FCC Radio Test Report

FCC ID: M82-DLM8110WL

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

Project No.	:	1603230
Equipment	:	Computer
Test Model	:	DLT-M8110
Series Model	:	DLT-M8110XXXXXXXXXXXXX, DLM8110XXXXXXXXXXXXX (where "X" may be any alphanumeric character, "-" or blank)
Applicant	:	Advantech Co., Ltd.
Address	:	No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 11491, Taiwan, R.O.C.

Date of Receipt	:	Mar. 29, 2016
Date of Test	:	Mar. 29, 2016 ~ Jun. 30, 2016
Issued Date	:	Jul. 04, 2016
Tested by	:	BTL Inc.

Testing Engineer : Rush Kao (Rush Kao)

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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.

Table of Contents Page

Table of Contents Page

Table of Contents Page

REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-1-1603230	Original Issue.	Jul. 04, 2016

1. CERTIFICATION

Equipment	:	Computer
Brand Name	:	ADVANTECH
Test Model	:	DLT-M8110
Series Model	:	DLT-M8110XXXXXXXXXXXXXX, DLM8110XXXXXXXXXXXXXX (where “X” may be any alphanumeric character, “-” or blank)
Applicant	:	Advantech Co., Ltd.
Manufacturer	:	Advantech Co., Ltd.
Address	:	No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 11491, Taiwan, R.O.C.
Date of Test	:	Mar. 29, 2016 ~ Jun. 30, 2016
Test Sample	:	Production Unit
Standard(s)	:	FCC Part15, Subpart C (15.247)/ ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-1-1603230) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

Test results included in this report is only for the Bluetooth EDR part.

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Applied Standard(s): 47 CFR Part 15, Subpart C			
Standard(s) Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247(d)	Antenna conducted Spurious Emission	PASS	
15.247(a)(1)	Hopping Channel Separation	PASS	
15.247(a)(1)	Bandwidth	PASS	
15.247(b)(1)	Peak Output Power	PASS	
15.247(d) 15.209	Radiated Spurious Emission	PASS	
15.247(a)(1)(iii)	Number of Hopping Frequency	PASS	
15.247(a)(1)(iii)	Dwell Time	PASS	
15.205	Restricted Bands	PASS	
15.203	Antenna Requirement	PASS	

Note:

(1)" N/A" denotes test is not applicable in this test report

2.1 TEST FACILITY

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

Conducted emission Test:

C05: (VCCI RN: C-4742; FCC RN:965108; FCC DN:TW1082)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Radiated emission Test (Below 1 GHz):

CB11: (VCCI RN: R-4260; FCC RN:949005; FCC DN:TW1082; IC Assigned Code:20088-2)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Radiated emission Test (Above 1 GHz):

CB11: (VCCI RN: G-868; FCC RN:949005; FCC DN:TW1082; IC Assigned Code:20088-2)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2.
The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.
The reported uncertainty of measurement y ± U, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

A. Conducted emission test:

Test Site	Method	Measurement Frequency Range	U, (dB)
C05	CISPR	150 kHz~30MHz	2.04

B. Radiated emission test:

Test Site	Method	Measurement Frequency Range	U, (dB)
CB11 (3m)	CISPR	9kHz ~ 150kHz	4.00
		150kHz ~ 30MHz	4.00

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
CB11 (3m)	CISPR	30 MHz ~ 200 MHz	V	3.06
		30 MHz ~ 200 MHz	H	2.58
		200 MHz ~ 1, 000 MHz	V	3.50
		200 MHz ~ 1, 000 MHz	H	3.10

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
CB11 (3m)	CISPR	1GHz ~ 6GHz	V	4.14
		1GHz ~ 6GHz	H	4.14

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
CB11 (1m)	CISPR	6GHz ~ 18GHz	V	5.34
		6GHz ~ 18GHz	H	5.34

Test Site	Method	Measurement Frequency Range	U, (dB)
CB08 (1m)	CISPR	18 ~ 26.5 GHz	4.66
		26.5 ~ 40 GHz	4.74

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}.

Note: unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Computer		
Brand Name	ADVANTECH		
Test Model	DLT-M8110		
Series Model	DLT-M8110XXXXXXXXXXXXX, DLM8110XXXXXXXXXXXXX (where “X” may be any alphanumeric character, “-” or blank)		
Model Difference	Different model distribute to different area.		
EUT Power Rating	#1 I/P: DC 12.0V #2 I/P: DC 7.4V		
Power Adapter Manufacturer	FSP	Model	FSP060-DIBAN2
Power Adapter Power Rating	I/P: AC 100-240V 1.5A 50-60Hz O/P: DC 12.0V 5.0A		
Product Description	Operation Frequency		2402~2480 MHz
	Modulation Technology		GFSK(1Mbps) π/4-DQPSK(2Mbps) 8-DPSK(3Mbps)
	Bit Rate of Transmitter		
	Output Power (Max.)		3.63 dBm(1Mbps) 6.23 dBm(3Mbps)
CPU Manufacturer	Intel	Model	ATOM E3827 1.75GHz
Main Board Manufacturer	ADVANTECH	Model	PCM-8408
WiFi module Manufacturer	SUMMIT	Model	SDC-PE15N
mSATA Manufacturer	ADVANTECH	Spec.	MLC-32G
Memory Manufacturer	DDR3L 1600Mhz(4GB)		
LCD Display Manufacturer	AUO	Model	G104XVN01.0
DC Dock Manufacturer	ADVANTECH	Model	DLT-M8110 Vehicle Docking
AC Dock Manufacturer	ADVANTECH	Model	DLT-M8110 Desk Docking
Battery Manufacturer	ADVANTECH	Model	DLT-M8110L (7.4V±0.8V 3800 mAh)
	ADVANTECH	Model	DLT-M8110S (7.4V±0.8V 1750 mAh)

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)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	ADVANTECH	DLT-M8110(Modify)	PIFA	IPEX	4.77

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.

Pretest Mode	Description
Mode 1	TX Mode **Note (1)**
Mode 2	TX Mode

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Emission	
Final Test Mode	Description
Mode 2	TX Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	TX Mode **Note (1)**

Note:

(1) The measurements are performed at the high, middle, low available channels.
(2) The measurements for Hopping Channel Separation, Bandwidth and Peak Output Power were tested during 1Mbps, 2Mbps and 3Mbps, the worst case are 1Mbps and 3Mbps, only worst case was documented.
(3) The EUT includes two optional dockings: DLT-M8110 Desk Docking and DLT-M8110 Vehicle Docking.
Stand-alone mode is the worst mode for all test items.
With DLT-M8110 Desk Docking or DLT-M8110 Vehicle Docking mode only worst cases of spurious emissions are recorded.

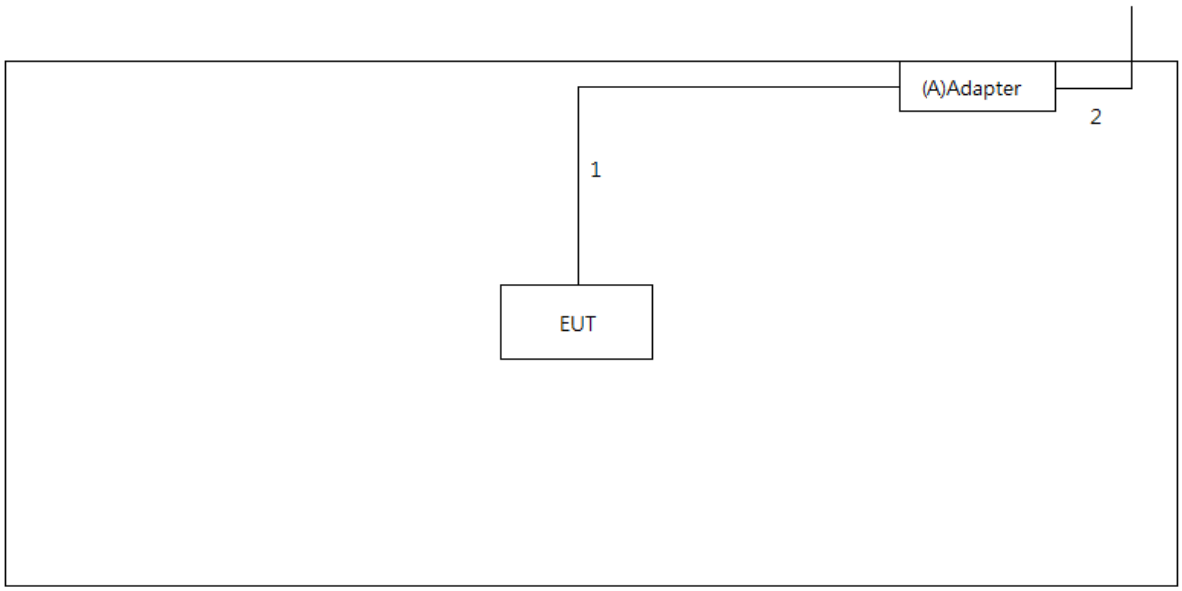
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing, channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

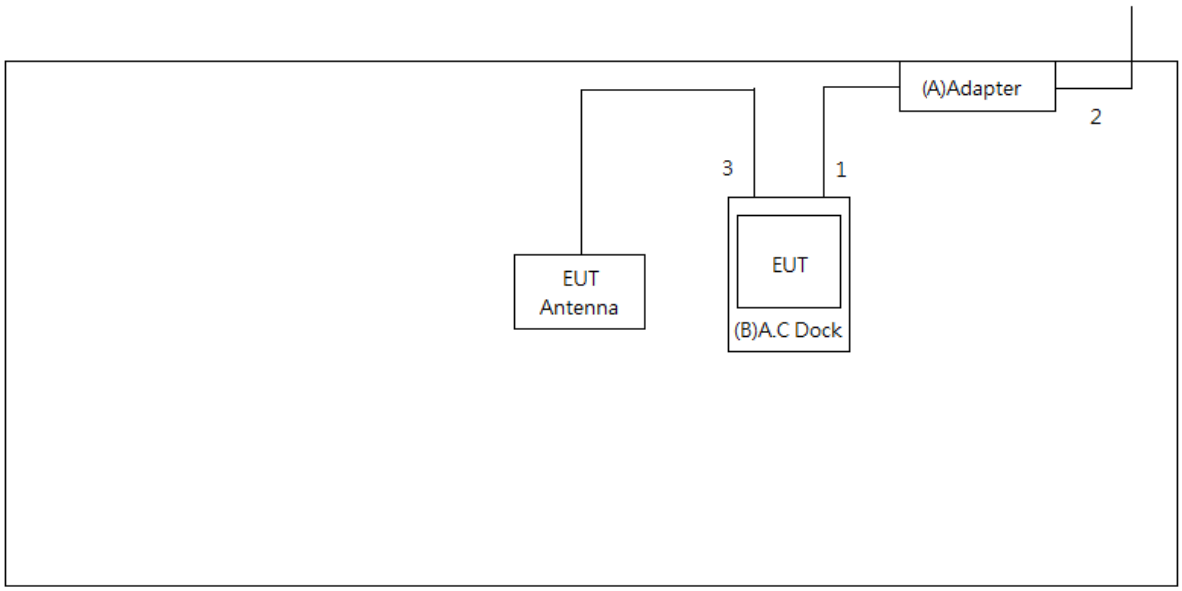
Test Software Version	PuTTY		
Frequency	2402 MHz	2441 MHz	2480 MHz
Parameters(1Mbps)	DEF	DEF	DEF
Parameters(3Mbps)	DEF	DEF	DEF

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

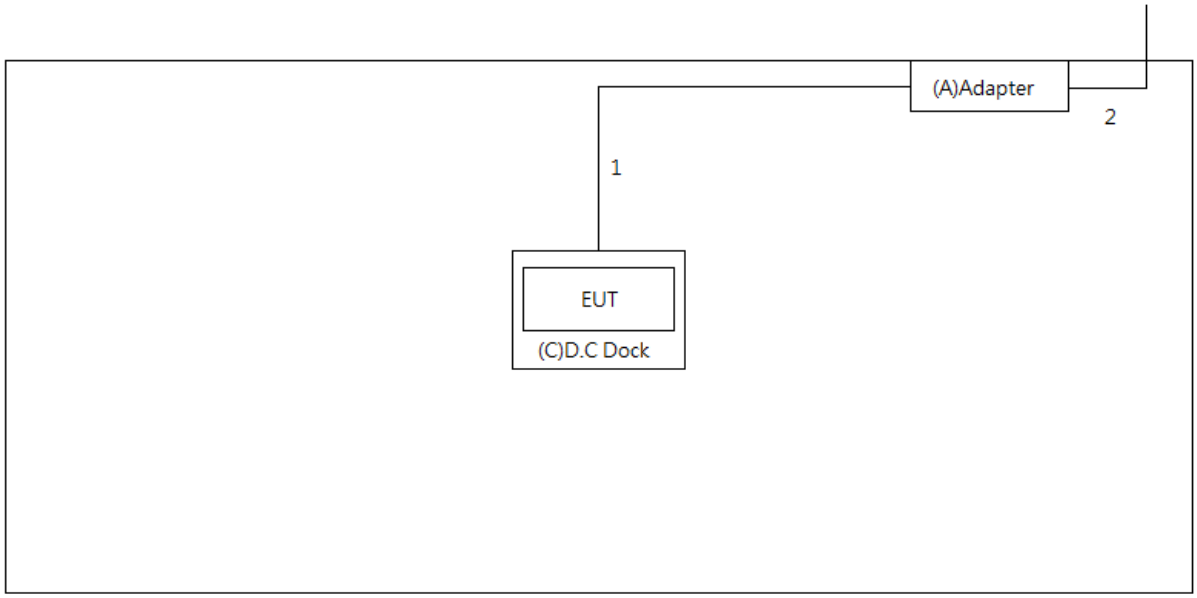
Stand-alone



With DLT-M8110 Desk Docking



With DLT-M8110 Vehicle Docking



3.5 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	Series No.
A	Adapter	FSP	FSP060-DIBAN2	N/A	H5341000278
B	A.C Dock	ADVANTECH	DLT-M8110 Vehicle Docking	DOC	N/A
C	D.C Dock	ADVANTECH	DLT-M8110 Desk Docking	DOC	N/A

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	YES	1.5m	Power Cable
2	NO	NO	1.8m	Power Cord
3	YES	NO	3m	ANT Cable

Note:

(1) For detachable type I/O cable should be specified the length in m in 『Length』 column.

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION LIMITS (Frequency Range 150KHz-30MHz)

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 -0.5	66 to 56*	56 to 46*
0.50 -5.0	56	46
5.0 -30.0	60	50

Note:

(1) The limit of " * " decreases with the logarithm of the frequency

(2) 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

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 KHz

4.1.2 TEST PROCEDURE

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 equipment 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.

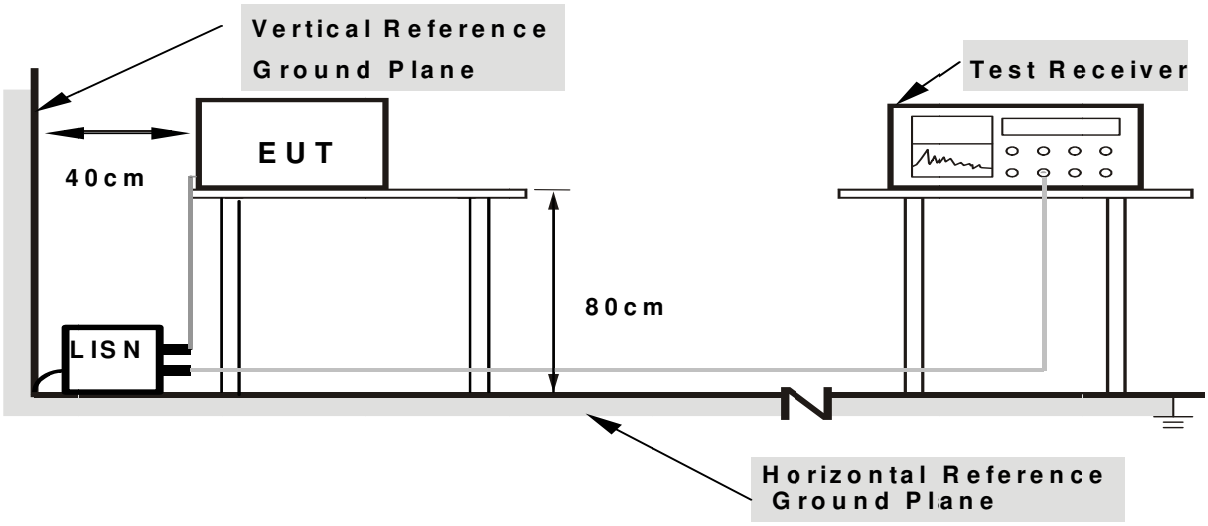
d. LISN at least 80 cm from nearest part of EUT chassis.

e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical function (as a customer would normally use it), EUT was programmed to be in continuously transmitting/receiving data or hopping on mode.

4.1.6 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

4.1.7 TEST RESULTS

Please refer to the Attachment A.

Remark:

(1) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the 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 QP Mode was measured, but AVG Mode didn't perform in this case, a "*" marked in AVG Mode column of Interference Voltage Measured.

(2) Measuring frequency range from 150KHz to 30MHz.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9KHz -1000MHz)

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 (MHz)	Field Strength (microvolts/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
960~1000	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

Frequency (MHz)	dB(uV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(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

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

Spectrum Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9KHz ~90KHz for PK/AVG detector
Start ~ Stop Frequency	90KHz ~110KHz for QP detector
Start ~ Stop Frequency	110KHz ~490KHz for PK/AVG detector
Start ~ Stop Frequency	490KHz ~30MHz for QP detector
Start ~ Stop Frequency	30MHz~1000MHz for QP detector

4.2.2 TEST PROCEDURE

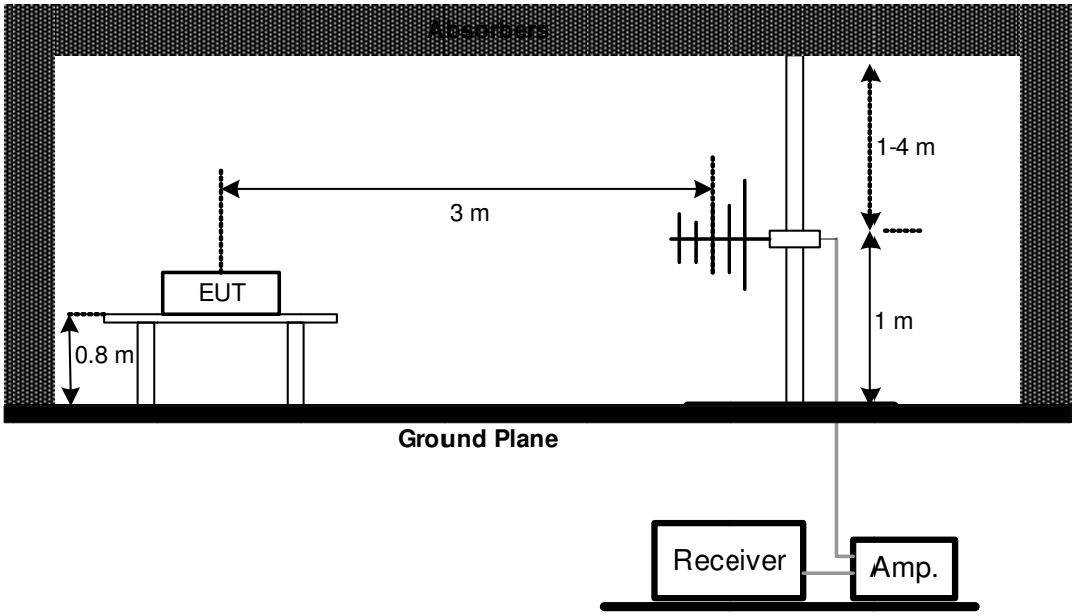
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8 m or 1.5 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. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. 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. (below 1GHz)
h. 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. (above 1GHz)
i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.3 DEVIATION FROM TEST STANDARD

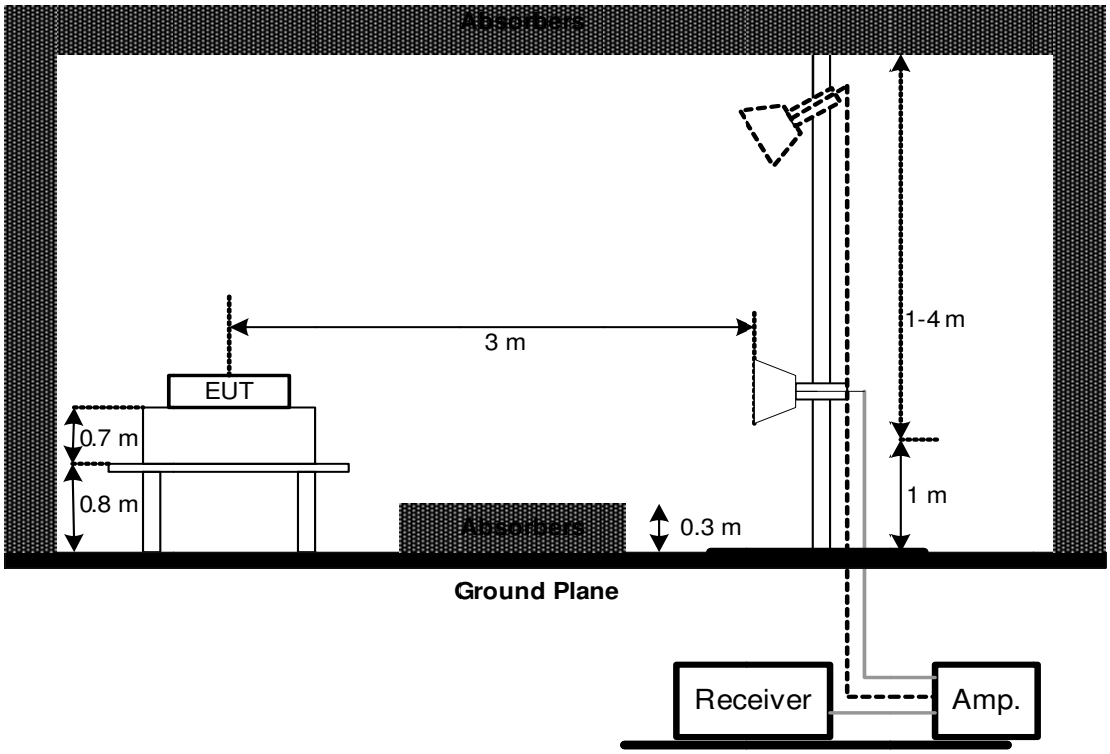
No deviation

4.2.4 TEST SETUP

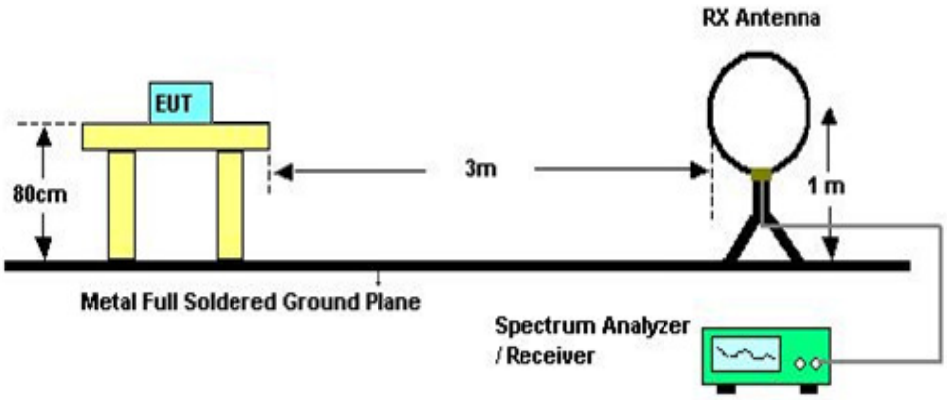
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



(C) For Radiated Emissions Below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing

4.2.6 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 45% Test Voltage: AC 120V/60Hz

4.2.7 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the Attachment B

Remark:

(1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
(2) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).
(3) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.2.8 TEST RESULTS (30MHZ TO 1000 MHZ)

Please refer to the Attachment C.

Remark:

(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz.
(2) 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.
(3) Measuring frequency range from 30MHz to 1000MHz.
(4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table.

4.2.9 TEST RESULTS (ABOVE 1000 MHZ)

Please refer to the Attachment D.

Remark:

(1) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission
(2) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
(3) EUT Orthogonal Axis:
"X" - denotes Laid on Table; "Y" - denotes Vertical Stand; "Z" - denotes Side Stand
(4) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna
(5) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

5. NUMBER OF HOPPING CHANNEL

5.1 APPLIED PROCEDURES

FCC Part15 (15.247) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.247(a)(1)(iii)	Number of Hopping Channel	2400-2483.5	PASS

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RBW	100 KHz
VBW	100 KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting: RBW=100KHz, VBW=100KHz, Sweep time = Auto.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP

5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

5.1.6 TEST RESULTS

Please refer to the Attachment E

6. AVERAGE TIME OF OCCUPANCY

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS

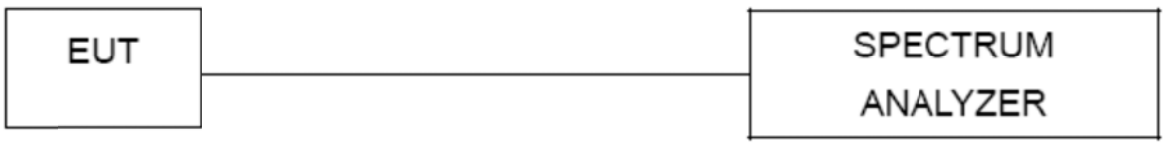
6.1.1 TEST PROCEDURE

a. The transmitter output (antenna port) was connected to the spectrum analyzer
b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
d. Sweep Time is more than once pulse time.
e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
f. Measure the maximum time duration of one single pulse.
g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
h. Measure the maximum time duration of one single pulse.
i. DH5 Packet permit maximum 1600/ 79 / 6 = 3.37 hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 3.37 x 31.6 = 106.6 within 31.6 seconds.
j. DH3 Packet permit maximum 1600 / 79 / 4 = 5.06 hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 5.06 x 31.6 = 160 within 31.6 seconds.
k. DH1 Packet permit maximum 1600 / 79 /2 = 10.12 hops per second in each channel (1 time slot TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 10.12 x 31.6 = 320 within 31.6 seconds.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

6.1.6 TEST RESULTS

Please refer to the Attachment F

7. HOPPING CHANNEL SEPARATION MEASUREMENT

7.1 APPLIED PROCEDURES / LIMIT

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 KHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RBW	30 KHz
VBW	100 KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.1.1 TEST PROCEDURE

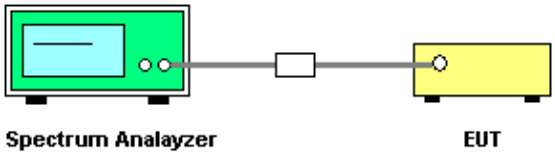
a. The EUT must have its hopping function enabled

b. Span = wide enough to capture the peaks of two adjacent channels
Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span
Video (or Average) Bandwidth (VBW) ≥ RBW
Sweep = Auto
Detector function = Peak
Trace = Max Hold

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

7.1.5 TEST RESULTS

Please refer to the Attachment G

8. BANDWIDTH TEST

8.1 APPLIED PROCEDURES

FCC Part15 (15.247) , Subpart C		
Section	Test Item	Frequency Range (MHz)
15.247(a)(2)	Bandwidth	2400-2483.5

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RBW	30 KHz (20dB Bandwidth) / 30 KHz (Channel Separation)
VBW	100 KHz (20dB Bandwidth) / 100 KHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

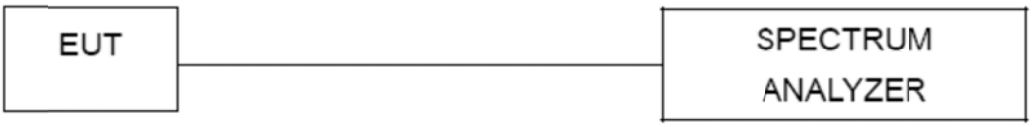
8.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting: RBW= 30KHz, VBW=100KHz, Sweep Time = Auto.

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

8.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

8.1.6 TEST RESULTS

Please refer to the Attachment H

9. PEAK OUTPUT POWER TEST

9.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(1)	Peak Output Power	1 Watt or 30dBm (hopping channel >75) 0.125Watt or 21dBm (hopping channel <75	2400-2483.5	PASS

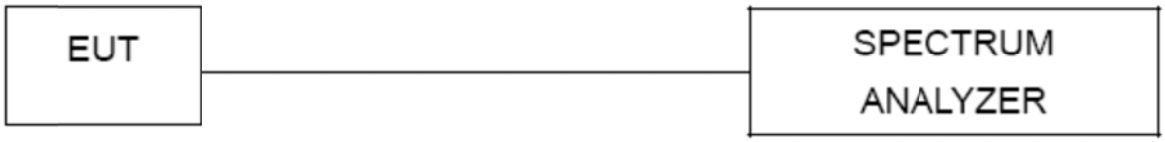
9.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting: RBW= 1MHz/3MHz, VBW= 1MHz/3MHz, Sweep time = Auto.

9.1.2 DEVIATION FROM STANDARD

No deviation.

9.1.3 TEST SETUP



9.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

9.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

9.1.6 TEST RESULTS

Please refer to the Attachment I

10. ANTENNA CONDUCTED SPURIOUS EMISSION

10.1 APPLIED PROCEDURES / LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits.

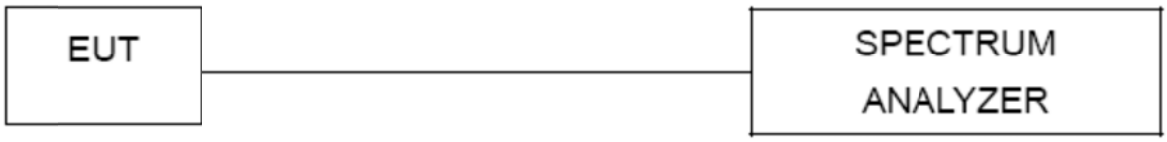
10.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting: RBW= 100KHz, VBW=100KHz, Sweep time = Auto.
c. Offset=antenna gain+cable loss

10.1.2 DEVIATION FROM STANDARD

No deviation.

10.1.3 TEST SETUP



10.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

10.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55% Test Voltage: AC 120V/60Hz

10.1.6 TEST RESULTS

Please refer to the Attachment J

11. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Jan. 26, 2017
2	Test Cable	TIMES	CFD300-NL	C02	Jun. 13, 2017
3	EMI Test Receiver	R&S	ESR7	101433	Dec. 09, 2016
4	Power Dividers	HP	11636A	8103	May 03, 2017
5	Measurement Software	EZ	EZ_EMC (Version NB-03A)	N/A	N/A

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jul. 30, 2016
2	Horn Antenna	Schwarzbeck	BBHA 9120	D-325	Apr. 19, 2017
3	Horn Antenna	Schwarzbeck	BBHA 9120	9120D-1333	May 19, 2017
4	Pre-Amplifier	Anritsu	MH648A	M92649	Jun. 15, 2017
5	Pre-Amplifier	Agilent	8449B	3008A01714	Apr. 13, 2017
6	Test Cable	LMR	LMR-400	01(10M)	May 11, 2017
7	Test Cable	LMR	LMR-400	01(3M)	May 11, 2017
8	Test Cable	Harbour industries	27478LL142	1M	May 12, 2017
9	Test Cable	Harbour industries	27478LL142	3M	May 12, 2017
10	Test Cable	AISI	S104-SMAP-1	8M	May 12, 2017
11	Spectrum Analyzer	Agilent	N9020A	MY51160196	Aug. 02, 2016
12	EMI Test Receiver	R&S	ESCI	100080	May 12, 2017
13	Measurement Software	Farad	EZ_EMC (Version NB-03A)	N/A	N/A

Number of Hopping Channel					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 17, 2017

Average Time of Occupancy					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 17, 2017

Hopping Channel Separation Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 17, 2017

Bandwidth					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 17, 2017

Peak Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 17, 2017

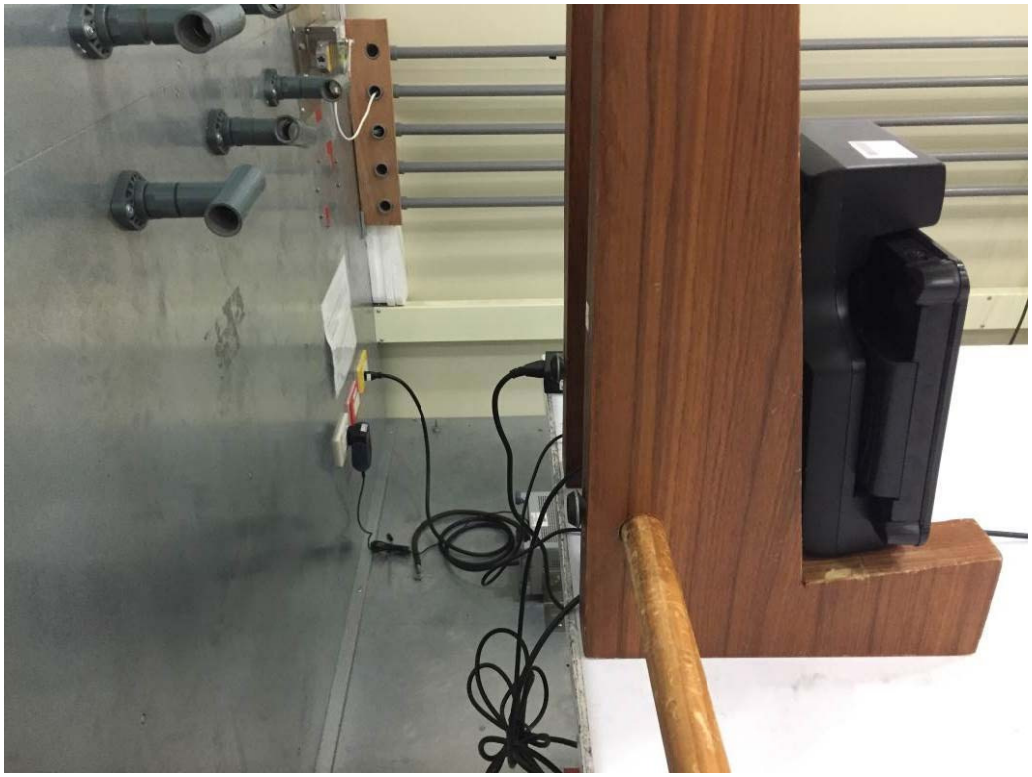
Antenna Conducted Spurious Emission					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 17, 2017

Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

12. EUT TEST PHOTO

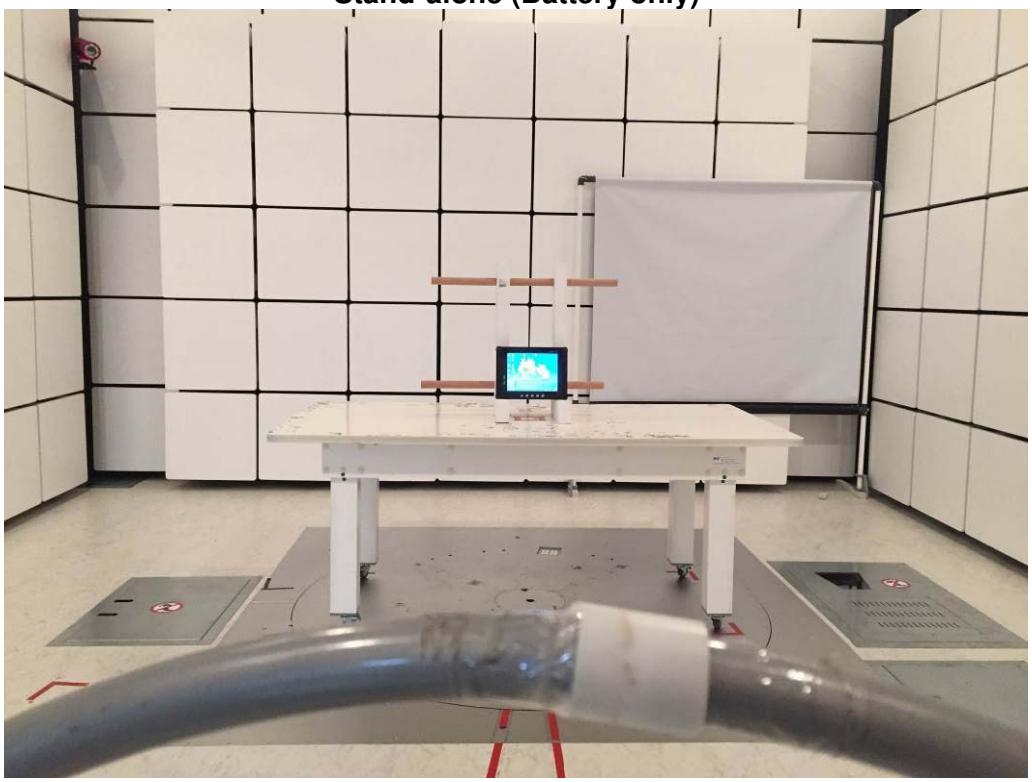
Conducted Measurement Photos
Stand-alone

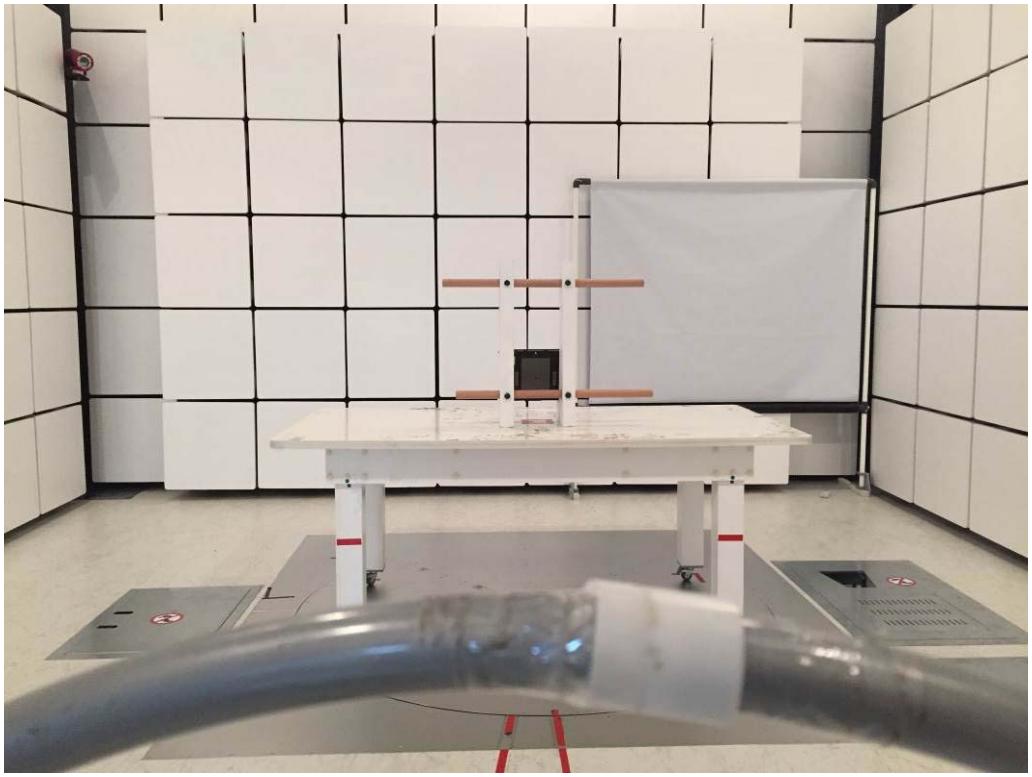
Conducted Measurement Photos
With DLT-M8110 Desk Docking



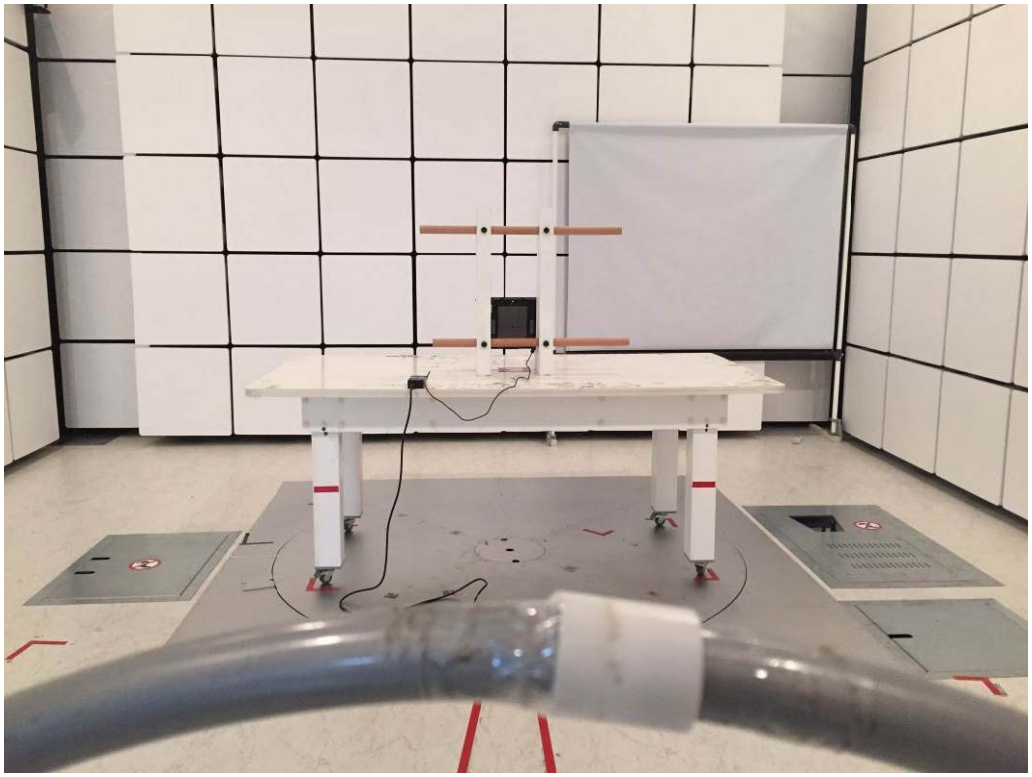
Conducted Measurement Photos
With DLT-M8110 Vehicle Docking

Radiated Measurement Photos
9KHz to 30MHz
Stand-alone (Battery only)

