# AppendixA: Effective (Isotropic) Radiated Power Output Data

## Test Result(WCDMA)

| Band | Type | Channel | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|
| Band2 | TestMode | 9662 | 21.28 | 22.48 | 62.15 | PASS |
| Band2 | TestMode | 9800 | 20.99 | 22.19 | 62.15 | PASS |
| Band2 | TestMode | 9938 | 20.90 | 22.10 | 62.15 | PASS |
| Band4 | TestMode | 1537 | 21.29 | 22.49 | 62.15 | PASS |
| Band4 | TestMode | 1638 | 21.03 | 22.23 | 62.15 | PASS |
| Band4 | TestMode | 1738 | 20.79 | 21.99 | 62.15 | PASS |
| Band5 | TestMode | 4357 | 20.52 | 21.51 | 56.99 | PASS |
| Band5 | TestMode | 4408 | 20.68 | 21.67 | 56.99 | PASS |
| Band5 | TestMode | 4458 | 20.49 | 21.48 | 56.99 | PASS |

*Remark: EIRP (dBm) = Conducted power (dBm) + Antenna Gain (dBi). (For Band2)*
*ERP (dBm) = EIRP (dBm) - 2.15 (dB). (For Band5)*

# AppendixB:Peak-to-Average Ratio

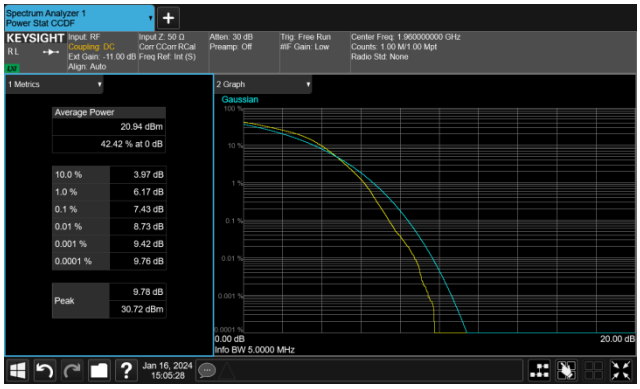
## Test Result(WCDMA)

| Band | Channel | Peak-to-Average Ratio(dB) | Limit(dB) | Verdict |
|---|---|---|---|---|
| Band2 | 9800 | 7.43 | 13 | PASS |
| Band4 | 1638 | 7.44 | 13 | PASS |
| Band5 | 4408 | 7.32 | 13 | PASS |

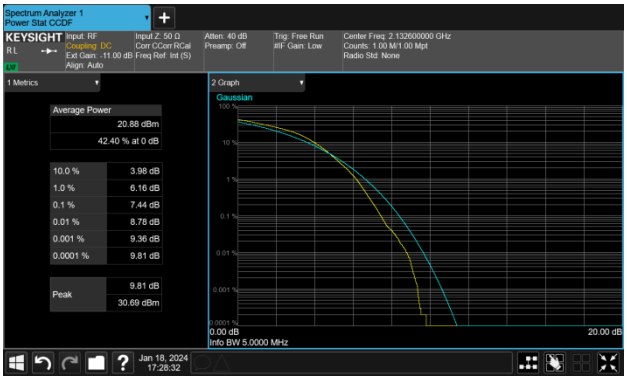
*Remark: All channel had been tested, but only the worst case data displayed in this report.*

## Test Graphs(WCDMA)

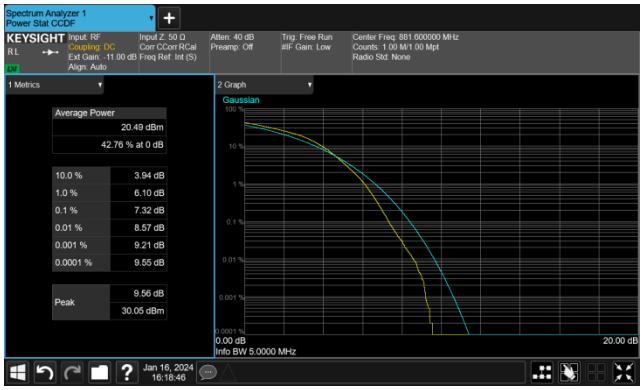
Band2-9800




Band4-1638




Band5-4408



# AppendixC:26dB Bandwidth andOccupied Bandwidth

## Test Result(WCDMA)

| Band | Channel | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Limit(kHz) | Verdict |
|---|---|---|---|---|---|
| Band2 | 9662 | 4.1714 | 4.657 | --- | PASS |
| Band2 | 9800 | 4.1770 | 4.656 | --- | PASS |
| Band2 | 9938 | 4.1683 | 4.670 | --- | PASS |
| Band4 | 1537 | 4.1869 | 4.642 | --- | PASS |
| Band4 | 1638 | 4.1672 | 4.673 | --- | PASS |
| Band4 | 1738 | 4.1736 | 4.656 | --- | PASS |
| Band5 | 4357 | 4.1502 | 4.659 | --- | PASS |
| Band5 | 4408 | 4.1490 | 4.653 | --- | PASS |
| Band5 | 4458 | 4.1725 | 4.659 | --- | PASS |

## Test Graphs(WCDMA)

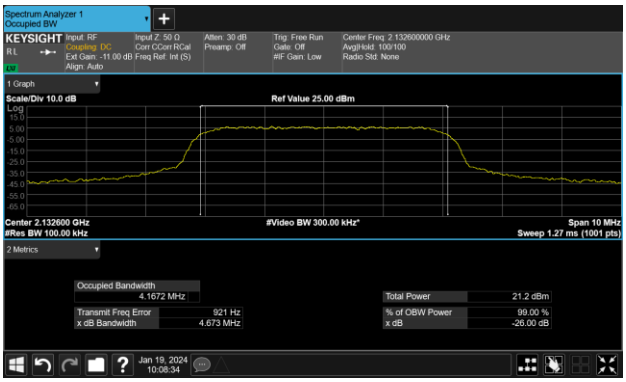
Band2-9662

Band2-9800

Band2-9938

Band4-1537

Band4-1638




Band4-1738

Band5-4357

Band5-4408

Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Ext Gain: -11.00 dB
Align: Auto
Input Z: 50 Ω
Corr CCorr RCal
Freq Ref: Int (S)
Atten: 30 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 871.400000 MHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Scale/Div 10.0 dB
Ref Value 25.00 dBm
Center 871.400 MHz
#Res BW 100.00 kHz
#Video BW 300.00 kHz*
Span 10 MHz
Sweep 1.27 ms (1001 pts)
2 Metrics
Occupied Bandwidth
4.1502 MHz
Total Power
20.7 dBm
Transmit Freq Error
-5.714 kHz
x dB Bandwidth
4.659 MHz
% of OBW Power
99.00 %
x dB
-26.00 dB
Jan 16, 2024
15:50:59

Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Ext Gain: -11.00 dB
Align: Auto
Input Z: 50 Ω
Corr CCorr RCal
Freq Ref: Int (S)
Atten: 30 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 881.600000 MHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Scale/Div 10.0 dB
Ref Value 25.00 dBm
Center 881.600 MHz
#Res BW 100.00 kHz
#Video BW 300.00 kHz*
Span 10 MHz
Sweep 1.27 ms (1001 pts)
2 Metrics
Occupied Bandwidth
4.1490 MHz
Total Power
20.6 dBm
Transmit Freq Error
-4.573 kHz
x dB Bandwidth
4.653 MHz
% of OBW Power
99.00 %
x dB
-26.00 dB
Jan 16, 2024
16:17:03

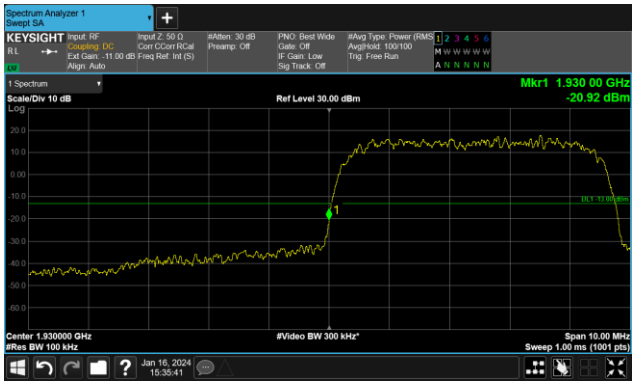
Band5-4458

Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Ext Gain: -11.00 dB
Align: Auto
Input Z: 50 Ω
Corr CCorr RCal
Freq Ref: Int (S)
Atten: 30 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 891.600000 MHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Scale/Div 10.0 dB
Ref Value 25.00 dBm
Center 891.600 MHz
#Res BW 100.00 kHz
#Video BW 300.00 kHz*
Span 10 MHz
Sweep 1.27 ms (1001 pts)
2 Metrics
Occupied Bandwidth
4.1725 MHz
Total Power
20.6 dBm
Transmit Freq Error
3.036 kHz
x dB Bandwidth
4.659 MHz
% of OBW Power
99.00 %
x dB
-26.00 dB
Jan 16, 2024
16:30:44

