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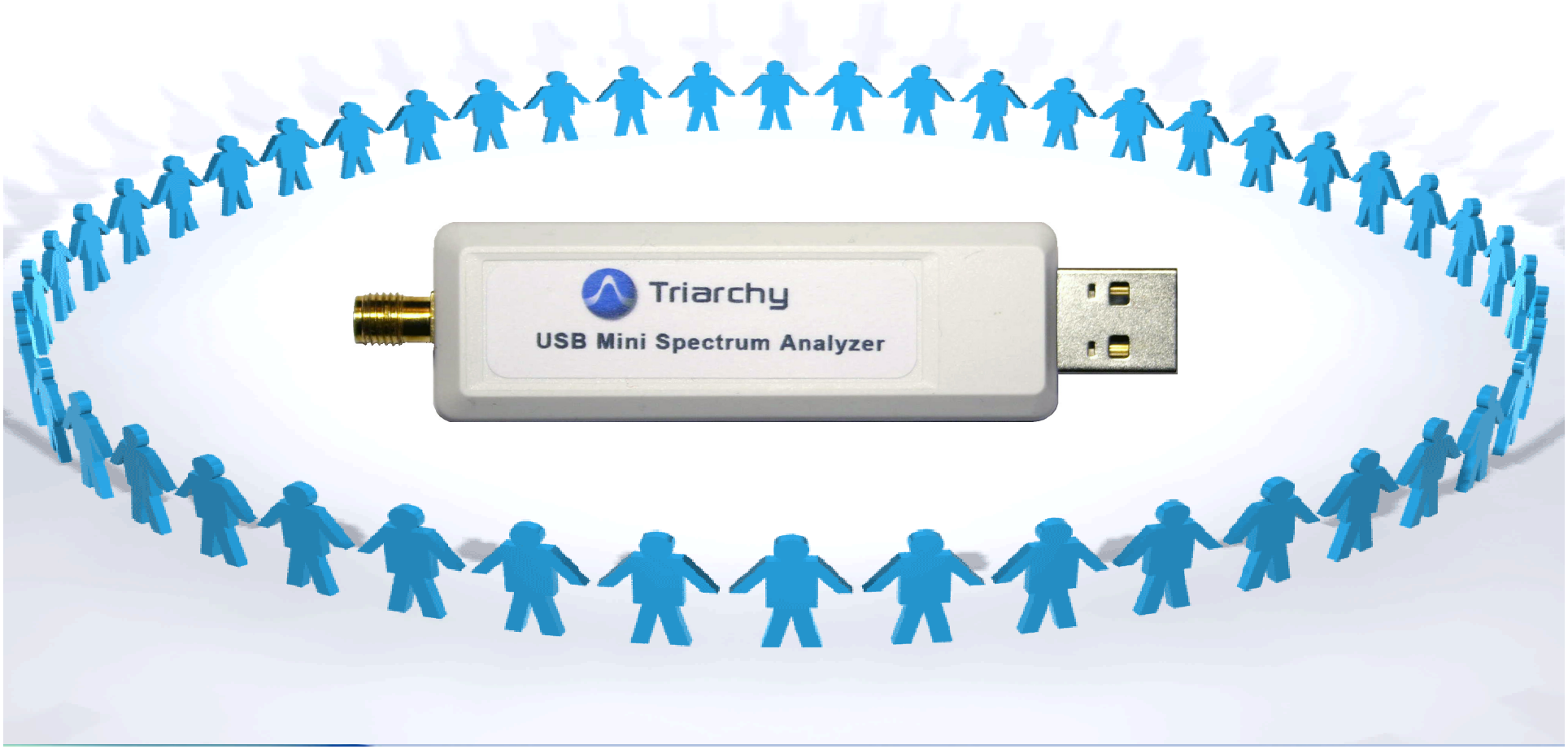
Bluetooth signal testing with TSA5G35



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Bluetooth overview

- Bluetooth frequencies band
  - All channels are located within the 2.4 GHz ISM band.
  - The Bluetooth channels are spaced 1 MHz apart.
  - Channel can be calculated as 2401 + n, where n varies from 1 to 79.

