FCC Radio Test Report

FCC ID: WXAMP90A

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

Project No.	:	1603241
Equipment	:	RFID Multi-ISO Protocol Modules
Model Name	:	MP90A
Applicant	:	GIGA-TMS INC.
Address	:	8F. NO.31, Lane 169, Kang-Ning St., His-Chih, New Taipei City 22180, Taiwan

Date of Receipt	:	May 09, 2016
Date of Test	:	May 09, 2016 ~ Jun. 06, 2016
Issued Date	:	Jun. 07, 2016
Tested by	:	BTL Inc.

Testing Engineer : Rush Kao
(Rush Kao)

Technical Manager : Jeff Yang
(Jeff Yang)

Authorized Signatory : Andy Chiu
(Andy Chiu)

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

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

Table of Contents

REPORT ISSUED HISTORY

Issue No.	Description	Issued Date
BTL-FCCP-1-1603241	Original Issue.	Jun. 07, 2016

1 CERTIFICATION

Equipment	:	RFID Multi-ISO Protocol Modules
Brand Name	:	GIGATEK, PROMAG, ProxData
Model Name	:	MP90A
Applicant	:	GIGA-TMS INC.
Date of Test	:	May 09, 2016 ~ Jun.06, 2016
Test Sample	:	Engineering Sample
Standard(s)	:	FCC Part 15, Subpart C (15.225) 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-1-1603241) 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).

2 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Standard Section	Test Item	Result
15.207	Conducted emission	PASS
15.35 / 15.205 / 15.209 / 15.225	Radiated emission	PASS
15.225(e)	Frequency Stability	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:949005; FCC DN:TW1082)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Radiated emission Test:

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

2.2 MEASUREMENT UNCERTAINTY

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

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**%.

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

The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

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

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

<table>
<tr><td>Equipment</td><td colspan="3">RFID Multi-ISO Protocol Modules</td></tr>
<tr><td>Brand Name</td><td colspan="3">GIGATEK, PROMAG, ProxData</td></tr>
<tr><td>Host Model</td><td colspan="3">MP90A</td></tr>
<tr><td>Model Difference</td><td colspan="3">Only differ in I/O interface.
<table>
<tr><td>Model No.</td><td>Part No.</td><td>Interface</td></tr>
<tr><td rowspan="4">MP90A</td><td>MP90AR</td><td>RS232</td></tr>
<tr><td>MP90AL</td><td>Serial TTL</td></tr>
<tr><td>MP90AU</td><td>Virtual COM</td></tr>
<tr><td>MP90AH</td><td>HID</td></tr>
</table></td></tr>
<tr><td rowspan="2">Product Description</td><td colspan="2">Operation Frequency</td><td>13.56 MHz</td></tr>
<tr><td colspan="2">Antenna Designation</td><td>LOOP Antenna</td></tr>
<tr><td>Power Source</td><td colspan="3">Supplied from system.</td></tr>
<tr><td>Power Rating</td><td colspan="3">DC 5V</td></tr>
</table>

Note:

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

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	13.56MHz Transmit

Conducted emission test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

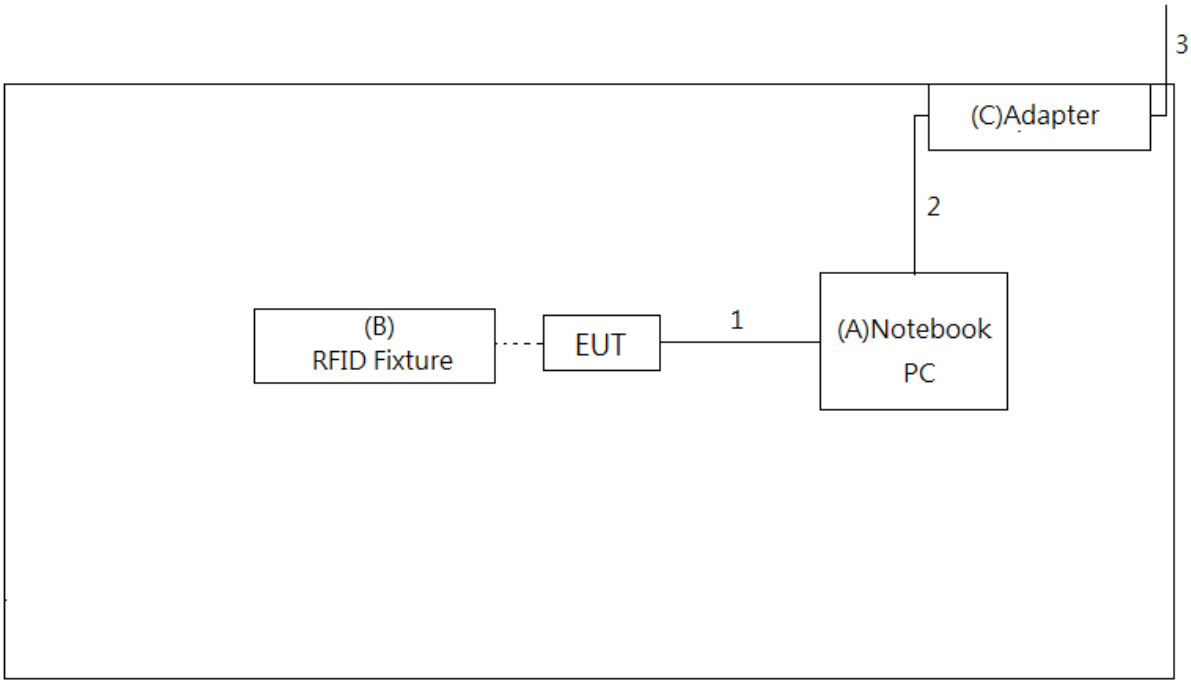
Radiated emission test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

Frequency Stability test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

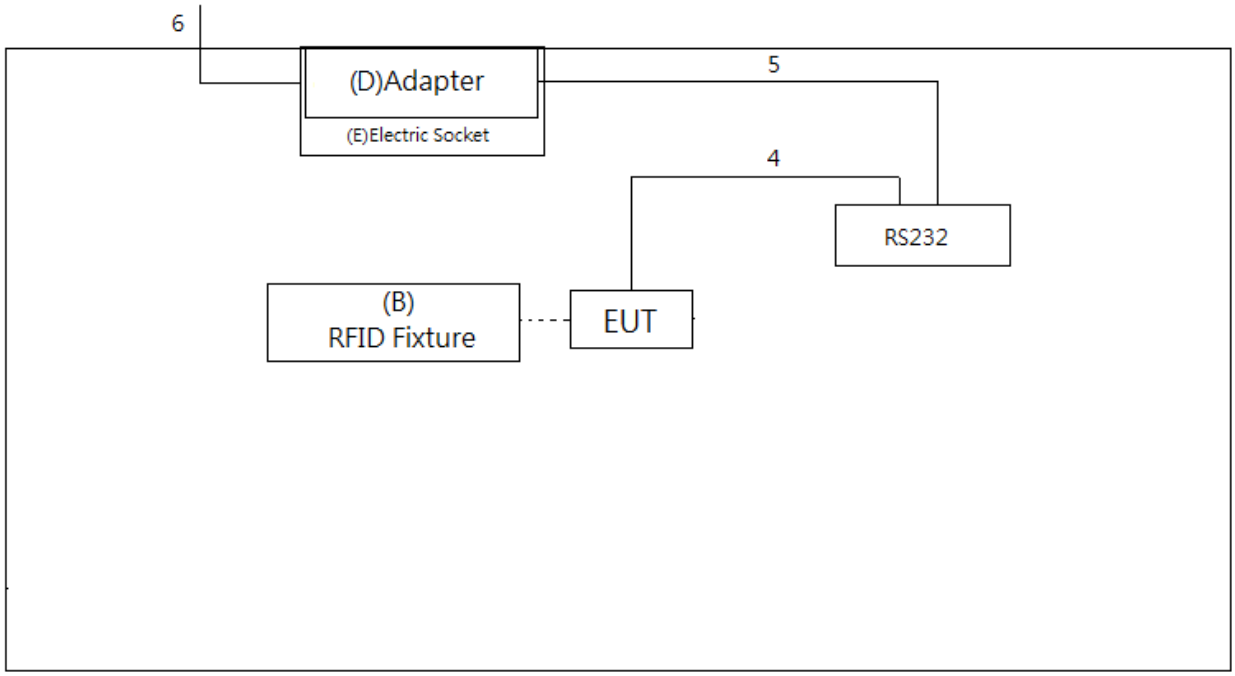
Antenna Requirement test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Model: MP90AH /MP90AU



Model: MP90AR//MP90AL



Note: MP90AL is fixture for setup so that it was not connected to PC.

3.4 DESCRIPTION OF SUPPORT UNITS

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

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
A	Notebook PC	Acer	Z8C	DOC	NXVAJTA0015520042C7600
B	RFID Fixture	N/A	N/A	N/A	N/A
C	Adapter	Acer	PA-1450-26	DOC	KP0450300254408652PE03
D	Adapte	JENTEC TECHNOLOGY	CF 1205-B	DOC	A1R01134106532
E	Electric Socket	N/A	N/A	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	0.035m	USB Cable
2	NO	NO	1.5m	Power Cable
3	NO	NO	1.8m	Power Core
4	NO	NO	0.035m	Data Cable(RS232)
5	NO	YES	1.5m	Power Cable
6	NO	NO	1.8m	Power Core

Note:

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

4 CONDUCTED EMISSION

4.1 LIMITS

FREQUENCY (MHz)	(dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56 *	56 - 46 *
0.50 - 5.0	56.00	46.00
5.0 - 30.0	60.00	50.00

NOTE:

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

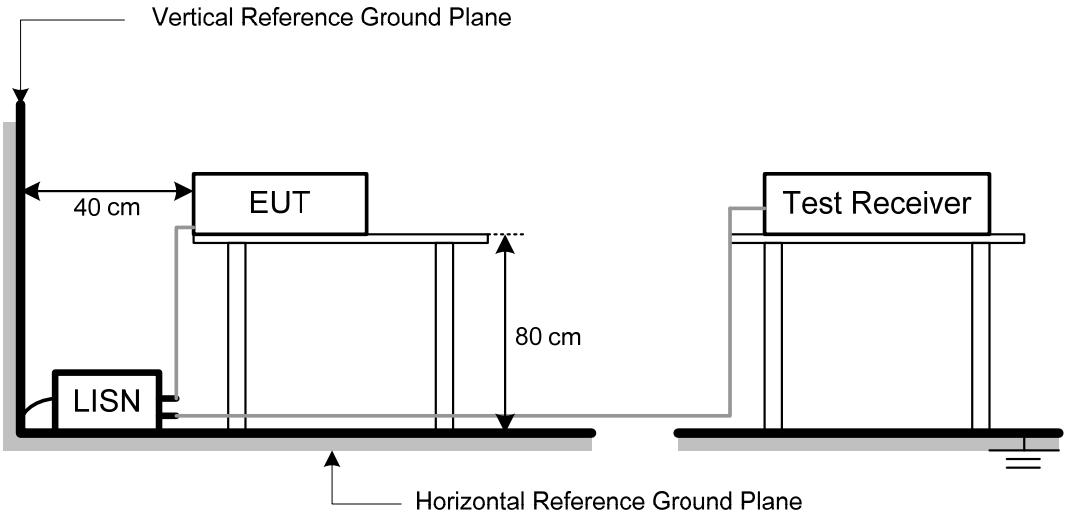
4.2 TEST PROCEDURES

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

NOTE:

a. Reading in which marked as Peak, QP or AVG means measurements by using are Quasi-Peak or Average Mode with Detector BW=9 kHz (6 dB Bandwidth).
b. All readings are Peak Mode value unless otherwise stated QP or AVG in column of Note. If the Peak or QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only Peak or QP Mode was measured, but AVG Mode didn‘t perform.

4.3 TEST SETUP LAYOUT



4.4 DEVIATION FROM TEST STANDARD

No deviation

4.5 EUT OPERATING CONDITIONS

The EUT used during radiated and/or conducted emission measurement was designed to exercise in a manner similar to a typical use.

4.6 EUT TEST CONDITIONS

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

4.7 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.

5 RADIATED EMISSION

5.1 LIMITS

FCC Part 15.209				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	2400 / F(KHz)	300m	10000 * 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 – 1.705	24000 / F(KHz)	30m	100 * 24000/F(KHz)	20log 24000/F(KHz) + 40
1.705 – 30.00	30	30m	100* 30	20log 30 + 40
30.0 – 88.0	100	3m	100	20log 100
88.0 – 216.0	150	3m	150	20log 150
216.0 – 960.0	200	3m	200	20log 200
Above 960.0	500	3m	500	20log 500
FCC Part 15.225(a)/(b)/(c)				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
13.553 – 13.567	15,848	30 m	15,848*100	124
13.567 – 13.710	334	30 m	334*100	90.5
13.110 – 13.410 13.710 – 14.010	106	30 m	106*100	80.5

NOTE:

(1) The tighter limit shall apply at the boundary between two frequency range.

