

### Features

- GSM 900 MHz Front-end Unit (FEU) composed of Duplexer, low noise figure LNA Module, power combiner, switches etc.
- Suitable for GSM 900 MHz Tower Mounted System Repeaters.
- Ultra low PIMD (Passive Intermodulation) Characteristics.
- Very compact size and low weight.



### Electrical Characteristics

#### Duplexer (TX) Path

Frequency band	940 MHz ~ 960 MHz
Bandwidth	20 MHz
Insertion Loss	0.7 dB <sub>typ.</sub>
Return Loss, all ports	20 dB <sub>min.</sub>
Out of Band Rejections	37 dB <sub>Cmin.</sub> (@ 965 MHz)
Isolation	105 dB <sub>Cmin.</sub> (@ 895 MHz ~ 915 MHz)
Continuous Average Power Intermodulation <sup>1)</sup> ,	100 W <sub>max.</sub> -107 dB <sub>mmax.</sub>

#### Uplink (Rx1, Rx2) Path

Frequency band	895 MHz ~ 915 MHz
Bandwidth	20 MHz
Gain	22 dB <sub>nominal</sub>
Noise Figure	1.8 dB <sub>typ.</sub> , 2.2 dB <sub>max.</sub>
Out of Band Rejections	67 dB <sub>Cmin.</sub> (@ 885 MHz)
Isolation	105 dB <sub>Cmin.</sub> (@ 940 MHz ~ 960 MHz)
Return Loss, normal mode all ports	18 dB <sub>min.</sub>

#### Downlink (Tx1, Tx2) Path

Frequency band	940 MHz ~ 960 MHz
Bandwidth	20 MHz
Insertion Loss	33 dB typ.
Return Loss, normal mode all ports	18dB min.
Insertion Loss, Bypass Mode	0.6dB max.

#### Environmental

Operating temperature range	-30 to +65 °C
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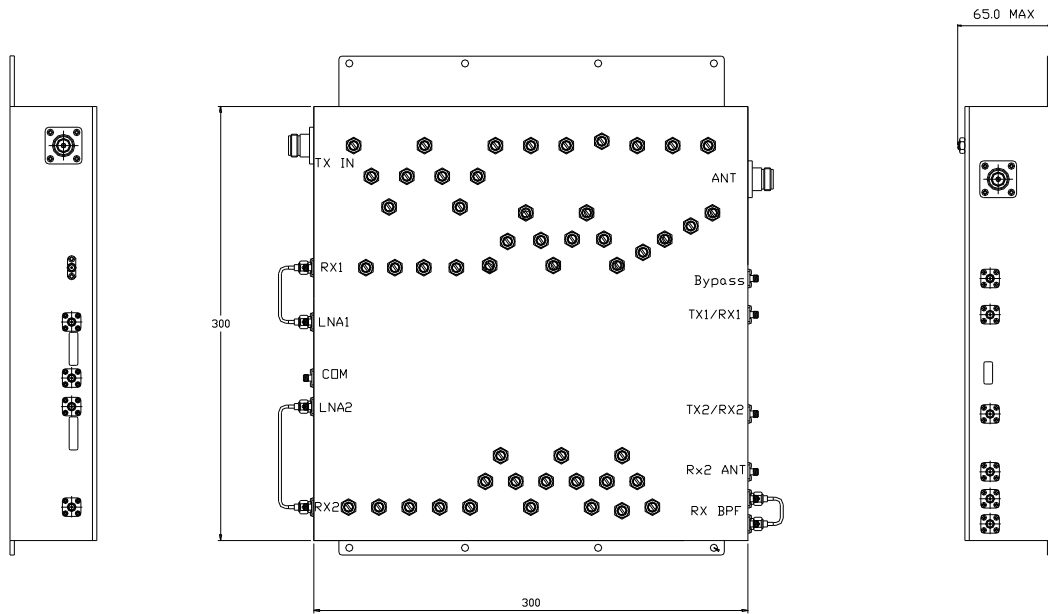
#### Mechanical

Dimensions <sup>2)</sup>	300 x 300 x 65 mm
Weight	9.9 kg

1) 2 x 47 dBm(50 W CW, 940 MHz & 960 MHz) is applied at Duplexer Tx. port and measure 3<sup>rd</sup> (920 MHz) and 5<sup>th</sup> (900 MHz) IM signals at Rx. port.

