

**ELECTROMAGNETIC EMISSIONS  
COMPLIANCE REPORT**

**EUT Description** Mobile Router

**Applicant:** NEC Platforms,Ltd.  
Daini Tamachi Bldg., 14-1 Shiba 4-chome, Minato City, Tokyo  
108-0014, Japan

**Manufacturer:** NEC Platforms,Ltd.  
Daini Tamachi Bldg., 14-1 Shiba 4-chome, Minato City, Tokyo  
108-0014, Japan

**Brand Name:** NEC Platforms Ltd.

**Model No.:** KMP8S3AD1-1A

**Report Number:** TERF2506001853ER

**FCC ID** 2AA5WKMP8S3AD

**Date of EUT Received:** June 2, 2025

**Date of Test:** June 4, 2025 ~ June 30, 2025

**Issue Date:** July 22, 2025

*Vito Pei*  
**Approved By** \_\_\_\_\_

**Vito Pei**

**We hereby certify that:**

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT comply with FCC rule part 2 , 22H & 24E & 27 C.

The results of this report relate only to the sample identified in this report.

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## Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TERF2506001853ER	00	Original	July 22, 2025	Karen Huang	

**Note:**

- 1、The remark "" indicates modification of the report upon requests from certification body.

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## 1 GENERAL PRODUCT INFORMATION

### 1.1 Product Description

Product Name:	Mobile Router
Brand Name:	NEC Platforms Ltd.
Model No.:	KMP8S3AD1-1A
Hardware Version:	1
Firmware Version:	1
Power Supply:	3.8Vdc
Test Software (Name/Version)	default(Link Call Radio Communication Analyzer)

### 1.2 Operation Frequency Range

Operating Frequency (MHz)			
WCDMA / HSPA+ Band II	1852.4	-	1907.6
WCDMA / HSPA+ Band IV	1712.4	-	1752.6
WCDMA / HSPA+ Band V	826.4	-	846.6

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### 1.3 Antenna Designation

Antenna Type	Antenna Model No.
Inverted F Antenna (Omni-directional)	ANT1
	ANT2
	ANT3
<b>Note:</b> Transmission frequencies in this test report are only available by the above antenna(s).	

Modulation	Frequency (MHz)	Peak Antenna Gain (dBi)		
		ANT1	ANT2	ANT3
WCDMA / HSPA+ Band II	1852.4 - 1907.6	-	-	2
WCDMA / HSPA+ Band IV	1712.4 - 1752.6	-	-	2.4
WCDMA / HSPA+ Band V	826.4 - 846.6	-1.5	-2.0	-

**Note:** The antenna information is provided by the applicant, and the laboratory shall not be held liable for the accuracy, completeness, or reliability of any applicant-supplied data.

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#### 1.4 Type of Emission & Max ERP/EIRP Power Measurement Result:

Mode	ERP / EIRP (dBm)		W	99%	Type of Emission
WCDMA Band II	22.75	EIRP	0.188	4.1541	4M15F9W
HSDPA Band II	22.62	EIRP	0.183	4.1518	4M15F9W
HSUPA Band II	22.65	EIRP	0.184	4.1595	4M16F9W
WCDMA Band IV	23.12	EIRP	0.205	4.1581	4M16F9W
HSDPA Band IV	23.00	EIRP	0.200	4.1442	4M14F9W
HSUPA Band IV	23.01	EIRP	0.200	4.1539	4M15F9W
WCDMA Band V	20.35	ERP	0.108	4.1534	4M15F9W
HSDPA Band V	20.13	ERP	0.103	4.1466	4M15F9W
HSUPA Band V	20.23	ERP	0.105	4.1452	4M15F9W

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## 1.5 Test Methodology of Applied Standards

FCC 47 CFR Part 2, 22H, 24E, 27C

ANSI C63.26-2015

KDB971168 D01 Power Meas license Digital System v03r01

KDB941225 D01 SAR test for 3G devices v03r01 (SAR Measurement Procedures for 3G Devices, WCDMA / HSPA) was used for EUT and Base station setting.

KDB412172 D01 Determining ERP and EIRP v01r01

TS 151 010-1 is used to set, and measure the output power.

## 1.6 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designa- tion number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan.	SAC 1	TW0027	TW3702
		SAC 2		
		SAC 3		
		Conduction 1		
		Conducted 1		
		Conducted 2		
		Conducted 3		
		Conducted 4		
		Conducted 5		
		Conducted 6		
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conduction C	TW0028	
		SAC C		
		SAC D		
		SAC G		
		Conducted A		
		Conducted B		
		Conducted C		
		Conducted D		
		Conducted E		
		Conducted F		
Conducted G				
<b>Note:</b> Test site name is remarked on the equipment list in each section of this report as an indica- tion where measurements occurred in specific test site and address.				

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### 1.7 Special Accessories

No special accessories were used during testing.

### 1.8 Equipment Modifications

There was no modifications incorporated into the EUT.

### 1.9 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m\*6m\*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

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## 2 SYSTEM TEST CONFIGURATION

### 2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

### 2.2 EUT Exercise

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

### 2.3 Test Procedure

#### 2.3.1 Conducted Measurement at Antenna Port

The EUT is placed on a table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

#### 2.3.2 Radiated Emissions (ERP/EIRP)

The EUT is placed on a turn table, for emission measurements below 1 GHz is 0.8 m above ground plane, for emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

### 2.4 Measurement Results Explanation Example

#### For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

#### Note:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

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## 2.5 Final Amplifier Voltage and Current Information:

Test mode	DC voltage (V)	DC current (mA)
WCDMA B2	3.8	910
HSUPA B2	3.8	880
HSDPA B2	3.8	870
WCDMA B4	3.8	900
HSUPA B4	3.8	890
HSDPA B4	3.8	890
WCDMA B5	3.8	910
HSUPA B5	3.8	870
HSDPA B5	3.8	880

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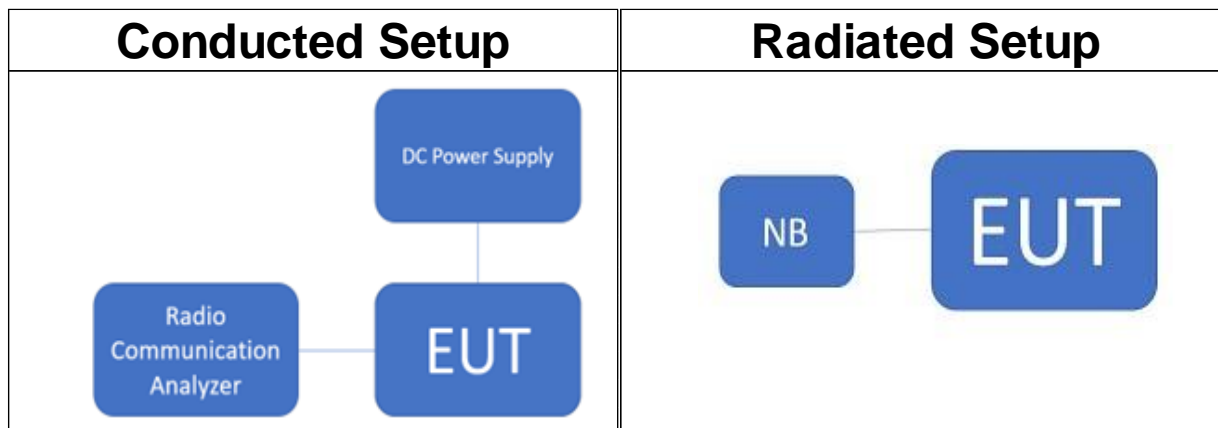
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### 3 TEST CONFIGURATION



**Note:** Radio Communication Analyzer is placed in remote side for radiated test.

#### 3.1 Control Unit(s)

Radiated Emission Test Site: SAC C					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Notebook	HP	HSN-Q35C-4	P0004691	N/A	N/A
USB Cable	I Max	USB-C1200	N/A	N/A	N/A

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## 4 SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§2.1046(a)	RF Power Output	Compliant
§22.913(a)(5) §24.232(c) §27.50(d)(4)	ERP/ EIRP measurement	Compliant
§2.1049(h)	99% & 26dB Occupied Band-width	Compliant
§2.1051 §22.917(a) §24.238(a) §27.53(h)	Out of Band Emissions at Antenna Terminals and Band Edge / Emission mask requirements	Compliant
§2.1053 §22.917(a) §24.238(a) §27.53(h)	Field Strength of Spurious Radiation	Compliant
§22.913(d) §24.232(d) §27.50(a)(1)(5) §27.50(d)(5)	Peak to Average Ratio	Compliant
§2.1055(a)(1) §22.355 §24.235 §27.54	Frequency Stability	Compliant

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## 5 DESCRIPTION OF TEST MODES

### 5.1 The Worst Test Modes and Channel Details

1. The EUT has been tested under operating condition.
2. The field strength of radiated emission was measured as the EUT positioned in different orthogonal planes (E1/E2/H) based on actual usage of the EUT to pre-scan the emissions for determining the worst case scenario.

### 5.2 Measurement Configuration

Test Items	WCDMA / HSPA Bands	Test Channel		
		L	M	H
ERP	Band V	v	v	v
EIRP	Band II	v	v	v
	Band IV	v	v	v
FREQUENCY STABILITY	Band II	-	v	-
	Band IV	-	v	-
	Band V	-	v	-
OCCUPIED BANDWIDTH	Band II	v	v	v
	Band IV	v	v	v
	Band V	v	v	v
PEAK TO AVERAGE RATIO	Band II	v	v	v
	Band IV	v	v	v
	Band V	v	v	v
BAND EDGE	Band II	v	-	v
	Band IV	v	-	v
	Band V	v	-	v
CONDUCTED EMISSION	Band II	v	v	v
	Band IV	v	v	v
	Band V	v	v	v

UTRA Band	Test Channel	Modulation
WCDMA 2	1852.4 , 1880 , 1907.6	QPSK
WCDMA 4	1712.4 , 1732.6 , 1752.6	QPSK
WCDMA 5	826.4 , 836.6 , 846.6	QPSK

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## 6 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
Power Density	+/- 0.61 dB
Output Power measurement	+/- 0.97 dB
ERP/ EIRP measurement	+/- 2.16 dB
	+/- 2.16 dB
Emission Bandwidth	+/- 1.38 Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/- 0.77 dB
Peak to Average Ratio	+/- 0.97 dB
Frequency Stability vs. Temperature	+/- 1.48 Hz
Frequency Stability vs. Voltage	+/- 1.48 Hz
Temperature	+/- 0.6 °C
Humidity	+/- 3 %
DC / AC Power Source	+/- 1 %

Radiated Spurious Emission Measurement Uncertainty			
Polarization: Vertical	+/-	1.89 dB	9kHz~30MHz
	+/-	4.1 dB	30MHz - 1000MHz
	+/-	3.37 dB	1GHz - 18GHz
	+/-	3.83 dB	18GHz - 40GHz
Polarization: Horizontal	+/-	1.89 dB	9kHz~30MHz
	+/-	4.1 dB	30MHz - 1000MHz
	+/-	3.37 dB	1GHz - 18GHz
	+/-	3.83 dB	18GHz - 40GHz
Radiated Spurious Emission	+/-	2 dB	33GHz-50GHz
	+/-	1.59 dB	50GHz-60GHz
	+/-	1.71 dB	60GHz-90GHz
	+/-	1.64 dB	90GHz-140GHz
	+/-	3.84 dB	140GHz-220GHz

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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## 7 MEASUREMENT EQUIPMENT USED

### 7.1 Conducted Measurement

Conducted Emission Test Site: Conducted E					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
Attenuator	Marvelous	MVE2213-10	RF06	11/14/2024	11/13/2025
DC Block	PASTERNAK	PE8210	RF157	11/14/2024	11/13/2025
DC Power Supply	Gwinstek	SPD-3606	GEV923152	05/21/2025	05/20/2026
Radio Communication Analyzer	Anritsu	MT8820C	6201465316	07/12/2024	07/11/2025
Coaxial Cables	Woken	00100A1F1A185C	RF86	11/14/2024	11/13/2025
Coaxial Cables	Woken	00100A1F2A196C	RF93	11/14/2024	11/13/2025
Splitter	Woken	DOM35LW1A2	RF255	11/14/2024	11/13/2025
Temperature Chamber	Haich	HC-TOPH-30-CHP	QHC20230320-100-2	08/23/2024	08/22/2025
Spectrum Analyzer	KEYSIGHT	N9010A	MY57120200	04/02/2025	04/01/2026

### 7.2 Radiated Measurement

Radiated Emission Test Site: SAC C					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL. (mm/dd/yyyy)	CAL DUE. (mm/dd/yyyy)
3m Site NSA	SGS	966 chamber C	N/A	03/02/2025	03/01/2026
Attenuator	Woken	WATT-218FS-10	RF17	11/14/2024	11/13/2025
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-300	11/06/2024	11/05/2025
Coaxial Cable	EMCI+Huber Suhner	RG 214/U+EMC104-SM-SM-6000+EMC105-SM-SM-12000+15	W13.01+150813+2310002+15	11/14/2024	11/13/2025
EMI Test Receiver	R&S	ESU 40	100363	05/06/2025	05/05/2026
Highpass Filter	R&S	F13 HPF 3GHz	RF167	11/14/2024	11/13/2025
Horn Antenna	Schwarzbeck	BBHA9120D	1187	02/05/2025	02/04/2026
Horn Antenna	Schwarzbeck	BBHA9170	184	12/20/2024	12/19/2025
Lowpass Filter	Woken	EWI-56-0019	RF163	11/14/2024	11/13/2025
Notch Filter	Woken	EWI-54-0037	RF197	11/14/2024	11/13/2025
Pre-Amplifier	EMC Instruments	EMC118A45SE	980789	11/14/2024	11/13/2025
Pre-Amplifier	EMC Instruments	EMC184045SEE	980881	11/14/2024	11/13/2025
Pre-Amplifier	EMC Instruments	EMC330	980091	11/14/2024	11/13/2025
Spectrum Analyzer	KEYSIGHT	N9010B	MY63440390	02/13/2025	02/12/2026
Test Software	audix	e3	E3 20923 SGS Ver.9 (C)	N.C.R	N.C.R

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## 8 MAXIMUM OUTPUT POWER

### 8.1 Standard Applicable

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals.

