

Report No.: FYCR220400006402

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### TEST REPORT

Application No.: FYCR2204000064ME

**Applicant:** Guangdong Transtek Medical Electronics Co., Ltd.

Address of Applicant: Zone A, No.105, Dongli Road, Torch Development District, Zhongshan,

528437, Guangdong, China

Manufacturer: Guangdong Transtek Medical Electronics Co., Ltd.

Address of Manufacturer: Zone A, No.105, Dongli Road, Torch Development District, Zhongshan,

528437, Guangdong, China

Factory: Guangdong Transtek Medical Electronics Co., Ltd.

Address of Factory: Zone A, No.105, Dongli Road, Torch Development District, Zhongshan,

528437, Guangdong, China

**Equipment Under Test (EUT):** 

**EUT Name:** Pro Cellular Blood pressure monitor

 Model No.:
 TMB-2092-G

 FCC ID:
 OU9TMB2092-G

Trade mark: Transtek
Standard(s): 47 CFR Part 2

47 CFR Part 22 subpart H 47 CFR Part 24 subpart E

2022-04-08

**Date of Test:** 2022-04-13 to 2022-04-25

**Date of Issue:** 2022-04-26

Test Result: Pass\*

Date of Receipt:

Kidd Yang EMC Laboratory Manager



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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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Revision Record							
Version	Chapter	Modifier	Remark				
01		2022-04-26		Original			

Authorized for issue by:		
	Tree Zhan	
	Tree Zhan/Project Engineer	
	WinkeyWarg	
	Winkey Wang/Reviewer	



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### 2 Test Summary

Radio Spectrum Matter Part						
Item	Standard	Method	Requirement	Result		
Effective (Isotropic) Radiated Power Output Data		ANSI C63.26, KDB 971168 D01 v03	§ 2.1046, §22.913, §24.232	PASS		
Peak-Average Ratio		ANSI C63.26, KDB 971168 D01 v03	§24.232	PASS		
Modulation Characteristics	47 CFR Part 2	ANSI C63.26, KDB 971168 D01 v03	§ 2.1047	PASS		
Bandwidth	47 CFR Part 22 subpart H	ANSI C63.26, KDB 971168 D01 v03	§ 2.1049(h), §22.917, §24.238	PASS		
Band Edge Compliance	47 CFR Part 24 subpart E	ANSI C63.26, KDB 971168 D01 v03	§ 2.1051, §22.917, §24.238	PASS		
Spurious emissions at antenna terminals	·	ANSI C63.26, KDB 971168 D01 v03	§ 2.1051, §22.917, §24.238	PASS		
Field strength of spurious radiation		ANSI C63.26, KDB 971168 D01 v03	§ 2.1051, §22.917, §24.238	PASS		
Frequency stability		ANSI C63.26, KDB 971168 D01 v03	§ 2.1055, §22.355, §24.235	PASS		



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### 4 General Information

### 4.1 Details of E.U.T.

 Details of E.O.T.	
Power supply:	AC Adapter
	Model: BLJ06L060100P-U
	Input: AC 100-240V, 50/60Hz, 0.2A Max
	Output: DC 6.0V, 1.0A
	DC 6V(4*AA Batteries)
Cable(s):	DC cable:146cm unshielded
Sample Type:	Fixed production
Support Network:	GPRS, EGPRS
Operation Frequency Band:	GSM850/GSM1900
Modulation Type:	GMSK for GSM/GPRS/EGPRS;
	8PSK for EGPRS;
Supported Channel Bandwidth:	200KHz for GSM;
Designation of	GSM850: 246KGXW, EGPRS850: 242KG7W
Emissions	GSM1900: 245KGXW, EGPRS1900: 246KG7W
Antenna Type:	PIFA
Antenna Gain:	GSM850: -3.17dBi, GSM1900: 2.79dBi
Extreme temp.	-30°C to +50°C
Tolerance:	
Extreme vol. Limits:	5.1VDC to 6.9VDC (nominal: 6VDC)

### 4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.			
	-					
The EUT has been tested as an independent unit.						





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### 4.3 Test Frequency

Test mode:	TX / RX	RF Channel				
rest mode.	IA/KA	Low (L)	Middle (M)	High (H)		
	TX	Channel 128	Channel 190	Channel 251		
GSM850	1.4	824.2MHz	836.6 MHz	848.8 MHz		
GSIVIOSU	RX	Channel 128	Channel 190	Channel 251		
	KA	869.2 MHz	881.6 MHz	893.8 MHz		
Test mode:	TX / RX	RF Channel				
rest mode.		Low (L)	Middle (M)	High (H)		
	TX -	Channel 512	Channel 661	Channel 810		
GSM1900		1850.2MHz	1880.0 MHz	1909.8 MHz		
	DV	Channel 512	Channel 661	Channel 810		
	RX -	1930.2 MHz	1960.0 MHz	1989.8 MHz		

### 4.4 Test Environment

Environment Parameter	Selected Values During Tests			
Relative Humidity		52%		
Atmospheric Pressure:	1015Pa			
Temperature:	TN	25 °C		
	VL	5.1 V		
Voltage:	VN	6 V		
	VH	6.9 V		

NOTE: VL= lower extreme test voltage

VN= nominal voltage

VH= upper extreme test voltage

TN= normal temperature





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### 4.5 Measurement Uncertainty

Test Item	Measurement Uncertainty
Effective (Isotropic) Radiated Power Output Data	± 3.1dB (Below 1GHz),± 4.4dB (Above 1GHz)
Peak-Average Ratio	± 0.8dB
Modulation Characteristics	± 0.8dB
Bandwidth	± 0.3%
Band Edge Compliance	± 2.7dB
Spurious emissions at antenna terminals	± 2.7dB
Field strength of spurious radiation	± 3.1dB (Below 1GHz),± 4.4dB (Above 1GHz)
Frequency stability	± 5.4 x 10-8





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#### 4.6 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc. Shenzhen branch.

Fuyong lab. Xinlong TechnoPark, Fengtang Road, Fuyong Subdistrict, Bao'an, Shenzhen, China Tel: +86 755 8866 3988 Fax: +86 755 2671 0594

No tests were sub-contracted.

### 4.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### A2LA (Certificate No. 6606.01)

Compliance Certification Services (Kunshan) Inc. Shenzhen branch is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6606.01.

#### • FCC -Designation Number: CN1322

Compliance Certification Services (Kunshan) Inc. Shenzhen branch has been recognized as an accredited testing laboratory.

Designation Number: CN1322. Test Firm Registration Number: 718073

#### • Innovation, Science and Economic Development Canada

Compliance Certification Services (Kunshan) Inc. Shenzhen branch has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0129.

IC#: 28189.

#### 4.8 Deviation from Standards

None

### 4.9 Abnormalities from Standard Conditions

None





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### 5 Equipment List

RF Conducted Test						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2021/7/13	2022/7/12	
MXA Signal Analyzer(10Hz- 26.5GHz)	Agilent	N9020A	SEM004-20	2021/7/13	2022/7/12	
Signal Generator(9kHz- 40GHz)	Agilent	N5173B	SEM006-05	2021/7/13	2022/7/12	
ESG Vector Signal Generator(250kHz- 6GHz)	Agilent	E4438C	SEM006-15	2021/7/13	2022/7/12	
Power Sensor	Erika Fiedler	U2021XA	SEM009-15	2021/7/13	2022/7/12	
Power Sensor	Erika Fiedler	U2021XA	SEM009-16	2021/7/13	2022/7/12	
Wideband Radio Communication Tester	Rohde & Schwarz	CMW 500	SEM010-08	2021/7/13	2022/7/12	
Programmable DC Source	Chroma	62024P-80-60	SEM011-09	2021/7/13	2022/7/12	
Attenuator(18GHz, 20dB, 2W)	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2021/7/13	2022/7/12	

Field strength of spurious radiation(Below 1GHz & Above 1GHz)						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
3m Anechoic Chamber	CRT	N/A	SEM001-13	2021/7/13	2022/7/12	
Trilog-Broadband Antenna(25MHz-2GHz)	Schwarzbeck	VULB9168	SEM003-33	2021/9/25	2024/9/24	
Biconical Antenna(150MHz-1GHz)	Schwarzbeck	VUBA9117	SEM003-35	2021/12/26	2024/12/25	
Loop Antenna(9kHz- 30MHz)	ETS-LINDGREN	6502	SEM003-36	2021/9/26	2024/9/25	
MXE EMI receiver(20Hz- 8.4GHz)	Agilent	N9038A	SEM004-05	2021/7/13	2022/7/12	
Pre-amplifier (0.1- 1.3GHz)	HP	8447D	SEM005-02	2021/7/13	2022/7/12	
Broad-Band Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2021/7/11	2024/7/10	
Broad-Band Horn Antenna (1-18GHz)	Schwarzbeck	BBHA 9120D	SEM003-32	2021/9/26	2024/9/25	
Double-ridged waveguide horn (1- 18GHz)	ETS-LINDGREN	3117	SEM003-34	2021/9/25	2024/9/24	



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Spectrum Analyzer(20Hz-43GHz)	Rohde & Schwarz	101288	SEM004-08	2021/7/13	2022/7/12
Low Noise Amplifier(100MHz- 18GHz)	CLAVIIO	BDLNA-0118- 352810	SEM005-05	2021/7/13	2022/7/12
Pre-amplifier(26GHz- 40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2021/7/13	2022/7/12
Pre-amplifier(18GHz- 26GHz)	Rohde & Schwarz	CH14-H052	SEM005-17	2021/7/13	2022/7/12

General used equipment								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
Humidity/ Temperature Indicator	Mingle	TH607	SEM002-22	2021-07-13	2022-07-12			
Humidity/ Temperature Indicator	Mingle	TH607	SEM002-23	2021-07-13	2022-07-12			
Barometer	DUMAI	DYM3	SEM002-24	2021-07-13	2022-07-12			



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### 6 Radio Spectrum Matter Test Results

### 6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement §2.1046, §22.913, §24.232

Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: ERP≤7W(GPRS850)

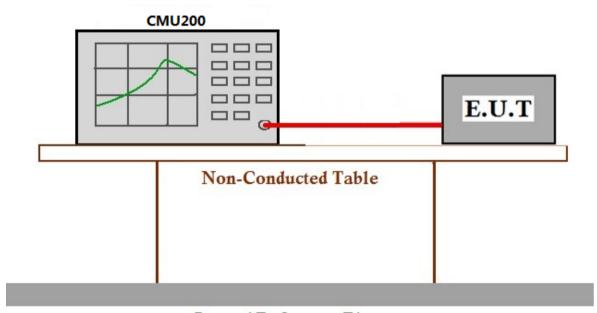
EIRP≤2W(GPRS1900)

### 6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 22.7 °C Humidity: 65.2 % RH Atmospheric Pressure: 1015 mbar

### 6.1.2 Test Setup Diagram



Ground Reference Plane

#### 6.1.3 Measurement Procedure and Data

Please Refer to Appendix for Details



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### 6.2 Peak-Average Ratio

Test Requirement §24.232

Test Method: ANSI C63.26, KDB 971168 D01 v03

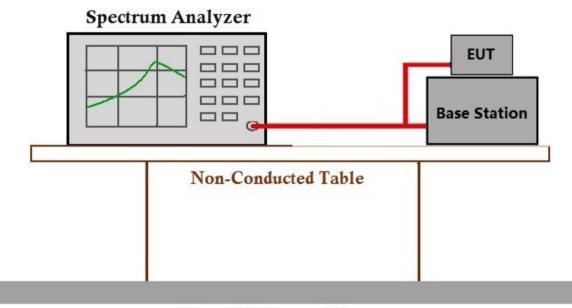
Limit: ≤13dB

### 6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 22.7 °C Humidity: 65.2 % RH Atmospheric Pressure: 1015 mbar

### 6.2.2 Test Setup Diagram



Ground Reference Plane

#### 6.2.3 Measurement Procedure and Data

Please Refer to Appendix for Details





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#### 6.3 Modulation Characteristics

Test Requirement §2.1047

Test Method: ANSI C63.26, KDB 971168 D01 v03

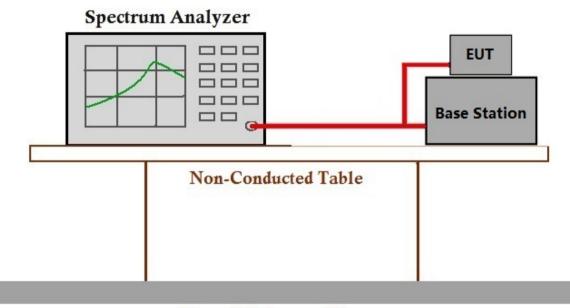
Limit: Digital modulation

### 6.3.1 E.U.T. Operation

Operating Environment:

Temperature: 22.7 °C Humidity: 65.2 % RH Atmospheric Pressure: 1015 mbar

### 6.3.2 Test Setup Diagram



Ground Reference Plane

#### 6.3.3 Measurement Procedure and Data

Note: this device uses digital modulation.





