Performance Features:

Frequency range: DC-40GHz

Attenuation range: 0/1/2/3......28/29/30dB

Insert loss fluctuation: 0.4dB

Input/output voltage standing wave ratio: 1.3/1.3

Chip size: 0.762mm×0.762mm×0.1mm

Product profile:

The CW-AT40 is a GaAs MMIC fixed attenuator with excellent performance.The chip covers the DC-40GHz band range, attenuation range is optional, plug-in loss fluctuation is less than 0.4dB, input-output voltage standing wave ratio is less than 1.3.

Electrical parameters: (T_A=25℃)

Indicators		Minimum	Typical value	Maximum value	Units
Frequency range		DC-40			GHz
Amount of attenuation	0dB	0	0	0.5	dB
	1dB	0.9	1	1.2	dB
	2dB	2	2	2.4	dB
	3dB	2.9	3	3.4	dB
	4dB	3.8	4	4.3	dB
	5dB	4.9	5	5.4	dB
	6dB	5.8	6	6.4	dB
	7dB	6.8	7	7.3	dB
	8dB	7.9	8	8.4	dB
	9dB	8.9	9	9.3	dB
	10dB	10	10	10.3	dB
	11dB	11	11	11.4	dB
	12dB	11.8	12	12.3	dB
	13dB	12.8	13	13.3	dB
	14dB	14	14	14.3	dB
	15dB	15	15	15.4	dB
	16dB	15.9	16	16.4	dB
	17dB	16.8	17	17.4	dB
	18dB	17.8	18	18.3	dB
	19dB	18.8	19	19.3	dB
	20dB	19.9	20	20.3	dB
	21dB	20.9	21	21.3	dB
	22dB	21.9	22	22.3	dB
	23dB	23	23	23.3	dB
	24dB	23.8	24	24.4	dB
	25dB	24.9	25	25.3	dB

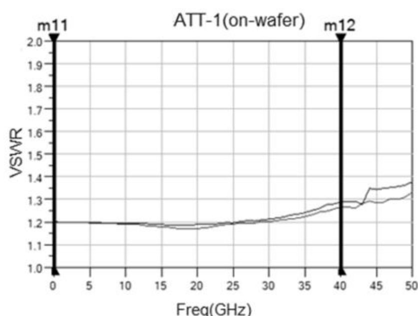
	26dB	26	26	26.3	dB
	27dB	26.8	27	27.4	dB
	28dB	27.9	28	28.4	dB
	29dB	28.8	29	29.3	dB
	30dB	29.8	30	30.2	dB
Enter the standing wave ratio		-	1.2	1.3	-
Output standing wave ratio		-	1.2	1.3	-

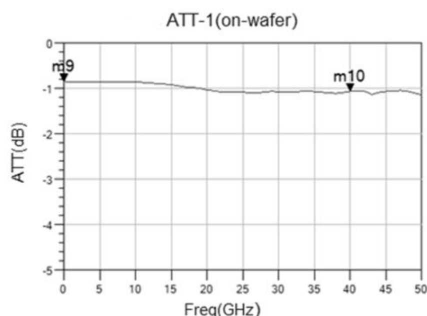
Use limit parameters: (Exceeding any of the above maximum limits risks permanent damage.)

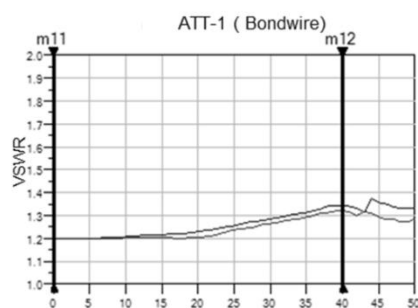
Maximum input power	27 dBm
Storage temperature	-65℃-150℃
Service temperature	-55℃-125℃

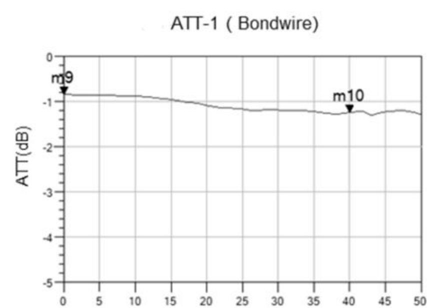
Typical curve：

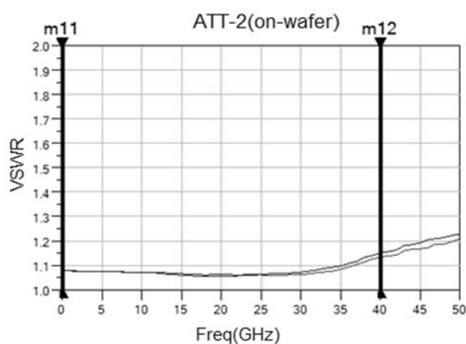
Input-output standing wave ratio insertion loss