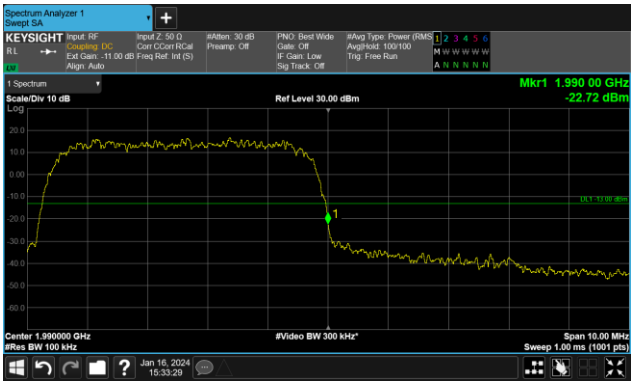
# AppendixD:Band Edge

## Test Graphs(WCDMA)

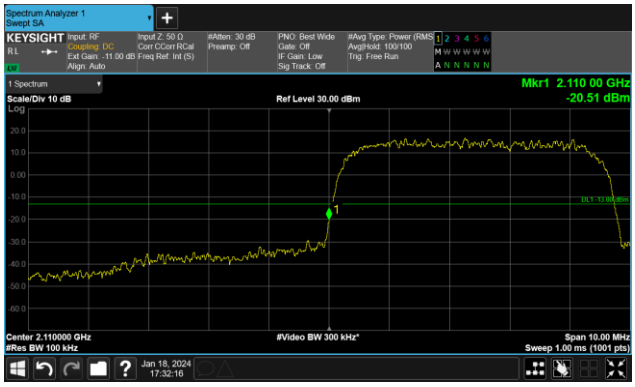
Band2-9662



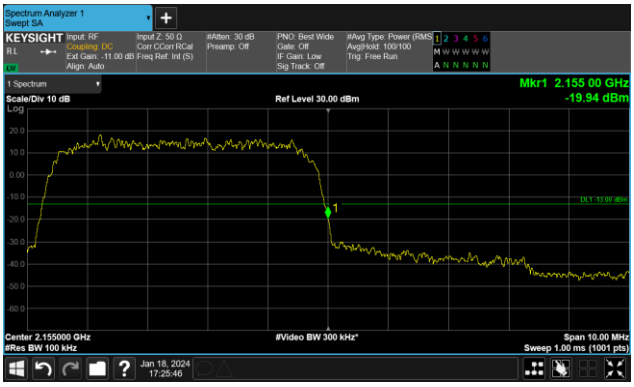

Band2-9938



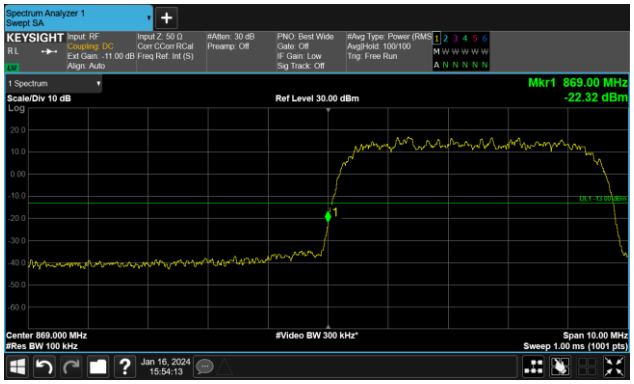

Band4-1537



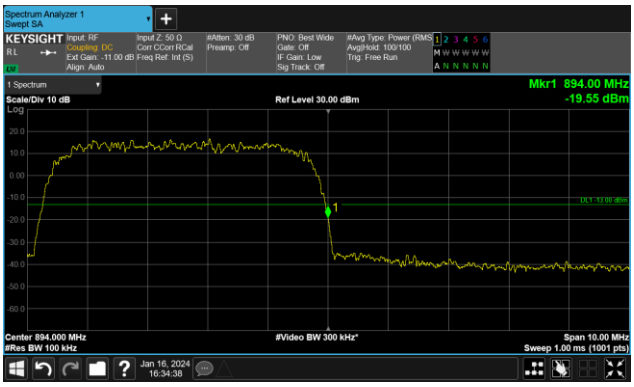

Band4-1738




Band5-4357



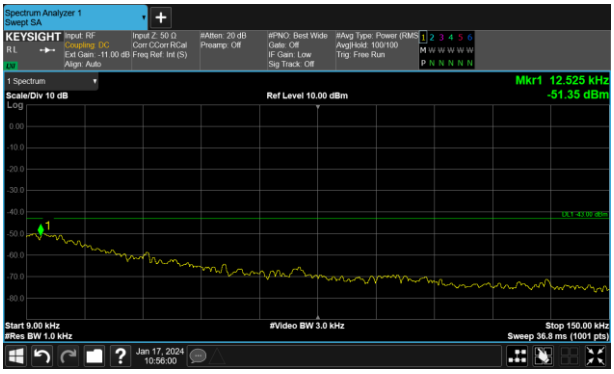

Band5-4458



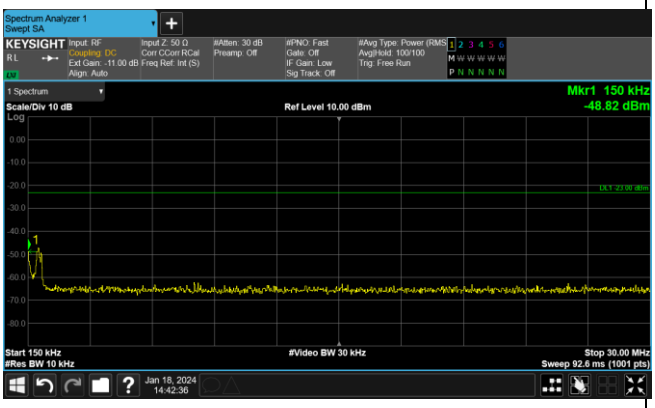
# AppendixE:Conducted SpuriousEmission

## Test Graphs(WCDMA)

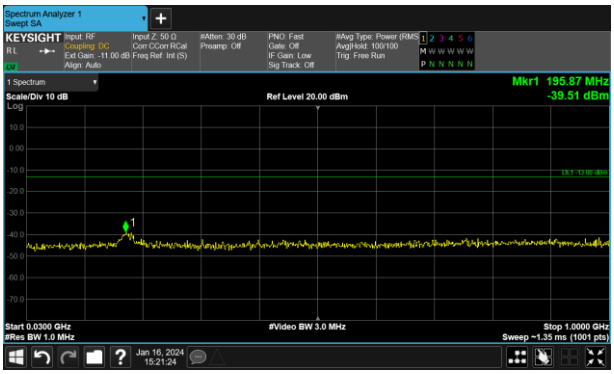