(2) Limitation expressed in dBuV/m is calculated by 20log Emission Level (uV/m).

(3) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of $L_{d1} = L_{d2} * (d_2/d_1)^2$.
Example:
F.S Limit at 30m distance is 30uV/m , then F.S Limitation at 3m distance is adjusted as $L_{d1} = L_1 =$ 30uV/m * $(10)^2$ = 100 * 30 uV/m

(4) 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

5.2 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 height of the equipment or of the substitution antenna shall be 0.8 m or 1.5m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
c. The initial step in collecting 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.
d. 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)
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

NOTE: (FCC PART 15.209)

a. Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz.
b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform.

NOTE: (FCC PART 15.225)

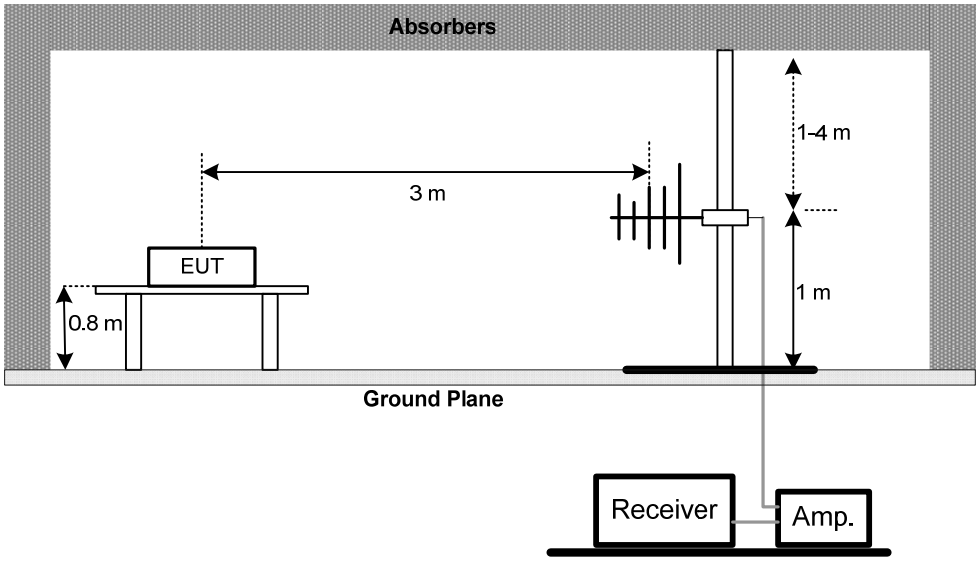
a. Spectrum Setting:
   9 KHz – 150 KHz, RBW= 200Hz, VBW=200Hz, Sweep time = 200 ms.
   150 K Hz – 30 MHz, RBW= 10 KHz, VBW=10 KHz, Sweep time = 200 ms.
   30 MHz – 1000 MHz, RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms.
b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform.
c. The Log-Bicon Antenna will use to test frequency range from 30MHz to 1000MHz and the Loop Antenna will use to test frequency below 30MHz.

5.3 DEVIATION FROM TEST STANDARD

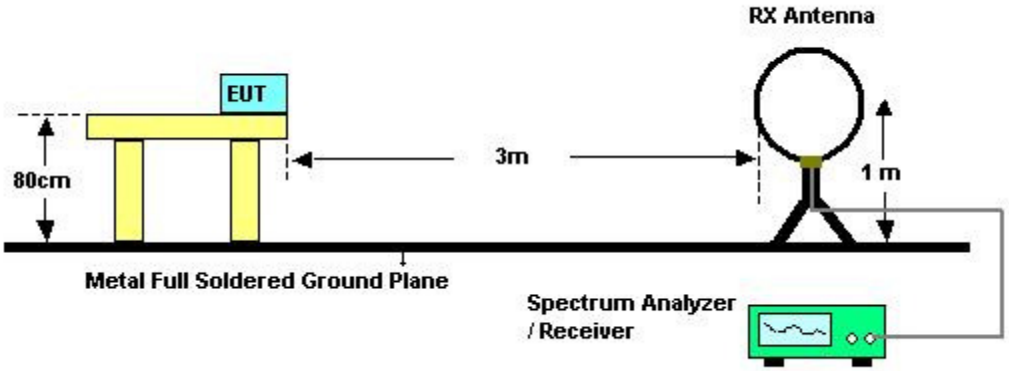
No deviation

5.4 TEST SETUP

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



(B) For radiated emissions below 30MHz



5.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.5** unless otherwise a special operating condition is specified in the follows during the testing.

5.6 EUT TEST CONDITIONS

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

5.7 TEST RESULTS (BELOW 30MHZ) - FCC PART 15.209

Please refer to the Attachment B.

5.8 TEST RESULTS - (30-1000MHZ) - FCC PART 15.209

Please refer to the Attachment C.

5.9 TEST RESULTS- FCC PART 15.225

Please refer to the Attachment D.

6 FREQUENCY STABILITY

6.1 LIMITS

FCC Part 15.225(e)
The frequency tolerance of the carrier signal shall be maintained within +/-0.01% of the operating frequency over a temperature variation of - 20 degrees to + 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

6.2 TEST PROCEDURE

a. The equipment under test was connected to an external AC power supply and the RF output was connected to a frequency counter via feed through attenuators. The EUT was placed inside the temperature chamber.
After the temperature stabilized for approximately 20 minutes, the frequency of the output signal was recorded from the counter.
b. At room temperature (25±5°C), an external variable AC power supply was connected to the EUT. The frequency of the transmitter was measured for 115%, 100% and 85% of the nominal operating input voltage.

6.3 DEVIATION FROM TEST STANDARD

No deviation

6.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.5.** unless otherwise a special operating condition is specified in the follows during the testing.

6.5 EUT TEST CONDITIONS

Temperature: 22°C
Relative Humidity: 66%
Test Voltage: AC 120V/60Hz

6.6 TEST RESULTS

Please refer to the Attachment E.

7. 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. 25, 2017
2	Test Cable	TIMES	CFD300-NL	C02	Jun. 14, 2016
3	EMI Test Receiver	R&S	ESR7	101433	Dec. 09, 2016
4	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	EXA Spectrum Analyzer	Agilent	N9038A	MY55420127	Jan. 07, 2017
2	Pre_Amplifier	HP	8447D	2944A08891	Mar. 08, 2017
3	Test Cable	EMCI	EMC8D-NM-NM-8000	150301	Mar. 08, 2017
4	Test Cable	EMCI	EMC8D-NM-NM-2500	150303	Mar. 08, 2017
5	Test Cable	EMCI	EMC8D-NM-NM-1000	150304	Mar. 08, 2017
6	Test Cable	EMCI	S104-SMAP-1	130503	Mar. 28, 2017
7	Trilog-Broadband Antenna	Schwarzbeck	VULB9168	9168-364	Feb. 03. 2017
8	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0624	Feb. 03. 2017
9	Loop Antenna	EMCO	6502	00042960	Nov. 15, 2016
10	Measurement Software	EZ	EZ_EMC (Version NB-03A)	N/A	N/A

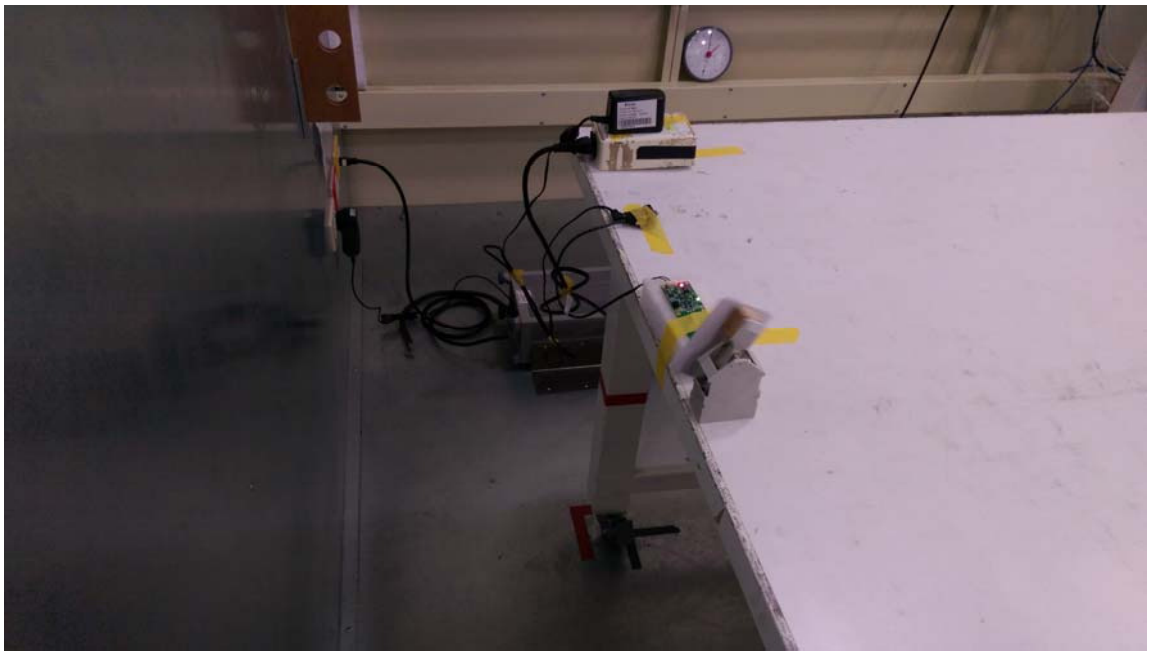
Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Jan. 17, 2017

