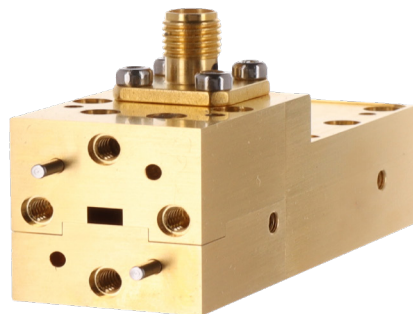




farran

Operational Manual

Harmonic Mixer





7. Technical Specifications

Table 1. Harmonic Mixer Specifications

Model	Parameters																
	Operating Frequency (GHz)		IF Frequency (MHz) [*Min = DC]		N	LO Frequency (GHz)		Conv. Loss (dB)	LO Input Power (dBm)			Test Port VSWR	Test Port Flange	LO/IF Conn. [Built in Diplexer]	CW RF Input (dBm)	CW RF DL (dBm)	Dim. (mm)/ Weight (g)
	Min	Max	Typ	Max	Typ	Min	Max	Typ	Min	Typ	Max	Typ	Typ	Typ	Max	Min	Typ
WHMB-28-0001	26.5	40	741	2000	6	4.42	6.67	25	13	15	17	3.6:1	WR-28 UG-599/UM	SMA (f) [No]	-10	10	70x20x20/250
WHMB-19-0001	40	60	741	2000	4	10	15	20	13	15	17	3.6:1	WR-19 UG-383/UM	SMA (f) [No]	-10	10	60x28.5x34/165
WHMB-19-0002	40	60	322.5	2000	10	4	6	30	13	15	17	3.6:1	WR-19 UG-383/UM	SMA (f) [No]	-10	10	60x28.5x34/165
WHMB-15-0001	50	75	741	2000	6	8.33	12.5	25	13	15	17	3.6:1	WR-15 UG-385/UM	SMA (f) [No]	-10	7	55x20x30/150
WHMB-15-0002	50	75	322.5	2000	14	3.57	5.38	40	13	15	17	3.6:1	WR-15 UG-385/UM	SMA (f) [No]	-10	10	55x20x30/150
WHMB-15-0003	50	75	741	2000	6	8.33	12.5	25	13	15	17	3.6:1	WR-15 UG-385/UM	SMA (f) [Yes]	-10	10	37x41x26/45
WHMB-12-0001	60	90	741	2000	6	10	15	32	13	15	17	3.6:1	WR-12 UG-387/UM	SMA (f) [No]	-10	10	60x20x30/150
WHMB-12-0002	60	90	322.5	2000	16	3.75	5.625	40	13	15	17	3.6:1	WR-12 UG-387/UM	SMA (f) [No]	-10	7	60x20x30/150
WHMB-12-0003	60	90	741	2000	6	10	15	32	13	15	17	3.6:1	WR-12 UG-387/UM	SMA (f) [Yes]	-10	7	37x41x26/150
WHMB-10-0001	75	110	741	2000	8	9.375	13.75	30	13	15	17	3.6:1	WR-10 UG-387/UM	SMA (f) [No]	-10	7	65x20x31/180
WHMB-10-0002	75	110	322.5	2000	18	4.16	6.11	45	13	15	17	3.6:1	WR-10 UG-387/UM	SMA (f) [No]	-10	7	65x20x31/180
WHMB-10-0003	75	110	741	2000	8	9.375	13.75	30	13	15	17	3.6:1	WR-10 UG-387/UM	SMA (f) [Yes]	-10	7	37x41x26/45
WHMB-08-0001	90	140	741	2000	10	9	14	35	12	13.5	15	3.6:1	WR-08 UG-387/UM	2.92mm (f) [No]	-10	0	16x20x30/35
WHMB-08-0002	90	140	322.5	2000	18	5	7.78	42	12	13.5	15	3.6:1	WR-08 UG-387/UM	2.92mm (f) [No]	-10	0	16x20x30/35
WHMB-08-0003	90	140	741	2000	8	11.25	35	35	12	13.5	15	3.6:1	WR-08 UG-387/UM	SMA (f) [Yes]	-10	0	30x19x27/30
WHMB-06-0001	110	170	741	2000	12	9.16	14.17	40	12	13.5	15	3.6:1	WR-06 UG-387/UM	2.92mm (f) [No]	-10	0	16x20x30/35
WHMB-06-0002	110	170	322.5	2000	22	5	7.73	46	12	13.5	15	3.6:1	WR-06 UG-387/UM	2.92mm (f) [No]	-10	0	16x20x30/35
WHMB-06-0003	110	170	741	2000	12	9.16	14.17	40	12	13.5	15	3.6:1	WR-06 UG-387/UM	SMA (f) [Yes]	-10	0	30x19x27/30
WHMB-05-0001	140	220	741	2000	16	8.75	13.75	40	12	13.5	15	3.6:1	WR-05 UG-387/UM	2.92mm (f) [No]	-10	0	16x20x30/35
WHMB-05-0002	140	220	322.5	2000	30	4.66	7.33	50	12	13.5	15	3.6:1	WR-05 UG-387/UM	2.92mm (f) [No]	-10	0	16x20x30/35
WHMB-03-0001	220	325	741	2000	24	9.16	13.54	45	12	13.5	15	3.6:1	WR-03 UG-387/UM	2.92mm (f) [No]	-10	0	16x20x30/35
WHMB-02-0002	325	500	741	2000	36	9.02	13.89	55	12	13.5	15	3.6:1	WR-03 UG-387/UM	2.92mm (f) [No]	-10	0	16x20x30/35

Note:

- . Conv. Loss - Conversion loss
- . N - Harmonic number
- . Conn. - Connector
- *Min - Minimum IF Frequency
- . LO - Local oscillator
- . DL - Drive level
- . Dim. - Dimensions

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.



