Radio Test Report

FCC ID: H4IDG8882

This report concerns (check one) : ☒ **Original Grant** ☐ **Class II Change**

Issued Date : Feb. 27, 2013
Project No. : 1302027
Equipment : Dongle
Model Name : SD-8882

Applicant : LITE-ON TECHNOLOGY CORP.
Address : 90, Chien 1 Road, Chung Ho, Taipei Hsien 235, Taiwan, R.O.C.

Tested by: Neutron Engineering Inc. EMC Laboratory
Date of Receipt: Feb. 05, 2013
Date of Test: Feb. 05, 2013 ~ Feb. 25, 2013

Testing Engineer : (Josh Lin)

Technical Manager : (Jeff Yang)

Authorized Signatory : (Andy Chiu)

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Testing Laboratory
0659

Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C**., or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Revised Version No.	Description	Issued Date
-	Initial Issue.	Feb. 27, 2013

1 CERTIFICATION

Equipment	: Dongle
Brand Name	: LITEON
Model Name	: SD-8882
Applicant	: LITE-ON TECHNOLOGY CORP.
Date of Test	: Feb. 05, 2013 ~ Feb. 25, 2013
Standards	: RSS-210, Issue 8, 2010 FCC Part 15, Subpart C: 2012 ANSI C63.4: 2009

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1302027) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

FCC Part 15, Subpart C: 2012		
Standard Clause	**Test Item**	**Result**
15.207	Conducted Emission	**PASS**
15.249(d) or 15.209	Radiated Spurious Emission	**PASS**
15.205	Restricted Bands	**PASS**

NOTE:

(1) N/A: denotes test is not applicable in this Test Report

(2) Portable device; SAR report is required.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

Conducted emission Test:

C03: B1, No. 37, Lane 365, YangGuang St., NeiHu District 114, Taipei, Taiwan.

Radiated emission Test (Below 1 GHz):

CB08: (FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

Radiated emission Test (Above 1 GHz):

CB08: (VCCI RN: G-91; FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty is not specified by FCC/Industry Canada rules and for reference only.

The reported uncertainty of measurement **y** ± **U**，where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**，providing a level of confidence of approximately **95**%.

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

A. Conducted emission test:

Test Site	Measurement Frequency Range	U，(dB)	NOTE
C03	150 kHz ~ 30 MHz	1.94	

B. Radiated emission test:

Test Site	Item	Measurement Frequency Range		Uncertainty	NOTE
CB08	Radiated emission at 3m	Horizontal Polarization	30 - 200MHz	3.35 dB	
			200 - 1000MHz	3.11 dB	
			1 - 18GHz	3.97 dB	
			18 - 40GHz	4.01 dB	
		Vertical Polarization	30 - 200MHz	3.22 dB	
			200 - 1000MHz	3.24 dB	
			1 - 18GHz	4.05 dB	
			18 - 40GHz	4.04 dB	

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR}, as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz: 3.6 dB
Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz: 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR}.

If U_{lab} is less than or equal to U_{CISPR}, then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{CISPR}, then:

- compliance is deemed to occur if no measured disturbance level, increased by (U_{lab} - U_{CISPR}), exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by (U_{lab} - U_{CISPR}), exceeds the disturbance limit.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

<table>
<tr><td>Equipment</td><td>Dongle</td></tr>
<tr><td>Brand Name</td><td>LITEON</td></tr>
<tr><td>Model Name</td><td>SD-8882</td></tr>
<tr><td>OEM Brand/Model Name</td><td>N/A</td></tr>
<tr><td>Model Difference</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>The EUT is a Dongle.
<table>
<tr><td>Operation Frequency</td><td>2402 MHz ~2479 MHz</td></tr>
<tr><td>Modulation Type</td><td>GFSK</td></tr>
<tr><td>Bit Rate of Transmitter</td><td>1000 kbps</td></tr>
<tr><td>Number Of Channel</td><td>Please refer to the Note 2.</td></tr>
<tr><td>Antenna Designation</td><td>Please refer to the Note 3.</td></tr>
<tr><td>Antenna Gain(Peak)</td><td>Please refer to the Note 3.</td></tr>
<tr><td>Field strength</td><td>85.90 dBuV@3m</td></tr>
</table>
Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.</td></tr>
<tr><td>Power Source</td><td>Supplied from PC USB port.</td></tr>
<tr><td>Power Rating</td><td>I/P: DC 5V</td></tr>
<tr><td>Connecting I/O Port(s)</td><td>Please refer to the User's Manual</td></tr>
<tr><td>Products Covered</td><td>N/A</td></tr>
<tr><td>EUT Modification(s)</td><td>N/A</td></tr>
</table>

NOTE:

1. For a more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.

2. Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2402	27	2428	53	2454
02	2403	28	2429	54	2455
03	2404	29	2430	55	2456
04	2405	30	2431	56	2457
05	2406	31	2432	57	2458
06	2407	32	2433	58	2459
07	2408	33	2434	59	2460
08	2409	34	2435	60	2461
09	2410	35	2436	61	2462
10	2411	36	2437	62	2463
11	2412	37	2438	63	2464
12	2413	38	2439	64	2465
13	2414	39	2440	65	2466
14	2415	40	2441	66	2467
15	2416	41	2442	67	2468
16	2417	42	2443	68	2469
17	2418	43	2444	69	2470
18	2419	44	2445	70	2471
19	2420	45	2446	71	2472
20	2421	46	2447	72	2473
21	2422	47	2448	73	2474
22	2423	48	2449	74	2475
23	2424	49	2450	75	2476
24	2425	50	2451	76	2477
25	2426	51	2452	77	2478
26	2427	52	2453	78	2479

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Printed	N/A	-5.05

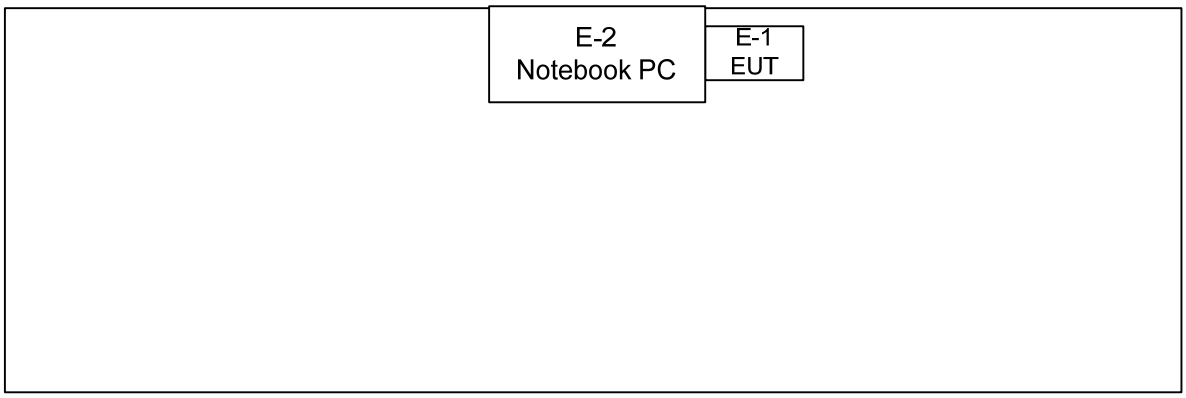
3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Items	Mode	Data Rate	Channel	Note
Conducted Emission	GFSK	2 Mbps	2441 MHz	
Radiated Spurious Emission (30 MHz to 1 GHz)	GFSK	2 Mbps	2441 MHz	
Radiated Spurious Emission (above 1 GHz)	GFSK	2 Mbps	2402 MHz / 2441 MHz / 2479 MHz	
Restricted Bands	GFSK	2 Mbps	2402 MHz / 2441 MHz / 2479 MHz	

NOTE: The measurements are performed at the highest, middle, lowest available channels.

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID/IC ID	Series No.	Note
E-1	Dongle	LITEON	SD-8882	H4IDG8882	N/A	EUT
E-2	Notebook PC	DELL	D620	DOC	7T390 A03	

Item	Shielded Type	Ferrite Core	Length	Note
N/A	-	-	-	-

NOTE: The support equipment was authorized by Declaration of Conformity (DOC).

4 CONDUCTED EMISSION

4.1 LIMIT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 - 5.0	73.00	60.00	56.00	46.00
5.0 - 30.0	73.00	60.00	60.00	50.00

NOTE:

1. The tighter limit applies at the band edges.
2. The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
3. The test result calculated as following:
   Measurement Value = Reading Level + Correct Factor
   Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
   Margin Level = Measurement Value – Limit Value

4.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Apr. 24, 2013
2	LISN	EMCO	3816/2	00066528	Mar. 26, 2013
3	Test Cable	TIMES	CFD300-NL	130	Jun. 14, 2013
4	EMI Test Receiver	R&S	ESCI	100080	Mar. 13, 2013

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

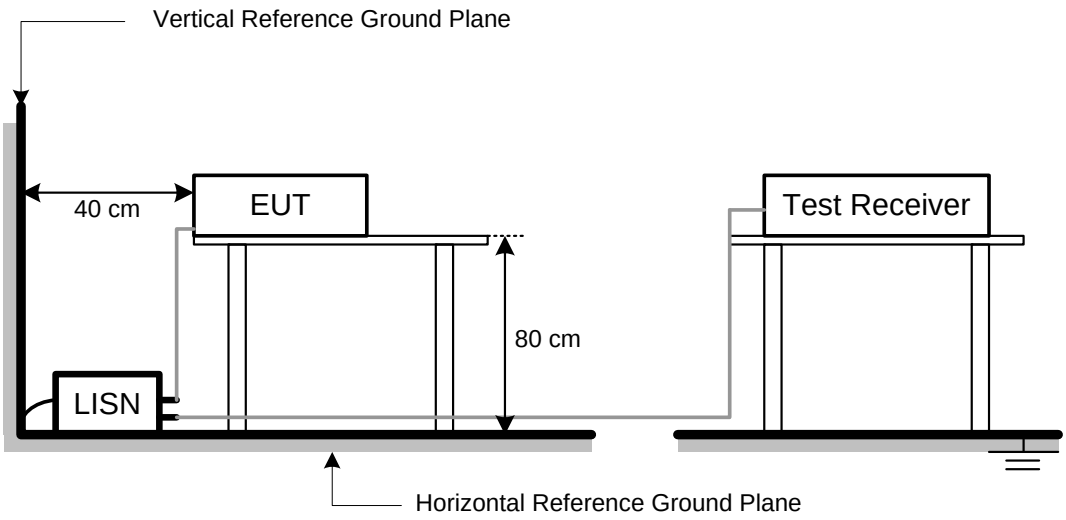
4.3 TEST PROCEDURES

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

NOTE:

a. Reading in which marked as Peak, QP or AVG means measurements by using are Quasi-Peak or Average Mode with Detector BW=9 kHz (20 dB Bandwidth).
b. All readings are Peak Mode value unless otherwise stated QP or AVG in column of Note. If the Peak or QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only Peak or QP Mode was measured, but AVG Mode didn‘t perform.

