

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT



Applicant: NEC Platforms,Ltd.
2-3, tsukasa-machi, kanda, chiyoda-ku, Tokyo, 101-8532, Ja-
pan
Manufacturer: NEC Platforms,Ltd.
2-3, tsukasa-machi, kanda, chiyoda-ku, Tokyo, 101-8532, Ja-
pan
Product Name: Mobile Router
Brand Name: NEC Platforms
Model No.: KMP8S3AB1-1A, KMP8S3AA1-1A
Model Difference: N/A
Report Number: TERF2204000397E2
FCC ID 2AA5WKMP8S3AB
Issue Date: Jun. 17, 2022
Date of Test: May 18, 2022~Jun. 10, 2022
Date of EUT Received: Apr. 21, 2022

Approved By

Jay Lin

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
TERF2204000397E2	00	Original.	Jun. 17, 2022	Yami Kuo	

Note:

- 1、The remark "" indicates modification of the report upon requests from certification body.
- 2、Variant information of model numbers is provided by the applicant, test results of this report are applicable to the sample EUT(s) received.

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1 GENERAL PRODUCT INFORMATION

1.1 Product Description

Product Name:	Mobile Router
Brand Name:	NEC Platforms
Model No.:	KMP8S3AB1-1A, KMP8S3AA1-1A
Model Difference:	N/A
Hardware Version:	1
Firmware Version:	1
EUT Series No.:	359798890030510
Power Supply:	3.8Vdc
Test Software (Name/Version)	default(link 8820C)

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

1.3 Antenna Designation

Antenna Type	Antenna Model No.
Inverted F	Ant1
Inverted L	Ant3
Note: Transmission in 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			0.3
WCDMA / HSPA+ Band IV	1712.4 - 1752.6			-0.8
WCDMA / HSPA+ Band V	826.4 - 846.6	0.3		

Note: Antenna information is provided by the applicant.

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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	22.68	EIRP	0.185	4.1464	4M15F9W
HSDPA Band II	21.58	EIRP	0.144	4.1457	4M15F9W
HSUPA Band II	21.61	EIRP	0.145	4.1491	4M15F9W
WCDMA Band IV	20.98	EIRP	0.125	4.1581	4M16F9W
HSDPA Band IV	20.12	EIRP	0.103	4.1558	4M16F9W
HSUPA Band IV	19.48	EIRP	0.089	4.1610	4M16F9W
WCDMA Band V	21.56	ERP	0.143	4.1582	4M16F9W
HSDPA Band V	21.01	ERP	0.126	4.1544	4M15F9W
HSUPA Band V	20.90	ERP	0.123	4.1602	4M16F9W

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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 Designation 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 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		
Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.				

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 hand-held 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. Following shows an offset computation in physical test.

	RF cable loss (dB)	Attenuation factor(dB)	offset(dB)
Low Band (Below 1GHz)	4.7	10	14.7
High Band (Above 1 GHz)	4.9	10	14.9

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2.5 Final Amplifier Voltage and Current Information:

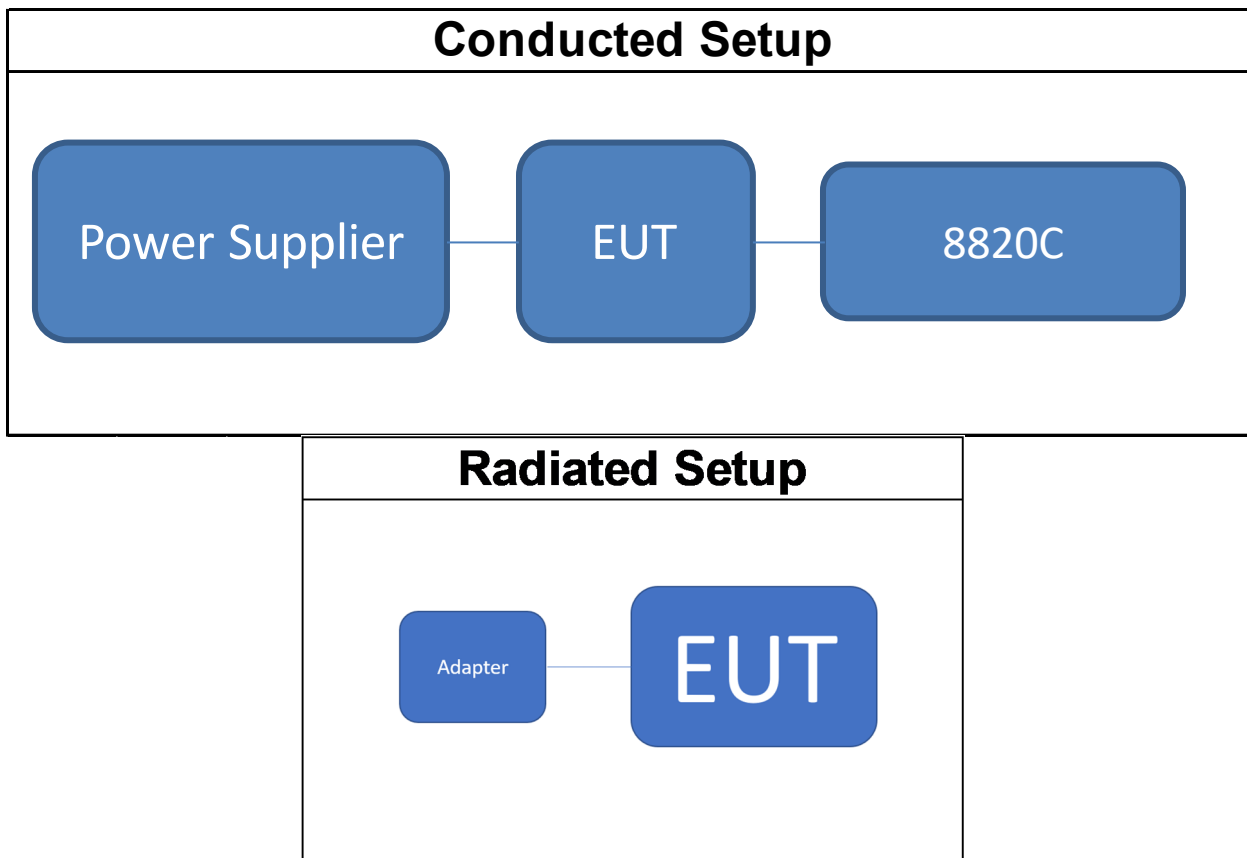
Test mode	DC voltage (V)	DC current (mA)
WCDMA B2	3.8	581
HSUPA B2	3.8	584
HSDPA B2	3.8	624
WCDMA B4	3.8	592
HSUPA B4	3.8	609
HSDPA B4	3.8	581
WCDMA B5	3.8	579
HSUPA B5	3.8	580
HSDPA B5	3.8	591

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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 G					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Adapter	Lapo	WT-02CA	4712966931002	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 Bandwidth	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
§24.232(d) §27.50(a)(1)(B)	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 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
RADIATED EMISSION	Band II	v	v	v
	Band IV	v	v	v
	Band V	v	v	v

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6 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Power Output	+/- 1 dB
ERP/ EIRP measurement	+/- 3 dB
	+/- 3 dB
Emission Bandwidth	+/- 1.53 Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/- 1.68 dB
Peak to Average Ratio	+/- 1 dB
Frequency Stability vs. Temperature	+/- 1.53 Hz
Frequency Stability vs. Voltage	+/- 1.53 Hz
Temperature	+/- 0.4 °C
Humidity	+/- 3.5 %
DC / AC Power Source	+/- 1 %

Radiated Spurious Emission Measurement Uncertainty		
Polarization: Vertical	+/- 2.57 dB	9kHz~30MHz
	+/- 4.85 dB	30MHz - 1000MHz
	+/- 4.45 dB	1GHz - 18GHz
	+/- 4.24 dB	18GHz - 40GHz
Polarization: Horizontal	+/- 2.57 dB	9kHz~30MHz
	+/- 4.37 dB	30MHz - 1000MHz
	+/- 4.45 dB	1GHz - 18GHz
	+/- 4.24 dB	18GHz - 40GHz

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.	CAL DUE.
DC Power Supply	Gwinstek	SPS-3610	GEV856769	08/04/2021	08/03/2022
Radio Communication Analyzer	Anritsu	MT8820C	6201107337	07/28/2021	07/27/2022
Spectrum Analyzer	KEYSIGHT	N9010A	MY51440113	07/13/2021	07/12/2022
Temperature Chamber	TERCHY	MHK-120LK	1020582	07/01/2021	06/30/2022
Attenuator	Marvelous	MVE2213-10	RF06	11/18/2021	11/17/2022
DC Block	PASTERNAK	PE8210	RF158	11/18/2021	11/17/2022
Coaxial Cables	Woken	00100A1F1A 185C	RF71	11/18/2021	11/17/2022
Splitter	Woken	DOM35LW1A 2	RF255	11/18/2021	11/17/2022

