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# **ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT**





**Applicant:** HP Inc.

1501 Page Mill Road, Palo Alto CA 94304 USA

Manufacturer: HP Inc.

1501 Page Mill Road, Palo Alto CA 94304 USA

**Product Name: Notebook Computer** 

**Brand Name:** HP

Model No.: HSN-I46C

Model Difference: N/A

**Report Number:** TERF2212002647E2

FCC ID B94HNI46CPA

Issue Date: March 03, 2023

Date of Test: December 22, 2022 ~ March 03, 2023

Date of EUT Received: December 8, 2022

Approved By

### 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 ANSI C63.26-2015 and the energy emitted by the sample EUT comply with FCC rule part 2, 22H & 24E.

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

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Revision History										
Report Number	Revision	Description	Issue Date	Revised By	Remark					
TERF2212002647E2	00	Original.	February 20, 2023	Tiffany Kao						
TERF2212002647E2	01	Add ERP/EIRP Power	March 03, 2023	Tiffany Kao	*					

### Note:

1 The remark "\*" indicates modification of the report upon requests from certification body.

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### **GENERAL PRODUCT INFORMATION**

### **Product Description**

Product Name:	Notebook Computer
Brand Name:	HP
Model No.:	HSN-I46C
EUT Series No.:	0002770VAC
Power Supply:	11.58Vdc
Integrated WWAN Module:	Brand Name: Fibocom Model Name: FB520
Test Software (Name/Version)	Default (link 8820C)

#### 1.2 **Operation Frequency Range**

Operating Frequency (MHz)				
GSM/GPRS/EDGE 850 824.2 - 848.8				
GSM/GPRS/EDGE 1900	1850.2	-	1909.8	

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### 1.3 Antenna Designation

Antenna Type	Supplier	Antenna part no.	Mode	Remark	
	Vandar 1	6036B0312701		Ant5	
PIFA	Vendor 1	(81ELA215.G10)	TB	Ant5	
PIFA	Vandar 2	6036B0313201	NB	Ant5	
	Vendor 2	(0-3302700850)	TB	Ant5	
Note: Transmission in frequencies in this test report are only available by the above antenna(s).					

	Frequency (MHz)		Peak Antenna Gain (dBi)			3i)	
Modulation			Vend	dor 1	or 1 Vendo		
			NB	TB	NB	TB	
			Ant5	Ant5	Ant5	Ant5	
GSM/GPRS/EDGE 850	824.2	-	848.8	-1.07	-0.76	-1.34	-2.78
GSM/GPRS/EDGE 1900	1850.2	1850.2 - 190		0.63	0.12	-1	-2.81

Note: Antenna information is provided by the applicant.

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### **Test Methodology of Applied Standards**

FCC 47 CFR Part 2, 22H, 24E ANSI C63.26-2015

KDB412172 D01 Determining ERP and EIRP v01r01

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

1.5 **Test Facility** 

Laboratory	Test Site Address	Test Site Name	FCC Designa- tion number	IC CAB identifier
		SAC 1		
		SAC 2		
		SAC 3		
	No 124 Wu Kung Dood Now Toingi	Conduction 1		
	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New	Conducted 1	TW0027	
	Taipei City, Taiwan.	Conducted 2	1 440027	
	Taiper Oity, Taiwan.	Conducted 3		
		Conducted 4		
		Conducted 5		
SGS Taiwan Ltd.		Conducted 6		
Central RF Lab.		Conduction C		TW3702
(TAF code 3702)		SAC C		
		SAC D		
		SAC G		
	No 2 Kaji 1et Dd. Cujeben Dietriet	Conducted A		
	No.2, Keji 1st Rd., Guishan District,	Conducted B	TW0028	
	Taoyuan City, Taiwan 333	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.

#### 1.6 **Special Accessories**

No special accessories were used during testing.

### **Equipment Modifications**

There was no modifications incorporated into the EUT.