According to FCC §2.1046

#### FCC 22.913(a)

(5) mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

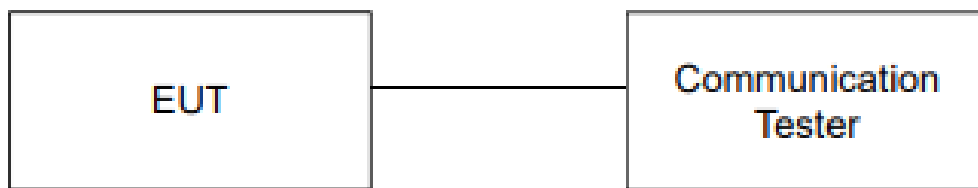
#### FCC 24.232(c)

Mobile and portable stations are limited to 2 W EIRP.

#### FCC 27.50(d)

(4) Mobile, and portable (hand-held) stations operating in the 1710-1755 MHz, 1695-1710 MHz and 1755-1780 MHz bands are limited to 1W EIRP.

### 8.2 Test Set-up



**Note:** Measurement setup for testing on Antenna connector

### 8.3 Output Power Measurement Applicable Guidance

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a communication tester.

Transmitter output was read off the communication tester in dBm.

The power output at the transmitter antenna port was determined by adding the value of the attenuator to the communication tester reading.

The Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, (WCDMA/HSPA) was used for EUT and RMC 12.2kps is used for Base station setting.

KDB 971168 D01 Power Meas License Digital System as the supplemental test methodology to adjust the proper setting obtaining the measurement results.

Conducted average power is obtained from the simulator telecommunication test set.

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#### 8.4 Determining ERP and/or EIRP from conducted RF output power measurements

According to KDB 412172 D01 Power Approach,

$$EIRP = P_T + G_T - L_C,$$

$$ERP = EIRP - 2.15,$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power (expressed in the same units as  $P_T$ , typically dBW, dBm, or power spectral density (PSD)<sup>2</sup>), relative to either a dipole antenna (ERP) or an isotropic antenna (EIRP);

$P_T$  = transmitter output power, expressed in dBW, dBm, or PSD;

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

$L_C$  = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

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## 8.5 Measurement Results

### 8.5.1 WCDMA & HSPA Measurement Results:

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The EUT supports power Class 3, which has a nominal maximum output power of 24 dBm. RMC 12.2kps is used for this testing.

#### WCDMA/HSUPA/HSDPA Band II Result:

EUT Mode	Freq. (MHz)	CH	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
WCDMA	1852.4	<b>9262</b>	20.75	2.00	20.60	<b>22.75</b>	33.00	-10.25
	1880.0	<b>9400</b>	20.68	2.00	20.53	22.68	33.00	-10.32
	1907.6	<b>9538</b>	20.71	2.00	20.56	22.71	33.00	-10.29
HSDPA	1852.4	<b>9262</b>	20.48	2.00	20.33	22.48	33.00	-10.52
	1880.0	<b>9400</b>	20.59	2.00	20.44	22.59	33.00	-10.41
	1907.6	<b>9538</b>	20.62	2.00	20.47	<b>22.62</b>	33.00	-10.38
HSUPA	1852.4	<b>9262</b>	20.49	2.00	20.34	22.49	33.00	-10.51
	1880.0	<b>9400</b>	20.65	2.00	20.50	<b>22.65</b>	33.00	-10.35
	1907.6	<b>9538</b>	20.63	2.00	20.48	22.63	33.00	-10.37

#### WCDMA/HSUPA/HSDPA Band IV Result:

EUT Mode	Freq. (MHz)	CH	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
WCDMA	1712.4	1312	20.60	2.40	20.85	23.00	30.00	-7.00
	1732.6	1413	20.72	2.40	20.97	<b>23.12</b>	30.00	-6.88
	1752.6	1513	20.69	2.40	20.94	23.09	30.00	-6.91
HSDPA	1712.4	1312	20.48	2.40	20.73	22.88	30.00	-7.12
	1732.6	1413	20.60	2.40	20.85	<b>23.00</b>	30.00	-7.00
	1752.6	1513	20.51	2.40	20.76	22.91	30.00	-7.09
HSUPA	1712.4	1312	20.53	2.40	20.78	22.93	30.00	-7.07
	1732.6	1413	20.52	2.40	20.77	22.92	30.00	-7.08
	1752.6	1513	20.61	2.40	20.86	<b>23.01</b>	30.00	-6.99

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## WCDMA/HSUPA/HSDPA Band V Result:

EUT Mode	Freq. (MHz)	CH	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
WCDMA	826.4	4132	23.98	-1.50	20.33	22.48	38.50	-16.02
	836.6	4183	23.95	-1.50	20.30	22.45	38.50	-16.05
	846.6	4233	24.00	-1.50	20.35	<b>22.50</b>	38.50	-16.00
HSDPA	826.4	4132	23.72	-1.50	20.07	22.22	38.50	-16.28
	836.6	4183	23.78	-1.50	20.13	<b>22.28</b>	38.50	-16.22
	846.6	4233	23.70	-1.50	20.05	22.20	38.50	-16.30
HSUPA	826.4	4132	23.76	-1.50	20.11	22.26	38.50	-16.24
	836.6	4183	23.88	-1.50	20.23	<b>22.38</b>	38.50	-16.12
	846.6	4233	23.81	-1.50	20.16	22.31	38.50	-16.19

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### 8.5.2 HSPA (HSDPA & HSUPA) Release 6:

The following 4 Sub-Tests were completed according to the test requirements outlined in section 5.2A of the 3GPP TS34.121-1 specification. All TX RMS power requirements for Power Class 3 were met according to table 5.2AA.5 and 5.2B.5 All UE channels and power ratio's are set according to table C10.1.4 & C11.1.3 in the 3GPP TS34.121-1. RMC 12.2kps is used for this testing.

### 8.5.3 HSDPA SUB-TEST Setting

Table C.10.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH(FOR HSDPA)

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)	RMC (Kbps)
1	2/15	15/15	64	2/15	4/15	0.0	0.0	12.2
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0	12.2
3	15/15	8/15	64	15/8	30/15	1.5	0.5	12.2
4	15/15	4/15	64	15/4	30/15	1.5	0.5	12.2

**Note:** The recommended HSDPA MPRs are implemented as per following sub-tests.

Mode	Sub test	Avg. Power (dBm)		
		Channel		
		9262	9400	9538
HSDPA II	1	20.48	20.59	20.62
	2	20.63	20.67	20.63
	3	20.07	20.08	20.18
	4	20.19	20.20	20.15
Mode	Sub test	Avg. Power (dBm)		
		Channel		
		1312	1413	1513
HSDPA IV	1	20.48	20.60	20.51
	2	20.63	20.51	20.61
	3	20.04	20.09	20.03
	4	20.09	20.17	20.11

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Mode	Sub test	Avg. Power (dBm)		
		Channel		
		4132	4183	4233
HSDPA V	1	23.72	23.78	23.70
	2	23.79	23.75	23.81
	3	23.26	23.35	23.24
	4	23.39	23.35	23.40

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## 8.5.4 HSPA SUB-TEST Setting

Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH(FOR HSUPA)

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$	$\beta_{ec}$	$\beta_{ed}$	$\beta_{ed}$ (SF)	$\beta_{ed}$ (Code s)	CM (dB)	MPR (dB)	AG Index	E-TFCI	RMC (Kbps)
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75	12.2
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67	12.2
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}$ : 47/15 $\beta_{ed2}$ : 47/15	4 4	2	2.0	1.0	15	92	12.2
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71	12.2
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81	12.2

**Note:** The recommended HSUPA MPRs are implemented as per following sub-tests.

Mode	Sub test	Avg. Power (dBm)		
		Channel		
		9262	9400	9538
HSUPA II	1	20.49	20.65	20.63
	2	18.74	18.81	18.83
	3	19.65	19.64	19.81
	4	18.84	18.75	18.93
	5	20.62	20.53	20.63
Mode	Sub test	Avg. Power (dBm)		
		Channel		
		1312	1413	1513
HSUPA IV	1	20.53	20.52	20.61
	2	18.79	18.76	18.83
	3	19.60	19.67	19.58
	4	18.76	18.84	18.79
	5	20.59	20.54	20.48

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Mode	Sub test	Avg. Power (dBm)		
		Channel		
		4132	4183	4233
HSUPA V	1	23.76	23.88	23.81
	2	21.72	21.84	21.81
	3	22.87	22.85	22.71
	4	21.80	21.73	21.83
	5	23.74	23.74	23.72

### 8.5.5 WCDMA/HSDPA/HSUPA band II, IV, V

The EUT output power was controlled by simulator and enter max rated power 24dBm. The EUT is going to be set to max output power to 24dBm then record the read. The min. power was measures by a function key “minimum power” then record the read. It is -52.3dBm. The power variation can be 0.1dB step by setting.

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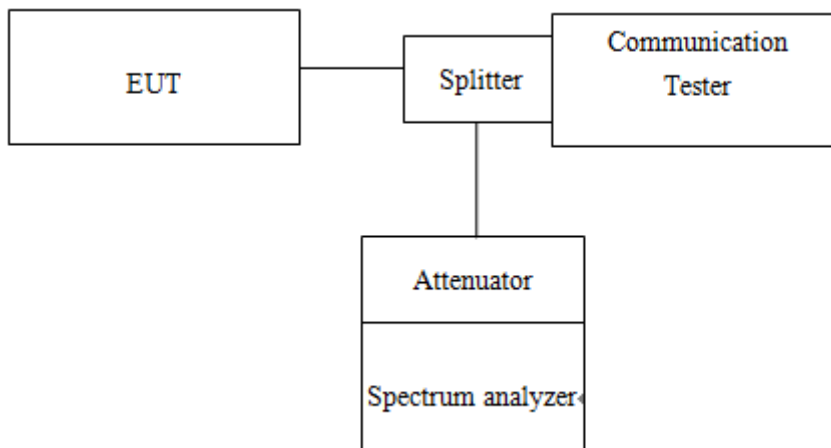
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## 9 OCCUPIED BANDWIDTH MEASUREMENT

### 9.1 Standard Applicable

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power.

### 9.2 Test Set-up



### 9.3 Measurement Procedure

#### 99% & 26dB Bandwidth with detector peak

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, -26dBc display line was placed on the screen (or 26dB bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace. Then set RBW to 99% bandwidth, RBW= 1% ~ 5%, VBW  $\geq 3 * \text{RBW}$ , with span  $> 2 * \text{Signal BW}$ , set % Power = 99%.

### 9.4 Measurement Result

Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA II	HSDPA II	HSUPA II	WCDMA II	HSDPA II	HSUPA II
1852.40	9262	<b>4.15406</b>	4.14720	4.13362	4.681	4.682	4.662
1880.00	9400	4.15191	<b>4.15184</b>	<b>4.15954</b>	<b>4.715</b>	<b>4.723</b>	4.686
1907.60	9538	4.14853	4.14736	4.15471	4.708	4.692	<b>4.688</b>

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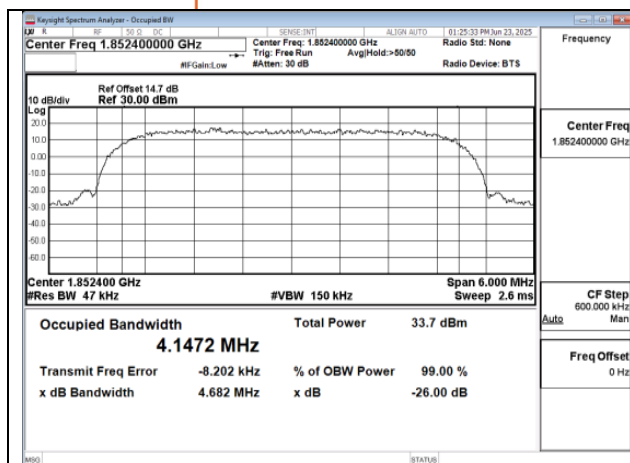


Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA IV	HSDPA IV	HSUPA IV	WCDMA IV	HSDPA IV	HSUPA IV
1712.40	1312	4.14819	4.13479	<b>4.15391</b>	<b>4.677</b>	4.683	<b>4.680</b>
1732.60	1413	4.15037	<b>4.14417</b>	4.14672	4.665	4.667	4.671
1752.60	1513	<b>4.15811</b>	4.14141	4.15170	4.664	<b>4.689</b>	4.655
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA V	HSDPA V	HSUPA V	WCDMA V	HSDPA V	HSUPA V
826.40	4132	4.14040	<b>4.14663</b>	4.14343	4.671	<b>4.675</b>	4.656
836.60	4183	<b>4.15341</b>	4.14076	4.14186	<b>4.679</b>	4.673	4.659
846.60	4233	4.14755	4.14059	<b>4.14516</b>	4.653	4.664	<b>4.674</b>