Band2-9662-0.009~0.15MHz



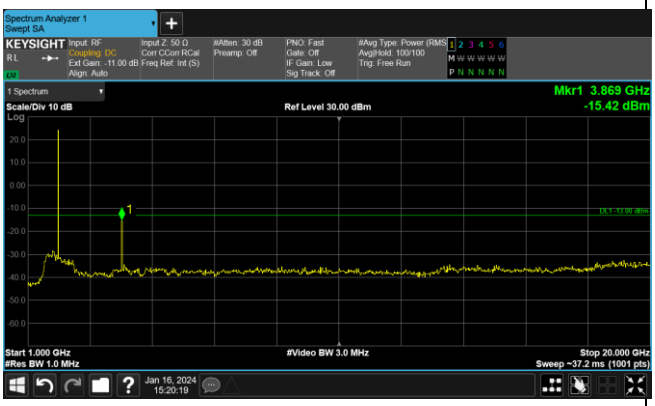

Band2-9662-0.15~30MHz



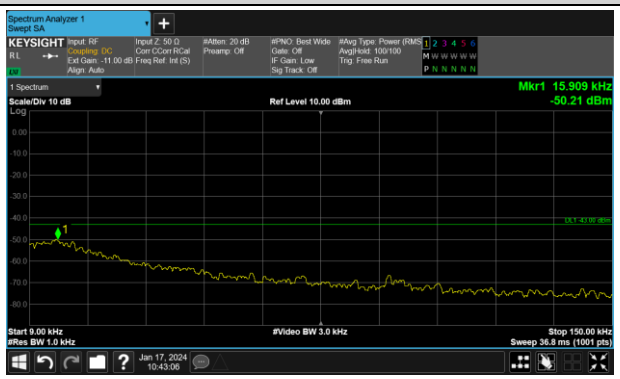

Band2-9662-30~1000MHz



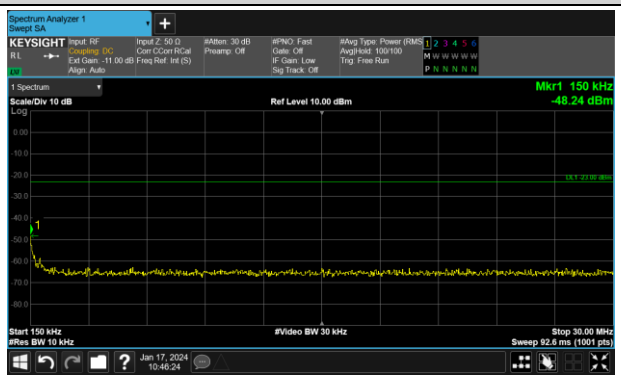

Band2-9662-1000~20000MHz




Band2-9800-0.009~0.15MHz

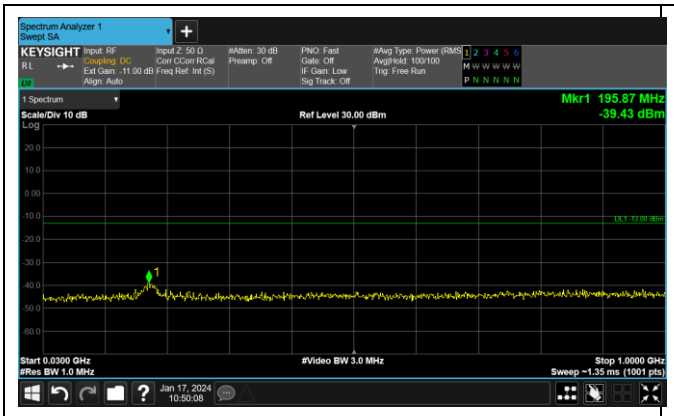



Band2-9800-0.15~30MHz

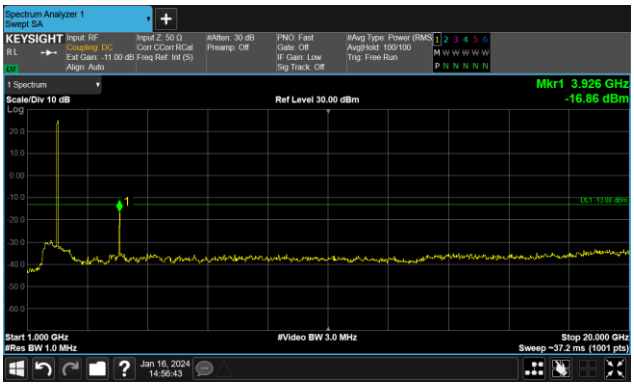



Band2-9800-30~1000MHz

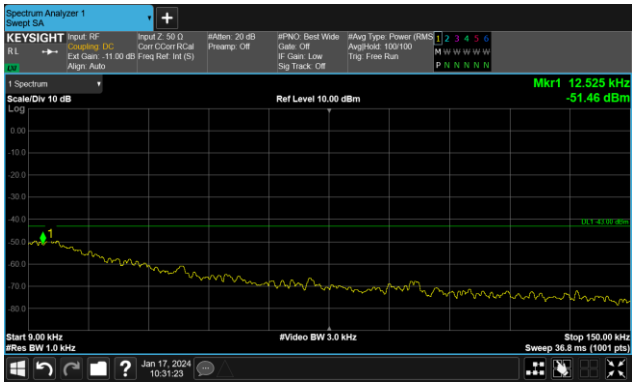
Band2-9800-1000~20000MHz



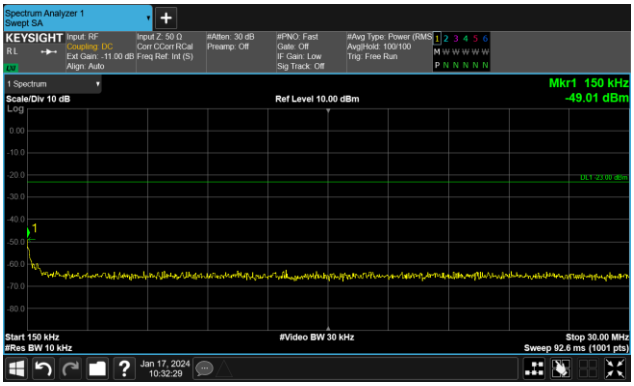