#### 1.8 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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### 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 equipmen

### 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.

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

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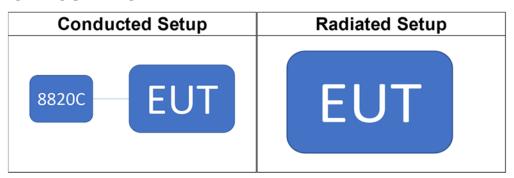
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### **TEST CONFIGURATION**



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

### 3.1 Control Unit(s)

Equipment	Mfr/Brand	Model/Type No.	Series No.
Test Software	N/A	N/A	N/A

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### SUMMARY OF TEST RESULTS

FCC Rules	<b>Description Of Test</b>	Result
§2.1046(a)	RF Power Output	Compliant
§22.913(a)(5) §24.232(c)	ERP/ EIRP measurement	Compliant
§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	Compliant

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### **DESCRIPTION OF TEST MODES**

#### 5.1 The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- 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**

RADIATED EMISSION	GSM	Test Channel		
RADIATED ENITSSION	Bands	L	М	Н
ERP	850	٧	٧	٧
EIRP	1900	V	٧	٧
RADIATED EMISSION	850	٧	٧	٧
RADIATED LIVISSION	1900	٧	٧	٧

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### **MEASUREMENT UNCERTAINTY**

Test Items	Und	certair	nty
RF Power Output	+/-	1	dB
ERP/ EIRP measurement	+/-	2.93	dB
ERP/ EIRP measurement	+/-	2.93	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	+/-	0.7	°C
Humidity	+/-	3	%
DC / AC Power Source	+/-	1	%

Radiated Spurious Emission Measurement Uncertainty					
Polarization: Vertical	+/-	2.8	dB	9kHz~30MHz	
	+/-	4.82	dB	30MHz - 1000MHz	
	+/-	4.37	dB	1GHz - 18GHz	
	+/-	4.21	dB	18GHz - 40GHz	
Polarization: Horizontal	+/-	2.8	dB	9kHz~30MHz	
	+/-	4.54	dB	30MHz - 1000MHz	
	+/-	4.37	dB	1GHz - 18GHz	
	+/-	4.21	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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### MEASUREMENT EQUIPMENT USED

#### 7.1 **Conducted Measurement**

Conducted Emission Test Site: Conducted E							
EQUIPMENT TYPE	TYPE MFR MODEL SERIAL LAST CAL. CAL D						
Radio Communication Analyer	Anritsu	MT8820C	6201465316	06/20/2022	06/19/2023		

#### 7.2 **Radiated Measurement**

	Radiated Emission Test Site: SAC D								
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.				
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-300	11/11/2022	11/10/2023				
Broadband Antenna	SCHWARZBECK	VULB 9168	9168-617	12/19/2022	12/18/2023				
Horn Antenna	Schwarzbeck	BBHA9170	184	12/30/2022	12/29/2023				
Horn Antenna	Schwarzbeck	BBHA9170	185	08/22/2022	08/21/2023				
Horn Antenna	Schwarzbeck	BBHA9120D	603	05/16/2022	05/15/2023				
Horn Antenna	Schwarzbeck	BBHA9120D	1341	05/31/2022	05/30/2023				
3m Site NSA	SGS	966 chamber D	N/A	04/30/2022	04/29/2023				
Spectrum Analyzer	KEYSIGHT	N9010A	MY57120200	03/24/2022	03/23/2023				
Radio Communication	Anritsu	MT8820C	6201107337	07/28/2022	07/27/2023				
Test Software	audix	e3	E3 20923 SGS Ver.9 ( C )	N.C.R	N.C.R				
Pre-Amplifier	EMC Instruments	EMC118A45SE	980789	11/16/2022	11/15/2023				
Pre-Amplifier	<b>EMC Instruments</b>	EMC18405SEE	980881	10/25/2022	10/24/2023				
Pre-Amplifier	EMC Instruments	EMC9135	980234	11/16/2022	11/15/2023				
Coaxial Cable	Huber+Suhner	RG 214/U	W21.01	11/16/2022	11/15/2023				
Coaxial Cable	Huber Suhner	EMC106-SM-SM-7200	150703	11/16/2022	11/15/2023				
Coaxial Cable	Huber Suhner	SUCOFLEX 104	MY17413/4	11/16/2022	11/15/2023				

Note: N.C.R refers to Not Calibrated Required.

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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.

### 8.2 Test Set-up



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

### 8.3 Output Power Measurement Applicable Guideance

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.