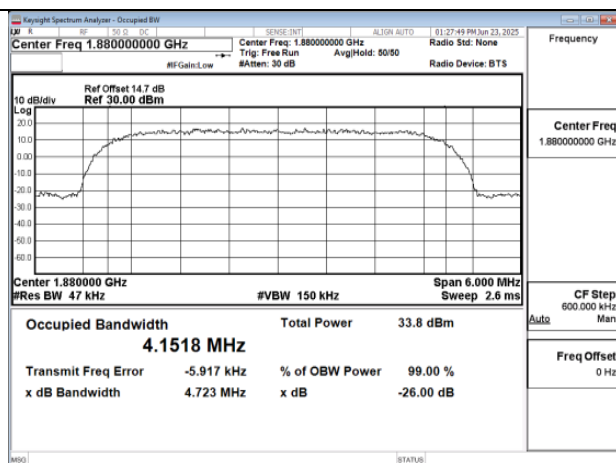
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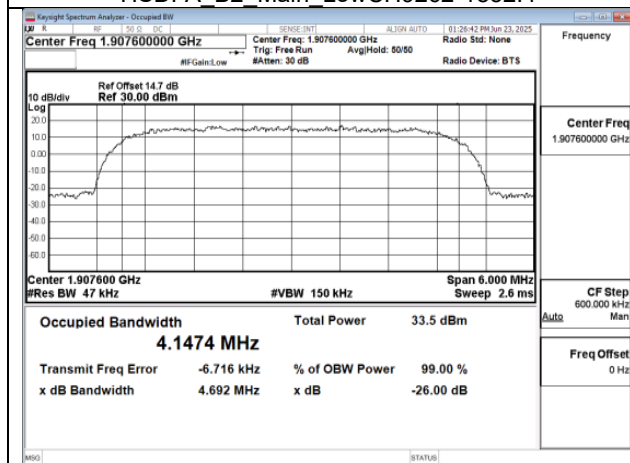
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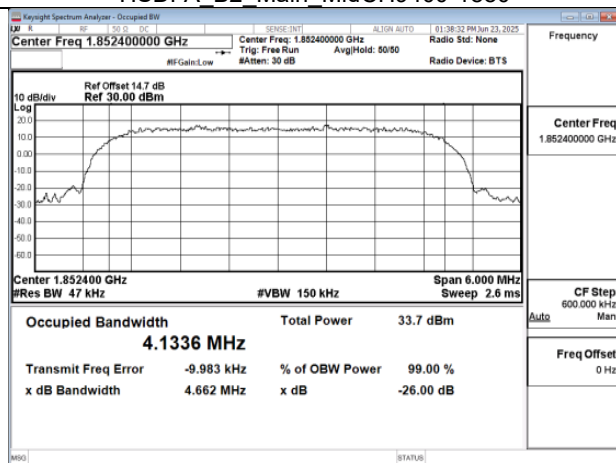
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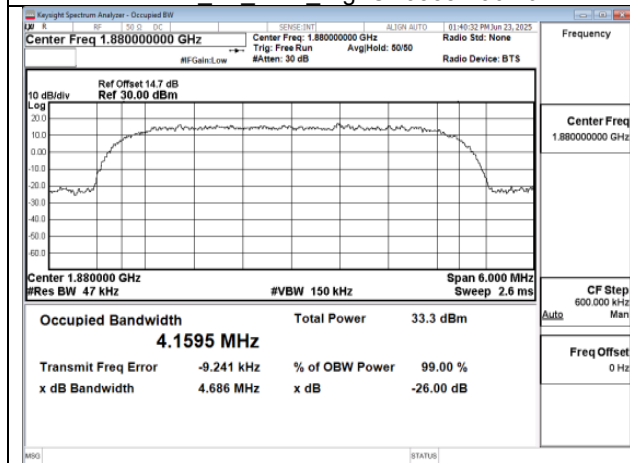
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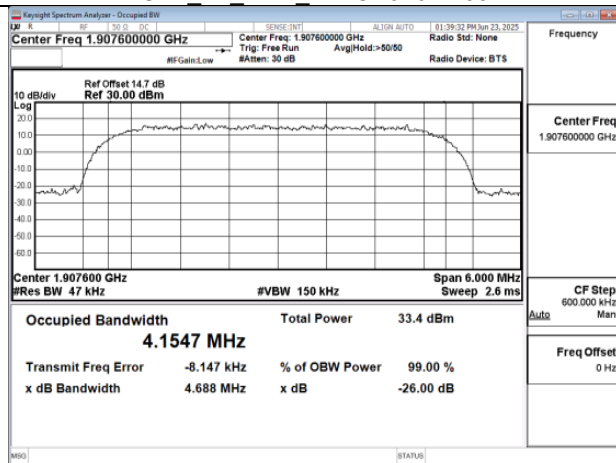
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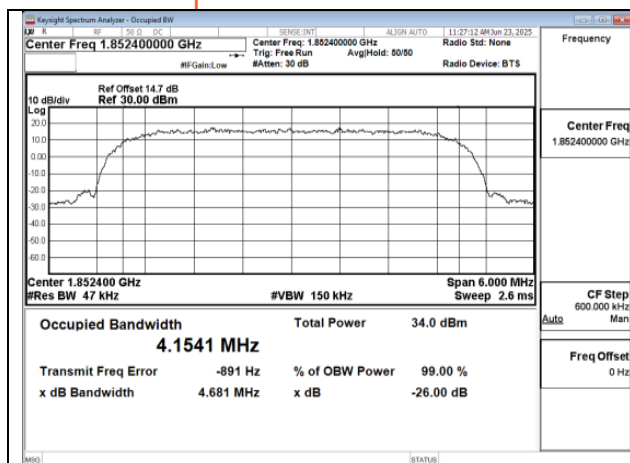


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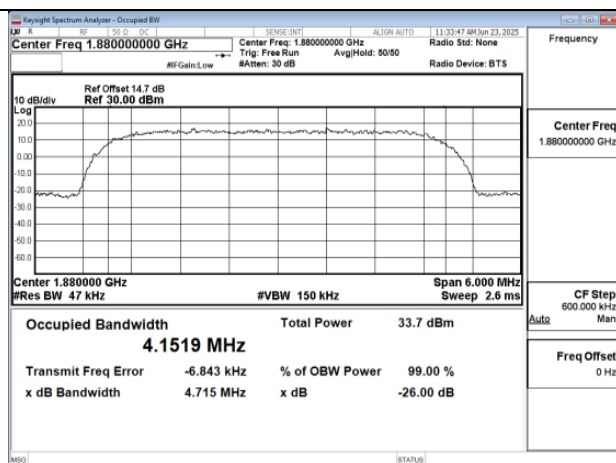
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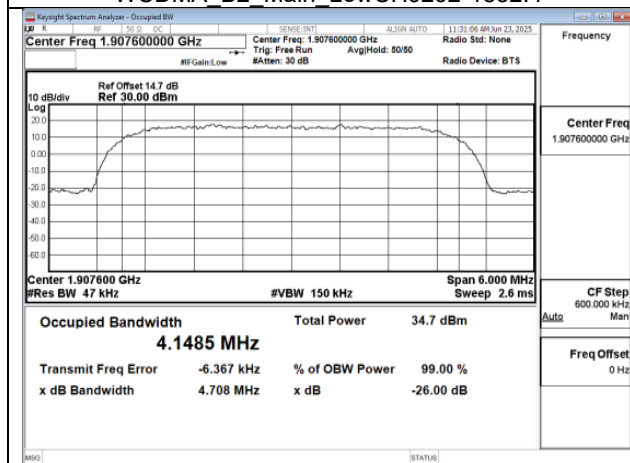
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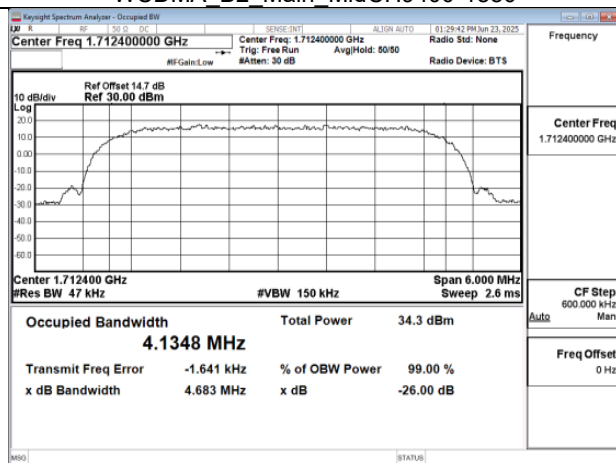
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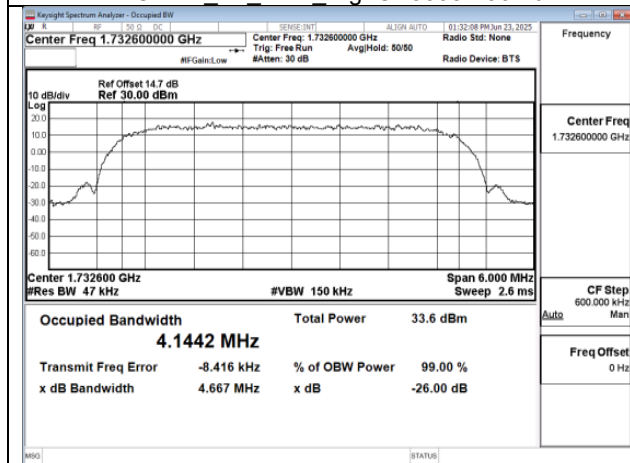
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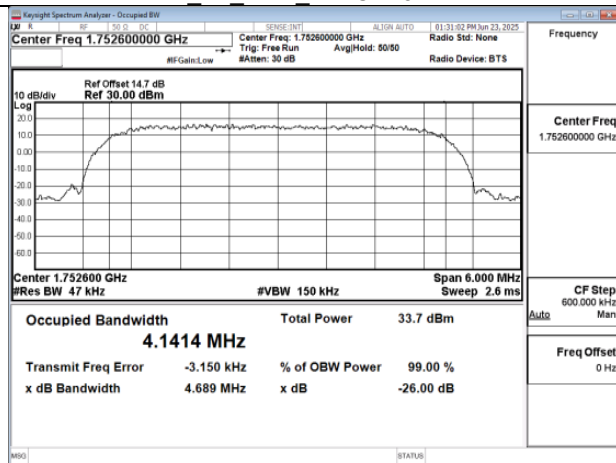
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HSDPA B4 Main LowCH1312-1712.4



HSDPA B4 Main MidCH1413-1732.6

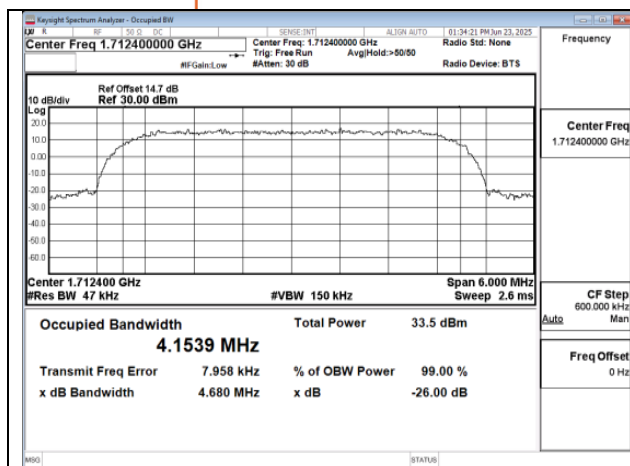


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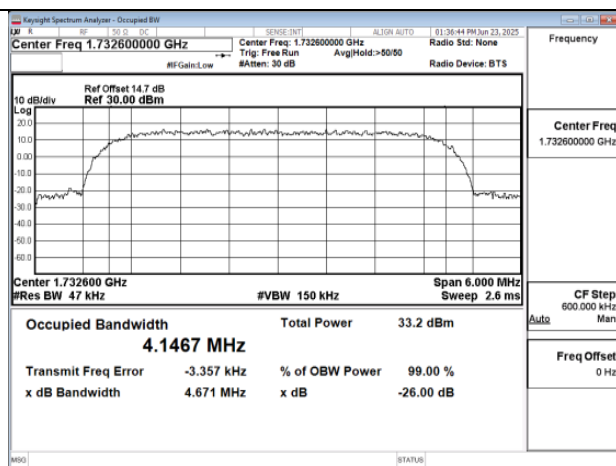
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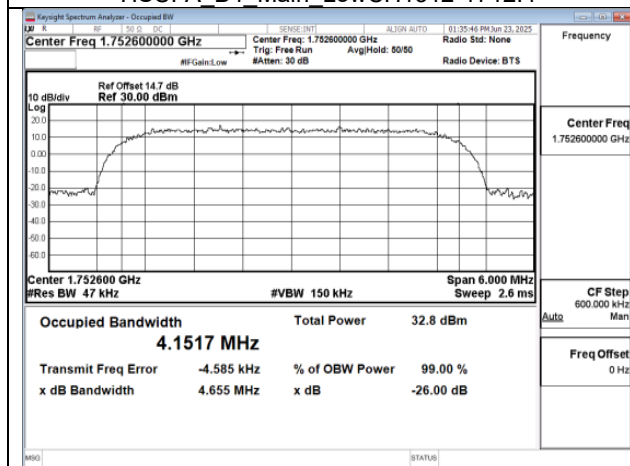
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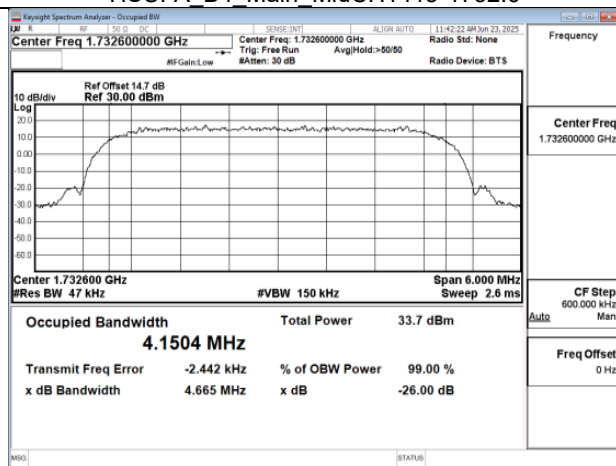
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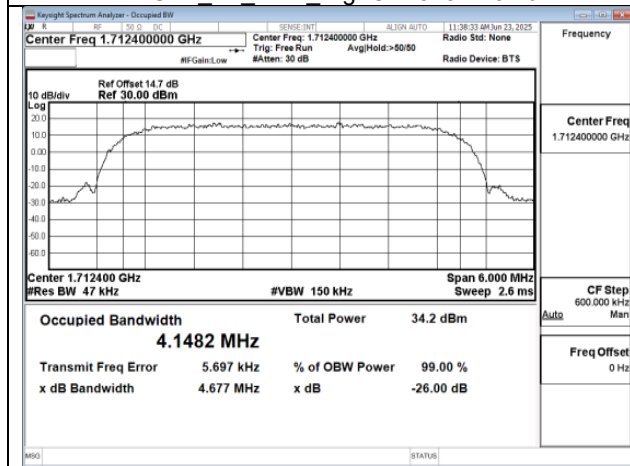
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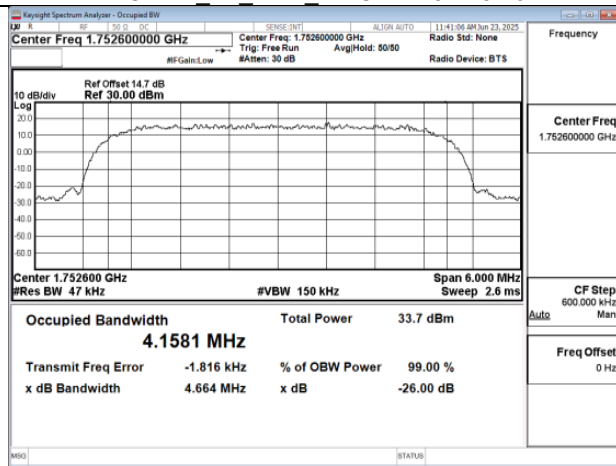
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WCDMA B4 Main LowCH1312-1712.4