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7.2 Radiated Measurement

Radiated Emission Test Site: SAC G					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Broadband Antenna	SCHWARZBECK	VULB 9168	1206	02/15/2022	02/14/2023
Horn Antenna	Schwarzbeck	BBHA9170	184	12/16/2021	12/15/2022
Horn Antenna	RF SPIN	DRH18-E	210105A18E	04/08/2022	04/07/2023
3m Site NSA	SGS	966 chamber G	N/A	03/30/2022	03/29/2023
Spectrum Analyzer	KEYSIGHT	N9010A	MY51440113	07/13/2021	07/12/2022
Test Software	audix	e3	E3 20923 SGS Ver.9 (C)	N.C.R	N.C.R
Pre-Amplifier	EMC Instruments	EMC184045B	980135	10/27/2021	10/26/2022
Pre-Amplifier	EMC Instruments	EMC330N	980781	03/15/2022	03/14/2023
Pre-Amplifier	EMC Instruments	EMC118A45SE	980815	03/15/2022	03/14/2023
Attenuator	Marvelous	MVE2213-10	RF05	11/18/2021	11/17/2022
Coaxial Cable	EMC Instruments	EMCCFD400-NM-NM-8000-5000-2000	210216 、 210217 、 210218	03/15/2022	03/14/2023
Coaxial Cable	EMC Instruments	EMC104-SM-SM-8000-5000-5000	210219 、 210220 、 210221	03/15/2022	03/14/2023
Coaxial Cable	EMC Instruments	EMC105-NM-NM-5000-15000	210224 、 210306	03/15/2022	03/14/2023

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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)

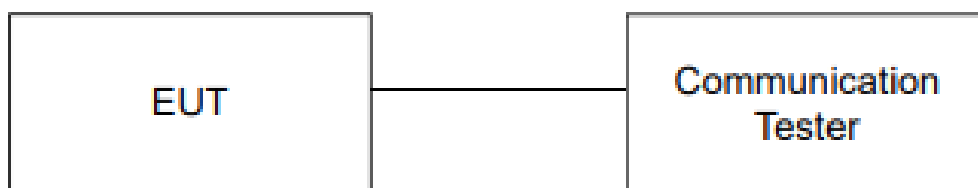
(4) Mobile, and portable (hand-held) stations operating in the 1710-1755 MHz, 1695-1710 MHz and 1755-1780 MHz bands are limited to 1W EIRP.

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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 power meter.

Transmitter output was read off the power meter in dBm.

The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter 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)²), 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	9262	22.27	0.30	20.42	22.57	33.00	-10.43
	1880.0	9400	22.25	0.30	20.40	22.55	33.00	-10.45
	1907.6	9538	22.38	0.30	20.53	22.68	33.00	-10.32
HSDPA	1852.4	9262	21.20	0.30	19.35	21.50	33.00	-11.50
	1880.0	9400	21.15	0.30	19.30	21.45	33.00	-11.55
	1907.6	9538	21.28	0.30	19.43	21.58	33.00	-11.42
HSUPA	1852.4	9262	21.22	0.30	19.37	21.52	33.00	-11.48
	1880.0	9400	21.16	0.30	19.31	21.46	33.00	-11.54
	1907.6	9538	21.31	0.30	19.46	21.61	33.00	-11.39

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	21.72	-0.80	18.77	20.92	30.00	-9.08
	1732.6	1413	21.75	-0.80	18.80	20.95	30.00	-9.05
	1752.6	1513	21.78	-0.80	18.83	20.98	30.00	-9.02
HSDPA	1712.4	1312	20.88	-0.80	17.93	20.08	30.00	-9.92
	1732.6	1413	20.91	-0.80	17.96	20.11	30.00	-9.89
	1752.6	1513	20.92	-0.80	17.97	20.12	30.00	-9.88
HSUPA	1712.4	1312	20.21	-0.80	17.26	19.41	30.00	-10.59
	1732.6	1413	20.17	-0.80	17.22	19.37	30.00	-10.63
	1752.6	1513	20.28	-0.80	17.33	19.48	30.00	-10.52

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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	23.41	0.30	21.56	23.71	38.50	-14.79
	836.6	4183	23.25	0.30	21.40	23.55	38.50	-14.95
	846.6	4233	23.37	0.30	21.52	23.67	38.50	-14.83
HSDPA	826.4	4132	22.58	0.30	20.73	22.88	38.50	-15.62
	836.6	4183	22.86	0.30	21.01	23.16	38.50	-15.34
	846.6	4233	22.72	0.30	20.87	23.02	38.50	-15.48
HSUPA	826.4	4132	22.64	0.30	20.79	22.94	38.50	-15.56
	836.6	4183	22.65	0.30	20.80	22.95	38.50	-15.55
	846.6	4233	22.75	0.30	20.90	23.05	38.50	-15.45

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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: β values for transmitter characteristics tests with HS-DPCCH(FOR HSDPA)

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{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		
		9262.00	9400.00	9538.00
HSDPA II	1	21.20	21.15	21.28
	2	21.22	21.23	21.32
	3	20.69	20.65	20.80
	4	20.74	20.73	20.79

Mode	Sub test	Avg. Power (dBm) Channel		
		1312.00	1413.00	1513.00
HSDPA IV	1	20.88	20.91	20.92
	2	20.17	20.19	20.18
	3	20.45	20.45	20.47
	4	20.36	20.39	20.44

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Mode	Sub test	Avg. Power (dBm)		
		Channel		
		4132.00	4183.00	4233.00
HSDPA V	1	22.58	22.86	22.72
	2	22.67	22.54	22.84
	3	22.12	22.20	22.02
	4	22.24	22.22	22.25

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8.5.4 HSPA SUB-TEST Setting

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS}	β_{ec}	β_{ed}	β_{ed} (SF)	β_{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	β_{ed1} : 47/15 β_{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		
		9262.00	9400.00	9538.00
HSUPA II	1	21.22	21.16	21.31
	2	19.27	19.23	19.38
	3	20.20	20.23	20.31
	4	19.23	19.21	19.34
	5	21.22	21.24	21.36

Mode	Sub test	Avg. Power (dBm)		
		Channel		
		1312.00	1413.00	1513.00
HSUPA IV	1	20.21	20.17	20.28
	2	18.22	18.24	18.18
	3	19.12	19.22	19.18
	4	18.20	18.19	18.21
	5	20.44	20.40	20.51

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Mode	Sub test	Avg. Power (dBm)		
		Channel		
		4132.00	4183.00	4233.00
HSUPA V	1	22.64	22.65	22.75
	2	20.54	20.77	20.54
	3	21.59	21.59	21.73
	4	20.57	20.74	20.75
	5	22.66	22.47	22.63

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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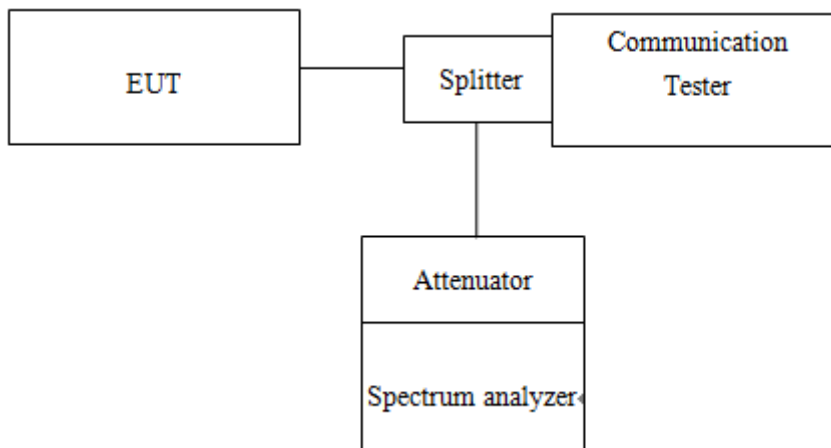
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9 OCCUPIED BANDWIDTH MEASUREMENT

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%, VBW= 3 * RBW, with span > 2 * Signal BW, set % Power = 99%.

