<1.4:1	<1.4:1	5	1000	1.8/2	230x105x60/ 170x105x60	+12/1.5	WR-15
AET/AER-12-TR-0001	60	90	120	135	+7	±0.1	±2	+15	10	15	6	5	10	10	15	6	<1.4:1	<1.4:1	5	1000	1.8/1.3	230x105x60/ 170x105x60	+12/1.5	WR-12
AET/AER-12-TR-0002	60	90	130	145	+16	±0.1	±2	+15	10	15	6	5	10	10	15	6	<1.4:1	<1.4:1	5	1000	1.8/1.3	230x105x60/ 170x105x60	+12/2	WR-12
AET/AER-10-TR-0001	75	110	100	130	+3	±0.1	±2	+15	12.5	18.33	6	5	10	9.37	13.75	8	<1.4:1	<1.4:1	5	1000	1.8/1.3	230x105x60/ 170x105x60	+12/1.5	WR-10
AET/AER-08-TR-0001	90	140	90	110	-10	±0.2	±4	+15	7.5	11.67	12	5	10	11.25	17.5	8	<1.4:1	<1.4:1	5	1000	1.8/1.4	230x105x60/ 170x105x60	+12/1.5	WR-08
AET/AER-06-TR-0001	110	170	100	120	-10	±0.2	±4	+15	9.16	14.17	12	5	10	9.16	14.17	12	<1.4:1	<1.4:1	5	1000	1.8/1.4	230x105x60/ 170x105x60	+12/1.5	WR-06
AET/AER-05-TR-0001	140	220	100	120	-12	±0.2	±4	+15	11.66	18.33	12	5	10	11.66	18.33	12	<1.5:1	<1.4:1	5	1000	1.7/1.2	230x105x60/ 170x105x60	+12/1.5	WR-05
AET/AER-03-TR-0001	220	325	100	135	-12	±0.4	±6	+15	12.22	18.06	18	5	10	9.16	13.54	24	<1.6:1	<1.4:1	5	1000	1.8/1.2	230x105x60/ 170x105x60	+12/1.5	WR-03
AET/AER-02-TR-0001	325	500	80	100	-20	±0.6	±8	+15	10.83	16.67	30	5	10	9.02	13.89	36	<2.0:1	<1.4:1	5	1000	1.7/1.2	230x105x60/ 170x105x60	+12/1.5	WR-02

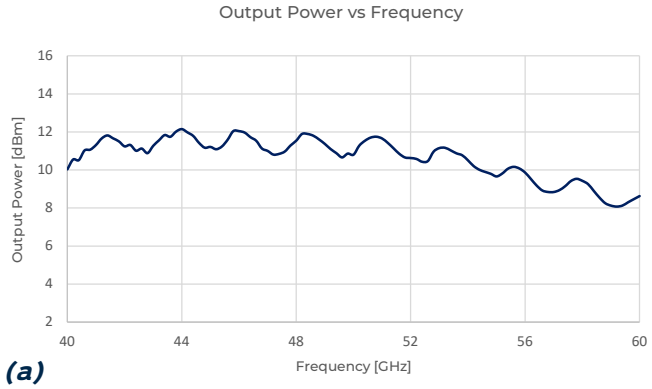
Specification Definitions

Nominal value (nom.) – ensured by design, not tested. **Measured value (min, max)** – expected and warranted product performance obtained from the actual measurements of product sample. **Non-traceable measured value (n. trc. meas.)** – expected product performance obtained from the actual measurements of a product sample by means of using Farran's own equipment and methods. Traceable only to Farran laboratory equipment. **Typical data (typ.)** – value that represents the product specification met over 90% of bandwidth or a mean value. **Specifications without limits** – represent the warranted product performance; with values of no or a negligible deviation from the given value and as such have a secondary impact on the product performance.

8. Typical Performance

8.1 AET/AER-19-0001

AET-19-0001



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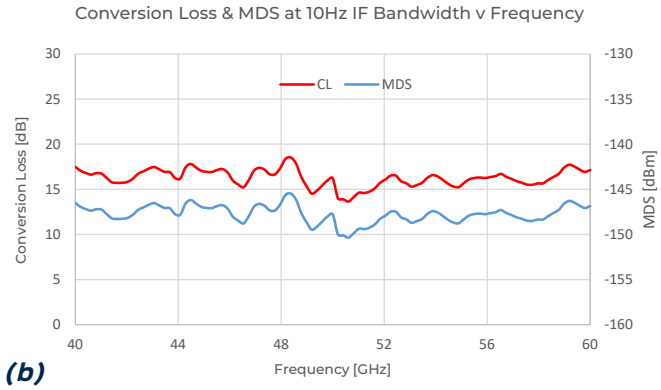
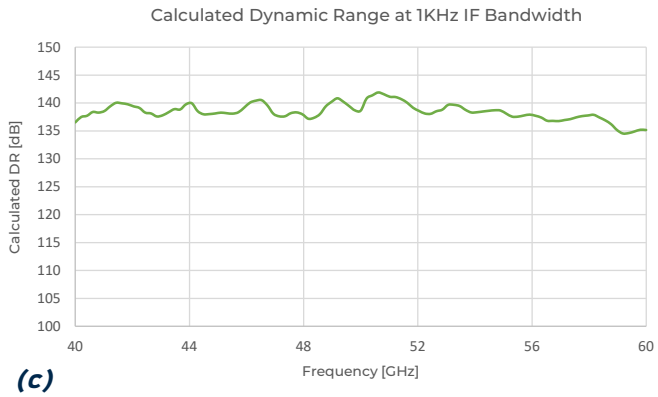
AER-19-0001