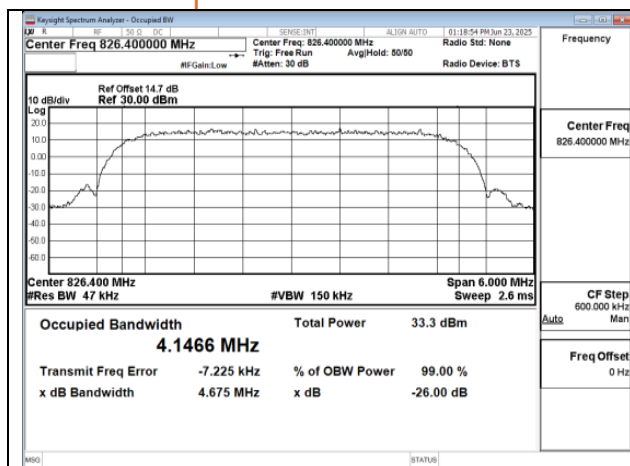


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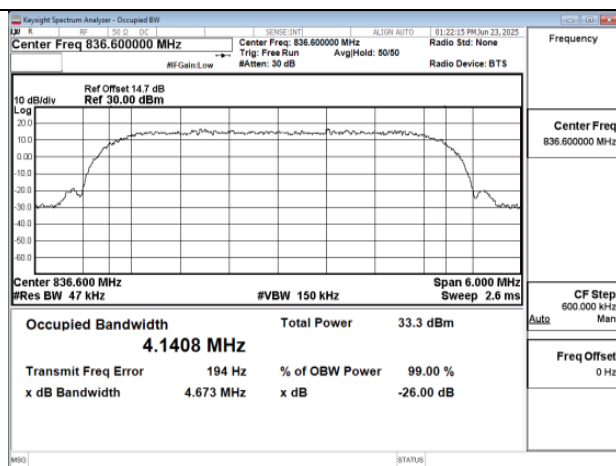
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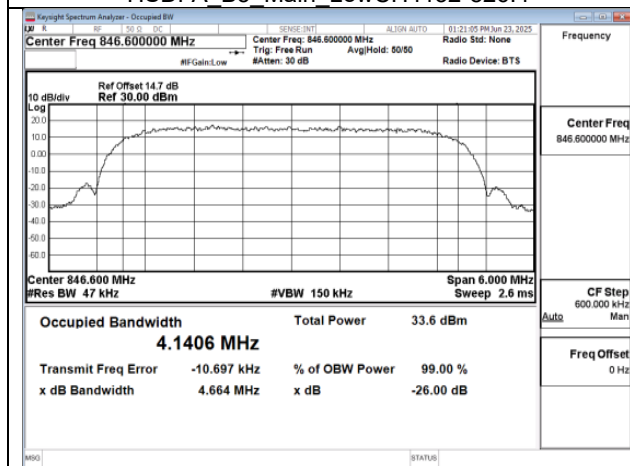
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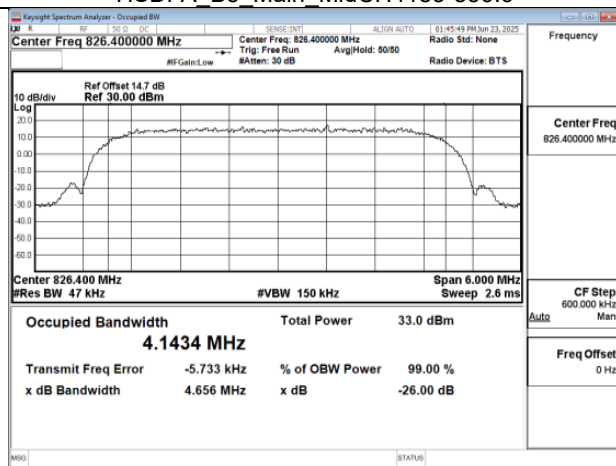
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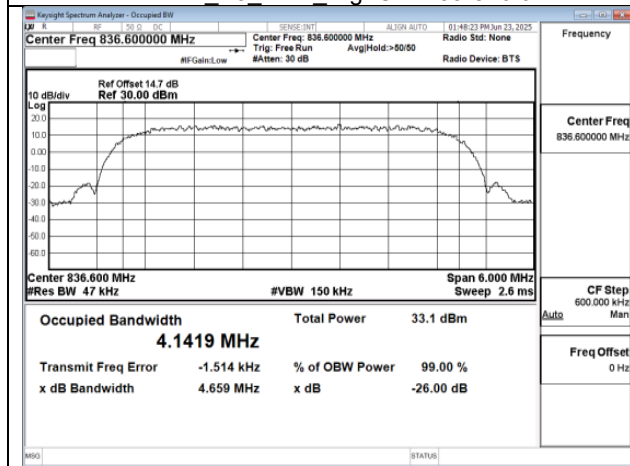
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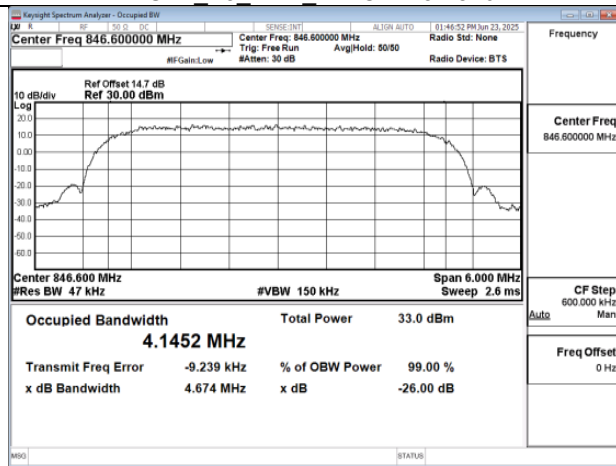
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HSUPA B5 Main LowCH4132-826.4



HSUPA B5 Main MidCH4183-836.6



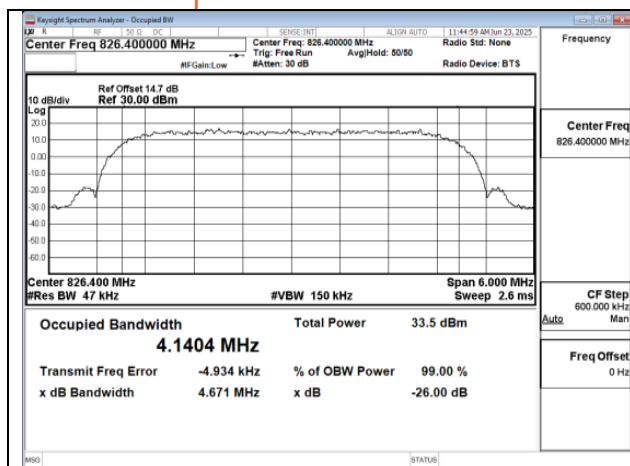
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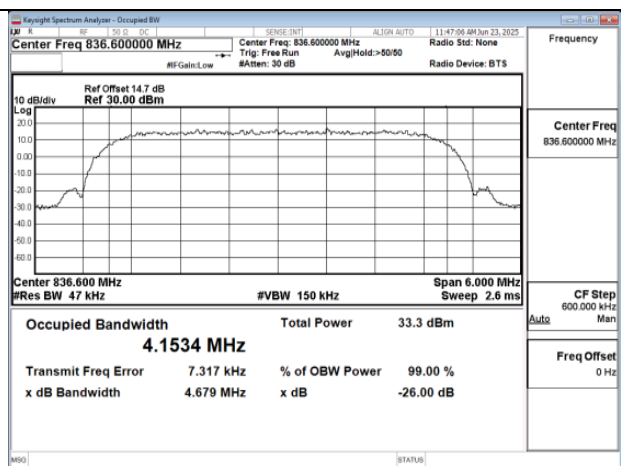
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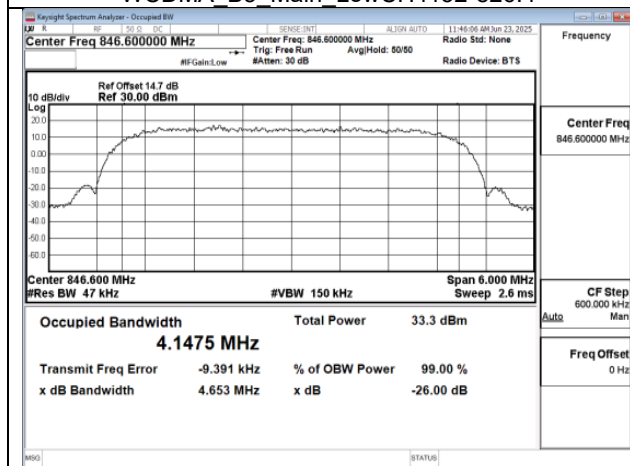




WCDMA B5 Main LowCH4132-826.4



WCDMA B5 Main MidCH4183-836.6



WCDMA B5 Main HighCH4233-846.6

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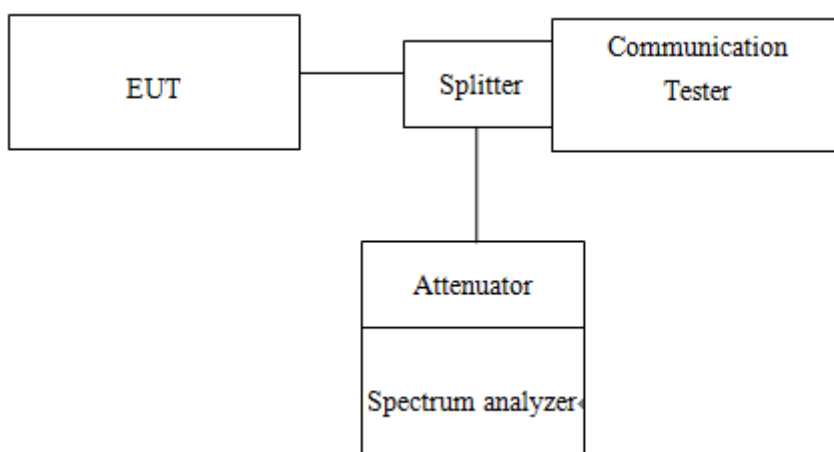
## 10 OUT OF BAND EMISSION AT ANTENNA TERMINALS

### 10.1 Standard Applicable

#### FCC §22.917(a), §24.238(a), §27.53(h)

Out of band emissions. 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.

### 10.2 Test SET-UP



### 10.3 Measurement Procedure

#### 10.3.1 Conducted Emission

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

1. To connect Antenna Port of EUT to Spectrum.
2. Set RBW = 1MHz & VBW = 1MHz on Spectrum.
3. Allow trace to fully stabilize
4. Repeat above procedures until all default test channel measured were complete.

#### 10.3.2 Band Edge

1. To connect Antenna Port of EUT to Spectrum.
2. The band edge of low and high channels for the highest RF powers was measured. Setting  $RBW \geq 1\% EBW$ .
3. Allow trace to fully stabilize
4. Repeat above procedures until all default test channel measured were complete.

### 10.4 Measurement Result:

Refer to next pages.