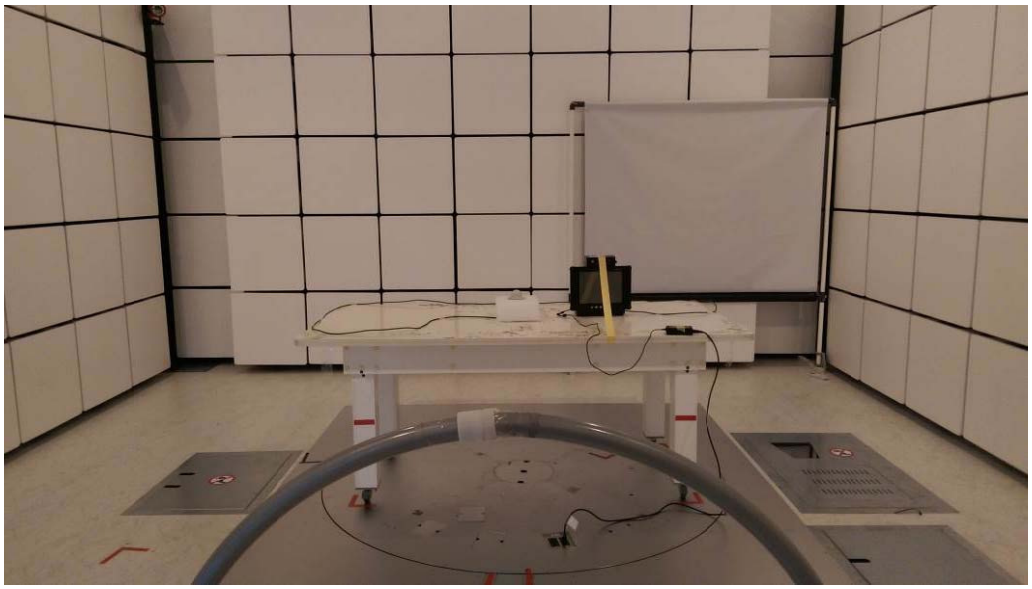


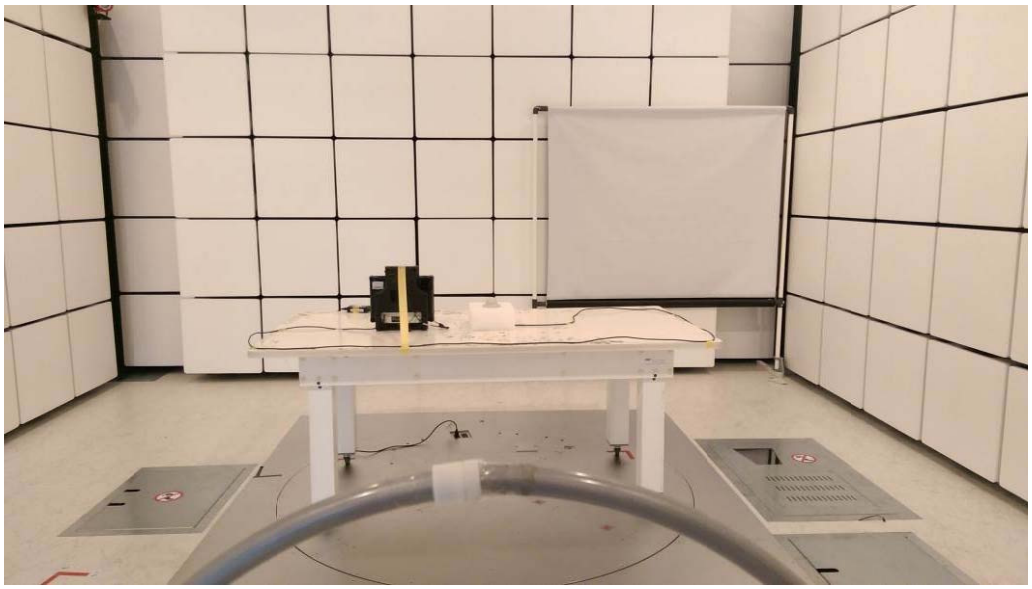


Radiated Measurement Photos
9KHz to 30MHz
Stand-alone (Battery+Adapter)

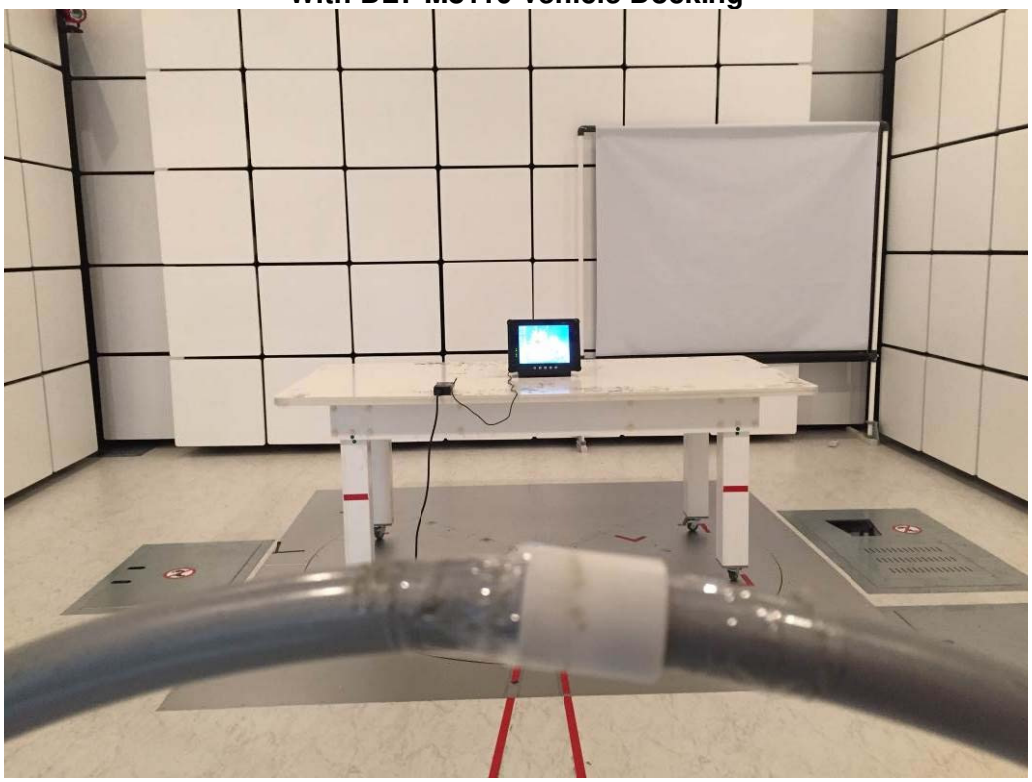


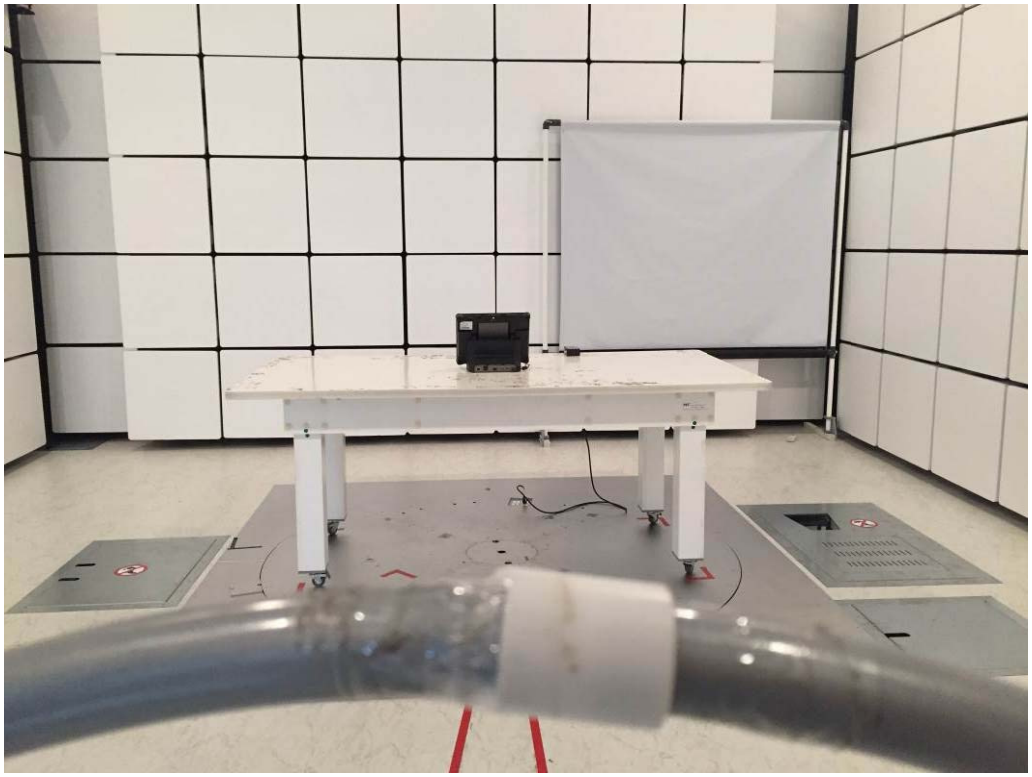
Radiated Measurement Photos
9KHz to 30MHz
With DLT-M8110 Desk Docking



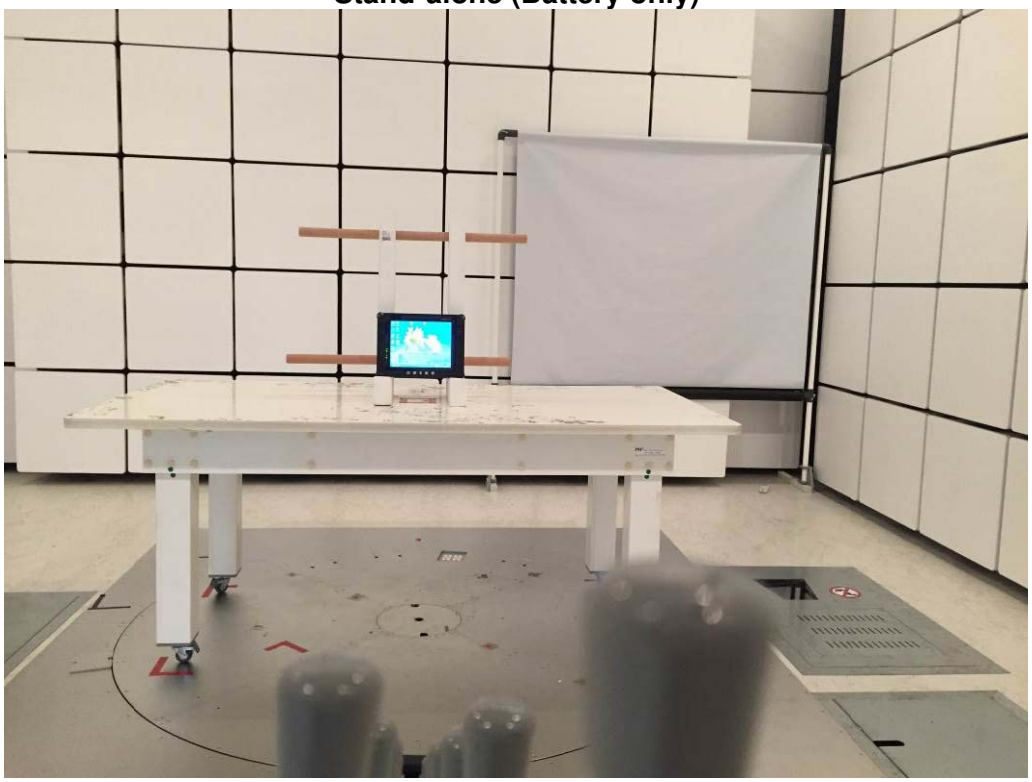


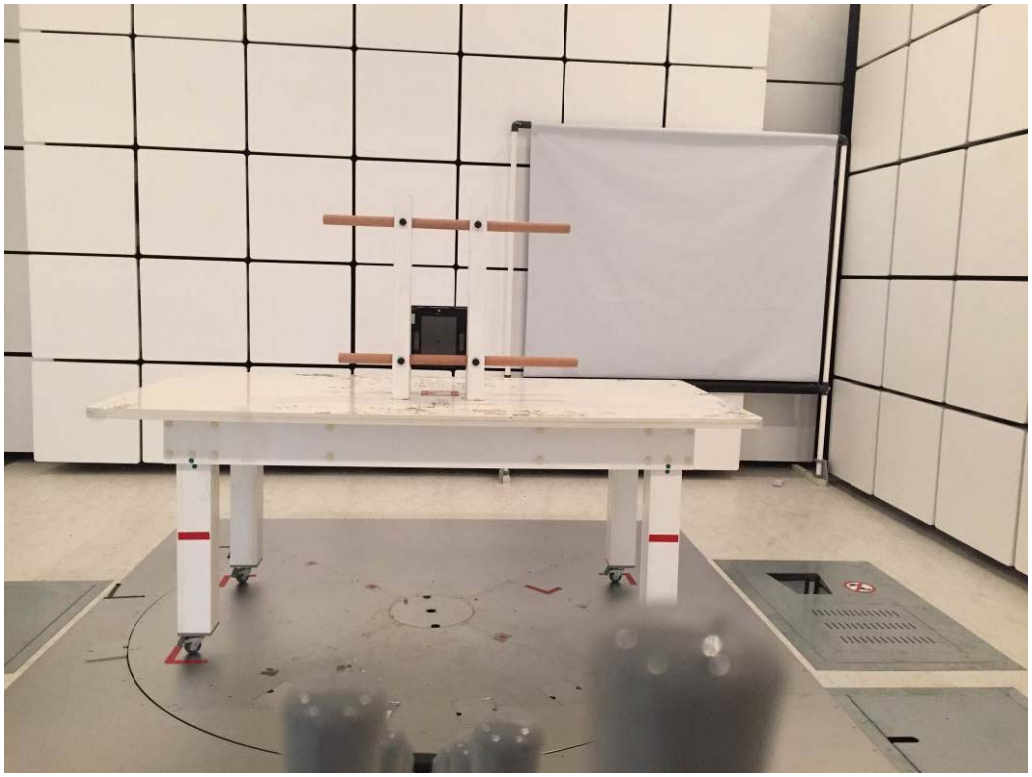
Radiated Measurement Photos
9KHz to 30MHz
With DLT-M8110 Vehicle Docking



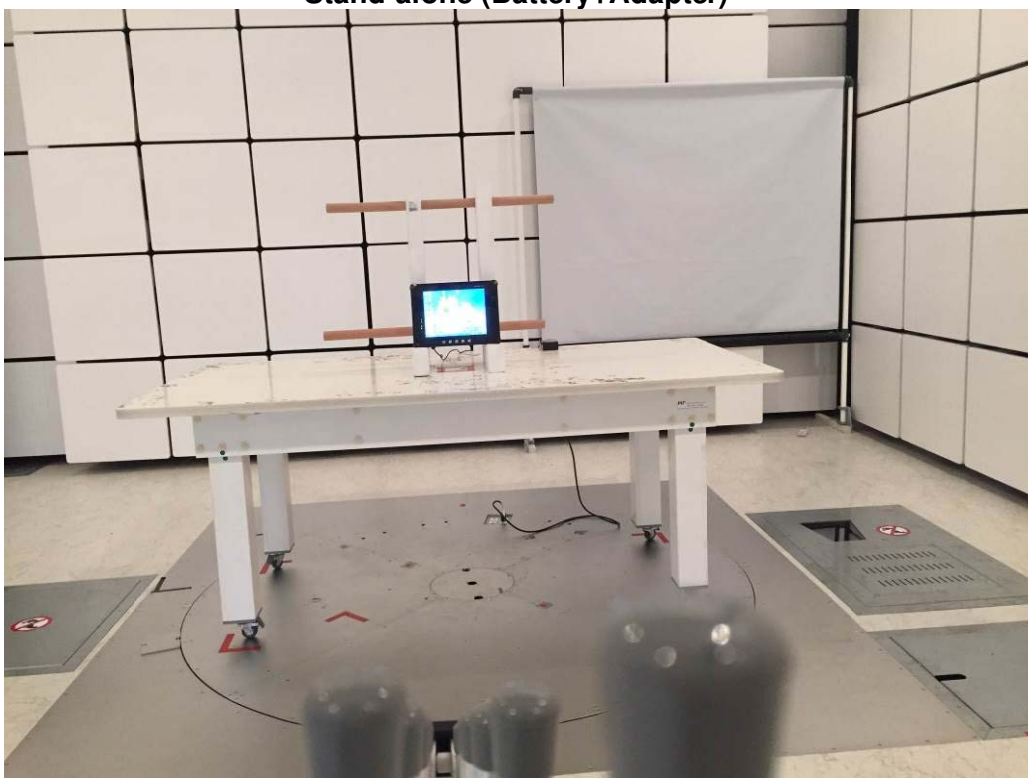


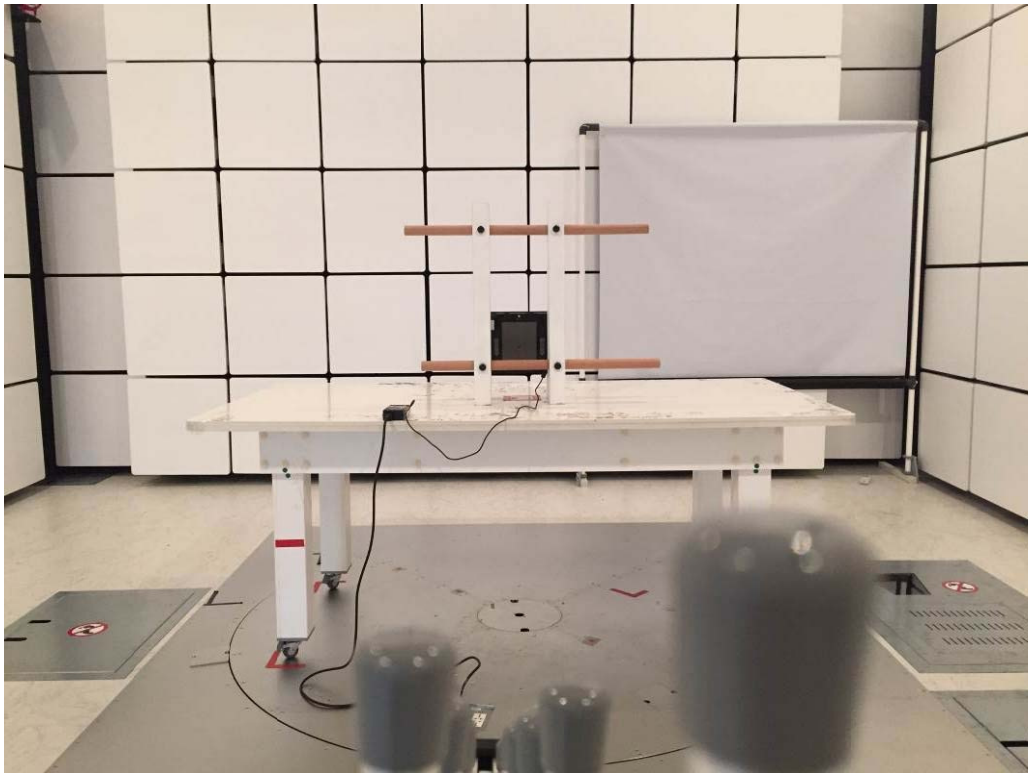
Radiated Measurement Photos
30MHz to 1000MHz
Stand-alone (Battery only)



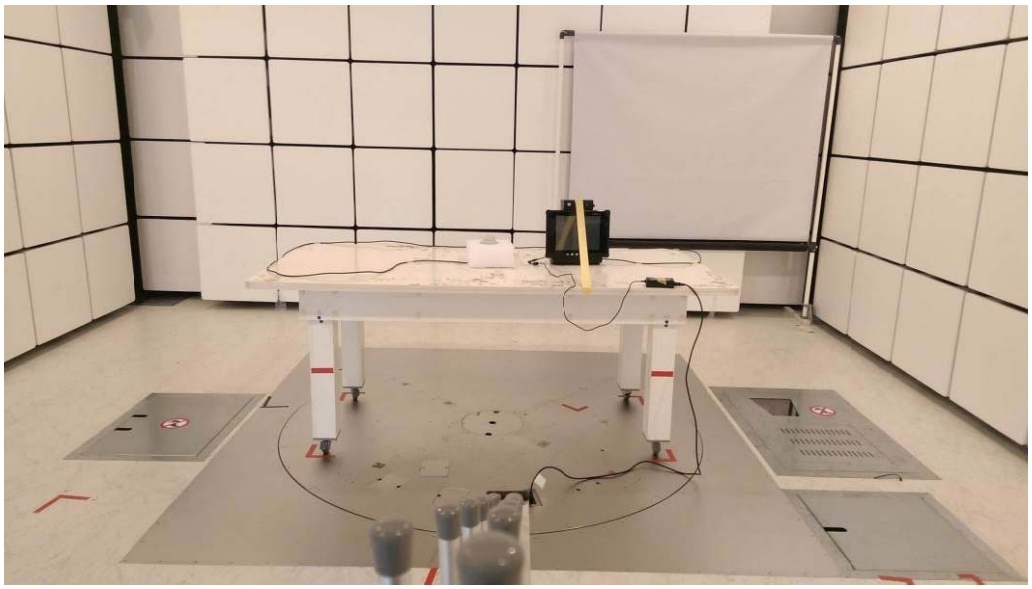


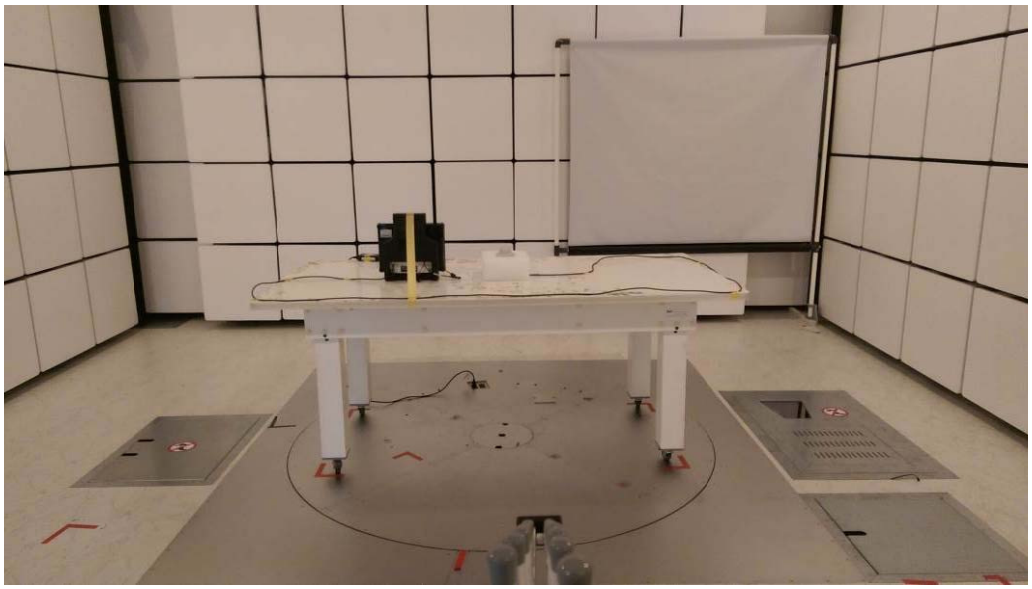
Radiated Measurement Photos
30MHz to 1000MHz
Stand-alone (Battery+Adapter)



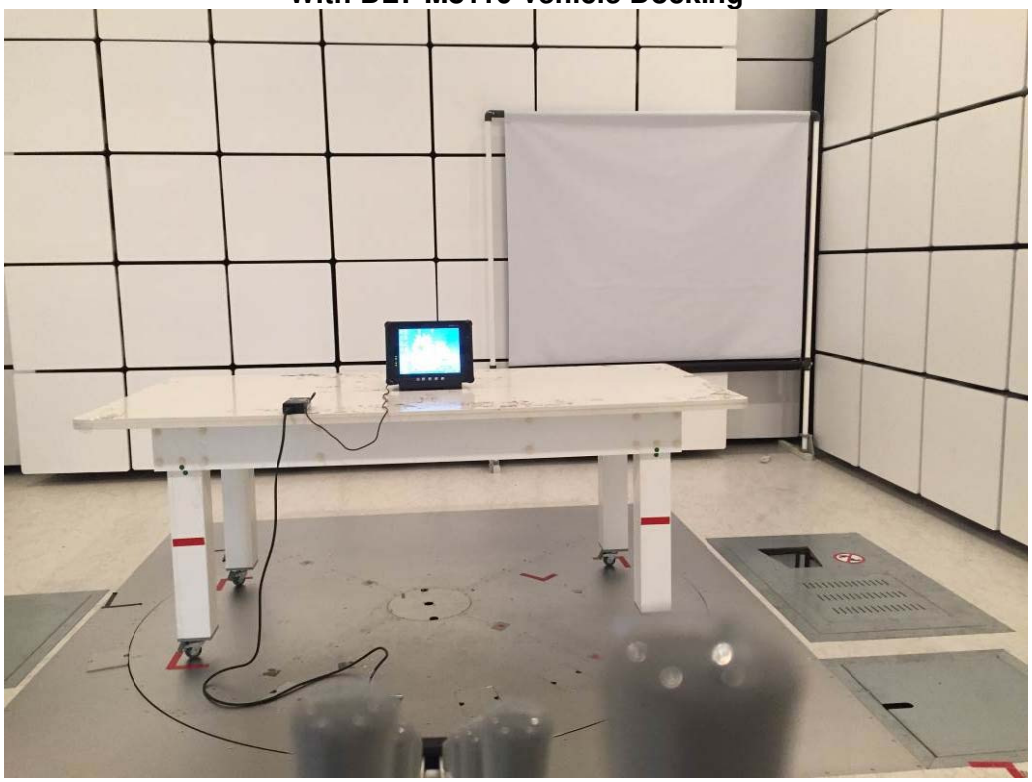


Radiated Measurement Photos
30MHz to 1000MHz
With DLT-M8110 Desk Docking





Radiated Measurement Photos
30MHz to 1000MHz
With DLT-M8110 Vehicle Docking

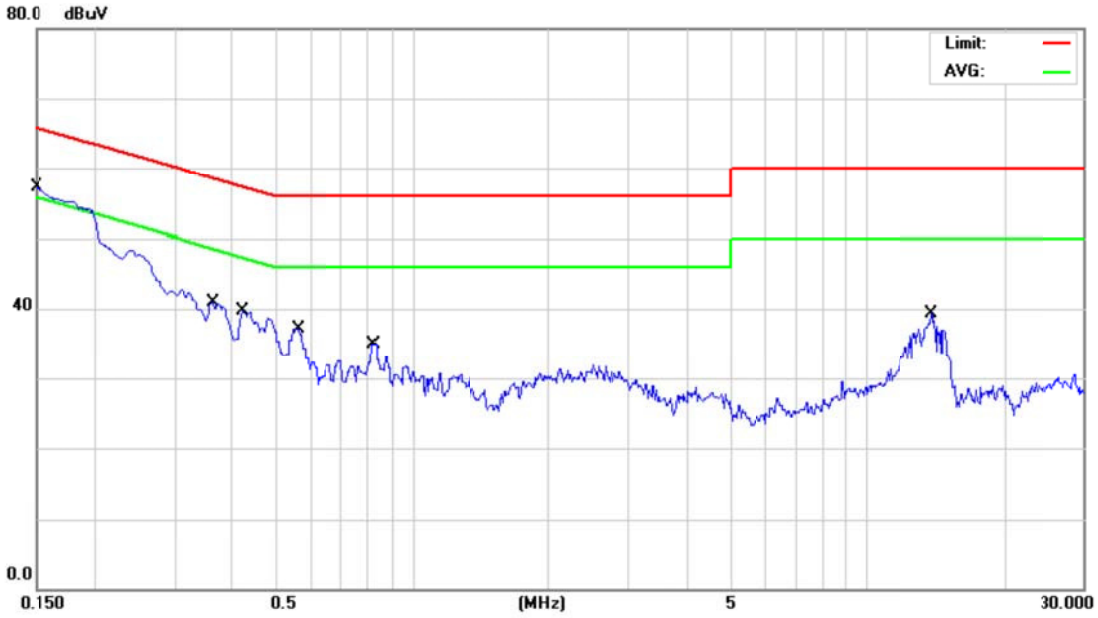


Radiated Measurement Photos
Above 1000MHz
Stand-alone (Battery+Adapter)

ATTACHMENT A - CONDUCTED EMISSION

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L+Adapter)

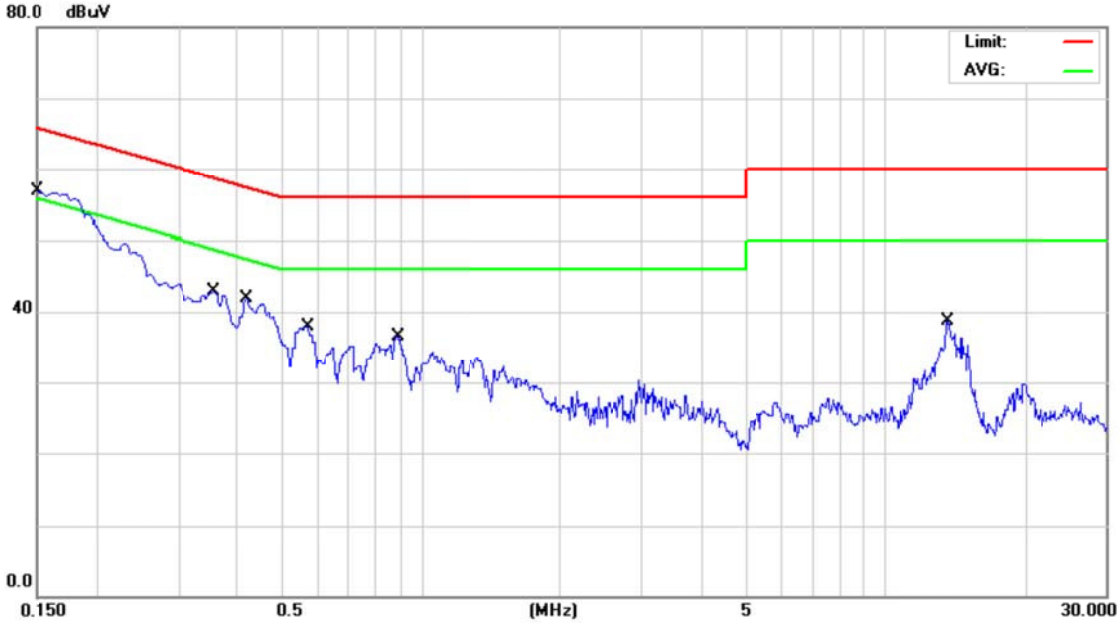
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	33.10	9.68	42.78	65.99	-23.21	QP	
2		0.1500	15.20	9.68	24.88	55.99	-31.11	AVG	
3		0.3635	23.20	9.68	32.88	58.65	-25.77	QP	
4		0.3635	15.30	9.68	24.98	48.65	-23.67	AVG	
5		0.4244	23.20	9.68	32.88	57.36	-24.48	QP	
6		0.4244	12.50	9.68	22.18	47.36	-25.18	AVG	
7		0.5630	21.10	9.69	30.79	56.00	-25.21	QP	
8		0.5630	12.40	9.69	22.09	46.00	-23.91	AVG	
9		0.8240	15.20	9.70	24.90	56.00	-31.10	QP	
10		0.8240	6.10	9.70	15.80	46.00	-30.20	AVG	
11		13.9000	21.40	9.89	31.29	60.00	-28.71	QP	
12		13.9000	12.70	9.89	22.59	50.00	-27.41	AVG	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L+Adapter)

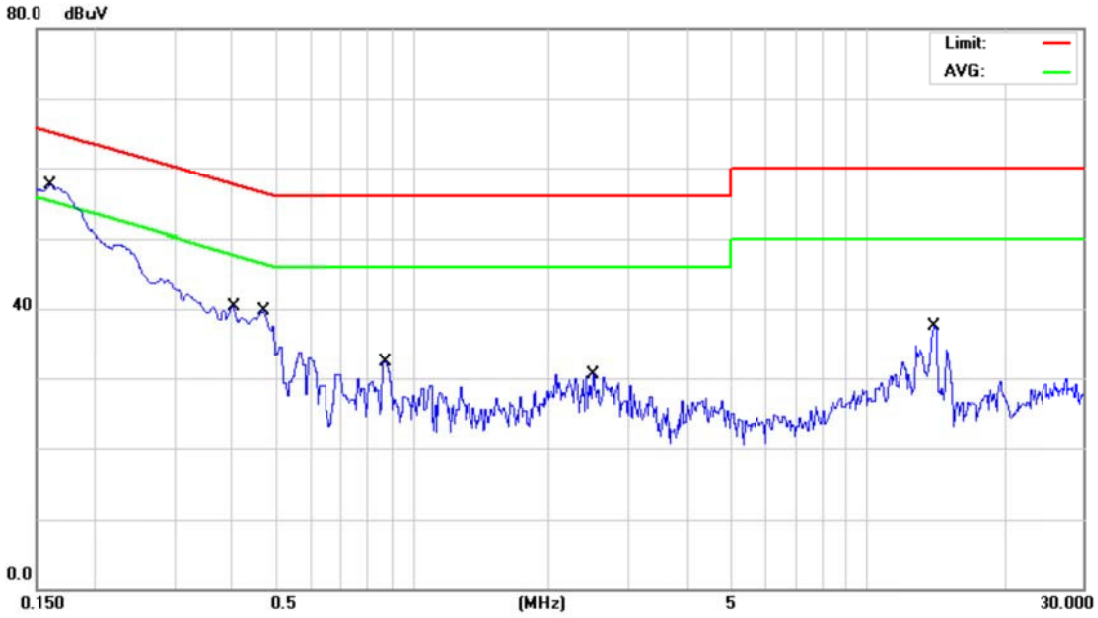
Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	33.80	9.69	43.49	65.99	-22.50	QP	
2		0.1500	15.80	9.69	25.49	55.99	-30.50	AVG	
3		0.3586	22.20	9.68	31.88	58.76	-26.88	QP	
4		0.3586	12.90	9.68	22.58	48.76	-26.18	AVG	
5		0.4209	19.30	9.68	28.98	57.43	-28.45	QP	
6		0.4209	10.60	9.68	20.28	47.43	-27.15	AVG	
7	*	0.5720	23.90	9.69	33.59	56.00	-22.41	QP	
8		0.5720	12.80	9.69	22.49	46.00	-23.51	AVG	
9		0.8870	20.90	9.72	30.62	56.00	-25.38	QP	
10		0.8870	12.60	9.72	22.32	46.00	-23.68	AVG	
11		13.6500	19.90	9.89	29.79	60.00	-30.21	QP	
12		13.6500	9.70	9.89	19.59	50.00	-30.41	AVG	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S+Adapter)

Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1612	32.20	9.68	41.88	65.40	-23.52	QP	
2		0.1612	14.20	9.68	23.88	55.40	-31.52	AVG	
3		0.4041	15.40	9.68	25.08	57.77	-32.69	QP	
4		0.4041	4.50	9.68	14.18	47.77	-33.59	AVG	
5		0.4713	16.50	9.69	26.19	56.49	-30.30	QP	
6		0.4713	8.80	9.69	18.49	46.49	-28.00	AVG	
7		0.8690	14.80	9.70	24.50	56.00	-31.50	QP	
8		0.8690	6.50	9.70	16.20	46.00	-29.80	AVG	
9		2.4980	14.30	9.79	24.09	56.00	-31.91	QP	
10		2.4980	7.10	9.79	16.89	46.00	-29.11	AVG	
11		14.1500	20.90	9.88	30.78	60.00	-29.22	QP	
12		14.1500	12.00	9.88	21.88	50.00	-28.12	AVG	

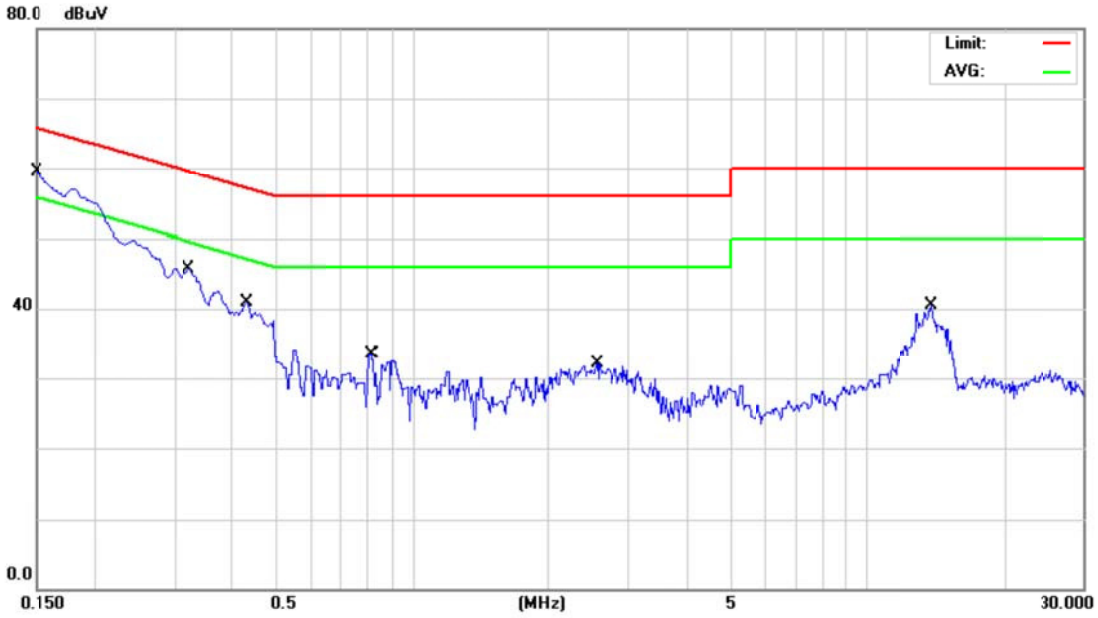
Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S+Adapter)

Neutral

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	34.00	9.69	43.69	65.99	-22.30	QP	
2		0.1500	16.20	9.69	25.89	55.99	-30.10	AVG	
3	*	0.1745	41.00	9.69	50.69	64.74	-14.05	QP	
4		0.1745	20.70	9.69	30.39	54.74	-24.35	AVG	
5		0.4230	24.40	9.68	34.08	57.39	-23.31	QP	
6		0.4230	14.10	9.68	23.78	47.39	-23.61	AVG	
7		0.5630	24.50	9.69	34.19	56.00	-21.81	QP	
8		0.5630	15.50	9.69	25.19	46.00	-20.81	AVG	
9		0.8780	21.30	9.72	31.02	56.00	-24.98	QP	
10		0.8780	12.30	9.72	22.02	46.00	-23.98	AVG	
11		13.9500	20.70	9.90	30.60	60.00	-29.40	QP	
12		13.9500	10.00	9.90	19.90	50.00	-30.10	AVG	

Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110L)

Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	36.10	9.68	45.78	65.99	-20.21	QP	
2		0.1500	16.10	9.68	25.78	55.99	-30.21	AVG	
3		0.3229	26.30	9.68	35.98	59.63	-23.65	QP	
4		0.3229	11.00	9.68	20.68	49.63	-28.95	AVG	
5		0.4335	21.50	9.69	31.19	57.18	-25.99	QP	
6		0.4335	11.10	9.69	20.79	47.18	-26.39	AVG	
7		0.8150	16.10	9.70	25.80	56.00	-30.20	QP	
8		0.8150	6.60	9.70	16.30	46.00	-29.70	AVG	
9		2.5430	16.60	9.80	26.40	56.00	-29.60	QP	
10		2.5430	8.40	9.80	18.20	46.00	-27.80	AVG	
11		13.9000	22.50	9.89	32.39	60.00	-27.61	QP	
12		13.9000	13.80	9.89	23.69	50.00	-26.31	AVG	

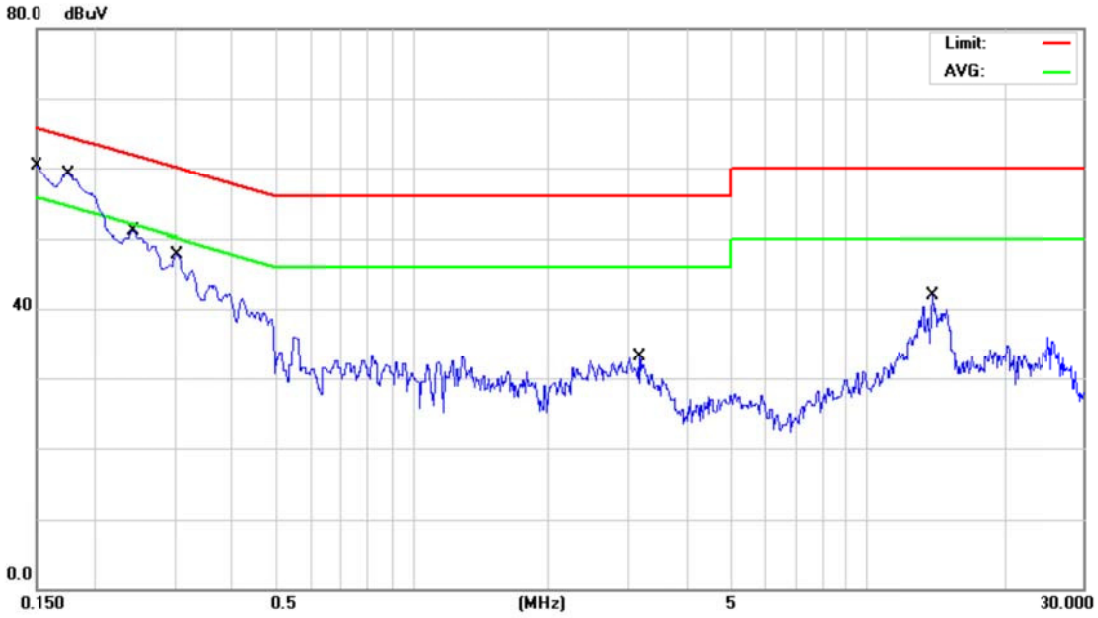
Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110L)

Neutral

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	36.10	9.69	45.79	65.99	-20.20	QP	
2		0.1500	16.80	9.69	26.49	55.99	-29.50	AVG	
3		0.3677	25.10	9.68	34.78	58.55	-23.77	QP	
4		0.3677	13.10	9.68	22.78	48.55	-25.77	AVG	
5		0.4832	25.50	9.69	35.19	56.28	-21.09	QP	
6		0.4832	12.10	9.69	21.79	46.28	-24.49	AVG	
7		0.9140	22.90	9.72	32.62	56.00	-23.38	QP	
8		0.9140	12.20	9.72	21.92	46.00	-24.08	AVG	
9		3.1190	13.50	9.83	23.33	56.00	-32.67	QP	
10		3.1190	4.50	9.83	14.33	46.00	-31.67	AVG	
11		13.7000	22.50	9.89	32.39	60.00	-27.61	QP	
12		13.7000	11.60	9.89	21.49	50.00	-28.51	AVG	

Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110S)

