

**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-I45C

**Report Number:** TERF2212002665ER

**FCC ID** B94HNI45CPA

**Issue Date:** March 3, 2023

**Date of Test:** January 10, 2023 ~ March 3, 2023

**Date of EUT Received:** December 8, 2022

Approved By \_\_\_\_\_

**Blue Yang**

**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.

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
TERF2212002665ER	00	Original.	February 20, 2023	Karen Huang	
TERF2212002665ER	01	Add maximum output power measurement data.	March 3, 2023	Karen Huang	*

**Note:**

- 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:	Notebook Computer
Brand Name:	HP
Model No.:	HSN-I45C
EUT Series No.:	00330-50000-00000-AAOEM
Power Supply:	11.58Vdc
Integrated WWAN Module	Brand Name: Fibocom Model Name: FB520
Test Software (Name/Version)	Default (link 8821C)

### 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
PIFA	Vendor 1	6036B0314601 (00-3302701050)	NB	Ant5
			TB	Ant5
	Vendor 2	6036B0313901 (81ELA215.G12)	NB	Ant5
			TB	Ant5

**Note:** Transmission in frequencies in this test report are only available by the above antenna(s).

Modulation	Frequency (MHz)	Peak Antenna Gain (dBi)			
		Vendor 1		Vendor 2	
		NB	TB	NB	TB
		Ant5	Ant5	Ant5	Ant5
GSM/GPRS/EDGE 850	824.2 - 848.8	-1.09	-4.58	-0.08	-1.10
GSM/GPRS/EDGE 1900	1850.2 - 1909.8	-0.02	-2.53	1.25	-1.41

**Note:** Antenna information is provided by the applicant.

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**1.4 Test Methodology of Applied Standards**

FCC 47 CFR Part 2, 22H, 24E

ANSI C63.26-2015

KDB971168 D01 Power Meas license Digital System v03r01

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 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 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	TW3702
		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.

**1.6 Special Accessories**

No special accessories were used during testing.

**1.7 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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## 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:

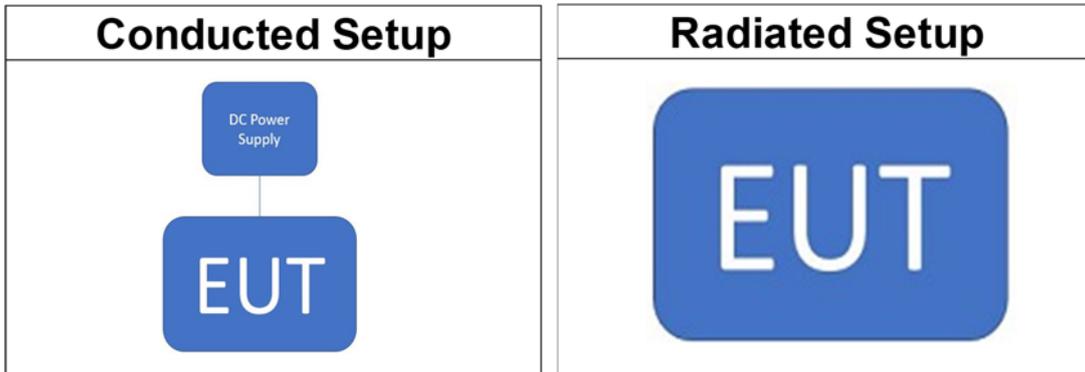
The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

#### Note:

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

### 3 TEST CONFIGURATION

#### 3.1 Setup diagram



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

#### 3.2 Control Unit(s)

Equipment	Mfr/Brand	Model/Type No.	Series No.
Test Software	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)	ERP/ EIRP measurement	Compliant
§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	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

RADIATED EMISSION	GSM Bands	Test Channel		
		L	M	H
ERP	850	v	v	v
EIRP	1900	v	v	v
RADIATED EMISSION	850	v	v	v
	1900	v	v	v

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## 6 MEASUREMENT UNCERTAINTY

Test Items	Uncertainty
RF Power Output	+/- 1 dB
ERP/ EIRP measurement	+/- 2.93 dB
	+/- 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		
<b>Polarization: Vertical</b>	+/- 2.8 dB	9kHz~30MHz
	+/- 4.82 dB	30MHz - 1000MHz
	+/- 4.37 dB	1GHz - 18GHz
	+/- 4.21 dB	18GHz - 40GHz
<b>Polarization: Horizontal</b>	+/- 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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## 7 MEASUREMENT EQUIPMENT USED

### 7.1 Conducted Measurement

Conducted Emission Test Site: Conducted 3					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Radio Communication Analyser	Anritsu	MT8815B	6200711454	04/12/2022	04/11/2023
DC Power Supply	Gwinstek	SPS-3610	GEV856750	08/01/2022	07/31/2023

### 7.2 Radiated Measurement

Radiated Emission Test Site: SAC 1					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Bi-log Antenna	SCHWARZBECK	VULB9168	1208	07/07/2022	07/06/2023
Horn Antenna	SCHWARZBECK	BBHA9120D	D803	11/30/2022	11/29/2023
Bi-log Antenna	TESEO	CBL 6112D	35242 & AT-N0555	11/27/2022	11/26/2023
Horn Antenna	SCHWARZBECK	BBHA9120D	603	05/16/2022	05/15/2023
Horn Antenna	SCHWARZBECK	BBHA9170	184	12/30/2022	12/29/2023
Horn Antenna	SCHWARZBECK	BBHA9170	185	08/22/2022	08/21/2023
Site Cal	SGS	SAC 1	N/A	01/01/2023	12/31/2023
Spectrum Analyzer	Agilent	E4446A	MY51100003	10/28/2022	10/27/2023
Signal Generator	R&S	SMBV100A	263084	01/11/2022	01/10/2023
Radio Communication Analyser	Anritsu	MT8815B	6200711454	04/12/2022	04/11/2023
Pre-Amplifier	EMCI	EMC184045B	980135	10/27/2022	10/26/2023
Pre-Amplifier	HP	8449B	3008A01973	12/13/2022	12/12/2023
Pre-Amplifier	HP	8447D	2944A09469	12/13/2022	12/12/2023
Bandreject Filter 635-920	Micro-Tronics	WI	4	12/13/2022	12/12/2023
Bandreject Filter 1700-2000	Micro-Tronics	EWT	M3	12/13/2022	12/12/2023
1.3G-15GHz High Pass Filter	WI	WHKX10-1066-80SS	19	12/13/2022	12/12/2023
3.2GHz High Pass Filter	WI	WHKX10-2624-80SS	3	12/13/2022	12/12/2023
Coaxial Cable	Huber Suhner	succoflex 102	MY2622/2	12/13/2022	12/12/2023
Coaxial Cable	Huber Suhner	succoflex 104A	800086/4a	12/13/2022	12/12/2023
Coaxial Cable	Huber Suhner	EMC 104-SM-SM-2000	160123	12/13/2022	12/12/2023
Coaxial Cable	Huber Suhner	SUCOFLEX 104	160125	12/13/2022	12/12/2023
Coaxial Cable	Huber Suhner	SUCOFLEX 106	76096/6	12/13/2022	12/12/2023
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY2630/2	12/13/2022	12/12/2023
Coaxial Cable	Huber Suhner	SUCOFLEX 102	MY22962/2	12/13/2022	12/12/2023
Coaxial Cable	Huber Suhner	SUCOFLEX 102	SN 520430/2	12/13/2022	12/12/2023
Test Software	Audix	e3	Ver. 9.210322	N.C.R	N.C.R

