



AP27&AP27E BLE/802.15.4 ANTENNA TEST REPORT

Brand: Juniper

Model: AP27, AP27E



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- Efficiency
- Peak Gain
- Radiation Pattern
- Isolation

■ Antenna List

- BLE
- 802.15.4

General Information

- **Antenna Information:**

- Antenna type and part number :

- Show as each antenna result description

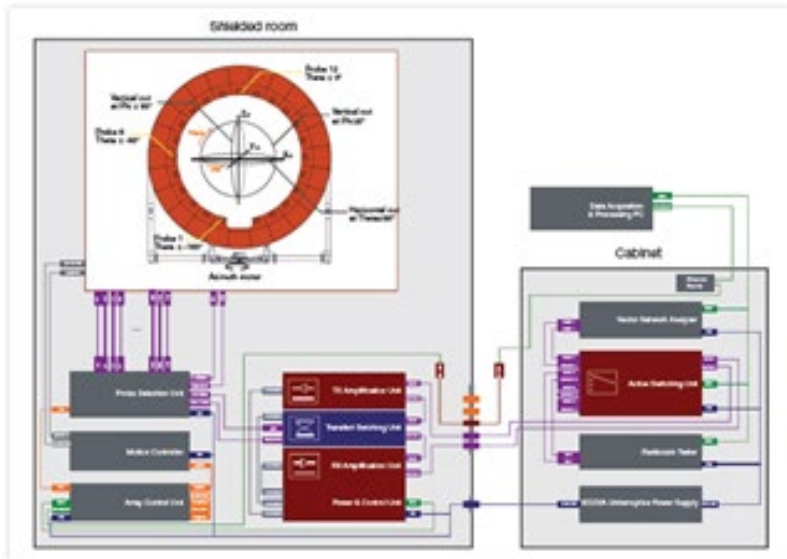
- **Test Date and Member**

- Date: 2026/01/12

- Member: Allan Lin

Chamber Information

- Test Date (yyyymmdd) : 20260112
- Test Engineer : Allan Lin
- Measurement System : SATIMO SG24-L
- Software Name : Wave Studio
- Software Version : 22.5.6



Test Equipment

- Measurement System: SATIMO SG24-L Chamber

Setup architecture :

SG24-L system :

- 1. Hardware system (as Figure.1)
- 2. Software system (Wave Studio)

Test item :

- 1. Passive radiation properties of antenna

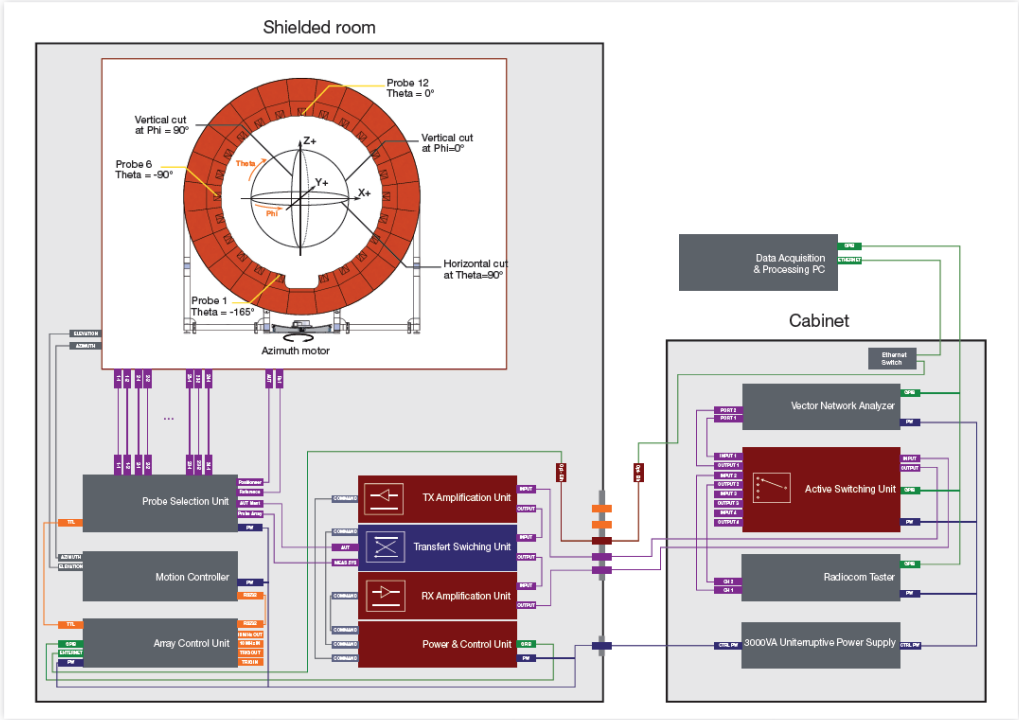


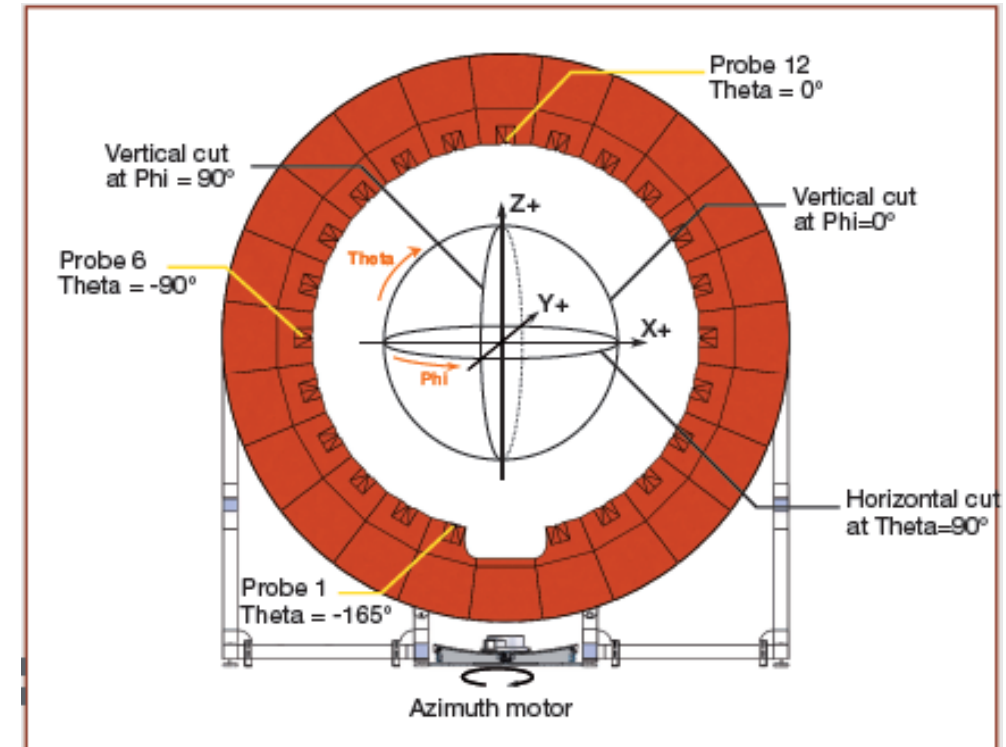
Figure.1 System diagram of SG24-L

- Calibration Information

Device	Type / Model	Serial #	Manufacture	Cal. Date	Cal. Until
Measurement System	SG24-L	HKG1669S	MVG-SATIMO	2025-10-17	2026-10-8
Network Analyzer	Keysight E5080B	MY59203136	Keysight	2025-10-17	2026-10-8

Test Procedure

1. Align and fix the DUT in center of the chamber .
2. Connect the DUT with RF connector of test device .
3. Adjust the settings (name , frequency , dimension) , and operate the Wave Studio program .
4. Get the 3D data by each 3 degrees one step for phi and theta , including efficiency , peak gain , 2D and 3D radiation pattern .
5. This is near field test for antenna verification .
6. This procedure only for passive mode .



