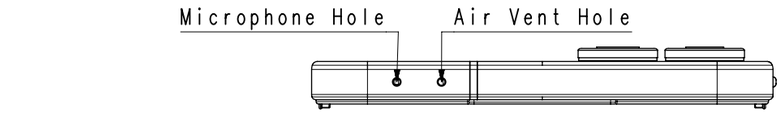
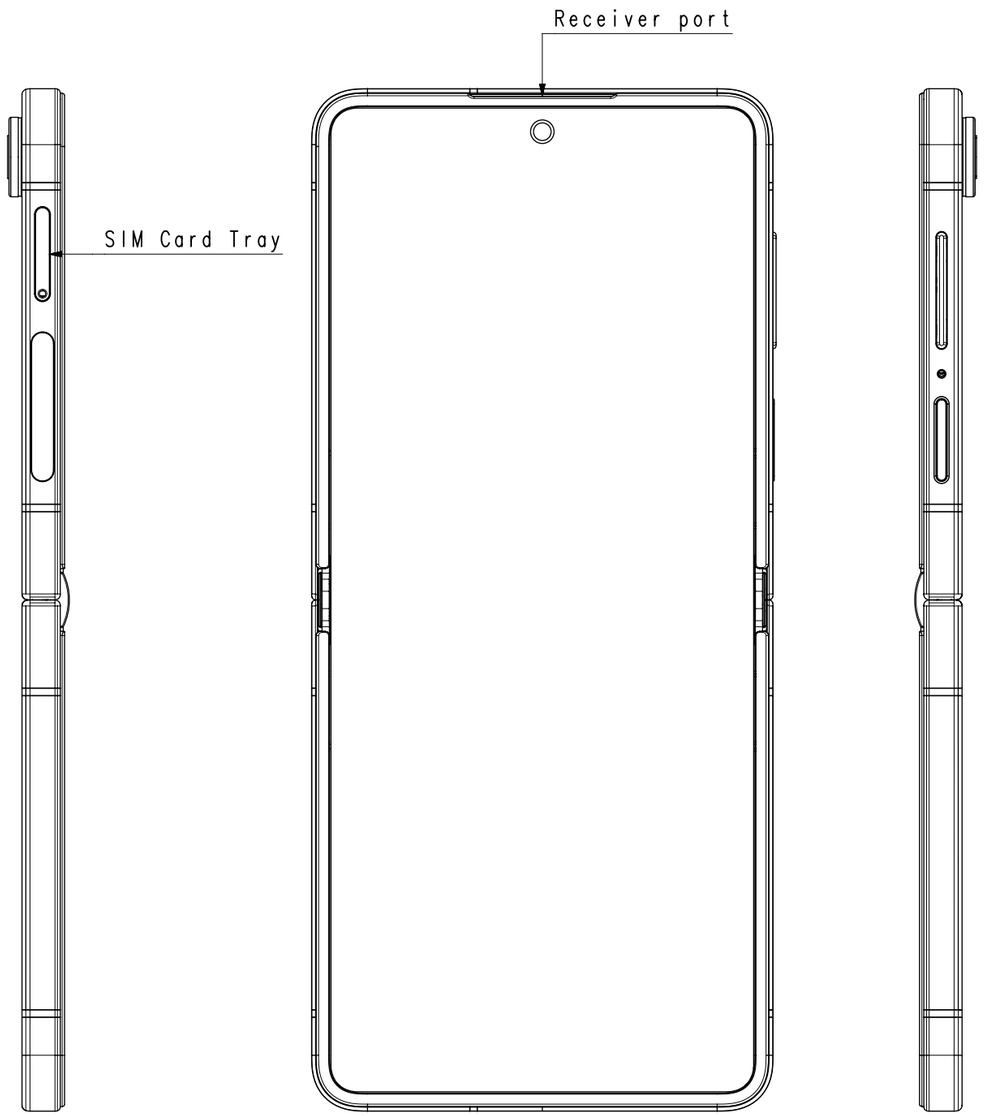