(b)

AET/AER-19-0001



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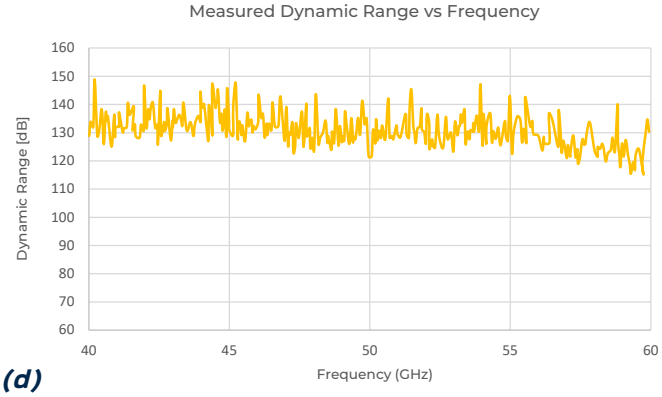


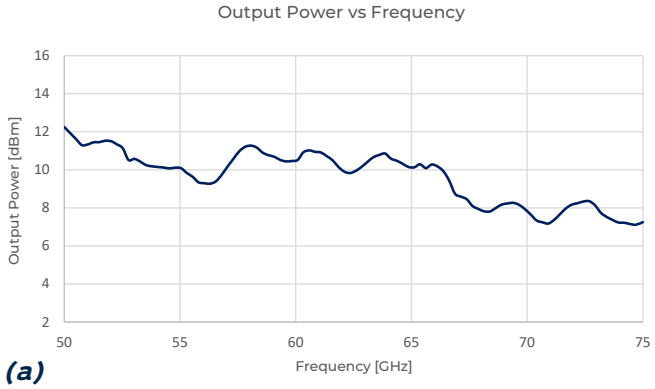
(d)

Figure 8.1: Typical system perfomance plots for AET/AER-19-0001: (a) CL, MDS vs IF Frequency (b) Output Power vs Frequency (c) Calculated DR vs Frequency (d) Measured DR vs Frequency

8. Typical Performance

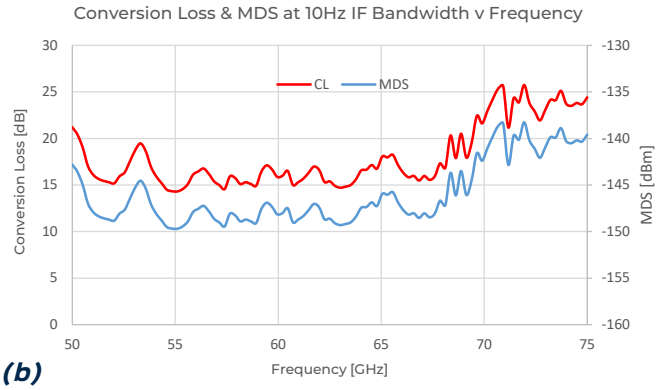
8.1 AET/AER-15-0001

AET-15-0001



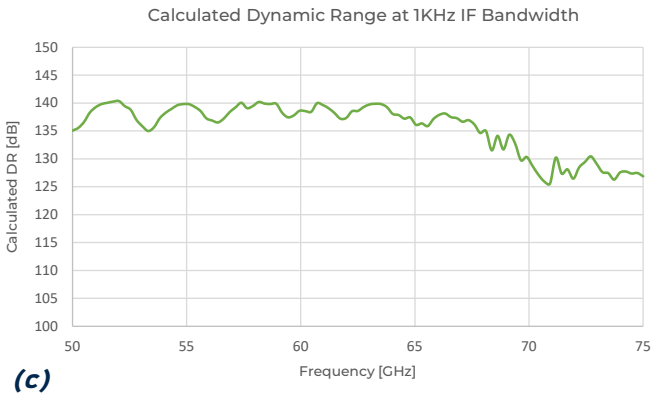
(a)

AER-15-0001



(b)