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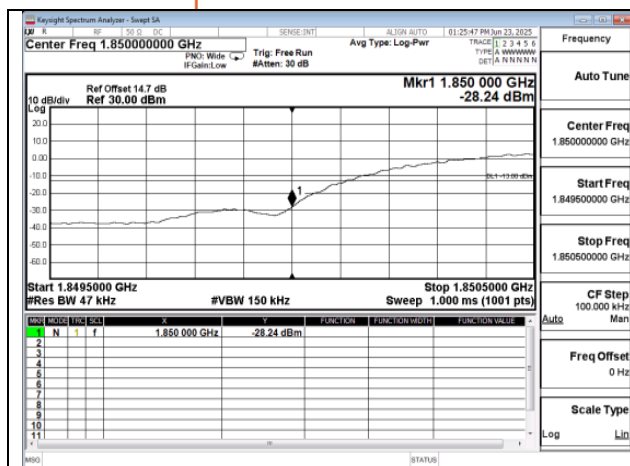
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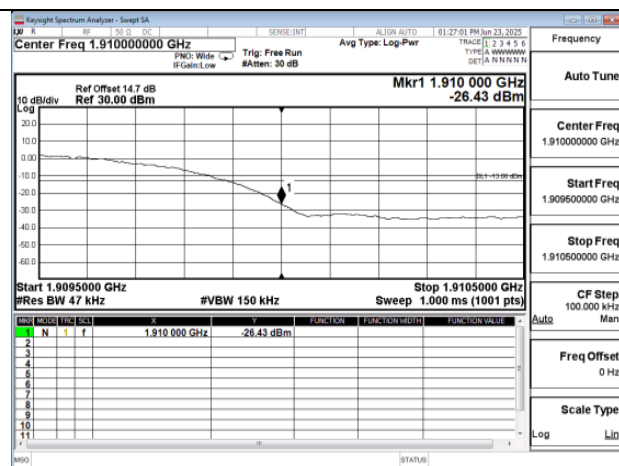
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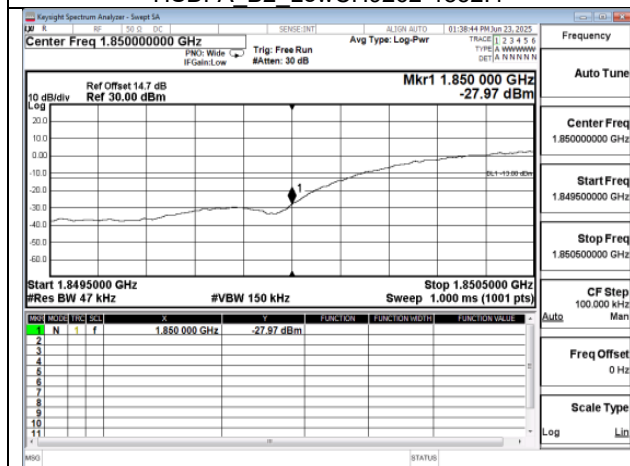
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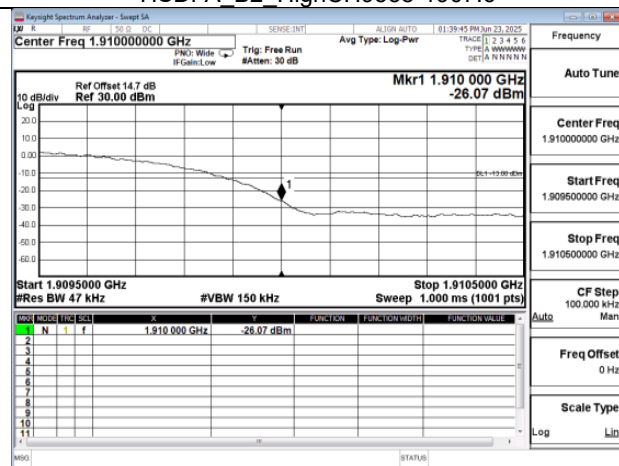
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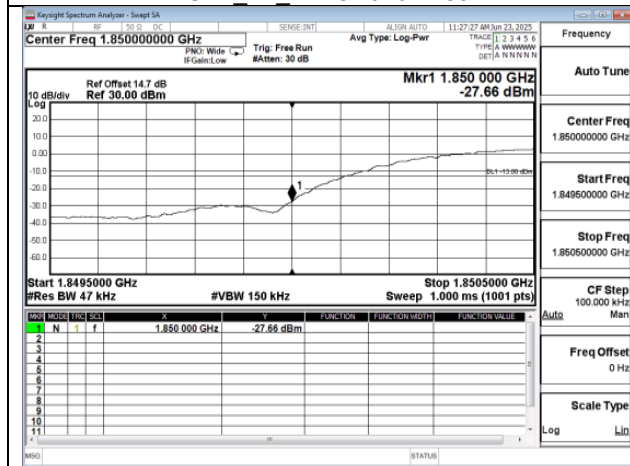
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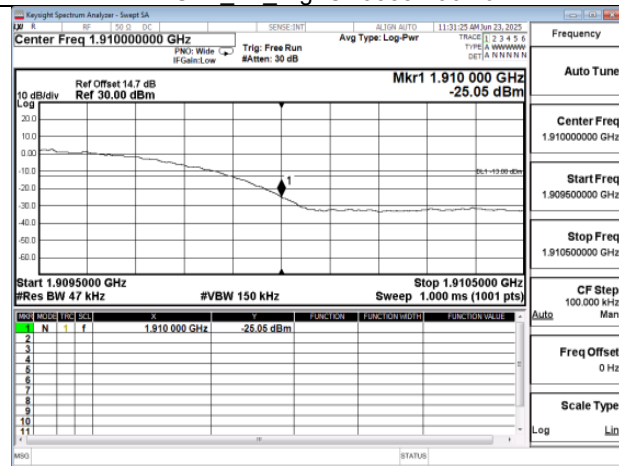
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HSUPA B2 HighCH9538-1907.6



WCDMA B2 LowCH9262-1852.4



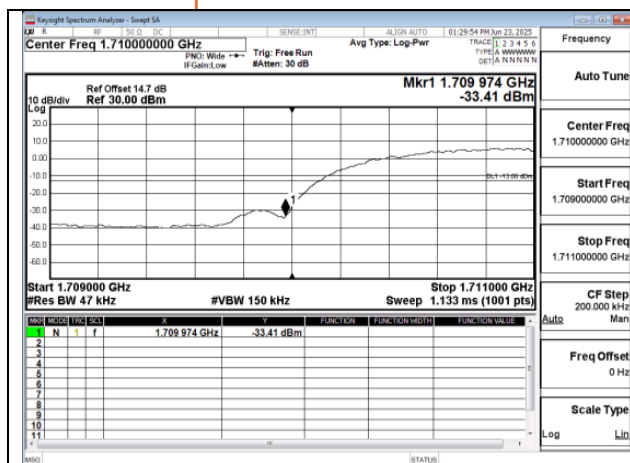
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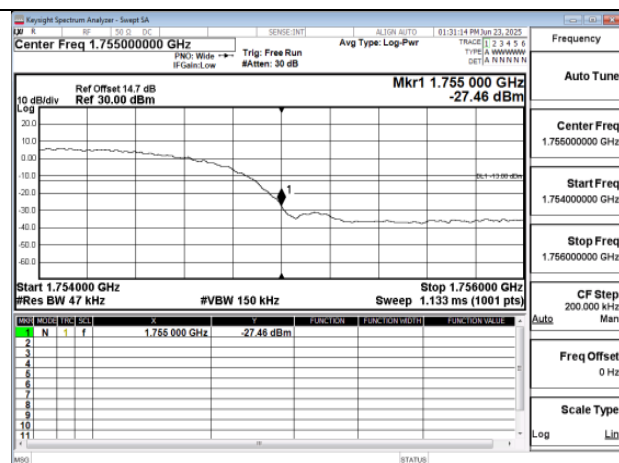
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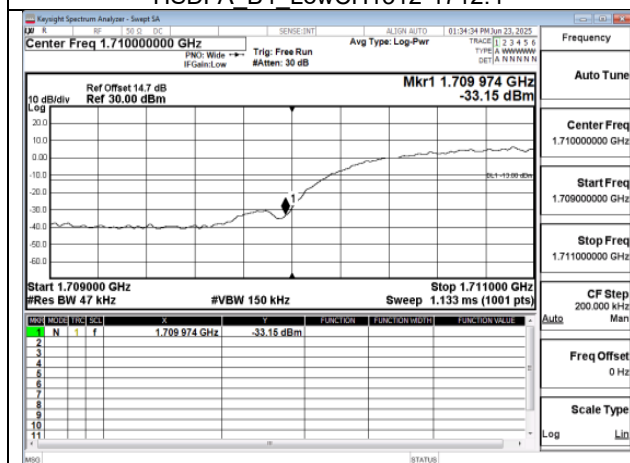




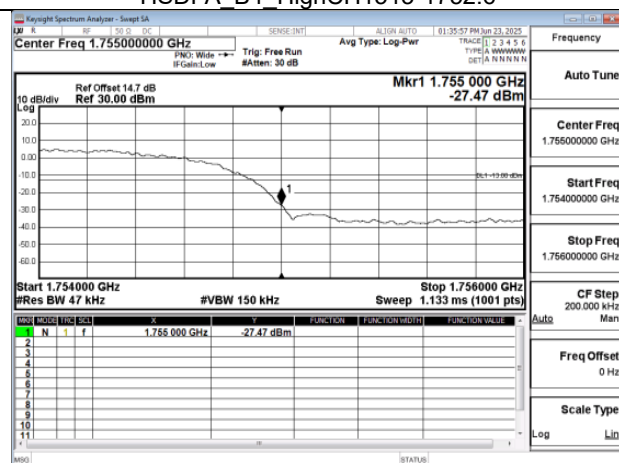
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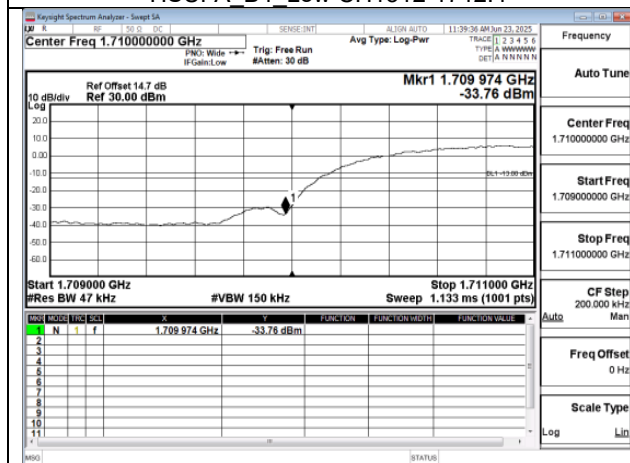
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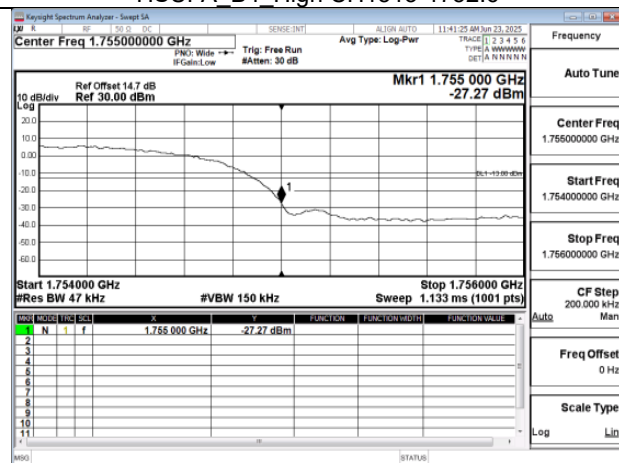
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HSUPA B4 High CH1513-1752.6