Theta : 0 to 180 degrees

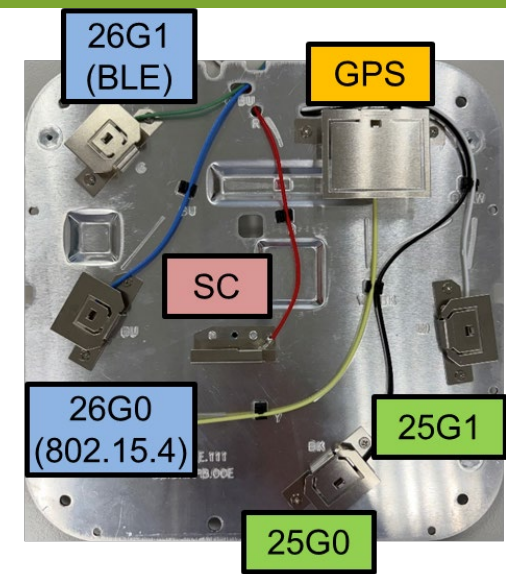
Phi : 0 to 360 degrees

Summary for AP27 and AP27E

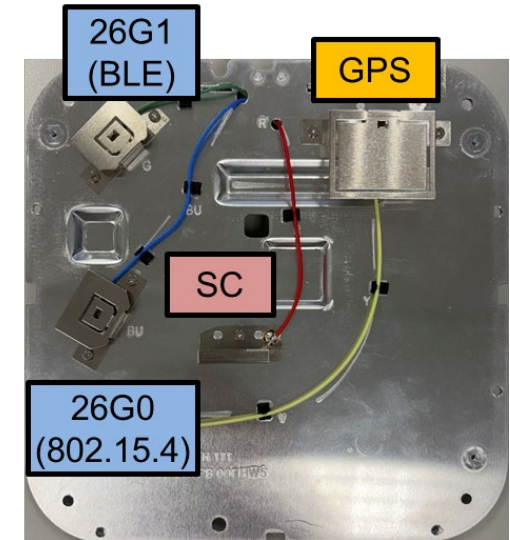
- Radiation efficiency
 - ~61% for 2.4GHz 802.15.4 antenna [26G0]
 - ~58% for 2.4GHz BLE antenna [26G1]
- Peak gain
 - 3.1 dBi for 2.4GHz 802.15.4 antenna [26G0]
 - 2.5 dBi for 2.4GHz BLE antenna [26G1]

Note:

- MVG SG24L Testing Tolerance : ± 0.6 dB @ 1~10GHz
- Antenna peak gain represents the worst-case scenario, accounting for cable length.



□ AP27



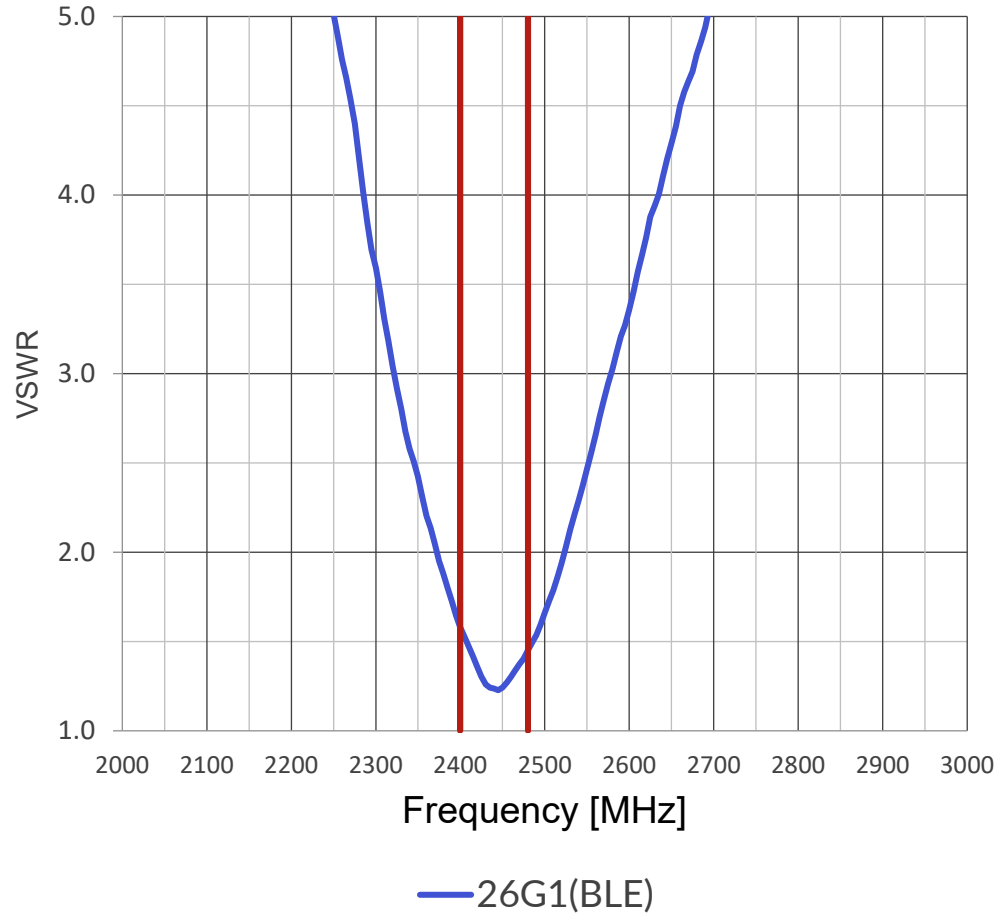
□ AP27E

BLE for AP27 and AP27E

Ant	Brand	Model name	Type
26G1 (BLE)	Juniper	AP27, AP27E	PIFA

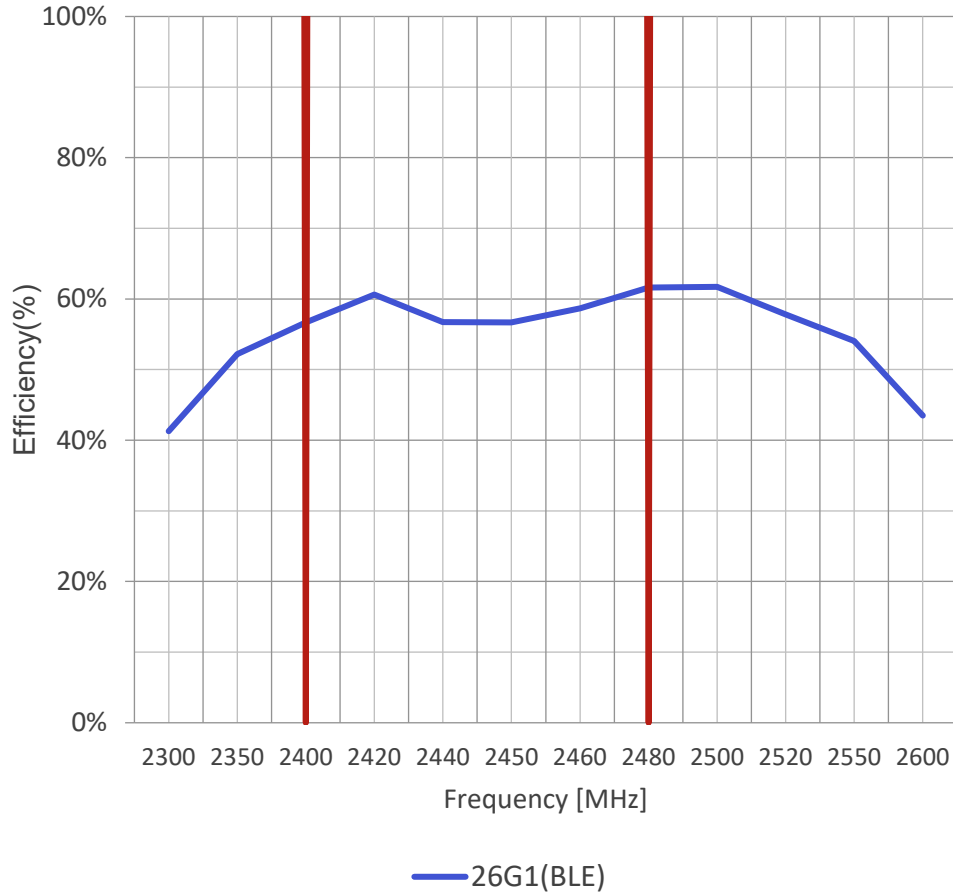
- VSWR
- Efficiency
- Peak Gain
- Radiation Pattern

