FCC 47 CFR PART 22H and 24E

Product Type	:	PCI-E Embedded Module
Applicant	:	HON HAI Precision IND. CO., LTD.
Address	:	5F-1,5 Hsin-An Road Hsinchu, Science-Based Industrial Park Taiwan, R.O.C
Model Number	:	TangoP1001
Test Specification	:	FCC 47 CFR PART 22H: Oct, 2011 FCC 47 CFR PART 24E: Oct, 2011 ANSI/TIA-603-C-2004
Application Purpose	:	Original
Receive Date	:	Jul. 17, 2012
Issue Date	:	Aug. 22, 2012

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Aug. 15, 2012	Initial Issue	
01	Aug. 22, 2012	Revise Model Number	Queenie Yang

Verification of Compliance

Issued Date: 08/22/2012

Product Type	:	PCI-E Embedded Module
Applicant	:	HON HAI Precision IND. CO., LTD.
Address	:	5F-1,5 Hsin-An Road Hsinchu, Science-Based Industrial Park Taiwan, R.O.C
Model Number	:	TangoP1001
FCC ID	:	MCLT77Z29500
EUT Rated Voltage	:	DC 3.3V
Test Voltage	:	120 Vac / 60 Hz
Applicable Standard	:	FCC 47 CFR PART 22H: Oct, 2011 FCC 47 CFR PART 24E: Oct, 2011 ANSI/TIA-603-C-2004
Application Purpose	:	Original
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade City Taoyuan County 334, Taiwan R.O.C. Tel：+886-3-2710188 / Fax：+886-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

The above equipment was tested by A Test Lab Techno Corp. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 22H, Part 24E.
The test results of this report relate only to the tested sample identified in this report.

Approved By	:		Reviewed By	:	
(Manager)		(Murphy Wang)	(Testing Engineer)		(Fly Lu)

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1 General Information

1.1. EUT Description

Applicant		HON HAI Precision IND. CO., LTD.			
Applicant Address		5F-1,5 Hsin-An Road Hsinchu, Science-Based Industrial Park Taiwan, R.O.C			
Manufacturer		HON HAI Precision IND. CO., LTD.			
Manufacturer Address		5F-1,5 Hsin-An Road Hsinchu, Science-Based Industrial Park Taiwan, R.O.C			
Product Type		PCI-E Embedded Module			
Model Number		TangoP1001			
FCC ID		MCLT77Z29500			
Hardware Version		Rev.F			
Software Version		P1001.3.03_0.1			
Mode	GPRS/ EGPRS	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
		850	824.2 ~ 848.8	869.2 ~ 893.8	GMSK/8PSK
		1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8	GMSK/8PSK
	WCDMA/ HSDPA/ HSUPA	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
		II	1852.4 ~ 1907.6	1932.4 ~ 1987.6	QPSK
		V	826.4 ~ 846.6	871.4 ~ 891.6	QPSK
Channel Control		Auto			
Antenna for test		Tel Cab, T-AT314			
Antenna Type		External antenna			
Antenna Gain		2.14 dBi			
Max. RF Output power		GPRS 850 : 33.40 dBm / 2.188 W EGPRS 850 : 30.50 dBm / 1.122 W GPRS 1900 : 30.10 dBm / 1.023 W EGPRS 1900 : 29.20 dBm / 0.832 W WCDMA/ HSDPA/ HSUPA Band II : 26.95 dBm / 0.495 W WCDMA/ HSDPA/ HSUPA Band V : 26.45 dBm / 0.442 W			
Max. ERP/EIRP		GPRS 850 : 27.72 dBm / 0.592 W EGPRS 850 : 25.44 dBm / 0.350 W GPRS 1900 : 24.27 dBm / 0.267 W EGPRS 1900 : 21.50 dBm / 0.141 W WCDMA/ HSDPA/ HSUPA Band II : 21.31 dBm / 0.135 W WCDMA/ HSDPA/ HSUPA Band V : 20.13 dBm / 0.103 W			
Emission Designator		GPRS 850 : 244KGXW EGPRS 850 : 243KG7W GPRS 1900 : 243KGXW EGPRS 1900 : 252KG7W WCDMA/ HSDPA/ HSUPA Band II : 4M16F9W WCDMA/ HSDPA/ HSUPA Band V : 4M15F9W			

1.2. Mode of Operation

ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: GPRS 850 Link
Mode 2: GPRS 1900 Link
Mode 3: WCDMA Band II Link
Mode 4: WCDMA Band V Link
Mode 5: EGPRS 850 Link
Mode 6: EGPRS 1900 Link

Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that “X axis” position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

Tested System Details

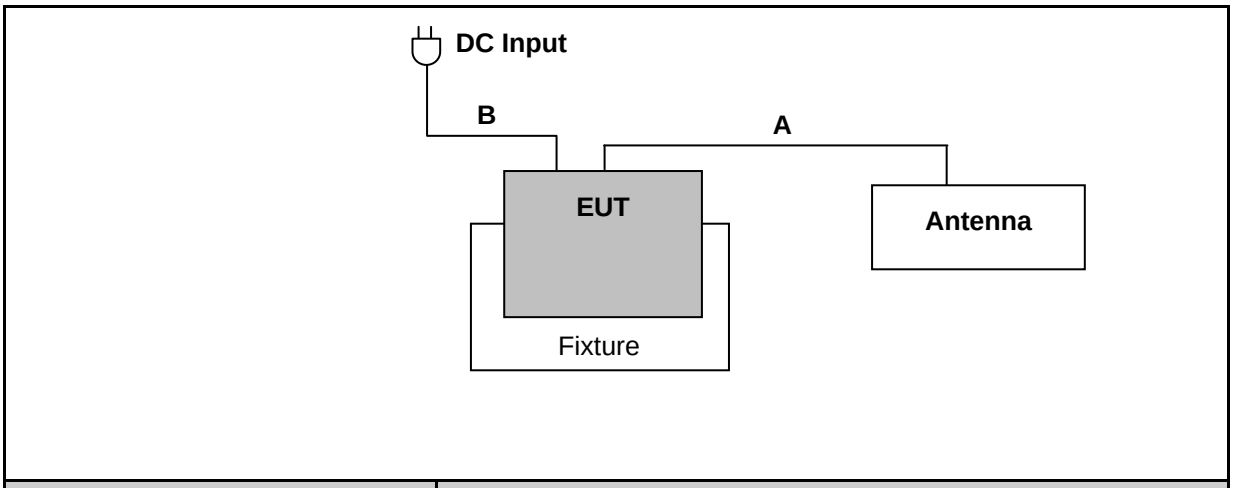
The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model Number	Serial Number	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	109369	Non-Shielded, 1.8m

1.3. EUT Exercise Software

1.	Setup the EUT and Base Station (CMU200) as shown on 1.4.
2.	Turn on the power of all equipment.

1.4. Configuration of Test System Details



Signal Cable Type		Signal Cable Description
A	Signal Cable	Non-Shielded, 2.5m
B	DC Power Cable	Non-Shielded, 1.8m

1.5. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

1.6. Summary of Test Result

Description	FCC Rule	IC Rule	Limit	Result
Conducted Output Power	§2.1046	N/A	N/A	Pass
Effective Radiated Power	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	< 7 Watts for FCC (<6.3 Watts for IC)	Pass
Equivalent Isotropic Radiated Power	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	< 2 Watts	Pass
Occupied Bandwidth	§2.1049 §22.917(a) §24.238(a)	RSS-Gen (4.6.1)	N/A	Pass
Band Edge Measurement	§2.1051 §22.917(a) §24.238(a)	RSS-132 (4.5.1)RSS-133 (6.5.1)	< $43+10\log_{10}$(P[Watts])	Pass
Conducted Spurious Emission	§2.1051 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	< $43+10\log_{10}$(P[Watts])	Pass
Field Strength of Spurious Radiation	§2.1053 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1) RSS-Gen (4.10)	< $43+10\log_{10}$(P[Watts])	Pass
Frequency Stability for Temperature & Voltage	§2.1055 §22.355 §24.235	RSS-132(4.3) RSS-133(6.3)	< 2.5 ppm	Pass

2 RF Output Power Test

2.1. Limit

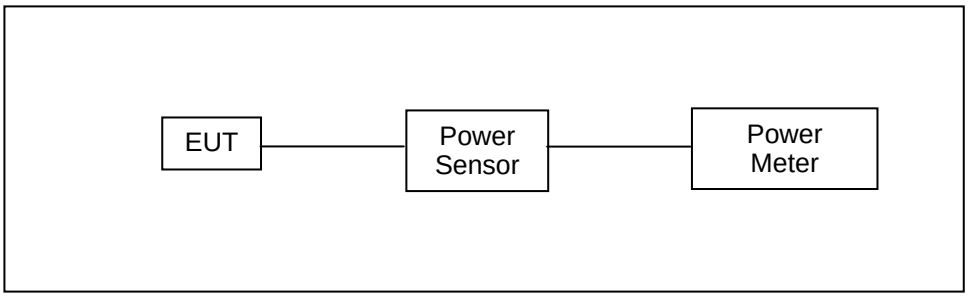
N/A

2.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	112387	03/16/2012	(2)
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	12/15/2011	(2)
Wideband Power Meter	Agilent	N1921A	MY45241957	12/15/2011	(2)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

2.3. Test Setup



2.4. Test Procedure

The measurement is made according to ANSI/TIA-603-C-2004 as follows:

1. The transmitter output was connected to power meter and base station through power divider.
2. Set base station for EUT at GSM 850: PCL=5 and PCS 1900: PCL=0.
3. Set base station for EUT at WCDMA Band V and WCDMA Band II, power level was set to maximum.
4. Select lowest, middle, and highest channels for each band.

2.5. Uncertainty

The measurement uncertainty is defined as for RF output power measurement is 1.2 dB.

2.6. Test Result

Model Number	TangoP1001					
Test Item	RF Output Power					
Date of Test	07/24/2012			Test Site	TE05	
Bands	Data Rate	Frequency (MHz)	Burst Average Power		Peak Power	
			(dBm)	(W)	(dBm)	(W)
GRRS 850 GMSK Multi Class :12 Max Up:4 Max Down:4 Sum:5	4Down1Up Duty factor 1/8	824.2	32.40	1.738	33.20	2.089
		836.6	32.50	1.778	**33.40**	**2.188**
		848.8	32.40	1.738	33.30	2.138
	3Down2Up Duty factor 2/8	824.2	30.50	1.122	31.50	1.413
		836.6	30.10	1.023	30.80	1.202
		848.8	29.80	0.955	30.50	1.122
	2Down3Up Duty factor 3/8	824.2	28.60	0.724	29.30	0.851
		836.6	28.40	0.692	29.00	0.794
		848.8	28.00	0.631	28.70	0.741
	1Down4Up Duty factor 4/8	824.2	27.40	0.550	28.10	0.646
		836.6	27.10	0.513	27.80	0.603
		848.8	26.90	0.490	27.50	0.562
EGPRS 850 8PSK Multi Class :12 Max Up:4 Max Down:4 Sum:5	4Down1Up. Duty factor 1/8	824.2	27.40	0.550	30.40	1.096
		836.6	27.50	0.562	**30.50**	**1.122**
		848.8	27.30	0.537	30.40	1.096
	3Down2Up Duty factor 2/8	824.2	25.40	0.347	28.40	0.692
		836.6	25.20	0.331	28.20	0.661
		848.8	25.10	0.324	28.20	0.661
	2Down3Up Duty factor 3/8	824.2	23.40	0.219	26.40	0.437
		836.6	23.20	0.209	26.10	0.407
		848.8	23.40	0.219	26.50	0.447
	1Down4Up Duty factor 4/8	824.2	22.30	0.170	25.40	0.347
		836.6	22.10	0.162	25.30	0.339
		848.8	22.00	0.158	25.10	0.324

Note: The peak power testing result was used peak detector.

Model Number	TangoP1001					
Test Item	RF Output Power					
Date of Test	07/24/2012			Test Site	TE05	
Bands	Data Rate	Frequency (MHz)	Burst Average Power		Peak Power	
			(dBm)	(W)	(dBm)	(W)
GRRS 1900 GMSK Multi Class :12 Max Up:4 Max Down:4 Sum:5	4Down1Up Duty factor 1/8	1850.20	29.40	0.871	**30.10**	**1.023**
		1909.80	29.30	0.851	29.90	0.977
		1909.80	29.20	0.832	29.80	0.955
	3Down2Up Duty factor 2/8	1850.20	27.20	0.525	27.80	0.603
		1909.80	27.10	0.513	27.80	0.603
		1909.80	27.00	0.501	27.80	0.603
	2Down3Up Duty factor 3/8	1850.20	25.50	0.355	26.20	0.417
		1909.80	25.40	0.347	26.10	0.407
		1909.80	25.30	0.339	26.10	0.407
	1Down4Up Duty factor 4/8	1850.20	24.30	0.269	25.00	0.316
		1909.80	24.20	0.263	24.80	0.302
		1909.80	24.10	0.257	24.80	0.302
EGPRS 1900 8PSK Multi Class :12 Max Up:4 Max Down:4 Sum:5	4Down1Up. Duty factor 1/8	1850.20	26.50	0.447	**29.20**	**0.832**
		1909.80	26.40	0.437	29.00	0.794
		1909.80	26.30	0.427	29.10	0.813
	3Down2Up Duty factor 2/8	1850.20	24.40	0.275	27.30	0.537
		1909.80	24.30	0.269	27.20	0.525
		1909.80	24.20	0.263	27.10	0.513
	2Down3Up Duty factor 3/8	1850.20	22.50	0.178	25.70	0.372
		1909.80	22.40	0.174	25.50	0.355
		1909.80	22.30	0.170	25.50	0.355
	1Down4Up Duty factor 4/8	1850.20	21.30	0.135	24.20	0.263
		1909.80	21.20	0.132	24.10	0.257
		1909.80	21.10	0.129	24.00	0.251

Note: The peak power testing result was used peak detector.

Model Number	TangoP1001					
Test Item	RF Output Power					
Date of Test	07/24/2012			Test Site	TE05	
Bands	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
			(dBm)	(W)	(dBm)	(W)
WCDMA Band II QPSK	-----	1852.4	23.58	0.228	26.66	0.463
		1880.0	23.59	0.229	26.79	0.478
		1907.6	23.62	0.230	**26.95**	**0.495**
HSDPA Band II QPSK	1	1852.4	23.37	0.217	26.45	0.442
		1880.0	23.40	0.219	26.60	0.457
		1907.6	23.44	0.221	26.77	0.475
	2	1852.4	23.35	0.216	26.43	0.440
		1880.0	23.39	0.218	26.59	0.456
		1907.6	23.43	0.220	26.76	0.474
	3	1852.4	22.86	0.193	25.94	0.393
		1880.0	22.91	0.195	26.11	0.408
		1907.6	22.94	0.197	26.27	0.424
	4	1852.4	22.85	0.193	25.93	0.392
		1880.0	22.89	0.195	26.09	0.406
		1907.6	22.95	0.197	26.28	0.425
HSUPA Band II QPSK	1	1852.4	21.33	0.136	24.41	0.276
		1880.0	21.36	0.137	24.56	0.286
		1907.6	21.43	0.139	24.76	0.299
	2	1852.4	19.30	0.085	22.38	0.173
		1880.0	19.35	0.086	22.55	0.180
		1907.6	19.43	0.088	22.76	0.189
	3	1852.4	20.30	0.107	23.38	0.218
		1880.0	20.35	0.108	23.55	0.226
		1907.6	20.44	0.111	23.77	0.238
	4	1852.4	19.31	0.085	22.39	0.173
		1880.0	19.35	0.086	22.55	0.180
		1907.6	19.44	0.088	22.77	0.189
	5	1852.4	21.30	0.135	24.38	0.274
		1880.0	21.35	0.136	24.55	0.285
		1907.6	21.42	0.139	24.75	0.299

Note: The peak power testing result was used peak detector.

Model Number	TangoP1001					
Test Item	RF Output Power					
Date of Test	07/24/2012			Test Site	TE05	
Bands	Sub-Test	Frequency (MHz)	Burst Average Power		Peak Power	
			(dBm)	(W)	(dBm)	(W)
WCDMA Band V QPSK	-----	826.4	23.53	0.225	**26.45**	**0.442**
		836.6	23.48	0.223	26.41	0.438
		846.6	23.22	0.210	23.31	0.214
HSDPA Band V QPSK	1	826.4	23.37	0.217	26.29	0.426
		836.6	23.29	0.213	26.22	0.419
		846.6	23.02	0.200	23.11	0.205
	2	826.4	23.36	0.217	26.28	0.425
		836.6	23.28	0.213	26.21	0.418
		846.6	23.01	0.200	23.10	0.204
	3	826.4	22.89	0.195	25.81	0.381
		836.6	22.80	0.191	25.73	0.374
		846.6	22.52	0.179	22.61	0.182
	4	826.4	22.90	0.195	25.82	0.382
		836.6	22.80	0.191	25.73	0.374
		846.6	22.54	0.179	22.63	0.183
HSUPA Band V QPSK	1	826.4	21.31	0.135	24.23	0.265
		836.6	21.05	0.127	23.98	0.250
		846.6	20.55	0.114	20.64	0.116
	2	826.4	19.32	0.086	22.24	0.167
		836.6	19.04	0.080	21.97	0.157
		846.6	18.53	0.071	18.62	0.073
	3	826.4	20.35	0.108	23.27	0.212
		836.6	20.07	0.102	23.00	0.200
		846.6	19.55	0.090	19.64	0.092
	4	826.4	19.32	0.086	22.24	0.167
		836.6	19.03	0.080	21.96	0.157
		846.6	18.52	0.071	18.61	0.073
	5	826.4	21.28	0.134	24.20	0.263
		836.6	21.00	0.126	23.93	0.247
		846.6	20.49	0.112	20.58	0.114

Note: The peak power testing result was used peak detector.

3 Effective Radiated Power / Equivalent Isotropic Radiated Power Test

3.1. Limit

For FCC Part 22.913(a)(2): The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(b): The EIRP of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

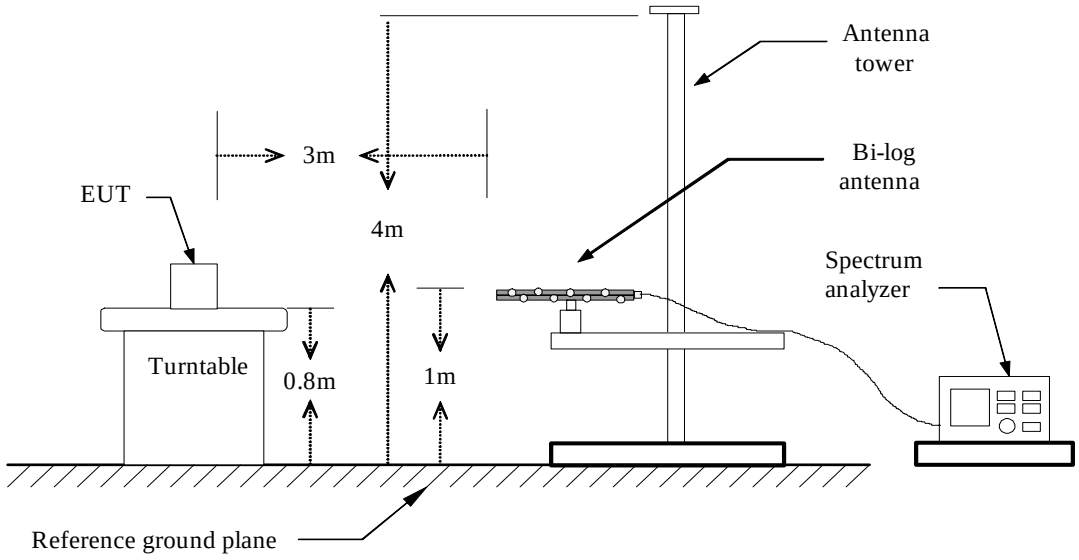
3.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/16/2012	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/16/2012	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/22/2012	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/22/2012	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	06/29/2012	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/15/2012	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/21/2012	(1)
Test Site	ATL	TE01	888001	12/20/2011	(1)

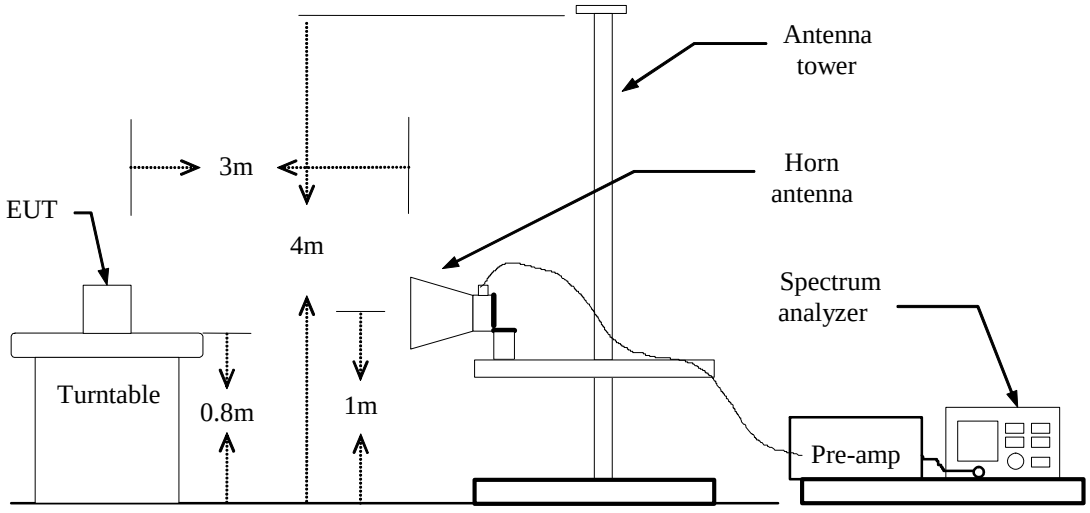
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

3.3. Setup

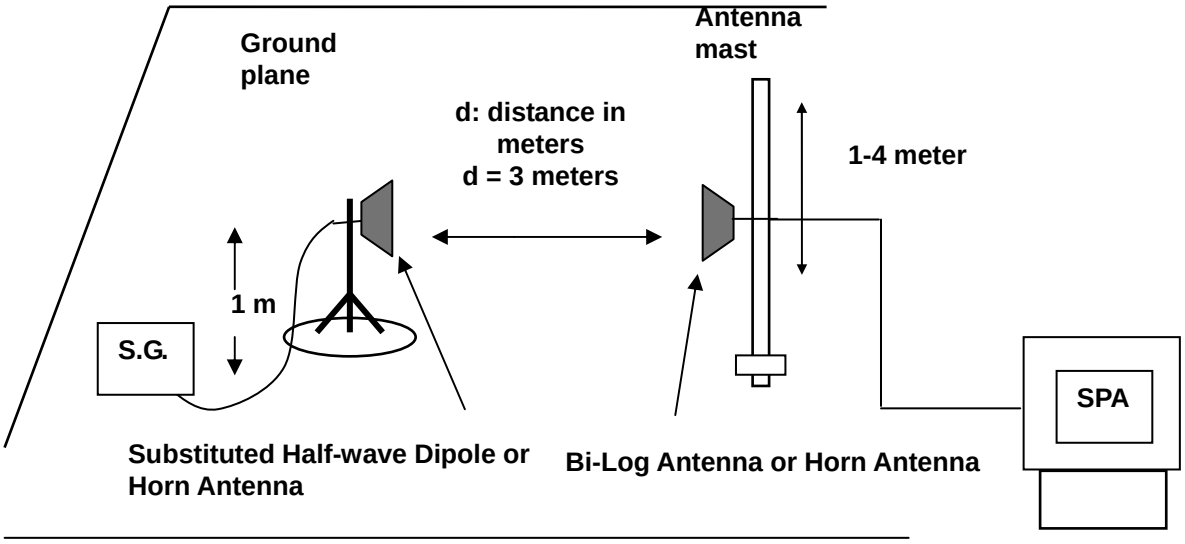
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



3.4. Test Procedure

The measurement is made according to ANSI/TIA-603-C-2004 as follows:

The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.

During the measurement of the EUT, the resolution bandwidth was set to 3MHz and the average bandwidth was set to 3MHz. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band 824-849MHz, and EIRP in frequency band 1851.25 –1910MHz were measured using a substitution method. The EUT was replaced by half-wave dipole (824-849MHz) or horn antenna (1851.25-1910MHz) connected to a signal generator. The spectrum analyzer reading was recorded and ERP/EIRP was calculated as follows:

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable (dB)

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)

3.5. Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is ± 3.072 dB.

3.6. Test Result

Model Number	TangoP1001						
Test Item	ERP/EIRP						
Test Mode	Mode 1						
Date of Test	07/25/2012				Test Site	TE01	
Bands	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	ERP		Limit
					(dBm)	(W)	
GPRS 850 QPSK Multi Class :12 Max Up:4 Max Down:4 Sum:5 4Down1Up Duty factor 1/8	824.2	H	12.23	11.96	24.19	0.262	< 7W
		V	15.50	11.29	26.79	0.478	< 7W
	836.6	H	12.64	12.07	24.71	0.296	< 7W
		V	16.13	11.34	27.47	0.558	< 7W
	848.8	H	12.54	12.51	25.05	0.320	< 7W
		V	16.25	11.47	**27.72**	**0.592**	< 7W
EGPRS 850 8PSK Multi Class :12 Max Up:4 Max Down:4 Sum:5 4Down1Up Duty factor 1/8	824.2	H	10.05	11.96	22.01	0.159	< 7W
		V	12.65	11.29	23.94	0.248	< 7W
	836.6	H	11.07	12.07	23.14	0.206	< 7W
		V	14.10	11.34	**25.44**	**0.350**	< 7W
	848.8	H	9.60	12.51	22.11	0.163	< 7W
		V	13.03	11.46	24.49	0.281	< 7W

Model Number	TangoP1001						
Test Item	ERP/EIRP						
Test Mode	Mode 2						
Date of Test	07/25/2012				Test Site	TE01	
Bands	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	EIRP		Limit
					(dBm)	(W)	
GPRS 1900 GMSK Multi Class :12 Max Up:4 Max Down:4 Sum:5 4Down1Up Duty factor 1/8	1850.20	H	9.35	10.49	19.84	0.096	< 2W
		V	15.48	8.33	23.81	0.240	< 2W
	1880.00	H	9.97	10.51	20.48	0.112	< 2W
		V	15.50	8.57	24.07	0.255	< 2W
	1909.80	H	8.57	10.51	19.08	0.081	< 2W
		V	15.46	8.81	**24.27**	**0.267**	< 2W
EGPRS 1900 8PSK Multi Class :12 Max Up:4 Max Down:4 Sum:5 4Down1Up Duty factor 1/8	1850.20	H	6.78	10.49	17.27	0.053	< 2W
		V	12.55	8.33	20.88	0.122	< 2W
	1880.00	H	8.48	10.51	18.99	0.079	< 2W
		V	12.61	8.57	21.18	0.131	< 2W
	1909.80	H	7.56	10.52	18.08	0.064	< 2W
		V	12.70	8.80	**21.50**	**0.141**	< 2W

Note: 1. ERP/EIRP = Read Level + Correction factor.

2. For WCDMA signals, a peak detector is used with RBW = VBW = 5MHz.

3. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW= 1 MHz.

Model Number	TangoP1001						
Test Item	ERP/EIRP						
Test Mode	Mode 3						
Date of Test	07/25/2012			Test Site	TE01		
Bands	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	EIRP		Limit
					(dBm)	(W)	
WCDMA Band II QPSK	1852.4	H	6.10	10.50	16.6	0.046	< 2W
		V	12.95	8.36	**21.31**	**0.135**	< 2W
	1880.0	H	5.88	10.51	16.39	0.044	< 2W
		V	11.14	8.56	19.70	0.093	< 2W
	1907.6	H	3.56	10.52	14.08	0.026	< 2W
		V	11.07	8.78	19.85	0.097	< 2W

Model Number	TangoP1001						
Test Item	ERP/EIRP						
Test Mode	Mode 4						
Date of Test	07/25/2012			Test Site	TE01		
Bands	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction factor (dBm)	ERP		Limit
					(dBm)	(W)	
WCDMA Band V QPSK	826.4	H	5.63	11.99	17.62	0.058	< 7W
		V	8.30	11.31	19.61	0.091	< 7W
	836.6	H	5.99	12.06	18.05	0.064	< 7W
		V	8.80	11.33	**20.13**	**0.103**	< 7W
	846.6	H	4.15	12.35	16.50	0.045	< 7W
		V	7.49	11.43	18.92	0.078	< 7W

Note: 1. ERP/EIRP = Read Level + Correction factor.

2. For WCDMA signals, a peak detector is used with RBW = VBW = 5MHz.

3. For AMPS, GSM, and NADC TDMA signals, a peak detector is used, with RBW = VBW= 1 MHz.

4 Occupied Bandwidth Test

4.1. Limit

The Occupied Bandwidth Limit:

N/A.