WCDMA B4 Low CH1312-1712.4

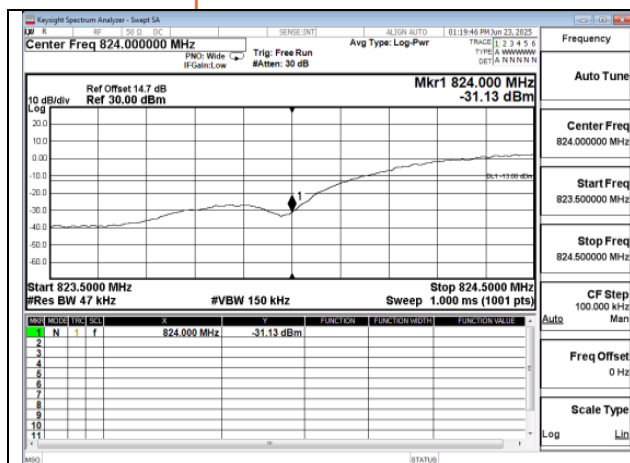


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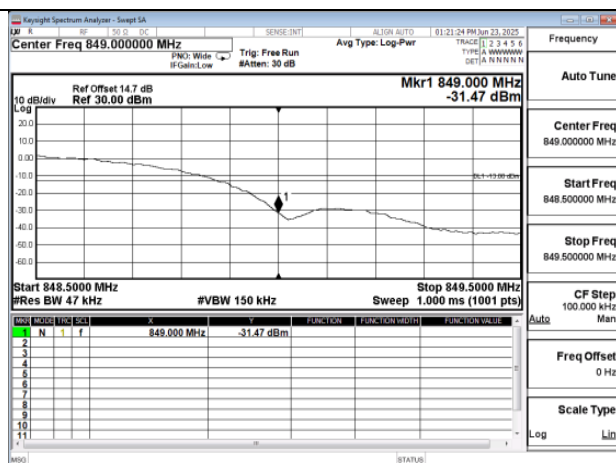
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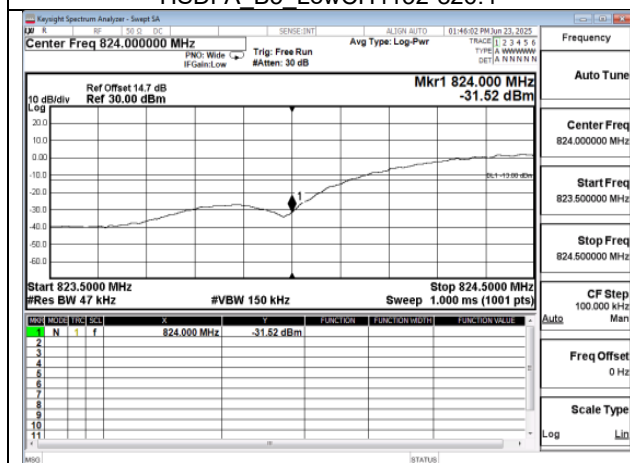
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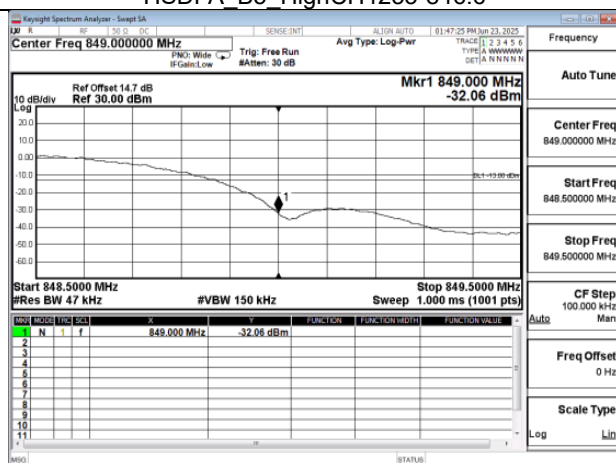
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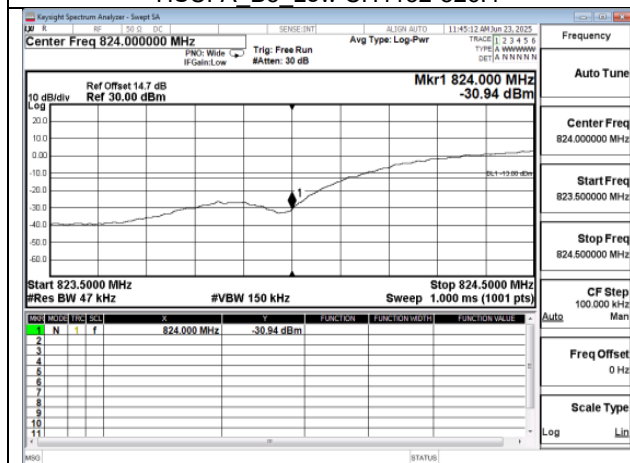
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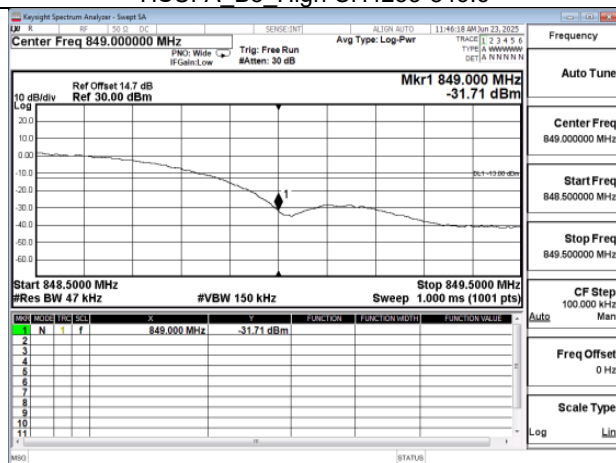
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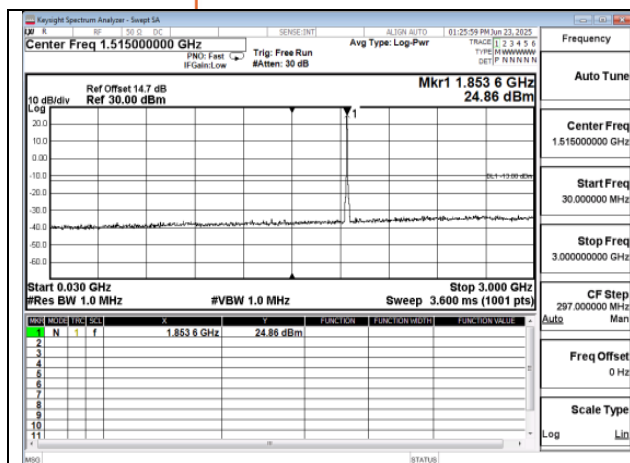


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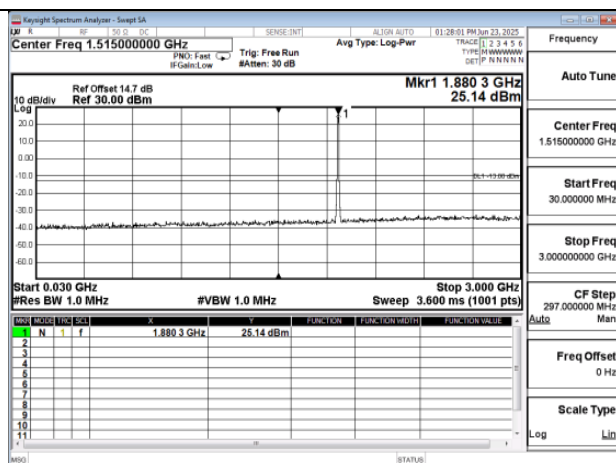
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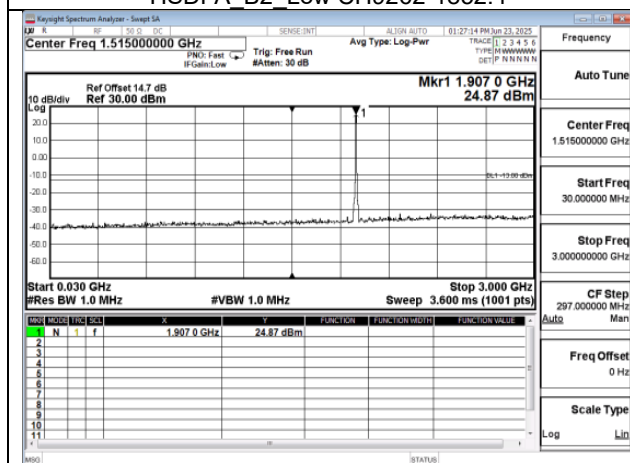
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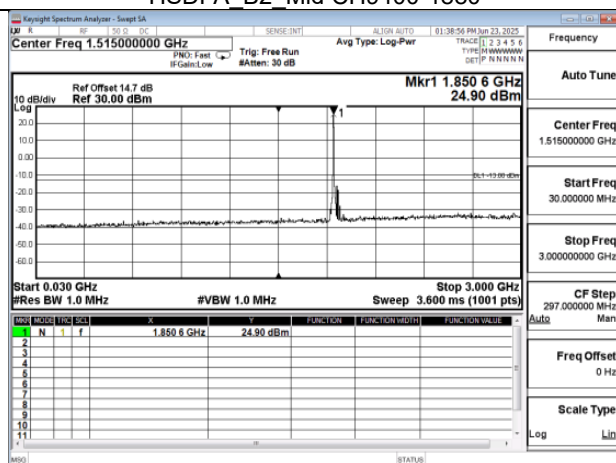
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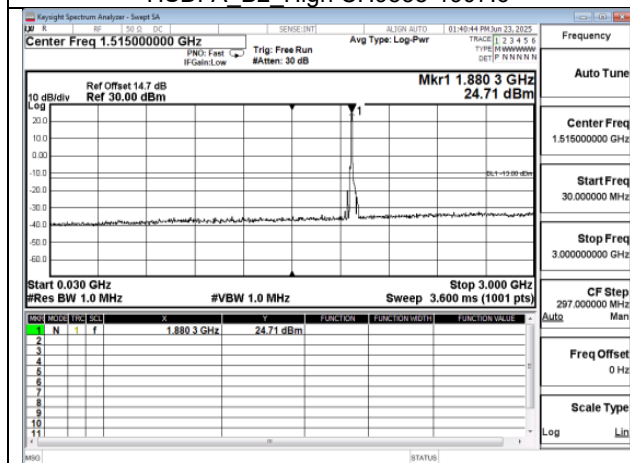
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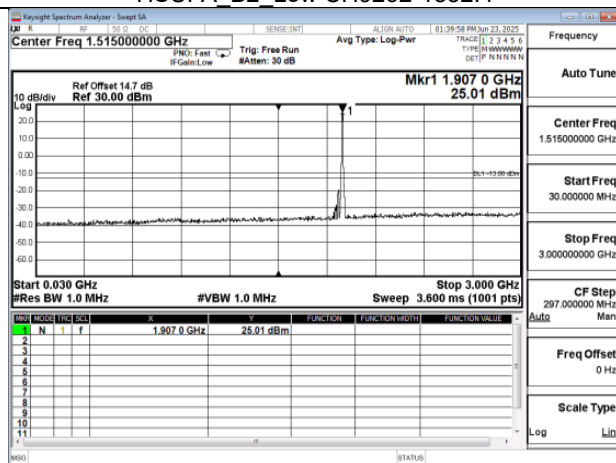
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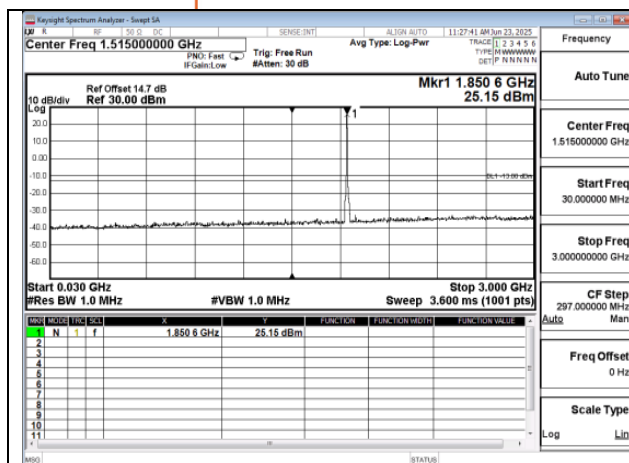


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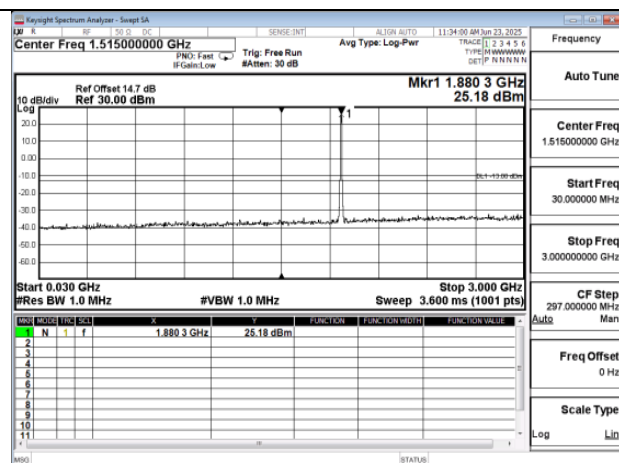
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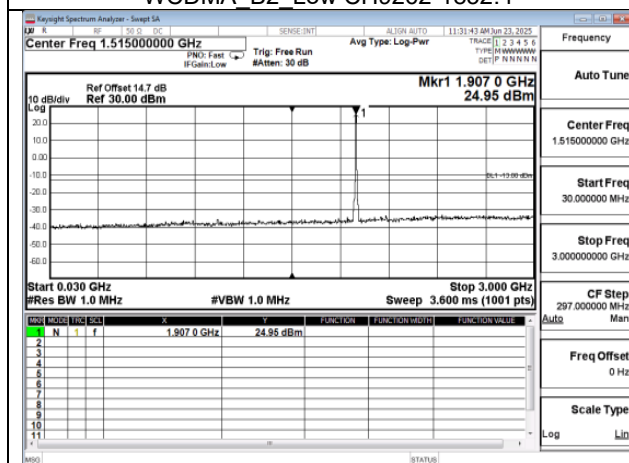
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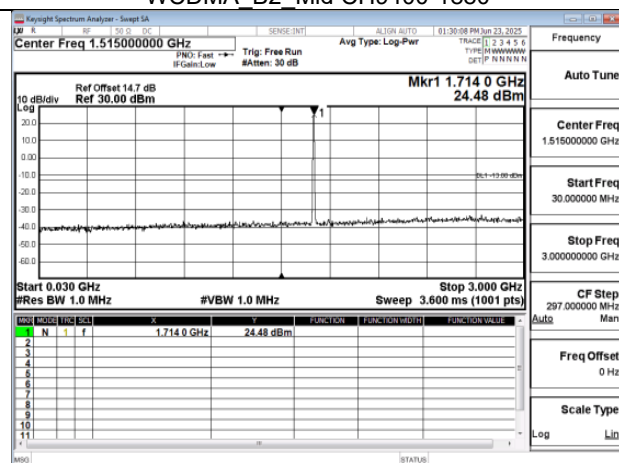
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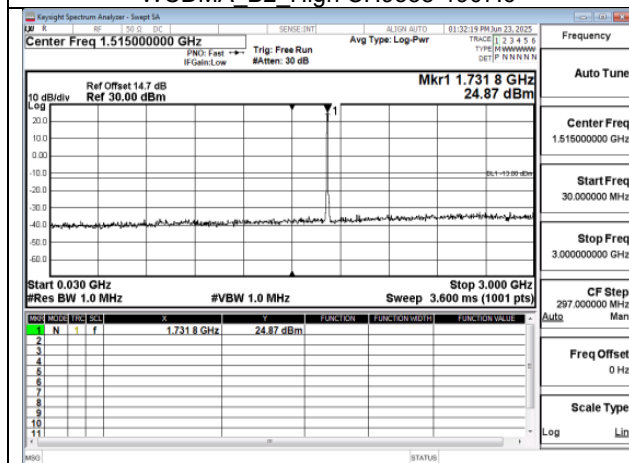
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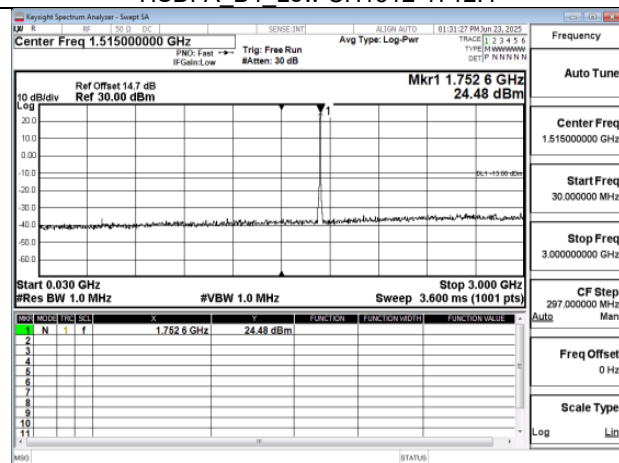
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HSDPA\_B4\_Low CH1312-1712.4