AET/AER-15-0001



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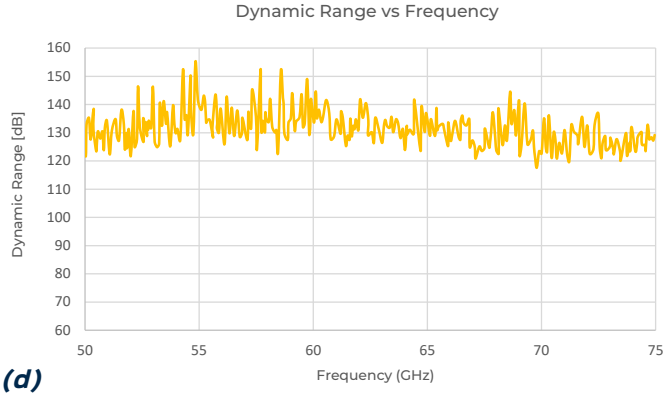


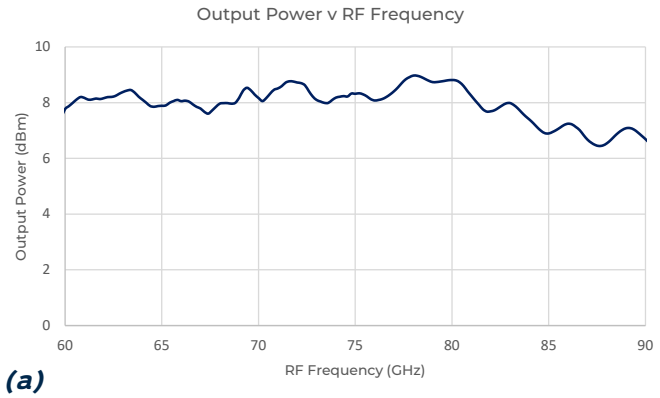
(d)

Figure 8.1: Typical system perfomance plots for AET/AER-15-0001: (a) CL, MDS vs IF Frequency (b) Output Power vs Frequency (c) Calculated DR vs Frequency (d) Measured DR vs Frequency

8. Typical Performance

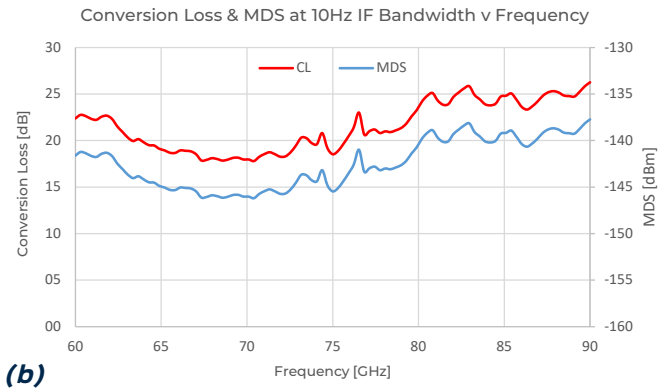
8.1 AET/AER-12-0001

AET-12-0001



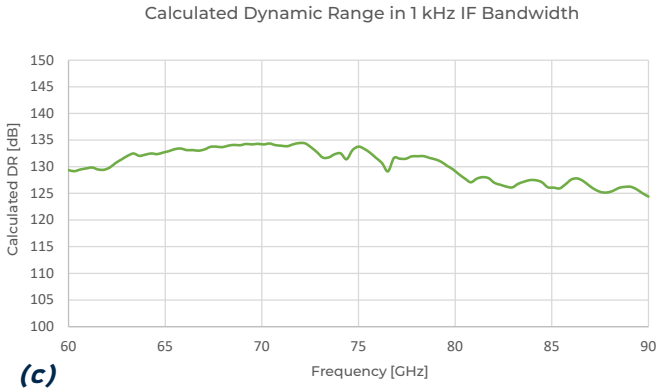
(a)

AER-12-0001



(b)

AET/AER-12-0001



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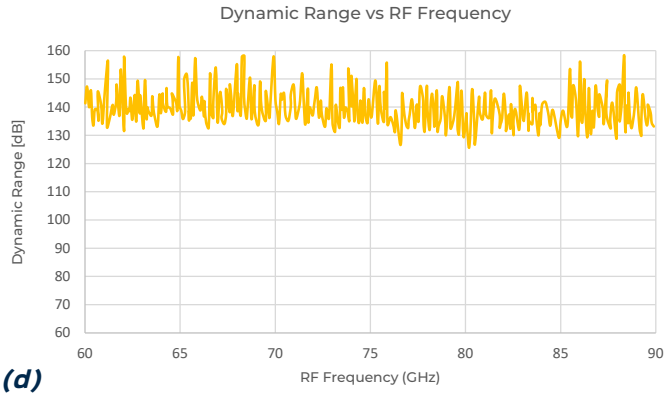