TS 151 010-1 is reference to conduct the test measurement of output power.

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 PT, 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);

Lc = signal attenuation in the connecting cable between the transmitter

and antenna, in dB.

### 8.5 Measurement Results

### 8.5.1 GSM

GSM/GPRS/EDGE (GMSK; 8-PSK) Result:

EUT Mode	Freq. (MHz)	СН	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
CDDC	824.2	128	29.87	-0.76	26.96	29.11	38.50	-9.39
GPRS 850	836.6	190	29.70	-0.76	26.79	28.94	38.50	-9.56
000	848.8	251	29.66	-0.76	26.75	28.90	38.50	-9.60
CDDC	1850.2	512	25.43	0.63	23.91	26.06	33.00	-6.94
GPRS 1900	1880.0	661	25.41	0.63	23.89	26.04	33.00	-6.96
1700	1909.8	810	25.29	0.63	23.77	25.92	33.00	-7.08
EDCE	824.2	128	20.84	-0.76	17.93	20.08	38.50	-18.42
EDGE 850	836.6	190	20.67	-0.76	17.76	19.91	38.50	-18.59
030	848.8	251	20.63	-0.76	17.72	19.87	38.50	-18.63
FDCF	1850.2	512	21.38	0.63	19.86	22.01	33.00	-10.99
EDGE 1900	1880.0	661	21.32	0.63	19.80	21.95	33.00	-11.05
. 700	1909.8	810	21.27	0.63	19.75	21.90	33.00	-11.10

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## 9 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

### 9.1 Standard Applicable

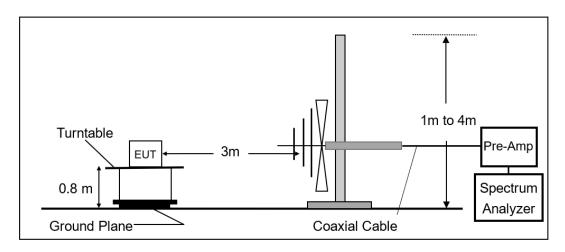
According to FCC §2.1053,

FCC §22.917(a), §24.238(a)

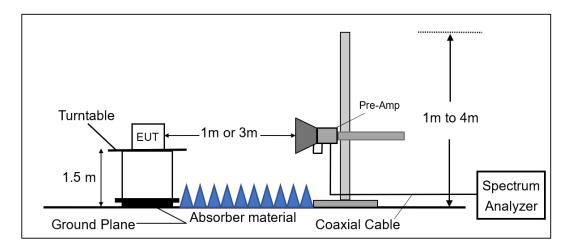
Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

### 9.2 EUT Setup

Radiated Emission Test Set-Up, Frequency From 30MHz to 1000MHz.



Radiated Emission Test Set-Up, Frequency Above 1GHz.



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### Measurement Procedure:

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

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### **Measurement Result:**

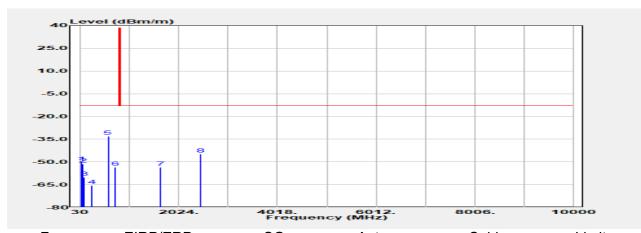
Report Number :TERF2212002647E2 **Test Site** :SAC D

**Operation Mode** :GSM 850 **Test Date** :2023-01-07

Test Mode :Tx Temp./Humi. :22.8/44

**EUT Pol** :E2 Plane Antenna Pol. :Vertical

Test Frequency :824.2 MHz Engineer :Howard Huang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
•		Output Level	Gain	Loss		J
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
58.130	-50.24	-41.82	-7.99	-0.43	-13.00	-37.24
80.440	-51.30	-50.41	-0.36	-0.53	-13.00	-38.30
121.180	-60.02	-60.33	0.95	-0.64	-13.00	-47.02
276.380	-65.49	-70.47	5.99	-1.01	-13.00	-52.49
601.330	-33.02	-37.47	6.06	-1.61	-13.00	-20.02
738.100	-53.62	-58.09	5.98	-1.51	-13.00	-40.62
1648.400	-53.64	-58.40	7.14	-2.38	-13.00	-40.64
2472.600	-44.76	-50.12	8.34	-2.98	-13.00	-31.76