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#### 6.4 Bandwidth

Test Requirement §2.1049(h), §22.917, §24.238

Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: OBW: No limit

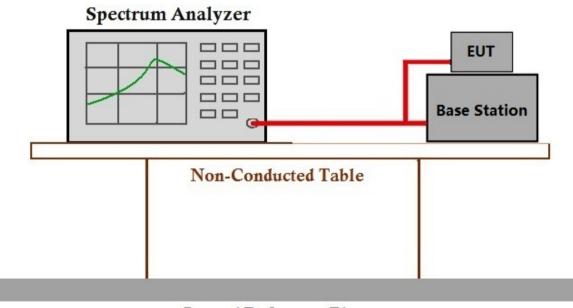
EBW: No limit

### 6.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22.7 °C Humidity: 65.2 % RH Atmospheric Pressure: 1015 mbar

### 6.4.2 Test Setup Diagram



Ground Reference Plane

#### 6.4.3 Measurement Procedure and Data

Please Refer to Appendix for Details





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### 6.5 Band Edge Compliance

Test Requirement §2.1051, §22.917, §24.238

Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: ≤ -13dBm/1%\*EBW, in 1 MHz bands immediately outside and adjacent to

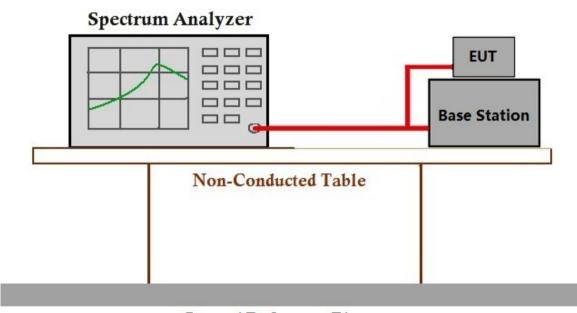
the frequency block.

### 6.5.1 E.U.T. Operation

Operating Environment:

Temperature: 22.7 °C Humidity: 65.2 % RH Atmospheric Pressure: 1015 mbar

### 6.5.2 Test Setup Diagram



Ground Reference Plane

#### 6.5.3 Measurement Procedure and Data

Please Refer to Appendix for Details





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### 6.6 Spurious emissions at antenna terminals

Test Requirement §2.1051, §22.917, §24.238

Test Method: ANSI C63.26, KDB 971168 D01 v03

Limit: ≤ -13dBm

### 6.6.1 E.U.T. Operation

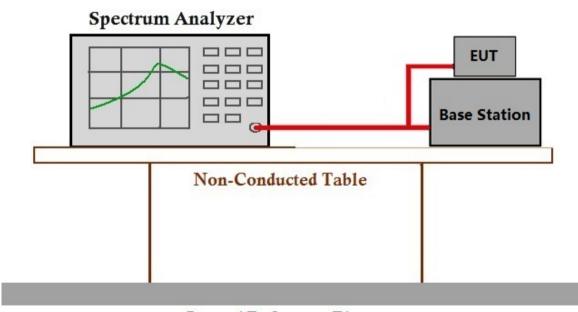
Operating Environment:

Temperature: 23.5 °C Humidity: 56.3 % RH Atmospheric Pressure: 1020 mbar

### 6.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode_Keep the EUT in transmitting mode

### 6.6.3 Test Setup Diagram



Ground Reference Plane

#### 6.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details





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### 6.7 Field strength of spurious radiation

Test Requirement §2.1051, §22.917, §24.238,

Test Method: ANSI C63.26, KDB 971168 D01 v03

Measurement Distance: 3m

Limit: ≤ -13dBm

### 6.7.1 E.U.T. Operation

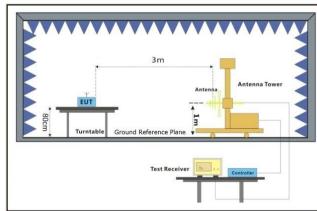
Operating Environment:

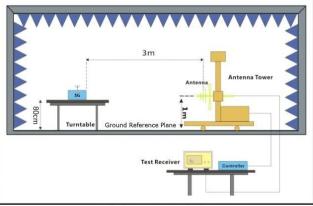
Temperature: 22.6 °C Humidity: 52.6 % RH Atmospheric Pressure: 1020 mbar

### 6.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	01	TX mode_Keep the EUT in transmitting mode

#### 6.7.3 Test Setup Diagram





EUT

Substiute Antenna+Signal Generator





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#### 6.7.4 Measurement Procedure and Data

#### **Test Procedure:**

- (1)On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
- (2) The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
- (3) The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
- (4) The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
- (5) The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
- (6)The transmitter shall than be rotated through 360 in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
- (7)The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
- (8) The maximum signal level detected by the measuring receiver shall be noted.
- (9) The measurement shall be repeated with the test antenna set to horizontal polarization.
- (10) Replace the antenna with a proper Antenna (substitution antenna).
- (11)The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
- (12) The substitution antenna shall be connected to a calibrated signal generator.
- (13)If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
- (14)The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
- (15)The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
- (16) The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
- (17)The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

Please Refer to Appendix for Details





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### 6.8 Frequency stability

Test Requirement §2.1055, §22.355, §24.235

Test Method: ANSI C63.26, KDB 971168 D01 v03

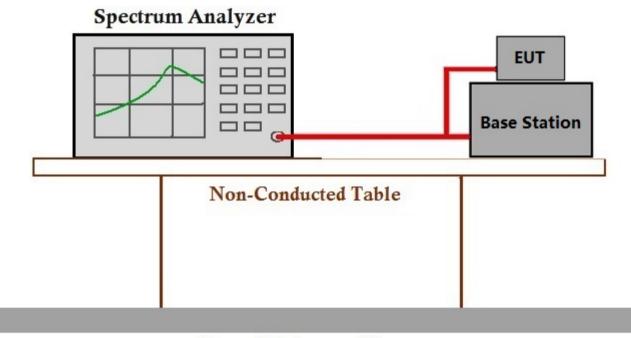
Limit:  $\pm 2.5$ ppm.

#### 6.8.1 E.U.T. Operation

Operating Environment:

Temperature: 22.7 °C Humidity: 65.2 % RH Atmospheric Pressure: 1015 mbar

### 6.8.2 Test Setup Diagram



### Ground Reference Plane

### 6.8.3 Measurement Procedure and Data

Please Refer to Appendix for Details





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### 7 Test Setup Photo

Refer to Appendix - Test Setup Photos for FYCR2204000064ME

### 8 EUT Constructional Details (EUT Photos)

Refer to Appendix - External and Internal Photos for FYCR2204000064ME





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### **Appendix**

### 1.Effective (Isotropic) Radiated Power Output Data

	Test band: GSM850										
Co	Conducted output power(dBm)					Antenna Antenna		C: ERP(d	Bm)	Limit	
Channel		128	190	251	gain (dBd)	gain (dBi)	128	190	251	(dBm)	
GSM (GMSK)	GSM	31.19	31.21	31.12	-5.32	-3.17	25.87	25.89	25.8	38.45	
	1 TX Slot	31.21	31.24	31.13	-5.32	-3.17	25.89	25.92	25.81	38.45	
GPRS	2 TX Slots	29.84	29.81	29.77	-5.32	-3.17	24.52	24.49	24.45	38.45	
(GMSK)	3 TX Slots	27.76	27.86	27.89	-5.32	-3.17	22.44	22.54	22.57	38.45	
	4 TX Slots	25.72	25.97	25.91	-5.32	-3.17	20.4	20.65	20.59	38.45	
	1 TX Slot	24.54	24.69	24.56	-5.32	-3.17	19.22	19.37	19.24	38.45	
EGPRS	2 TX Slots	23.49	23.55	23.56	-5.32	-3.17	18.17	18.23	18.24	38.45	
(8PSK)	3 TX Slots	21.77	21.95	21.99	-5.32	-3.17	16.45	16.63	16.67	38.45	
	4 TX Slots	20.84	21.05	20.92	-5.32	-3.17	15.52	15.73	15.6	38.45	

	Test band: GSM1900									
Co	Conducted output power(dBm)					FCC: EIRP(dBm)		Limit		
Cha	annel	512	661	810	(dBi)	512	661	810	(dBm)	
GSM (GMSK)	GSM	30.13	29.89	29.87	2.79	32.92	32.68	32.66	33	
	1 TX Slot	30.15	29.9	29.89	2.79	32.94	32.69	32.68	33	
GPRS	2 TX Slots	29.1	28.9	28.98	2.79	31.89	31.69	31.77	33	
(GMSK)	3 TX Slots	26.84	26.98	27.27	2.79	29.63	29.77	30.06	33	
	4 TX Slots	25.22	25.38	25.82	2.79	28.01	28.17	28.61	33	
	1 TX Slot	25.35	25.48	25.89	2.79	28.14	28.27	28.68	33	
EGPRS	2 TX Slots	24.24	24.39	24.79	2.79	27.03	27.18	27.58	33	
(8PSK)	3 TX Slots	22.49	22.73	23.21	2.79	25.28	25.52	26	33	
	4 TX Slots	21.01	21.22	21.7	2.79	23.8	24.01	24.49	33	

#### Note:

- 1) dBd= dBi-2.15
- 2) ERP= Conducted output power+Antenna gain (dBd)
- 3) EIRP= Conducted output power+Antenna gain (dBi)





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### 2. Peak-Average Ratio

Band: GSM850								
ENIV/	M	Mode		Peak-Averag	ge Ratio (dB)	Manalia (		
ENV Network		Subset	(MHz)	Result	Limit	Verdict		
NTNV	GPRS	4 TX Slots	824.2	10.00	<=13	Pass		
			836.6	9.87	<=13	Pass		
			848.8	4.41	<=13	Pass		
		4 TX Slots	824.2	9.76	<=13	Pass		
	EGPRS		836.6	8.63	<=13	Pass		
			848.8	8.92	<=13	Pass		