4.4 TEST SETUP LAYOUT



4.5 DEVIATION FROM TEST STANDARD

No deviation

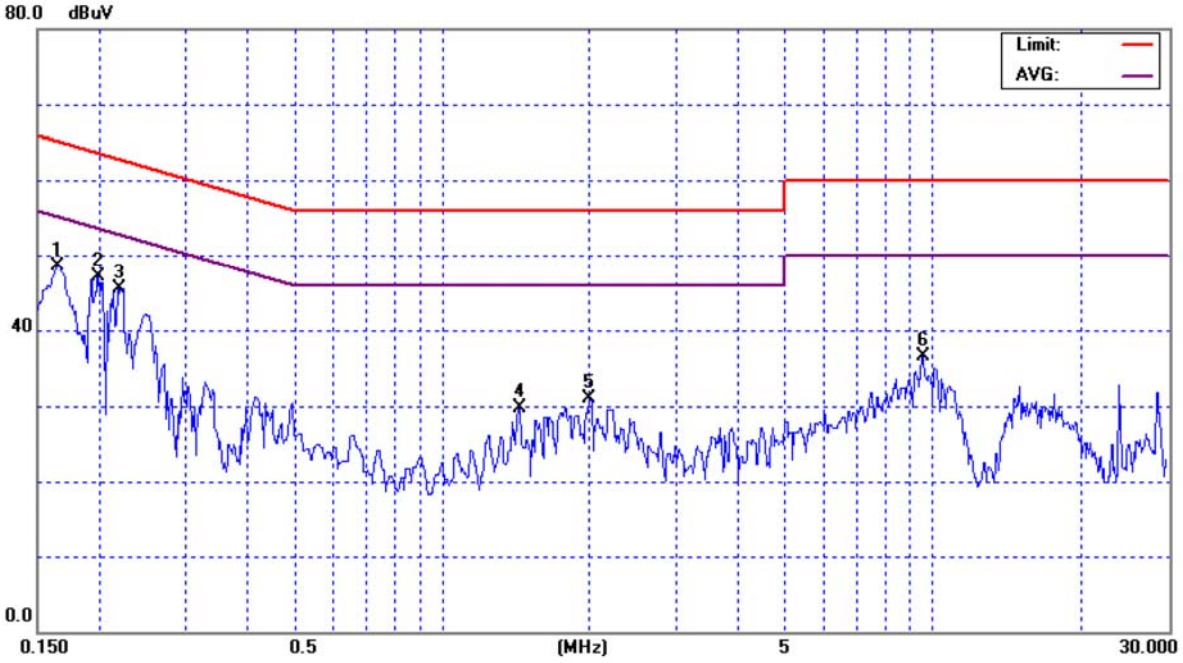
4.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.7 TEST RESULTS

E.U.T	Dongle	Model Name	SD-8882
Temperature	24°C	Relative Humidity	48%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2441 MHz		

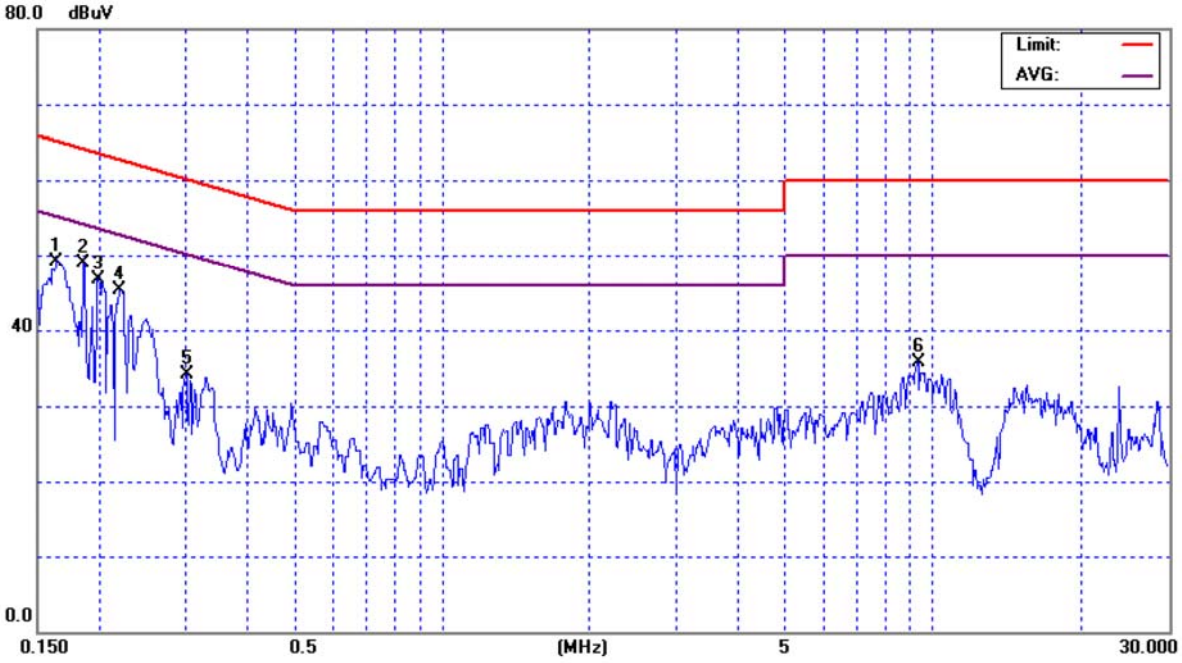
Phase: Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1647	38.87	9.66	48.53	65.22	-16.69	peak	
2	*	0.1990	37.35	9.69	47.04	63.65	-16.61	peak	
3		0.2186	35.89	9.69	45.58	62.87	-17.29	peak	
4		1.4360	19.99	9.72	29.71	56.00	-26.29	peak	
5		1.9940	21.07	9.77	30.84	56.00	-25.16	peak	
6		9.5500	26.30	10.12	36.42	60.00	-23.58	peak	

E.U.T	Dongle	Model Name	SD-8882
Temperature	24°C	Relative Humidity	48%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2441 MHz		

Phase: Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1640	39.46	9.68	49.14	65.26	-16.12	peak	
2	*	0.1864	39.11	9.71	48.82	64.20	-15.38	peak	
3		0.1990	36.94	9.72	46.66	63.65	-16.99	peak	
4		0.2200	35.55	9.71	45.26	62.82	-17.56	peak	
5		0.3005	24.35	9.69	34.04	60.23	-26.19	peak	
6		9.3500	25.67	10.10	35.77	60.00	-24.23	peak	

5 RADIATED SPURIOUS EMISSION (9 KHZ TO 1 GHZ)

5.1 LIMIT

20 dB in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency Range: 9 kHz to 1 GHz		
FREQUENCY (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Frequency Range: above 1 GHz				
FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
above 1 GHz	80	60	74	54

NOTE:

1. The limit for radiated test was performed according to FCC PART 15B.
2. The tighter limit applies at the band edges.
3. Emission level (dBuV/m)=20log Emission level (uV/m).
4. The test result calculated as following:
   Measurement Value = Reading Level + Correct Factor
   Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain (if use)
   Margin Level = Measurement Value – Limit Value

FCC Part15, Subpart C (15.249)	
Limit	Frequency Range (MHz)
Field strength of fundamental 50000 μV/m (94 dBμV/m) @ 3 m	2400-2483.5
Field strength of harmonics 500 μV/m (54 dBμV/m) @ 3 m	Above 2483.5

5.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Apr. 16, 2013
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 17, 2013
4	Microflex Cable	N/A	N/A	1m	Apr. 14, 2013
5	Microflex Cable	AISI	S104-SMAP-1	10m	Apr. 14, 2013
6	Microflex Cable	N/A	N/A	3m	Apr. 14, 2013
7	Test Cable	N/A	LMR-400	966_12m	May. 15, 2013
8	Test Cable	N/A	LMR-400	966_3m	May. 15, 2013
9	Pre-Amplifier	EMC	EMC-330	980001	May. 31, 2013
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 12, 2013

Remark: “N/A” denotes No Model Name, No Serial No. or No Calibration specified.

5.3 MEASURING INSTRUMENTS SETTING

EMI Test Receiver	Parameter Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

DUTY CYCLE: TX 2479 MHz (2 Mbps)

Dwell time = ON/ON+OFF

ON: 0.300msec *5 = 1.50 msec

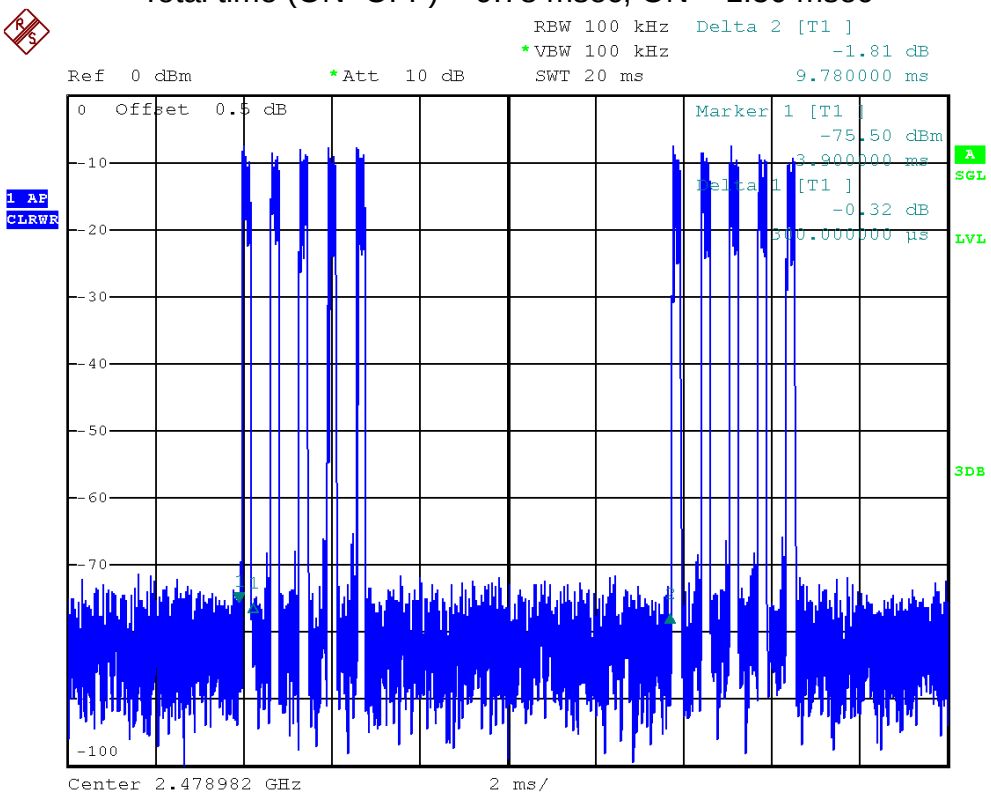
ON+OFF (total time): 9.78 msec

Dwell time: 15.33%

AV = PK + 20 log(Dwell time)