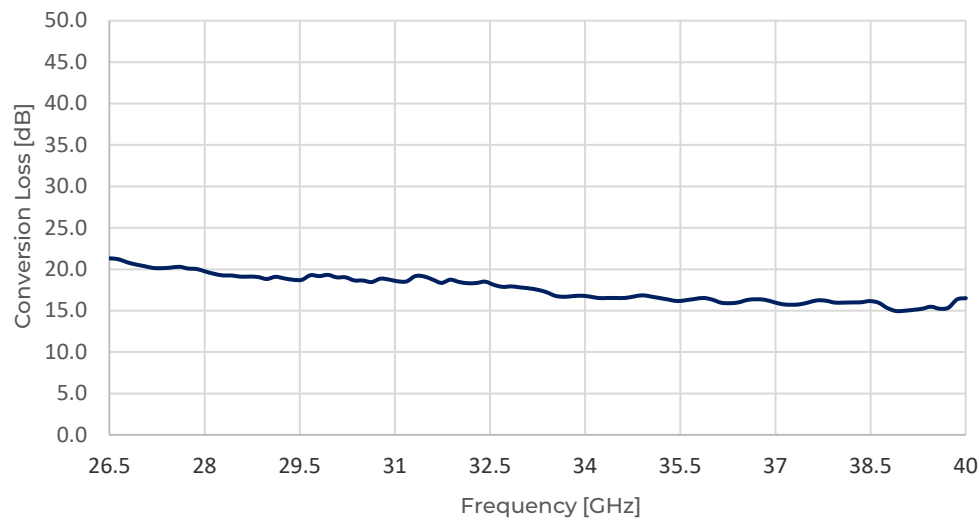


8. Typical Performance

Farran's Harmonic Mixer performance plots are provided in this section, for all models. Unless otherwise stated, all performance data furnished here has been obtained from in-house measurements, at room temperature.