	Band: PCS1900								
ENV	N	Mode		Peak-Averag	je Ratio (dB)	\/amaliat			
Network	Network	Subset	(MHz)	Result	Limit	- Verdict			
	GPRS	4 TX Slots	1850.2	9.81	<=13	Pass			
			1880	10.22	<=13	Pass			
			1909.8	3.95	<=13	Pass			
NTNV			1850.2	12.75	<=13	Pass			
	EGPRS	4 TX Slots	1880	8.69	<=13	Pass			
			1909.8	8.87	<=13	Pass			

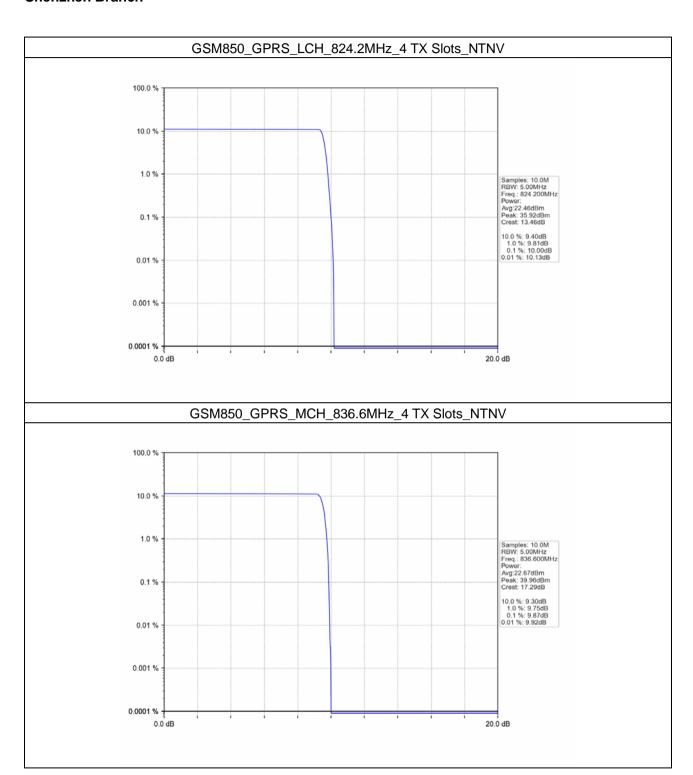


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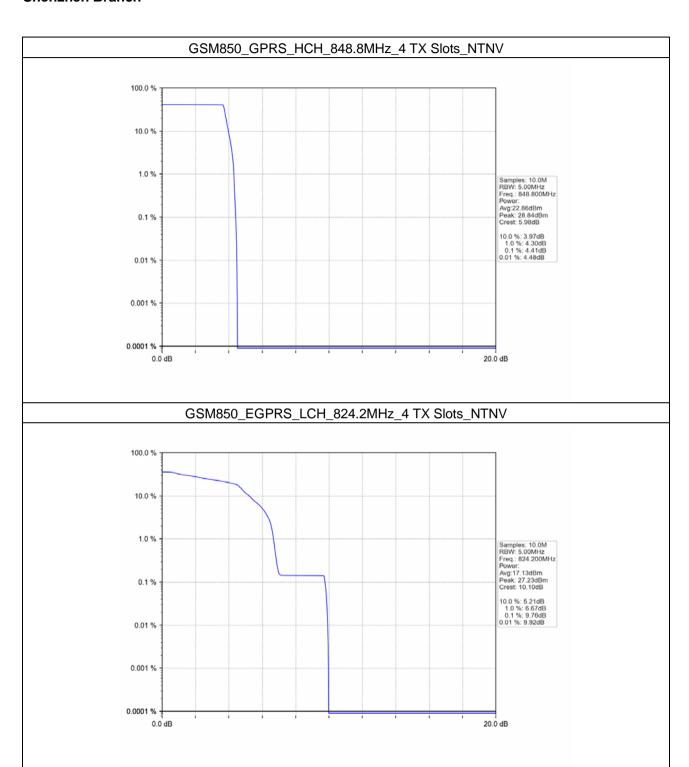






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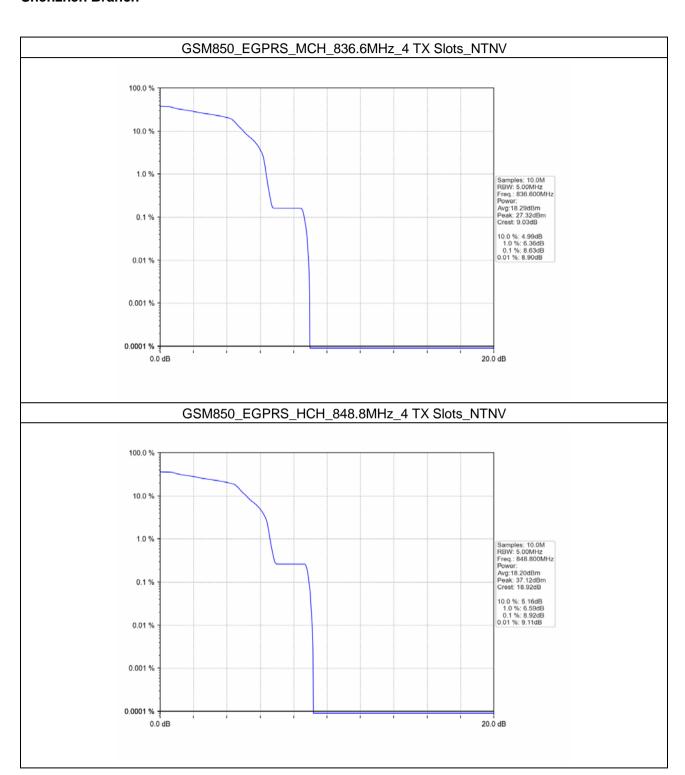






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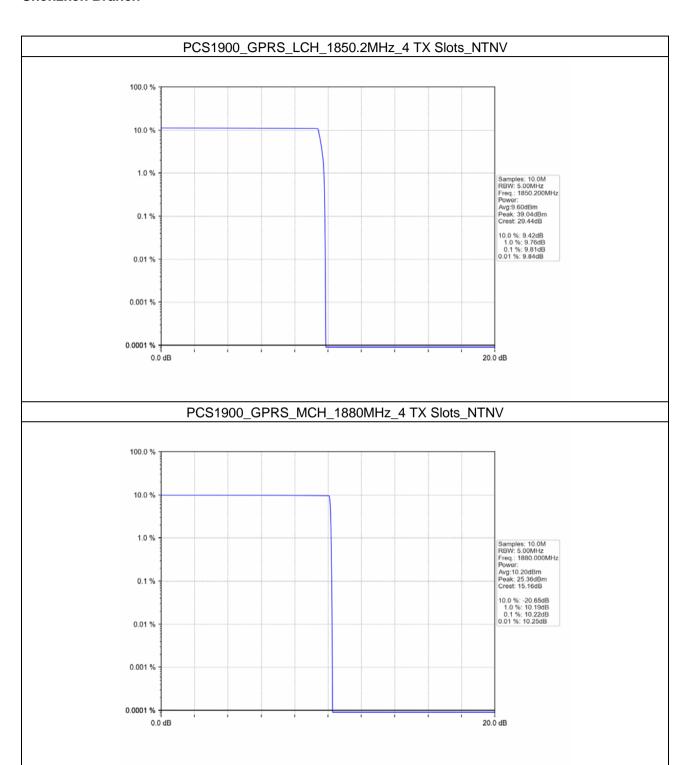






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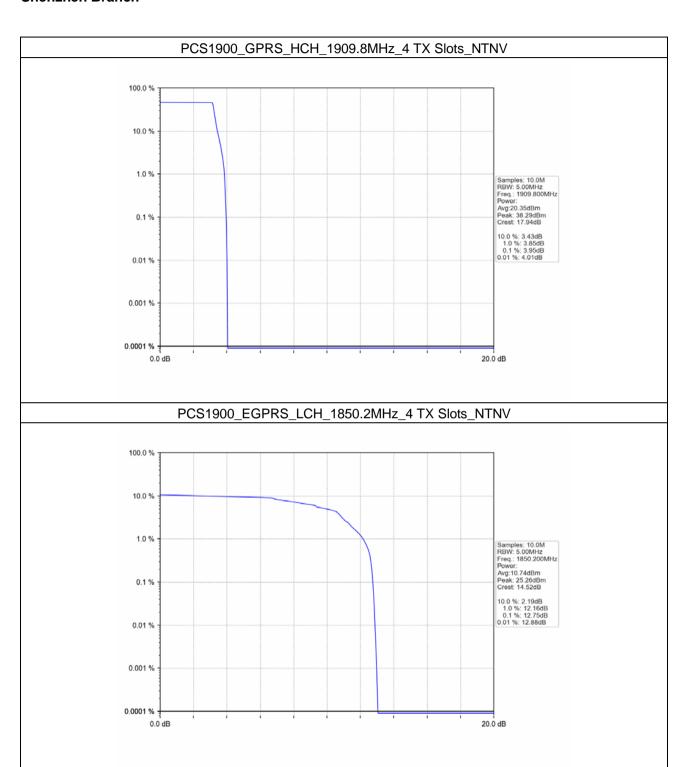






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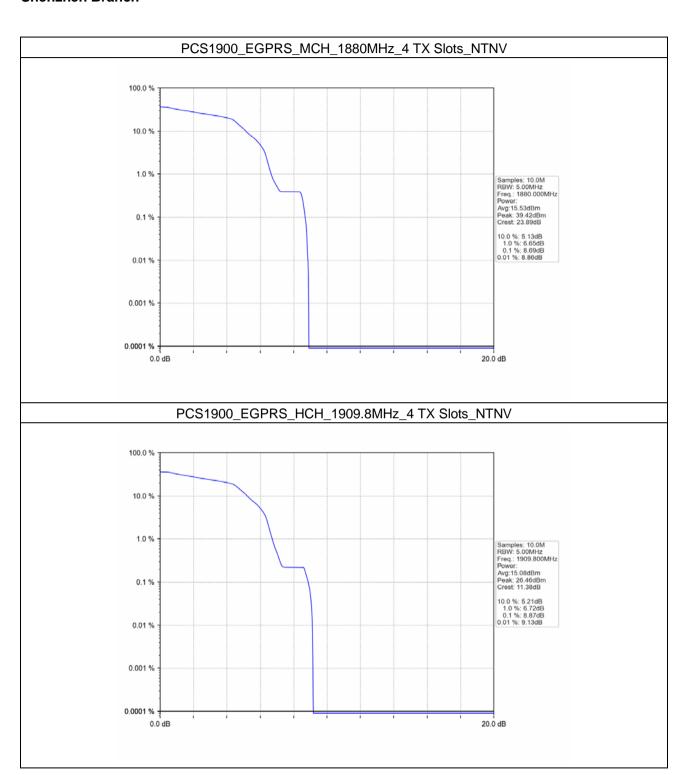