AV = PK – 16.29

Total time (ON+OFF) = 9.78 msec; ON = 1.50 msec



5.4 TEST PROCEDURES

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1 GHz. For frequencies above 1 GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.
g. The testing follows the guidelines in ANSI C63.4 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

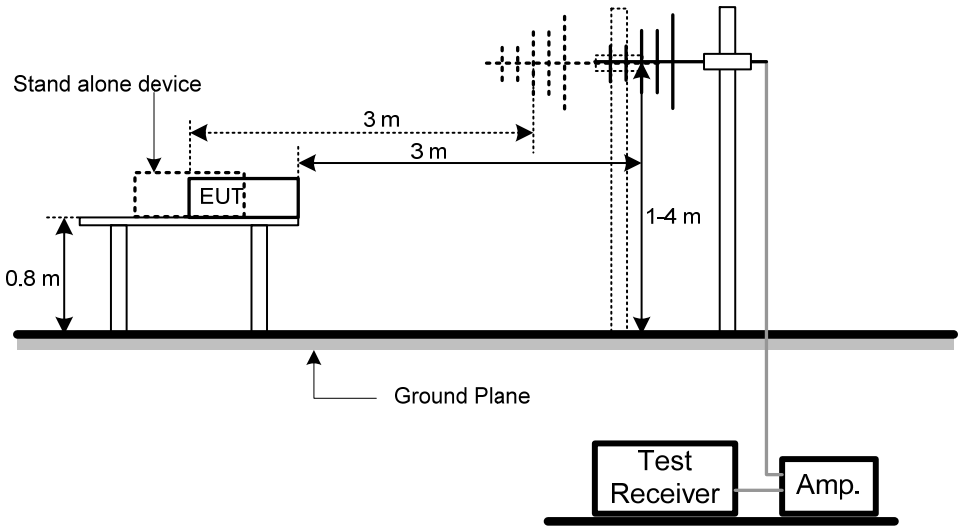
NOTE:

a. Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz; SPA setting in RBW=100 kHz, VBW =100 kHz, Swp. Time = 0.3 sec./ MHz.
b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform.

5.5 DEVIATION FROM TEST STANDARD

No deviation

5.6 TEST SETUP LAYOUT



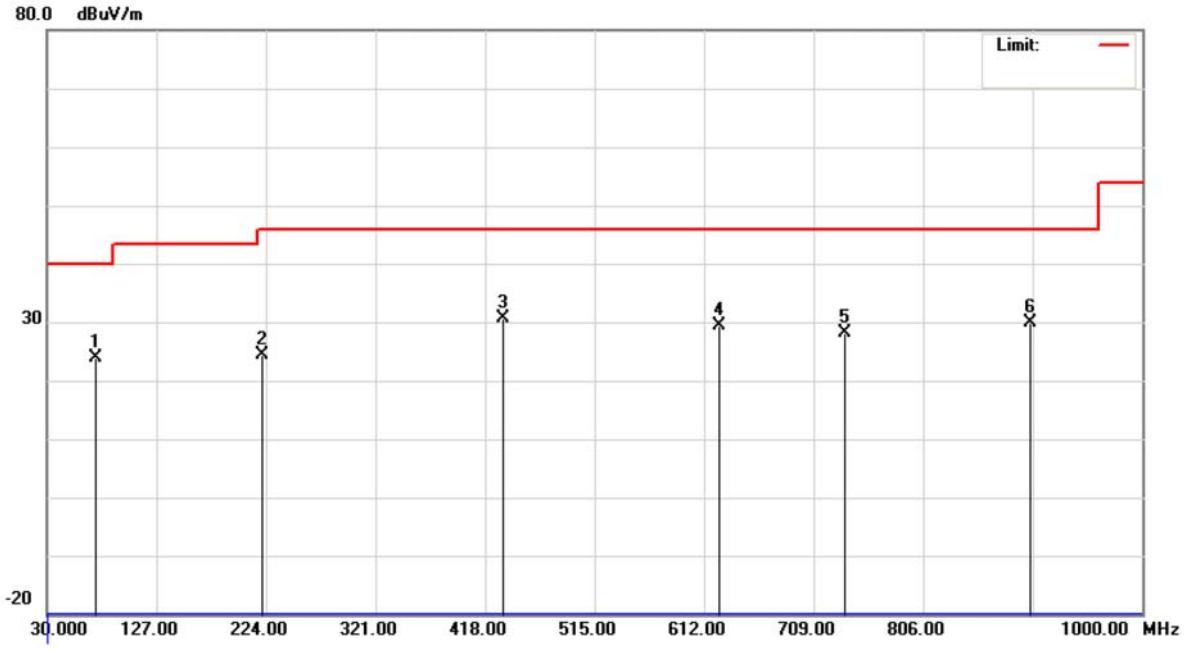
5.7 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.8 TEST RESULTS

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2441 MHz		

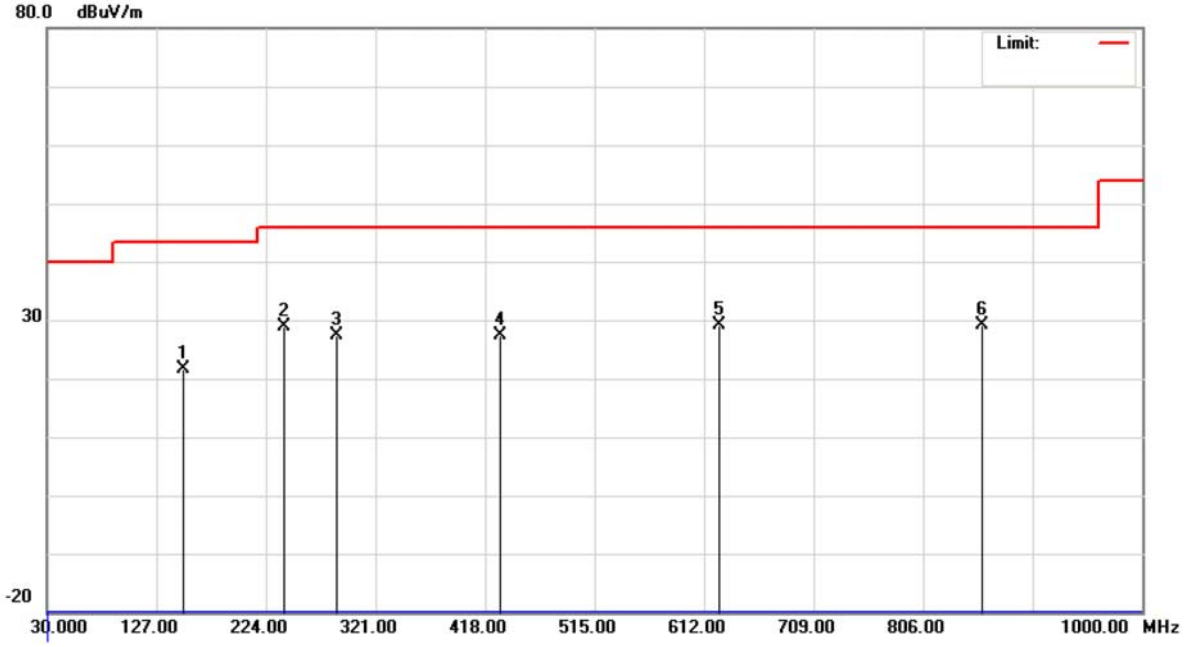
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		72.6800	45.32	-21.53	23.79	40.00	-16.21	peak	
2		220.1199	45.82	-21.32	24.50	46.00	-21.50	peak	
3	*	433.5199	45.22	-14.66	30.56	46.00	-15.44	peak	
4		625.5800	39.96	-10.56	29.40	46.00	-16.60	peak	
5		736.1599	37.04	-8.91	28.13	46.00	-17.87	peak	
6		901.0599	36.39	-6.55	29.84	46.00	-16.16	peak	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2441 MHz		

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		150.2799	40.37	-18.86	21.51	43.50	-21.99	peak	
2		239.5200	49.39	-20.48	28.91	46.00	-17.09	peak	
3		286.0799	45.80	-18.38	27.42	46.00	-18.58	peak	
4		431.5799	42.21	-14.71	27.50	46.00	-18.50	peak	
5		625.5800	39.59	-10.56	29.03	46.00	-16.97	peak	
6	*	858.3800	36.29	-7.11	29.18	46.00	-16.82	peak	

6 RADIATED SPURIOUS EMISSION (ABOVE 1 GHZ)

6.1 LIMIT

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequency Range: 9 kHz to 1 GHz		
FREQUENCY (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Frequency Range: above 1 GHz				
FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
above 1 GHz	80	60	74	54

NOTE:

(1) The limit for radiated test was performed according to FCC PART 15B.
(2) The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).
(4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain(if use)
Margin Level = Measurement Value – Limit Value

6.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Apr. 16, 2013
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 17, 2013
4	Microflex Cable	N/A	N/A	1m	Apr. 14, 2013
5	Microflex Cable	AISI	S104-SMAP-1	10m	Apr. 14, 2013
6	Microflex Cable	N/A	N/A	3m	Apr. 14, 2013
7	Test Cable	N/A	LMR-400	966_12m	May. 15, 2013
8	Test Cable	N/A	LMR-400	966_3m	May. 15, 2013
9	Pre-Amplifier	EMC	EMC-330	980001	May. 31, 2013
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 12, 2013

Remark: “N/A” denotes No Model Name, No Serial No. or No Calibration specified.