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

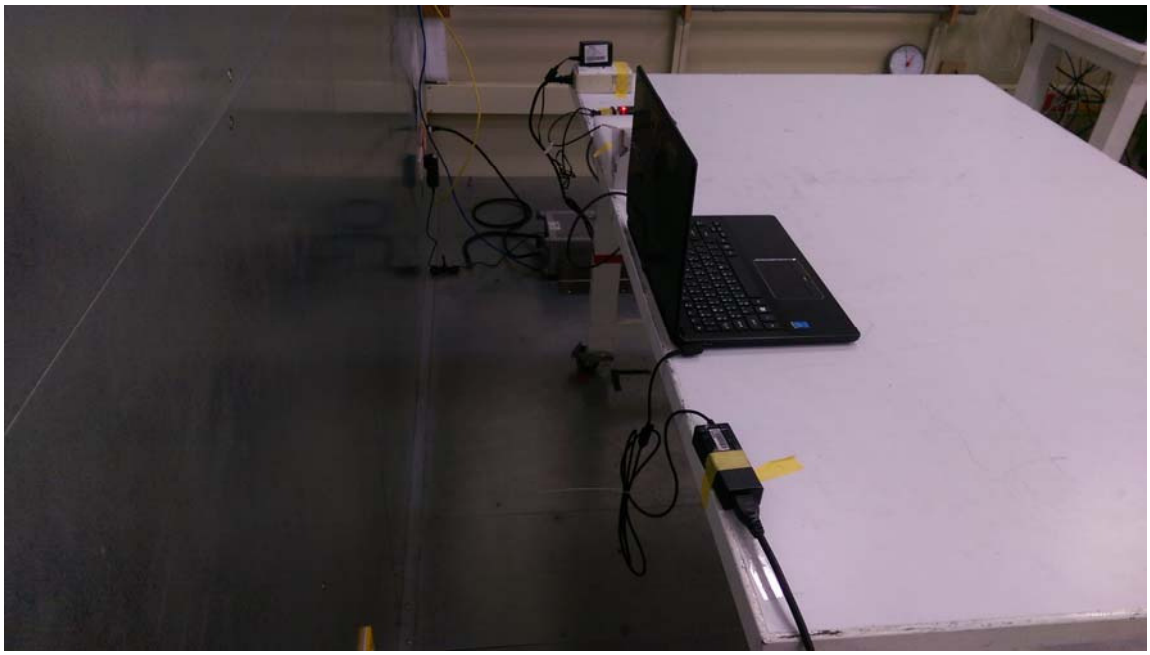
8 EUT TEST PHOTO

Conducted emission test photos

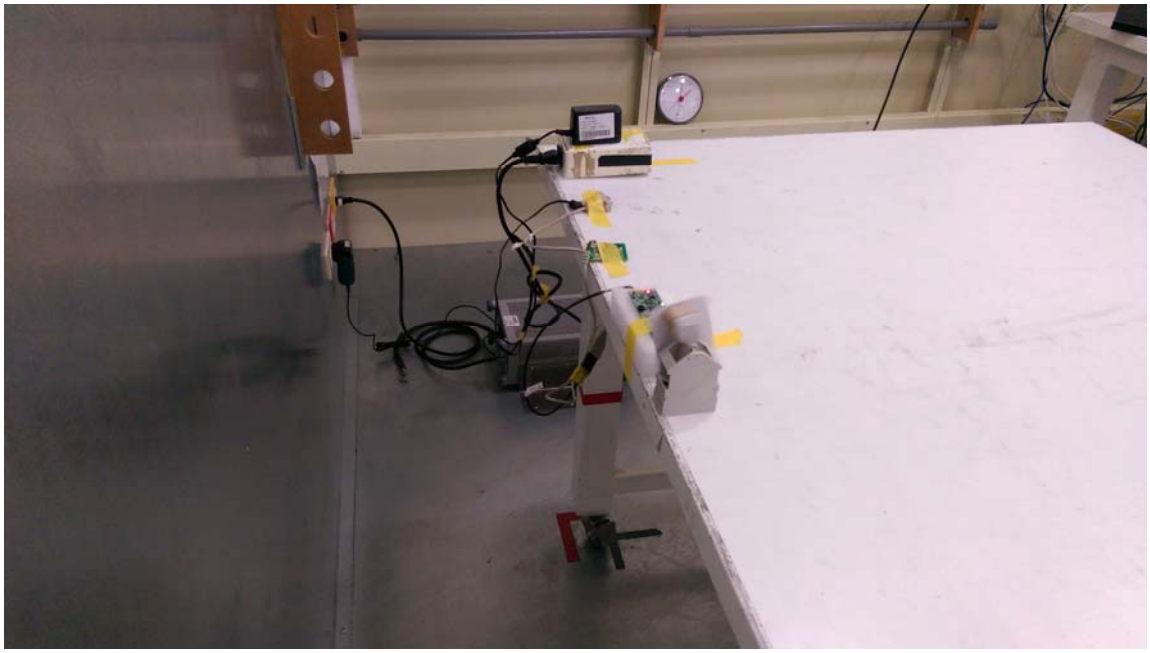
MP90AR



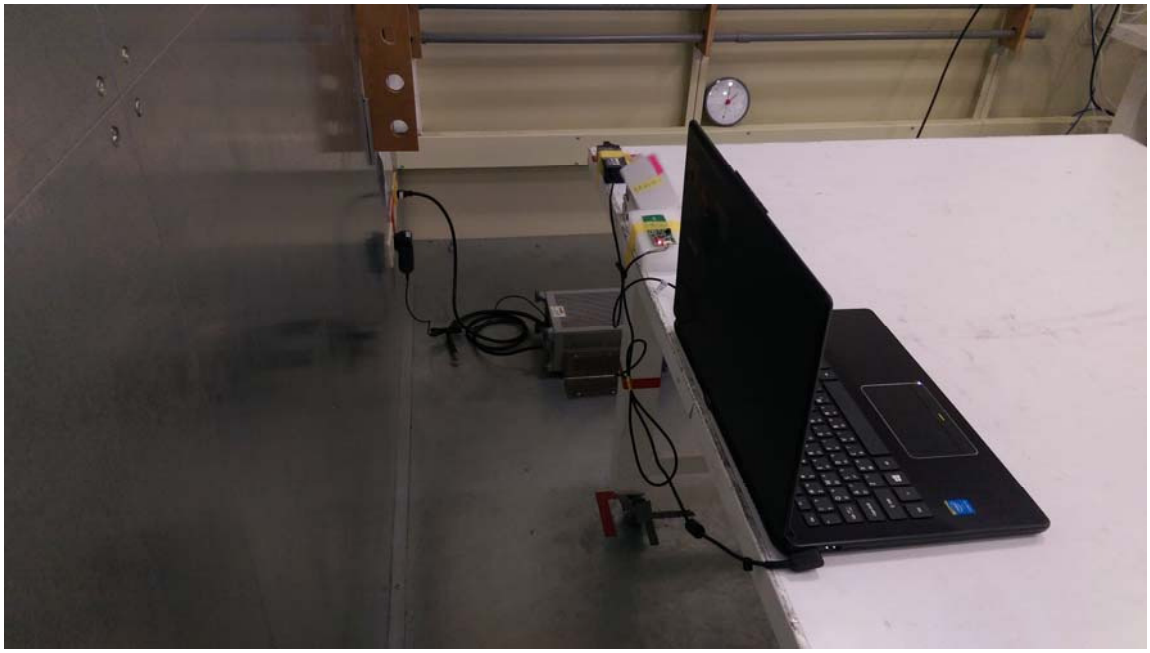
MP90AR



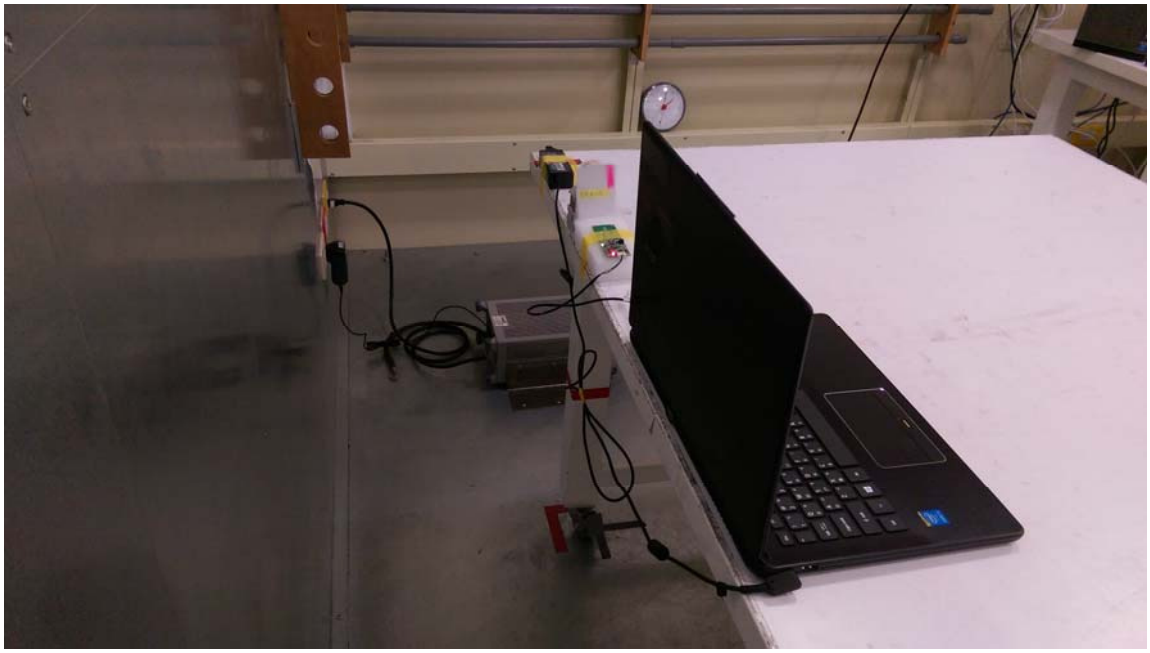
MP90AL



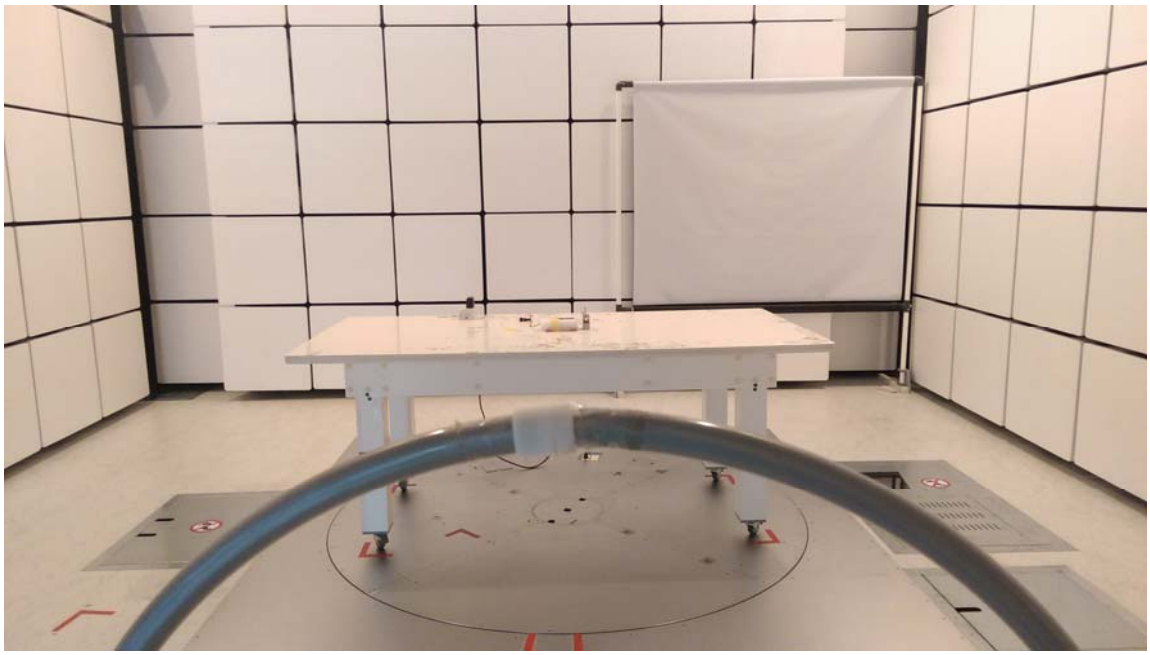
MP90AU

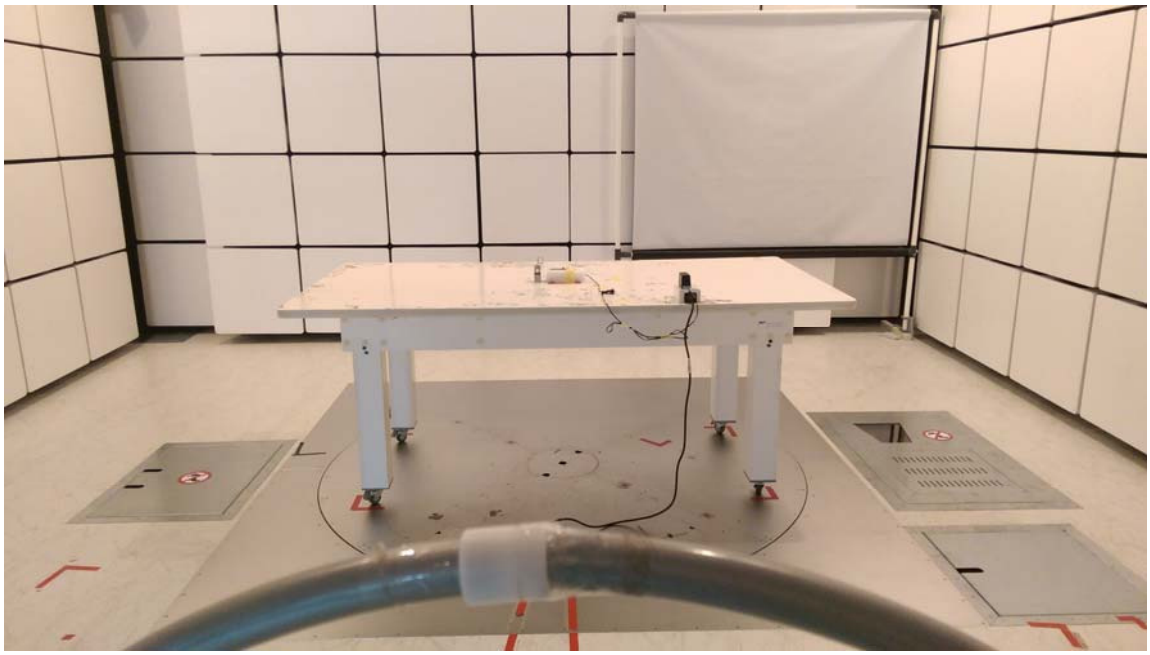


MP90AH

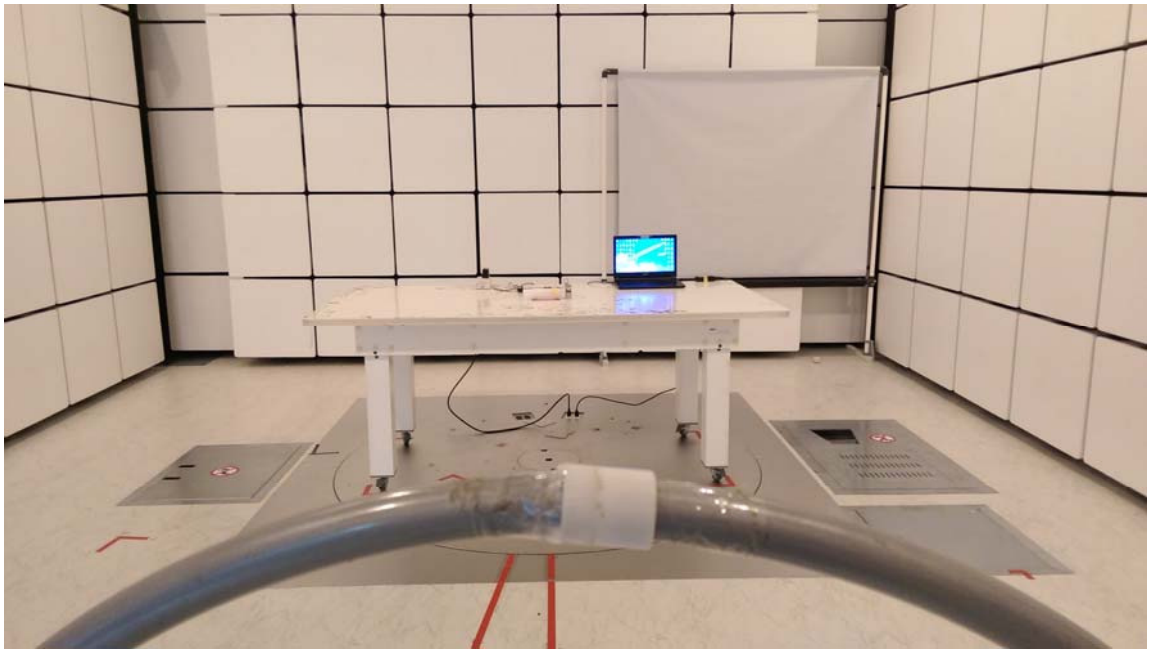


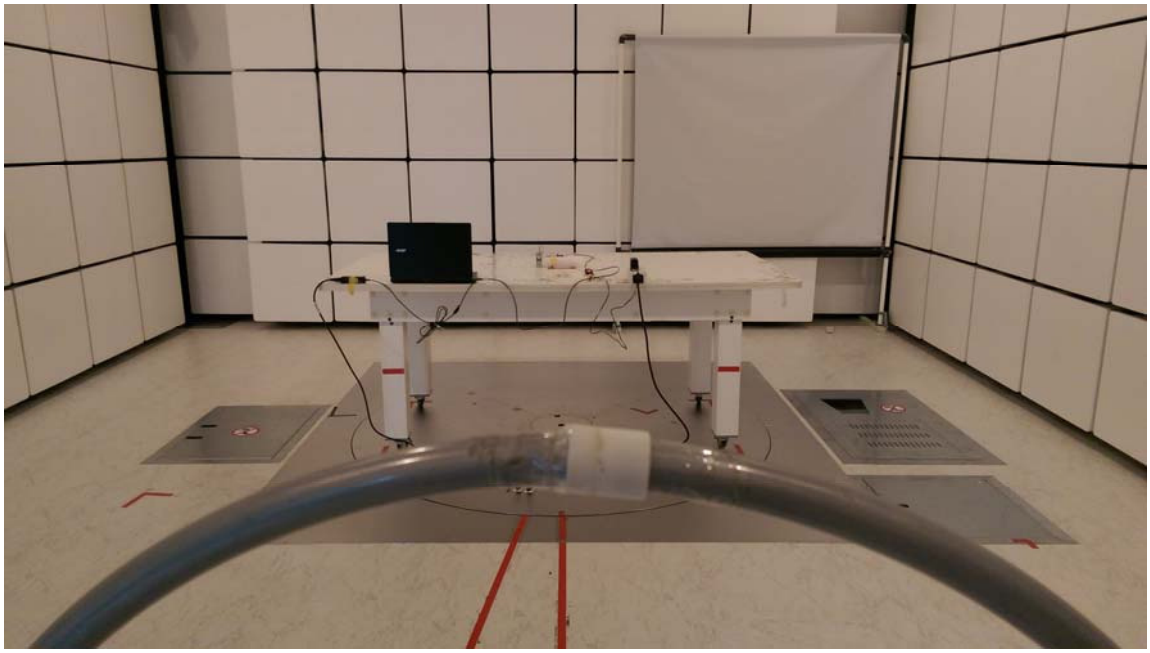
Radiated emission test photos
9KHz to 30MHz
MP90AR



