

**CFR 47 FCC PART 22 H  
CFR 47 FCC PART 24 E  
CFR 47 FCC PART 27**

**TEST REPORT**

*For*

**Smart POS**

**MODEL NUMBER: D60**

**FCC ID: 2AGQ6-D60**

**REPORT NUMBER: 4790950508-1-RF-7**

**ISSUE DATE: October 22, 2023**

*Prepared for*

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
<u>V0</u>	<u>October 22, 2023</u>	<u>Initial Issue</u>	<u>\</u>

## Note:

1. This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
2. The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 22 H >< CFR 47 FCC PART 24 E>< CFR 47 FCC PART 27> when < Simple Acceptance > decision rule is applied.

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## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: Dspread Technology (Beijing) Inc  
Address: Rm.407, B12C, #10(Universal Business Park), Jiuxianqiao Road, Chaoyang District, Beijing, 100015, China

### Manufacturer Information

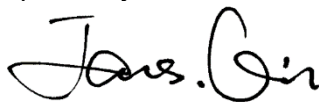
Company Name: Dspread Technology (Beijing) Inc  
Address: Rm.407, B12C, #10(Universal Business Park), Jiuxianqiao Road, Chaoyang District, Beijing, 100015, China

### EUT Information

EUT Name: Smart POS  
Model: D60  
Sample Received Date: August 2, 2023  
Sample Status: Normal  
Sample ID: 6327587  
Date of Tested: August 12, 2023 to October 12, 2023

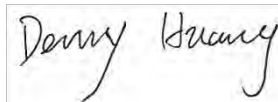
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 FCC PART 22 H	PASS
CFR 47 FCC PART 24 E	PASS
CFR 47 FCC PART 27	PASS

Prepared By:



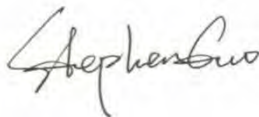
James Qin  
Project Engineer

Checked By:



Denny Huang  
Senior Project Engineer

Approved By:



Stephen Guo  
Operations Manager

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.26-2015, 971168 D01 Power Meas License Digital Systems v03r01, 971168 D02 Misc Rev Approv License Devices v02r01, 412172 D01 v01r01 Determining ERP and EIRP, CFR 47 FCC Part 2, Part 22 H, Part 24 E, Part 27.

## 3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p><b>A2LA (Certificate No.: 4102.01)</b>                  UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p><b>FCC (FCC Designation No.: CN1187)</b>                  UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p><b>ISED (Company No.: 21320)</b>                  UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.</p> <p><b>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</b>                  UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793.                  Facility Name:                  Chamber D, the VCCI registration No. is G-20019 and R-20004                  Shielding Room B , the VCCI registration No. is C-20012 and T-20011</p>
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Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.62 dB
Radiated Emission (Included Fundamental Emission) (9 kHz ~ 30 MHz)	2.2 dB
Radiated Emission (Included Fundamental Emission) (30 MHz ~ 1 GHz)	4.00 dB
Radiated Emission (Included Fundamental Emission) (1 GHz to 40 GHz)	5.78 dB (1 GHz-18 GHz)
	5.23dB (18 GHz-26 GHz)
	5.64 dB (26 GHz-40 GHz)
Bandwidth	1.1 %
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.	

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

EUT Name	Smart POS
Model	D60

### 5.2. TEST CHANNEL CONFIGURATION

Band	Mode	Low	Middle	High
WCDMA Band 2	HSDPA/HSUPA	9262	9400	9538
		1852.4 MHz	1880.0 MHz	1907.6 MHz
WCDMA Band 4	HSDPA/HSUPA	1312	1413	1513
		1712.4 MHz	1732.6 MHz	1752.6 MHz
WCDMA Band 5	HSDPA/HSUPA	4132	4182	4233
		826.4 MHz	836.4 MHz	846.6 MHz



### 5.3. MAXIMUM ERP/EIRP POWER AND EMISSION DESIGNATOR

#### WCDMA Band2

Part 24					
EIRP Limit(W)	2.0				
Antenna Gain (dBi)	1.19				
Mode	Frequency Range (MHz)	Conducted Average power (dBm)	EIRP (W)	99% OBW (MHz)	Emission Designator
REL. 99	1852.4 ~ 1907.6	21.41	0.182	4.187	4M19F9W
HSDPA		20.43	0.145	4.196	4M20F9W
HSUPA		20.39	0.144	4.183	4M18F9W

#### WCDMA Band4

Part 27					
EIRP Limit(W)	1.0				
Antenna Gain (dBi)	0.53				
Mode	Frequency Range (MHz)	Conducted Average power (dBm)	EIRP (W)	99% OBW (MHz)	Emission Designator
REL. 99	1712.4 ~ 1752.6	21.55	0.161	4.185	4M19F9W
HSDPA		20.55	0.128	4.188	4M19F9W
HSUPA		20.68	0.132	4.187	4M19F9W

#### WCDMA Band5

Part 22					
ERP Limit(W)	7.0				
Antenna Gain (dBi)	-0.23				
Mode	Frequency Range (MHz)	Conducted Average power (dBm)	ERP (W)	99% OBW (MHz)	Emission Designator
REL. 99	826.4 ~ 846.6	22.21	0.096	4.185	4M19F9W
HSDPA		21.27	0.077	4.183	4M18F9W
HSUPA		21.27	0.077	4.175	4M18F9W

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#### **5.4. WORST-CASE CONFIGURATION AND MODE**

The radiated spurious emissions measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT was investigated in three orthogonal orientations X, Y and Z. It was determined that X orientation was the worst-case orientation.

Radiated spurious emissions were investigated below 30 MHz, 30 MHz - 1 GHz and above 1 GHz. There were no emissions found on below 1GHz and above 18 GHz, the emissions between 1 GHz – 18 GHz were tested at the low, mid, high channel and the worst configuration. Only the worst result is reported.

## 5.5. DESCRIPTION OF AVAILABLE ANTENNAS

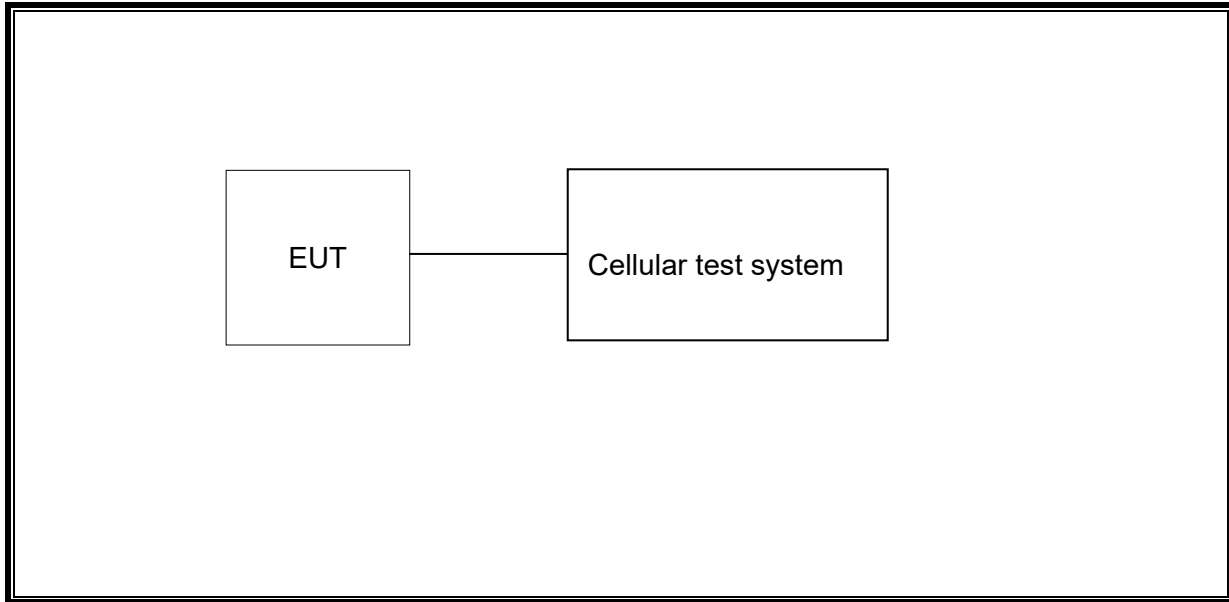
Antenna	Band	Antenna Type	MAX Antenna Gain (dBi)
Main	WCDMA Band 2	FPC	1.19
Main	WCDMA Band 4	FPC	0.53
Main	WCDMA Band 5	FPC	-0.23

Band	Transmit and Receive Mode	Description
WCDMA Band 2	<input checked="" type="checkbox"/> 1TX, 2RX	Main antenna can be used as transmitting/receiving antenna, DIV antenna can be used as receiving antenna
WCDMA Band 4	<input checked="" type="checkbox"/> 1TX, 2RX	Main antenna can be used as transmitting/receiving antenna, DIV antenna can be used as receiving antenna
WCDMA Band 5	<input checked="" type="checkbox"/> 1TX, 2RX	Main antenna can be used as transmitting/receiving antenna, DIV antenna can be used as receiving antenna

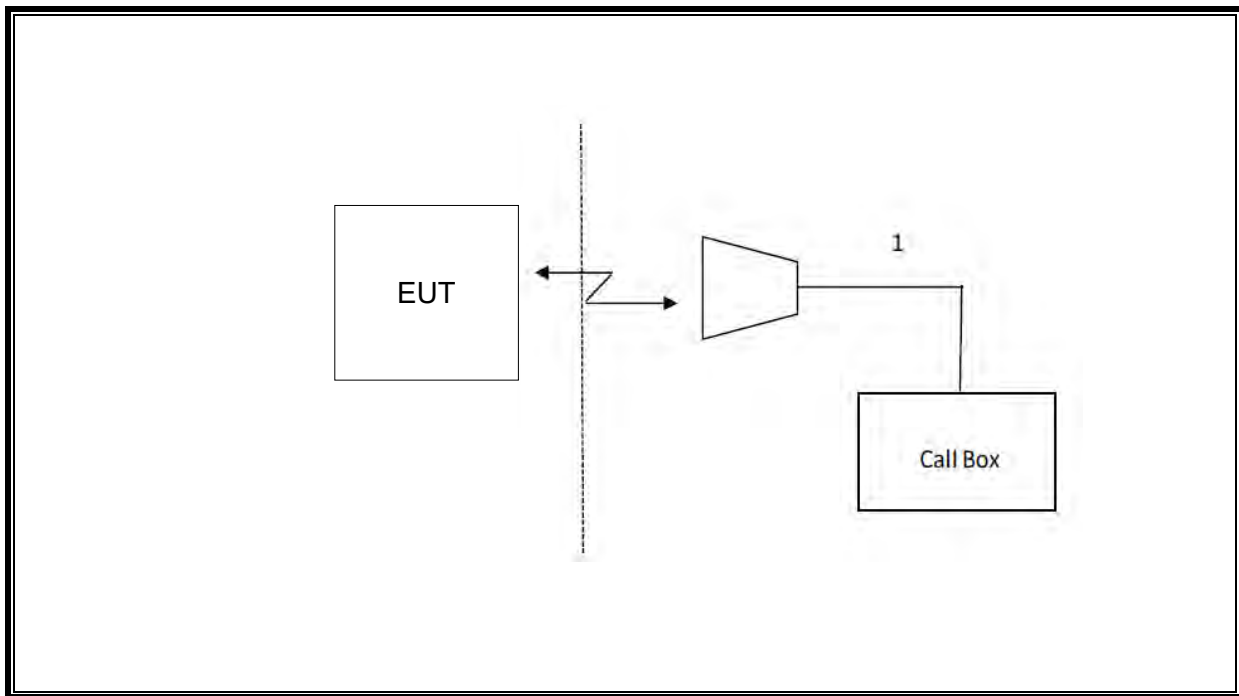
Note: The value of the antenna gain was declared by customer.

### 5.6. DESCRIPTION OF TEST SETUP

Conducted



Radiated



## 6. MEASURING INSTRUMENT AND SOFTWARE USED

Antenna Terminal Test						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	Spectrum Analyzer	R&S	FSV40	S422060001	Oct.17, 2022	Oct.16, 2023
<input checked="" type="checkbox"/>	Wideband Radio Communication Tester	R&S	CMW500	155523	Oct.17, 2022	Oct.16, 2023
<input checked="" type="checkbox"/>	DC Power Supply	Array	3662A	A1512015	Oct.17, 2022	Oct.16, 2023
Software						
Used	Description	Manufacturer	Name	Version		
<input checked="" type="checkbox"/>	Tonsend Cellular Test System	Tonsend	JS1120 RF Auto Test System	3.1.46		
Radiated Test						
Instrument						
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
<input checked="" type="checkbox"/>	MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Oct.17, 2022	Oct.16, 2023
<input checked="" type="checkbox"/>	Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	Aug.02, 2021	Aug.01, 2024
<input checked="" type="checkbox"/>	Preamplifier	HP	8447D	2944A09099	Oct.17, 2022	Oct.16, 2023
<input checked="" type="checkbox"/>	EMI Measurement Receiver	R&S	ESR26	101377	Oct.17, 2022	Oct.16, 2023
<input checked="" type="checkbox"/>	Horn Antenna	TDK	HRN-0118	130940	July 20, 2021	July 19, 2024
<input checked="" type="checkbox"/>	Horn Antenna	Schwarzbeck	BBHA9170	697	July 20, 2021	July 19, 2024
<input checked="" type="checkbox"/>	Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct.17, 2022	Oct.16, 2023
<input checked="" type="checkbox"/>	Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct.17, 2022	Oct.16, 2023
<input checked="" type="checkbox"/>	Loop antenna	Schwarzbeck	1519B	00008	Dec.14, 2021	Dec.13, 2024
<input checked="" type="checkbox"/>	High Pass Filter	Wi	WHKX10-2700-3000-18000-40SS	23	Oct.17, 2022	Oct.16, 2023
Software						
Used	Description	Manufacturer	Name	Version		
<input checked="" type="checkbox"/>	Test Software for Radiated disturbance	Farad	EZ-EMC	Ver. UL-3A1		

## 7. ANTENNA TERMINAL TEST RESULTS

### 7.1. EFFECTIVE (ISOTROPIC) RADIATED POWER OF TRANSMITTER

#### RULE PART(S)

FCC: §2.1046, §22.913, §24.232, §27.50

#### LIMITS

22.913(a) The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50(c) Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

27.50(d) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watts EIRP.

27.50(h) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

#### TEST PROCEDURE

Refer to ANSI C63.26:2015 and KDB 971168 D01 Section 5.6

$ERP/ EIRP = P_{Meas} + GT - LC$

where:

ERP or EIRP = effective or equivalent isotropically radiated power, respectively (expressed in the same units as  $P_{Meas}$ , typically dBW or dBm);

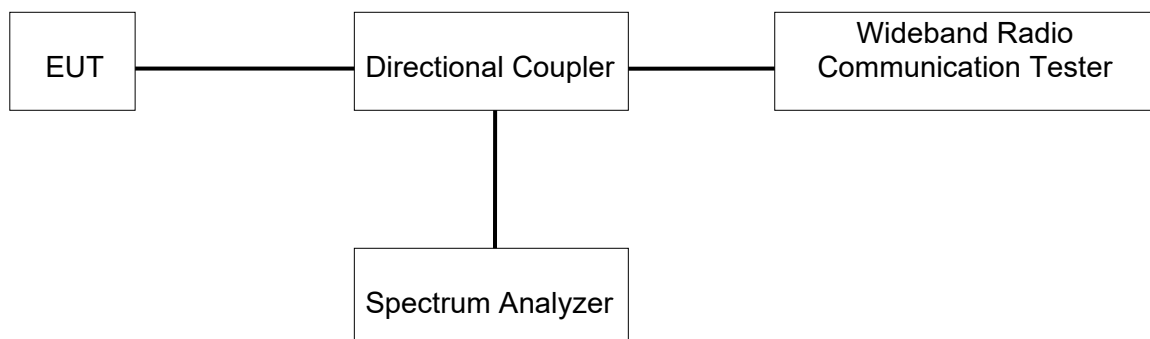
$P_{Meas}$  = measured transmitter output power or PSD, in dBm or dBW;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB

The transmitter has a maximum radiated ERP / EIRP output powers as follows:

#### TEST SETUP



**TEST ENVIRONMENT**

Temperature	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	DC 7.2 V

**RESULTS**

Please refer to Appendix A.

## 7.2. PEAK TO AVERAGE RADIO

### LIMITS

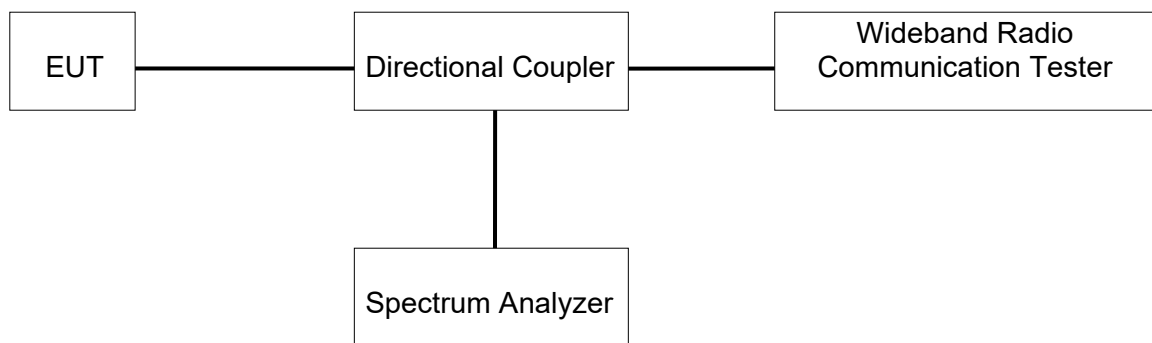
In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

### TEST PROCEDURE

Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01;

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The PAR was measured on the Spectrum Analyzer.

### TEST SETUP



### TEST ENVIRONMENT

Temperature	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	DC 7.2 V

### RESULTS

Middle was used to measure as the worst case. The results from all CCDF plots are passed with 13dB peak-to-average power ratio criteria.

Please refer to Appendix B.



### 7.3. OCCUPIED BANDWIDTH

#### RULE PART(S)

FCC: §2.1049

#### LIMITS

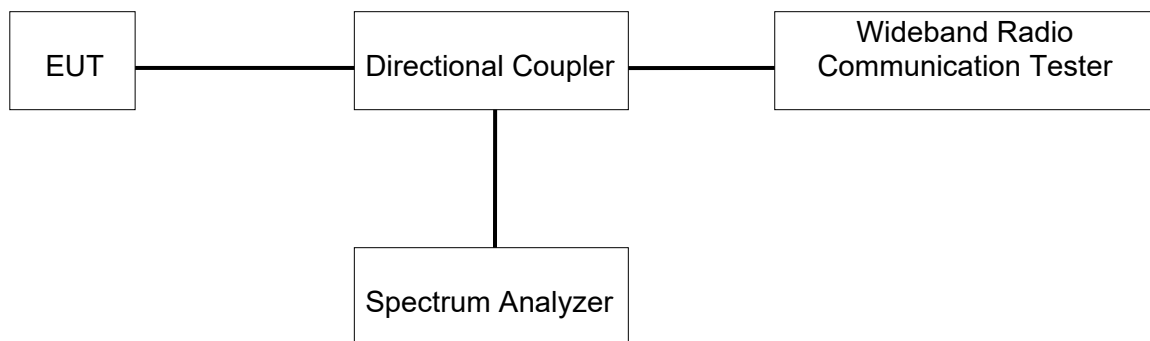
For reporting purposes only.

#### TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

(Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01)

#### TEST SETUP



#### TEST ENVIRONMENT

Temperature	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	DC 7.2 V

#### RESULTS

There is no limit required and power is the same for low, middle and high channel, therefore, only middle channel was tested.

Please refer to Appendix C.

## 7.4. BAND EDGE EMISSIONS

### RULE PART(S)

FCC §2.1051, §22.917, §24.238, §27.53

### LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

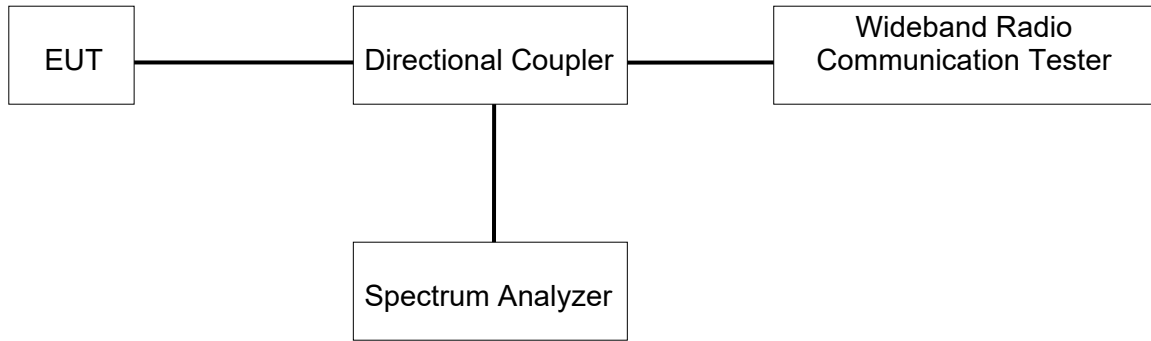
### TEST PROCEDURE

Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

- a) Set the RBW = 1 ~ 1.5 % of OBW (Typically limited to a minimum RBW of 1% of the OBW)
- b) Set VBW  $\geq 3 \times$  RBW;
- c) Set span  $\geq 1.5$  times the OBW;
- d) Sweep time = Auto;
- e) Detector = RMS;
- f) Ensure that the number of measurement points  $\geq 2 \times$  Span/RBW;
- g) Trace mode = Average (100);

## TEST SETUP



## TEST ENVIRONMENT

Temperature	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	DC 7.2 V

## RESULTS

Please refer to Appendix D.

## 7.5. SPURIOUS EMISSION AT ANTENNA TERMINAL

### RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53

### LIMITS

FCC: §22.901, §22.917, §24.238

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

### TEST PROCEDURE

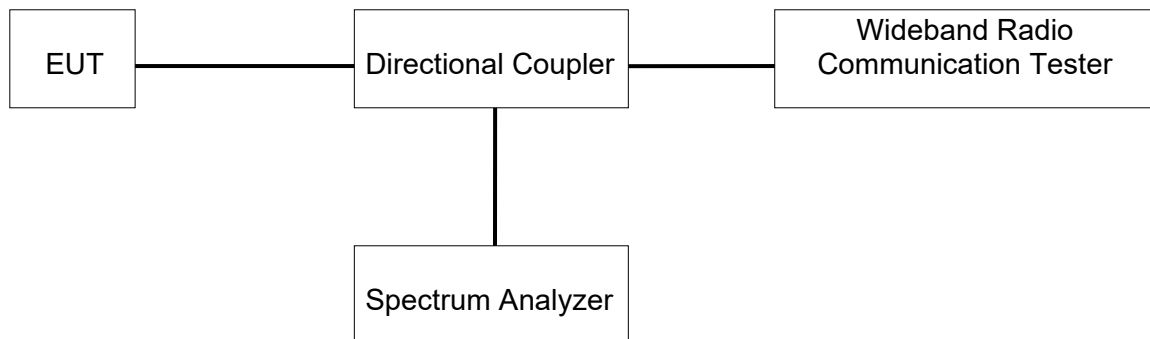
Per KDB 971168 D01 Power Meas License Digital Systems v03r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

- a) Set the RBW = 100 kHz for emission below 1GHz and 1MHz for emissions above 1GHz (Tests were performed 1 MHz [Worst case], to sweep 1 time for all frequency range)
- b) Set VBW  $\geq 3 \times$  RBW;
- c) Set span  $\geq 1.5$  times the OBW;
- d) Sweep time = auto couple;
- e) Detector = rms;
- f) Ensure that the number of measurement points = Max (40001);
- g) Trace mode = average (LTE 5), Maxhold (LTE Band7);

Note: Please refer to section 5.4 for bandwidth and RB setting about LTE bands.

### TEST SETUP



**TEST ENVIRONMENT**

Temperature	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	DC 7.2 V

**RESULTS**

Please refer to Appendix E.

## 7.6. FREQUENCY STABILITY

### Rule Part:

FCC: §2.1055, §22.355, §24.235, §27.54

### LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of  $\pm 2.5$  ppm for mobile stations.

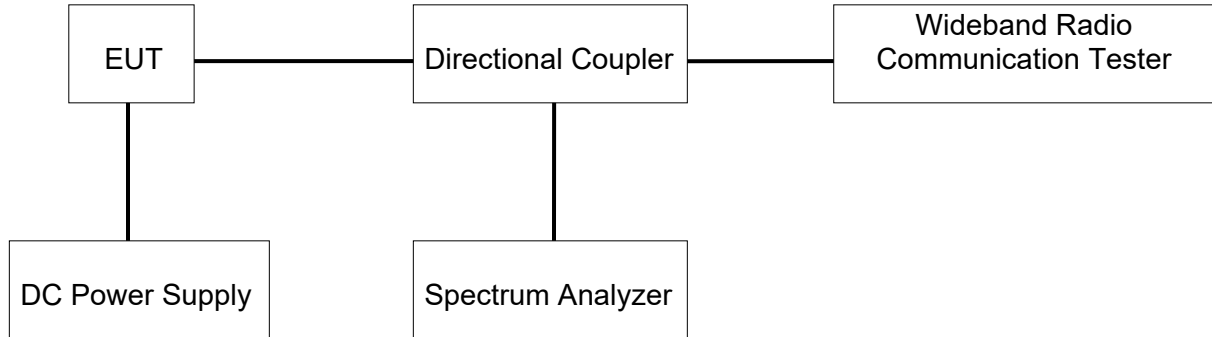
§24.235 and §27.54 - The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

### TEST PROCEDURE

Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

	Normal Test Conditions	Extreme Test Conditions
Relative Humidity	45 % - 75 %	/
Atmospheric Pressure	100 kPa ~102 kPa	/
Temperature	T <sub>N</sub> (Normal Temperature): 24.7 °C	T <sub>L</sub> (Low Temperature): -30 °C
		T <sub>H</sub> (High Temperature): 50 °C
Supply Voltage	V <sub>N</sub> (Normal Voltage): DC 7.2 V	V <sub>L</sub> (Low Voltage): DC 6.1V
		V <sub>H</sub> (High Voltage): DC 8.3 V

### TEST SETUP



### TEST ENVIRONMENT

Temperature	23.2°C	Relative Humidity	52.6%
Atmosphere Pressure	101kPa	Test Voltage	/

### RESULTS

The peak frequency error is recorded (worst-case).