6.3 MEASURING INSTRUMENTS SETTING

Spectrum Analyzer	Parameter Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average
RB / VB (other emission)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average

6.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
c. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
d. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.
f. The testing follows the guidelines in ANSI C63.4 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

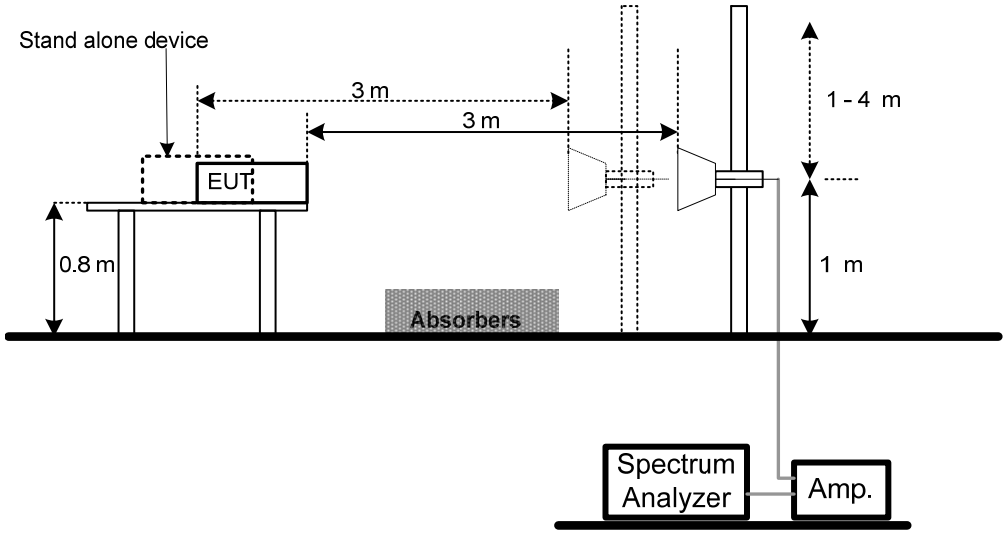
NOTE:

a. Reading in which marked as Peak means measurements by using are Peak Mode with instrument setting in RBW= 1 MHz, VBW= 1 MHz, Swp. Time = Auto.
Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW= 1 MHz, VBW= 10 Hz, Swp. Time = Auto.
b. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform.

6.5 DEVIATION FROM TEST STANDARD

No deviation

6.6 TEST SETUP LAYOUT



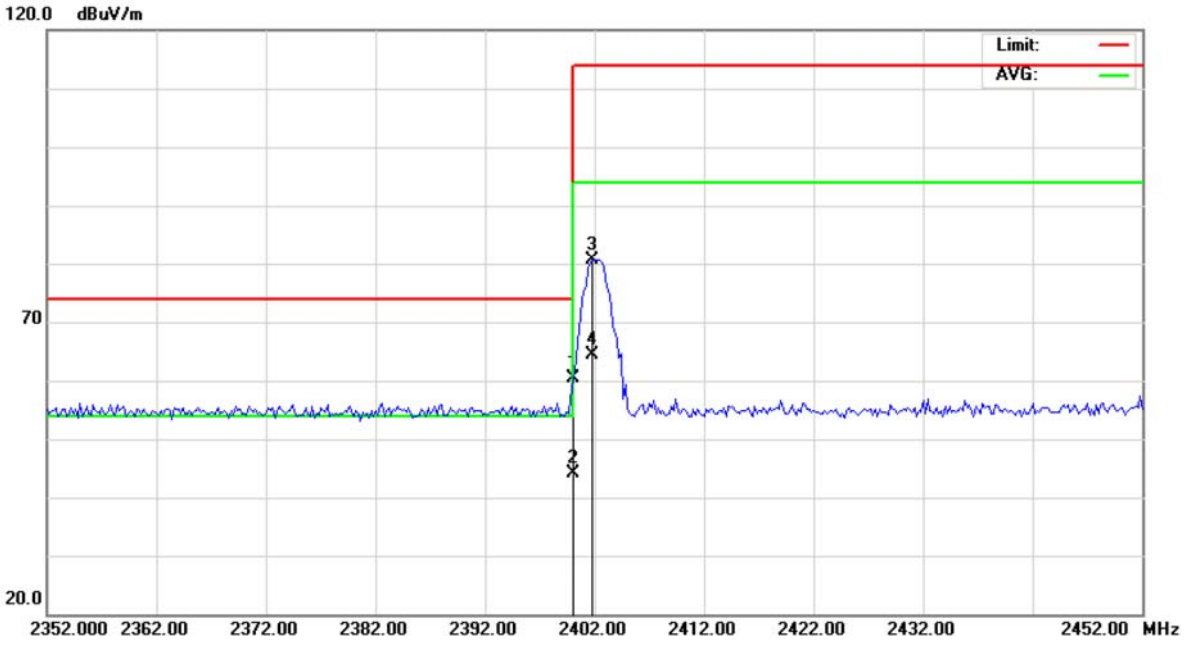
6.7 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

6.8 TEST RESULTS

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2402 MHz		

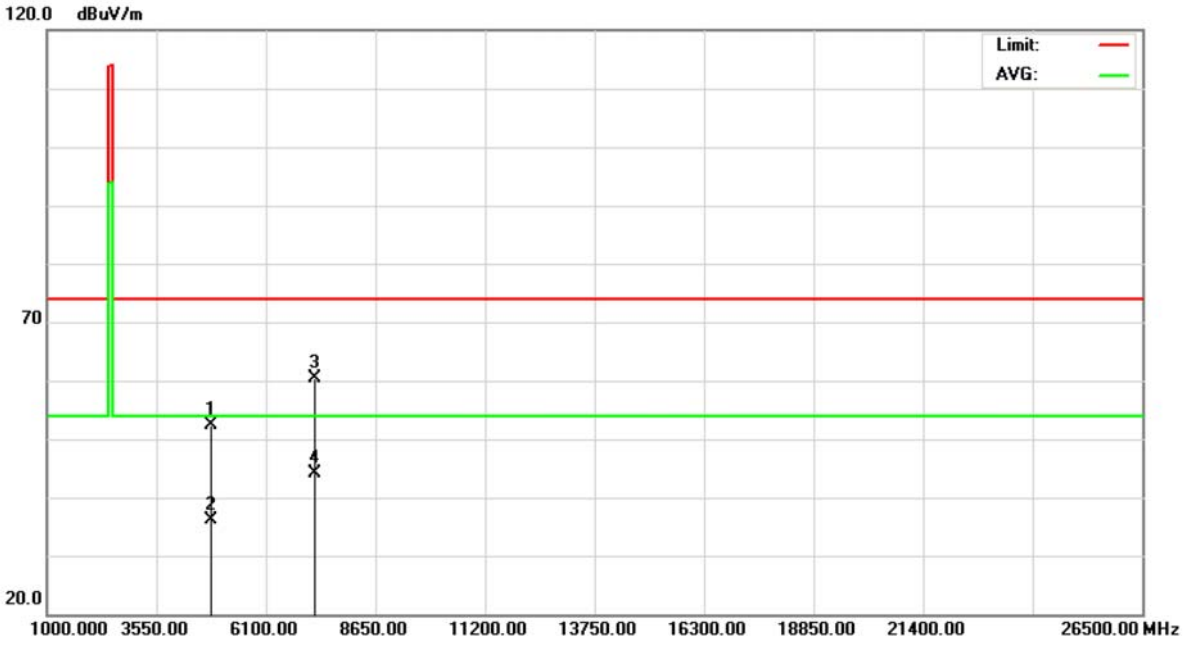
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2400.000	27.27	33.05	60.32	74.00	-13.68	peak	
2	*	2400.000	10.98	33.05	44.03	54.00	-9.97	AVG	
3		2401.800	47.67	33.06	80.73	114.0	-33.27	peak	
4		2401.800	31.38	33.06	64.44	94.00	-29.56	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2402 MHz		

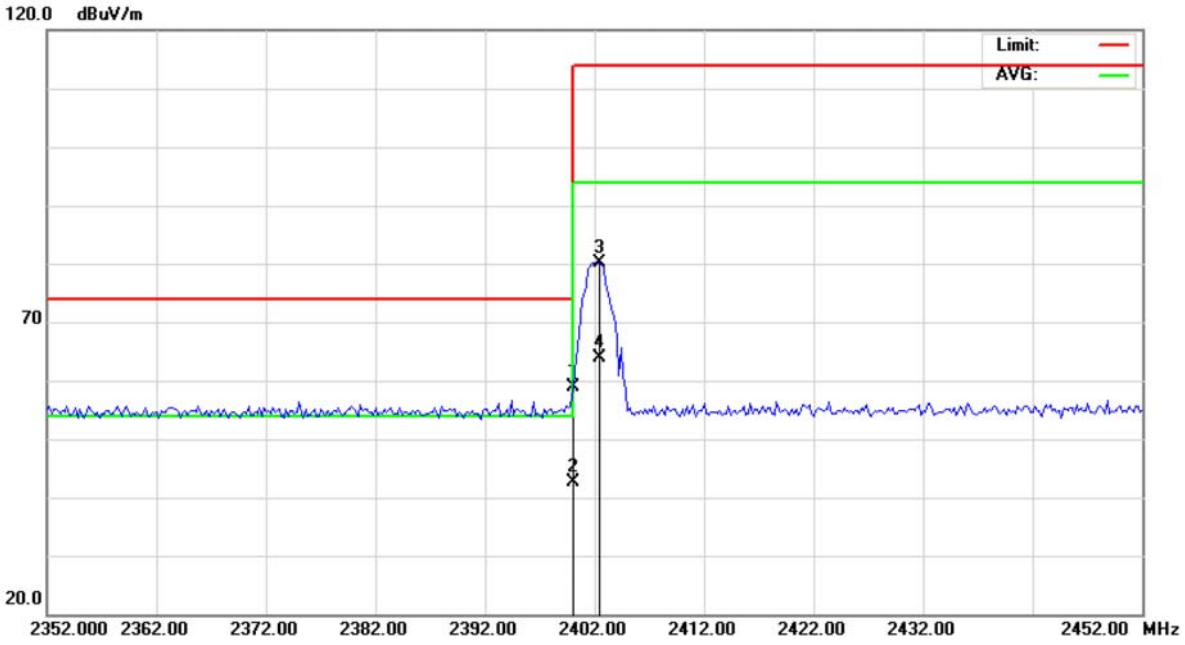
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4803.620	45.01	7.41	52.42	74.00	-21.58	peak	
2		4803.620	28.72	7.41	36.13	54.00	-17.87	AVG	
3		7208.320	45.51	14.80	60.31	74.00	-13.69	peak	
4	*	7208.320	29.22	14.80	44.02	54.00	-9.98	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2402 MHz		

