

🔆 Agilent				Т	Peak Search
Ref 21 dBm #Peak	Atten 10 dB		۸	1kr1 790 kHz -58.14 dBm	Next Peak
Log 10 dB/ 0ffst					Next Pk Right
21 dB DI -13.0 Marker					Next Pk Left
dBm \790.00 LgAv -58.1 4	00 kHz dBm	, a diffect Differ, and Byran of Little floor day	تقلقونيين يتبعين	ning alama kalang kalang kang kang kang kang kang kang kang k	Min Search
Start 9 kHz #Res BW 100 kHz Marker Traco 1 (1)		BW 300 kHz #3 X Axis 790 kHz	Sweep 500 m	op 30.00 MHz s (2001 pts) Amplitude -58.14 dBm	Pk-Pk Search
1 (1/	TT EY	150 112		38.14 dbm	Mkr → CF
					More 1 of 2
Copyright 2000	-2005 Agilent 1	echnologies			

Channel 810

						zer - Swept SA	t Spectrum Ana	🗊 Agil
Peak Search	01:20:33 PM Oct 25, 2011 TRACE 1 2 3 4 5 5 TYPE MWWWW DET P N N N N N	ALIGN AUTO Type: Log-Pwr Hold: 43/100	Avg	SENSE:IN Trig: Free Run Atten: 30 dB	MHz PNO: Fast C	50000000 Input: RF	50 Ω er 1 951.2	v Mark
NextPea	kr1 951.3 MHz -38.217 dBm	M				et 21 dB .00 dBm		l0 dB
Next Rigi								30.0 20.0
Next Le	-13.00 dBm							0.00 10.0 20.0
Marker Del	1	nggang gang daptan sa kalang s	discolorization	ar yan yang di san di sa	- Malanta Alanta Alanta Alanta	u af di statistica	an thing an	30.0 40.0 50.0
Mkr→C	Stop 1.0000 GHz 00 ms (2001 pts) FUNCTION VALUE	#Sweep	FUNCTION	00 kHz 38.217 dBm	#VBW 3	×	80.0 MHz 3W 100 kH	Res
Mkr→RefL				50.217 dBm	951.5 MIDZ -			234567
Mo 1 of								8 9 0 1 2
		STATUS						SG

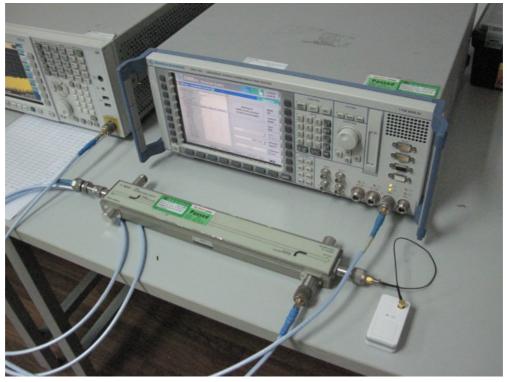
QuieTek

Peak Search	3:09:38 PM Oct 27, 2011	ALIGN AUTO		SENSE:IN	1		<mark>um Analyzer</mark> - 50 Ω	
	TRACE 123455 TYPE MWWWWW DET PNNNN	e: Log-Pwr 1: 10/100	Avg Avg H	Trig: Free Rur Atten: 40 dB	HZ O: Fast ⊊ ain:Low	put: RF PI	1.9120000	arker 1 1
Next Peal	1.912 0 GHz 29.324 dBm	Mk					Ref Offset 11 Ref 40.00	
Next Righ								10.0 1 0.0 1 0.0 1
Next Lei	-13.00 dBm		ماندون به مارد اور با				Winds The later and	
Marker Delt					and an).0).0).0
Mkr→C	op 20.000 GHz ms (2001 pts) FUNCTION VALUE	#Sweep	FUNCTION	.0 MHz Y 29.324 dBm		× 1.912	0 MHz	
Mkr→RefLv								
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		STATUS						à