- Bluetooth modulation
  - Bluetooth in version 1 , modulation is GFSK
  - Bluetooth 2 EDR, modulation are ***π/4 DQPSK*** for 2Mbps, 8DPSK for 3Mbps

- Bluetooth power
  - Class 1 20dBm
  - Class 2 4dBm
  - Class 3 0dBm

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Bluetooth headset radiation testing

1: TSA5G35 will be connected with 2.4G whip antenna and close to the Bluetooth headset

2: Pairing the Bluetooth with the mobile phone, and make phone call, the Bluetooth shall pick up the call to setup audio link.

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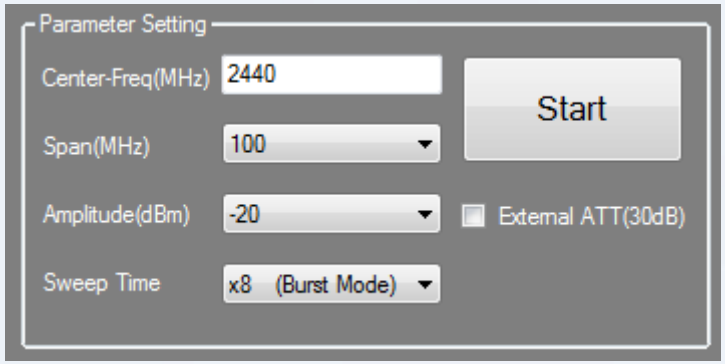
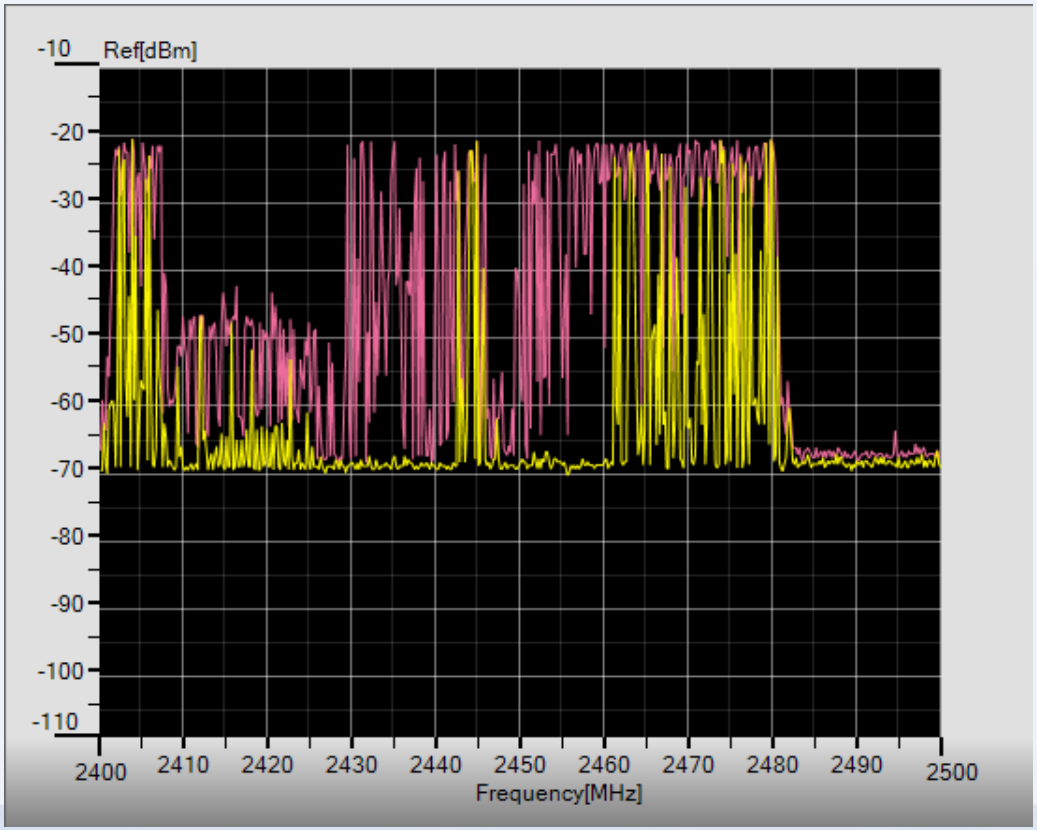
Bluetooth Headset radiation testing

TSA5G35 parameter setting:



Because the Bluetooth working at frequency hopping. It is wait a little long time to get test result