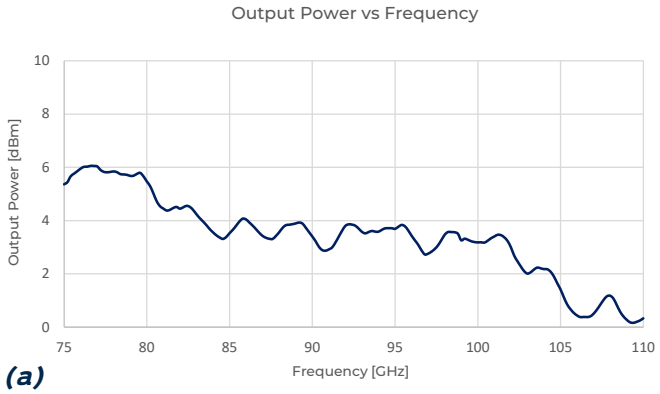
(d)

Figure 8.1: Typical system perfomance plots for AET/AER-12-0001: (a) CL, MDS vs IF Frequency (b) Output Power vs Frequency (c) Calculated DR vs Frequency (d) Measured DR vs Frequency

8. Typical Performance

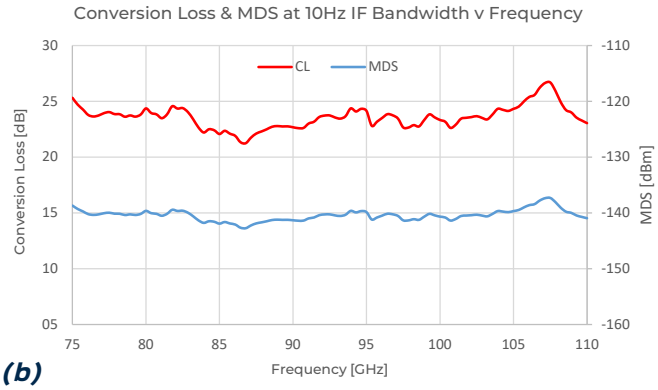
8.1 AET/AER-10-0001

AET-10-0001



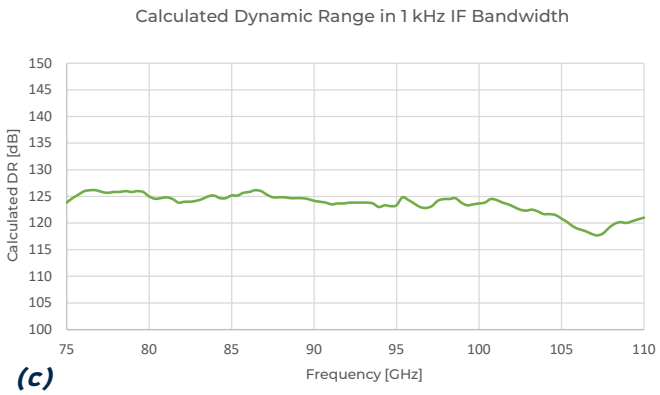
(a)

AER-10-0001



(b)

AET/AER-10-0001



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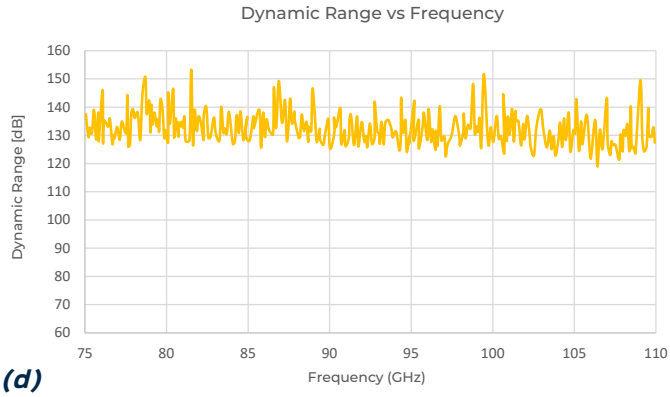


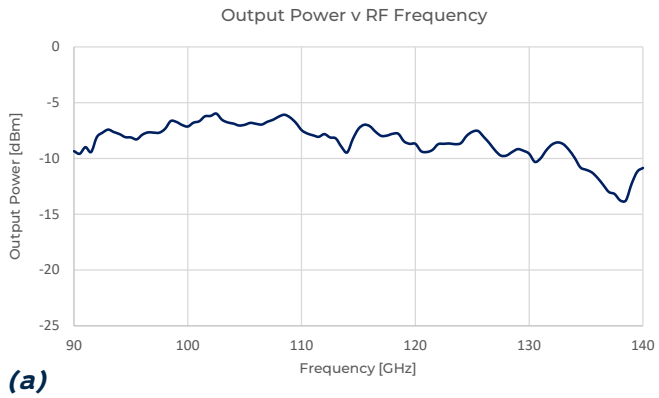
(d)