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

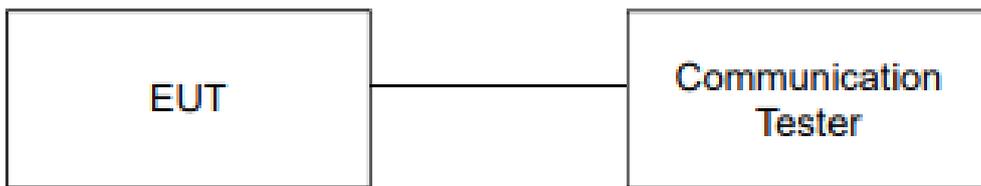
#### FCC 22.913(a)

(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 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.

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  $P_T$ , 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.

### 8.5 Measurement Results

#### 8.5.1 GSM

Test Date: March 3, 2023

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

EUT Mode	Freq. (MHz)	CH	Conducted Avg. Power (dBm)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
GPRS 850	824.2	128	32.13	-0.08	29.90	32.05	38.50	-6.45
	836.6	190	32.27	-0.08	30.04	32.19	38.50	-6.31
	848.8	251	32.05	-0.08	29.82	31.97	38.50	-6.53
GPRS 1900	1850.2	512	29.71	1.25	28.81	30.96	33.00	-2.04
	1880.0	661	29.54	1.25	28.64	30.79	33.00	-2.21
	1909.8	810	29.33	1.25	28.43	30.58	33.00	-2.42
EDGE 850	824.2	128	26.08	-0.08	23.85	26.00	38.50	-12.50
	836.6	190	26.00	-0.08	23.77	25.92	38.50	-12.58
	848.8	251	26.04	-0.08	23.81	25.96	38.50	-12.54
EDGE 1900	1850.2	512	25.52	1.25	24.62	26.77	33.00	-6.23
	1880.0	661	25.35	1.25	24.45	26.60	33.00	-6.40
	1909.8	810	25.48	1.25	24.58	26.73	33.00	-6.27

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## 9 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

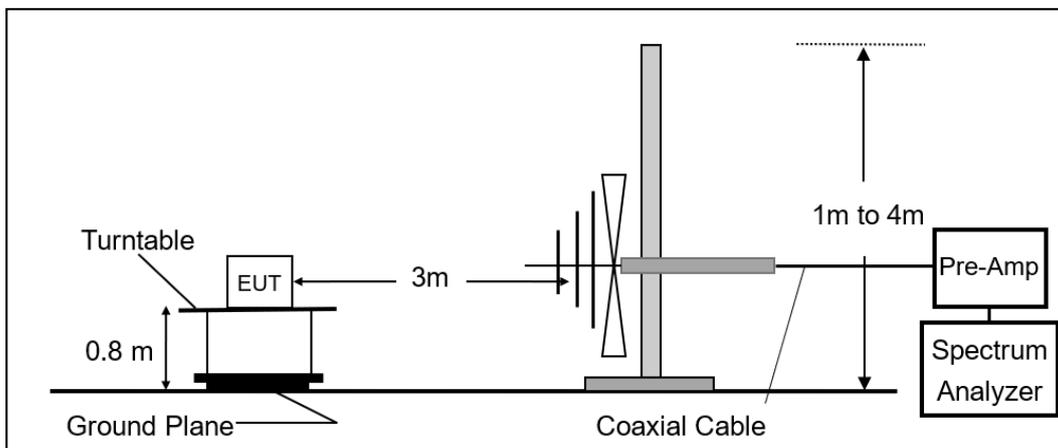
### 9.1 Standard Applicable

According to FCC §2.1053,  
**FCC §22.917(a), §24.238(a)**

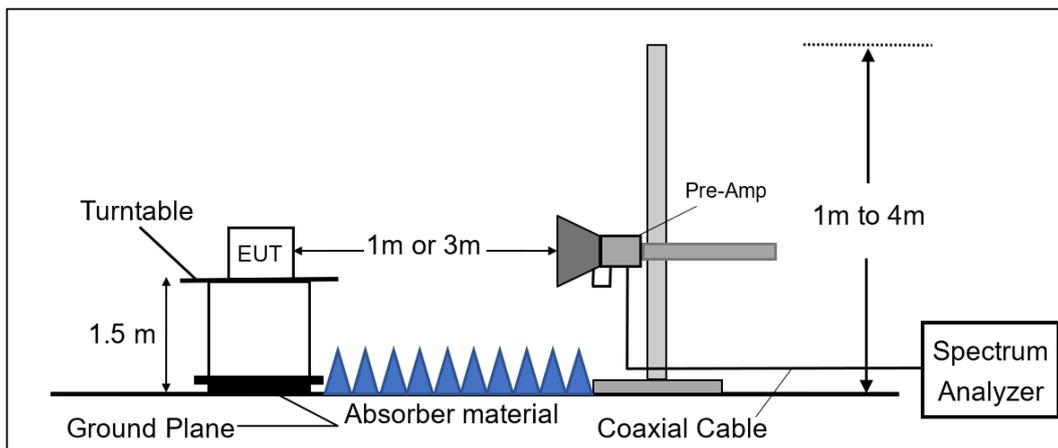
Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

### 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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### 9.3 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.

$$\text{ERP (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBd)} + \text{Cable Loss(dB)}$$

$$\text{EIRP (dBm)} = \text{SG Level(dBm)} + \text{Antenna Gain(dBi)} + \text{Cable Loss(dB)}$$