HSDPA\_B4\_Mid CH1413-1732.6



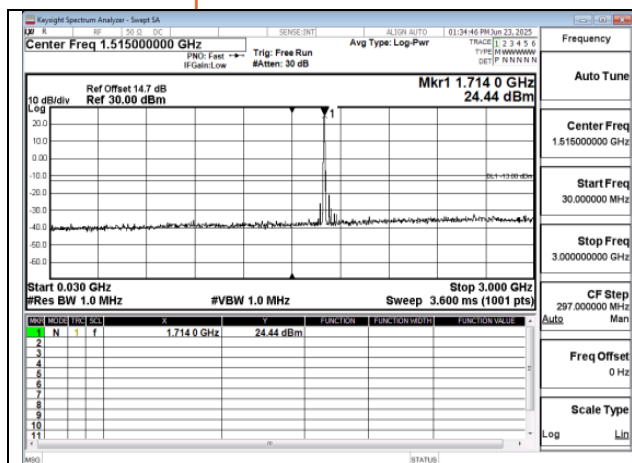
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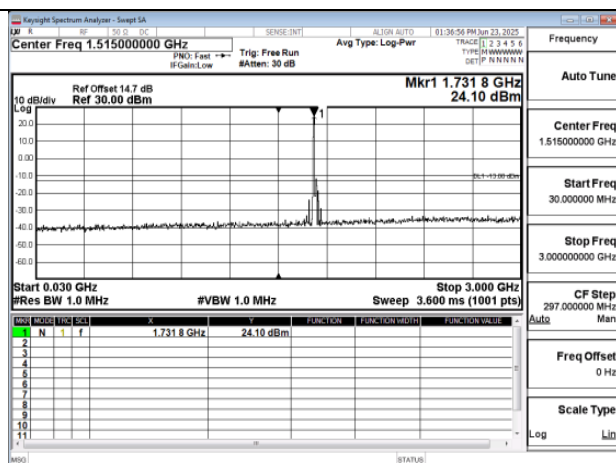
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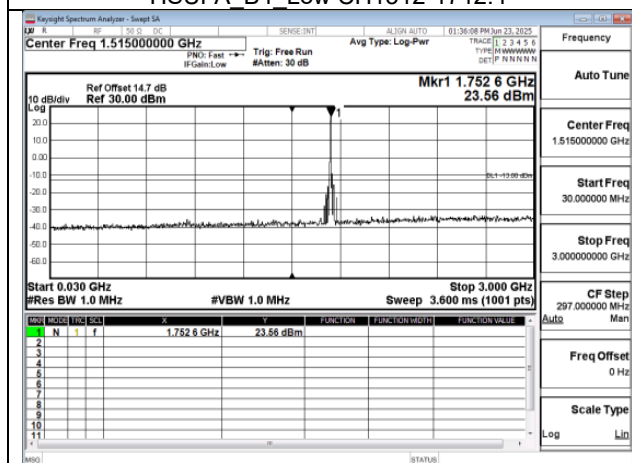




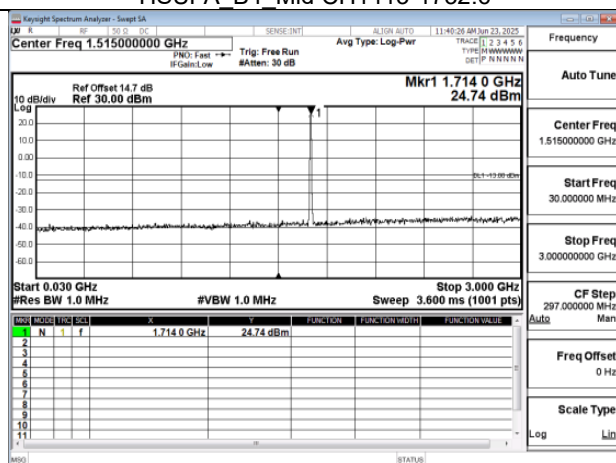
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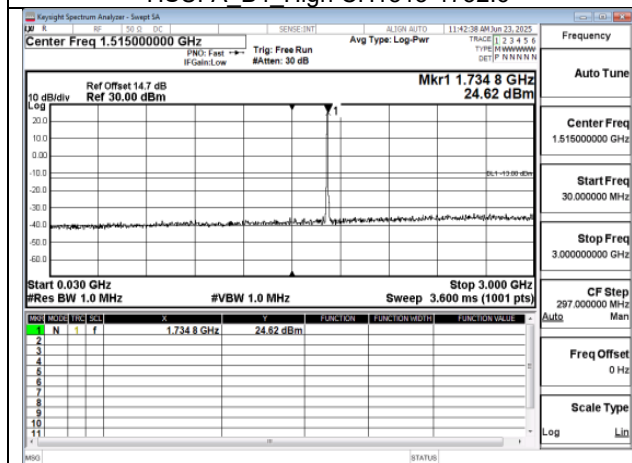
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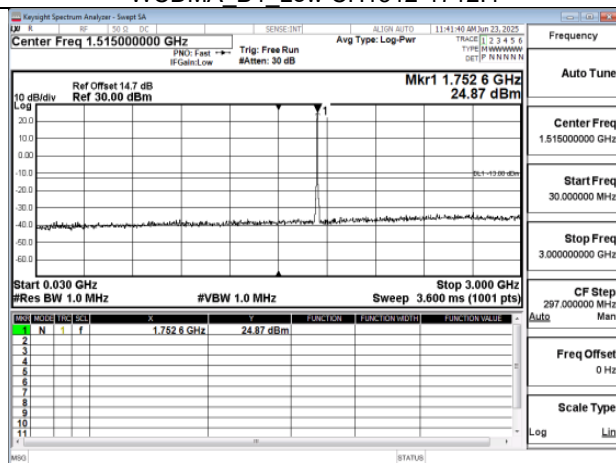
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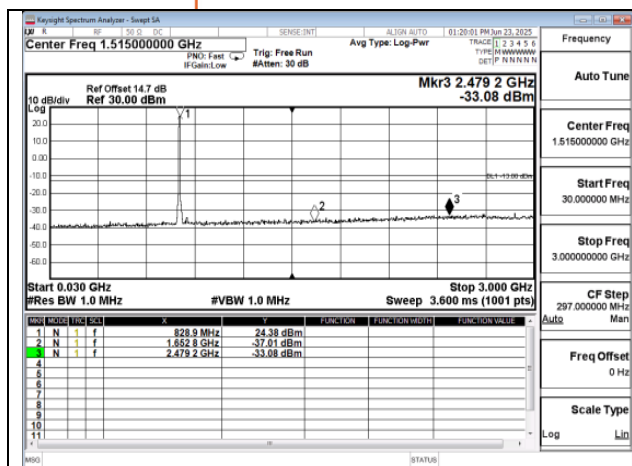


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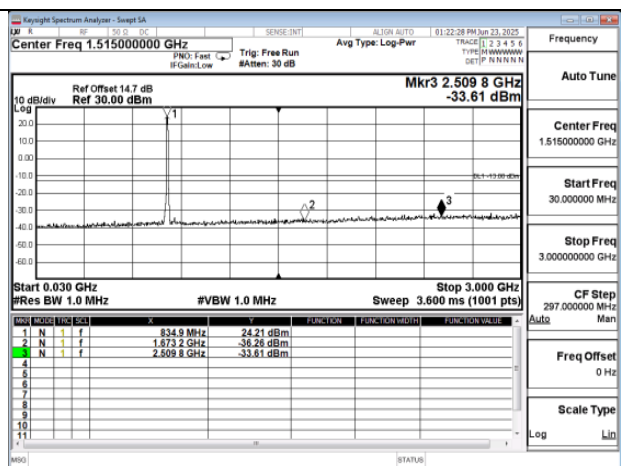
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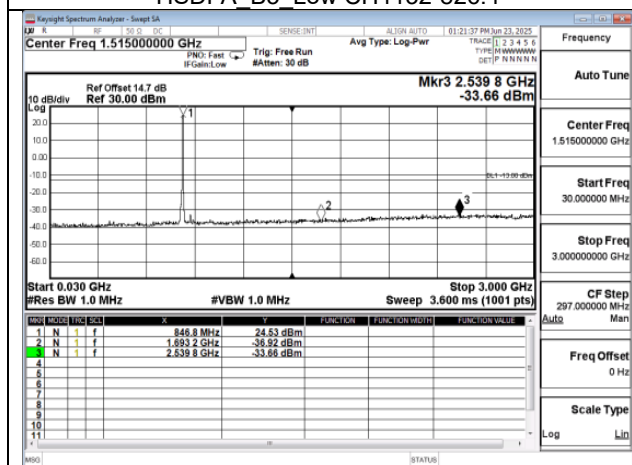
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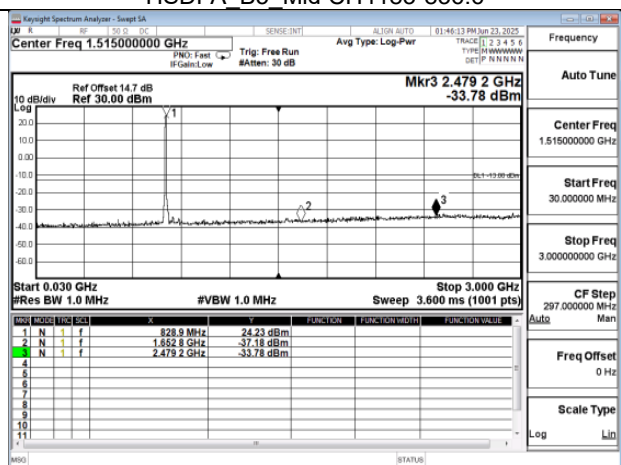
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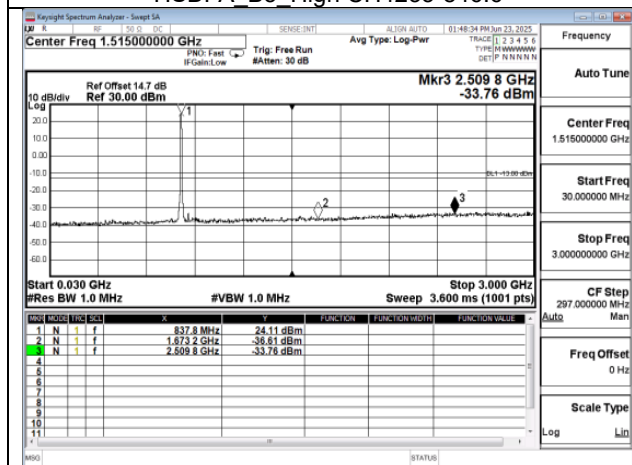
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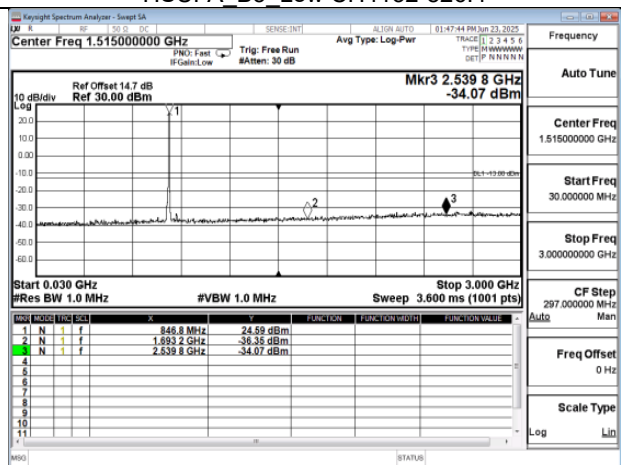
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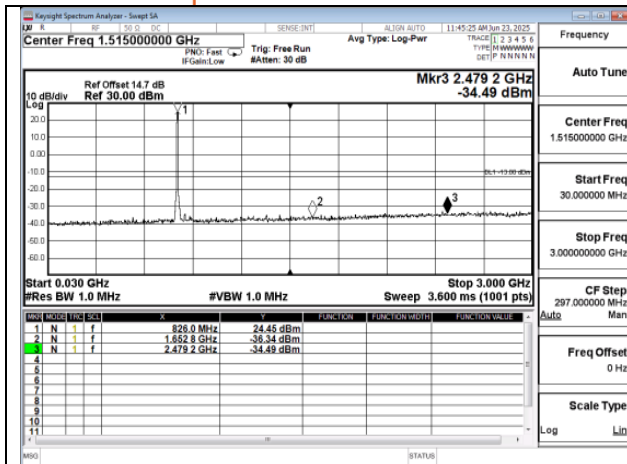