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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	4.14560	4.14570	4.14590	4.651	4.653	4.659
1880.00	9400	4.14620	4.14540	4.14910	4.653	4.661	4.657
1907.60	9538	4.14640	4.14010	4.13600	4.652	4.648	4.642

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	4.15040	4.13870	4.13790	4.643	4.628	4.636
1732.60	1413	4.15810	4.15580	4.16100	4.662	4.665	4.668
1752.60	1513	4.14690	4.14310	4.13810	4.646	4.640	4.640

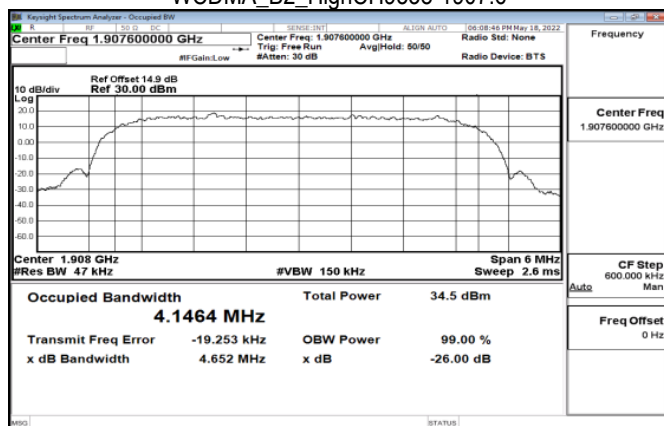
Freq. (MHz)	CH	99% BW (MHz)			26 dB BW (MHz)		
		WCDMA V	HSDPA V	HSUPA V	WCDMA V	HSDPA V	HSUPA V
826.40	4132	4.15820	4.15440	4.16020	4.666	4.674	4.676
836.60	4183	4.13700	4.13180	4.13830	4.642	4.655	4.636
846.60	4233	4.11750	4.13030	4.10990	4.667	4.644	4.644

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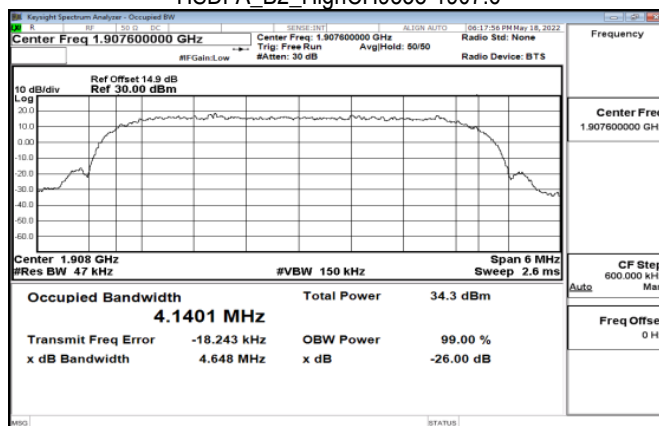
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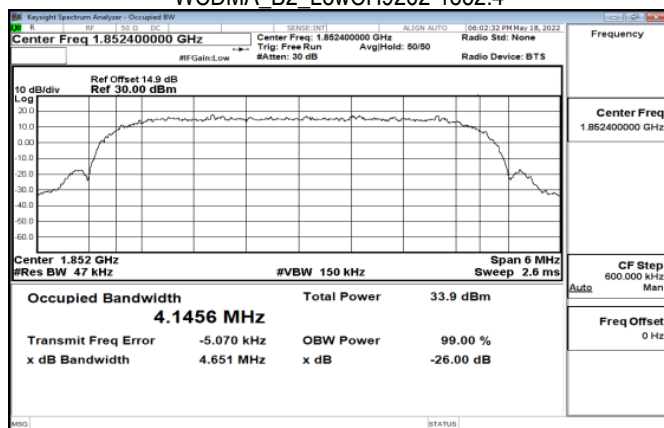
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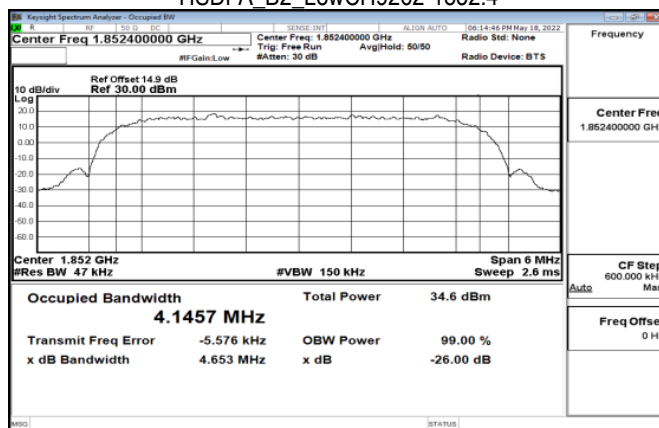
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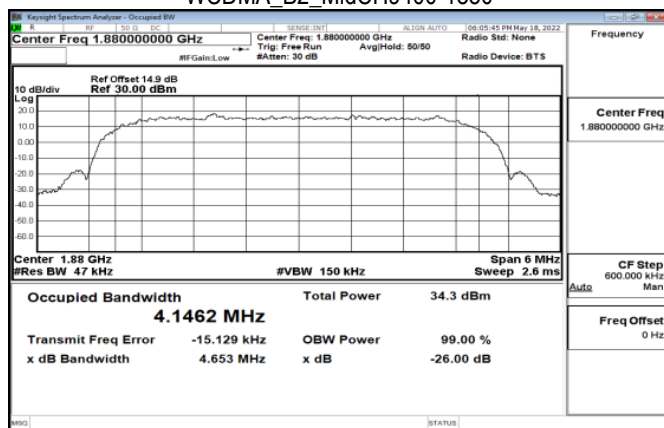
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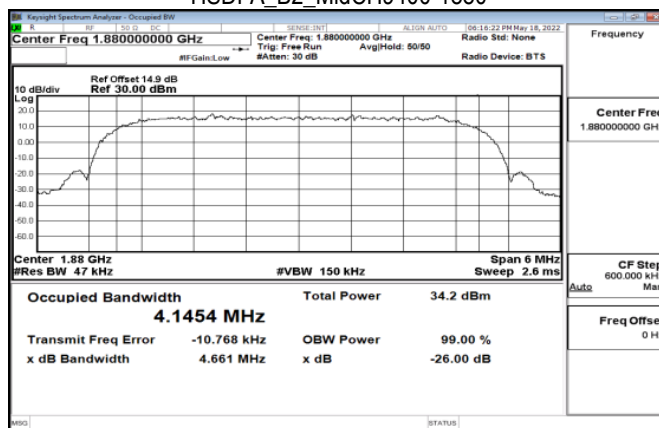
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WCDMA_B2_MidCH9400-1880



HSDPA_B2_MidCH9400-1880

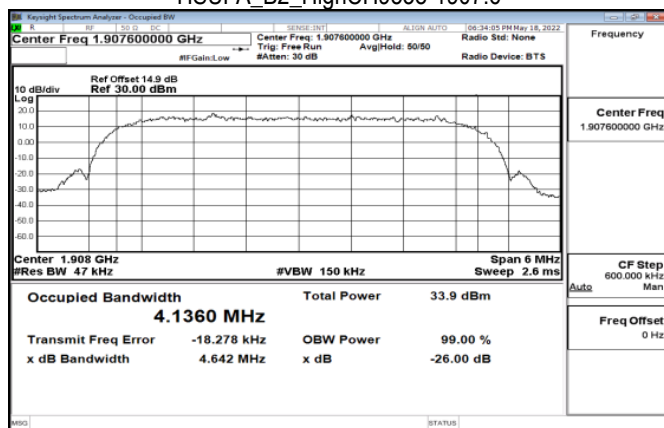


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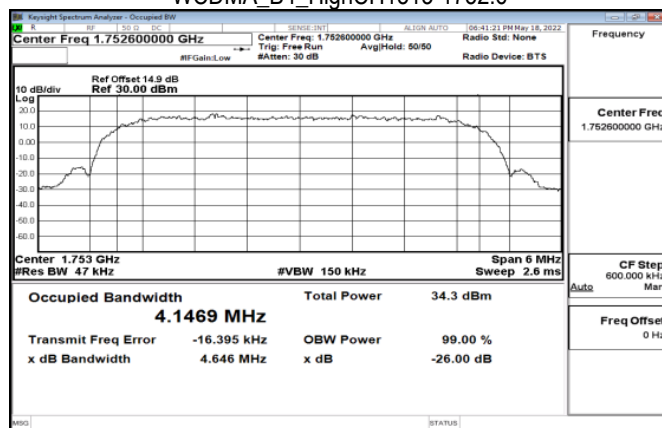
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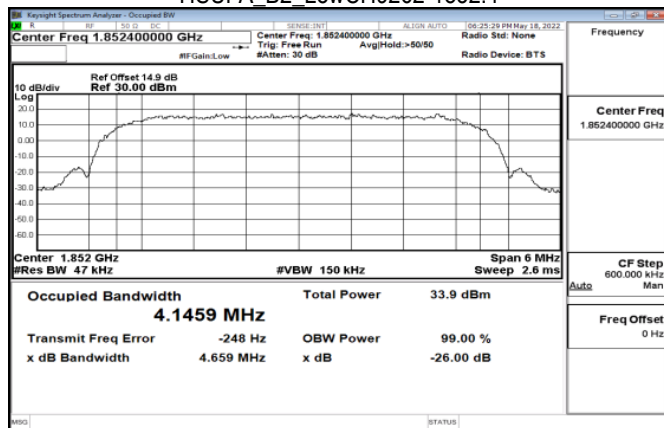
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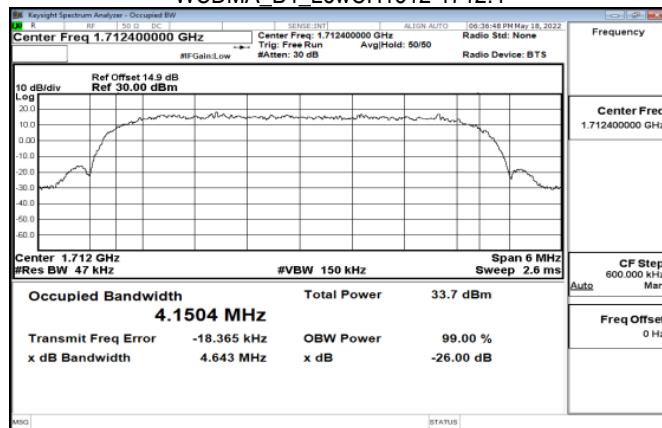
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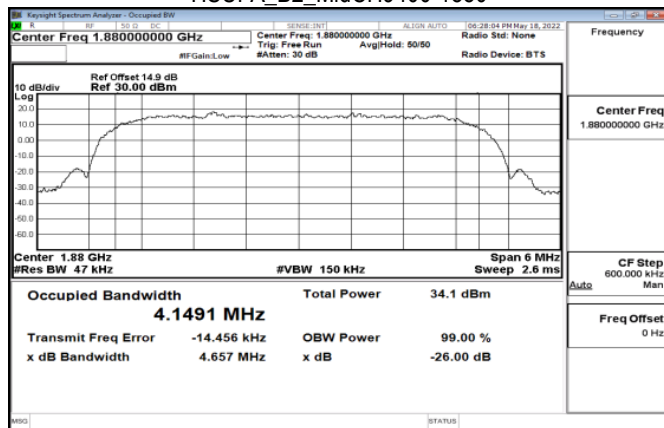
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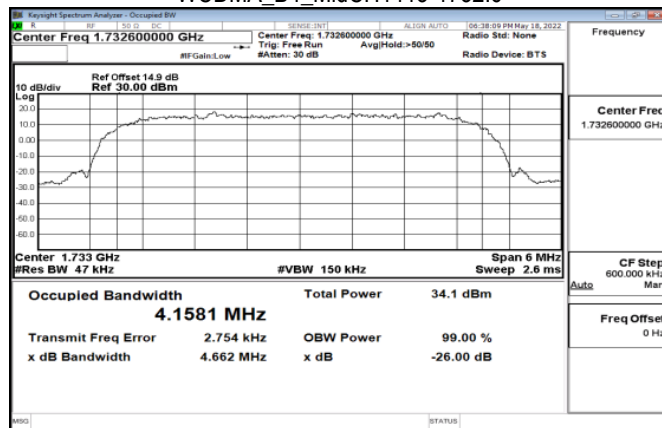
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HSUPA_B2_MidCH9400-1880