Band2-9938-0.009~0.15MHz



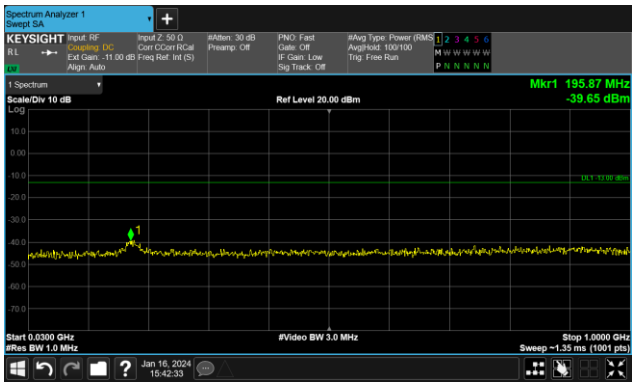

Band2-9938-0.15~30MHz



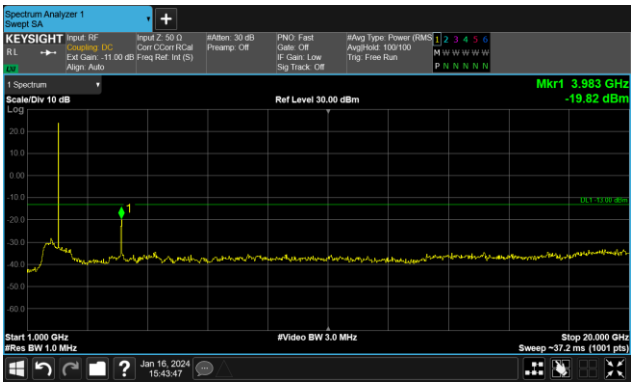

Band2-9938-30~1000MHz



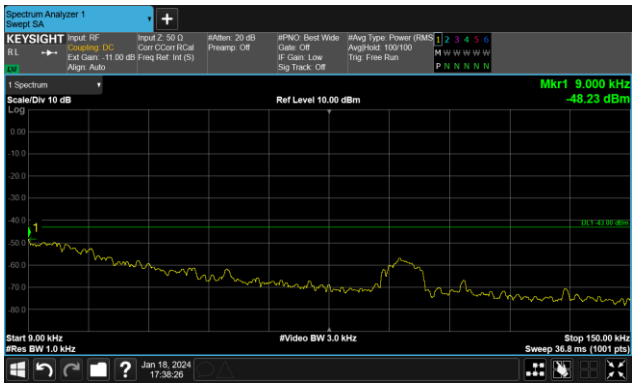

Band2-9938-1000~20000MHz

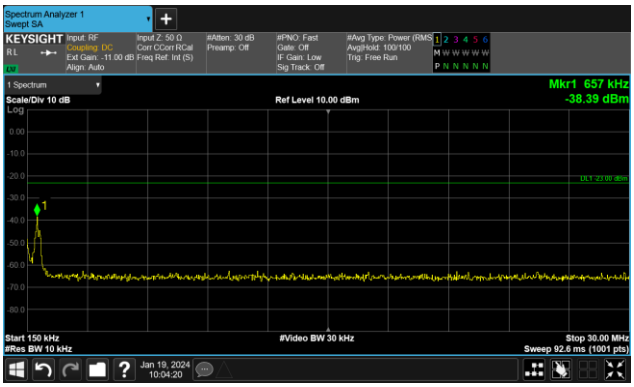


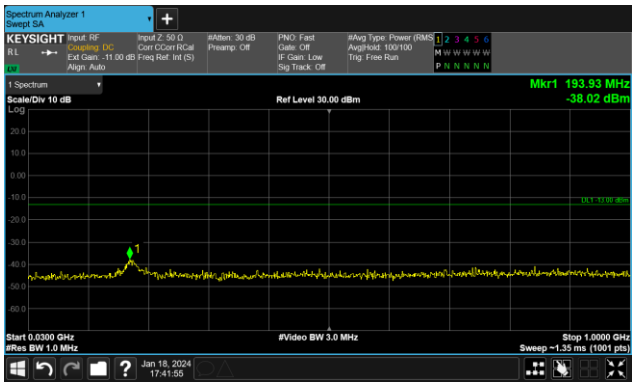
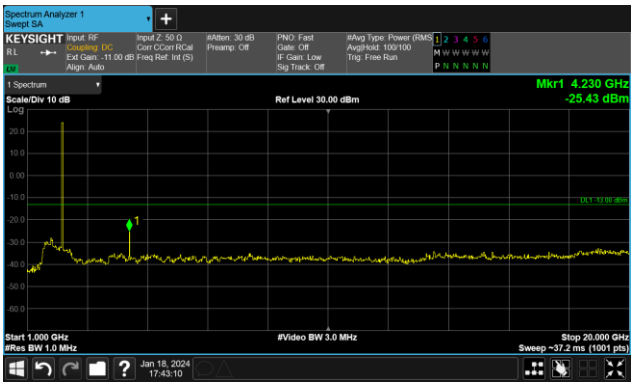
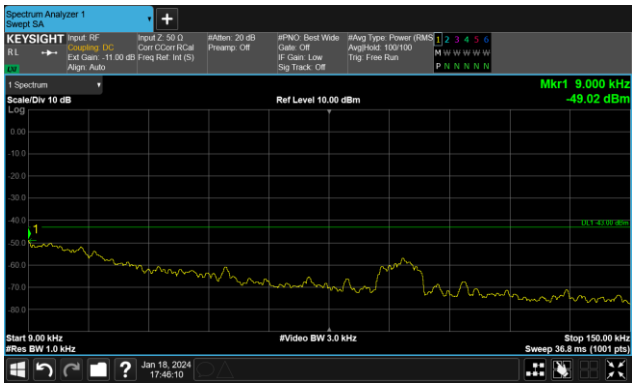
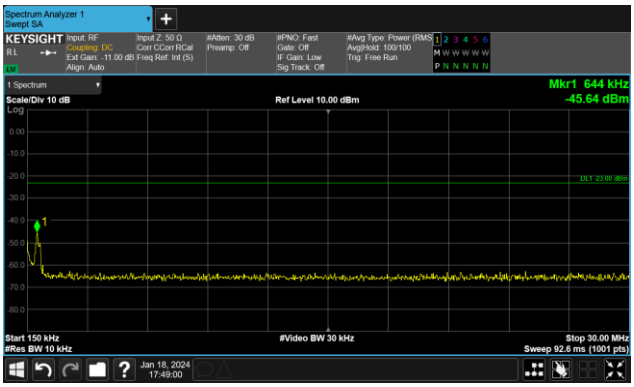
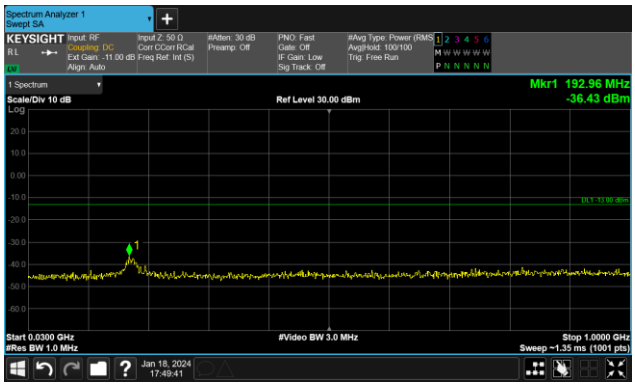
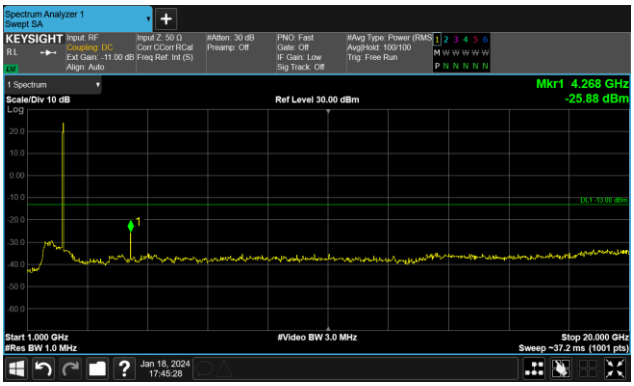