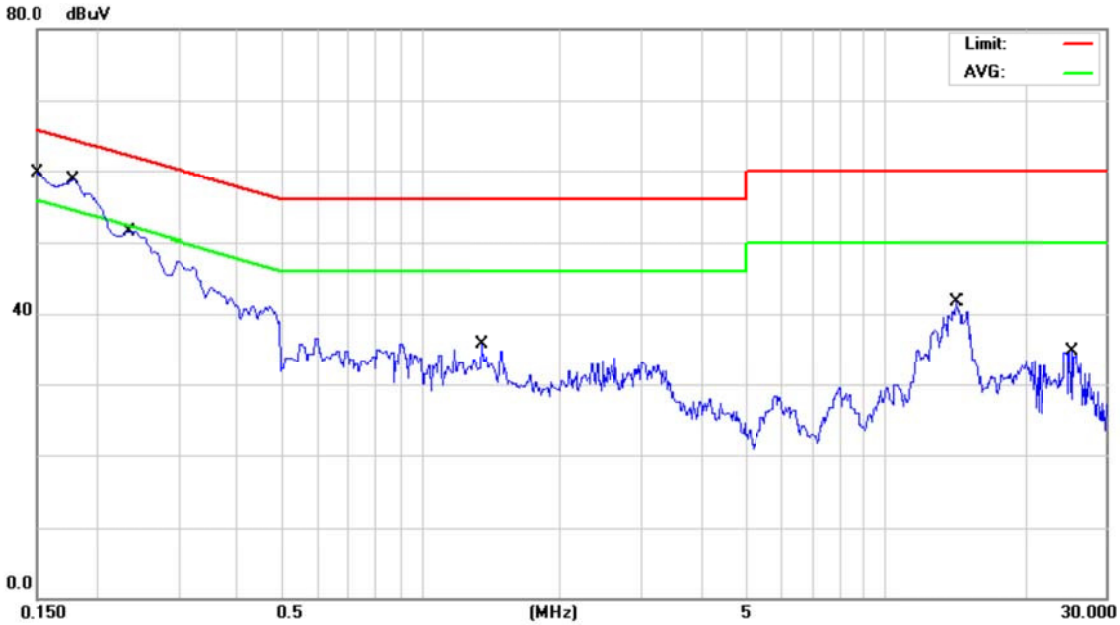
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	36.50	9.64	46.14	65.99	-19.85	QP	
2		0.1500	16.70	9.64	26.34	55.99	-29.65	AVG	
3	*	0.1759	43.80	9.64	53.44	64.67	-11.23	QP	
4		0.1759	24.00	9.64	33.64	54.67	-21.03	AVG	
5		0.2424	35.60	9.64	45.24	62.01	-16.77	QP	
6		0.2424	16.20	9.64	25.84	52.01	-26.17	AVG	
7		0.3026	28.80	9.63	38.43	60.17	-21.74	QP	
8		0.3026	11.10	9.63	20.73	50.17	-29.44	AVG	
9		3.1730	15.60	9.65	25.25	56.00	-30.75	QP	
10		3.1730	7.20	9.65	16.85	46.00	-29.15	AVG	
11		14.0000	24.50	9.72	34.22	60.00	-25.78	QP	
12		14.0000	15.00	9.72	24.72	50.00	-25.28	AVG	

Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110S)

Neutral

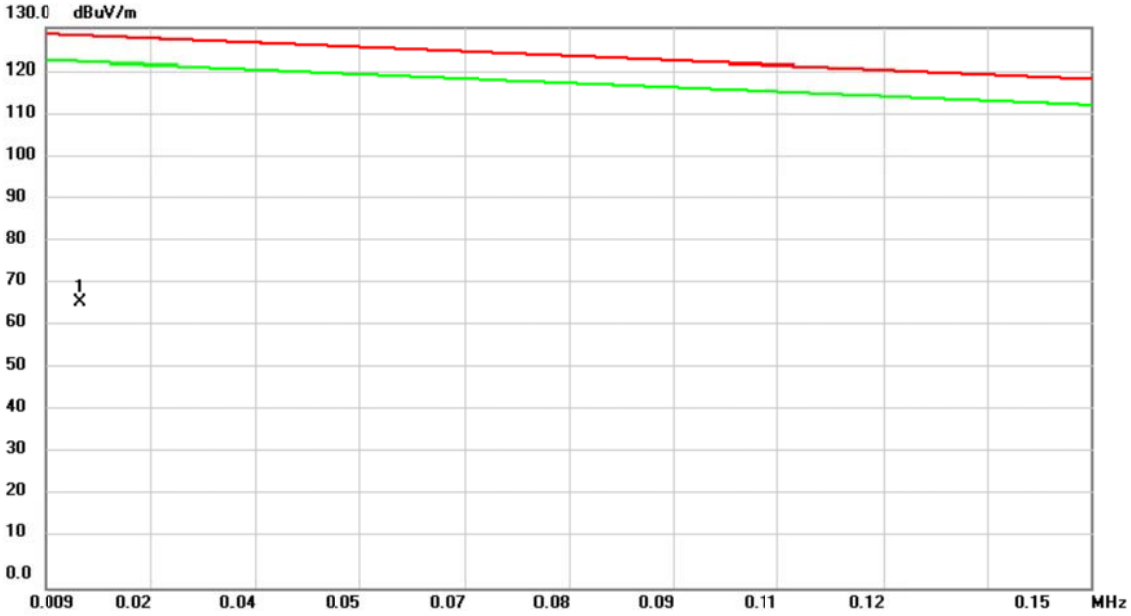


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	36.40	9.65	46.05	65.99	-19.94	QP	
2		0.1500	17.40	9.65	27.05	55.99	-28.94	AVG	
3	*	0.1794	43.20	9.64	52.84	64.51	-11.67	QP	
4		0.1794	22.00	9.64	31.64	54.51	-22.87	AVG	
5		0.2333	30.90	9.64	40.54	62.33	-21.79	QP	
6		0.2333	11.90	9.64	21.54	52.33	-30.79	AVG	
7		1.3640	19.10	9.64	28.74	56.00	-27.26	QP	
8		1.3640	9.00	9.64	18.64	46.00	-27.36	AVG	
9		14.3000	22.70	9.73	32.43	60.00	-27.57	QP	
10		14.3000	11.70	9.73	21.43	50.00	-28.57	AVG	
11		25.3000	21.50	9.73	31.23	60.00	-28.77	QP	
12		25.3000	20.00	9.73	29.73	50.00	-20.27	AVG	

ATTACHMENT B - RADIATED EMISSION (9KHZ-30MHZ)

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L)

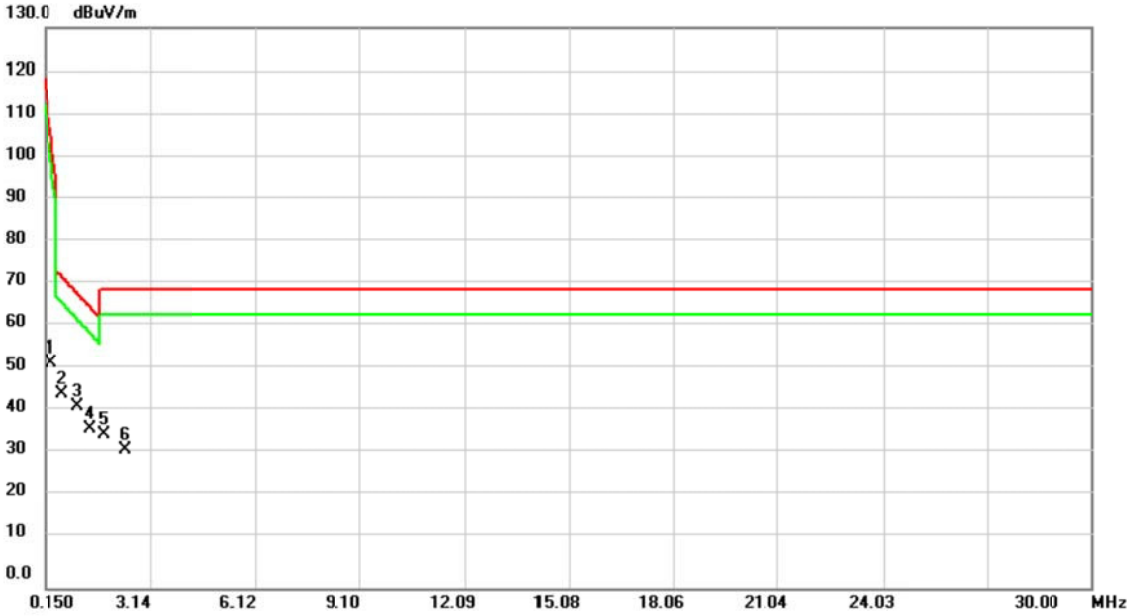
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0137	47.07	19.48	66.55	128.18	-61.63	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L)

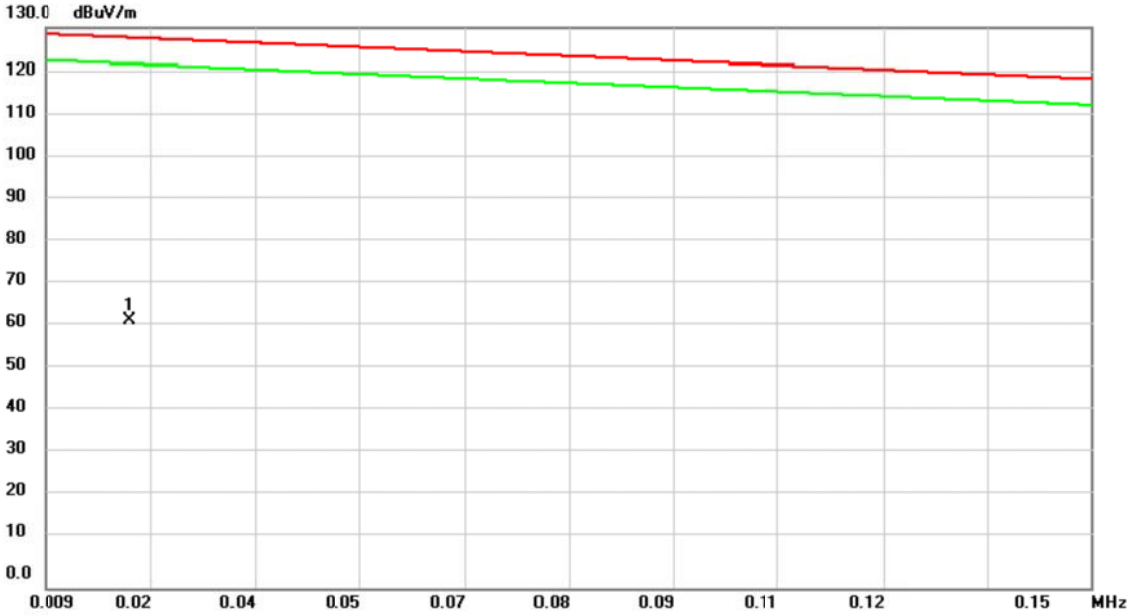
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.3092	40.72	11.80	52.52	106.85	-54.33	peak	
2		0.6276	33.55	11.85	45.40	72.57	-27.17	peak	
3	*	1.0654	30.29	11.97	42.26	68.67	-26.41	peak	
4		1.4236	25.50	11.81	37.31	65.48	-28.17	peak	
5		1.8216	24.18	11.63	35.81	69.54	-33.73	peak	
6		2.4186	20.92	11.36	32.28	69.54	-37.26	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L)

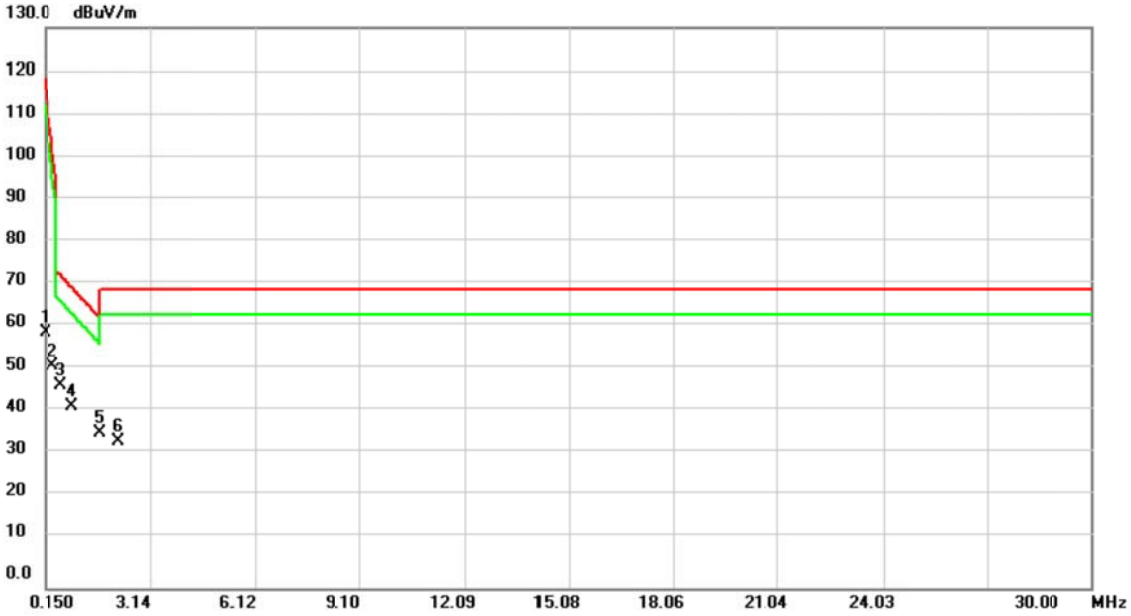
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0204	44.71	17.64	62.35	127.70	-65.35	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L)

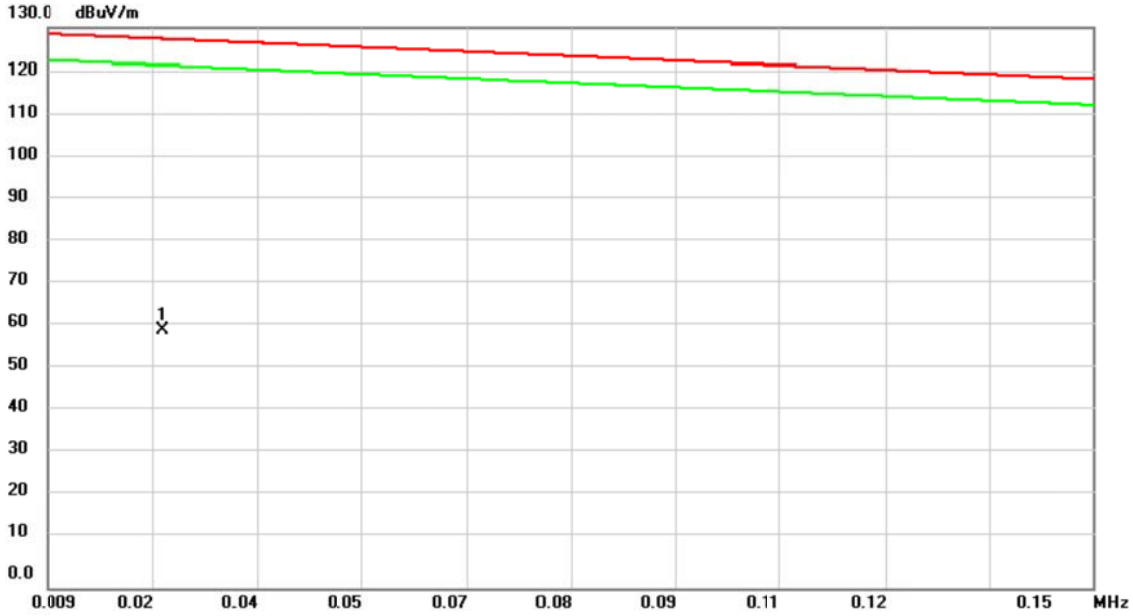
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1500	47.16	12.03	59.19	118.34	-59.15	peak	
2		0.3490	40.02	11.80	51.82	103.98	-52.16	peak	
3	*	0.5878	35.34	11.84	47.18	72.93	-25.75	peak	
4		0.9062	30.57	11.96	42.53	70.09	-27.56	peak	
5		1.7022	24.41	11.68	36.09	62.99	-26.90	peak	
6		2.2196	22.69	11.45	34.14	69.54	-35.40	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S)

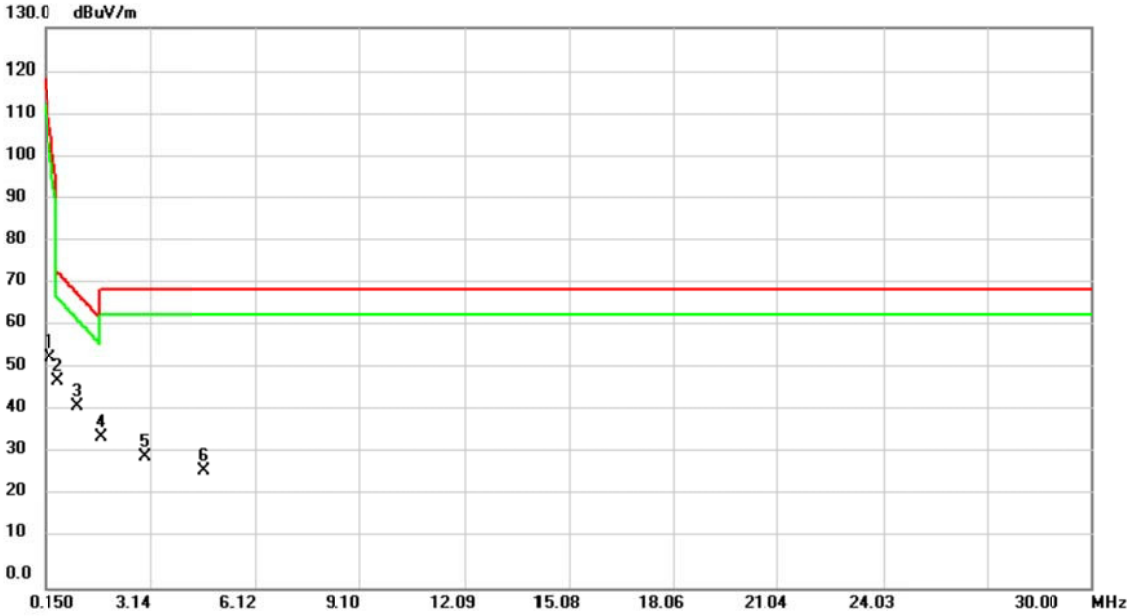
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0246	43.53	16.48	60.01	127.39	-67.38	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S)

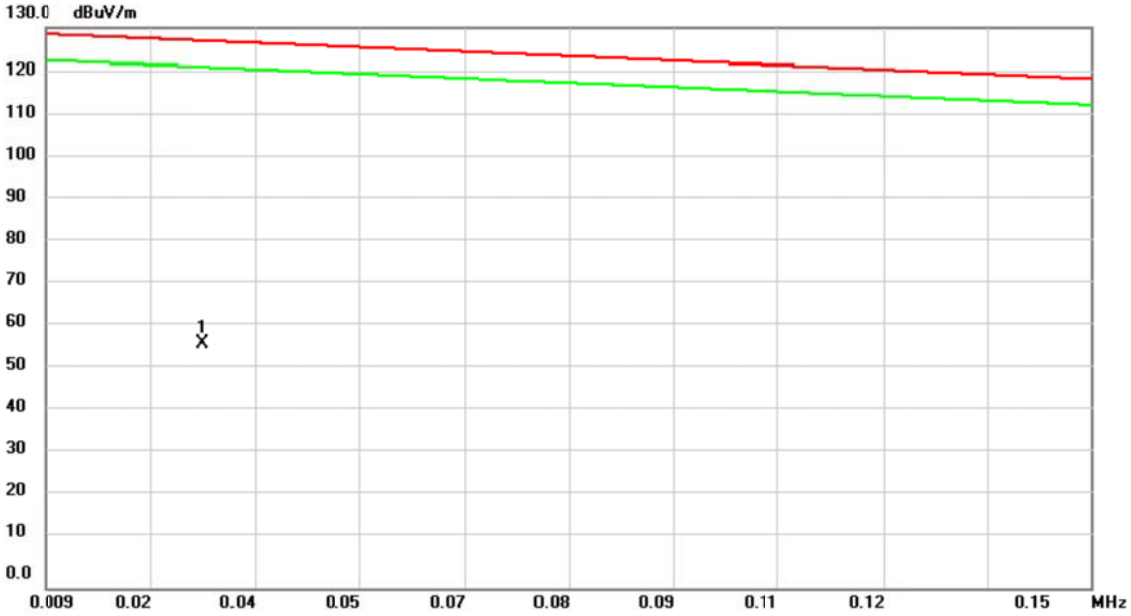
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.2694	41.83	11.85	53.68	109.72	-56.04	peak	
2	*	0.5082	36.54	11.80	48.34	73.64	-25.30	peak	
3		1.0654	30.29	11.97	42.26	68.67	-26.41	peak	
4		1.7420	23.58	11.67	35.25	69.54	-34.29	peak	
5		2.9758	19.51	11.11	30.62	69.54	-38.92	peak	
6		4.6872	16.01	11.35	27.36	69.54	-42.18	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S)

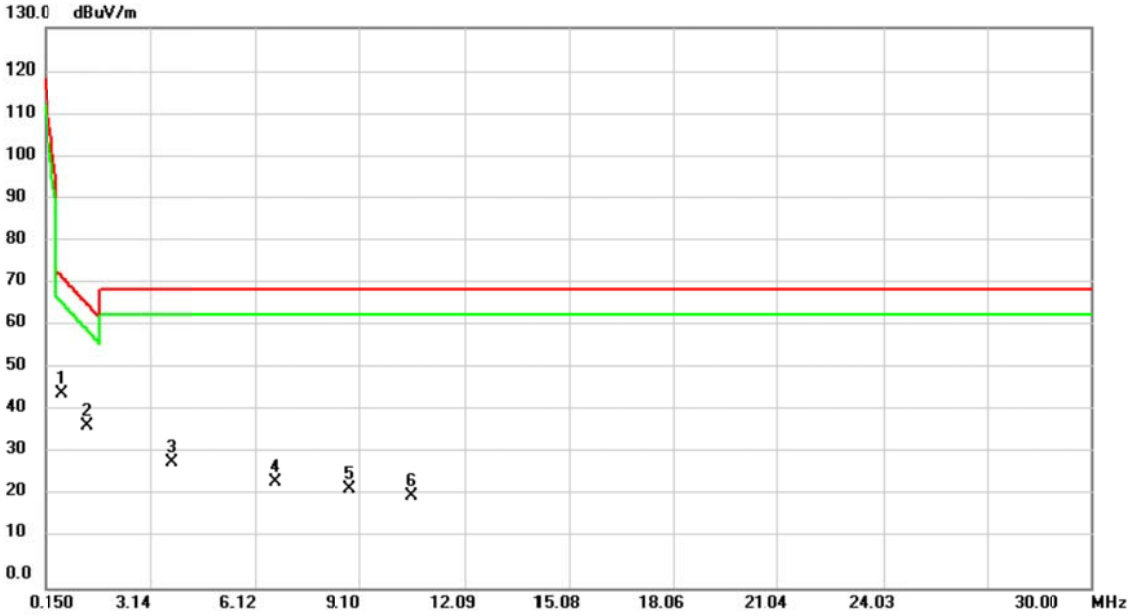
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0303	42.04	14.97	57.01	126.98	-69.97	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S)

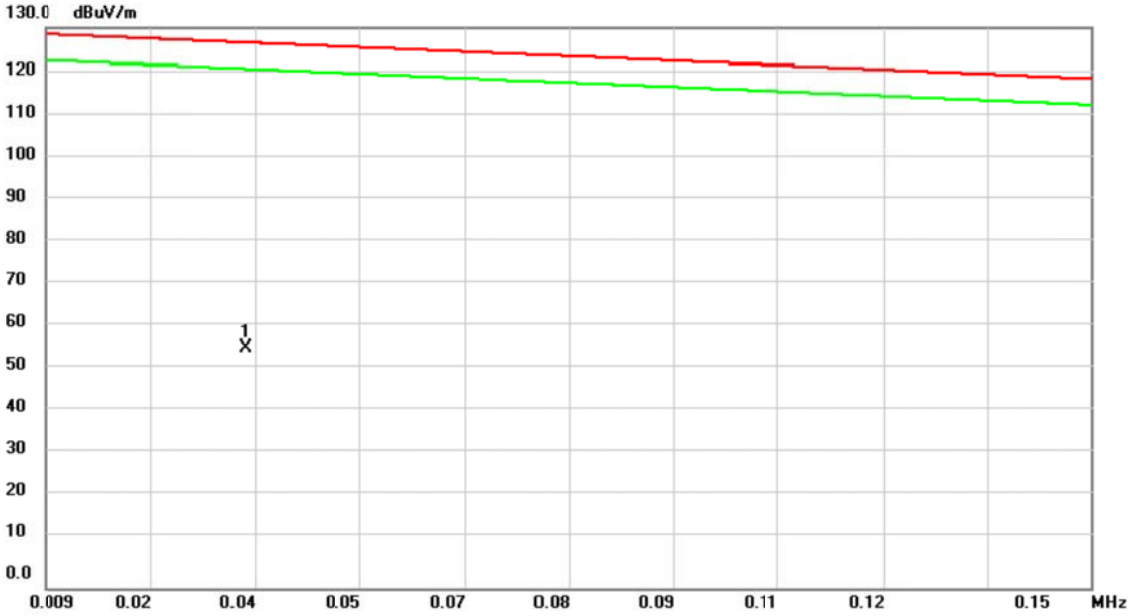
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.6276	33.40	11.85	45.25	72.57	-27.32	peak	
2		1.3440	26.16	11.85	38.01	66.19	-28.18	peak	
3		3.7320	18.24	11.21	29.45	69.54	-40.09	peak	
4		6.6772	13.64	11.37	25.01	69.54	-44.53	peak	
5		8.8662	11.78	11.32	23.10	69.54	-46.44	peak	
6		10.5776	10.28	11.28	21.56	69.54	-47.98	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L+Adapter)

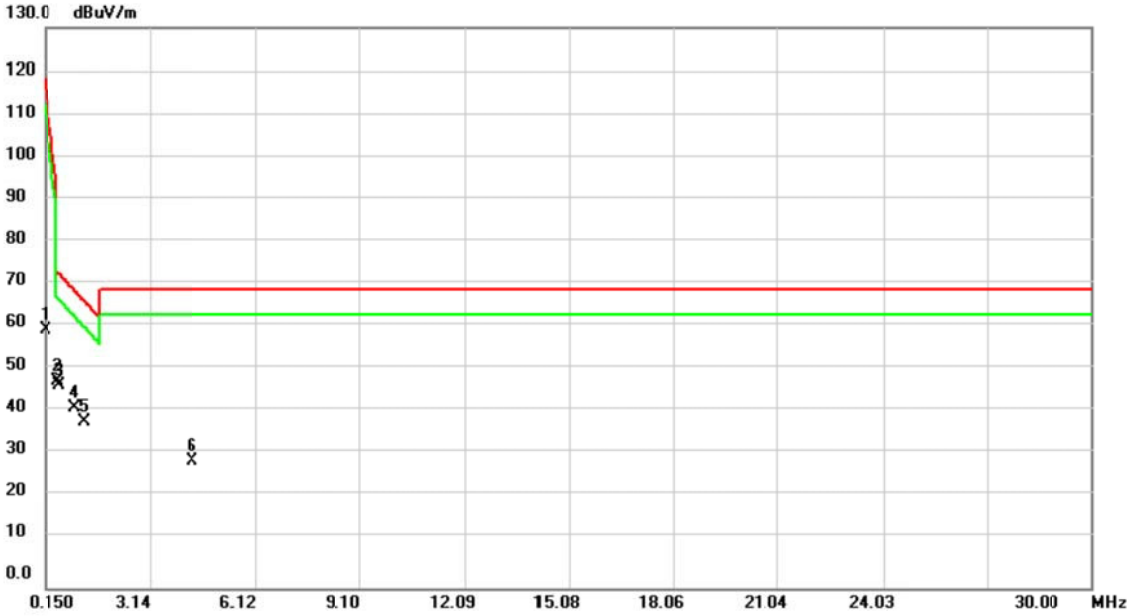
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0360	41.75	14.40	56.15	126.57	-70.42	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L+Adapter)

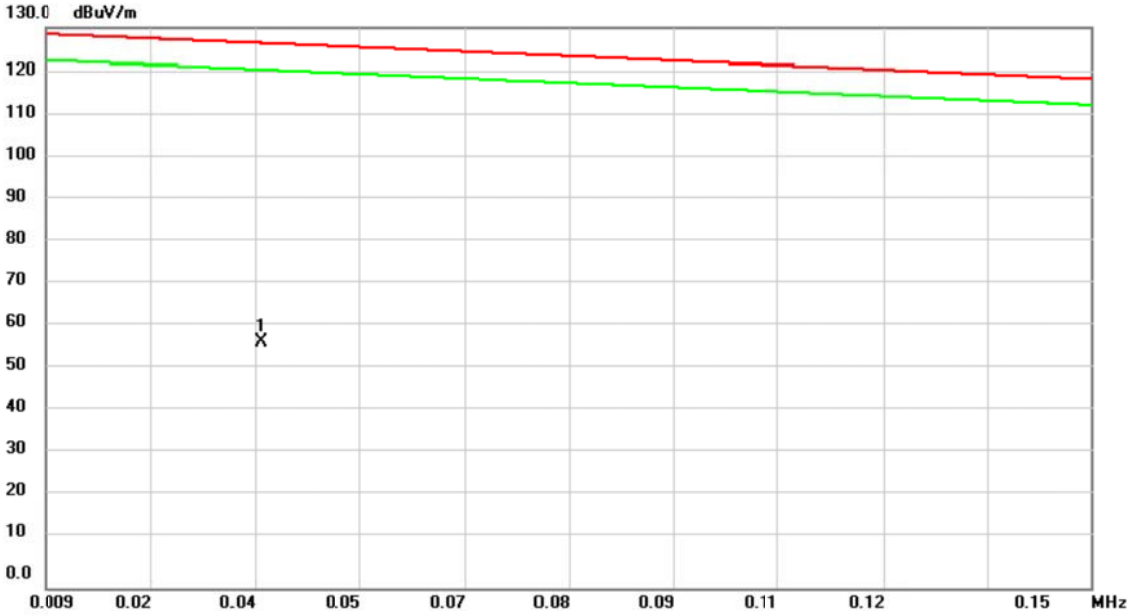
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1500	47.93	12.03	59.96	118.34	-58.38	peak	
2	*	0.5082	36.54	11.80	48.34	73.64	-25.30	peak	
3		0.5480	35.35	11.82	47.17	73.28	-26.11	peak	
4		0.9858	30.00	11.99	41.99	69.38	-27.39	peak	
5		1.2644	26.81	11.88	38.69	66.90	-28.21	peak	
6		4.3290	18.38	11.30	29.68	69.54	-39.86	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L+Adapter)

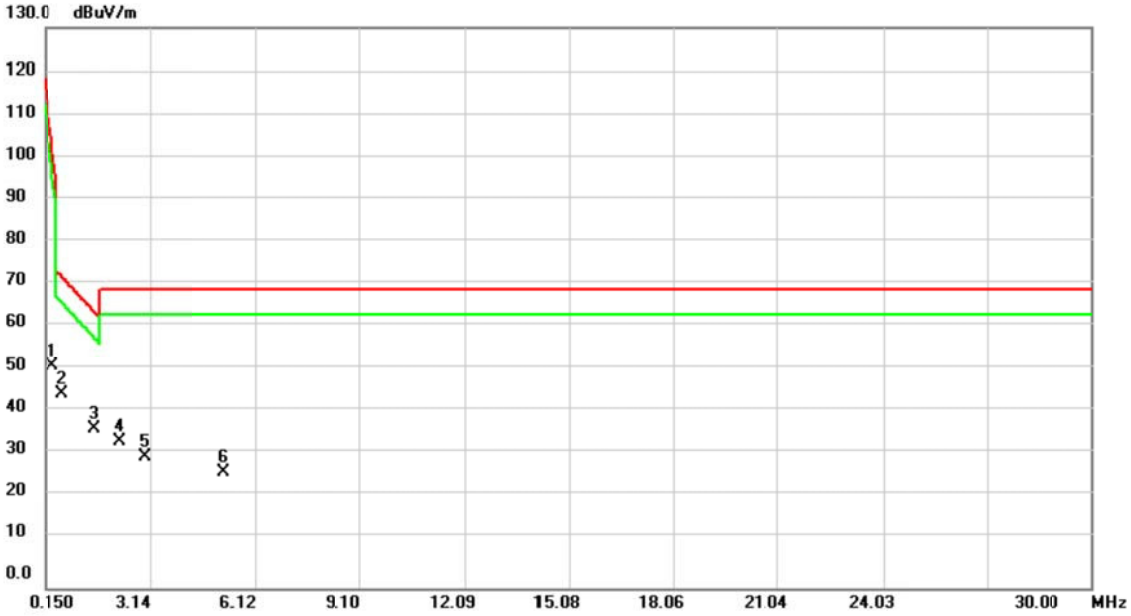
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0380	43.20	14.20	57.40	126.43	-69.03	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L+Adapter)

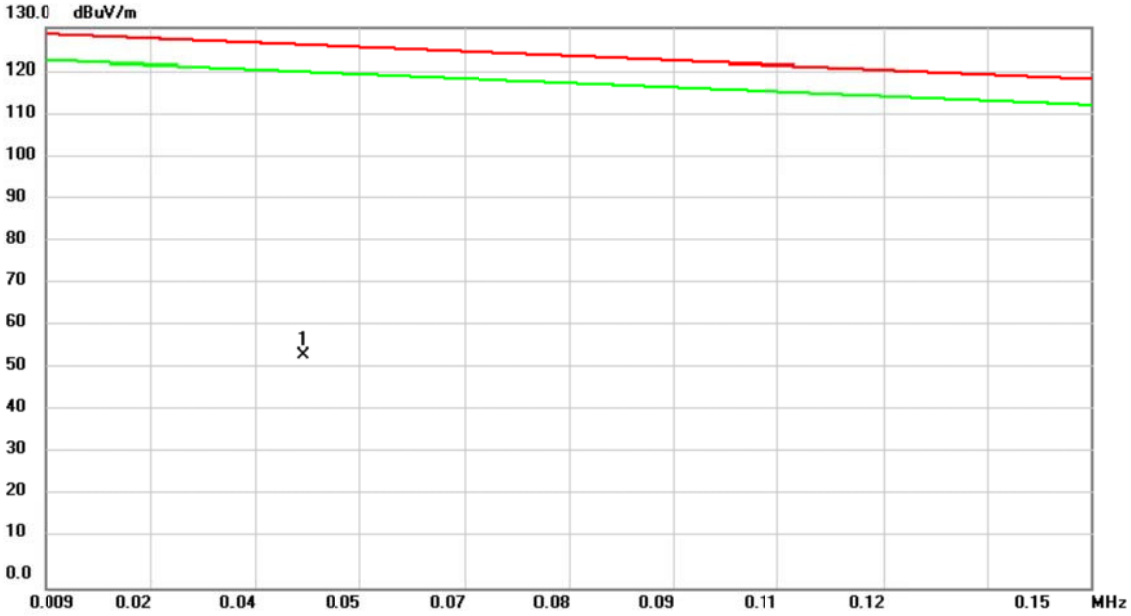
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.3490	40.02	11.80	51.82	103.98	-52.16	peak	
2		0.6276	33.40	11.85	45.25	72.57	-27.32	peak	
3	*	1.5430	25.61	11.76	37.37	64.41	-27.04	peak	
4		2.2594	22.76	11.43	34.19	69.54	-35.35	peak	
5		2.9758	19.68	11.11	30.79	69.54	-38.75	peak	
6		5.2444	15.89	11.40	27.29	69.54	-42.25	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S+Adapter)

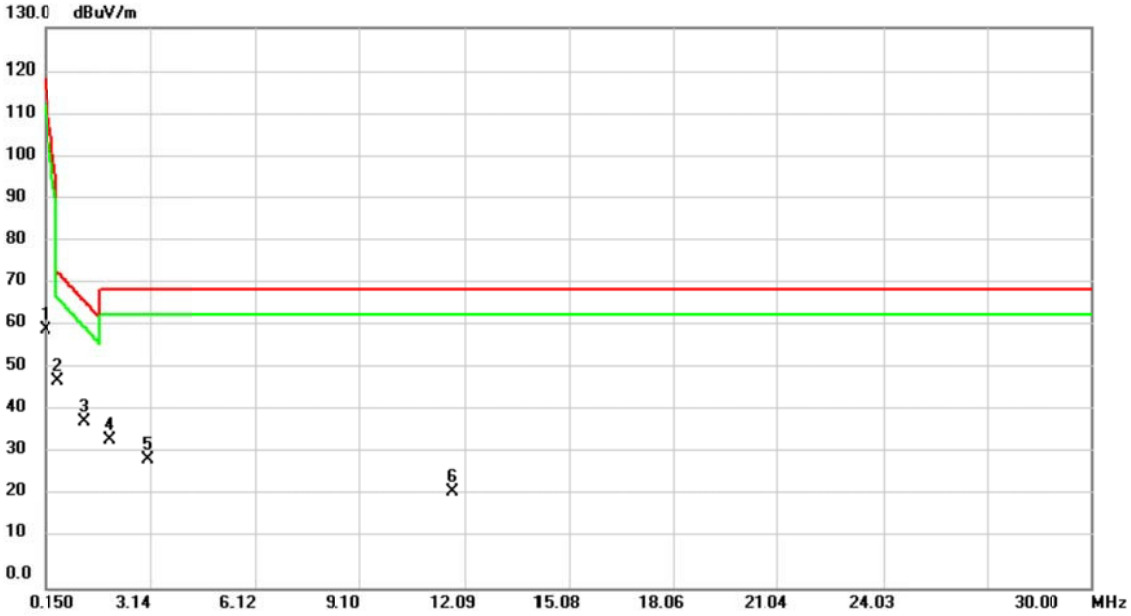
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0437	40.68	13.63	54.31	126.02	-71.71	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S+Adapter)

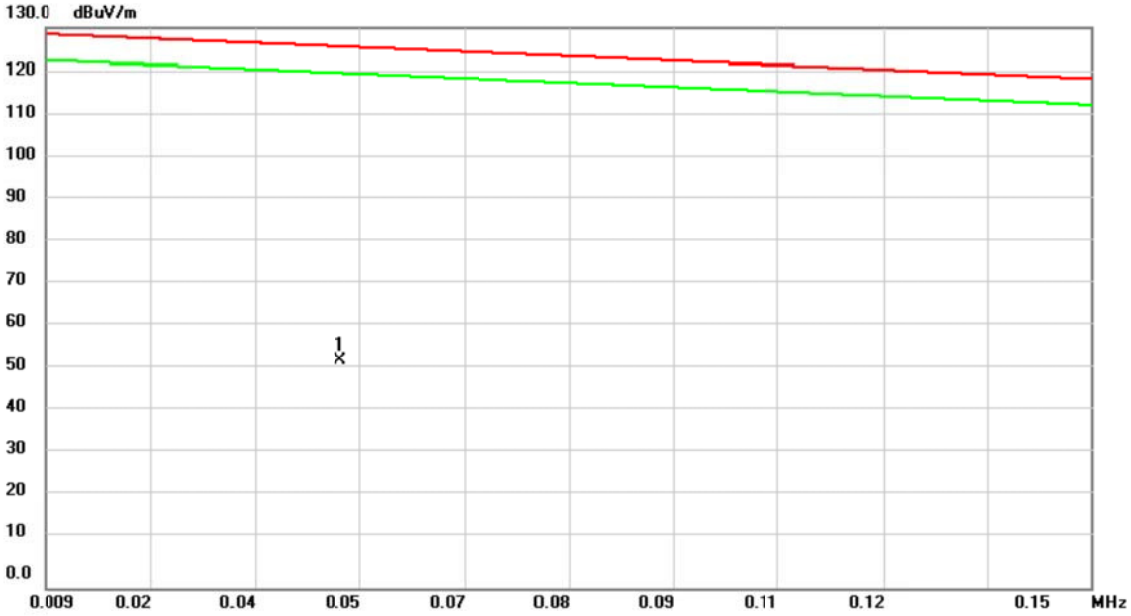
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1500	47.93	12.03	59.96	118.34	-58.38	peak	
2	*	0.5082	36.54	11.80	48.34	73.64	-25.30	peak	
3		1.2644	26.81	11.88	38.69	66.90	-28.21	peak	
4		1.9808	23.00	11.56	34.56	69.54	-34.98	peak	
5		3.0554	19.07	11.11	30.18	69.54	-39.36	peak	
6		11.7318	11.29	11.25	22.54	69.54	-47.00	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S+Adapter)

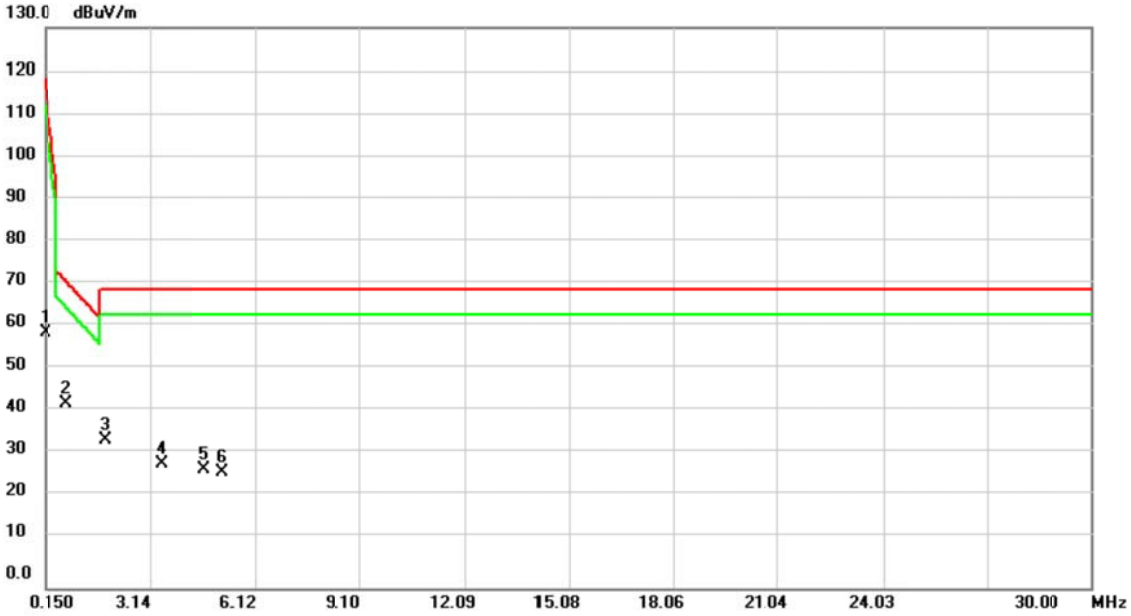
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0488	39.87	13.12	52.99	125.65	-72.66	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S+Adapter)