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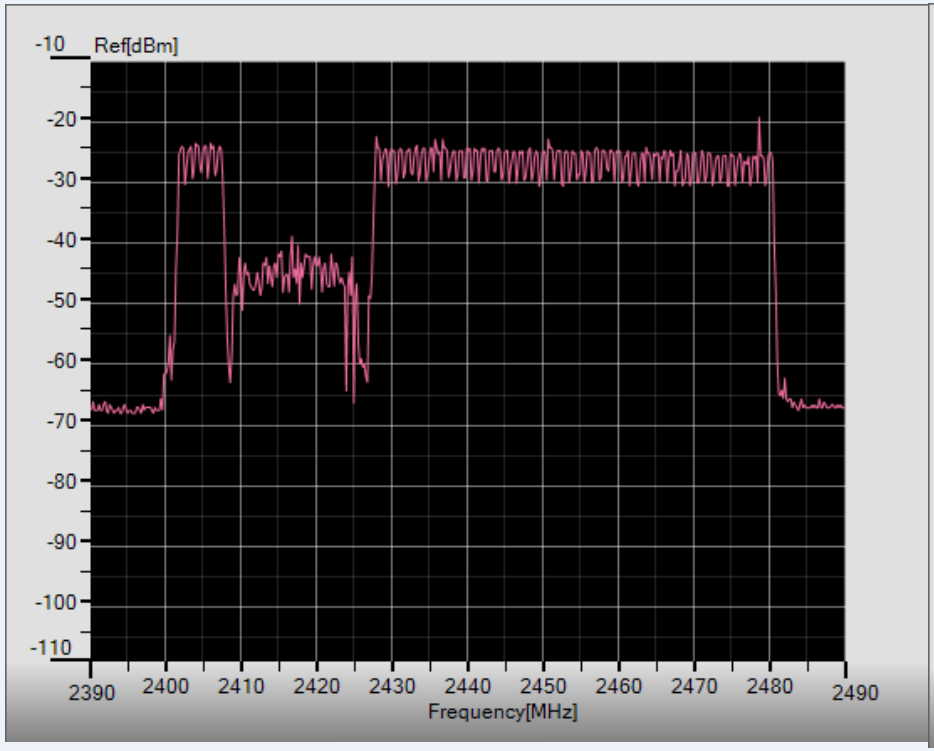
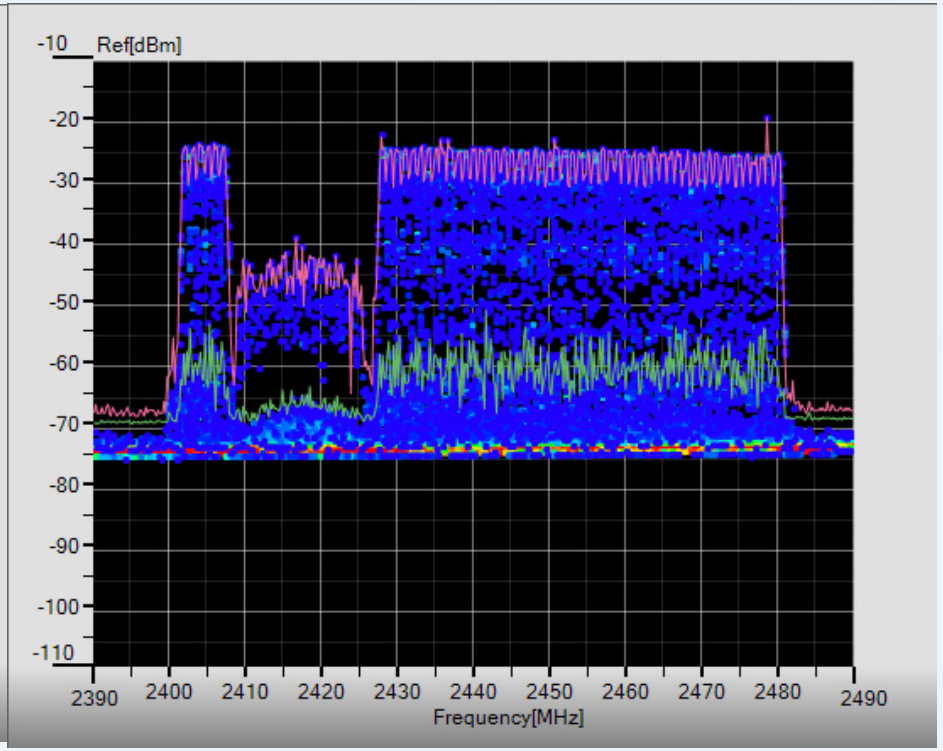
Bluetooth Headset radiation testing





The MAX curve and MAX, AVE and density image, Bluetooth will detect wifi signal to avoid hopping at wifi band.

