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	21.33	22.53	62.15	PASS
Band2	TestMode	9800	20.96	22.16	62.15	PASS
Band2	TestMode	9938	21.17	22.37	62.15	PASS
Band4	TestMode	1537	21.61	22.81	62.15	PASS
Band4	TestMode	1638	21.30	22.50	62.15	PASS
Band4	TestMode	1738	21.00	22.20	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)

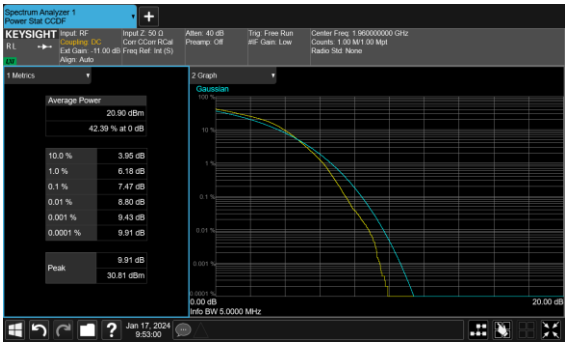
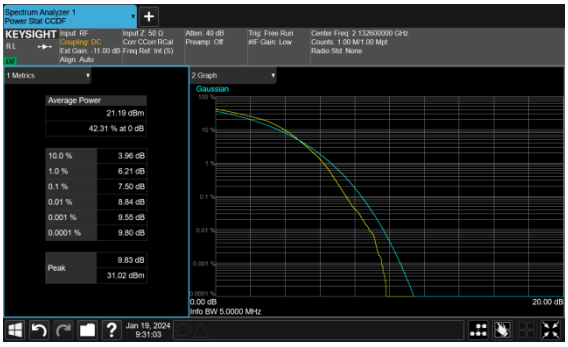
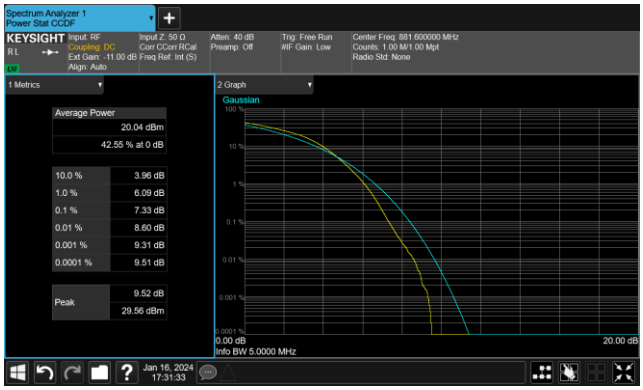
AppendixB:Peak-to-Average Ratio

Test Result(WCDMA)

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9800	7.47	13	PASS
Band4	1638	7.50	13	PASS
Band5	4408	7.33	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	
	

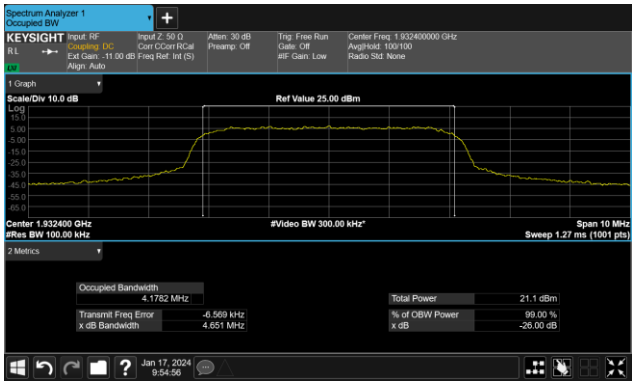
AppendixC:26dB Bandwidth andOccupied Bandwidth

Test Result(WCDMA)

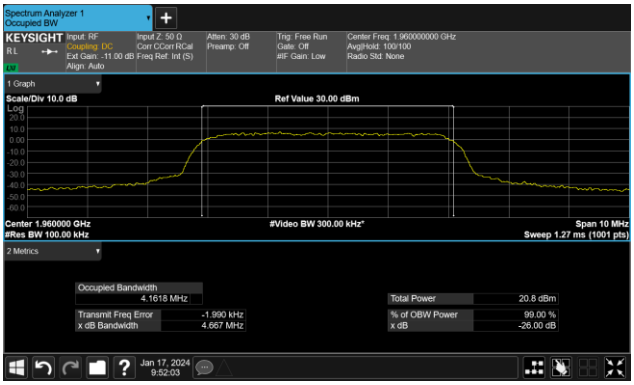
Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit(kHz)	Verdict
Band2	9662	4.1782	4.651	---	PASS
Band2	9800	4.1618	4.667	---	PASS
Band2	9938	4.1701	4.655	---	PASS
Band4	1537	4.1795	4.672	---	PASS
Band4	1638	4.1612	4.673	---	PASS
Band4	1738	4.1707	4.647	---	PASS
Band5	4357	4.1797	4.671	---	PASS
Band5	4408	4.1734	4.662	---	PASS
Band5	4458	4.1775	4.659	---	PASS

Test Graphs(WCDMA)