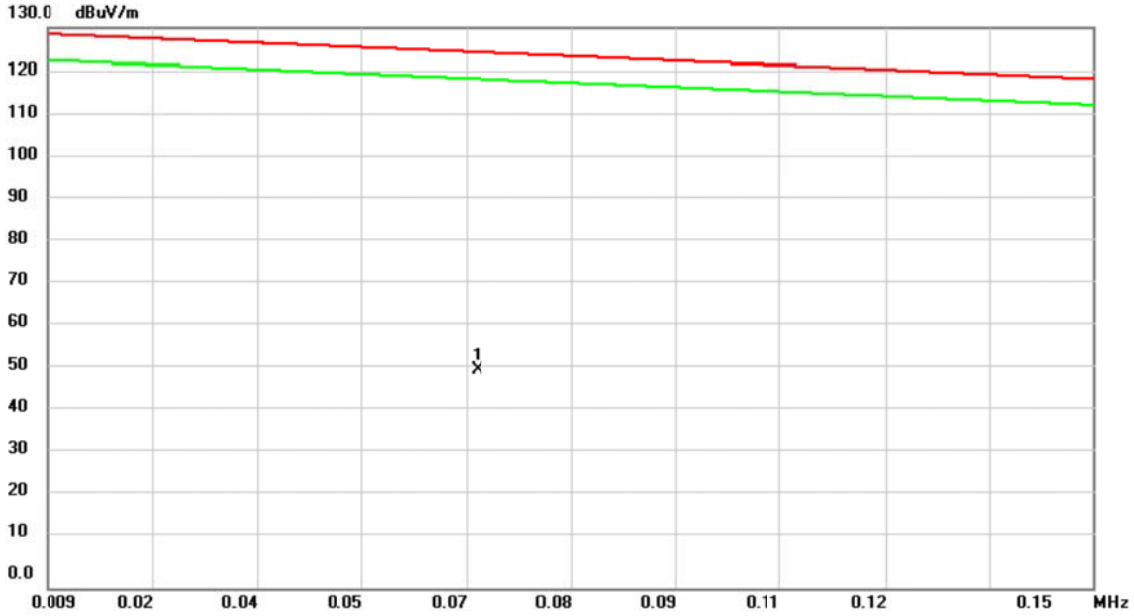
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1500	47.16	12.03	59.19	118.34	-59.15	peak	
2	*	0.7867	31.17	11.91	43.08	71.16	-28.08	peak	
3		1.8614	23.02	11.61	34.63	69.54	-34.91	peak	
4		3.4534	17.79	11.17	28.96	69.54	-40.58	peak	
5		4.6872	16.54	11.35	27.89	69.54	-41.65	peak	
6		5.2046	15.70	11.40	27.10	69.54	-42.44	peak	

Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110L)

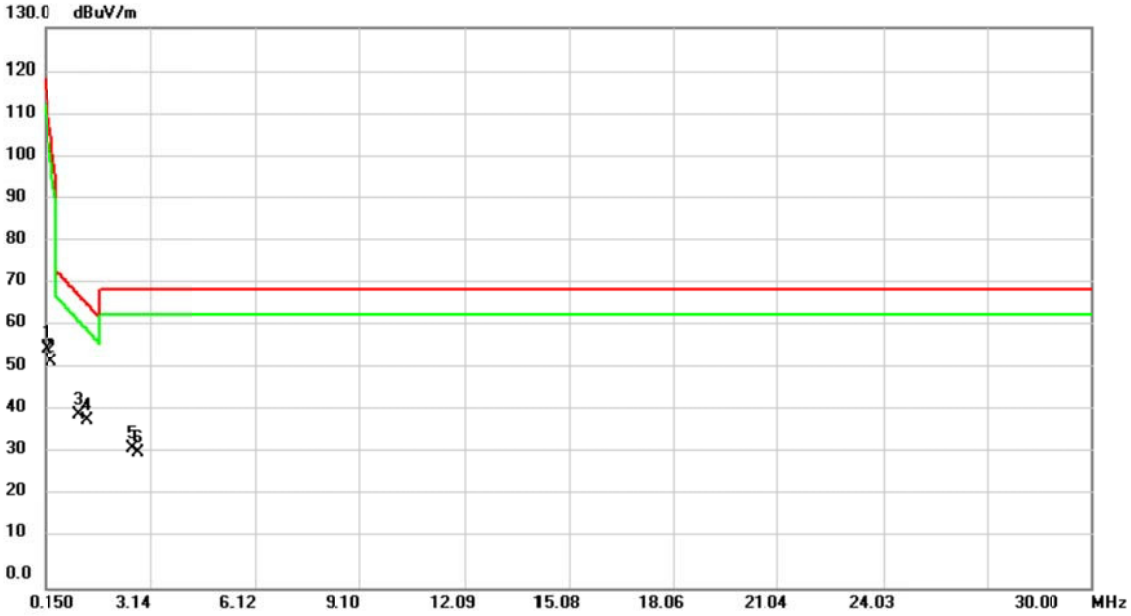
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0670	38.04	12.69	50.73	124.33	-73.60	peak	

Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110L)

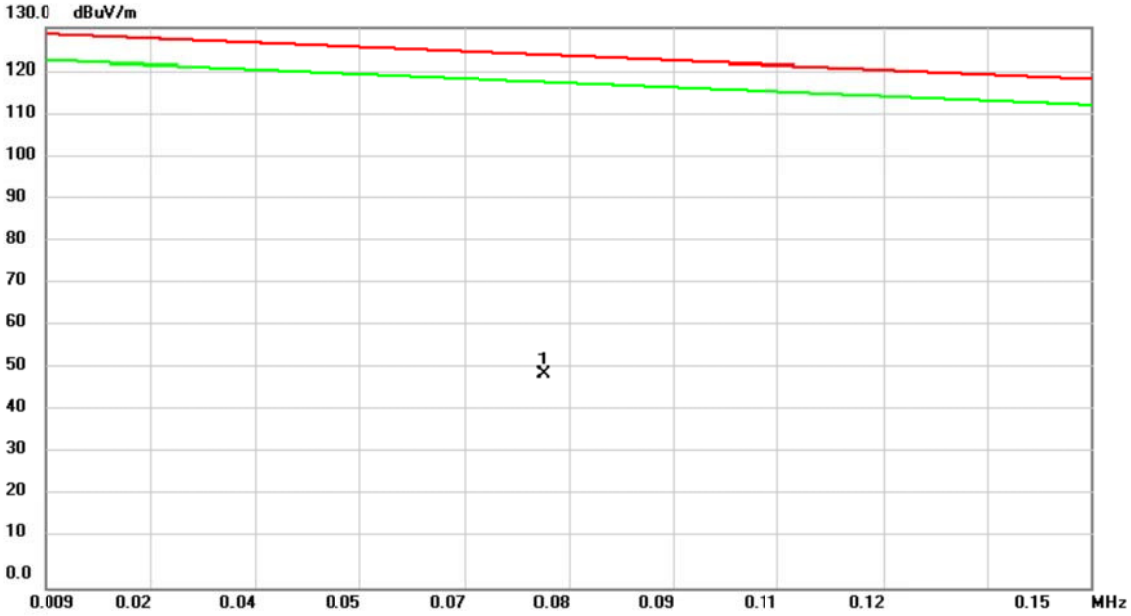
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.2096	43.96	11.94	55.90	114.04	-58.14	peak	
2		0.3291	40.93	11.80	52.73	105.41	-52.68	peak	
3		1.1350	28.52	11.94	40.46	68.05	-27.59	peak	
4	*	1.3440	27.36	11.85	39.21	66.19	-26.98	peak	
5		2.6274	21.29	11.27	32.56	69.54	-36.98	peak	
6		2.8065	20.46	11.19	31.65	69.54	-37.89	peak	

Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110L)

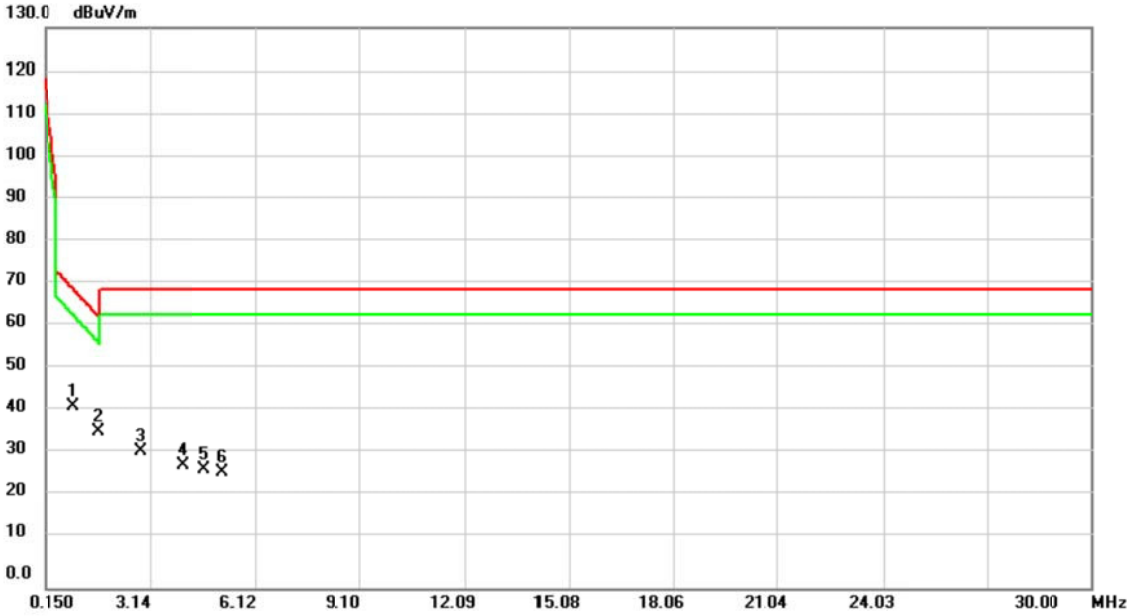
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0763	37.36	12.53	49.89	123.66	-73.77	peak	

Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110L)

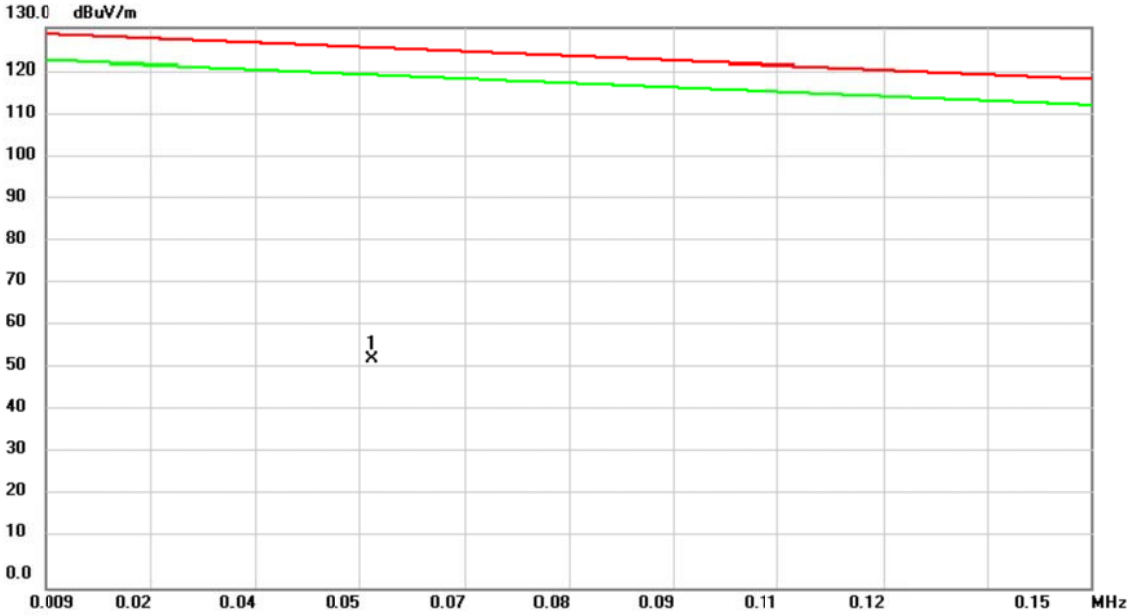
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.9460	30.54	11.98	42.52	69.74	-27.22	peak	
2	*	1.6624	24.83	11.70	36.53	63.35	-26.82	peak	
3		2.8564	20.86	11.16	32.02	69.54	-37.52	peak	
4		4.0504	17.44	11.26	28.70	69.54	-40.84	peak	
5		4.6872	16.54	11.35	27.89	69.54	-41.65	peak	
6		5.2046	15.70	11.40	27.10	69.54	-42.44	peak	

Test Mode:	TX Mode_With DLT-M8110 Vehicle Docking (Battery_DLT-M8110L)

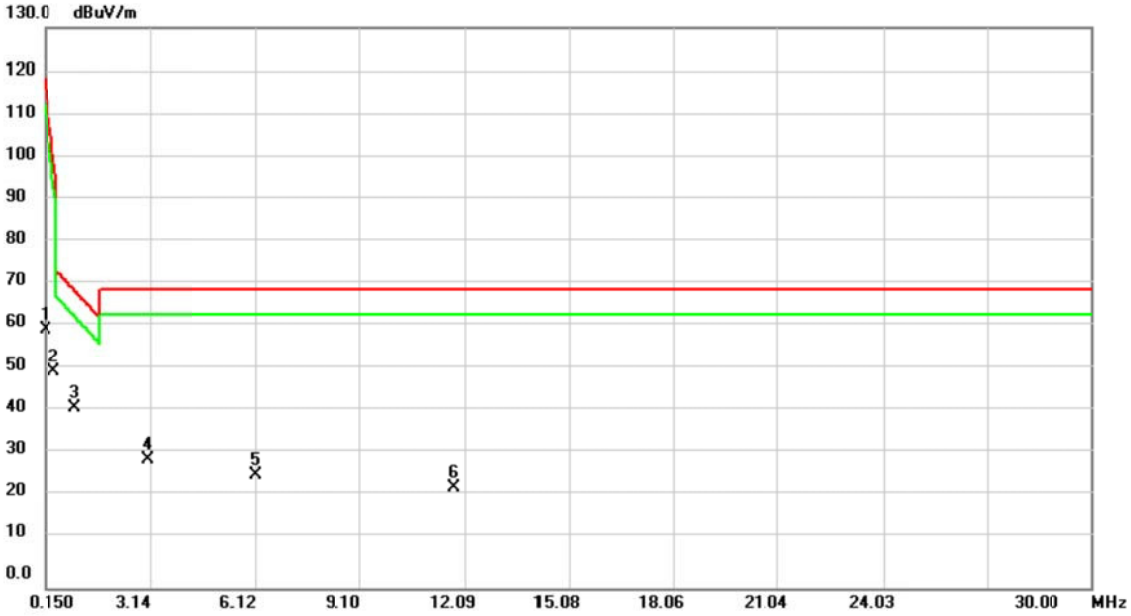
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0530	40.57	12.95	53.52	125.34	-71.82	peak	

Test Mode:	TX Mode_With DLT-M8110 Vehicle Docking (Battery_DLT-M8110L)

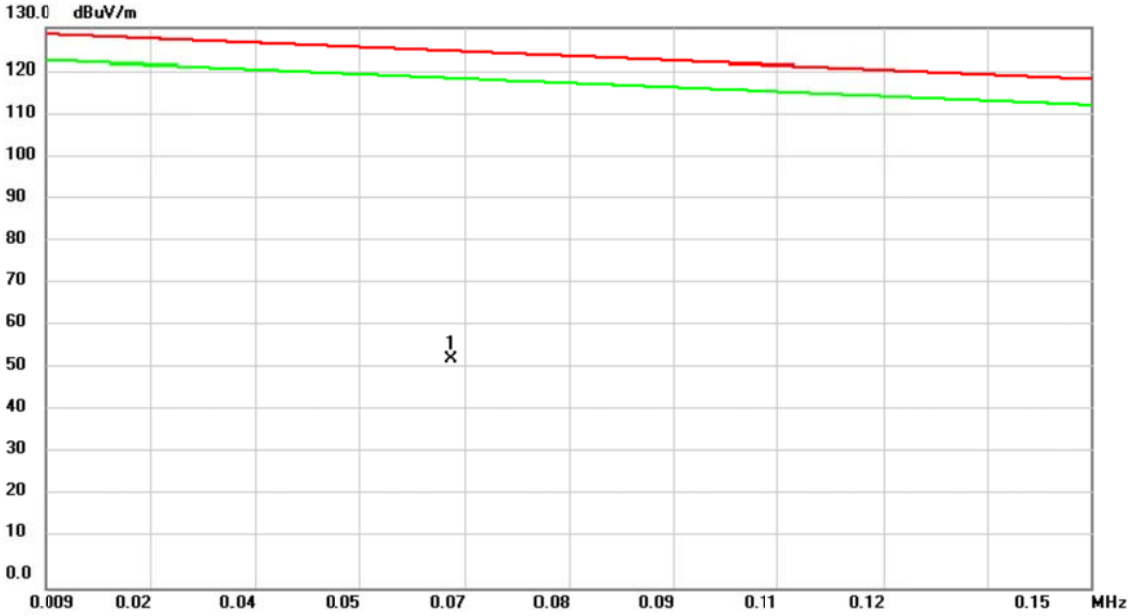
Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1500	47.93	12.03	59.96	118.34	-58.38	peak	
2		0.3888	38.80	11.80	50.60	101.10	-50.50	peak	
3	*	0.9858	30.00	11.99	41.99	69.38	-27.39	peak	
4		3.0554	19.07	11.11	30.18	69.54	-39.36	peak	
5		6.1200	15.16	11.38	26.54	69.54	-43.00	peak	
6		11.7716	12.42	11.25	23.67	69.54	-45.87	peak	

Test Mode:	TX Mode_With DLT-M8110 Vehicle Docking (Battery_DLT-M8110L)

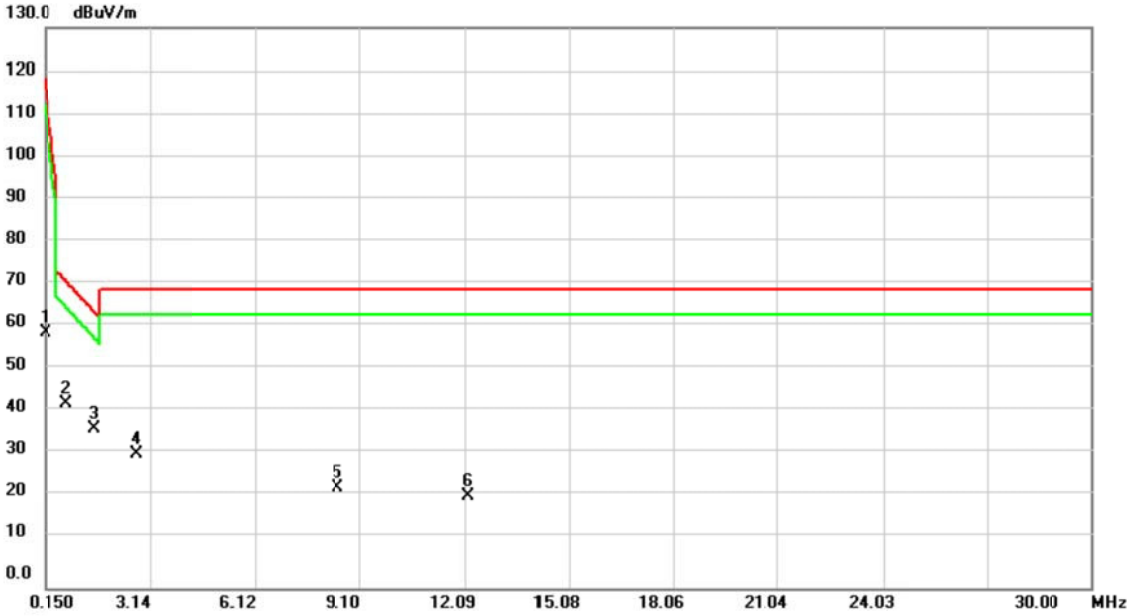
Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0637	40.61	12.75	53.36	124.57	-71.21	peak	

Test Mode:	TX Mode_With DLT-M8110 Vehicle Docking (Battery_DLT-M8110L)

Close

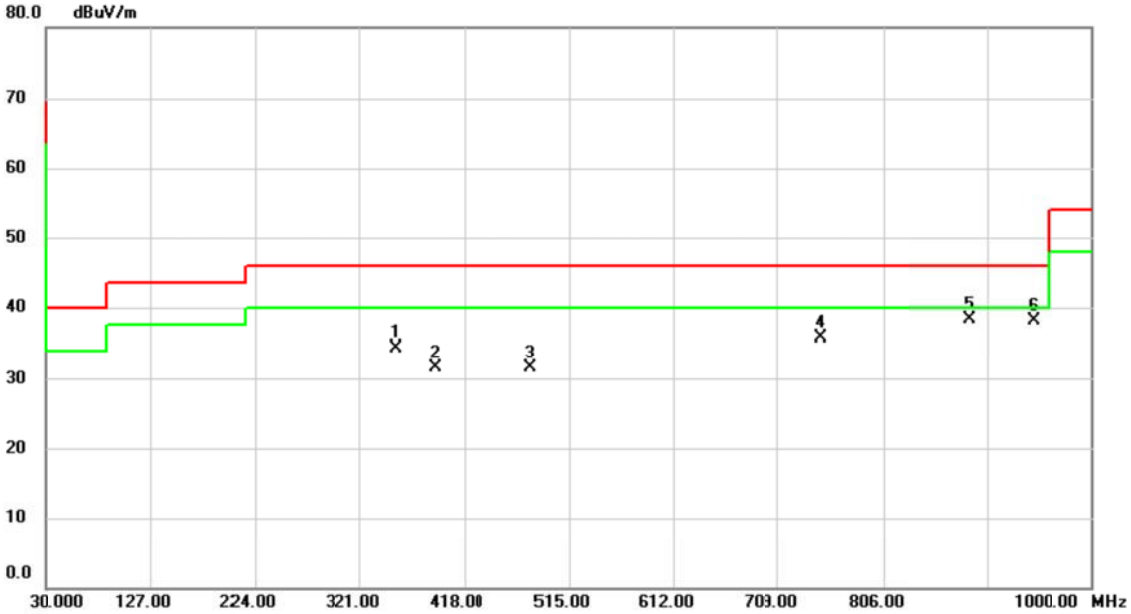


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1500	47.16	12.03	59.19	118.34	-59.15	peak	
2		0.7867	31.17	11.91	43.08	71.16	-28.08	peak	
3	*	1.5430	25.61	11.76	37.37	64.41	-27.04	peak	
4		2.7370	20.08	11.22	31.30	69.54	-38.24	peak	
5		8.5080	12.12	11.33	23.45	69.54	-46.09	peak	
6		12.1696	10.45	11.23	21.68	69.54	-47.86	peak	

ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L)

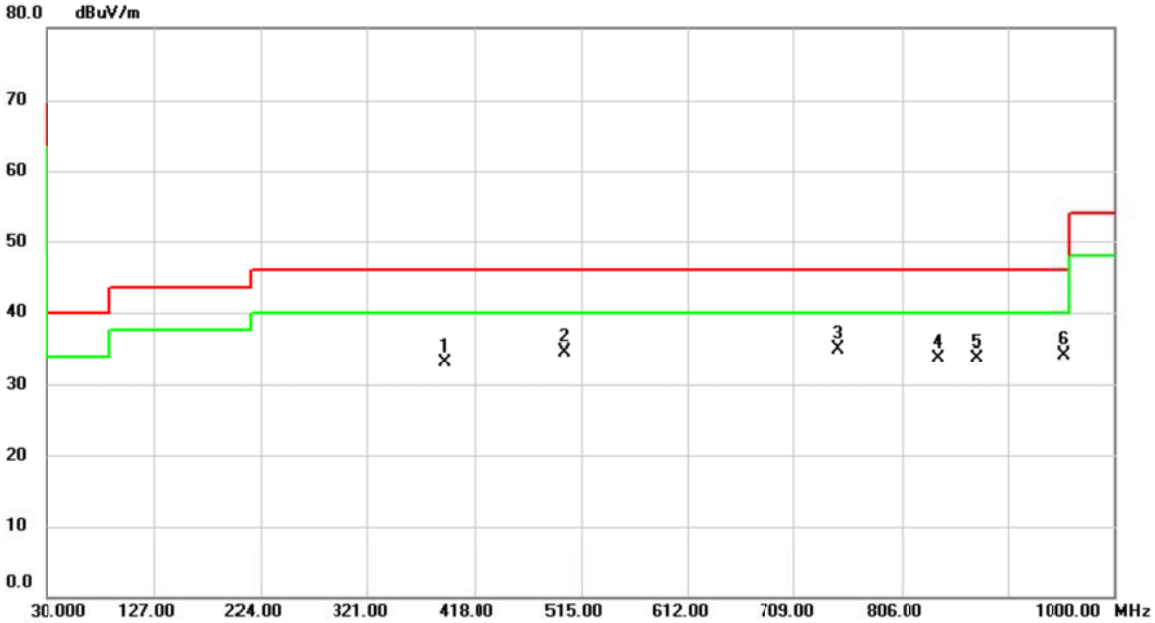
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		354.9500	40.16	-5.88	34.28	46.00	-11.72	peak	
2		391.8100	36.65	-5.08	31.57	46.00	-14.43	peak	
3		480.0800	34.44	-2.99	31.45	46.00	-14.55	peak	
4		749.7400	33.31	2.33	35.64	46.00	-10.36	peak	
5	*	886.5100	33.88	4.33	38.21	46.00	-7.79	peak	
6		946.6500	32.69	5.43	38.12	46.00	-7.88	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L)

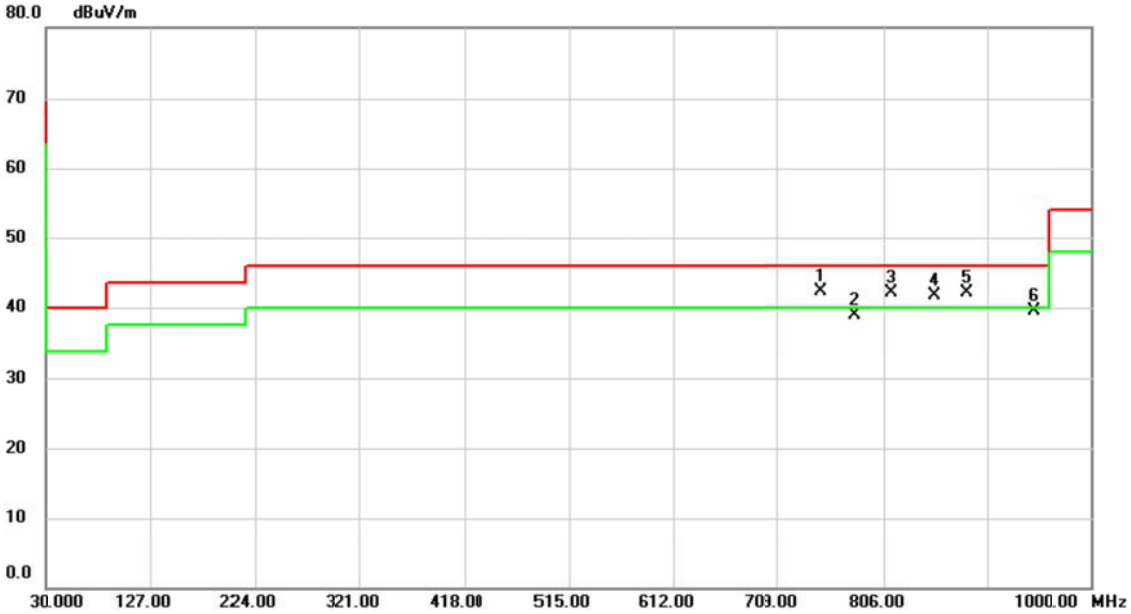
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		391.8100	38.23	-5.08	33.15	46.00	-12.85	peak	
2		500.4500	37.18	-2.64	34.54	46.00	-11.46	peak	
3	*	749.7400	32.49	2.33	34.82	46.00	-11.18	peak	
4		839.9500	30.26	3.45	33.71	46.00	-12.29	peak	
5		874.8700	29.57	4.10	33.67	46.00	-12.33	peak	
6		955.3800	28.62	5.56	34.18	46.00	-11.82	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S)

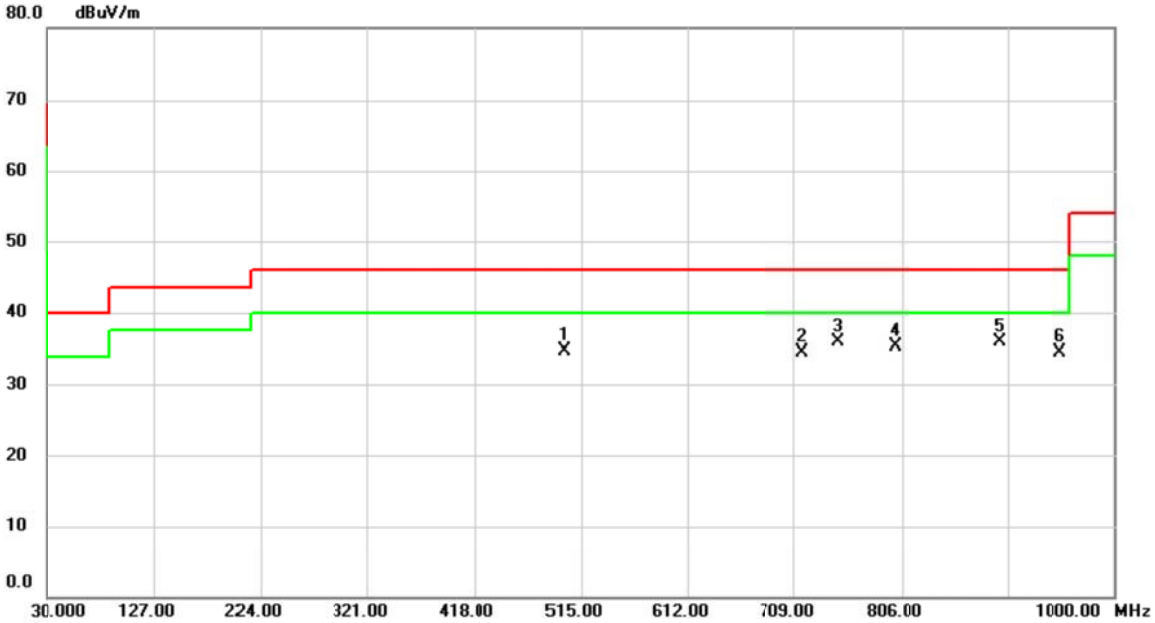
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	749.7400	40.06	2.33	42.39	46.00	-3.61	peak	
2		779.8100	36.18	2.66	38.84	46.00	-7.16	peak	
3	!	812.7900	39.10	3.06	42.16	46.00	-3.84	peak	
4	!	854.5000	38.10	3.68	41.78	46.00	-4.22	peak	
5	!	884.5700	37.74	4.29	42.03	46.00	-3.97	peak	
6		946.6500	34.00	5.43	39.43	46.00	-6.57	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S)

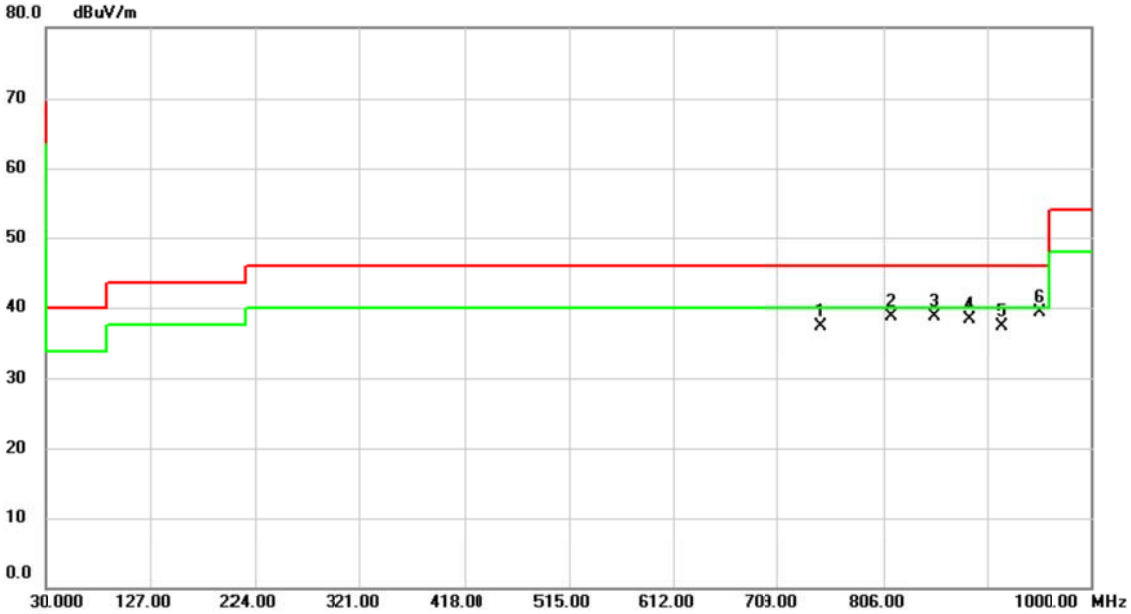
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		500.4500	37.29	-2.64	34.65	46.00	-11.35	peak	
2		717.7300	32.88	1.66	34.54	46.00	-11.46	peak	
3		749.7400	33.65	2.33	35.98	46.00	-10.02	peak	
4		800.1800	32.34	2.88	35.22	46.00	-10.78	peak	
5	*	896.2100	31.47	4.53	36.00	46.00	-10.00	peak	
6		951.5000	28.91	5.51	34.42	46.00	-11.58	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L+Adapter)

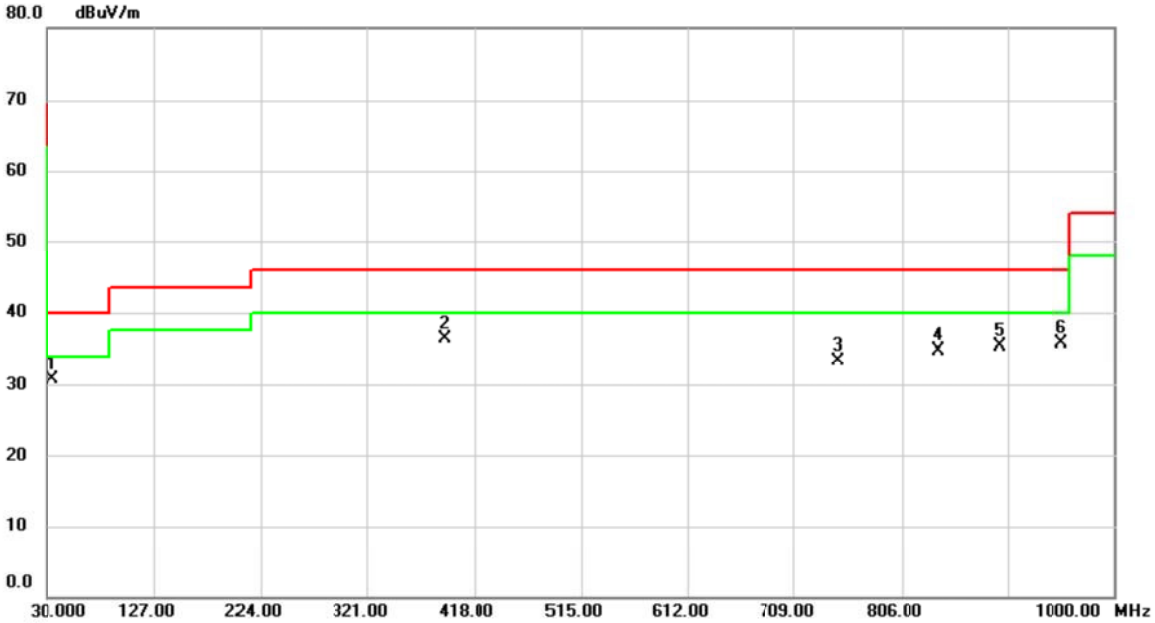
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		749.7400	34.89	2.33	37.22	46.00	-8.78	peak	
2		812.7900	35.62	3.06	38.68	46.00	-7.32	peak	
3		854.5000	34.94	3.68	38.62	46.00	-7.38	peak	
4		886.5100	33.90	4.33	38.23	46.00	-7.77	peak	
5		916.5800	32.42	4.90	37.32	46.00	-8.68	peak	
6	*	951.5000	33.71	5.51	39.22	46.00	-6.78	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110L+Adapter)

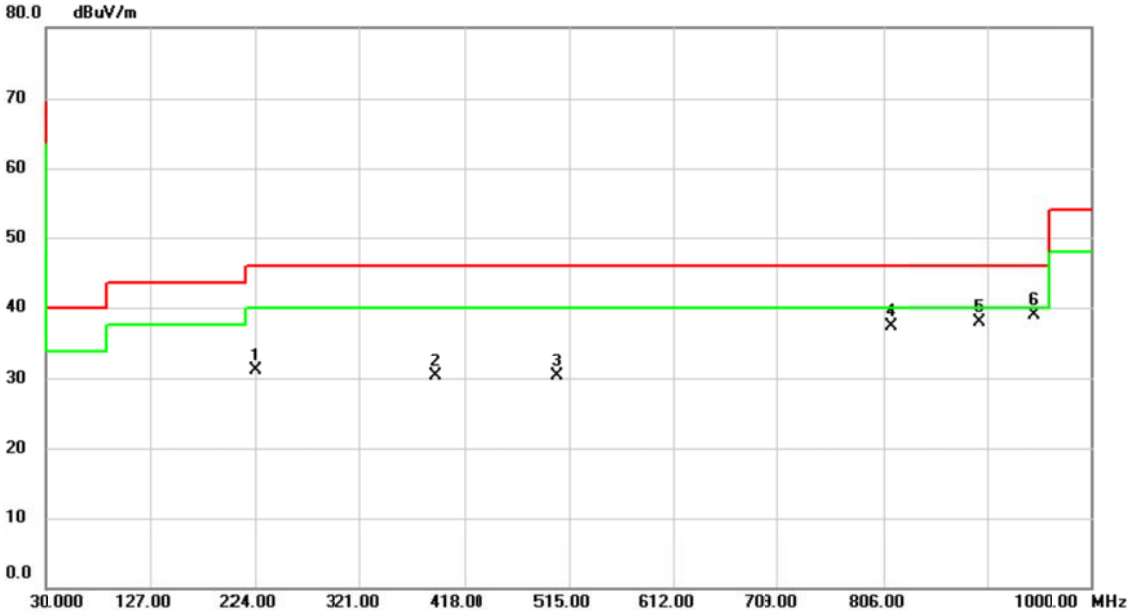
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	35.8200	39.64	-8.92	30.72	40.00	-9.28	peak	
2		391.8100	41.46	-5.08	36.38	46.00	-9.62	peak	
3		749.7400	31.03	2.33	33.36	46.00	-12.64	peak	
4		839.9500	31.27	3.45	34.72	46.00	-11.28	peak	
5		896.2100	30.69	4.53	35.22	46.00	-10.78	peak	
6		952.4700	30.23	5.52	35.75	46.00	-10.25	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S+Adapter)

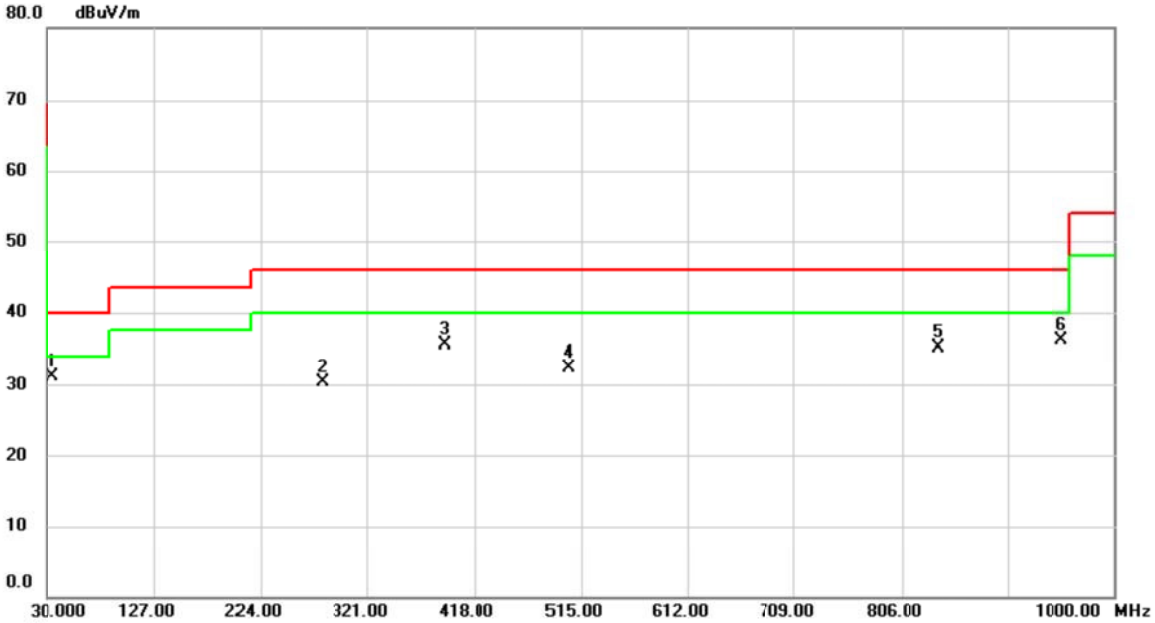
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		224.0000	41.64	-10.58	31.06	46.00	-14.94	peak	
2		391.8100	35.38	-5.08	30.30	46.00	-15.70	peak	
3		504.3300	32.77	-2.55	30.22	46.00	-15.78	peak	
4		812.7900	34.18	3.06	37.24	46.00	-8.76	peak	
5		896.2100	33.47	4.53	38.00	46.00	-8.00	peak	
6	*	946.6500	33.53	5.43	38.96	46.00	-7.04	peak	

Test Mode:	TX Mode_Stand-alone (Battery_DLT-M8110S+Adapter)

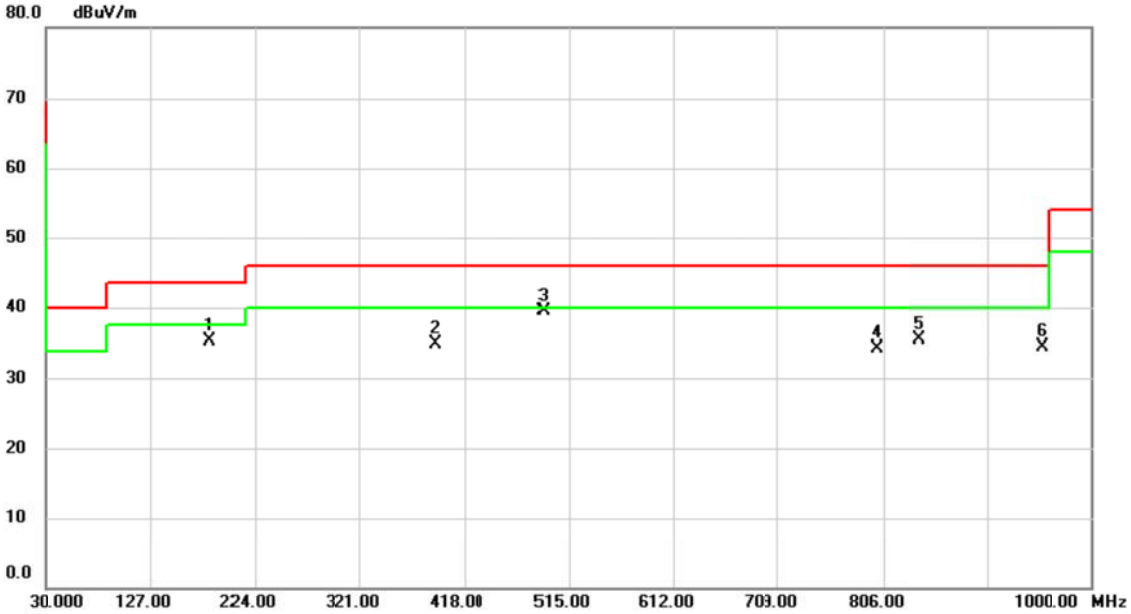
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	35.8200	40.06	-8.92	31.14	40.00	-8.86	peak	
2		280.2600	38.25	-7.93	30.32	46.00	-15.68	peak	
3		391.8100	40.56	-5.08	35.48	46.00	-10.52	peak	
4		504.3300	34.92	-2.55	32.37	46.00	-13.63	peak	
5		839.9500	31.72	3.45	35.17	46.00	-10.83	peak	
6		952.4700	30.63	5.52	36.15	46.00	-9.85	peak	

Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110L)

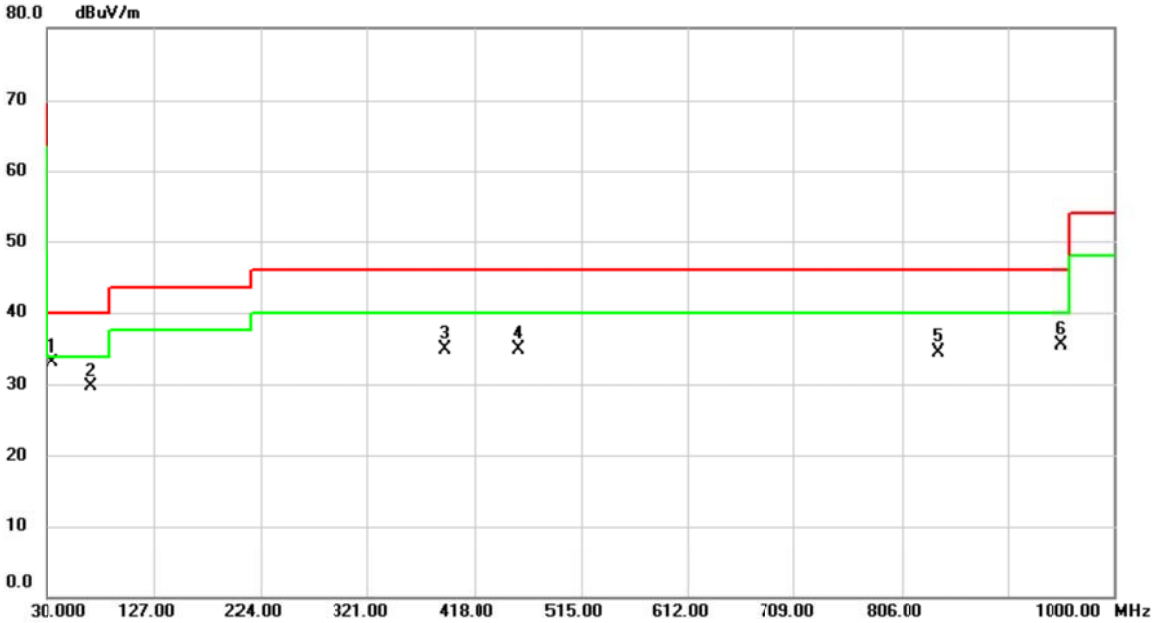
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		183.2600	45.32	-10.11	35.21	43.50	-8.29	peak	
2		391.8100	40.00	-5.08	34.92	46.00	-11.08	peak	
3	*	492.6900	42.20	-2.78	39.42	46.00	-6.58	peak	
4		800.1800	31.40	2.88	34.28	46.00	-11.72	peak	
5		839.9500	32.06	3.45	35.51	46.00	-10.49	peak	
6		953.4400	28.93	5.53	34.46	46.00	-11.54	peak	

Test Mode:	TX Mode_With DLT-M8110 Desk Docking (Battery_DLT-M8110L)

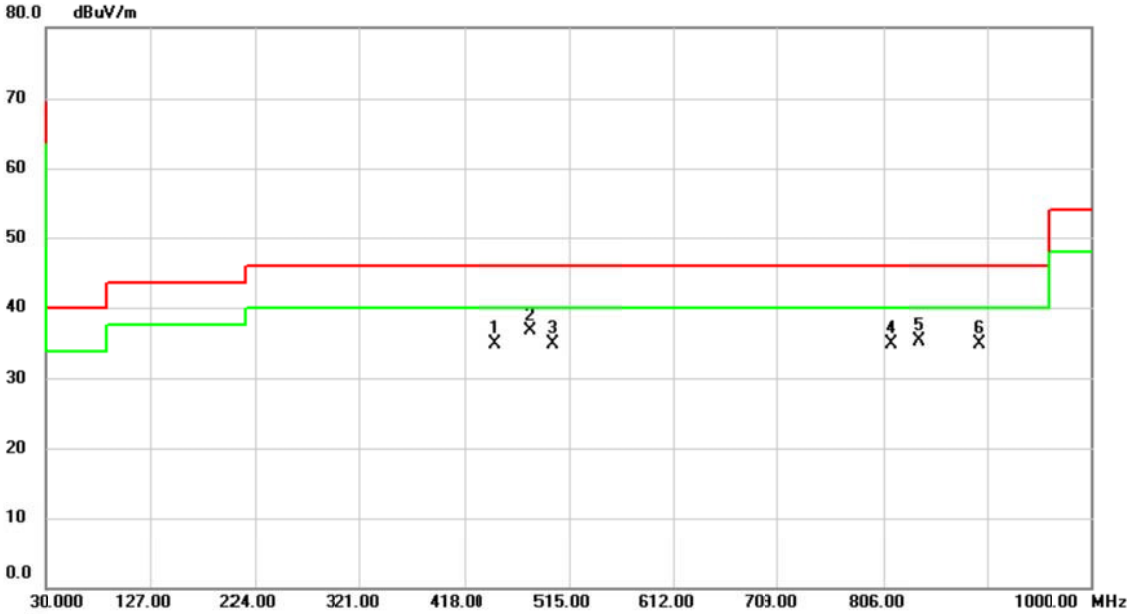
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	35.8200	42.06	-8.92	33.14	40.00	-6.86	peak	
2		70.7400	40.25	-10.63	29.62	40.00	-10.38	peak	
3		391.8100	40.05	-5.08	34.97	46.00	-11.03	peak	
4		459.7100	38.21	-3.33	34.88	46.00	-11.12	peak	
5		839.9500	31.13	3.45	34.58	46.00	-11.42	peak	
6		952.4700	29.97	5.52	35.49	46.00	-10.51	peak	

Test Mode:	TX Mode_With DLT-M8110 Vehicle Docking (Battery_DLT-M8110L)

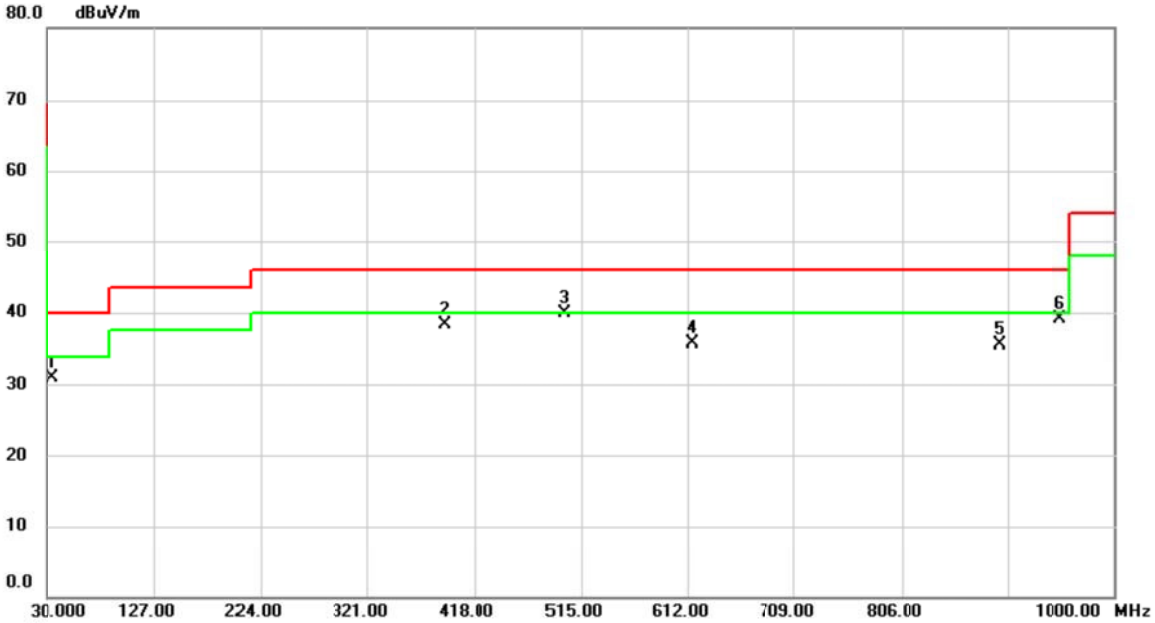
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		448.0700	38.43	-3.56	34.87	46.00	-11.13	peak	
2	*	480.0800	39.75	-2.99	36.76	46.00	-9.24	peak	
3		500.4500	37.62	-2.64	34.98	46.00	-11.02	peak	
4		812.7900	31.80	3.06	34.86	46.00	-11.14	peak	
5		839.9500	31.78	3.45	35.23	46.00	-10.77	peak	
6		896.2100	30.33	4.53	34.86	46.00	-11.14	peak	

Test Mode:	TX Mode_With DLT-M8110 Vehicle Docking (Battery_DLT-M8110L)

Horizontal

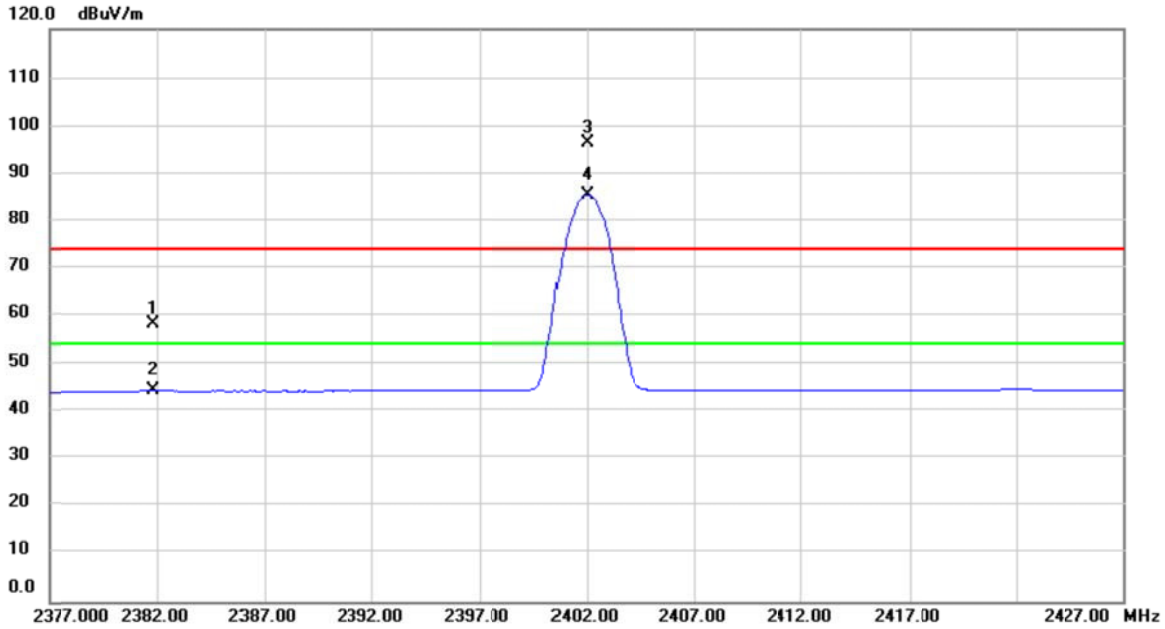


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		35.8200	39.78	-8.92	30.86	40.00	-9.14	peak	
2		391.8100	43.31	-5.08	38.23	46.00	-7.77	peak	
3	*	500.4500	42.62	-2.64	39.98	46.00	-6.02	peak	
4		615.8800	35.77	-0.10	35.67	46.00	-10.33	peak	
5		896.2100	31.02	4.53	35.55	46.00	-10.45	peak	
6		951.5000	33.53	5.51	39.04	46.00	-6.96	peak	

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

Orthogonal Axis :	X
Test Mode :	TX 2402MHz _CH00_1Mbps

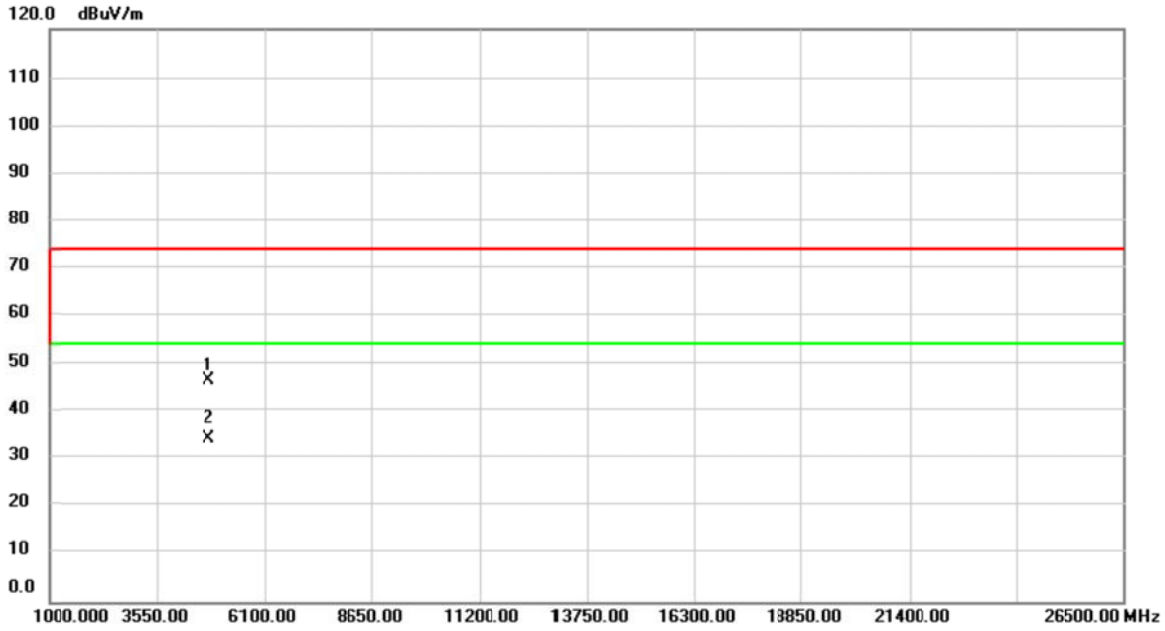
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2381.850	26.75	31.67	58.42	74.00	-15.58	peak	
2		2381.850	12.90	31.67	44.57	54.00	-9.43	AVG	
3	X	2402.000	64.60	31.76	96.36	74.00	22.36	peak	No Limit
4	*	2402.000	53.66	31.76	85.42	54.00	31.42	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX 2402MHz _CH00_1Mbps

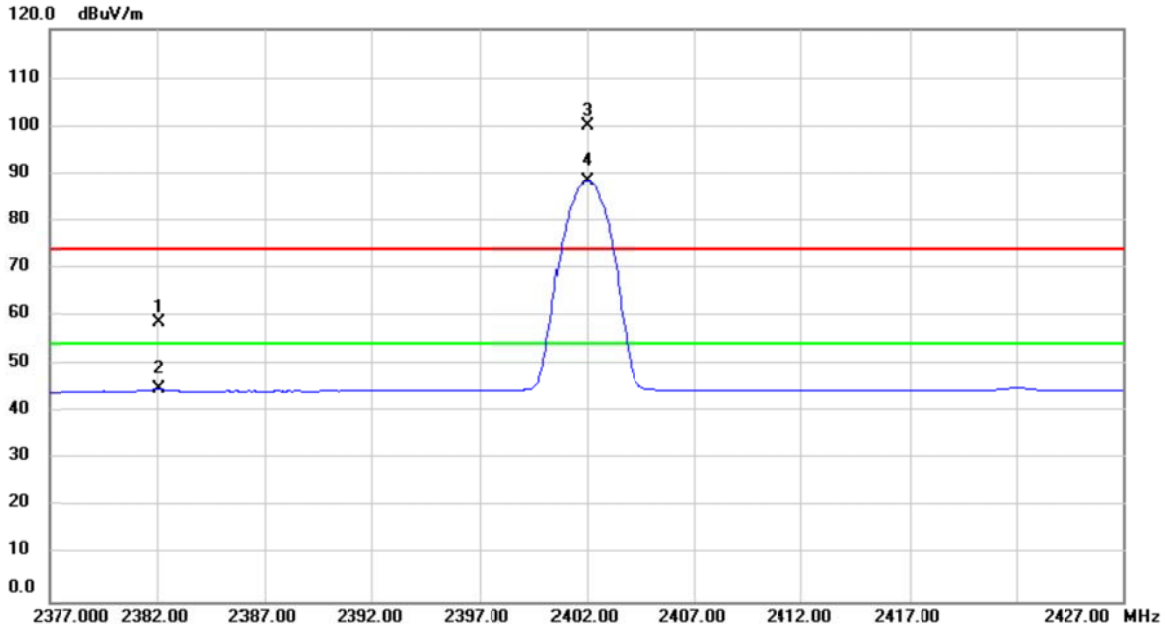
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	57.12	-10.51	46.61	74.00	-27.39	peak	
2	*	4804.000	44.71	-10.51	34.20	54.00	-19.80	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2402MHz _CH00_1Mbps

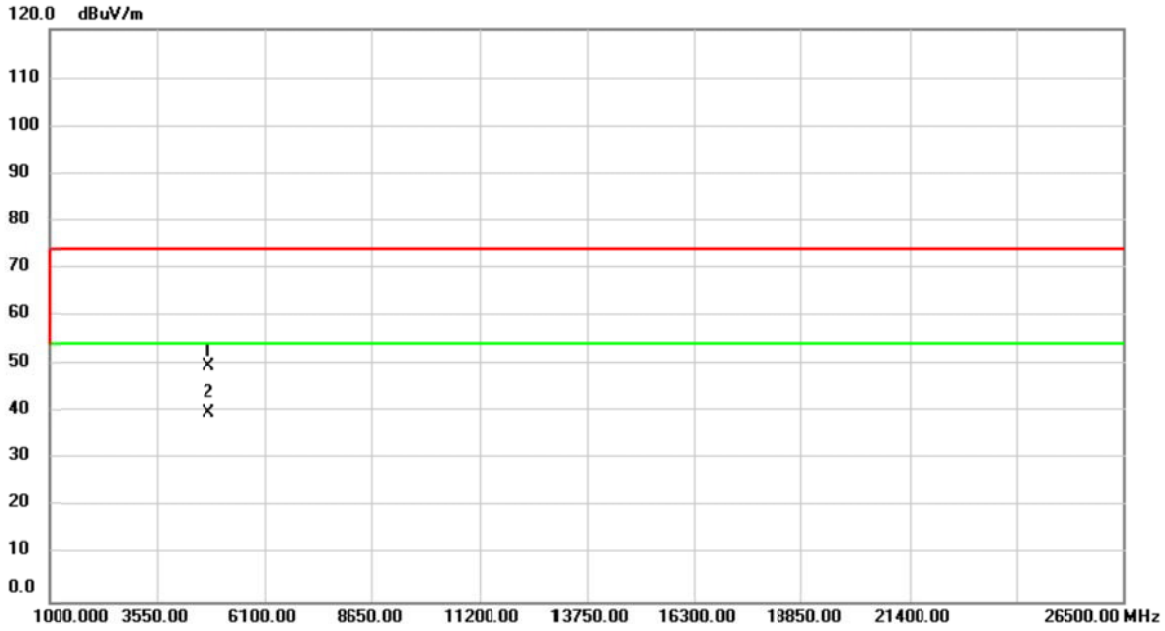
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2382.100	26.96	31.68	58.64	74.00	-15.36	peak	
2		2382.100	13.11	31.68	44.79	54.00	-9.21	AVG	
3	X	2402.000	68.38	31.76	100.14	74.00	26.14	peak	No Limit
4	*	2402.000	56.73	31.76	88.49	54.00	34.49	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX 2402MHz _CH00_1Mbps

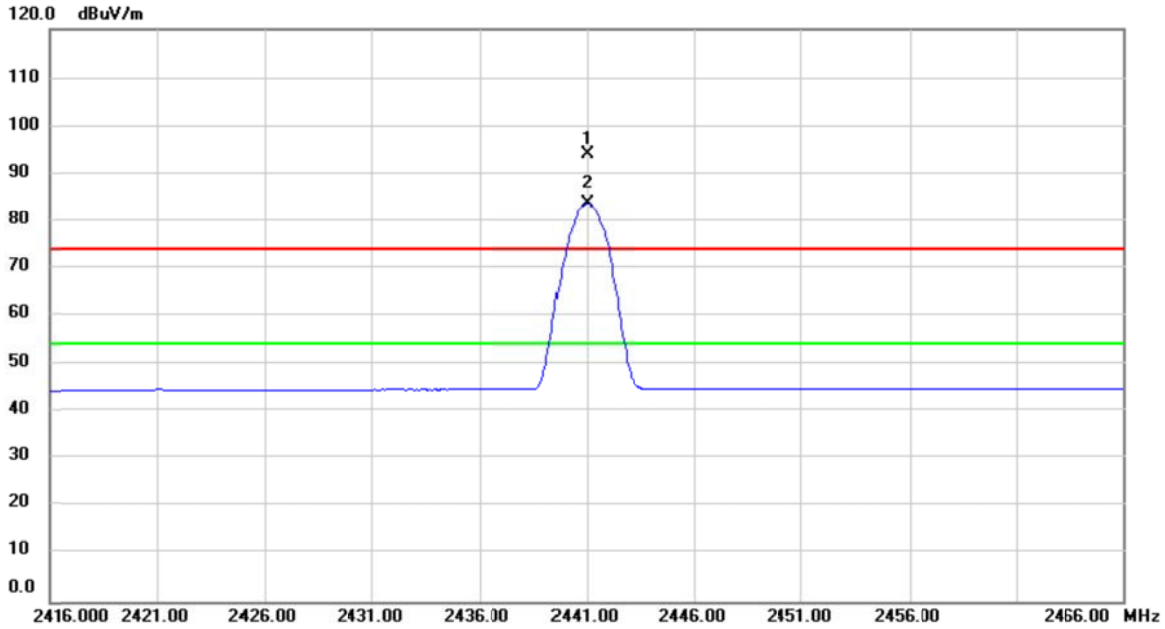
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	60.03	-10.51	49.52	74.00	-24.48	peak	
2	*	4804.000	50.37	-10.51	39.86	54.00	-14.14	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2441MHz _CH39_1Mbps

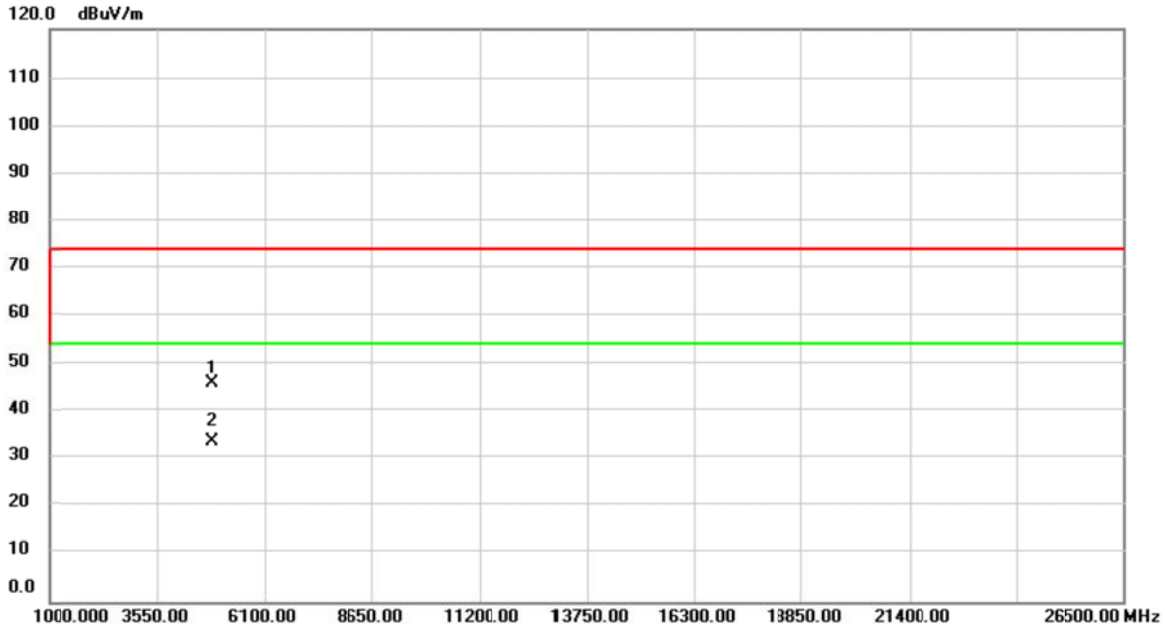
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2441.000	62.03	31.90	93.93	74.00	19.93	peak	No Limit
2	*	2441.000	51.57	31.90	83.47	54.00	29.47	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX 2441MHz _CH39_1Mbps

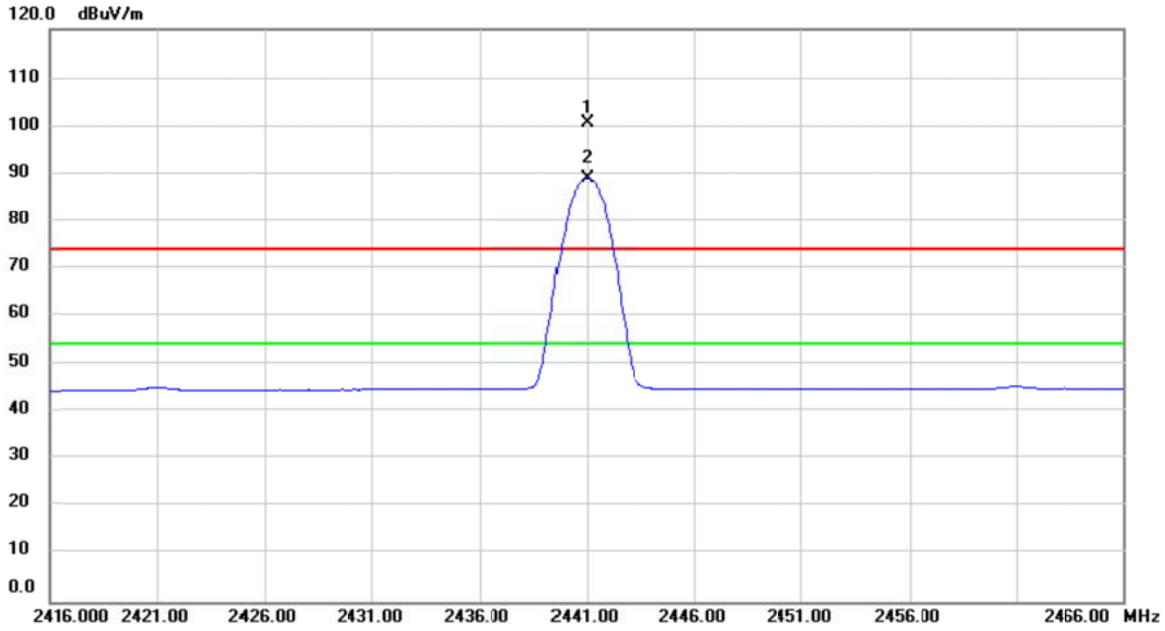
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4882.000	56.52	-10.39	46.13	74.00	-27.87	peak	
2	*	4882.000	44.10	-10.39	33.71	54.00	-20.29	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2441MHz _CH39_1Mbps

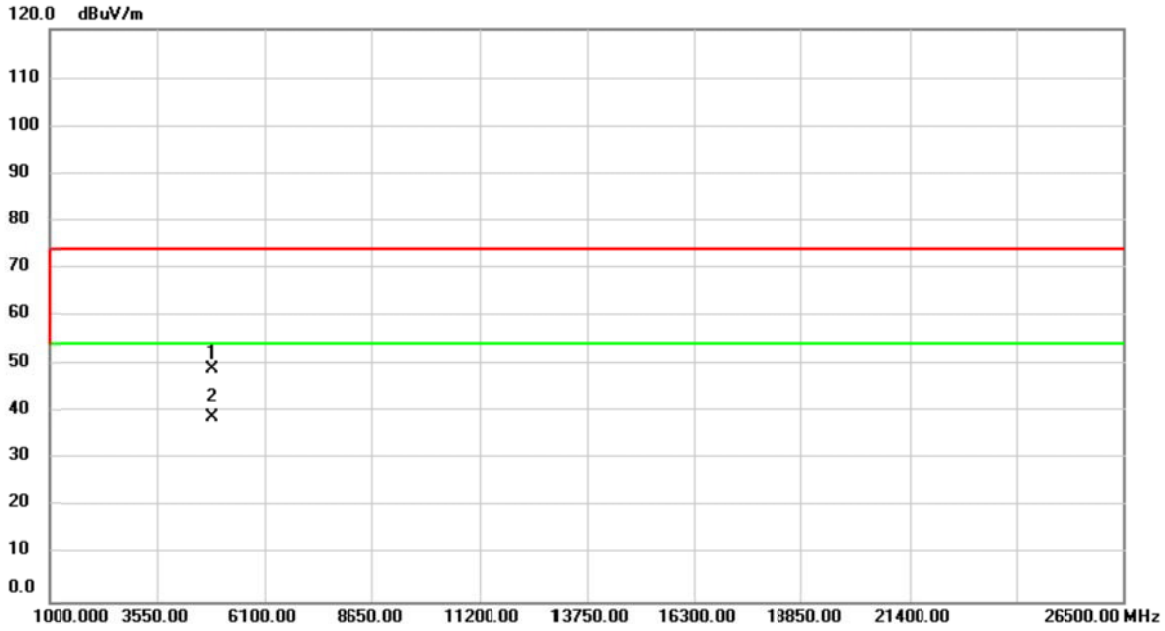
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2441.000	68.79	31.90	100.69	74.00	26.69	peak	No Limit
2	*	2441.000	57.07	31.90	88.97	54.00	34.97	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX 2441MHz _CH39_1Mbps

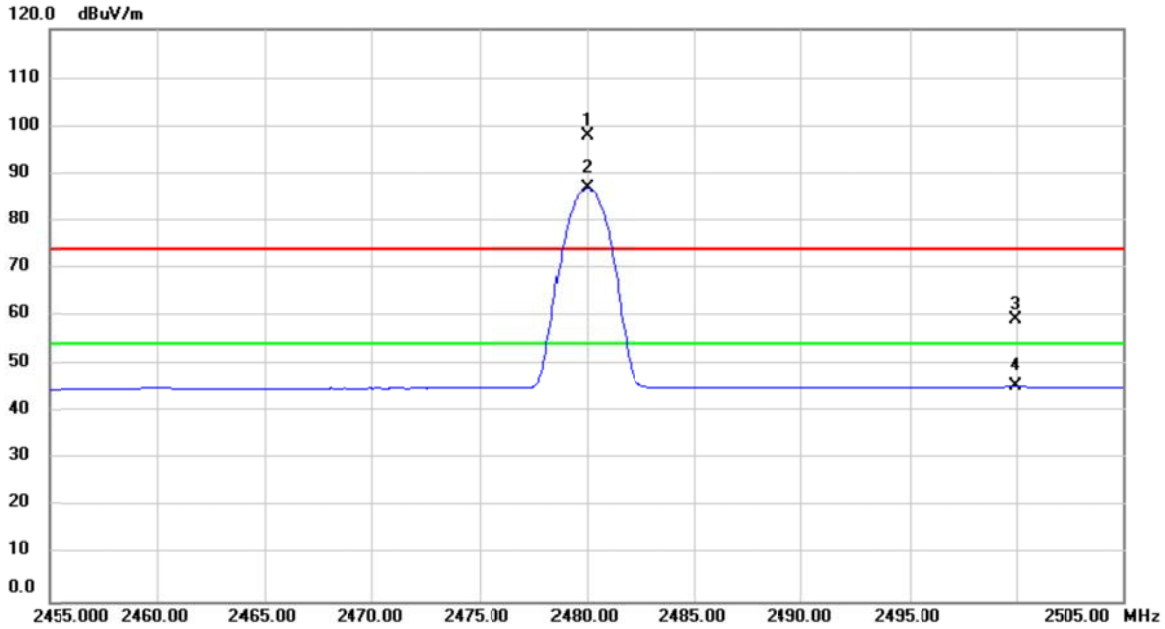
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4882.000	59.47	-10.39	49.08	74.00	-24.92	peak	
2	*	4882.000	49.26	-10.39	38.87	54.00	-15.13	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2480MHz _CH78_1Mbps

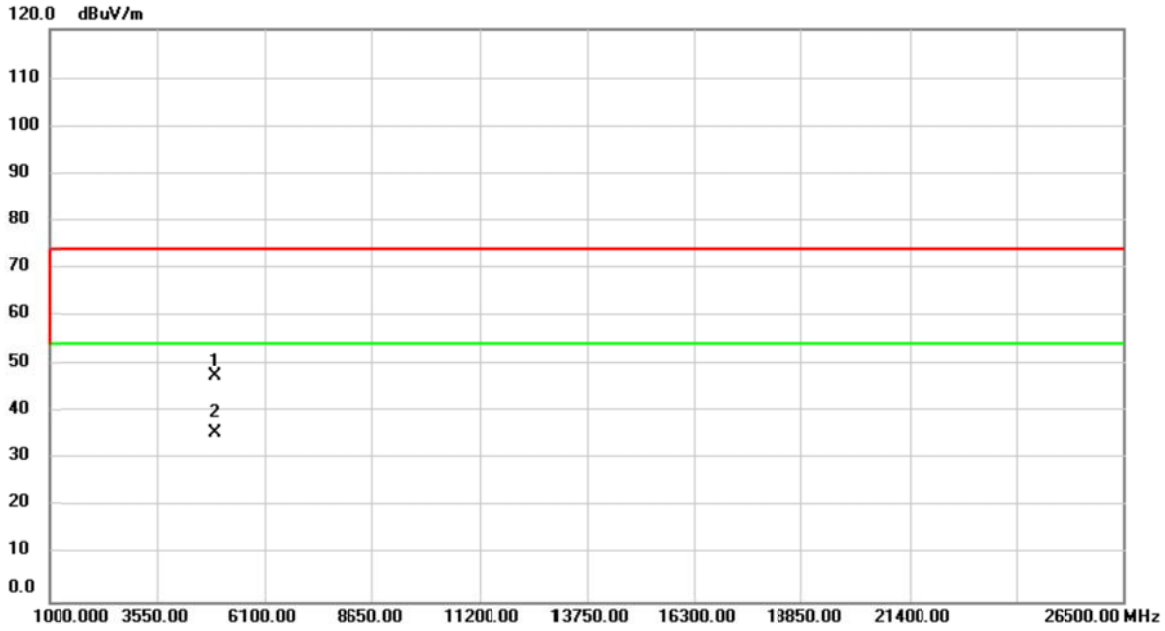
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2480.000	65.86	32.05	97.91	74.00	23.91	peak	No Limit
2	*	2480.000	54.75	32.05	86.80	54.00	32.80	AVG	No Limit
3		2499.950	27.15	32.13	59.28	74.00	-14.72	peak	
4		2499.950	13.28	32.13	45.41	54.00	-8.59	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2480MHz _CH78_1Mbps

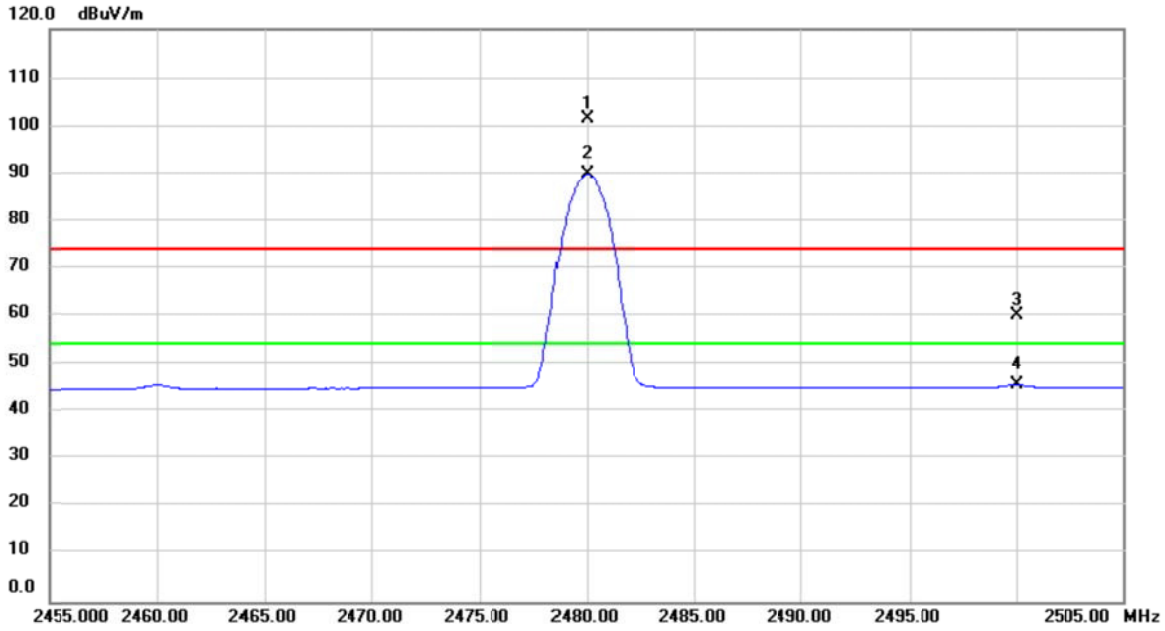
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	57.74	-10.26	47.48	74.00	-26.52	peak	
2	*	4960.000	45.93	-10.26	35.67	54.00	-18.33	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2480MHz _CH78_1Mbps

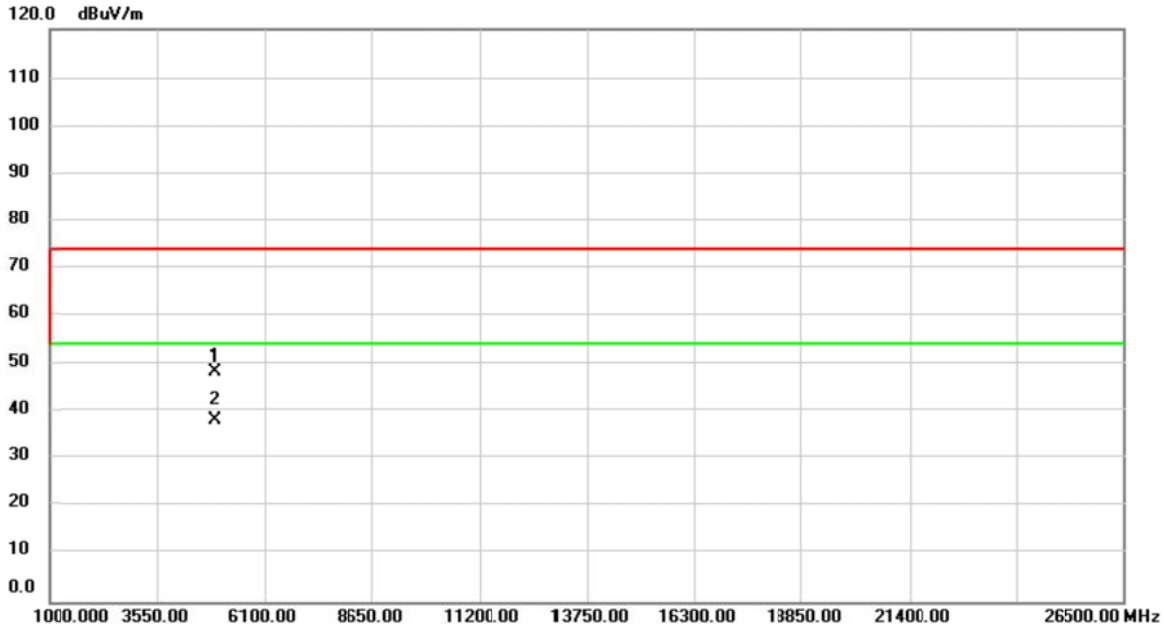
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2480.000	69.50	32.05	101.55	74.00	27.55	peak	No Limit
2	*	2480.000	57.69	32.05	89.74	54.00	35.74	AVG	No Limit
3		2500.000	27.92	32.13	60.05	74.00	-13.95	peak	
4		2500.000	13.63	32.13	45.76	54.00	-8.24	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2480MHz _CH78_1Mbps

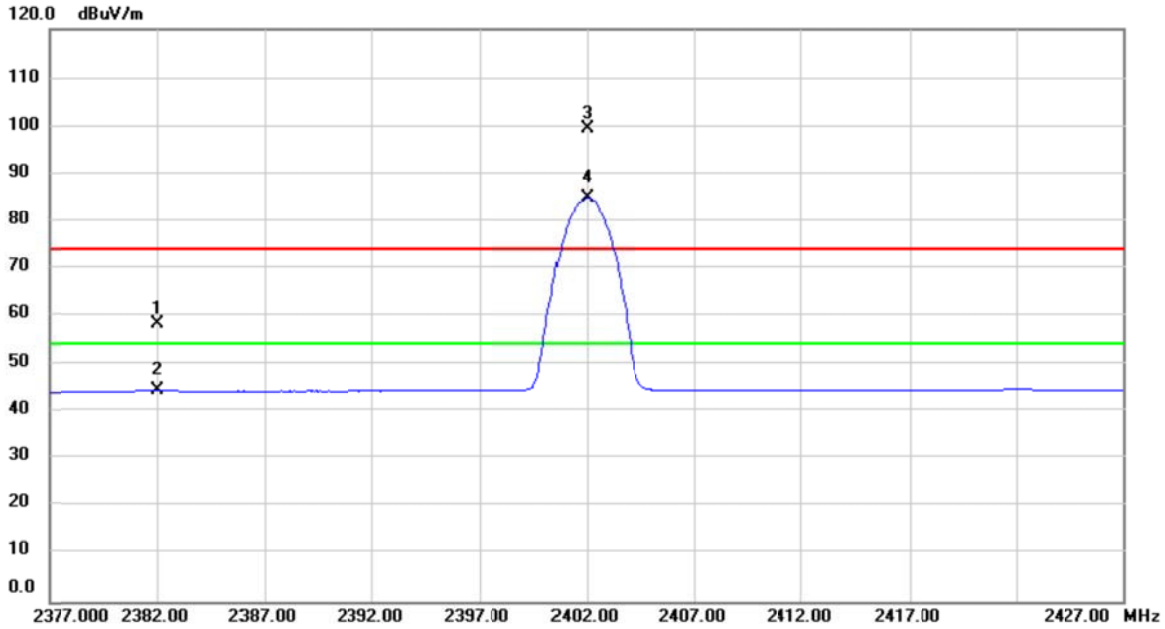
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	58.80	-10.26	48.54	74.00	-25.46	peak	
2	*	4960.000	48.38	-10.26	38.12	54.00	-15.88	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2402MHz _CH00_3Mbps