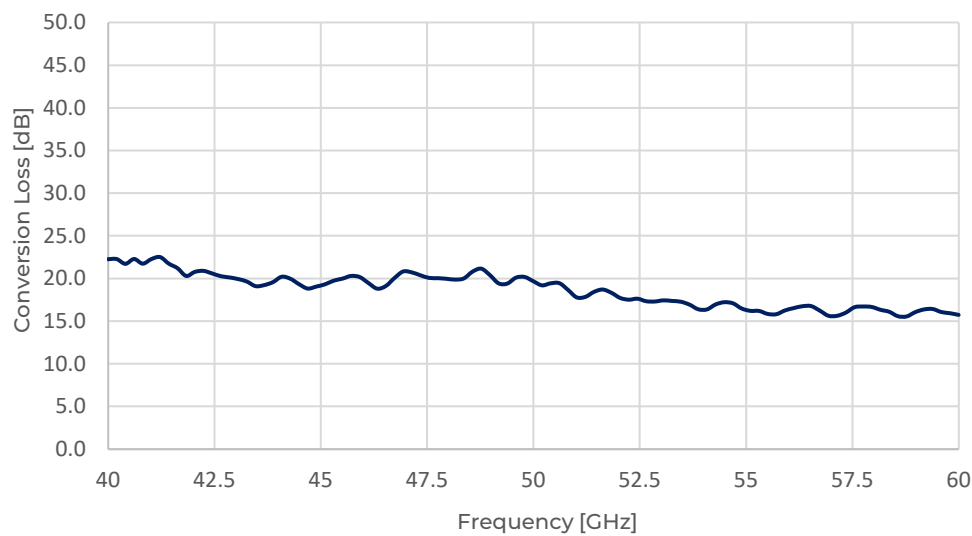
8.1 WHMB-28-0001

Typical Conversion Loss vs Frequency



8.2 WHMB-19-0001

Typical Conversion Loss vs Frequency

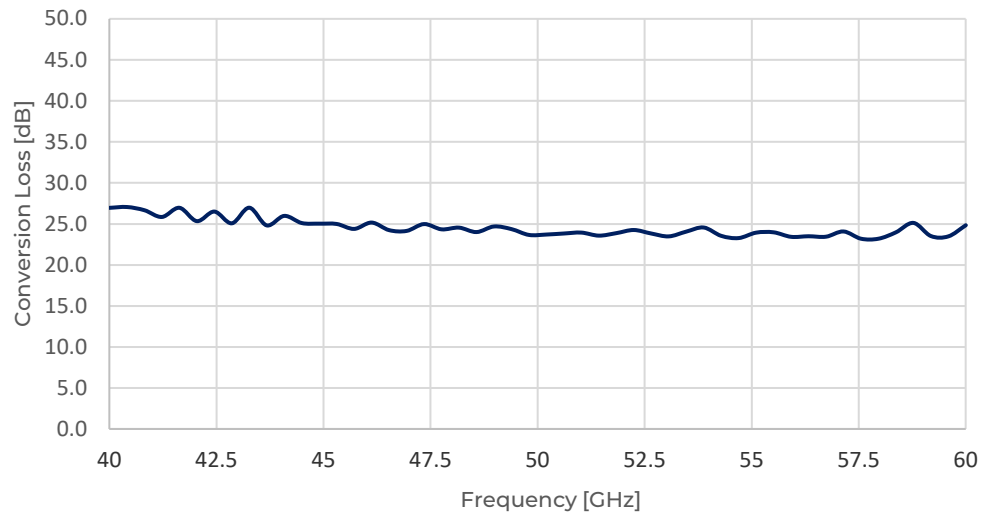




8. Typical Performance

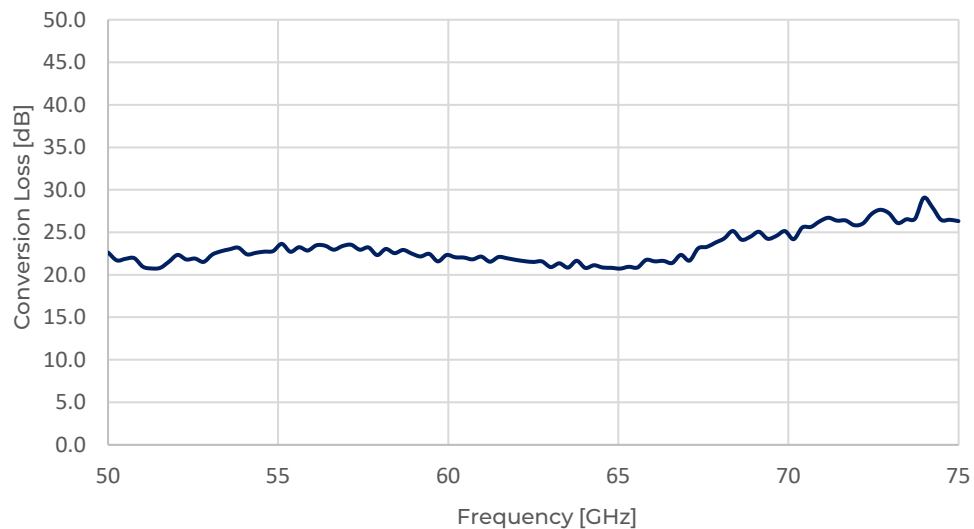
8.3 WHMB-19-0002

Typical Conversion Loss vs Frequency



8.4 WHMB-15-0001

Typical Conversion Loss vs Frequency