VSWR @ BLE for AP27 and AP27E



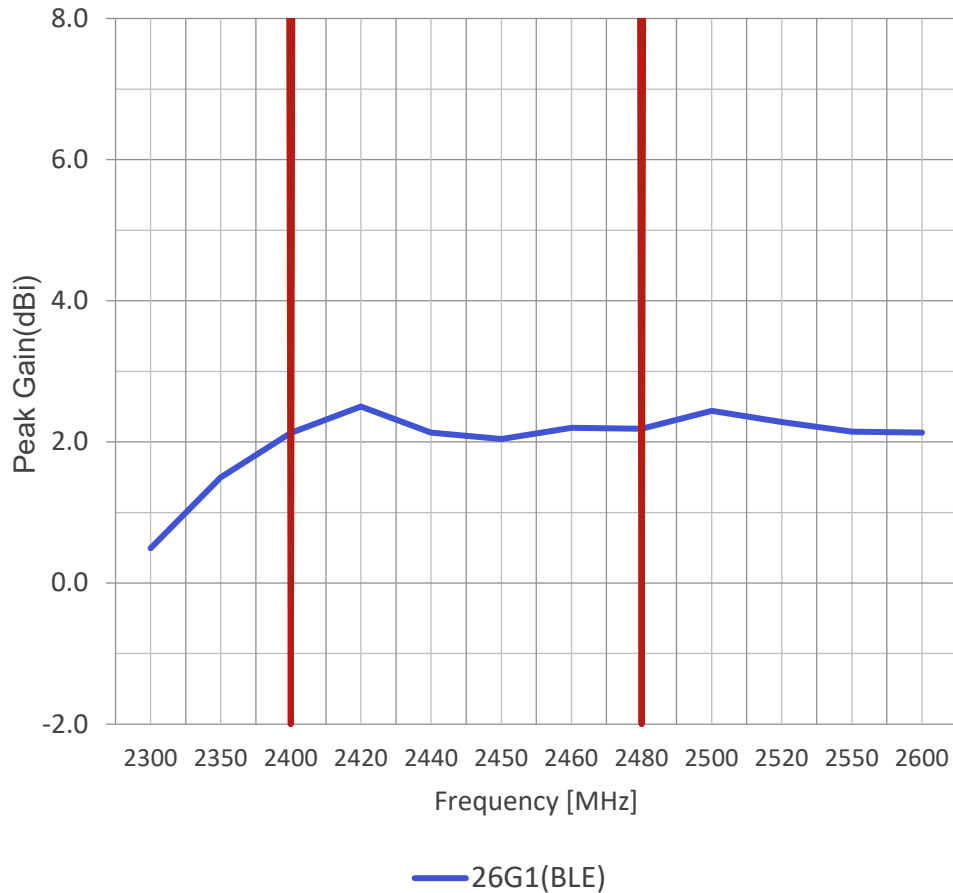
2.4GHz	Max	Mean	Min
26G1(BLE)	1.6	1.4	1.2

Efficiency @ BLE for AP27 and AP27E



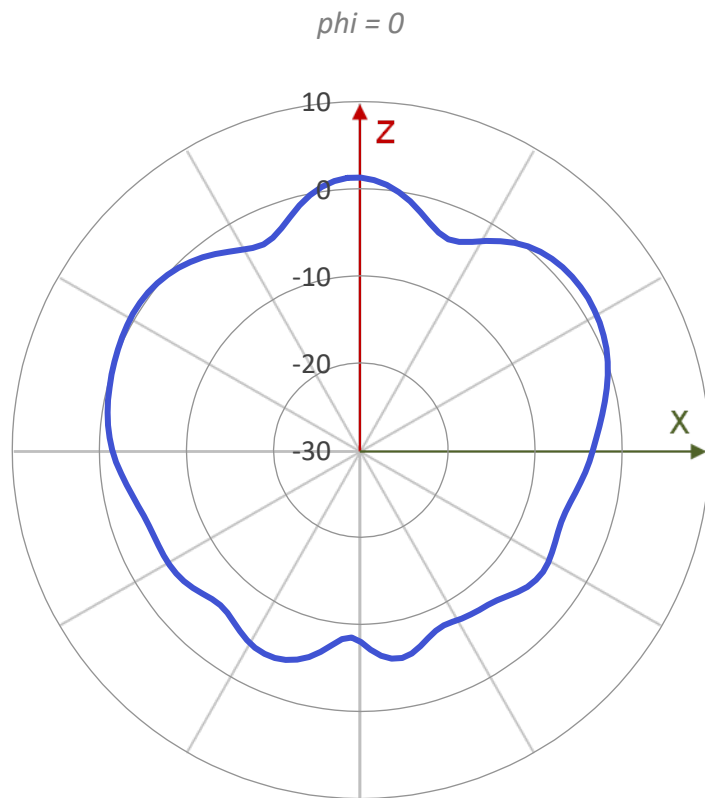
2.4GHz	Max	Mean	Min
26G1(BLE)	62 %	58 %	57 %

Peak Gain @ BLE for AP27 and AP27E

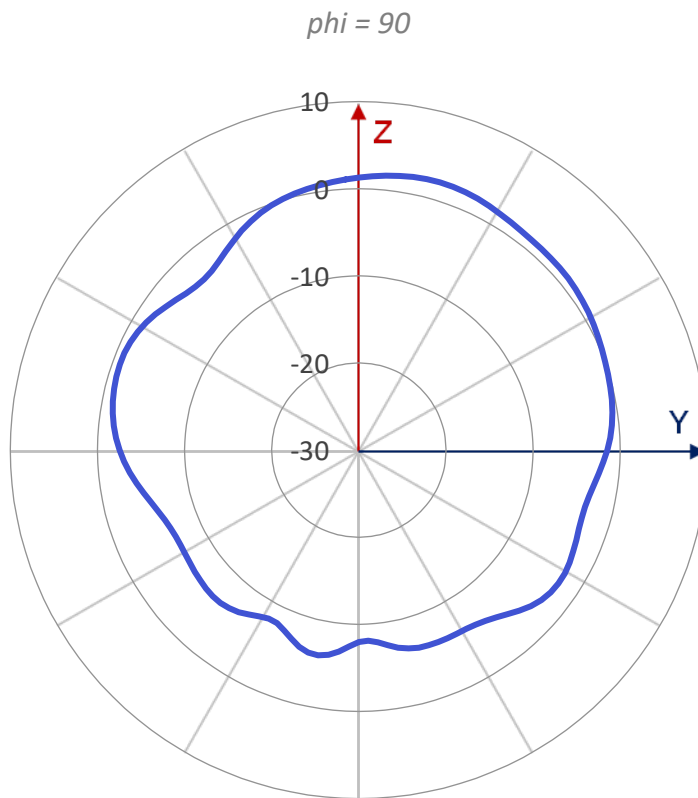


2.4GHz	Max	Mean	Min
26G1(BLE)	2.5 dBi	2.2 dBi	2.0 dBi

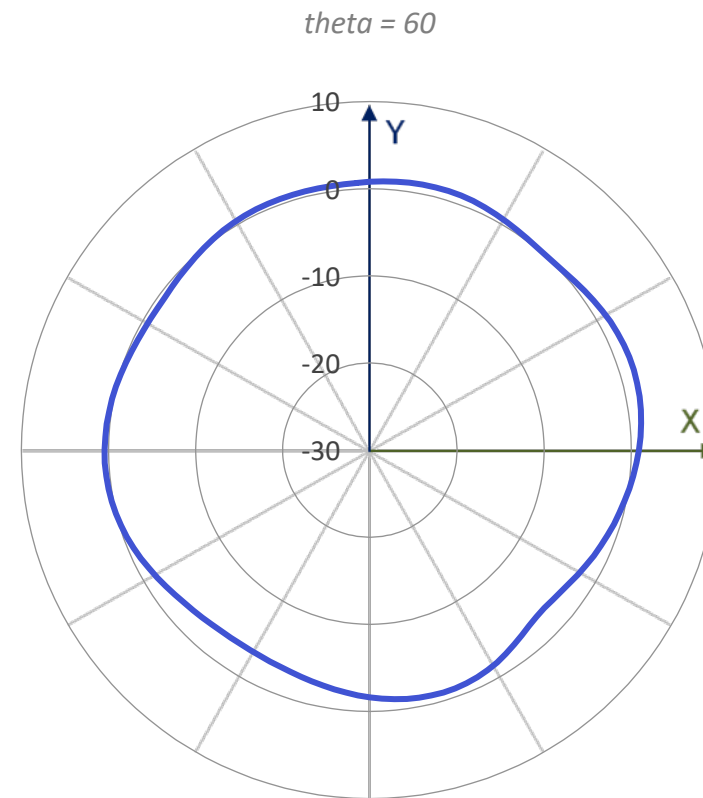
Radiation BLE for AP27 and AP27E V+H @2.4G Low Band