The Band Edge Limit:

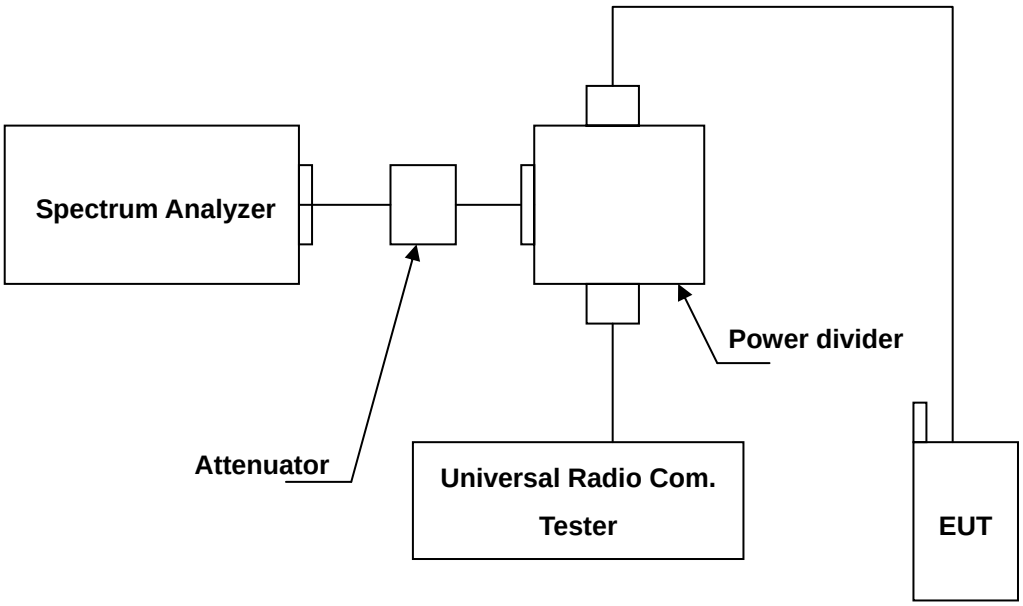
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10log(P) dB.

4.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/16/2011	(2)
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	112387	03/16/2012	(2)
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

4.3. Setup



4.4. Test Procedure

The measurement is made according to FCC rules part 22 and 24:

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The occupied bandwidth of middle channel for the highest and lowest RF powers was measured.
3. The band edge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly BW/100.
4. The band edge setting:
   a. RB=10 kHz; VB=30 kHz for GSM 850 and PCS 1900.
   b. RB=100 kHz; VB=300 kHz for WCDMA Band V and WCDMA Band II.

4.5. Uncertainty

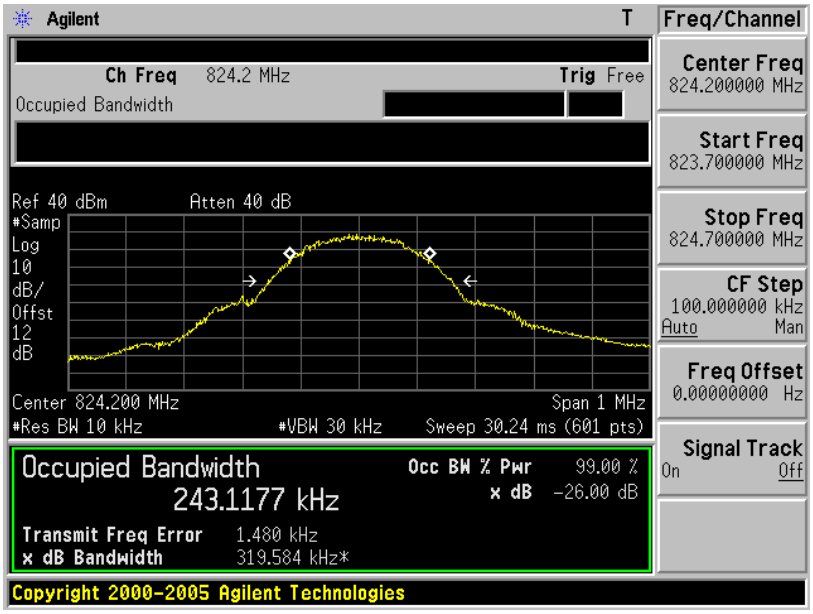
The measurement uncertainty is defined as ± 10Hz

4.6. Test Result

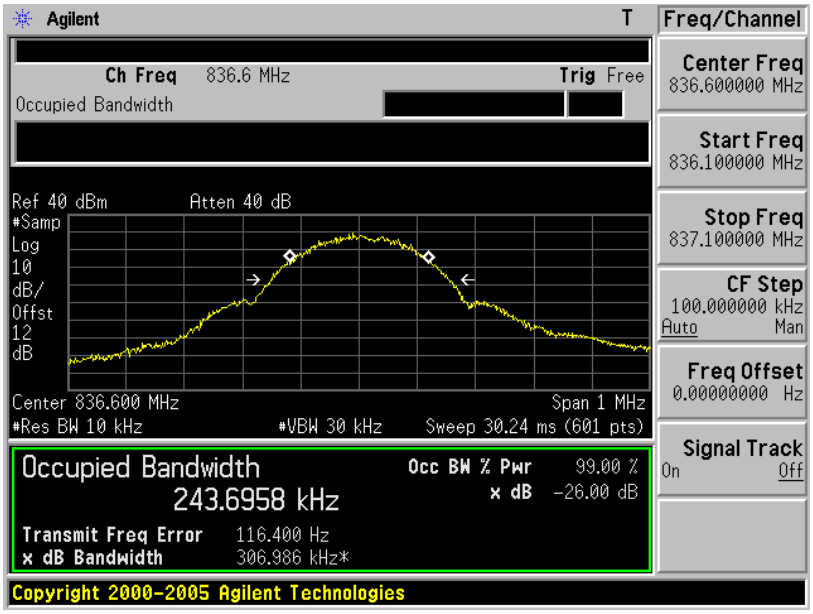
99% Occupied Bandwidth

Model Number	TangoP1001				
Test Item	Occupied Bandwidth				
Test Mode	Mode 1				
Date of Test	07/26/2012			Test Site	TE05
Channel No.	Frequency (MHz)	99% Bandwidth (kHz)	26 Bandwidth (kHz)	Note	
128	824.2	243.1177	319.584	RBW:10kHz , VBW:30kHz	
190	836.6	243.6958	306.986	RBW:10kHz , VBW:30kHz	
251	848.8	240.2541	314.689	RBW:10kHz , VBW:30kHz	

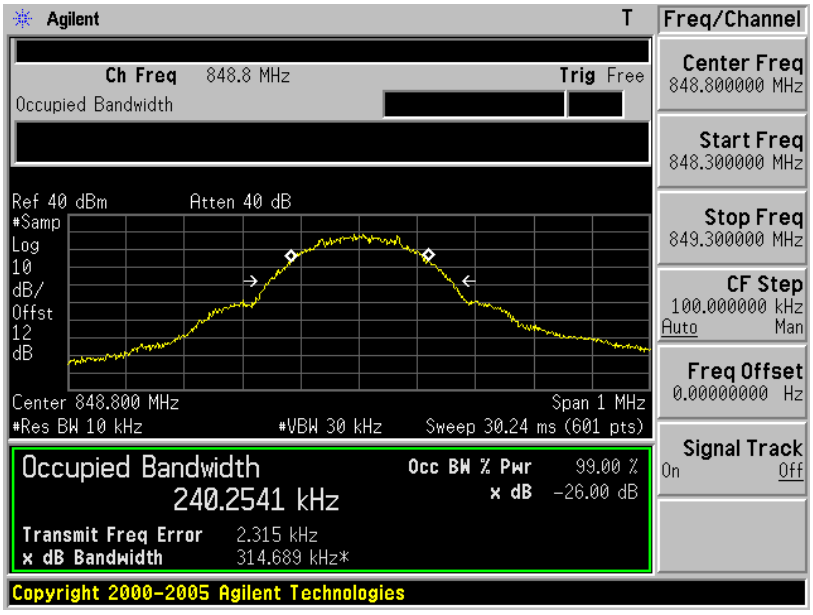
Channel 128



Channel 190

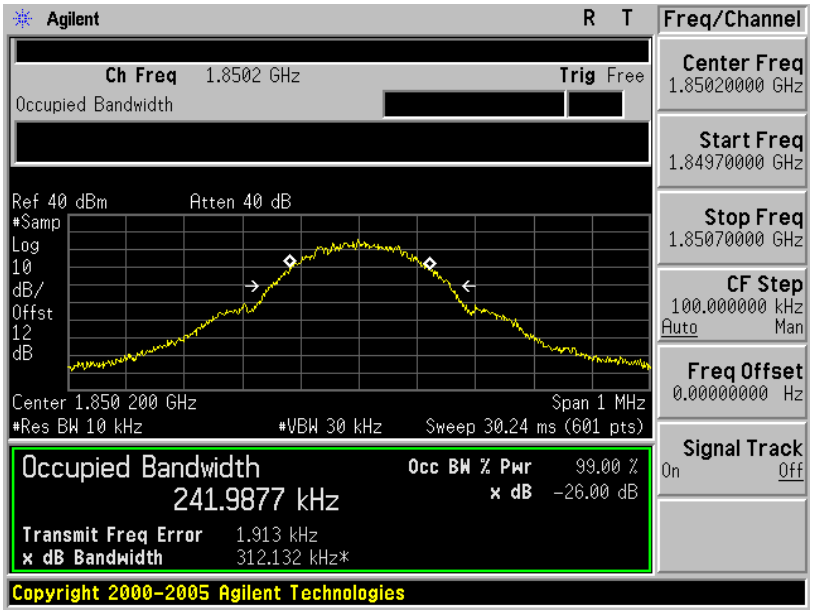


Channel 251

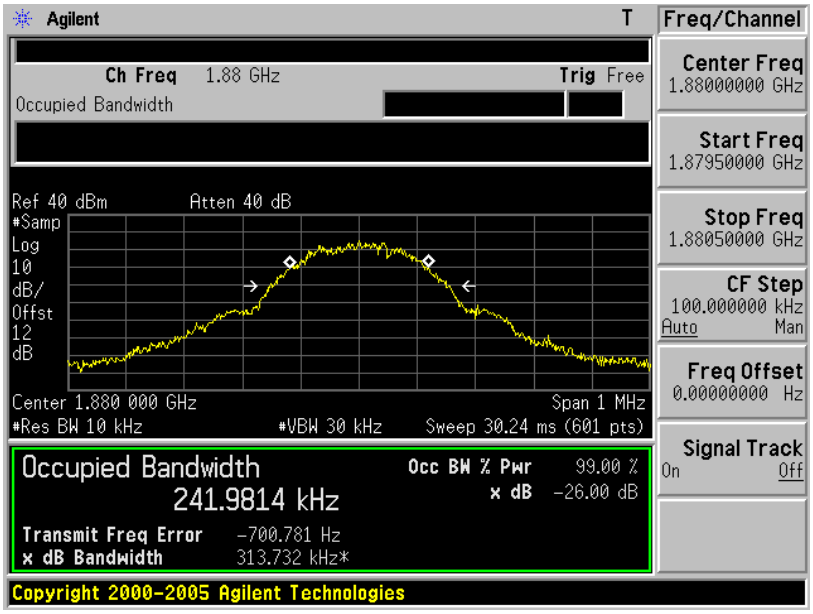


Model Number	TangoP1001				
Test Item	Occupied Bandwidth				
Test Mode	Mode 2				
Date of Test	07/26/2012			Test Site	TE05
Channel No.	Frequency (MHz)	99% Bandwidth (kHz)	26 Bandwidth (kHz)	Note	
512	1850.20	241.9877	312.132	RBW:10kHz , VBW:30kHz	
661	1880.00	241.9814	313.732	RBW:10kHz , VBW:30kHz	
810	1909.80	242.5006	307.696	RBW:10kHz , VBW:30kHz	

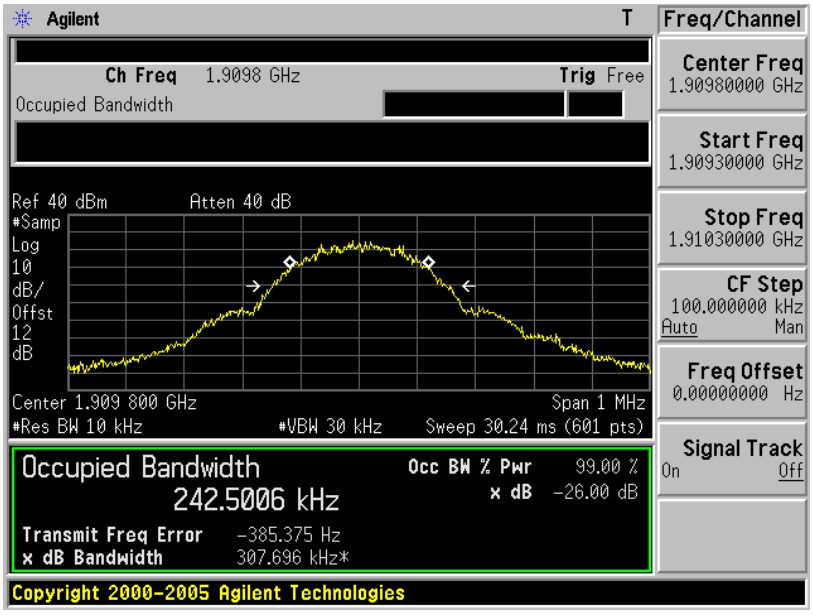
Channel 512



Channel 661

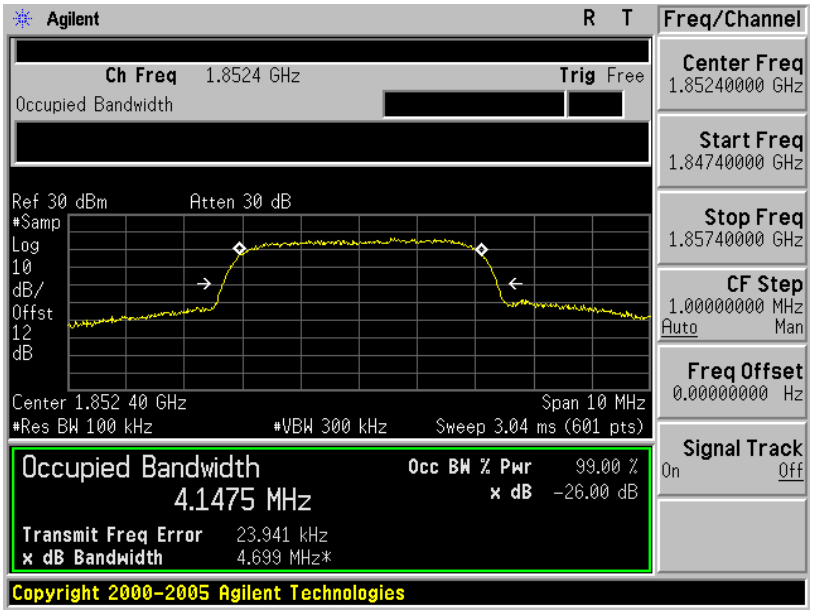


Channel 810

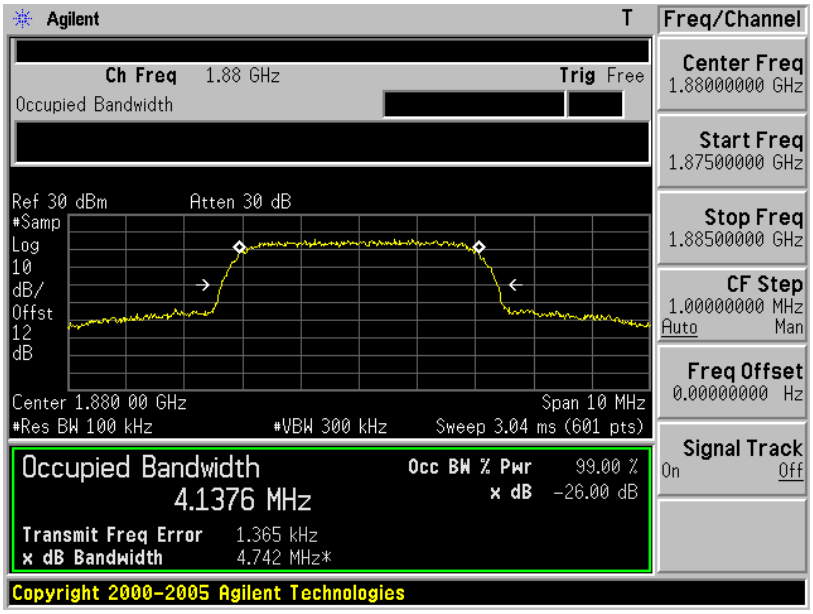


Model Number	TangoP1001				
Test Item	Occupied Bandwidth				
Test Mode	Mode 3				
Date of Test	07/24/2012			Test Site	TE05
Channel No.	Frequency (MHz)	99% Bandwidth (MHz)	26 Bandwidth (MHz)	Note	
9262	1852.4	4.1475	4.699	RBW:100kHz , VBW:300kHz	
9400	1880.0	4.1376	4.742	RBW:100kHz , VBW:300kHz	
9538	1907.6	4.1555	4.751	RBW:100kHz , VBW:300kHz	

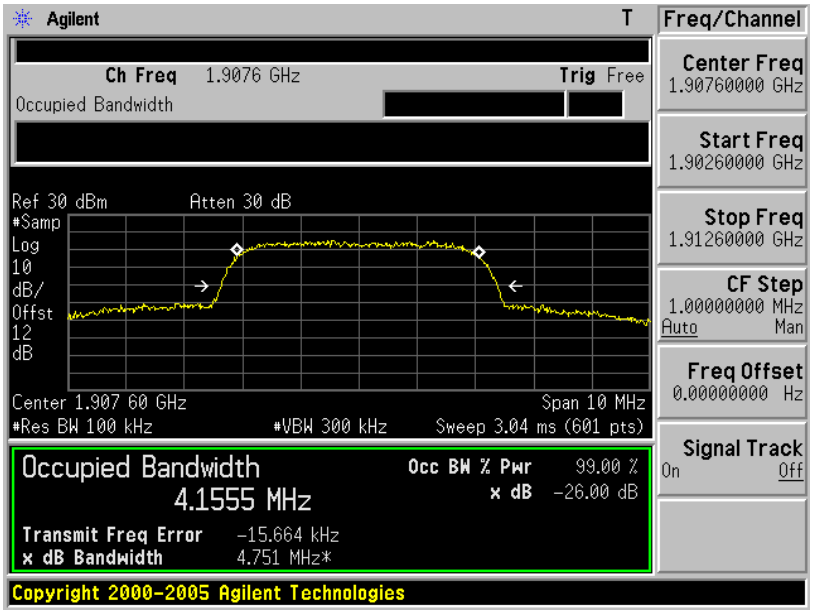
Channel 9262



Channel 9400

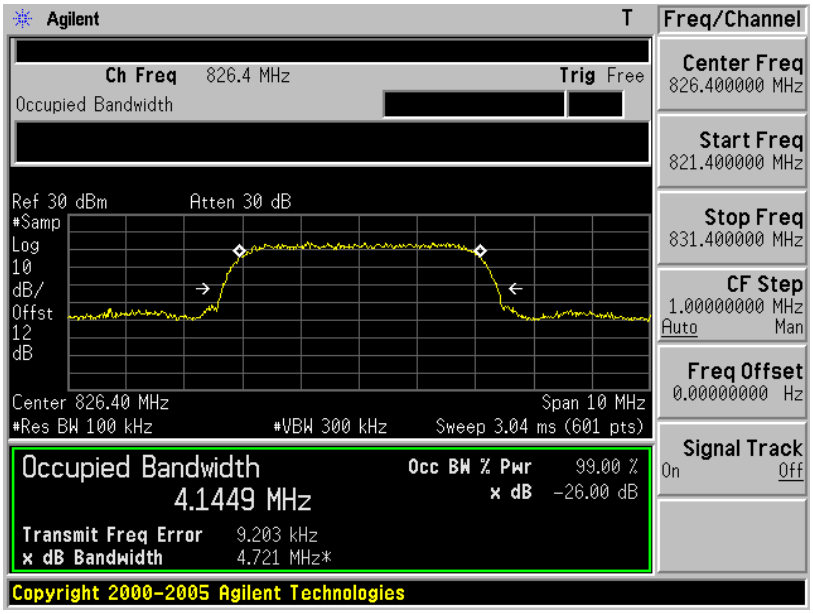


Channel 9538

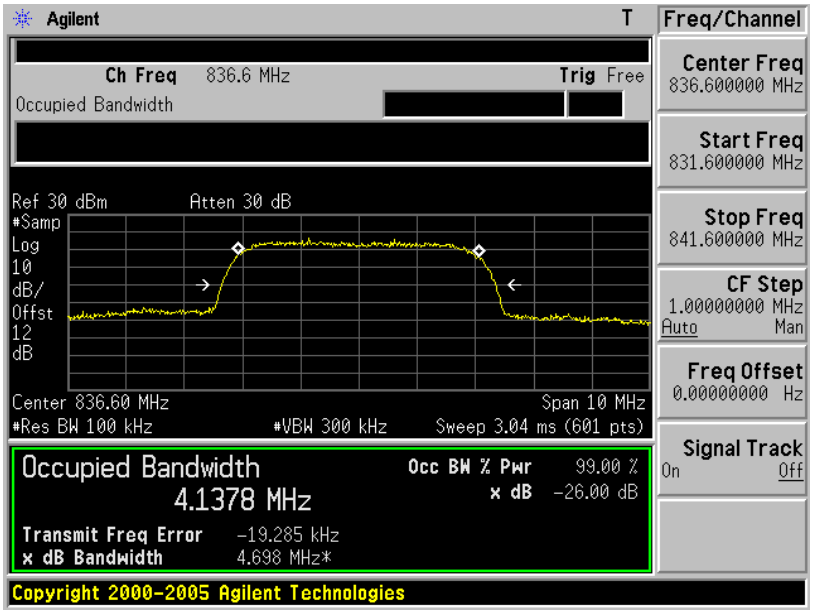


Model Number	TangoP1001				
Test Item	Occupied Bandwidth				
Test Mode	Mode 4				
Date of Test	07/24/2012			Test Site	TE05
Channel No.	Frequency (MHz)	99% Bandwidth (MHz)	26 Bandwidth (MHz)	Note	
4132	826.4	4.1449	4.721	RBW:100kHz , VBW:300kHz	
4182	836.6	4.1378	4.698	RBW:100kHz , VBW:300kHz	
4233	846.6	4.1542	4.728	RBW:100kHz , VBW:300kHz	

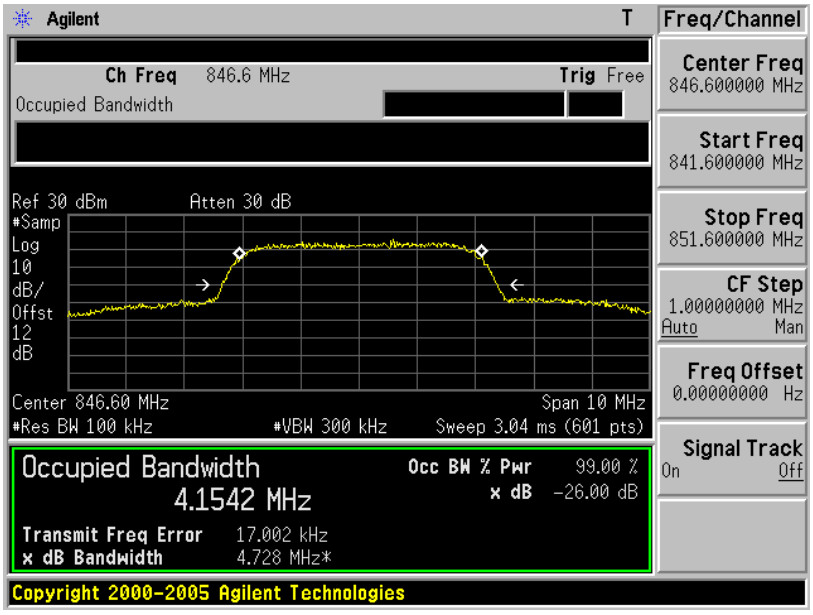
Channel 4132



Channel 4182

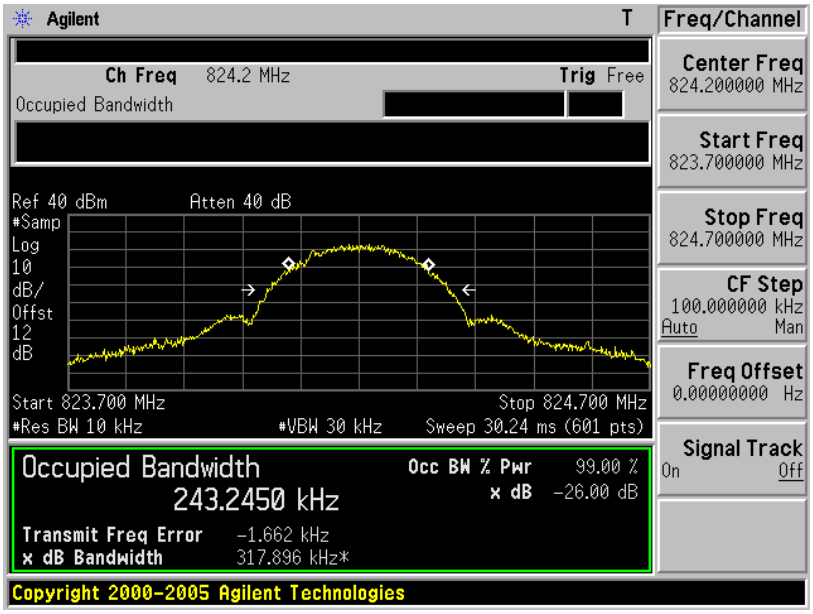


Channel 4233

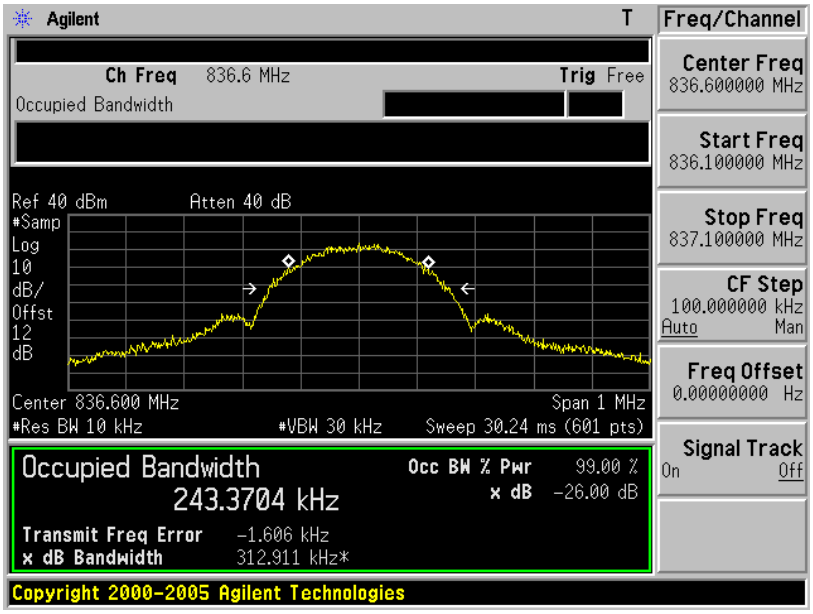


Model Number	TangoP1001				
Test Item	Occupied Bandwidth				
Test Mode	Mode 5				
Date of Test	07/26/2012			Test Site	TE05
Channel No.	Frequency (MHz)	99% Bandwidth (kHz)	26 Bandwidth (kHz)	Note	
128	824.2	243.2450	317.896	RBW:10kHz , VBW:30kHz	
190	836.6	243.3704	312.911	RBW:10kHz , VBW:30kHz	
251	848.8	242.5940	311.120	RBW:10kHz , VBW:30kHz	

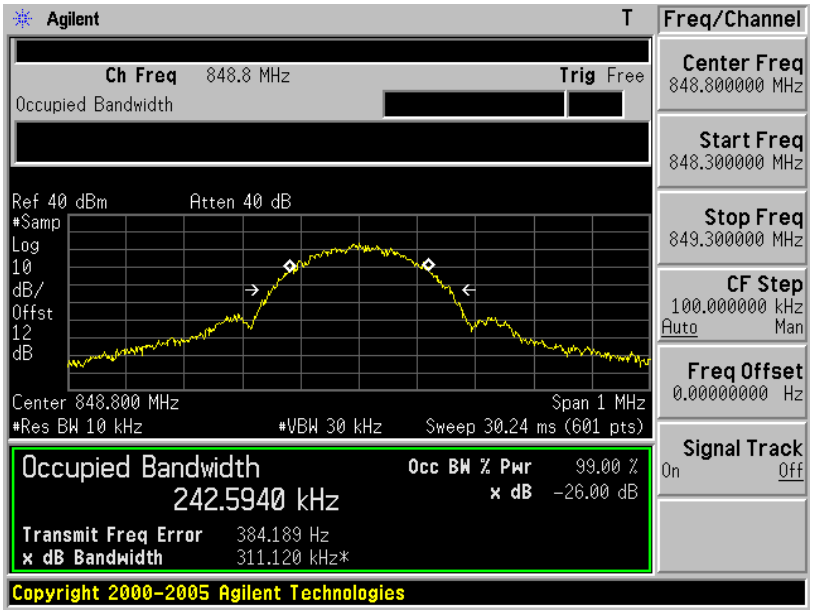
Channel 128



Channel 190

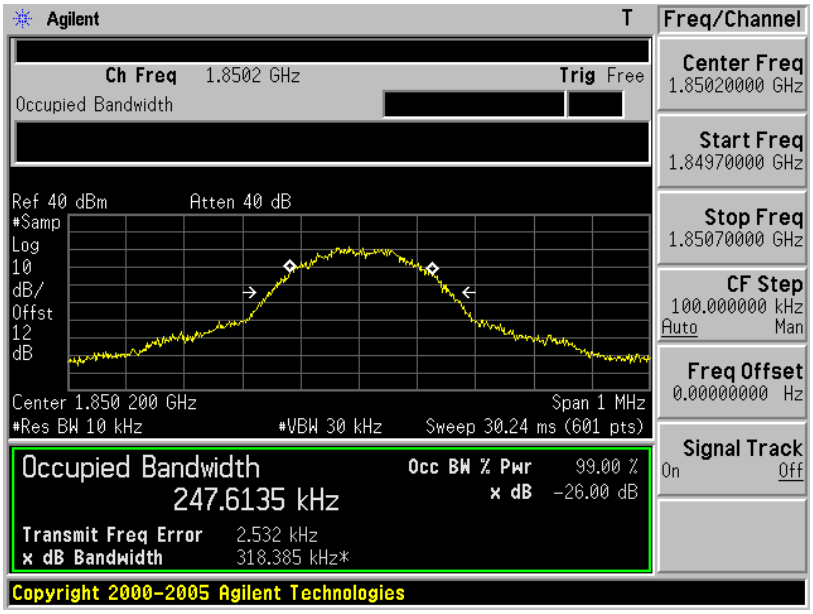


Channel 251

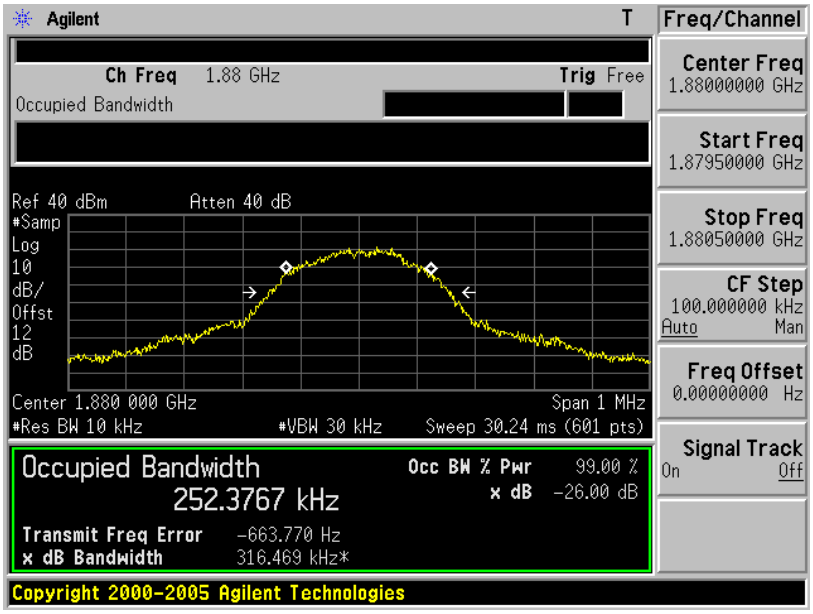


Model Number	TangoP1001				
Test Item	Occupied Bandwidth				
Test Mode	Mode 6				
Date of Test	07/26/2012			Test Site	TE05
Channel No.	Frequency (MHz)	99% Bandwidth (kHz)	26 Bandwidth (kHz)	Note	
512	1850.20	247.6135	318.385	RBW:10kHz , VBW:30kHz	
661	1880.00	252.3767	316.469	RBW:10kHz , VBW:30kHz	
810	1909.80	249.2411	317.201	RBW:10kHz , VBW:30kHz	