Figure 8.1: Typical system perfomance plots for AET/AER-10-0001: (a) CL, MDS vs IF Frequency (b) Output Power vs Frequency (c) Calculated DR vs Frequency (d) Measured DR vs Frequency

8. Typical Performance

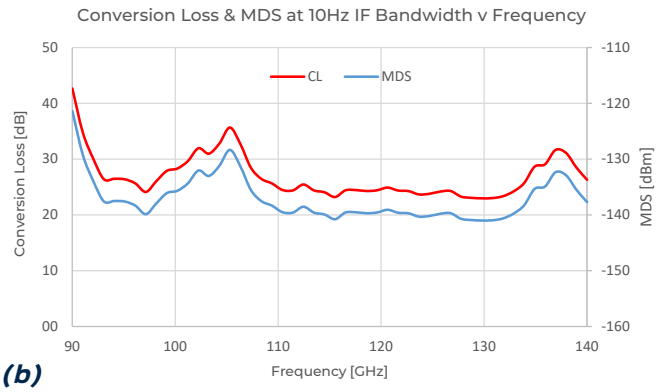
8.1 AET/AER-08-0001

AET-08-0001



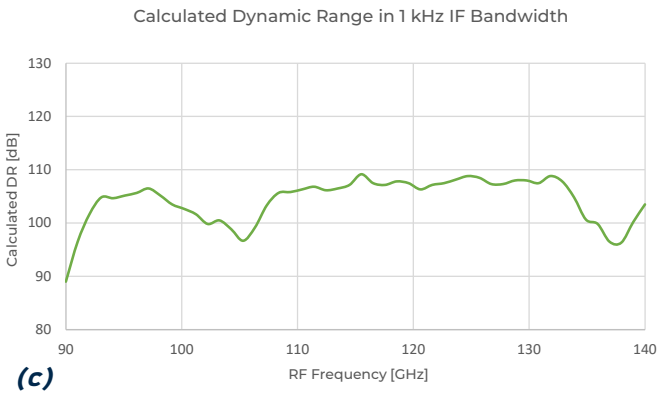
(a)

AER-08-0001



(b)

AET/AER-08-0001



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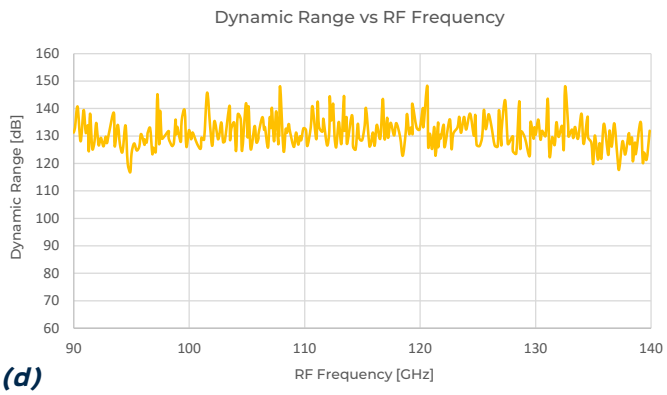


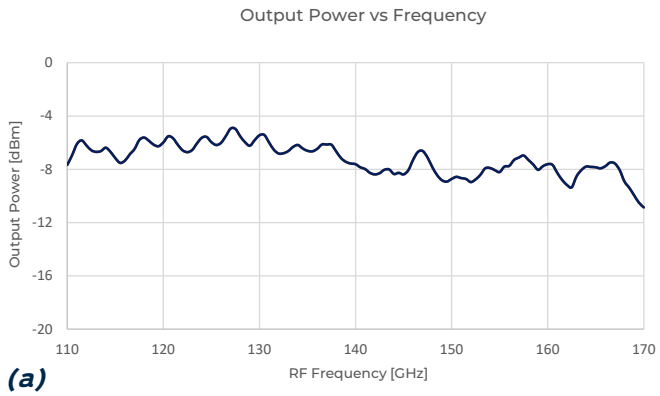
(d)

Figure 8.1: Typical system perfomance plots for AET/AER-08-0001: (a) CL, MDS vs IF Frequency (b) Output Power vs Frequency (c) Calculated DR vs Frequency (d) Measured DR vs Frequency