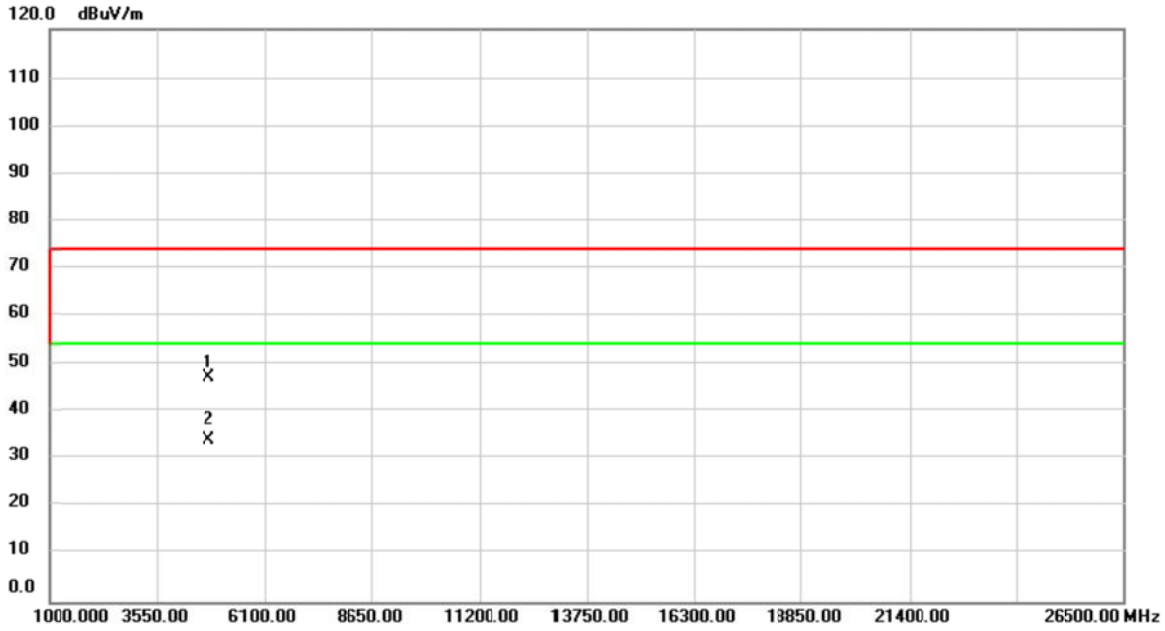
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2382.005	26.61	31.67	58.28	74.00	-15.72	peak	
2		2382.005	12.89	31.67	44.56	54.00	-9.44	AVG	
3	X	2402.000	67.59	31.76	99.35	74.00	25.35	peak	No Limit
4	*	2402.000	52.93	31.76	84.69	54.00	30.69	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX 2402MHz _CH00_3Mbps

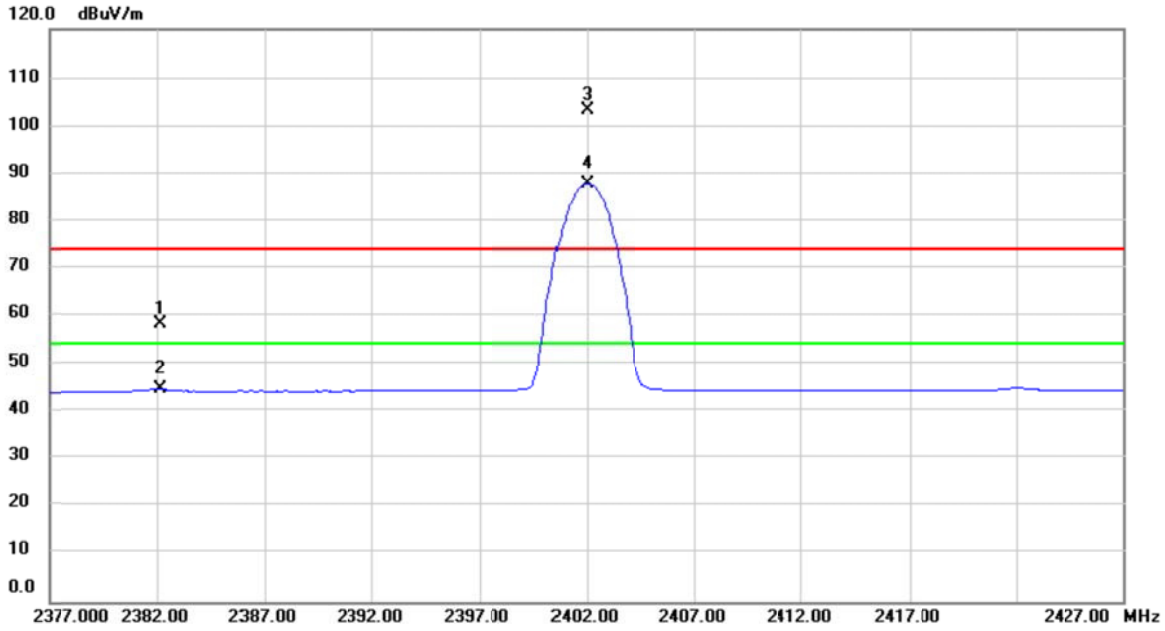
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	57.86	-10.51	47.35	74.00	-26.65	peak	
2	*	4804.000	44.57	-10.51	34.06	54.00	-19.94	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2402MHz _CH00_3Mbps

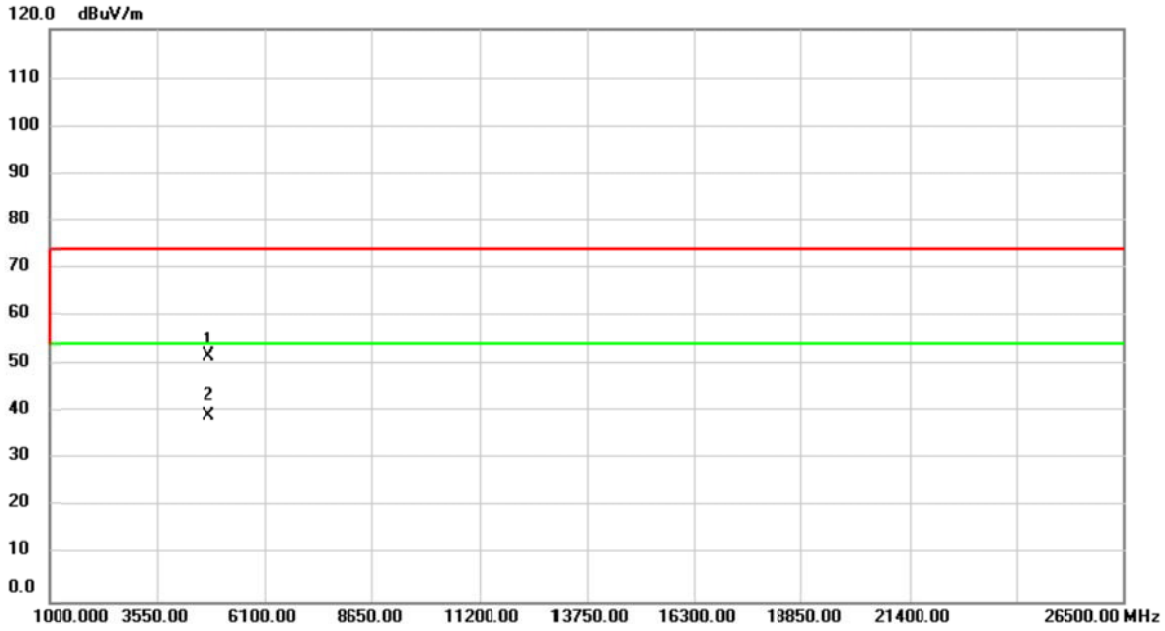
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2382.200	26.81	31.68	58.49	74.00	-15.51	peak	
2		2382.200	13.12	31.68	44.80	54.00	-9.20	AVG	
3	X	2402.000	71.45	31.76	103.21	74.00	29.21	peak	No Limit
4	*	2402.000	56.06	31.76	87.82	54.00	33.82	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX 2402MHz _CH00_3Mbps

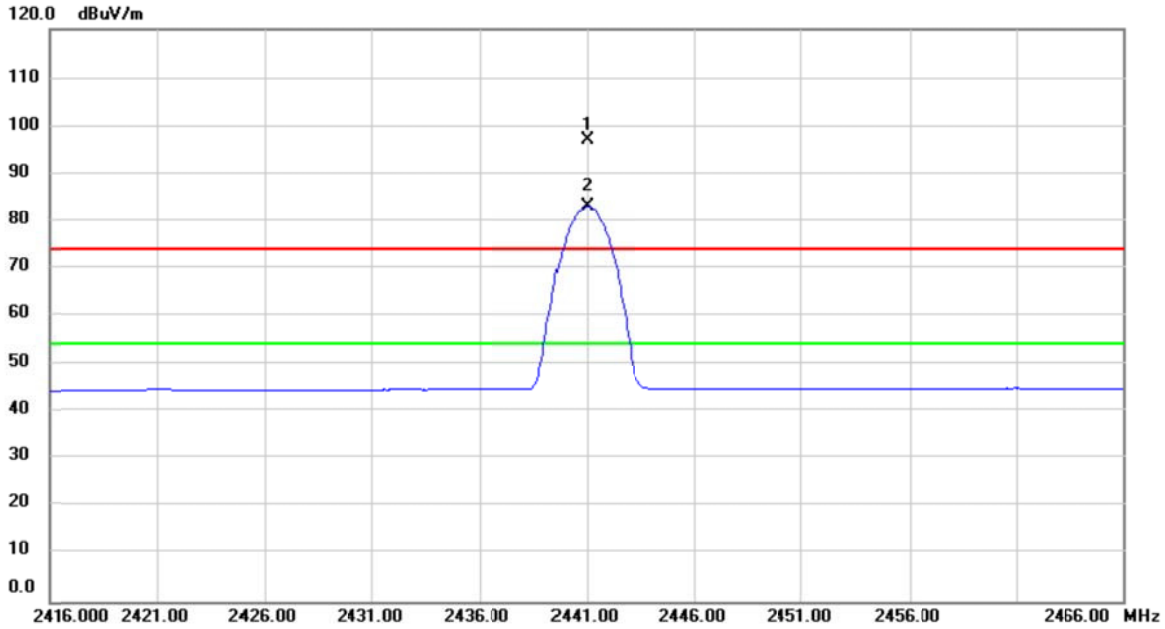
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.000	62.18	-10.51	51.67	74.00	-22.33	peak	
2	*	4804.000	49.74	-10.51	39.23	54.00	-14.77	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2441MHz _CH39_3Mbps

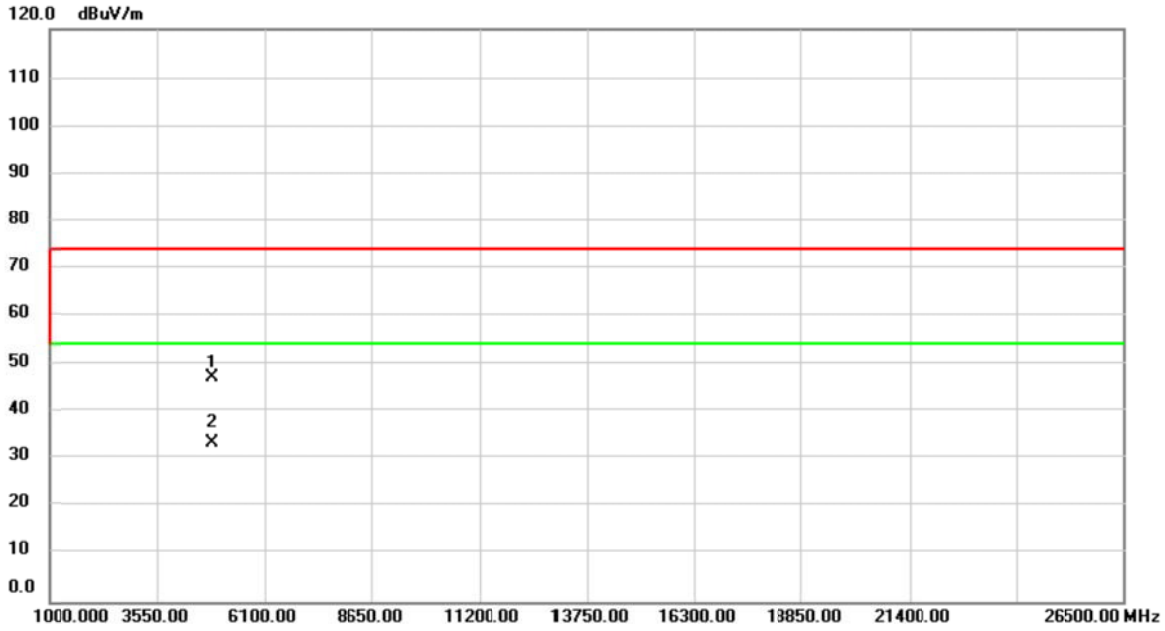
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2441.000	65.23	31.90	97.13	74.00	23.13	peak	No Limit
2	*	2441.000	50.99	31.90	82.89	54.00	28.89	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX 2441MHz _CH39_3Mbps

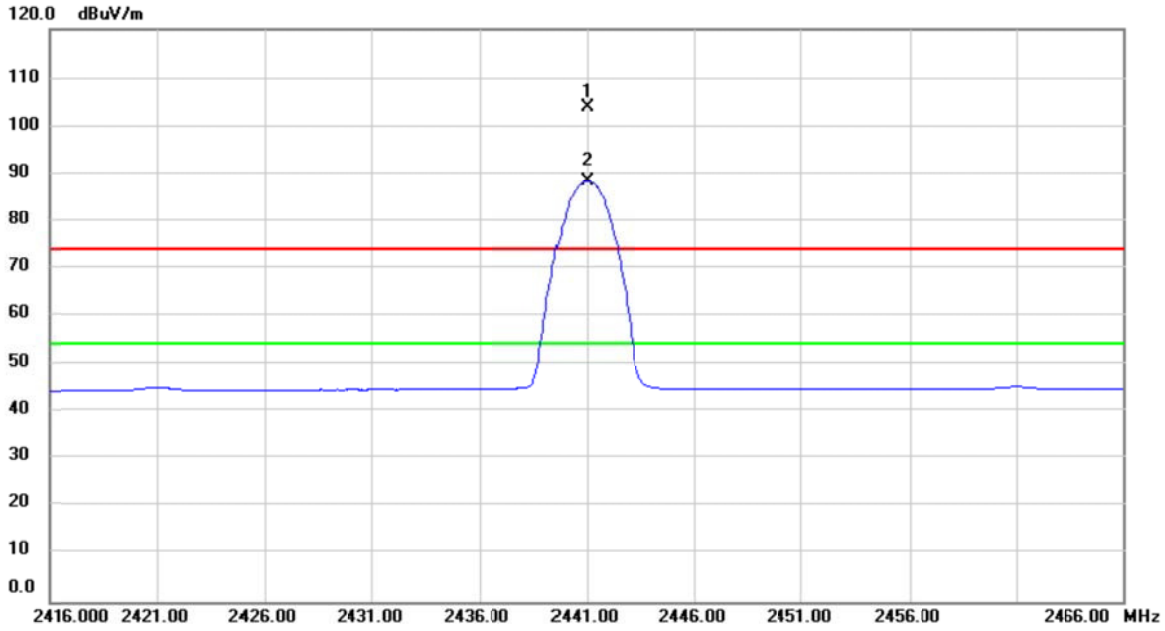
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4882.000	57.63	-10.39	47.24	74.00	-26.76	peak	
2	*	4882.000	43.95	-10.39	33.56	54.00	-20.44	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2441MHz _CH39_3Mbps

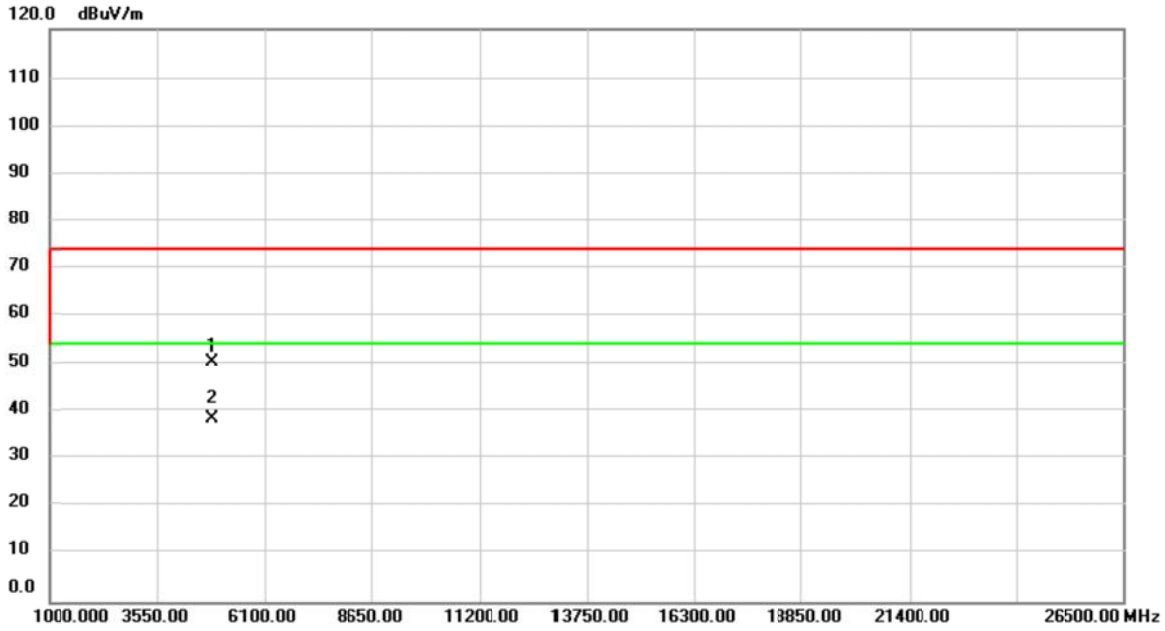
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2441.000	72.03	31.90	103.93	74.00	29.93	peak	No Limit
2	*	2441.000	56.52	31.90	88.42	54.00	34.42	AVG	No Limit

Orthogonal Axis :	X
Test Mode :	TX 2441MHz _CH39_3Mbps

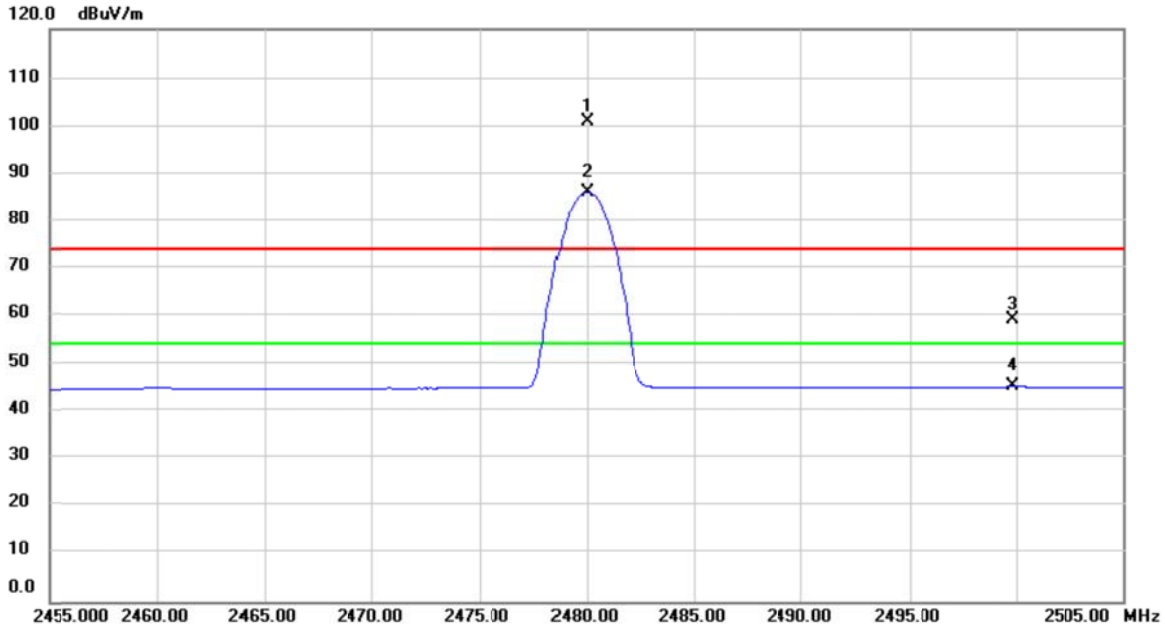
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4882.000	60.94	-10.39	50.55	74.00	-23.45	peak	
2	*	4882.000	49.06	-10.39	38.67	54.00	-15.33	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2480MHz _CH78_3Mbps

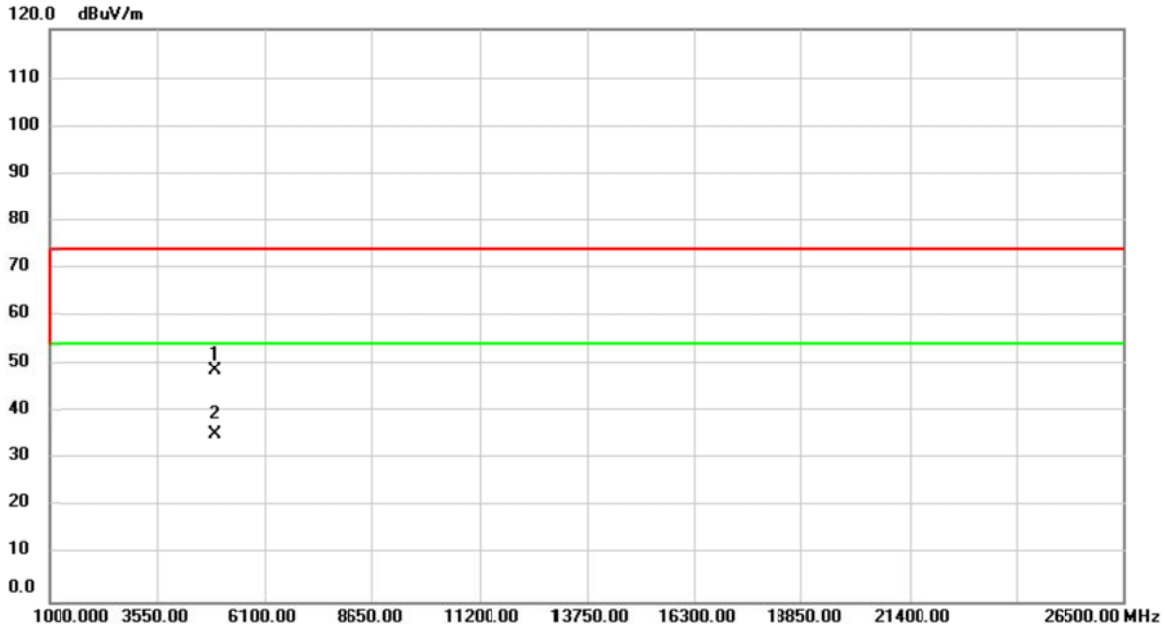
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2480.000	68.80	32.05	100.85	74.00	26.85	peak	No Limit
2	*	2480.000	53.94	32.05	85.99	54.00	31.99	AVG	No Limit
3		2499.850	26.98	32.13	59.11	74.00	-14.89	peak	
4		2499.850	13.24	32.13	45.37	54.00	-8.63	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2480MHz _CH78_3Mbps

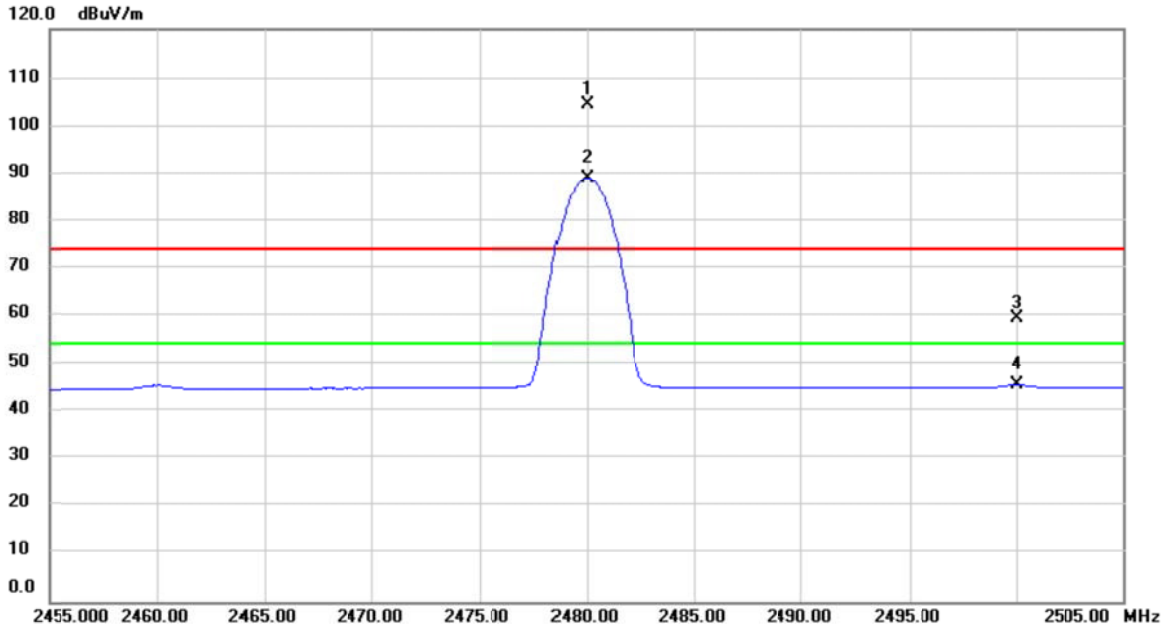
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	58.97	-10.26	48.71	74.00	-25.29	peak	
2	*	4960.000	45.63	-10.26	35.37	54.00	-18.63	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2480MHz _CH78_3Mbps

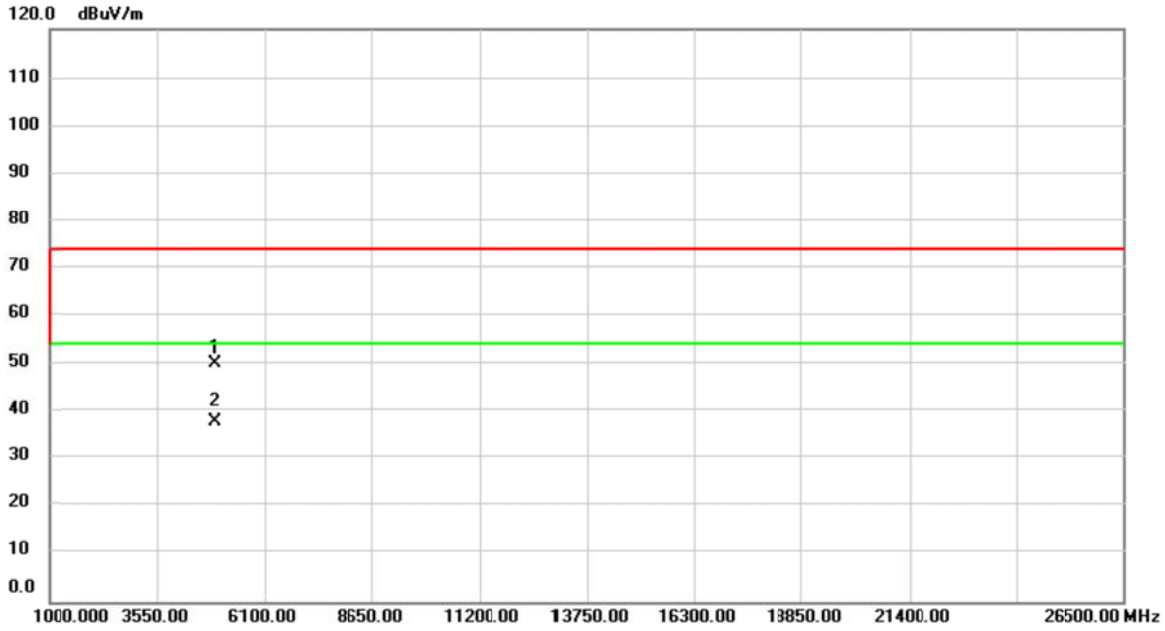
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2480.000	72.48	32.05	104.53	74.00	30.53	peak	No Limit
2	*	2480.000	56.92	32.05	88.97	54.00	34.97	AVG	No Limit
3		2500.000	27.29	32.13	59.42	74.00	-14.58	peak	
4		2500.000	13.60	32.13	45.73	54.00	-8.27	AVG	

Orthogonal Axis :	X
Test Mode :	TX 2480MHz _CH78_3Mbps

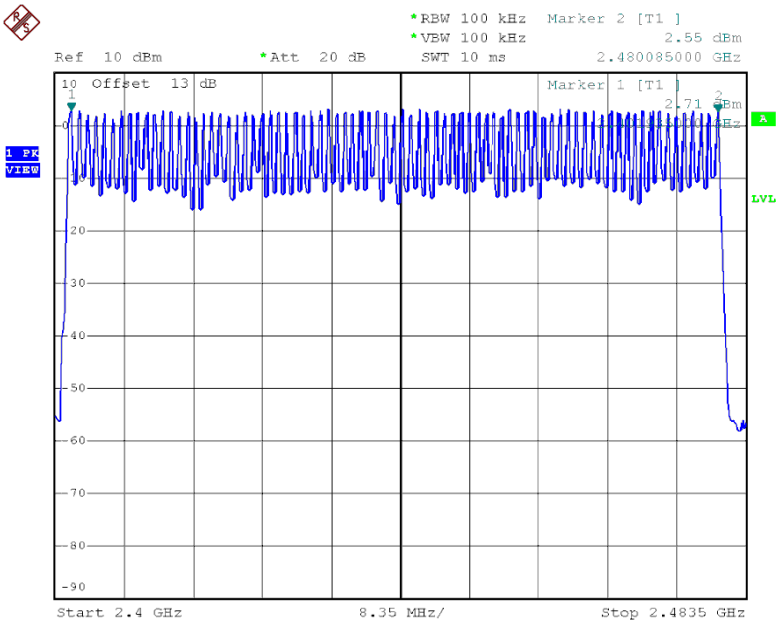
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4960.000	60.64	-10.26	50.38	74.00	-23.62	peak	
2	*	4960.000	48.07	-10.26	37.81	54.00	-16.19	AVG	

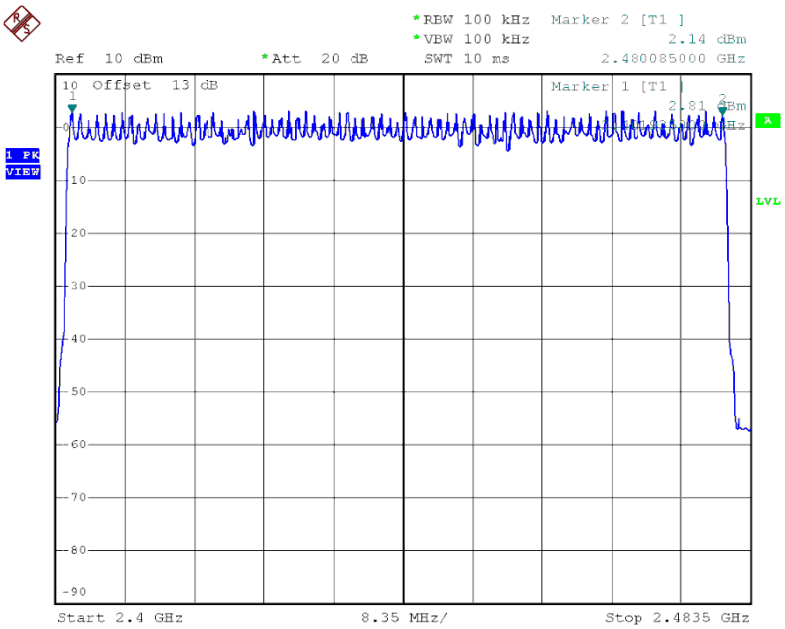
ATTACHMENT E - NUMBER OF HOPPING CHANNEL

Test Mode	Hopping Mode_1Mbps
Number of Hopping Channel	79



Date: 29.MAY.2016 17:35:25

Test Mode	Hopping Mode_3Mbps
Number of Hopping Channel	79



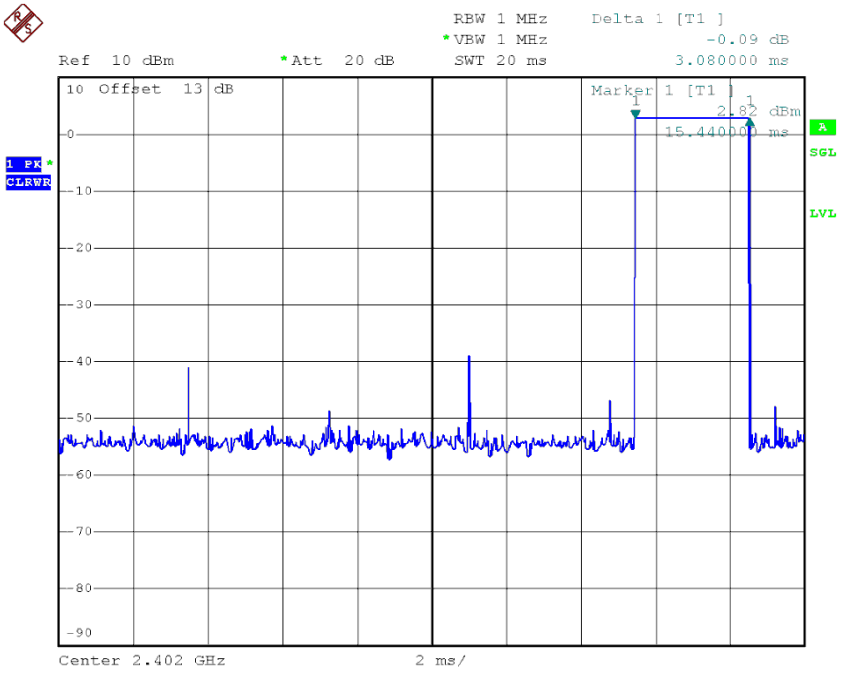
Date: 29.MAY.2016 17:59:32

ATTACHMENT F - AVERAGE TIME OF OCCUPANCY

Test Mode :	TX Mode_1Mbps

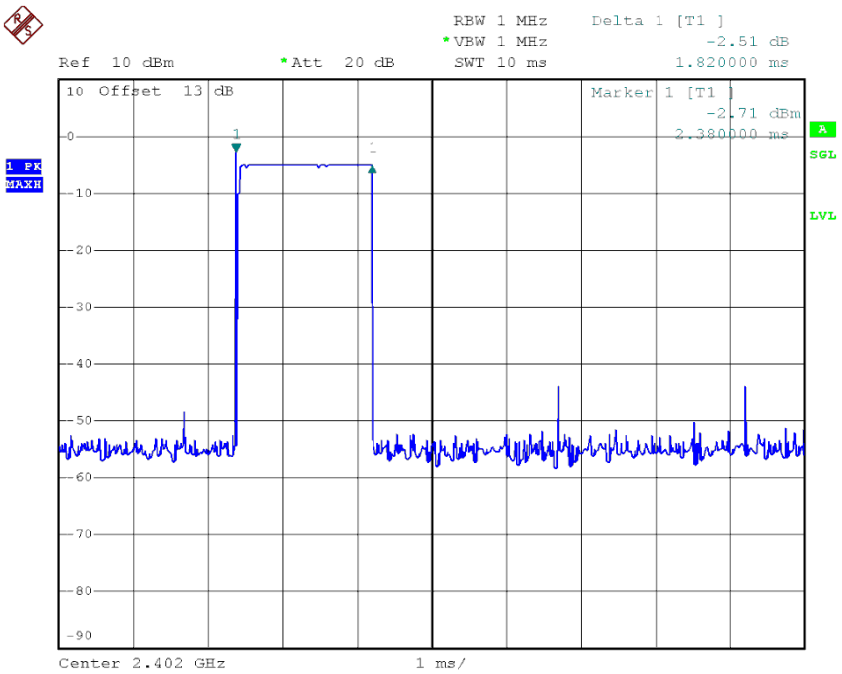
Data Packet	Frequency (MHz)	Pulse Duration (ms)	Dwell Time (s)	Limits (s)	Test Result
DH5	2402	3.0800	0.3285	0.4000	Complies
DH3	2402	1.8200	0.2912	0.4000	Complies
DH1	2402	0.3450	0.1104	0.4000	Complies
DH5	2441	3.0800	0.3285	0.4000	Complies
DH3	2441	1.8000	0.2880	0.4000	Complies
DH1	2441	0.3450	0.1104	0.4000	Complies
DH5	2480	3.0800	0.3285	0.4000	Complies
DH3	2480	1.8200	0.2912	0.4000	Complies
DH1	2480	0.3450	0.1104	0.4000	Complies