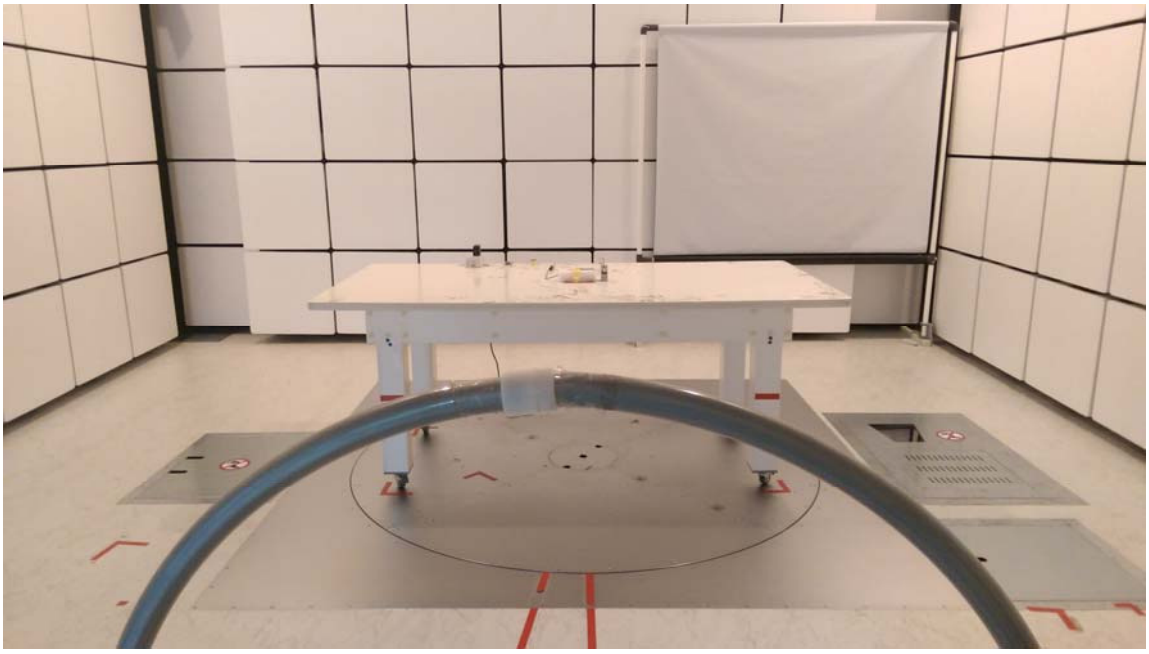


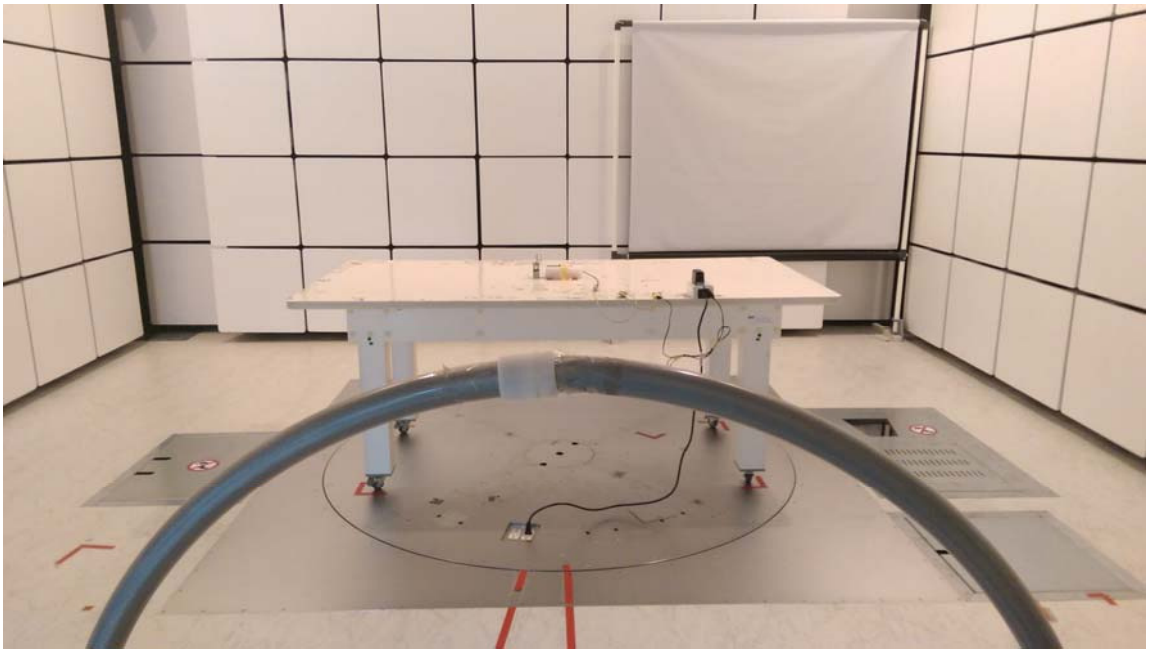
MP90AR





MP90AL





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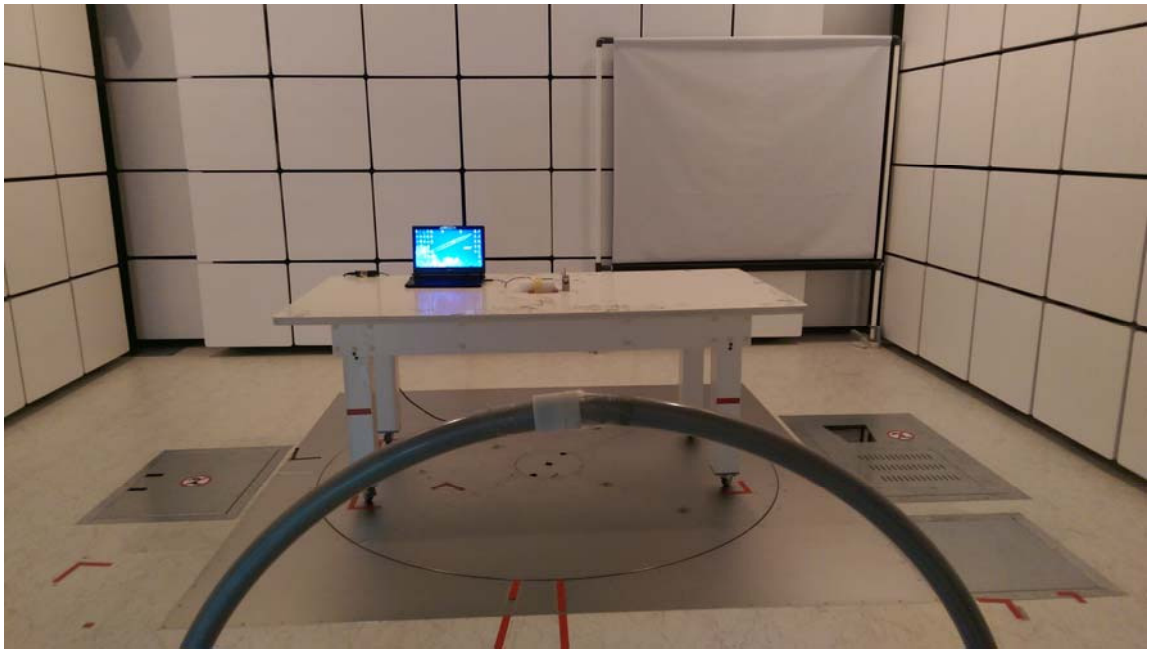
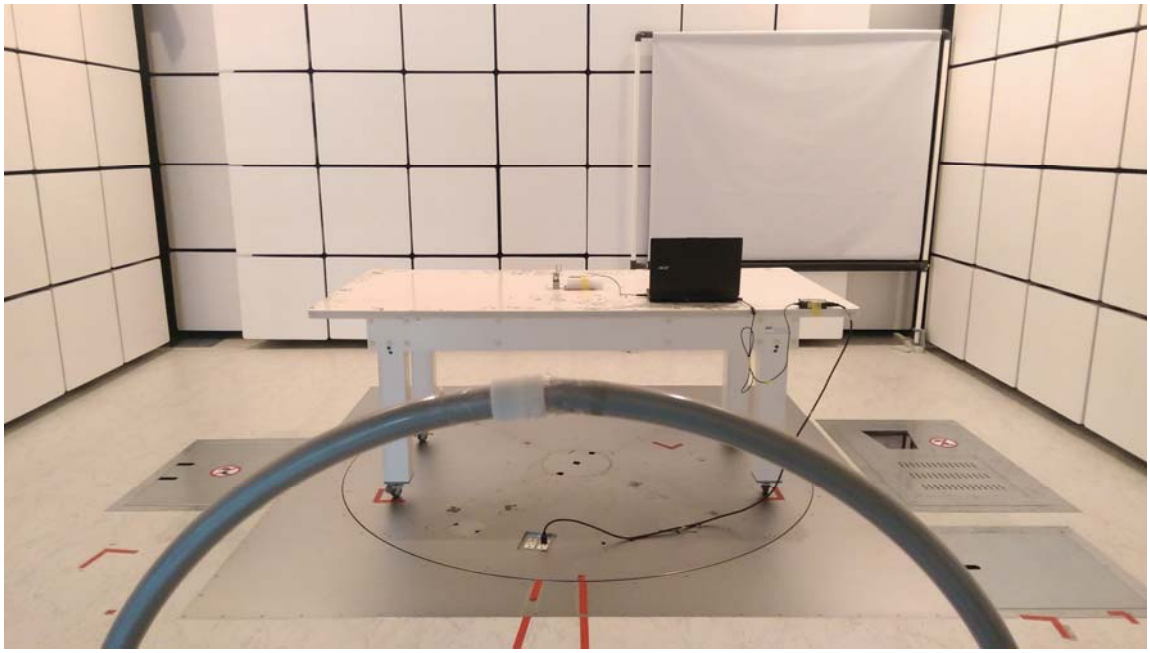
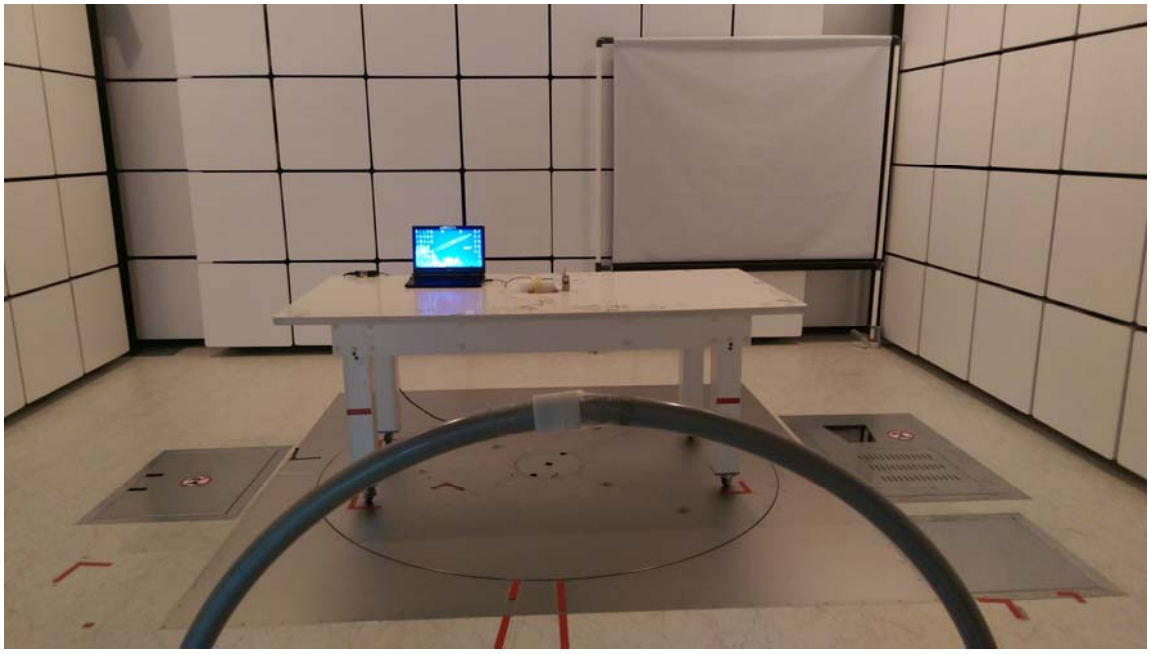
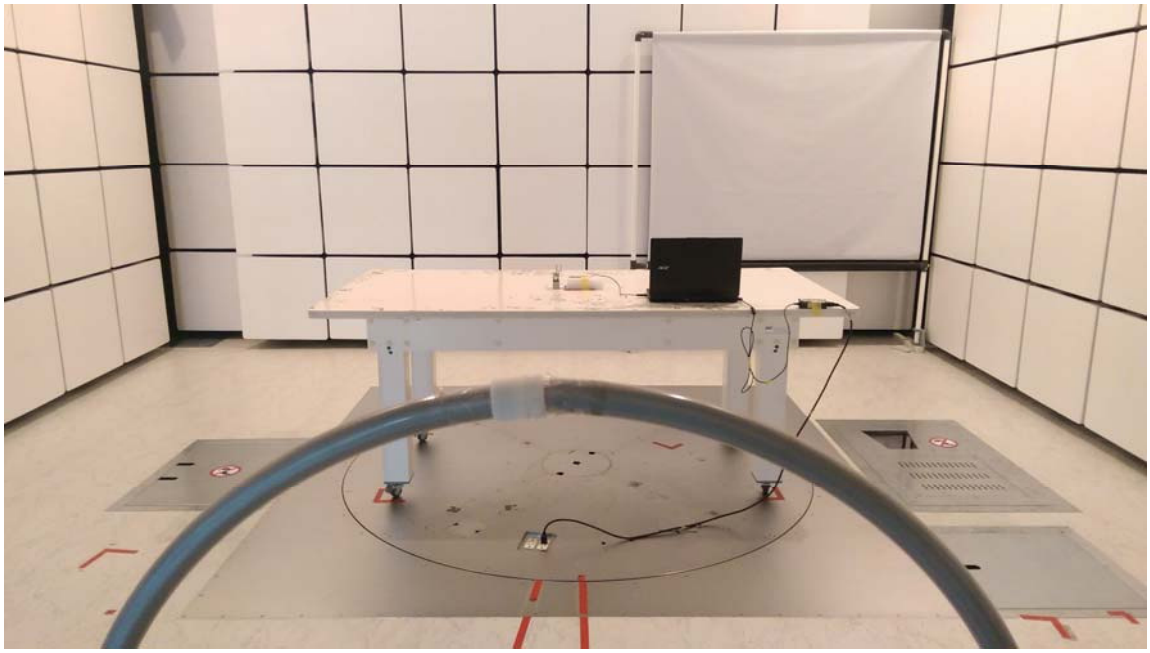