Band4-1537-0.009~0.15MHz

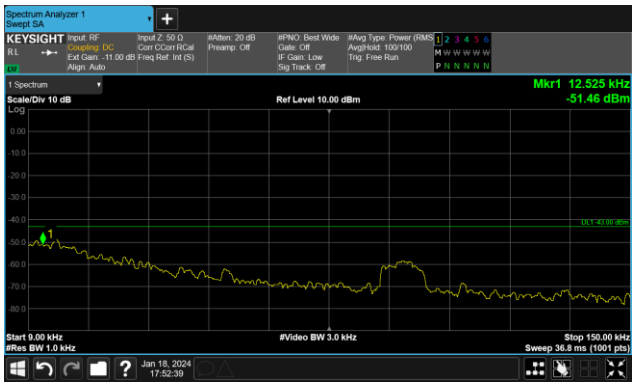



Band4-1537-0.15~30MHz

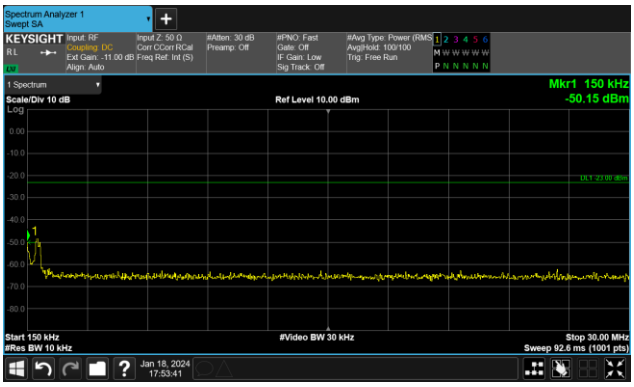


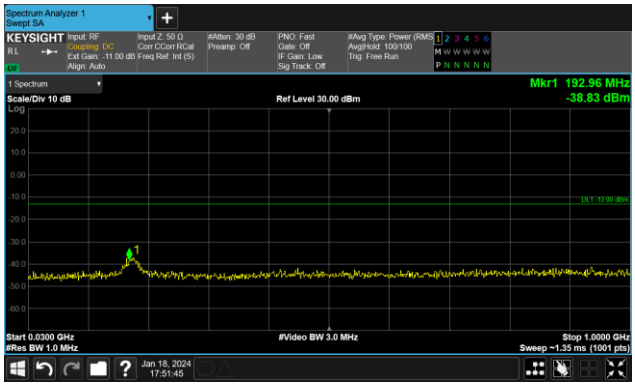
| Band4-1537-30~1000MHz | Band4-1537-1000~20000MHz |
|---|---|
|  |  |
| Band4-1638-0.009~0.15MHz | Band4-1638-0.15~30MHz |
|  |  |
| Band4-1638-30~1000MHz | Band4-1638-1000~20000MHz |
|  |  |
| Band4-1738-0.009~0.15MHz | Band4-1738-0.15~30MHz |