WCDMA_B4_MidCH1413-1732.6

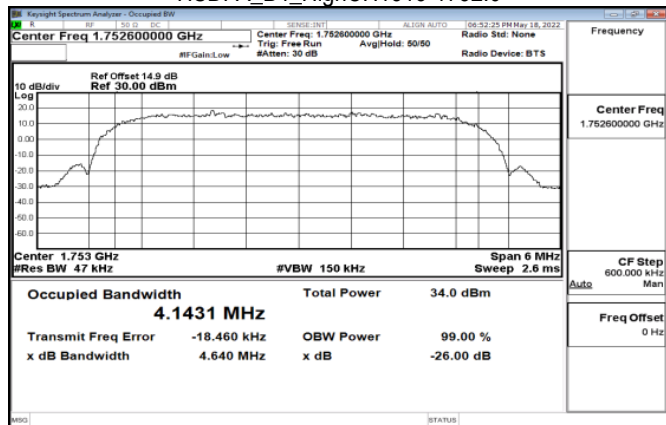


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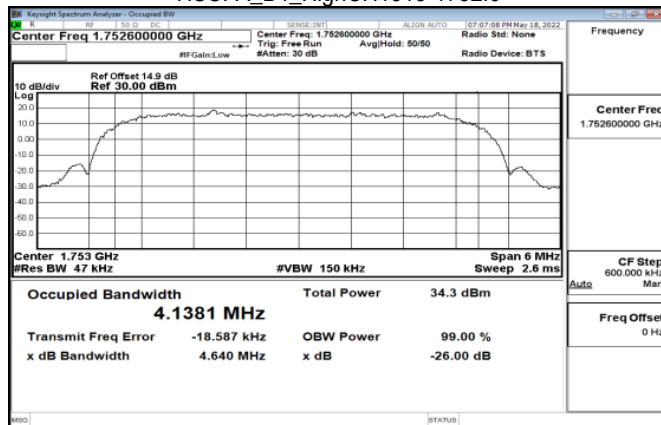
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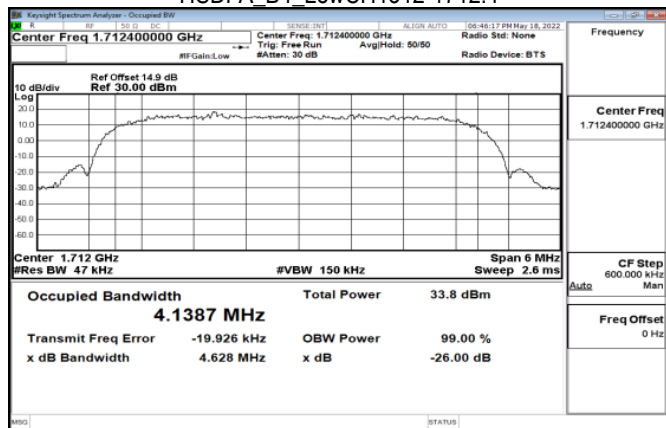
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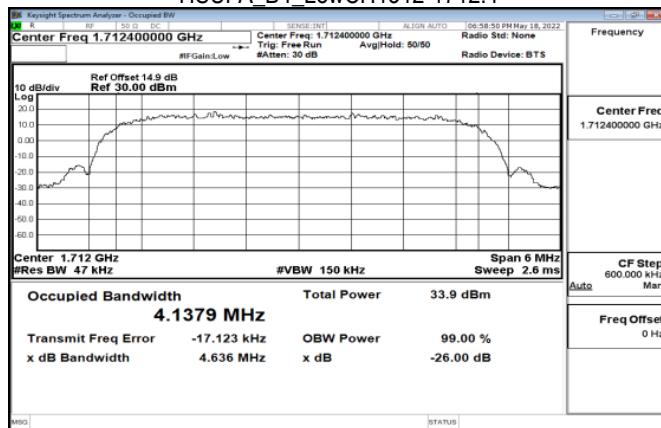
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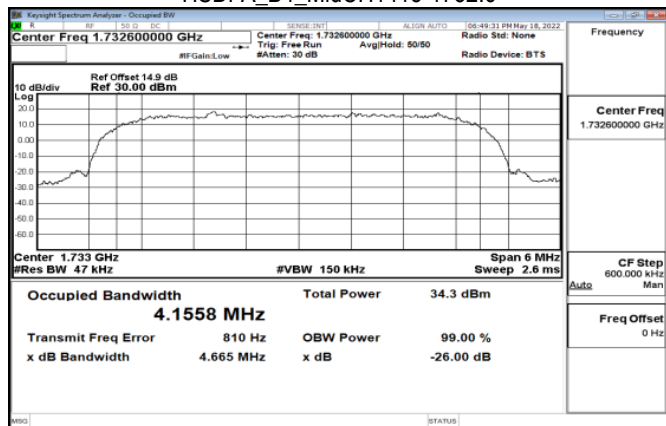
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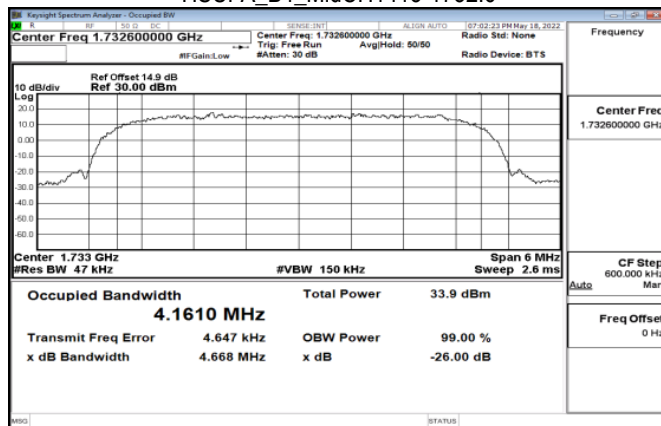
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HSDPA_B4_MidCH1413-1732.6