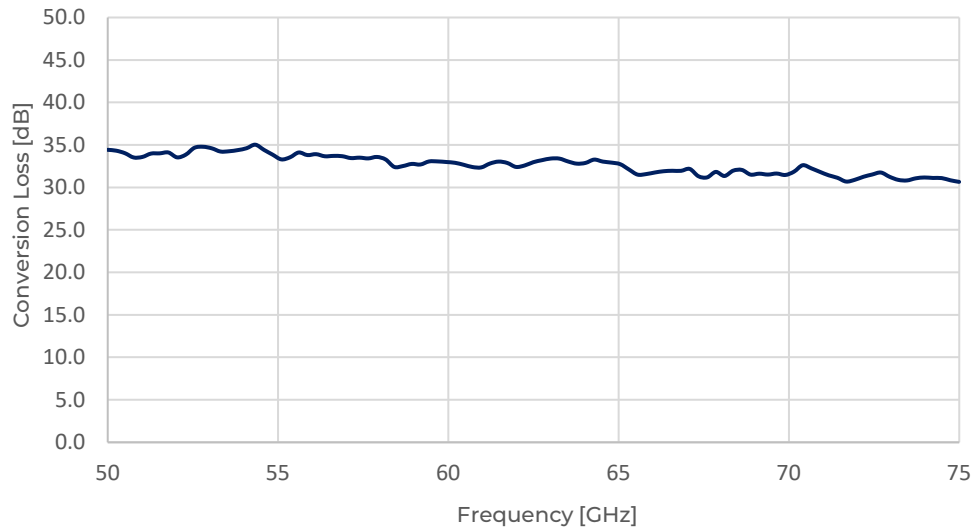




8. Typical Performance

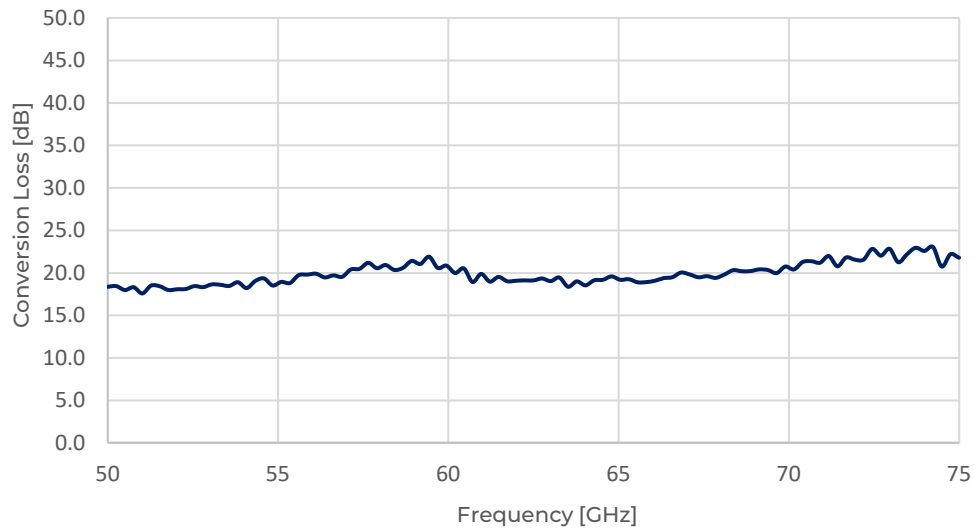
8.5 WHMB-15-0002

Typical Conversion Loss vs Frequency



8.6 WHMB-15-0003

Typical Conversion Loss vs Frequency

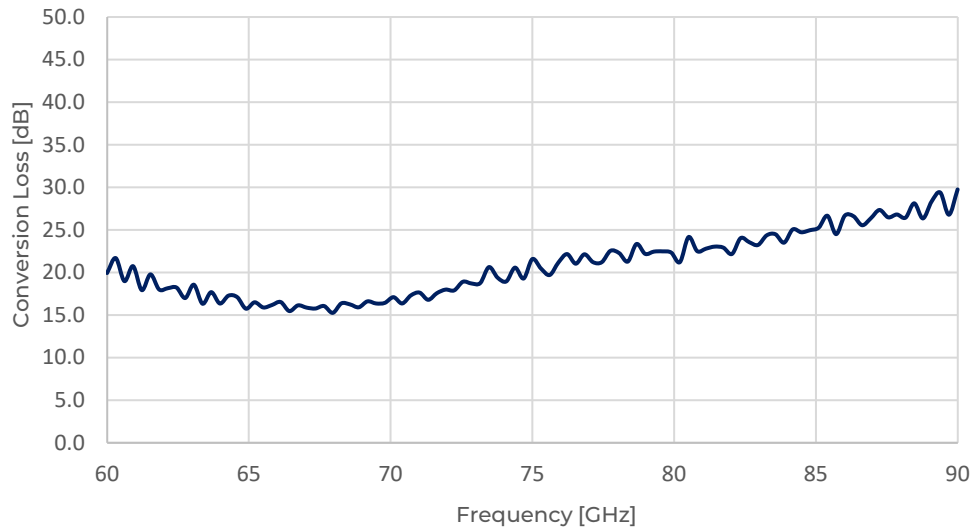




8. Typical Performance

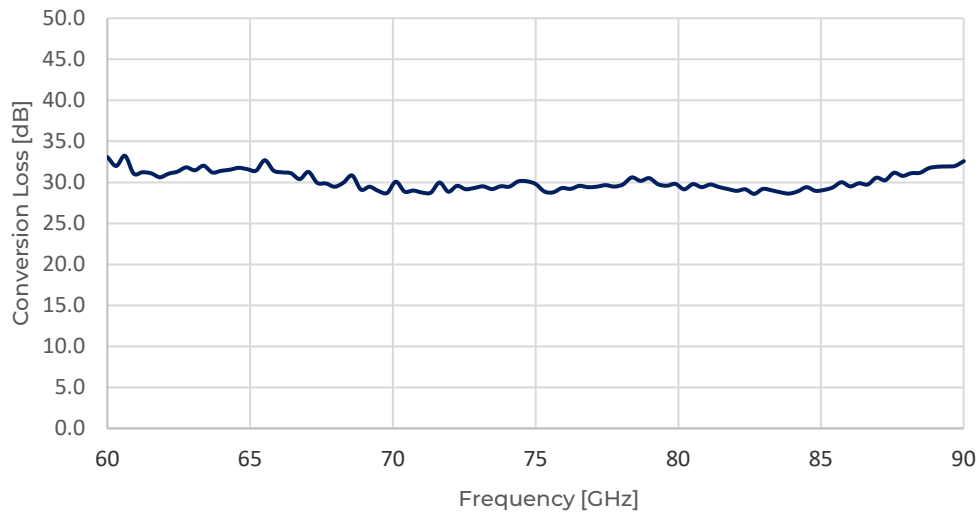
8.7 WHMB-12-0001

Typical Conversion Loss vs Frequency



8.8 WHMB-12-0002