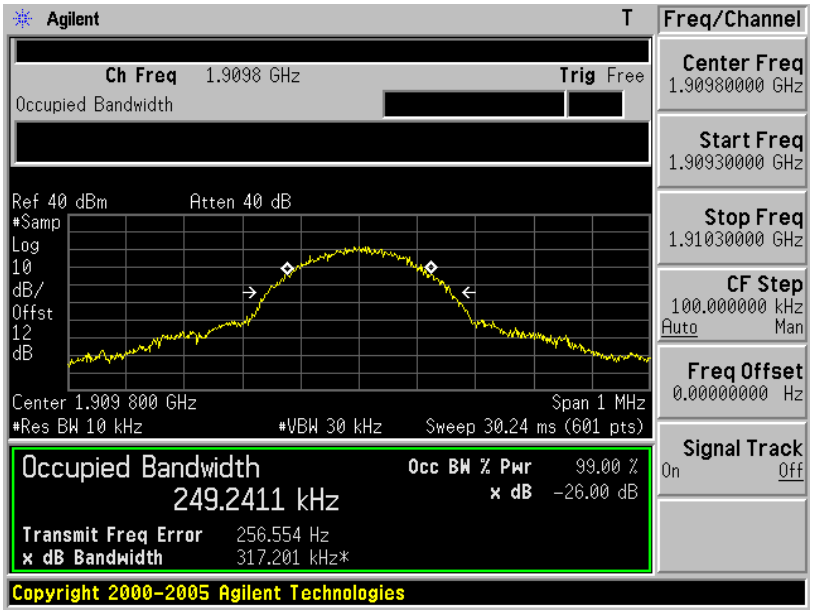
Channel 512



Channel 661



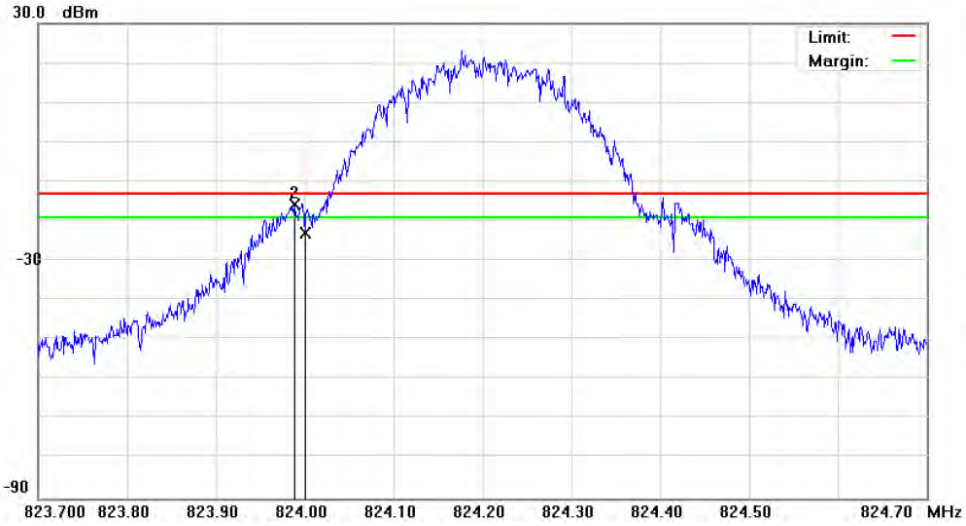
Channel 810



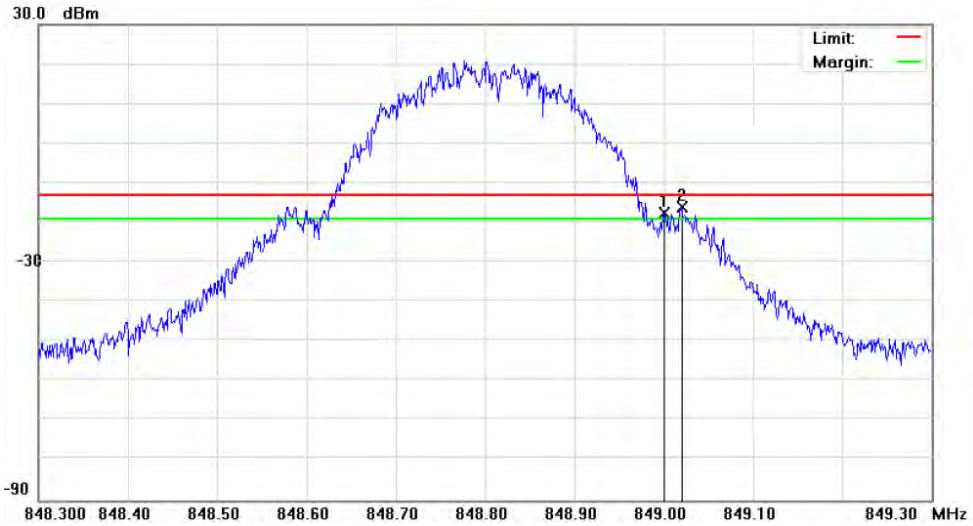
Band Edge

Model Number	TangoP1001				
Test Item	Band Edge				
Test Mode	Mode 1				
Date of Test	07/26/2012		Test Site	TE05	
Band	Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
Lower	128	824.0000	-22.85	-13	Pass
Higher	251	849.0000	-17.69	-13	Pass

Lower Band

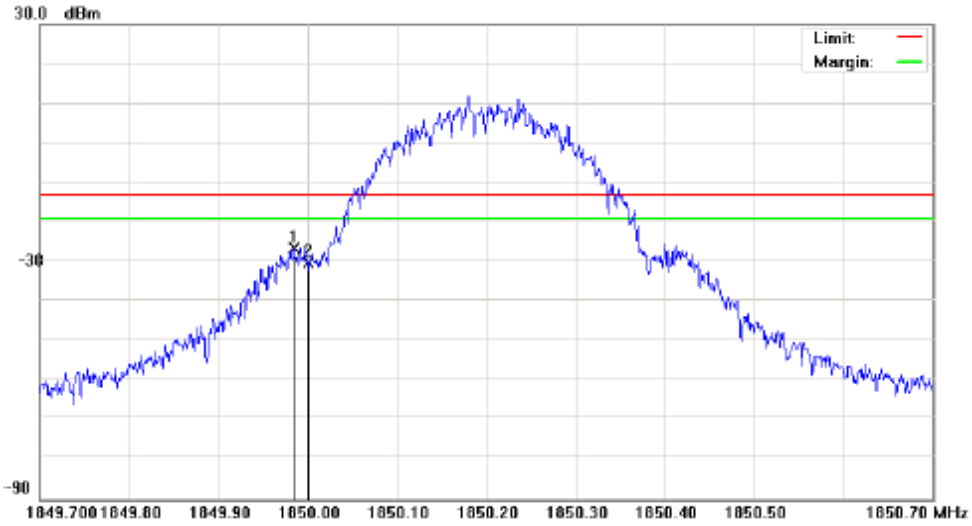


Higher Band

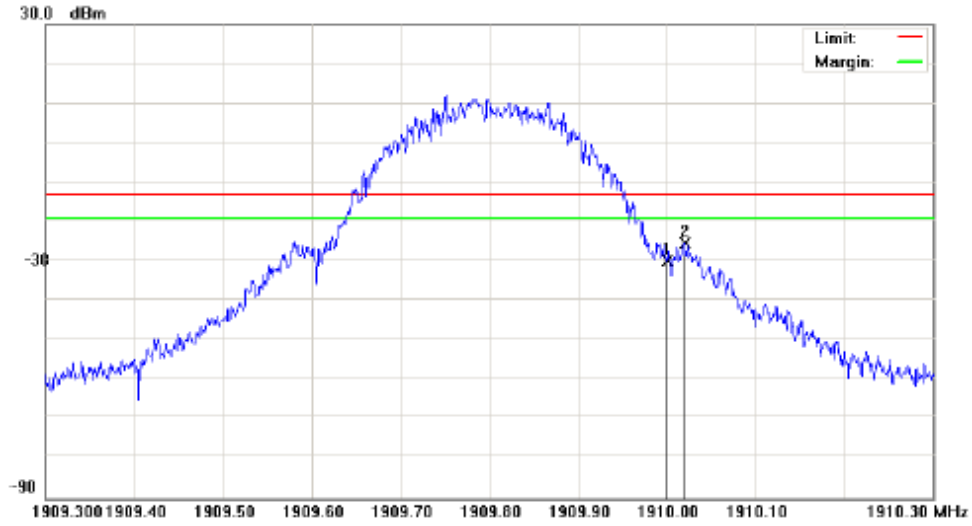


Model Number	TangoP1001				
Test Item	Band Edge				
Test Mode	Mode 2				
Date of Test	07/26/2012		Test Site	TE05	
Band	Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
Lower	512	1850.000	-30.13	-13	Pass
Higher	810	1910.000	-29.79	-13	Pass

Lower Band

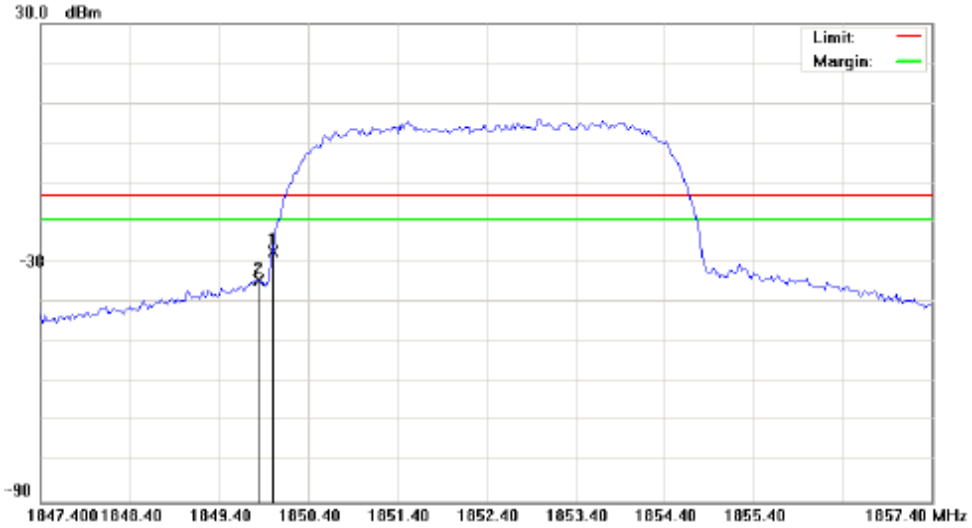


Higher Band

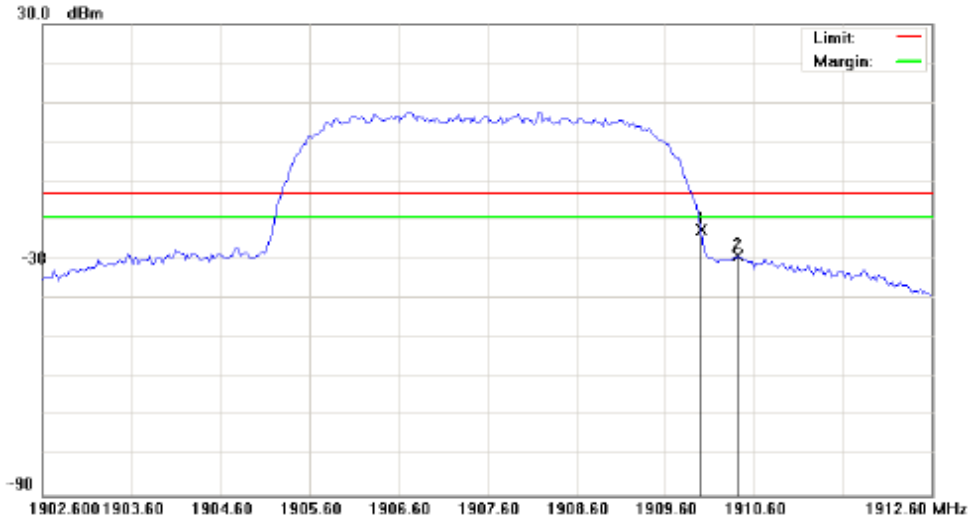


Model Number	TangoP1001				
Test Item	Band Edge				
Test Mode	Mode 3				
Date of Test	07/24/2012		Test Site	TE05	
Band	Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
Lower	9262	1850.000	-27.18	-13	Pass
Higher	9538	1910.000	-22.23	-13	Pass

Lower Band

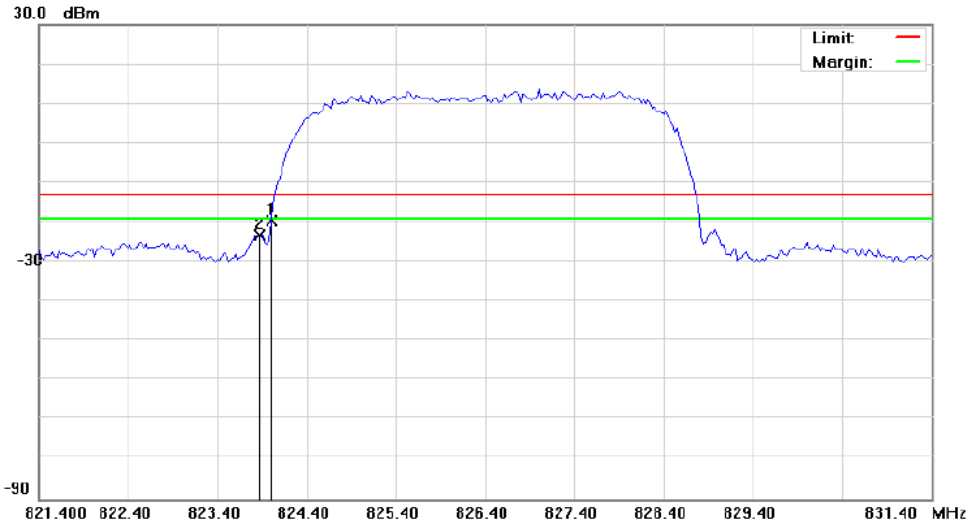


Higher Band

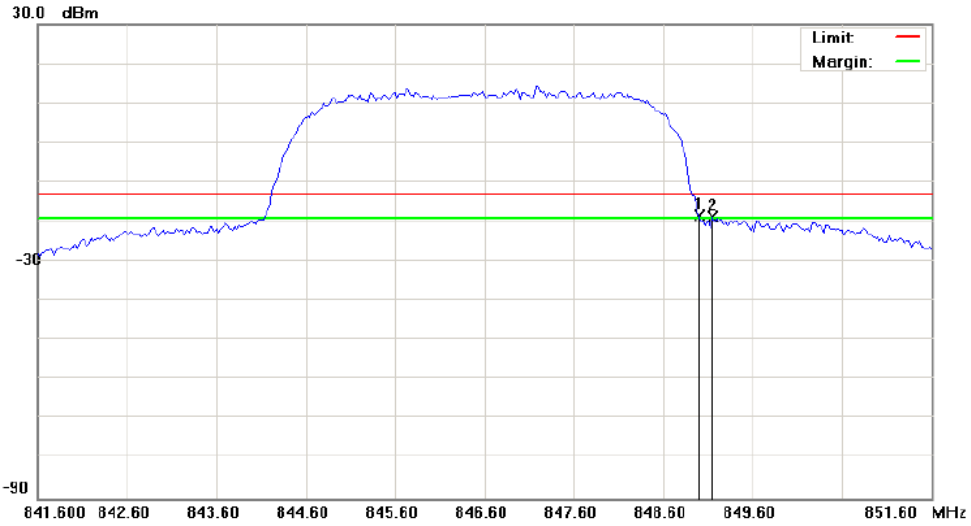


Model Number	TangoP1001				
Test Item	Band Edge				
Test Mode	Mode 4				
Date of Test	07/24/2012		Test Site	TE05	
Band	Channel	Frequency (MHz)	Bandwidth (dBm)	Limit (dBm)	Result
Lower	4132	824.0000	-19.80	-13	Pass
Higher	4233	849.0000	-18.49	-13	Pass

Lower Band



Higher Band



5 Conducted Spurious Emission Test

5.1. Limit

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 + 10log(P) dB.

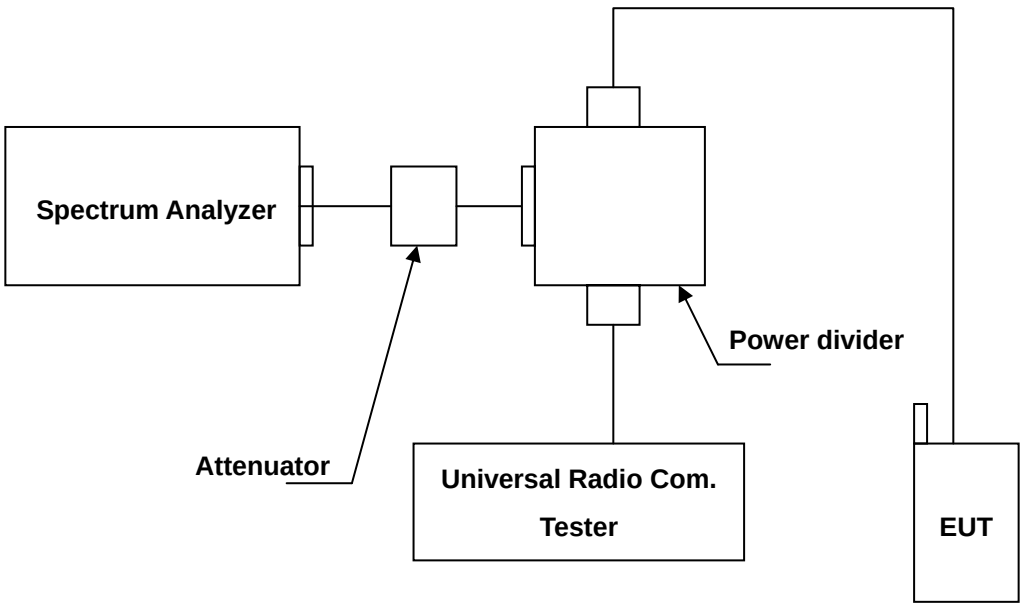
5.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY46181986	05/16/2011	(2)
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	112387	03/16/2012	(2)
Attenuator	RADIALL	R41572000	0603033073	N.C.R.	-----
Power divider	Agilent	87302C	3239A00760	N.C.R.	-----
Test Site	ATL	TE05	TE05	N.C.R.	-----

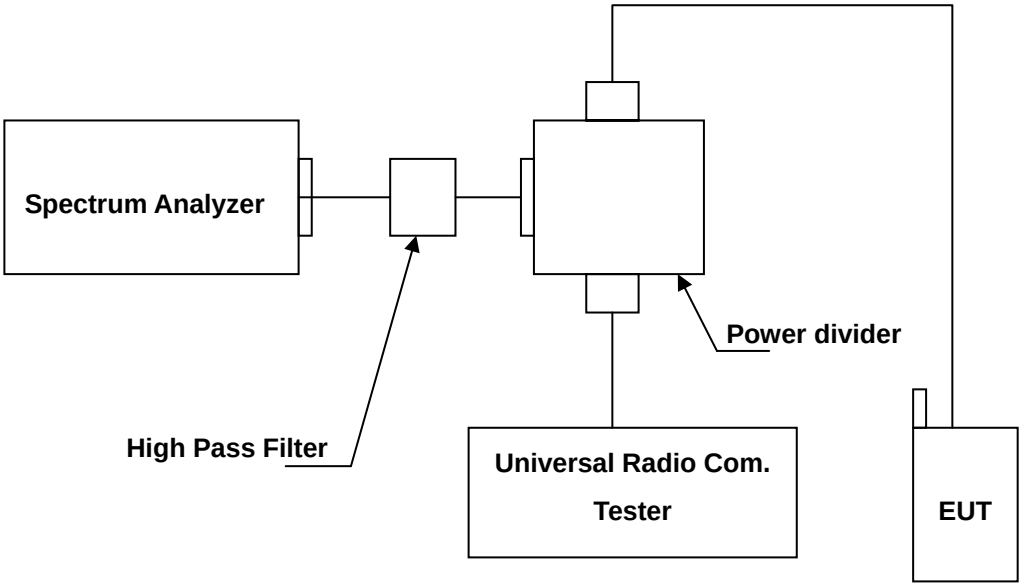
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

5.3. Setup

Below 2.8GHz



Above 2.8GHz



5.4. Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.
4. Test setting at GSM 850 RB>100 kHz, VB>100 kHz; PCS 1900 RB>1MHz, VB>1MHz.

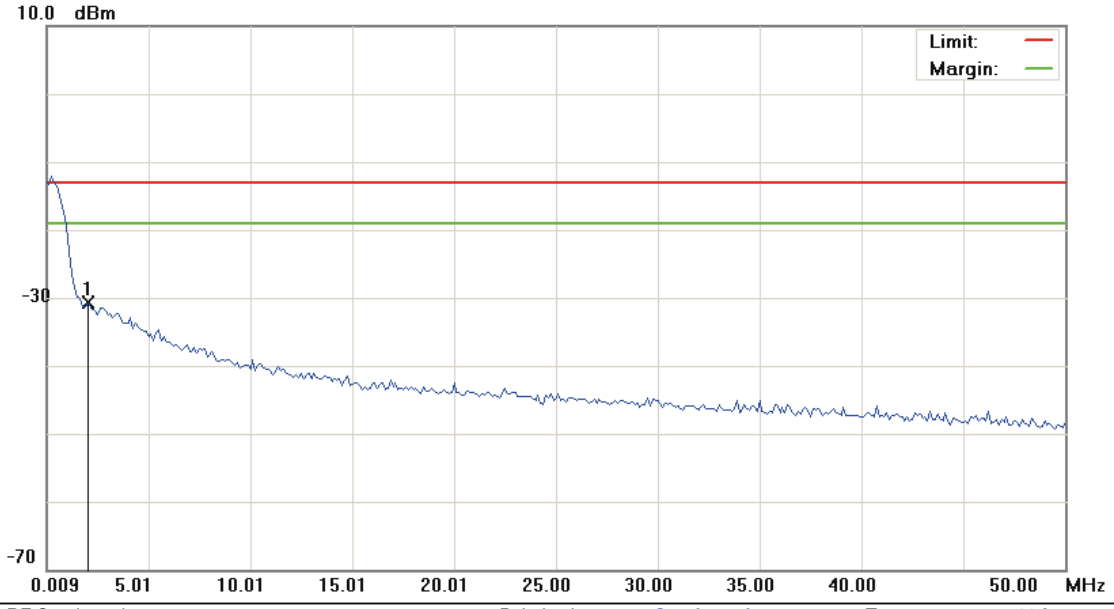
5.5. Uncertainty

The measurement uncertainty is evaluated as ± 2.24 dB.

5.6. Test Result

Model Number	TangoP1001		
Test Item	Conducted Emission		
Test Mode	Mode 1 / Mode 2 / Mode 3 / Mode 4		
Date of Test	07/26/2012	Test Site	TE05

File :Tango P1001(CH128) Data :#1 Date: 2012/7/26 Time: 上午 10:07:21



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

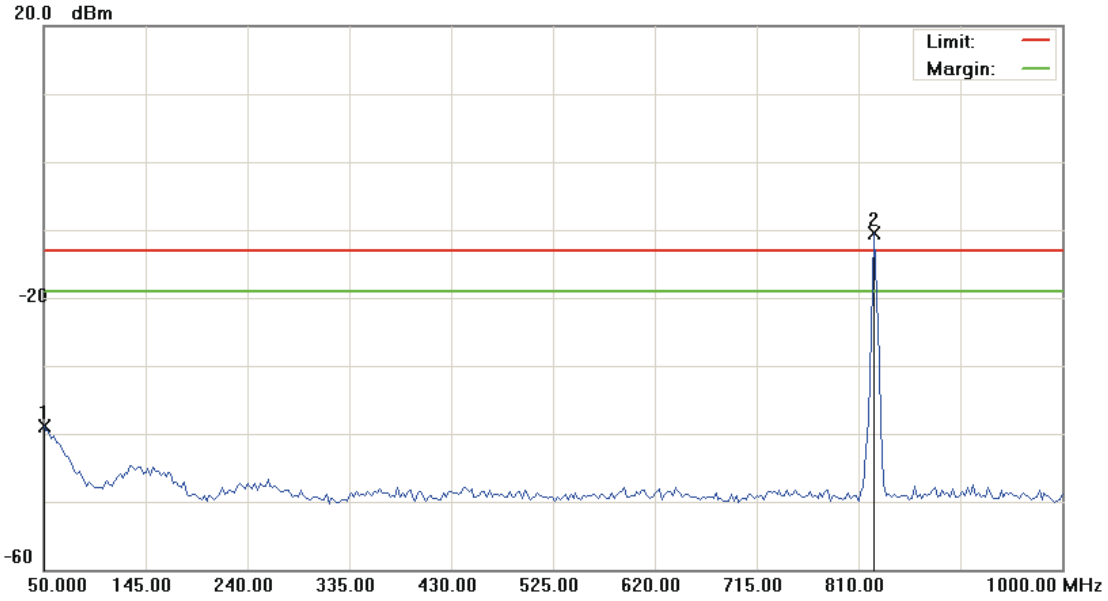
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0085	-62.08	31.37	-30.71	-13.00	-17.71	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH128) Data :#2 Date: 2012/7/26 Time: 上午 10:07:40



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

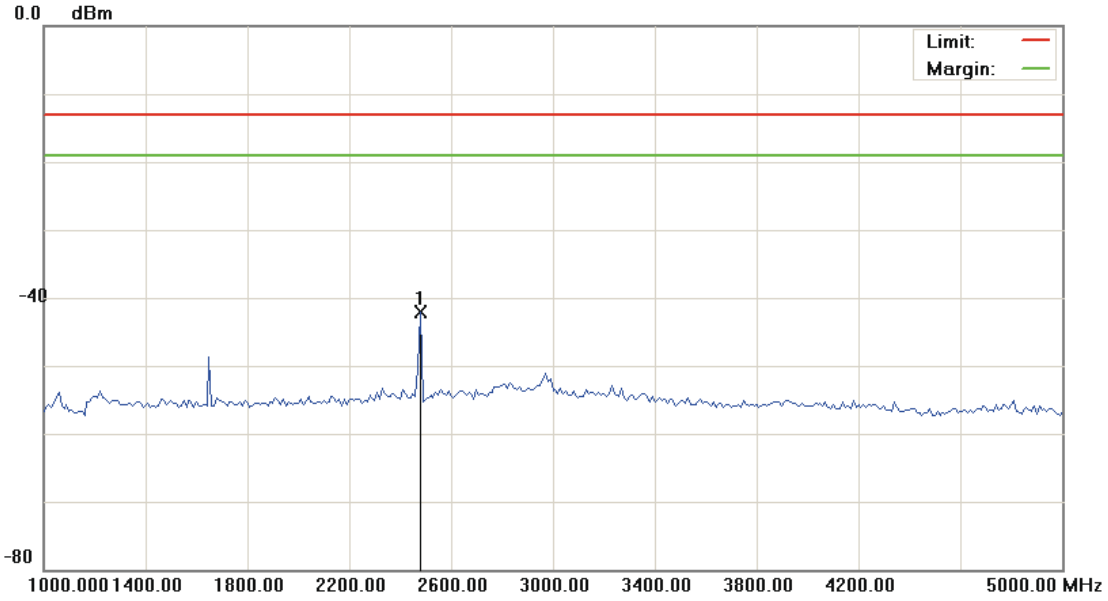
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		50.0000	-53.54	14.69	-38.85	-13.00	-25.85	peak			
2	*	824.2500	-14.41	3.84	-10.57	-13.00	2.43	peak			Tx