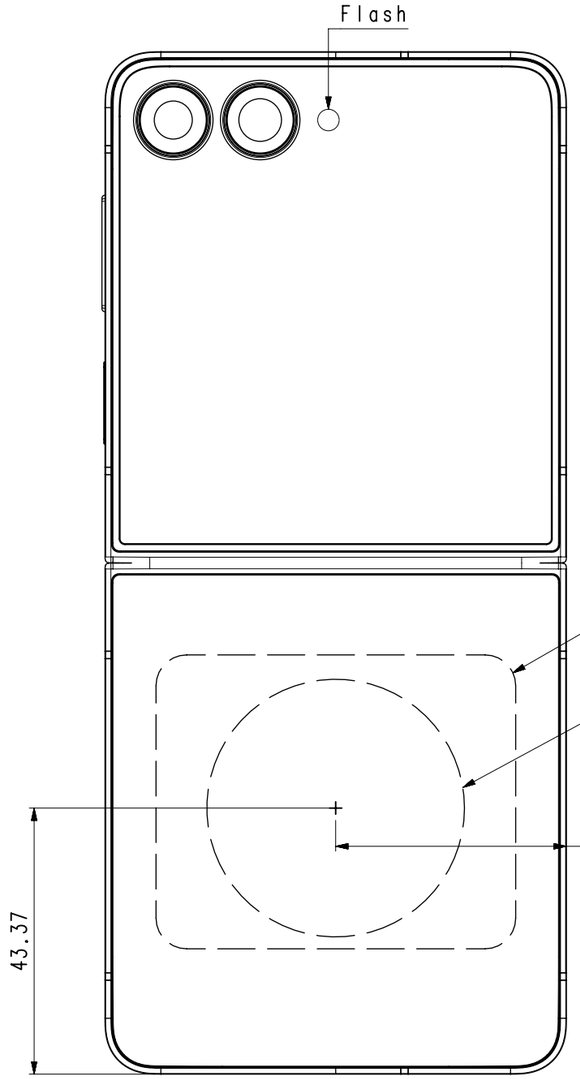
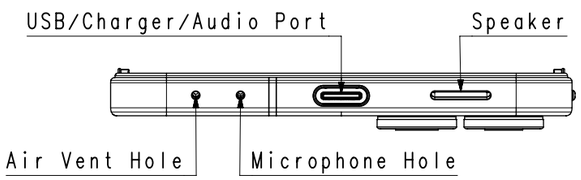