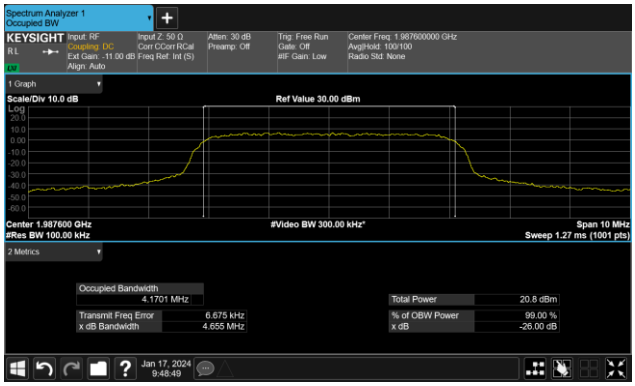
Band2-9662



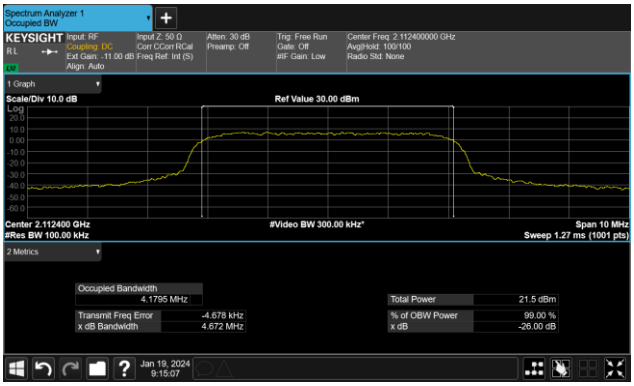
Band2-9800



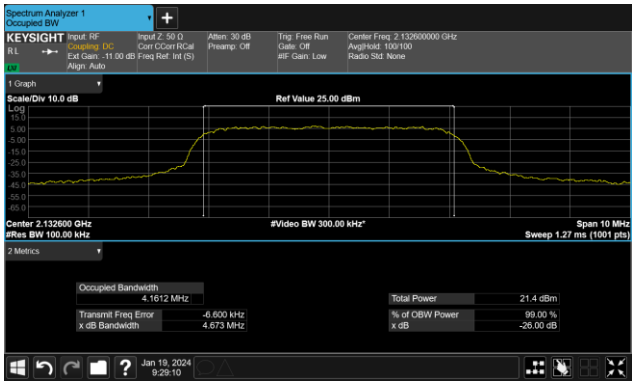
Band2-9938



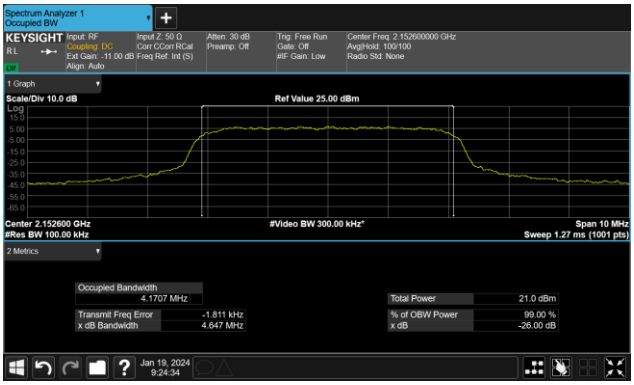
Band4-1537



Band4-1638

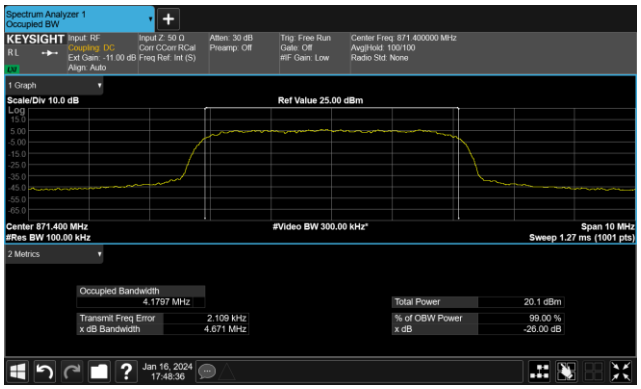


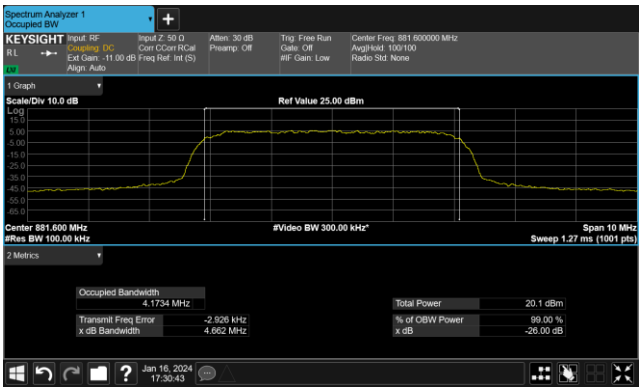
Band4-1738



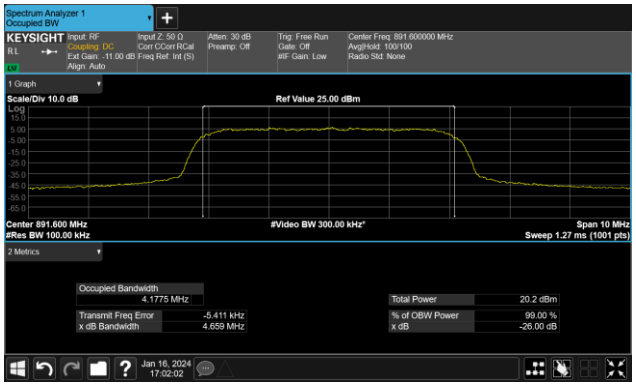
Band5-4357

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
4.1797 MHz
Total Power
20.1 dBm
Transmit Freq Error
2.109 kHz
x dB Bandwidth
4.671 MHz
% of OBW Power
99.00 %
x dB
-26.00 dB
Jan 16, 2024
17:48:36