Typical Conversion Loss vs Frequency

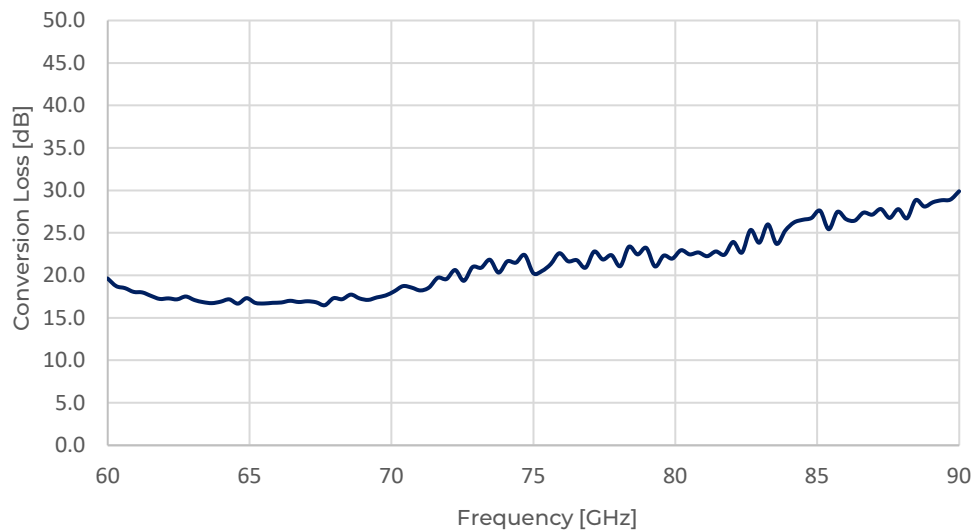




8. Typical Performance

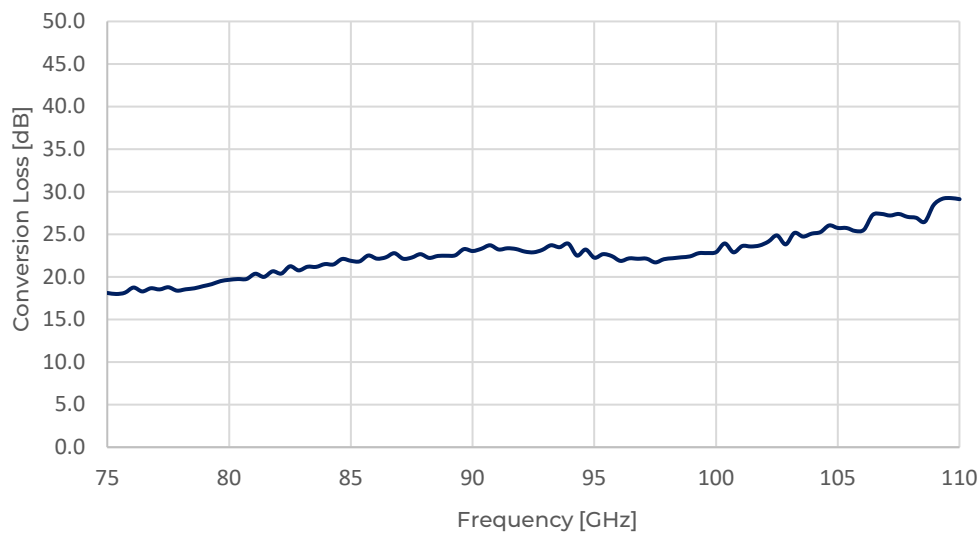
8.9 WHMB-12-0003

Typical Conversion Loss vs Frequency



8.10 WHMB-10-0001

Typical Conversion Loss vs Frequency

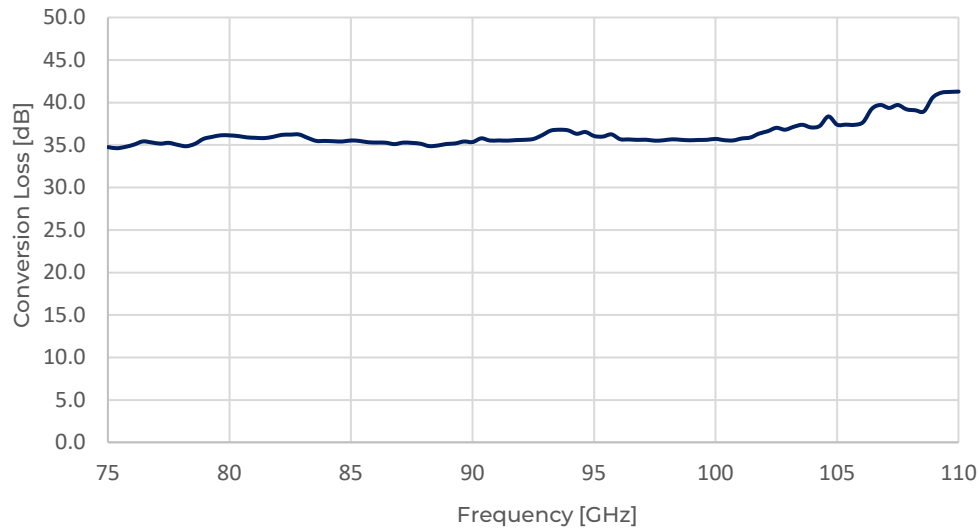




8. Typical Performance

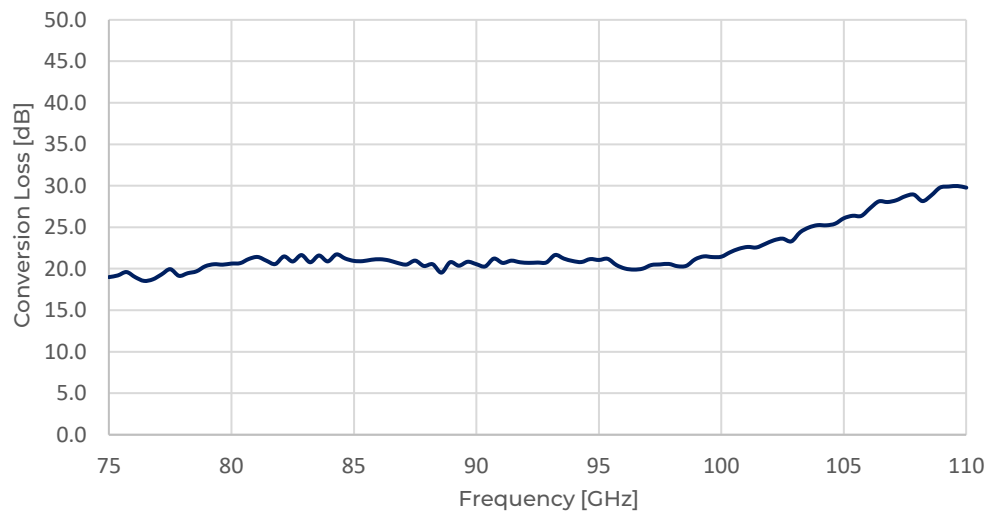
8.11 WHMB-10-0002

