nt Spectrum Analyzer - Swept SA 35 PM Mar 30, 20: Avg Type: Log-Pwr Avg|Hold>100/100 Frequency Center Freq 824.000000 MHz TRACE 12 Trig: Free Run Atten: 26 dB TYPE PNO: Wide 🖵 IFGain:Low Auto Tune Mkr1 824.000 MHz Ref Offset 25 dB Ref 40.00 dBm -20.572 dBm 10 dB/div Log Center Freq 824.000000 MHz when man m Start Freq 822.000000 MHz Stop Freq 826 000000 MHz 1. CF Step 400.000 kHz Auto Man Freq Offset 0 Hz Center 824.000 MHz #Res BW 47 kHz Span 4.000 MHz Sweep 1.73 ms (1001 pts) VBW 470 kHz

#### Fig.33 WCDMA Band V-CH4133 Band Edge Compliance HSUPA Subtest 5

GCCT

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Fig.34 WCDMA Band V-CH4232Band Edge Compliance HSUPA Subtest 5





#### Fig.35 WCDMA Band II-CH9263Band Edge Compliance

Fig.36 WCDMA Band II-CH9538Band Edge Compliance





### Fig.37 WCDMA Band II-CH9263Band Edge Compliance HSDPA Subtest 1

Fig.38 WCDMA Band II-CH9538 Band Edge Compliance HSDPA Subtest 1





#### Fig.39 WCDMA Band II-CH9263Band Edge Compliance HSUPA Subtest 5

Fig.40 WCDMA Band II-CH9538 Band Edge Compliance HSUPA Subtest 5



# B.6 Conducted Spurious Emission(22.917(a)/24.238(a))

#### **B.6.1 Description**

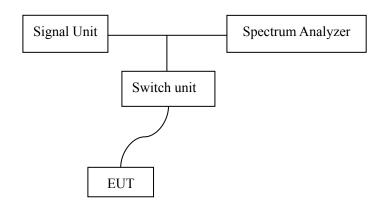
The power of any emission outside of the authorized operating frequency ranges must be lower than transmitter power by a factor of at least 43+10log(P) dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm. It is measured by means of spectrum analyzer and scanned from 30MHz up to a frequency including its 10<sup>th</sup> harmonic.

For the equipment of PCS1900 band, this equates to a frequency range of 30MHz to 19.1GHz, data is taken from 30 MHz to 20 GHz. For GSM 850, data is taken from 30 MHz to 9 GHz.

#### **B.6.2 Test Procedures**

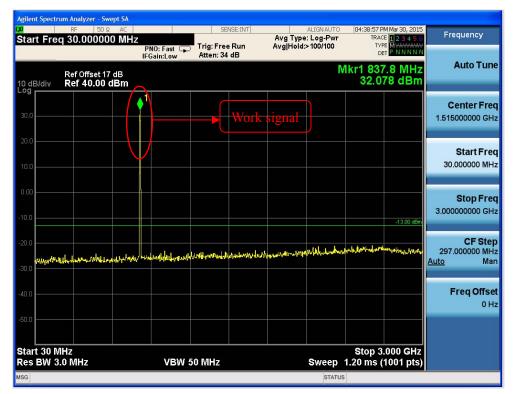
- 1. The EUT was connected to Spectrum Analyzer and Base Station.
- 2. The middle channel for maximum RF power within the transmitting frequency was measured.
- 3. The conducted spurious emission for the whole frequency range was taken.

### B.6.3 Test Setup

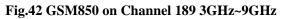


#### **B.6.4 Test Results**

| Band          | СН   | Frequency(MHz) | Result | Verdict |
|---------------|------|----------------|--------|---------|
| GSM850        | 189  | 836.6          | Fig.41 | Pass    |
|               |      |                | Fig.42 | Pass    |
| GSM1900       | 661  | 1880.0         | Fig.43 | Pass    |
|               |      |                | Fig.44 | Pass    |
| WCDMA Band V  | 4175 | 835            | Fig.45 | Pass    |
|               |      |                | Fig.46 | Pass    |
| WCDMA Band II | 9400 | 1880.0         | Fig.47 | Pass    |
|               |      |                | Fig.48 | Pass    |