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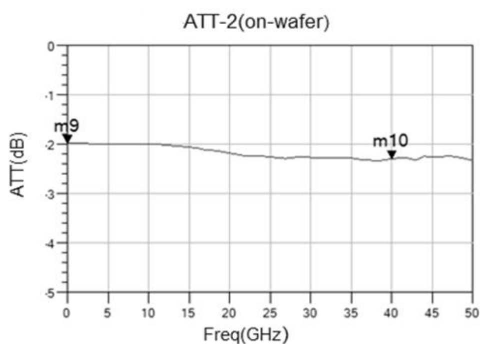
m11
m12
VSWR
Freq(GHz)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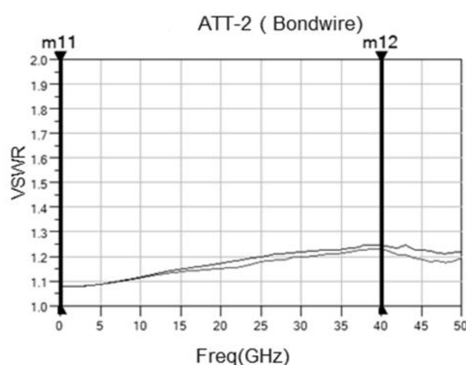
ATT(dB)
Freq(GHz)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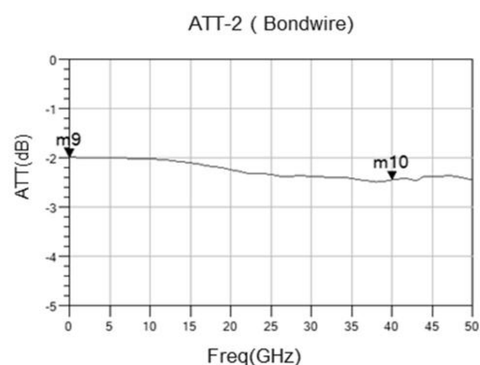
Freq(GHz)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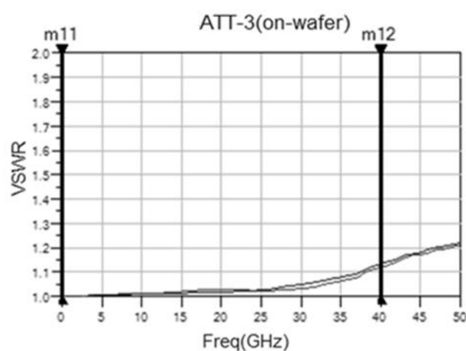
Freq(GHz)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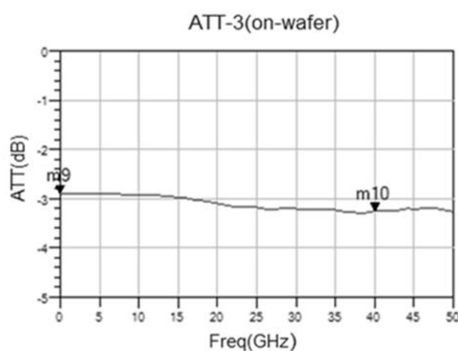
Freq(GHz)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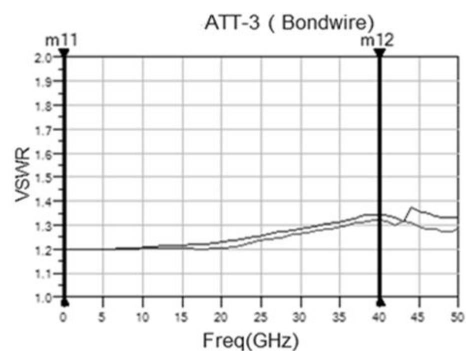
ATT(dB)
Freq(GHz)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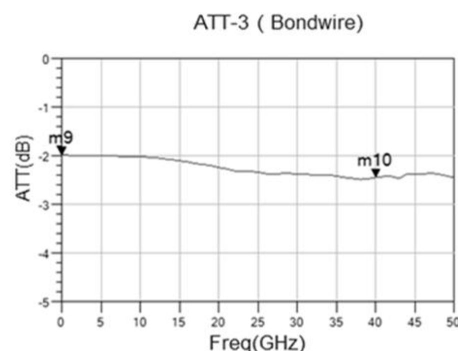
Freq(GHz)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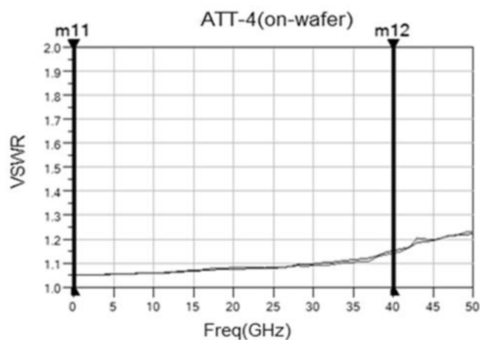
m10
ATT(dB)
Freq(GHz)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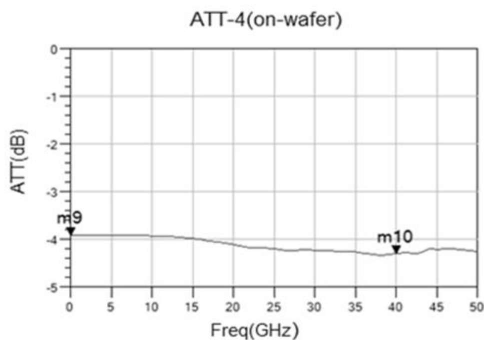
m12
VSWR
Freq(GHz)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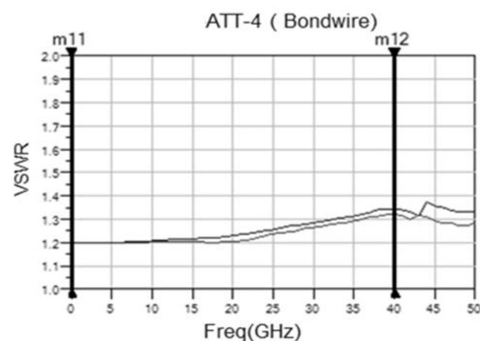
m10
ATT(dB)
Freq(GHz)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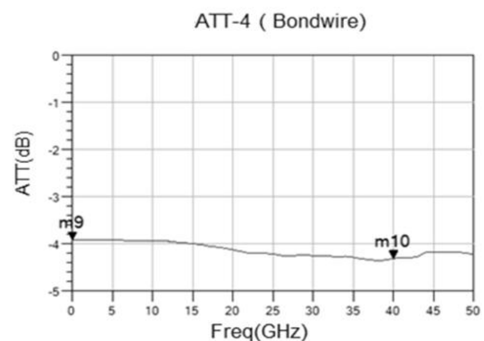
m12
VSWR
Freq(GHz)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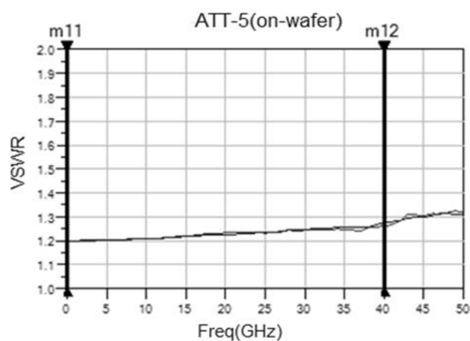
m9
m10
ATT(dB)
Freq(GHz)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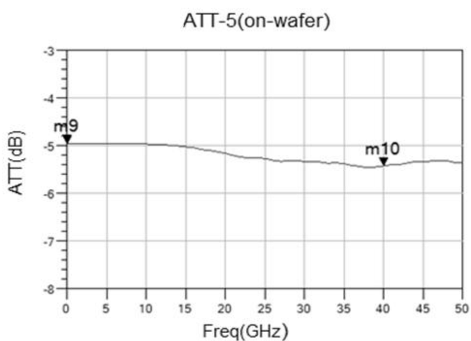
m11
m12
VSWR
Freq(GHz)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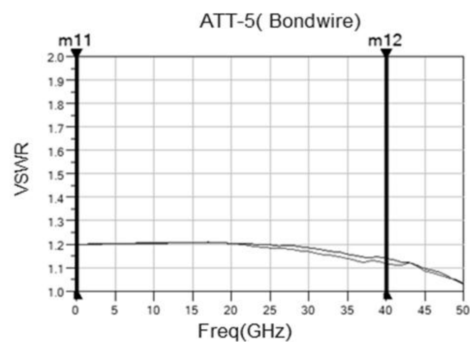
m9
m10
ATT(dB)
Freq(GHz)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m12
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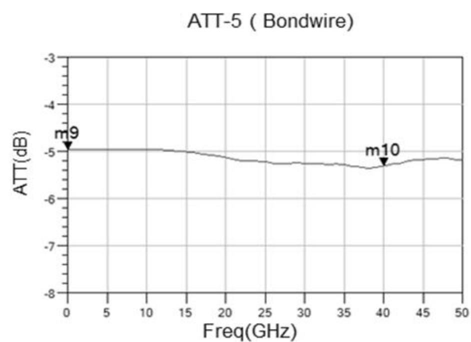
Freq(GHz)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m10
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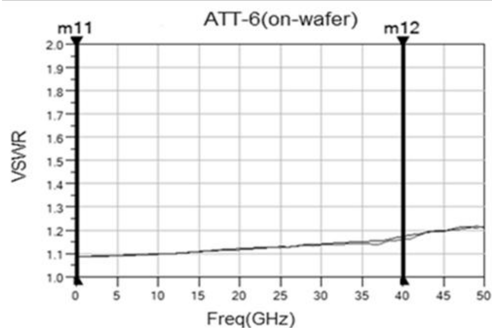
Freq(GHz)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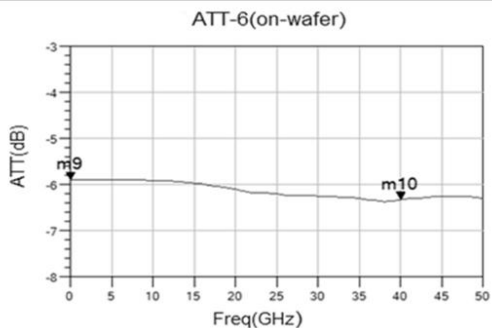
Freq(GHz)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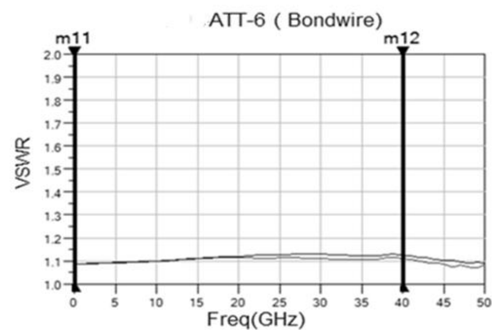
m10
ATT(dB)
Freq(GHz)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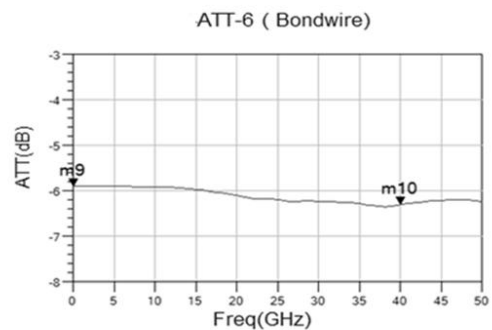
m11
m12
VSWR
Freq(GHz)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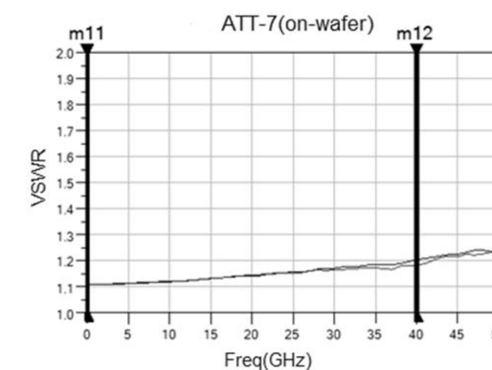
m10
ATT(dB)
Freq(GHz)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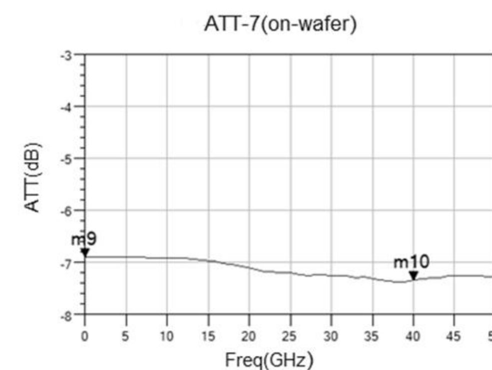
m11
m12
VSWR
Freq(GHz)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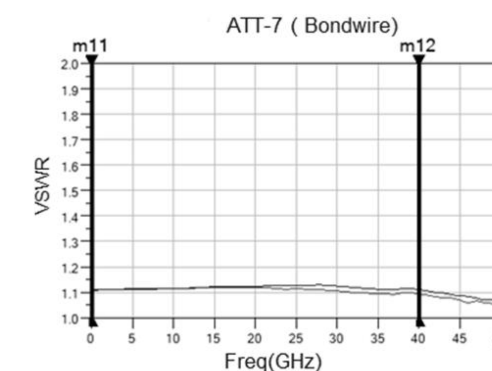
m9
m10
ATT(dB)
Freq(GHz)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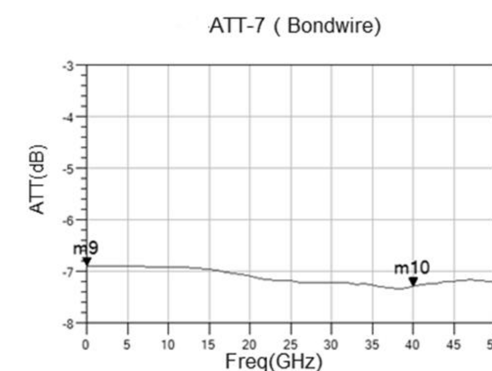
VSWR
Freq(GHz)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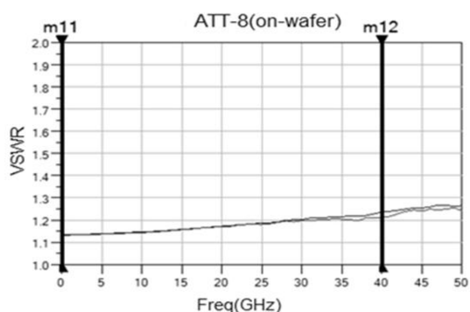
m10
ATT(dB)
Freq(GHz)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m12
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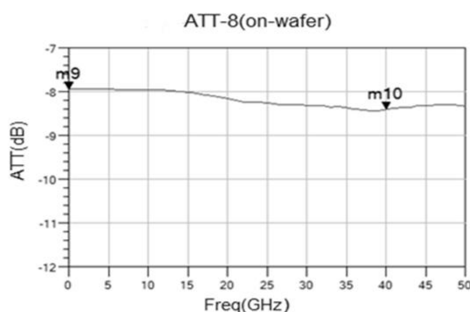