Typical Conversion Loss vs Frequency



8.12 WHMB-10-0003

Typical Conversion Loss vs Frequency

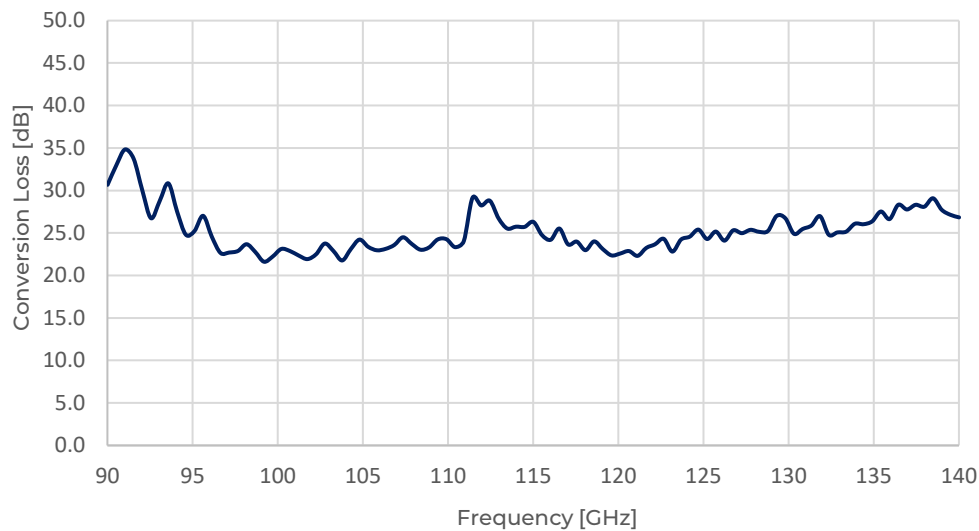




8. Typical Performance

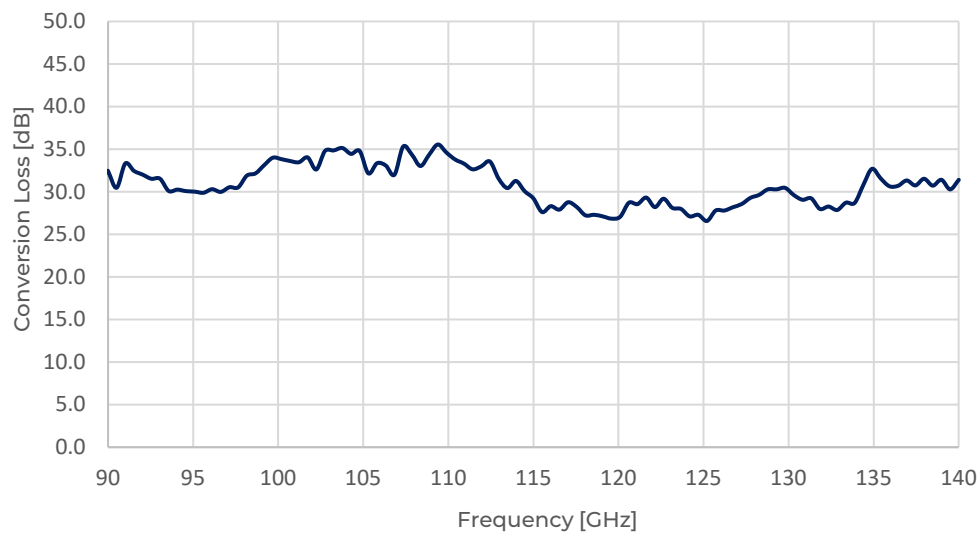
8.13 WHMB-08-0001

Typical Conversion Loss vs Frequency



8.14 WHMB-08-0002

Typical Conversion Loss vs Frequency

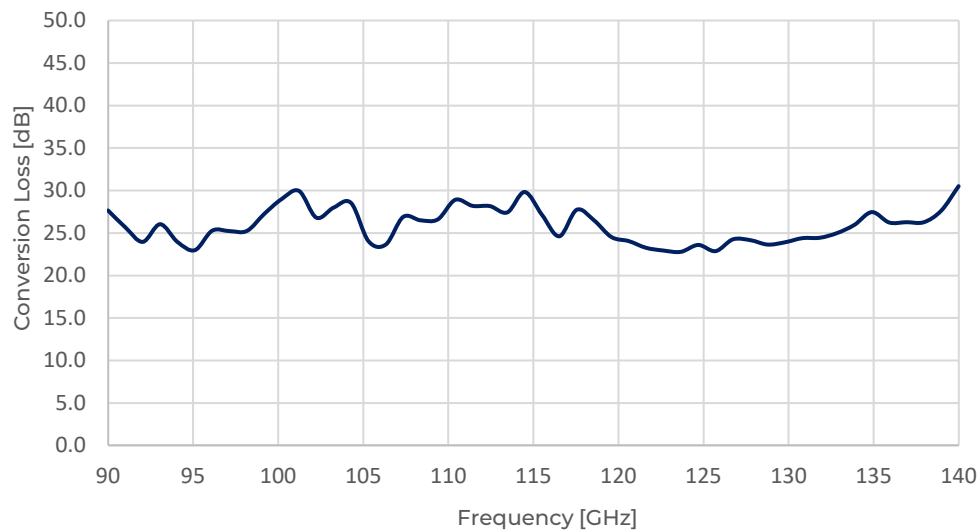




8. Typical Performance