Please refer to Appendix F.

## 8. APPENDIX

### 8.1. AppendixA: Effective (Isotropic) Radiated Power Output Data

#### 8.1.1. Test Result

Band 2		Average Power (dBm)			EIRP (W)		
		9262CH	9400CH	9538CH	9262CH	9400CH	9538CH
WCDMA	12.2kbps RMC	21.27	21.41	21.04	0.176	0.182	0.167
	64kbps RMC	21.13	21.25	20.94	0.171	0.175	0.163
	144kbps RMC	21.13	21.23	20.90	0.171	0.175	0.162
	384kbps RMC	21.12	21.30	20.91	0.170	0.177	0.162
HSDPA	Subtest 1	20.32	20.40	20.06	0.142	0.144	0.133
	Subtest 2	20.07	20.43	20.04	0.134	0.145	0.133
	Subtest 3	20.04	20.42	20.03	0.133	0.145	0.132
	Subtest 4	20.03	20.43	20.04	0.132	0.145	0.133
HSUPA	Subtest 1	18.09	18.45	18.02	0.085	0.092	0.083
	Subtest 2	18.02	18.43	18.03	0.083	0.092	0.084
	Subtest 3	18.02	18.43	18.01	0.083	0.092	0.083
	Subtest 4	18.02	18.42	17.98	0.083	0.091	0.083
	Subtest 5	19.84	20.39	20.02	0.127	0.144	0.132

Band 4		Average Power (dBm)			EIRP (W)		
		1312CH	1413CH	1513CH	1312CH	1413CH	1513CH
WCDMA	12.2kbps RMC	21.32	21.45	21.55	0.153	0.158	0.161
	64kbps RMC	21.14	21.33	21.36	0.147	0.153	0.155
	144kbps RMC	21.15	21.27	21.38	0.147	0.151	0.155
	384kbps RMC	21.19	21.29	21.35	0.149	0.152	0.154
HSDPA	Subtest 1	20.29	20.43	20.54	0.121	0.125	0.128
	Subtest 2	20.55	20.41	20.55	0.128	0.124	0.128
	Subtest 3	20.54	20.41	20.51	0.128	0.124	0.127
	Subtest 4	20.52	20.38	20.53	0.127	0.123	0.128
HSUPA	Subtest 1	18.45	18.58	18.68	0.079	0.081	0.083
	Subtest 2	18.68	18.60	18.69	0.083	0.082	0.084
	Subtest 3	18.69	18.57	18.71	0.084	0.081	0.084
	Subtest 4	18.69	18.58	18.69	0.084	0.081	0.084
	Subtest 5	20.40	20.53	20.68	0.124	0.128	0.132



Band 5		Average Power (dBm)			ERP (W)		
		4132CH	4183CH	4233CH	4132CH	4183CH	4233CH
WCDMA	12.2kbps RMC	21.94	22.11	22.21	0.090	0.094	0.096
	64kbps RMC	21.82	21.92	22.11	0.088	0.090	0.094
	144kbps RMC	21.84	21.99	22.11	0.088	0.091	0.094
	384kbps RMC	21.82	21.92	22.08	0.088	0.090	0.093
HSDPA	Subtest 1	20.94	21.17	21.25	0.072	0.076	0.077
	Subtest 2	21.23	21.15	21.24	0.077	0.075	0.077
	Subtest 3	21.27	21.14	21.24	0.077	0.075	0.077
	Subtest 4	21.25	21.16	21.25	0.077	0.076	0.077
HSUPA	Subtest 1	19.53	19.20	19.32	0.052	0.048	0.049
	Subtest 2	19.35	19.19	19.31	0.050	0.048	0.049
	Subtest 3	19.29	19.20	19.31	0.049	0.048	0.049
	Subtest 4	19.32	19.19	19.32	0.049	0.048	0.049
	Subtest 5	20.98	21.19	21.27	0.072	0.076	0.077

## 8.2. AppendixB:Peak-to-Average Ratio

### 8.2.1. Test Result

REL99:

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9400	3.04	13	PASS
Band4	1413	3.1	13	PASS
Band5	4182	3.06	13	PASS

HSDPA:

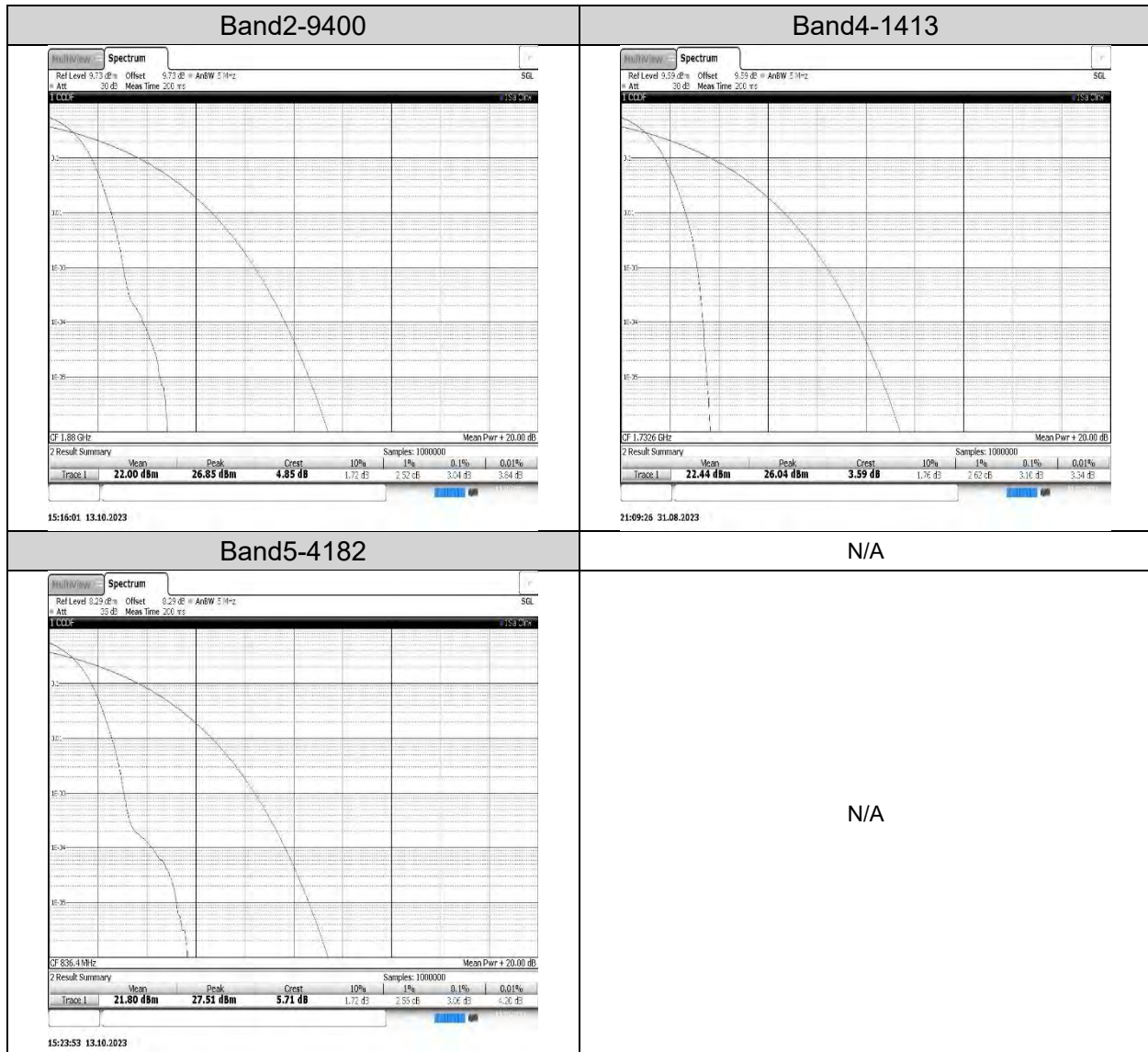
Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9400	4	3.96	13	PASS
Band4	1413	4	4.02	13	PASS
Band5	4182	4	3.92	13	PASS

HSUPA:

Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band2	9400	5	4.16	13	PASS
Band4	1413	5	4.32	13	PASS
Band5	4182	5	4.2	13	PASS

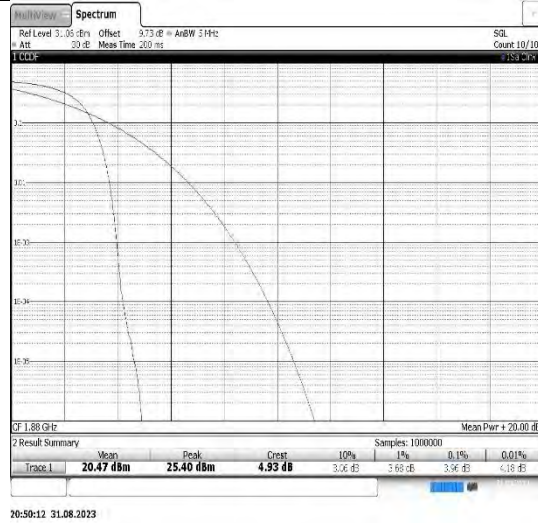
### 8.2.1. Test Graphs

REL99:

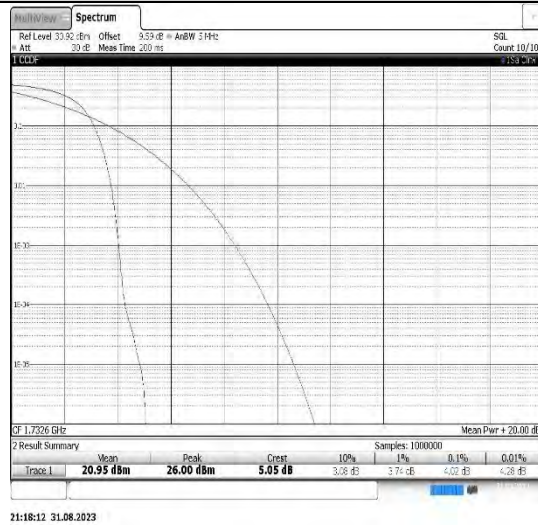


HSDPA:

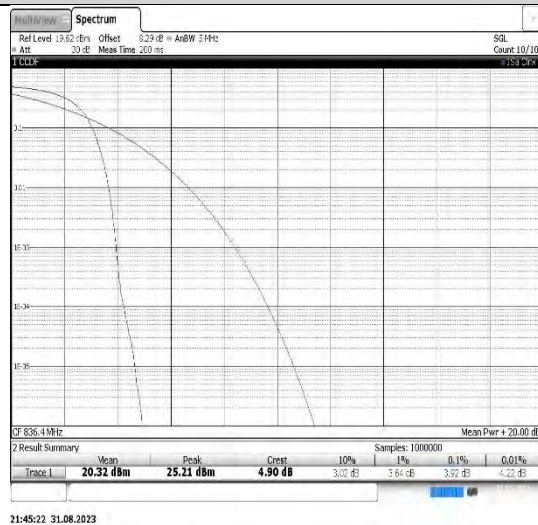
**Band2-9400-4**



**Band4-1413-4**

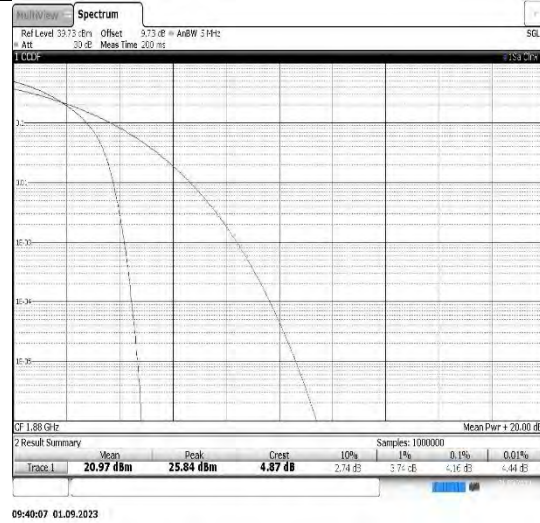


**Band5-4182-4**

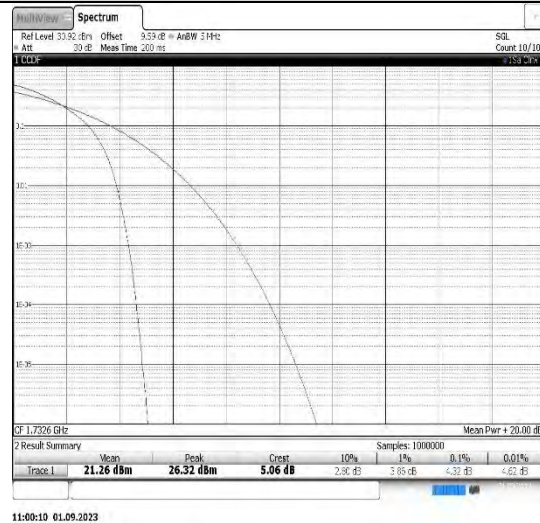


HSUPA:

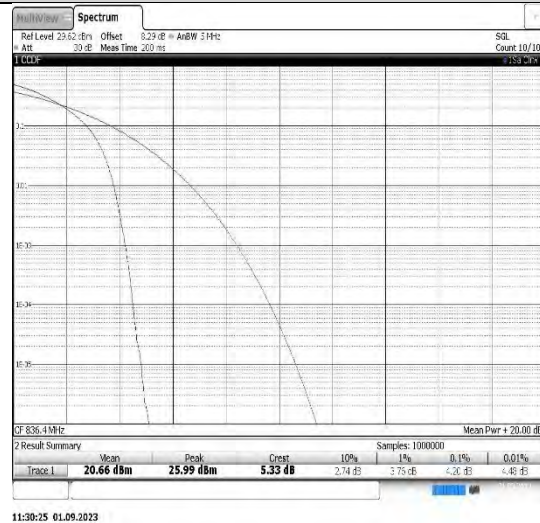
**Band2-9400-5**



**Band4-1413-5**



**Band5-4182-5**



### 8.3. AppendixC:26dB Bandwidth and Occupied Bandwidth

#### 8.3.1. Test Result

REL99:

Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9400	4.187	4.74	---	PASS
Band4	1413	4.185	4.74	---	PASS
Band5	4182	4.185	4.74	---	PASS

HSDPA:

Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9400	4	4.196	4.74	---	PASS
Band4	1413	4	4.188	4.74	---	PASS
Band5	4182	4	4.183	4.71	---	PASS

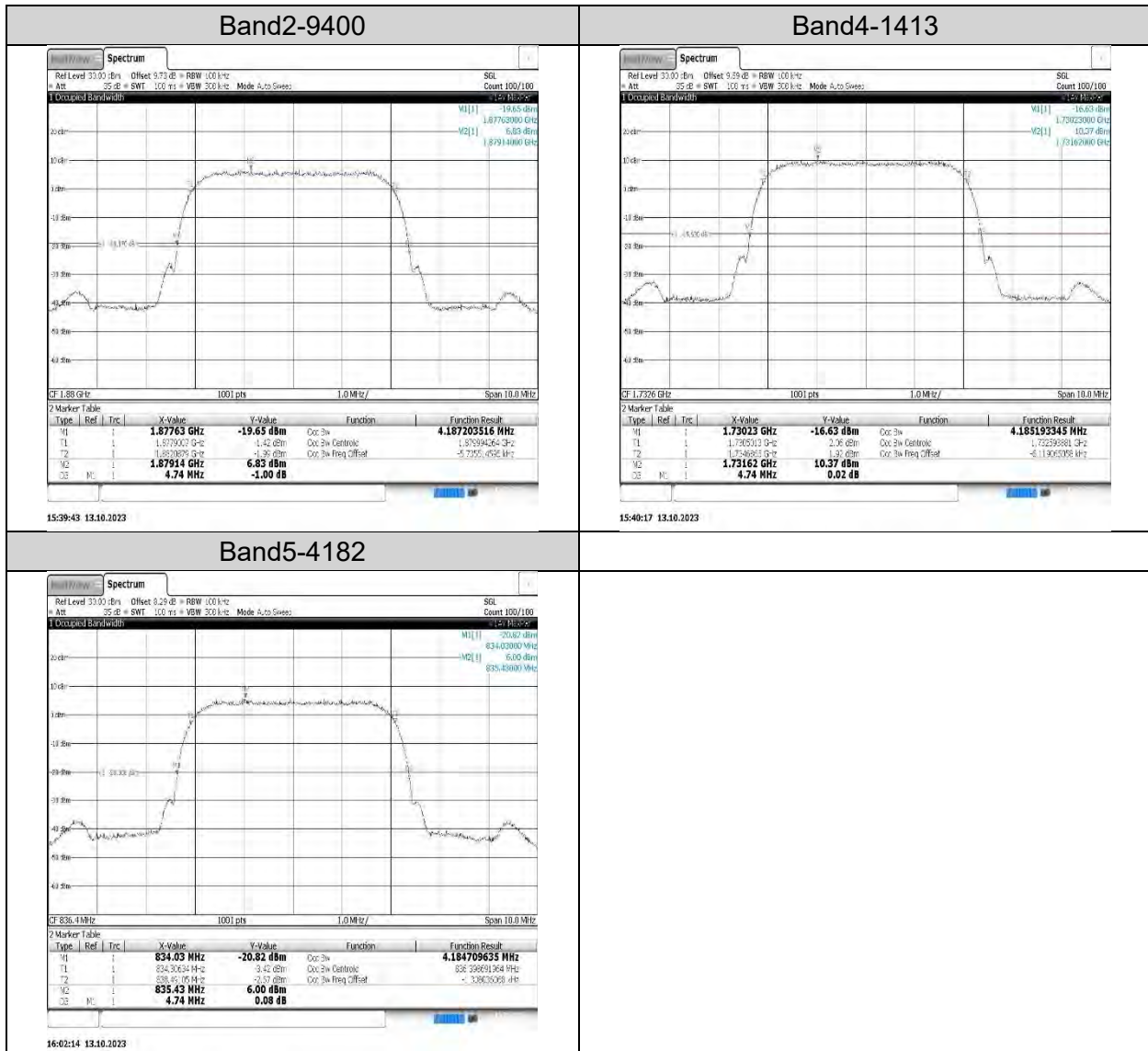
HSUPA:

Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band2	9400	5	4.183	4.73	---	PASS
Band4	1413	5	4.187	4.73	---	PASS
Band5	4182	5	4.175	4.74	---	PASS

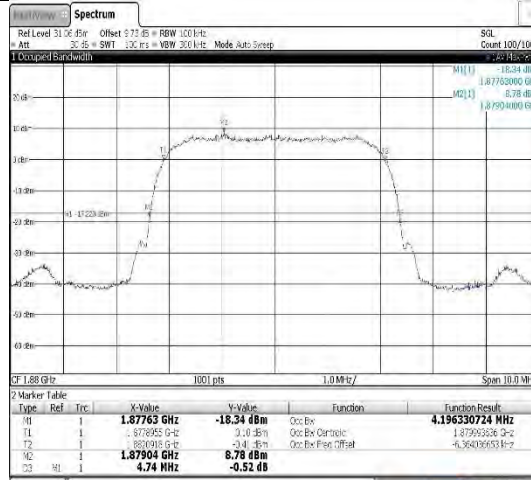


### 8.3.2. Test Graphs

REL99:



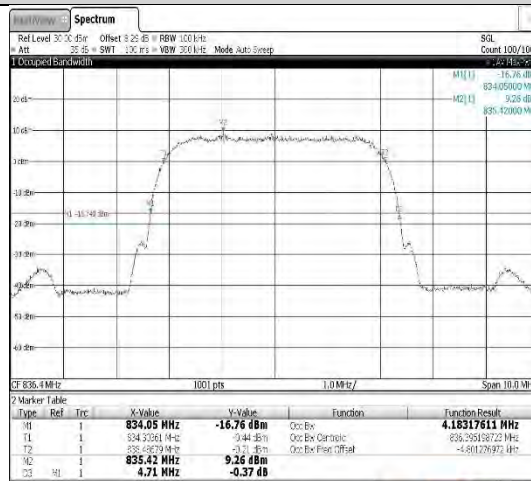
HSDPA:

**Band2-9400-4**


21:02:35 31.08.2023

**Band4-1413-4**


15:41:20 13.10.2023

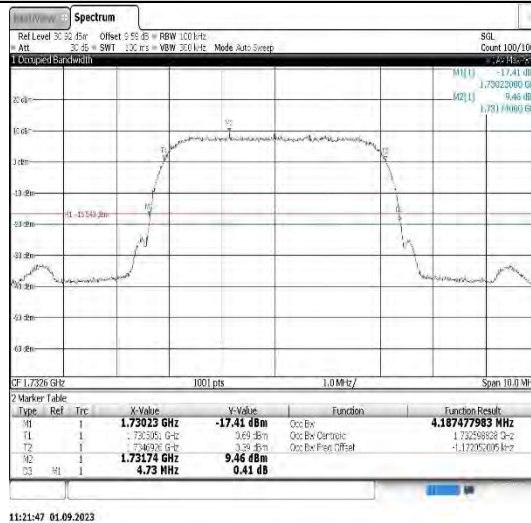
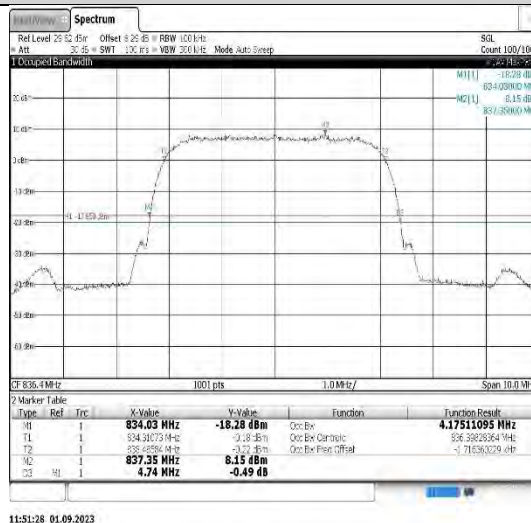
**Band5-4182-4**


15:42:29 13.10.2023



HSUPA:

**Band2-9400-5**

**Band4-1413-5**

**Band5-4182-5**


## 8.4. AppendixD:Band Edge

### 8.4.1. Test Result

REL99:

Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1850.00	-30.87	-13	PASS
Band2	9538	1910.00	-34.93	-13	PASS
Band4	1312	1709.93	-36.26	-13	PASS
Band4	1513	1755.00	-33.10	-13	PASS
Band5	4132	824.00	-36.73	-13	PASS
Band5	4233	849.00	-33.82	-13	PASS

HSDPA:

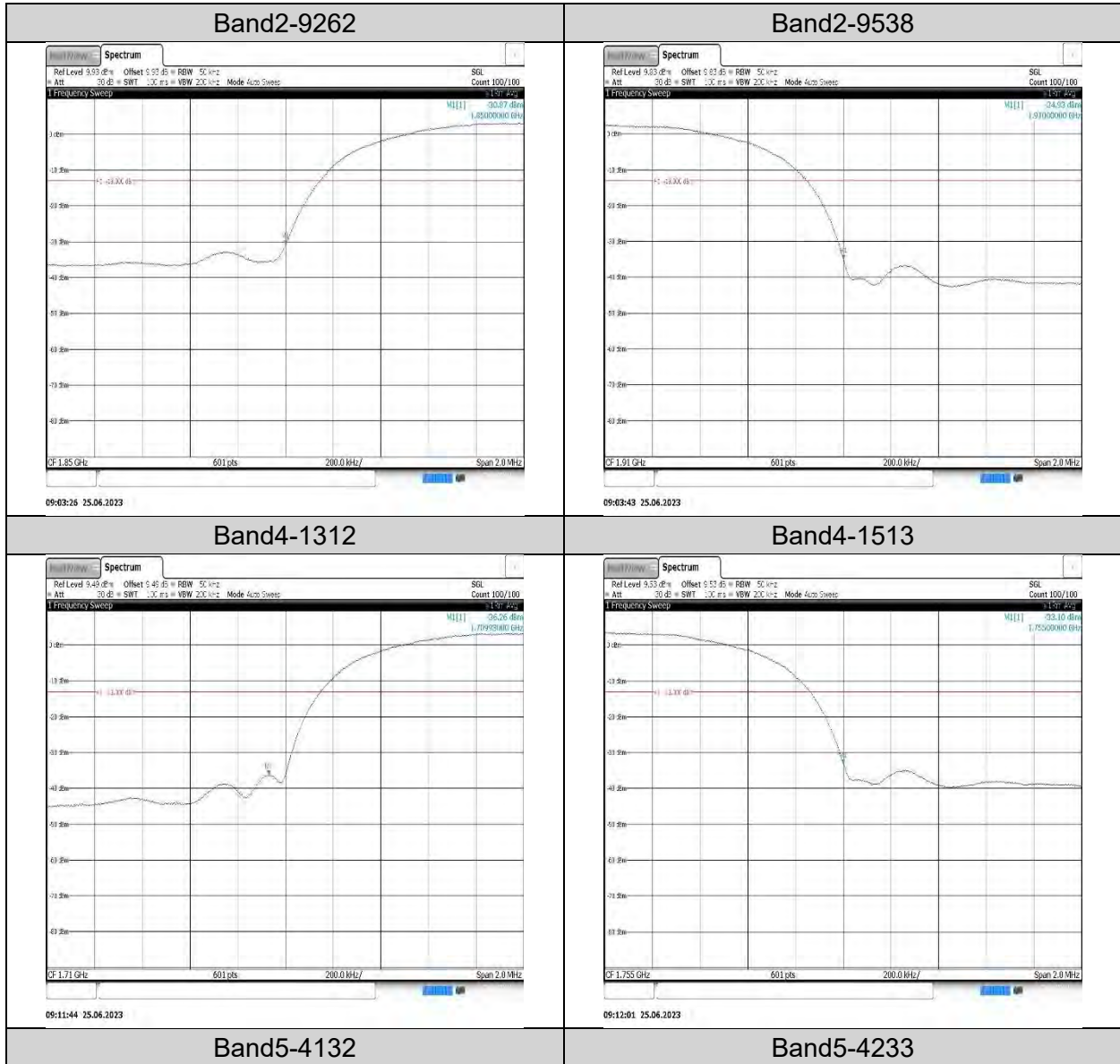
Band	Channel	SubTest	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	4	1849.92	-31.21	-13	PASS
Band2	9538	4	1910.07	-34.94	-13	PASS
Band4	1312	4	1710.00	-38.57	-13	PASS
Band4	1513	4	1755.08	-36.11	-13	PASS
Band5	4132	4	823.94	-35.8	-13	PASS
Band5	4233	4	849.00	-36.22	-13	PASS