Freq(GHz)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m10
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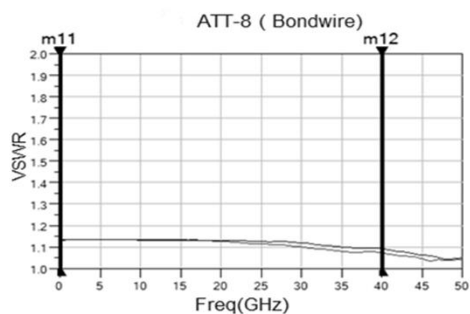
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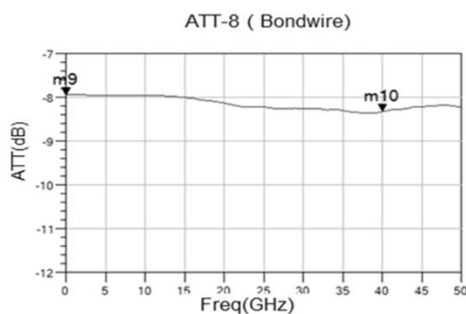
Freq(GHz)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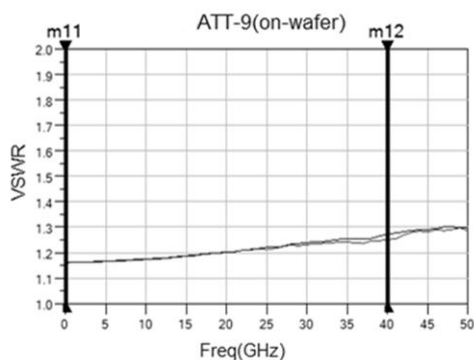
m9
m10
ATT(dB)
Freq(GHz)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m12
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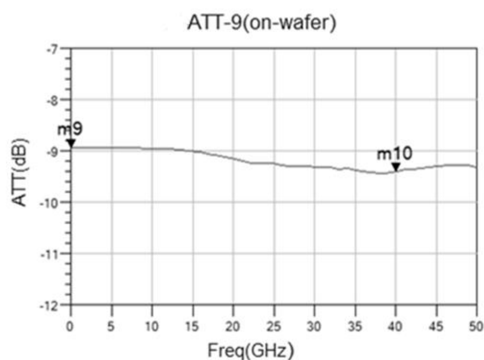
Freq(GHz)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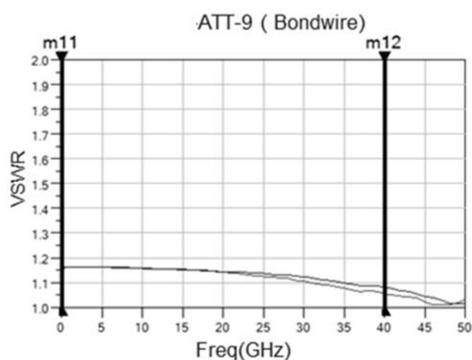
m9
m10
ATT(dB)
Freq(GHz)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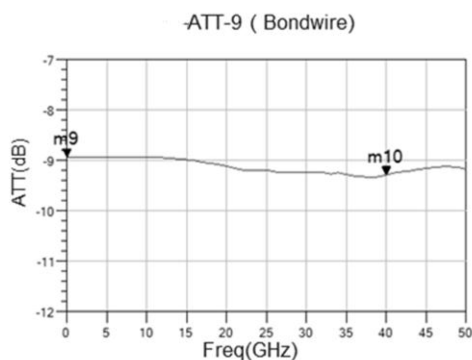
VSWR
Freq(GHz)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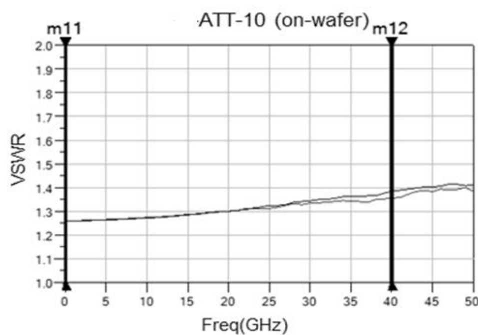
m9
m10
ATT(dB)
Freq(GHz)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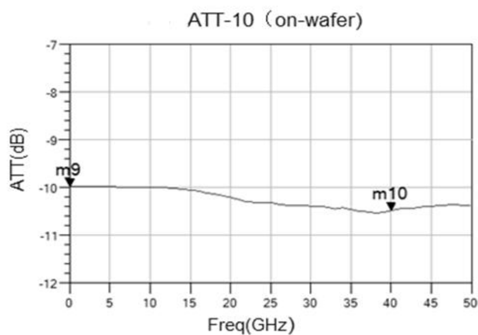
Freq(GHz)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ATT(dB)
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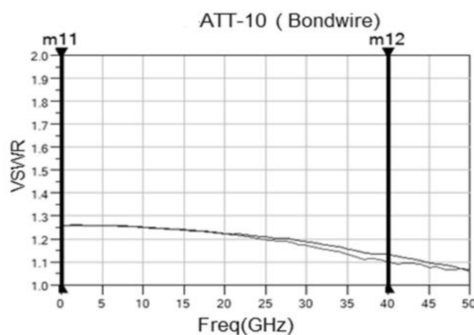
m10
Freq(GHz)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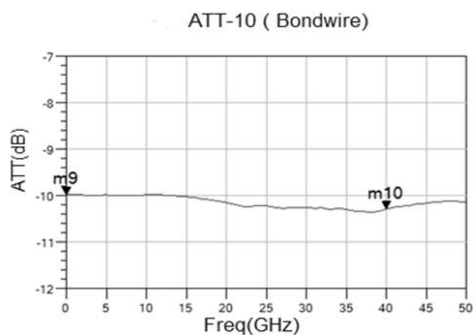
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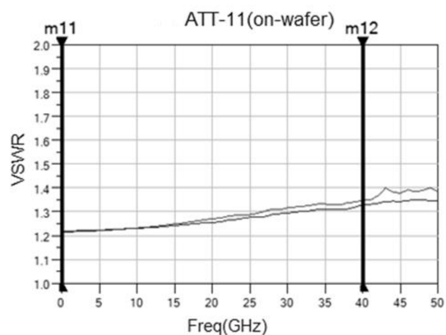
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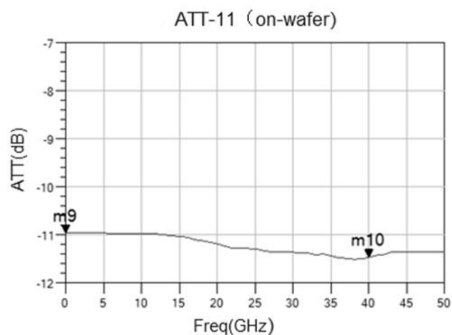
Freq(GHz)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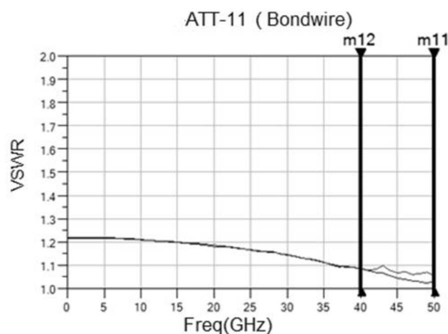
ATT(dB)
m9
m10
Freq(GHz)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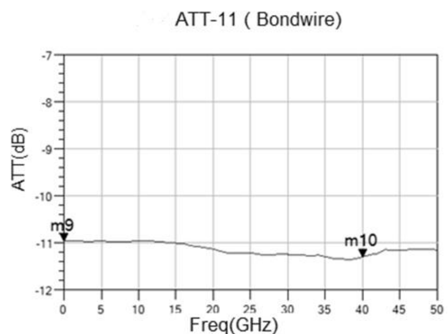
Freq(GHz)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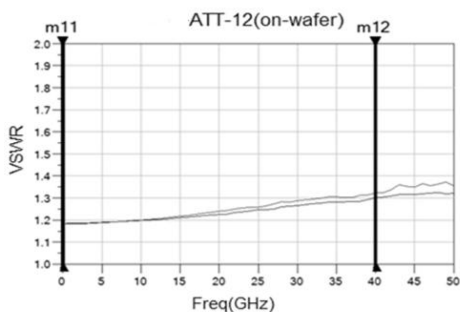
Freq(GHz)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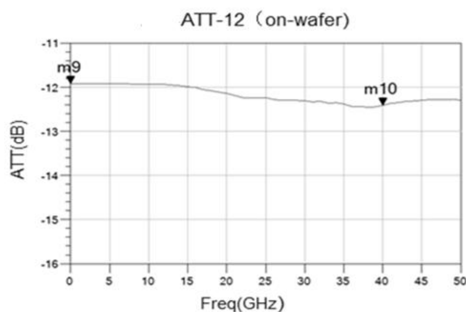
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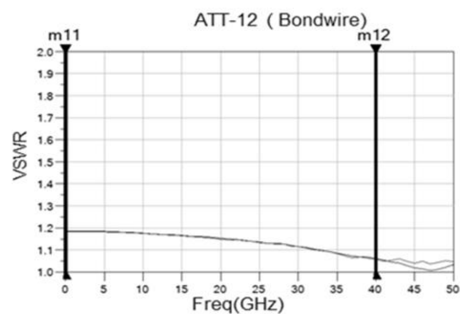
m9
m10
ATT(dB)
Freq(GHz)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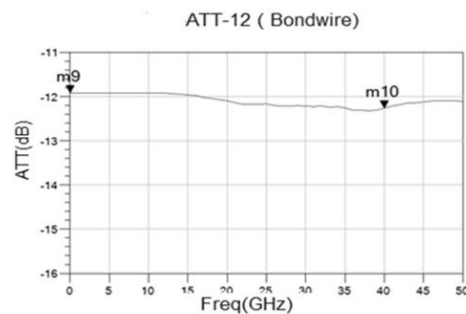
Freq(GHz)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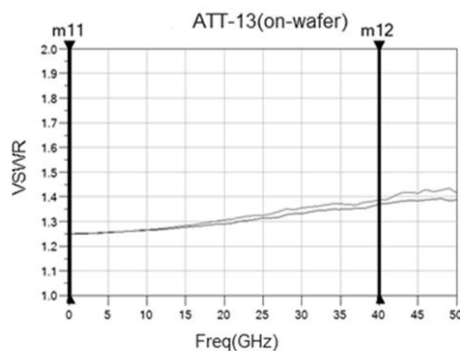
m10
ATT(dB)
Freq(GHz)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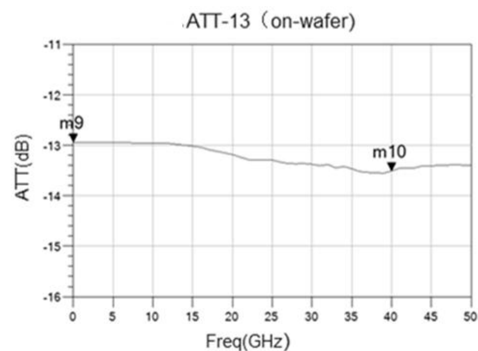
m11
m12
VSWR
Freq(GHz)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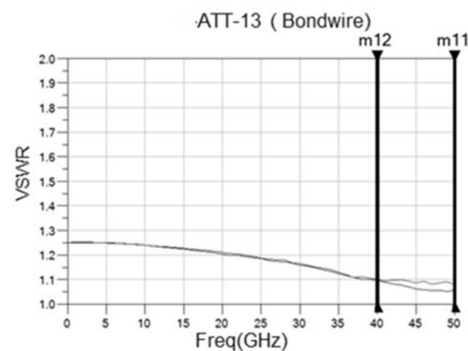
m9
m10
ATT(dB)
Freq(GHz)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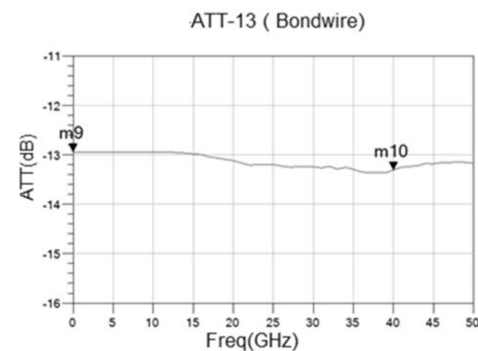
m12
m11
VSWR
Freq(GHz)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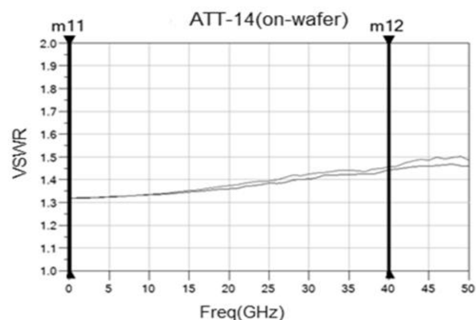
m9
m10
ATT(dB)
Freq(GHz)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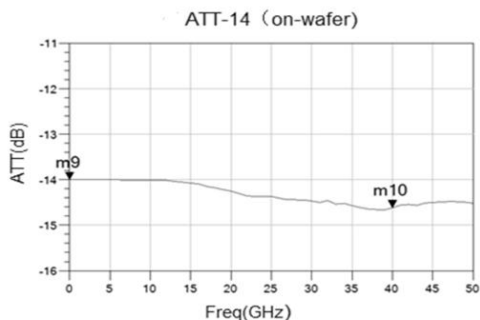
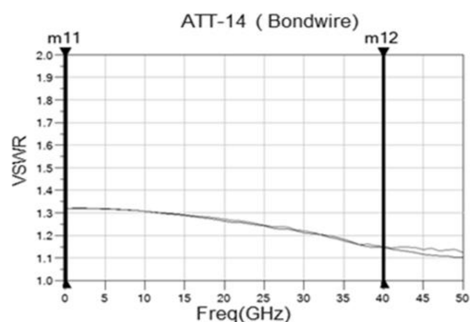
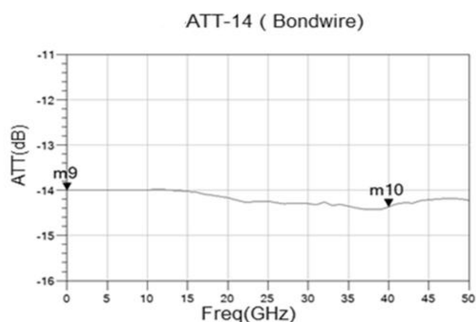
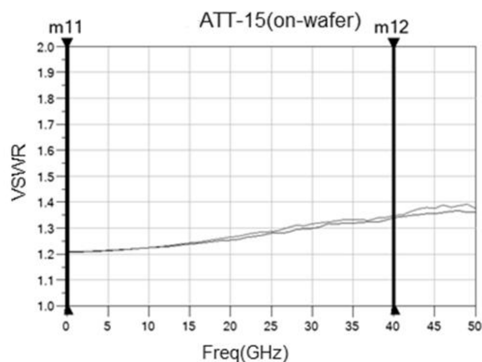
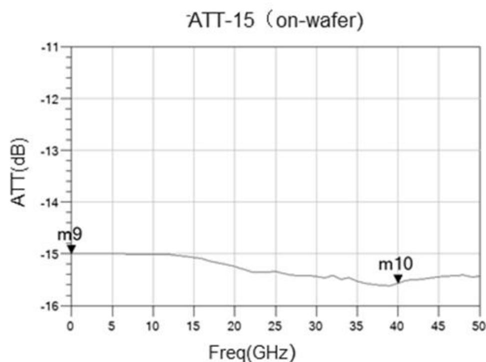
VSWR
Freq(GHz)