[NOTE]
1. Do not block ports (USB/Charger/Audio port)
2. Do not block holes (Microphone, Speaker, Vent)
3. Do not block the image features (Camera, Flash)
4. Do not obstruct NFC Antenna and wireless charging coil area with metal or other conductive material



Projection: 3rd ANGLE	SAMSUNG	Scale: None; Size S; Unit: mm; Sheet No.: 1/1	Model: Galaxy Z Flip 7

Galaxy Z Flip 7 Series reference design guide : Magnet Position & Cover Thickness

□ MPP Cover Guide #1

① Magnet Position (d_{shift} : 0.72mm)

- Magnet center has been moved 0.72mm upward from the mobile phone center

② Cover Thickness ($d_{z,1}$ = 1.95T)

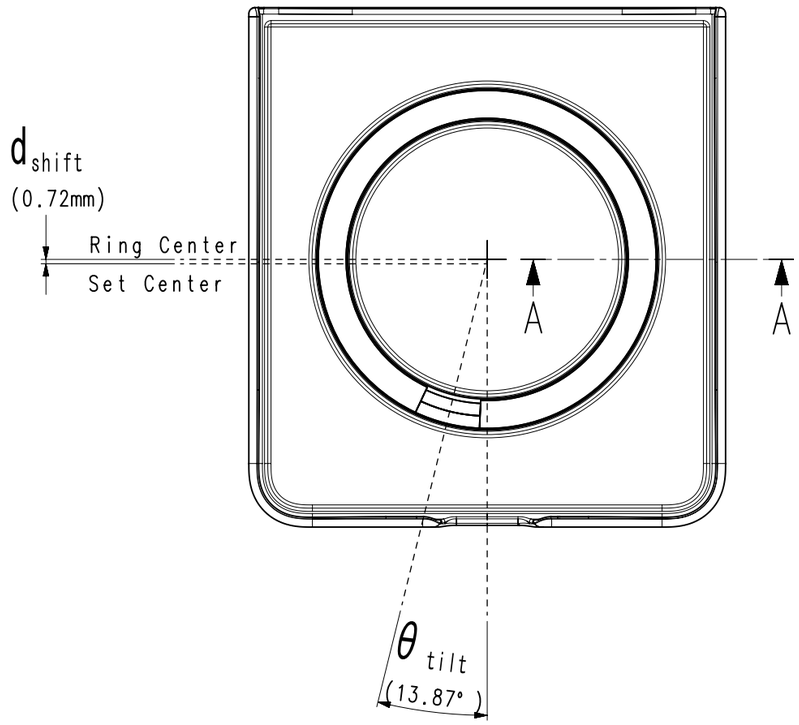
- Set to 2.0T to comply with coil coupling standard in Qi2
- An air gap (d_{air}) exists between the mobile phone and the cover.
- Total thickness = $d_{z,1}$ + d_{air}(=0.05T) = 2.0 T

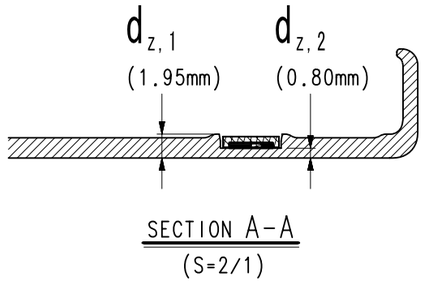
③ Thickness of Magnet ↔ Cover Surface ($d_{z,2}$: max 0.8T)

- Shear force (with magnet accessories), as well as the manufacturability of the cover, have been considered.

④ Tilt Angle of Magnet Shield Slit (θ_{tilt})

- The slit of magnet shield is utilized to detect the cover on the mobile device.
- The tilt angle of slit area varies according to the hall IC position for each model.





□ Key Dimension

	Galaxy Z Filp 7
θ_{tilt} (Tol ±0.1)	13.87°
d_{shift}	0.72mm
$d_{z,1}$	1.95mm
$d_{z,2}$	max 0.8mm
d_{air}	0.05mm

※ Air gap (d_{air}) between SET ↔ Cover : 0.05 mm

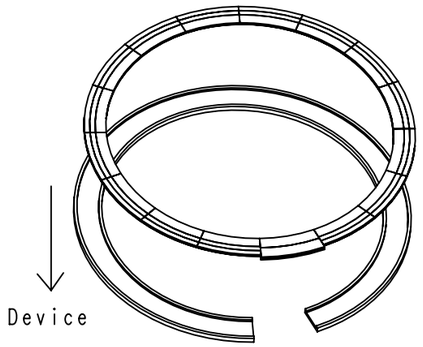
※ Total thickness = $d_{z,1}$ + d_{air} : 2.0 mm

※ Tolerance : ±0.05mm, unless otherwise specified

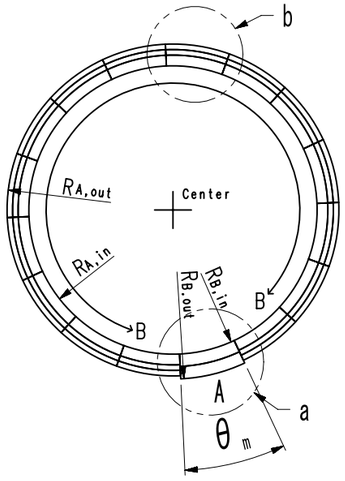
Projection: 3rd ANGLE	SAMSUNG	Scale: None / Size S / Unit: mm / Sheet No.: 1/1	Model: Galaxy Z Flip 7

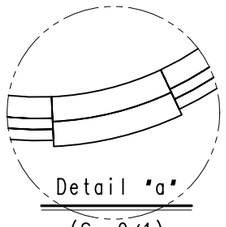
Galaxy Z Flip 7 Series reference design guide : Magnet & Shield