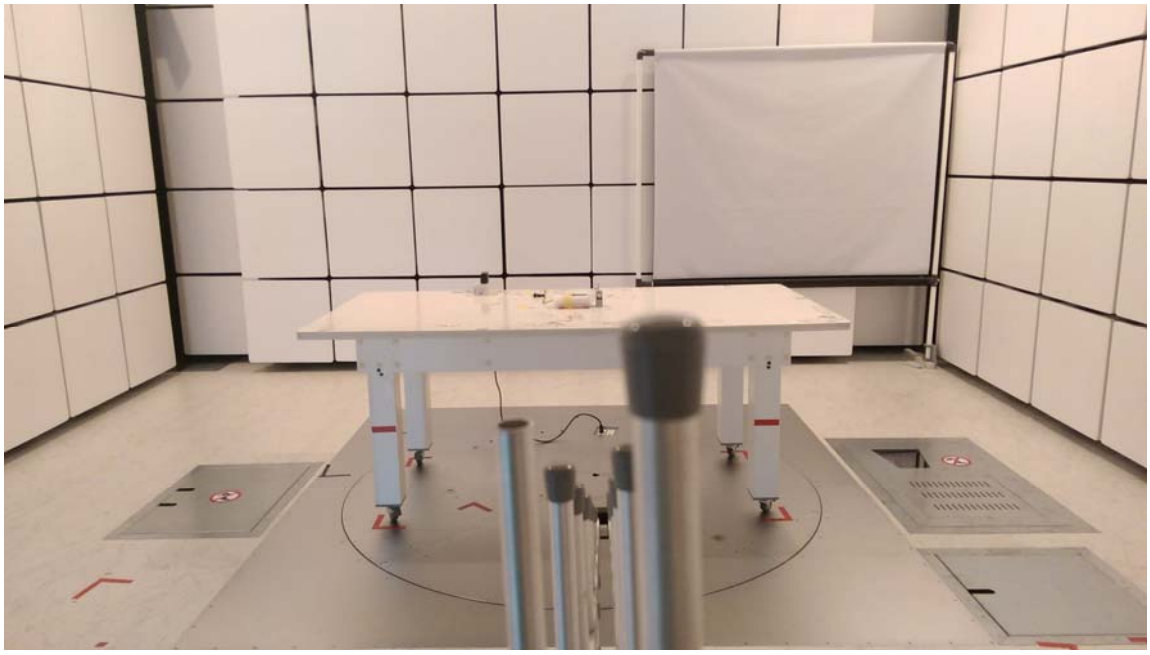


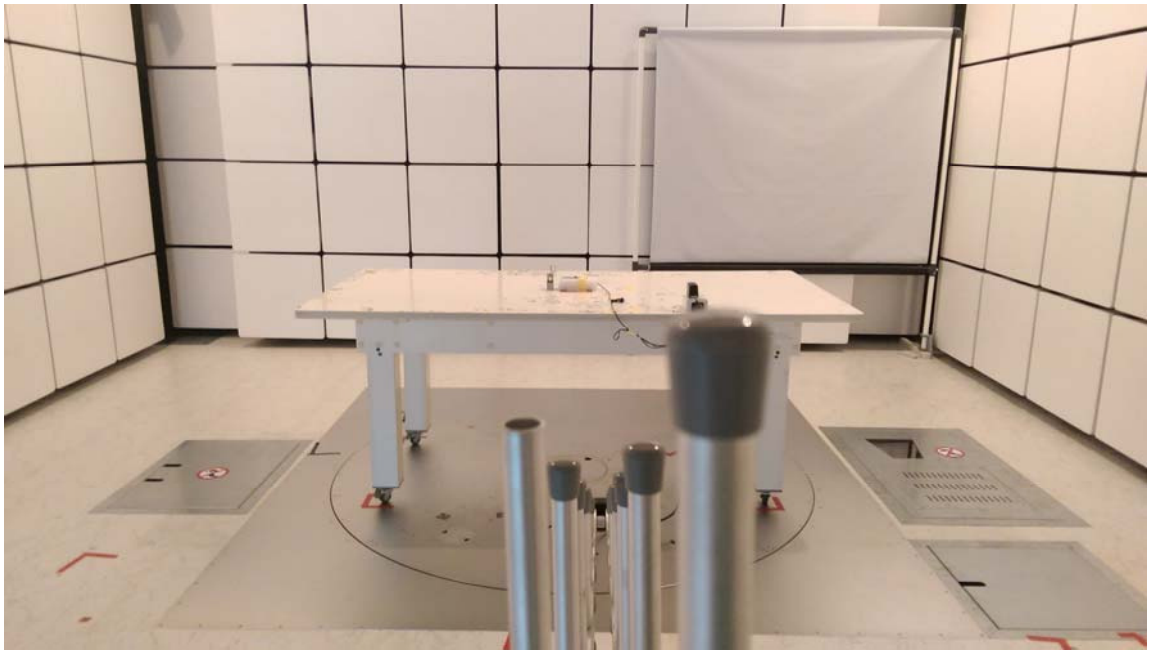
MP90AH



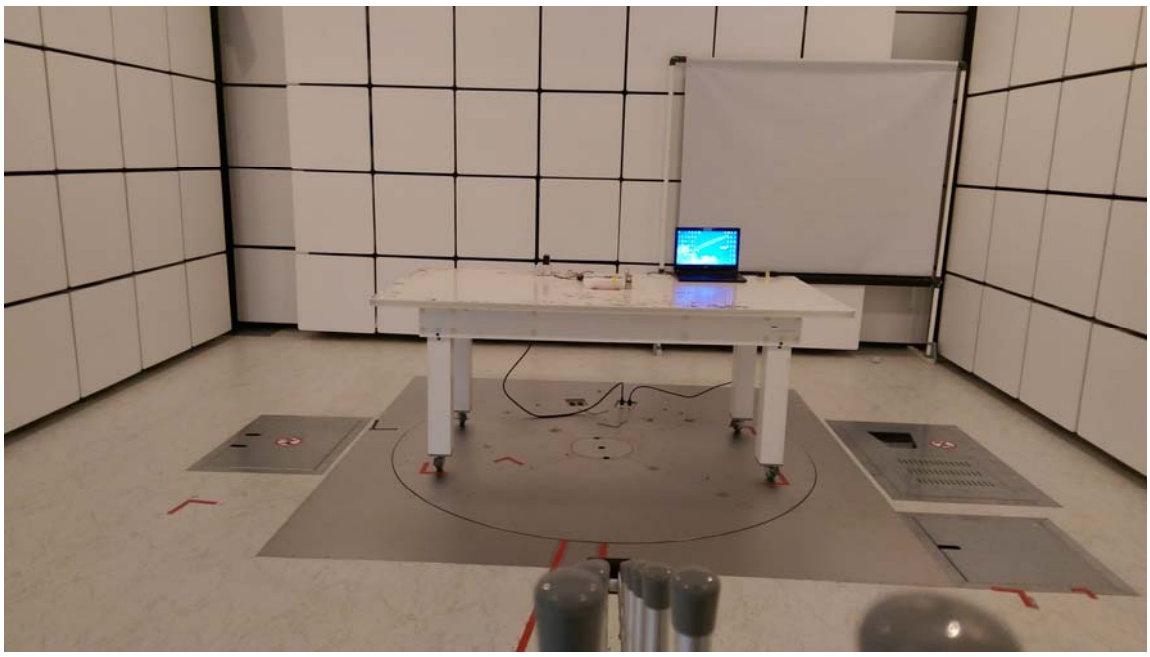


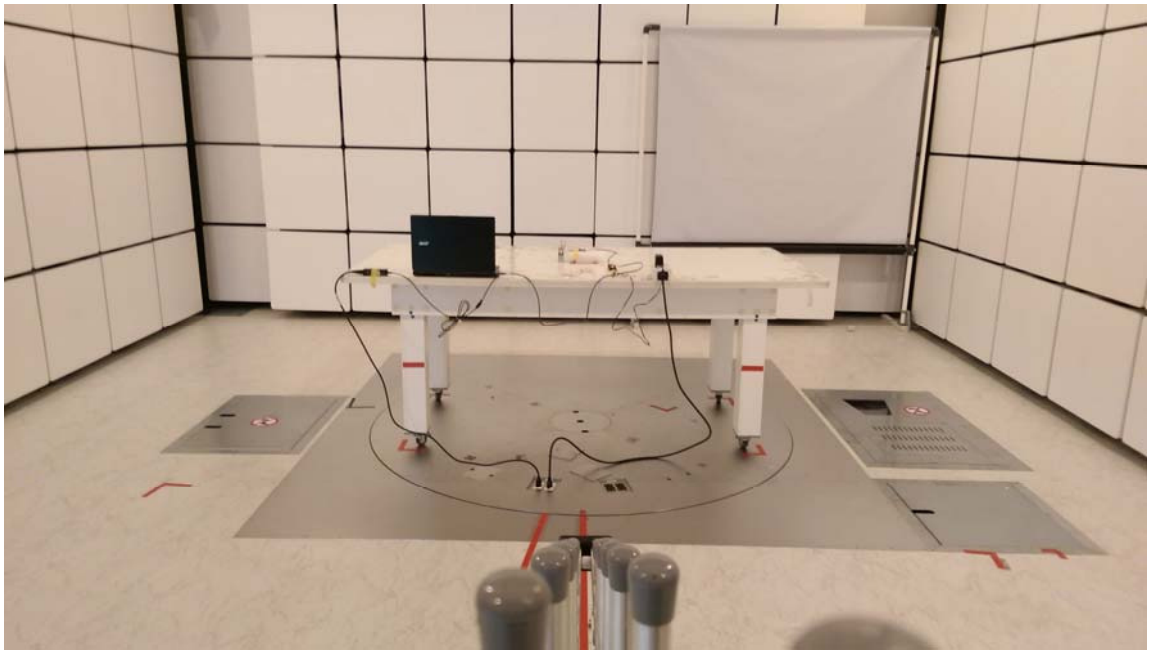
Radiated emission test photos
30MHz to 1000MHz
MP90AR