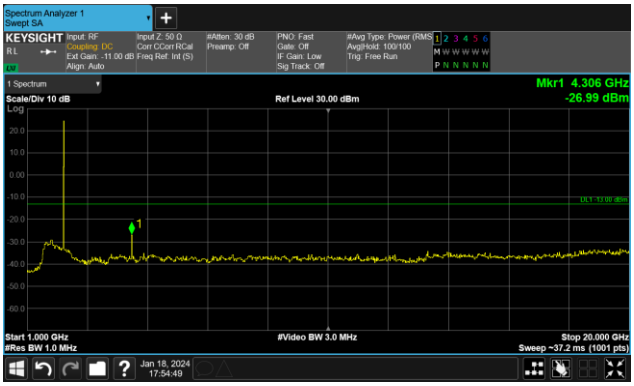

Band4-1738-30~1000MHz



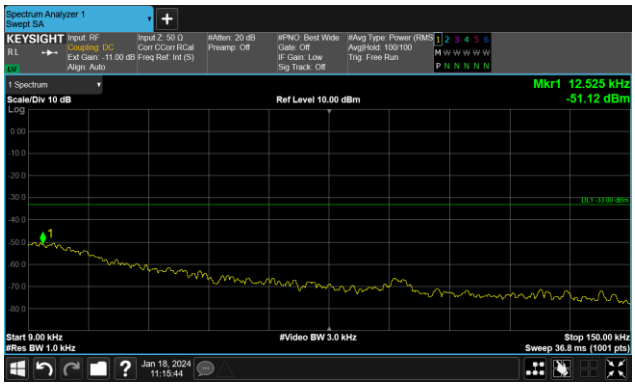

Band4-1738-1000~20000MHz



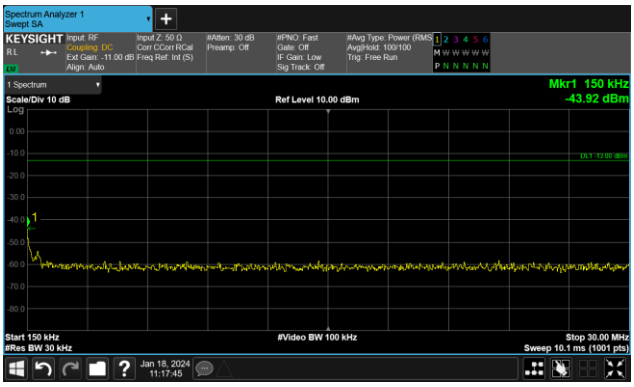

Band5-4357-0.009~0.15MHz



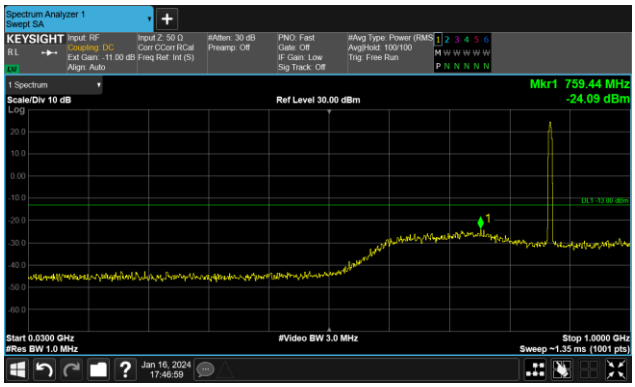

Band5-4357-0.15~30MHz

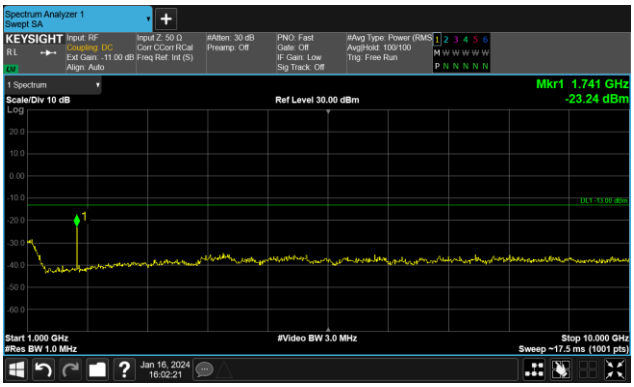



Band5-4357-30~1000MHz

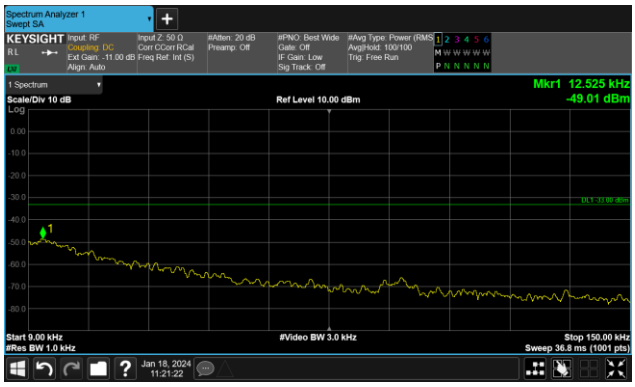



Band5-4357-1000~10000MHz

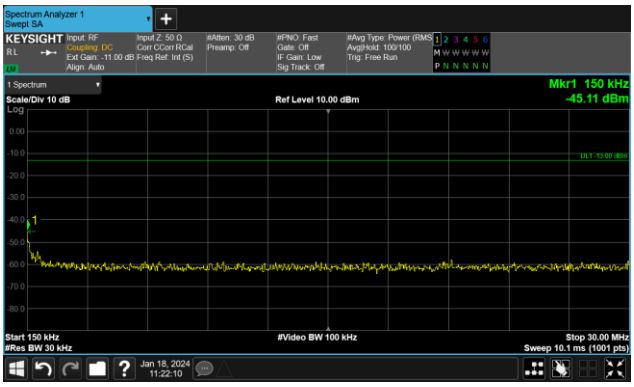


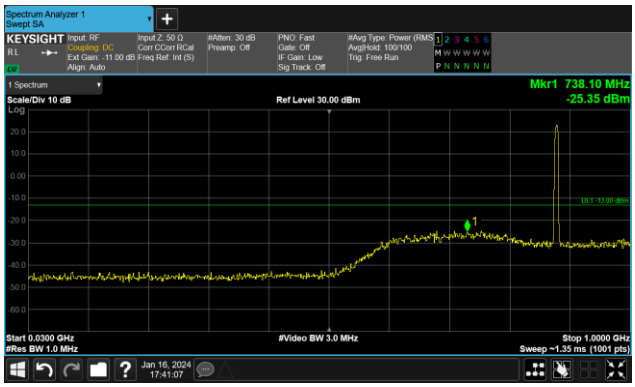
Band5-4408-0.009~0.15MHz



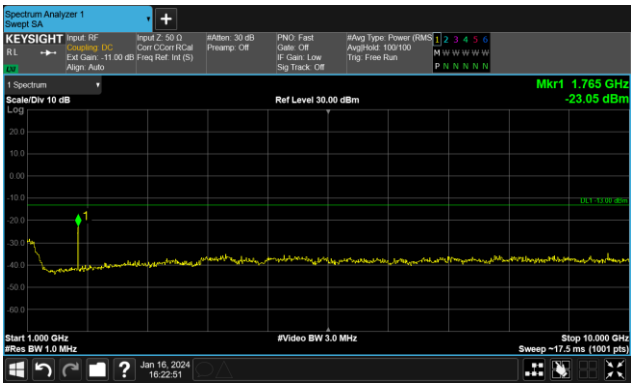

Band5-4408-0.15~30MHz



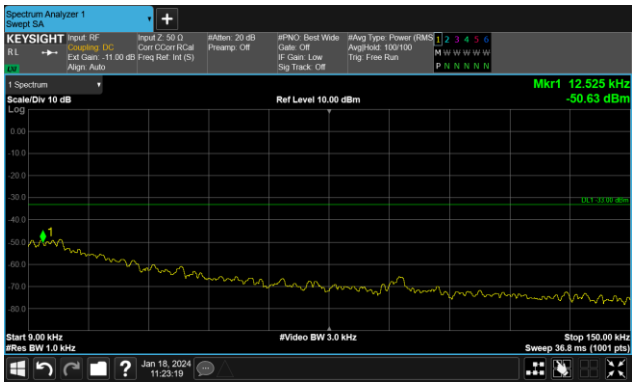

Band5-4408-30~1000MHz



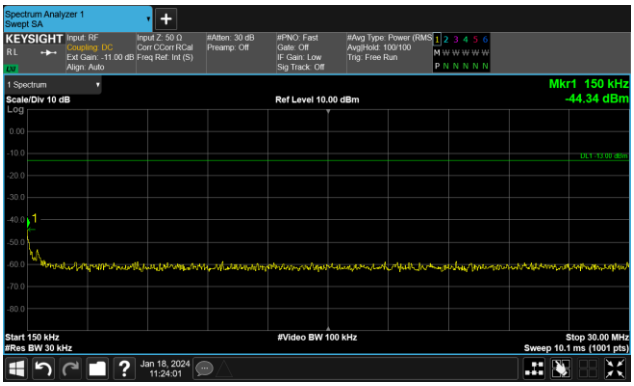

Band5-4408-1000~10000MHz




Band5-4458-0.009~0.15MHz

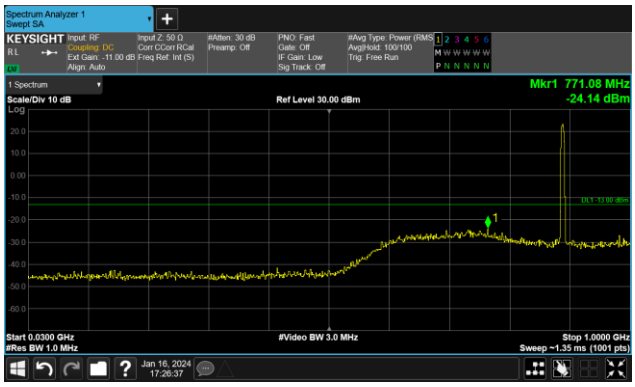


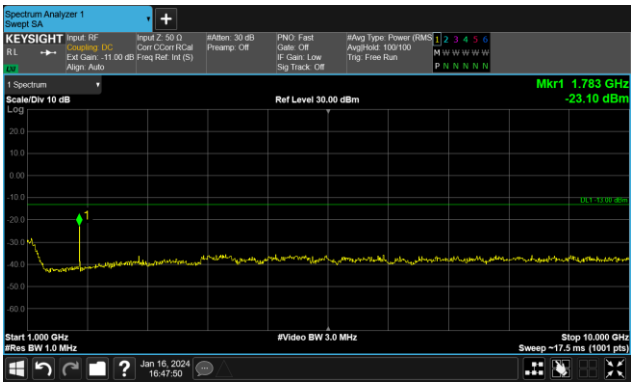

Band5-4458-0.15~30MHz




Band5-4458-30~1000MHz

Band5-4458-1000~10000MHz


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Mkr1 771.08 MHz
-24.14 dBm
Scale/Div 10 dB
Ref Level 30.00 dBm
Start 0.0300 GHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 1.0000 GHz
Sweep ~1.35 ms (1001 pts)
Jan 16, 2024
17:26:37


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Mkr1 1.783 GHz
-23.10 dBm
Scale/Div 10 dB
Ref Level 30.00 dBm
Start 1.000 GHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~17.5 ms (1001 pts)
Jan 16, 2024
16:47:50

# AppendixF:Frequency Stability

## Test Result

| Reference Frequency: WCDMA BAND V 12.2k RMC Middle channel=4408 Frequency=881.6MHz | | | | | |
|---|---|---|---|---|---|
| **Temperature** | | | | | |
| Power supplied (Vdc) | Temperature (℃) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 3.85 | -30 | -11.09 | -0.012579 | ±2.5 | Pass |
| | -20 | -12.84 | -0.014564 | | |
| | -10 | -10.36 | -0.011751 | | |
| | 0 | -12.69 | -0.014394 | | |
| | 10 | -8.26 | -0.009369 | | |
| | 20 | -8.47 | -0.009608 | | |
| | 30 | -7.9 | -0.008961 | | |
| | 40 | -7.35 | -0.008337 | | |
| | 50 | -9.61 | -0.010901 | | |
| **Voltage** | | | | | |
| Temperature (℃) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.50 | -12.36 | -0.014326 | ±2.5 | Pass |