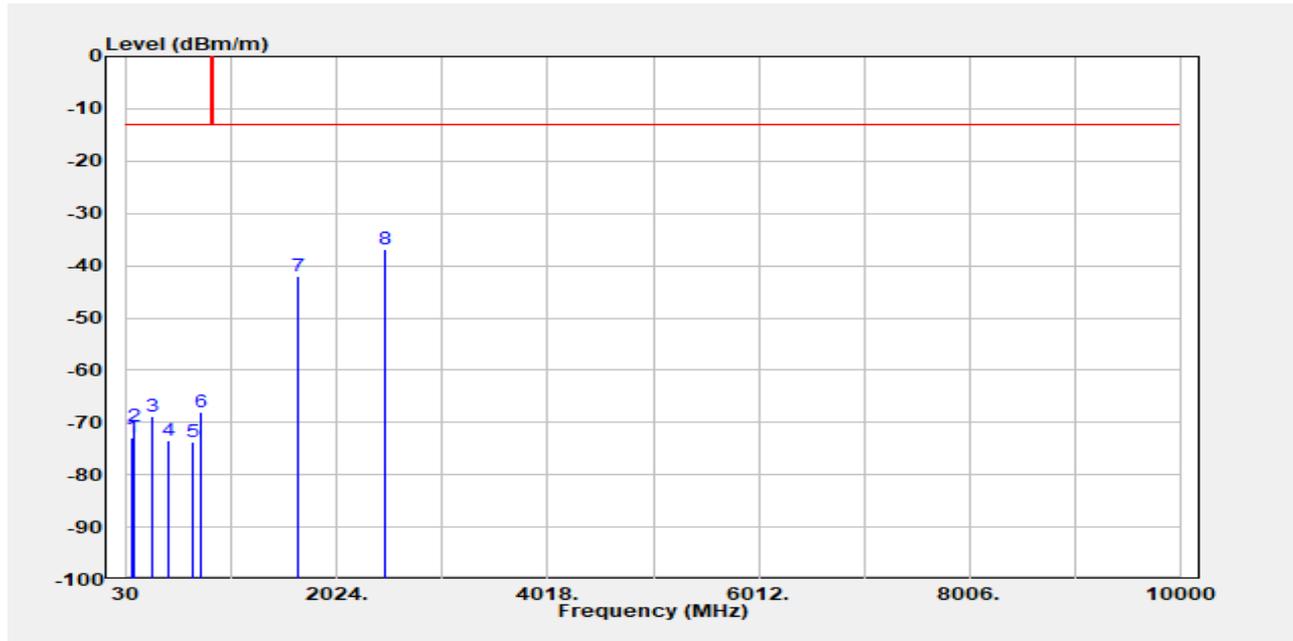
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**9.4 Measurement Result:**

Report Number :TERF2212002665ER  
 Operation Mode :GPRS 850  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :824.2 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :VERTICAL  
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-73.03	-71.75	-0.36	-0.91	-13.00	-60.03
103.72	-70.66	-70.83	1.21	-1.04	-13.00	-57.66
264.74	-68.76	-73.47	6.37	-1.65	-13.00	-55.76
433.52	-73.37	-77.65	6.21	-1.93	-13.00	-60.37
647.89	-73.69	-76.95	6.00	-2.74	-13.00	-60.69
726.46	-68.09	-71.26	5.91	-2.74	-13.00	-55.09
1648.40	-42.13	-45.02	7.14	-4.25	-13.00	-29.13
2472.60	-36.79	-39.94	8.34	-5.20	-13.00	-23.79

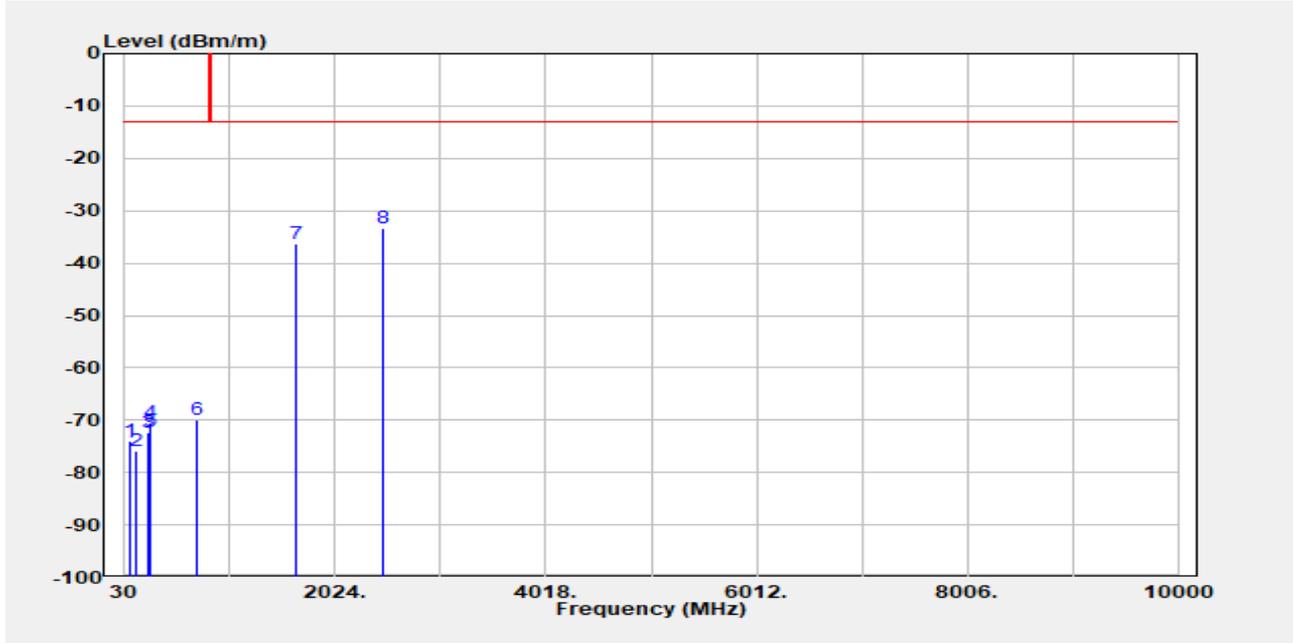
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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 850  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :824.2 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :HORIZONTAL  
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
79.47	-74.09	-72.34	-0.85	-0.91	-13.00	-61.09
144.46	-75.81	-74.91	0.35	-1.25	-13.00	-62.81
244.37	-72.37	-76.81	6.00	-1.56	-13.00	-59.37
264.74	-70.57	-75.28	6.37	-1.65	-13.00	-57.57
271.53	-72.10	-76.52	6.10	-1.67	-13.00	-59.10
716.76	-69.92	-73.28	6.12	-2.77	-13.00	-56.92
1648.40	-36.20	-39.09	7.14	-4.25	-13.00	-23.20
2472.60	-33.24	-36.39	8.34	-5.20	-13.00	-20.24