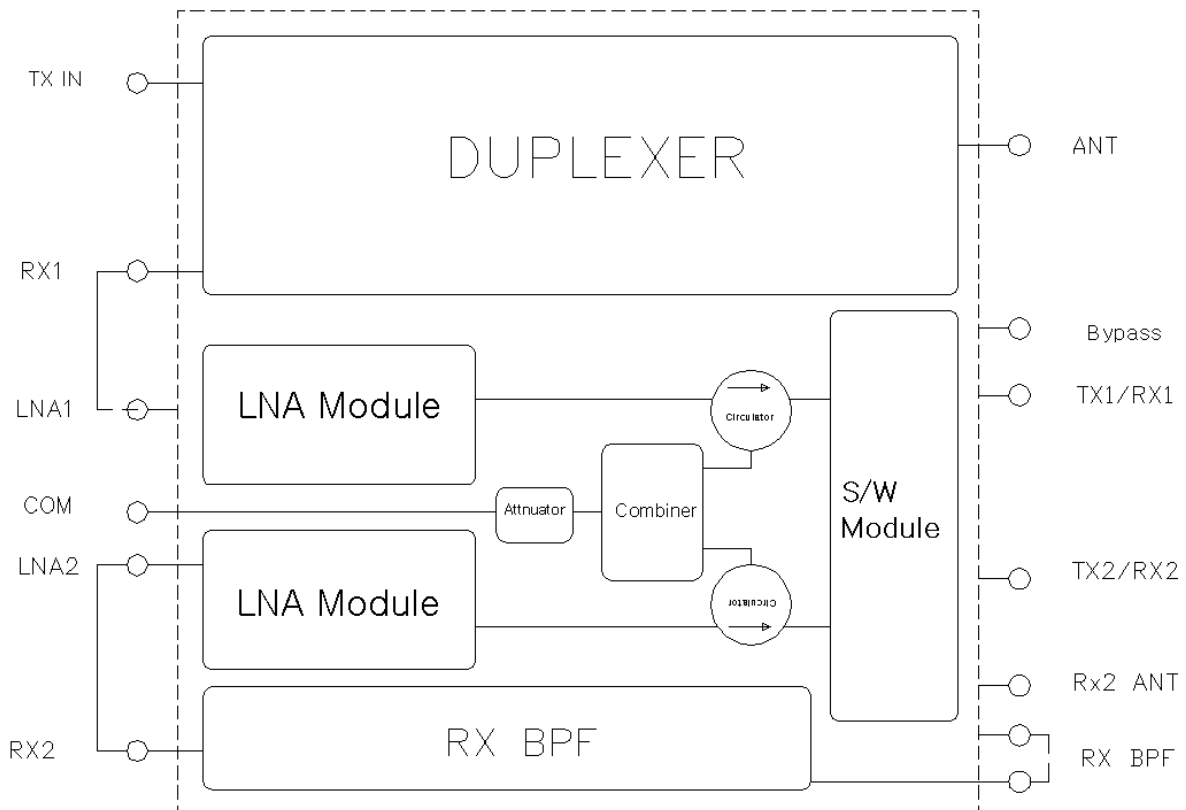
2) Excluding connectors, and mounting bracket extension