| | 3.85 | -12.42 | -0.014235 | | |
| | 4.40 | -13.25 | -0.015290 | | |
| *Remark: All channel had been tested, but only the worst case data displayed in this report.* | | | | | |

| Reference Frequency: WCDMA BAND IV 12.2k RMC Middle Frequency=1638 channel=2132.6MHz | | | | | |
|---|---|---|---|---|---|
| **Temperature** | | | | | |
| Power supplied (Vdc) | Temperature (℃) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 3.85 | -30 | -13.94 | -0.0065366 | Within authorized band for BAND IV | Pass |
| | -20 | -15.76 | -0.0073900 | | |
| | -10 | -13.73 | -0.0064382 | | |
| | 0 | -11.06 | -0.0051862 | | |
| | 10 | -15.96 | -0.0074838 | | |
| | 20 | -13.45 | -0.0063069 | | |
| | 30 | -13.65 | -0.0064006 | | |
| | 40 | -12.39 | -0.0058098 | | |
| | 50 | -11.03 | -0.0051721 | | |
| **Voltage** | | | | | |
| Temperature (℃) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.50 | -13.25 | -0.006213 | Within authorized band for BAND IV | Pass |
| | 3.85 | -16.89 | -0.007920 | | |
| | 4.40 | -15.55 | -0.007292 | | |
| *Remark: All channel had been tested, but only the worst case data displayed in this report.* | | | | | |

| Reference Frequency: WCDMA BAND II 12.2k RMC Middle Frequency=9800 channel=1960MHz | | | | | |
|---|---|---|---|---|---|
| **Temperature** | | | | | |
| Power supplied (Vdc) | Temperature (℃) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 3.85 | -30 | -9.77 | -0.0049847 | Within authorized band for BAND II | Pass |
| | -20 | -12.06 | -0.0061531 | | |
| | -10 | -14.23 | -0.0072602 | | |
| | 0 | -16.09 | -0.0082092 | | |
| | 10 | -11.03 | -0.0056276 | | |
| | 20 | -12.89 | -0.0065765 | | |
| | 30 | -10.17 | -0.0051888 | | |
| | 40 | -14.71 | -0.0075051 | | |
| | 50 | -11.93 | -0.0060867 | | |
| **Voltage** | | | | | |
| Temperature (℃) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.50 | -12.79 | -0.006526 | Within authorized band for BAND II | Pass |
| | 3.85 | -16.56 | -0.008449 | | |
| | 4.40 | -15.72 | -0.008020 | | |
| *Remark: All channel had been tested, but only the worst case data displayed in this report.* | | | | | |