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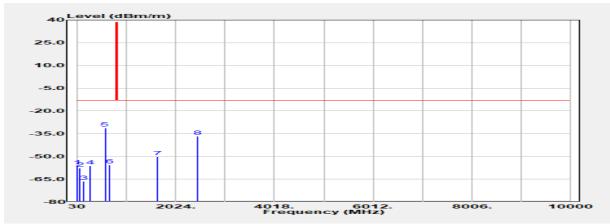
Report Number **Test Site** :SAC D :TERF2212002647E2

**Operation Mode** :GSM 850 **Test Date** :2023-01-07

Test Mode :Tx Temp./Humi. :22.8/44

**EUT Pol** :E2 Plane Antenna Pol. :Horizontal

:Howard Huang :824.2 MHz **Test Frequency** Engineer



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
00.700	50.40	45.44	40.70	0.05	40.00	40.40
36.790	-56.18	-45.11	-10.72	-0.35	-13.00	-43.18
80.440	-57.79	-56.90	-0.36	-0.53	-13.00	-44.79
169.680	-66.51	-67.78	2.07	-0.80	-13.00	-53.51
296.750	-56.35	-61.41	6.12	-1.06	-13.00	-43.35
601.330	-31.26	-35.71	6.06	-1.61	-13.00	-18.26
691.540	-55.52	-60.12	6.18	-1.58	-13.00	-42.52
1648.400	-50.10	-54.86	7.14	-2.38	-13.00	-37.10
2472.600	-36.79	-42.15	8.34	-2.98	-13.00	-23.79

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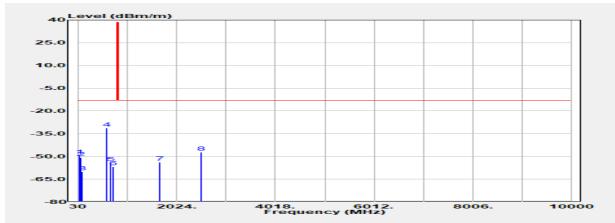
Report Number **Test Site** :SAC D :TERF2212002647E2

**Operation Mode** :GSM 850 **Test Date** :2023-01-07

Test Mode :Tx Temp./Humi. :22.8/44

**EUT Pol** :E2 Plane Antenna Pol. :Vertical

:Howard Huang **Test Frequency** :836.6 MHz Engineer



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
E0 120	40.44	40.00	7.00	0.42	12.00	26.44
58.130 80.440	-49.41 -50.93	-40.99 -50.04	-7.99 -0.36	-0.43 -0.53	-13.00 -13.00	-36.41 -37.93
123.120	-60.07	-60.25	0.83	-0.65	-13.00	-47.07
613.940	-31.41	-35.86	6.00	-1.55	-13.00	-18.41
691.540	-54.28	-58.88	6.18	-1.58	-13.00	-41.28
736.160	-56.85	-61.39	6.08	-1.54	-13.00	-43.85
1673.200	-53.82	-58.74	7.34	-2.42	-13.00	-40.82
2509.800	-47.24	-52.70	8.45	-2.99	-13.00	-34.24

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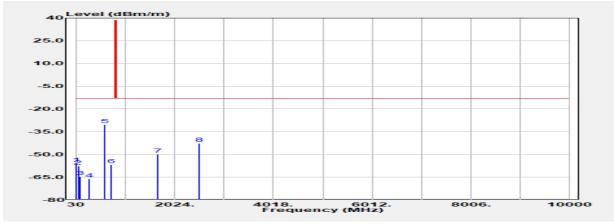
Report Number **Test Site** :SAC D :TERF2212002647E2