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH128) Data :#3 Date: 2012/7/26 Time: 上午 10:47:46



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

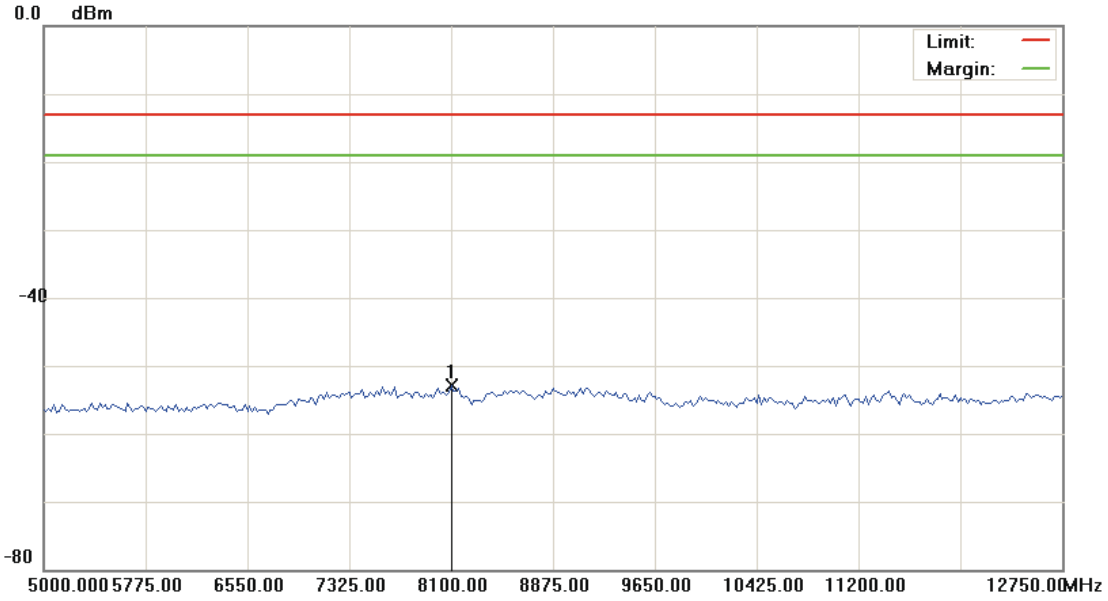
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2480.000	-46.56	4.43	-42.13	-13.00	-29.13	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH128) Data :#4 Date: 2012/7/26 Time: 上午 10:48:05



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

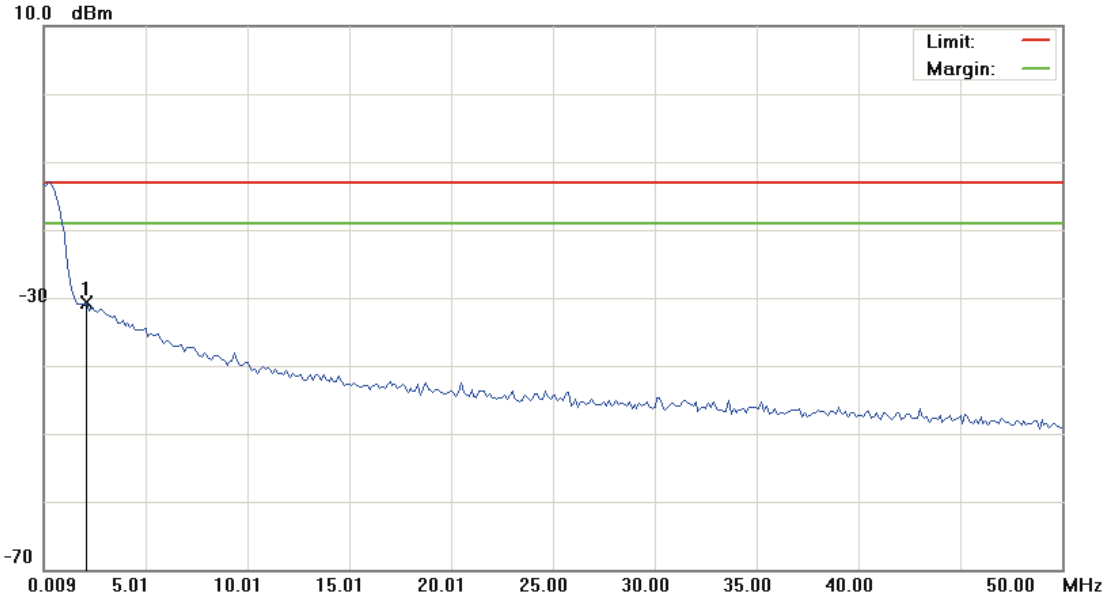
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHZ

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	8100.000	-58.60	5.71	-52.89	-13.00	-39.89	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH190) Data :#1 Date: 2012/7/26 Time: 上午 10:09:19



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

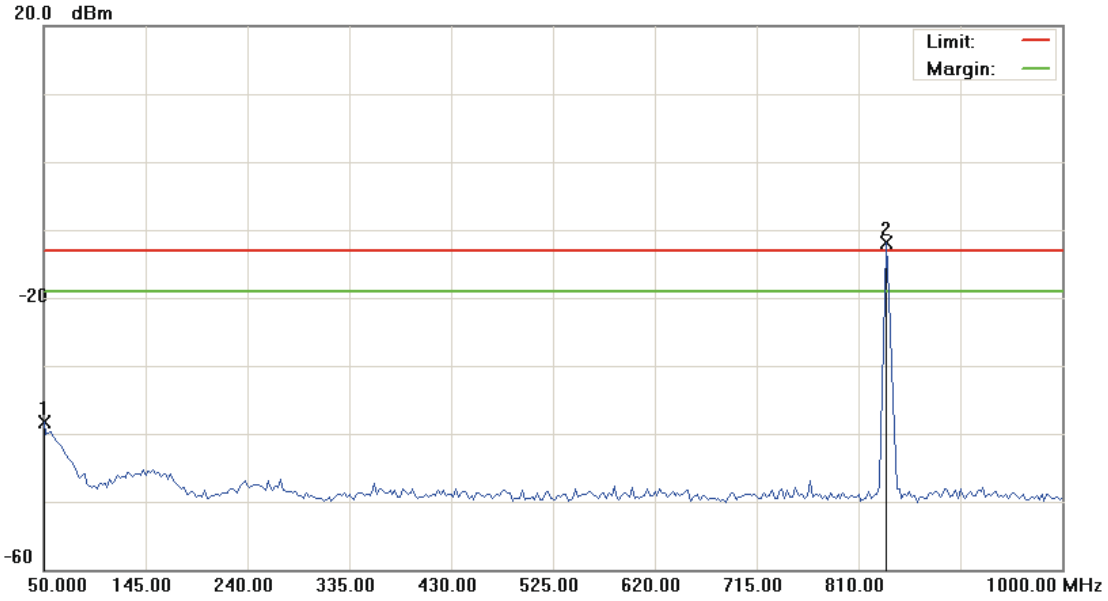
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.1335	-62.12	31.47	-30.65	-13.00	-17.65	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH190) Data :#2 Date: 2012/7/26 Time: 上午 10:09:38



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

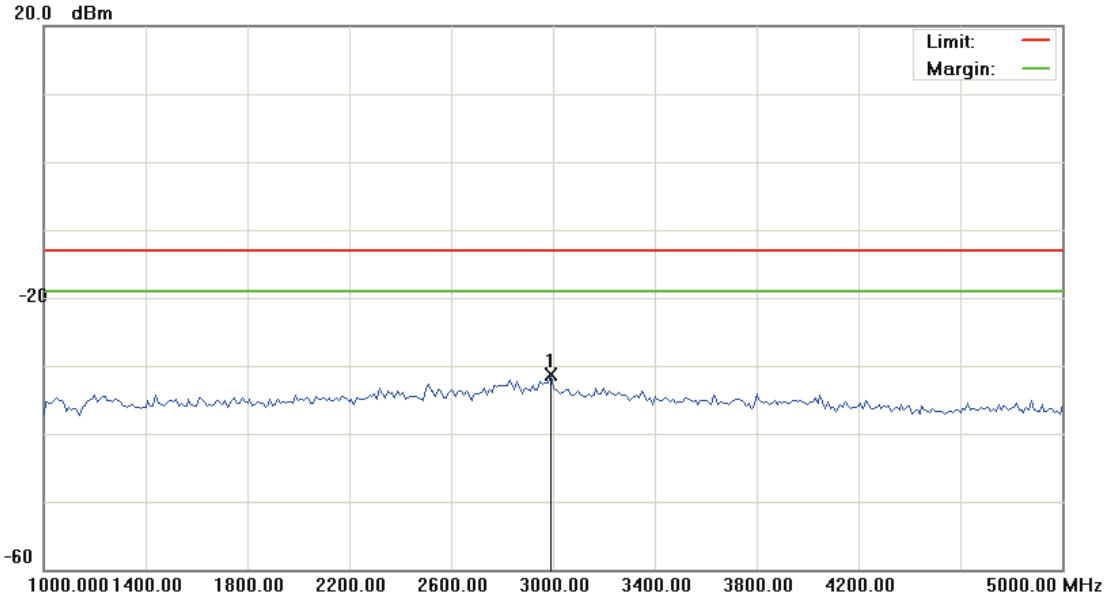
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		50.0000	-53.06	14.69	-38.37	-13.00	-25.37	peak			
2	*	836.1250	-15.78	3.96	-11.82	-13.00	1.18	peak			Tx

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH190) Data :#3 Date: 2012/7/26 Time: 上午 10:48:37



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

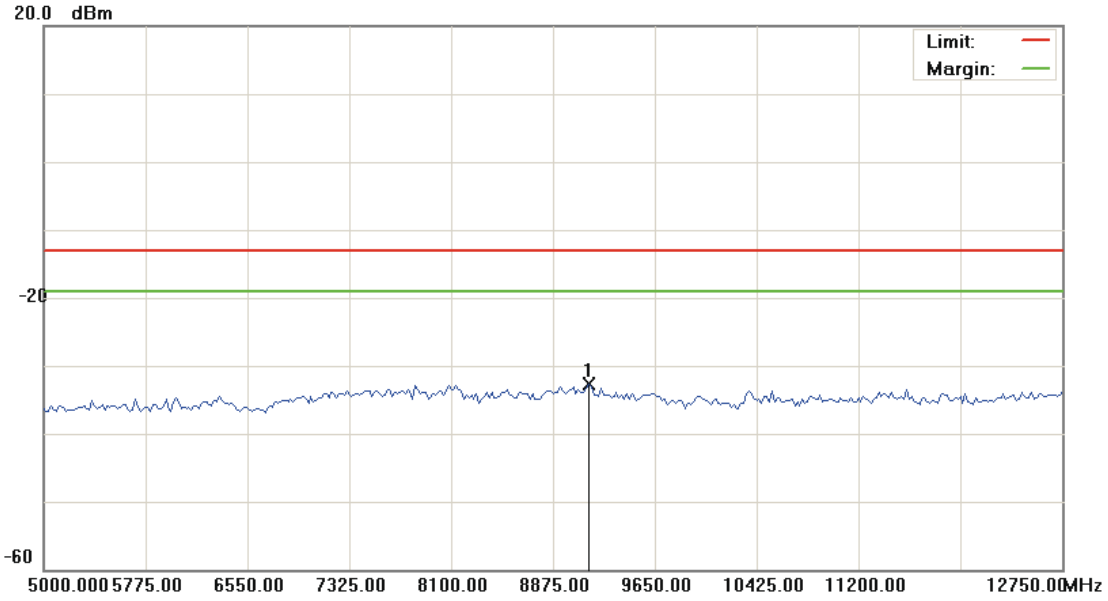
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2990.000	-35.75	4.53	-31.22	-13.00	-18.22	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH190) Data :#4 Date: 2012/7/26 Time: 上午 10:48:56



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

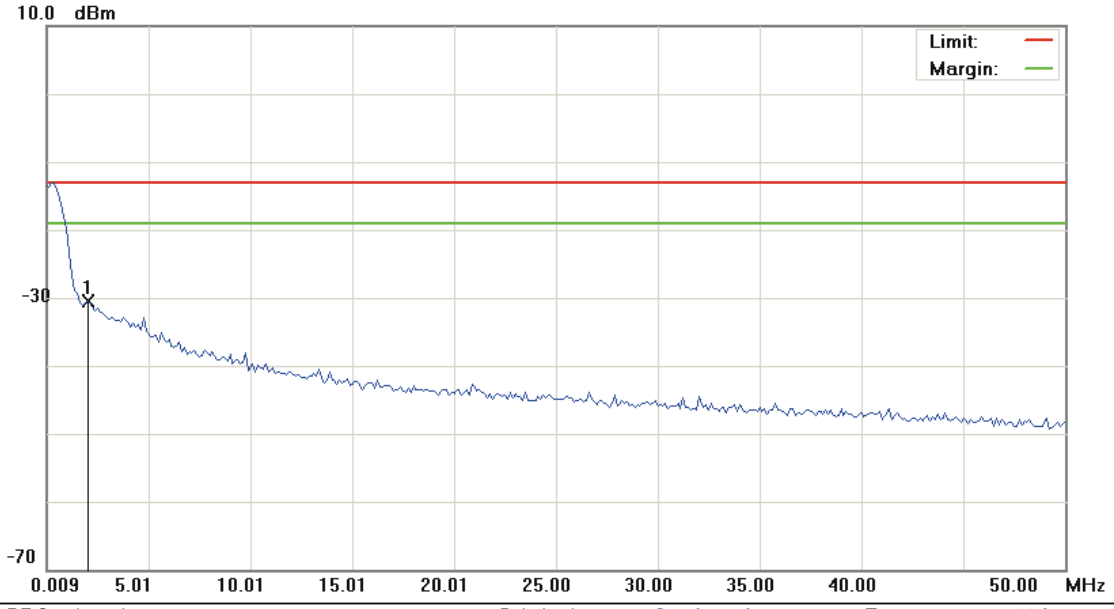
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	9146.250	-38.79	6.04	-32.75	-13.00	-19.75	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH251) Data :#1 Date: 2012/7/26 Time: 上午 10:11:21



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

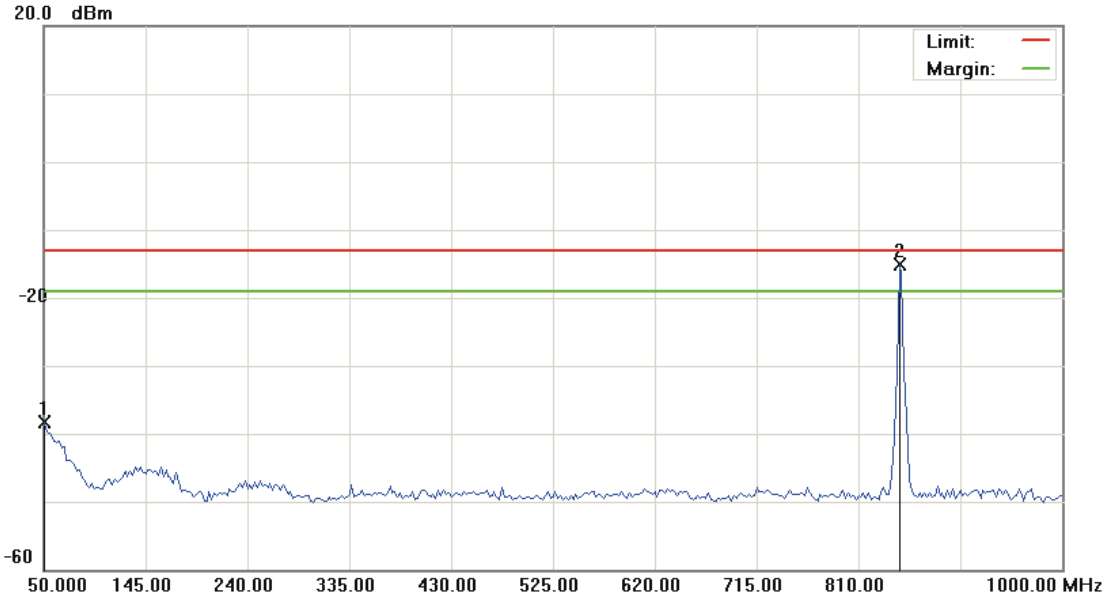
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0085	-61.87	31.37	-30.50	-13.00	-17.50	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH251) Data :#2 Date: 2012/7/26 Time: 上午 10:11:40



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

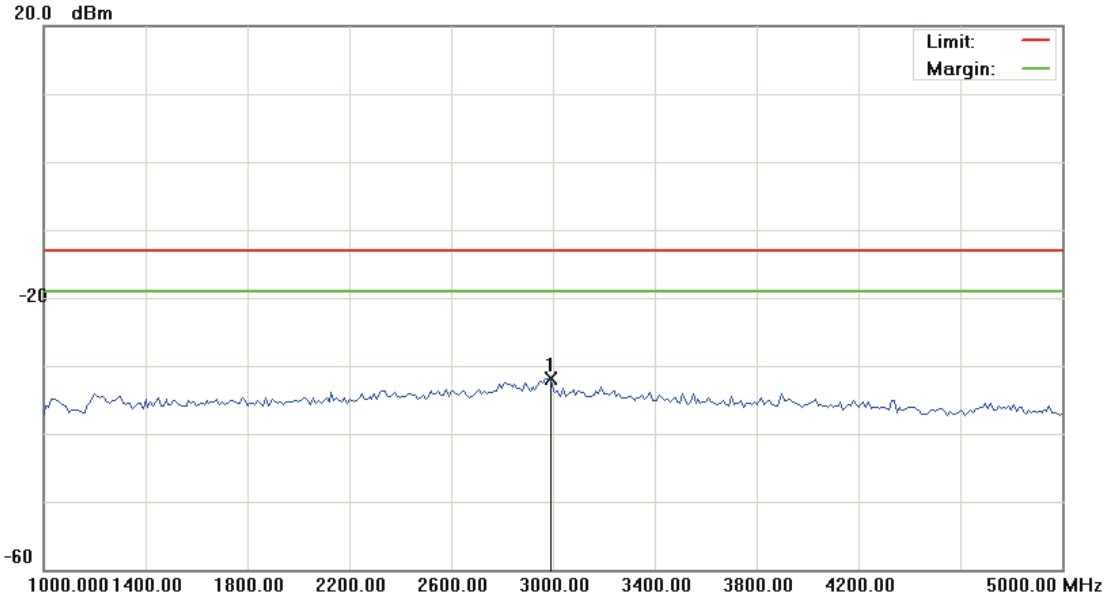
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		50.0000	-52.94	14.69	-38.25	-13.00	-25.25	peak			
2	*	848.0000	-19.16	3.98	-15.18	-13.00	-2.18	peak			Tx

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH251) Data :#3 Date: 2012/7/26 Time: 上午 10:49:28



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

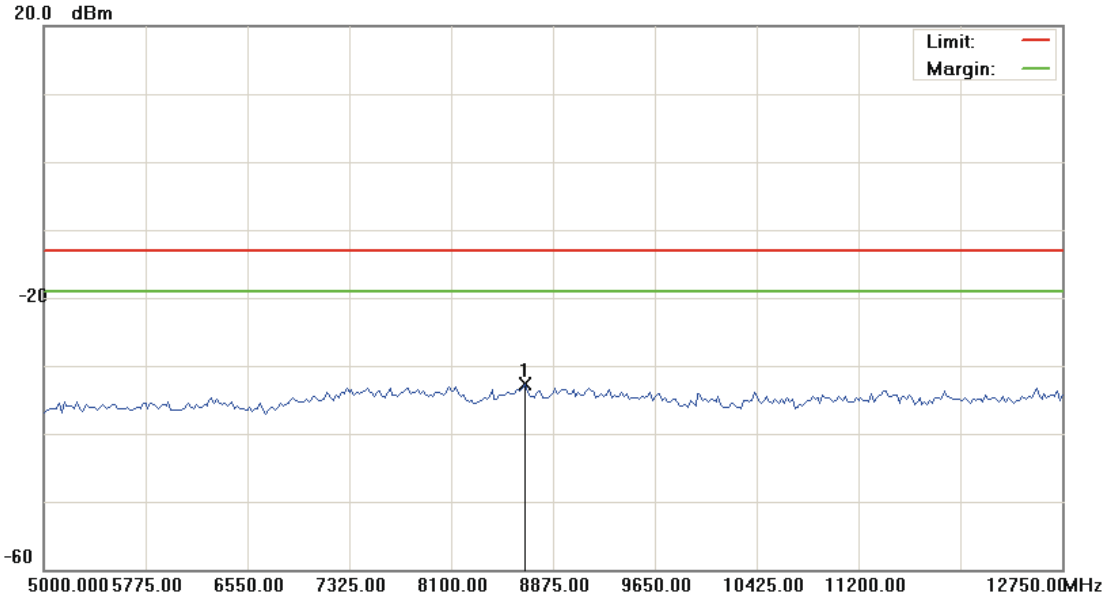
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2990.000	-36.42	4.53	-31.89	-13.00	-18.89	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH251) Data :#4 Date: 2012/7/26 Time: 上午 10:49:47



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 1
Note:

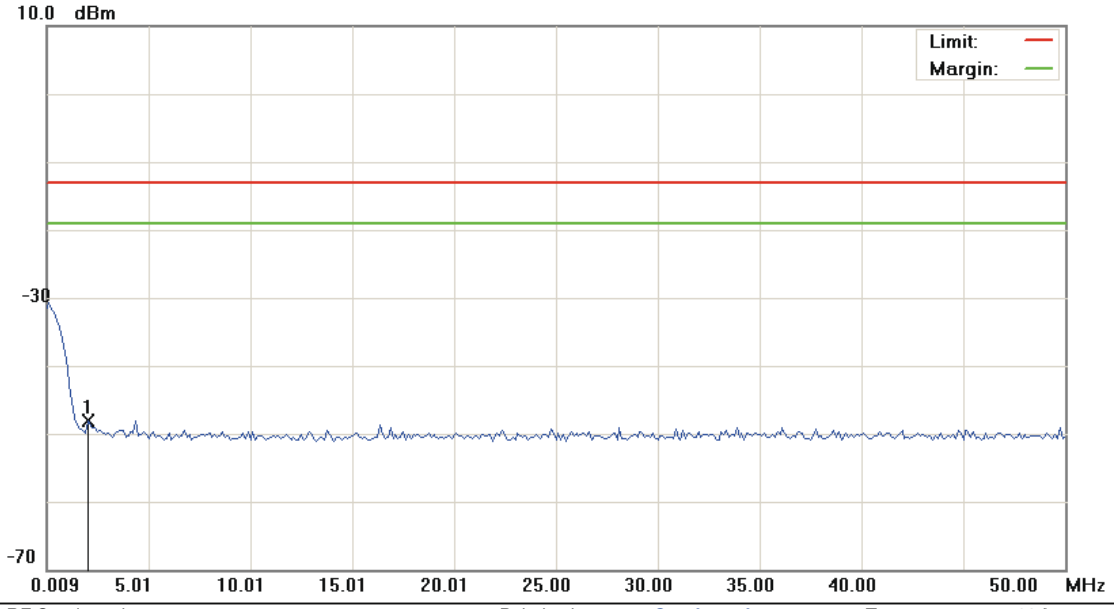
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	8661.875	-38.46	5.80	-32.66	-13.00	-19.66	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH512) Data :#1 Date: 2012/7/26 Time: 上午 10:15:12



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

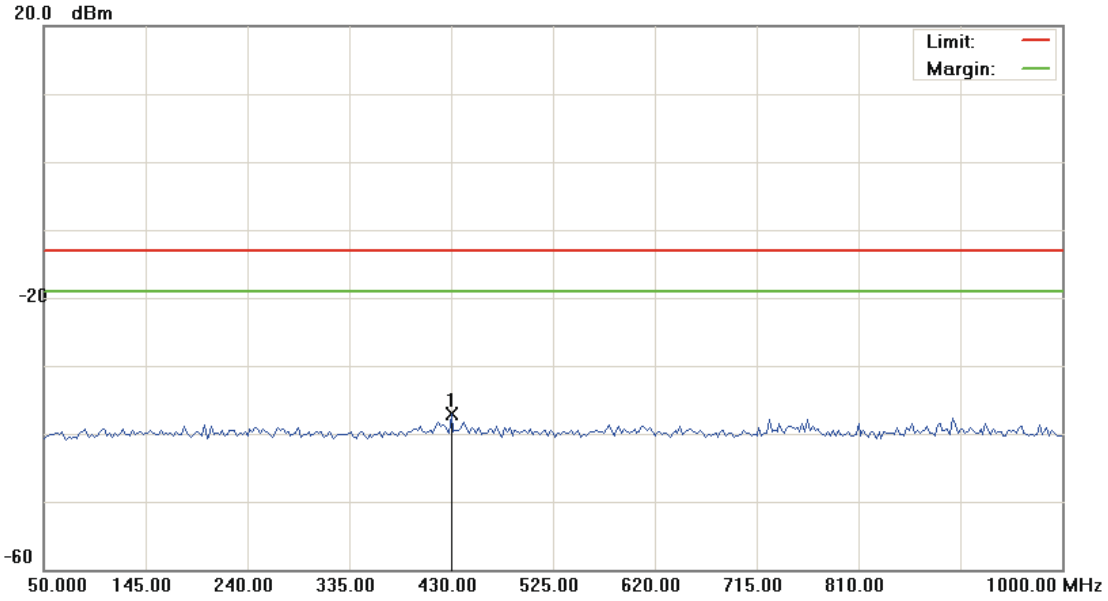
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0085	-61.34	13.21	-48.13	-13.00	-35.13	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH512) Data :#2 Date: 2012/7/26 Time: 上午 10:15:31



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

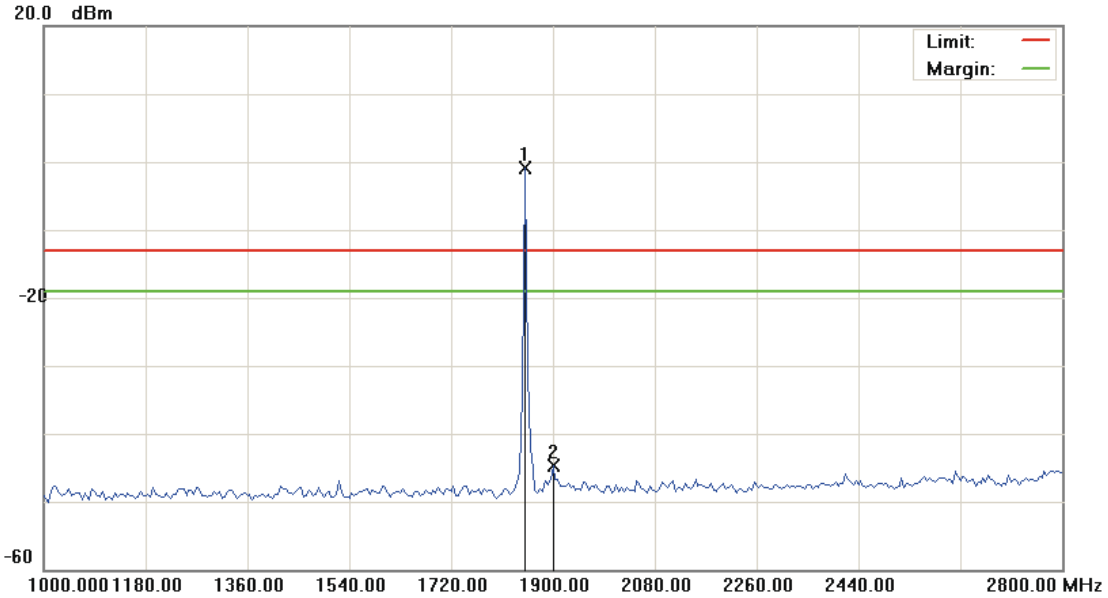
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	430.0000	-50.32	13.25	-37.07	-13.00	-24.07	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH512) Data :#3 Date: 2012/7/26 Time: 上午 10:20:51



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

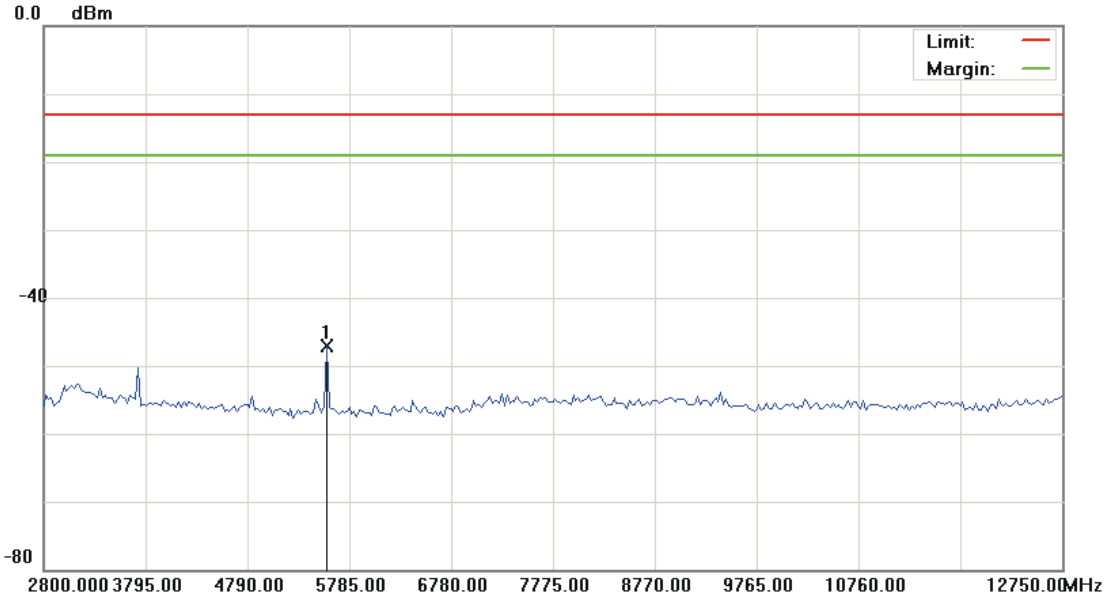
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1850.500	-5.22	4.26	-0.96	-13.00	12.04	peak			Tx
2		1900.000	-51.28	6.63	-44.65	-13.00	-31.65	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH512) Data :#4 Date: 2012/7/26 Time: 上午 10:34:08