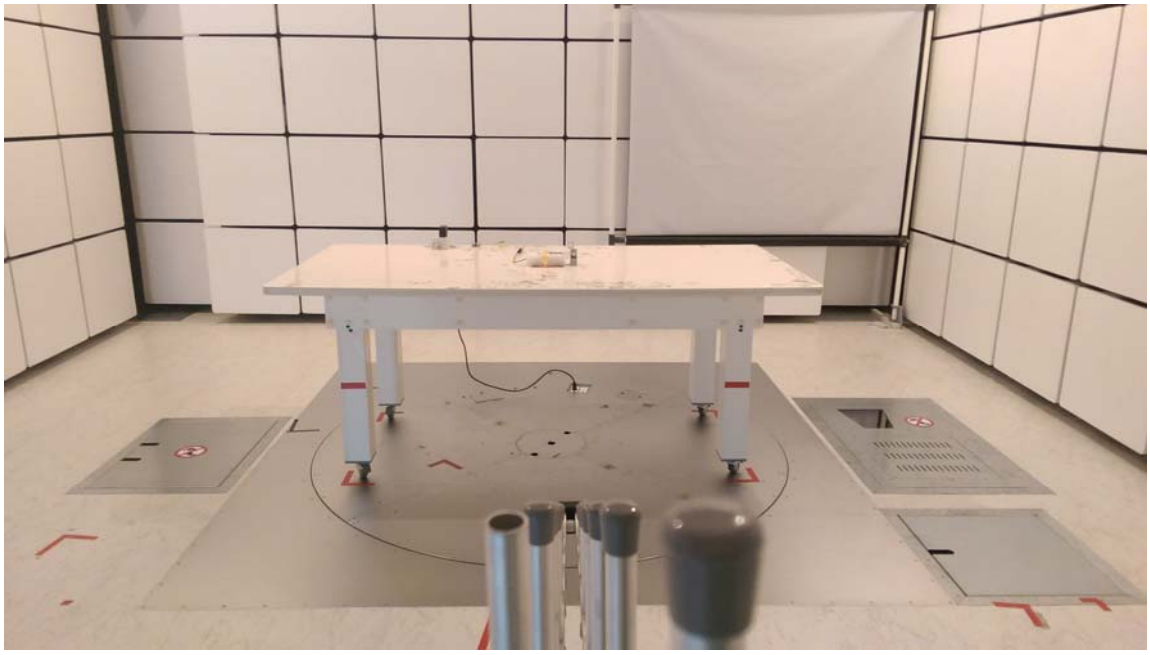


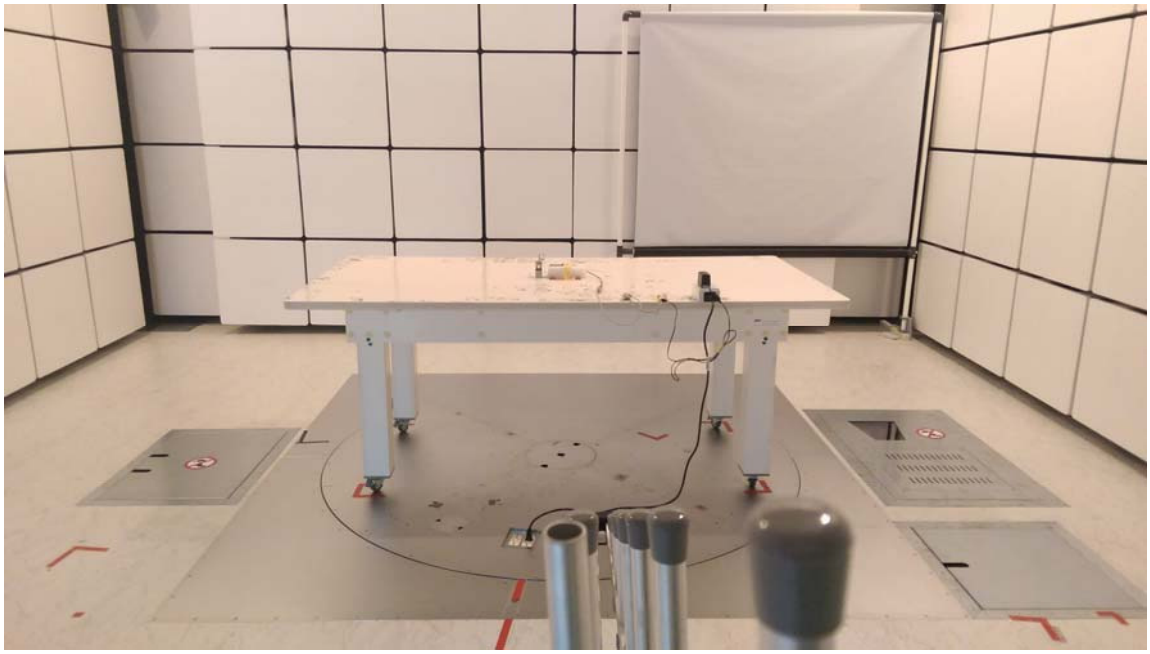
MP90AR



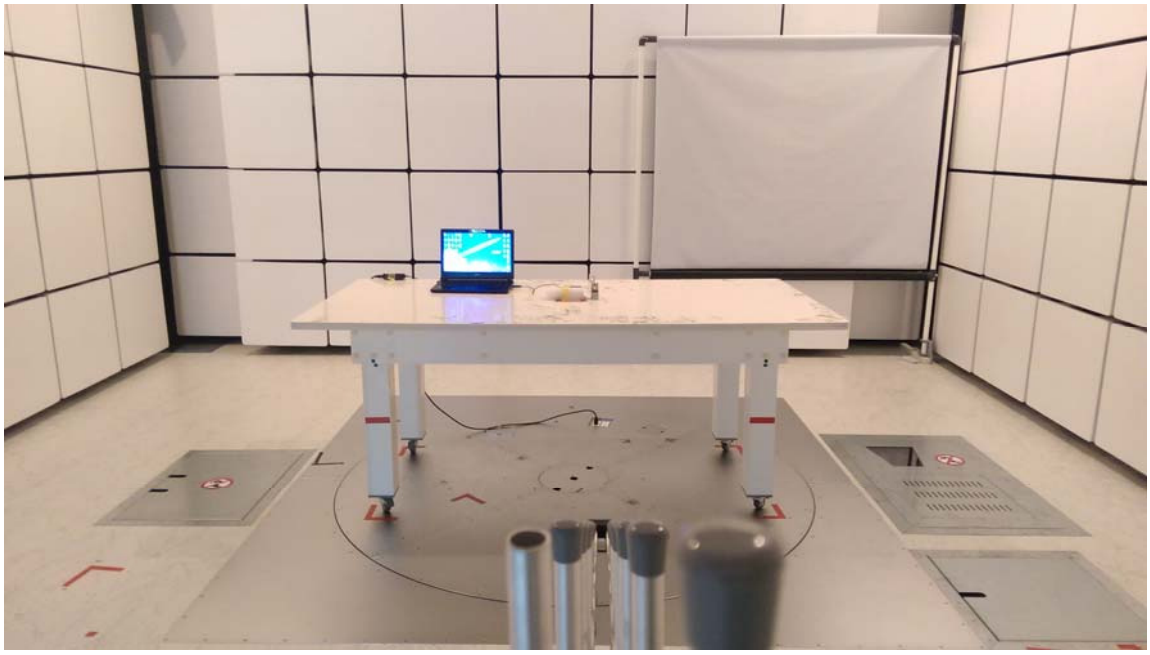


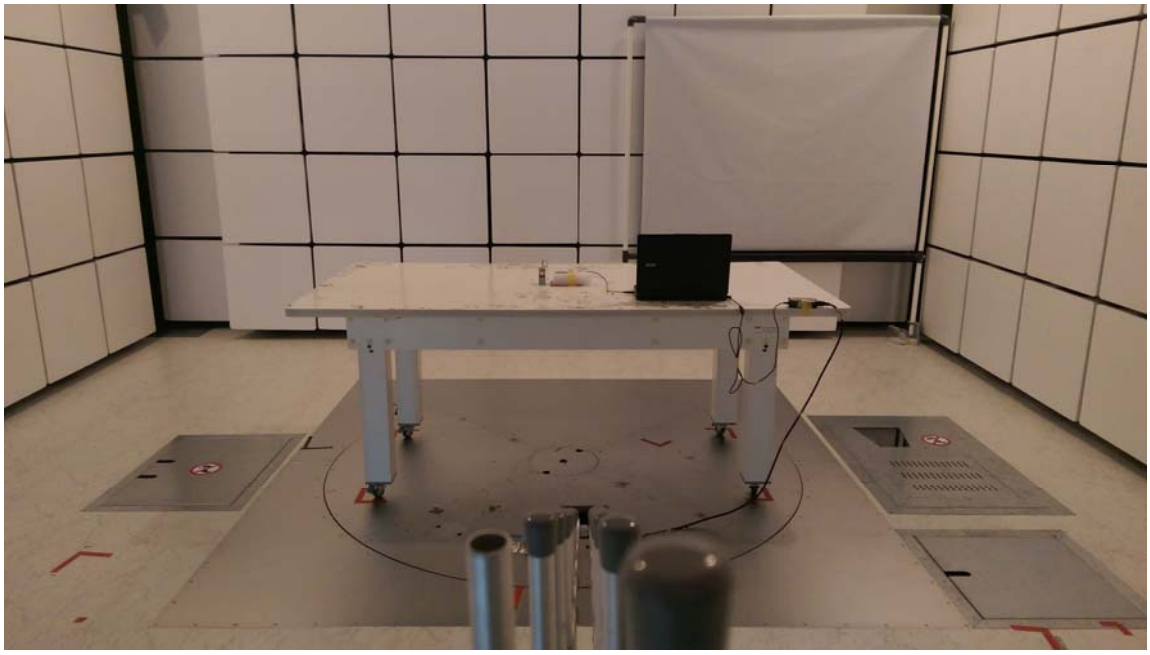
MP90AL



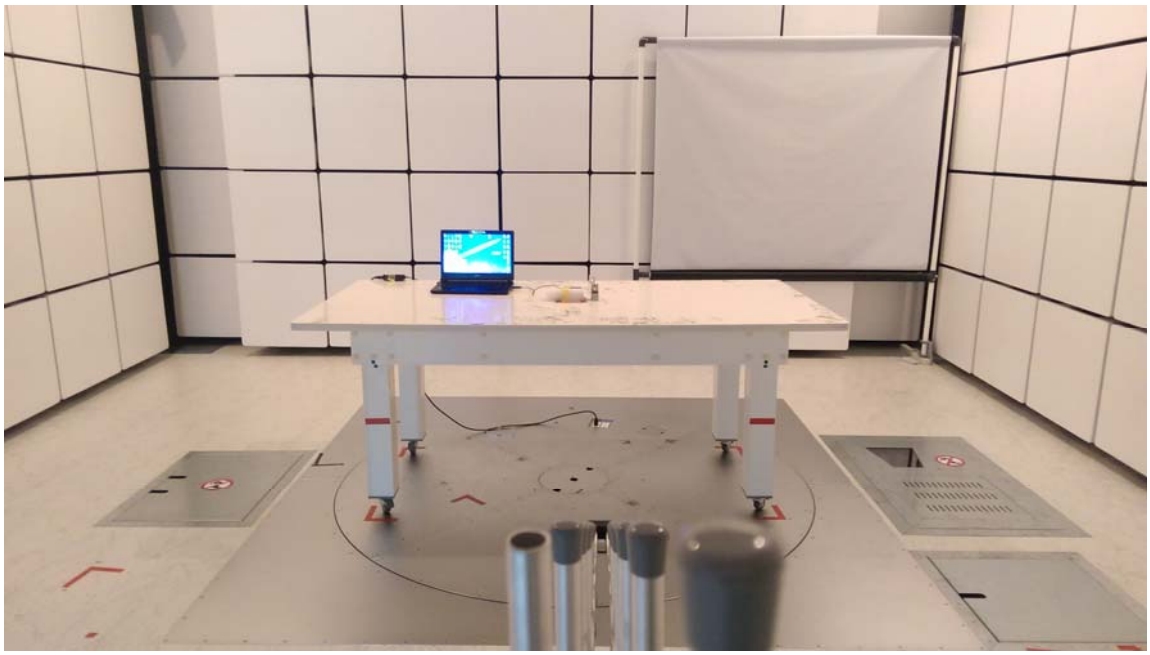


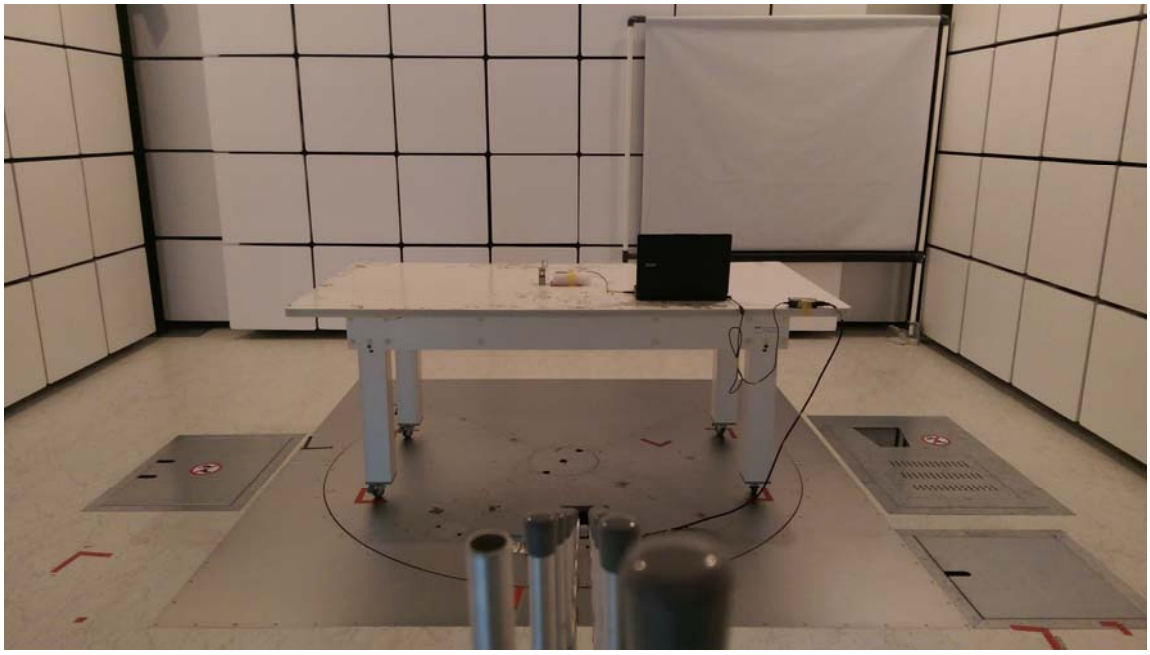
MP90AU





MP90AH

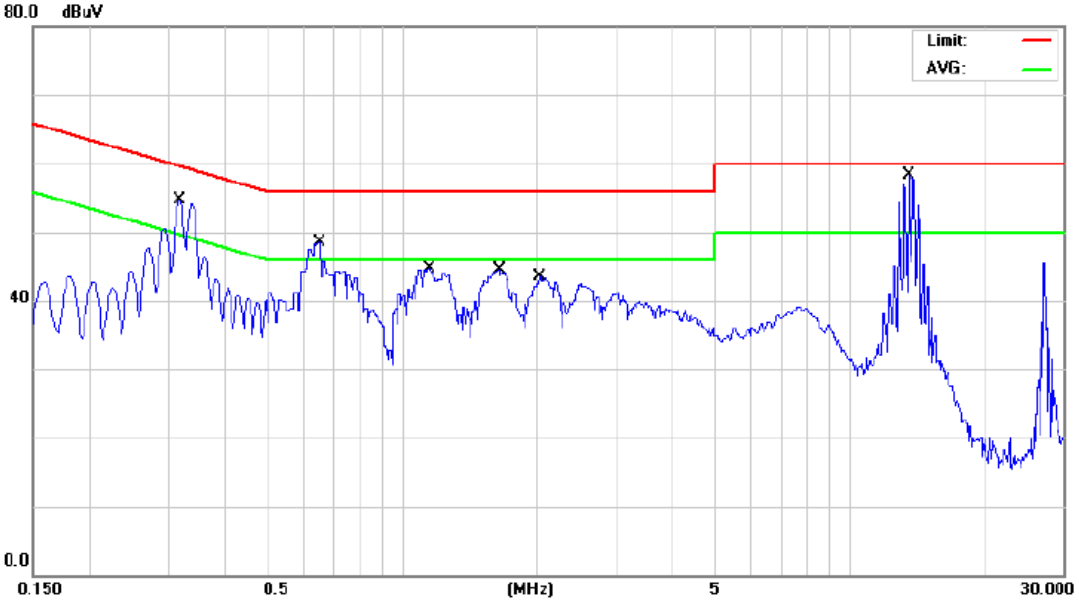




ATTACHMENT A - CONDUCTED EMISSION

Test Mode :	13.56MHz Transmit_MP90AR

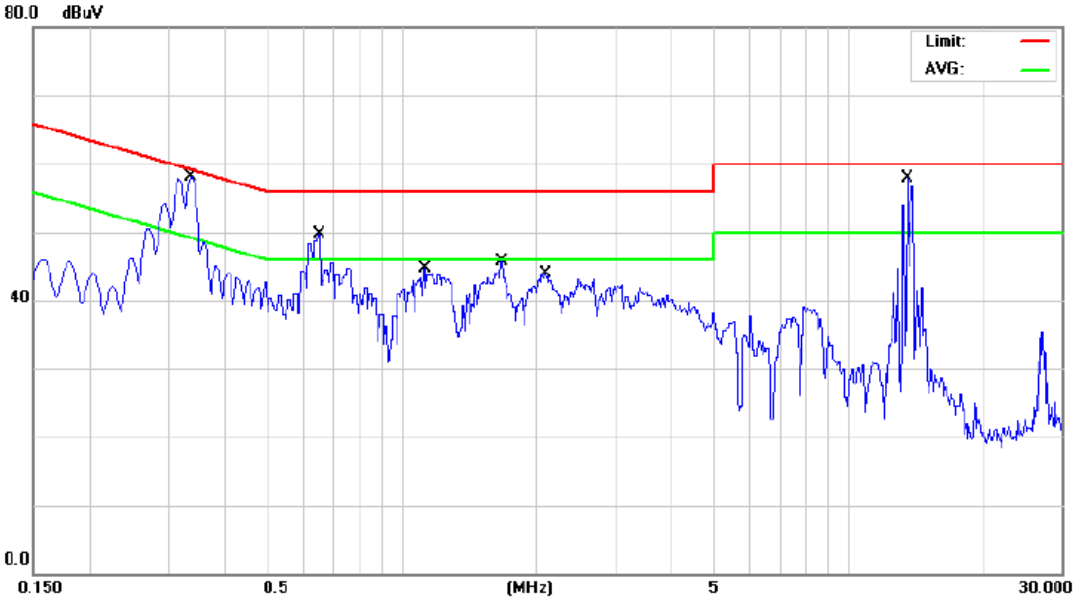
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3173	42.00	9.68	51.68	59.78	-8.10	QP	
2	*	0.3173	38.10	9.68	47.78	49.78	-2.00	AVG	
3		0.6530	38.00	9.70	47.70	56.00	-8.30	QP	
4		0.6530	29.80	9.70	39.50	46.00	-6.50	AVG	
5		1.1480	32.80	9.72	42.52	56.00	-13.48	QP	
6		1.1480	24.00	9.72	33.72	46.00	-12.28	AVG	
7		1.6430	32.60	9.75	42.35	56.00	-13.65	QP	
8		1.6430	25.40	9.75	35.15	46.00	-10.85	AVG	