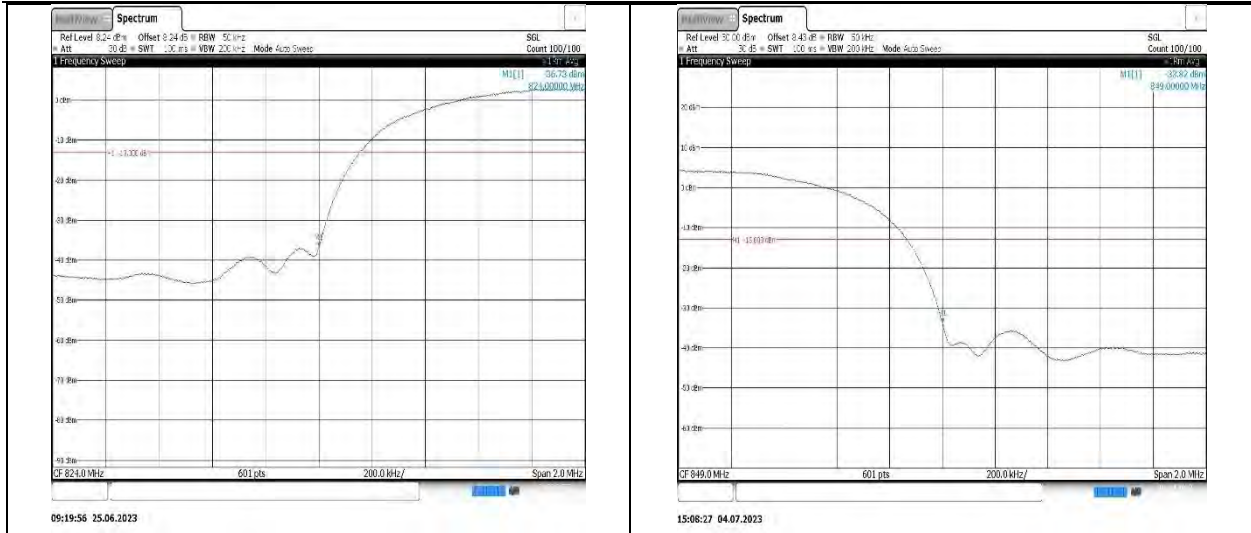
HSUPA:

Band	Channel	SubTest	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	5	1850.00	-29.93	-13	PASS
Band2	9538	5	1910.00	-34.9	-13	PASS
Band4	1312	5	1709.93	-37.72	-13	PASS
Band4	1513	5	1755.07	-36.21	-13	PASS
Band5	4132	5	823.94	-37.05	-13	PASS
Band5	4233	5	849.00	-36.36	-13	PASS

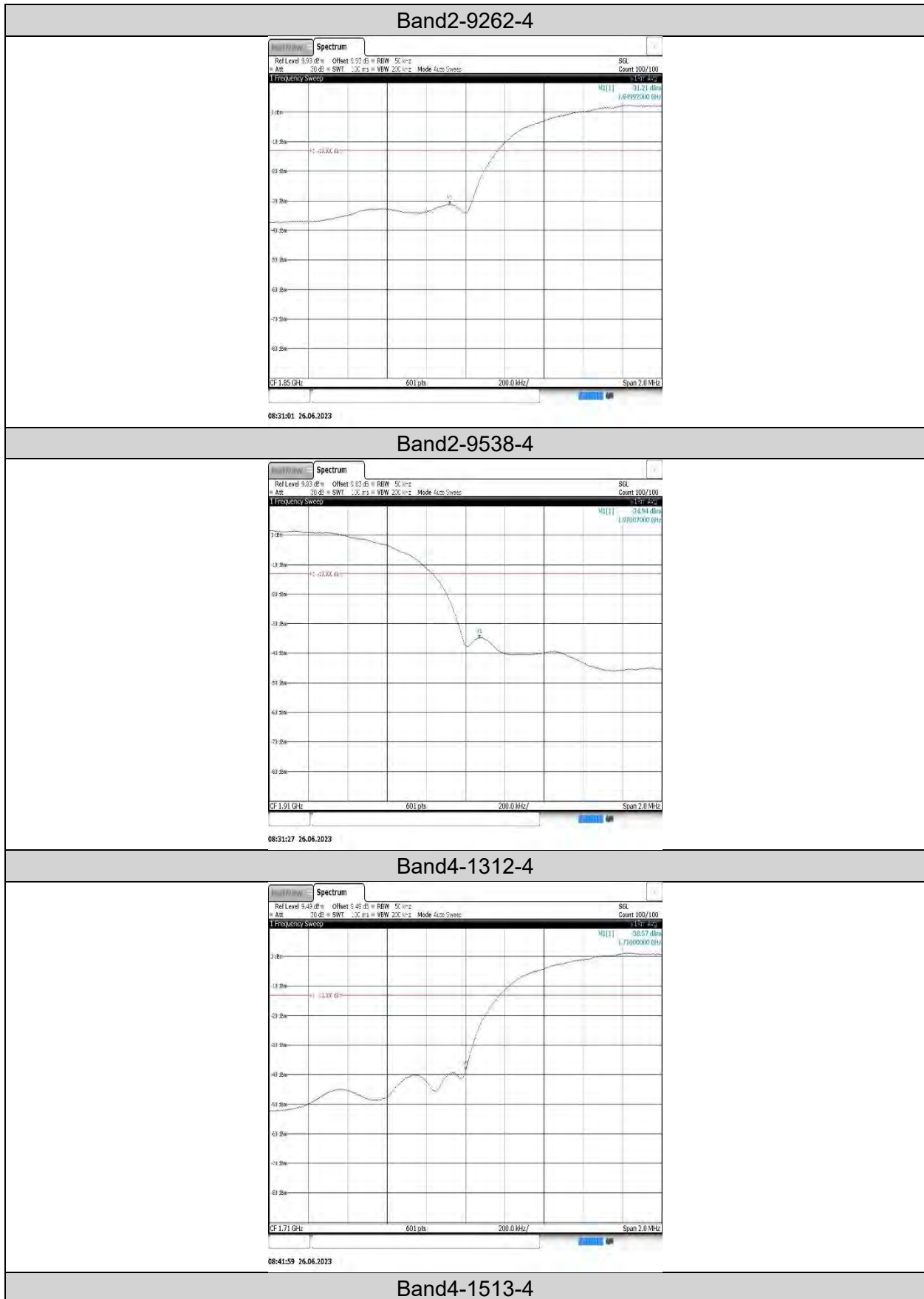
### 8.4.2. Test Graphs

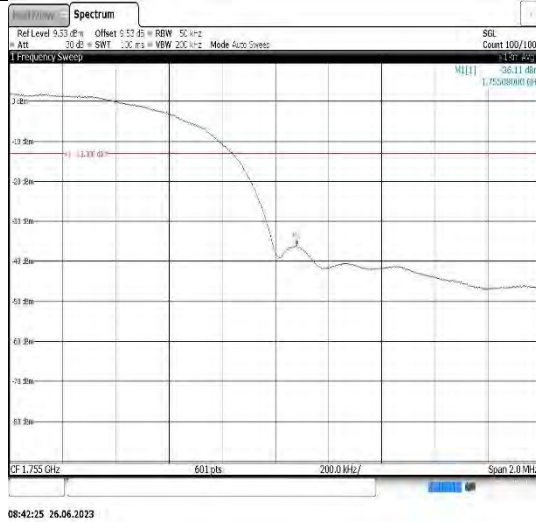
REL99:





HSDPA:





Band5-4132-4

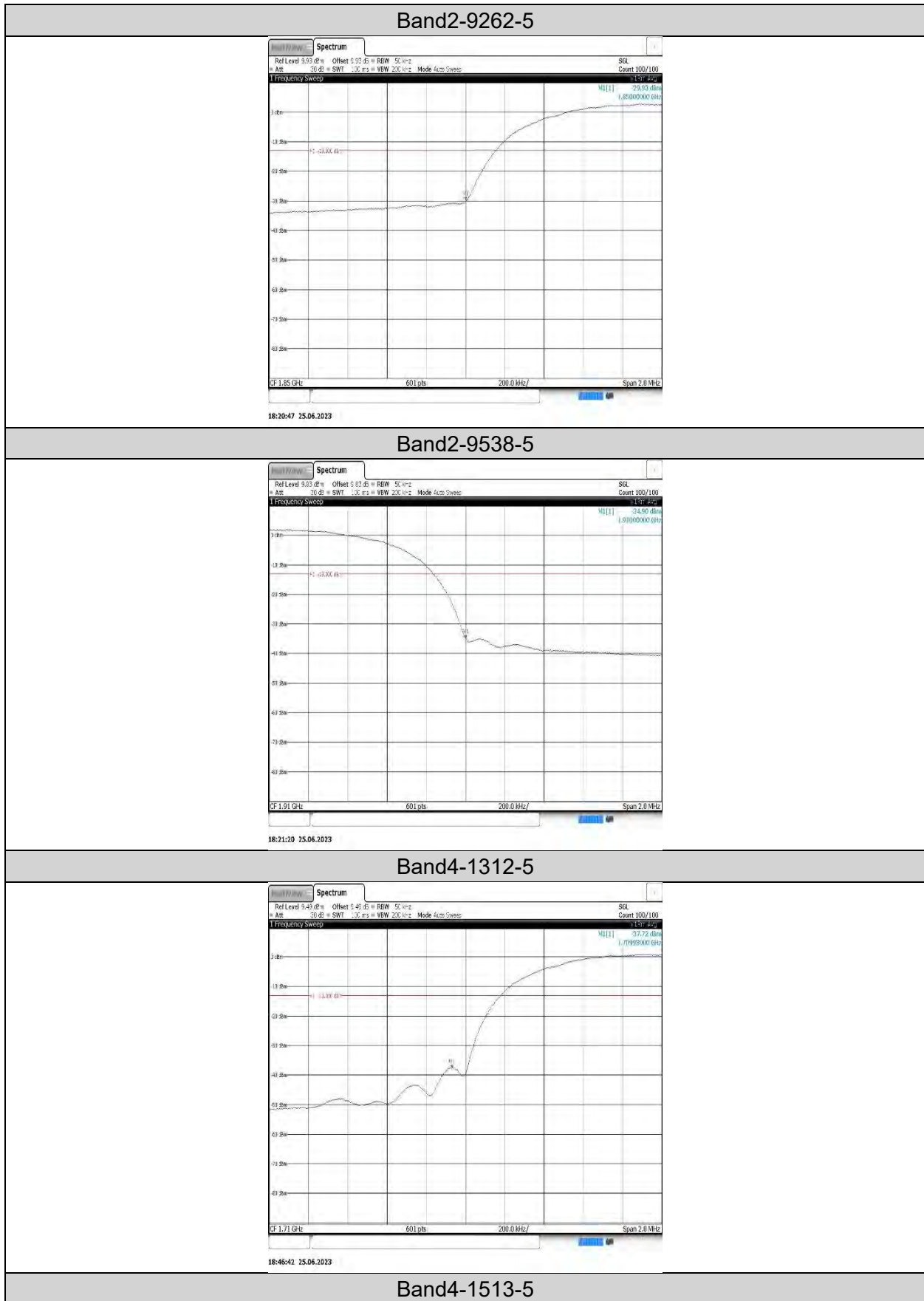


Band5-4233-4



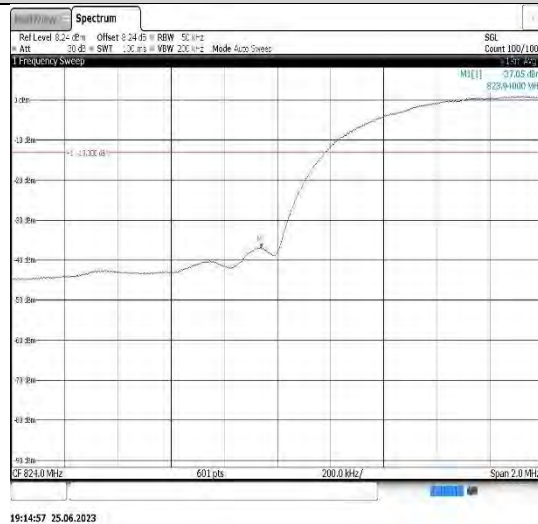


HSUPA:





**Band5-4132-5**



**Band5-4233-5**





## 8.5. AppendixE:Conducted SpuriousEmission

### 8.5.1. Test Result

REL99:

Band	Channel	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	0.009~0.15MHz	0.02	-86.84	-43	PASS
Band2	9262	0.15~30MHz	26.22	-68.99	-23	PASS
Band2	9262	30~1000MHz	915.89	-44.52	-13	PASS
Band2	9262	1000~20000MHz	7855.2	-36.91	-13	PASS
Band2	9400	0.009~0.15MHz	0.01	-84.97	-43	PASS
Band2	9400	0.15~30MHz	0.31	-67.98	-23	PASS
Band2	9400	30~1000MHz	848.57	-44.93	-13	PASS
Band2	9400	1000~20000MHz	7988.2	-37.04	-13	PASS
Band2	9538	0.009~0.15MHz	0.01	-86.34	-43	PASS
Band2	9538	0.15~30MHz	12.21	-67.99	-23	PASS
Band2	9538	30~1000MHz	919.87	-45.25	-13	PASS
Band2	9538	1000~20000MHz	7102.17	-36.64	-13	PASS
Band4	1312	0.009~0.15MHz	0.01	-86.82	-43	PASS
Band4	1312	0.15~30MHz	0.3	-68.07	-23	PASS
Band4	1312	30~1000MHz	942.11	-45.21	-13	PASS
Band4	1312	1000~20000MHz	7042.63	-37	-13	PASS
Band4	1413	0.009~0.15MHz	0.01	-86.93	-43	PASS
Band4	1413	0.15~30MHz	5.14	-68.69	-23	PASS
Band4	1413	30~1000MHz	547.4	-45.39	-13	PASS
Band4	1413	1000~20000MHz	6922.3	-37.05	-13	PASS
Band4	1513	0.009~0.15MHz	0.01	-86.23	-43	PASS
Band4	1513	0.15~30MHz	9.65	-68.52	-23	PASS
Band4	1513	30~1000MHz	557.94	-45.4	-13	PASS
Band4	1513	1000~20000MHz	7707	-37.54	-13	PASS
Band5	4132	0.009~0.15MHz	0.02	-85.53	-33	PASS
Band5	4132	0.15~30MHz	0.36	-68.17	-13	PASS
Band5	4132	30~1000MHz	681.74	-54.45	-13	PASS
Band5	4132	1000~10000MHz	7156.84	-38.8	-13	PASS
Band5	4182	0.009~0.15MHz	0.01	-85.14	-33	PASS
Band5	4182	0.15~30MHz	11.77	-68.96	-13	PASS
Band5	4182	30~1000MHz	468.6	-54.39	-13	PASS
Band5	4182	1000~10000MHz	7196.14	-38.25	-13	PASS
Band5	4233	0.009~0.15MHz	0.02	-86.28	-33	PASS
Band5	4233	0.15~30MHz	0.45	-67.45	-13	PASS
Band5	4233	30~1000MHz	582.32	-54.48	-13	PASS
Band5	4233	1000~10000MHz	7894.22	-38.97	-13	PASS

HSDPA:

Band	Channel	SubTest	Frequency Range (Mhz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	4	0.15~30MHz	0.3	-68.27	-23	PASS
Band2	9262	4	30~1000MHz	933.8	-45.19	-13	PASS
Band2	9262	4	1000~20000MHz	7997.07	-37.2	-13	PASS
Band2	9262	4	0.009~0.15MHz	0.01	-84.42	-43	PASS
Band2	9400	4	0.009~0.15MHz	0.1	-87.37	-43	PASS
Band2	9400	4	0.15~30MHz	0.3	-67.87	-23	PASS

Band2	9400	4	30~1000MHz	914.34	-45.45	-13	PASS
Band2	9400	4	1000~20000MHz	7967.3	-36.84	-13	PASS
Band2	9538	4	0.009~0.15MHz	0.01	-85.84	-43	PASS
Band2	9538	4	1000~20000MHz	7974.27	-37.67	-13	PASS
Band2	9538	4	0.15~30MHz	1.5	-68.68	-23	PASS
Band2	9538	4	30~1000MHz	962.96	-45.31	-13	PASS
Band4	1312	4	0.009~0.15MHz	0.01	-86.7	-43	PASS
Band4	1312	4	0.15~30MHz	5.09	-68.68	-23	PASS
Band4	1312	4	30~1000MHz	906.8	-44.62	-13	PASS
Band4	1312	4	1000~20000MHz	7019.83	-37.12	-13	PASS
Band4	1413	4	0.15~30MHz	2.9	-67.04	-23	PASS
Band4	1413	4	30~1000MHz	877.09	-45.66	-13	PASS
Band4	1413	4	1000~20000MHz	7993.27	-37.41	-13	PASS
Band4	1413	4	0.009~0.15MHz	0.01	-85.91	-43	PASS
Band4	1513	4	0.009~0.15MHz	0.01	-82.84	-43	PASS
Band4	1513	4	0.15~30MHz	11.02	-68.2	-23	PASS
Band4	1513	4	30~1000MHz	551.08	-45.5	-13	PASS
Band4	1513	4	1000~20000MHz	7152.83	-37.24	-13	PASS
Band5	4132	4	30~1000MHz	945.55	-54.38	-13	PASS
Band5	4132	4	1000~10000MHz	7028.75	-38.07	-13	PASS
Band5	4132	4	0.15~30MHz	0.47	-67.89	-13	PASS
Band5	4132	4	0.009~0.15MHz	0.01	-86.45	-33	PASS
Band5	4182	4	0.15~30MHz	0.69	-68.86	-13	PASS
Band5	4182	4	30~1000MHz	974.23	-54.68	-13	PASS
Band5	4182	4	1000~10000MHz	7086.05	-39.02	-13	PASS
Band5	4182	4	0.009~0.15MHz	0.02	-87.1	-33	PASS
Band5	4233	4	1000~10000MHz	7085.15	-38.94	-13	PASS
Band5	4233	4	0.009~0.15MHz	0.01	-85.51	-33	PASS
Band5	4233	4	0.15~30MHz	3.19	-68.66	-13	PASS
Band5	4233	4	30~1000MHz	467.99	-53.34	-13	PASS

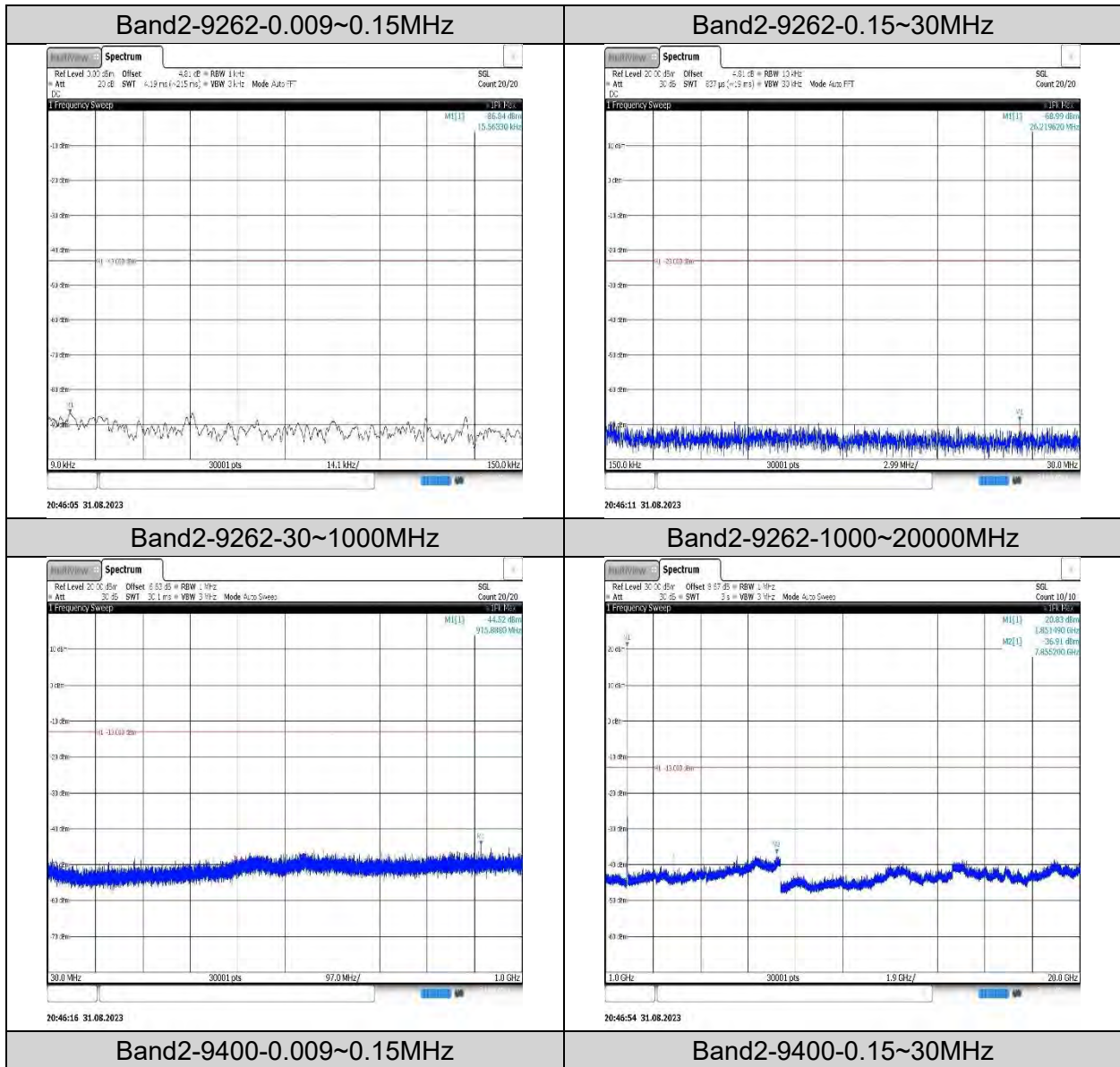
**HSUPA:**

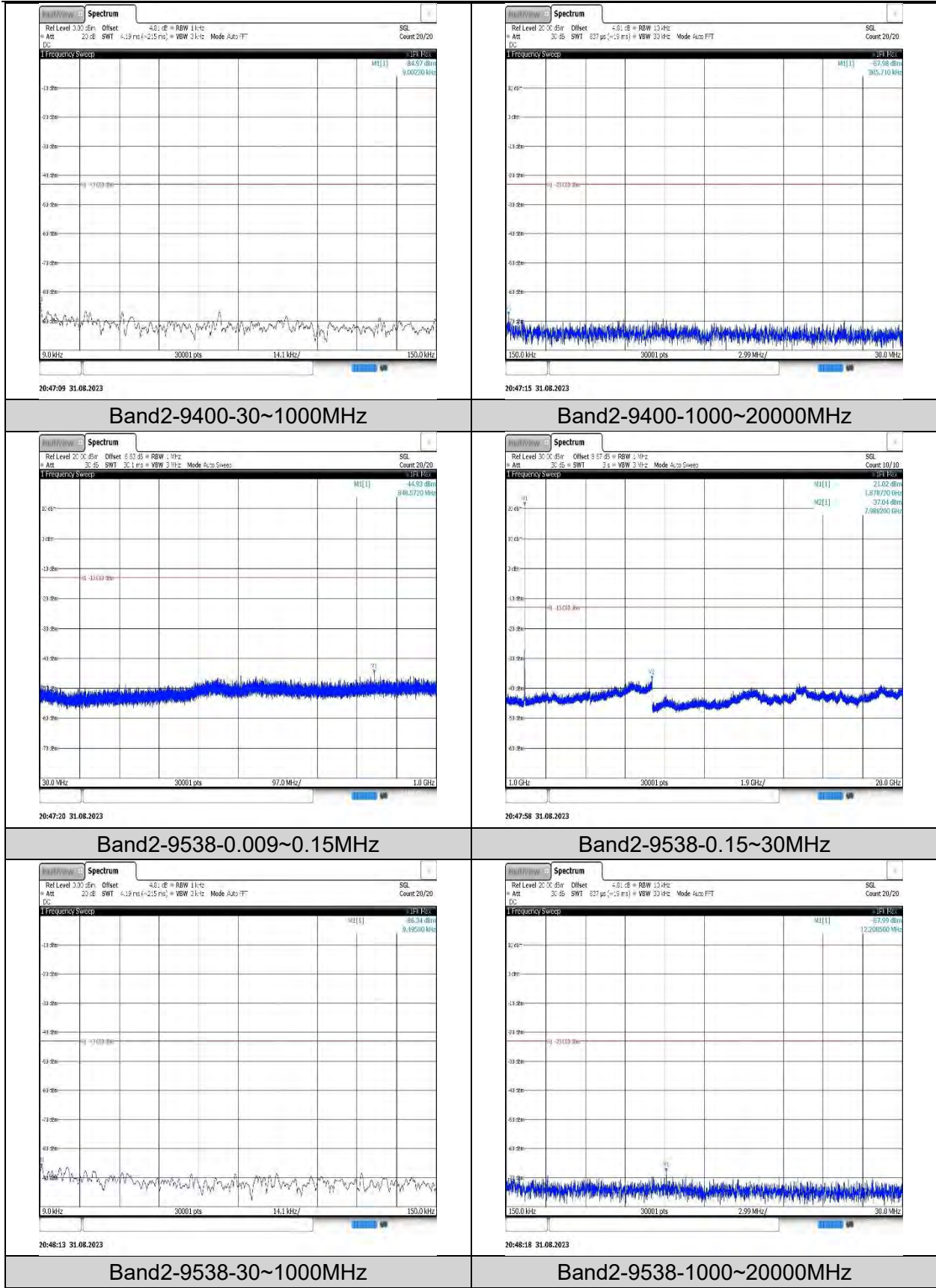
Band	Channel	SubTest	Frequency Range (MHz)	Frequency (dBm)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	5	0.15~30MHz	2.68	-67.53	-23	PASS
Band2	9262	5	30~1000MHz	613.55	-45.61	-13	PASS
Band2	9262	5	1000~20000MHz	3703.07	-36.87	-13	PASS
Band2	9262	5	0.009~0.15MHz	0.01	-86.91	-43	PASS
Band2	9400	5	0.009~0.15MHz	0.01	-85.16	-43	PASS
Band2	9400	5	0.15~30MHz	14.47	-68.87	-23	PASS
Band2	9400	5	30~1000MHz	941.2	-45.12	-13	PASS
Band2	9400	5	1000~20000MHz	7149.67	-36.36	-13	PASS
Band2	9538	5	0.009~0.15MHz	0.01	-86.15	-43	PASS
Band2	9538	5	1000~20000MHz	7099.63	-37.2	-13	PASS
Band2	9538	5	0.15~30MHz	1.1	-68.57	-23	PASS
Band2	9538	5	30~1000MHz	613.16	-45.86	-13	PASS
Band4	1312	5	0.009~0.15MHz	0.01	-85.78	-43	PASS
Band4	1312	5	0.15~30MHz	0.53	-67.67	-23	PASS
Band4	1312	5	30~1000MHz	910.04	-45.67	-13	PASS
Band4	1312	5	1000~20000MHz	7997.07	-36.89	-13	PASS