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

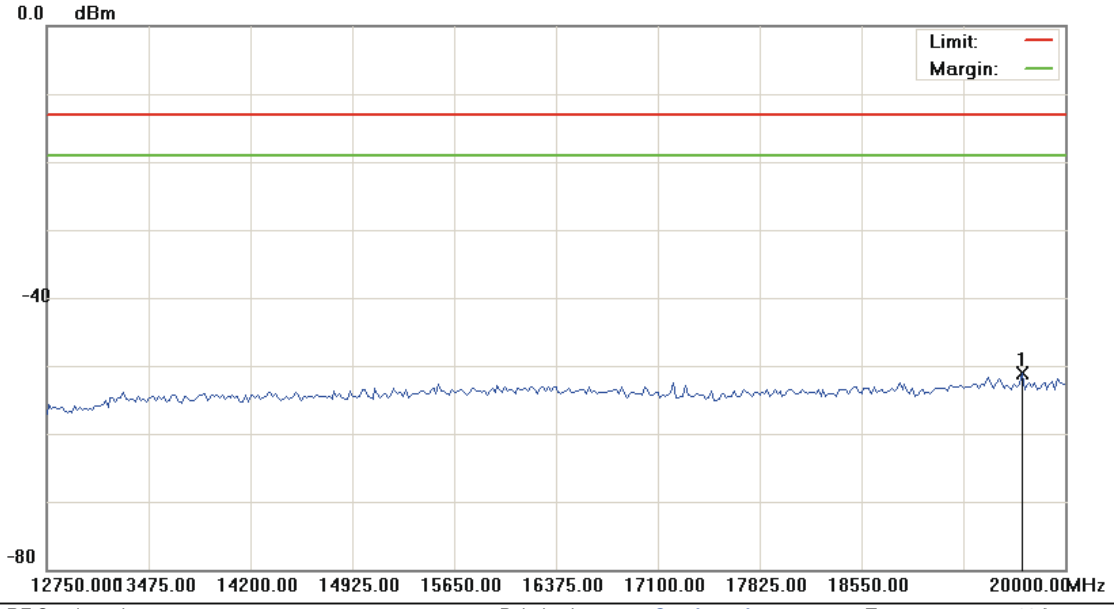
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	5561.125	-52.06	4.89	-47.17	-13.00	-34.17	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH512) Data :#5 Date: 2012/7/26 Time: 上午 10:34:28



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

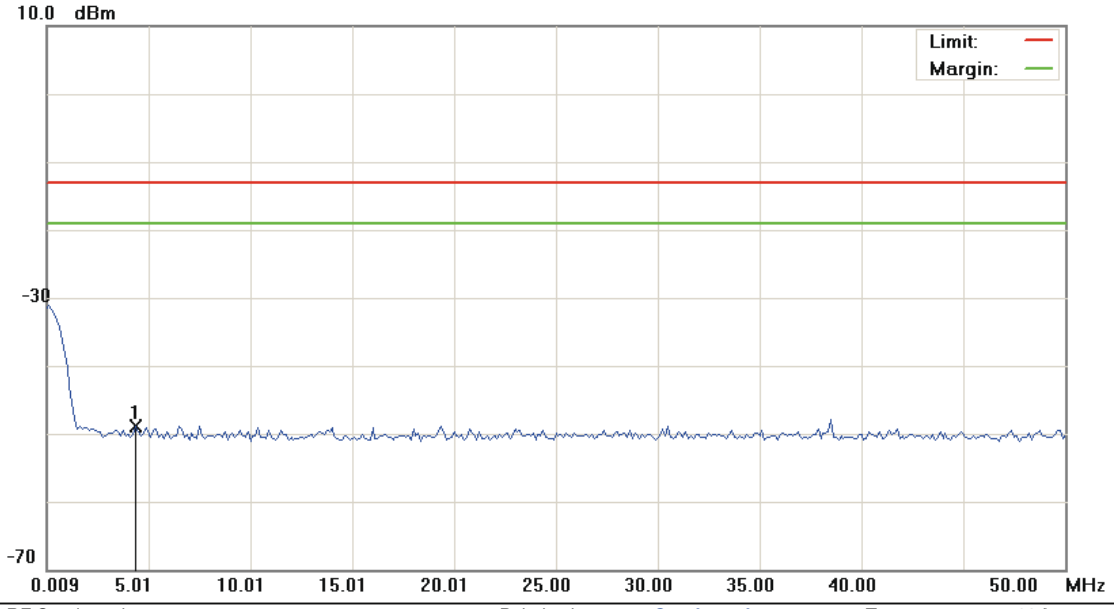
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	19691.875	-58.38	7.35	-51.03	-13.00	-38.03	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH661) Data :#1 Date: 2012/7/26 Time: 上午 10:17:33



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

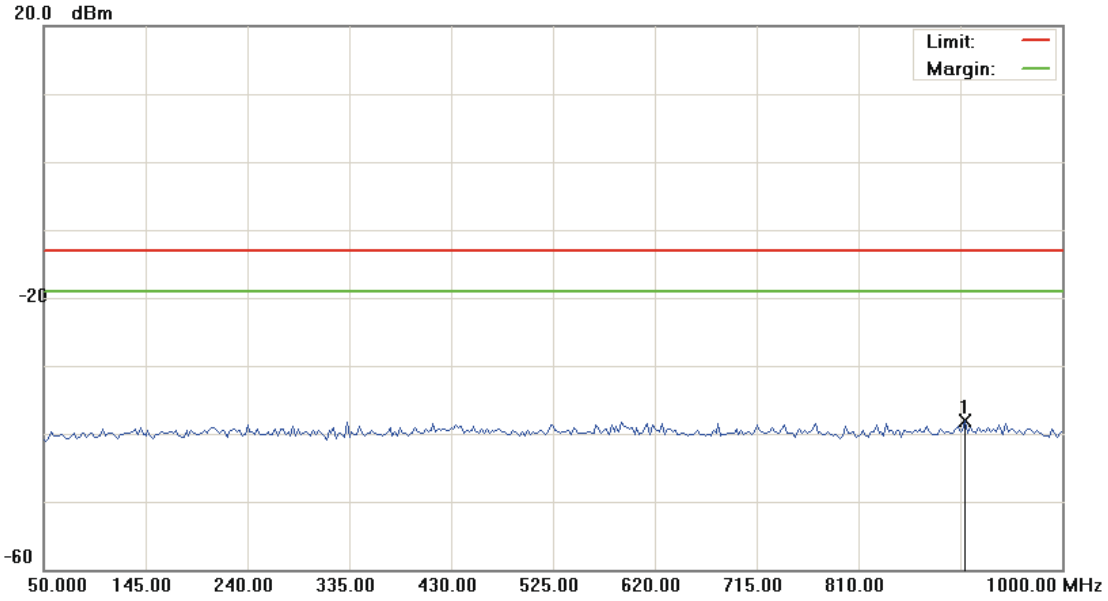
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	4.3832	-62.12	13.22	-48.90	-13.00	-35.90	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH661) Data :#2 Date: 2012/7/26 Time: 上午 10:17:52



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

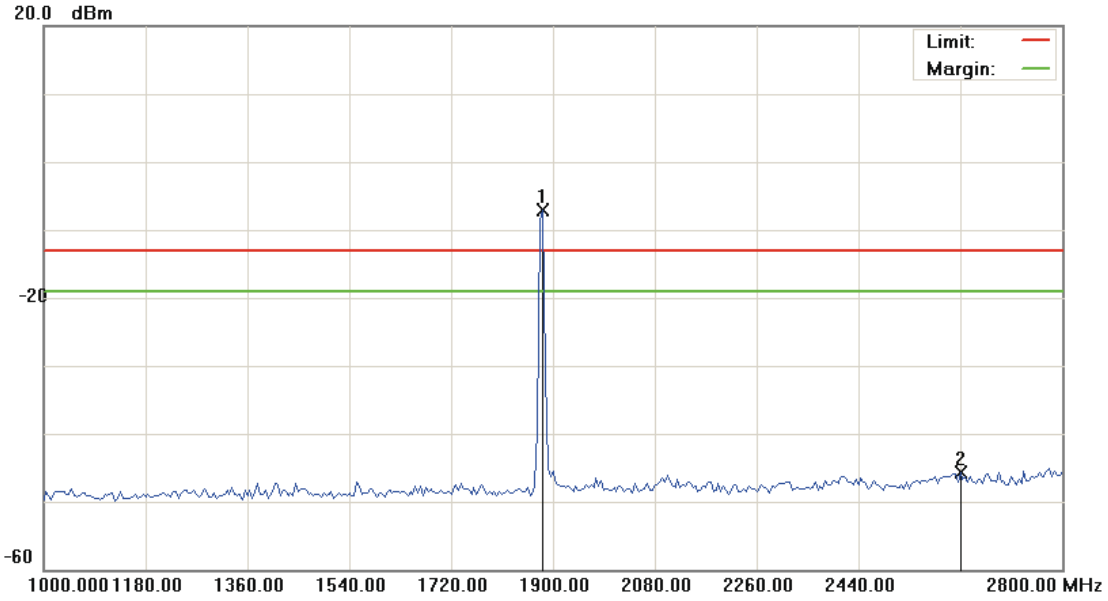
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	909.7500	-51.42	13.23	-38.19	-13.00	-25.19	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH661) Data :#3 Date: 2012/7/26 Time: 上午 10:22:59



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

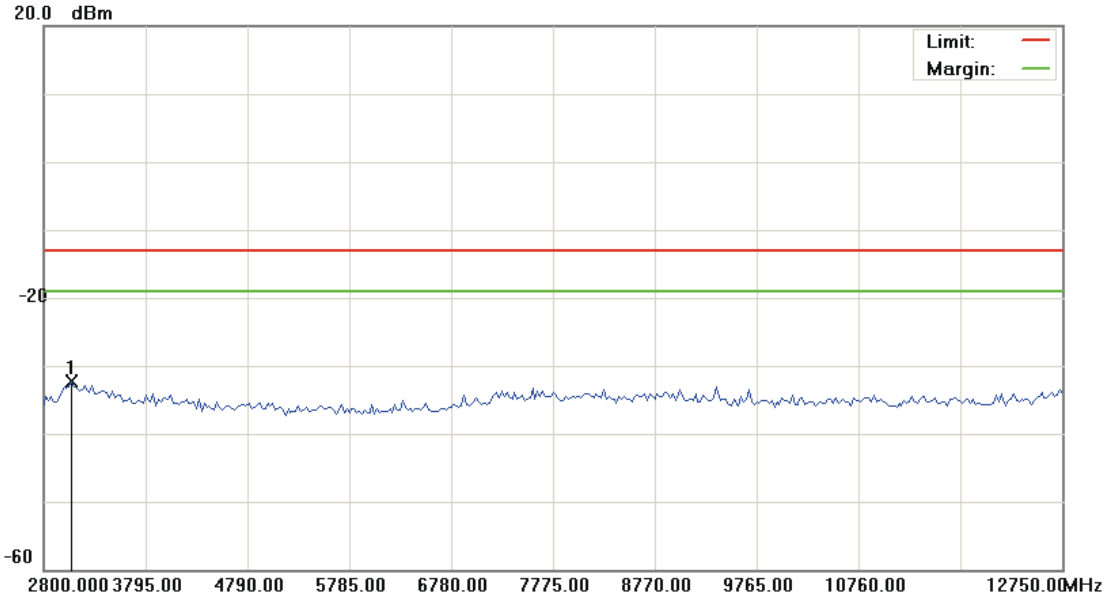
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1882.000	-11.87	4.83	-7.04	-13.00	5.96	peak			Tx
2		2620.000	-51.08	5.44	-45.64	-13.00	-32.64	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH661) Data :#4 Date: 2012/7/26 Time: 上午 10:34:58



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

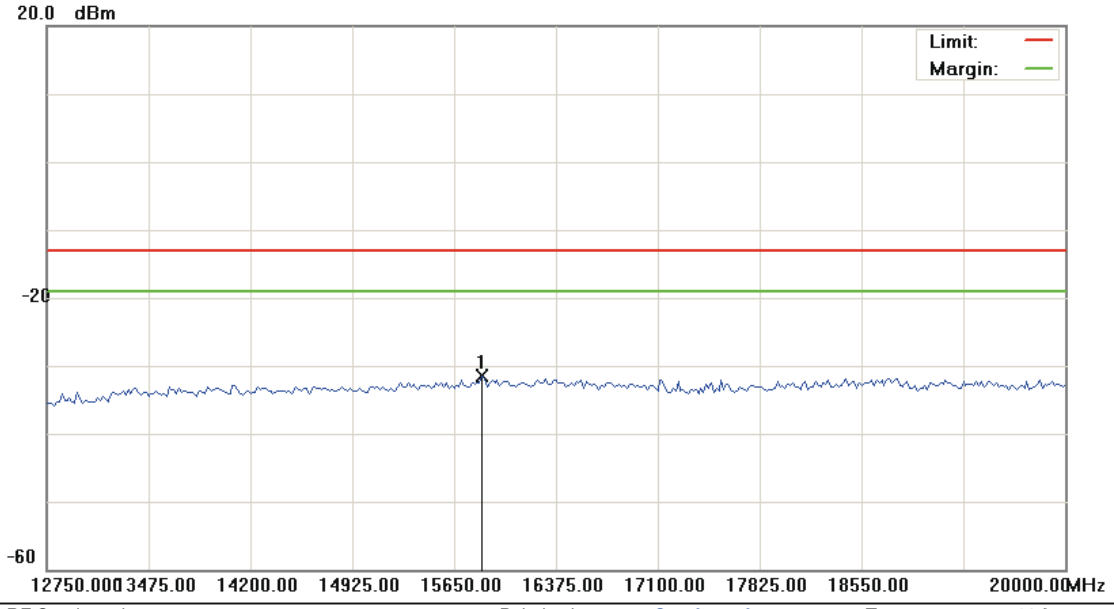
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3073.625	-37.67	5.40	-32.27	-13.00	-19.27	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH661) Data :#5 Date: 2012/7/26 Time: 上午 10:35:18



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

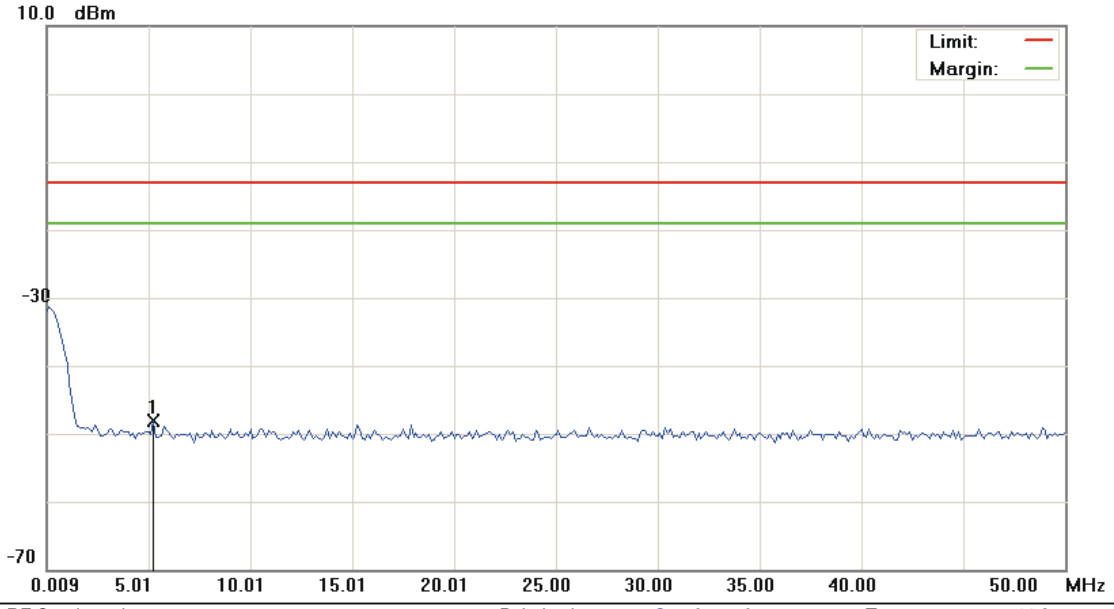
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	15849.375	-37.75	6.25	-31.50	-13.00	-18.50	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH810) Data :#1 Date: 2012/7/26 Time: 上午 10:18:30



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

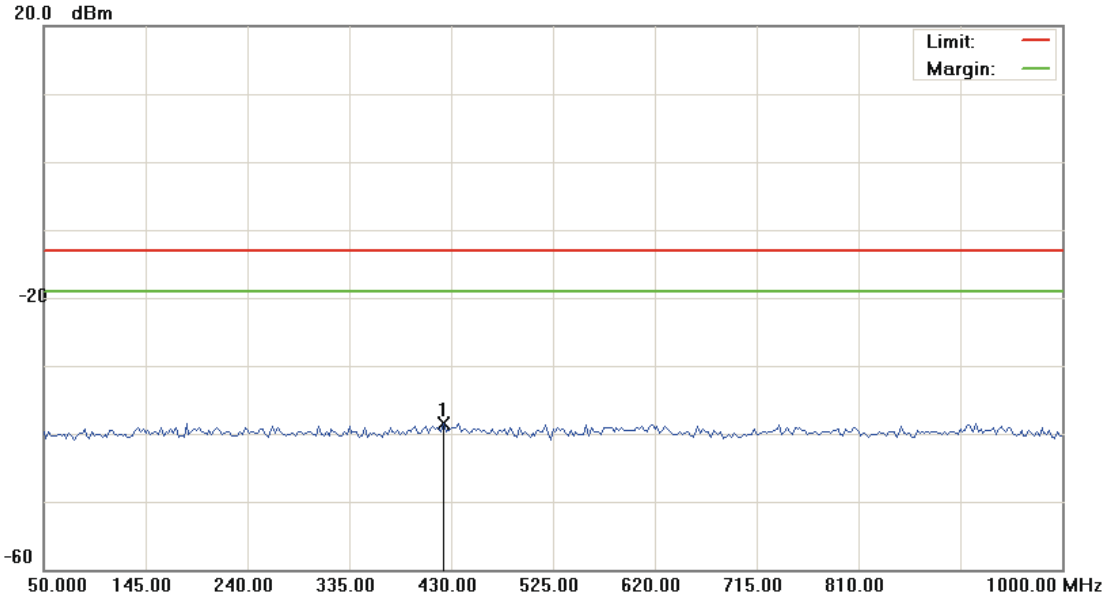
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	5.2580	-61.45	13.27	-48.18	-13.00	-35.18	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH810) Data :#2 Date: 2012/7/26 Time: 上午 10:18:49



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

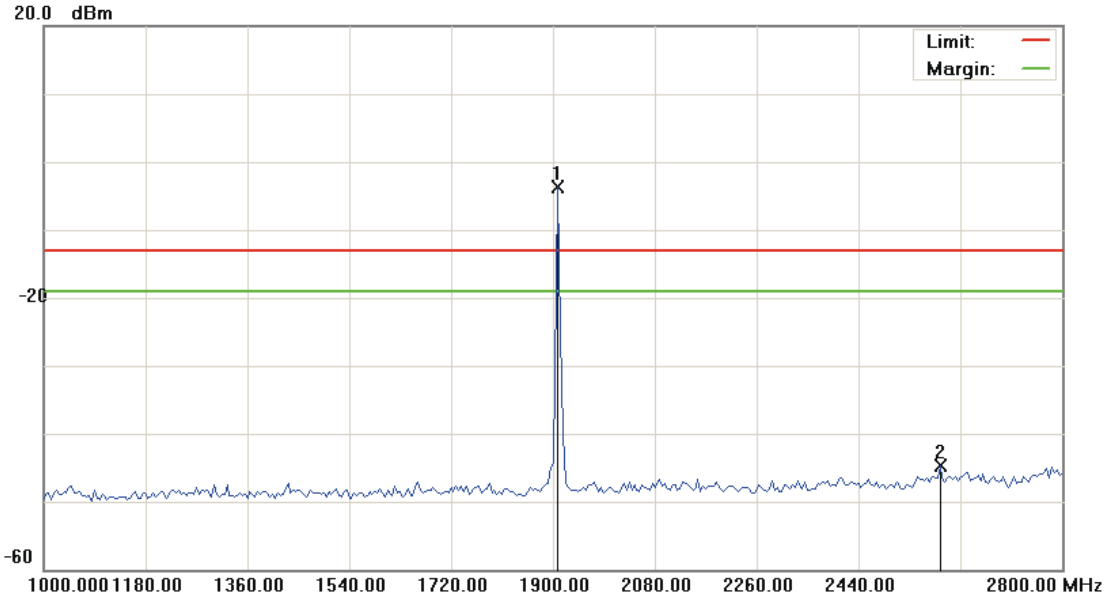
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	422.8750	-51.69	13.24	-38.45	-13.00	-25.45	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH810) Data :#3 Date: 2012/7/26 Time: 上午 10:25:28



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

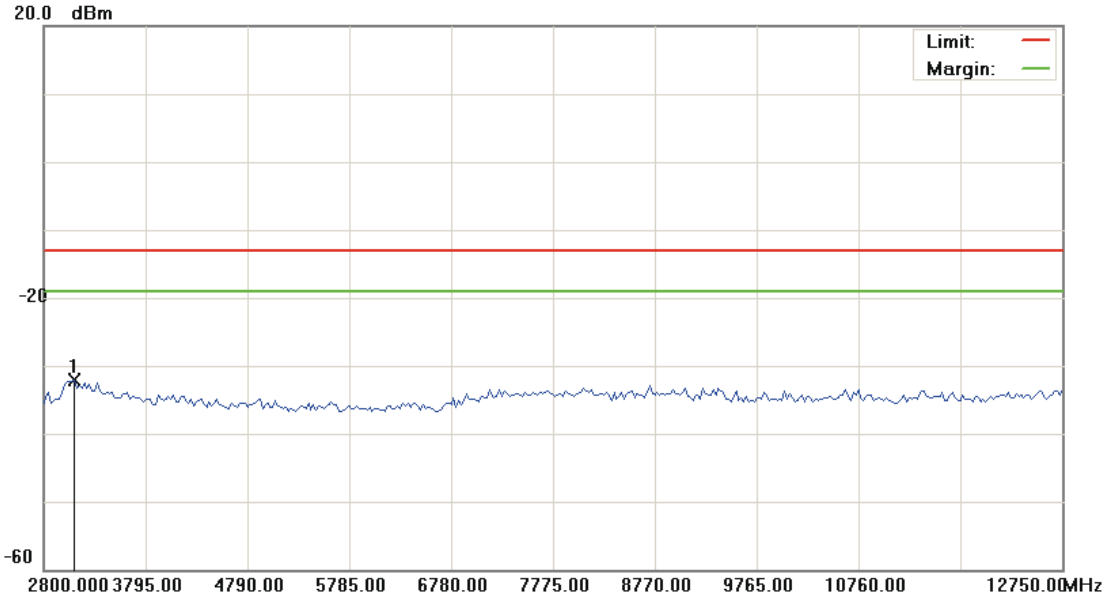
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1909.000	-9.59	5.80	-3.79	-13.00	9.21	peak			Tx
2		2584.000	-50.10	5.37	-44.73	-13.00	-31.73	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH810) Data :#4 Date: 2012/7/26 Time: 上午 10:35:49



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

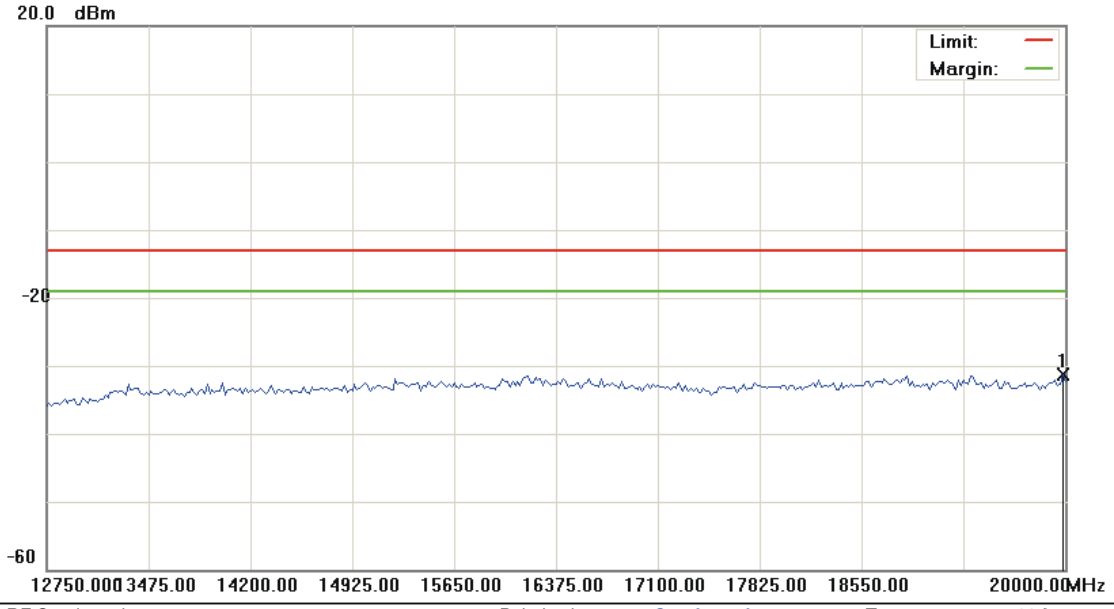
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3098.500	-37.45	5.32	-32.13	-13.00	-19.13	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH810) Data :#5 Date: 2012/7/26 Time: 上午 10:36:09



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 2
Note:

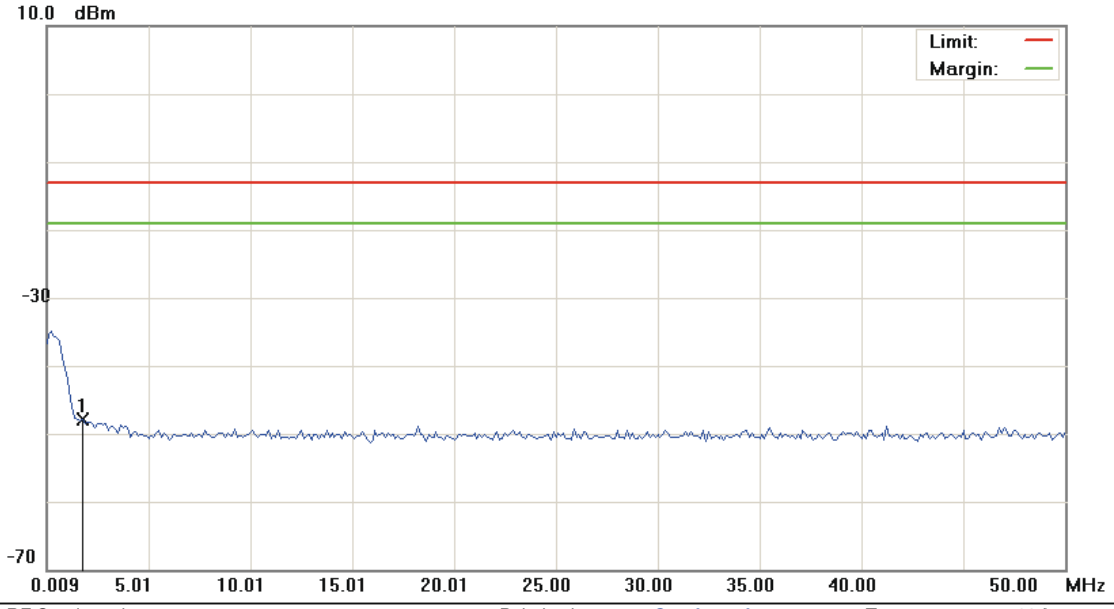
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	19981.875	-38.70	7.43	-31.27	-13.00	-18.27	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9262) Data :#1 Date: 2012/7/24 Time: 上午 09:42:21



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

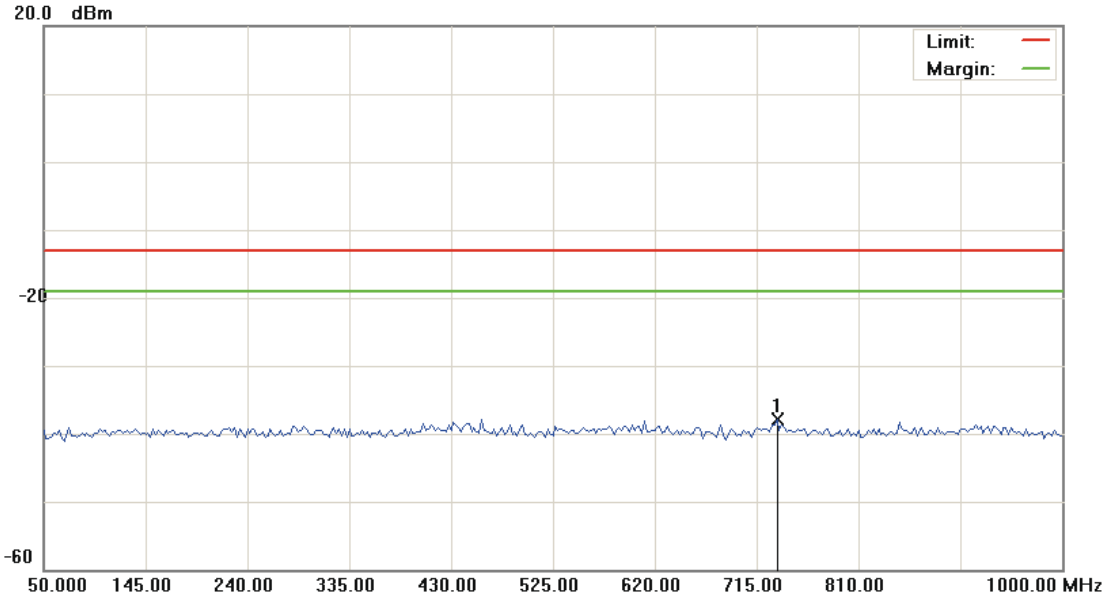
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1.7586	-60.52	12.63	-47.89	-13.00	-34.89	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9262) Data :#2 Date: 2012/7/24 Time: 上午 09:42:40