9		2.0210	32.30	9.77	42.07	56.00	-13.93	QP	
10		2.0210	24.20	9.77	33.97	46.00	-12.03	AVG	
11		13.5500	47.90	9.89	57.79	60.00	-2.21	QP	
12		13.5500	37.50	9.89	47.39	50.00	-2.61	AVG	

Test Mode :	13.56MHz Transmit_MP90AR

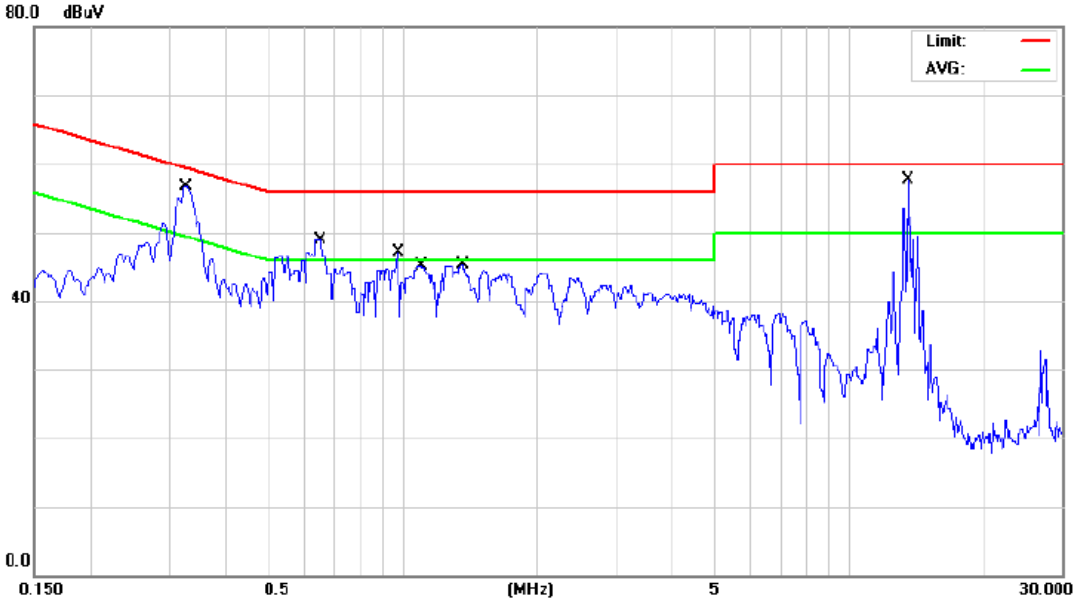
Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3369	44.30	9.68	53.98	59.28	-5.30	QP	
2		0.3369	36.50	9.68	46.18	49.28	-3.10	AVG	
3		0.6530	34.30	9.70	44.00	56.00	-12.00	QP	
4		0.6530	25.40	9.70	35.10	46.00	-10.90	AVG	
5		1.1210	32.40	9.73	42.13	56.00	-13.87	QP	
6		1.1210	23.00	9.73	32.73	46.00	-13.27	AVG	
7		1.6700	31.60	9.76	41.36	56.00	-14.64	QP	
8		1.6700	22.30	9.76	32.06	46.00	-13.94	AVG	
9		2.0930	30.70	9.78	40.48	56.00	-15.52	QP	
10		2.0930	16.10	9.78	25.88	46.00	-20.12	AVG	
11	*	13.5500	47.40	9.89	57.29	60.00	-2.71	QP	
12		13.5500	37.40	9.89	47.29	50.00	-2.71	AVG	