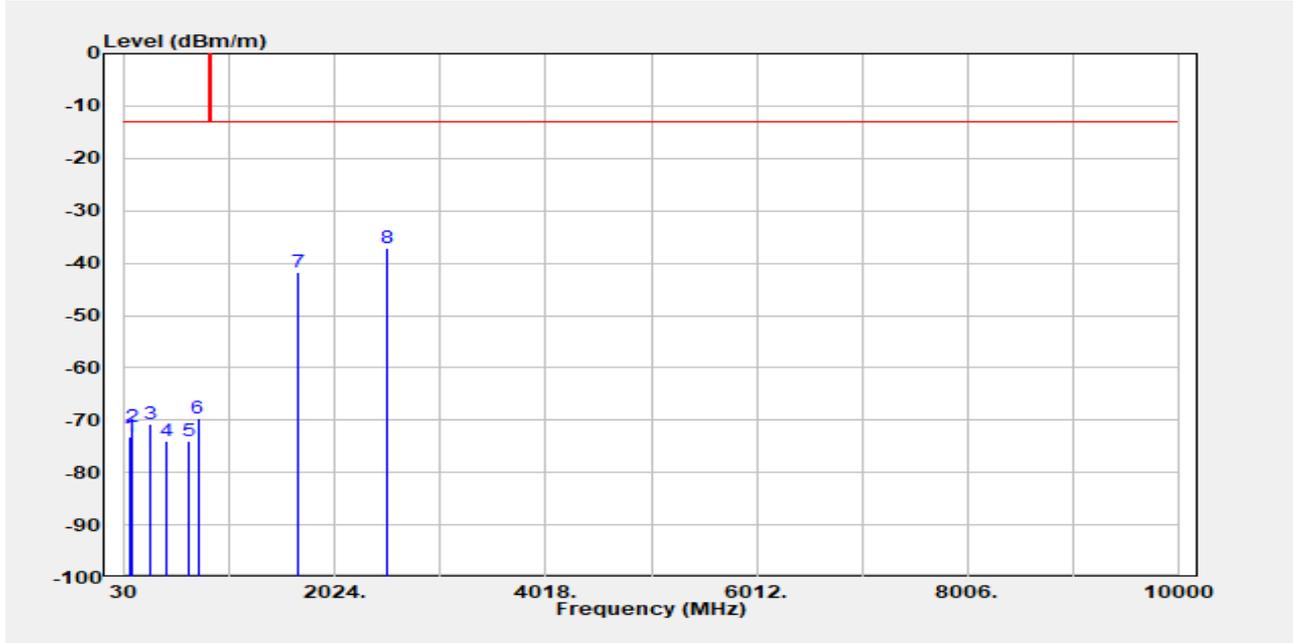
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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 850  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :836.6 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :VERTICAL  
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-73.30	-72.02	-0.36	-0.91	-13.00	-60.30
102.75	-71.29	-71.60	1.35	-1.03	-13.00	-58.29
264.74	-70.75	-75.46	6.37	-1.65	-13.00	-57.75
418.00	-73.92	-78.15	6.31	-2.08	-13.00	-60.92
641.10	-73.90	-77.25	6.00	-2.65	-13.00	-60.90
722.58	-69.72	-73.07	6.04	-2.69	-13.00	-56.72
1673.20	-41.62	-44.69	7.34	-4.27	-13.00	-28.62
2509.80	-37.06	-40.28	8.45	-5.24	-13.00	-24.06

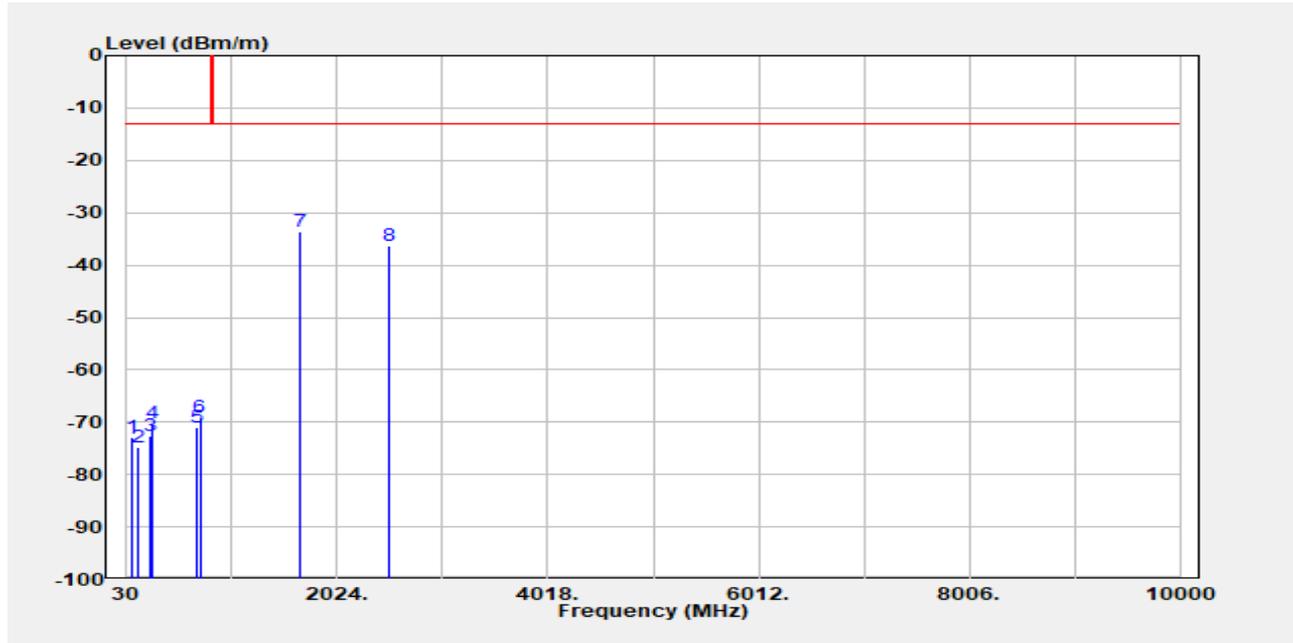
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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 850  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :836.6 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :HORIZONTAL  
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-73.03	-71.76	-0.36	-0.91	-13.00	-60.03
131.85	-74.78	-74.35	0.71	-1.14	-13.00	-61.78
244.37	-72.63	-77.08	6.00	-1.56	-13.00	-59.63
264.74	-70.12	-74.83	6.37	-1.65	-13.00	-57.12
694.45	-71.14	-74.45	6.15	-2.84	-13.00	-58.14
722.58	-69.18	-72.53	6.04	-2.69	-13.00	-56.18
1673.20	-33.53	-36.60	7.34	-4.27	-13.00	-20.53
2509.80	-36.43	-39.64	8.45	-5.24	-13.00	-23.43