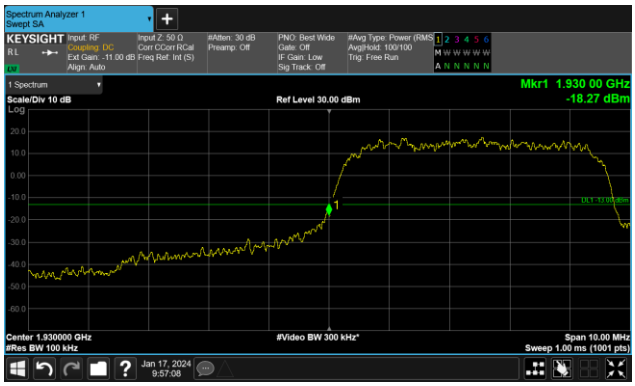
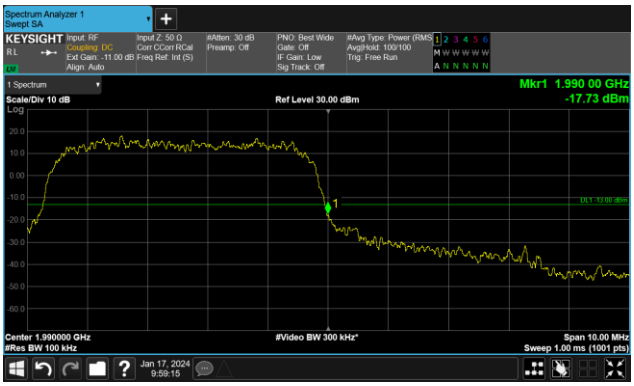
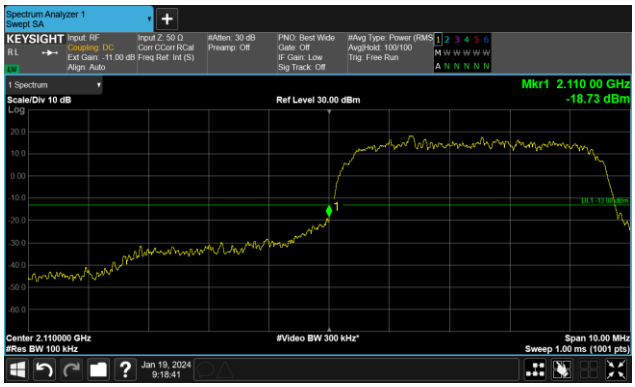
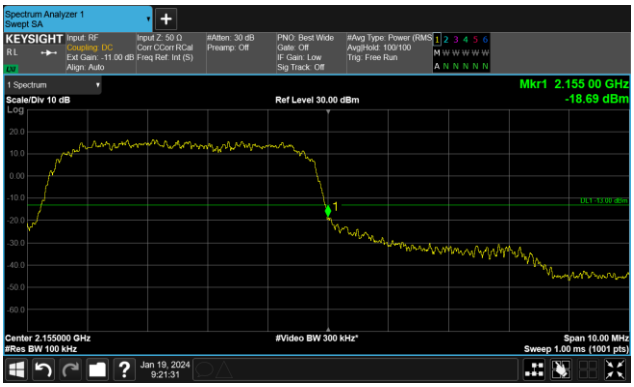
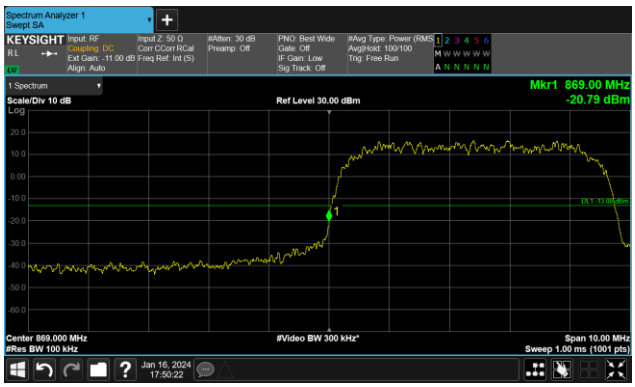
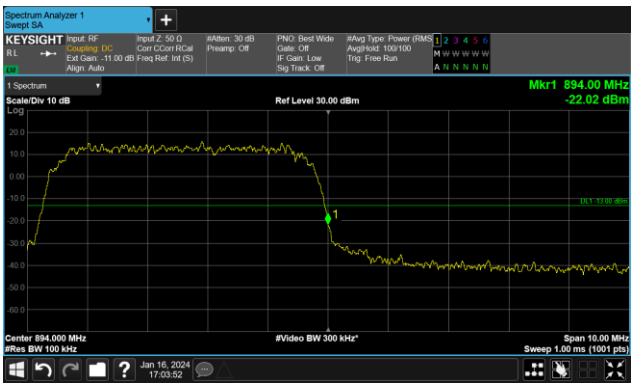

Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Ext Gain: -11.00 dB
Align: Auto
Input Z: 50 Ω
Corr CCorr RCal
Freq Ref: Int (S)
Atten: 30 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 881.600000 MHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Scale/Div 10.0 dB
Ref Value 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
4.1734 MHz
Total Power
20.1 dBm
Transmit Freq Error
-2.926 kHz
x dB Bandwidth
4.662 MHz
% of OBW Power
99.00 %
x dB
-26.00 dB
Jan 16, 2024
17:30:43

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
4.1775 MHz
Total Power
20.2 dBm
Transmit Freq Error
-5.411 kHz
x dB Bandwidth
4.659 MHz
% of OBW Power
99.00 %
x dB
-26.00 dB
Jan 16, 2024
17:02:02