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### 3. Bandwidth

Band: GSM850							
	M	ode		99% Occupied Bandwidth (MHz)			
ENV			Frequency (MHz)	, , ,	Verdict		
	Network	Subset	· · · · · · · · · · · · · · · · · · ·	Result			
			824.2	0.238	Pass		
	GPRS	1 TX Slot	836.6	0.246	Pass		
NTNV			848.8	0.242	Pass		
INTINV			824.2	0.242	Pass		
	EGPRS	1 TX Slot	836.6	0.241	Pass		
			848.8	0.236	Pass		
			Band: PCS19	900			
ENV	М	ode	Frequency	99% Occupied Bandwidth (MHz)	\/ordigt		
EINV	Network	Subset	(MHz)	Result	Verdict		
			1850.2	0.245	Pass		
	GPRS	1 TX Slot	1880	0.245	Pass		
NTNV			1909.8	0.245	Pass		
INTINV		1 TX Slot	1850.2	0.245	Pass		
	EGPRS		1880	0.238	Pass		
			1909.8	0.246	Pass		

	Band: GSM850							
ENIV/	M	lode	Frequency	26dB Bandwidth (MHz)	\/o =di ot			
ENV	Network	Subset	(MHz)	Result	Verdict			
			824.2	0.317	Pass			
	GPRS	1 TX Slot	836.6	0.321	Pass			
NTNV			848.8	0.319	Pass			
INTINV			824.2	0.323	Pass			
	EGPRS	1 TX Slot	836.6	0.304	Pass			
			848.8	0.309	Pass			
			Band: PCS19	900				
ENV	N	lode	Frequency	26dB Bandwidth (MHz)	\/ordiot			
□INV	Network	Subset	(MHz)	Result	Verdict			
			1850.2	0.319	Pass			
	GPRS	1 TX Slot	1880	0.312	Pass			
NITNI\/			1909.8	0.320	Pass			
NTNV			1850.2	0.307	Pass			
	EGPRS	1 TX Slot	1880	0.314	Pass			
			1909.8	0.315	Pass			

Note: All modes have been tested and we found GSM Test mode has the worst test result. Only record the worst test result.



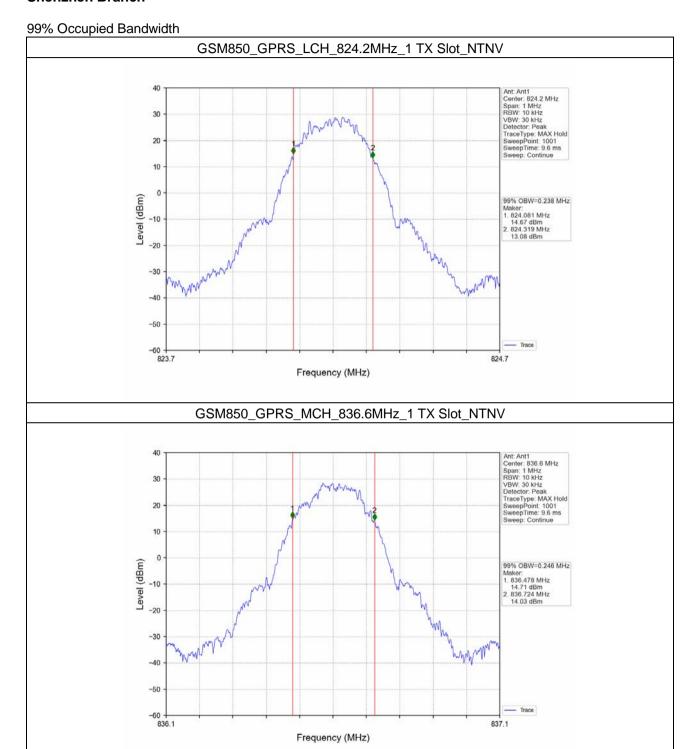
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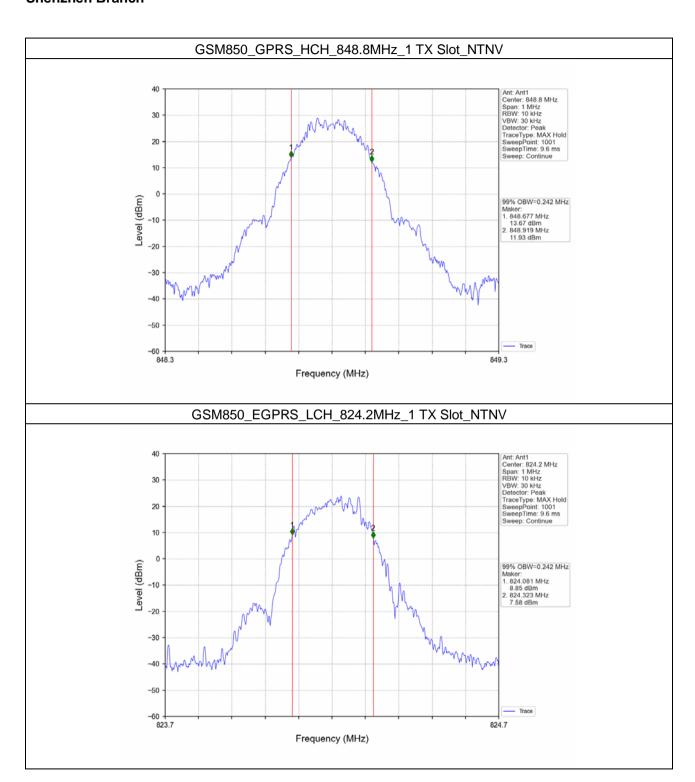






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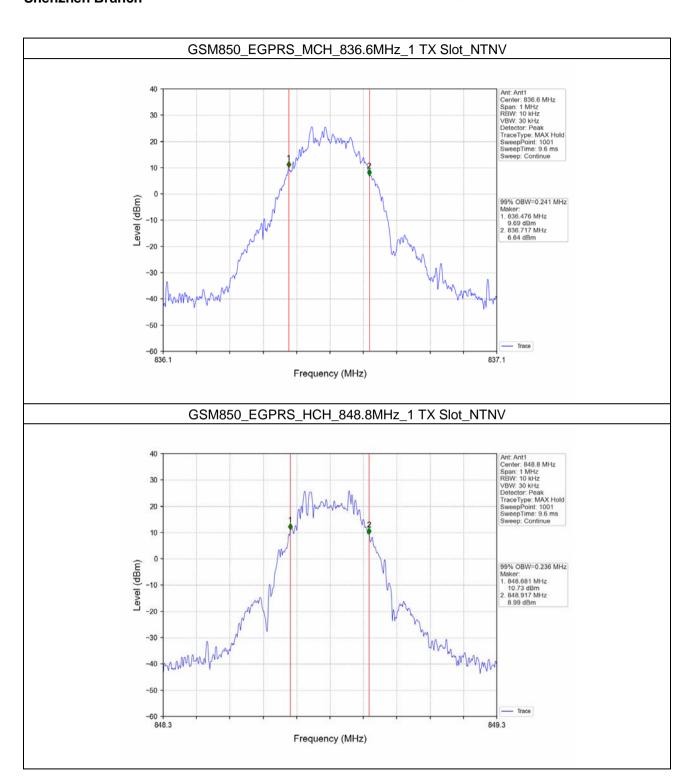


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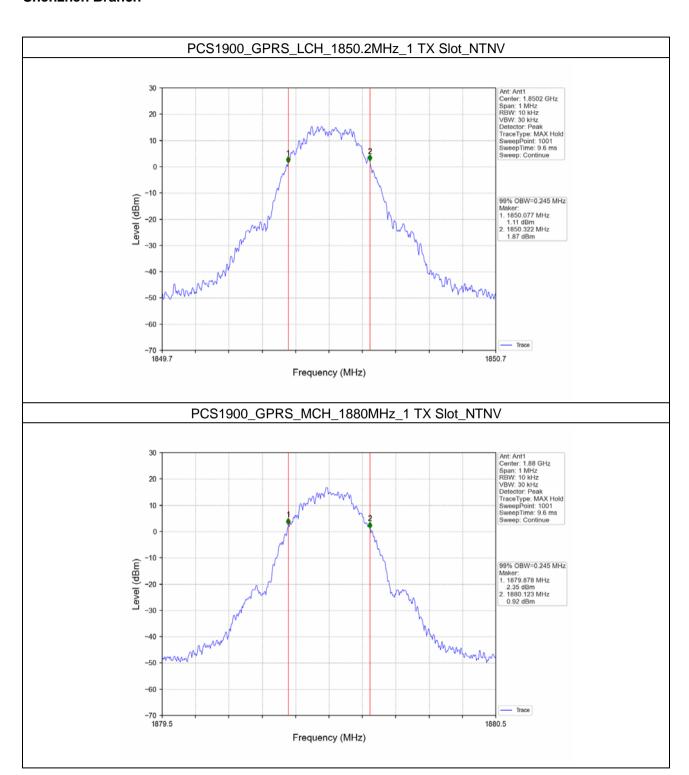


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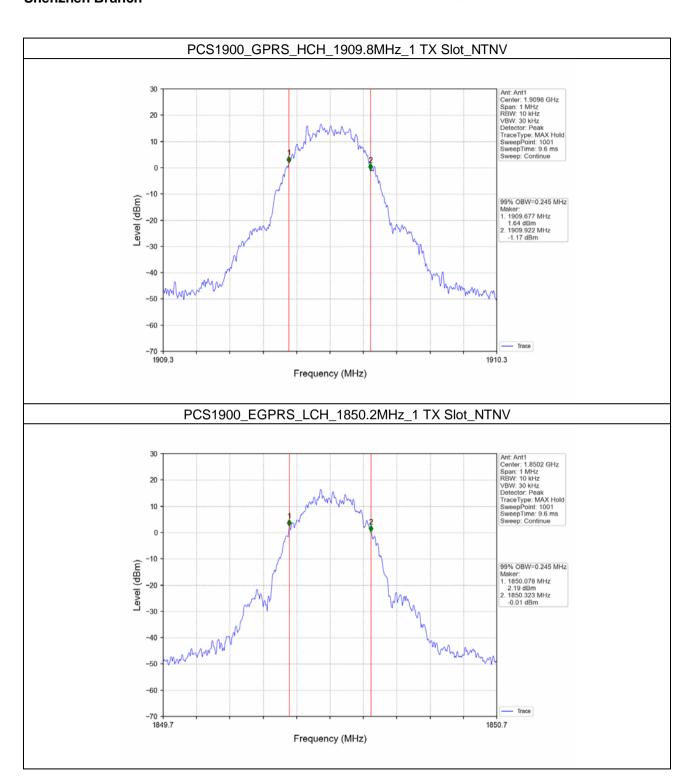






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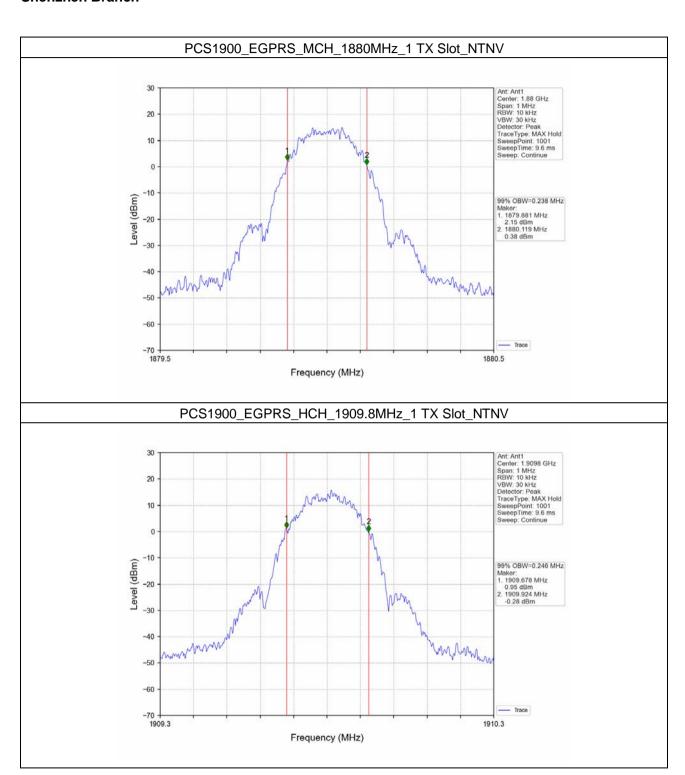