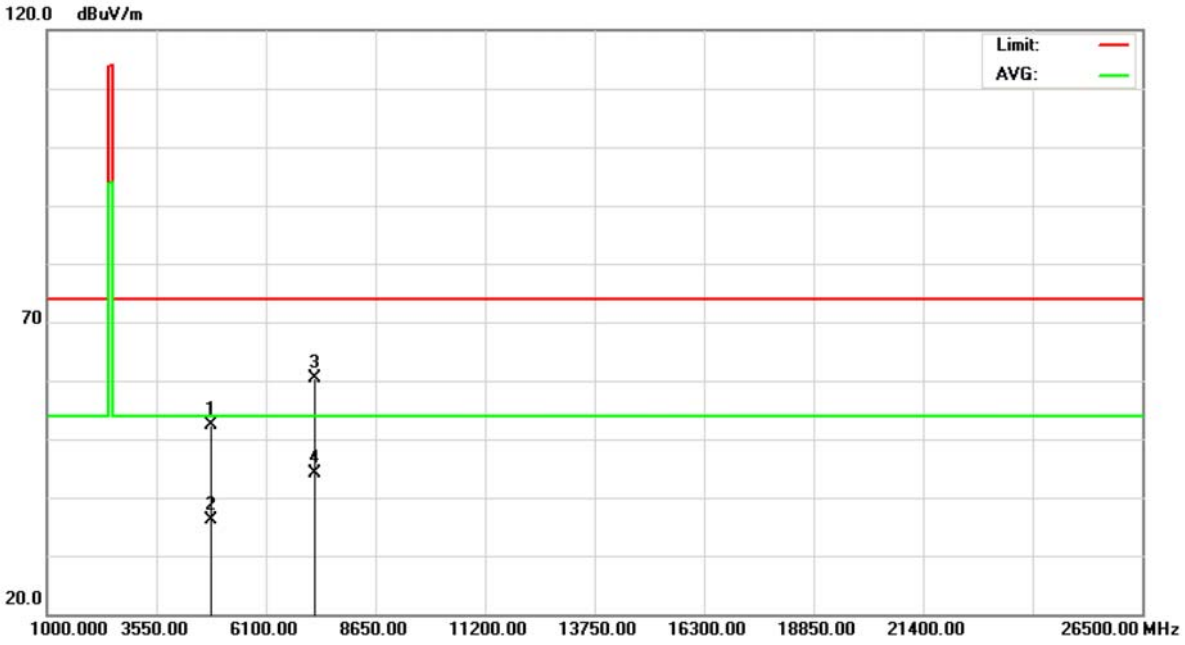
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2400.000	25.85	33.05	58.90	74.00	-15.10	peak	
2	*	2400.000	9.56	33.05	42.61	54.00	-11.39	AVG	
3		2402.400	47.08	33.06	80.14	114.0	-33.86	peak	
4		2402.400	30.79	33.06	63.85	94.00	-30.15	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2402 MHz		

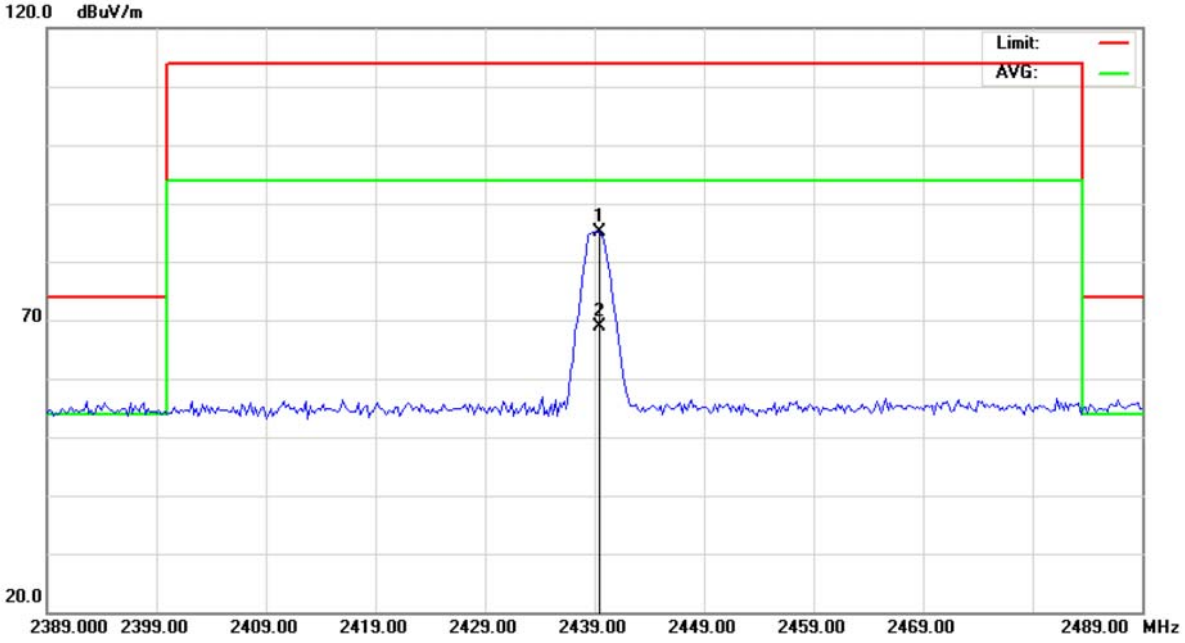
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4802.520	45.04	7.41	52.45	74.00	-21.55	peak	
2		4802.520	28.75	7.41	36.16	54.00	-17.84	AVG	
3		7204.100	45.61	14.78	60.39	74.00	-13.61	peak	
4	*	7204.100	29.32	14.78	44.10	54.00	-9.90	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2441 MHz		

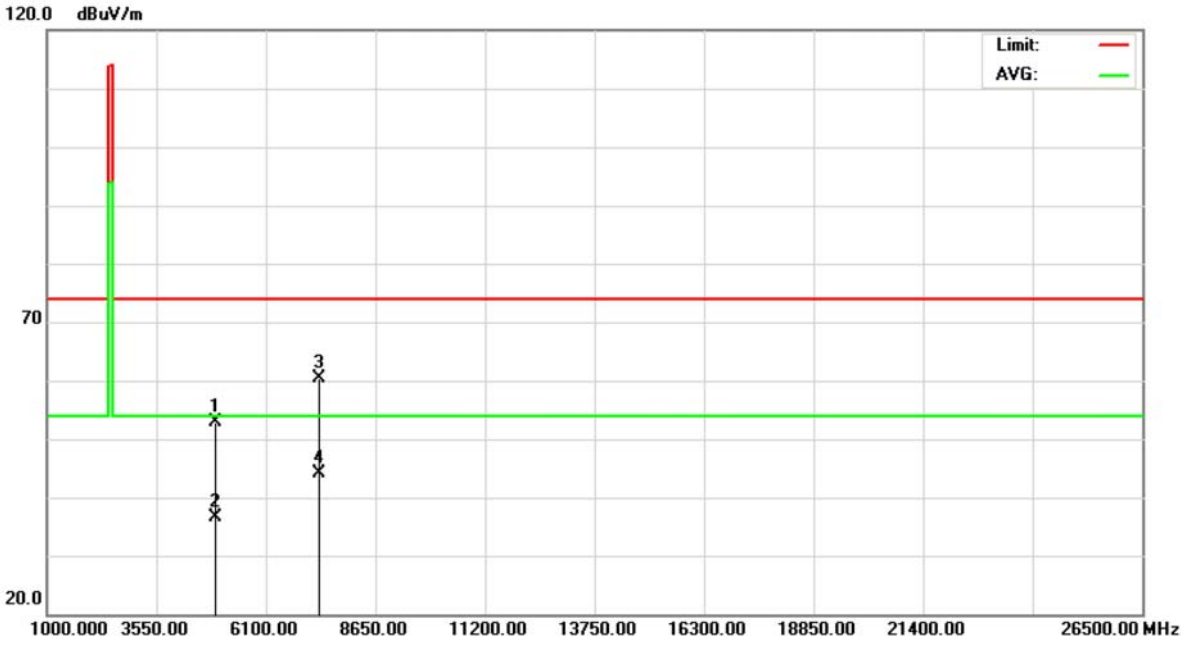
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2439.400	51.90	33.26	85.16	114.0	-28.84	peak	
2	*	2439.400	35.61	33.26	68.87	94.00	-25.13	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2441 MHz		

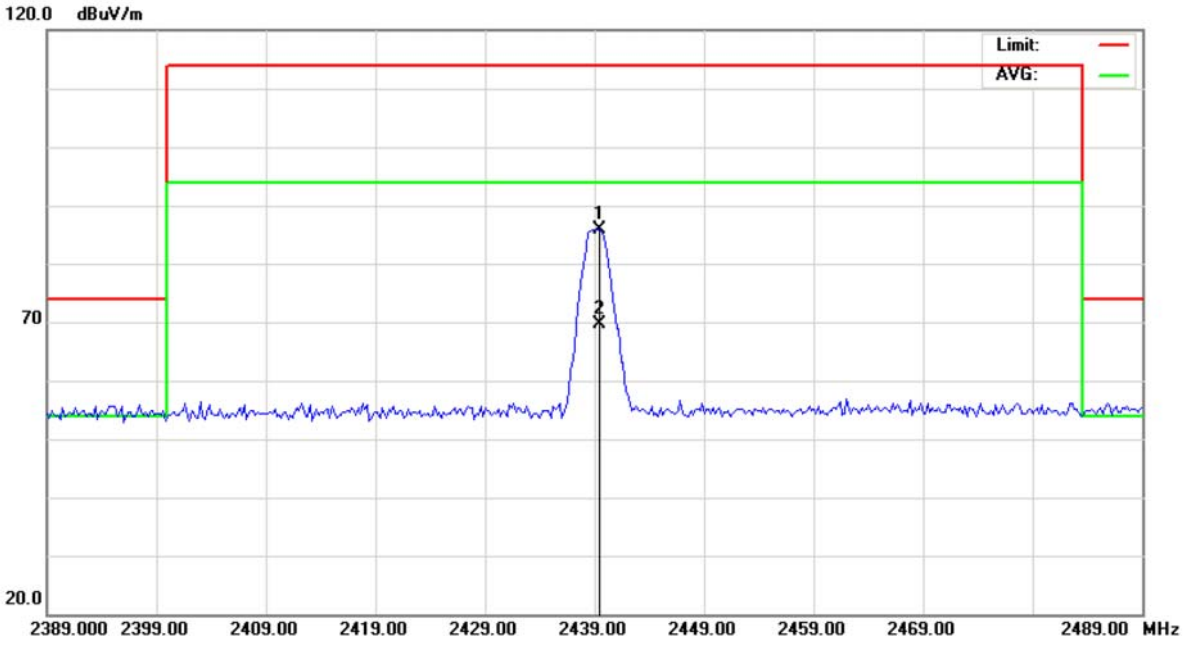
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4877.600	45.15	7.68	52.83	74.00	-21.17	peak	
2		4877.600	28.86	7.68	36.54	54.00	-17.46	AVG	
3		7320.440	45.39	15.09	60.48	74.00	-13.52	peak	
4	*	7320.440	29.10	15.09	44.19	54.00	-9.81	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2441 MHz		