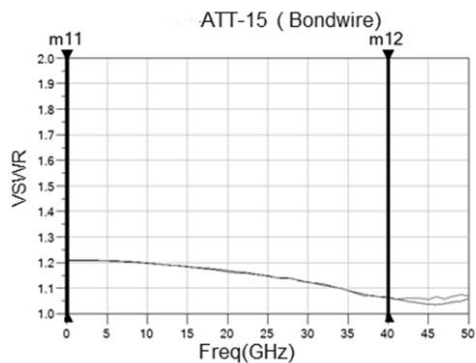

ATT-14（on-wafer)
ATT(dB)
m9
m10
Freq(GHz)

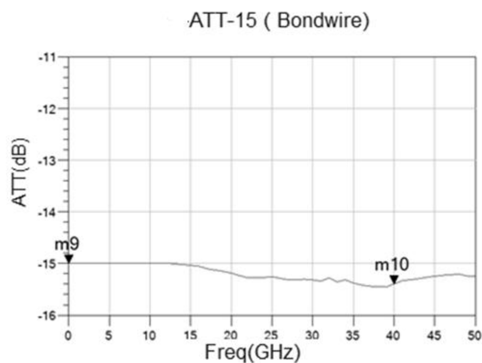

ATT-14（Bondwire)
m11
m12
VSWR
Freq(GHz)

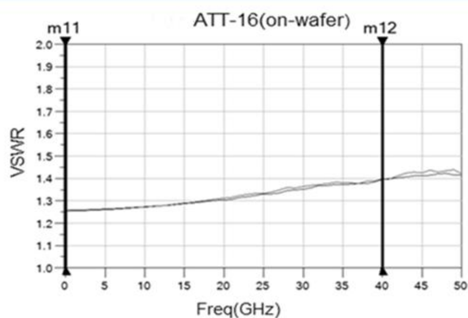

ATT-14（Bondwire)
ATT(dB)
m9
m10
Freq(GHz)

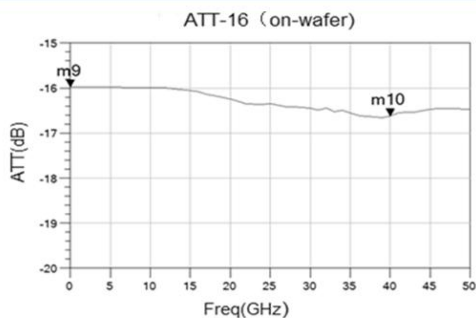

ATT-15(on-wafer)
m11
m12
VSWR
Freq(GHz)