Magnet Array (16 pieces)

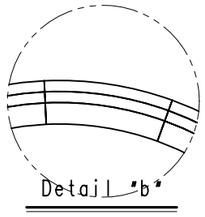


SPCC (with slit)





(S= 2/1)



(S= 2/1)

☐ MPP Cover Guide #2

① Inner / Outer Radius of Magnet ($R_{A,in}$, $R_{A,out}$, $R_{B,in}$, $R_{B,out}$)

- Compatibility with Qi2 magnetic accessories in the market has been considered.
- Sensing magnet (A) is designed in consideration of the position of the cover sensing IC for B7.

② Magnetization and Neutral zone Area ($W_{m,1}$, $W_{m,2}$, $W_{m,3}$, $W_{m,nz}$)

- Magnetic field impact on the mobile device has been considered

③ Magnet Thickness ($T_{m,A}$: 0.7T / $T_{m,B}$: 0.35T)

- Shear force (with magnet accessories), as well as magnetic field impact on the mobile device, has been considered.

④ Magnet Shield Thickness and Material (T_s : 0.5T / SPCC)

- Magnetic field impact on the mobile device has been considered.

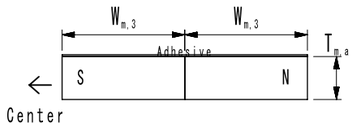
⑤ Slit Width of Magnet Shield (θs: 22.5°)

- Magnet cover sensing sensitivity has been considered for mobile device.

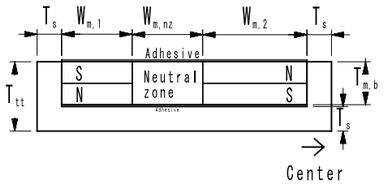
⑥ Total Thickness (T_{tt} : 0.95T)

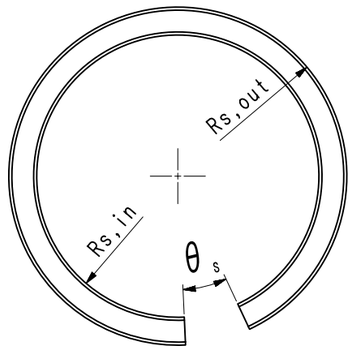
- $T_{tt} = T_{adh} + T_{m,B} + T_s + T_{adh} = 0.95T$

※ 'A' Magnet Magnetization Pattern



※ 'B' Magnet Magnetization Pattern





※ Magnet shield

☐ Key Dimension (Magnet)

	Galaxy Z Flip 7
Magnet Grade	A : N45SH
	B : N45SH
Surface Finishing	A : Epoxy Coating
	B : Nickel Plating
θ_m (Tol. ±1°)	22.5°
$R_{A,in}$ / $R_{A,out}$	23.5 / 27.55 mm
$R_{B,in}$ / $R_{B,out}$	23.5 / 27.05 mm
$W_{m,1}$, $W_{m,nz}$	0.9 mm
$W_{m,2}$	1.75 mm
$W_{m,3}$	2.025 mm
Magnet Width A : $W_{m,3}$ + $W_{m,3}$ B : $W_{m,1}$ + $W_{m,nz}$ + $W_{m,2}$	A : 4.05 mm B : 3.55 mm
T_{adh} (Tol : ±0.01mm)	0.05 mm
$T_{m,A}$	0.7 mm
$T_{m,B}$	0.35 mm
T_{adh} (Tol : ±0.01mm)	0.05 mm
T_{tt}	0.95 mm

☐ Key Dimension (Magnet Shield)

Material	SPCC
Surface Finishing	Nickel Plating
θ_S (Tol : ±1°)	22.5°
$R_{s,in}$	23.0 mm
$R_{s,out}$	27.55 mm
Magnet Shield Width ($R_{s,out}$-$R_{s,in}$)	4.55 mm
T_s	0.5 mm

※ Tolerance : ±0.05mm, unless otherwise specified

Projection: 3rd ANGLE	SAMSUNG	Scale: None Size: S Unit: mm Sheet No.: 1/1	Model: Galaxy Z Flip 7