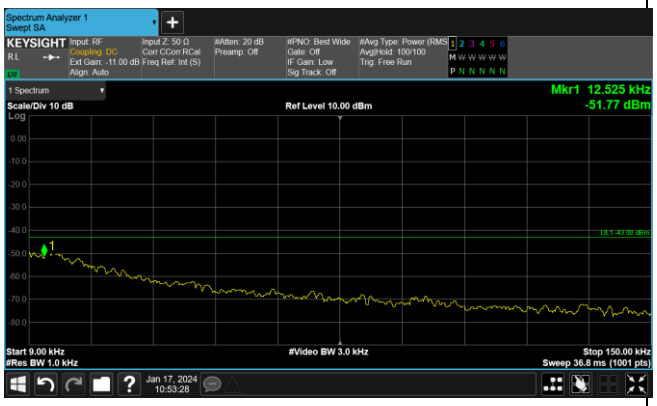
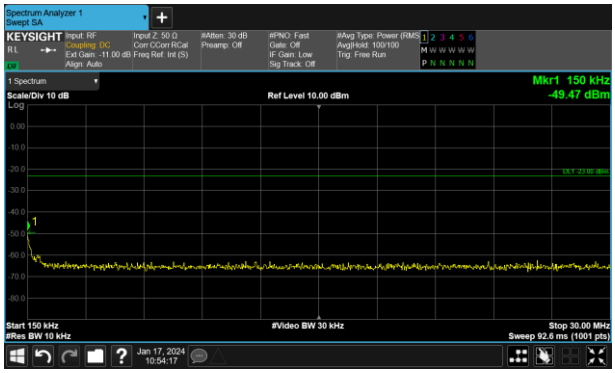
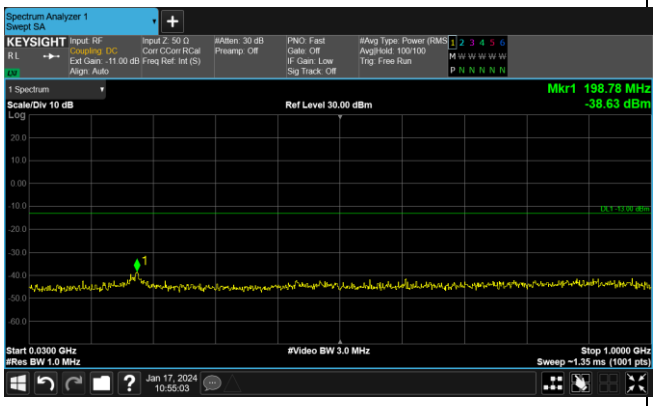
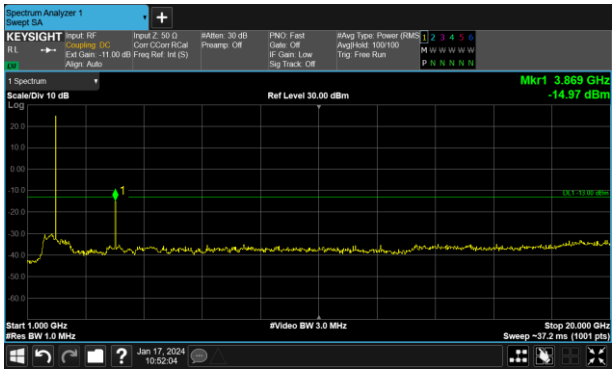
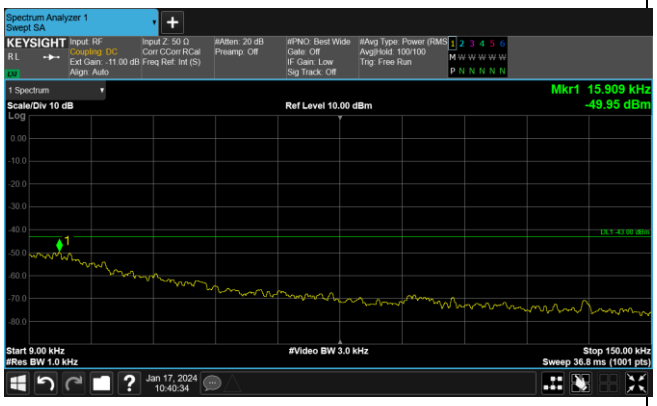
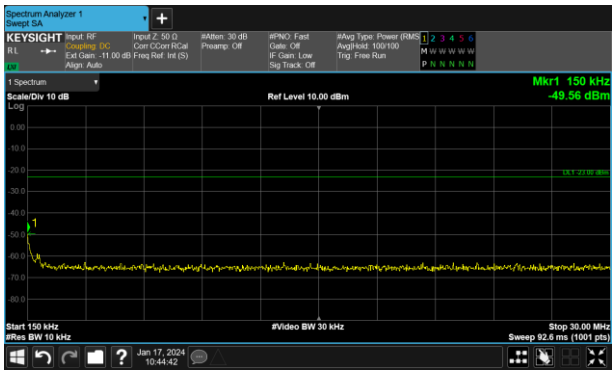
AppendixD:Band Edge

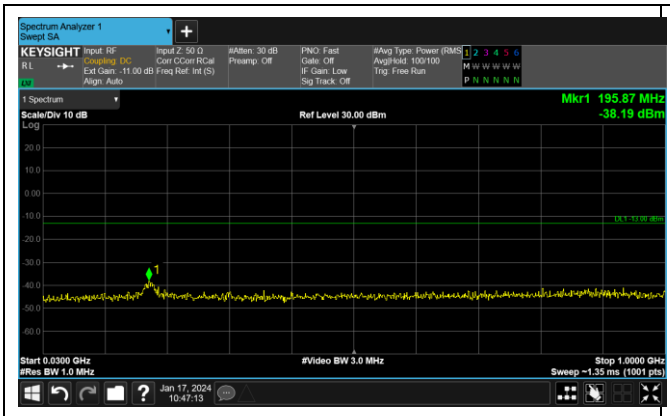
Test Graphs(WCDMA)

Band2-9662	Band2-9938
	
Band4-1537	**Band4-1738**
	
Band5-4357	**Band5-4458**
	

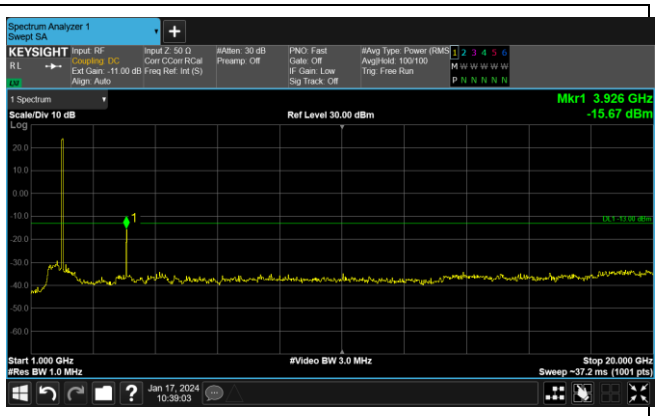
AppendixE:Conducted SpuriousEmission

Test Graphs(WCDMA)

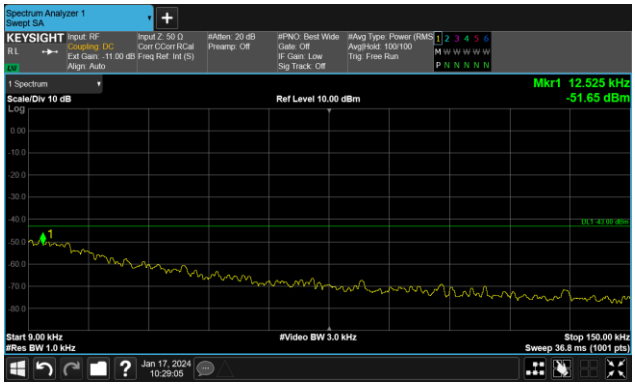
Band2-9662-0.009~0.15MHz	Band2-9662-0.15~30MHz
	