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

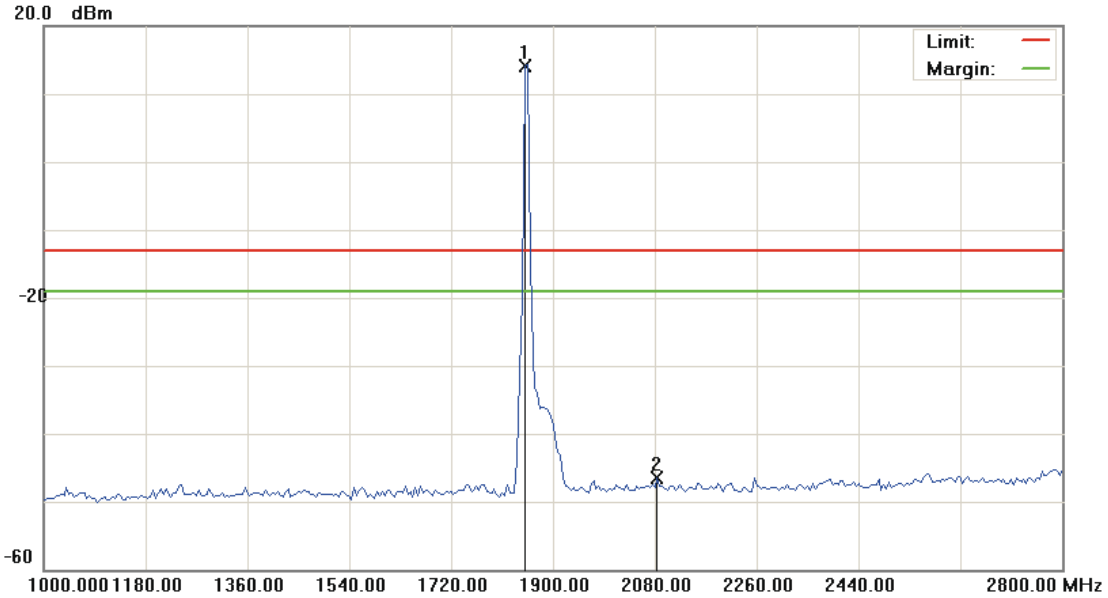
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	734.0000	-50.91	13.10	-37.81	-13.00	-24.81	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9262) Data :#3 Date: 2012/7/26 Time: 上午 09:33:36



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

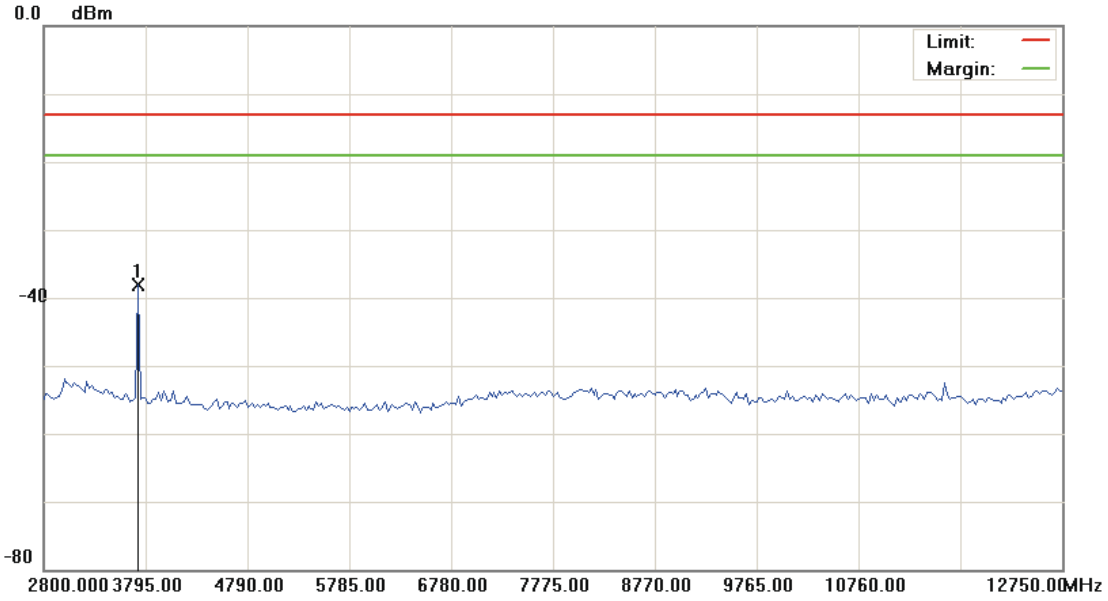
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1850.500	9.80	4.26	14.06	-13.00	27.06	peak			Tx
2		2084.500	-50.93	4.48	-46.45	-13.00	-33.45	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9262) Data :#4 Date: 2012/7/26 Time: 上午 10:38:40



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

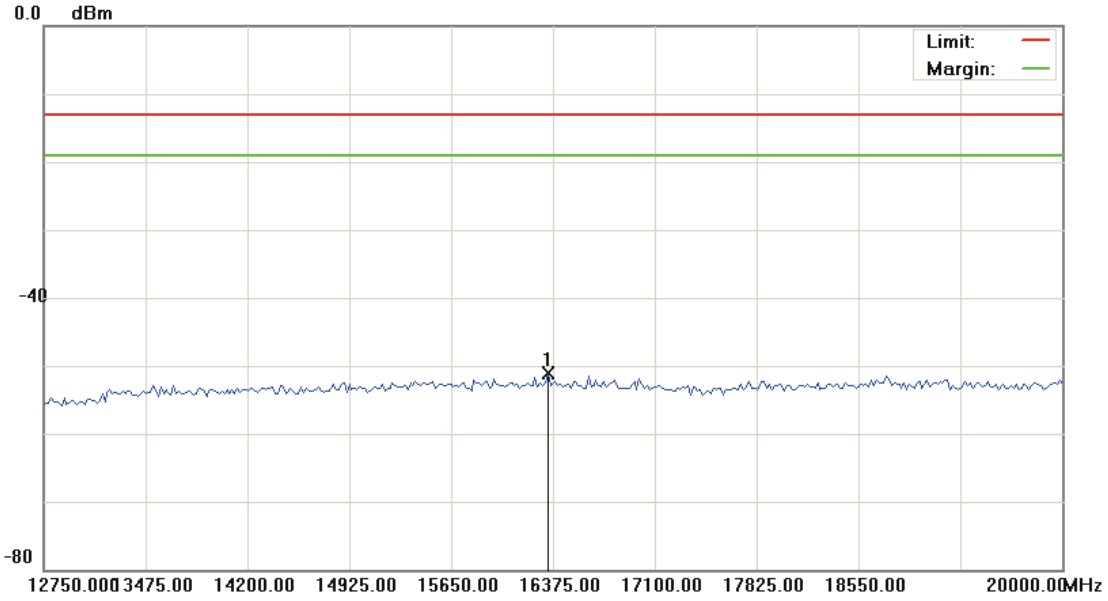
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3720.375	-42.99	4.88	-38.11	-13.00	-25.11	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9262) Data :#5 Date: 2012/7/26 Time: 上午 10:39:00



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

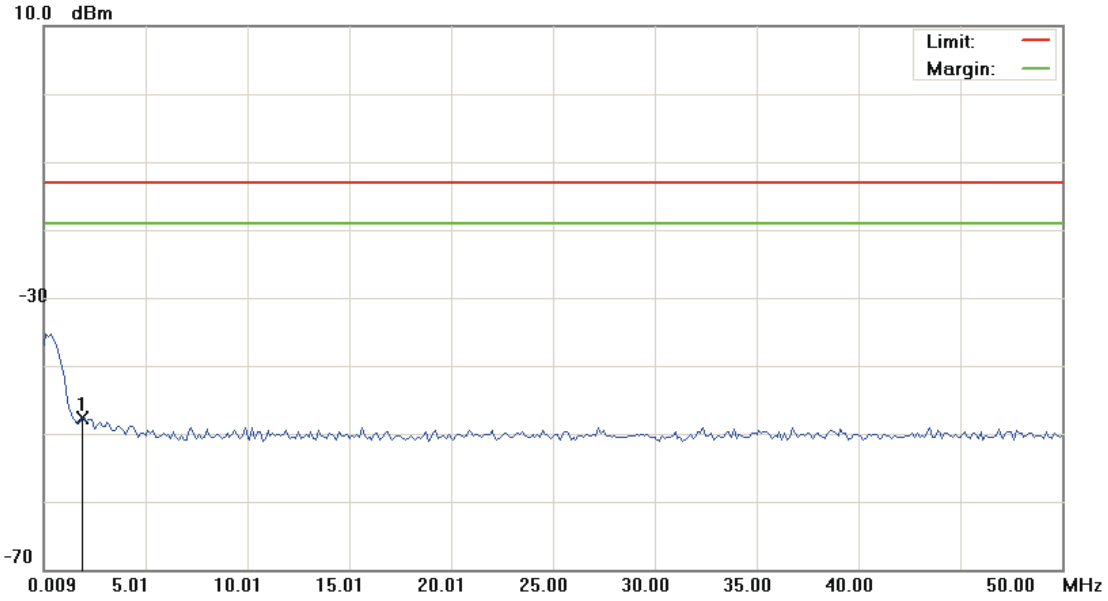
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	16338.750	-57.44	6.39	-51.05	-13.00	-38.05	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9400) Data :#1 Date: 2012/7/24 Time: 上午 09:43:37



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

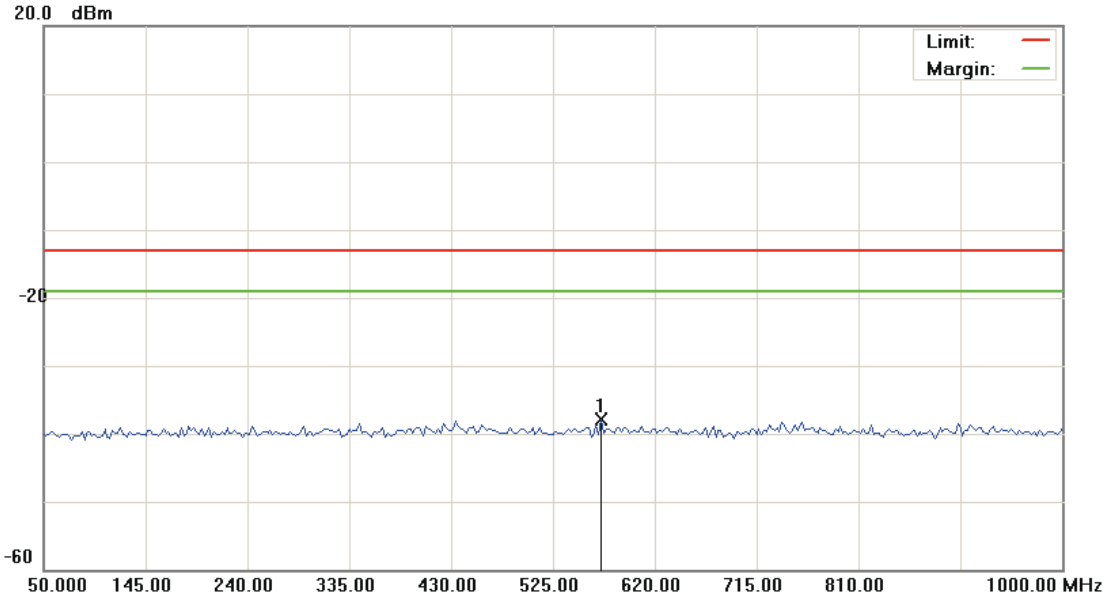
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1.8836	-60.50	12.88	-47.62	-13.00	-34.62	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9400) Data :#2 Date: 2012/7/24 Time: 上午 09:43:56



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

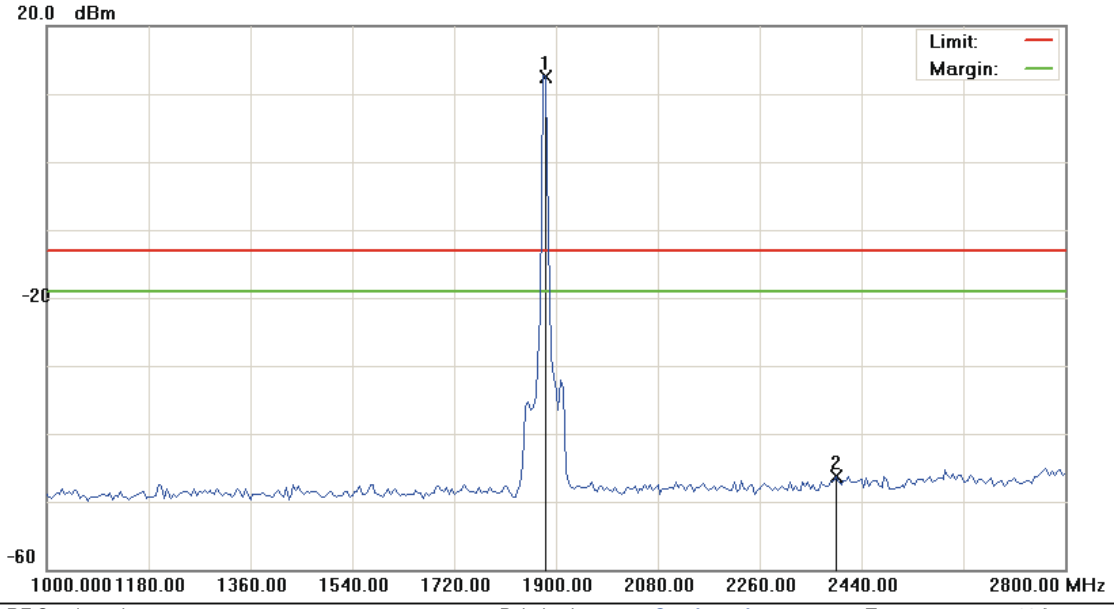
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	570.1250	-50.94	13.14	-37.80	-13.00	-24.80	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9400) Data :#3 Date: 2012/7/26 Time: 上午 09:35:29



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

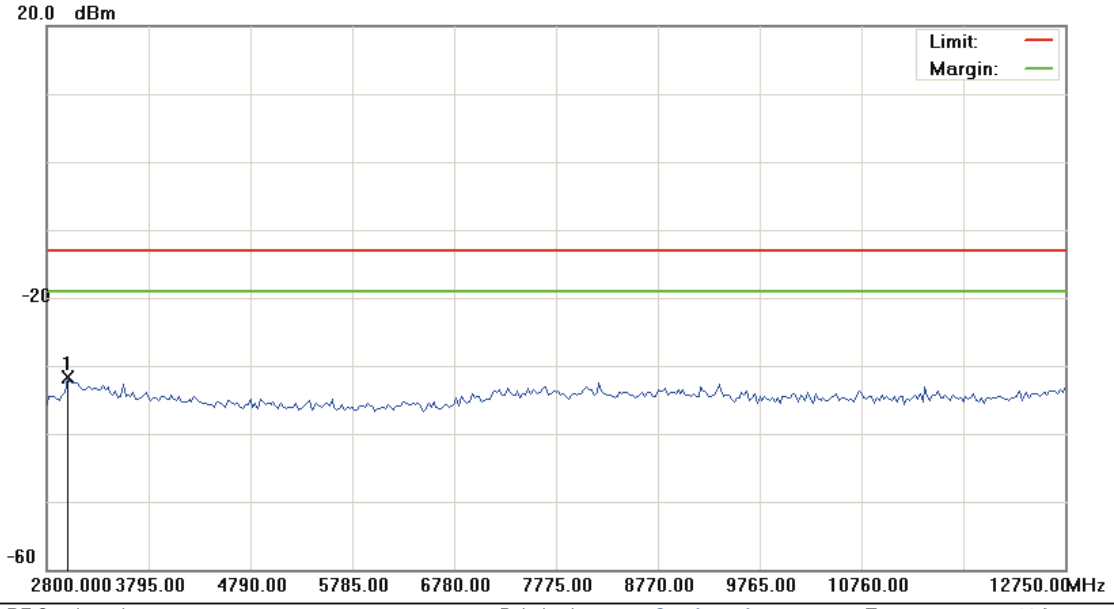
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1882.000	7.60	4.83	12.43	-13.00	25.43	peak			Tx
2		2395.000	-51.42	5.12	-46.30	-13.00	-33.30	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9400) Data :#4 Date: 2012/7/26 Time: 上午 10:40:03



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

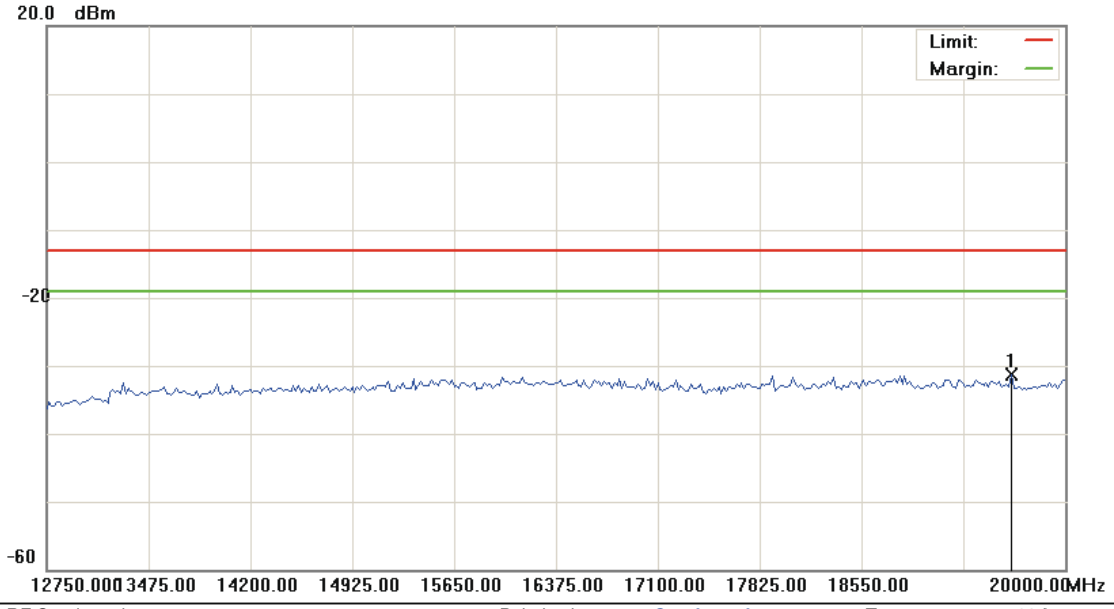
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2999.000	-37.23	5.48	-31.75	-13.00	-18.75	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9400) Data :#5 Date: 2012/7/26 Time: 上午 10:40:23



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

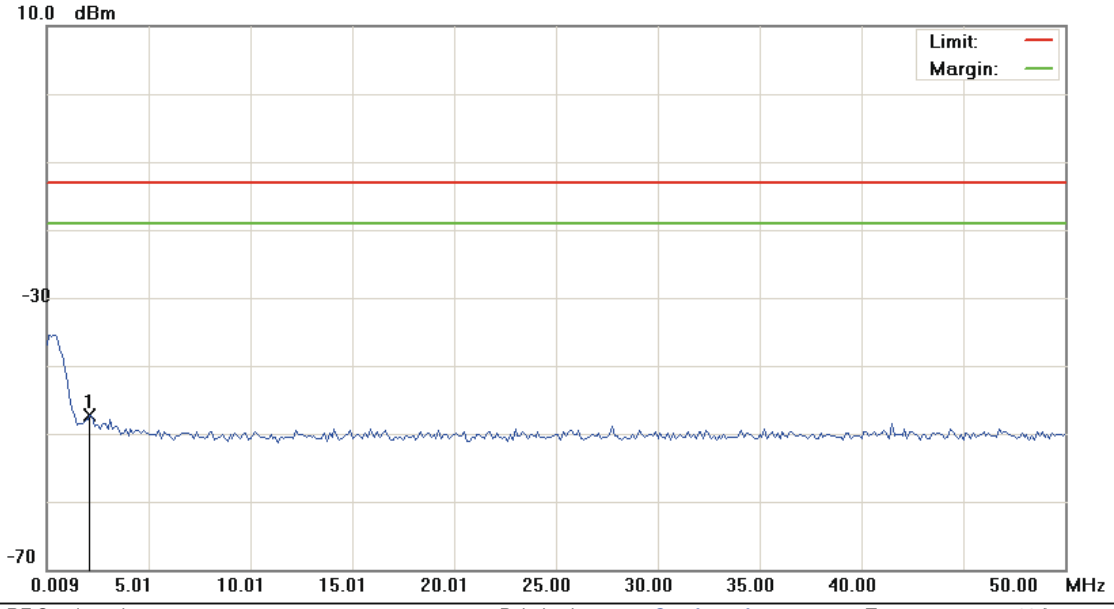
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	19619.375	-38.66	7.33	-31.33	-13.00	-18.33	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9538) Data :#1 Date: 2012/7/24 Time: 上午 09:44:59



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

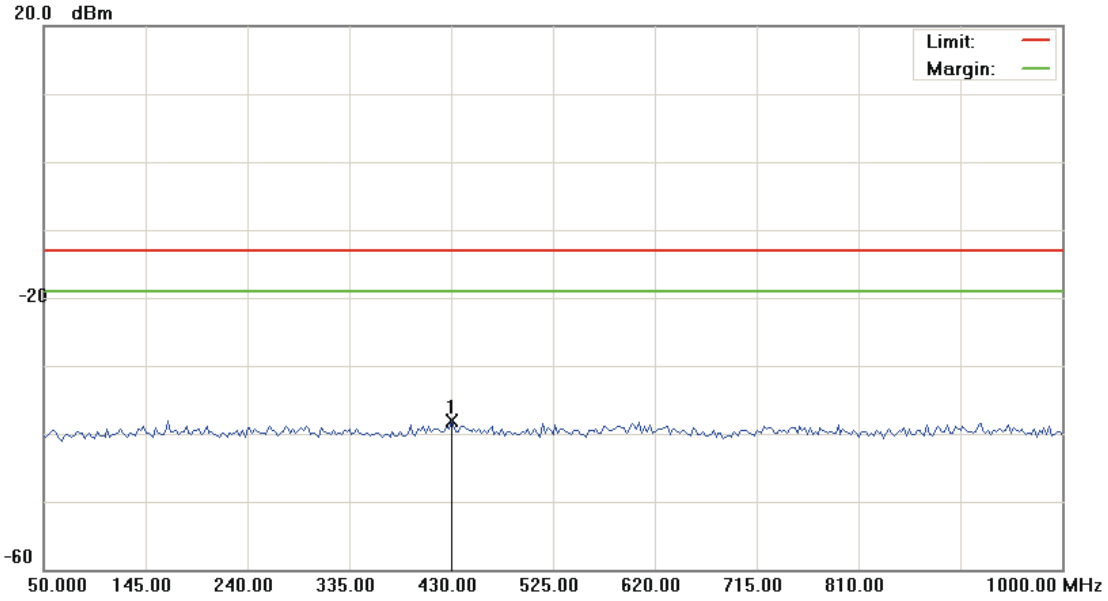
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.1335	-60.50	13.14	-47.36	-13.00	-34.36	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9538) Data :#2 Date: 2012/7/24 Time: 上午 09:45:18



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

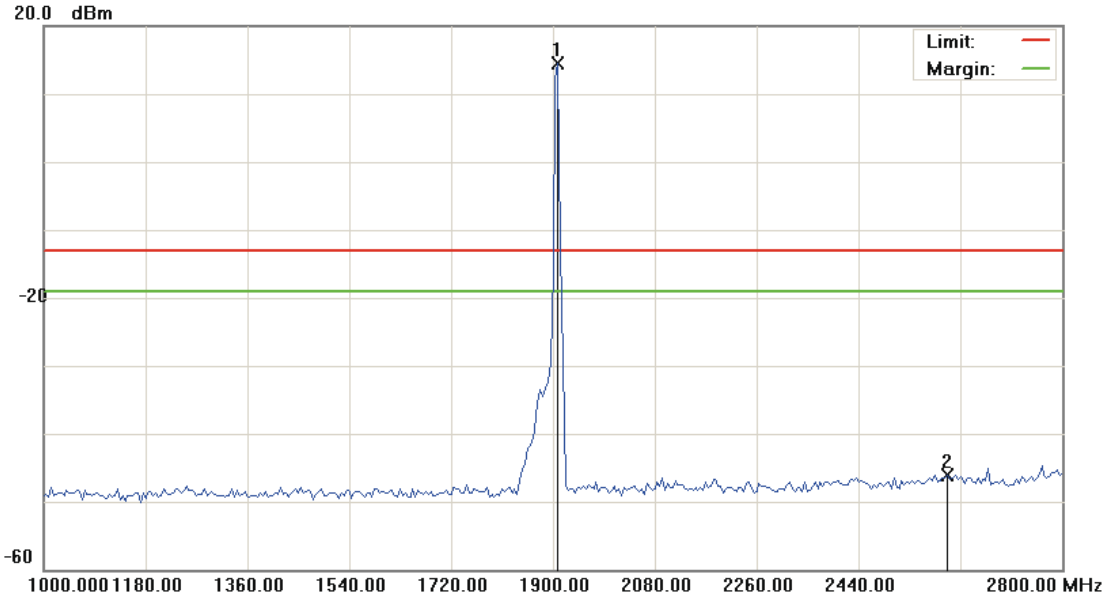
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	430.0000	-51.36	13.25	-38.11	-13.00	-25.11	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9538) Data :#3 Date: 2012/7/26 Time: 上午 09:37:38



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

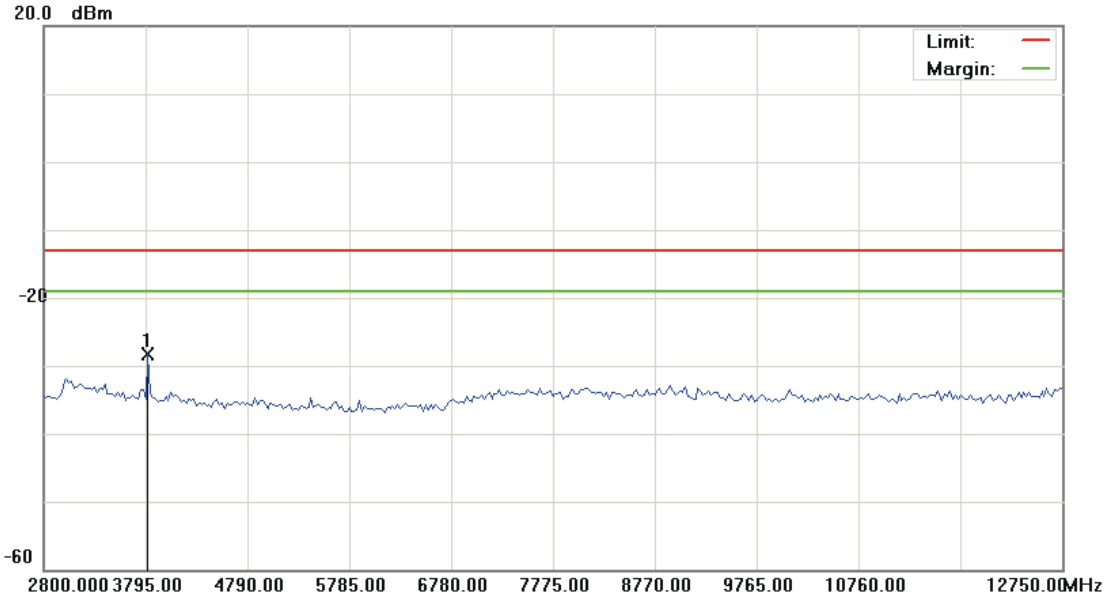
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1909.000	8.63	5.80	14.43	-13.00	27.43	peak			Tx
2		2597.500	-51.58	5.44	-46.14	-13.00	-33.14	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9538) Data :#4 Date: 2012/7/26 Time: 上午 10:41:09