HSUPA_B4_MidCH1413-1732.6

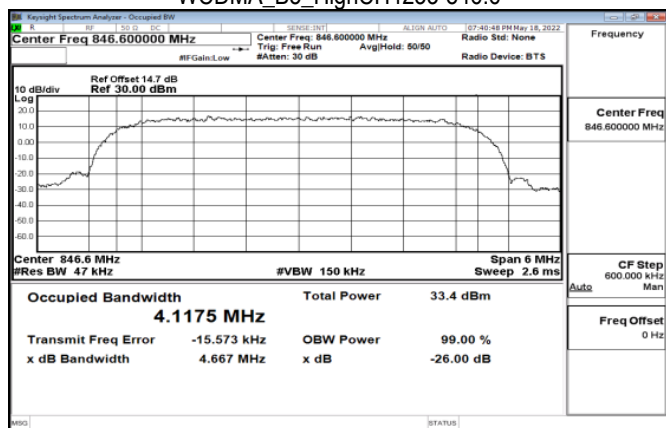


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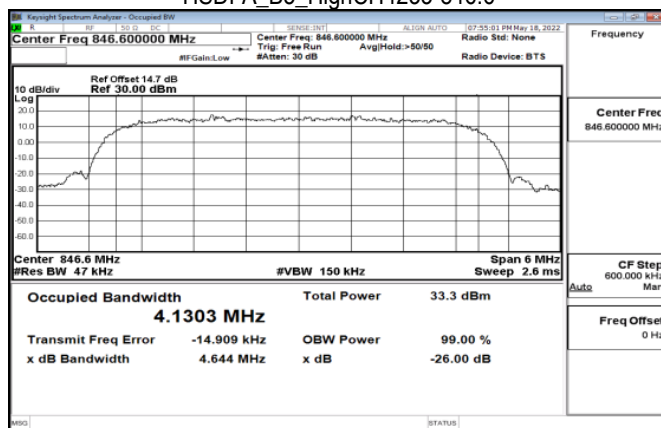
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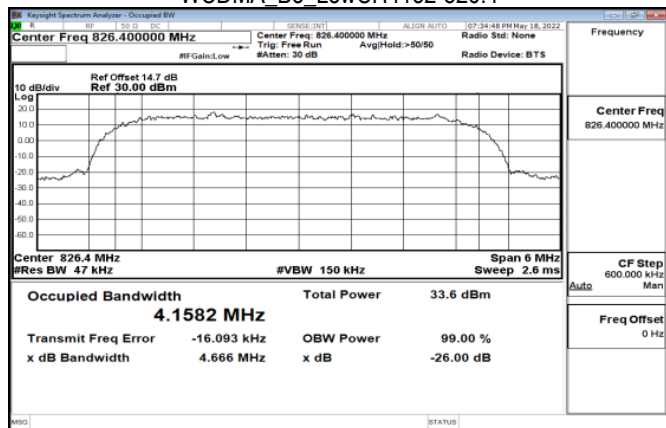
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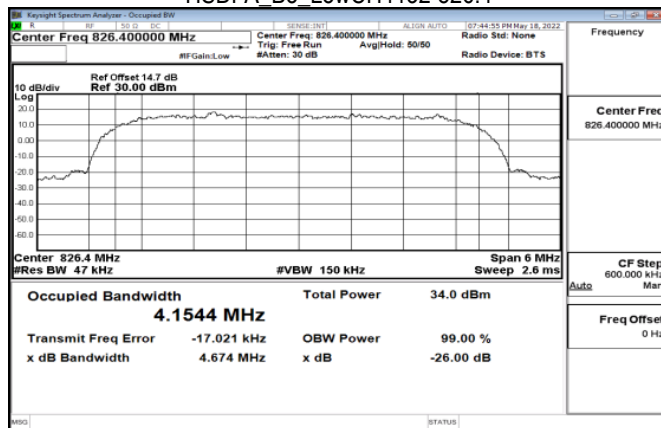
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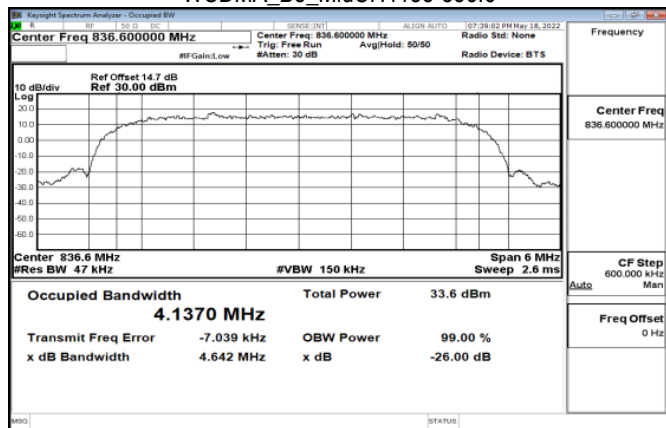
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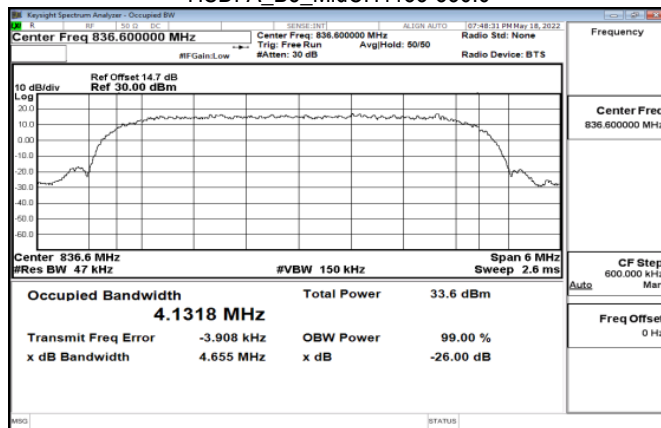
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WCDMA_B5_MidCH4183-836.6



HSDPA_B5_MidCH4183-836.6

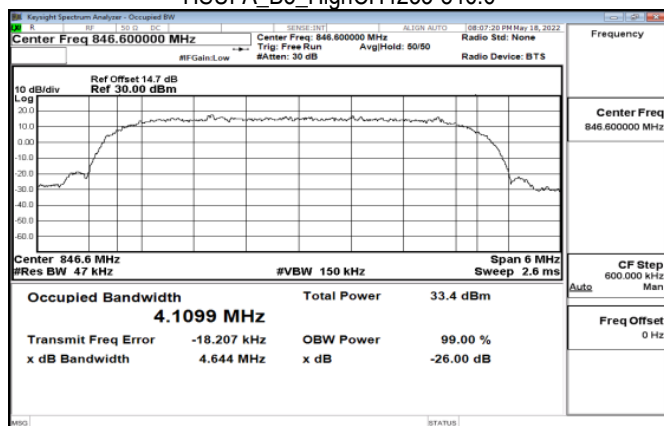


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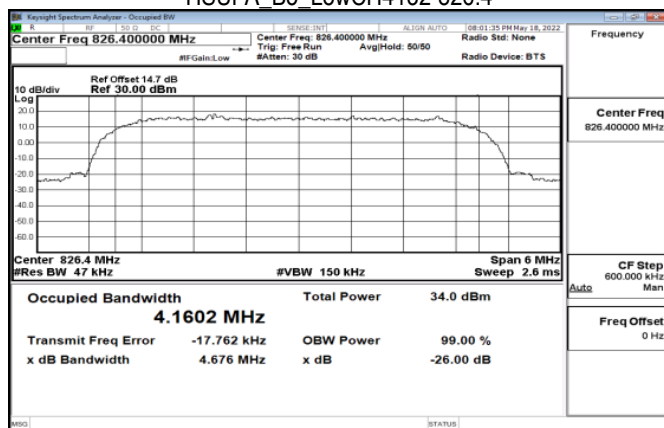
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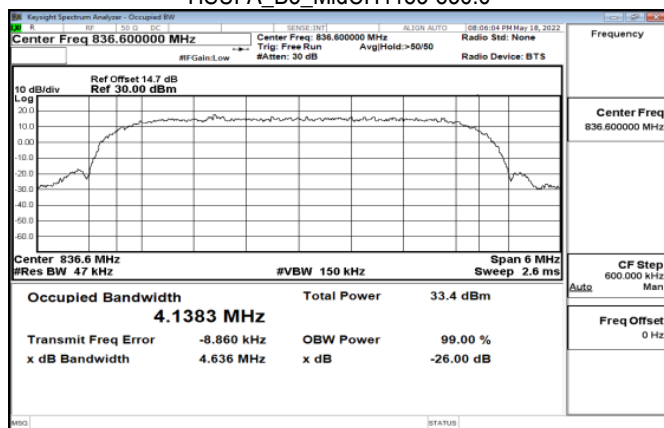
HSUPA_B5_HighCH4233-846.6



HSUPA_B5_LowCH4132-826.4



HSUPA_B5_MidCH4183-836.6



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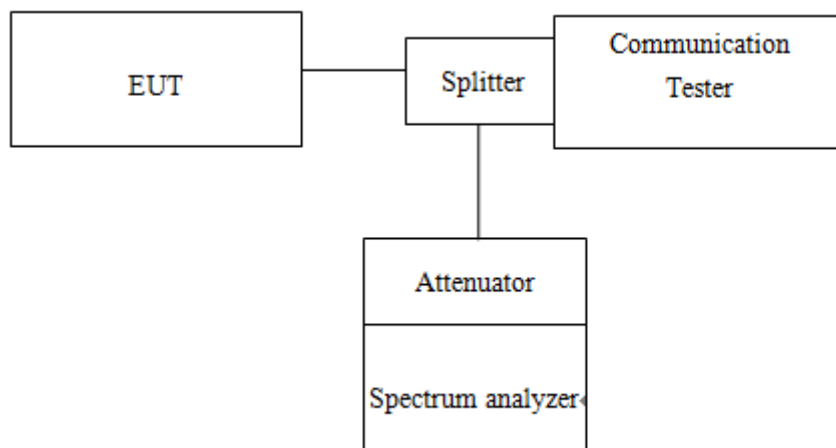
10 OUT OF BAND EMISSION AT ANTENNA TERMINALS

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 $RBW \geq 1\% \text{ EBW}$.
3. Allow trace to fully stabilize
4. Repeat above procedures until all default test channel measured were complete.