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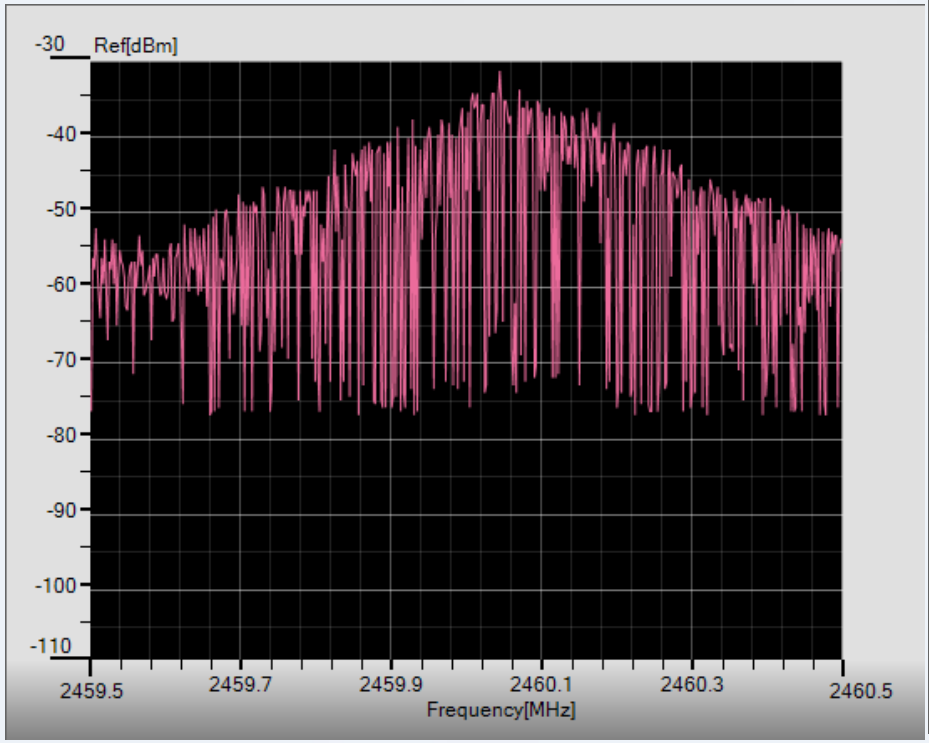
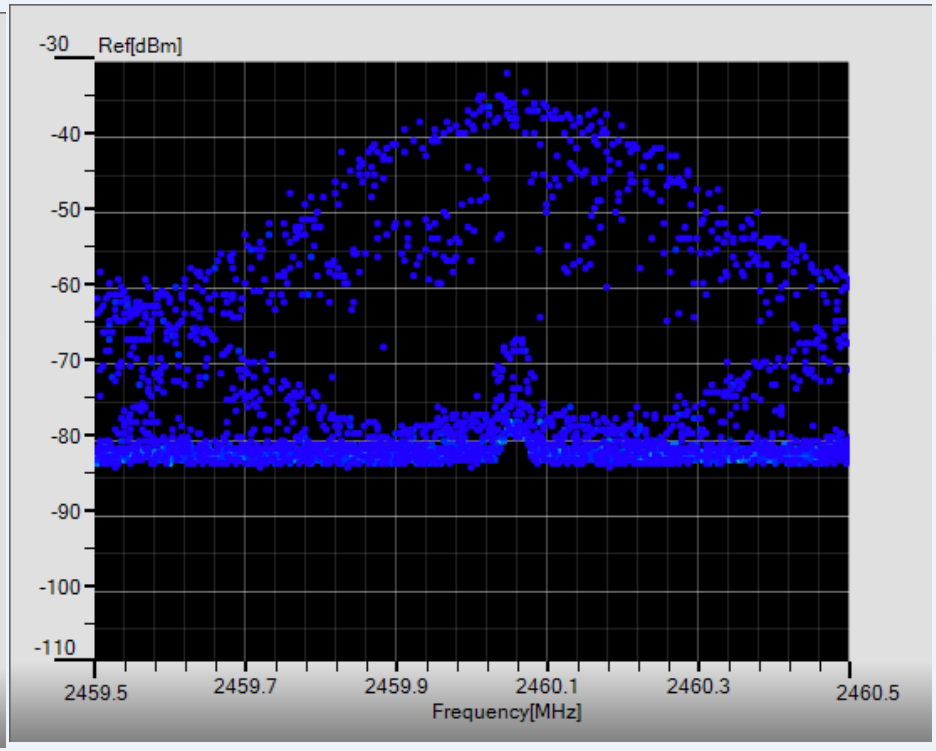
Bluetooth Headset radiation testing