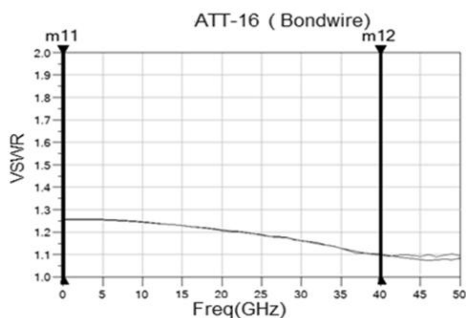

ATT-15（on-wafer)
ATT(dB)
m9
m10
Freq(GHz)

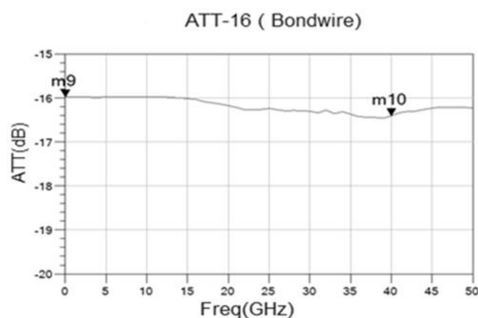

ATT-15（Bondwire)
m11
m12
VSWR
Freq(GHz)

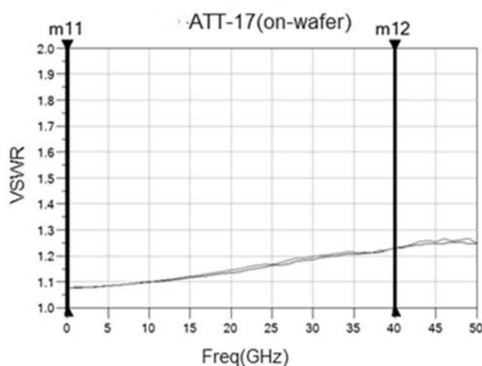

ATT-15（Bondwire)
ATT(dB)
m9
m10
Freq(GHz)

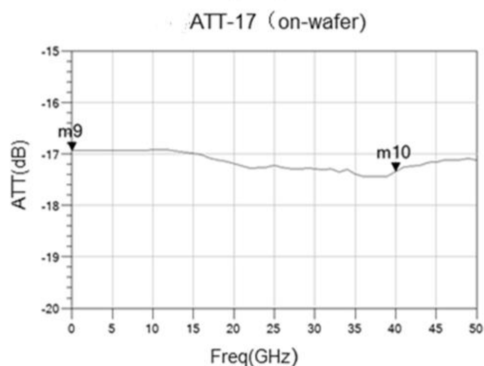

ATT-16(on-wafer)
m11
m12
VSWR
Freq(GHz)

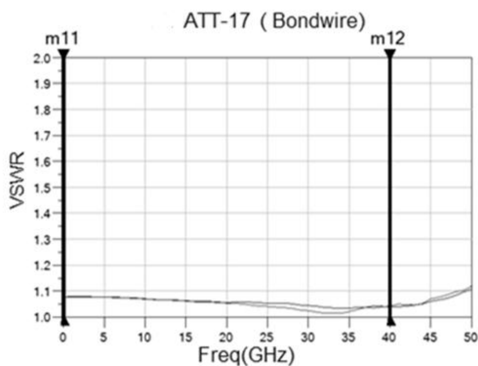

ATT-16（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

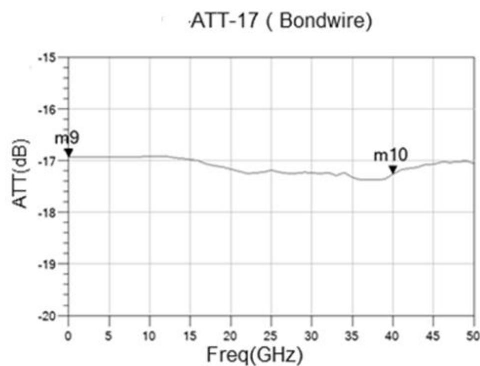

ATT-16（Bondwire)
m11
m12
VSWR
Freq(GHz)

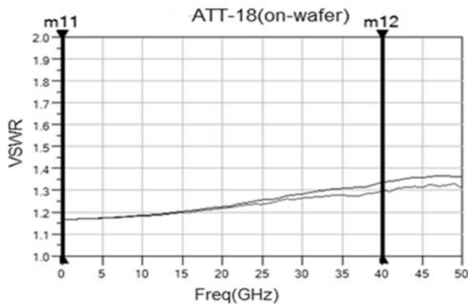

ATT-16（Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

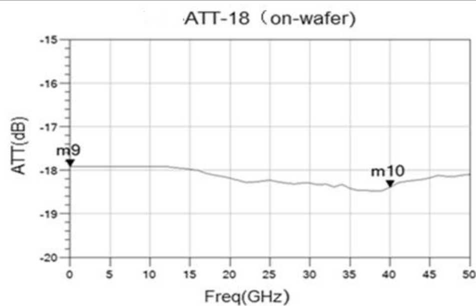

ATT-17(on-wafer)
m11
m12
VSWR
Freq(GHz)

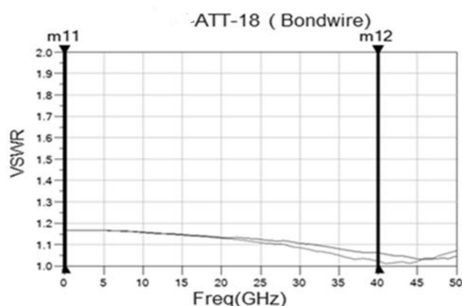

ATT-17（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

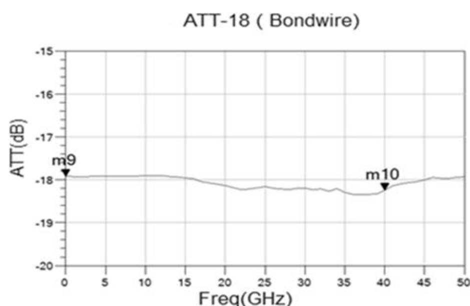

ATT-17（Bondwire)
m11
m12
VSWR
Freq(GHz)

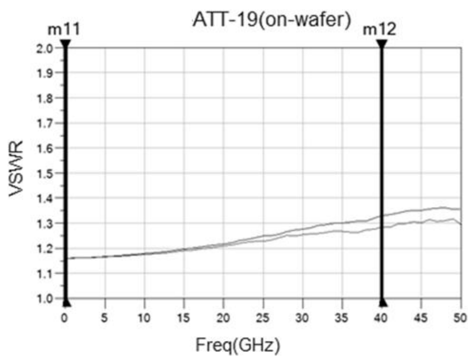

ATT-17（Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

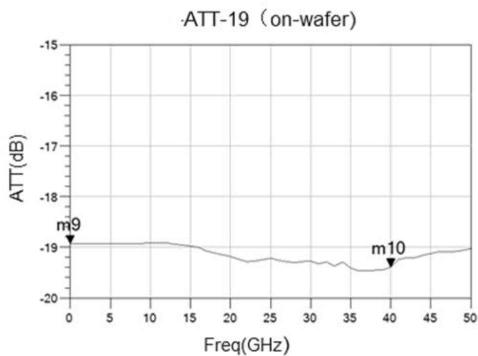

ATT-18(on-wafer)
m11
m12
VSWR
Freq(GHz)

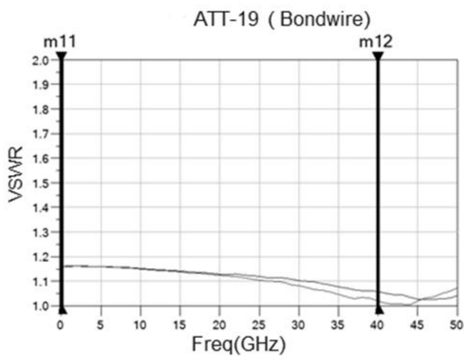

ATT-18（on-wafer)
ATT(dB)
m9
m10
Freq(GHz)

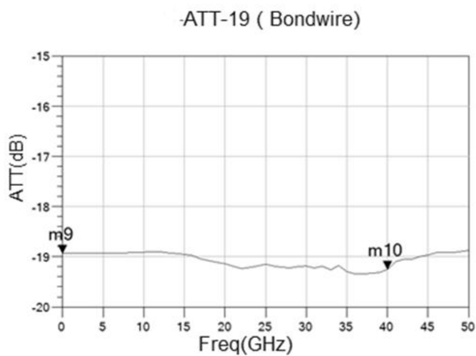

ATT-18（Bondwire)
m11
m12
VSWR
Freq(GHz)

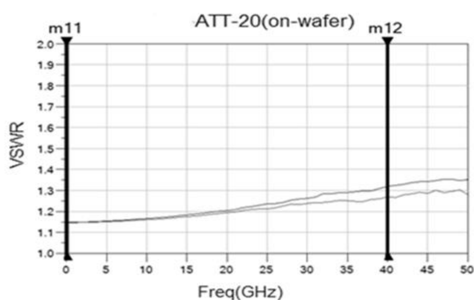

ATT-18（Bondwire)
ATT(dB)
m9
m10
Freq(GHz)

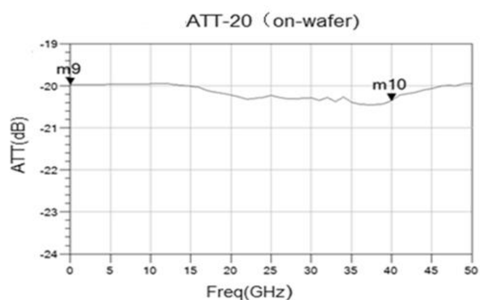

ATT-19(on-wafer)
m11
m12
VSWR
Freq(GHz)