Band4	1413	5	0.15~30MHz	1.45	-69.21	-23	PASS
Band4	1413	5	30~1000MHz	982.75	-45.56	-13	PASS
Band4	1413	5	1000~20000MHz	7131.93	-36.65	-13	PASS
Band4	1413	5	0.009~0.15MHz	0.01	-87.58	-43	PASS
Band4	1513	5	0.009~0.15MHz	0.01	-85.05	-43	PASS
Band4	1513	5	0.15~30MHz	0.28	-69	-23	PASS
Band4	1513	5	30~1000MHz	971.5	-45.57	-13	PASS
Band4	1513	5	1000~20000MHz	7014.13	-37.27	-13	PASS
Band5	4132	5	30~1000MHz	433.55	-54.68	-13	PASS
Band5	4132	5	1000~10000MHz	7953.92	-38.89	-13	PASS
Band5	4132	5	0.15~30MHz	0.3	-68.11	-13	PASS
Band5	4132	5	0.009~0.15MHz	0.02	-86.63	-33	PASS
Band5	4182	5	0.15~30MHz	6.6	-68.76	-13	PASS
Band5	4182	5	30~1000MHz	498.15	-54.44	-13	PASS
Band5	4182	5	1000~10000MHz	7034.75	-37.75	-13	PASS
Band5	4182	5	0.009~0.15MHz	0.01	-84.73	-33	PASS
Band5	4233	5	1000~10000MHz	7009.25	-39.07	-13	PASS
Band5	4233	5	0.009~0.15MHz	0.01	-85.59	-33	PASS
Band5	4233	5	0.15~30MHz	0.31	-68.15	-13	PASS
Band5	4233	5	30~1000MHz	566.86	-54.63	-13	PASS

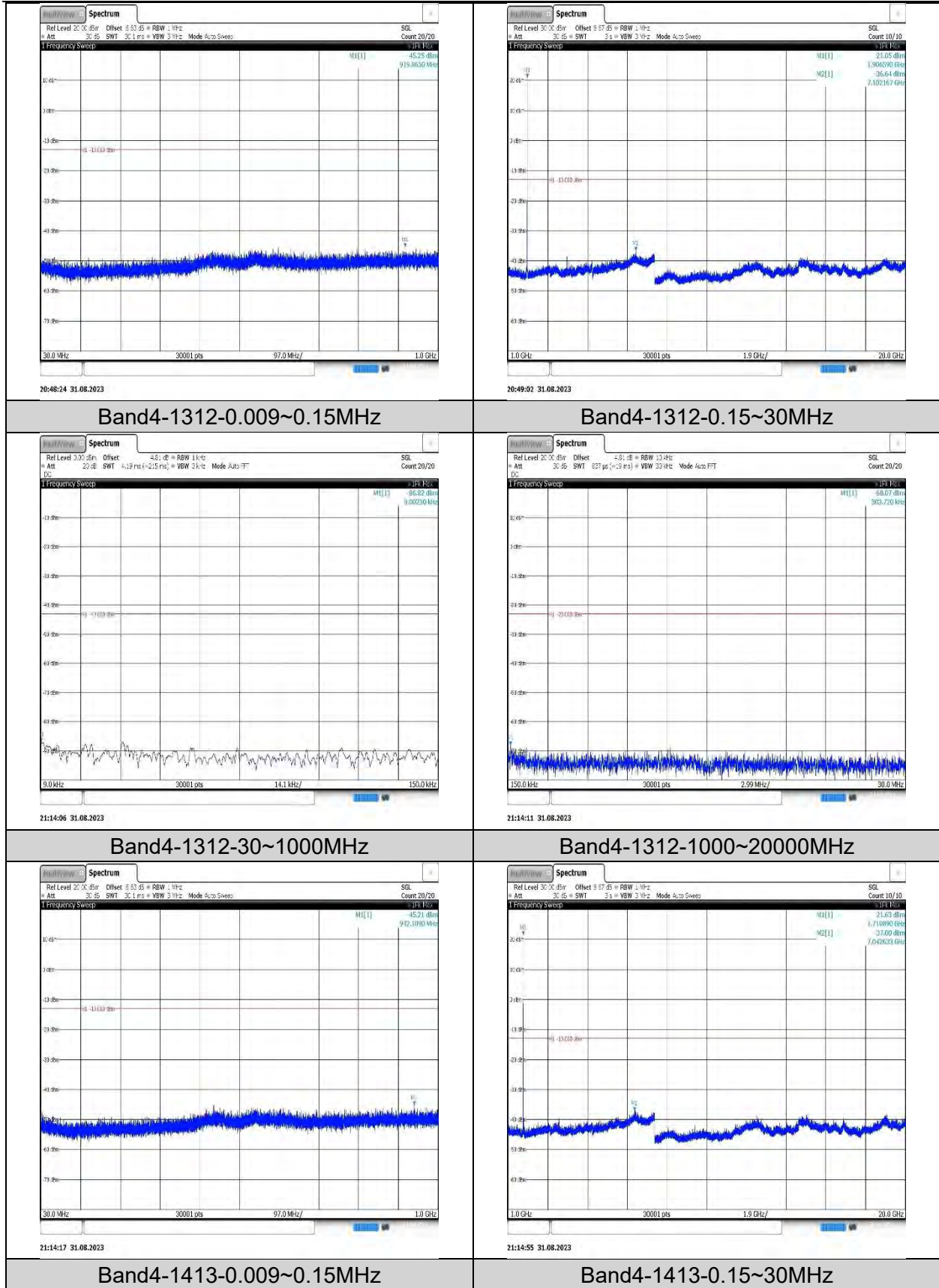
### 8.5.2. Test Graphs

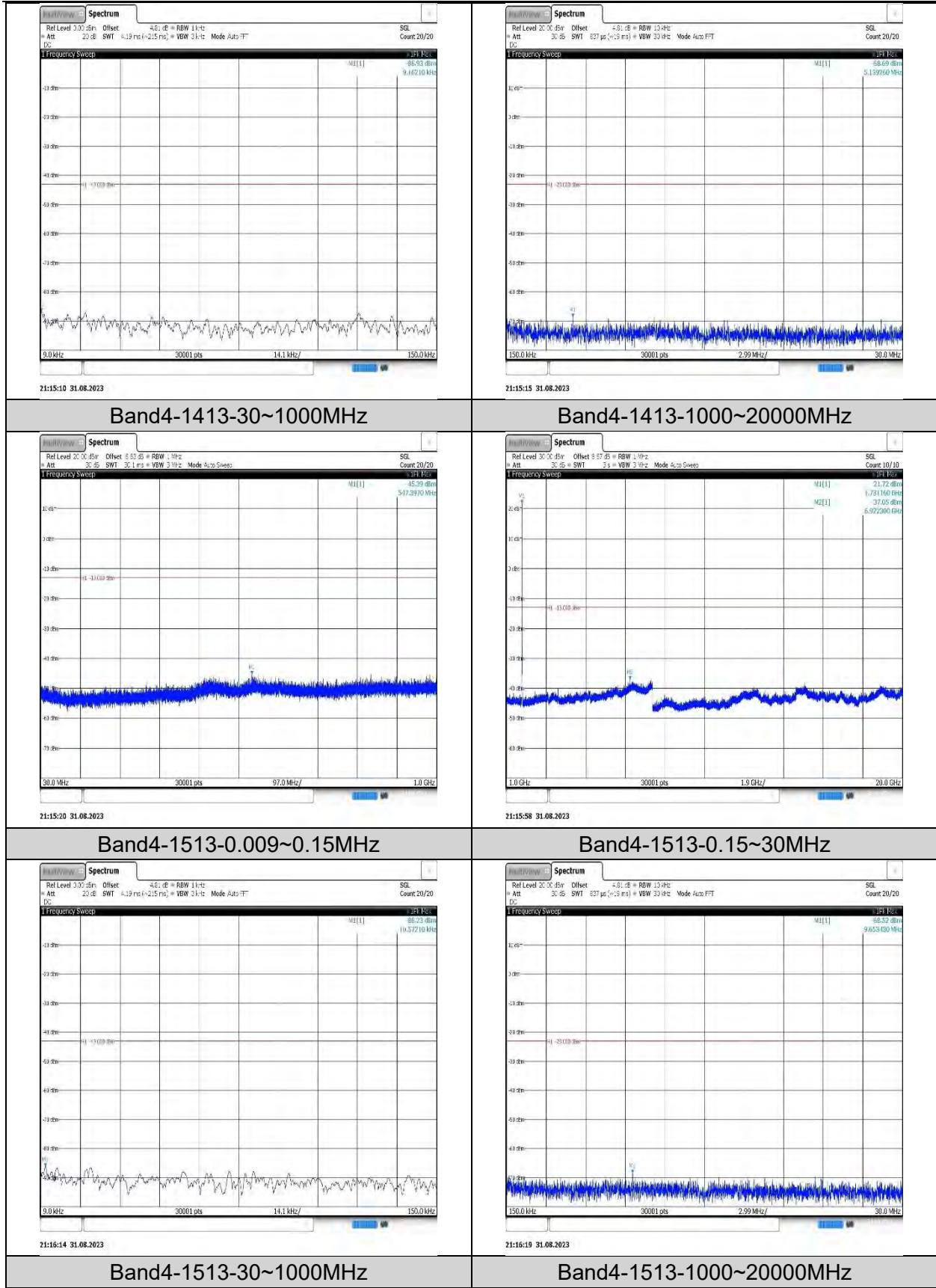
REL99:

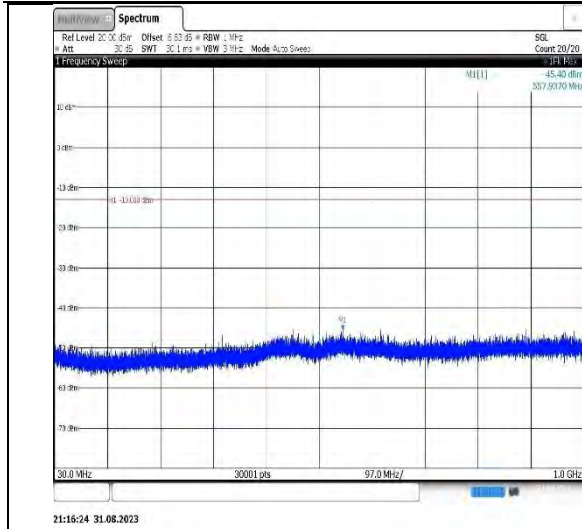




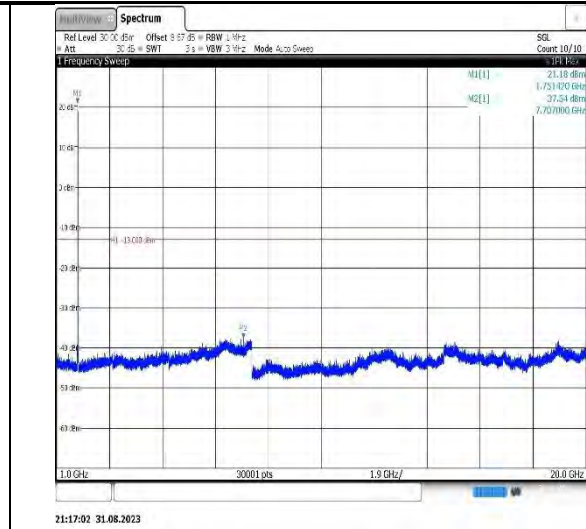




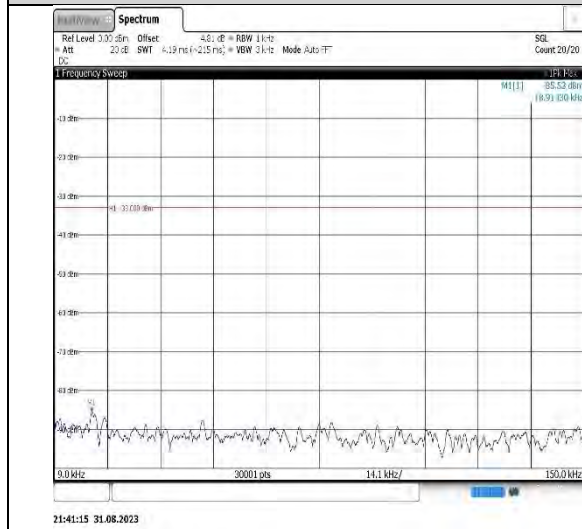




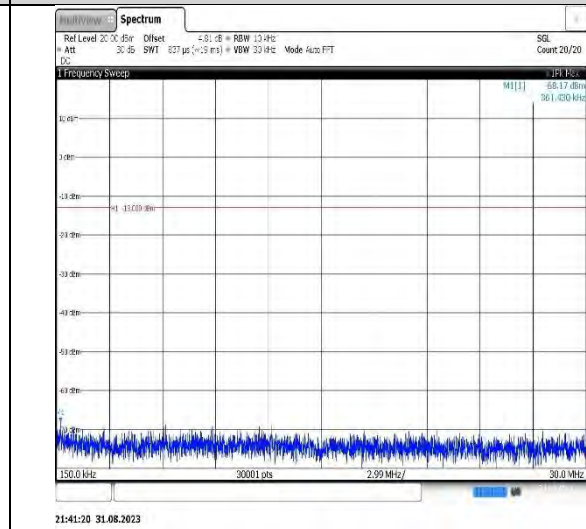
Band5-4132-0.009~0.15MHz



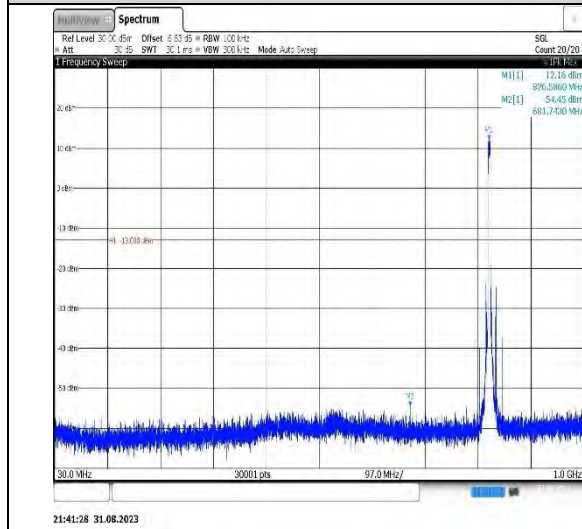
Band5-4132-0.15~30MHz



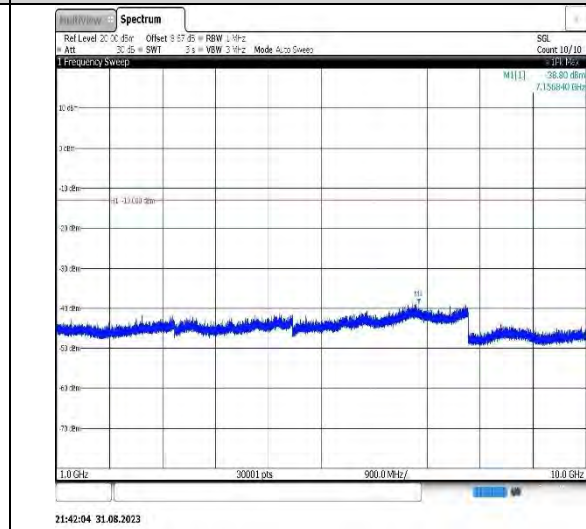
Band5-4132-30~1000MHz



Band5-4132-1000~10000MHz

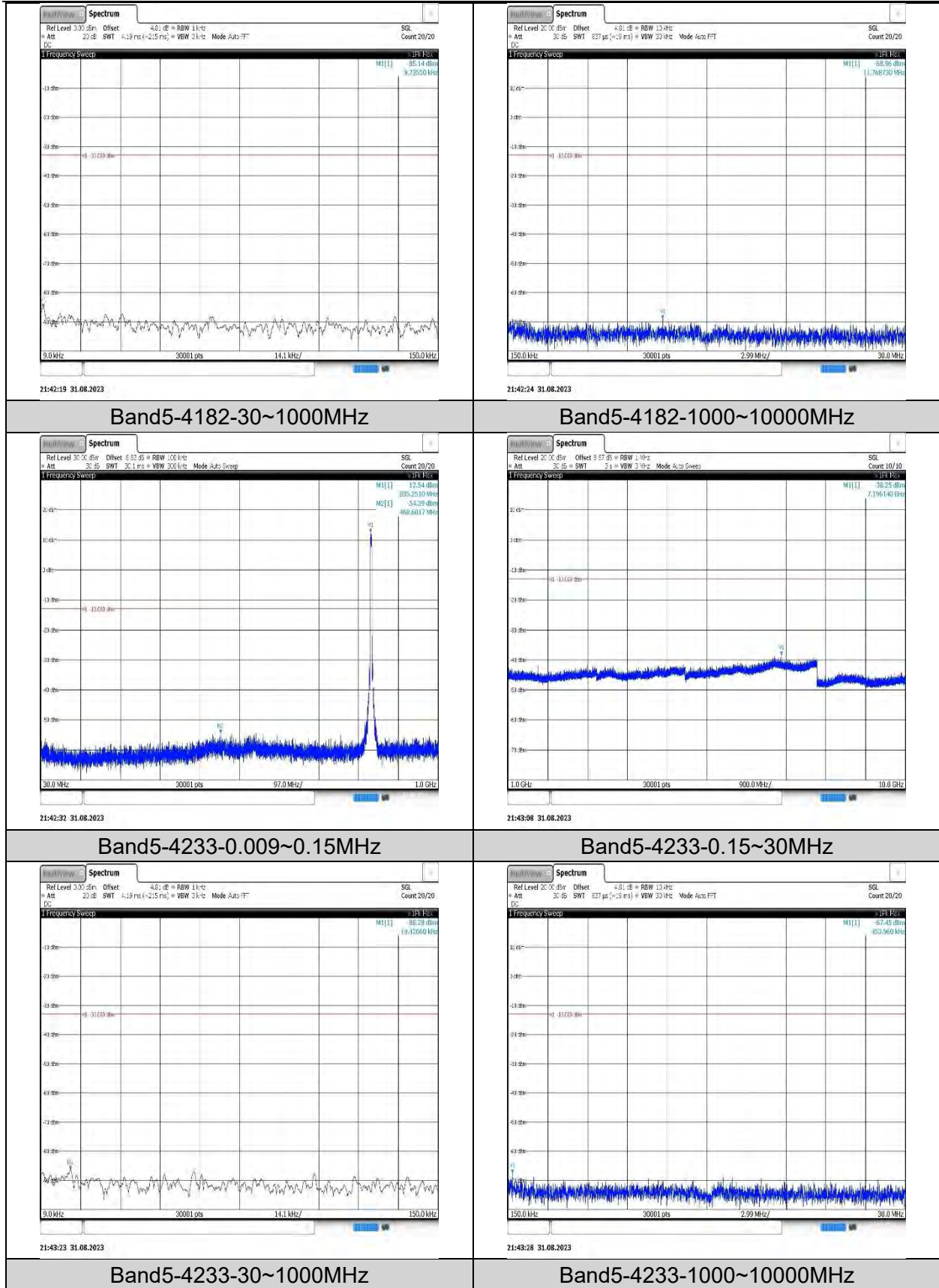


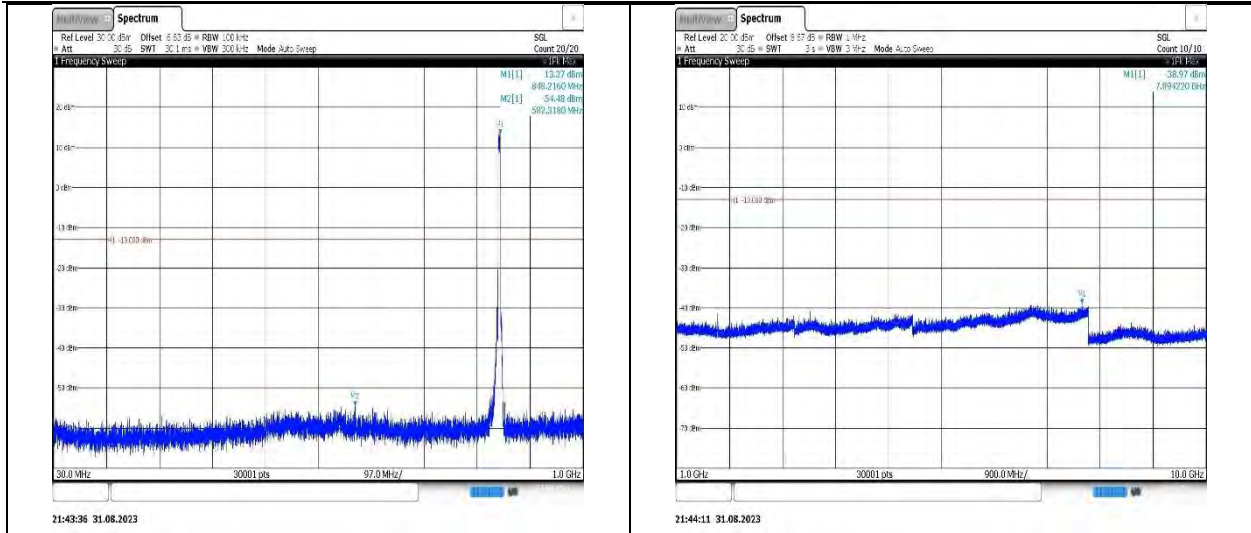
Band5-4182-0.009~0.15MHz



Band5-4182-0.15~30MHz

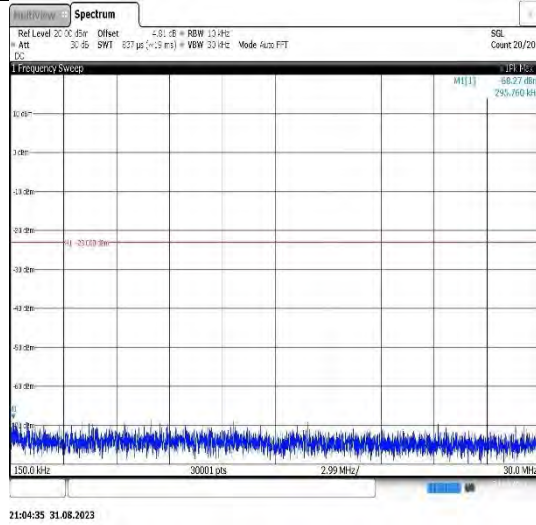




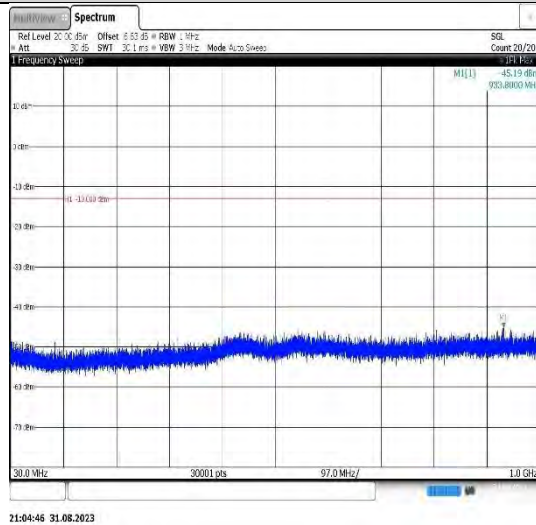


HSDPA:

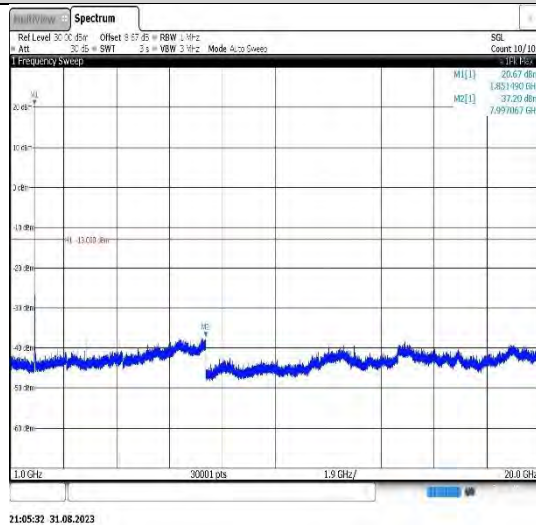
Band2-9262-4-0.15~30MHz



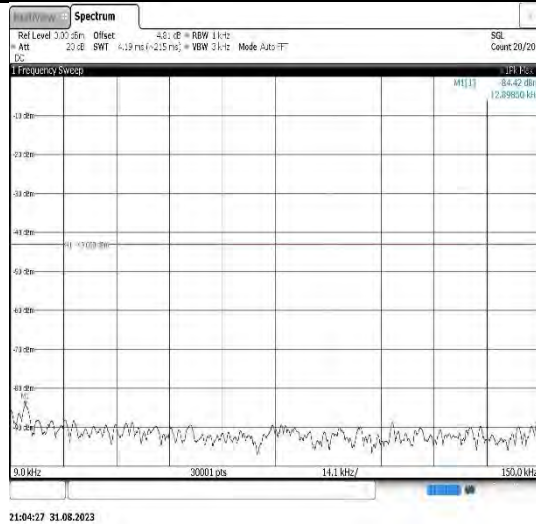
Band2-9262-4-30~1000MHz



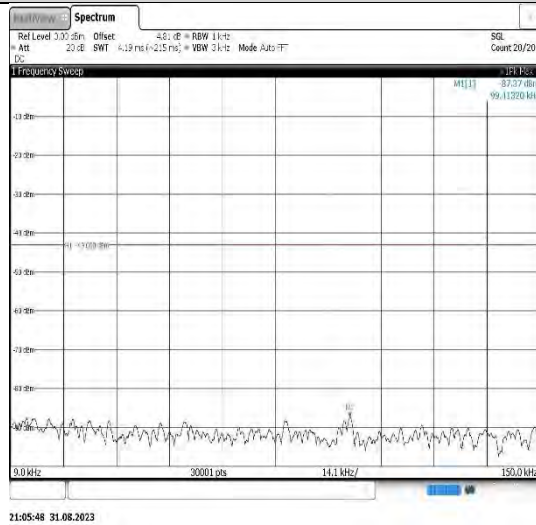
Band2-9262-4-1000~20000MHz



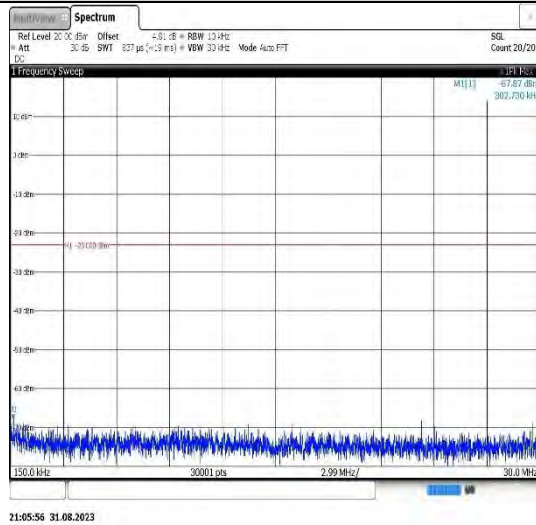
Band2-9262-4-0.009~0.15MHz



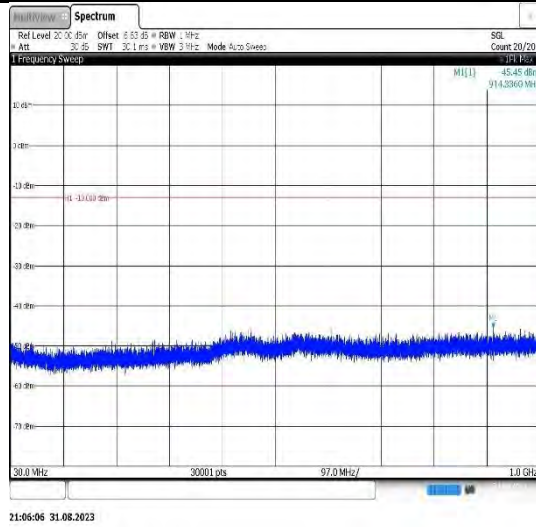
**Band2-9400-4-0.009~0.15MHz**



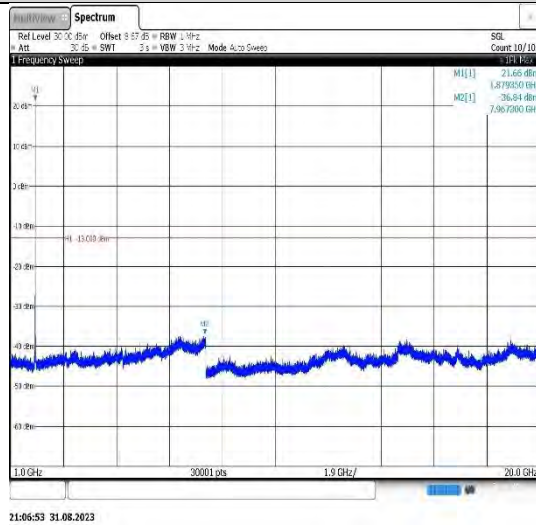
**Band2-9400-4-0.15~30MHz**



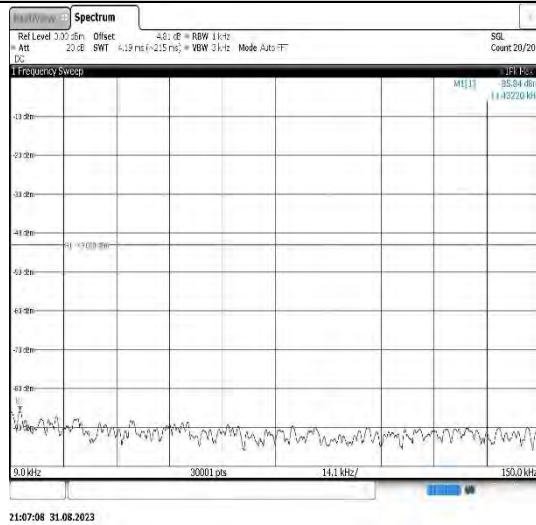
**Band2-9400-4-30~1000MHz**



Band2-9400-4-1000~20000MHz

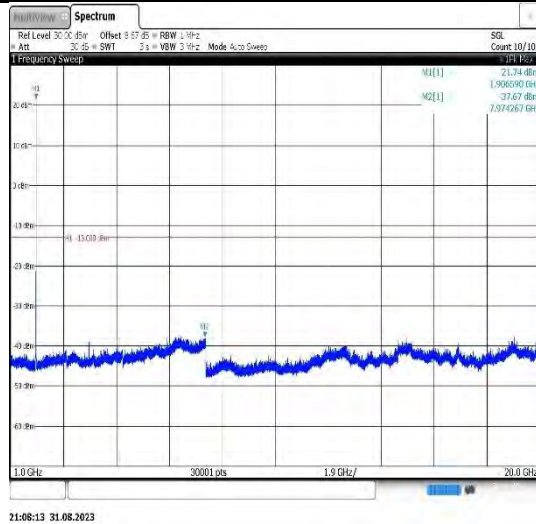


Band2-9538-4-0.009~0.15MHz

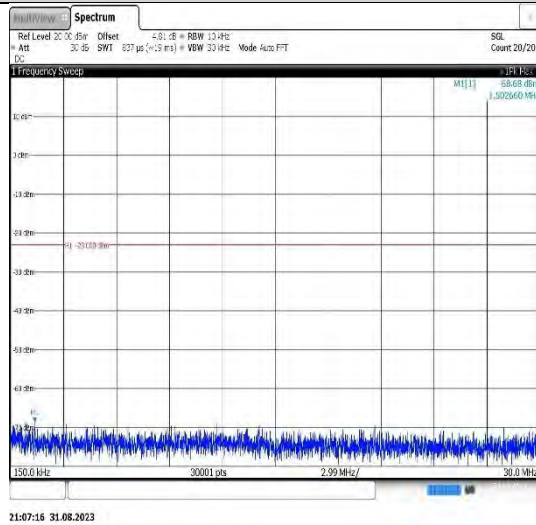


Band2-9538-4-1000~20000MHz

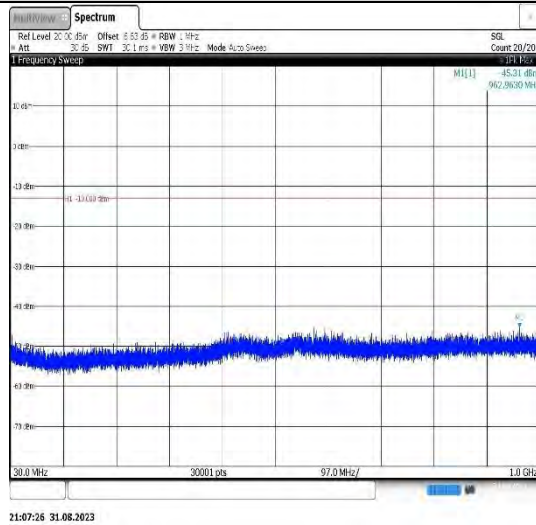




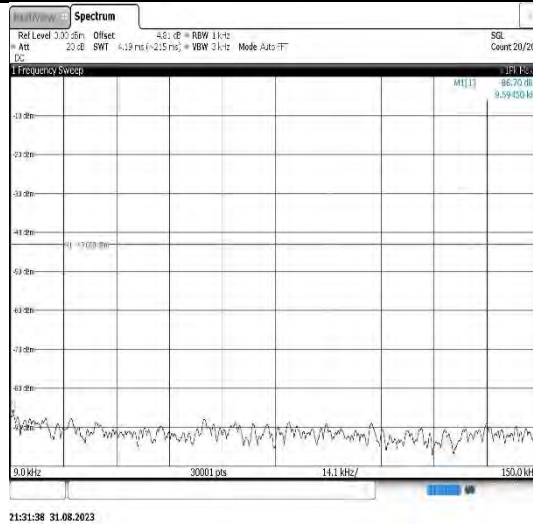
Band2-9538-4-0.15~30MHz



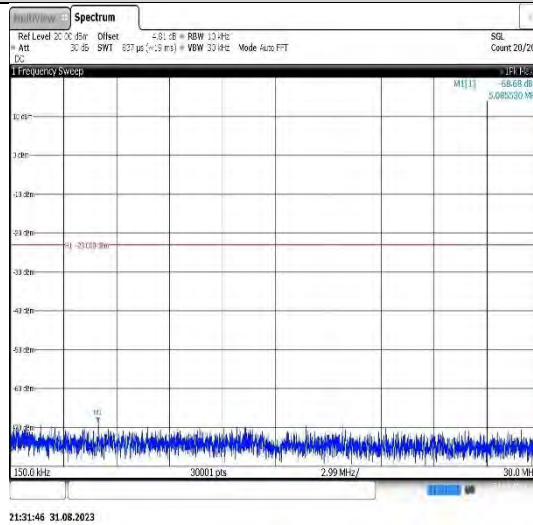
Band2-9538-4-30~1000MHz



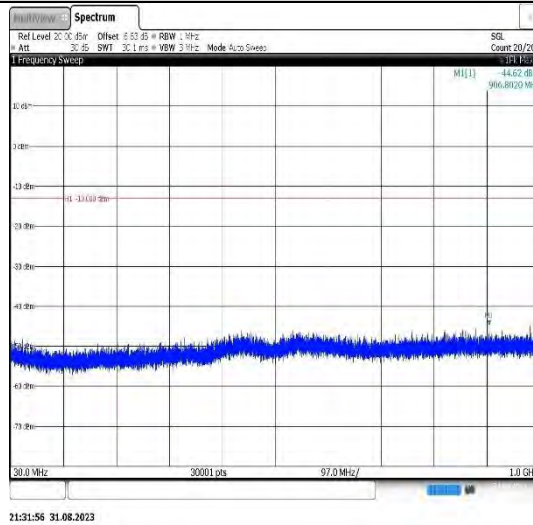
Band4-1312-4-0.009~0.15MHz



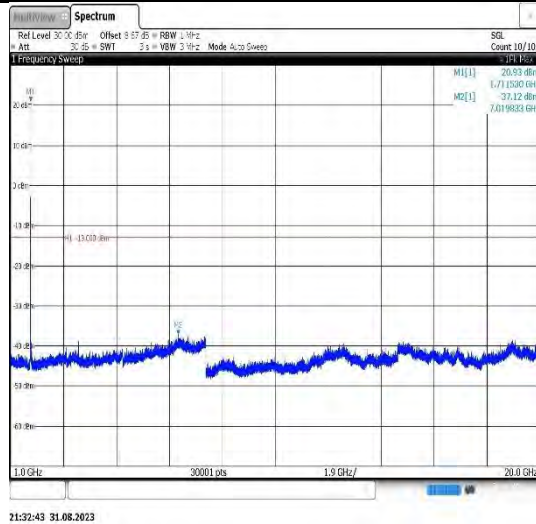
**Band4-1312-4-0.15~30MHz**



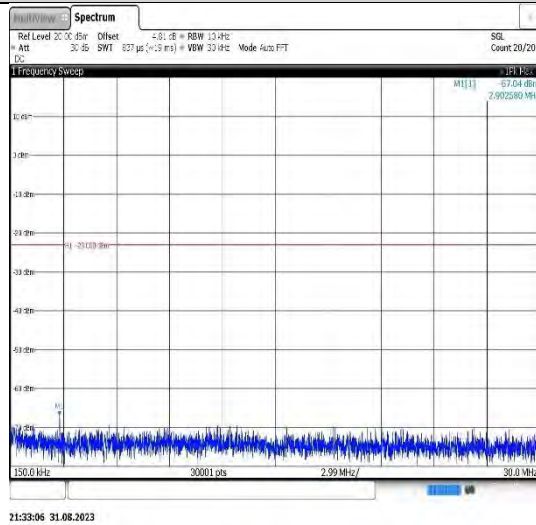
**Band4-1312-4-30~1000MHz**



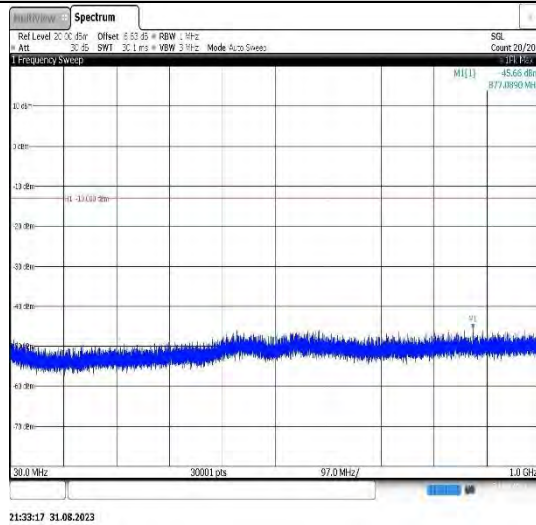
**Band4-1312-4-1000~20000MHz**



Band4-1413-4-0.15~30MHz

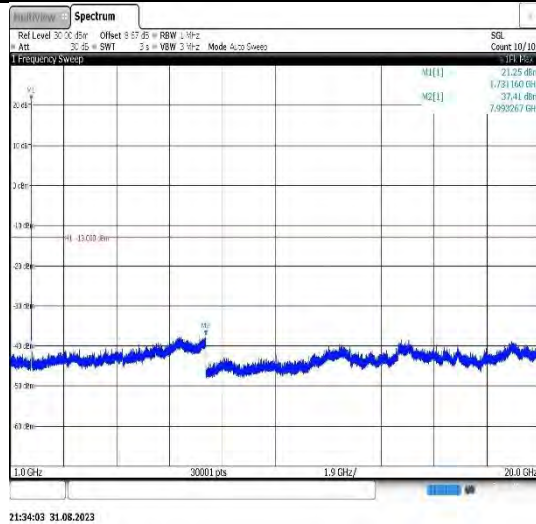


Band4-1413-4-30~1000MHz

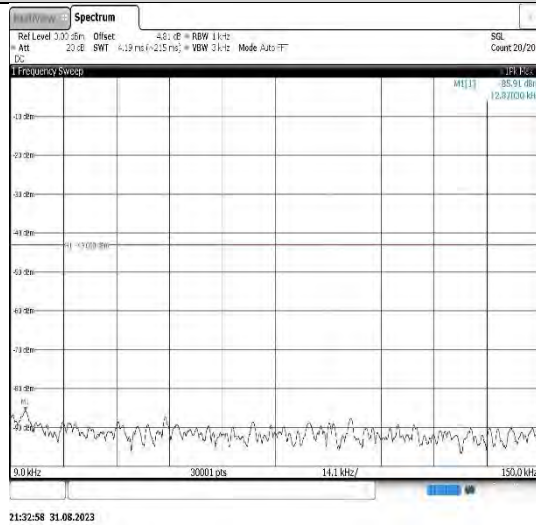


Band4-1413-4-1000~20000MHz

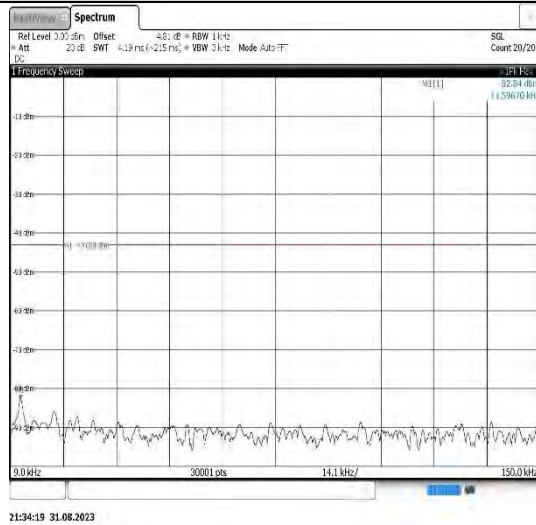




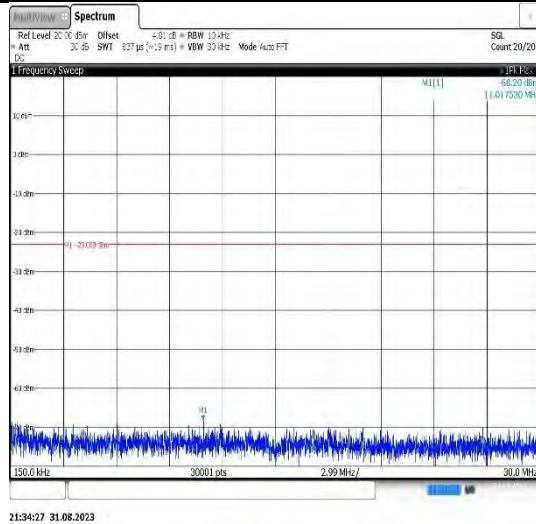
**Band4-1413-4-0.009~0.15MHz**



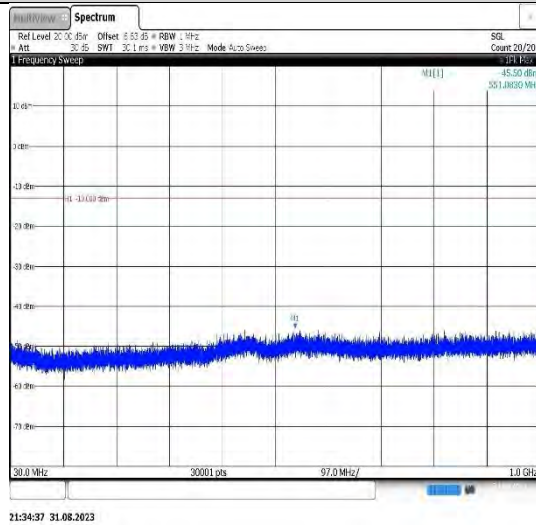
**Band4-1513-4-0.009~0.15MHz**



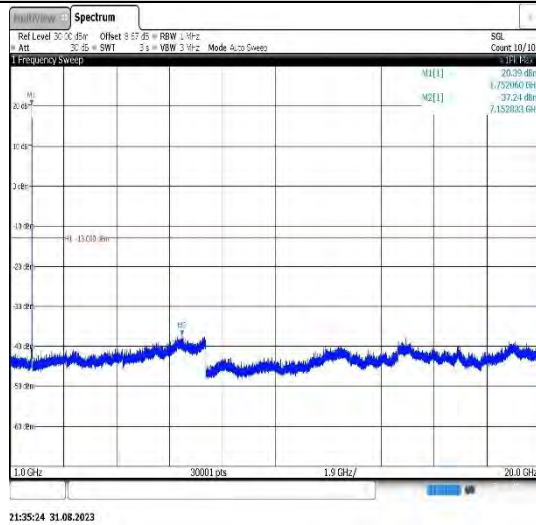
**Band4-1513-4-0.15~30MHz**



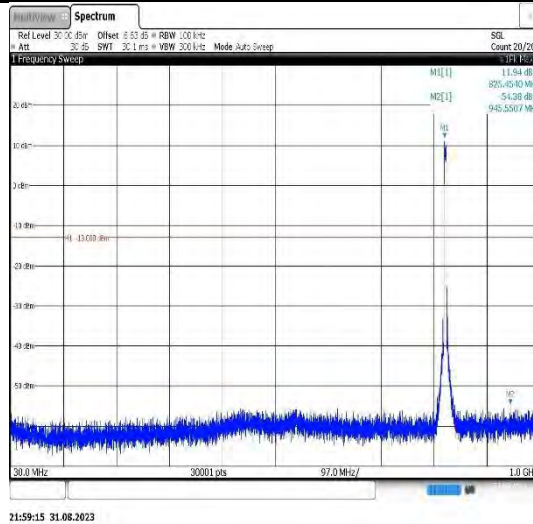
Band4-1513-4-30~1000MHz



Band4-1513-4-1000~20000MHz

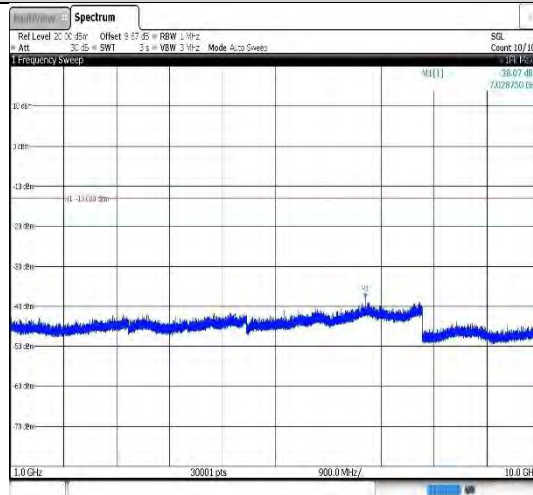


Band5-4132-4-30~1000MHz



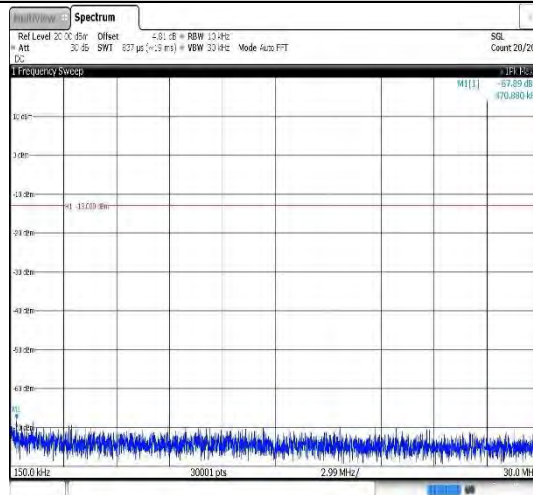
21:59:15 31.08.2023

Band5-4132-4-1000~10000MHz



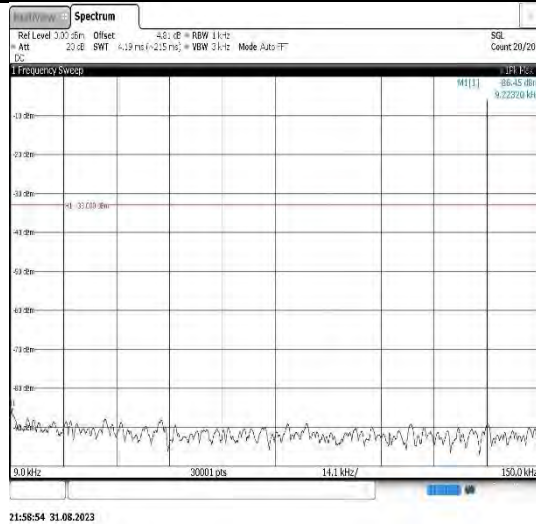
21:59:59 31.08.2023

Band5-4132-4-0.15~30MHz

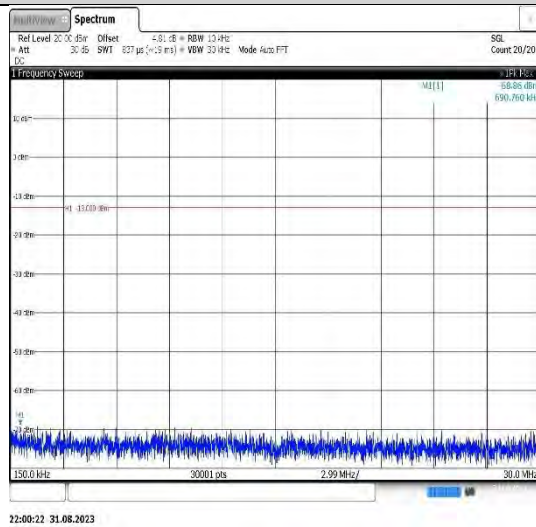


21:59:02 31.08.2023

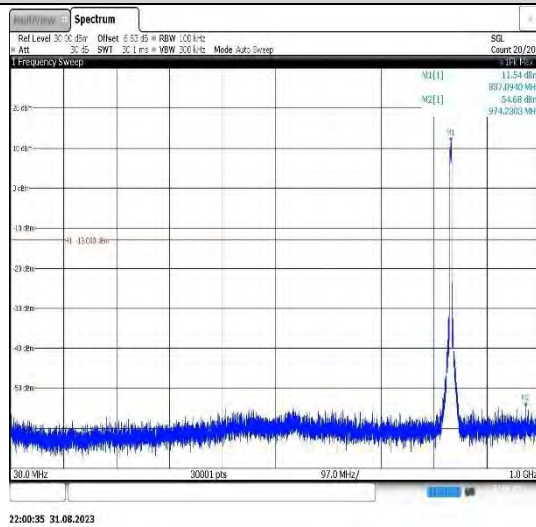
Band5-4132-4-0.009~0.15MHz



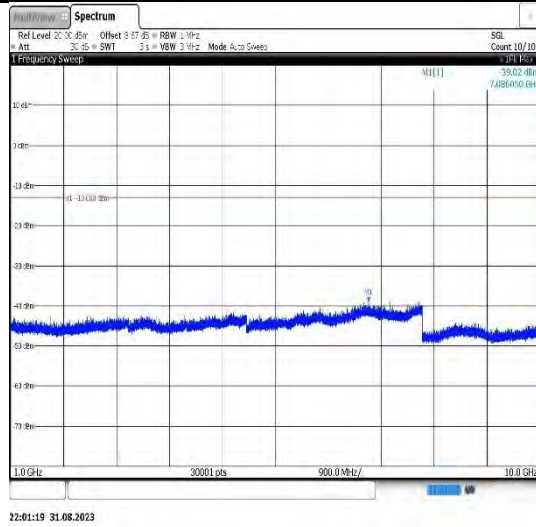
**Band5-4182-4-0.15~30MHz**



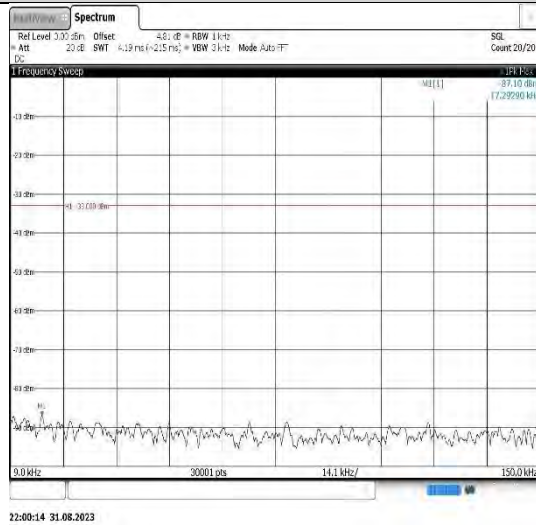
**Band5-4182-4-30~1000MHz**



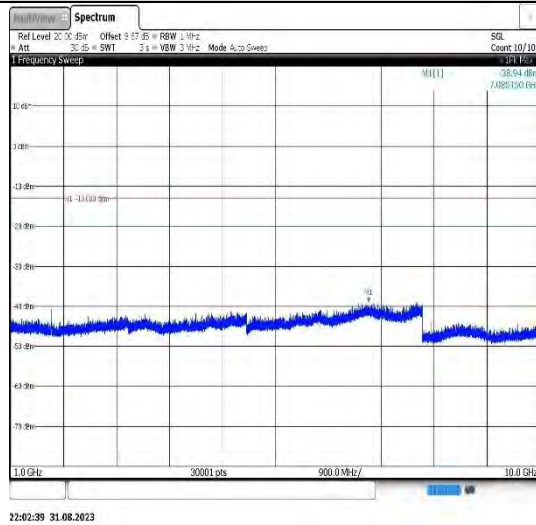
**Band5-4182-4-1000~10000MHz**



Band5-4182-4-0.009~0.15MHz

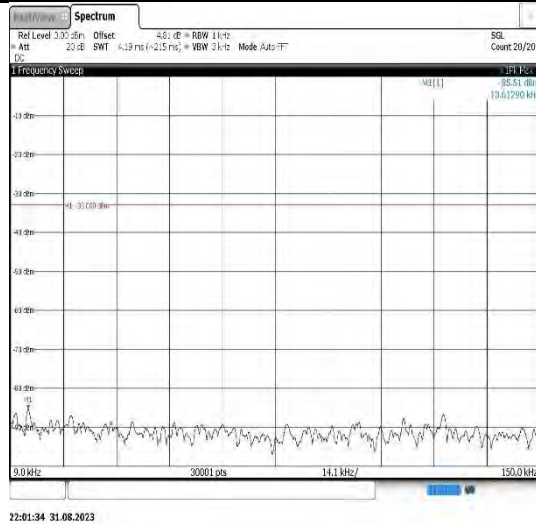


Band5-4233-4-1000~10000MHz

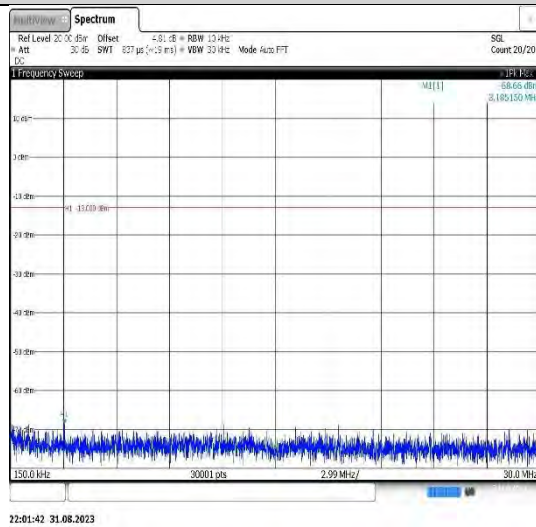


Band5-4233-4-0.009~0.15MHz

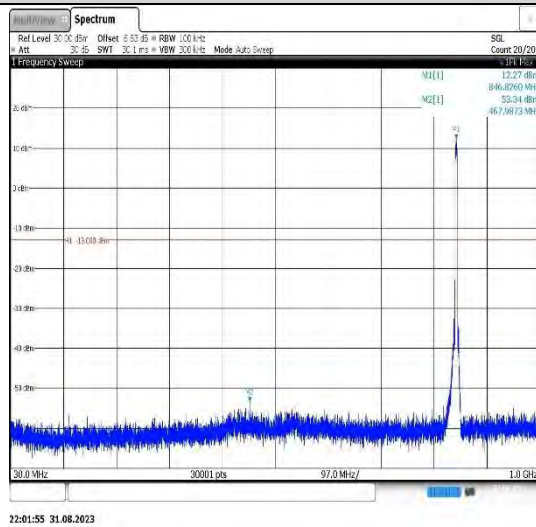




Band5-4233-4-0.15~30MHz

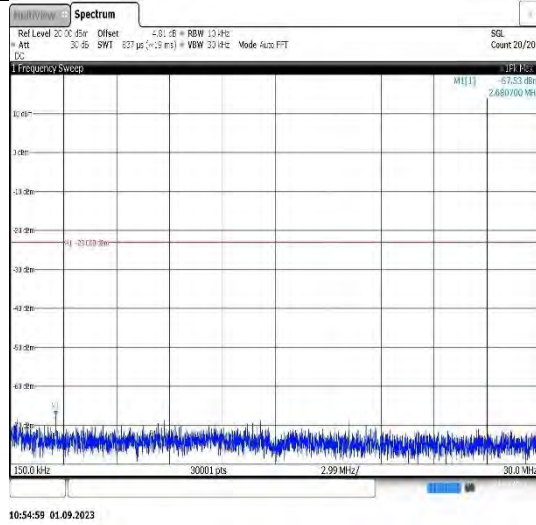


Band5-4233-4-30~1000MHz

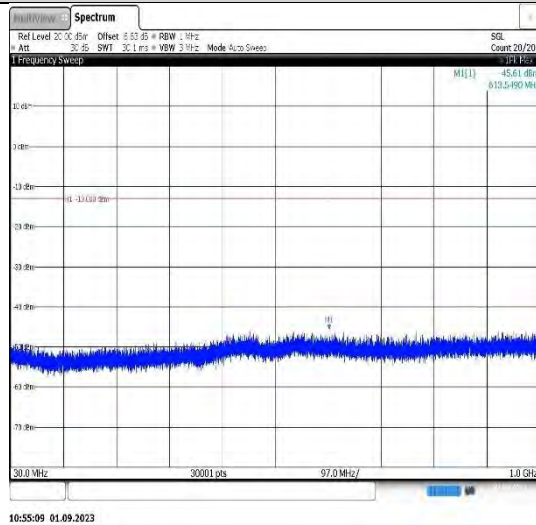


HSUPA:

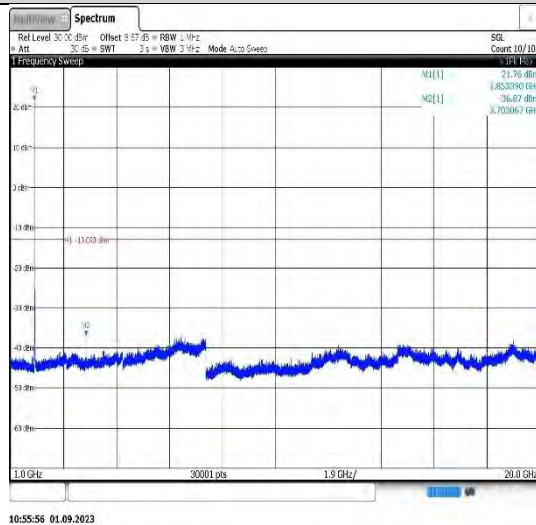
Band2-9262-5-0.15~30MHz



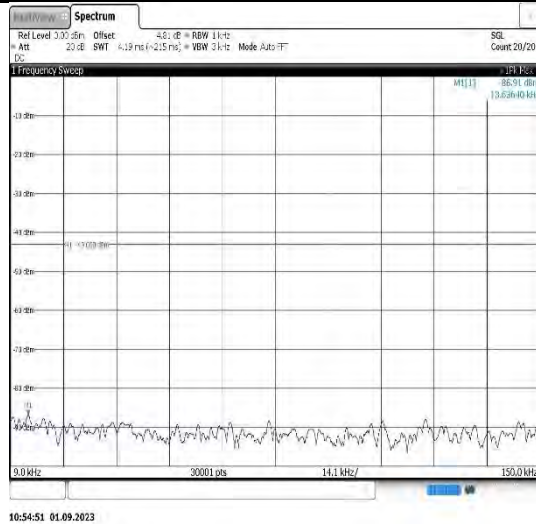
Band2-9262-5-30~1000MHz



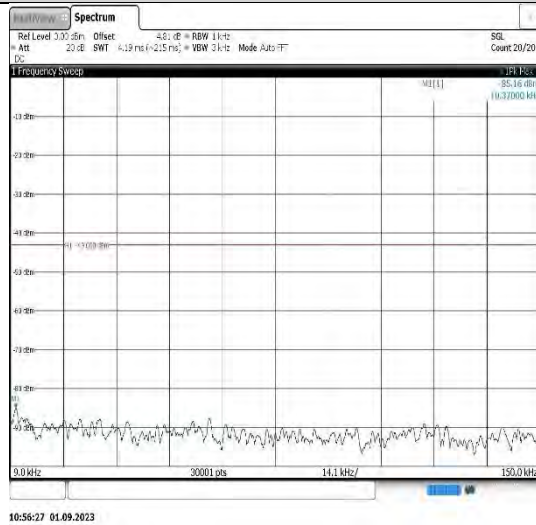
Band2-9262-5-1000~20000MHz



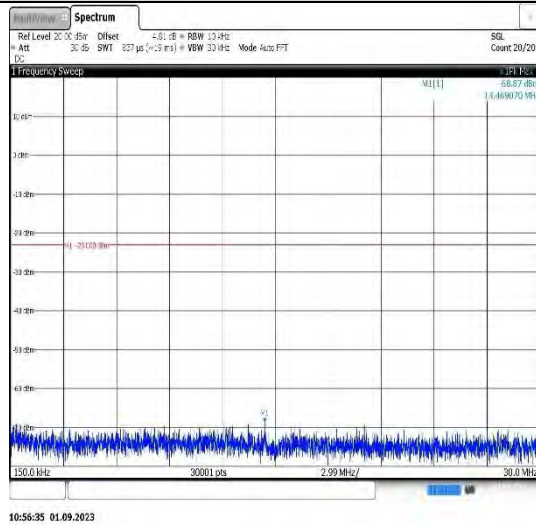
Band2-9262-5-0.009~0.15MHz



**Band2-9400-5-0.009~0.15MHz**

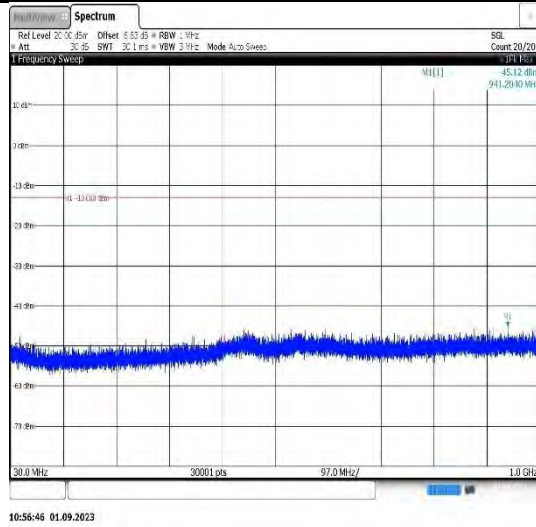


**Band2-9400-5-0.15~30MHz**

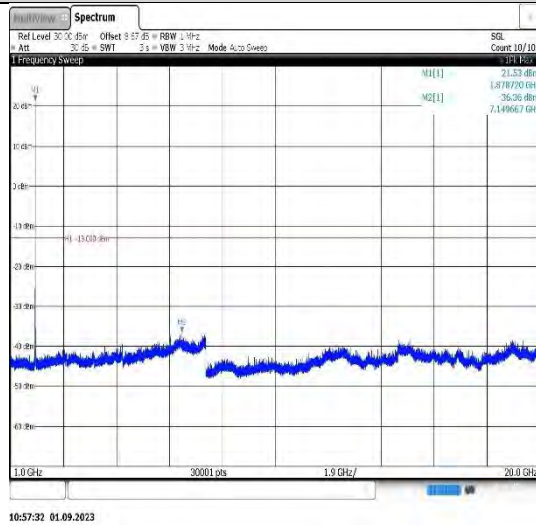


**Band2-9400-5-30~1000MHz**

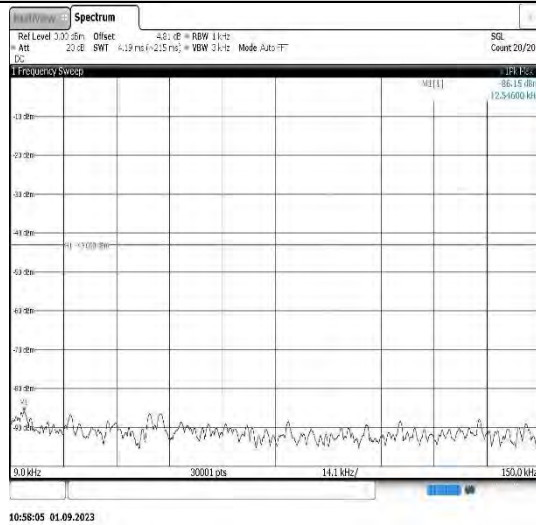




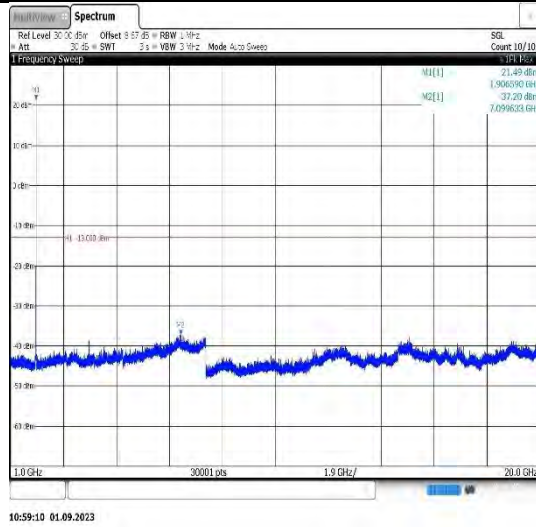
**Band2-9400-5-1000~20000MHz**



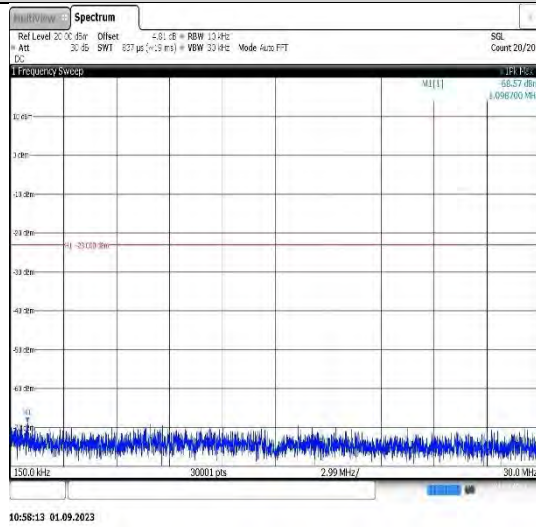
**Band2-9538-5-0.009~0.15MHz**



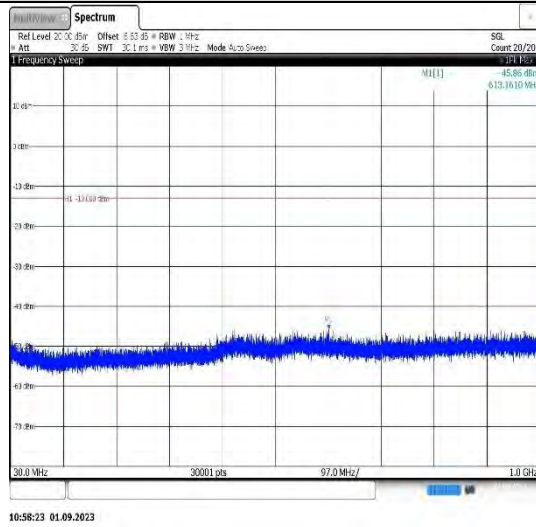
**Band2-9538-5-1000~20000MHz**



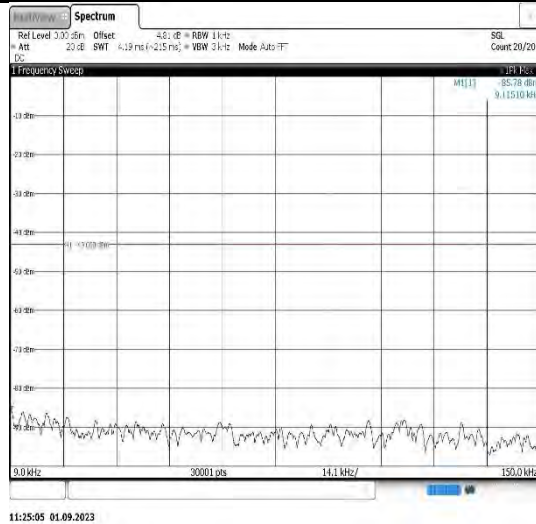
Band2-9538-5-0.15~30MHz



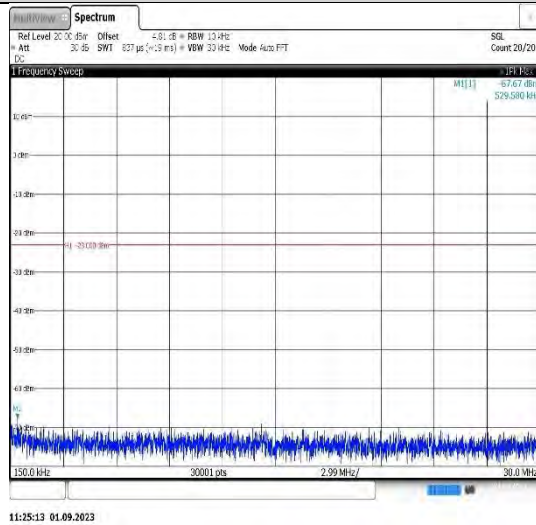
Band2-9538-5-30~1000MHz



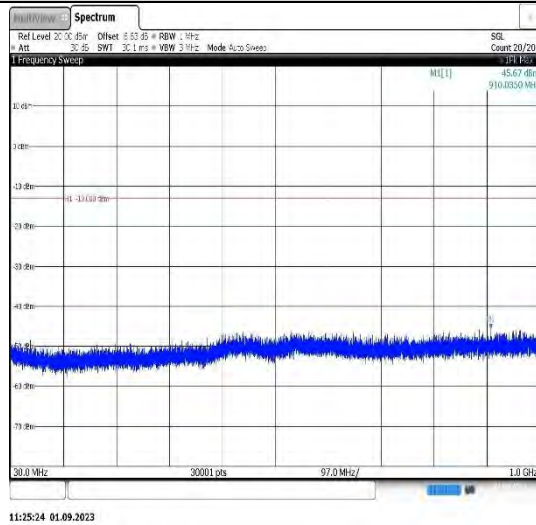
Band4-1312-5-0.009~0.15MHz



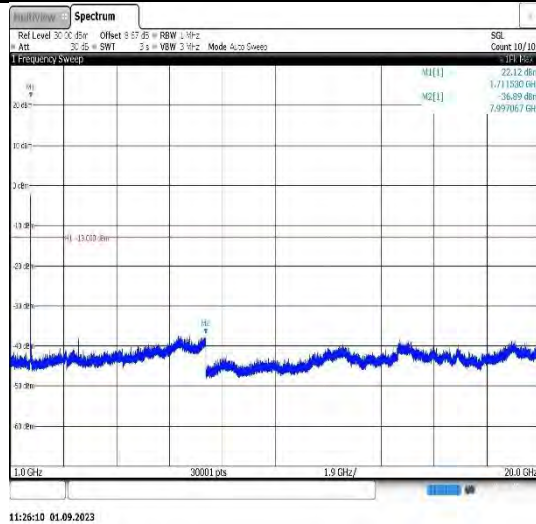
**Band4-1312-5-0.15~30MHz**



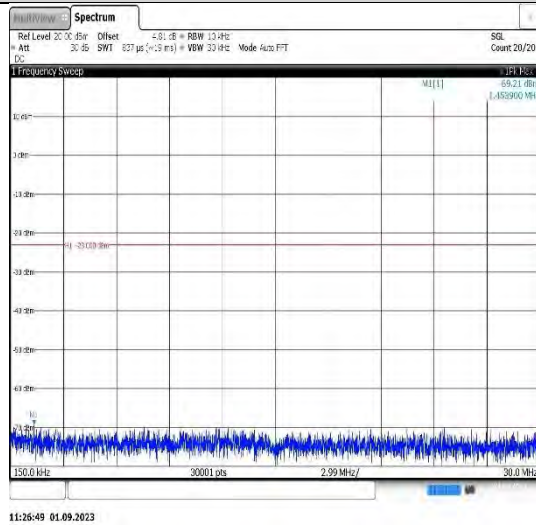
**Band4-1312-5-30~1000MHz**



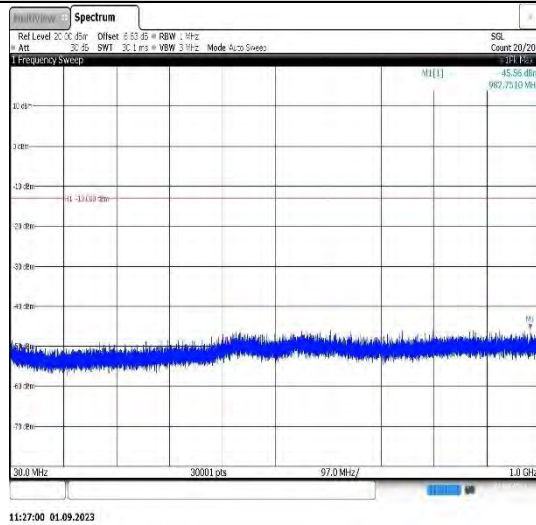
**Band4-1312-5-1000~20000MHz**



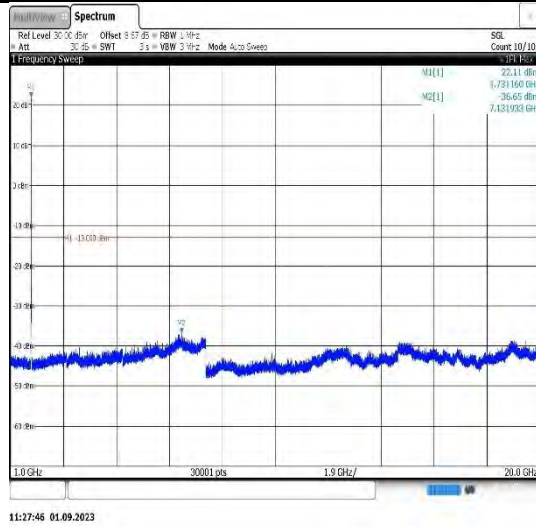
**Band4-1413-5-0.15~30MHz**



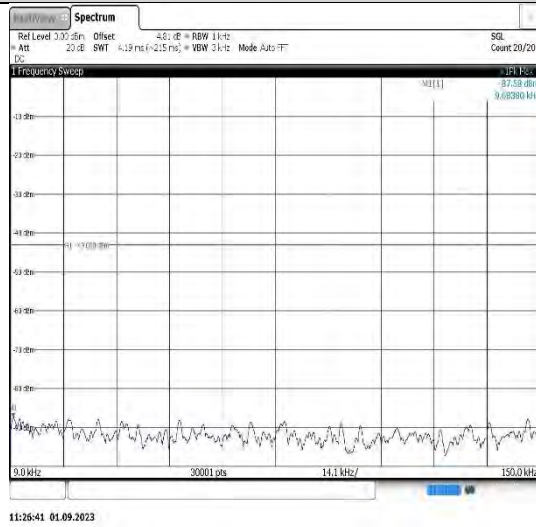
**Band4-1413-5-30~1000MHz**



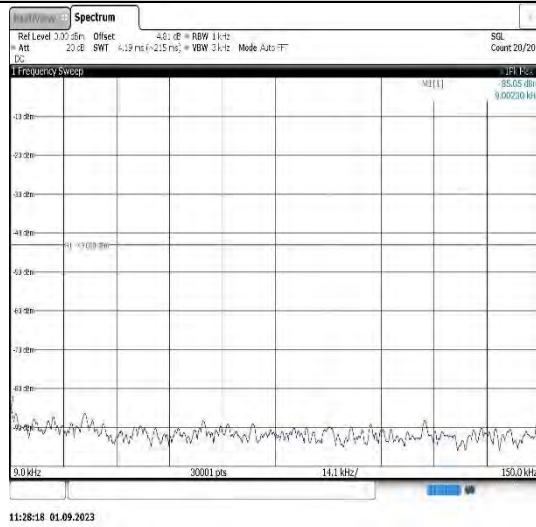
**Band4-1413-5-1000~20000MHz**



**Band4-1413-5-0.009~0.15MHz**

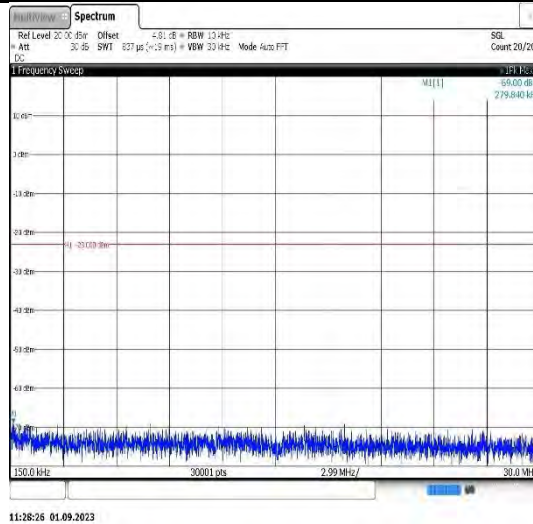


**Band4-1513-5-0.009~0.15MHz**

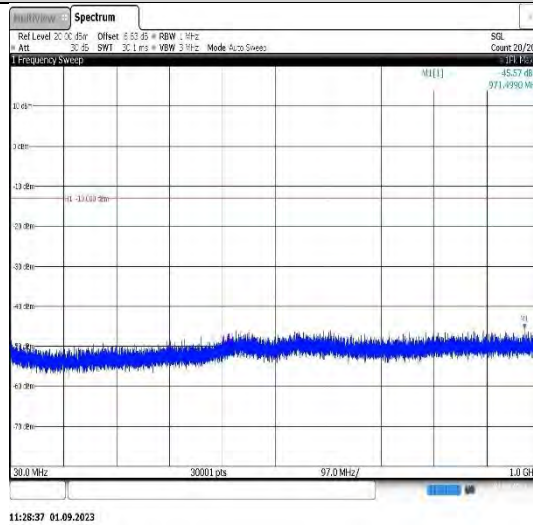


**Band4-1513-5-0.15~30MHz**

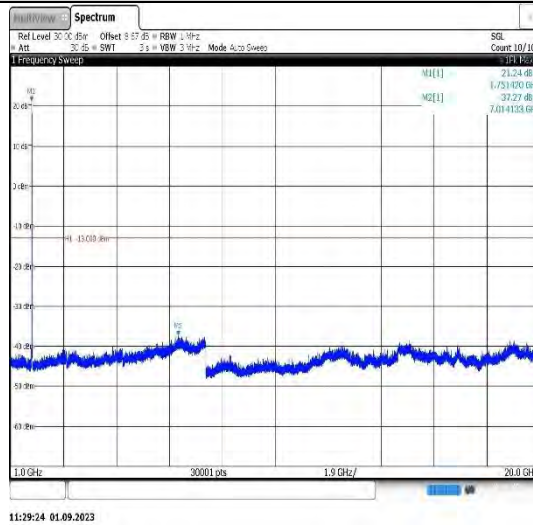




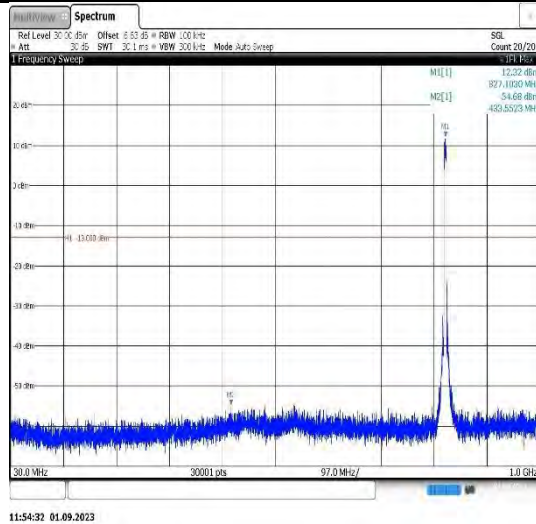
Band4-1513-5-30~1000MHz



Band4-1513-5-1000~20000MHz

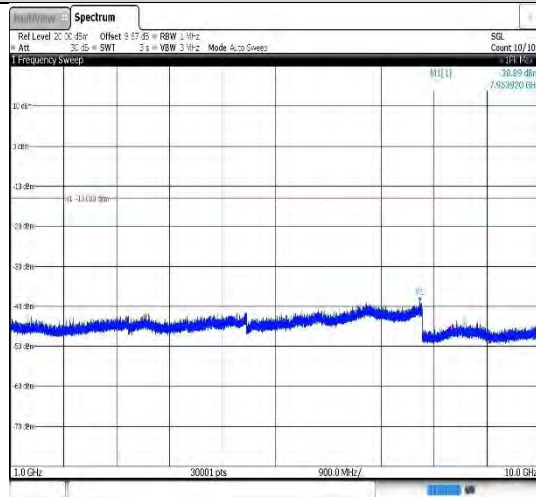


Band5-4132-5-30~1000MHz



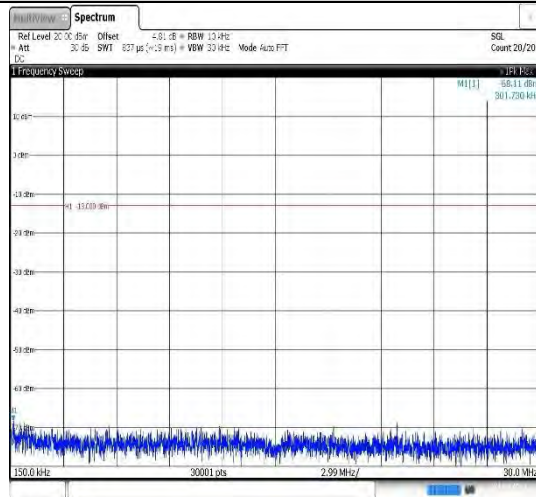
11:54:32 01.09.2023

Band5-4132-5-1000~10000MHz



11:55:16 01.09.2023

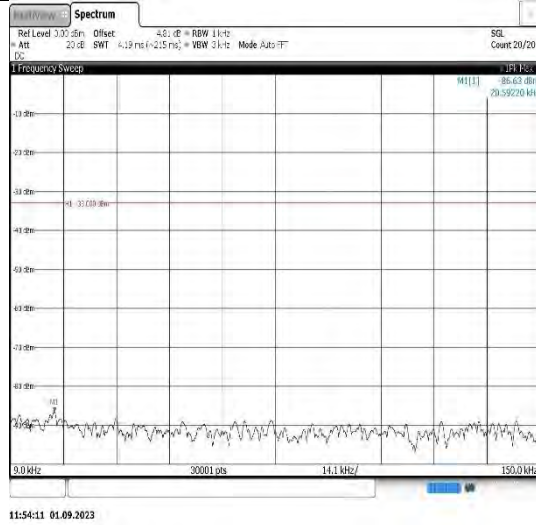
Band5-4132-5-0.15~30MHz



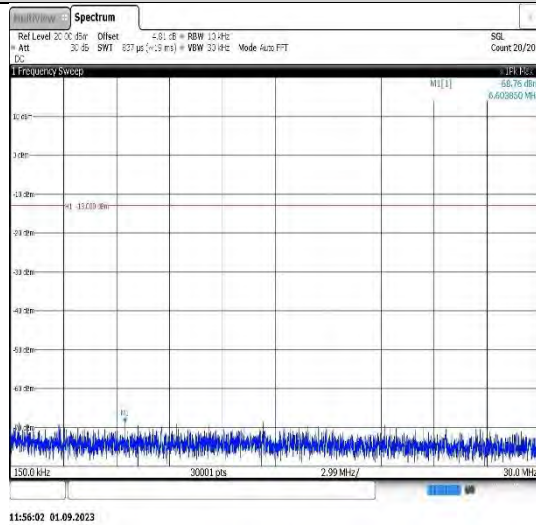
11:54:19 01.09.2023

Band5-4132-5-0.009~0.15MHz

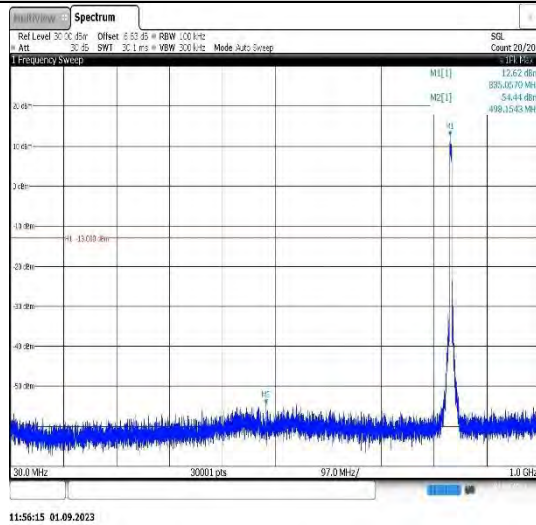




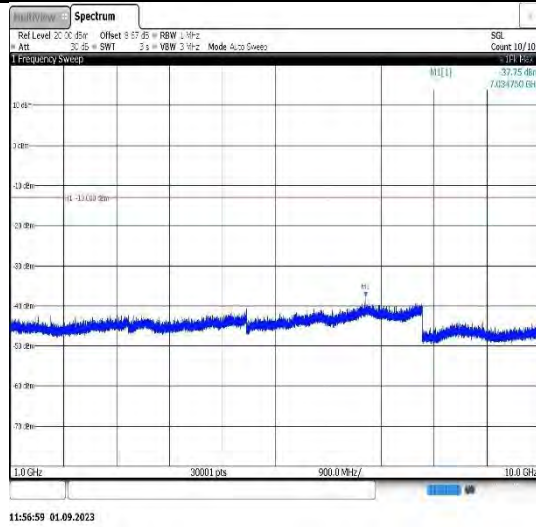
Band5-4182-5-0.15~30MHz



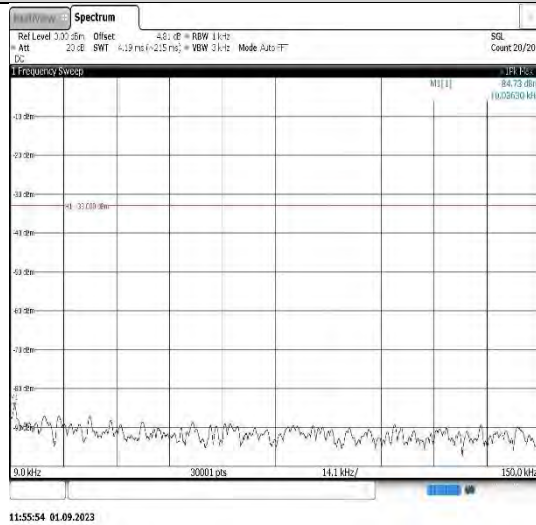
Band5-4182-5-30~1000MHz



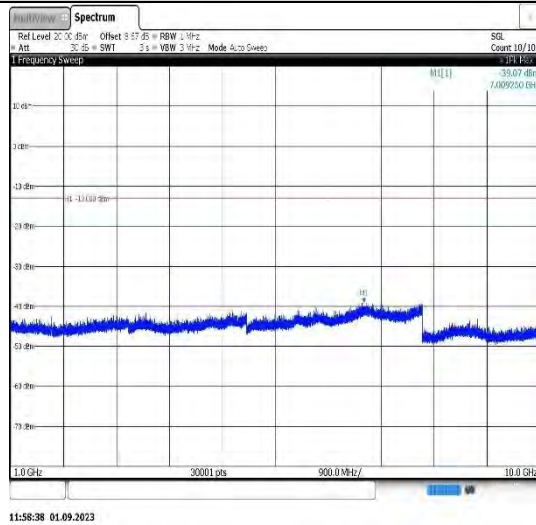
Band5-4182-5-1000~10000MHz



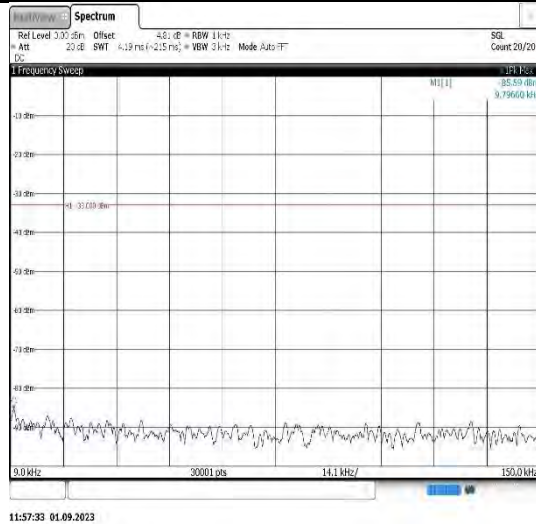
Band5-4182-5-0.009~0.15MHz



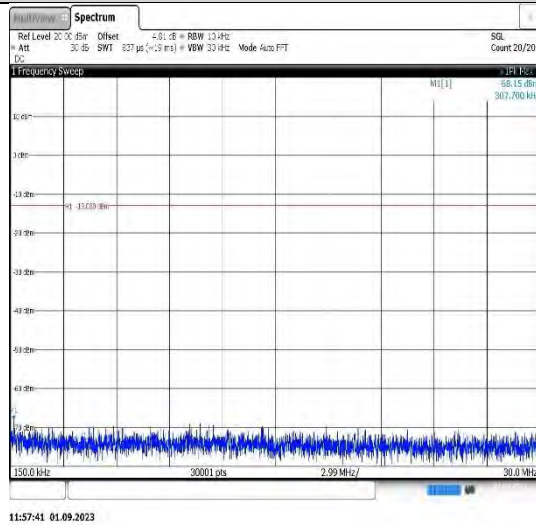
Band5-4233-5-1000~10000MHz



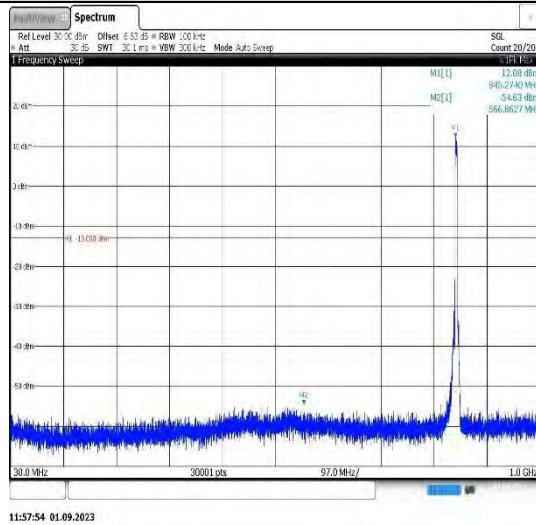
Band5-4233-5-0.009~0.15MHz



**Band5-4233-5-0.15~30MHz**



**Band5-4233-5-30~1000MHz**



## 8.6. AppendixF:Frequency Stability

### 8.6.1. Test Result

REL99:

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	VL	NT	-14.64	-0.007787	±2.5	PASS
Band2	9400	VN	NT	-16.38	-0.008713	±2.5	PASS
Band2	9400	VH	NT	-16.13	-0.008580	±2.5	PASS
Band4	1413	VL	NT	-11.82	-0.006822	±2.5	PASS
Band4	1413	VN	NT	-12.12	-0.006995	±2.5	PASS
Band4	1413	VH	NT	-11.63	-0.006712	±2.5	PASS
Band5	4182	VL	NT	-10.51	-0.012566	±2.5	PASS
Band5	4182	VN	NT	-7.35	-0.008788	±2.5	PASS
Band5	4182	VH	NT	-9.46	-0.011310	±2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	NV	-30	-14.92	-0.007936	±2.5	PASS
Band2	9400	NV	-20	-14.34	-0.007628	±2.5	PASS
Band2	9400	NV	-10	-13.54	-0.007202	±2.5	PASS
Band2	9400	NV	0	-13.68	-0.007277	±2.5	PASS
Band2	9400	NV	10	-13.90	-0.007394	±2.5	PASS
Band2	9400	NV	20	-15.68	-0.008340	±2.5	PASS
Band2	9400	NV	30	-12.10	-0.006436	±2.5	PASS
Band2	9400	NV	40	-12.80	-0.006809	±2.5	PASS
Band2	9400	NV	50	-13.48	-0.007170	±2.5	PASS
Band4	1413	NV	-30	-14.94	-0.008623	±2.5	PASS
Band4	1413	NV	-20	-12.21	-0.007047	±2.5	PASS
Band4	1413	NV	-10	-13.22	-0.007630	±2.5	PASS
Band4	1413	NV	0	-10.24	-0.005910	±2.5	PASS
Band4	1413	NV	10	-15.25	-0.008802	±2.5	PASS
Band4	1413	NV	20	-13.83	-0.007982	±2.5	PASS
Band4	1413	NV	30	-12.39	-0.007151	±2.5	PASS
Band4	1413	NV	40	-11.49	-0.006632	±2.5	PASS
Band4	1413	NV	50	-14.68	-0.008473	±2.5	PASS
Band5	4182	NV	-30	-9.96	-0.011908	±2.5	PASS
Band5	4182	NV	-20	-8.59	-0.010270	±2.5	PASS
Band5	4182	NV	-10	-9.43	-0.011275	±2.5	PASS
Band5	4182	NV	0	-10.95	-0.013092	±2.5	PASS
Band5	4182	NV	10	-10.59	-0.012661	±2.5	PASS
Band5	4182	NV	20	-7.42	-0.008871	±2.5	PASS
Band5	4182	NV	30	-7.00	-0.008369	±2.5	PASS
Band5	4182	NV	40	-10.03	-0.011992	±2.5	PASS
Band5	4182	NV	50	-10.15	-0.012135	±2.5	PASS

HSDPA:

Voltage								
Band	Channel	SubTest	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	1	VL	NT	-10.09	-0.005367	±2.5	PASS
Band2	9400	1	VN	NT	-8.75	-0.004654	±2.5	PASS
Band2	9400	1	VH	NT	-8.76	-0.004660	±2.5	PASS
Band2	9400	2	VL	NT	-15.36	-0.008170	±2.5	PASS
Band2	9400	2	VN	NT	-5.35	-0.002846	±2.5	PASS
Band2	9400	2	VH	NT	-9.90	-0.005266	±2.5	PASS
Band2	9400	3	VL	NT	-13.33	-0.007090	±2.5	PASS
Band2	9400	3	VN	NT	-8.92	-0.004745	±2.5	PASS
Band2	9400	3	VH	NT	-14.33	-0.007622	±2.5	PASS
Band2	9400	4	VL	NT	-11.08	-0.005894	±2.5	PASS
Band2	9400	4	VN	NT	-7.70	-0.004096	±2.5	PASS
Band2	9400	4	VH	NT	-9.69	-0.005154	±2.5	PASS
Band4	1413	4	VL	NT	-9.13	-0.005270	±2.5	PASS
Band4	1413	4	VN	NT	-10.09	-0.005824	±2.5	PASS
Band4	1413	4	VH	NT	-10.76	-0.006210	±2.5	PASS
Band5	4182	4	VL	NT	-12.97	-0.015507	±2.5	PASS
Band5	4182	4	VN	NT	-10.35	-0.012374	±2.5	PASS
Band5	4182	4	VH	NT	-7.52	-0.008991	±2.5	PASS

Temperature								
Band	Channel	SubTest	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	1	NV	-30	-9.08	-0.004830	±2.5	PASS
Band2	9400	1	NV	-20	-10.68	-0.005681	±2.5	PASS
Band2	9400	1	NV	-10	-6.42	-0.003415	±2.5	PASS
Band2	9400	1	NV	0	-7.47	-0.003973	±2.5	PASS
Band2	9400	1	NV	10	-11.42	-0.006074	±2.5	PASS
Band2	9400	1	NV	20	-7.57	-0.004027	±2.5	PASS
Band2	9400	1	NV	30	-4.63	-0.002463	±2.5	PASS
Band2	9400	1	NV	40	-5.84	-0.003106	±2.5	PASS
Band2	9400	1	NV	50	-5.50	-0.002926	±2.5	PASS
Band2	9400	2	NV	-30	-8.90	-0.004734	±2.5	PASS
Band2	9400	2	NV	-20	-10.71	-0.005697	±2.5	PASS
Band2	9400	2	NV	-10	-7.42	-0.003947	±2.5	PASS
Band2	9400	2	NV	0	-4.61	-0.002452	±2.5	PASS
Band2	9400	2	NV	10	-12.39	-0.006590	±2.5	PASS
Band2	9400	2	NV	20	-12.48	-0.006638	±2.5	PASS
Band2	9400	2	NV	30	-8.90	-0.004734	±2.5	PASS
Band2	9400	2	NV	40	-10.39	-0.005527	±2.5	PASS
Band2	9400	2	NV	50	-11.94	-0.006351	±2.5	PASS
Band2	9400	3	NV	-30	-14.50	-0.007713	±2.5	PASS
Band2	9400	3	NV	-20	-10.32	-0.005489	±2.5	PASS
Band2	9400	3	NV	-10	-9.59	-0.005101	±2.5	PASS
Band2	9400	3	NV	0	-5.44	-0.002894	±2.5	PASS