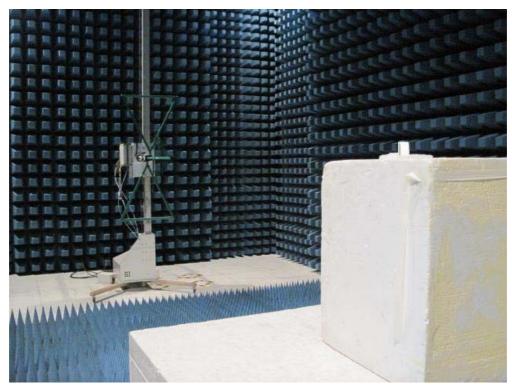


7.7. Test Photograph

Description: Conducted Spurious Emission Measurement Setup

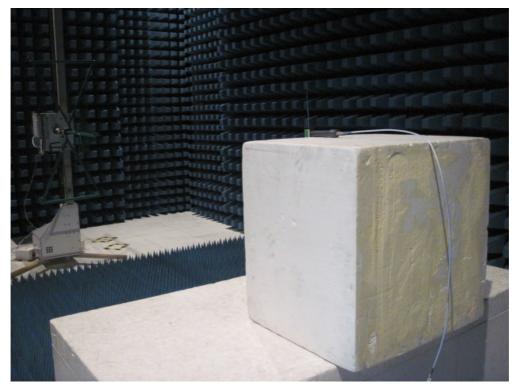


Description: ERP Test Setup





Description: Substitution Antenna for ERP Test

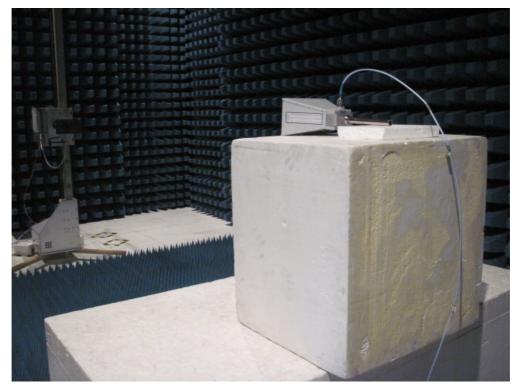


Description: EIRP Test Setup





Description: Substitution Antenna for EIRP Test





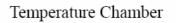
8. Frequency Stability Under Temperature & Voltage Variations

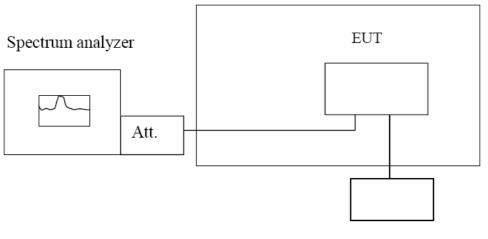
8.1. Test Equipment

Frequency Stability Under Temperature & Voltage Variations / TR-7

Instrument	Manufacturer	Type No.	Serial No	Cali. Due Date
PSA Series Spectrum				
Analyzer	Agilent	E4440A	MY49420184	2012.04.10
Radio Communication				
Tester	R&S	CMU 200	117088	2012.04.29
Dual Directional Coupler	Agilent	778D	20160	2012.04.20
10dB Coaxial Coupler	Agilent	87300C	MY44300299	2012.04.20
DC Power Supply	IDRC	CD-035-020PR	977272	2012.09.22
Temperature & Humidity				
Chamber	Gaoyu	TH-1P-B	WIT-05121302	2012.01.19
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC6-TH	2012.01.14

8.2. Test Setup





Variable Power Supply



8.3. Limit

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

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8.4. Test Procedure

Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C (EUT Spec). After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of $+50^{\circ}$ C reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation (\pm 15%) and endpoint, record the maximum frequency change.

8.5. Uncertainty

The measurement uncertainty is defined as \pm 10 Hz.