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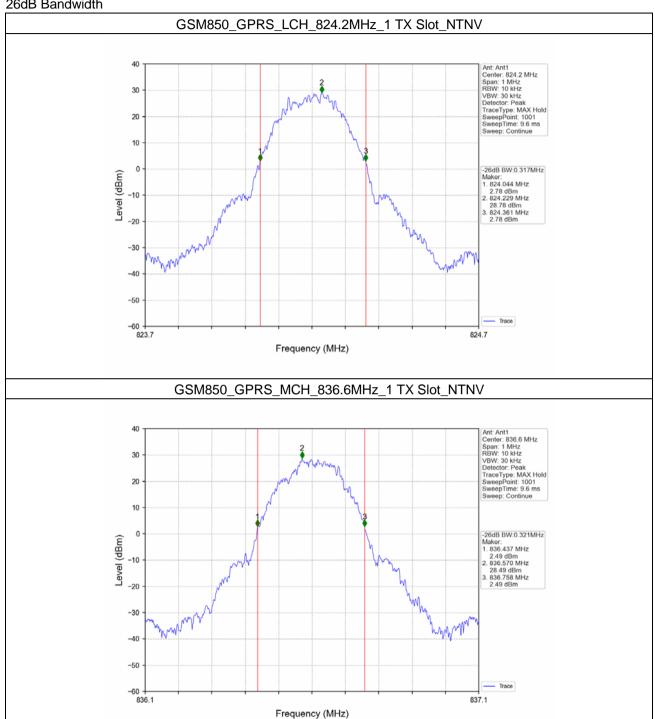




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#### 26dB Bandwidth



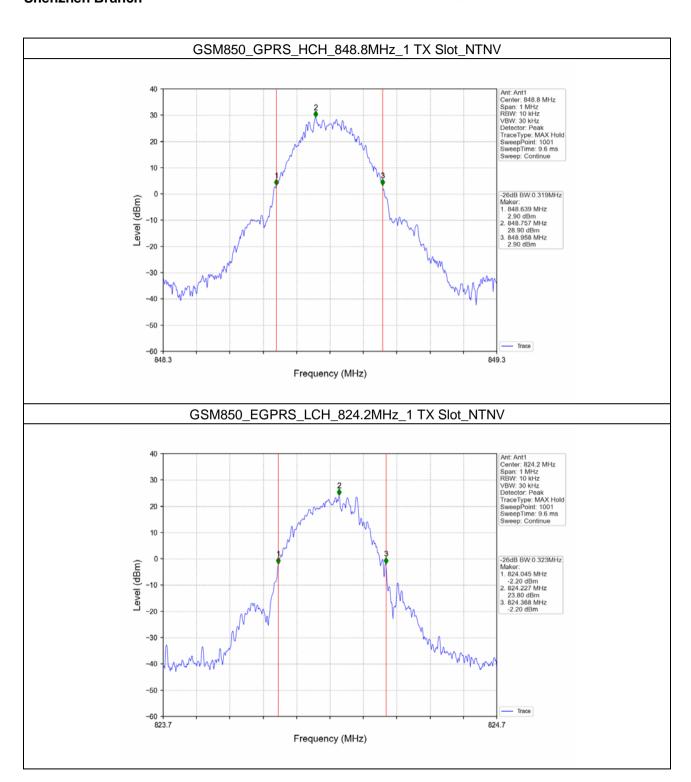


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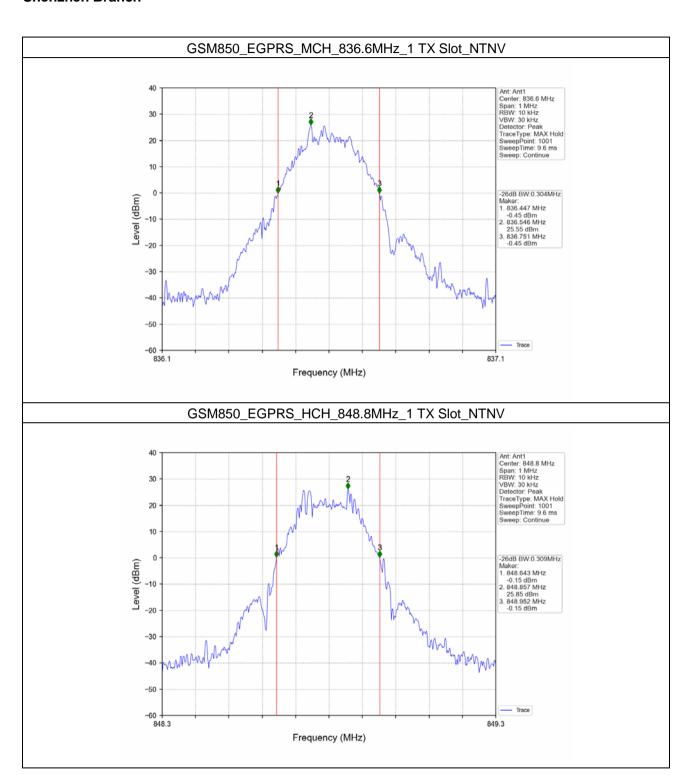


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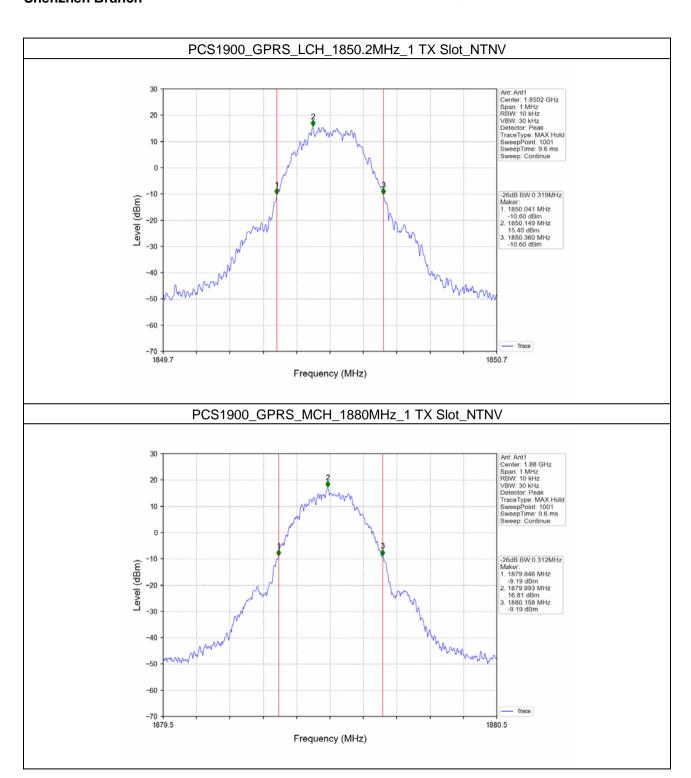


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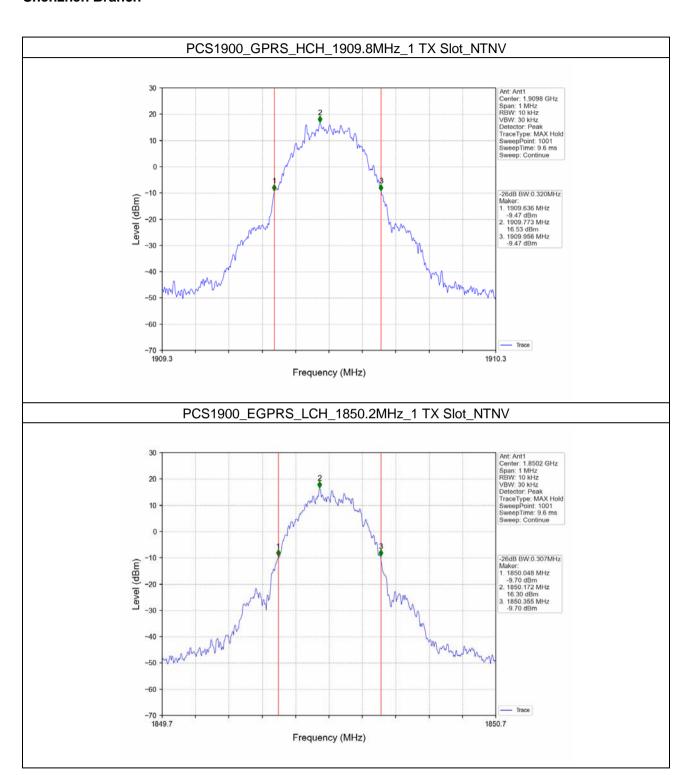


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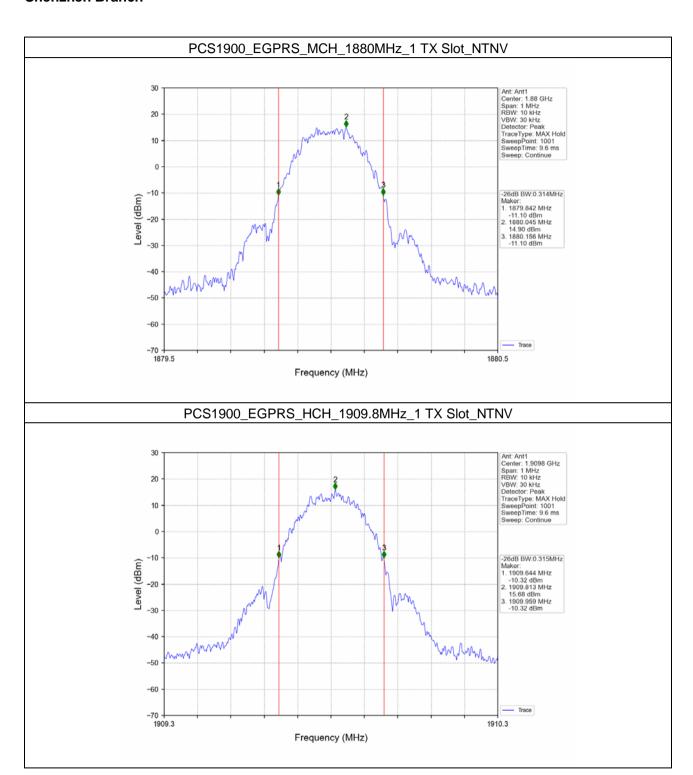