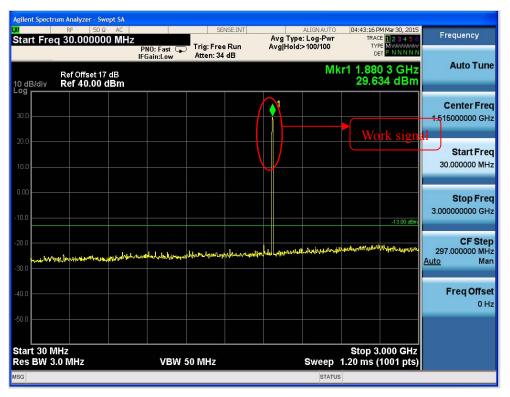


## Fig.41 GSM850 on Channel 189 30MHz~3GHz

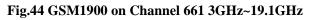






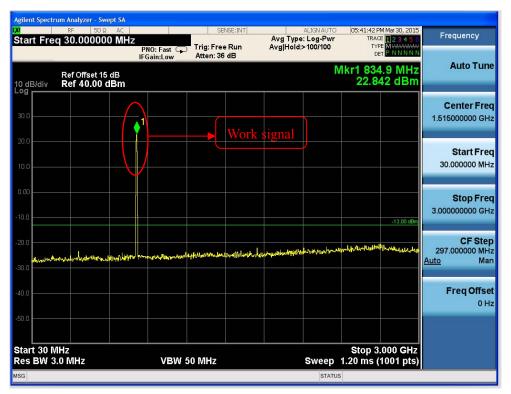


## Fig.43 GSM1900 on Channel 661 30MHz~3GHz





The Conducted Spurious Emissions was checked. No emissions were found and only noise floor in13.8GHz~19.1GHz.



### Fig.45 WCDMA Band V on Channel 4175 30MHz~3GHz

Fig.46 WCDMA Band V on Channel 4175 3GHz~9GHz







## Fig.47 WCDMA Band II Channel 9400 30MHz~3GHz

Fig.48 WCDMA Band II on Channel 9400 3GHz~19.1GHz



The Conducted Spurious Emissions was checked. No emissions were found and only noise floor in13.8GHz~19.1GHz

## **B.7Peak-to-average ratio**(24.232(d))

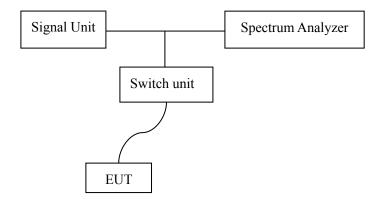
#### **B.8.1 Description**

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks f a digitally modulated signal on a statistical basic. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level.

#### **B.8.2 Test Procedure**

- 1. The EUT was connected to Spectrum Analyzer and Base Station.
- 2. The CCDF of middle channel for the highest powers were measured.

### **B.8.3** Test Setup



### **B.7.4 Test Results**

#### Limit

| Peak-to-average ratio |
|-----------------------|
| ≤13dBm                |

| Band         |      | СН   | Frequency(MHz) | Result(dBm) | Verdict |
|--------------|------|------|----------------|-------------|---------|
| GSM850       | GSM  | 128  | 824.2          | 0.10        | Pass    |
|              |      | 189  | 836.6          | 0.11        | Pass    |
|              |      | 251  | 848.8          | 0.08        | Pass    |
|              | GPRS | 128  | 824.2          | 0.09        | Pass    |
|              |      | 189  | 836.6          | 0.12        | Pass    |
|              |      | 251  | 848.8          | 0.10        | Pass    |
| GSM1900      | GSM  | 512  | 1850.2         | 0.12        | Pass    |
|              |      | 661  | 1880.0         | 0.11        | Pass    |
|              |      | 810  | 1909.8         | 0.09        | Pass    |
|              | GPRS | 512  | 1850.2         | 0.08        | Pass    |
|              |      | 661  | 1880.0         | 0.10        | Pass    |
|              |      | 810  | 1909.8         | 0.12        | Pass    |
| WCDMA Band V |      | 4132 | 824.2          | 0.11        | Pass    |
|              |      | 4175 | 835            | 0.09        | Pass    |
|              |      | 4233 | 848.8          | 0.08        | Pass    |



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| WCDMA Band V  | 4132 | 824.2  | 0.11 | Pass |
|---------------|------|--------|------|------|
|               |      |        |      |      |
| HSDPA         | 4175 | 835    | 0.12 | Pass |
| Subtest 1     | 4233 | 848.8  | 0.13 | Pass |
| WCDMA Band V  | 4132 | 824.2  | 0.07 | Pass |
| HSUPA         | 4175 | 835    | 0.10 | Pass |
| Subtest 5     | 4233 | 848.8  | 0.13 | Pass |
|               | 9263 | 1850.2 | 0.11 | Pass |
| WCDMA Band II | 9400 | 1880.0 | 0.12 | Pass |
|               | 9538 | 1909.8 | 0.09 | Pass |
| WCDMA Band II | 9263 | 1850.2 | 0.10 | Pass |
| HSDPA         | 9400 | 1880.0 | 0.08 | Pass |
| Subtest 1     | 9538 | 1909.8 | 0.11 | Pass |
| WCDMA Band II | 9263 | 1850.2 | 0.10 | Pass |
| HSUPA         | 9400 | 1880.0 | 0.09 | Pass |
| Subtest 5     | 9538 | 1909.8 | 0.10 | Pass |

# \*\*\* END OF REPORT\*\*\*