

Precaution of Interference caused from poor Isolation outside MT8820B/C

MT8820B/C

Radio Communication Analyzer

Precaution of Interference caused from poor Isolation outside MT8820B/C

The precautions of the interference caused from poor isolation outside MT8820B/C, i.e. between UEs and RF cables, should be considered, Especially, in case of using MT8820B/C Parallel Phone Measurement (PPM) configuration which can do 2port-measurement independently by single unit, the interference problem may be occurred easier than 1 port/1 unit configuration since the UEs and/or RF cables tend to be located closely in the production line. Moreover TDD (Time Division Duplex) mode in TD-SCDMA, and TD-LTE technology tend to have the interference problem since TDD uses the same up and down frequencies. But there is also a possibility that FDD mode in WCDMA, GSM, C2K, and LTE FDD while the same frequency in a test is used between UEs. Meanwhile the MT8820C internal isolation between Phone 1 and Phone 2 is at least 138 dB min, which is enough against the interference.

The example of TD-SCDMA with MT8820B/C PPM configuration follows.

1. Precautions of the interference outside MT8820B/C PPM Configuration

Isolation precautions are required when measuring Maximum Output Power and Reference Sensitivity Level. If the UE at Phone1 is outputting a 24 dBm Uplink signal at Max Power and the MT8820C at Phone2 is outputting a -106.7 dBm Downlink signal, the isolation must be at least 130 dB.

Since the MT8820B/C internal isolation between Phone1 and Phone2 is 138 dB min, even if the UE at Phone1 outputs Max Power, there is no influence on the Phone2 Reference Sensitivity Level measurement. However, if the isolation between UEs or RF cables is inadequate, there may be some influence on the Phone2 Reference Sensitivity Level measurement.

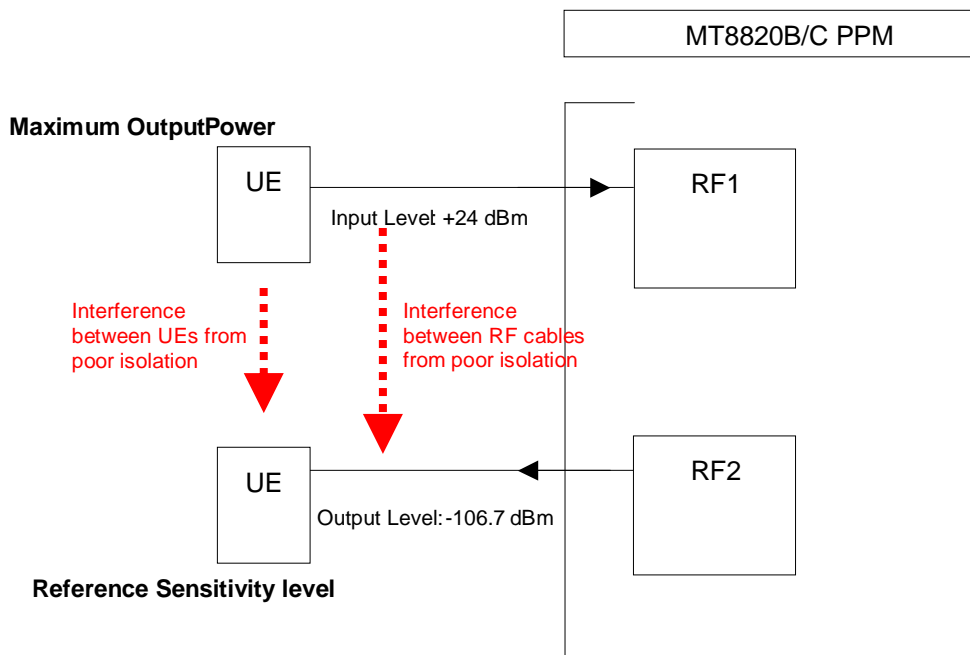


Figure 1. Inadequate Isolation between UEs or RF Cables

2. Problem Resolution

(1) Isolation between UEs

To assure isolation between UEs, we recommend using the Shield Box.

(2) Isolation between RF Cables

To assure isolation between RF cables, we recommended using either RF cables with high shielding performance or the Semi-Rigid Cable.

[Recommended RF Cables]

- Tensolite KU1818 Series
- HUBER+SUHNER SUCOFLEX 104

Note: To place a distance between UEs and RF Cables as much as possible is also recommended.

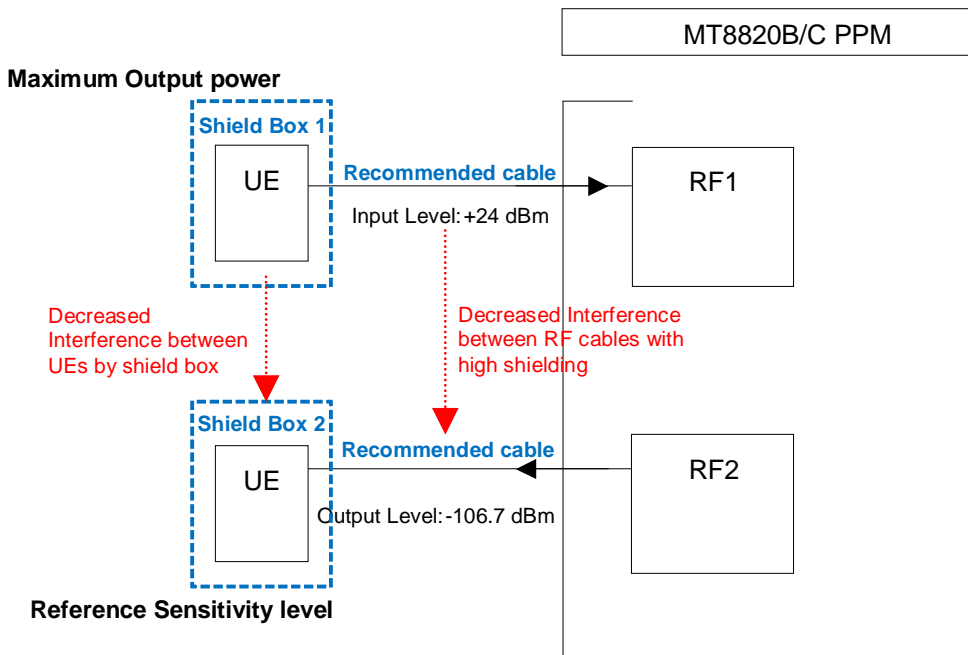


Figure 2. Improving Isolation between UEs and RF Cables

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