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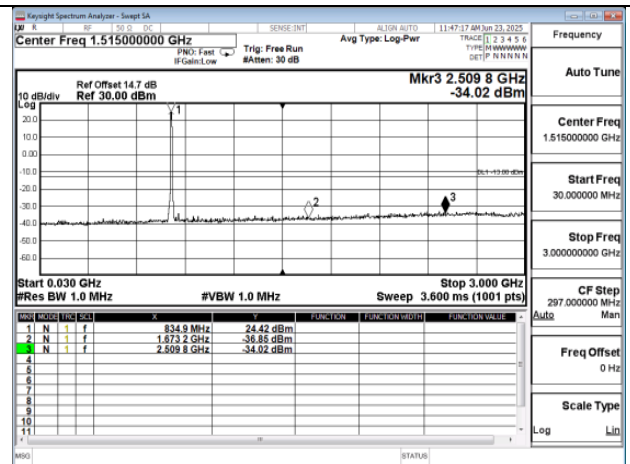
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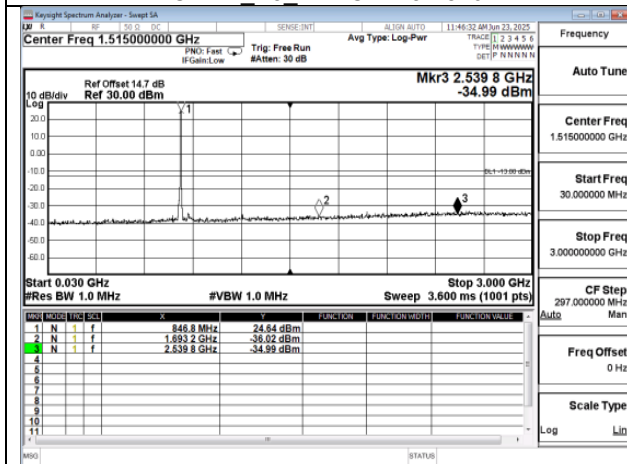
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WCDMA\_B5\_Low CH4132-826.4



WCDMA\_B5\_Mid CH4183-836.6

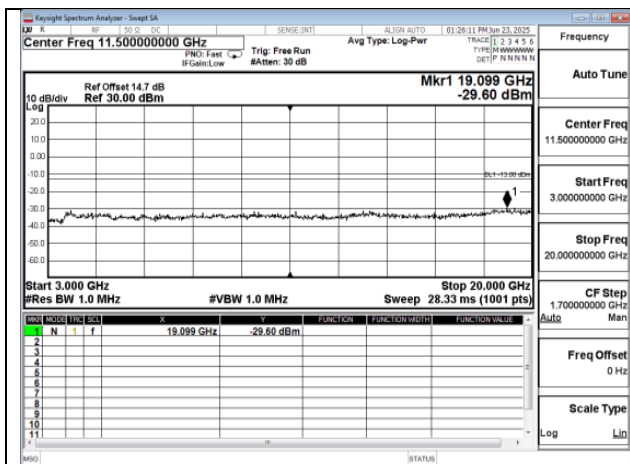


WCDMA\_B5\_High CH4233-846.6

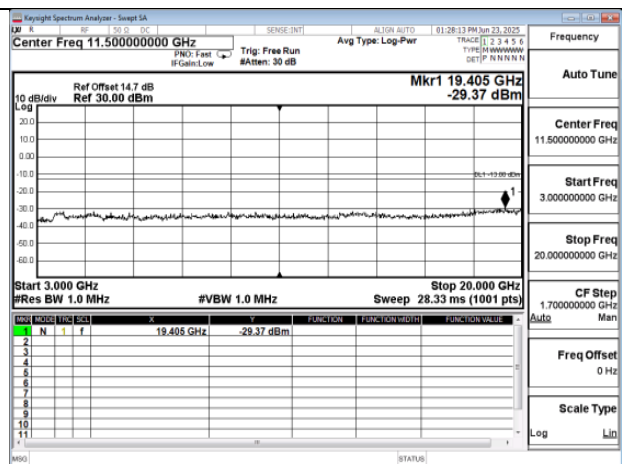
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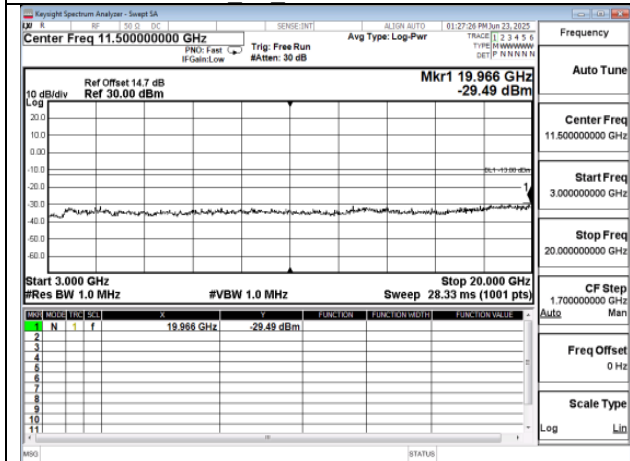
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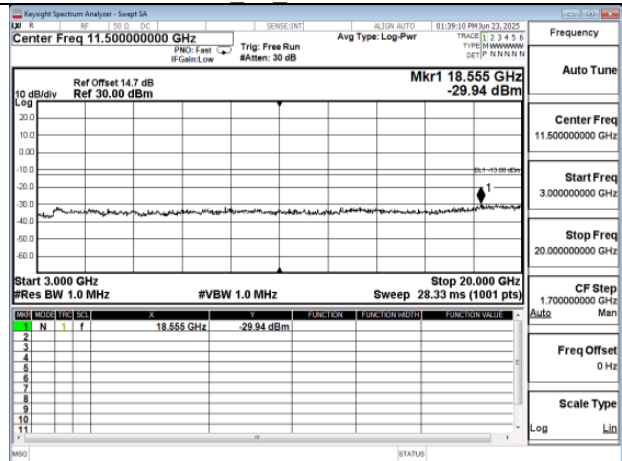
HSDPA B2 Low CH9262-1852.4



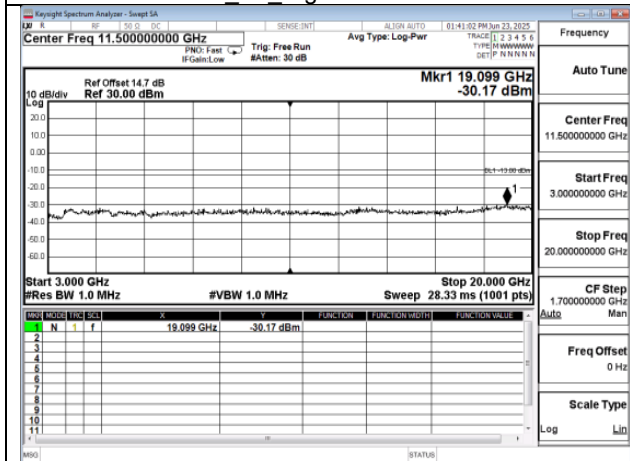
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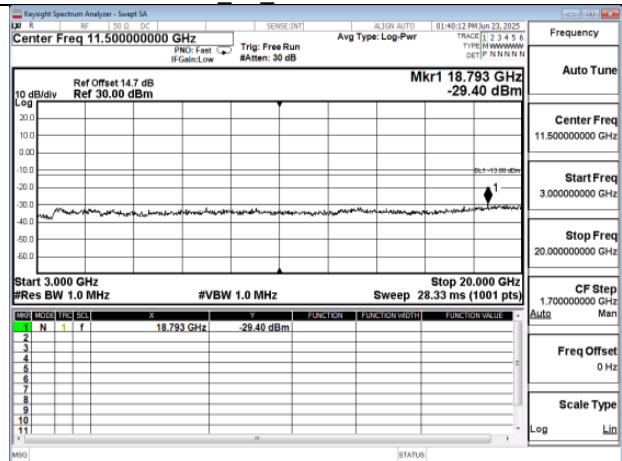
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HSUPA B2 Low CH9262-1852.4



HSUPA B2 Mid CH9400-1880



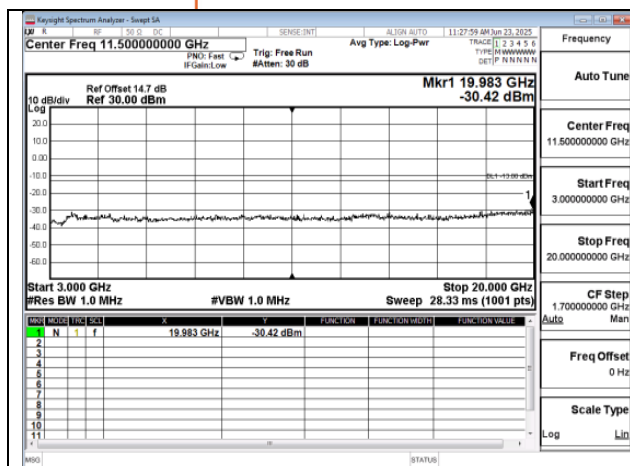
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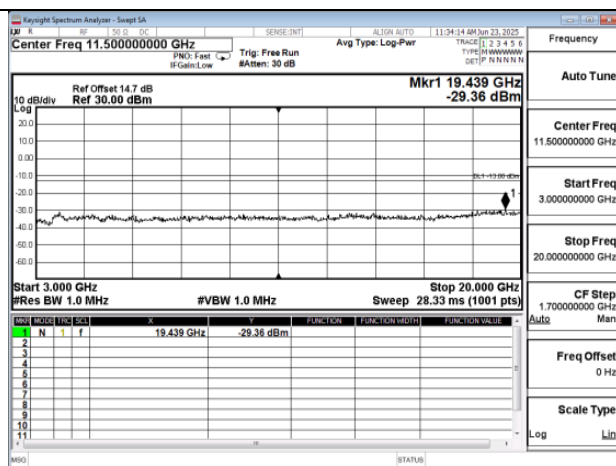
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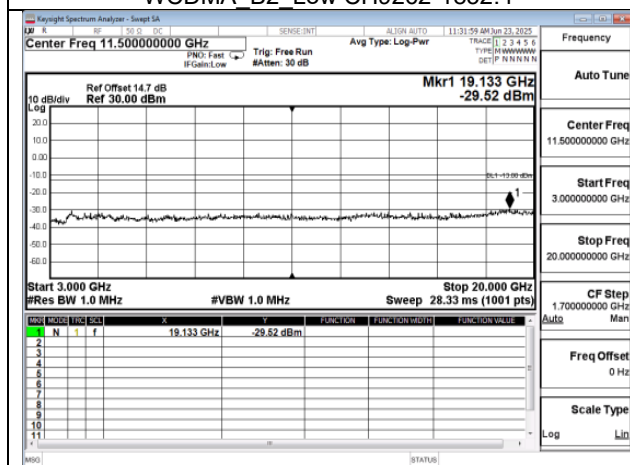




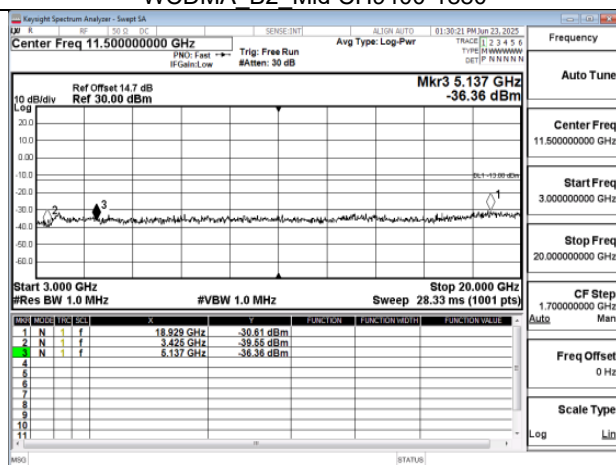
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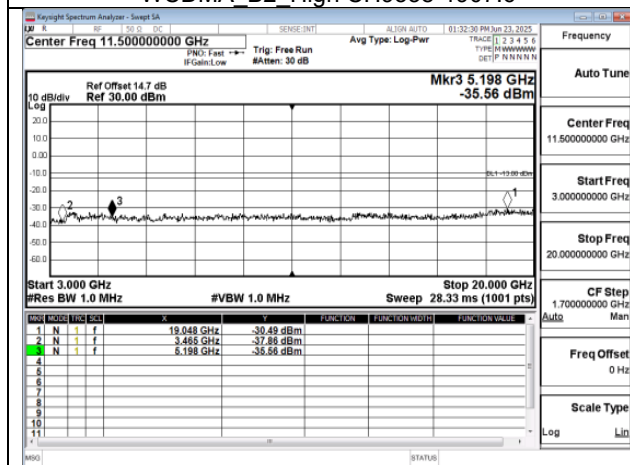
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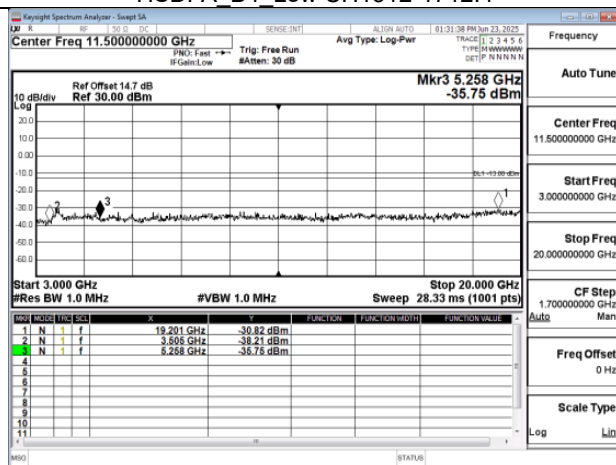
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HSDPA B4 Low CH1312-1712.4



HSDPA B4 Mid CH1413-1732.6



HSDPA B4 High CH1513-1752.6

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