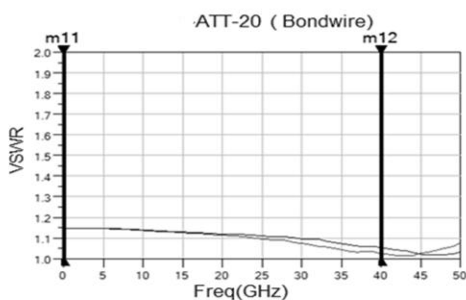

ATT-19（on-wafer)
ATT(dB)
m9
m10
Freq(GHz)

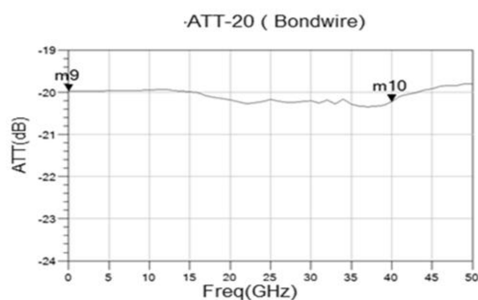

ATT-19（Bondwire)
m11
m12
VSWR
Freq(GHz)

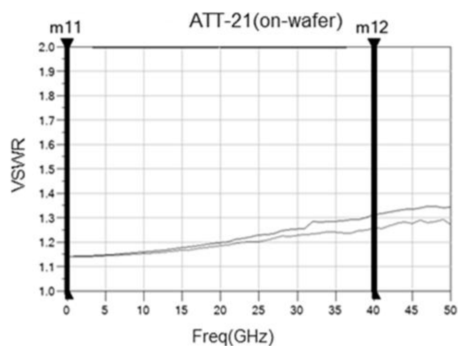

ATT-19（Bondwire)
ATT(dB)
m9
m10
Freq(GHz)

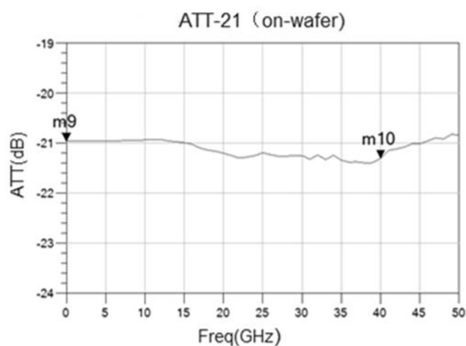

ATT-20(on-wafer)
m11
m12
VSWR
Freq(GHz)

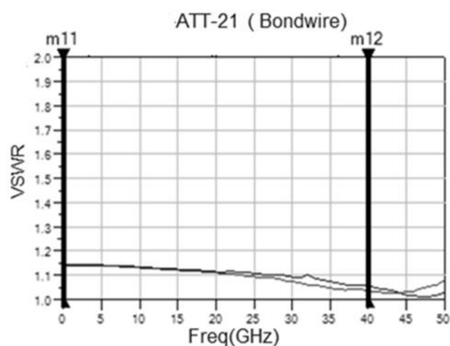

ATT-20（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

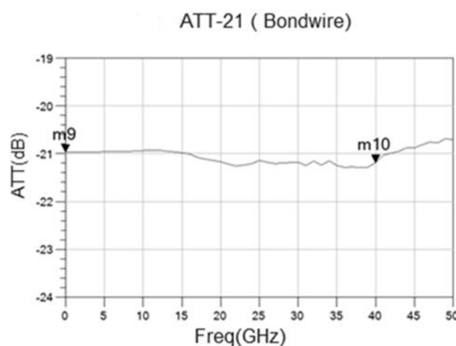

ATT-20（Bondwire)
m11
m12
VSWR
Freq(GHz)

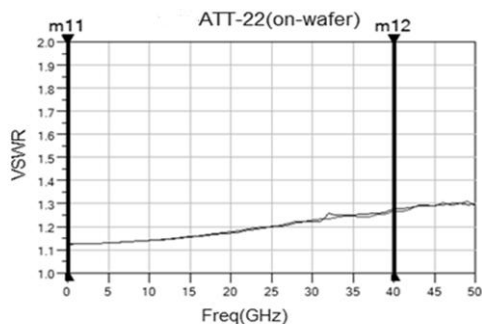

ATT-20（Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

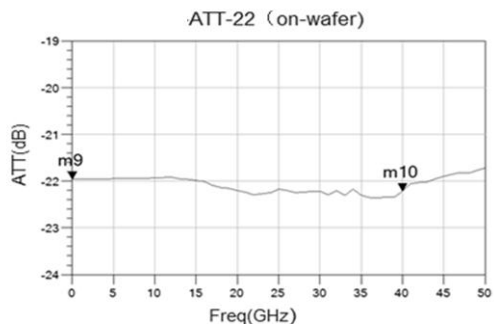

ATT-21(on-wafer)
m11
m12
VSWR
Freq(GHz)

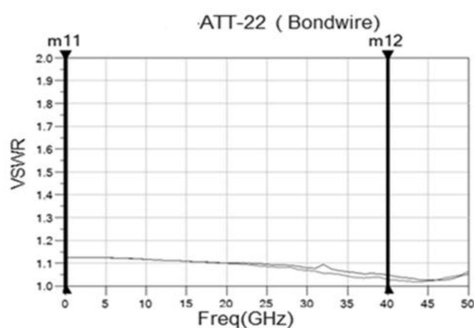

ATT-21（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

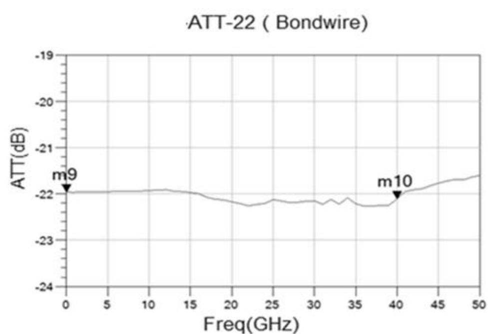

ATT-21（Bondwire)
m11
m12
VSWR
Freq(GHz)

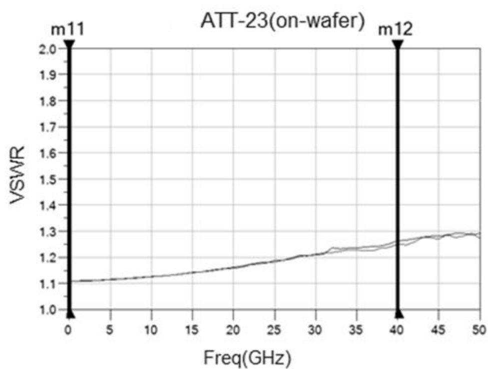

ATT-21（Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

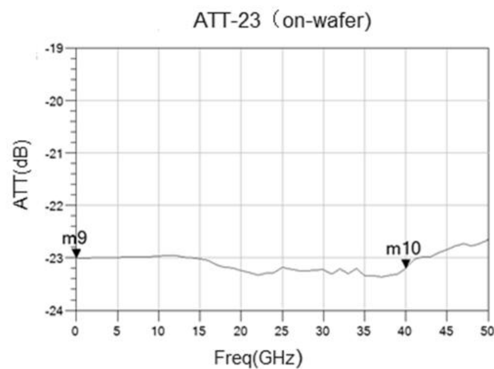

ATT-22(on-wafer)
m11
m12
VSWR
Freq(GHz)

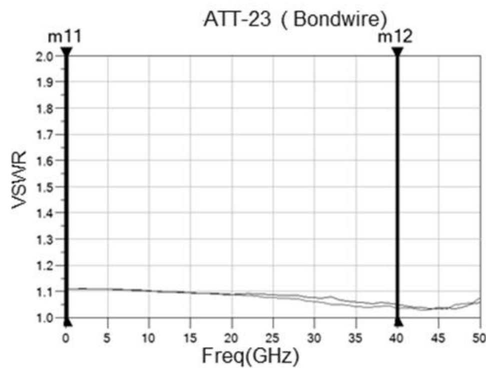

ATT-22（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

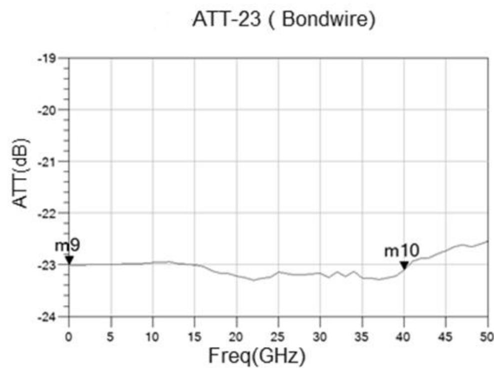

ATT-22（Bondwire)
m11
m12
VSWR
Freq(GHz)

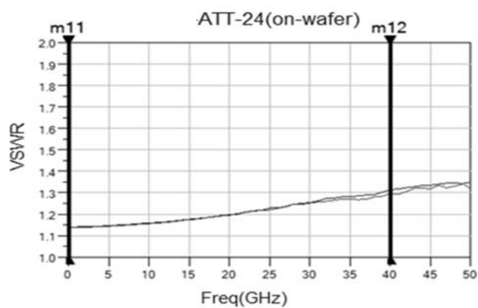

ATT-22 (Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

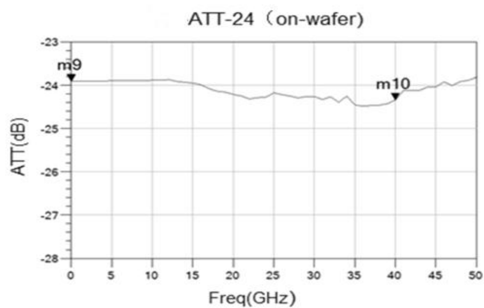

ATT-23(on-wafer)
m11
m12
VSWR
Freq(GHz)