— 26G1(BLE)



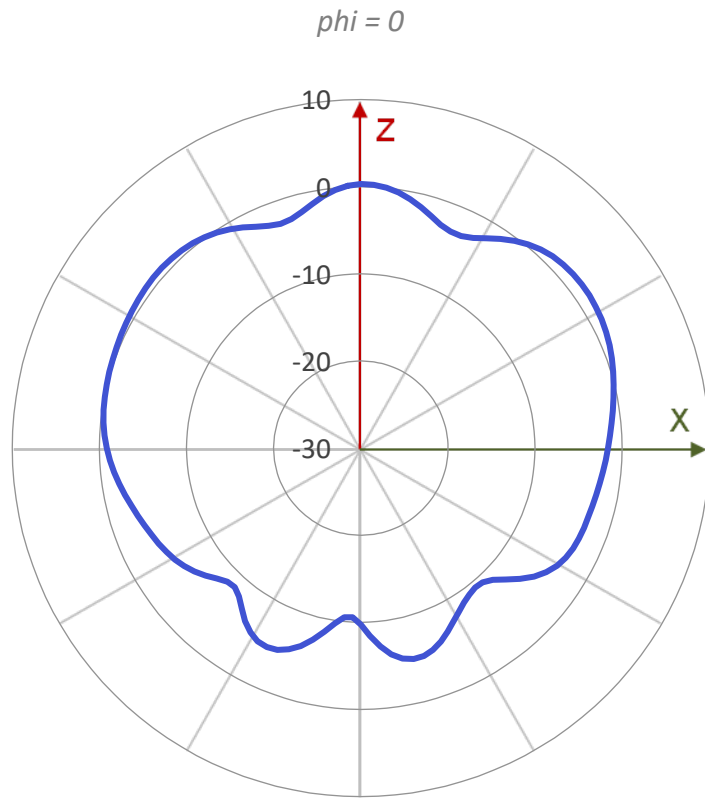
— 26G1(BLE)



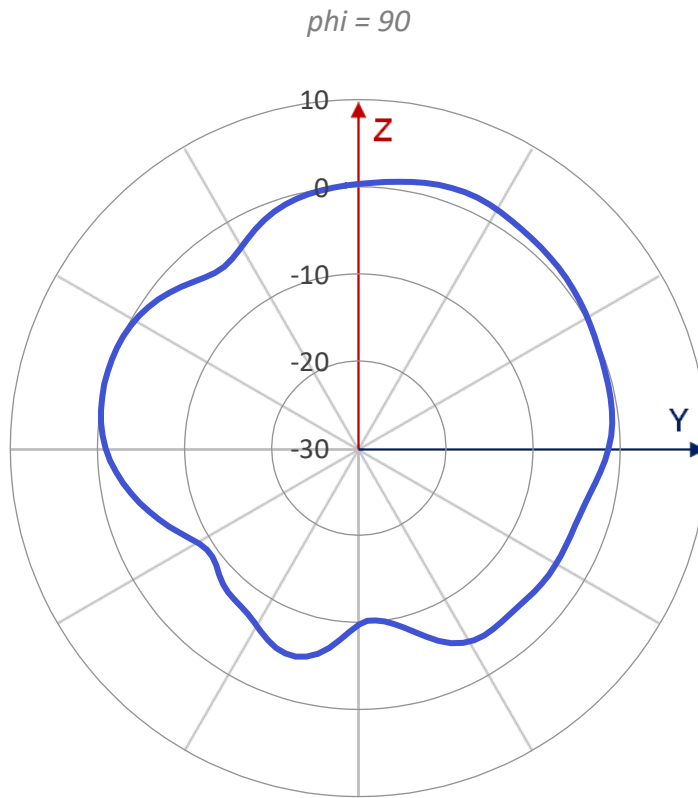
— 26G1(BLE)



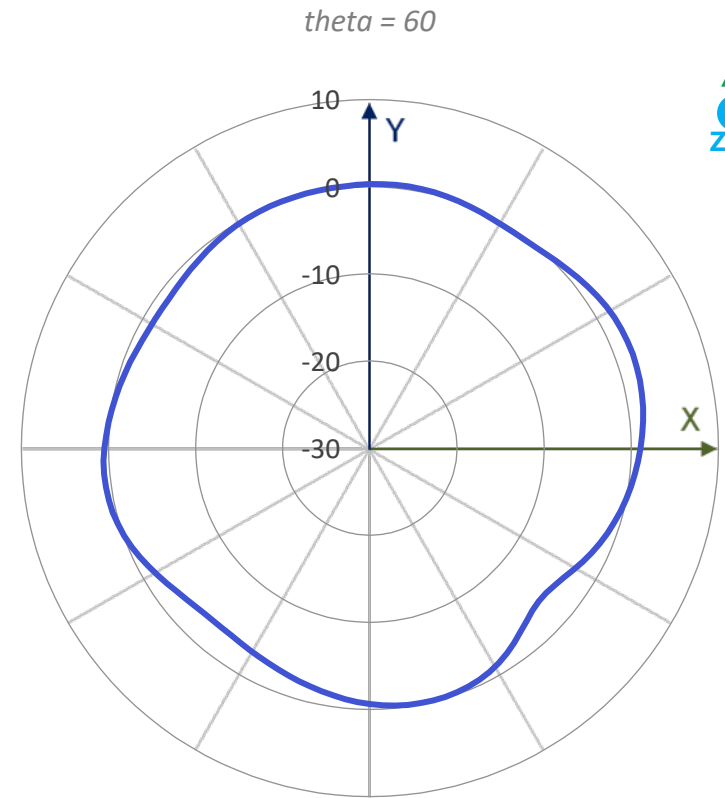
Radiation BLE for AP27 and AP27E V+H @2.4G Mid Band



— 26G1(BLE)



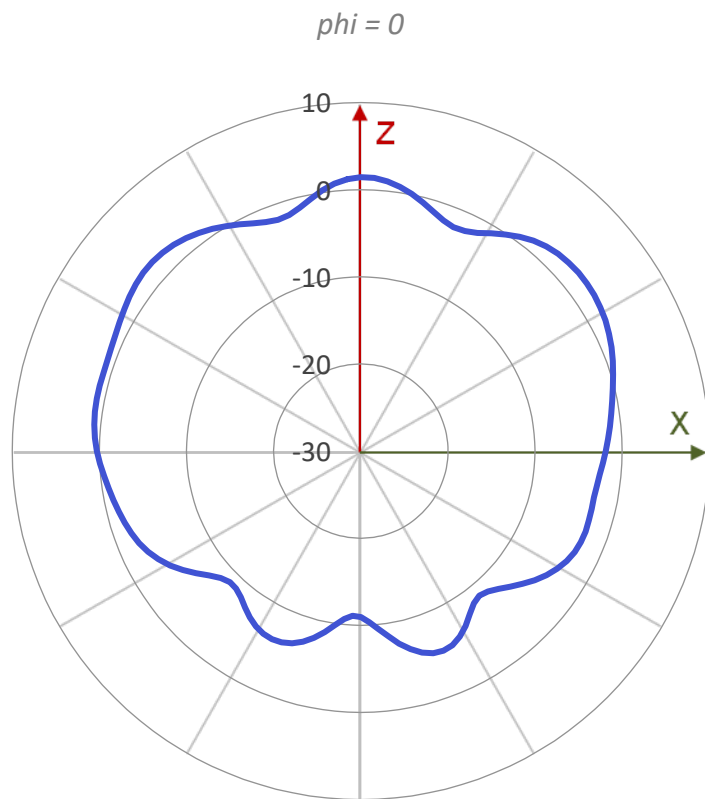
— 26G1(BLE)