**Operation Mode** :GSM 850 **Test Date** :2023-01-07

Test Mode :Tx Temp./Humi. :22.8/44

**EUT Pol** :E2 Plane Antenna Pol. :Horizontal

:836.6 MHz :Howard Huang Test Frequency Engineer



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
		44.00	40.70		40.00	40.00
36.790	-55.96	-44.89	-10.72	-0.35	-13.00	-42.96
79.470	-57.80	-56.43	-0.85	-0.52	-13.00	-44.80
124.090	-64.54	-64.86	0.97	-0.65	-13.00	-51.54
299.660	-66.07	-71.13	6.15	-1.09	-13.00	-53.07
613.940	-30.47	-34.92	6.00	-1.55	-13.00	-17.47
739.070	-56.74	-61.18	5.94	-1.50	-13.00	-43.74
1673.200	-50.03	-54.95	7.34	-2.42	-13.00	-37.03
2509.800	-42.75	-48.21	8.45	-2.99	-13.00	-29.75

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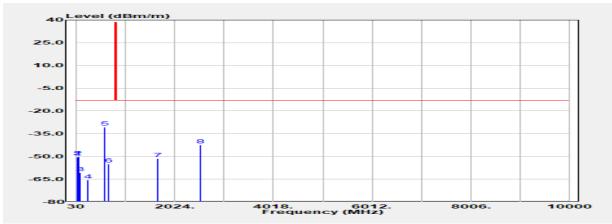
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**Operation Mode** :GSM 850 **Test Date** :2023-01-07

Test Mode :Tx Temp./Humi. :22.8/44

**EUT Pol** :E2 Plane Antenna Pol. :Vertical

:848.8 MHz :Howard Huang **Test Frequency** Engineer



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
50.400	50.45	40.00	7.00	0.40	40.00	07.45
58.130	-50.45	-42.03	-7.99	-0.43	-13.00	-37.45
79.470	-50.30	-48.93	-0.85	-0.52	-13.00	-37.30
123.120	-60.78	-60.96	0.83	-0.65	-13.00	-47.78
269.590	-65.63	-70.82	6.16	-0.97	-13.00	-52.63
625.580	-30.60	-35.01	6.01	-1.60	-13.00	-17.60
691.540	-55.06	-59.66	6.18	-1.58	-13.00	-42.06
1697.600	-51.57	-56.65	7.53	-2.45	-13.00	-38.57
2546.400	-42.48	-47.89	8.45	-3.04	-13.00	-29.48

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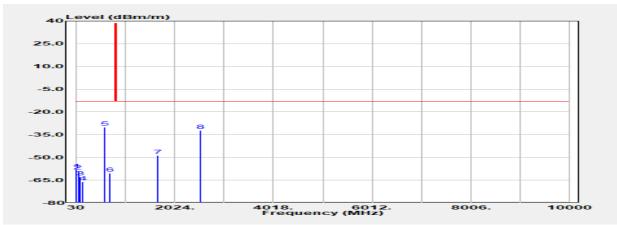
Report Number **Test Site** :SAC D :TERF2212002647E2

**Operation Mode** :GSM 850 **Test Date** :2023-01-07

Test Mode :Tx Temp./Humi. :22.8/44

**EUT Pol** :E2 Plane Antenna Pol. :Horizontal

:848.8 MHz :Howard Huang **Test Frequency** Engineer



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
00.700	57.04	40.04	40.70	0.05	40.00	44.04
36.790	-57.91	-46.84	-10.72	-0.35	-13.00	-44.91
79.470	-58.85	-57.48	-0.85	-0.52	-13.00	-45.85
125.060	-62.85	-63.04	0.85	-0.66	-13.00	-49.85
169.680	-66.07	-67.34	2.07	-0.80	-13.00	-53.07
625.580	-30.18	-34.59	6.01	-1.60	-13.00	-17.18
730.340	-60.58	-64.98	5.90	-1.50	-13.00	-47.58
1697.600	-48.82	-53.90	7.53	-2.45	-13.00	-35.82
2546.400	-32.09	-37.50	8.45	-3.04	-13.00	-19.09

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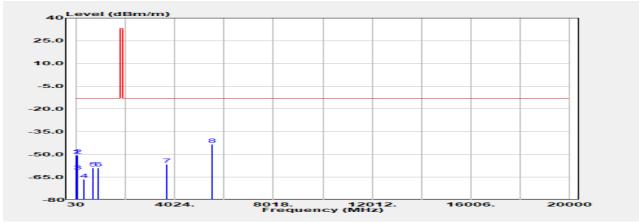
Report Number :TERF2212002647E2 Test Site :SAC D