CH00-DH5



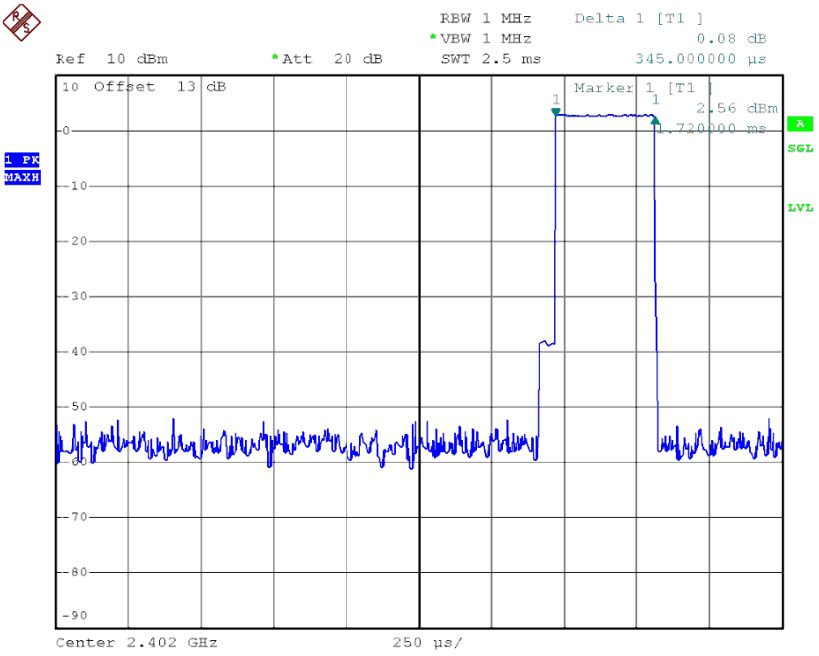
Date: 29.MAY.2016 17:49:56

CH00-DH3



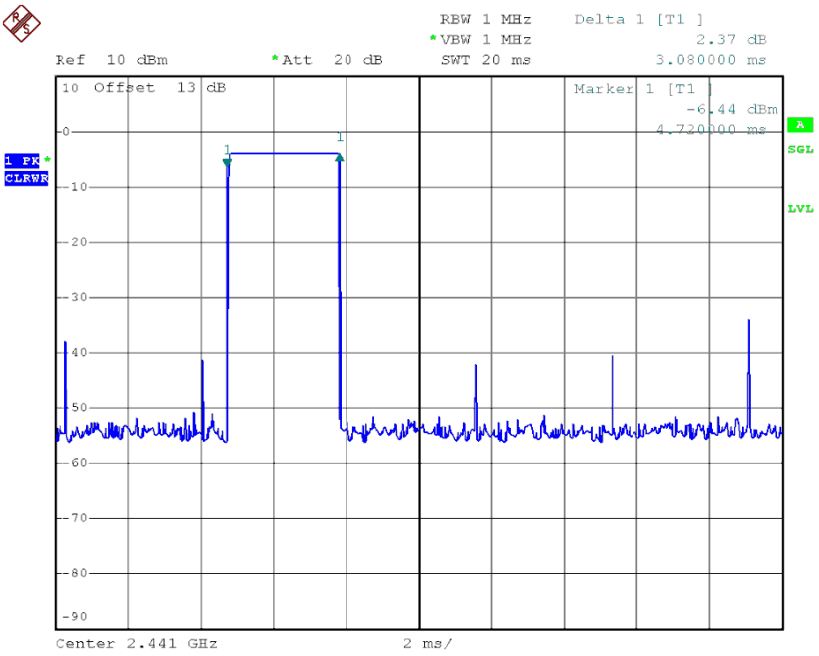
Date: 29.MAY.2016 17:49:28

CH00-DH1



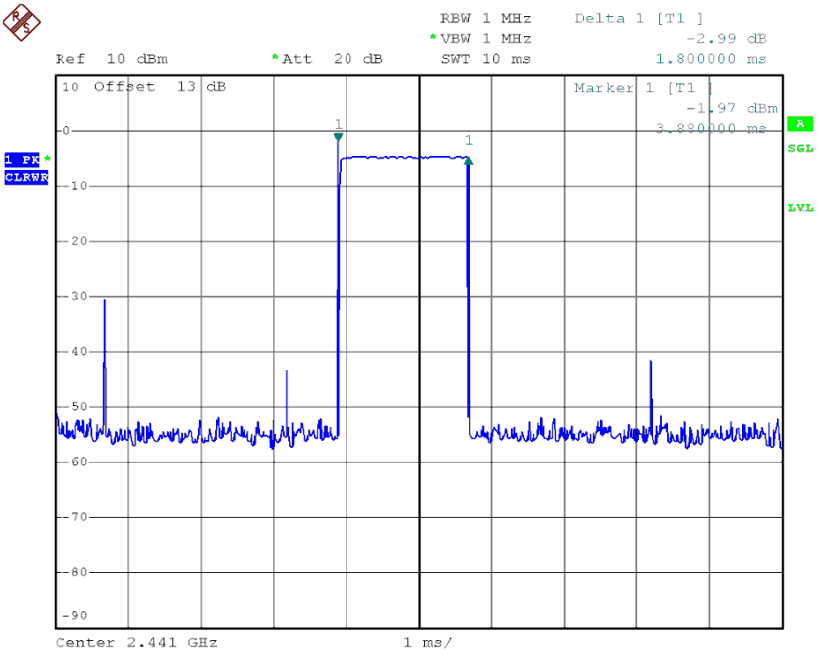
Date: 29.MAY.2016 17:33:29

CH39-DH5



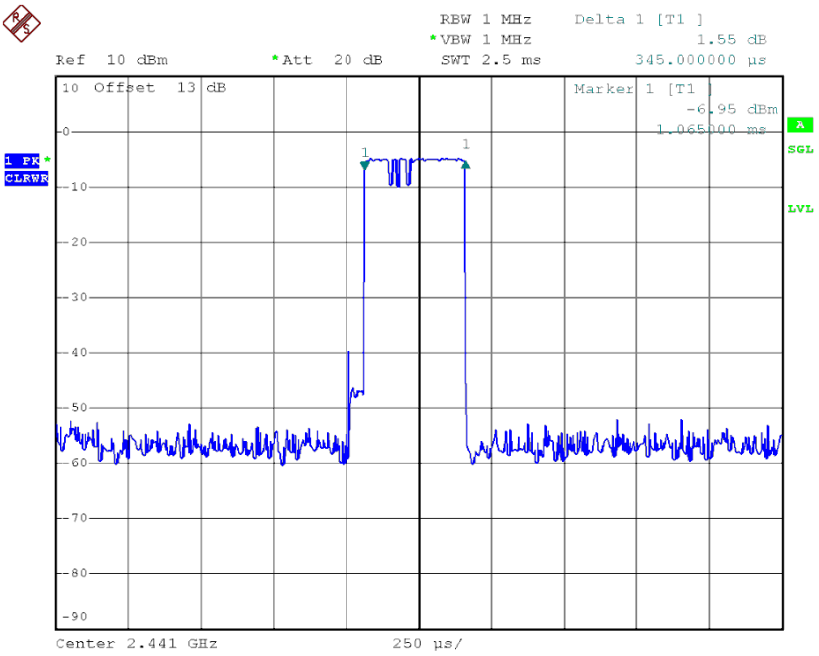
Date: 29.MAY.2016 17:50:01

CH39-DH3



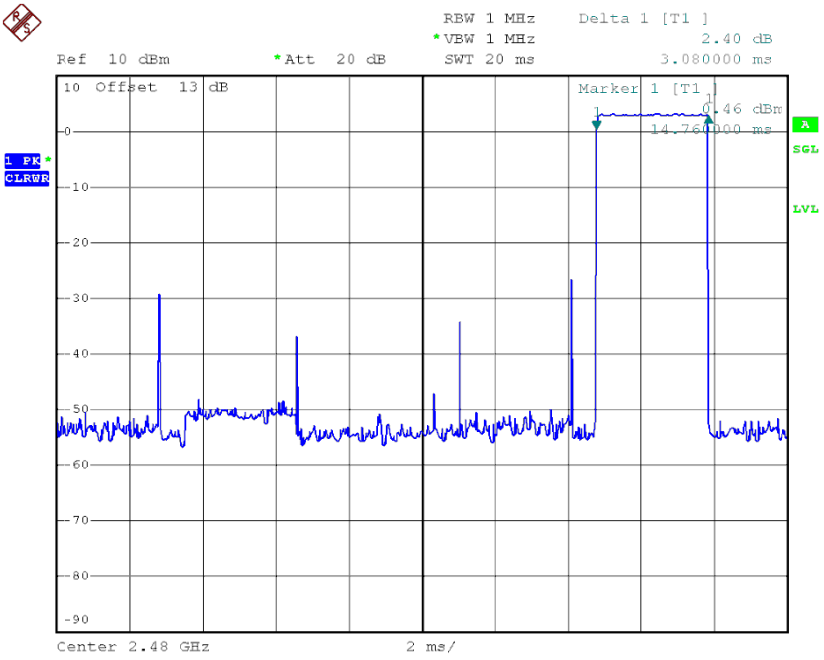
Date: 29.MAY.2016 17:49:34

CH39-DH1



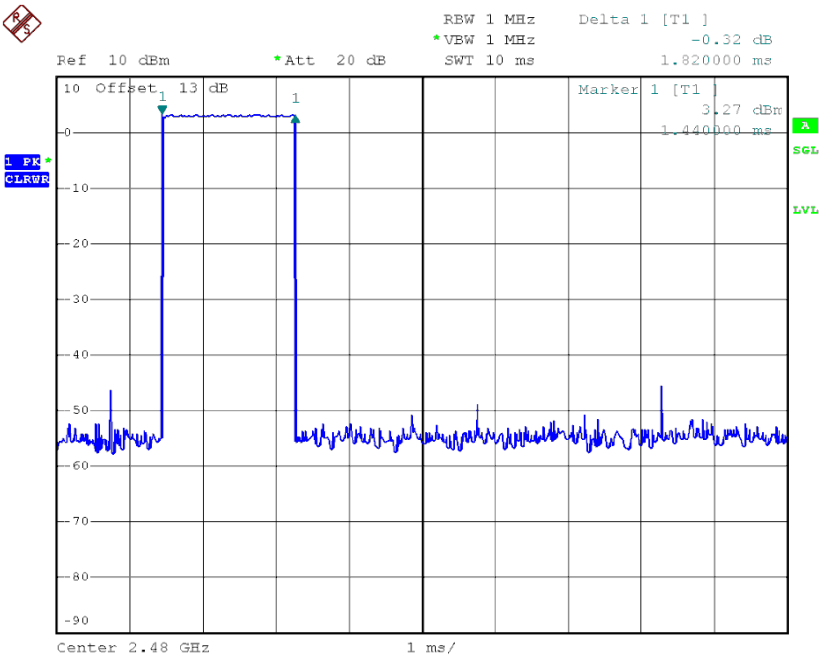
Date: 29.MAY.2016 17:33:32

CH78-DH5



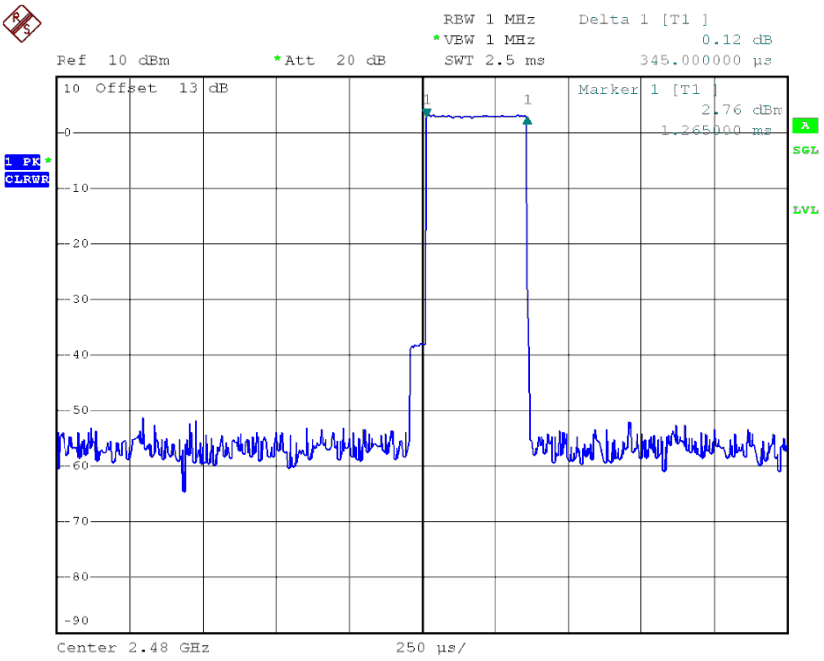
Date: 29.MAY.2016 17:50:05

CH78-DH3



Date: 29.MAY.2016 17:49:39

CH78-DH1

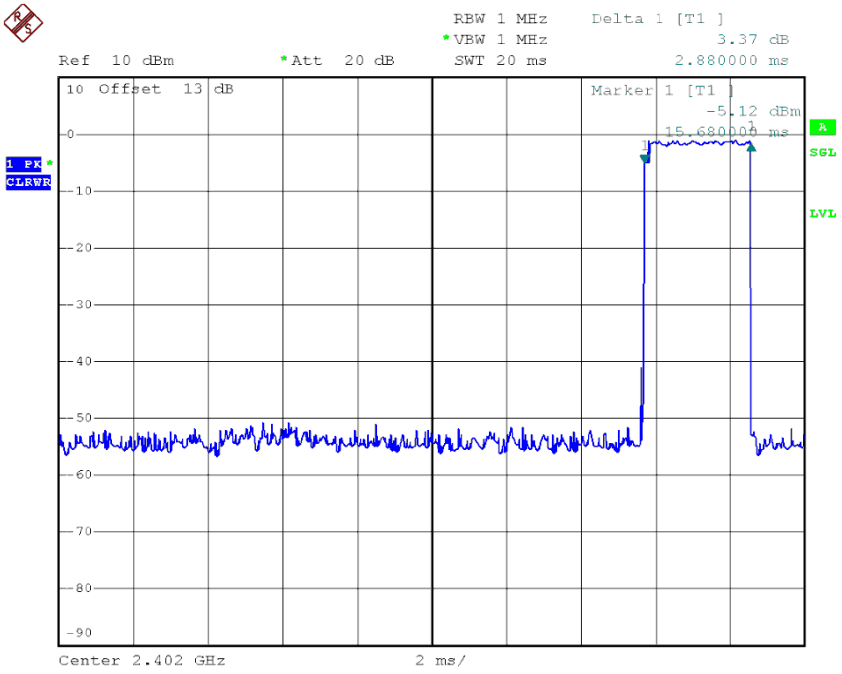


Date: 29.MAY.2016 17:33:36

Test Mode :	TX Mode_3Mbps

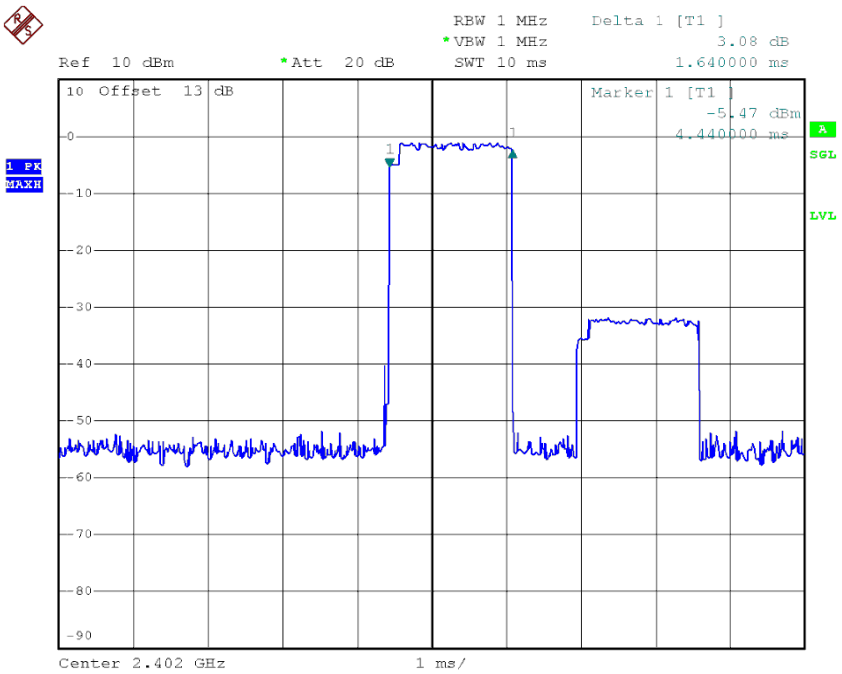
Data Packet	Frequency (MHz)	Pulse Duration (ms)	Dwell Time (s)	Limits (s)	Test Result
DH5	2402	2.8600	0.3051	0.4000	Complies
DH3	2402	1.6400	0.2624	0.4000	Complies
DH1	2402	0.3900	0.1248	0.4000	Complies
DH5	2441	2.8800	0.3072	0.4000	Complies
DH3	2441	1.6400	0.2624	0.4000	Complies
DH1	2441	0.3850	0.1232	0.4000	Complies
DH5	2480	2.8800	0.3072	0.4000	Complies
DH3	2480	1.6400	0.2624	0.4000	Complies
DH1	2480	0.3900	0.1248	0.4000	Complies

CH00-DH5



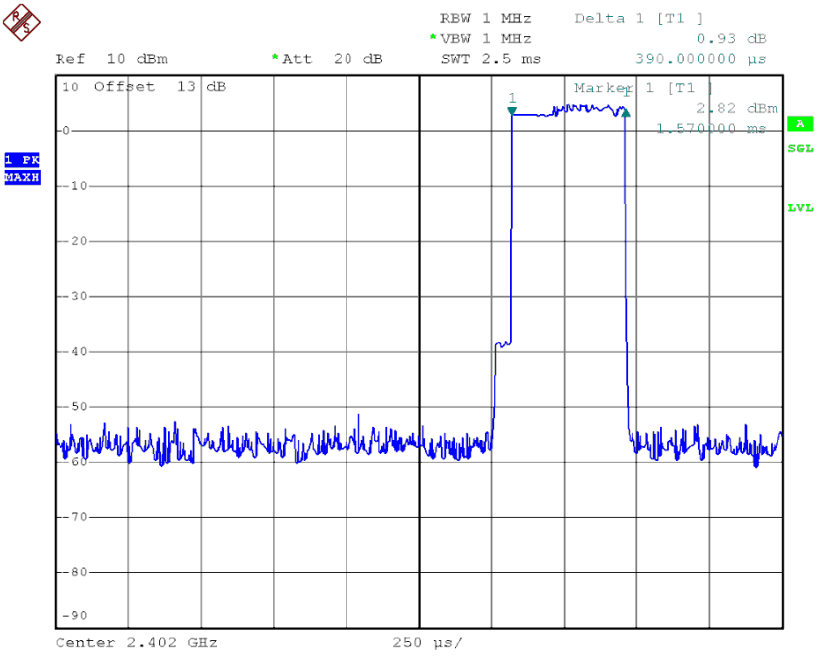
Date: 29.MAY.2016 19:21:19

CH00-DH3



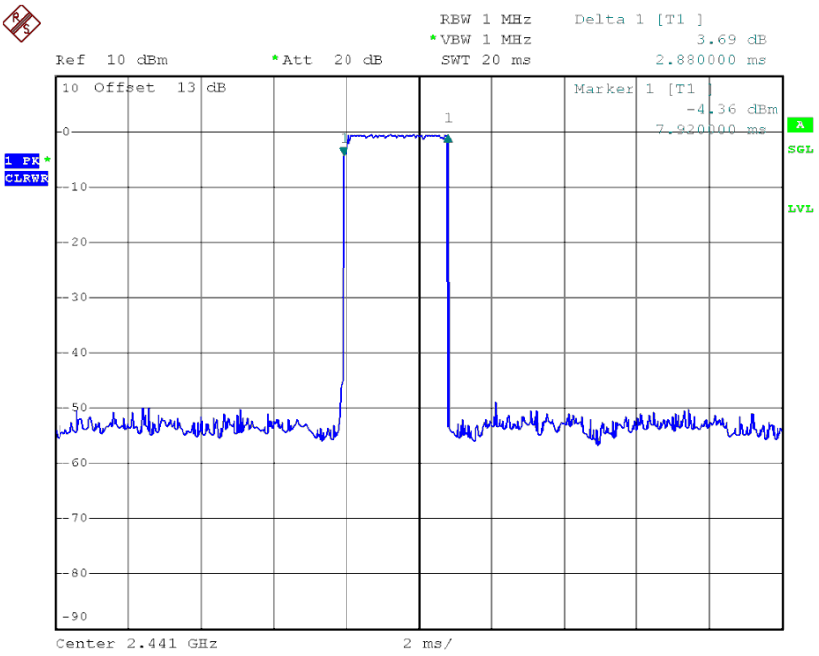
Date: 29.MAY.2016 19:20:24

CH00-DH1



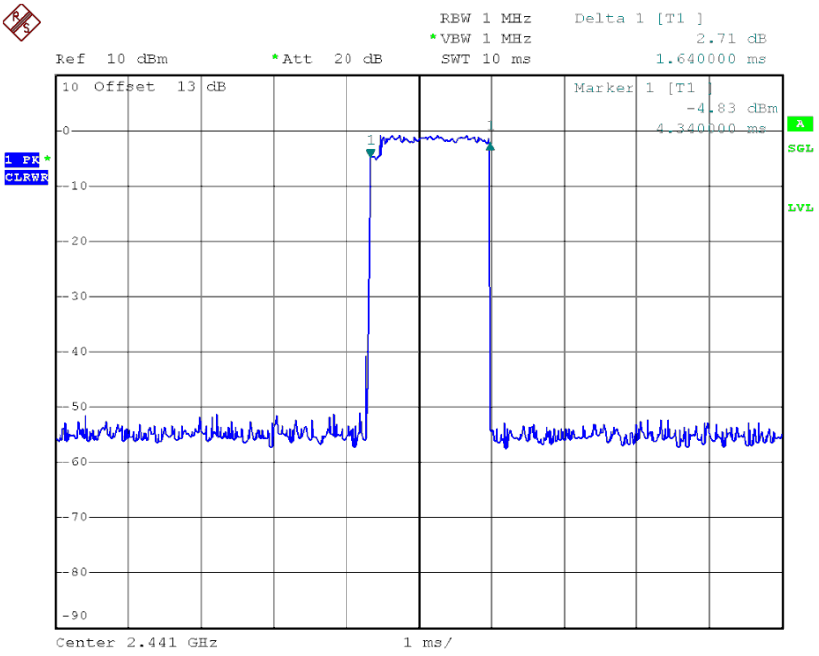
Date: 29.MAY.2016 17:57:37

CH39-DH5



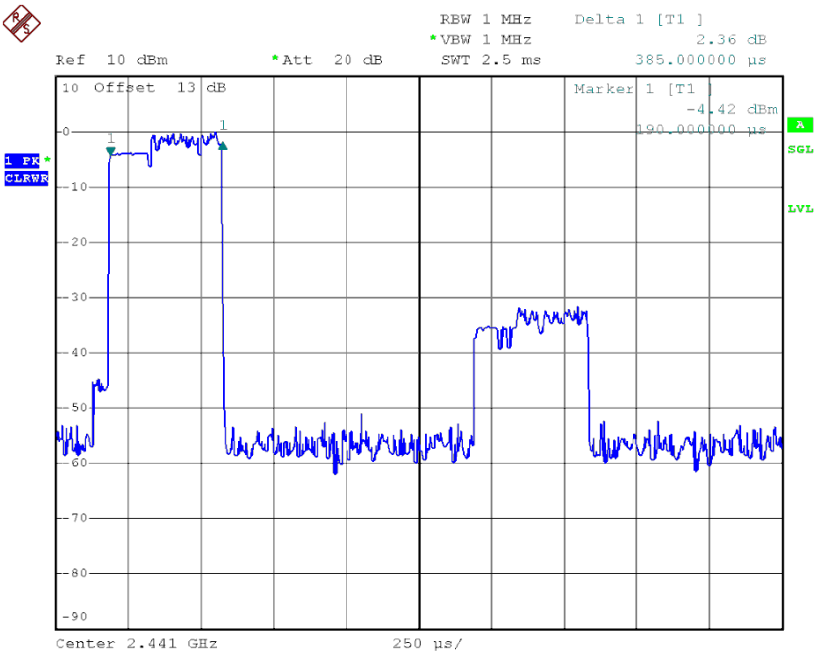
Date: 29.MAY.2016 19:21:23

CH39-DH3



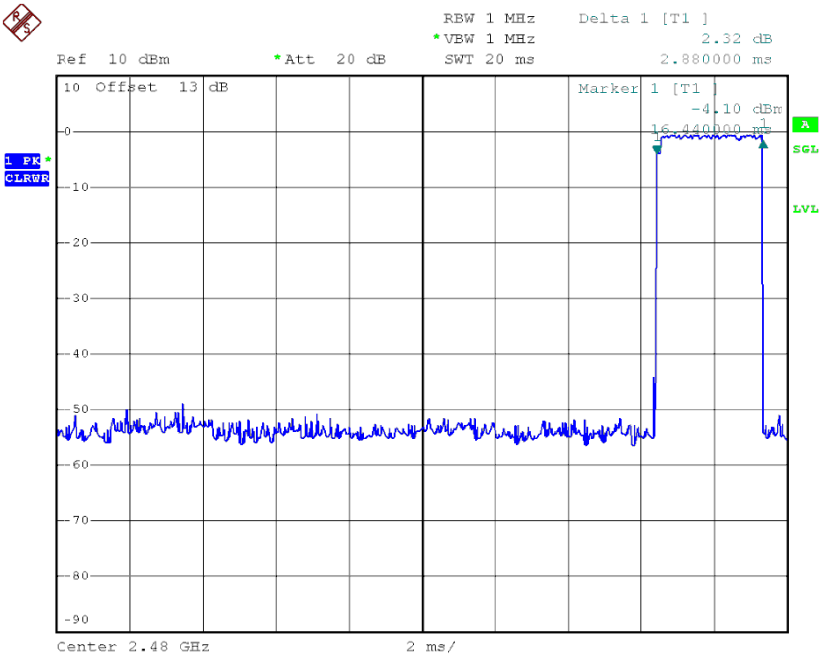
Date: 29.MAY.2016 19:20:29

CH39-DH1



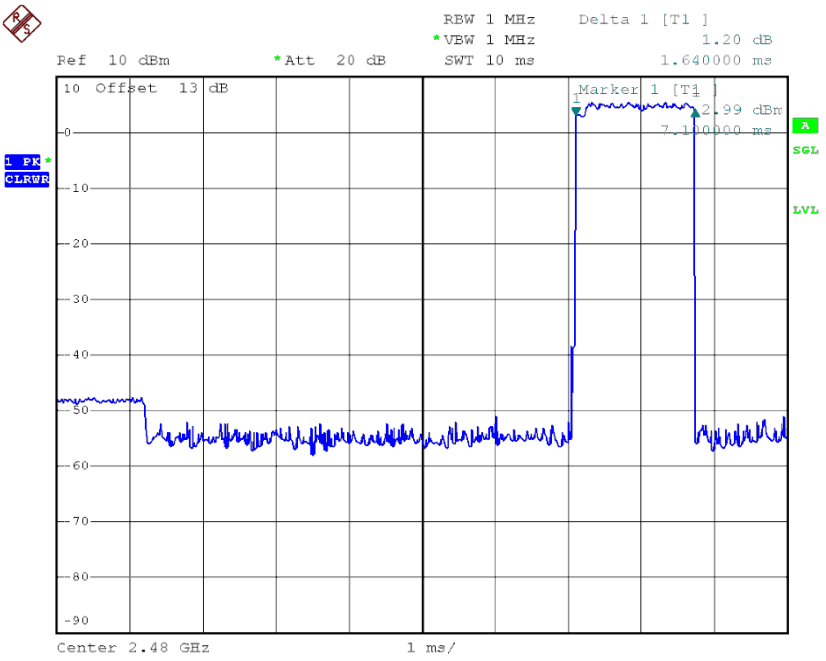
Date: 29.MAY.2016 17:57:40

CH78-DH5



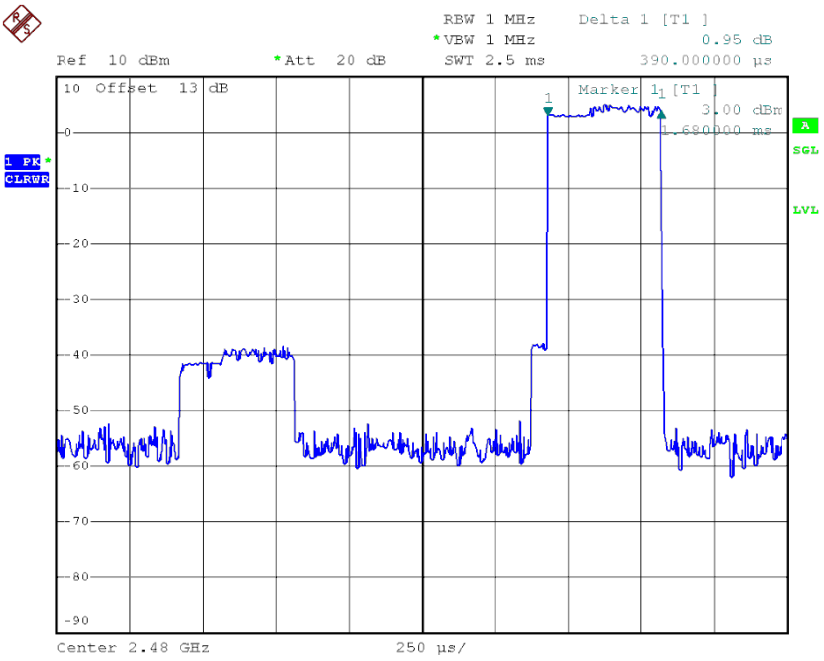
Date: 29.MAY.2016 19:21:26

CH78-DH3



Date: 29.MAY.2016 19:20:33

CH78-DH1



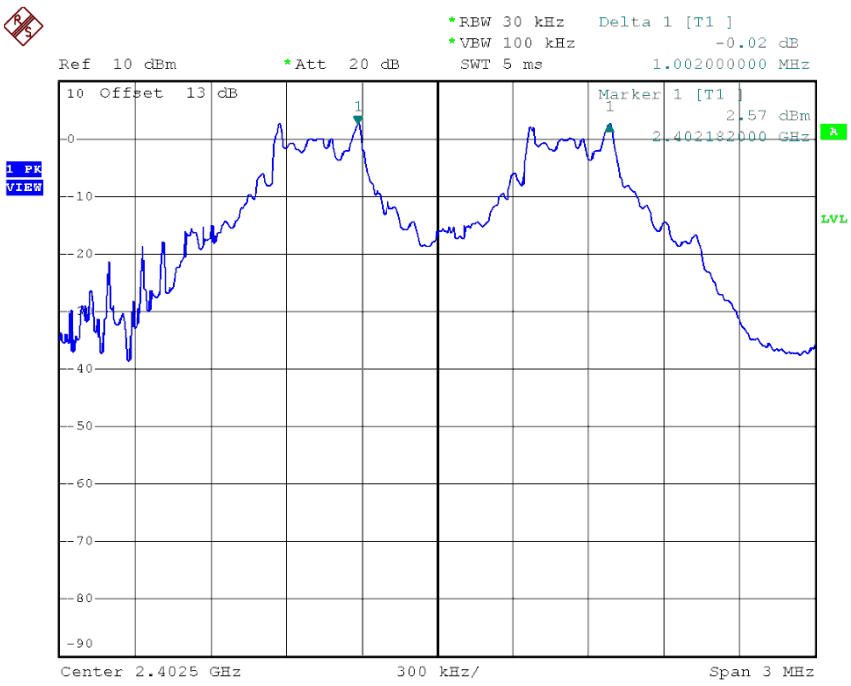
Date: 29.MAY.2016 17:57:43

ATTACHMENT G - HOPPING CHANNEL SEPARATION MEASUREMENT

Test Mode :	Hopping on _1Mbps

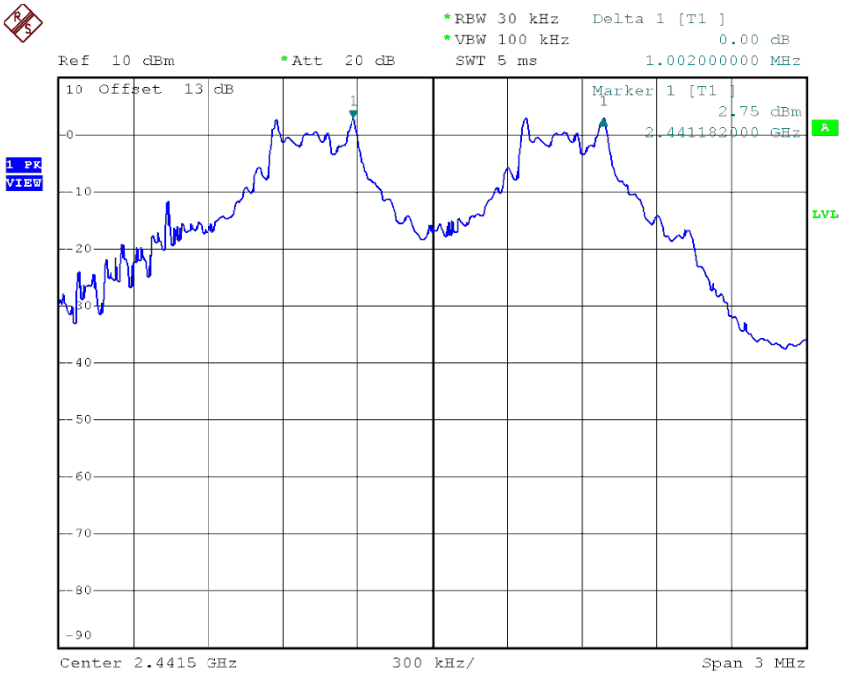
Frequency (MHz)	Channel Separation (MHz)	2/3 of 20dB Bandwidth (MHz)	Test Result
2402	1.002	0.611	Pass
2441	1.002	0.677	Pass
2480	1.008	0.601	Pass

CH00



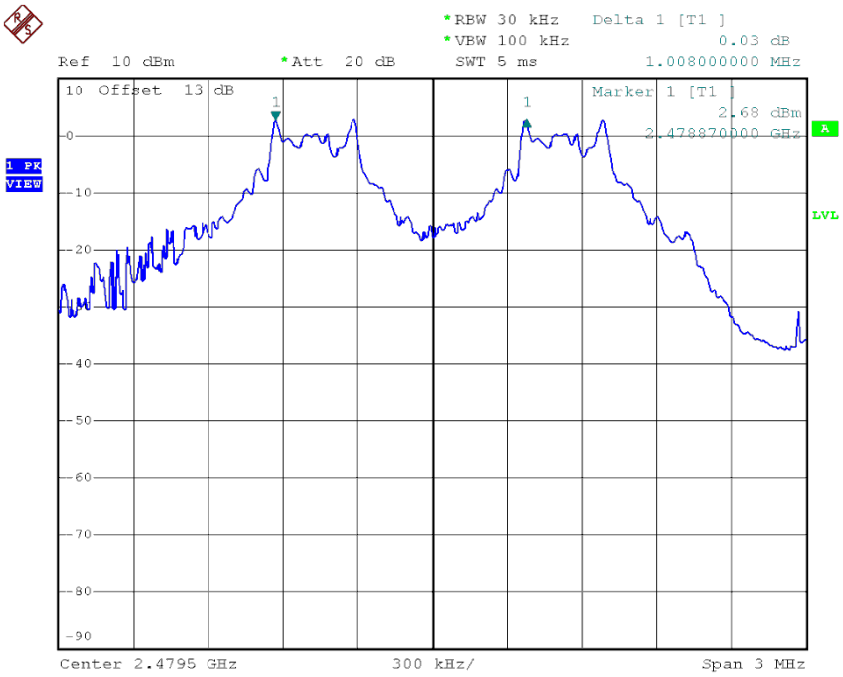
Date: 29.MAY.2016 17:21:45

CH39



Date: 29.MAY.2016 17:24:31

CH78

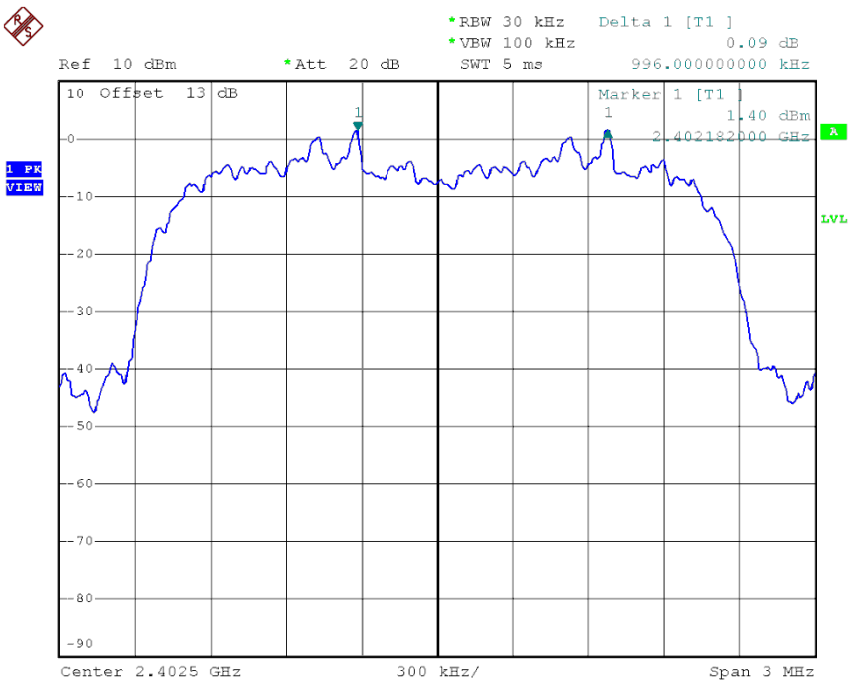


Date: 29.MAY.2016 17:27:36

Test Mode :	Hopping on _3Mbps

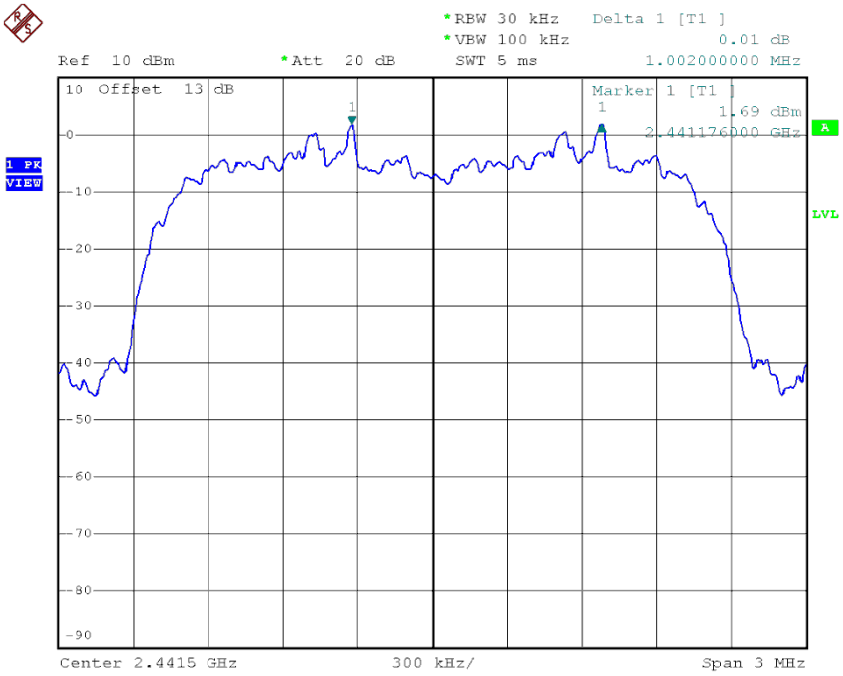
Frequency (MHz)	Channel Separation (MHz)	2/3 of 20dB Bandwidth (MHz)	Test Result
2402	0.996	0.860	Pass
2441	1.002	0.869	Pass
2480	1.002	0.872	Pass

CH00



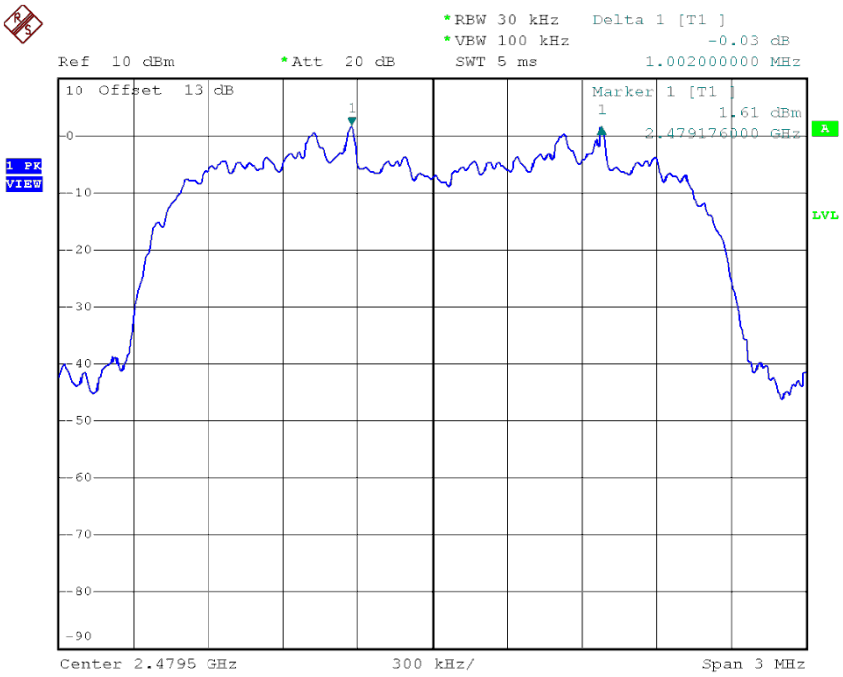
Date: 29.MAY.2016 19:30:24

CH39



Date: 29.MAY.2016 19:29:21

CH78



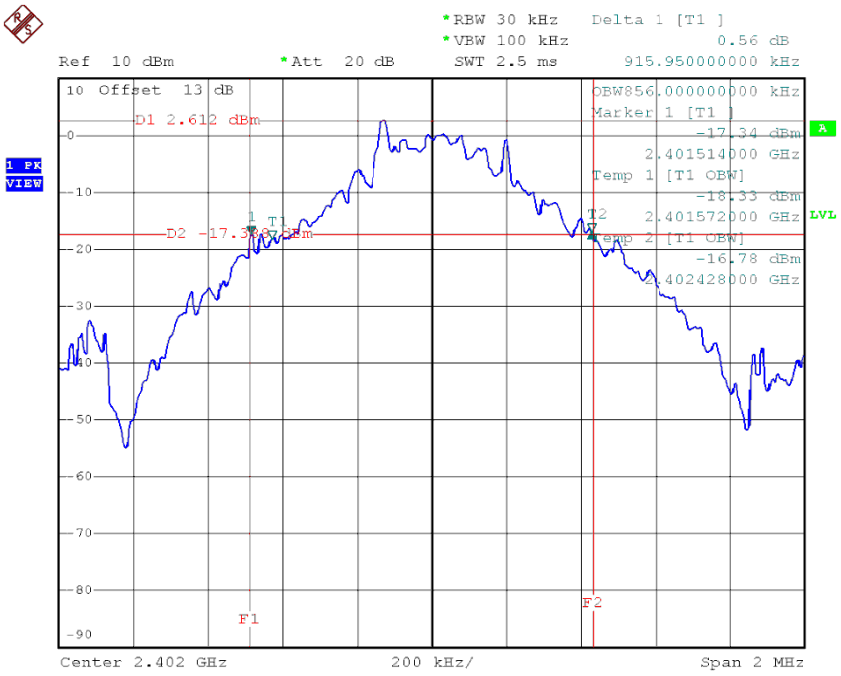
Date: 29.MAY.2016 19:26:49

ATTACHMENT H - BANDWIDTH

Test Mode :	TX Mode _1Mbps

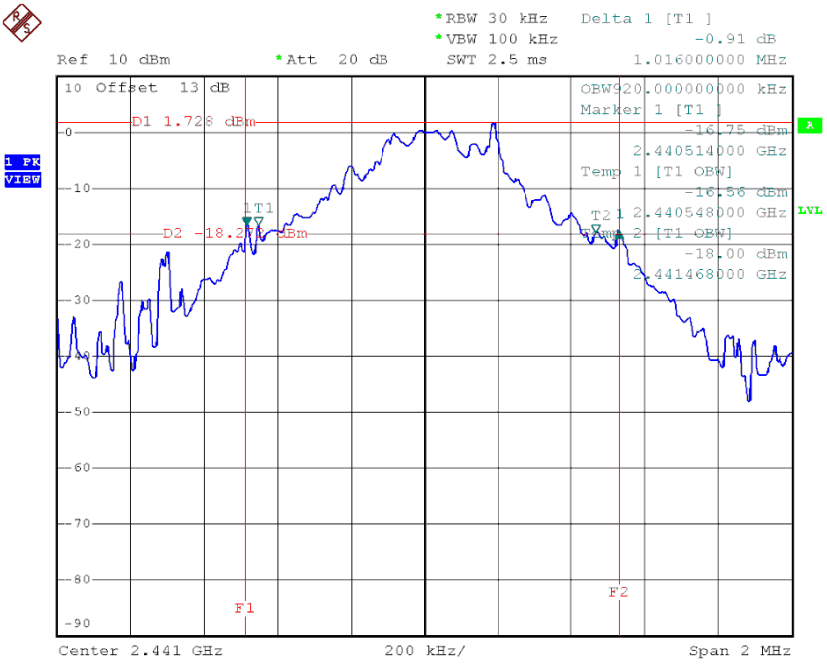
Frequency (MHz)	20dB Bandwidth (MHz)	99% Occupied BW (MHz)	Test Result
2402	0.916	0.852	Pass
2441	1.016	0.840	Pass
2480	0.901	0.832	Pass

CH00



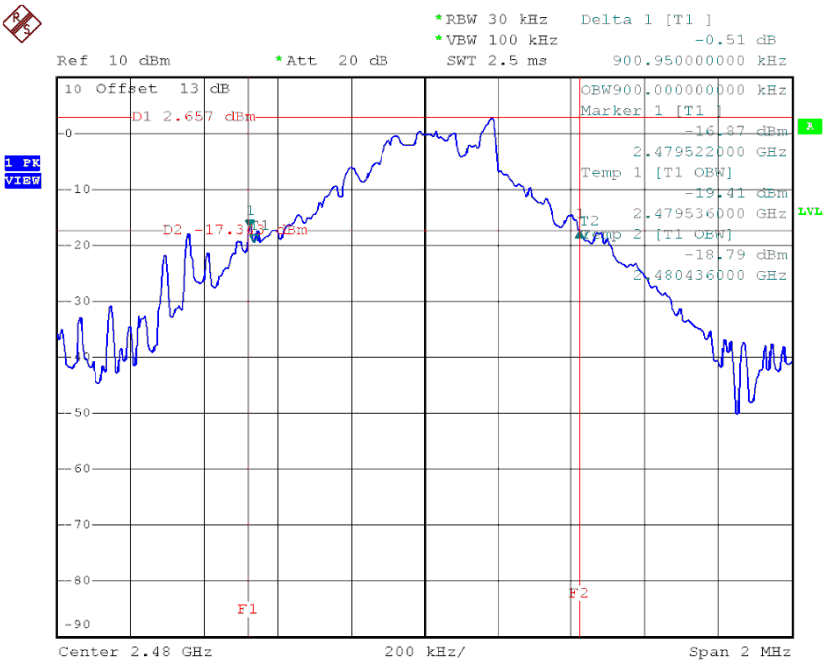
Date: 29.MAY.2016 17:31:27

CH39



Date: 29.MAY.2016 17:32:54

CH78

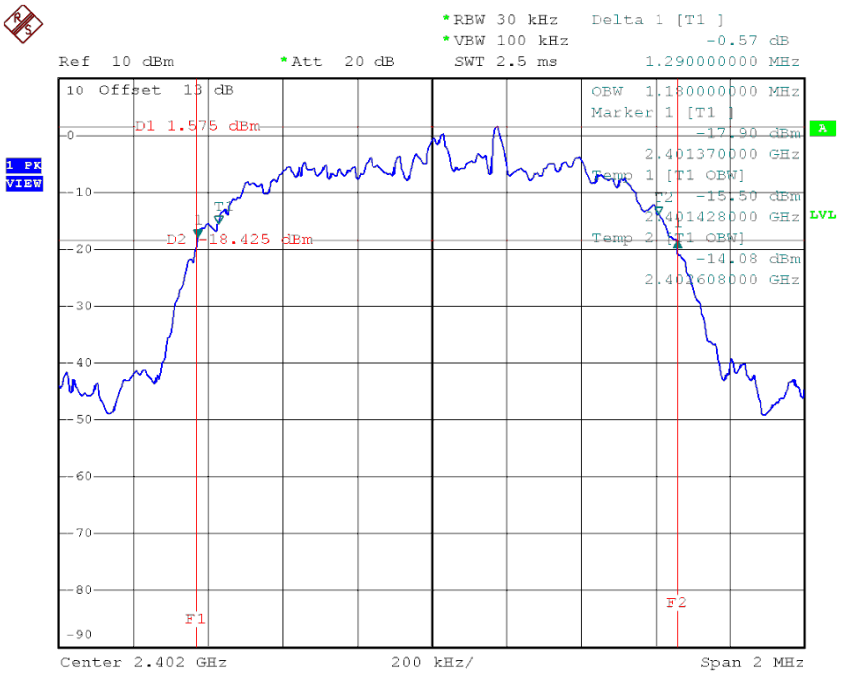


Date: 29.MAY.2016 17:29:57

Test Mode :	TX Mode _3Mbps

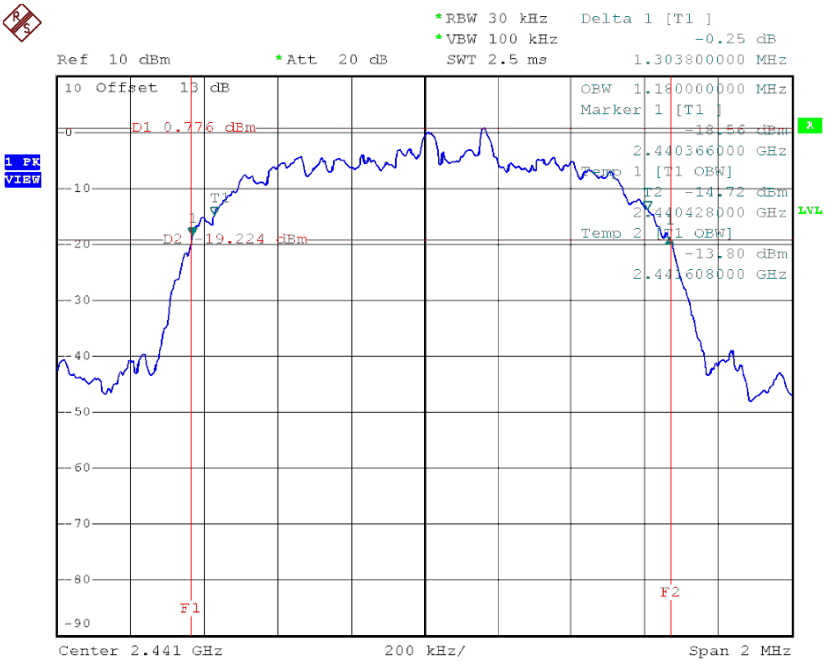
Frequency (MHz)	20dB Bandwidth (MHz)	99% Occupied BW (MHz)	Test Result
2402	1.290	1.140	Pass
2441	1.304	1.148	Pass
2480	1.308	1.152	Pass