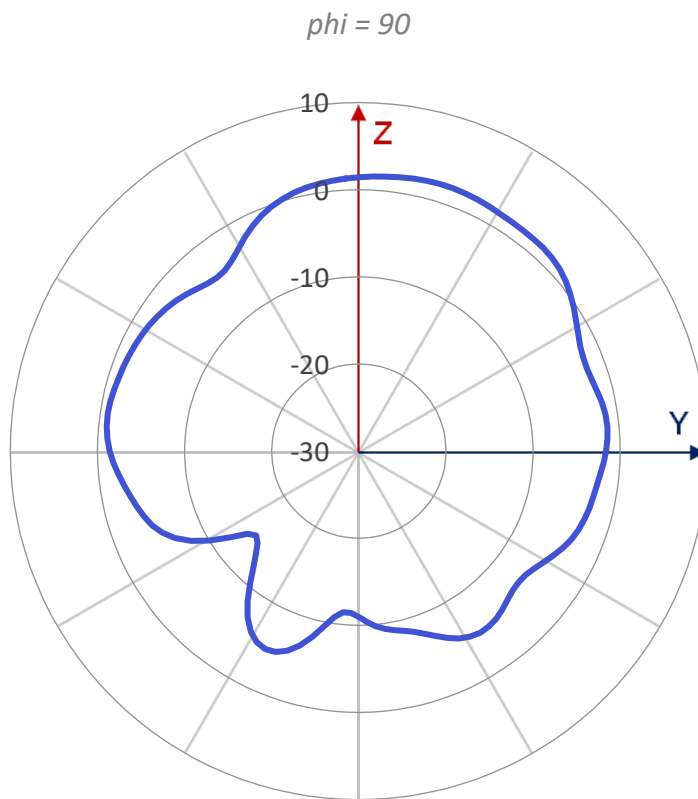
— 26G1(BLE)



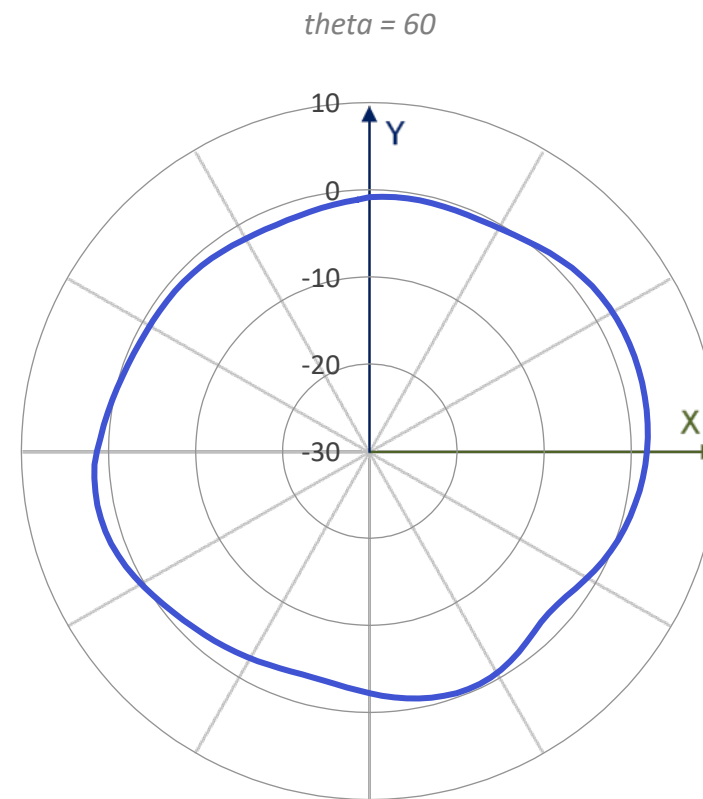
Radiation BLE for AP27 and AP27E V+H @2.4G High Band



— 26G1(BLE)



— 26G1(BLE)



— 26G1(BLE)