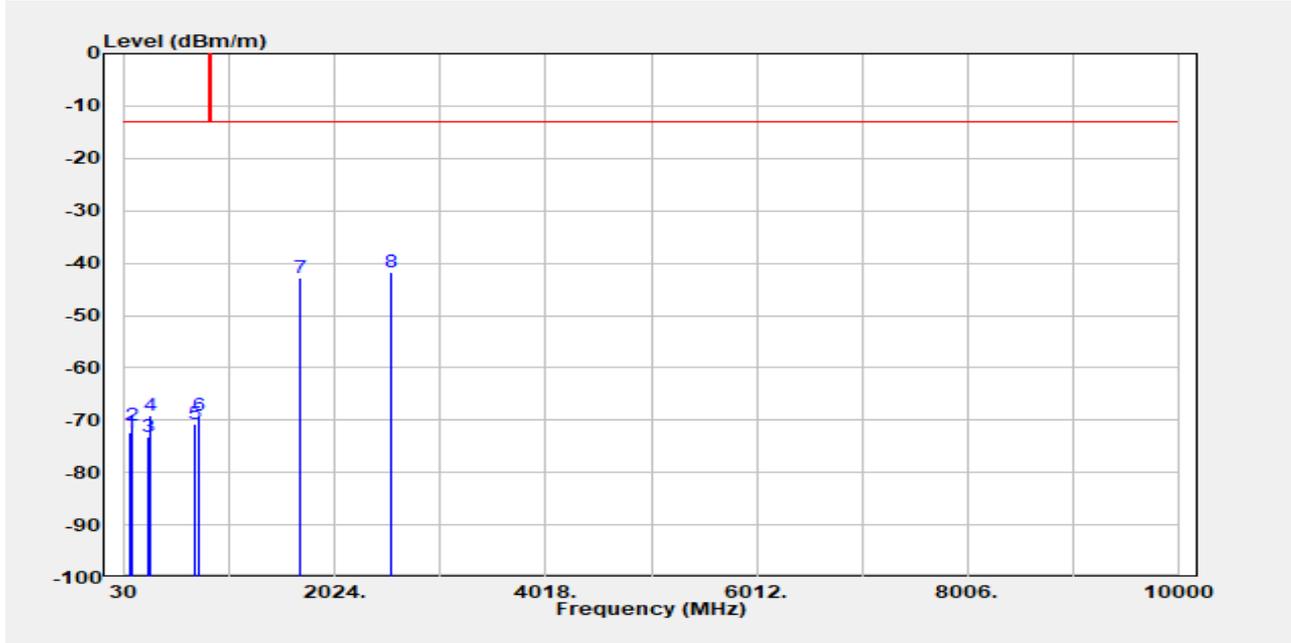
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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 850  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :848.8 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :VERTICAL  
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-72.23	-70.96	-0.36	-0.91	-13.00	-59.23
104.69	-71.03	-70.98	1.00	-1.04	-13.00	-58.03
256.98	-73.05	-77.77	6.33	-1.62	-13.00	-60.05
264.74	-69.13	-73.84	6.37	-1.65	-13.00	-56.13
688.63	-70.79	-74.03	6.20	-2.96	-13.00	-57.79
729.37	-68.99	-72.10	5.89	-2.78	-13.00	-55.99
1697.60	-42.92	-46.17	7.53	-4.28	-13.00	-29.92
2546.40	-41.61	-44.84	8.45	-5.22	-13.00	-28.61

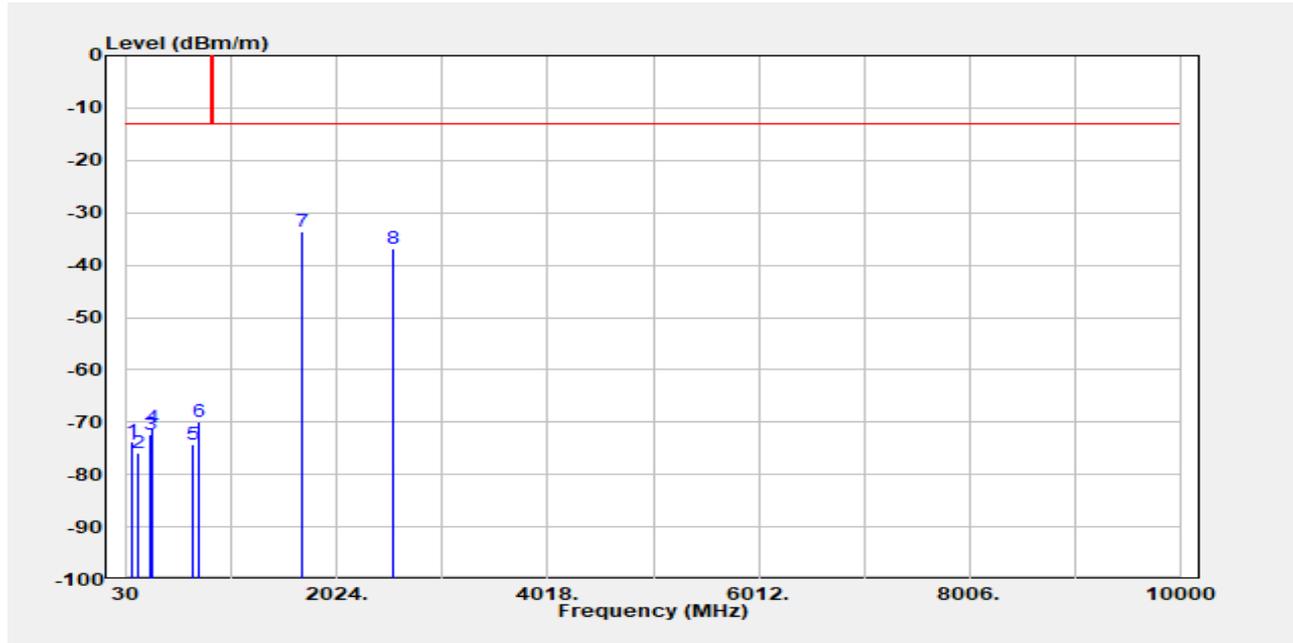
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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 850  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :848.8 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :HORIZONTAL  
 Engineer :GN Lin