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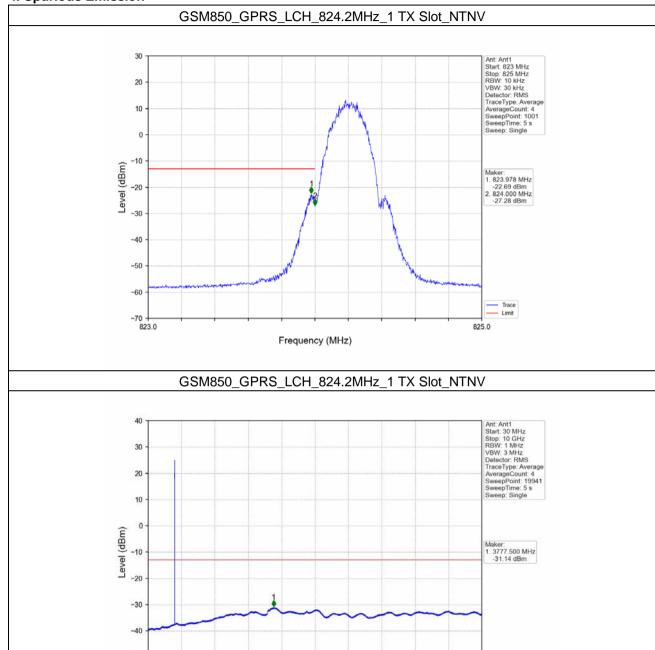
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#### 4. Spurious Emission



Frequency (MHz)



-50 -60

30.0

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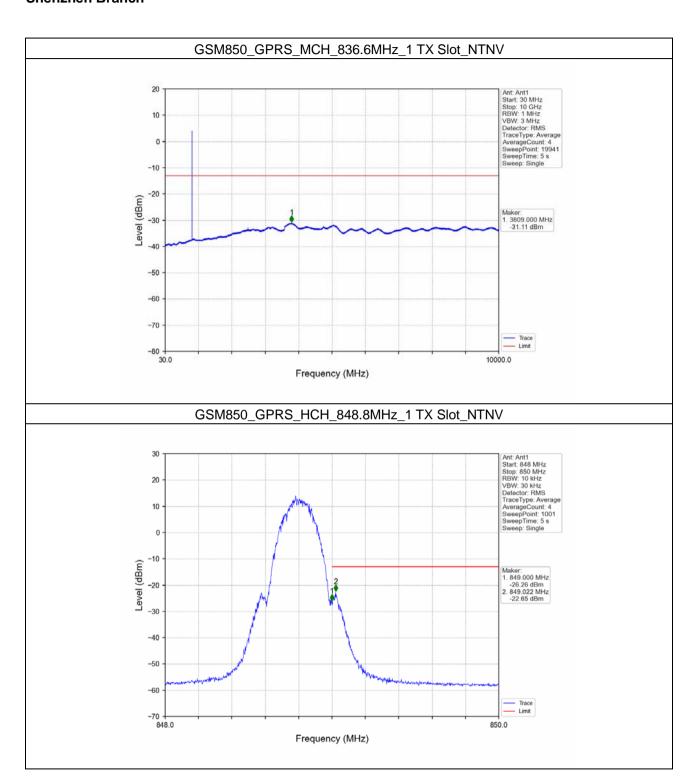
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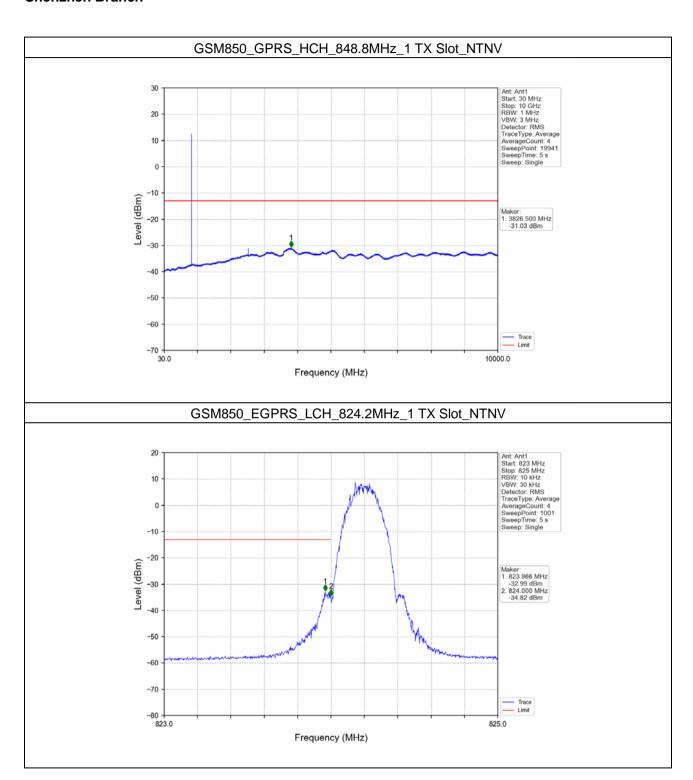






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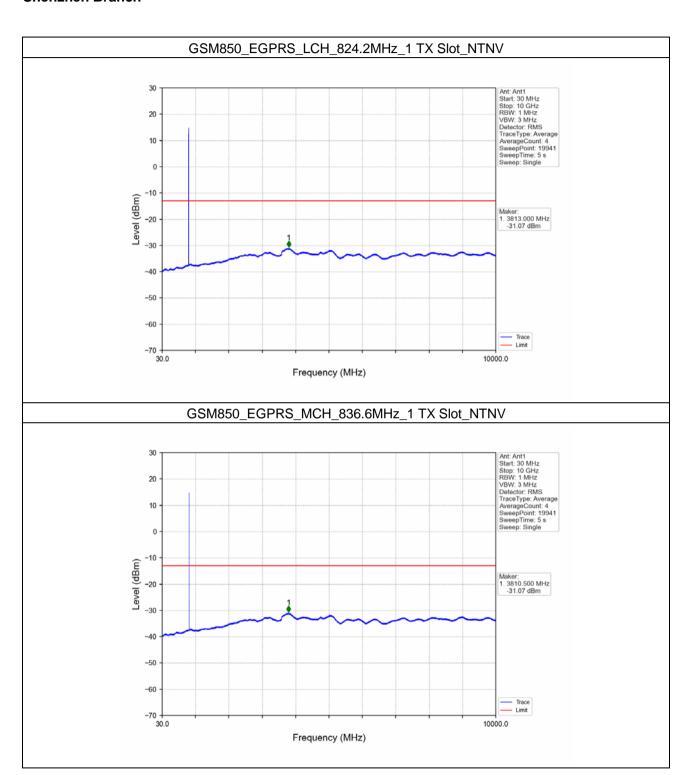






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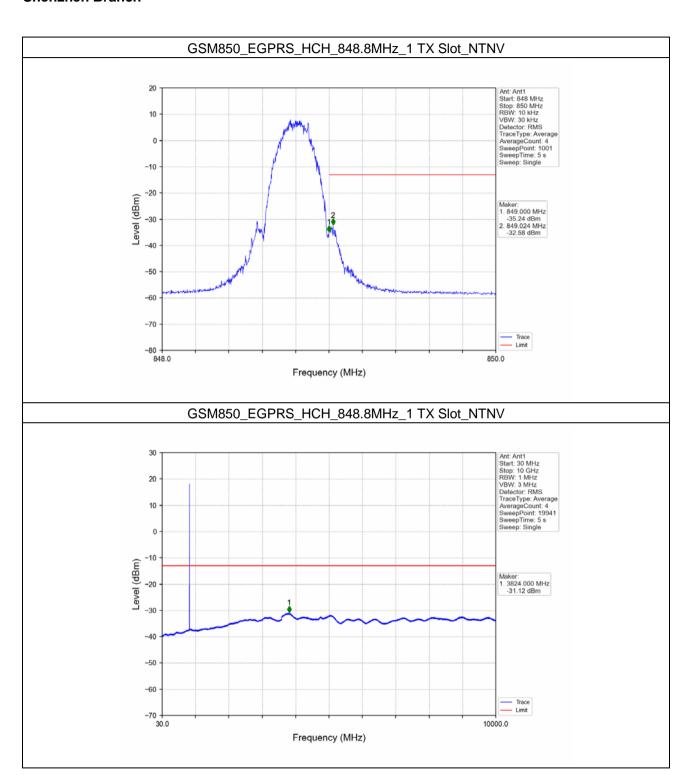






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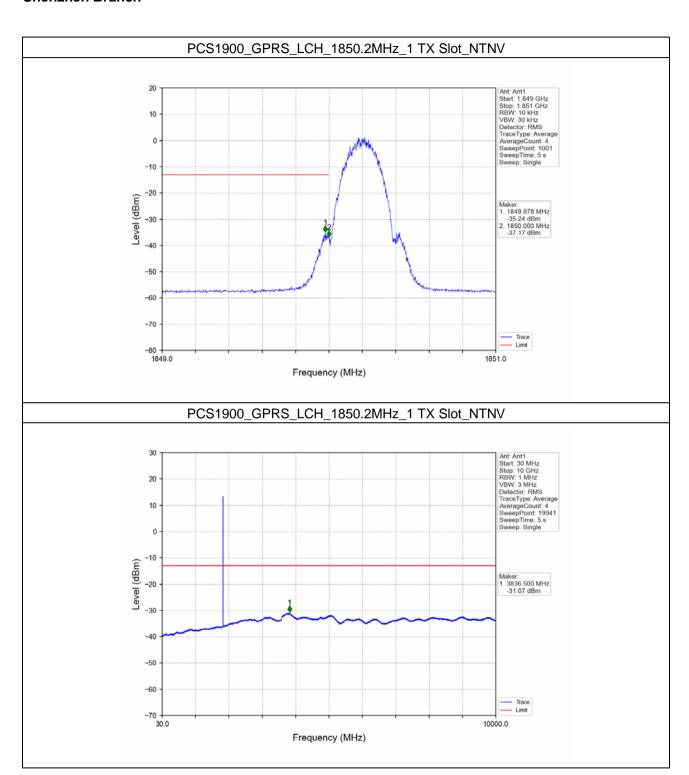






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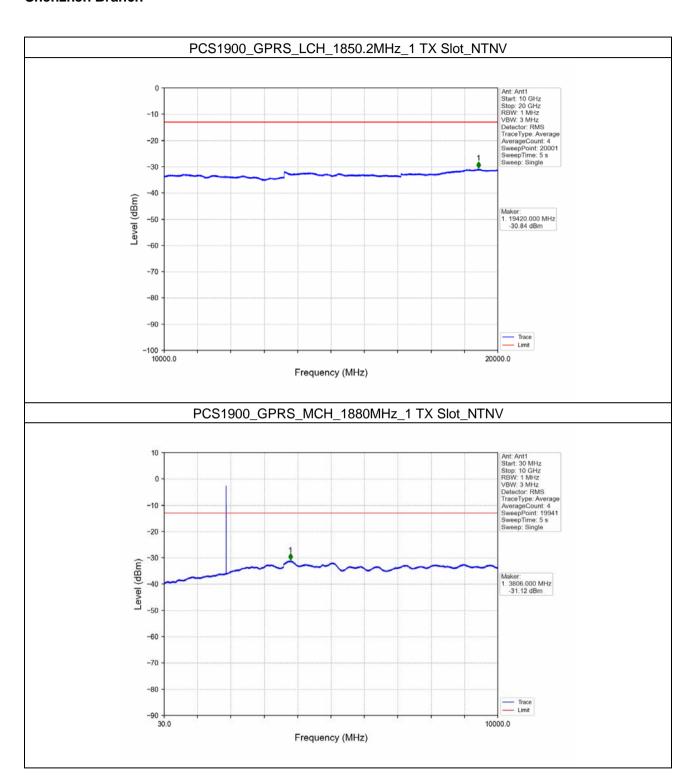