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

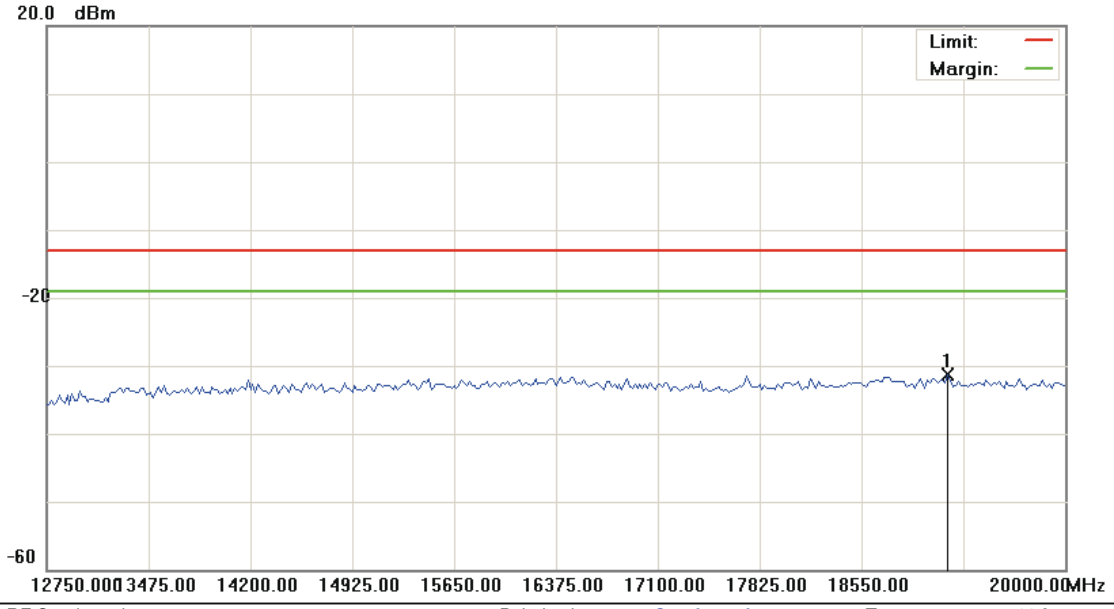
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	3819.875	-33.15	4.91	-28.24	-13.00	-15.24	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH9538) Data :#5 Date: 2012/7/26 Time: 上午 10:41:29



Site: : RF Conducted
Limit: FCC Part 24 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 3
Note:

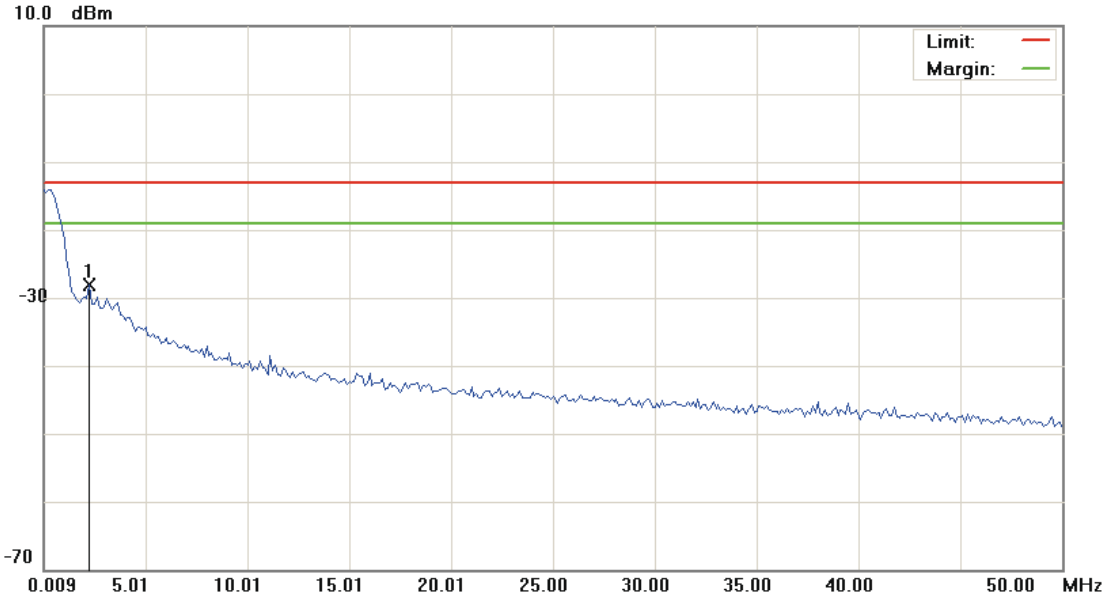
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	19166.250	-38.49	7.20	-31.29	-13.00	-18.29	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4132) Data :#1 Date: 2012/7/26 Time: 上午 09:41:27



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

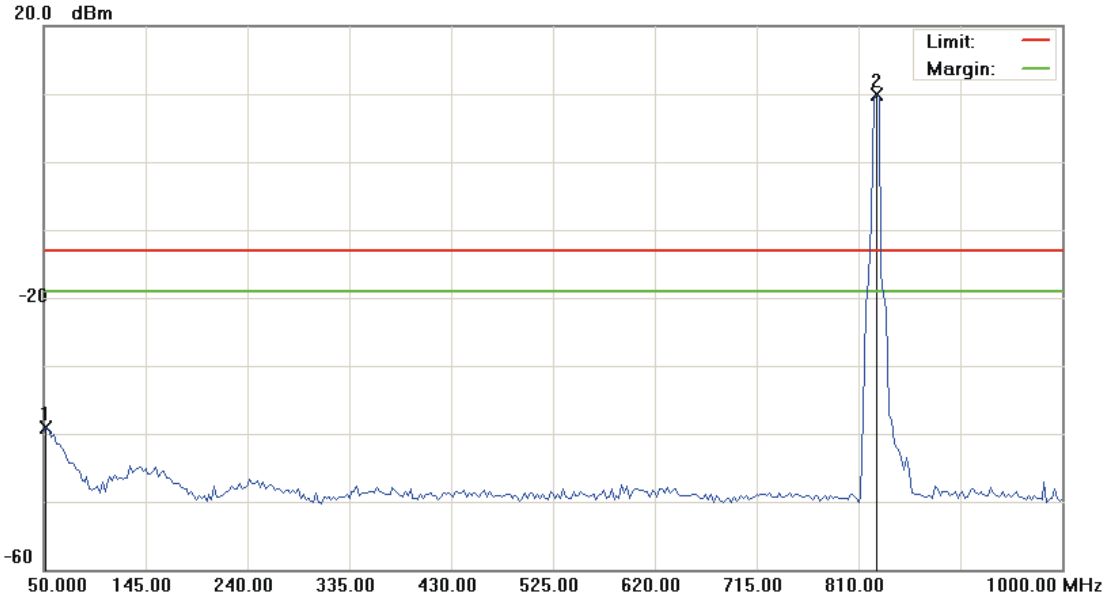
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.2585	-59.28	31.14	-28.14	-13.00	-15.14	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4132) Data :#2 Date: 2012/7/26 Time: 上午 09:41:46



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

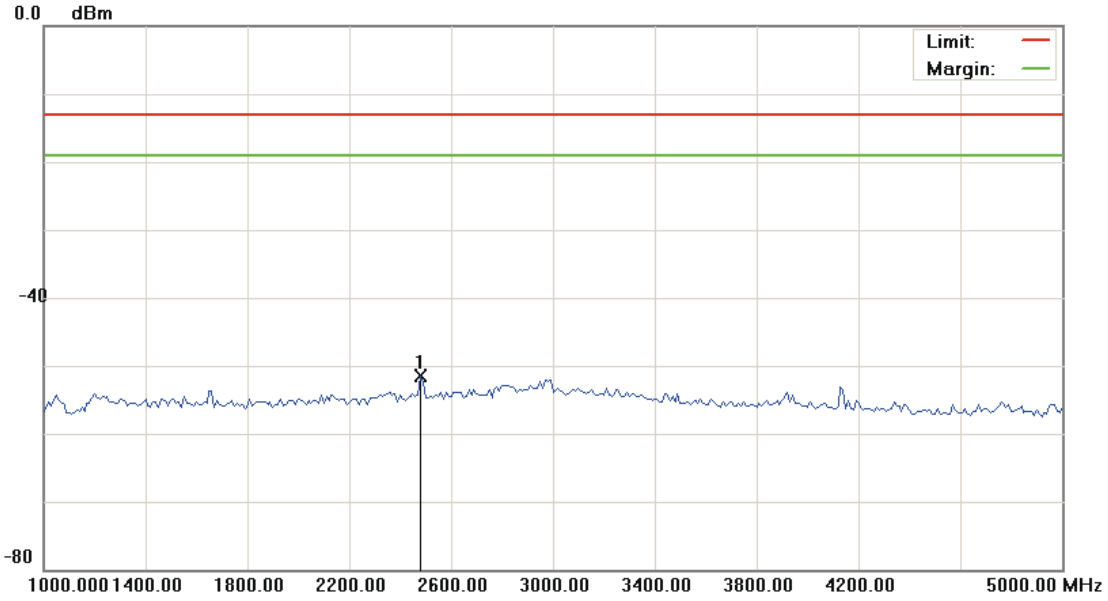
Polarization: ***Conducted po***
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		52.3750	-53.32	14.27	-39.05	-13.00	-26.05	peak			
2	*	826.6250	5.96	3.86	9.82	-13.00	22.82	peak			Tx

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4132) Data :#3 Date: 2012/7/26 Time: 上午 10:42:59



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

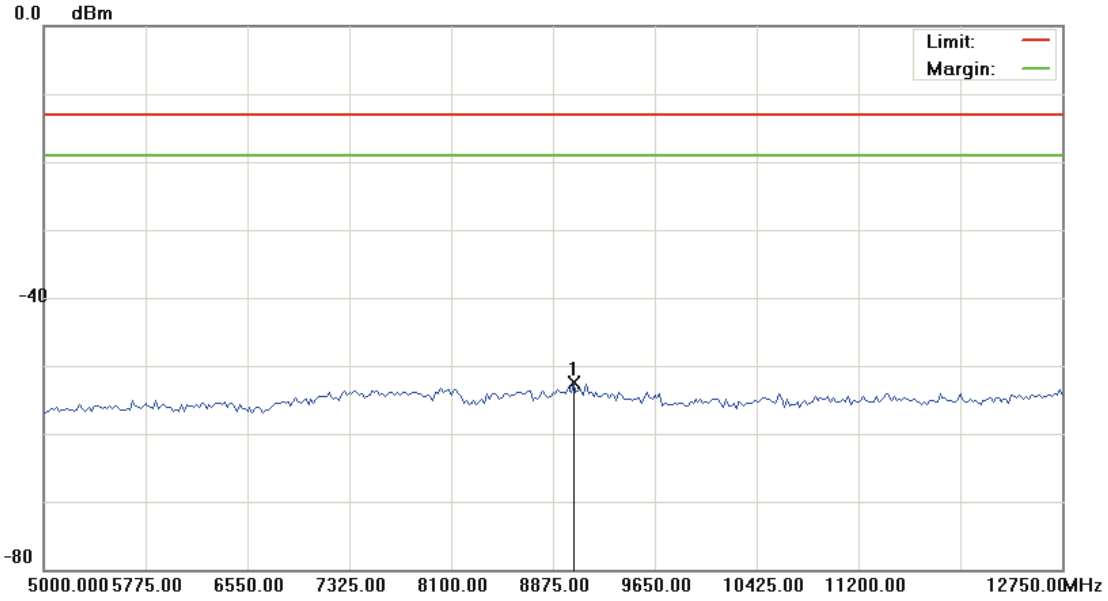
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2480.000	-55.99	4.43	-51.56	-13.00	-38.56	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4132) Data :#4 Date: 2012/7/26 Time: 上午 10:43:18



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

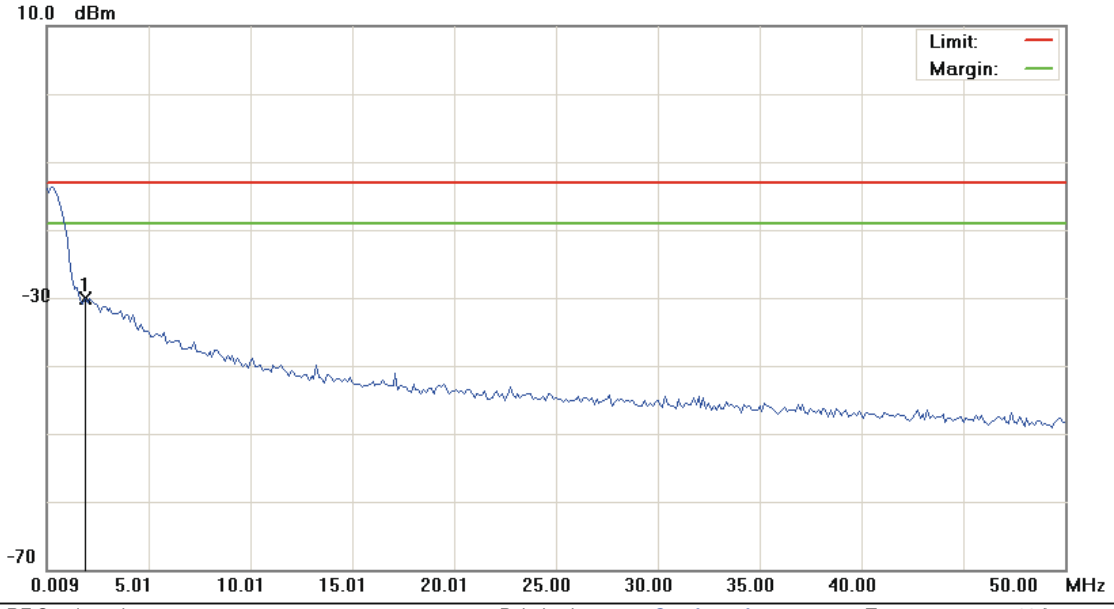
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	9030.000	-57.98	5.47	-52.51	-13.00	-39.51	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4183) Data :#1 Date: 2012/7/26 Time: 上午 09:44:22



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

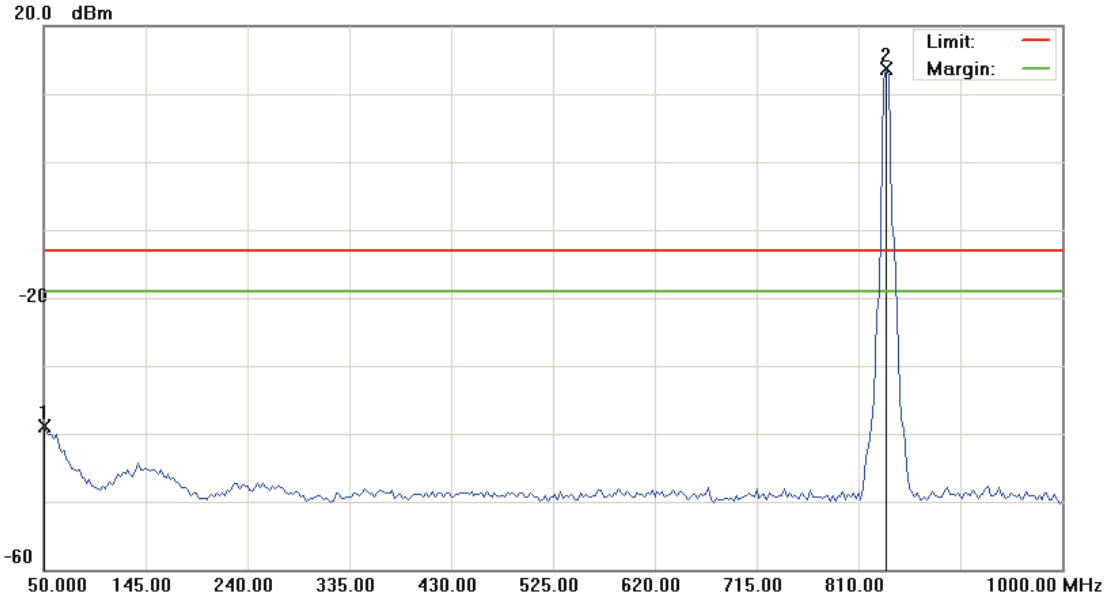
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	1.8836	-61.22	31.17	-30.05	-13.00	-17.05	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4183) Data :#2 Date: 2012/7/26 Time: 上午 09:44:41



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

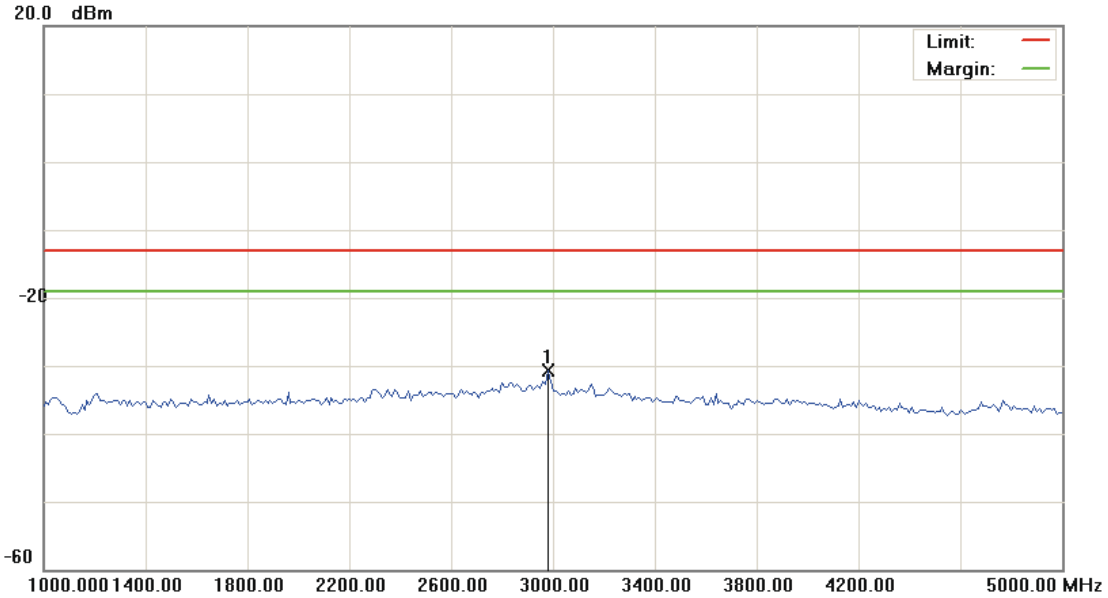
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		50.0000	-53.66	14.69	-38.97	-13.00	-25.97	peak			
2	*	836.1250	9.78	3.96	13.74	-13.00	26.74	peak			Tx

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4183) Data :#3 Date: 2012/7/26 Time: 上午 10:44:14



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

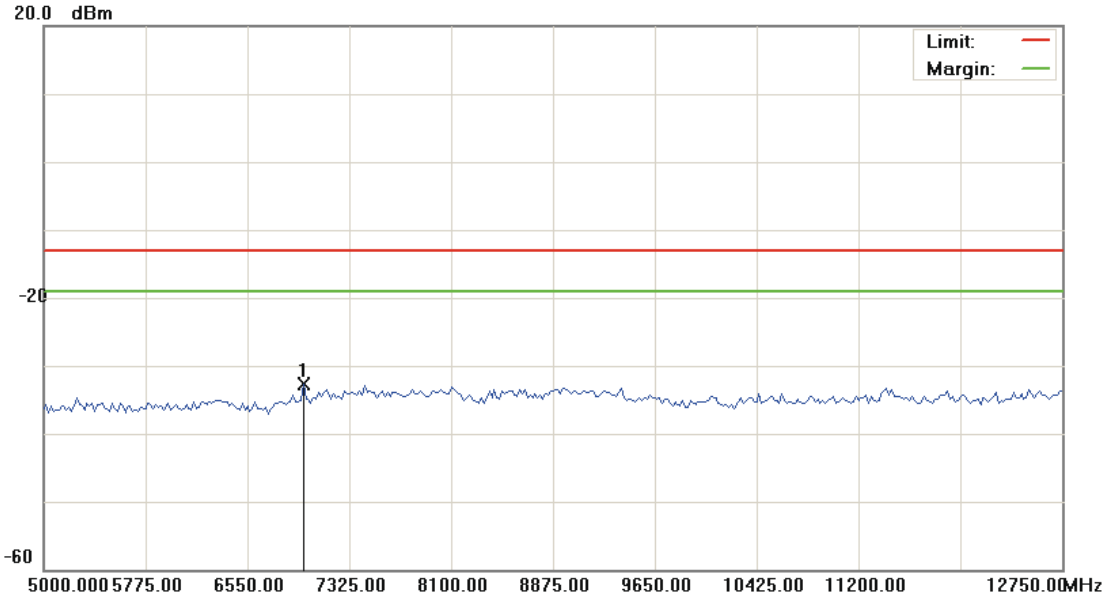
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2980.000	-35.20	4.54	-30.66	-13.00	-17.66	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4183) Data :#4 Date: 2012/7/26 Time: 上午 10:44:34



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

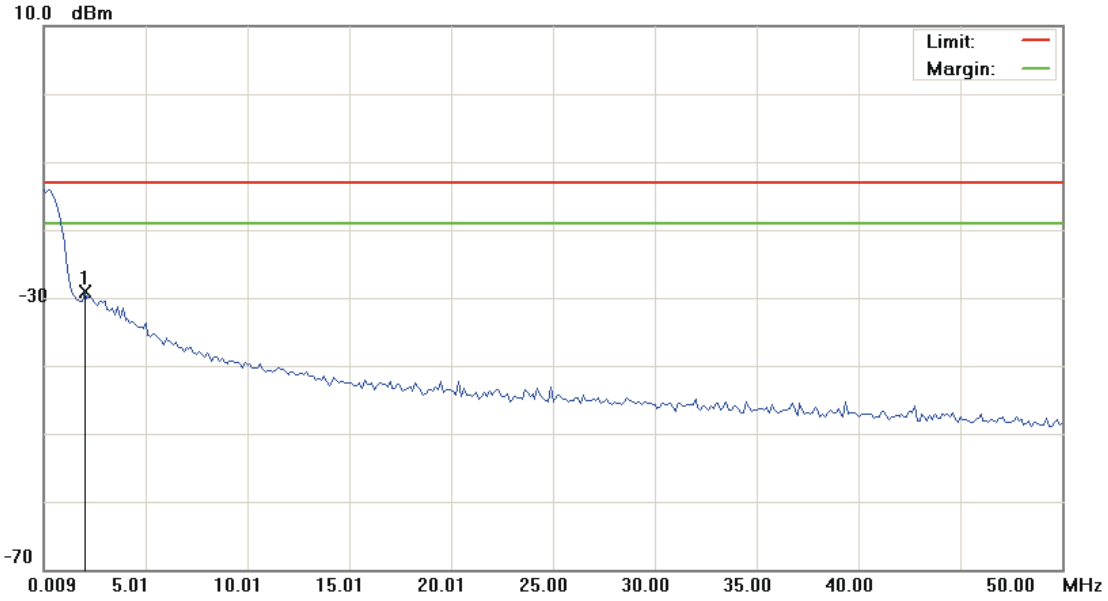
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	6976.250	-37.65	4.97	-32.68	-13.00	-19.68	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4233) Data :#1 Date: 2012/7/26 Time: 上午 09:50:22



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

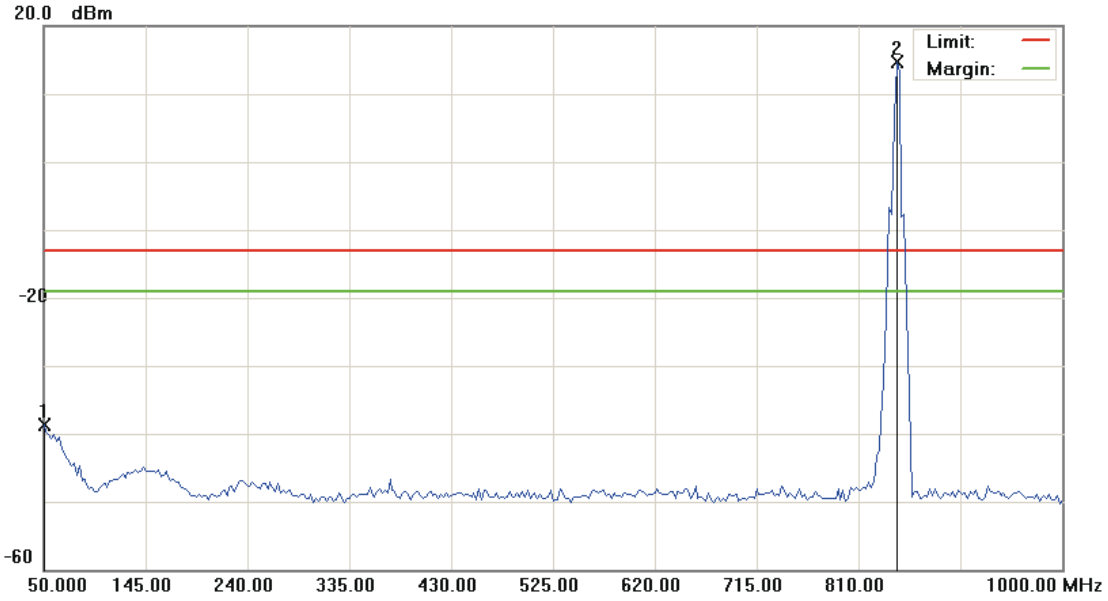
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2.0085	-60.56	31.37	-29.19	-13.00	-16.19	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4233) Data :#2 Date: 2012/7/26 Time: 上午 09:50:41



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

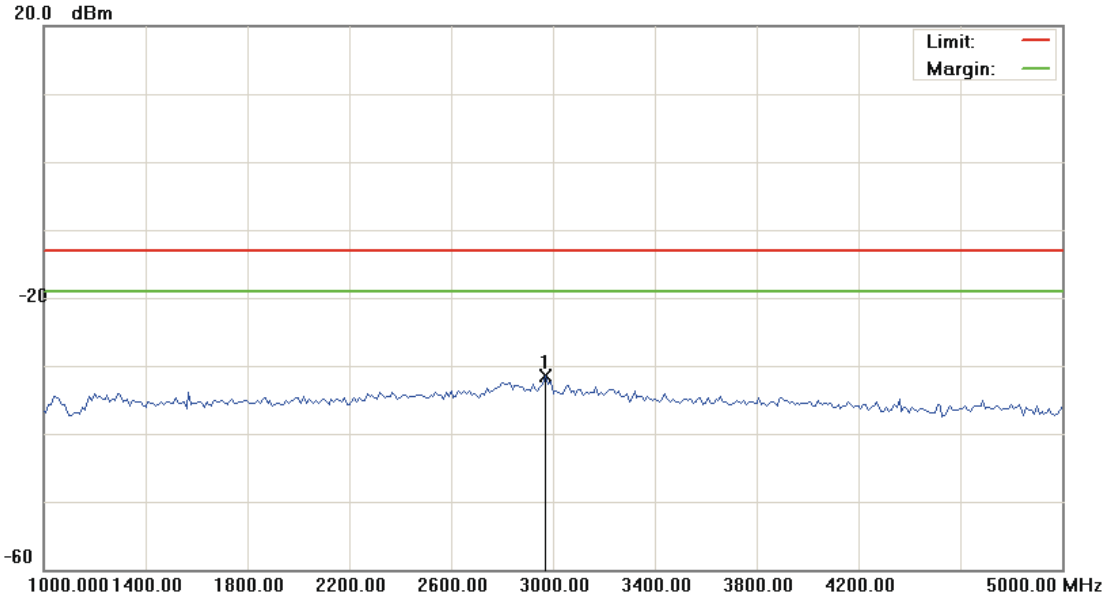
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1		50.0000	-53.47	14.69	-38.78	-13.00	-25.78	peak			
2	*	845.6250	10.64	3.99	14.63	-13.00	27.63	peak			Tx

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4233) Data :#3 Date: 2012/7/26 Time: 上午 10:45:19



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

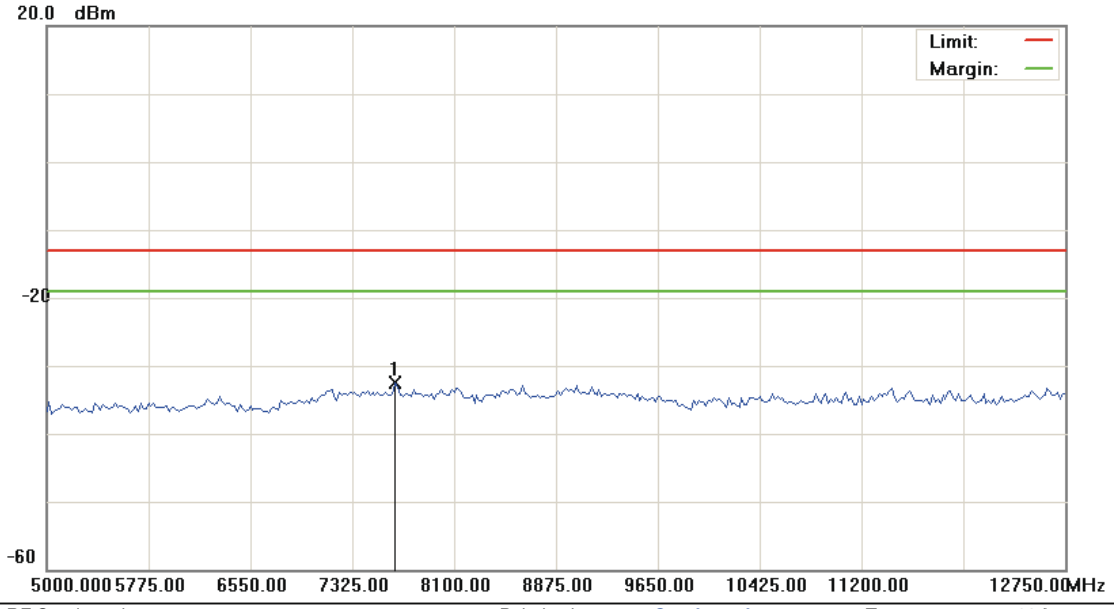
Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	2970.000	-36.11	4.56	-31.55	-13.00	-18.55	peak			

*:Maximum data x:Over limit !:over margin

File :Tango P1001(CH4233) Data :#4 Date: 2012/7/26 Time: 上午 10:45:39



Site: : RF Conducted
Limit: FCC Part 22 conducted(9k-12.75G)
EUT: PCI-E Embedded Module
M/N: TangoP1001
Mode: 4
Note:

Polarization: *Conducted po*
Power: DC 3.3V
Distance:

Temperature: 23 ℃
Humidity: 55.2 %
RBW: 1000KHz VBW: 1000KHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	Detector	cm	degree	Comment
1	*	7654.375	-37.58	5.10	-32.48	-13.00	-19.48	peak			

*:Maximum data x:Over limit !:over margin

6 Field Strength of Spurious Radiation Test

6.1. Limit

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 + 10log(P) dB.