## Outline Drawing

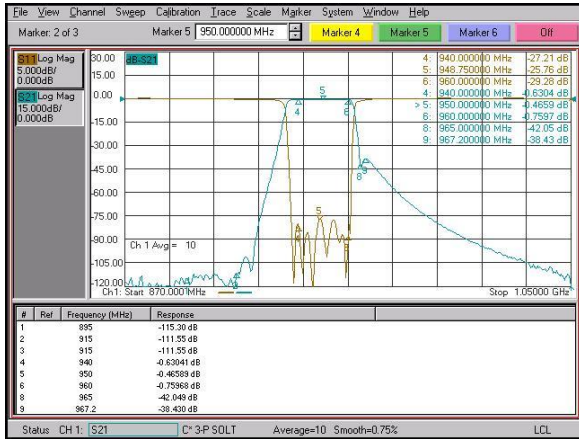


Units : mm, Tolerance : +/- 0.2 mm

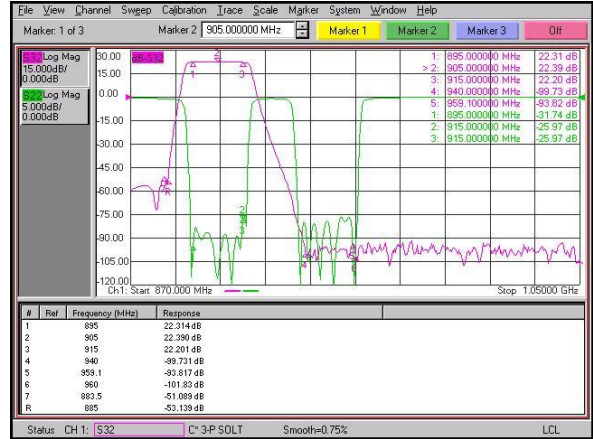
## Block Diagram



# Typical Response

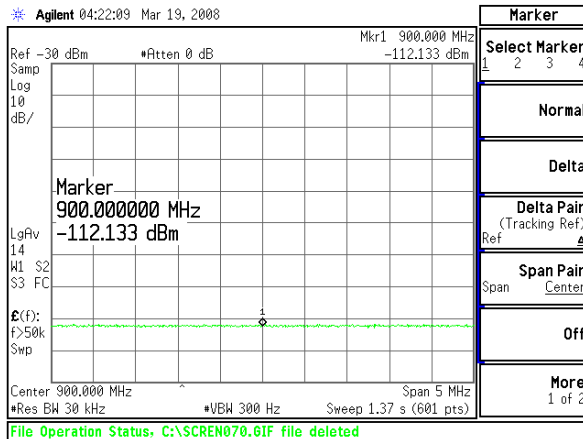


Duplexer Tx path Transmission

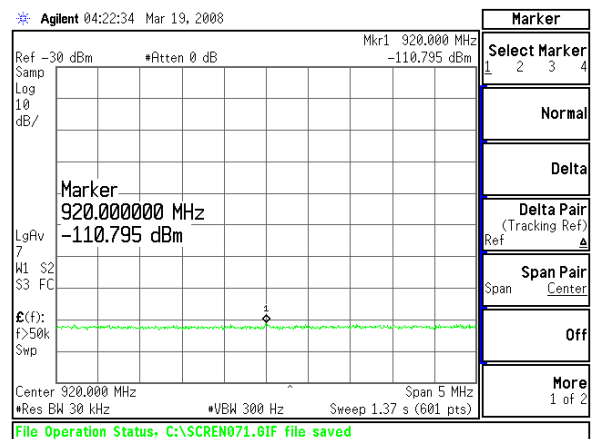


RX1/RX2 Pass Transmission

# Passive IMD Characteristics



3<sup>rd</sup> PIMD Characteristics



5<sup>th</sup> PIMD Characteristics

50 W CW, 940 MHz & 960 MHz is applied at Duplexer Tx. port and measure 3<sup>rd</sup> (920 MHz) and 5<sup>th</sup> (900 MHz) IM signals at Rx. port. Both 3<sup>rd</sup> and 5<sup>th</sup> PIMD measured are above 150 dBc(107 dBm).