Band2-9662-30~1000MHz	**Band2-9662-1000~20000MHz**
	
Band2-9800-0.009~0.15MHz	**Band2-9800-0.15~30MHz**
	
Band2-9800-30~1000MHz	**Band2-9800-1000~20000MHz**



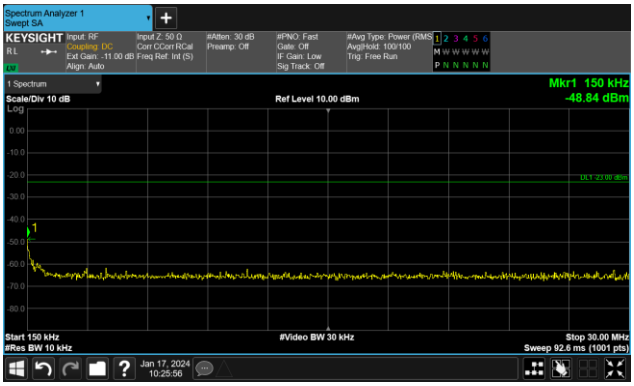
Band2-9938-0.009~0.15MHz



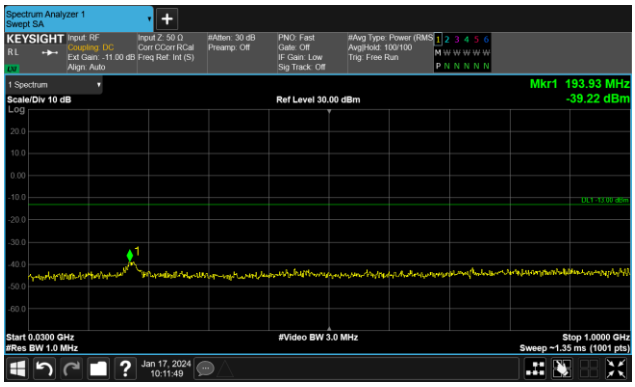
Band2-9938-0.15~30MHz



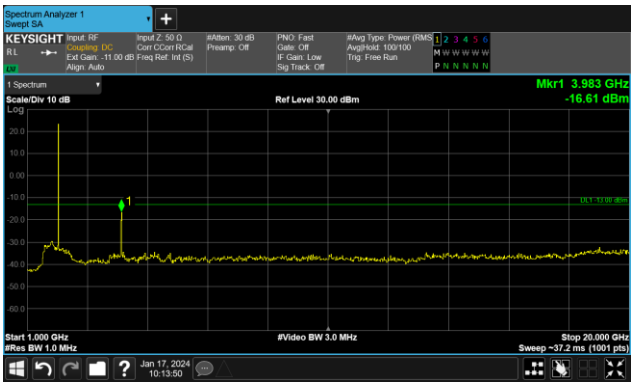
Band2-9938-30~1000MHz



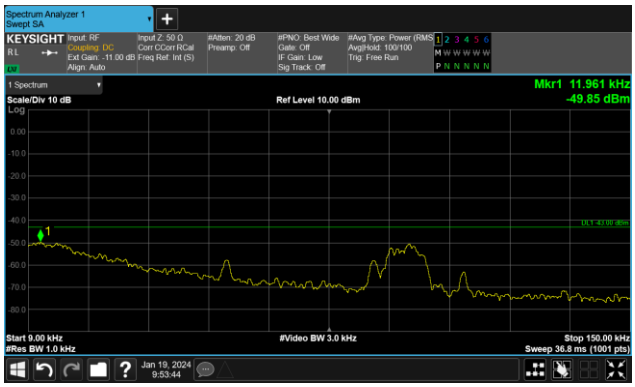
Band2-9938-1000~20000MHz

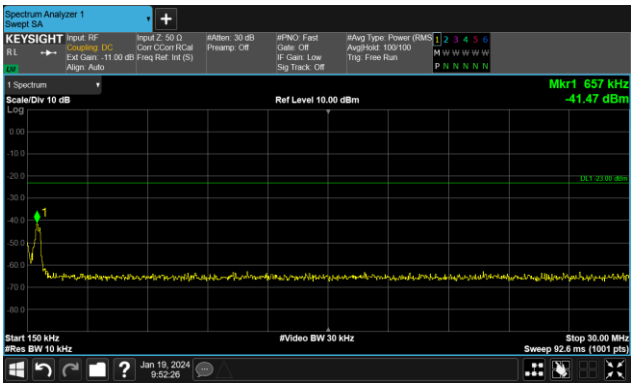