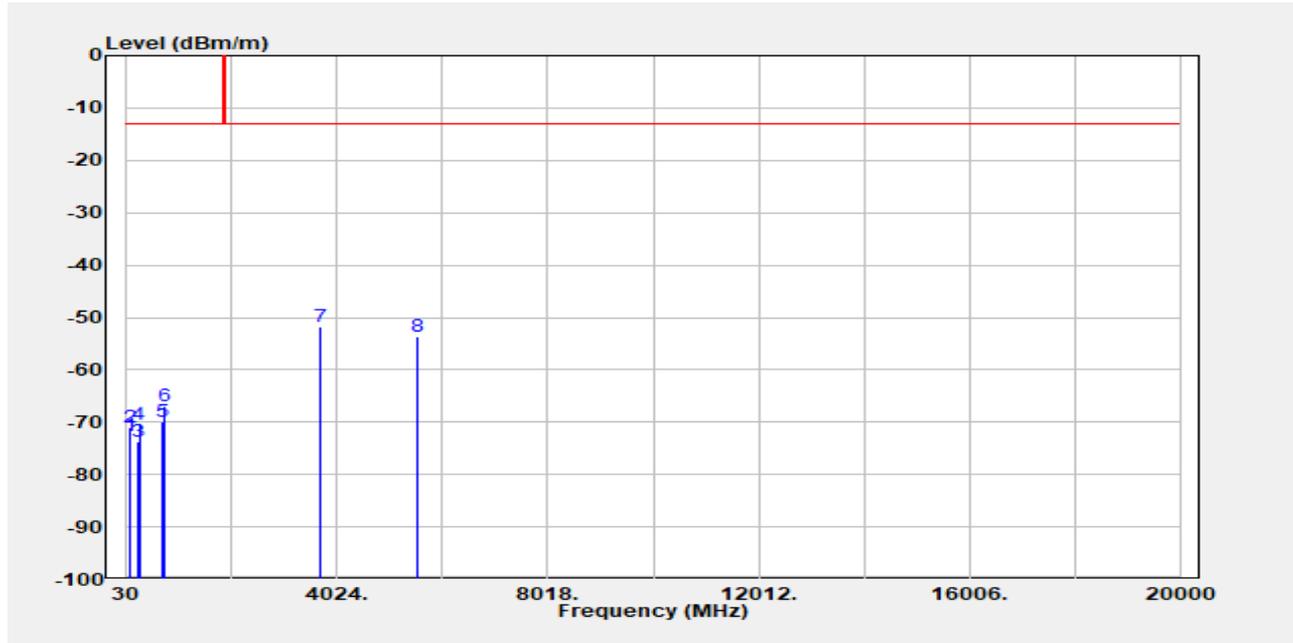
Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-73.76	-72.48	-0.36	-0.91	-13.00	-60.76
131.85	-75.81	-75.38	0.71	-1.14	-13.00	-62.81
244.37	-72.25	-76.70	6.00	-1.56	-13.00	-59.25
264.74	-71.11	-75.82	6.37	-1.65	-13.00	-58.11
646.92	-74.27	-77.51	5.97	-2.73	-13.00	-61.27
717.73	-69.79	-73.20	6.13	-2.73	-13.00	-56.79
1697.60	-33.63	-36.88	7.53	-4.28	-13.00	-20.63
2546.40	-36.92	-40.15	8.45	-5.22	-13.00	-23.92

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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 1900  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :1850.2 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :VERTICAL  
 Engineer :GN Lin



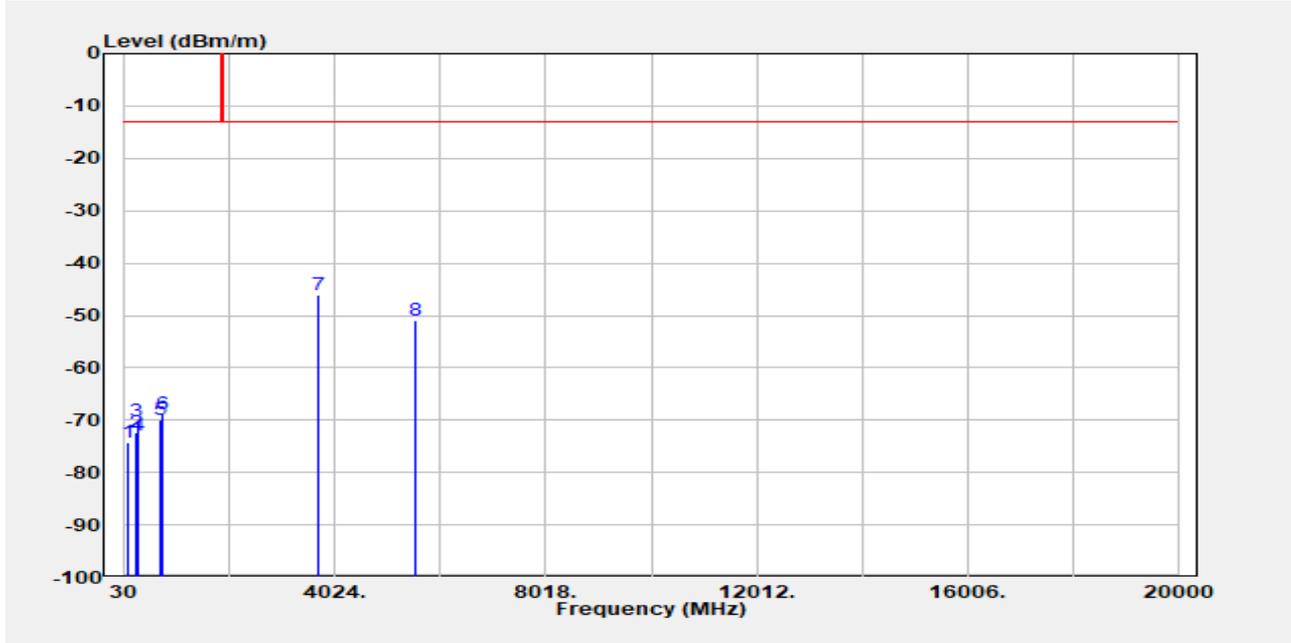
Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-72.71	-71.44	-0.36	-0.91	-13.00	-59.71
102.75	-70.92	-71.23	1.35	-1.03	-13.00	-57.92
244.37	-73.69	-78.14	6.00	-1.56	-13.00	-60.69
264.74	-70.42	-75.13	6.37	-1.65	-13.00	-57.42
697.36	-69.96	-73.34	6.13	-2.76	-13.00	-56.96
730.34	-66.91	-70.02	5.90	-2.78	-13.00	-53.91
3700.40	-51.85	-55.70	10.25	-6.40	-13.00	-38.85
5550.60	-53.57	-56.02	10.75	-8.30	-13.00	-40.57

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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 1900  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :1850.2 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :HORIZONTAL  
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-74.32	-73.05	-0.36	-0.91	-13.00	-61.32
244.37	-72.31	-76.76	6.00	-1.56	-13.00	-59.31
264.74	-70.06	-74.77	6.37	-1.65	-13.00	-57.06
272.50	-72.94	-77.34	6.07	-1.68	-13.00	-59.94
702.21	-69.93	-73.27	6.09	-2.75	-13.00	-56.93
730.34	-68.70	-71.82	5.90	-2.78	-13.00	-55.70
3700.40	-46.19	-52.39	12.60	-6.40	-13.00	-33.19
5550.60	-50.93	-55.63	13.00	-8.30	-13.00	-37.93