Band2	9400	3	NV	10	-6.90	-0.003670	±2.5	PASS
Band2	9400	3	NV	20	-8.00	-0.004255	±2.5	PASS
Band2	9400	3	NV	30	-10.11	-0.005378	±2.5	PASS
Band2	9400	3	NV	40	-8.45	-0.004495	±2.5	PASS
Band2	9400	3	NV	50	-13.24	-0.007043	±2.5	PASS
Band2	9400	4	NV	-30	-12.24	-0.006511	±2.5	PASS
Band2	9400	4	NV	-20	-14.29	-0.007601	±2.5	PASS
Band2	9400	4	NV	-10	-7.99	-0.004250	±2.5	PASS
Band2	9400	4	NV	0	-12.19	-0.006484	±2.5	PASS
Band2	9400	4	NV	10	-11.61	-0.006176	±2.5	PASS
Band2	9400	4	NV	20	-12.04	-0.006404	±2.5	PASS
Band2	9400	4	NV	30	-13.22	-0.007032	±2.5	PASS
Band2	9400	4	NV	40	-6.74	-0.003585	±2.5	PASS
Band2	9400	4	NV	50	-11.70	-0.006223	±2.5	PASS
Band4	1413	4	NV	-30	-10.78	-0.006222	±2.5	PASS
Band4	1413	4	NV	-20	-8.82	-0.005091	±2.5	PASS
Band4	1413	4	NV	-10	-15.43	-0.008906	±2.5	PASS
Band4	1413	4	NV	0	-7.31	-0.004219	±2.5	PASS
Band4	1413	4	NV	10	-11.27	-0.006505	±2.5	PASS
Band4	1413	4	NV	20	-15.33	-0.008848	±2.5	PASS
Band4	1413	4	NV	30	-14.13	-0.008155	±2.5	PASS
Band4	1413	4	NV	40	-10.92	-0.006303	±2.5	PASS
Band4	1413	4	NV	50	-11.05	-0.006378	±2.5	PASS
Band5	4182	4	NV	-30	-9.08	-0.010856	±2.5	PASS
Band5	4182	4	NV	-20	-6.97	-0.008333	±2.5	PASS
Band5	4182	4	NV	-10	-9.70	-0.011597	±2.5	PASS
Band5	4182	4	NV	0	-7.52	-0.008991	±2.5	PASS
Band5	4182	4	NV	10	-12.13	-0.014503	±2.5	PASS
Band5	4182	4	NV	20	-10.07	-0.012040	±2.5	PASS
Band5	4182	4	NV	30	-6.68	-0.007987	±2.5	PASS
Band5	4182	4	NV	40	-9.72	-0.011621	±2.5	PASS
Band5	4182	4	NV	50	-7.15	-0.008549	±2.5	PASS



HSUPA:

Voltage								
Band	Channel	SubTest	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	1	VL	NT	-13.00	-0.006915	±2.5	PASS
Band2	9400	1	VN	NT	-13.91	-0.007399	±2.5	PASS
Band2	9400	1	VH	NT	-12.34	-0.006564	±2.5	PASS
Band2	9400	2	VL	NT	-9.43	-0.005016	±2.5	PASS
Band2	9400	2	VN	NT	-9.86	-0.005245	±2.5	PASS
Band2	9400	2	VH	NT	-10.67	-0.005676	±2.5	PASS
Band2	9400	3	VL	NT	-12.04	-0.006404	±2.5	PASS
Band2	9400	3	VN	NT	-8.78	-0.004670	±2.5	PASS
Band2	9400	3	VH	NT	-8.82	-0.004691	±2.5	PASS
Band2	9400	4	VL	NT	-9.08	-0.004830	±2.5	PASS
Band2	9400	4	VN	NT	-7.24	-0.003851	±2.5	PASS
Band2	9400	4	VH	NT	-9.89	-0.005261	±2.5	PASS
Band2	9400	5	VL	NT	-8.00	-0.004255	±2.5	PASS
Band2	9400	5	VN	NT	-8.55	-0.004548	±2.5	PASS
Band2	9400	5	VH	NT	-10.26	-0.005457	±2.5	PASS
Band4	1413	5	VL	NT	-9.67	-0.005581	±2.5	PASS
Band4	1413	5	VN	NT	-8.49	-0.004900	±2.5	PASS
Band4	1413	5	VH	NT	-11.12	-0.006418	±2.5	PASS
Band5	4182	5	VL	NT	-8.63	-0.010318	±2.5	PASS
Band5	4182	5	VN	NT	-7.68	-0.009182	±2.5	PASS
Band5	4182	5	VH	NT	-7.20	-0.008608	±2.5	PASS

Temperature								
Band	Channel	SubTest	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9400	1	NV	-30	-11.49	-0.006112	±2.5	PASS
Band2	9400	1	NV	-20	-11.71	-0.006229	±2.5	PASS
Band2	9400	1	NV	-10	-12.55	-0.006676	±2.5	PASS
Band2	9400	1	NV	0	-11.72	-0.006234	±2.5	PASS
Band2	9400	1	NV	10	-11.83	-0.006293	±2.5	PASS
Band2	9400	1	NV	20	-7.05	-0.003750	±2.5	PASS
Band2	9400	1	NV	30	-9.39	-0.004995	±2.5	PASS
Band2	9400	1	NV	40	-9.59	-0.005101	±2.5	PASS
Band2	9400	1	NV	50	-10.77	-0.005729	±2.5	PASS
Band2	9400	2	NV	-30	-9.48	-0.005043	±2.5	PASS
Band2	9400	2	NV	-20	-9.83	-0.005229	±2.5	PASS
Band2	9400	2	NV	-10	-11.05	-0.005878	±2.5	PASS
Band2	9400	2	NV	0	-12.09	-0.006431	±2.5	PASS
Band2	9400	2	NV	10	-9.86	-0.005245	±2.5	PASS
Band2	9400	2	NV	20	-12.39	-0.006590	±2.5	PASS
Band2	9400	2	NV	30	-8.50	-0.004521	±2.5	PASS
Band2	9400	2	NV	40	-8.40	-0.004468	±2.5	PASS
Band2	9400	2	NV	50	-10.62	-0.005649	±2.5	PASS
Band2	9400	3	NV	-30	-10.78	-0.005734	±2.5	PASS

Band2	9400	3	NV	-20	-10.61	-0.005644	±2.5	PASS
Band2	9400	3	NV	-10	-9.90	-0.005266	±2.5	PASS
Band2	9400	3	NV	0	-9.68	-0.005149	±2.5	PASS
Band2	9400	3	NV	10	-9.30	-0.004947	±2.5	PASS
Band2	9400	3	NV	20	-11.04	-0.005872	±2.5	PASS
Band2	9400	3	NV	30	-10.57	-0.005622	±2.5	PASS
Band2	9400	3	NV	40	-11.46	-0.006096	±2.5	PASS
Band2	9400	3	NV	50	-9.53	-0.005069	±2.5	PASS
Band2	9400	4	NV	-30	-10.94	-0.005819	±2.5	PASS
Band2	9400	4	NV	-20	-8.68	-0.004617	±2.5	PASS
Band2	9400	4	NV	-10	-10.17	-0.005410	±2.5	PASS
Band2	9400	4	NV	0	-9.05	-0.004814	±2.5	PASS
Band2	9400	4	NV	10	-9.36	-0.004979	±2.5	PASS
Band2	9400	4	NV	20	-10.59	-0.005633	±2.5	PASS
Band2	9400	4	NV	30	-10.04	-0.005340	±2.5	PASS
Band2	9400	4	NV	40	-10.44	-0.005553	±2.5	PASS
Band2	9400	4	NV	50	-10.32	-0.005489	±2.5	PASS
Band2	9400	5	NV	-30	-8.99	-0.004782	±2.5	PASS
Band2	9400	5	NV	-20	-9.73	-0.005176	±2.5	PASS
Band2	9400	5	NV	-10	-8.94	-0.004755	±2.5	PASS
Band2	9400	5	NV	0	-11.32	-0.006021	±2.5	PASS
Band2	9400	5	NV	10	-7.62	-0.004053	±2.5	PASS
Band2	9400	5	NV	20	-9.25	-0.004920	±2.5	PASS
Band2	9400	5	NV	30	-9.05	-0.004814	±2.5	PASS
Band2	9400	5	NV	40	-9.63	-0.005122	±2.5	PASS
Band2	9400	5	NV	50	-9.36	-0.004979	±2.5	PASS
Band4	1413	5	NV	-30	-8.83	-0.005096	±2.5	PASS
Band4	1413	5	NV	-20	-9.36	-0.005402	±2.5	PASS
Band4	1413	5	NV	-10	-11.57	-0.006678	±2.5	PASS
Band4	1413	5	NV	0	-10.49	-0.006054	±2.5	PASS
Band4	1413	5	NV	10	-8.21	-0.004739	±2.5	PASS
Band4	1413	5	NV	20	-9.11	-0.005258	±2.5	PASS
Band4	1413	5	NV	30	-10.27	-0.005928	±2.5	PASS
Band4	1413	5	NV	40	-10.18	-0.005876	±2.5	PASS
Band4	1413	5	NV	50	-10.54	-0.006083	±2.5	PASS
Band5	4182	5	NV	-30	-7.43	-0.008883	±2.5	PASS
Band5	4182	5	NV	-20	-7.70	-0.009206	±2.5	PASS
Band5	4182	5	NV	-10	-7.45	-0.008907	±2.5	PASS
Band5	4182	5	NV	0	-7.32	-0.008752	±2.5	PASS
Band5	4182	5	NV	10	-9.44	-0.011286	±2.5	PASS
Band5	4182	5	NV	20	-7.22	-0.008632	±2.5	PASS
Band5	4182	5	NV	30	-8.92	-0.010665	±2.5	PASS
Band5	4182	5	NV	40	-8.33	-0.009959	±2.5	PASS
Band5	4182	5	NV	50	-9.10	-0.010880	±2.5	PASS

## 9. RADIATED SPURIOUS EMISSIONS

### RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27.53

### LIMIT

Part §22.917(a), §24.238(a), §27.53(h)

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

### TEST PROCEDURE

KDB 971168 D01 Section 7

Below 1GHz test procedure as below:

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Calculate power in dBm by the following formula:  
$$\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBd)}$$

Where:

$P_d$  is the dipole equivalent power,  $P_g$  is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to  $P_g$  [dBm] – cable loss [dB]. The calculated  $P_d$  levels are then compared to the absolute spurious emission limit of -13 dBm which is equivalent to the required minimum attenuation of  $43 + 10\log_{10}(\text{Power [Watts]})$ .