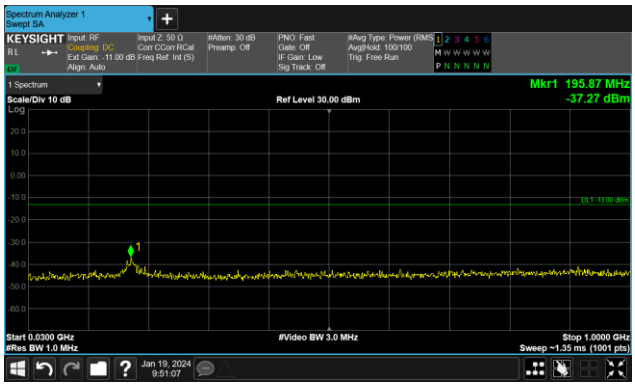
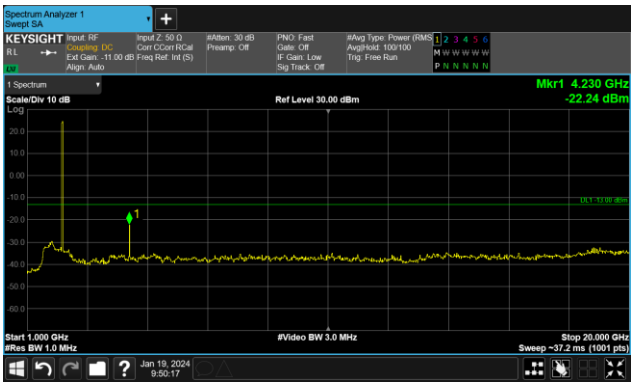
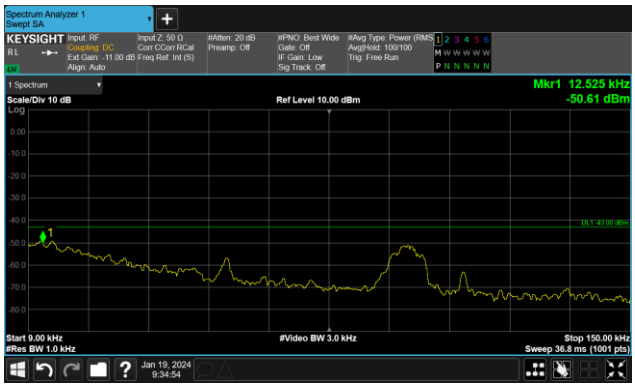
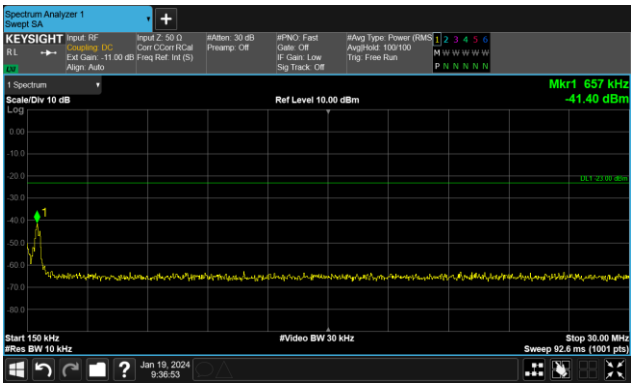
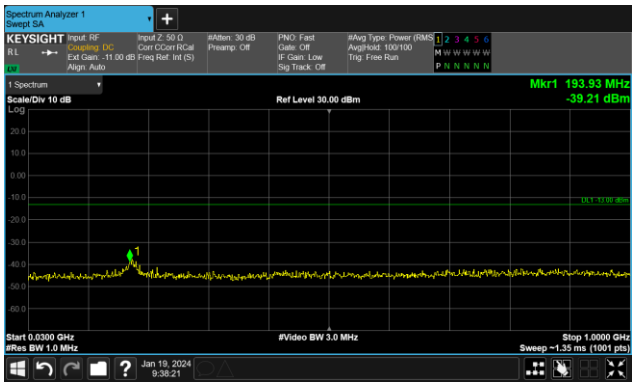
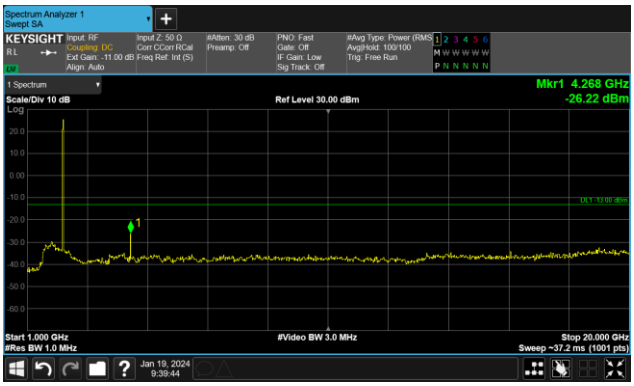
Band4-1537-0.009~0.15MHz

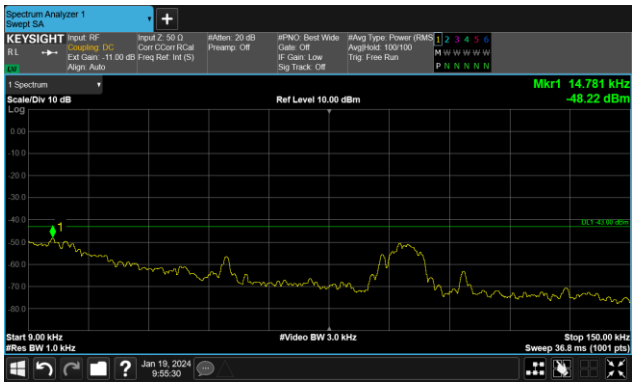


Band4-1537-0.15~30MHz

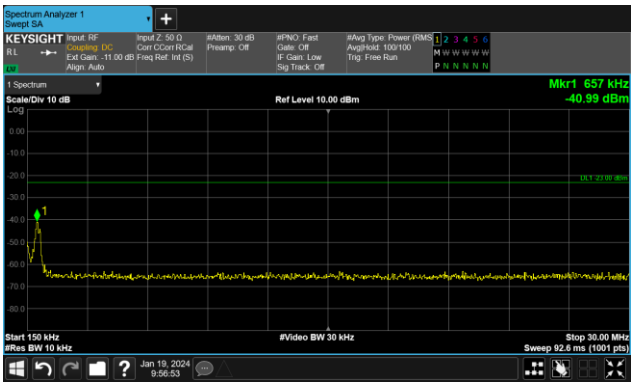




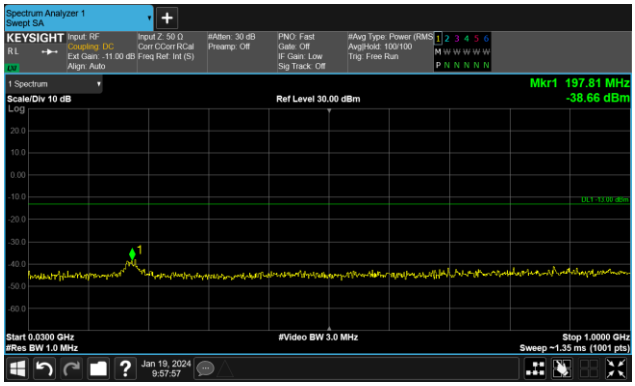
Band4-1537-30~1000MHz	Band4-1537-1000~20000MHz
	