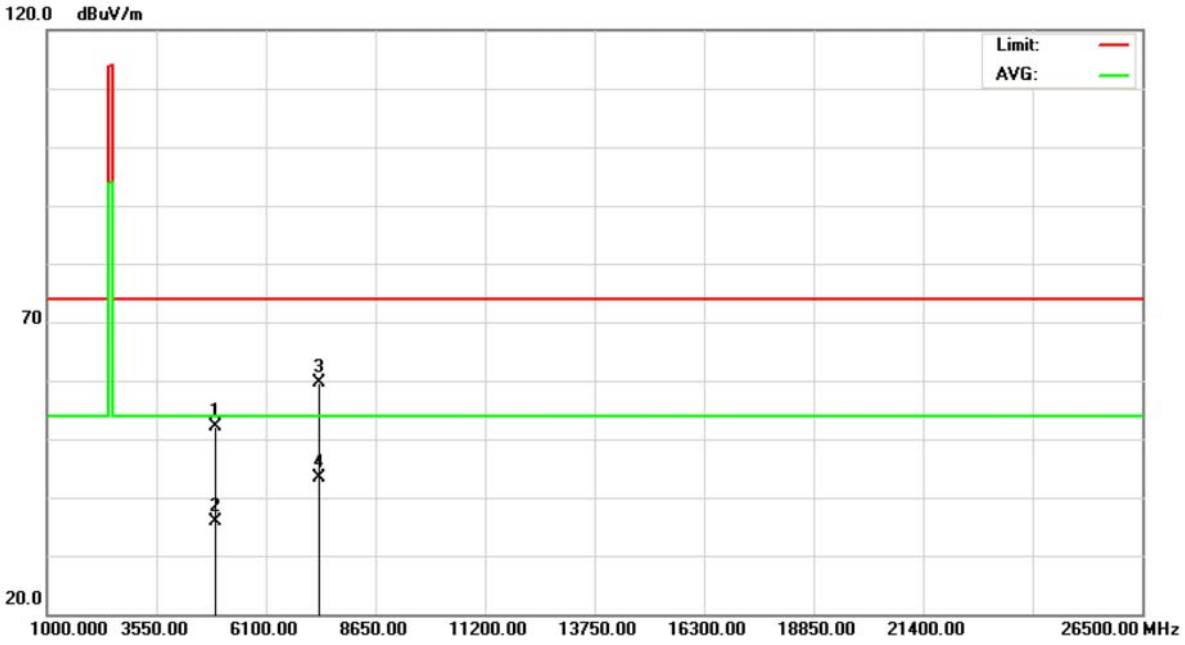
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2439.400	52.64	33.26	85.90	114.0	-28.10	peak	
2	*	2439.400	36.35	33.26	69.61	94.00	-24.39	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2441 MHz		

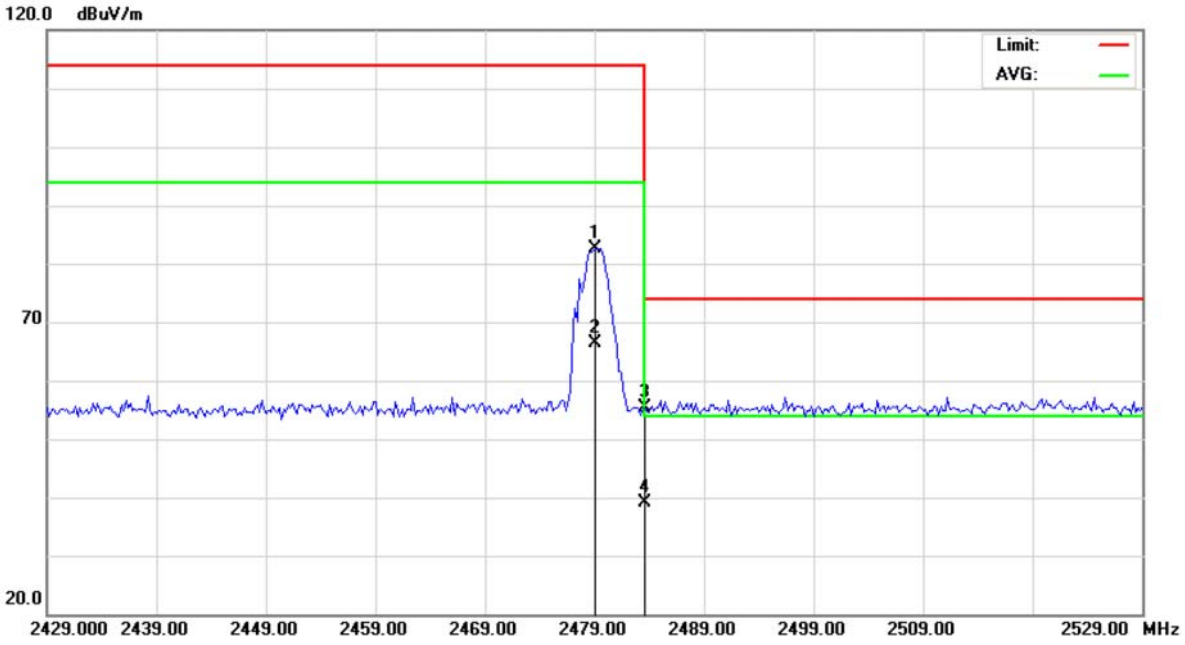
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4878.720	44.48	7.68	52.16	74.00	-21.84	peak	
2		4878.720	28.19	7.68	35.87	54.00	-18.13	AVG	
3		7316.140	44.58	15.08	59.66	74.00	-14.34	peak	
4	*	7316.140	28.29	15.08	43.37	54.00	-10.63	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2479 MHz		

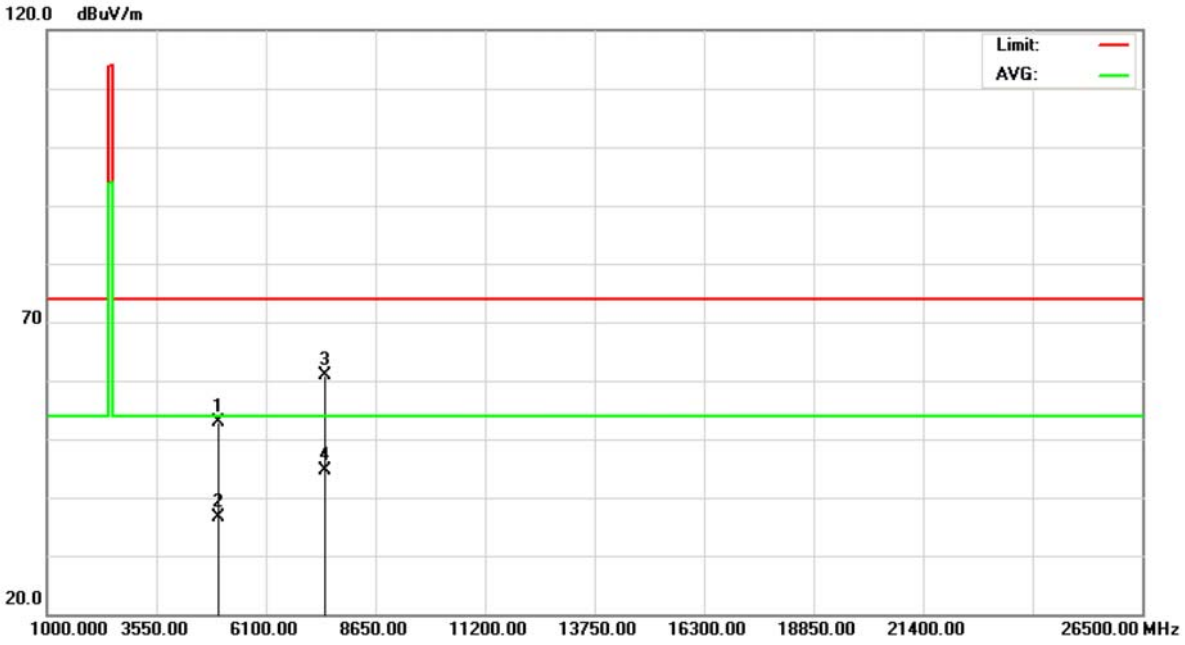
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2479.000	49.19	33.48	82.67	114.0	-31.33	peak	
2		2479.000	32.90	33.48	66.38	94.00	-27.62	AVG	
3		2483.500	21.92	33.50	55.42	74.00	-18.58	peak	
4	*	2483.500	5.63	33.50	39.13	54.00	-14.87	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2479 MHz		