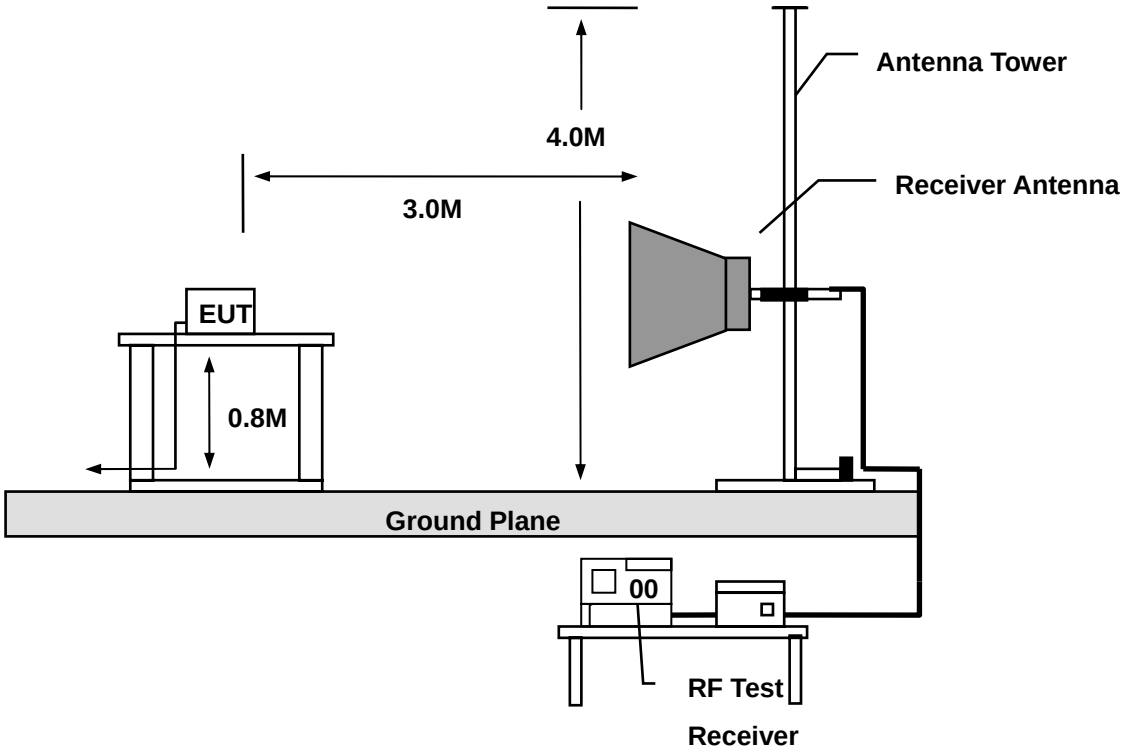
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

6.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/16/2012	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/16/2012	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/22/2012	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/22/2012	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	06/29/2012	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/15/2012	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/21/2012	(1)
Test Site	ATL	TE01	888001	12/20/2011	(1)

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

6.3. Setup



6.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 30 MHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on tree orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (mode VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro colts per meter (dBuV/m).

The actual field is intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

(2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

6.5. Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is ± 3.072 dB.

6.6. Test Result

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	07/26/2012
Frequency:	824.2 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
45.0000	-52.15	8.77	-43.38	-13.00	-30.38	peak	H
92.5000	-65.75	-0.43	-66.18	-13.00	-53.18	peak	H
160.0000	-71.01	1.45	-69.56	-13.00	-56.56	peak	H
427.5000	-79.37	3.61	-75.76	-13.00	-62.76	peak	H
625.0000	-71.96	7.49	-64.47	-13.00	-51.47	peak	H
779.0000	-67.06	10.15	-56.91	-13.00	-43.91	peak	H
3796.000	-70.36	16.05	-54.31	-13.00	-41.31	peak	H
5812.000	-72.54	22.53	-50.01	-13.00	-37.01	peak	H
7732.000	-71.26	29.39	-41.87	-13.00	-28.87	peak	H
45.0000	-38.64	-6.91	-45.55	-13.00	-32.55	peak	V
92.5000	-53.33	-4.73	-58.06	-13.00	-45.06	peak	V
202.5000	-75.02	9.84	-65.18	-13.00	-52.18	peak	V
357.0000	-75.91	2.24	-73.67	-13.00	-60.67	peak	V
611.5000	-78.16	8.28	-69.88	-13.00	-56.88	peak	V
779.0000	-68.15	11.27	-56.88	-13.00	-43.88	peak	V
3520.000	-70.69	19.56	-51.13	-13.00	-38.13	peak	V
5728.000	-72.57	23.16	-49.41	-13.00	-36.41	peak	V
7552.000	-72.90	26.49	-46.41	-13.00	-33.41	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	07/26/2012
Frequency:	836.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
45.0000	-48.58	8.77	-39.81	-13.00	-26.81	peak	H
92.5000	-63.86	-0.43	-64.29	-13.00	-51.29	peak	H
201.0000	-70.38	2.73	-67.65	-13.00	-54.65	peak	H
468.0000	-79.63	5.07	-74.56	-13.00	-61.56	peak	H
618.5000	-72.89	7.71	-65.18	-13.00	-52.18	peak	H
791.5000	-72.68	10.78	-61.90	-13.00	-48.90	peak	H
3856.000	-69.44	16.17	-53.27	-13.00	-40.27	peak	H
5764.000	-72.15	22.41	-49.74	-13.00	-36.74	peak	H
7540.000	-71.97	29.23	-42.74	-13.00	-29.74	peak	H
45.0000	-45.16	-6.91	-52.07	-13.00	-39.07	peak	V
202.5000	-74.72	9.84	-64.88	-13.00	-51.88	peak	V
279.5000	-78.12	0.85	-77.27	-13.00	-64.27	peak	V
429.0000	-78.72	1.39	-77.33	-13.00	-64.33	peak	V
631.0000	-79.62	8.74	-70.88	-13.00	-57.88	peak	V
791.5000	-75.07	11.61	-63.46	-13.00	-50.46	peak	V
3808.000	-69.02	20.18	-48.84	-13.00	-35.84	peak	V
5620.000	-72.08	23.30	-48.78	-13.00	-35.78	peak	V
7492.000	-72.87	26.48	-46.39	-13.00	-33.39	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	07/26/2012
Frequency:	848.8 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
45.0000	-43.08	8.77	-34.31	-13.00	-21.31	peak	H
92.5000	-65.88	-0.43	-66.31	-13.00	-53.31	peak	H
233.0000	-70.92	-1.27	-72.19	-13.00	-59.19	peak	H
417.5000	-76.95	3.32	-73.63	-13.00	-60.63	peak	H
574.0000	-78.20	7.66	-70.54	-13.00	-57.54	peak	H
791.5000	-70.35	10.78	-59.57	-13.00	-46.57	peak	H
3316.000	-68.91	14.92	-53.99	-13.00	-40.99	peak	H
5440.000	-72.81	21.50	-51.31	-13.00	-38.31	peak	H
7504.000	-70.84	29.20	-41.64	-13.00	-28.64	peak	H
45.0000	-37.41	-6.91	-44.32	-13.00	-31.32	peak	V
152.5000	-57.04	9.08	-47.96	-13.00	-34.96	peak	V
346.5000	-69.67	1.60	-68.07	-13.00	-55.07	peak	V
505.0000	-73.55	2.84	-70.71	-13.00	-57.71	peak	V
658.5000	-76.65	9.33	-67.32	-13.00	-54.32	peak	V
791.5000	-73.77	11.61	-62.16	-13.00	-49.16	peak	V
3052.000	-68.45	16.74	-51.71	-13.00	-38.71	peak	V
5008.000	-71.69	23.44	-48.25	-13.00	-35.25	peak	V
7396.000	-71.44	26.30	-45.14	-13.00	-32.14	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	07/26/2012
Frequency:	1850.2 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
45.0000	-58.18	8.77	-49.41	-13.00	-36.41	peak	H
92.5000	-65.29	-0.43	-65.72	-13.00	-52.72	peak	H
201.0000	-70.22	2.73	-67.49	-13.00	-54.49	peak	H
440.0000	-79.40	3.90	-75.50	-13.00	-62.50	peak	H
571.5000	-67.50	7.69	-59.81	-13.00	-46.81	peak	H
779.0000	-64.80	10.15	-54.65	-13.00	-41.65	peak	H
3436.000	-70.02	15.28	-54.74	-13.00	-41.74	peak	H
5728.000	-71.09	22.31	-48.78	-13.00	-35.78	peak	H
7564.000	-73.08	29.26	-43.82	-13.00	-30.82	peak	H
45.0000	-38.89	-6.91	-45.80	-13.00	-32.80	peak	V
160.5000	-65.75	12.20	-53.55	-13.00	-40.55	peak	V
377.0000	-73.59	1.75	-71.84	-13.00	-58.84	peak	V
539.0000	-77.03	4.21	-72.82	-13.00	-59.82	peak	V
731.5000	-77.40	10.65	-66.75	-13.00	-53.75	peak	V
779.5000	-69.30	11.28	-58.02	-13.00	-45.02	peak	V
3040.000	-69.64	16.67	-52.97	-13.00	-39.97	peak	V
4900.000	-69.79	23.19	-46.60	-13.00	-33.60	peak	V
7504.000	-72.26	26.50	-45.76	-13.00	-32.76	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	07/26/2012
Frequency:	1880.0 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
92.5000	-64.92	-0.43	-65.35	-13.00	-52.35	peak	H
160.5000	-71.45	1.05	-70.40	-13.00	-57.40	peak	H
311.0000	-74.97	-1.57	-76.54	-13.00	-63.54	peak	H
540.5000	-79.04	8.25	-70.79	-13.00	-57.79	peak	H
672.0000	-70.63	7.07	-63.56	-13.00	-50.56	peak	H
827.5000	-80.62	11.99	-68.63	-13.00	-55.63	peak	H
3508.000	-69.72	15.50	-54.22	-13.00	-41.22	peak	H
5956.000	-71.94	22.94	-49.00	-13.00	-36.00	peak	H
7924.000	-72.81	29.55	-43.26	-13.00	-30.26	peak	H
92.5000	-60.97	-4.73	-65.70	-13.00	-52.70	peak	V
160.5000	-73.98	12.20	-61.78	-13.00	-48.78	peak	V
376.5000	-77.44	1.78	-75.66	-13.00	-62.66	peak	V
484.5000	-73.83	2.47	-71.36	-13.00	-58.36	peak	V
631.5000	-80.08	8.74	-71.34	-13.00	-58.34	peak	V
791.5000	-74.40	11.61	-62.79	-13.00	-49.79	peak	V
3148.000	-68.28	17.33	-50.95	-13.00	-37.95	peak	V
5020.000	-71.34	23.45	-47.89	-13.00	-34.89	peak	V
7540.000	-72.87	26.49	-46.38	-13.00	-33.38	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	2	Date:	07/26/2012
Frequency:	1909.8 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
92.5000	-63.98	-0.43	-64.41	-13.00	-51.41	peak	H
201.5000	-69.92	2.61	-67.31	-13.00	-54.31	peak	H
306.5000	-73.43	-1.89	-75.32	-13.00	-62.32	peak	H
471.5000	-74.78	5.26	-69.52	-13.00	-56.52	peak	H
600.0000	-79.57	7.94	-71.63	-13.00	-58.63	peak	H
823.0000	-81.22	11.95	-69.27	-13.00	-56.27	peak	H
3820.000	-70.36	16.11	-54.25	-13.00	-41.25	peak	H
5968.000	-72.94	22.95	-49.99	-13.00	-36.99	peak	H
7684.000	-71.29	29.35	-41.94	-13.00	-28.94	peak	H
92.5000	-58.84	-4.73	-63.57	-13.00	-50.57	peak	V
240.5000	-64.08	0.31	-63.77	-13.00	-50.77	peak	V
351.0000	-79.11	1.87	-77.24	-13.00	-64.24	peak	V
567.5000	-80.12	4.95	-75.17	-13.00	-62.17	peak	V
672.0000	-72.45	9.49	-62.96	-13.00	-49.96	peak	V
799.5000	-80.40	11.86	-68.54	-13.00	-55.54	peak	V
3076.000	-68.91	16.88	-52.03	-13.00	-39.03	peak	V
5008.000	-71.87	23.44	-48.43	-13.00	-35.43	peak	V
7324.000	-72.86	26.14	-46.72	-13.00	-33.72	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	3	Date:	07/26/2012
Frequency:	1852.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
92.5000	-65.10	-0.43	-65.53	-13.00	-52.53	peak	H
201.0000	-67.28	2.73	-64.55	-13.00	-51.55	peak	H
419.0000	-77.98	3.39	-74.59	-13.00	-61.59	peak	H
547.5000	-79.32	8.10	-71.22	-13.00	-58.22	peak	H
668.0000	-80.08	7.11	-72.97	-13.00	-59.97	peak	H
820.0000	-80.02	11.92	-68.10	-13.00	-55.10	peak	H
3328.000	-69.38	14.95	-54.43	-13.00	-41.43	peak	H
6244.000	-72.58	24.57	-48.01	-13.00	-35.01	peak	H
8188.000	-72.25	29.29	-42.96	-13.00	-29.96	peak	H
92.5000	-60.03	-4.73	-64.76	-13.00	-51.76	peak	V
131.0000	-71.58	13.83	-57.75	-13.00	-44.75	peak	V
302.5000	-75.29	2.49	-72.80	-13.00	-59.80	peak	V
400.0000	-77.77	1.33	-76.44	-13.00	-63.44	peak	V
612.5000	-79.43	8.36	-71.07	-13.00	-58.07	peak	V
773.0000	-79.77	11.17	-68.60	-13.00	-55.60	peak	V
3280.000	-70.60	18.14	-52.46	-13.00	-39.46	peak	V
5140.000	-71.77	23.47	-48.30	-13.00	-35.30	peak	V
7636.000	-72.59	26.46	-46.13	-13.00	-33.13	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	3	Date:	07/26/2012
Frequency:	1880.0 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
92.5000	-64.00	-0.43	-64.43	-13.00	-51.43	peak	H
200.0000	-70.17	2.95	-67.22	-13.00	-54.22	peak	H
401.5000	-73.83	2.63	-71.20	-13.00	-58.20	peak	H
554.0000	-77.69	7.95	-69.74	-13.00	-56.74	peak	H
701.5000	-79.43	6.99	-72.44	-13.00	-59.44	peak	H
808.5000	-80.73	11.53	-69.20	-13.00	-56.20	peak	H
3220.000	-69.17	14.62	-54.55	-13.00	-41.55	peak	H
5680.000	-72.16	22.18	-49.98	-13.00	-36.98	peak	H
7516.000	-72.89	29.22	-43.67	-13.00	-30.67	peak	H
130.0000	-68.48	14.37	-54.11	-13.00	-41.11	peak	V
208.0000	-70.54	9.19	-61.35	-13.00	-48.35	peak	V
303.0000	-76.78	2.45	-74.33	-13.00	-61.33	peak	V
477.5000	-77.99	2.31	-75.68	-13.00	-62.68	peak	V
641.5000	-79.48	8.68	-70.80	-13.00	-57.80	peak	V
803.0000	-80.93	11.78	-69.15	-13.00	-56.15	peak	V
3184.000	-68.70	17.55	-51.15	-13.00	-38.15	peak	V
5380.000	-72.80	23.48	-49.32	-13.00	-36.32	peak	V
7924.000	-72.18	26.38	-45.80	-13.00	-32.80	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	3	Date:	07/26/2012
Frequency:	1907.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
92.5000	-65.91	-0.43	-66.34	-13.00	-53.34	peak	H
201.0000	-72.39	2.73	-69.66	-13.00	-56.66	peak	H
320.0000	-74.47	-0.92	-75.39	-13.00	-62.39	peak	H
492.5000	-79.51	6.51	-73.00	-13.00	-60.00	peak	H
596.5000	-79.57	7.89	-71.68	-13.00	-58.68	peak	H
804.0000	-80.49	11.38	-69.11	-13.00	-56.11	peak	H
3676.000	-69.71	15.83	-53.88	-13.00	-40.88	peak	H
6076.000	-71.76	23.53	-48.23	-13.00	-35.23	peak	H
7804.000	-73.01	29.44	-43.57	-13.00	-30.57	peak	H
92.5000	-59.46	-4.73	-64.19	-13.00	-51.19	peak	V
130.5000	-74.05	14.10	-59.95	-13.00	-46.95	peak	V
211.0000	-76.94	8.58	-68.36	-13.00	-55.36	peak	V
383.5000	-78.70	1.57	-77.13	-13.00	-64.13	peak	V
580.0000	-79.25	5.92	-73.33	-13.00	-60.33	peak	V
703.5000	-79.97	10.31	-69.66	-13.00	-56.66	peak	V
3028.000	-69.15	16.59	-52.56	-13.00	-39.56	peak	V
5200.000	-72.58	23.46	-49.12	-13.00	-36.12	peak	V
7444.000	-72.75	26.38	-46.37	-13.00	-33.37	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	4	Date:	07/26/2012
Frequency:	826.4 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
45.0000	-50.64	8.77	-41.87	-13.00	-28.87	peak	H
92.5000	-61.78	-0.43	-62.21	-13.00	-49.21	peak	H
205.0000	-70.26	1.80	-68.46	-13.00	-55.46	peak	H
359.0000	-74.71	0.02	-74.69	-13.00	-61.69	peak	H
533.5000	-78.43	8.05	-70.38	-13.00	-57.38	peak	H
721.0000	-79.74	7.52	-72.22	-13.00	-59.22	peak	H
3172.000	-68.98	14.47	-54.51	-13.00	-41.51	peak	H
5596.000	-72.26	21.95	-50.31	-13.00	-37.31	peak	H
7324.000	-72.88	28.62	-44.26	-13.00	-31.26	peak	H
45.0000	-42.84	-6.91	-49.75	-13.00	-36.75	peak	V
92.5000	-56.31	-4.73	-61.04	-13.00	-48.04	peak	V
289.5000	-76.70	1.77	-74.93	-13.00	-61.93	peak	V
454.0000	-76.01	1.64	-74.37	-13.00	-61.37	peak	V
538.0000	-76.80	4.14	-72.66	-13.00	-59.66	peak	V
731.5000	-78.83	10.65	-68.18	-13.00	-55.18	peak	V
3232.000	-69.46	17.85	-51.61	-13.00	-38.61	peak	V
5356.000	-72.43	23.48	-48.95	-13.00	-35.95	peak	V
7468.000	-71.70	26.43	-45.27	-13.00	-32.27	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	4	Date:	07/26/2012
Frequency:	836.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
45.0000	-51.90	8.77	-43.13	-13.00	-30.13	peak	H
158.0000	-65.07	0.82	-64.25	-13.00	-51.25	peak	H
200.0000	-69.61	2.95	-66.66	-13.00	-53.66	peak	H
420.0000	-76.07	3.43	-72.64	-13.00	-59.64	peak	H
558.5000	-65.34	7.83	-57.51	-13.00	-44.51	peak	H
727.0000	-80.28	7.73	-72.55	-13.00	-59.55	peak	H
3148.000	-68.30	14.39	-53.91	-13.00	-40.91	peak	H
5260.000	-71.94	20.93	-51.01	-13.00	-38.01	peak	H
7696.000	-72.39	29.37	-43.02	-13.00	-30.02	peak	H
132.0000	-66.44	13.29	-53.15	-13.00	-40.15	peak	V
200.5000	-73.66	10.08	-63.58	-13.00	-50.58	peak	V
341.0000	-73.05	1.26	-71.79	-13.00	-58.79	peak	V
497.0000	-77.86	2.69	-75.17	-13.00	-62.17	peak	V
647.5000	-79.04	8.90	-70.14	-13.00	-57.14	peak	V
744.0000	-77.84	10.59	-67.25	-13.00	-54.25	peak	V
2848.000	-69.74	15.17	-54.57	-13.00	-41.57	peak	V
5596.000	-73.05	23.35	-49.70	-13.00	-36.70	peak	V
8176.000	-72.64	26.25	-46.39	-13.00	-33.39	peak	V

Standard:	FCC Part 22	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.3V
Model Number:	TangoP1001	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	4	Date:	07/26/2012
Frequency:	846.6 MHz	Test By:	Fly Lu

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
92.5000	-57.57	-0.43	-58.00	-13.00	-45.00	peak	H
160.0000	-66.54	1.45	-65.09	-13.00	-52.09	peak	H
267.5000	-67.55	-4.34	-71.89	-13.00	-58.89	peak	H
398.5000	-71.99	2.41	-69.58	-13.00	-56.58	peak	H
523.0000	-73.14	7.74	-65.40	-13.00	-52.40	peak	H
741.5000	-76.83	8.27	-68.56	-13.00	-55.56	peak	H
2896.000	-69.98	13.56	-56.42	-13.00	-43.42	peak	H
5056.000	-70.57	20.27	-50.30	-13.00	-37.30	peak	H
7300.000	-72.98	28.55	-44.43	-13.00	-31.43	peak	H
92.5000	-53.71	-4.73	-58.44	-13.00	-45.44	peak	V
281.5000	-75.04	1.04	-74.00	-13.00	-61.00	peak	V
429.5000	-75.92	1.39	-74.53	-13.00	-61.53	peak	V
618.0000	-78.93	8.75	-70.18	-13.00	-57.18	peak	V
756.0000	-74.80	10.86	-63.94	-13.00	-50.94	peak	V
803.5000	-65.94	11.77	-54.17	-13.00	-41.17	peak	V
2860.000	-69.60	15.28	-54.32	-13.00	-41.32	peak	V
5296.000	-72.95	23.46	-49.49	-13.00	-36.49	peak	V
7396.000	-73.16	26.30	-46.86	-13.00	-33.86	peak	V

7 Frequency Stability (Temperature Variation) Test

7.1. Limit

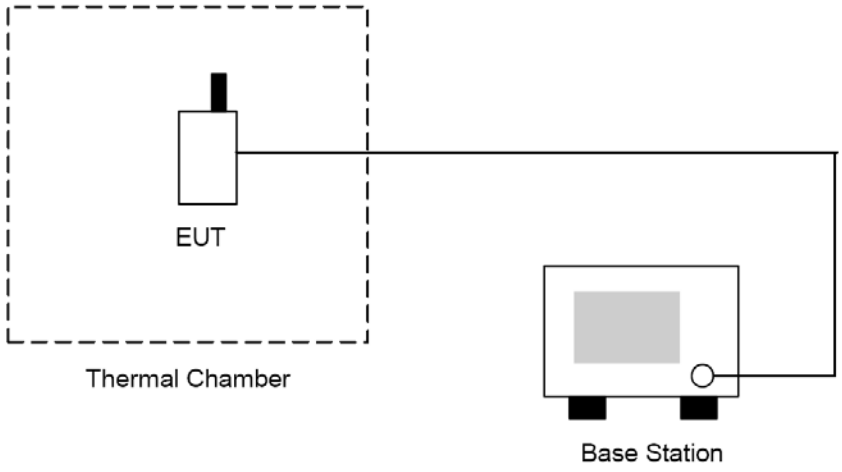
The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

7.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	112387	03/16/2012	(2)
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	08/24/2011	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

7.3. Setup



7.4. Test Procedure

The measurement is made according to FCC rules part 22 and 24:

1. The EUT and test equipment were set up as shown on the following section.
2. With all power removed, the temperature was decreased to -30℃ and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was note within one minute.
3. With power OFF, the temperature was raised in 10℃ steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
4. The temperature tests were performed for the worst case.
5. Test data was recorded.

7.5. Uncertainty

The measurement uncertainty is defined as for Frequency Stability (Temperature Variation) measurement is ± 10Hz.

7.6. Test Result

Model Number	TangoP1001			
Test Item	Frequency Stability (Temperature Variation)			
Test Mode	Mode 1			
Date of Test	07/24/2012		Test Site	TE05
Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
-30	-6	-0.007	±2.5	Pass
-20	7	0.008	±2.5	Pass
-10	-7	-0.008	±2.5	Pass
0	-5	-0.006	±2.5	Pass
10	6	0.007	±2.5	Pass
20	5	0.006	±2.5	Pass
30	-3	-0.004	±2.5	Pass
40	-6	-0.007	±2.5	Pass
50	4	0.005	±2.5	Pass

Model Number	TangoP1001			
Test Item	Frequency Stability (Temperature Variation)			
Test Mode	Mode 2			
Date of Test	07/24/2012		Test Site	TE05
Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
-30	18	0.010	±2.5	Pass
-20	20	0.011	±2.5	Pass
-10	13	0.007	±2.5	Pass
0	21	0.011	±2.5	Pass
10	18	0.010	±2.5	Pass
20	15	0.008	±2.5	Pass
30	17	0.009	±2.5	Pass
40	24	0.013	±2.5	Pass
50	21	0.011	±2.5	Pass

Model Number	TangoP1001			
Test Item	Frequency Stability (Temperature Variation)			
Test Mode	Mode 3			
Date of Test	07/24/2012		Test Site	TE05
Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
-30	-7	-0.004	±2.5	Pass
-20	8	0.004	±2.5	Pass
-10	11	0.006	±2.5	Pass
0	-3	-0.002	±2.5	Pass
10	4	0.002	±2.5	Pass
20	-6	-0.003	±2.5	Pass
30	-5	-0.003	±2.5	Pass
40	9	0.005	±2.5	Pass
50	5	0.003	±2.5	Pass

Model Number	TangoP1001			
Test Item	Frequency Stability (Temperature Variation)			
Test Mode	Mode 4			
Date of Test	07/24/2012		Test Site	TE05
Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
-30	-4	-0.005	±2.5	Pass
-20	-6	-0.007	±2.5	Pass
-10	-3	-0.004	±2.5	Pass
0	6	0.007	±2.5	Pass
10	2	0.002	±2.5	Pass
20	-4	-0.005	±2.5	Pass
30	-2	-0.002	±2.5	Pass
40	-9	-0.011	±2.5	Pass
50	-3	-0.004	±2.5	Pass

8 Frequency Stability (Voltage Variation) Test

8.1. Limit

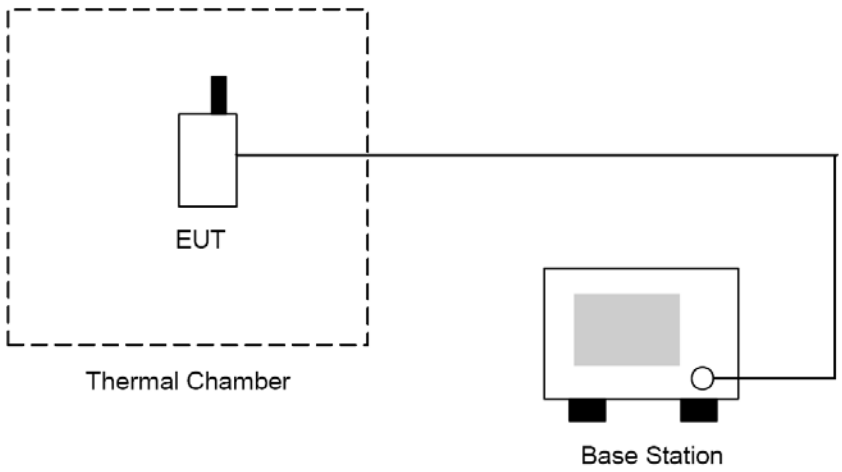
The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

8.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Universal Radio Communication Tester	ROHDE & SCHWARZ	CMU200	109369	08/10/2010	(2)
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	08/24/2011	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.
Note: N.C.R. = No Calibration Request.

8.3. Setup



8.4. Test Procedure

1. The EUT was placed in a temperature chamber at 25±5 ℃ and connected as the following section.
2. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

8.5. Uncertainty

The measurement uncertainty is defined as for Frequency Stability (Voltage Variation) measurement is ± 10Hz.

8.6. Test Result

Model Number	TangoP1001				
Test Item	Frequency Stability (Voltage Variation)				
Test Mode	Mode 1				
Date of Test	07/24/2012		Test Site	TE05	
Level	Voltage [Vdc]	Deviation [Hz]	Deviation [ppm]	Limit [ppm]	Result
Battery full point	3.00	-7	-0.008	±2.5	Pass
Normal	3.30	8	0.010	±2.5	Pass
Battery cut-off point	3.60	-9	-0.011	±2.5	Pass

Model Number	TangoP1001				
Test Item	Frequency Stability (Voltage Variation)				
Test Mode	Mode 2				
Date of Test	07/24/2012		Test Site	TE05	
Level	Voltage [Vdc]	Deviation [Hz]	Deviation [ppm]	Limit [ppm]	Result
Battery full point	3.00	21	0.011	±2.5	Pass
Normal	3.30	14	0.007	±2.5	Pass
Battery cut-off point	3.60	24	0.013	±2.5	Pass

Model Number	TangoP1001				
Test Item	Frequency Stability (Voltage Variation)				
Test Mode	Mode 3				
Date of Test	07/24/2012		Test Site	TE05	
Level	Voltage [Vdc]	Deviation [Hz]	Deviation [ppm]	Limit [ppm]	Result
Battery full point	3.00	6	0.003	±2.5	Pass
Normal	3.30	-7	-0.004	±2.5	Pass
Battery cut-off point	3.60	5	0.003	±2.5	Pass

Model Number	TangoP1001				
Test Item	Frequency Stability (Voltage Variation)				
Test Mode	Mode 4				
Date of Test	07/24/2012		Test Site	TE05	
Level	Voltage [Vdc]	Deviation [Hz]	Deviation [ppm]	Limit [ppm]	Result
Battery full point	3.00	4	0.005	±2.5	Pass
Normal	3.30	-6	-0.007	±2.5	Pass
Battery cut-off point	3.60	2	0.002	±2.5	Pass