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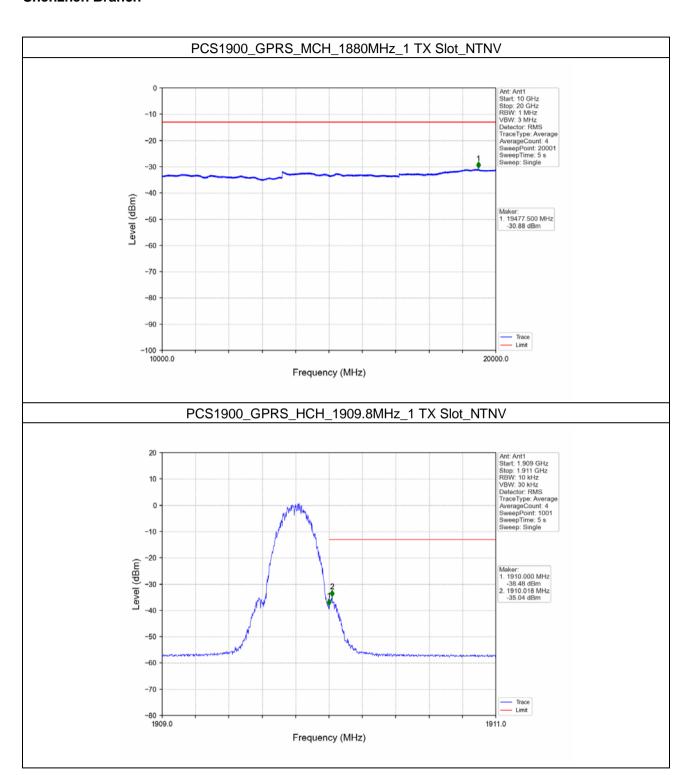






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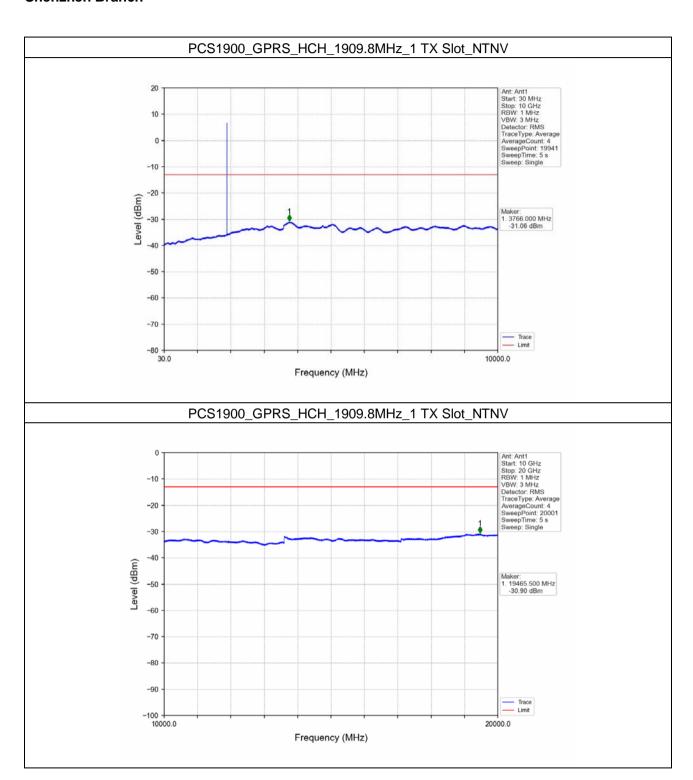






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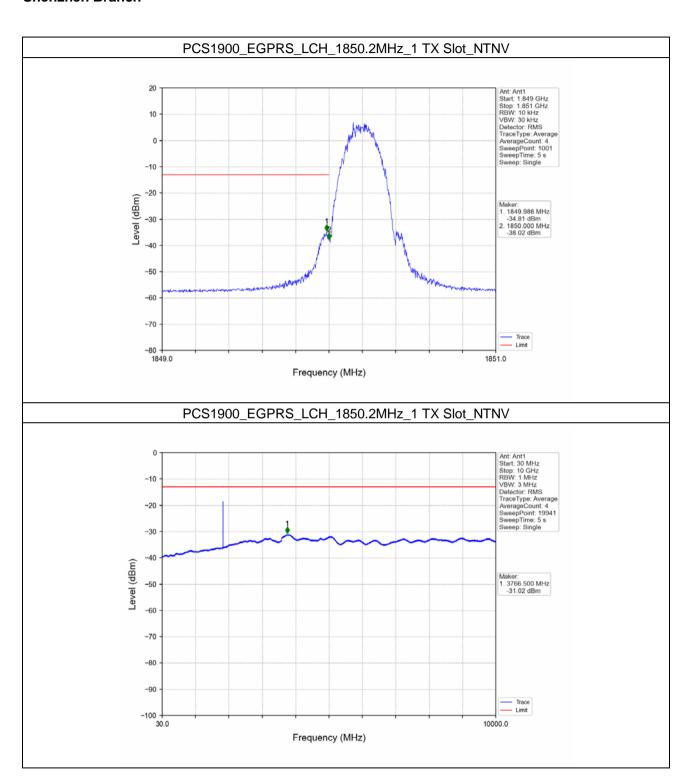






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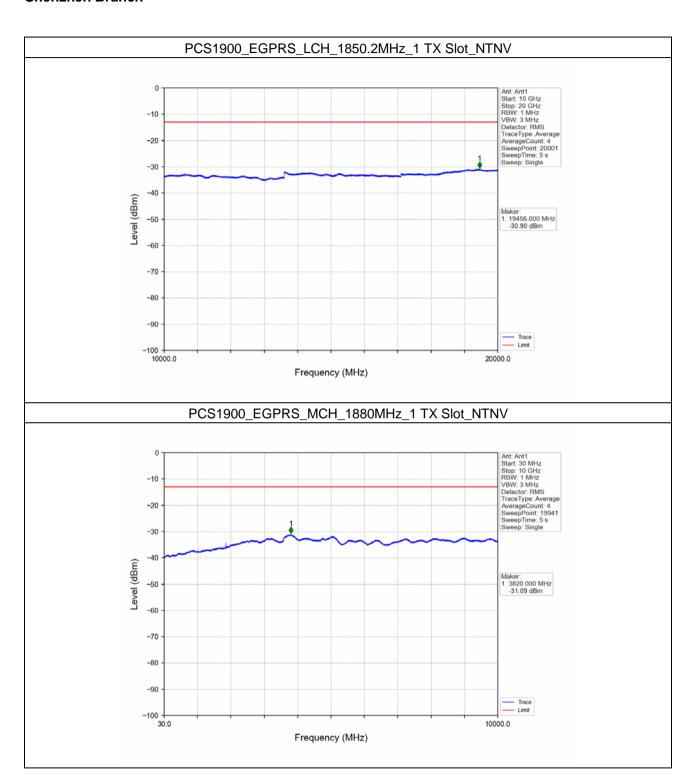






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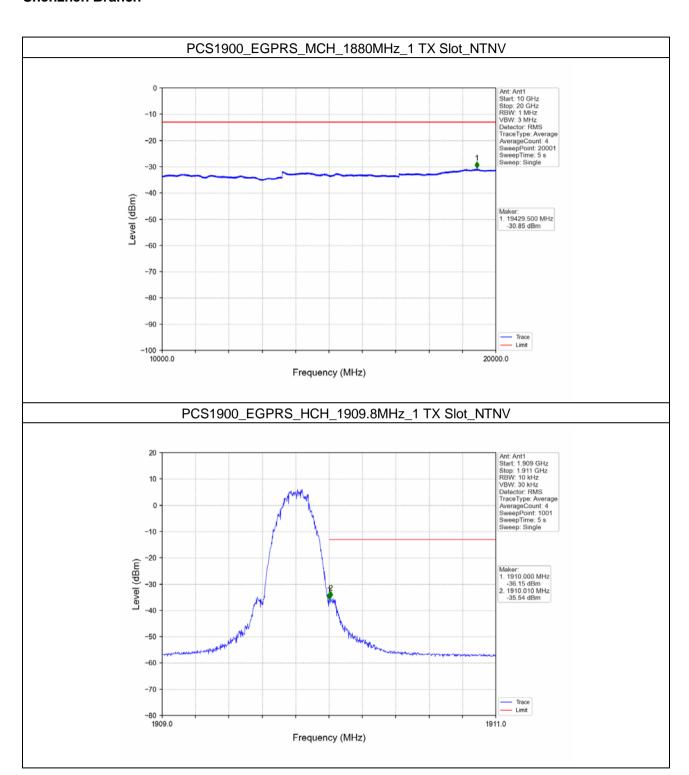






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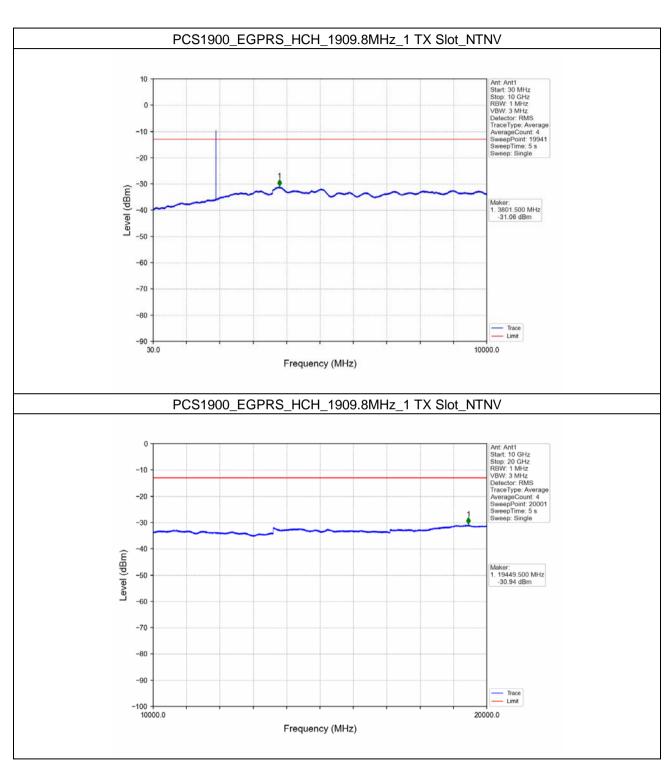






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Note: All modes have been tested and we found GSM Test mode has the worst test result. Only record the worst test result.