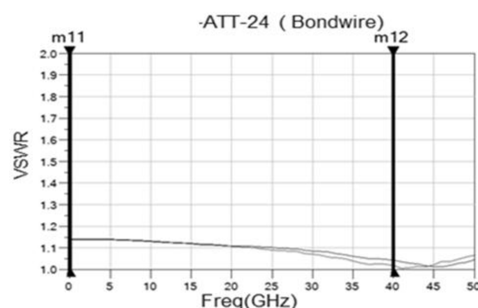

ATT-23（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

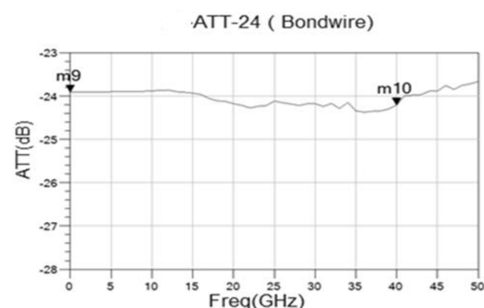

ATT-23（Bondwire)
m11
m12
VSWR
Freq(GHz)

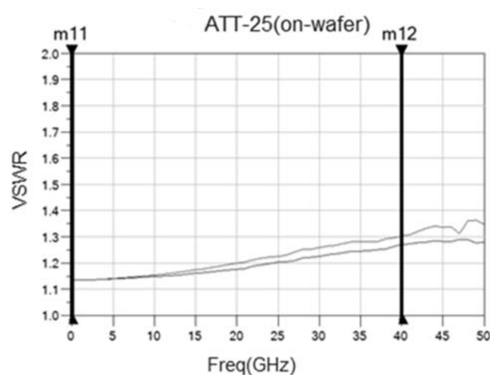

ATT-23 (Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

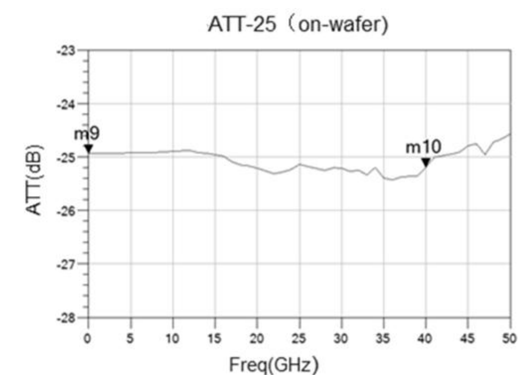

ATT-24(on-wafer)
m11
m12
VSWR
Freq(GHz)

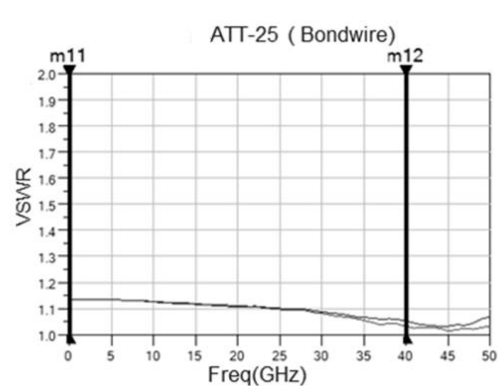

ATT-24 (on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

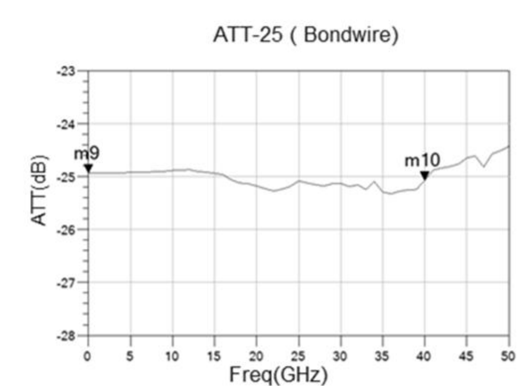

ATT-24 (Bondwire)
m11
m12
VSWR
Freq(GHz)

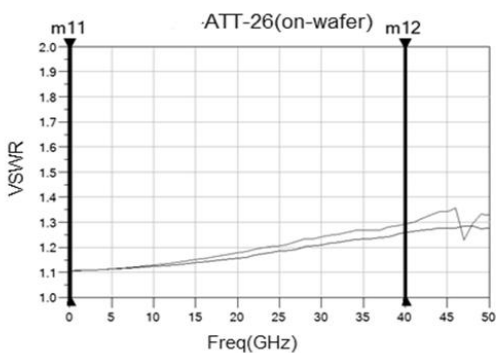

ATT-24 (Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

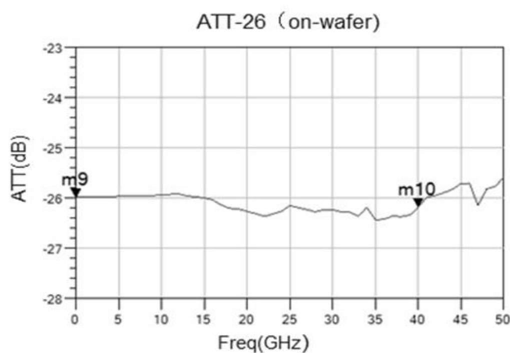

ATT-25(on-wafer)
m11
m12
VSWR
Freq(GHz)

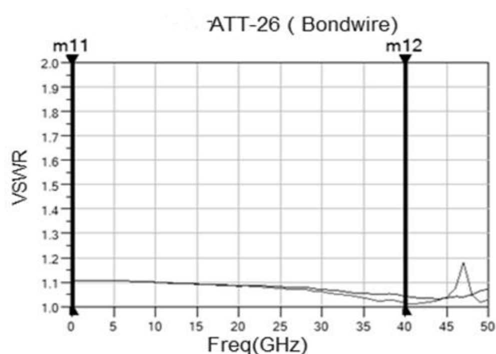

ATT-25 (on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

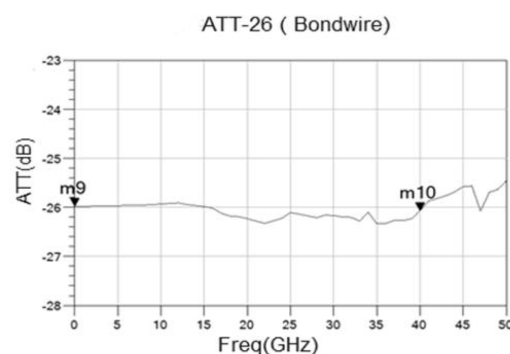

ATT-25 (Bondwire)
m11
m12
VSWR
Freq(GHz)

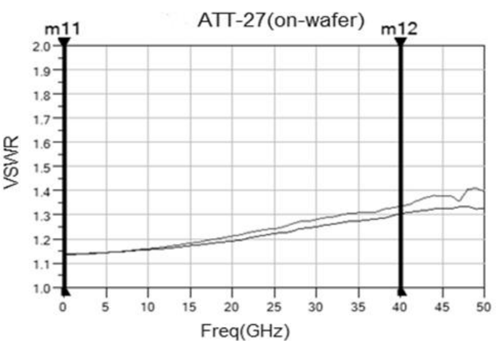

ATT-25 (Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

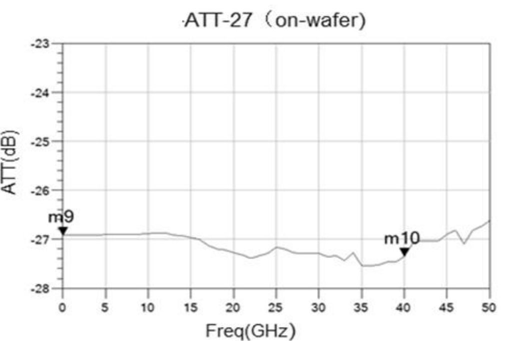

ATT-26(on-wafer)
m11
m12
VSWR
Freq(GHz)

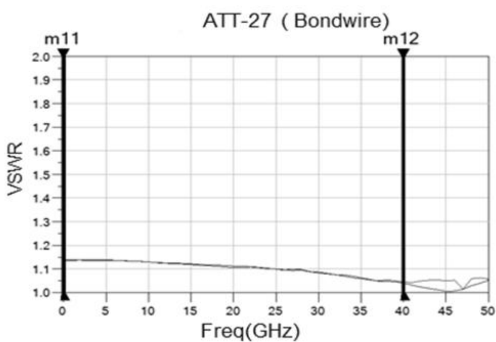

ATT-26（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

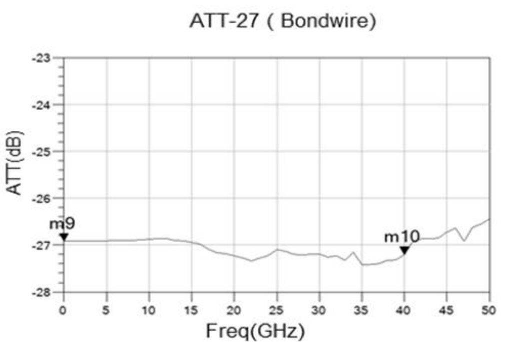

ATT-26 (Bondwire)
m11
m12
VSWR
Freq(GHz)