8. Typical Performance

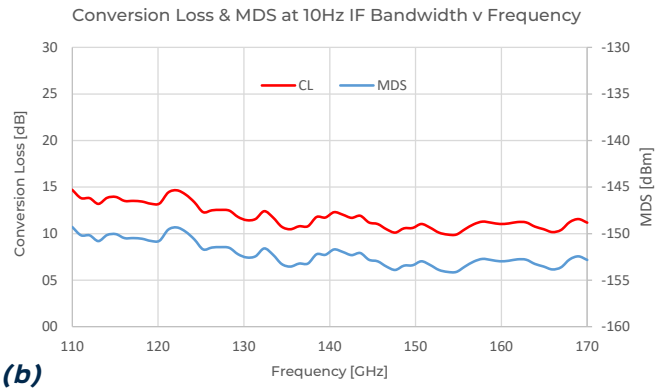
8.1 AET/AER-06-0001

AET-06-0001



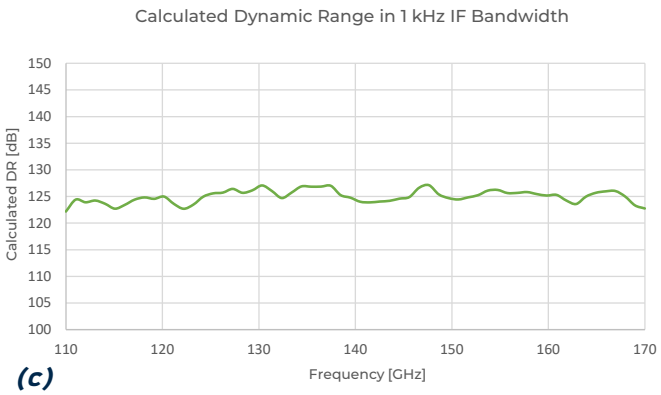
(a)

AER-06-0001



(b)

AET/AER-06-0001



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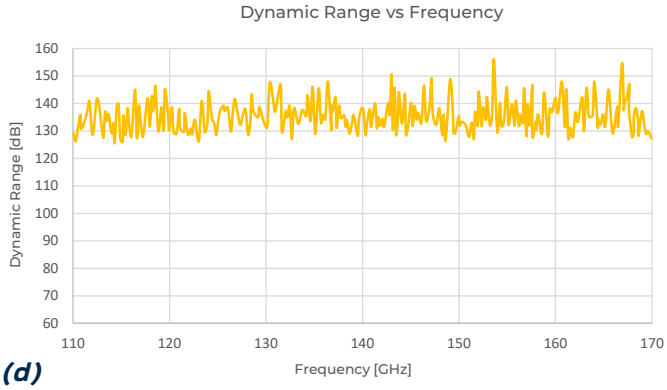


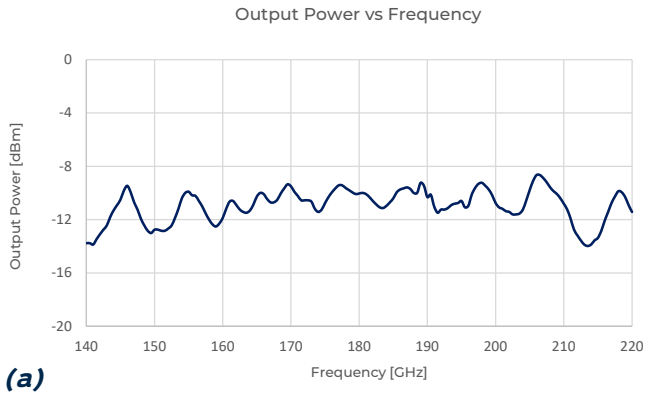
(d)

Figure 8.1: Typical system perfomance plots for AET/AER-06-0001: (a) CL, MDS vs IF Frequency (b) Output Power vs Frequency (c) Calculated DR vs Frequency (d) Measured DR vs Frequency

8. Typical Performance

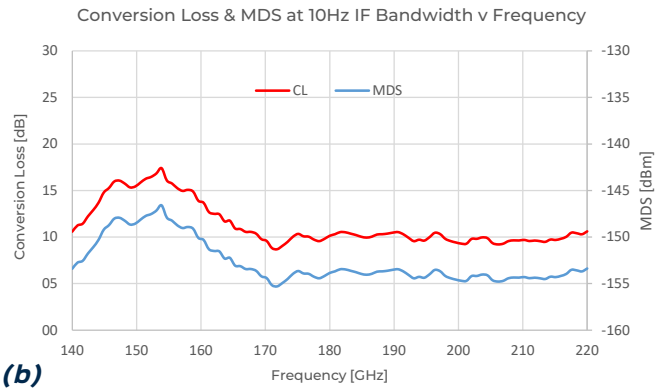
8.1 AET/AER-05-0001

AET-05-0001



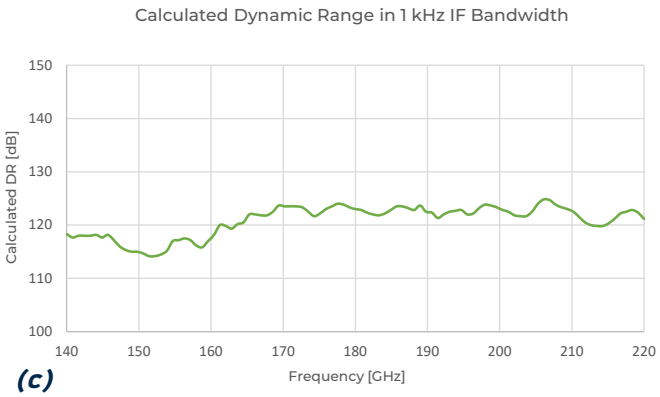
(a)