10.4 Measurement Result:

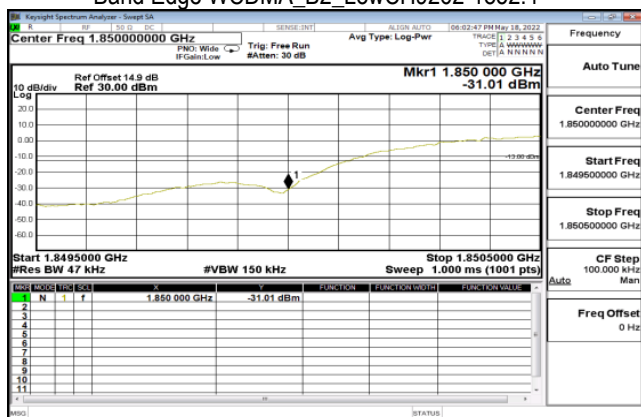
Refer to next pages.

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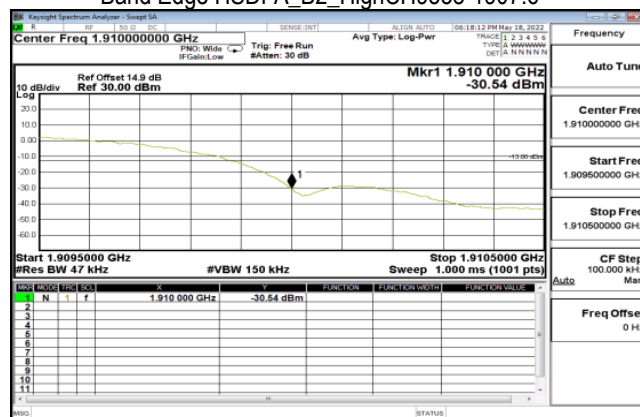
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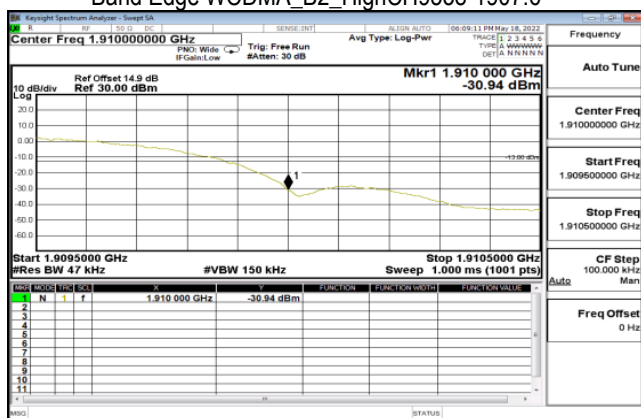
Band Edge WCDMA_B2_LowCH9262-1852.4



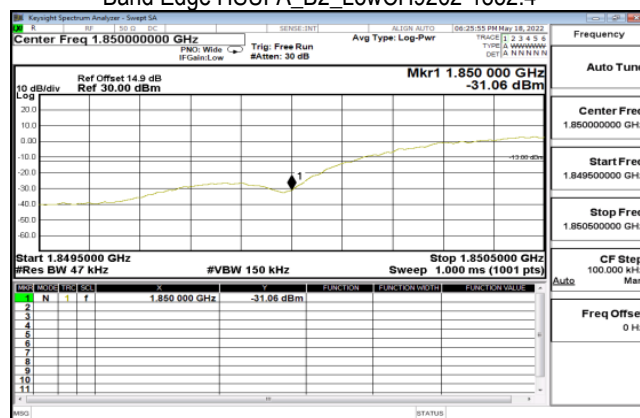
Band Edge HSDPA_B2_HighCH9538-1907.6



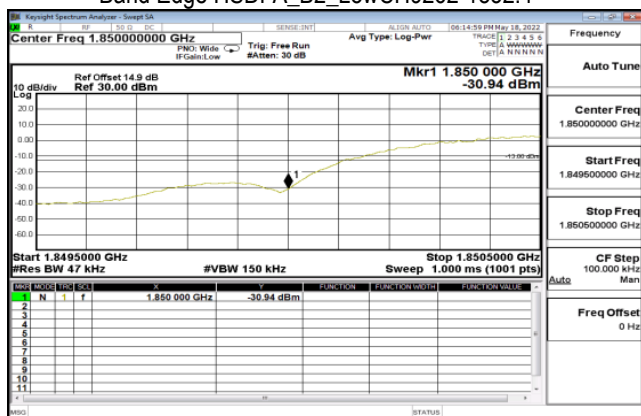
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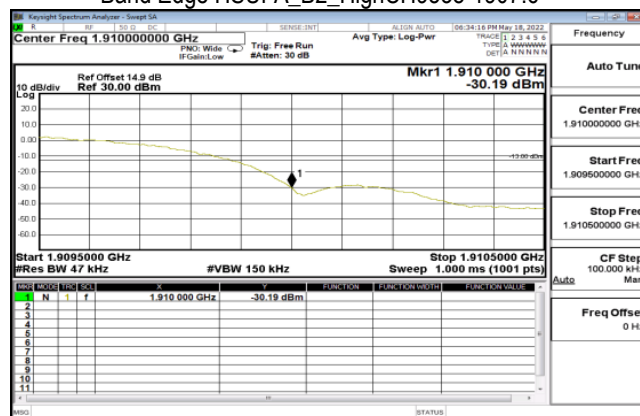
Band Edge HSUPA_B2_LowCH9262-1852.4