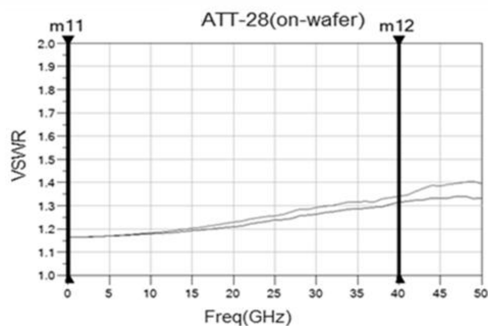

ATT-26 (Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

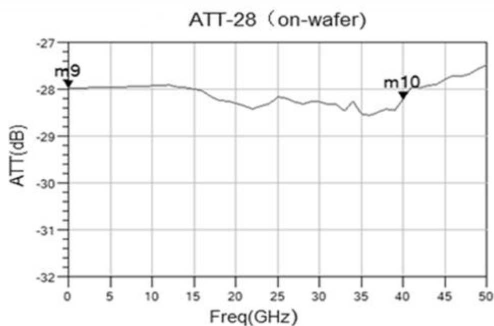

ATT-27(on-wafer)
m11
m12
VSWR
Freq(GHz)

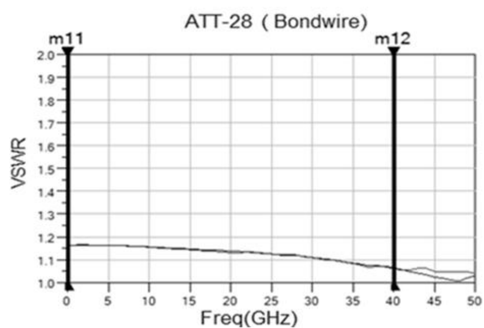

ATT-27（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

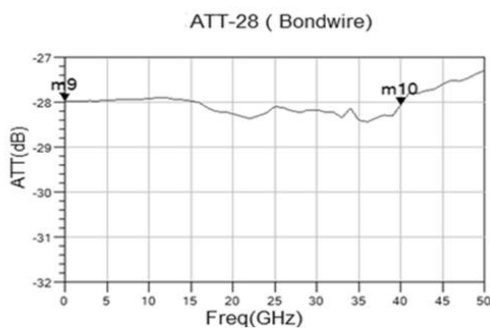

ATT-27 (Bondwire)
m11
m12
VSWR
Freq(GHz)

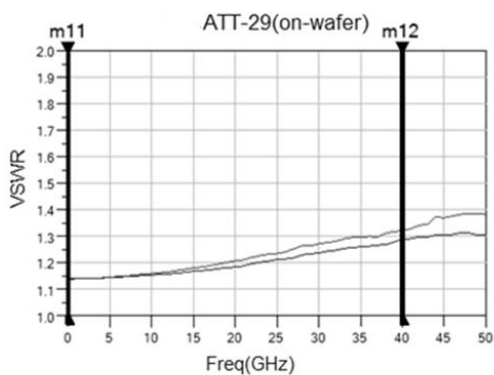

ATT-27 (Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

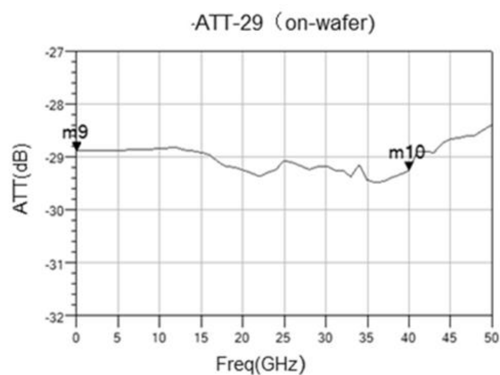

ATT-28(on-wafer)
m11
m12
VSWR
Freq(GHz)

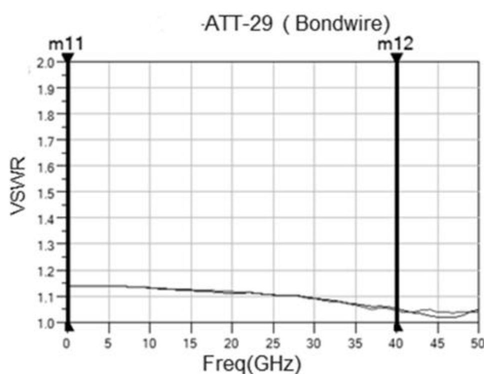

ATT-28（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

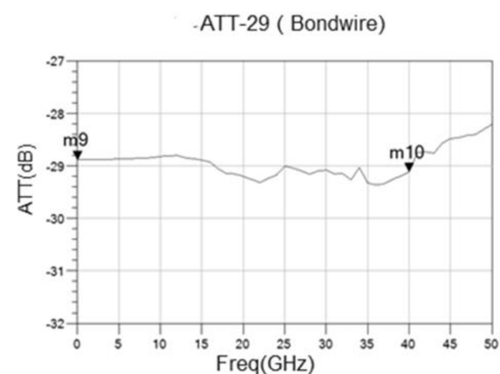

ATT-28（Bondwire)
m11
m12
VSWR
Freq(GHz)

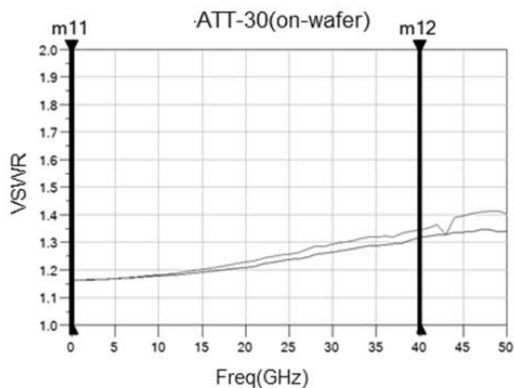

ATT-28 (Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

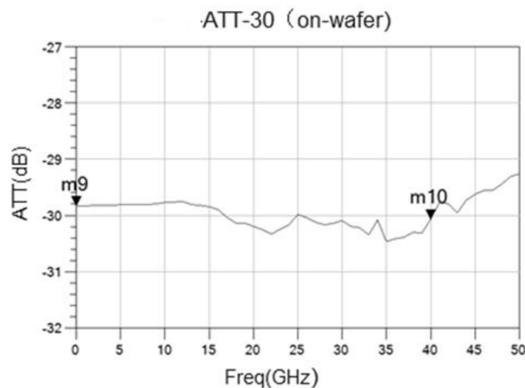

ATT-29(on-wafer)
m11
m12
VSWR
Freq(GHz)

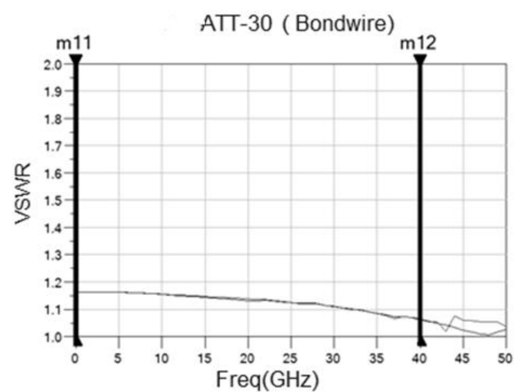

ATT-29（on-wafer)
m9
m10
ATT(dB)
Freq(GHz)

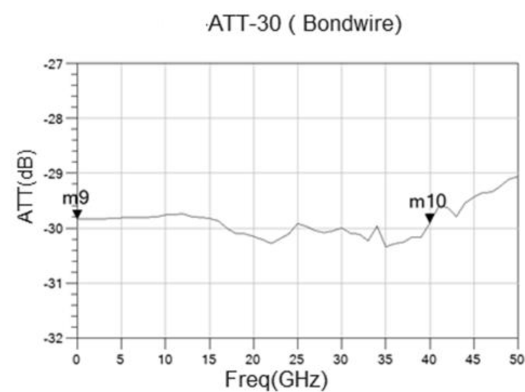

ATT-29（Bondwire)
m11
m12
VSWR
Freq(GHz)


ATT-29 (Bondwire)
m9
m10
ATT(dB)
Freq(GHz)

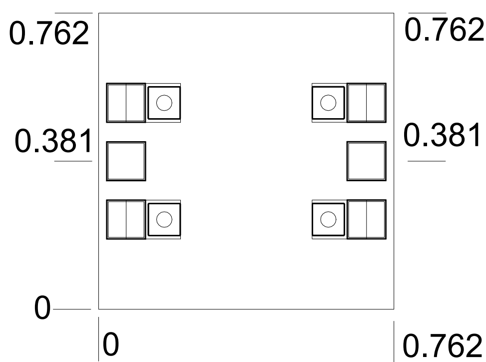




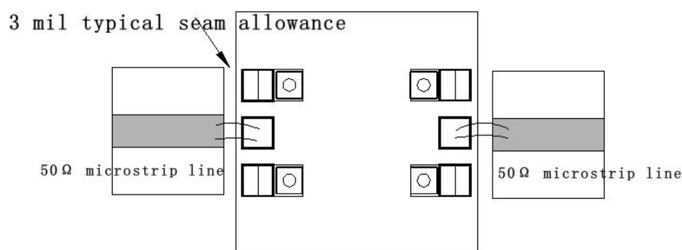




Physical size drawing: (unit mm)



Physical proposed assembly drawing：



Instructions:

Storage: The chip must be placed in a container with electrostatic protection and stored in a nitrogen environment.

Cleaning treatment: The bare chip must be operated and used in a purified environment. It is forbidden to use liquid cleaning agent to clean the chip.

Electrostatic protection: Strictly comply with the ESD protection requirements to avoid electrostatic damage to the components.

General operation: Use vacuum chuck or precision pointed tweezers to pick up the chip.Avoid touching the surface of the chip with tools or fingers during handling.

Mounting operation: The chip can be installed using AuSn solder eutectic welding or conductive adhesive bonding process.The mounting surface must be clean and flat.

Bonding operation: Input and output with 2 (recommended diameter of 25um gold wire) bonding wire, bonding wire length less than 250um is optimal.It is recommended to use the smallest possible ultrasonic energy.Bonding begins at the pressure point on the chip and ends at the package (or substrate).