Frequency=2460MHz, Span=1MHz, CH 60 will be displayed.

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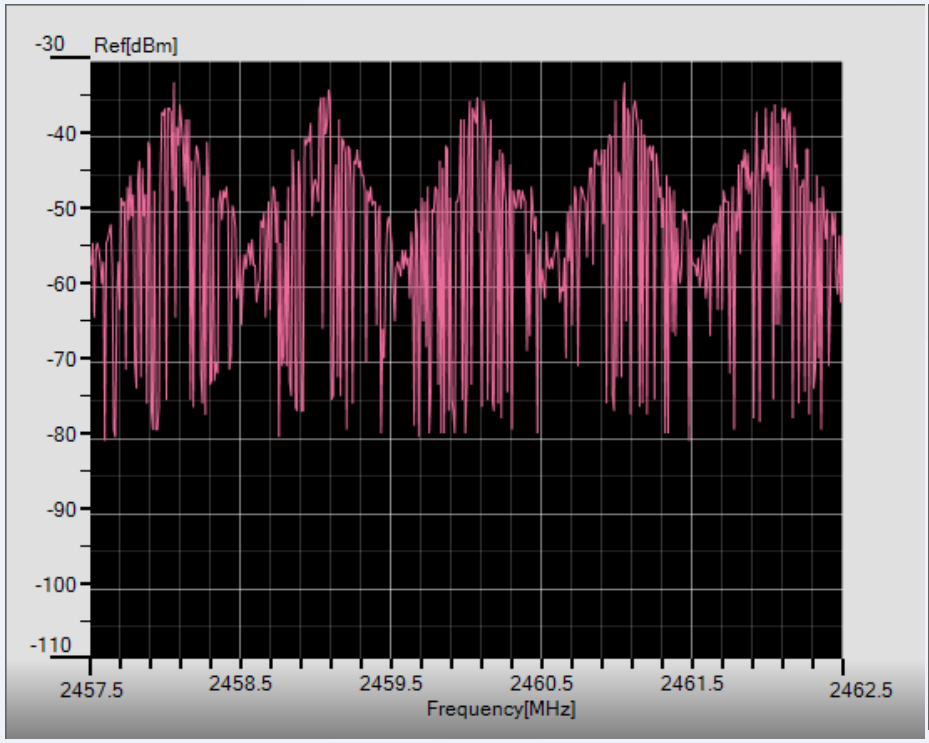
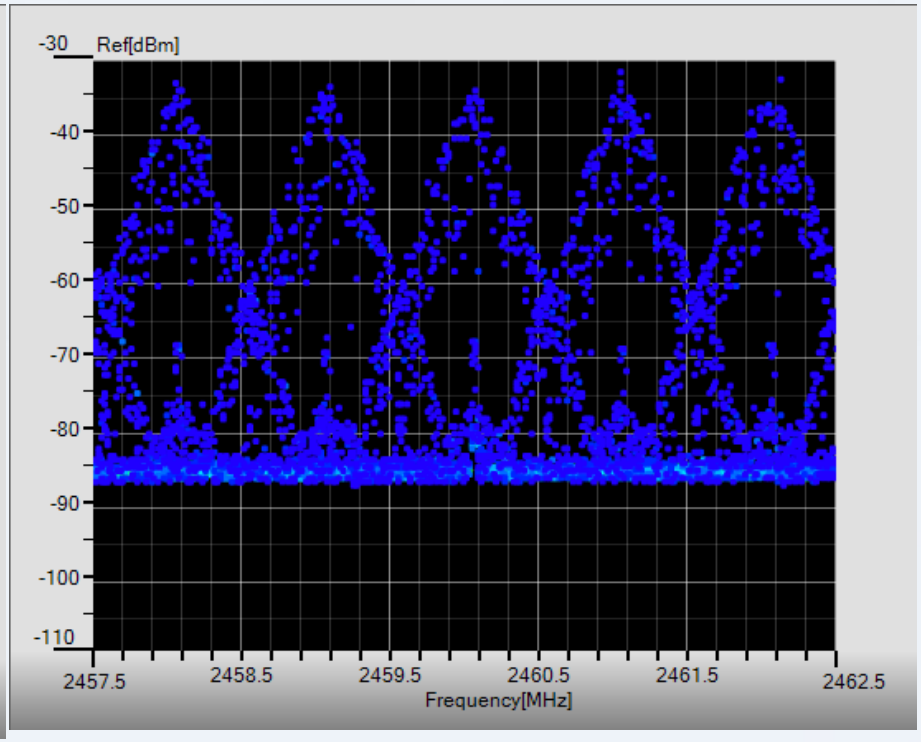
Bluetooth Headset radiation testing