Band Edge HSDPA_B2_LowCH9262-1852.4



Band Edge HSUPA_B2_HighCH9538-1907.6

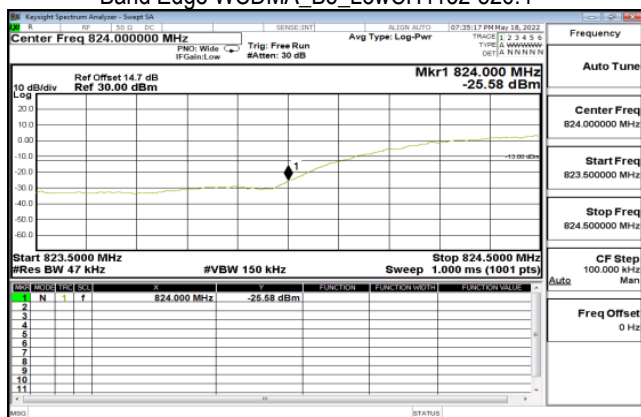


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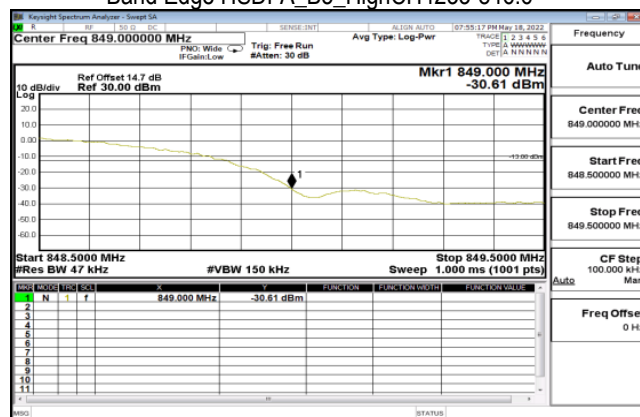
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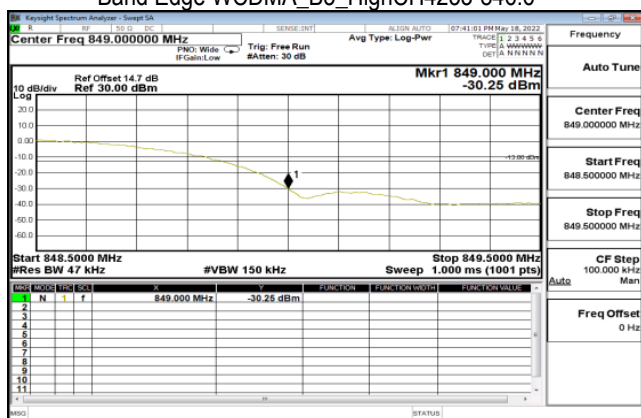
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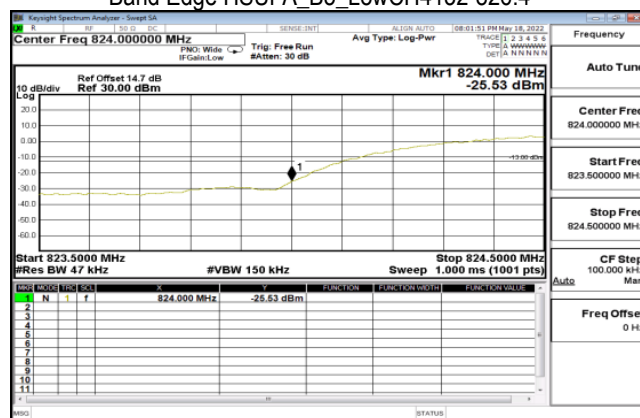
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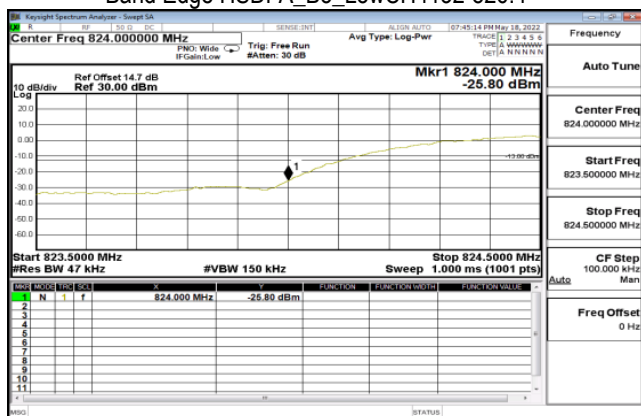
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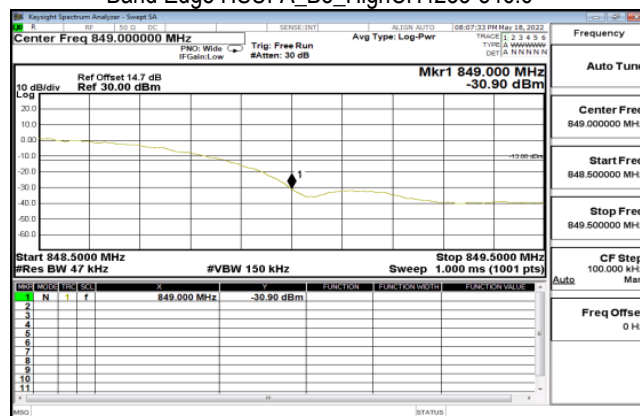
Band Edge HSUPA_B5_LowCH4132-826.4



Band Edge HSDPA_B5_LowCH4132-826.4



Band Edge HSUPA_B5_HighCH4233-846.6

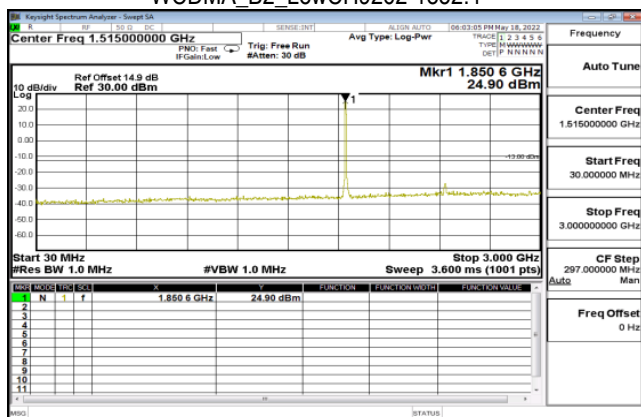


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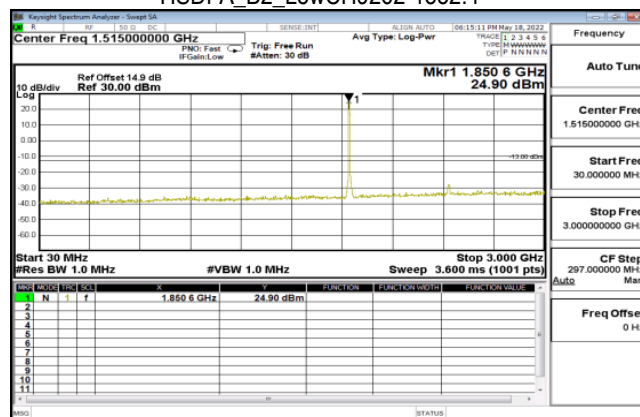
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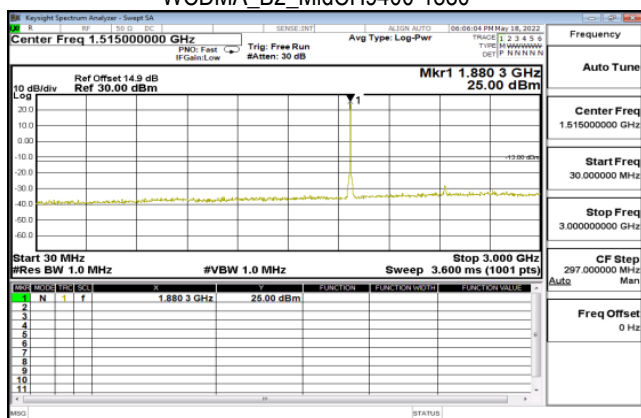
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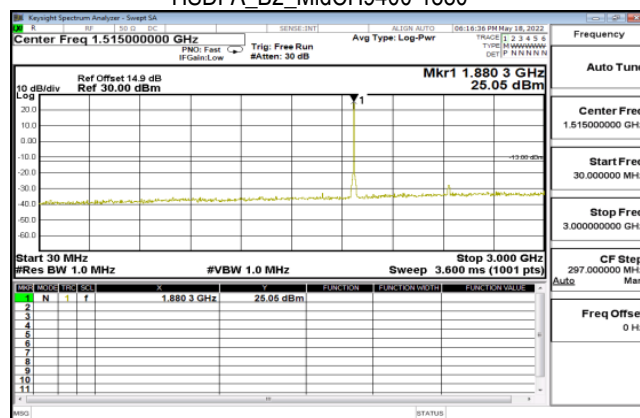
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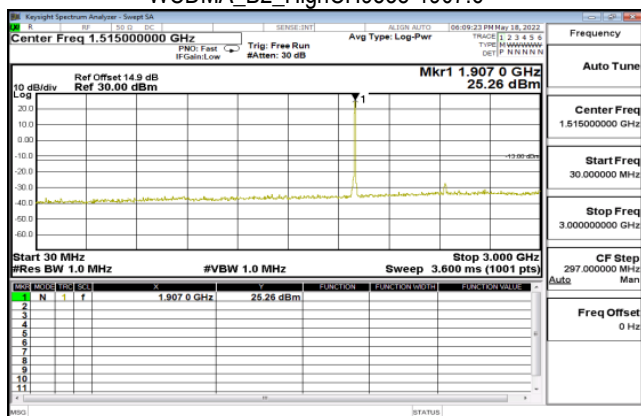
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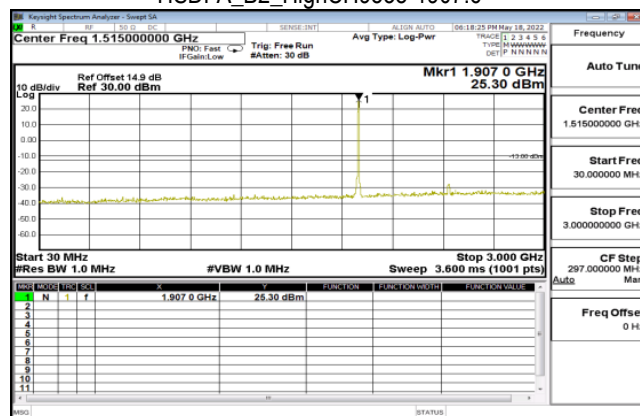
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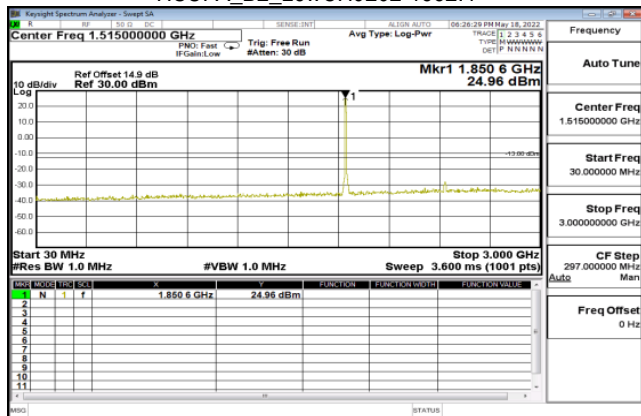