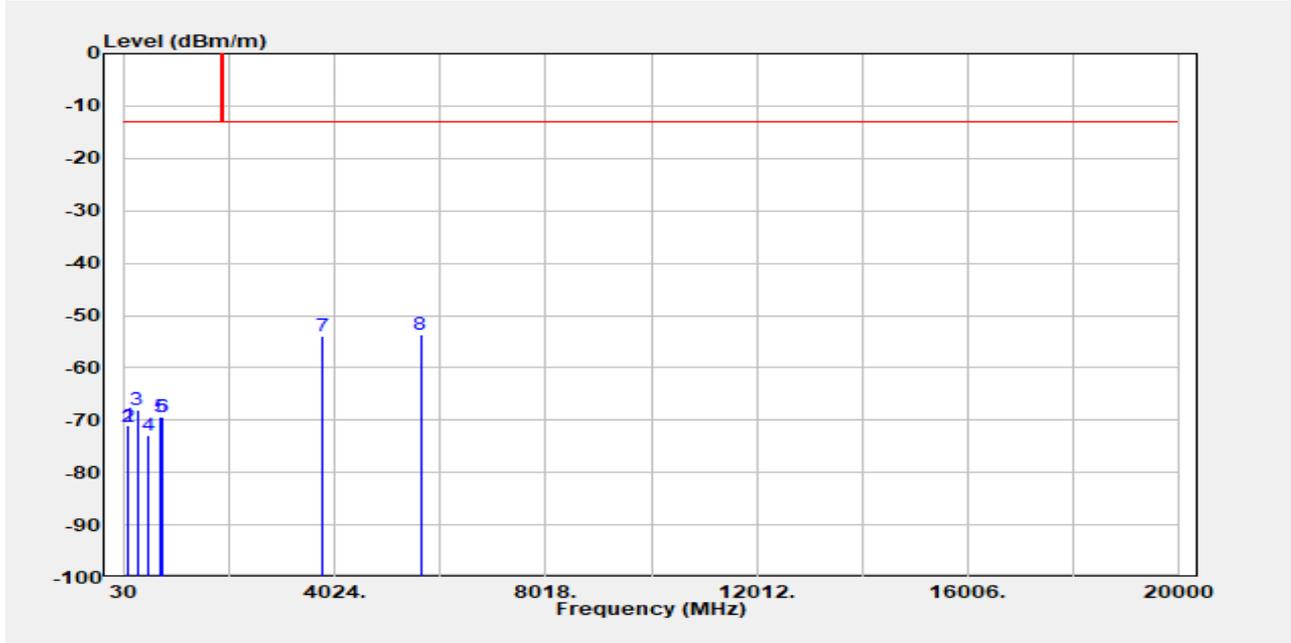
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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 1900  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :1880 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :VERTICAL  
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-71.13	-69.86	-0.36	-0.91	-13.00	-58.13
104.69	-71.30	-71.26	1.00	-1.04	-13.00	-58.30
264.74	-67.97	-72.68	6.37	-1.65	-13.00	-54.97
460.68	-73.01	-76.99	6.17	-2.18	-13.00	-60.01
717.73	-69.47	-72.88	6.13	-2.73	-13.00	-56.47
730.34	-69.28	-72.40	5.90	-2.78	-13.00	-56.28
3760.00	-54.01	-57.45	10.21	-6.77	-13.00	-41.01
5640.00	-53.63	-56.17	11.03	-8.48	-13.00	-40.63

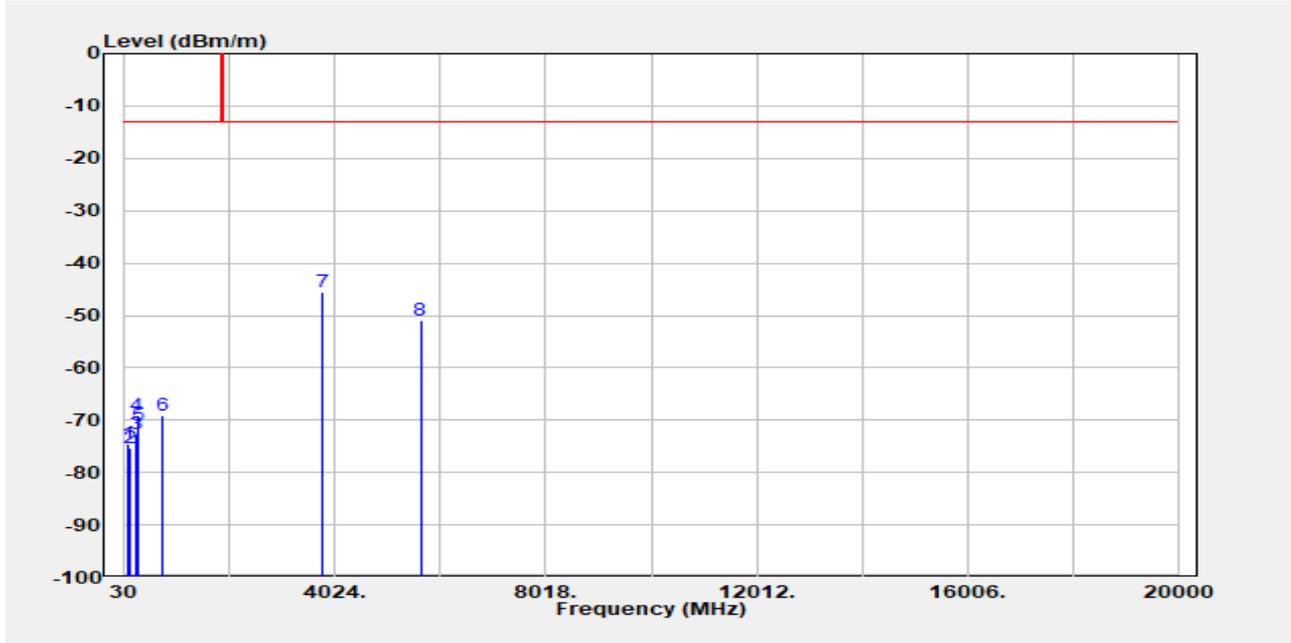
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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 1900  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :1880 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :HORIZONTAL  
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-74.49	-73.21	-0.36	-0.91	-13.00	-61.49
138.64	-75.45	-74.73	0.42	-1.14	-13.00	-62.45
244.37	-72.64	-77.09	6.00	-1.56	-13.00	-59.64
264.74	-69.24	-73.95	6.37	-1.65	-13.00	-56.24
278.32	-71.14	-75.39	5.97	-1.71	-13.00	-58.14
730.34	-69.05	-72.16	5.90	-2.78	-13.00	-56.05
3760.00	-45.46	-51.19	12.50	-6.77	-13.00	-32.46
5640.00	-50.92	-55.51	13.08	-8.48	-13.00	-37.92