Above 1GHz test procedure as below:

1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.

10. Calculate power in dBm by the following formula:

$$\text{EIRP(dBm)} = P_g(\text{dBm}) - \text{cable loss (dB)} + \text{antenna gain (dBi)}$$

$$\text{EIRP} = \text{ERP} + 2.15\text{dB}$$

Where:  $P_g$  is the generator output power into the substitution antenna.

11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from  $43 + 10\log(P)\text{dB}$  below the transmitter power  $P(\text{Watts})$

$$= P(\text{W}) - [43 + 10\log(P)] (\text{dB})$$

$$= [30 + 10\log(P)] (\text{dBm}) - [43 + 10\log(P)] (\text{dB})$$

$$= -13\text{dBm}.$$

$$\text{EIRP[dBm]} = E[\text{dB}\mu\text{V/m}] - 95.25$$

$$E[\text{dB}\mu\text{V/m}] = 95.25 - \text{EIRP[dBm]}$$

$$E[\text{dB}\mu\text{V/m}] = 82.25$$

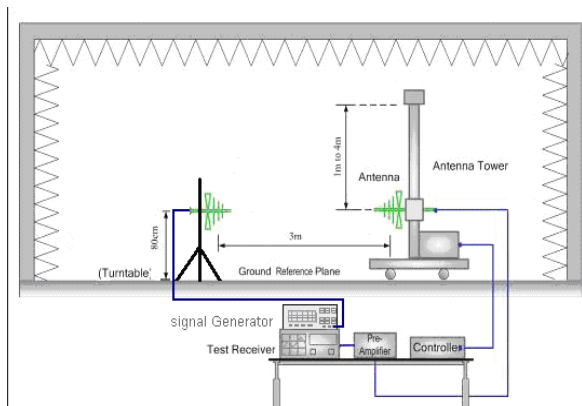
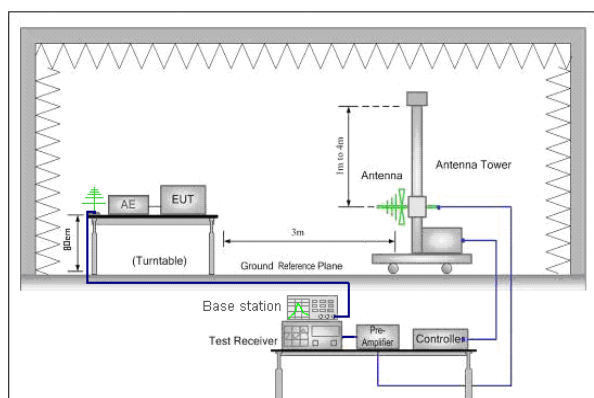
NOTE 1: Radiated spurious emissions were investigated below 30 MHz, 30 MHz – 1 GHz and above 1 GHz. There were no emissions found on below 30 MHz and 30 MHz – 1 GHz.

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site.

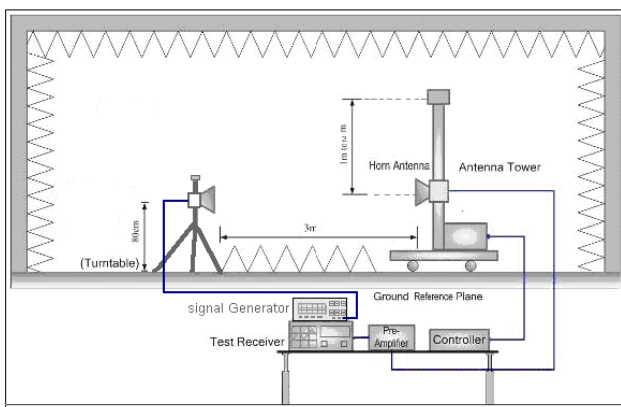
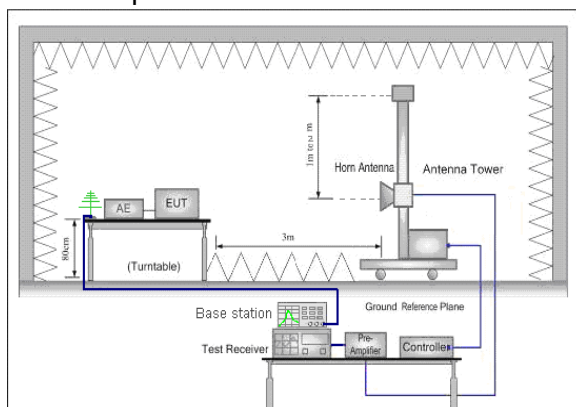
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field based on KDB 414788.

## TEST SETUP

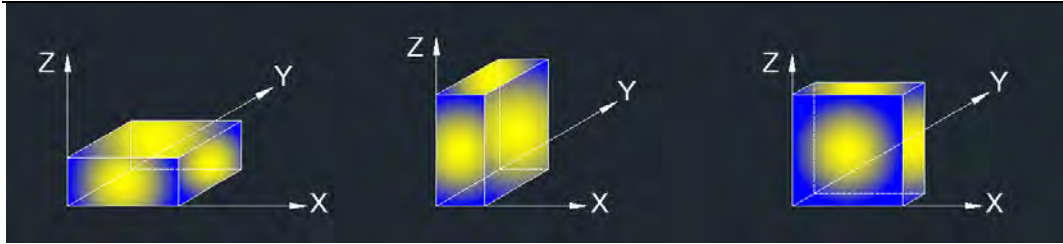
### Test Setup for Below 1 GHz



### Test Setup for Above 1 GHz



X axis, Y axis, Z axis positions:



Note 1: The manufacturer has recommended that the EUT only be used in the desktop (horizontal) orientation; therefore, all radiated testing was performed in desktop orientation.

### **TEST ENVIRONMENT**

Temperature	22.9°C	Relative Humidity	58.3%
Atmosphere Pressure	101kPa	Test Voltage	/

**RESULTS**
**WCDMA Band 2**
**HSDPA- Low Channel- Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3705.000	60.36	-4.48	55.88	82.25	-26.37	peak
2	5550.000	54.45	0.98	55.43	82.25	-26.82	peak
3	7410.000	51.74	6.39	58.13	82.25	-24.12	peak
4	9255.000	53.82	10.59	64.41	82.25	-17.84	peak
5	11115.000	38.00	15.20	53.20	82.25	-29.05	peak
6	13920.000	32.87	21.79	54.66	82.25	-27.59	peak

**HSDPA- Low Channel- Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3705.000	63.80	-4.48	59.32	82.25	-22.93	peak
2	5550.000	55.01	0.98	55.99	82.25	-26.26	peak
3	7410.000	56.25	6.39	62.64	82.25	-19.61	peak
4	9255.000	55.15	10.59	65.74	82.25	-16.51	peak
5	11910.000	35.09	17.72	52.81	82.25	-29.44	peak
6	13950.000	32.22	21.86	54.08	82.25	-28.17	peak

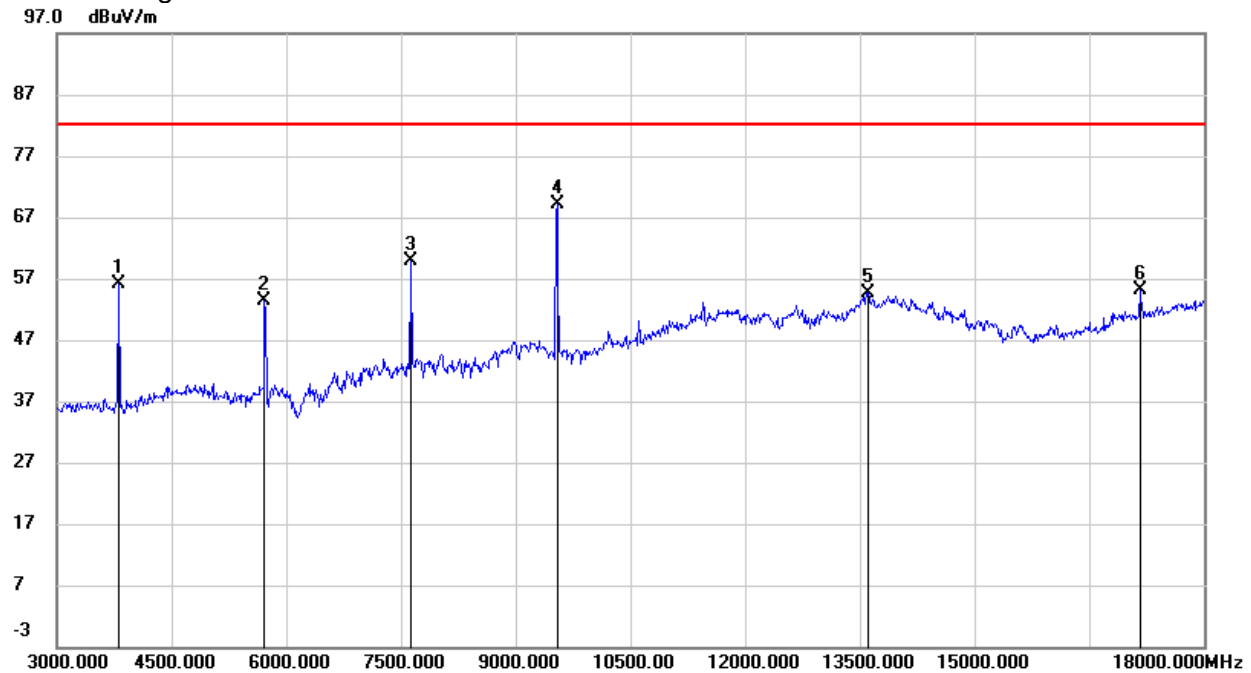
**HSDPA- Mid Channel- Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3750.000	57.51	-4.38	53.13	82.25	-29.12	peak
2	5640.000	51.68	1.24	52.92	82.25	-29.33	peak
3	7515.000	50.91	6.33	57.24	82.25	-25.01	peak
4	9390.000	53.60	10.64	64.24	82.25	-18.01	peak
5	11880.000	34.73	17.63	52.36	82.25	-29.89	peak
6	13650.000	33.37	21.21	54.58	82.25	-27.67	peak

**HSDPA- Mid Channel- Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3750.000	63.35	-4.38	58.97	82.25	-23.28	peak
2	5625.000	55.24	1.20	56.44	82.25	-25.81	peak
3	7515.000	54.90	6.33	61.23	82.25	-21.02	peak
4	9390.000	53.54	10.64	64.18	82.25	-18.07	peak
5	13680.000	33.02	21.29	54.31	82.25	-27.94	peak
6	17970.000	28.65	25.51	54.16	82.25	-28.09	peak



**HSDPA- High Channel- Horizontal**


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3810.000	60.41	-4.24	56.17	82.25	-26.08	peak
2	5715.000	51.98	1.46	53.44	82.25	-28.81	peak
3	7635.000	53.51	6.33	59.84	82.25	-22.41	peak
4	9540.000	58.38	10.80	69.18	82.25	-13.07	peak
5	13605.000	33.48	21.12	54.60	82.25	-27.65	peak
6	17160.000	33.57	21.48	55.05	82.25	-27.20	peak

**HSDPA- High Channel- Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3810.000	65.70	-4.24	61.46	82.25	-20.79	peak
2	5715.000	56.49	1.46	57.95	82.25	-24.30	peak
3	7635.000	57.45	6.33	63.78	82.25	-18.47	peak
4	9540.000	56.45	10.80	67.25	82.25	-15.00	peak
5	11460.000	36.44	16.46	52.90	82.25	-29.35	peak
6	13920.000	33.17	21.79	54.96	82.25	-27.29	peak

**WCDMA Band 4**
**HSDPA- Low Channel- Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3420.000	64.22	-5.01	59.21	82.25	-23.04	peak
2	5130.000	53.75	0.55	54.30	82.25	-27.95	peak
3	6840.000	54.02	5.89	59.91	82.25	-22.34	peak
4	8565.000	58.83	7.31	66.14	82.25	-16.11	peak
5	10275.000	51.27	12.54	63.81	82.25	-18.44	peak
6	11985.000	38.90	17.92	56.82	82.25	-25.43	peak

**HSDPA- Low Channel- Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3420.000	63.51	-5.01	58.50	82.25	-23.75	peak
2	5130.000	55.66	0.55	56.21	82.25	-26.04	peak
3	6840.000	57.08	5.89	62.97	82.25	-19.28	peak
4	8565.000	59.57	7.31	66.88	82.25	-15.37	peak
5	10275.000	48.57	12.54	61.11	82.25	-21.14	peak
6	11985.000	41.78	17.92	59.70	82.25	-22.55	peak

**HSDPA- Mid Channel- Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3465.000	62.22	-4.98	57.24	82.25	-25.01	peak
2	5190.000	51.51	0.60	52.11	82.25	-30.14	peak
3	6930.000	52.68	6.34	59.02	82.25	-23.23	peak
4	8655.000	56.52	7.97	64.49	82.25	-17.76	peak
5	10395.000	47.19	12.78	59.97	82.25	-22.28	peak
6	12120.000	36.98	17.87	54.85	82.25	-27.40	peak

**HSDPA- Mid Channel- Vertical**

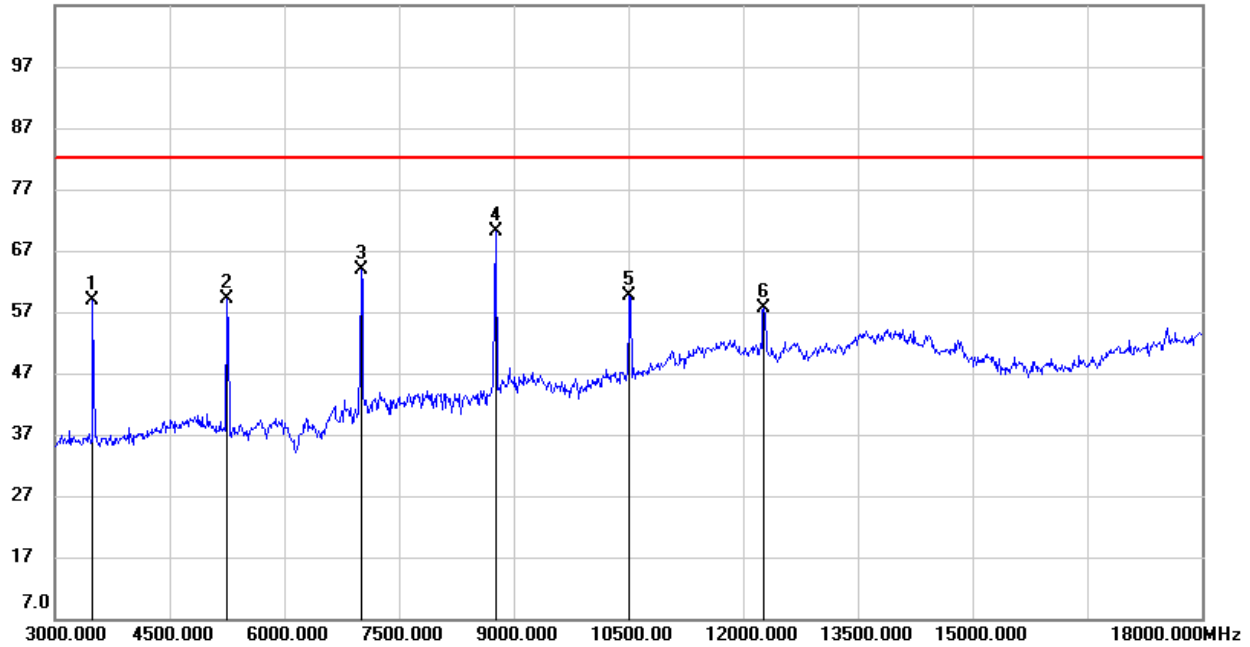
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3465.000	61.90	-4.98	56.92	82.25	-25.33	peak
2	5190.000	55.51	0.60	56.11	82.25	-26.14	peak
3	6930.000	55.25	6.34	61.59	82.25	-20.66	peak
4	8655.000	60.30	7.97	68.27	82.25	-13.98	peak
5	10395.000	46.11	12.78	58.89	82.25	-23.36	peak
6	12135.000	39.58	17.86	57.44	82.25	-24.81	peak

**HSDPA- High Channel- Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3495.000	64.97	-4.96	60.01	82.25	-22.24	peak
2	5250.000	52.77	0.64	53.41	82.25	-28.84	peak
3	7005.000	53.65	6.69	60.34	82.25	-21.91	peak
4	8760.000	58.03	8.73	66.76	82.25	-15.49	peak
5	10515.000	47.04	13.04	60.08	82.25	-22.17	peak
6	12255.000	37.40	17.78	55.18	82.25	-27.07	peak

**HSDPA- High Channel- Vertical**

107.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3495.000	63.91	-4.96	58.95	82.25	-23.30	peak
2	5250.000	58.39	0.64	59.03	82.25	-23.22	peak
3	7005.000	57.17	6.69	63.86	82.25	-18.39	peak
4	8760.000	61.47	8.73	70.20	82.25	-12.05	peak
5	10515.000	46.49	13.04	59.53	82.25	-22.72	peak
6	12270.000	39.83	17.77	57.60	82.25	-24.65	peak

**WCDMA Band 5**
**HSDPA- Low Channel- Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1648.000	57.43	-12.22	45.21	82.25	-37.04	peak
2	2476.000	52.93	-8.61	44.32	82.25	-37.93	peak
3	3295.000	48.74	-6.32	42.42	82.25	-39.83	peak
4	4951.000	44.71	-0.34	44.37	82.25	-37.88	peak
5	7642.000	38.09	5.69	43.78	82.25	-38.47	peak
6	9316.000	36.35	9.87	46.22	82.25	-36.03	peak

**HSDPA- Low Channel- Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1648.000	56.75	-12.22	44.53	82.25	-37.72	peak
2	2476.000	55.30	-8.61	46.69	82.25	-35.56	peak
3	3295.000	50.23	-6.32	43.91	82.25	-38.34	peak
4	4123.000	50.40	-3.90	46.50	82.25	-35.75	peak
5	4951.000	49.26	-0.34	48.92	82.25	-33.33	peak
6	9001.000	36.45	9.74	46.19	82.25	-36.06	peak

**HSDPA- Mid Channel- Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1675.000	60.85	-12.13	48.72	82.25	-33.53	peak
2	2512.000	52.72	-8.45	44.27	82.25	-37.98	peak
3	3349.000	48.42	-6.19	42.23	82.25	-40.02	peak
4	4186.000	45.59	-3.61	41.98	82.25	-40.27	peak
5	5023.000	43.61	-0.12	43.49	82.25	-38.76	peak
6	9217.000	37.82	9.83	47.65	82.25	-34.60	peak

**HSDPA- Mid Channel- Vertical**

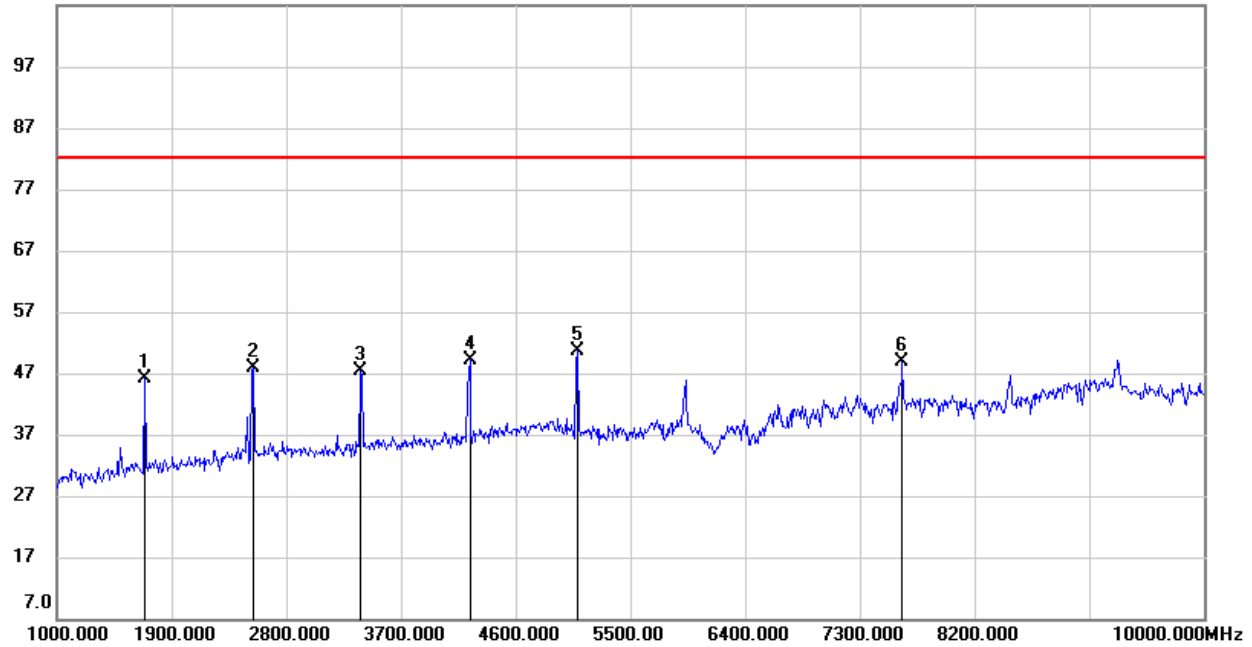
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1675.000	56.84	-12.13	44.71	82.25	-37.54	peak
2	2512.000	56.15	-8.45	47.70	82.25	-34.55	peak
3	3349.000	51.76	-6.19	45.57	82.25	-36.68	peak
4	4186.000	51.93	-3.61	48.32	82.25	-33.93	peak
5	5014.000	49.11	-0.13	48.98	82.25	-33.27	peak
6	9217.000	38.78	9.83	48.61	82.25	-33.64	peak

**HSDPA- High Channel- Horizontal**

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1693.000	62.13	-12.08	50.05	82.25	-32.20	peak
2	2539.000	56.13	-8.37	47.76	82.25	-34.49	peak
3	4240.000	48.50	-3.35	45.15	82.25	-37.10	peak
4	5932.000	42.87	1.65	44.52	82.25	-37.73	peak
5	7633.000	40.53	5.68	46.21	82.25	-36.04	peak
6	9325.000	39.57	9.87	49.44	82.25	-32.81	peak

**HSDPA- High Channel- Vertical**

107.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	1684.000	58.30	-12.10	46.20	82.25	-36.05	peak
2	2539.000	56.29	-8.37	47.92	82.25	-34.33	peak
3	3385.000	53.45	-6.11	47.34	82.25	-34.91	peak
4	4240.000	52.60	-3.35	49.25	82.25	-33.00	peak
5	5086.000	50.75	-0.05	50.70	82.25	-31.55	peak
6	7633.000	43.14	5.68	48.82	82.25	-33.43	peak

Remark: All the modulation WCDMA, HSDPA, HSUPA have been tested at low, middle, high channels, only the worst modulation show in the test report.

**END OF REPORT**