Band4-1638-0.009~0.15MHz	Band4-1638-0.15~30MHz
	
Band4-1638-30~1000MHz	Band4-1638-1000~20000MHz
	
Band4-1738-0.009~0.15MHz	Band4-1738-0.15~30MHz



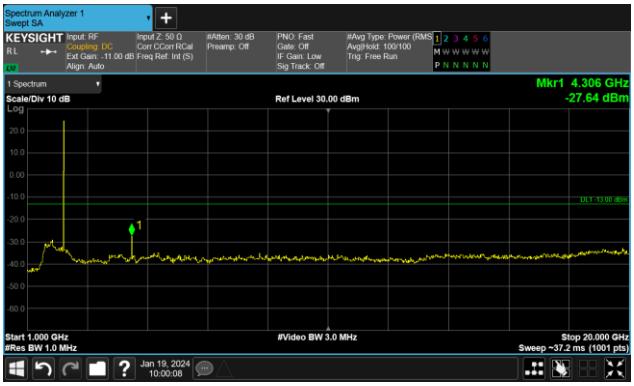
Band4-1738-30~1000MHz



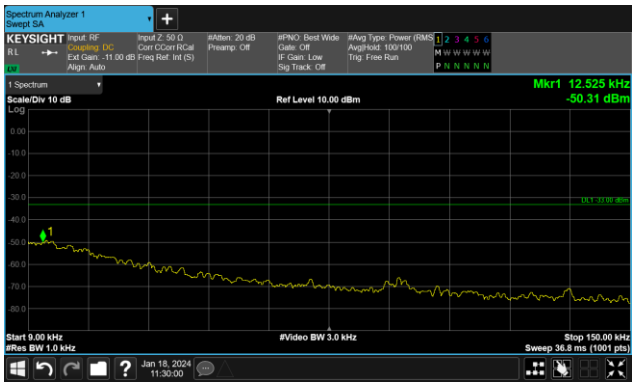
Band4-1738-1000~20000MHz



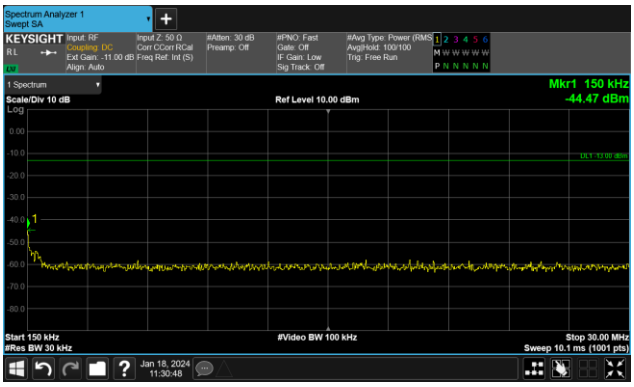
Band5-4357-0.009~0.15MHz



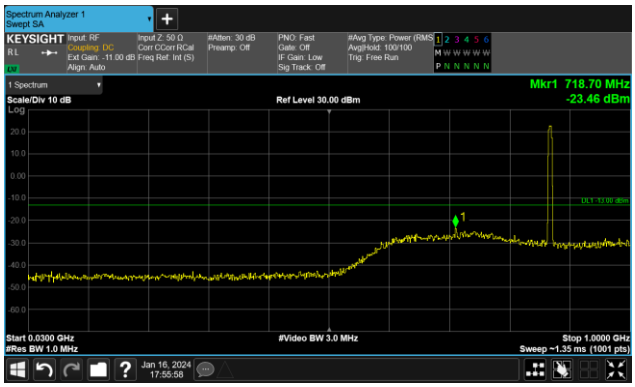
Band5-4357-0.15~30MHz

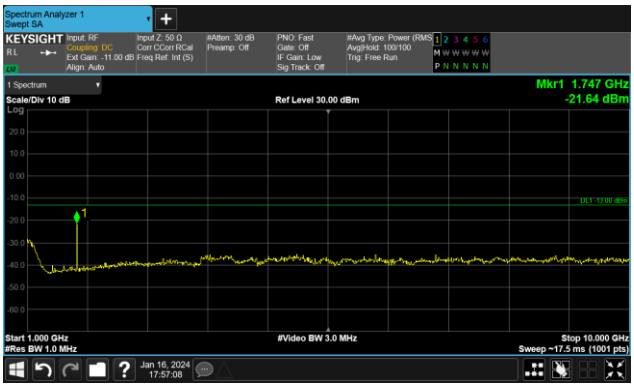


Band5-4357-30~1000MHz

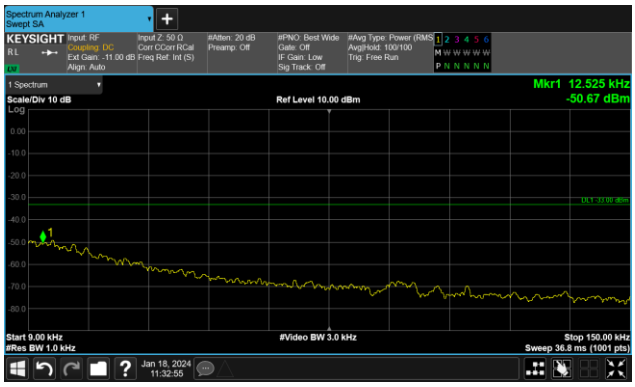


Band5-4357-1000~10000MHz

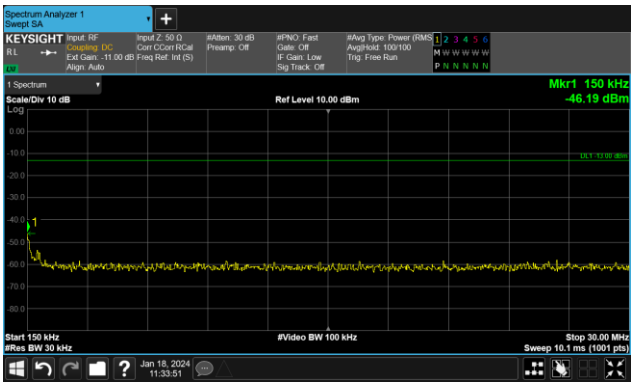




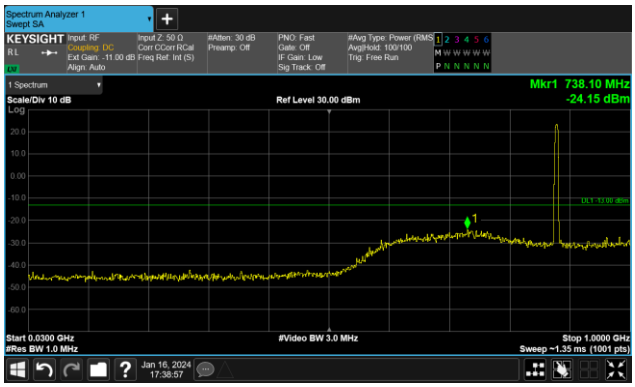
Band5-4408-0.009~0.15MHz



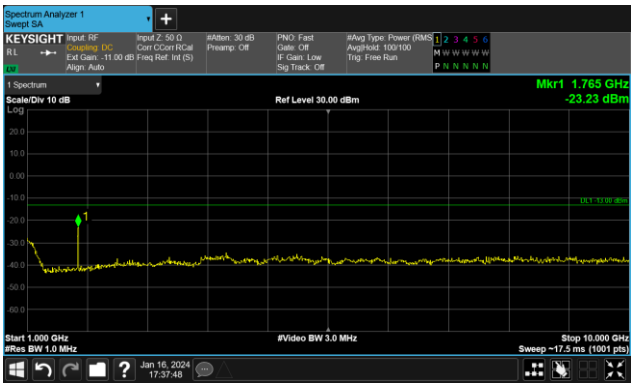
Band5-4408-0.15~30MHz



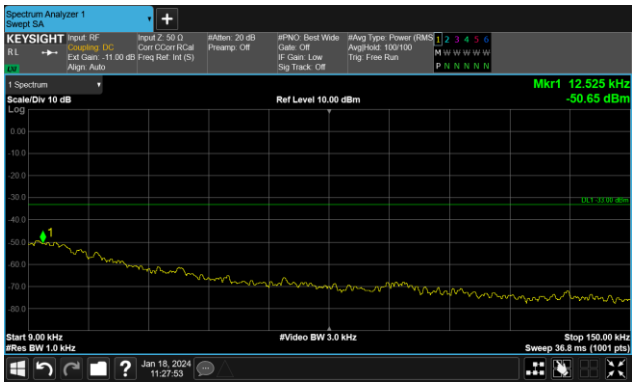
Band5-4408-30~1000MHz



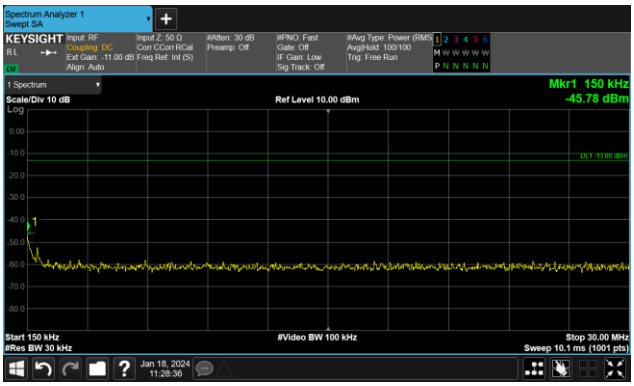
Band5-4408-1000~10000MHz



Band5-4458-0.009~0.15MHz

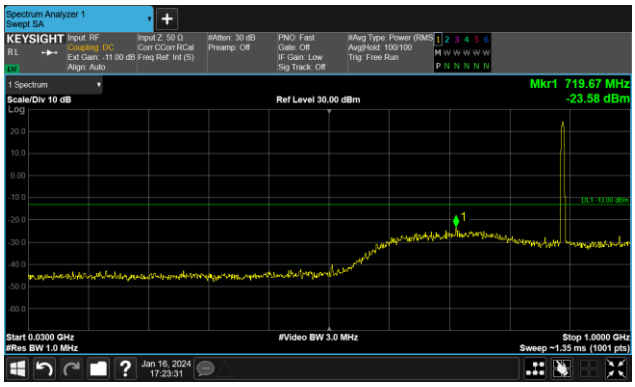


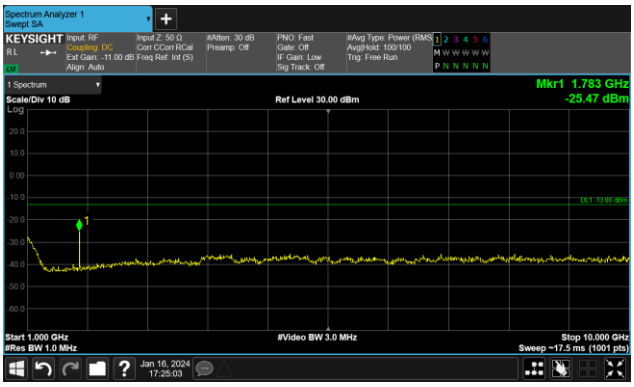
Band5-4458-0.15~30MHz



Band5-4458-30~1000MHz

Band5-4458-1000~10000MHz


Spectrum Analyzer 1
Swept SA
KEYSIGHT
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
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Mkr1 719.67 MHz
-23.58 dBm
Scale/Div 10 dB
Ref Level 30.00 dBm
Log
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
17:23:31


Spectrum Analyzer 1
Swept SA
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
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Mkr1 1.783 GHz
-25.47 dBm
Scale/Div 10 dB
Ref Level 30.00 dBm
Log
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
17:25:03

AppendixF:Frequency Stability