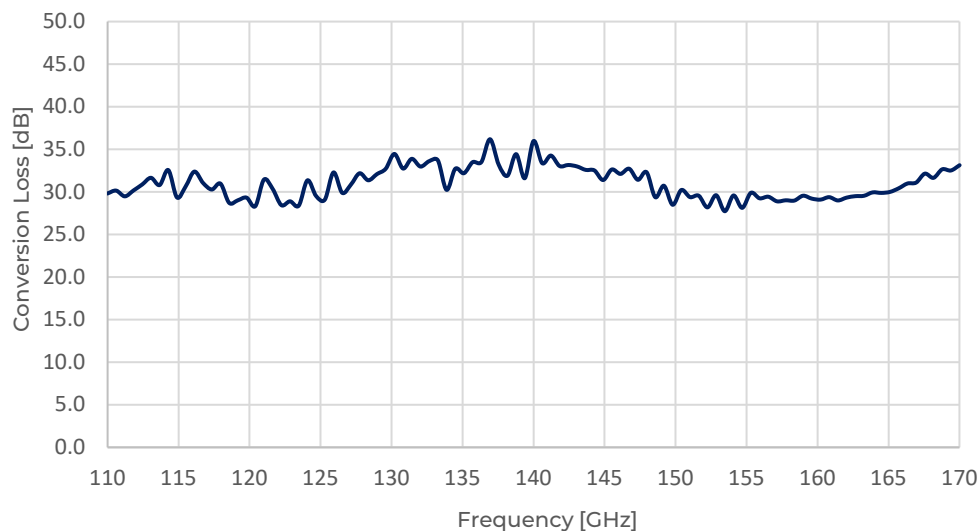
8.15 WHMB-08-0003

Typical Conversion Loss vs Frequency



8.16 WHMB-06-0001

Typical Conversion Loss vs Frequency

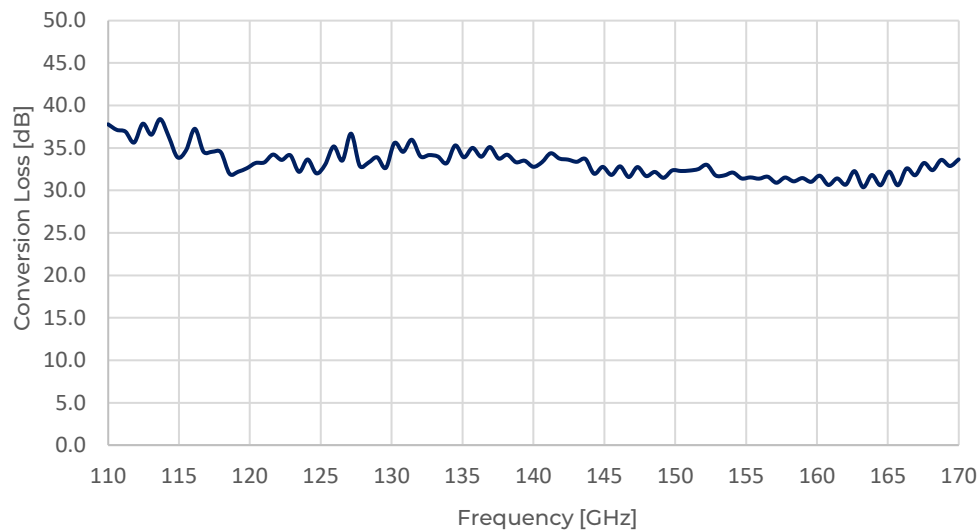




8. Typical Performance

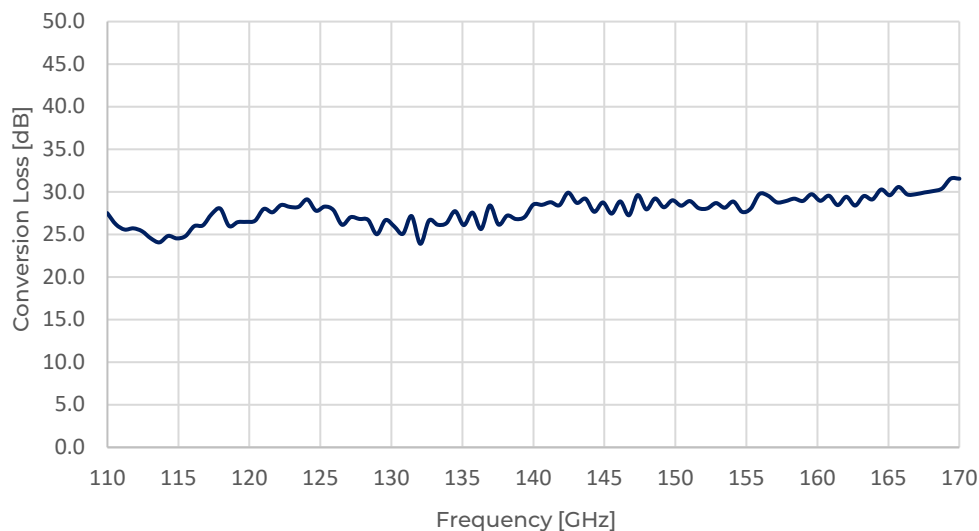
8.17 WHMB-06-0002

Typical Conversion Loss vs Frequency



8.18 WHMB-06-0003

Typical Conversion Loss vs Frequency