Operation Mode :PCS 1900 Test Date :2023-01-07

Test Mode :Tx Temp./Humi. :22.8/44

EUT Pol :NB Plane Antenna Pol. :Vertical

Test Frequency :1850.2 MHz Engineer :Howard Huang



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
59.100	-50.62	-42.41	-7.77	-0.44	-13.00	-37.62
80.440	-50.65	-49.76	-0.36	-0.53	-13.00	-37.65
126.030	-61.15	-61.31	0.82	-0.66	-13.00	-48.15
349.130	-66.56	-71.94	6.59	-1.21	-13.00	-53.56
733.250	-59.05	-63.57	6.05	-1.53	-13.00	-46.05
914.640	-58.84	-63.19	6.13	-1.78	-13.00	-45.84
3700.400	-56.68	-63.20	10.25	-3.73	-13.00	-43.68
5550.600	-43.28	-49.43	10.75	-4.60	-13.00	-30.28

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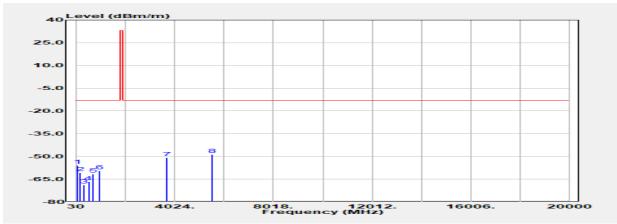
Report Number **Test Site** :SAC D :TERF2212002647E2

**Operation Mode** :PCS 1900 **Test Date** :2023-01-07

Test Mode :Tx Temp./Humi. :22.8/44

**EUT Pol** :NB Plane Antenna Pol. :Horizontal

:1850.2 MHz :Howard Huang Test Frequency Engineer



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
70.470	50.05	54.00	0.05	0.50	40.00	40.05
79.470	-56.05	-54.68	-0.85	-0.52	-13.00	-43.05
194.900	-60.66	-65.45	5.61	-0.82	-13.00	-47.66
385.990	-68.83	-73.85	6.22	-1.20	-13.00	-55.83
547.010	-66.80	-72.09	6.67	-1.38	-13.00	-53.80
736.160	-61.71	-66.25	6.08	-1.54	-13.00	-48.71
997.090	-59.64	-63.93	6.14	-1.85	-13.00	-46.64
3700.400	-50.85	-57.37	10.25	-3.73	-13.00	-37.85
5550,600	-48.57	-54.72	10.75	-4.60	-13.00	-35.57

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Report Number **Test Site** :SAC D :TERF2212002647E2

**Operation Mode** :PCS 1900 **Test Date** :2023-01-07

**Test Mode** :Tx Temp./Humi. :22.8/44

**EUT Pol** :NB Plane Antenna Pol. :Vertical

:Howard Huang Test Frequency :1880 MHz Engineer



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
50.400	40.00	44.04	7.00	0.40	40.00	00.00
58.130	-49.66	-41.24	-7.99	-0.43	-13.00	-36.66
80.440	<i>-</i> 50.78	-49.89	-0.36	-0.53	-13.00	-37.78
284.140	-66.28	-71.25	6.00	-1.03	-13.00	-53.28
381.140	-66.74	-71.83	6.29	-1.20	-13.00	-53.74
787.570	-60.11	-64.35	5.88	-1.64	-13.00	-47.11
907.850	-58.76	-62.97	6.05	-1.84	-13.00	-45.76
3760.000	-53.29	-59.80	10.21	-3.70	-13.00	-40.29
5640.000	-54.02	-60.44	11.03	-4.61	-13.00	-41.02

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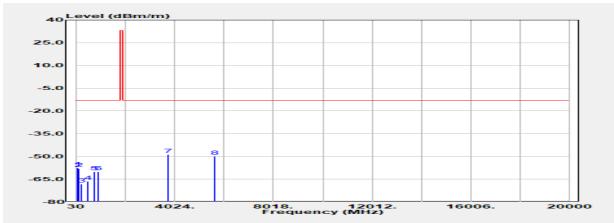
Report Number **Test Site** :SAC D :TERF2212002647E2