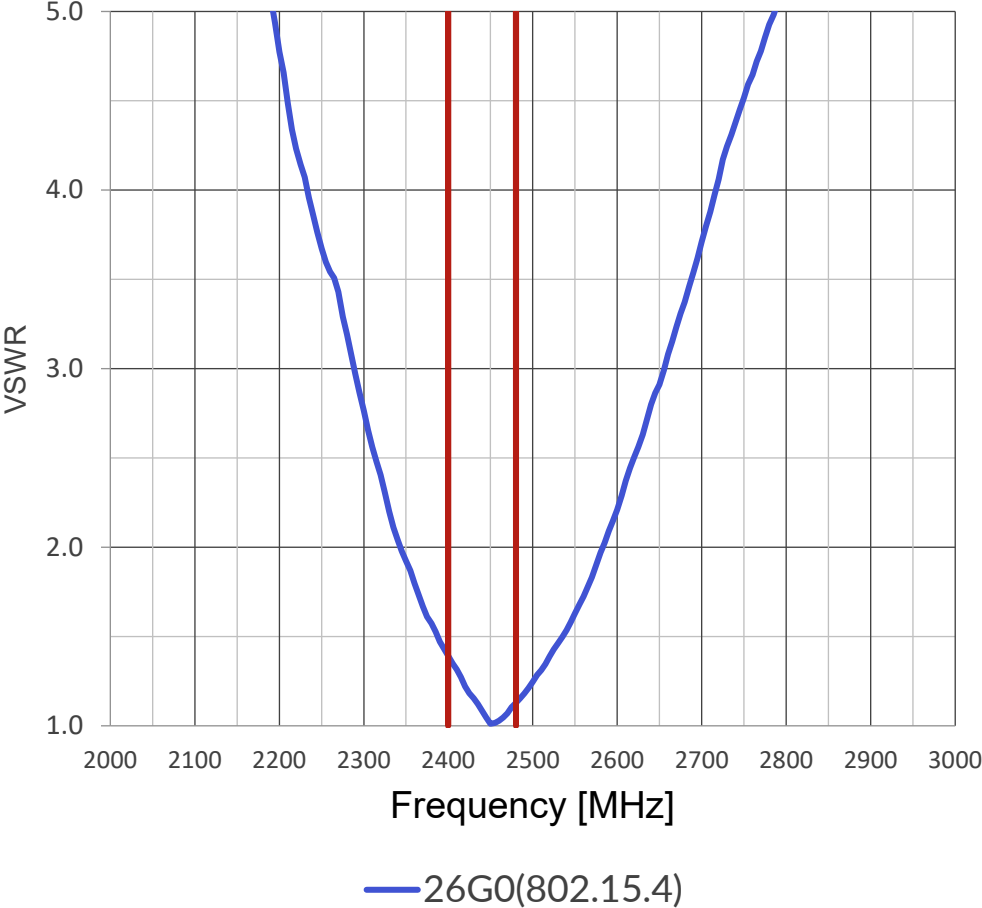


802.15.4 for AP27 and AP27E

Ant	Brand	Model name	Type
26G0 (802.15.4)	Juniper	AP27, AP27E	PIFA

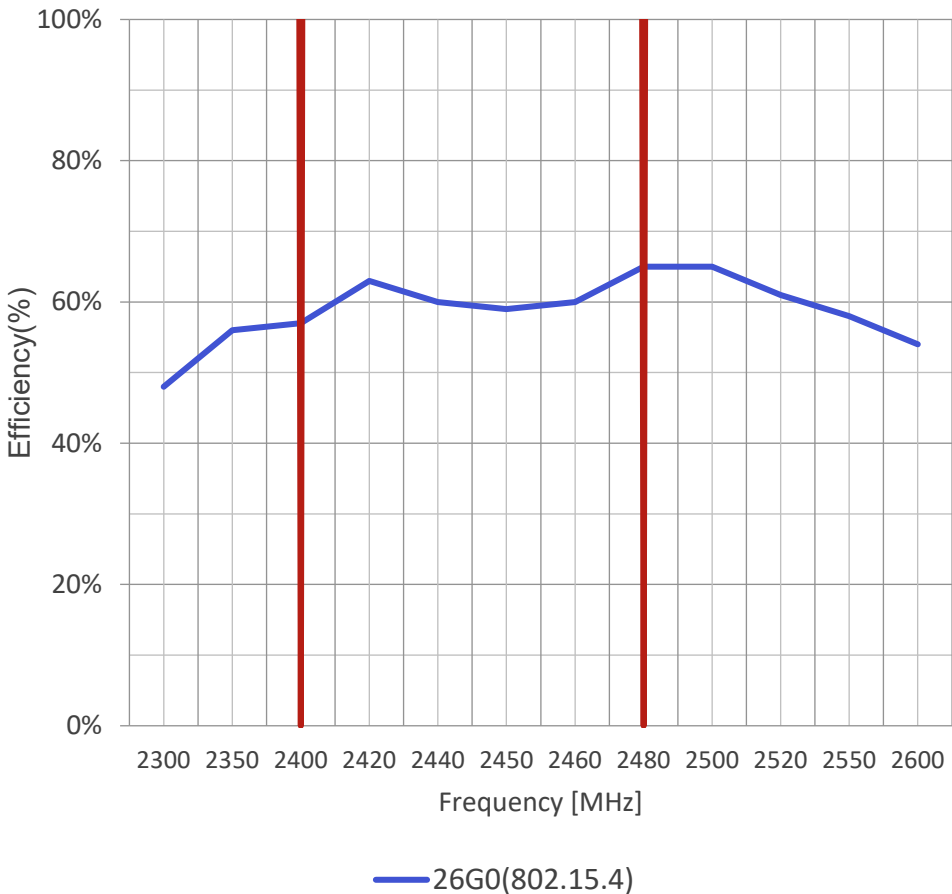
- VSWR
- Efficiency
- Peak Gain
- Radiation Pattern

VSWR @ 802.15.4 for AP27 and AP27E



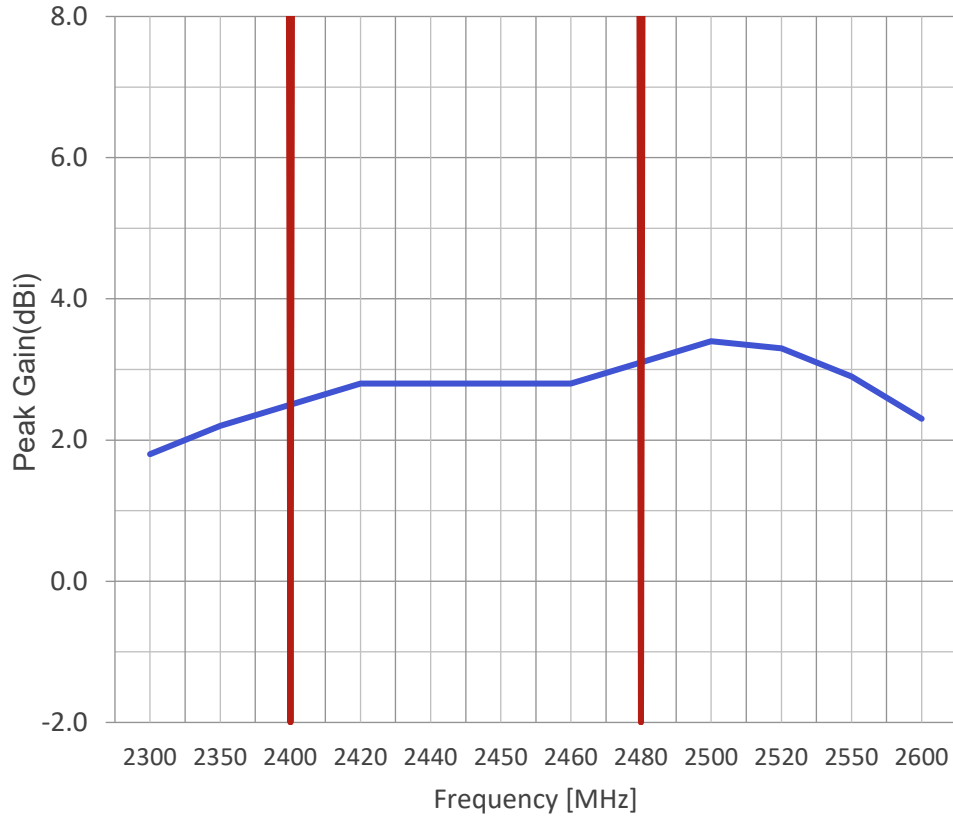
2.4GHz	Max	Mean	Min
26G0(802.15.4)	1.4	1.1	1.0

Efficiency @ 802.15.4 for AP27 and AP27E



2.4GHz	Max	Mean	Min
26G0(802.15.4)	65 %	61 %	57 %

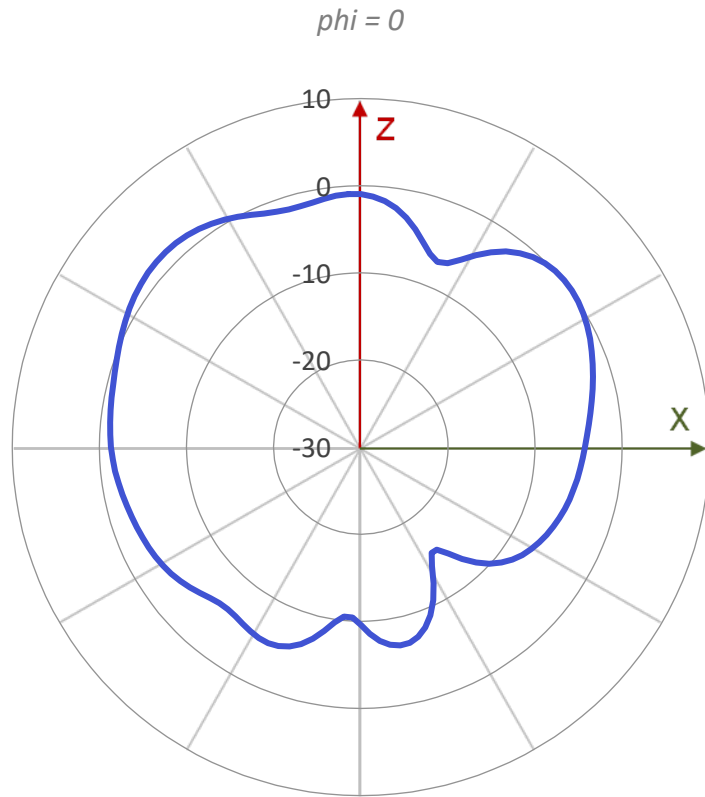
Peak Gain @ 802.15.4 for AP27 and AP27E



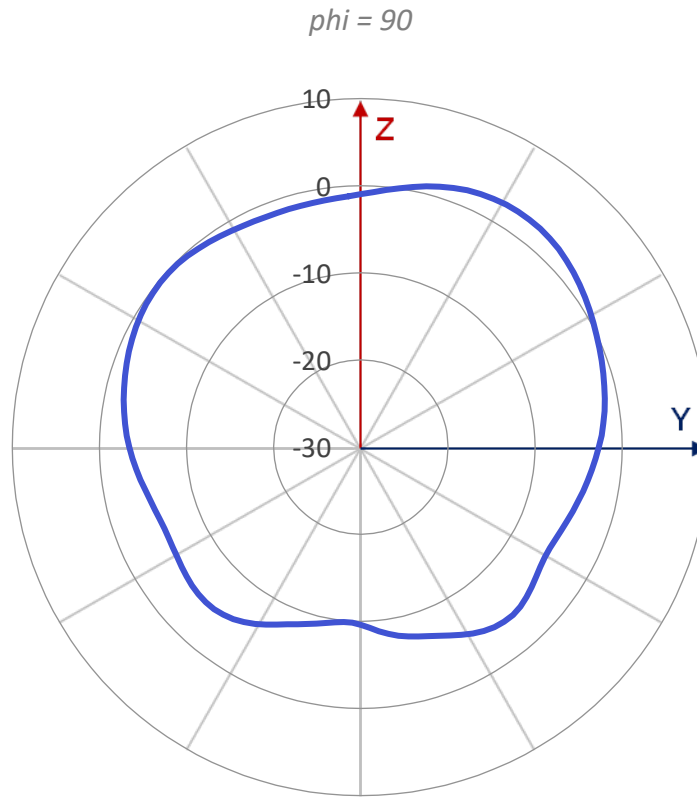
2.4GHz	Max	Mean	Min
26G0(802.15.4)	3.1 dBi	2.8 dBi	2.5 dBi