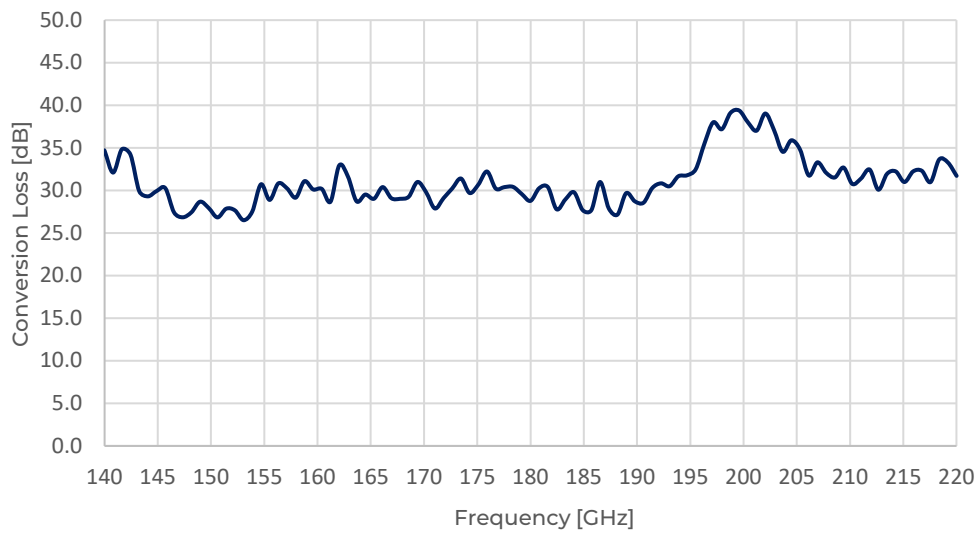




8. Typical Performance

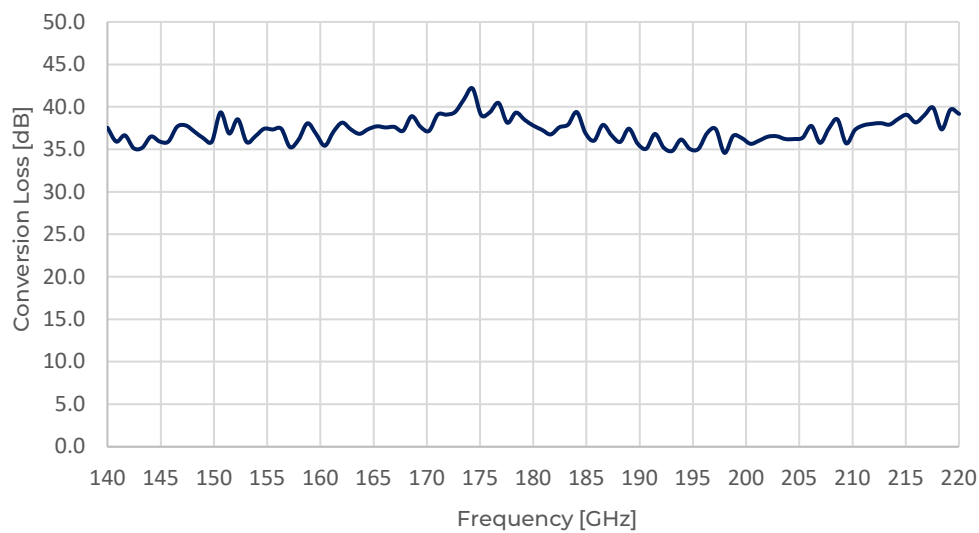
8.19 WHMB-05-0001

Typical Conversion Loss vs Frequency



8.20 WHMB-05-0002

Typical Conversion Loss vs Frequency

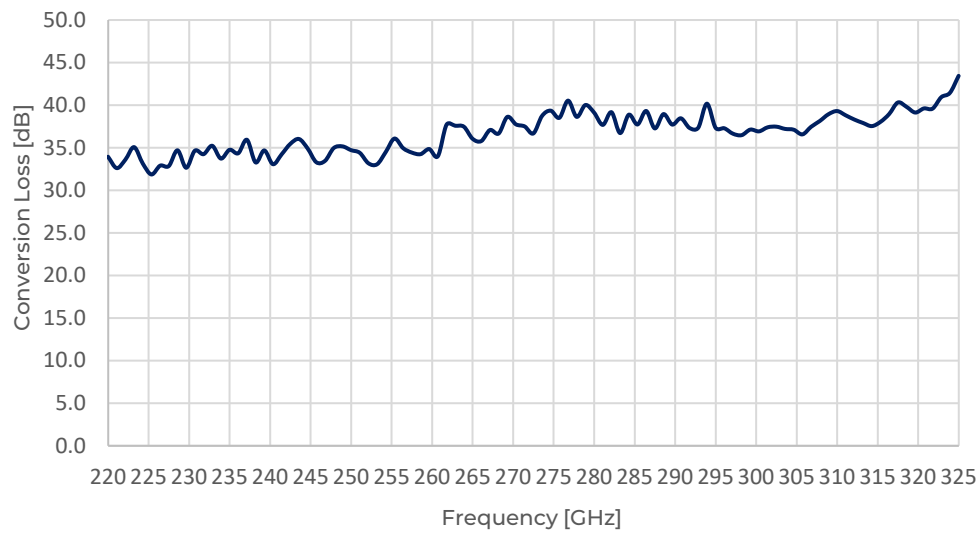




8. Typical Performance

8.21 WHMB-03-0001

Typical Conversion Loss vs Frequency



8.22 WHMB-02-0002

Typical Conversion Loss vs Frequency