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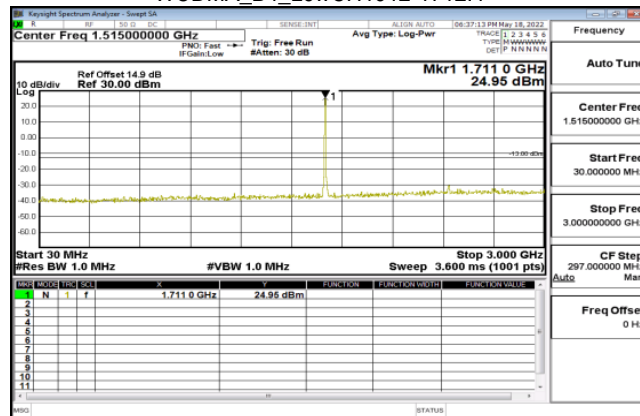
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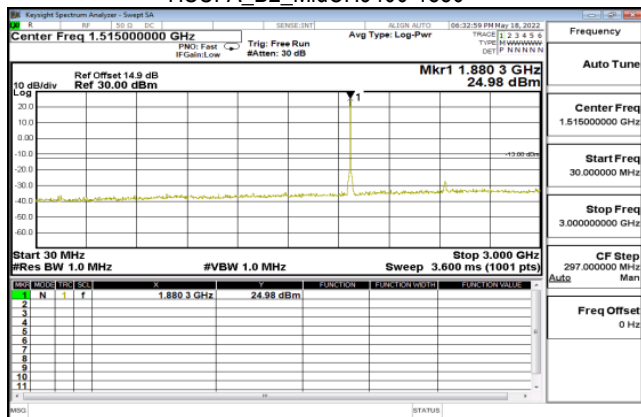
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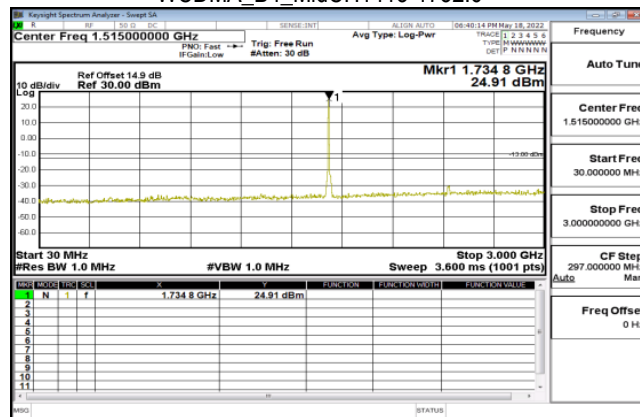
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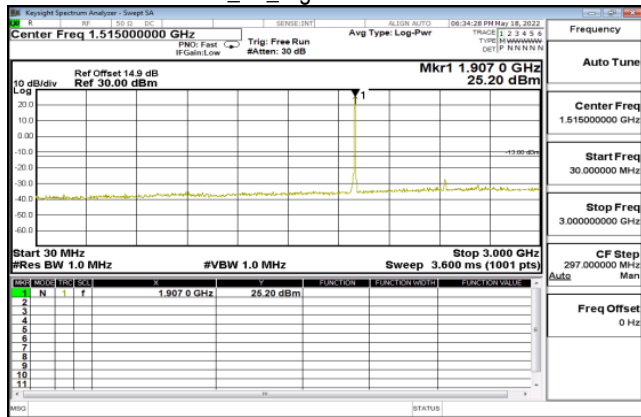
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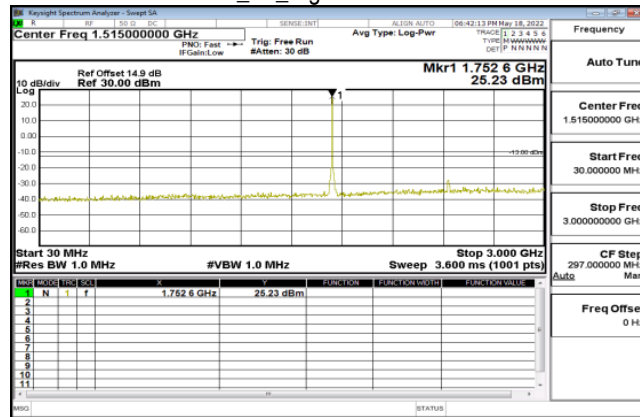
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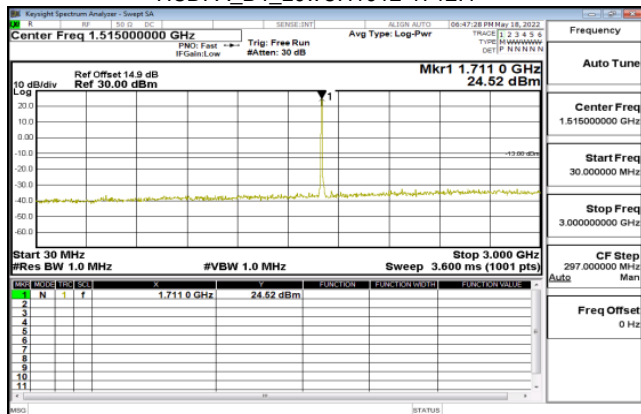


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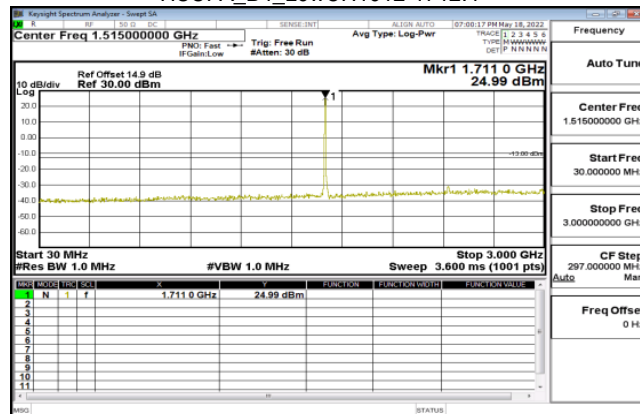
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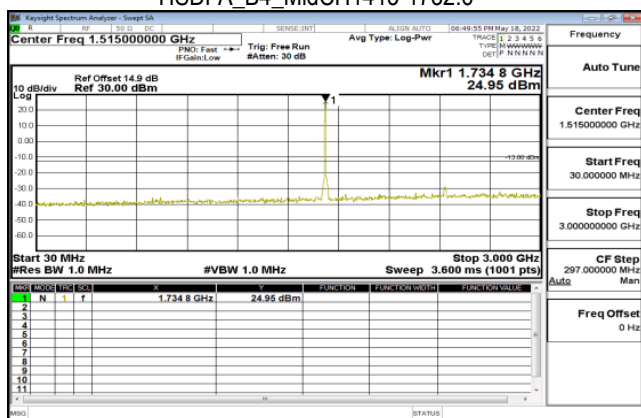
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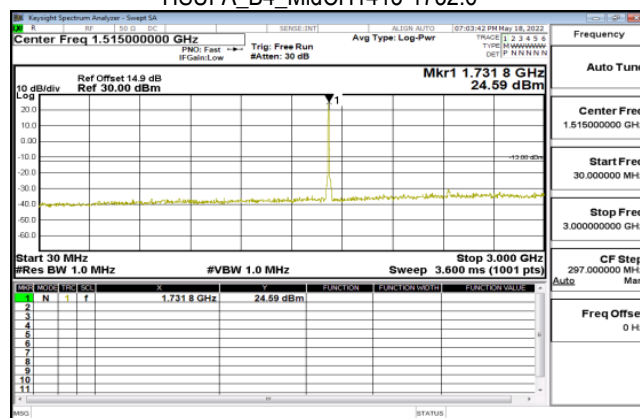
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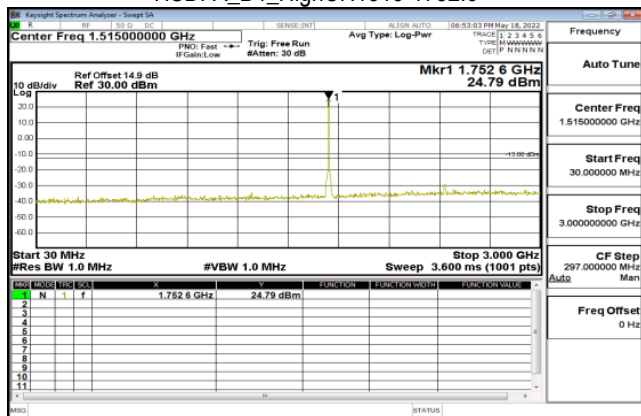
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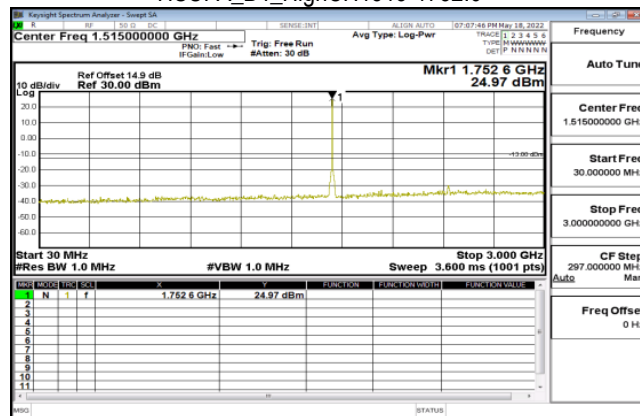
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HSDPA_B4_HighCH1513-1752.6



HSUPA_B4_HighCH1513-1752.6



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