— 26G0(802.15.4)

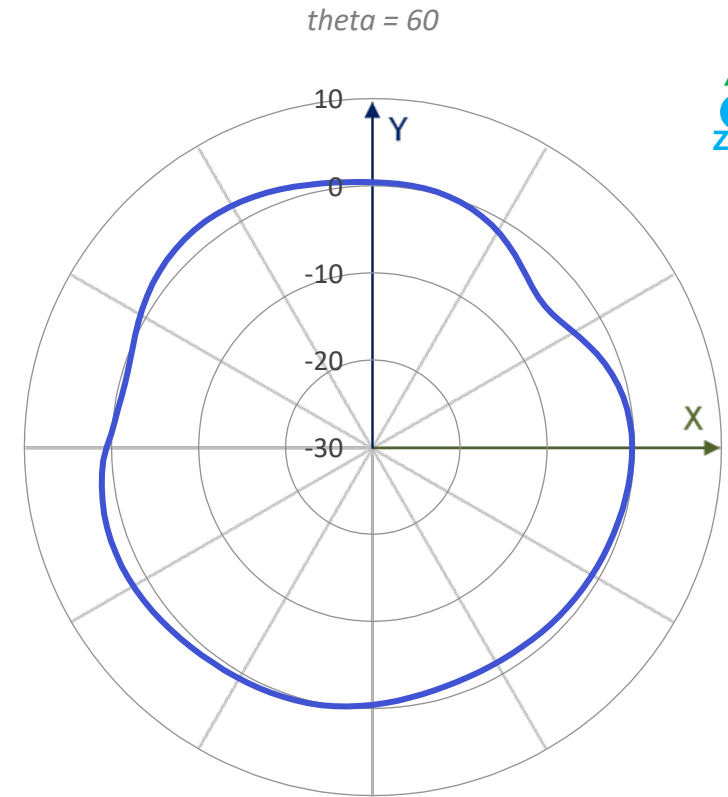
Radiation 802.15.4 for AP27 and AP27E V+H @2.4G Low Band



— 26G0(802.15.4)



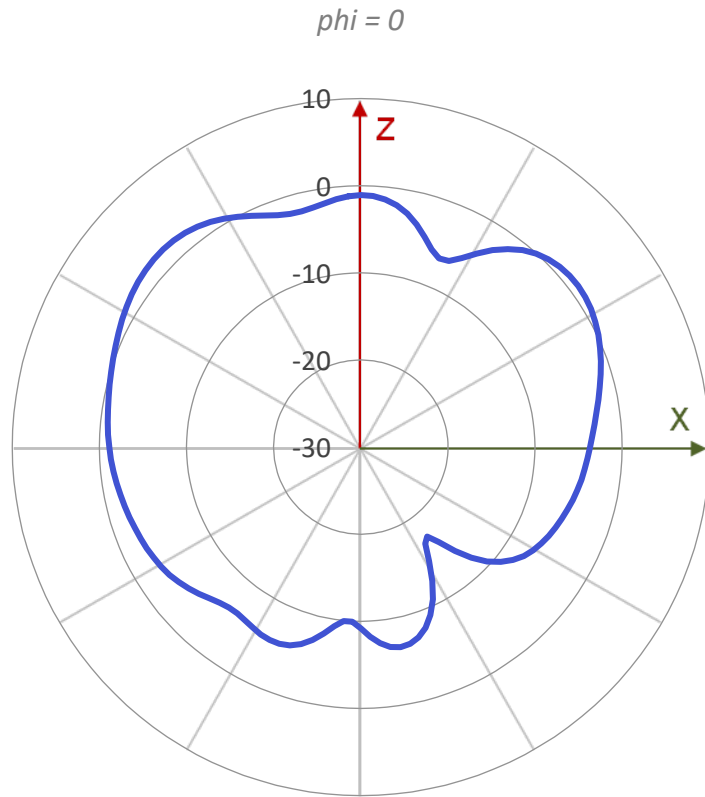
— 26G0(802.15.4)



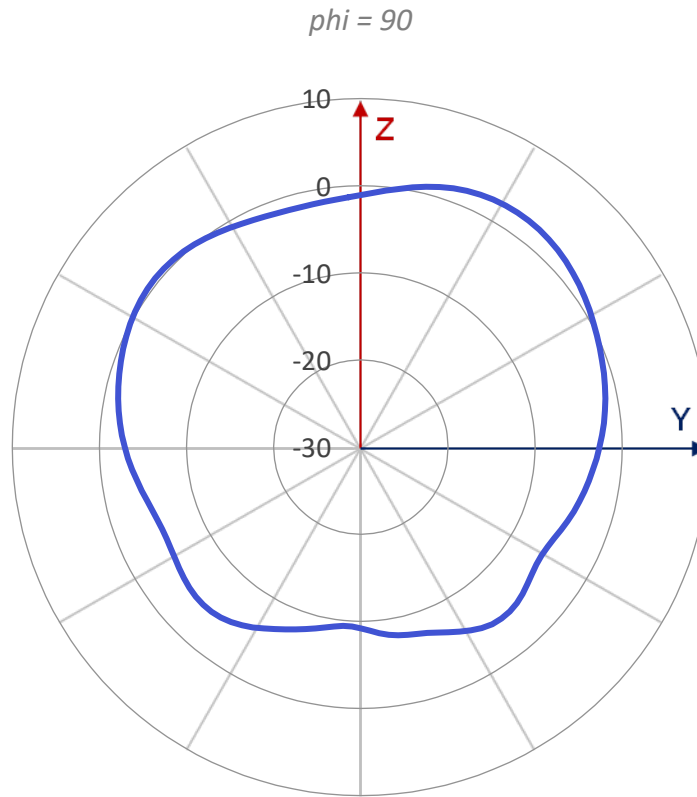
— 26G0(802.15.4)



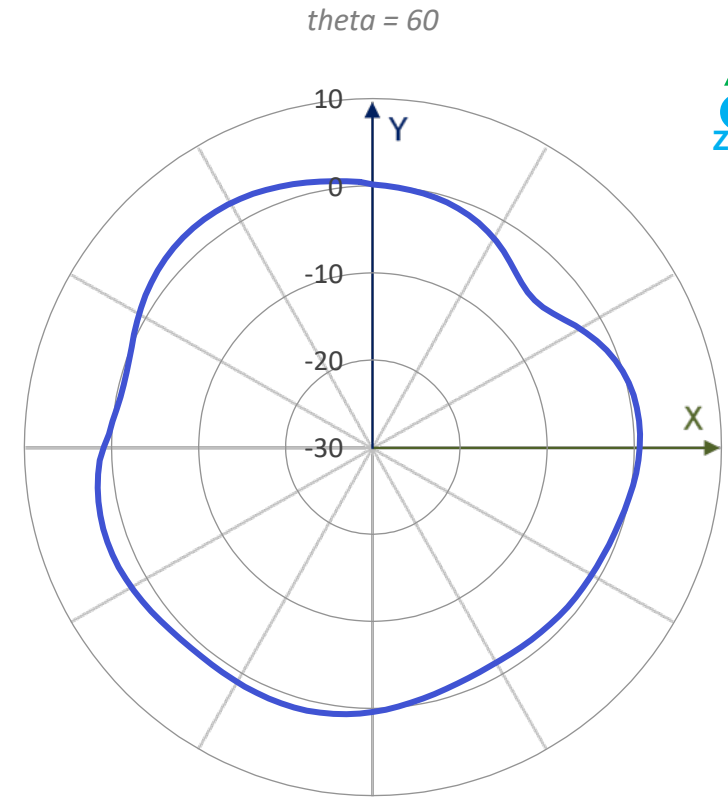
Radiation 802.15.4 for AP27 and AP27E V+H @2.4G Mid Band



— 26G0(802.15.4)



— 26G0(802.15.4)