Test Result

Reference Frequency: WCDMA BAND V 12.2k RMC Middle channel=4408 Frequency=2132.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
15.0	-30	-11.45	-0.0129877	±2.5	Pass
	-20	-13.17	-0.0149387		
	-10	-10.17	-0.0115358		
	0	-12.99	-0.0147346		
	10	-11.33	-0.0128516		
	20	-12.94	-0.0146779		
	30	-12.94	-0.0146779		
	40	-10.57	-0.0119896		
	50	-12.82	-0.0145417		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	10.0	-12.44	-0.014111	±2.5	Pass
	15.0	-11.99	-0.013600		
	22.0	-13.64	-0.015472		
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=1732.6MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
15.0	-30	-13.78	-0.0064616	Within authorized band for BAND IV	Pass
	-20	-15.38	-0.0072119		
	-10	-13.12	-0.0061521		
	0	-11.56	-0.0054206		
	10	-15.58	-0.0073056		
	20	-13.16	-0.0061709		
	30	-13.58	-0.0063678		
	40	-12.09	-0.0056691		
	50	-11.86	-0.0055613		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	10.0	-13.18	-0.006180	Within authorized band for BAND IV	Pass
	15.0	-15.35	-0.007198		
	22.0	-12.21	-0.005725		
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		
15.0	-30	-15.83	-0.0074229	Within authorized band for BAND II	Pass
	-20	-15.27	-0.0071603		
	-10	-14.19	-0.0066538		
	0	-15.51	-0.0072728		
	10	-15.62	-0.0073244		
	20	-12.8	-0.0060021		
	30	-15.61	-0.0073197		
	40	-14.98	-0.0070243		
	50	-12.32	-0.0057770		
Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	10.0	-11.92	-0.005589	Within authorized band for BAND II	Pass
	15.0	-12.32	-0.005777		
	22.0	-14.72	-0.006902		
Remark: All channel had been tested, but only the worst case data displayed in this report.					