AER-05-0001



(b)

AET/AER-05-0001



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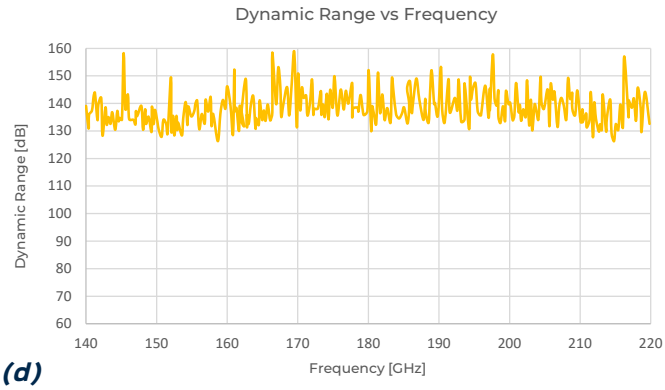


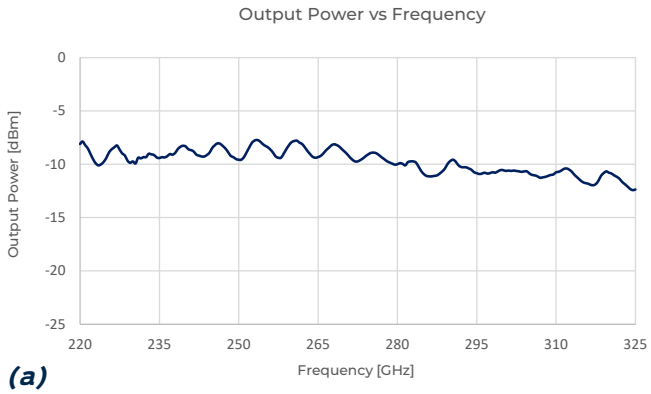
(d)

Figure 8.1: Typical system perfomance plots for AET/AER-05-0001: (a) CL, MDS vs IF Frequency (b) Output Power vs Frequency (c) Calculated DR vs Frequency (d) Measured DR vs Frequency

8. Typical Performance

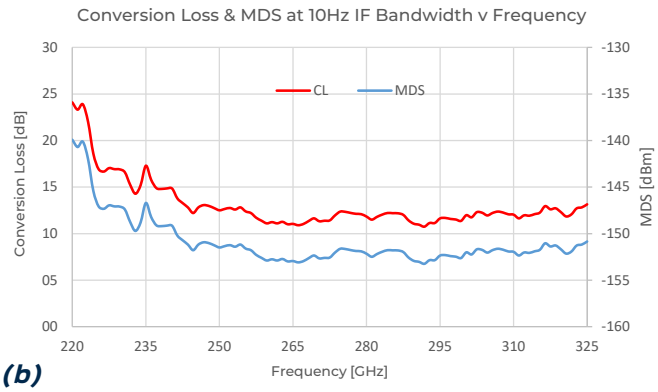
8.1 AET/AER-03-0001

AET-03-0001



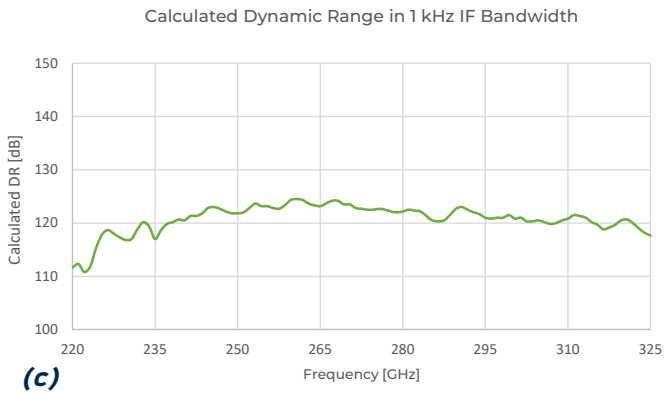
(a)

AER-03-0001



(b)