CH00



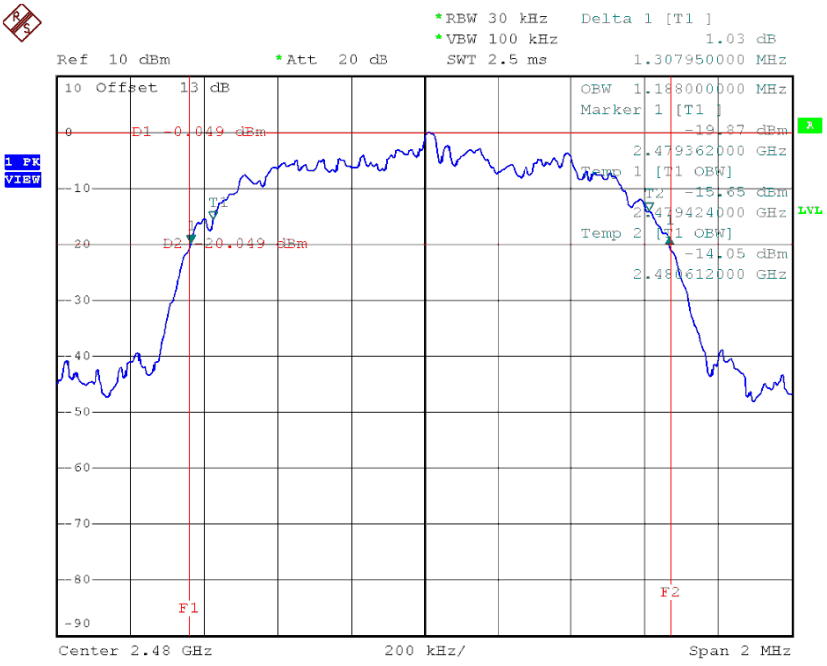
Date: 29.MAY.2016 17:53:07

CH39



Date: 29.MAY.2016 17:54:27

CH78



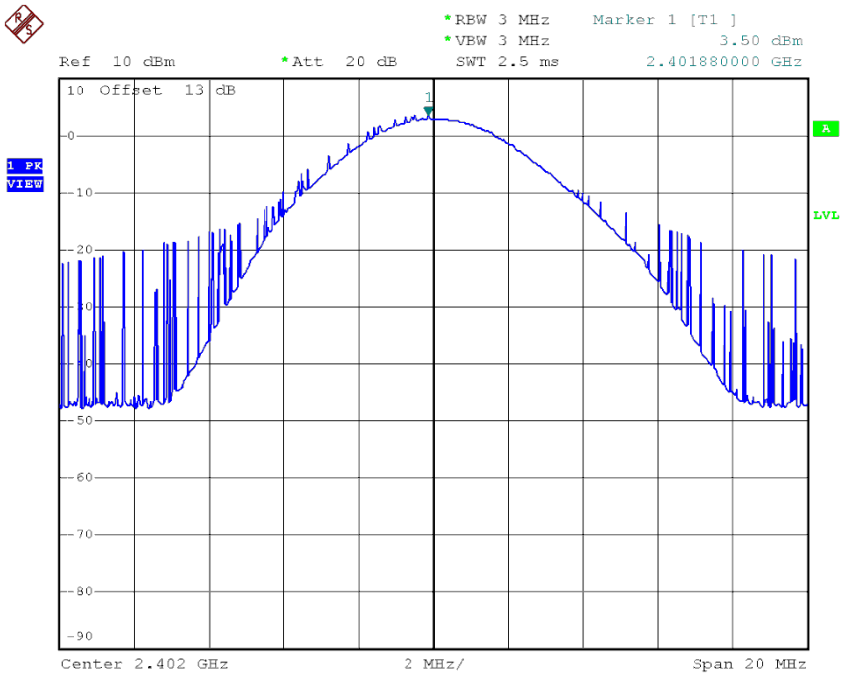
Date: 29.MAY.2016 19:23:57

ATTACHMENT I - PEAK OUTPUT POWER

Test Mode :	TX Mode _1Mbps

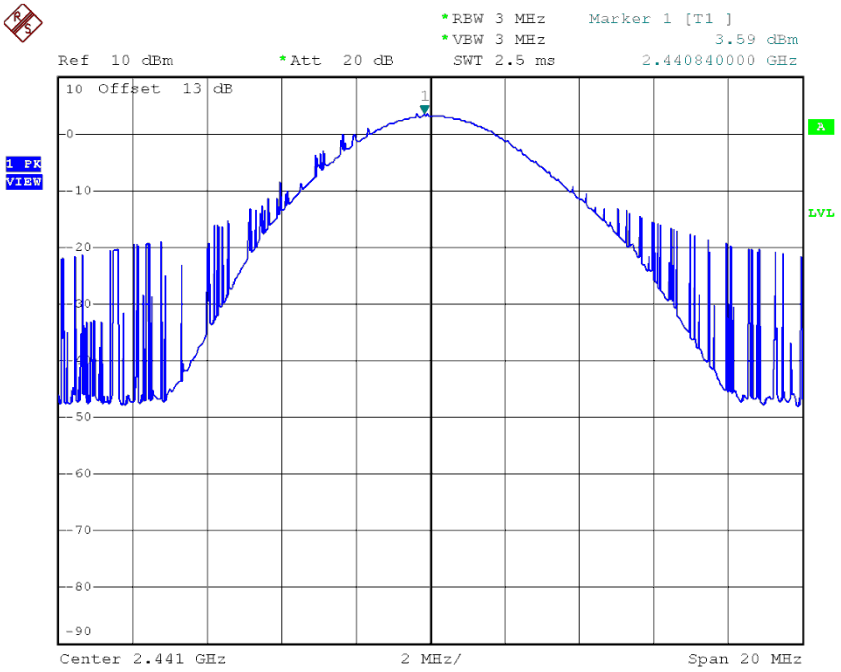
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	3.50	0.0022	30.00	1.00	Pass
2441	3.59	0.0023	30.00	1.00	Pass
2480	3.63	0.0023	30.00	1.00	Pass

CH00



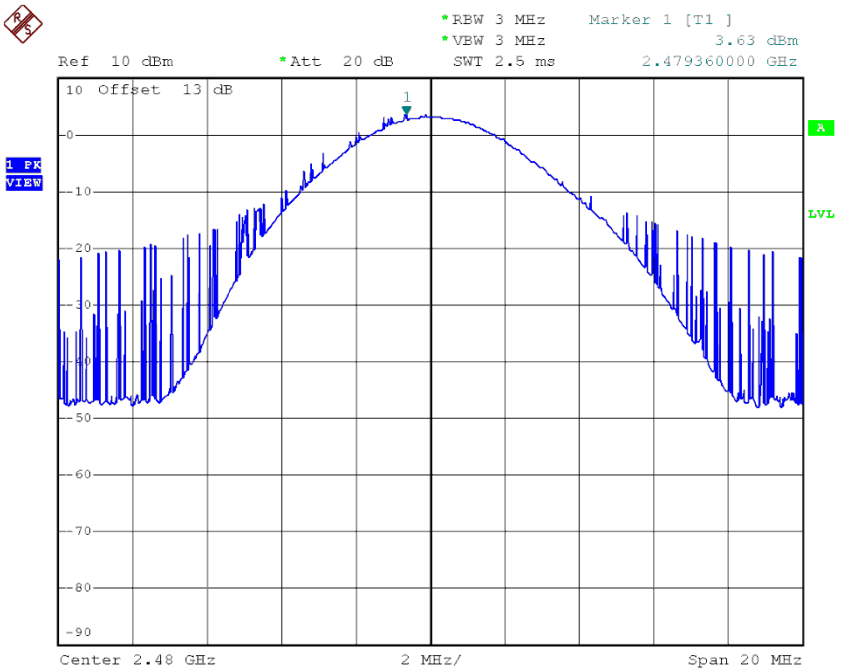
Date: 29.MAY.2016 17:31:45

CH39



Date: 29.MAY.2016 17:32:59

CH78

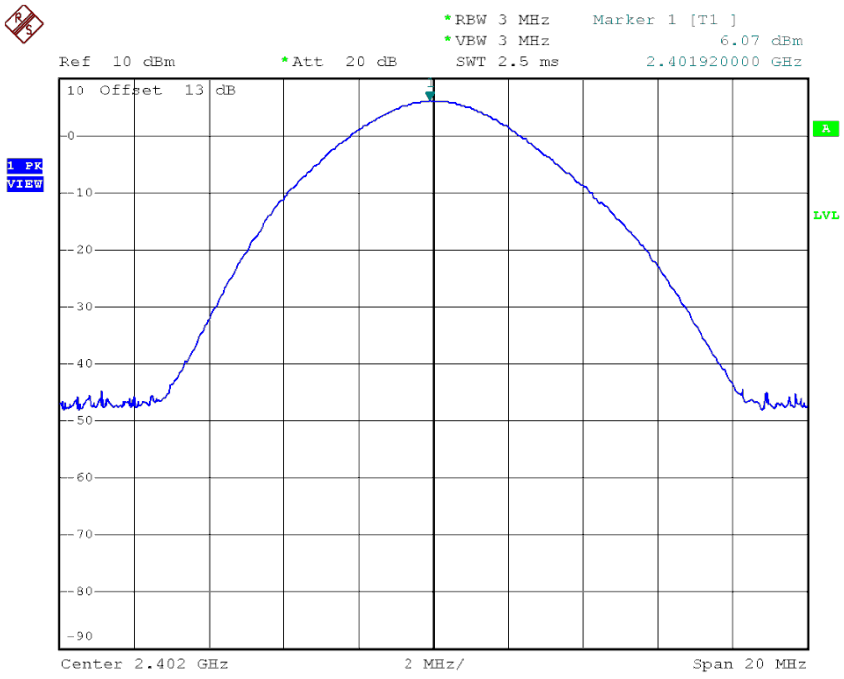


Date: 29.MAY.2016 17:30:16

Test Mode :	TX Mode _3Mbps

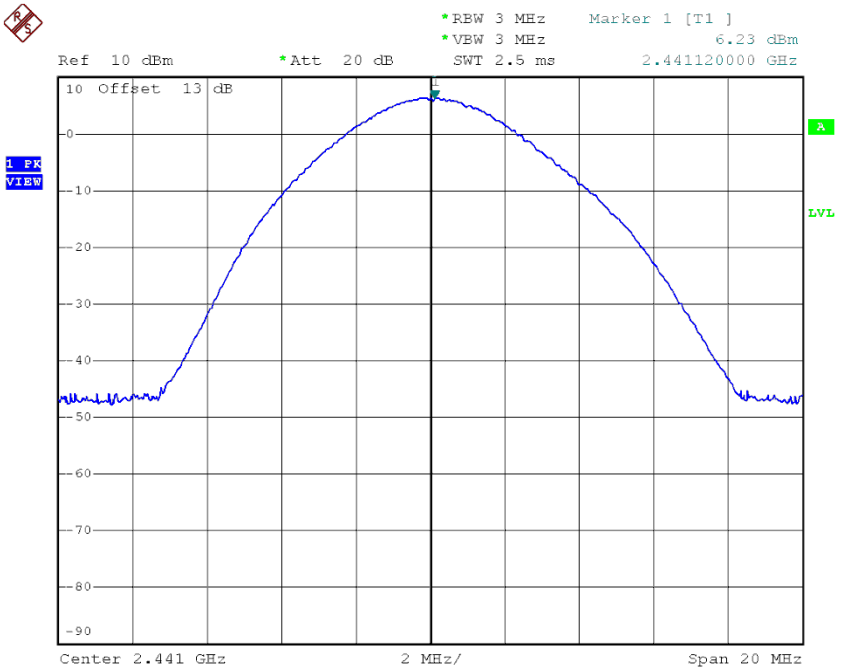
Frequency (MHz)	Conducted Power (dBm)	Conducted Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	6.07	0.0040	30.00	1.00	Pass
2441	6.23	0.0042	30.00	1.00	Pass
2480	6.17	0.0041	30.00	1.00	Pass

CH00



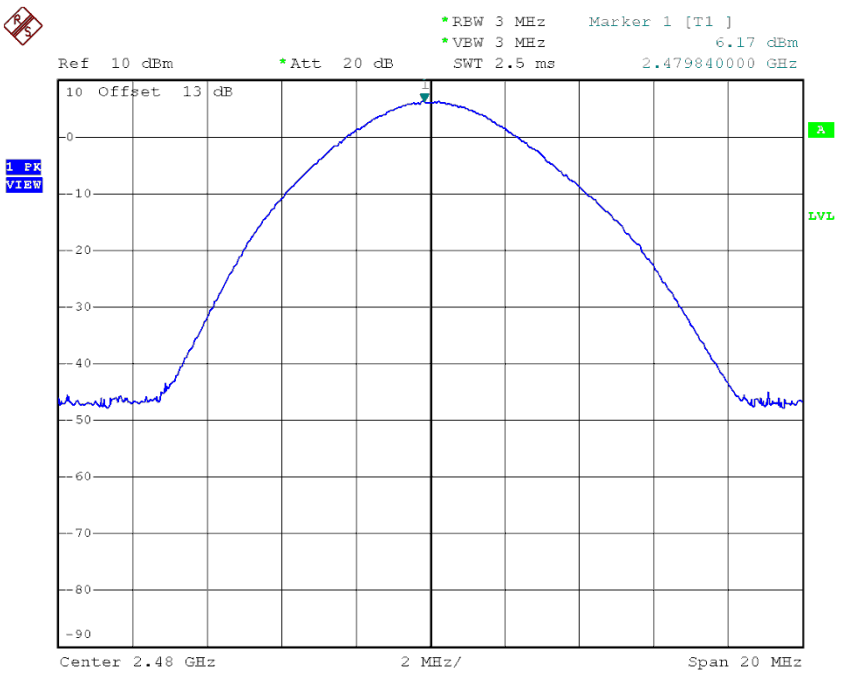
Date: 29.MAY.2016 17:53:24

CH39



Date: 29.MAY.2016 17:54:32

CH78



Date: 29.MAY.2016 19:24:16

Test Mode :	TX Mode _1Mbps

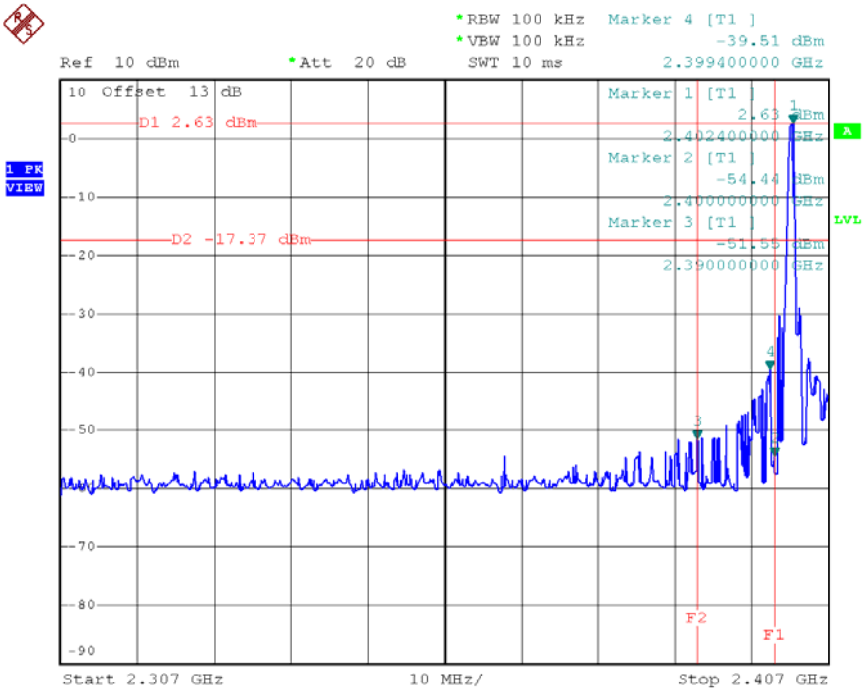
Frequency (MHz)	Conducted Average Power (dBm)	Conducted Average Power (W)
2402	1.72	0.00149
2441	1.97	0.00157
2480	1.99	0.00158

Test Mode :	TX Mode _3Mbps

Frequency (MHz)	Conducted Average Power (dBm)	Conducted Average Power (W)
2402	2.0	0.00158
2441	2.24	0.00167
2480	2.25	0.00168

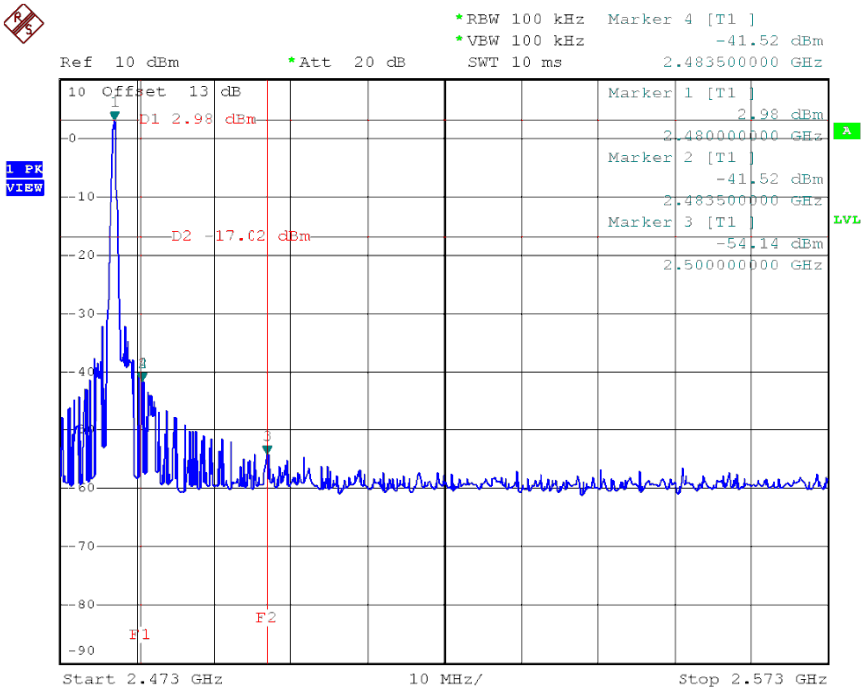
ATTACHMENT J - ANTENNA CONDUCTED SPURIOUS EMISSION

CH00 (Lower)_1Mbps



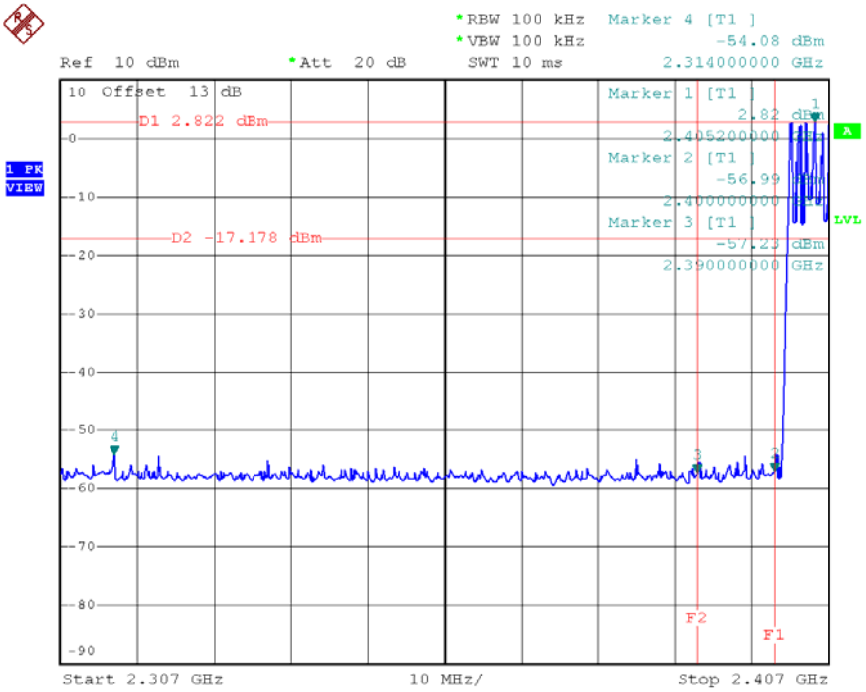
Date: 29.MAY.2016 17:30:53

CH78 (Upper) _1Mbps



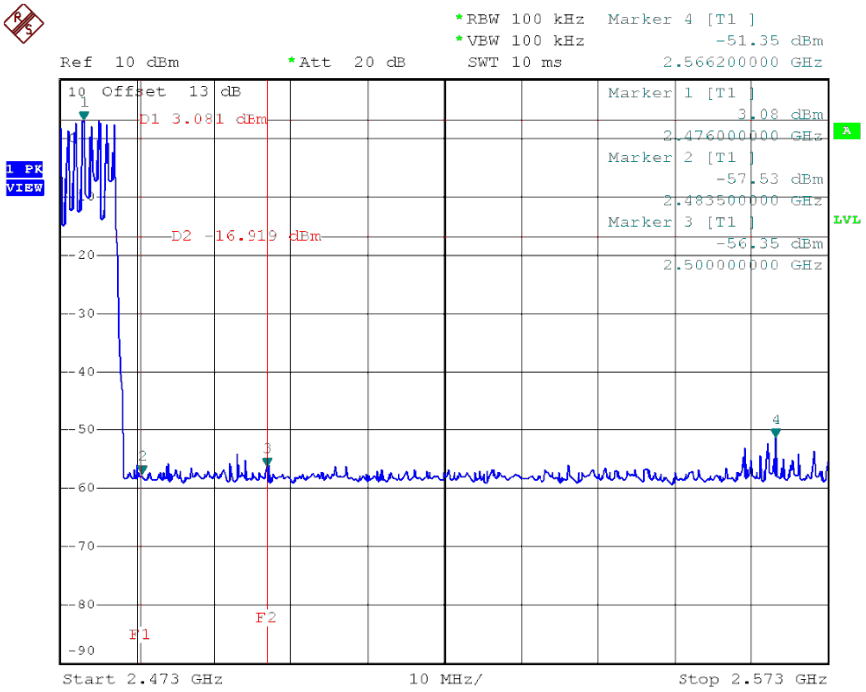
Date: 29.MAY.2016 17:29:24

CH00 Hopping on mode (Lower)_1Mbps



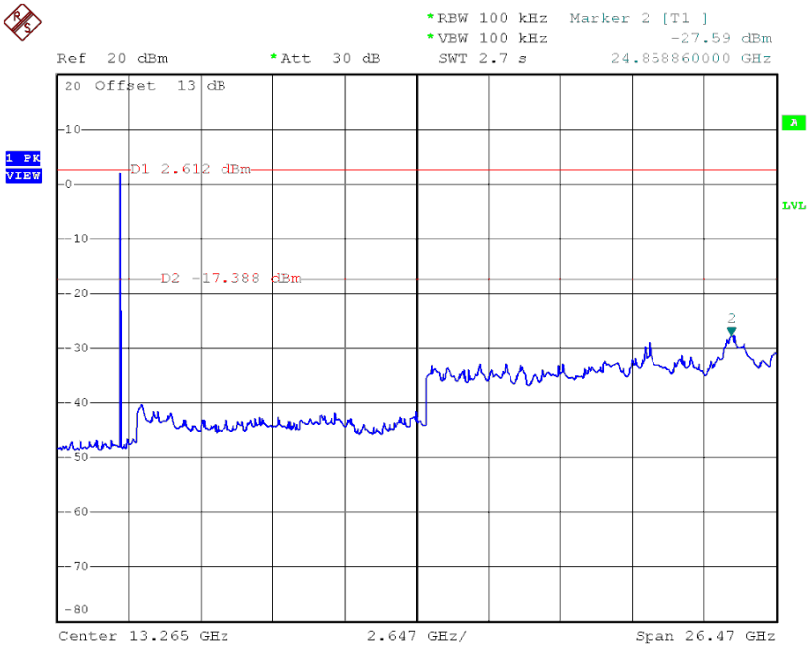
Date: 29.MAY.2016 17:36:15

CH78 Hopping on mode (Upper) _1Mbps



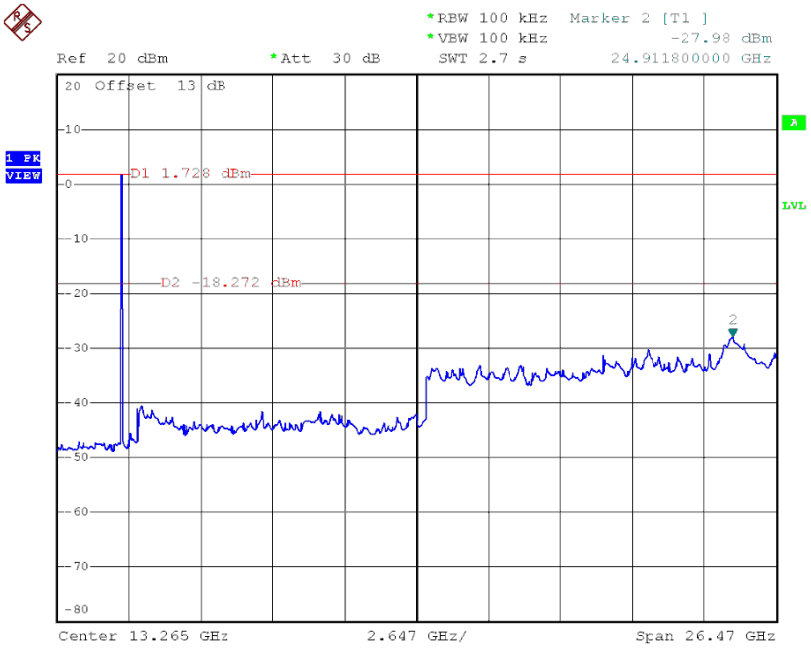
Date: 29.MAY.2016 17:37:06

CH00 (10 Harmonic of the frequency) _1Mbps



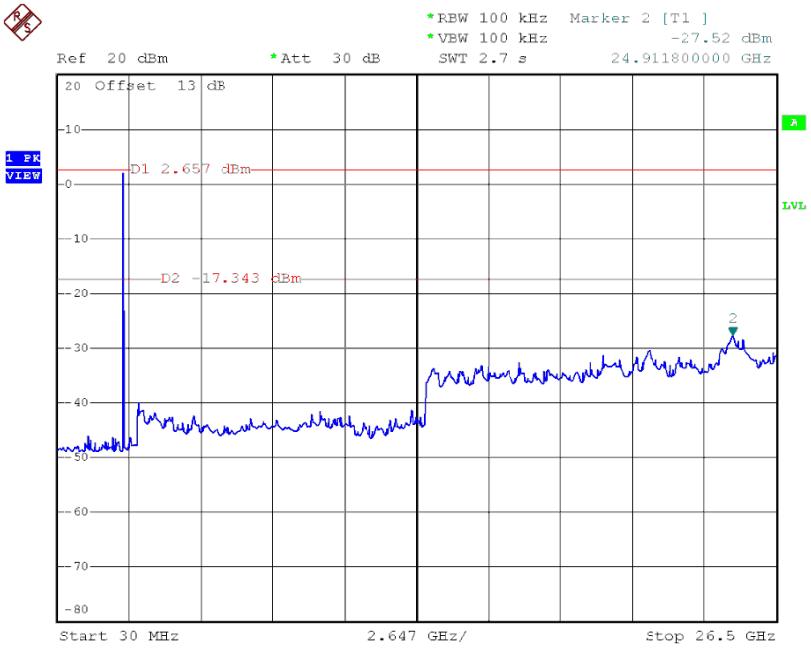
Date: 30.MAY.2016 11:34:30

CH39 (10 Harmonic of the frequency) _1Mbps



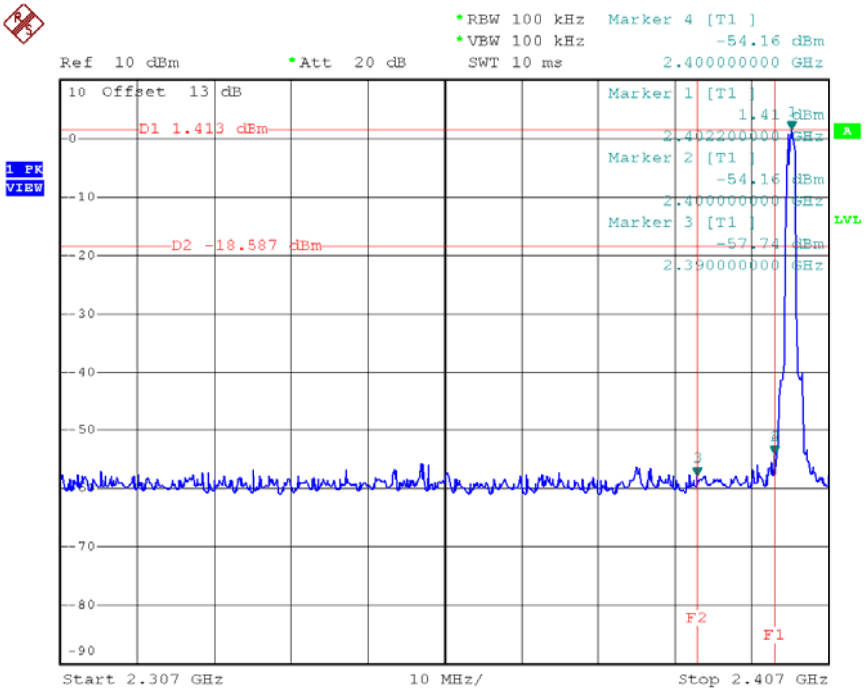
Date: 30.MAY.2016 11:32:52

CH78 (10 Harmonic of the frequency) _1Mbps



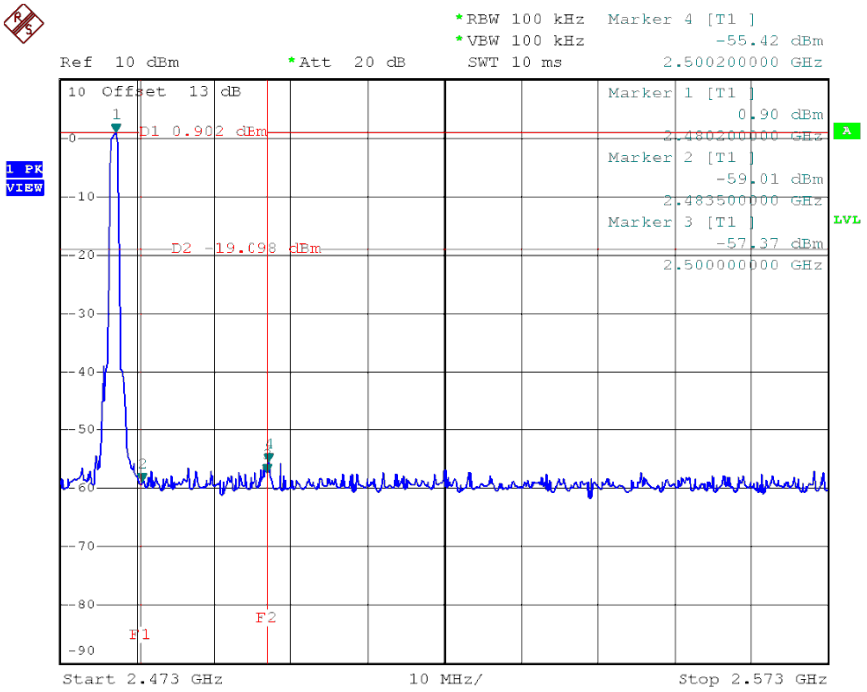
Date: 30.MAY.2016 11:31:11

CH00 (Lower) _3Mbps



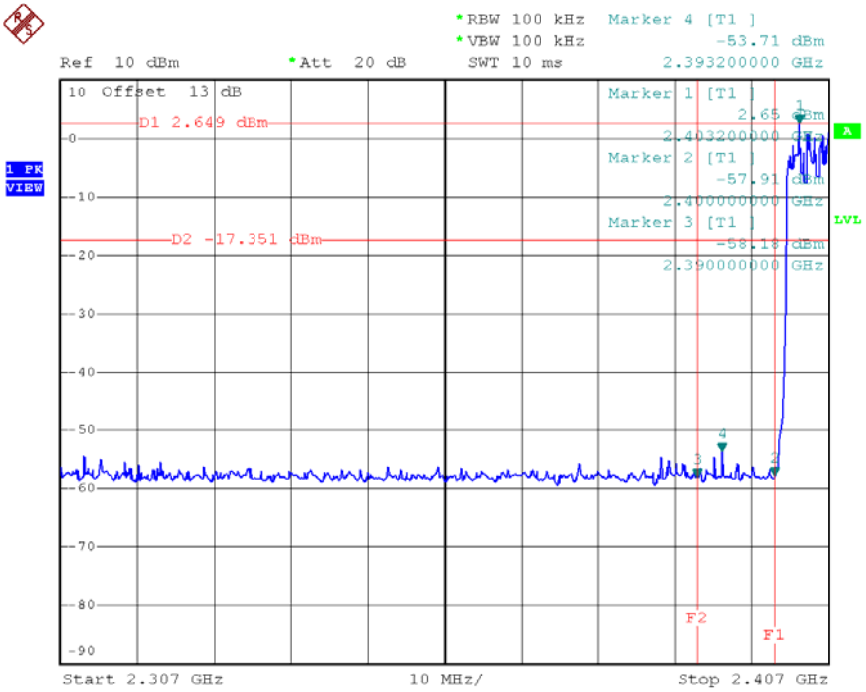
Date: 29.MAY.2016 17:52:42

CH78 (Upper) _3Mbps



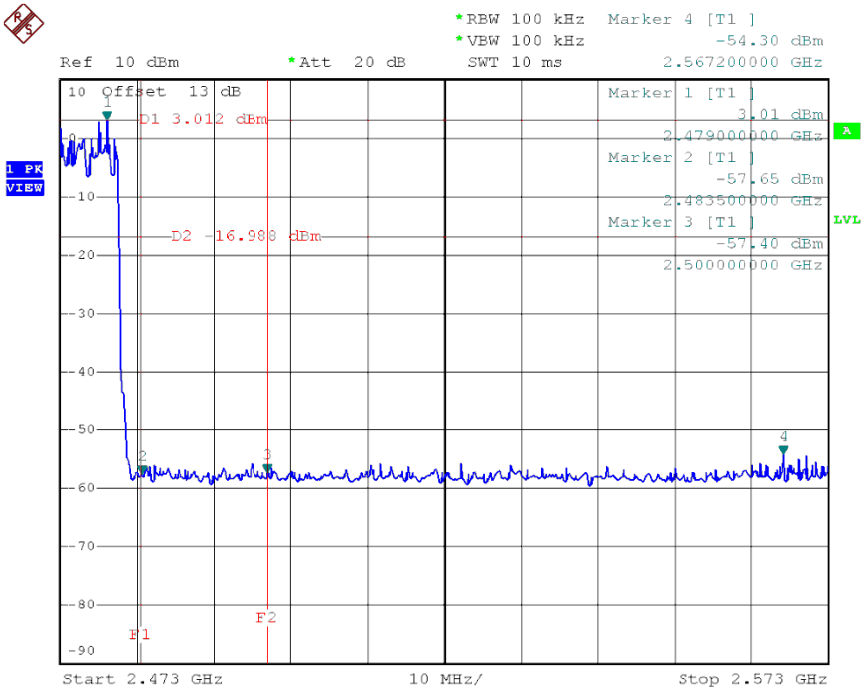
Date: 29.MAY.2016 19:23:34

CH00 Hopping on mode (Lower)_3Mbps



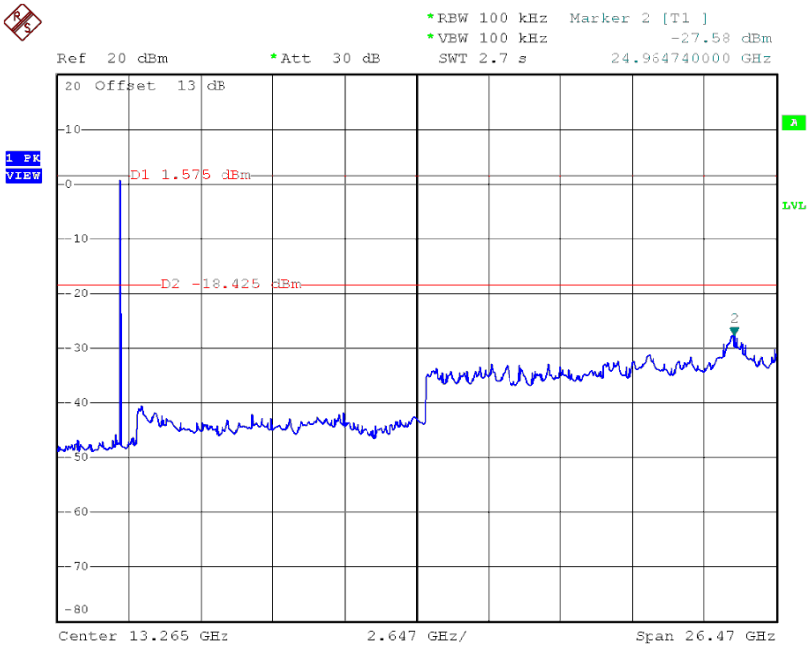
Date: 29.MAY.2016 18:00:22

CH78 Hopping on mode (Upper) _3Mbps



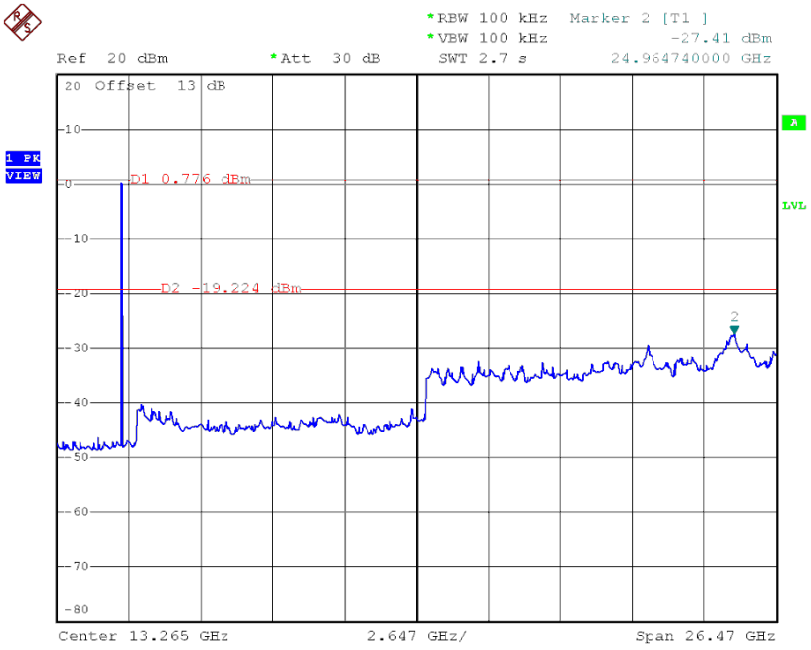
Date: 29.MAY.2016 18:01:12

CH00 (10 Harmonic of the frequency) _3Mbps



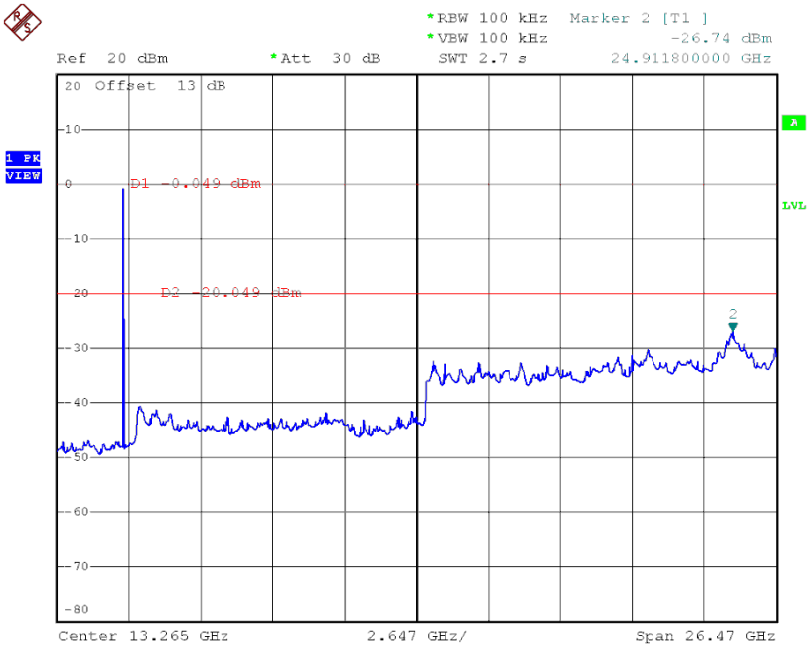
Date: 30.MAY.2016 11:35:55

CH39 (10 Harmonic of the frequency) _3Mbps



Date: 30.MAY.2016 11:42:21

CH78 (10 Harmonic of the frequency) _3Mbps



Date: 30.MAY.2016 11:45:43