**Operation Mode** :PCS 1900 **Test Date** :2023-01-07

**Test Mode** :Tx Temp./Humi. :22.8/44

**EUT Pol** :NB Plane Antenna Pol. :Horizontal

:Howard Huang Test Frequency :1880 MHz Engineer



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
70.470	57.00	55.05	0.05	0.50	40.00	44.00
79.470	-57.32	-55.95	-0.85	-0.52	-13.00	-44.32
147.370	-58.18	-57.59	0.22	-0.81	-13.00	-45.18
284.140	-68.29	-73.26	6.00	-1.03	-13.00	-55.29
527.610	-66.57	-71.74	6.45	-1.28	-13.00	-53.57
786.600	-60.27	-64.60	5.89	-1.56	-13.00	-47.27
961.200	-60.02	-64.30	6.17	-1.89	-13.00	-47.02
3760.000	-48.71	-55.22	10.21	-3.70	-13.00	-35.71
5640.000	-49.87	-56.29	11.03	-4.61	-13.00	-36.87

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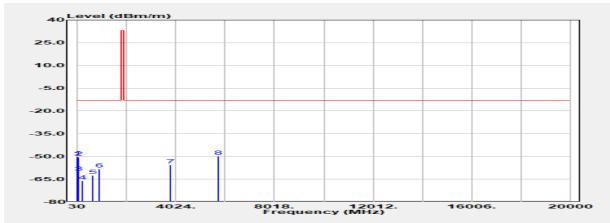
Report Number :TERF2212002647E2 Test Site :SAC D

Operation Mode :PCS 1900 Test Date :2023-01-07

Test Mode :Tx Temp./Humi. :22.8/44

EUT Pol :NB Plane Antenna Pol. :Vertical

Test Frequency :1909.8 MHz Engineer :Howard Huang



	Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
_	MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
	50.400	50.44	44.70	7.00	0.40	40.00	07.44
	58.130	-50.14	-41.72	-7.99	-0.43	-13.00	-37.14
	80.440	-50.59	-49.70	-0.36	-0.53	-13.00	-37.59
	121.180	-60.37	-60.68	0.95	-0.64	-13.00	-47.37
	273.470	-66.11	-71.16	6.04	-0.99	-13.00	-53.11
	658.560	-62.45	-66.84	6.05	-1.66	-13.00	-49.45
	914.640	-58.43	-62.78	6.13	-1.78	-13.00	-45.43
	3819.600	-55.79	-62.10	10.09	-3.78	-13.00	-42.79
	5729.400	-49.87	-55.94	10.79	-4.72	-13.00	-36.87

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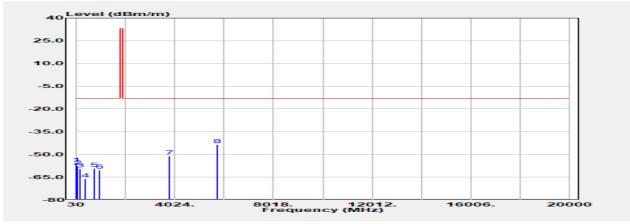
Report Number **Test Site** :SAC D :TERF2212002647E2

**Operation Mode** :PCS 1900 **Test Date** :2023-01-07

**Test Mode** :Tx Temp./Humi. :22.8/44

**EUT Pol** :NB Plane Antenna Pol. :Horizontal

:Howard Huang Test Frequency :1909.8 MHz Engineer



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
		Output Level	Gain	Loss		
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
35.820	-56.08	-45.00	-10.74	-0.34	-13.00	-43.08
79.470	-57.74	-56.37	-0.85	-0.52	-13.00	-44.74
200.720	-59.42	-64.76	6.18	-0.84	-13.00	-46.42
428.670	-66.12	-71.00	6.28	-1.40	-13.00	-53.12
787.570	-59.33	-63.57	5.88	-1.64	-13.00	-46.33
993.210	-60.46	-64.82	6.19	-1.83	-13.00	-47.46
3819.600	-50.99	-57.30	10.09	-3.78	-13.00	-37.99
5729.400	-43.70	-49.77	10.79	-4.72	-13.00	-30.70

### ~ End of Report ~

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