8.6. Test Result

Product	GPS Locator			
Test Item	Frequency Stability Under Temperature & Voltage Variations			
Test Mode	Mode 1: GPRS 850 Link			
Date of Test	2011/10/23	Test Site	TR-7	

Frequency Stability under Temperature

Temperature	Test Frequency	Devi	ation	Limit
Interval (℃)	(MHz)	(Hz)	(ppm)	(ppm)
-30	836.40	-32	-0.04	< ± 2.5
-20	836.40	-28	-0.03	< ± 2.5
-10	836.40	-22	-0.03	< ± 2.5
0	836.40	-24	-0.03	< ± 2.5
10	836.40	-16	-0.02	< ± 2.5
20	836.40	-19	-0.02	< ± 2.5
30	836.40	-27	-0.03	< ± 2.5
40	836.40	-30	-0.04	< ± 2.5
50	836.40	-38	-0.04	< ± 2.5

Frequency Stability under Voltage

DC Voltage	Test Frequency	Deviation		Limit
(V)	(MHz)	(Hz)	(ppm)	(ppm)
4.200	836.40	-28	-0.03	< ± 2.5
3.800	836.40	-22	-0.03	< ± 2.5
3.400	836.40	-30	-0.04	< ± 2.5



Product	GPS Locator		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 2: GPRS 1900 Link		
Date of Test	2011/10/23	Test Site	TR-7

Frequency Stability under Temperature

Temperature	Test Frequency	Devi	ation	Limit
Interval (℃)	(MHz)	(Hz)	(ppm)	(ppm)
-30	1880.00	-41	-0.02	< ± 2.5
-20	1880.00	-36	-0.02	< ± 2.5
-10	1880.00	-33	-0.02	< ± 2.5
0	1880.00	-24	-0.01	< ± 2.5
10	1880.00	-31	-0.02	< ± 2.5
20	1880.00	-36	-0.02	< ± 2.5
30	1880.00	-37	-0.02	< ± 2.5
40	1880.00	-44	-0.02	< ± 2.5
50	1880.00	-46	-0.02	< ± 2.5

Frequency Stability under Voltage

DC Voltage	Test Frequency	Deviation		Limit
(V)	(MHz)	(Hz)	(ppm)	(ppm)
4.200	1880.00	-41	-0.02	< ± 2.5
3.800	1880.00	-33	-0.02	< ± 2.5
3.600	1880.00	-39	-0.02	< ± 2.5



9. Attachment

EUT Photograph

(1) EUT Photo



(2) EUT Photo





(3) EUT Photo



(4) EUT Photo



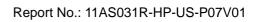


(5) EUT Photo



(6) EUT Photo





QuieTek

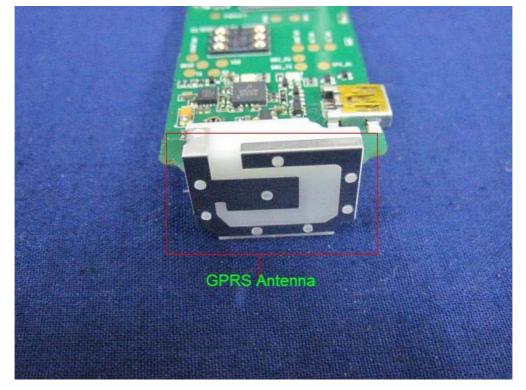


(8) EUT Photo





(9) EUT Photo



(10) EUT Photo





(11) EUT Photo



(12) EUT Photo

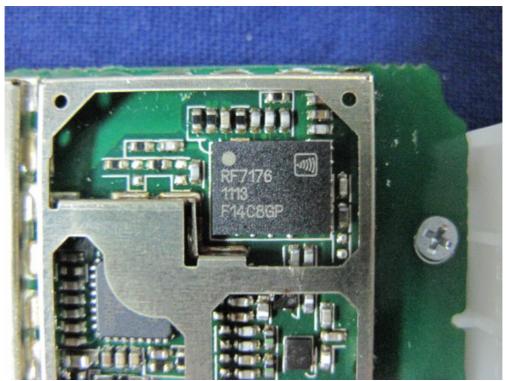




(13) EUT Photo



(14) EUT Photo





(15) EUT Photo



(16) EUT Photo