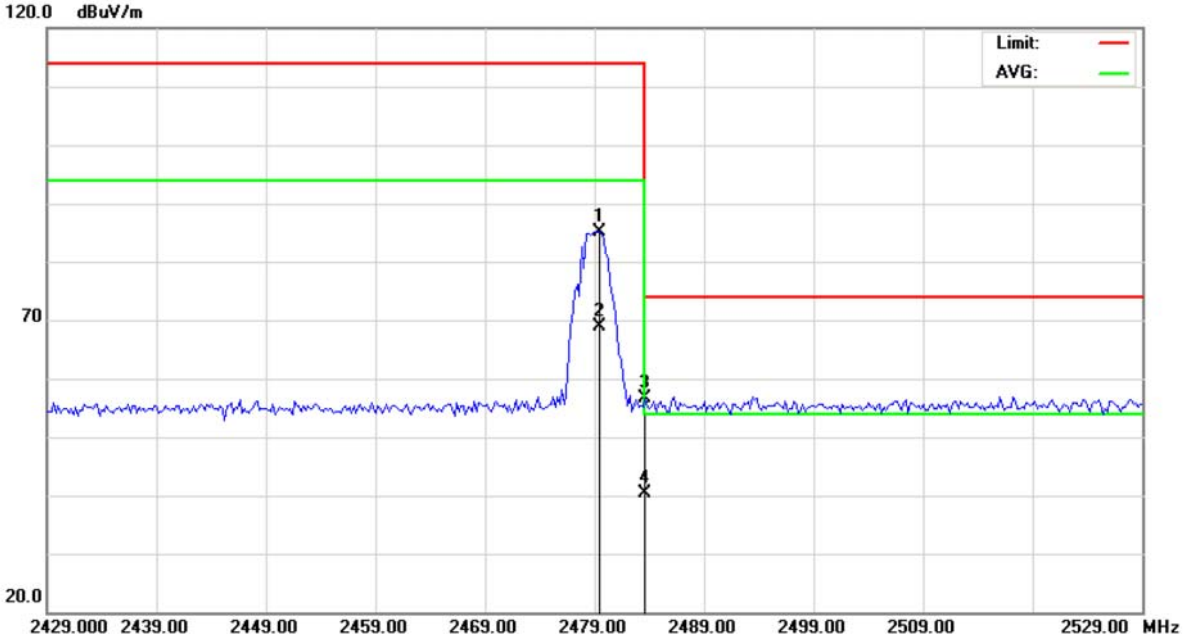
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4957.450	44.95	7.97	52.92	74.00	-21.08	peak	
2		4957.450	28.66	7.97	36.63	54.00	-17.37	AVG	
3		7436.260	45.51	15.39	60.90	74.00	-13.10	peak	
4	*	7436.260	29.22	15.39	44.61	54.00	-9.39	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2479 MHz		

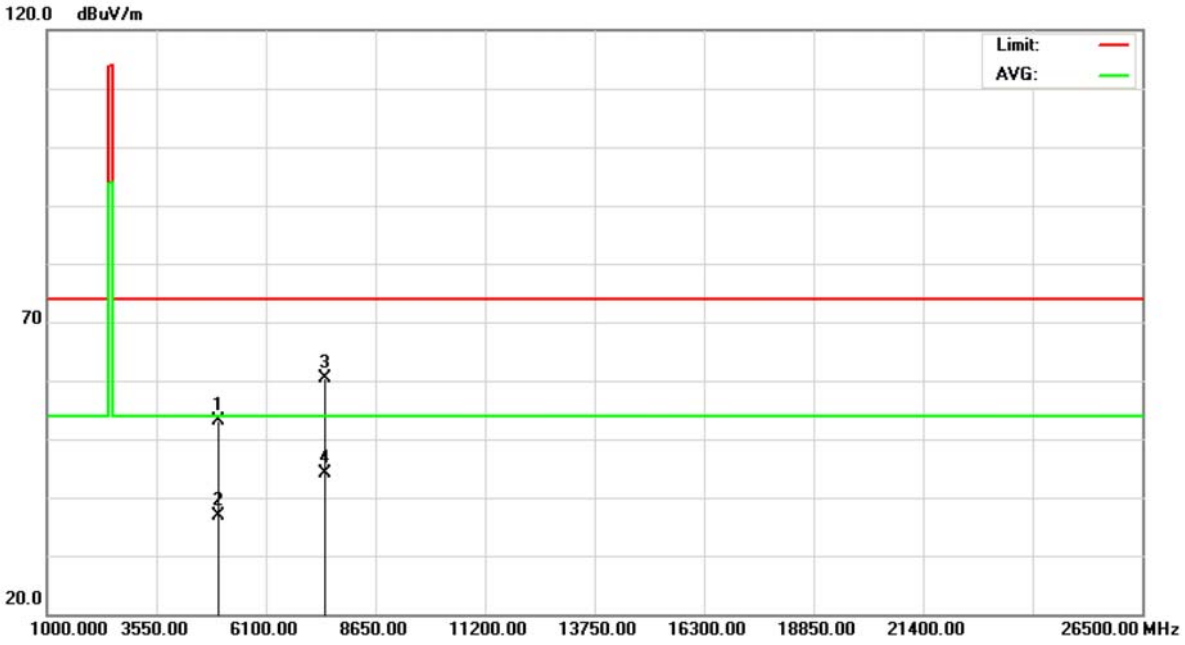
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2479.400	51.64	33.48	85.12	114.0	-28.88	peak	
2		2479.400	35.35	33.48	68.83	94.00	-25.17	AVG	
3		2483.500	23.06	33.50	56.56	74.00	-17.44	peak	
4	*	2483.500	6.77	33.50	40.27	54.00	-13.73	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2479 MHz		

Polarization: Horizontal

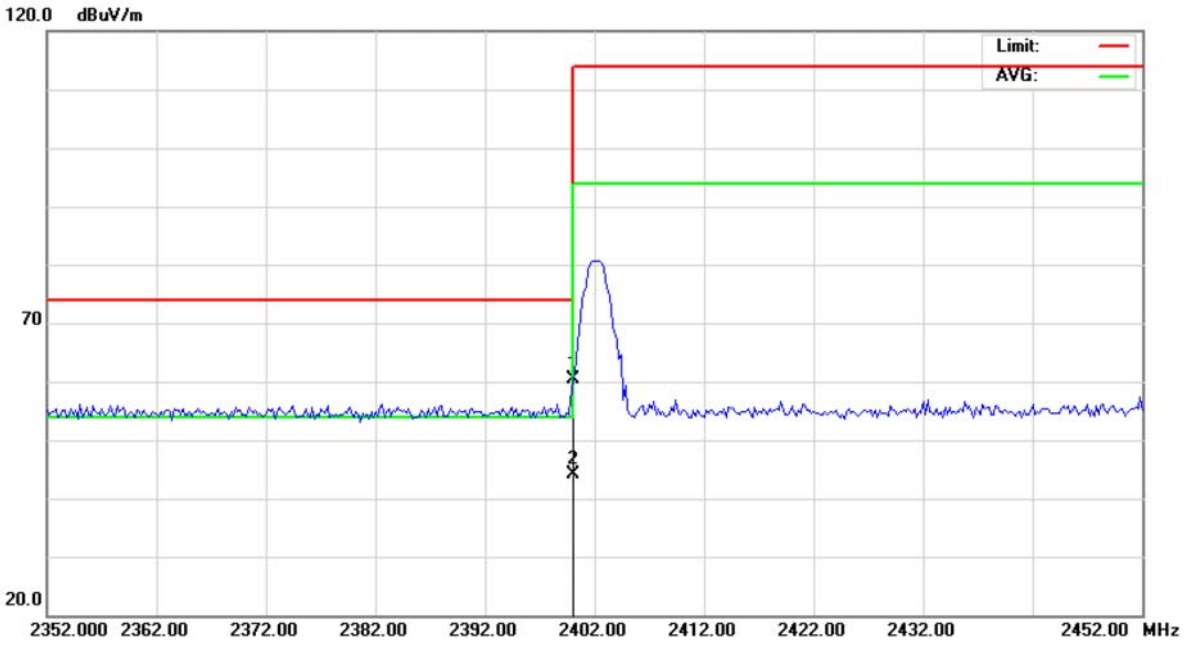


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4957.530	45.24	7.97	53.21	74.00	-20.79	peak	
2		4957.530	28.95	7.97	36.92	54.00	-17.08	AVG	
3		7436.690	45.08	15.39	60.47	74.00	-13.53	peak	
4	*	7436.690	28.79	15.39	44.18	54.00	-9.82	AVG	

6.9 TEST RESULTS (RESTRICTED BANDS)

E.U.T	Dongle	Model Name	SD-8882
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2402 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

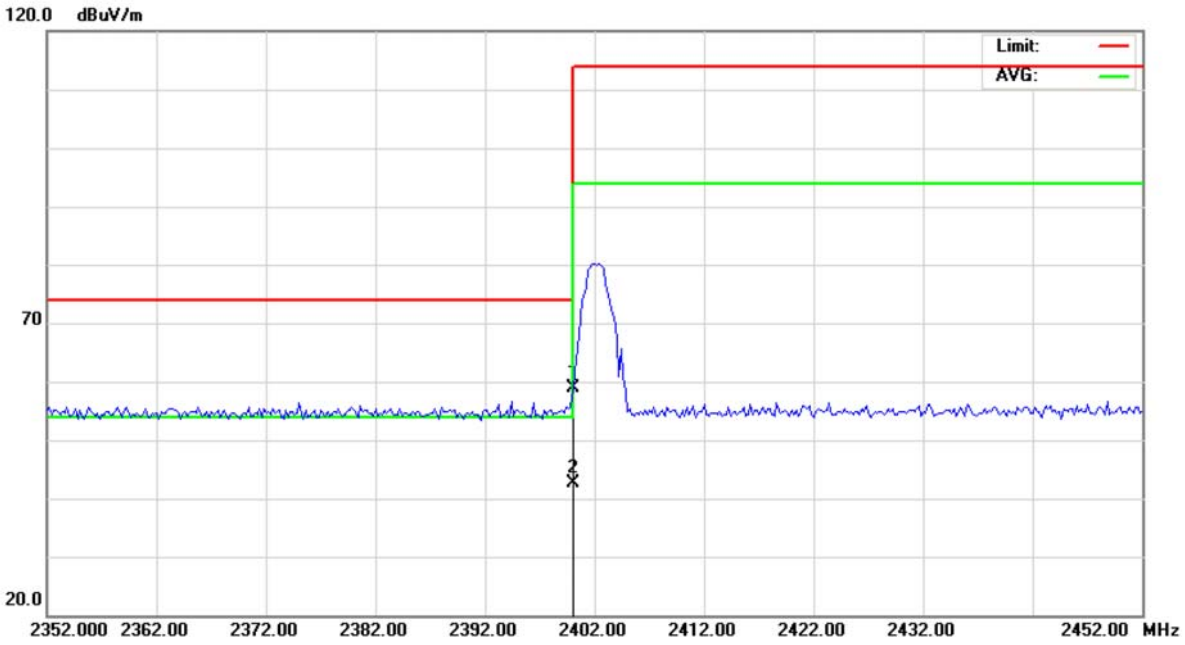
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2400.000	27.27	33.05	60.32	74.00	-13.68	peak	
2	*	2400.000	10.98	33.05	44.03	54.00	-9.97	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2402 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz.		