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#### 5. Field strength of spurious radiation

	GSM850-Low channel											
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result				
1652.8	-54.79	-13	-41.79	-58.45	3.77	7.43	Horizontal	Pass				
2479.2	-51.7	-13	-38.7	-54.03	4.75	7.08	Horizontal	Pass				
3305.6	-48.26	-13	-35.26	-50.84	5.72	8.3	Horizontal	Pass				
1652.8	-54.22	-13	-41.22	-57.88	3.77	7.43	Vertical	Pass				
2479.2	-51.97	-13	-38.97	-54.3	4.75	7.08	Vertical	Pass				
3305.6	-48.77	-13	-35.77	-51.35	5.72	8.3	Vertical	Pass				

	GSM850-Middle channel												
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result					
1672.8	-57.23	-13	-44.23	-60.89	3.77	7.43	Horizontal	Pass					
2509.2	-53.82	-13	-40.82	-56.29	5.13	7.6	Horizontal	Pass					
3345.6	-49.32	-13	-36.32	-51.9	5.72	8.3	Horizontal	Pass					
1672.8	-57.87	-13	-44.87	-61.53	3.77	7.43	Vertical	Pass					
2509.2	-52.49	-13	-39.49	-54.96	5.13	7.6	Vertical	Pass					
3345.6	-48.82	-13	-35.82	-51.4	5.72	8.3	Vertical	Pass					

	GSM850-High channel												
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result					
1693.2	-56.82	-13	-43.82	-60.48	3.77	7.43	Horizontal	Pass					
2539.8	-53.55	-13	-40.55	-56.02	5.13	7.6	Horizontal	Pass					
3386.4	-49.34	-13	-36.34	-51.92	5.72	8.3	Horizontal	Pass					
1693.2	-58.22	-13	-45.22	-61.88	3.77	7.43	Vertical	Pass					
2539.8	-53.07	-13	-40.07	-55.54	5.13	7.6	Vertical	Pass					
3386.4	-47.93	-13	-34.93	-50.51	5.72	8.3	Vertical	Pass					



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	GSM1900-Low channel											
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result				
3704.8	-49.25	-13	-36.25	-51.47	6.99	9.21	Horizontal	Pass				
5557.2	-47.55	-13	-34.55	-49.87	8.27	10.59	Horizontal	Pass				
7409.6	-45.94	-13	-32.94	-49.48	8.19	11.73	Horizontal	Pass				
3704.8	-50.93	-13	-37.93	-53.15	6.99	9.21	Vertical	Pass				
5557.2	-48.55	-13	-35.55	-50.87	8.27	10.59	Vertical	Pass				
7409.6	-46.07	-13	-33.07	-49.61	8.19	11.73	Vertical	Pass				

	GSM1900-Middle channel												
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result					
3760	-50.17	-13	-37.17	-52.39	6.99	9.21	Horizontal	Pass					
5640	-48.17	-13	-35.17	-50.49	8.27	10.59	Horizontal	Pass					
7520	-45.96	-13	-32.96	-49.79	8.43	12.26	Horizontal	Pass					
3760	-50.07	-13	-37.07	-52.29	6.99	9.21	Vertical	Pass					
5640	-47.84	-13	-34.84	-50.16	8.27	10.59	Vertical	Pass					
7520	-45.39	-13	-32.39	-49.22	8.43	12.26	Vertical	Pass					

	GSM1900-High channel												
Frequency (MHz)	EIRP (dBm)	Limit(dBm)	Over Limit (dB)	S.G. Power (dBm)	Cable loss (dB)	Antenna Gain (dBi)	Polarization (H/V)	Result					
3815.2	-50.14	-13	-37.14	-52.36	6.99	9.21	Horizontal	Pass					
5722.8	-49.75	-13	-36.75	-52.07	8.27	10.59	Horizontal	Pass					
7630.4	-45.47	-13	-32.47	-49.3	8.43	12.26	Horizontal	Pass					
3815.2	-50.38	-13	-37.38	-52.6	6.99	9.21	Vertical	Pass					
5722.8	-48.29	-13	-35.29	-50.61	8.27	10.59	Vertical	Pass					
7630.4	-45.3	-13	-32.3	-49.13	8.43	12.26	Vertical	Pass					

Note: All modes have been tested and we found GSM Test mode has the worst test result. Only record the worst test result.

EIRP= S.G. Power- Cable loss+ Antenna Gain



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#### 6. Frequency stability

Frequency Error VS. Voltage

Test	Test mode:	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
Dana		Chamer	Temp.	VUI.	2.42	0.0029	PASS
	GSM	LCH	TN	VN	1.34	0.0029	PASS
		LOIT	111	VH	-3.74	-0.0045	PASS
				VL	-2.36	-0.0028	PASS
	GSM	MCH	TN	VN	-1.72	-0.0021	PASS
				VH	-1.12	-0.0013	PASS
		НСН		VL	3.59	0.0042	PASS
0014			TN	VN	-1.25	-0.0015	PASS
GSM				VH	-2.6	-0.0031	PASS
850			TN	VL	-2.43	-0.0029	PASS
		LCH		VN	1.03	0.0012	PASS
				VH	-2.91	-0.0035	PASS
				VL	3.37	0.0040	PASS
	EGPRS	MCH	TN	VN	2.09	0.0025	PASS
				VH	-1.91	-0.0023	PASS
				VL	0.66	0.0008	PASS
		HCH	TN	VN	-3.65	-0.0043	PASS
				VH	2.03	0.0024	PASS



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Test Band	Test mode:	Test Channel	Test Temp.	Test Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				VL	-2.38	-0.0013	PASS
		LCH	TN	VN	2.58	0.0014	PASS
				VH	2.01	0.0011	PASS
	GSM			VL	1.5	0.0008	PASS
		MCH	TN	VN	-2.4	-0.0013	PASS
				VH	1.52	0.0008	PASS
		НСН		VL	-2.37	-0.0012	PASS
			TN	VN	2.58	0.0014	PASS
GSM				VH	-2.54	-0.0013	PASS
1900			TN	VL	1.53	0.0008	PASS
		LCH		VN	-2.2	-0.0012	PASS
				VH	-1.77	-0.0010	PASS
				VL	-1.56	-0.0008	PASS
	EGPRS	MCH	TN	VN	2.09	0.0011	PASS
				VH	1.14	0.0006	PASS
				VL	-2.09	-0.0011	PASS
		HCH	TN	VN	2.46	0.0013	PASS
				VH	2.17	0.0011	PASS

Note: All modes have been tested and we found GSM Test mode has the worst test result. Only record the worst test result.





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Frequency Error VS. Temperature

Test Band	Test mode:	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict
				-30	2.21	0.0027	PASS
				-20	2.13	0.0026	PASS
				-10	2.42	0.0029	PASS
				0	-1.9	-0.0023	PASS
		LCH	VN	10	1.41	0.0017	PASS
				20	-1.83	-0.0022	PASS
				30	2.07	0.0025	PASS
				40	-0.26	-0.0003	PASS
				50	-1.89	-0.0023	PASS
		мсн		-30	-1.74	-0.0021	PASS
				-20	-1.81	-0.0022	PASS
			VN	-10	-0.22	-0.0003	PASS
GSM				0	-1.41	-0.0017	PASS
850	GSM			10	2.31	0.0028	PASS
030				20	3.12	0.0037	PASS
				30	1.98	0.0024	PASS
				40	1.37	0.0016	PASS
				50	-1.99	-0.0024	PASS
				-30	1.81	0.0021	PASS
				-20	1.88	0.0022	PASS
				-10	2.79	0.0033	PASS
				0	-1.36	-0.0016	PASS
		HCH	VN	10	2.07	0.0024	PASS
				20	-1.66	-0.0020	PASS
				30	2.51	0.0030	PASS
				40	0.24	0.0003	PASS
				50	-0.62	-0.0007	PASS





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Test Band	Test mode:	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict	
				-30	-1.15	-0.0014	PASS	
				-20	-1.19	-0.0014	PASS	
				-10	3.42	0.0041	PASS	
				0	-2.88	-0.0035	PASS	
		LCH	VN	10	2.73	0.0033	PASS	
				20	-2.73	-0.0033	PASS	
				30	-3.47	-0.0042	PASS	
				40	-3.29	-0.0040	PASS	
				50	-2.71	-0.0033	PASS	
				-30	-1.19	-0.0014	PASS	
		MCH		-20	-1.22	-0.0015	PASS	
				-10	3.01	0.0036	PASS	
GSM					0	-1.27	-0.0015	PASS
850	EGPRS		VN	10	2.91	0.0035	PASS	
650				20	-0.39	-0.0005	PASS	
				30	-0.8	-0.0010	PASS	
				40	-1.47	-0.0018	PASS	
				50	-0.72	-0.0009	PASS	
				-30	-1.61	-0.0019	PASS	
				-20	-0.19	-0.0002	PASS	
				-10	-1.7	-0.0020	PASS	
				0	-1.4	-0.0016	PASS	
		HCH	VN	10	-1.69	-0.0020	PASS	
				20	2.28	0.0027	PASS	
				30	-1.14	-0.0013	PASS	
				40	-2.52	-0.0030	PASS	
				50	-1.96	-0.0023	PASS	



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Test Band	Test mode:	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict					
				-30	-2.85	-0.0015	PASS					
				-20	-2.86	-0.0015	PASS					
				-10	-2.08	-0.0011	PASS					
				0	2.95	0.0016	PASS					
		LCH	VN	10	-1.52	-0.0008	PASS					
				20	-0.24	-0.0001	PASS					
				30	1.86	0.0010	PASS					
				40	-1.18	-0.0006	PASS					
				50	-2.33	-0.0013	PASS					
				-30	-2.1	-0.0011	PASS					
		MCH		-20	-1.58	-0.0008	PASS					
				-10	1.64	0.0009	PASS					
GSM				0	-2.23	-0.0012	PASS					
1900	GSM		MCH	MCH	MCH	MCH	MCH	MCH	VN	10	3.1	0.0016
1300				20	-0.78	-0.0004	PASS					
				30	-1.66	-0.0009	PASS					
				40	-3.59	-0.0019	PASS					
				50	-1.29	-0.0007	PASS					
				-30	-1.43	-0.0007	PASS					
						-20	-0.6	-0.0003	PASS			
				-10	3.62	0.0019	PASS					
				0	1.94	0.0010	PASS					
		HCH	VN	10	-0.25	-0.0001	PASS					
				20	-3.15	-0.0016	PASS					
				30	-0.63	-0.0003	PASS					
				40	1.75	0.0009	PASS					
				50	-2.85	-0.0015	PASS					



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Test Band	Test mode:	Test Channel	Test Volt.	Test Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Verdict																			
				-30	-1.78	-0.0010	PASS																			
				-20	-1.79	-0.0010	PASS																			
				-10	-2.17	-0.0012	PASS																			
				0	2.74	0.0015	PASS																			
		LCH	VN	10	-1.46	-0.0008	PASS																			
				20	-1.15	-0.0006	PASS																			
				30	-0.88	-0.0005	PASS																			
				40	2.73	0.0015	PASS																			
				50	-0.93	-0.0005	PASS																			
				-30	-2.37	-0.0013	PASS																			
		MCH		-20	-2.36	-0.0013	PASS																			
				-10	-1.54	-0.0008	PASS																			
GSM			VN	0	-1.64	-0.0009	PASS																			
1900	EGPRS			10	2.52	0.0013	PASS																			
1900				20	-2.16	-0.0011	PASS																			
				30	-1.04	-0.0006	PASS																			
				40	-0.16	-0.0001	PASS																			
				50	1.91	0.0010	PASS																			
				-30	-1.96	-0.0010	PASS																			
				ĺ			l				ļ												-20	-1.97	-0.0010	PASS
				-10	4.01	0.0021	PASS																			
				0	2.85	0.0015	PASS																			
		HCH	VN	10	-2.35	-0.0012	PASS																			
				20	-1.97	-0.0010	PASS																			
				30	-2.77	-0.0015	PASS																			
			-	40	-1.56	-0.0008	PASS																			
				50	-1.25	-0.0007	PASS																			

Note: All modes have been tested and we found GSM Test mode has the worst test result. Only record the worst test result.

- End of the Report -