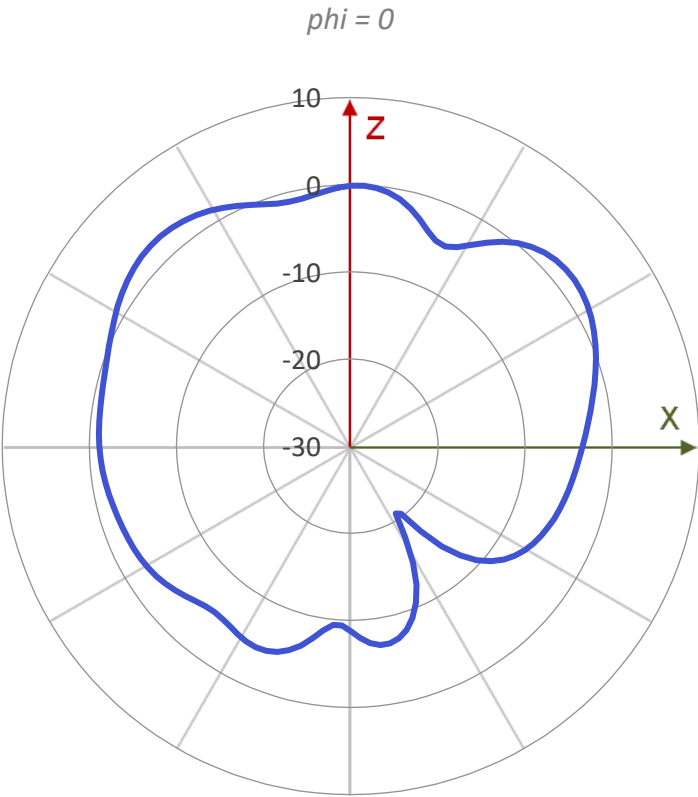


— 26G0(802.15.4)

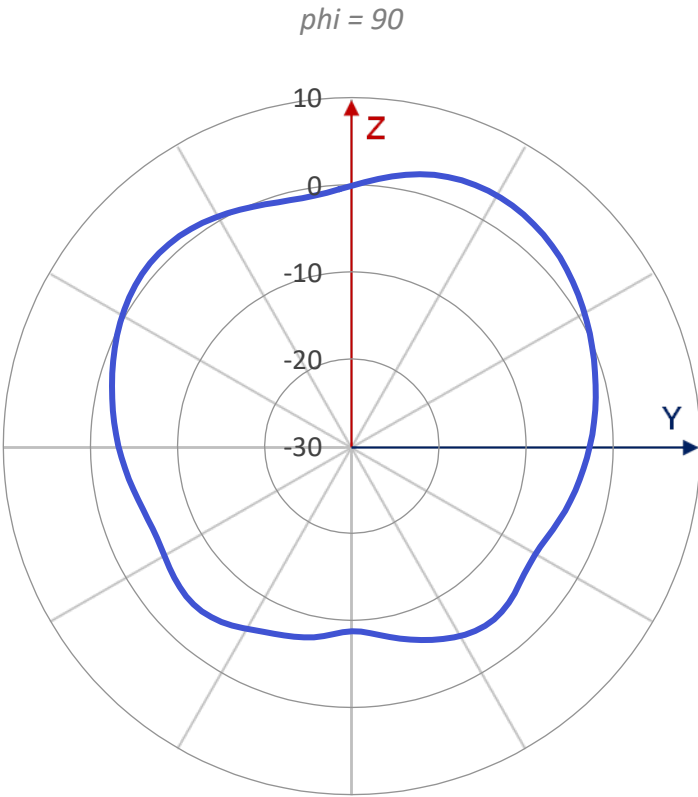




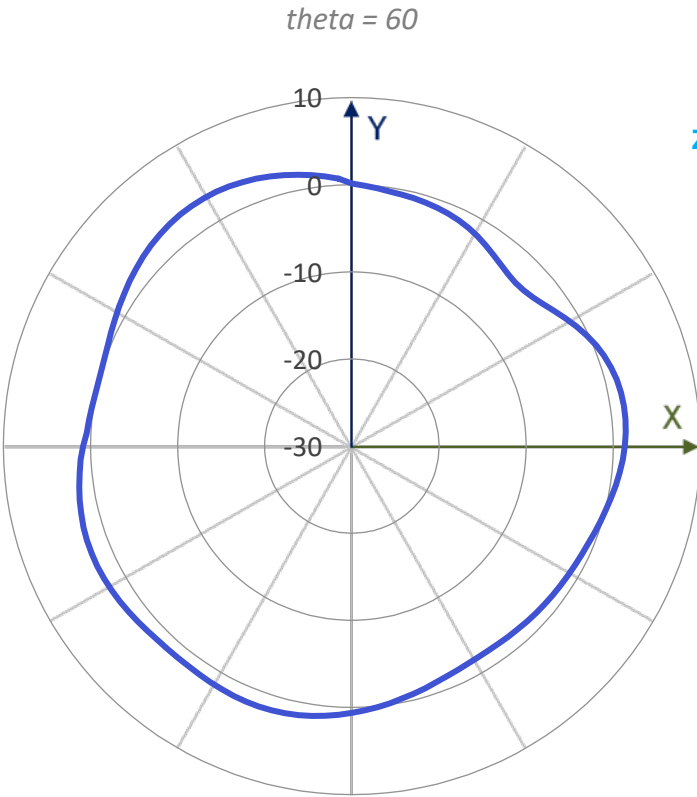
Radiation 802.15.4 for AP27 and AP27E V+H @2.4G High Band



— 26G0(802.15.4)



— 26G0(802.15.4)



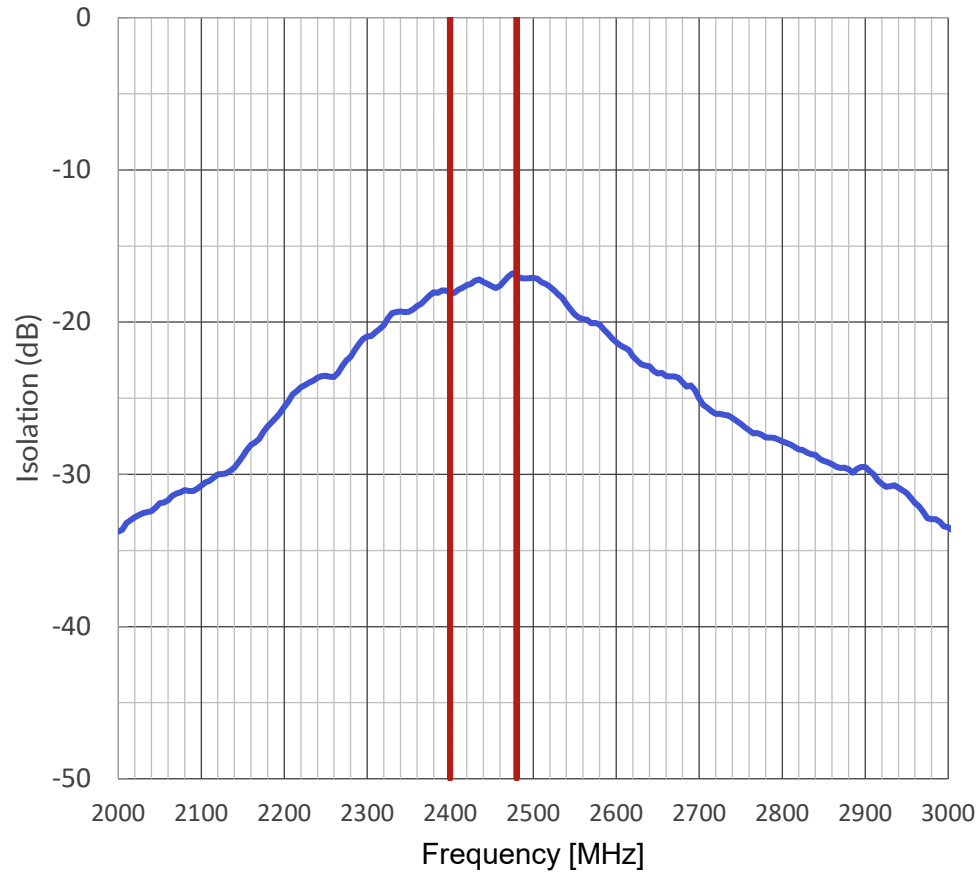
— 26G0(802.15.4)



Isolation for AP27 and AP27E (Among Radio)

- Isolation
 - 802.15.4 to BLE

Isolation for AP27 and AP27E (Among Radio) @ 802.15.4 & BLE



2.4GHz	Max	Mean	Min
802.15.4 to BLE (26G0 to 26G1)	-16.8	-17.4	-18.1