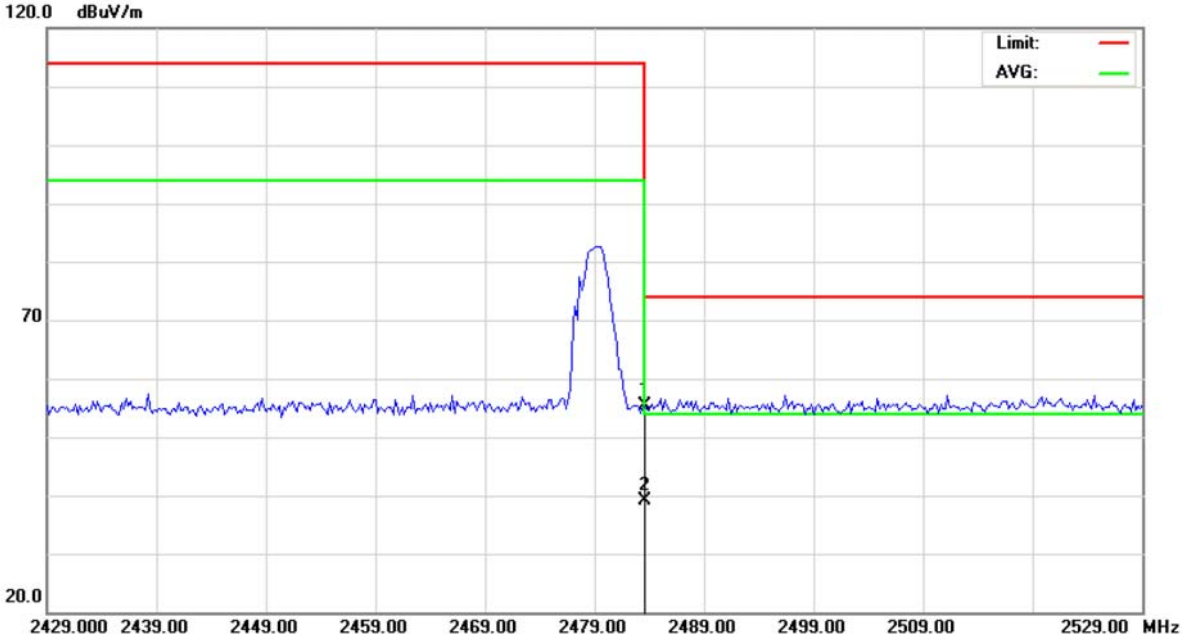
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2400.000	25.85	33.05	58.90	74.00	-15.10	peak	
2	*	2400.000	9.56	33.05	42.61	54.00	-11.39	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2479 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

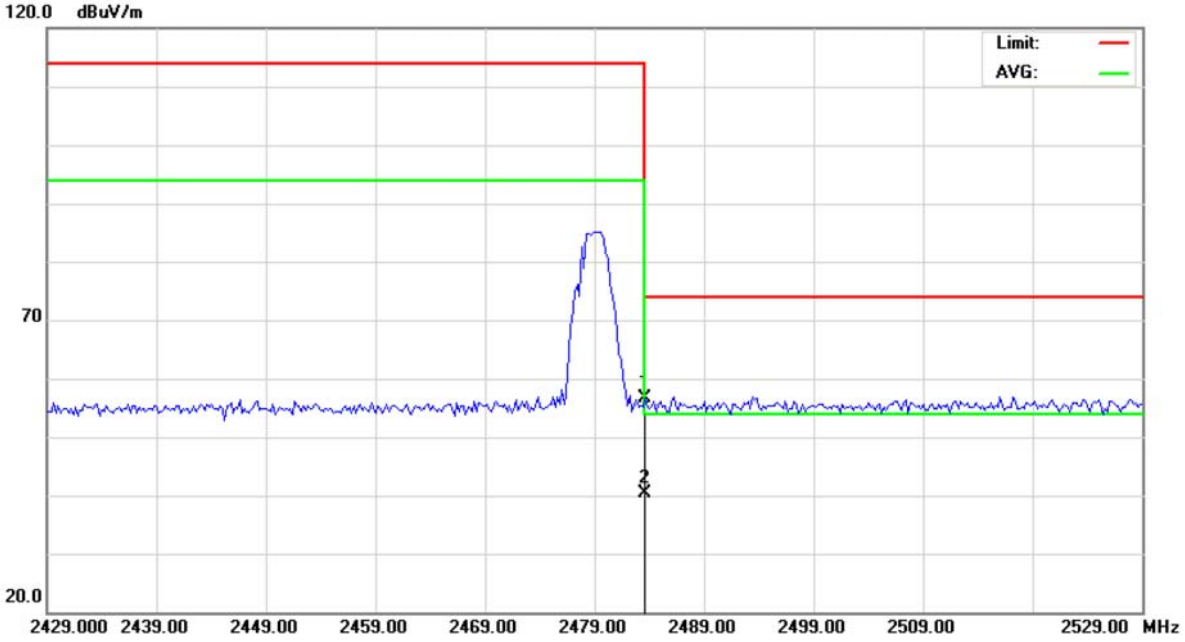
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	21.92	33.50	55.42	74.00	-18.58	peak	
2	*	2483.500	5.63	33.50	39.13	54.00	-14.87	AVG	

E.U.T	Dongle	Model Name	SD-8882
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2479 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz.		

Polarization: Horizontal

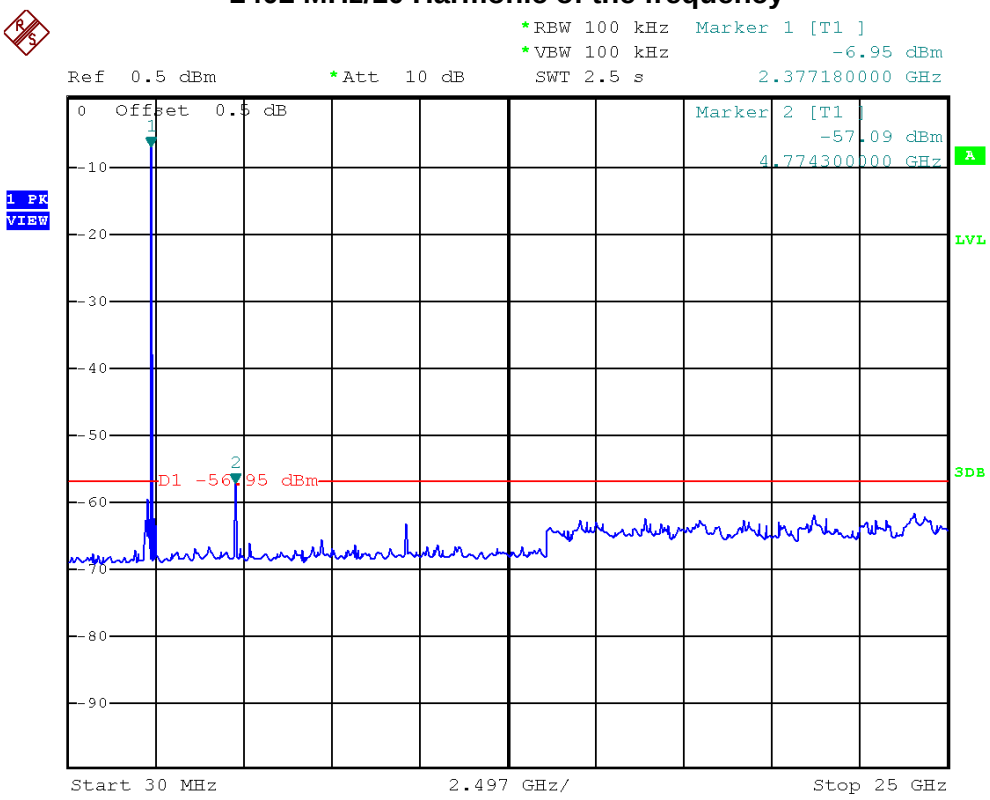


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2483.500	23.06	33.50	56.56	74.00	-17.44	peak	
2	*	2483.500	6.77	33.50	40.27	54.00	-13.73	AVG	

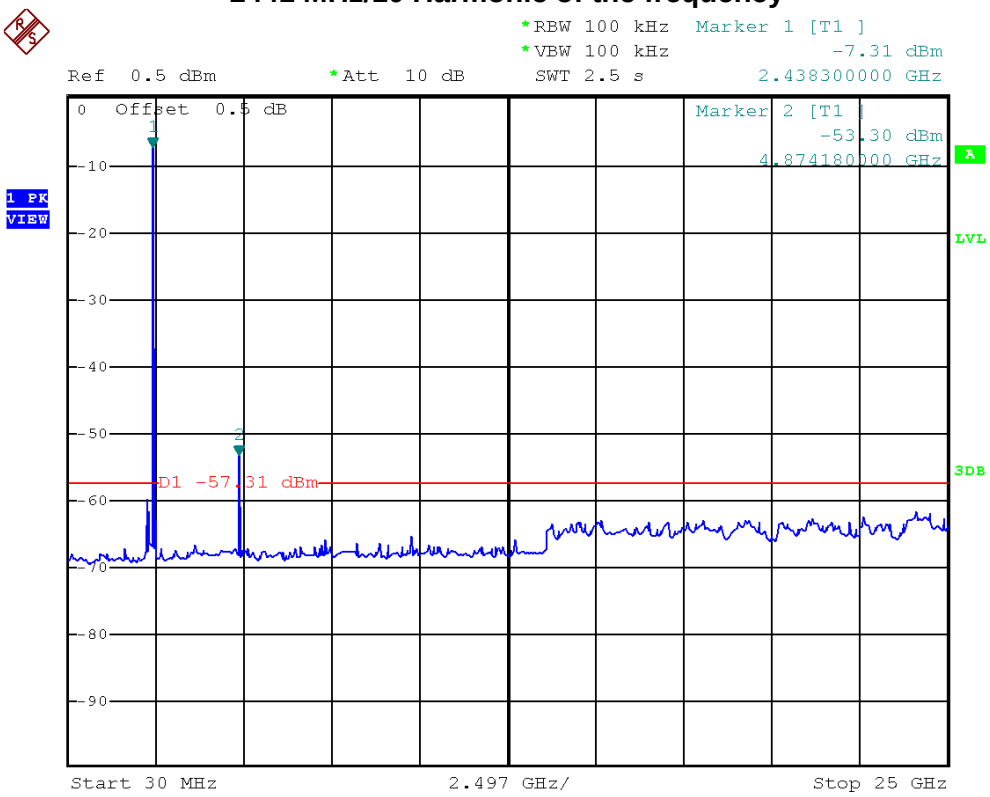
6.10 TEST RESULTS - THE TENTH HARMONIC

E.U.T	Dongle	Model Name	SD-8882
Temperature	26°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	2402 MHz/2441 MHz/2479 MHz		

2402 MHz/10 Harmonic of the frequency



2441 MHz/10 Harmonic of the frequency



2479 MHz/10 Harmonic of the frequency