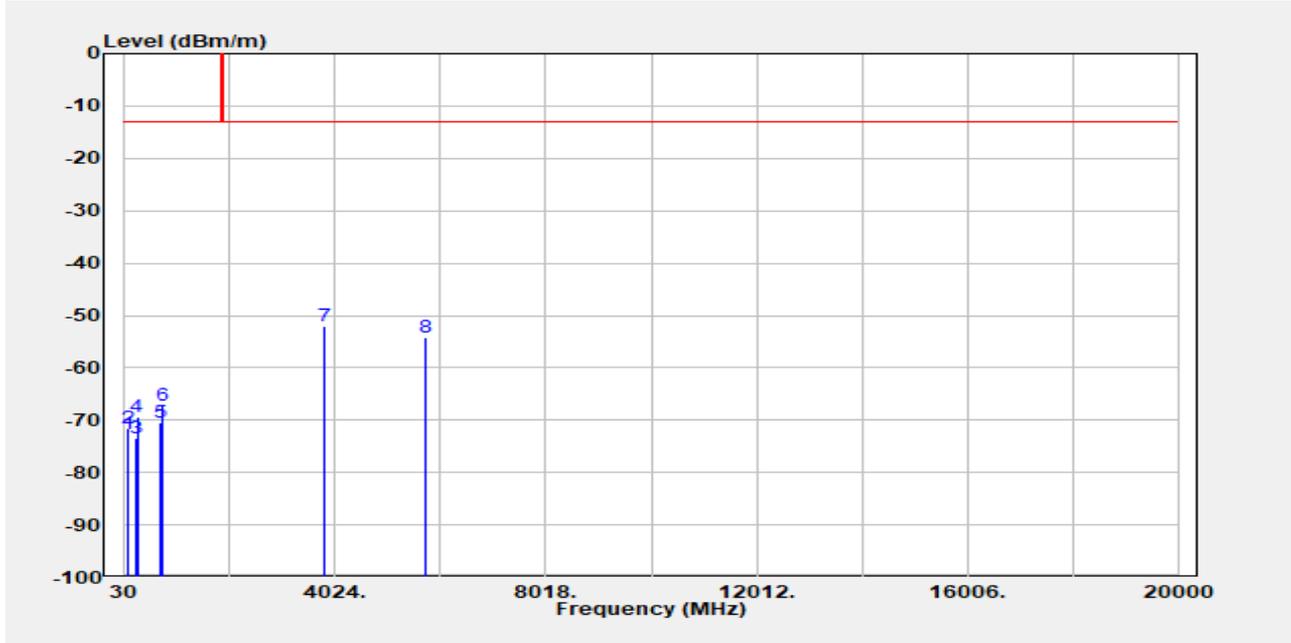
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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 1900  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :1909.8 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :VERTICAL  
 Engineer :GN Lin



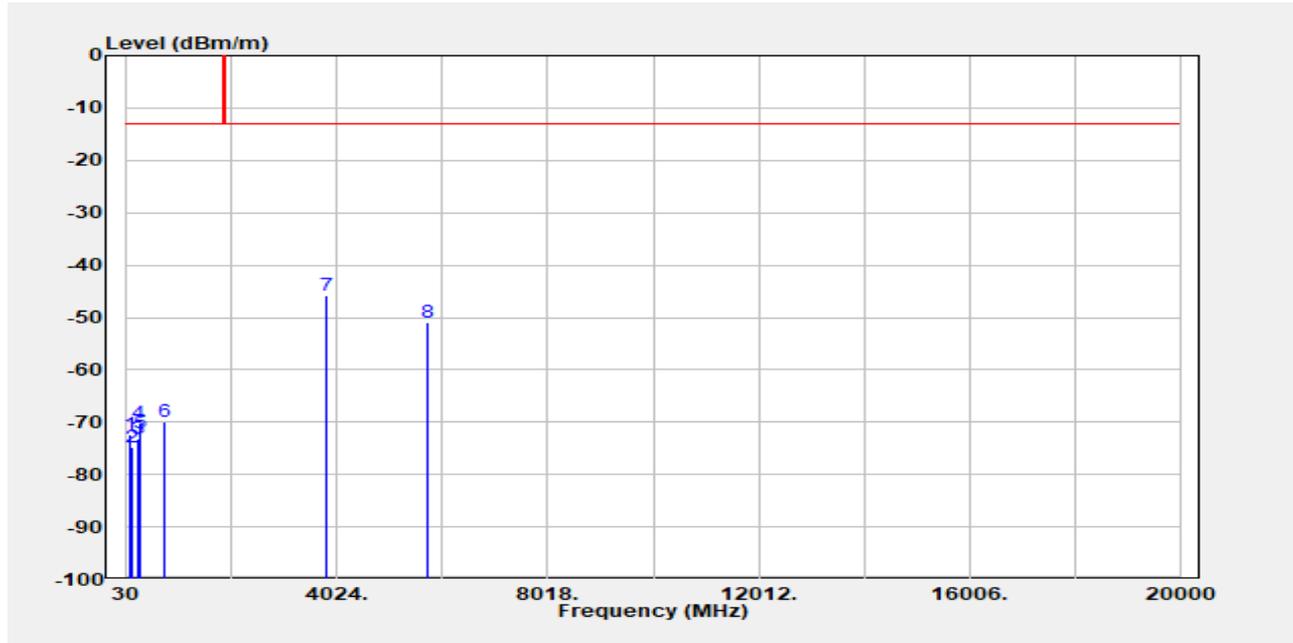
Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-72.72	-71.45	-0.36	-0.91	-13.00	-59.72
104.69	-71.49	-71.45	1.00	-1.04	-13.00	-58.49
256.01	-73.35	-78.07	6.33	-1.61	-13.00	-60.35
264.74	-69.39	-74.10	6.37	-1.65	-13.00	-56.39
700.27	-70.56	-73.98	6.11	-2.69	-13.00	-57.56
730.34	-67.18	-70.29	5.90	-2.78	-13.00	-54.18
3819.60	-52.07	-55.61	10.09	-6.54	-13.00	-39.07
5729.40	-54.11	-56.34	10.79	-8.56	-13.00	-41.11

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Report Number :TERF2212002665ER  
 Operation Mode :GPRS 1900  
 Test Mode :Tx  
 EUT Pol :NB Plane  
 Test Frequency :1909.8 MHz

Test Site :SAC 1  
 Test Date :2023-01-10  
 Temp./Humi. :22.1/63  
 Antenna Pol. :HORIZONTAL  
 Engineer :GN Lin



Freq. MHz	EIRP/ERP dBm	SG Output Level dBm	Antenna Gain dBi/dBd	Cable Loss dB	Limit dBm	Margin dB
80.44	-72.47	-71.20	-0.36	-0.91	-13.00	-59.47
146.40	-74.81	-73.88	0.36	-1.30	-13.00	-61.81
244.37	-73.17	-77.61	6.00	-1.56	-13.00	-60.17
264.74	-70.07	-74.78	6.37	-1.65	-13.00	-57.07
271.53	-72.08	-76.51	6.10	-1.67	-13.00	-59.08
726.46	-69.96	-73.13	5.91	-2.74	-13.00	-56.96
3819.60	-45.85	-51.73	12.42	-6.54	-13.00	-32.85
5729.40	-51.06	-55.49	12.98	-8.56	-13.00	-38.06

~ End of Report ~

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