Frequency=2460MHz, Span=5MHz, CH48~CH62 will be displayed.

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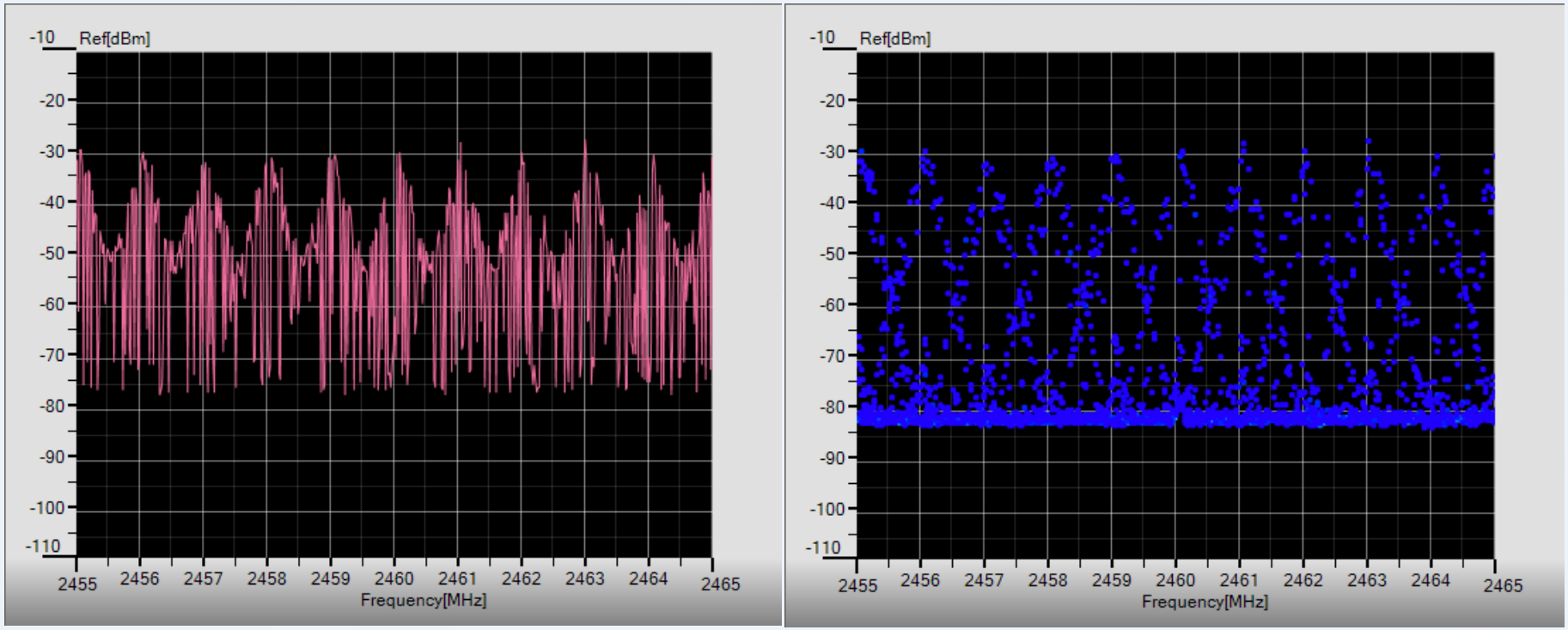
Bluetooth Headset radiation testing



Frequency=2460MHz, Span=10MHz, CH55~CH65 will be displayed.