AET/AER-03-0001



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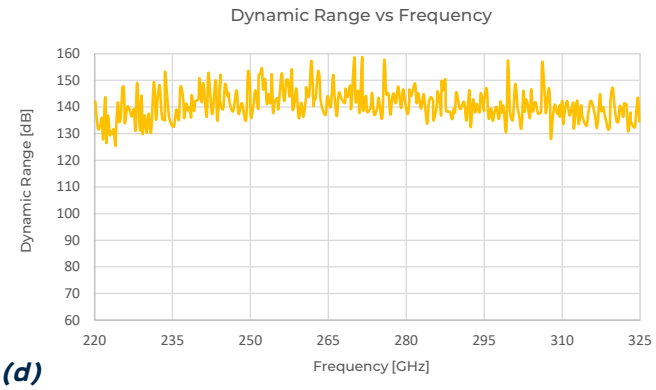


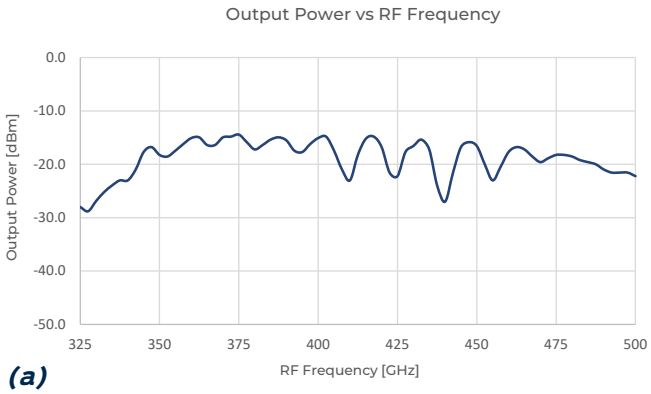
(d)

Figure 8.1: Typical system perfomance plots for AET/AER-03-0001: (a) CL, MDS vs IF Frequency (b) Output Power vs Frequency (c) Calculated DR vs Frequency (d) Measured DR vs Frequency

8. Typical Performance

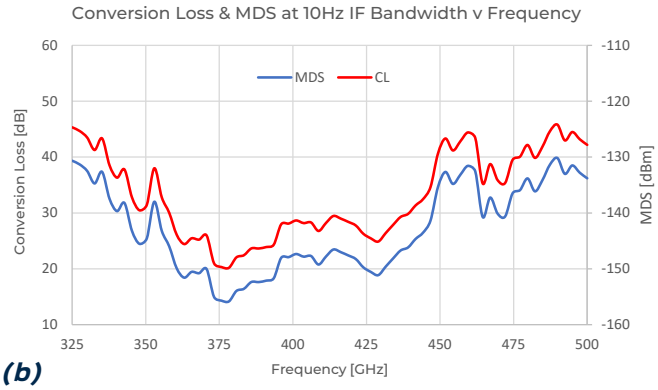
8.1 AET/AER-02-0001

AET-02-0001



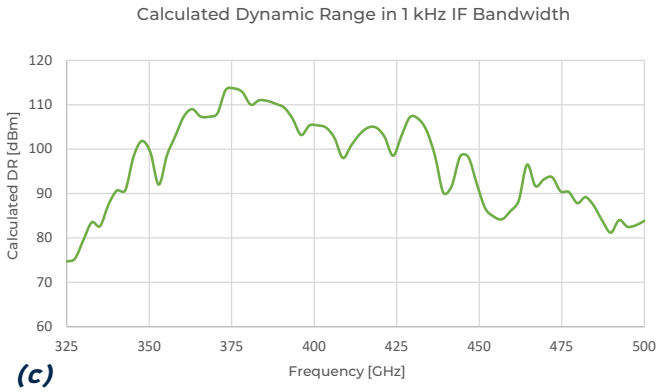
(a)

AER-02-0001



(b)

AET/AER-02-0001



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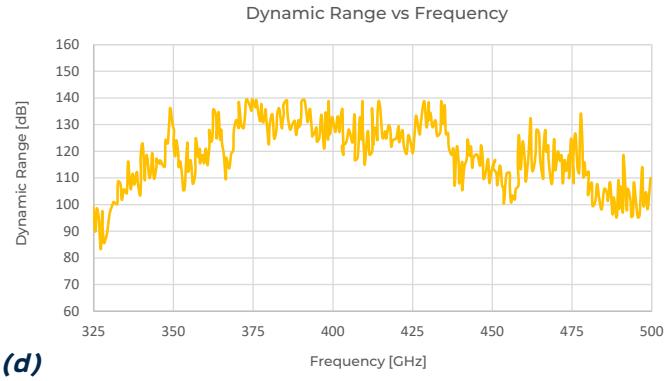

(d)

Figure 8.1: Typical system perfomance plots for AET/AER-02-0001: (a) CL, MDS vs IF Frequency (b) Output Power vs Frequency (c) Calculated DR vs Frequency (d) Measured DR vs Frequency

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12. Appendices

12.1 Drawings

AET-19-0001