Test Mode :	13.56MHz Transmit_MP90AL

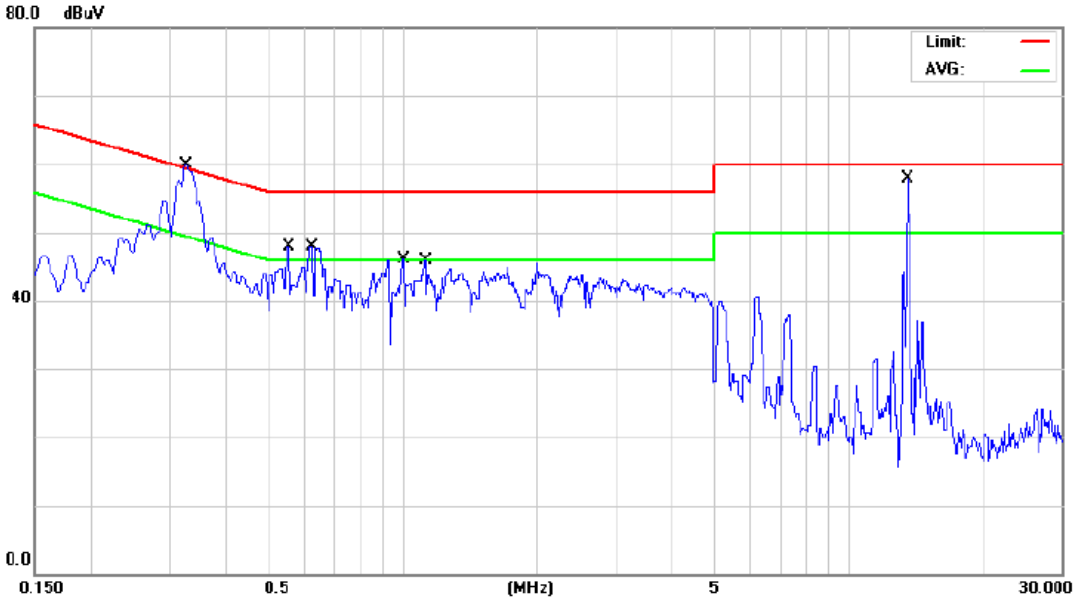
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3264	42.70	9.68	52.38	59.54	-7.16	QP	
2		0.3264	37.10	9.68	46.78	49.54	-2.76	AVG	
3		0.6530	37.50	9.70	47.20	56.00	-8.80	QP	
4		0.6530	28.40	9.70	38.10	46.00	-7.90	AVG	
5		0.9770	33.90	9.71	43.61	56.00	-12.39	QP	
6		0.9770	25.90	9.71	35.61	46.00	-10.39	AVG	
7		1.0940	31.50	9.71	41.21	56.00	-14.79	QP	
8		1.0940	22.90	9.71	32.61	46.00	-13.39	AVG	
9		1.3550	28.30	9.73	38.03	56.00	-17.97	QP	
10		1.3550	16.80	9.73	26.53	46.00	-19.47	AVG	
11		13.5500	47.20	9.89	57.09	60.00	-2.91	QP	
12	*	13.5500	37.60	9.89	47.49	50.00	-2.51	AVG	

Test Mode :	13.56MHz Transmit_MP90AL

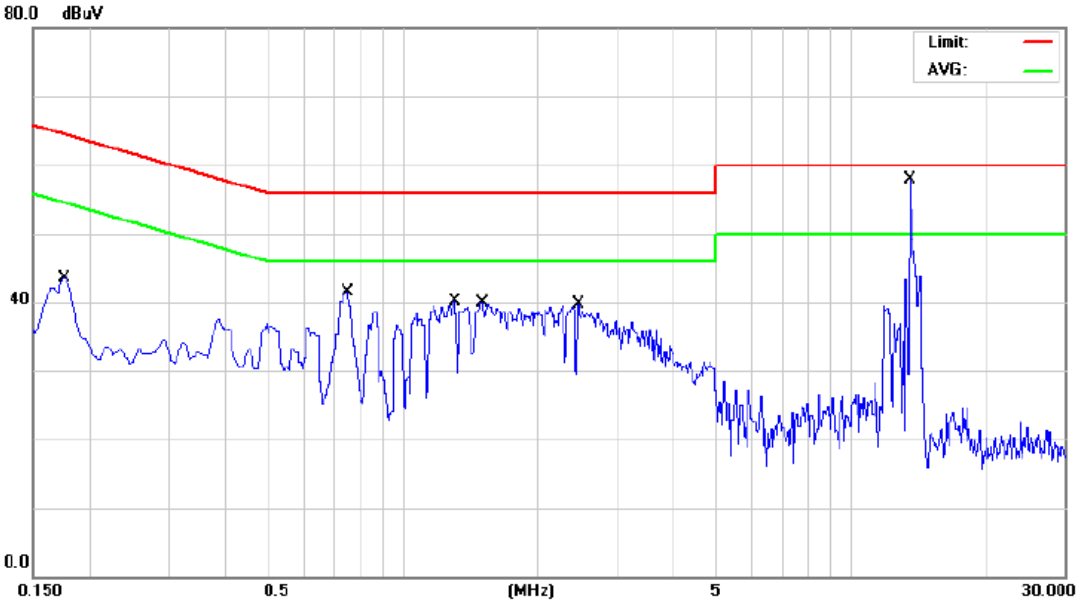
Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3257	44.80	9.68	54.48	59.56	-5.08	QP	
2		0.3257	37.20	9.68	46.88	49.56	-2.68	AVG	
3		0.5540	33.60	9.69	43.29	56.00	-12.71	QP	
4		0.5540	25.50	9.69	35.19	46.00	-10.81	AVG	
5		0.6260	33.51	9.69	43.20	56.00	-12.80	QP	
6		0.6260	25.31	9.69	35.00	46.00	-11.00	AVG	
7		1.0040	31.00	9.72	40.72	56.00	-15.28	QP	
8		1.0040	21.80	9.72	31.52	46.00	-14.48	AVG	
9		1.1210	32.60	9.73	42.33	56.00	-13.67	QP	
10		1.1210	23.40	9.73	33.13	46.00	-12.87	AVG	
11		13.5500	47.40	9.89	57.29	60.00	-2.71	QP	
12	*	13.5500	37.60	9.89	47.49	50.00	-2.51	AVG	

Test Mode :	13.56MHz Transmit_MP90AU

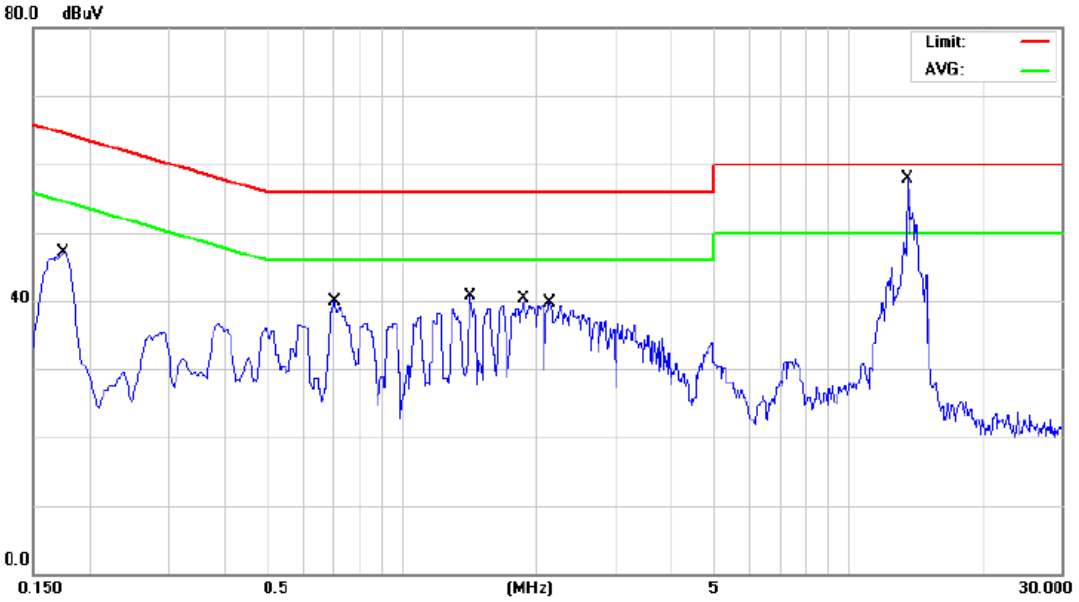
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1751	37.30	9.68	46.98	64.71	-17.73	QP	
2		0.1751	32.50	9.68	42.18	54.71	-12.53	AVG	
3		0.7520	25.50	9.70	35.20	56.00	-20.80	QP	
4		0.7520	18.40	9.70	28.10	46.00	-17.90	AVG	
5		1.3010	25.10	9.73	34.83	56.00	-21.17	QP	
6		1.3010	16.20	9.73	25.93	46.00	-20.07	AVG	
7		1.4990	25.30	9.73	35.03	56.00	-20.97	QP	
8		1.4990	15.60	9.73	25.33	46.00	-20.67	AVG	
9		2.4530	25.10	9.79	34.89	56.00	-21.11	QP	
10		2.4530	17.00	9.79	26.79	46.00	-19.21	AVG	
11		13.5500	47.20	9.89	57.09	60.00	-2.91	QP	
12	*	13.5500	38.10	9.89	47.99	50.00	-2.01	AVG	

Test Mode :	13.56MHz Transmit_MP90AU

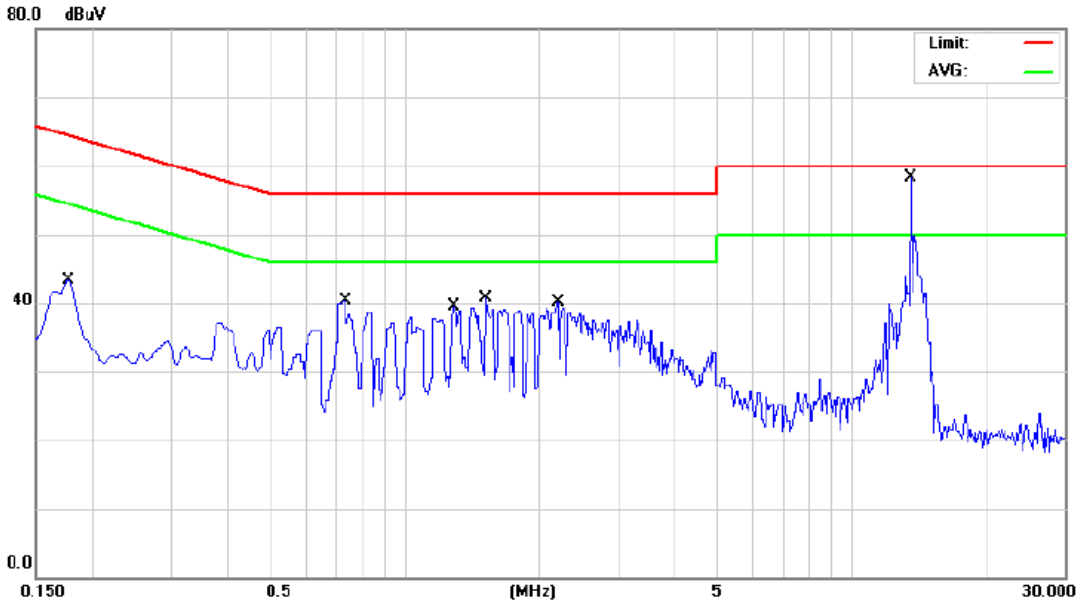
Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1745	35.80	9.69	45.49	64.74	-19.25	QP	
2		0.1745	31.00	9.69	40.69	54.74	-14.05	AVG	
3		0.7070	23.80	9.71	33.51	56.00	-22.49	QP	
4		0.7070	15.50	9.71	25.21	46.00	-20.79	AVG	
5		1.4180	25.50	9.74	35.24	56.00	-20.76	QP	
6		1.4180	16.20	9.74	25.94	46.00	-20.06	AVG	
7		1.8770	25.30	9.77	35.07	56.00	-20.93	QP	
8		1.8770	16.10	9.77	25.87	46.00	-20.13	AVG	
9		2.1380	25.60	9.78	35.38	56.00	-20.62	QP	
10		2.1380	16.40	9.78	26.18	46.00	-19.82	AVG	
11	*	13.5500	47.80	9.89	57.69	60.00	-2.31	QP	
12		13.5500	37.60	9.89	47.49	50.00	-2.51	AVG	

Test Mode :	13.56MHz Transmit_MP90AH

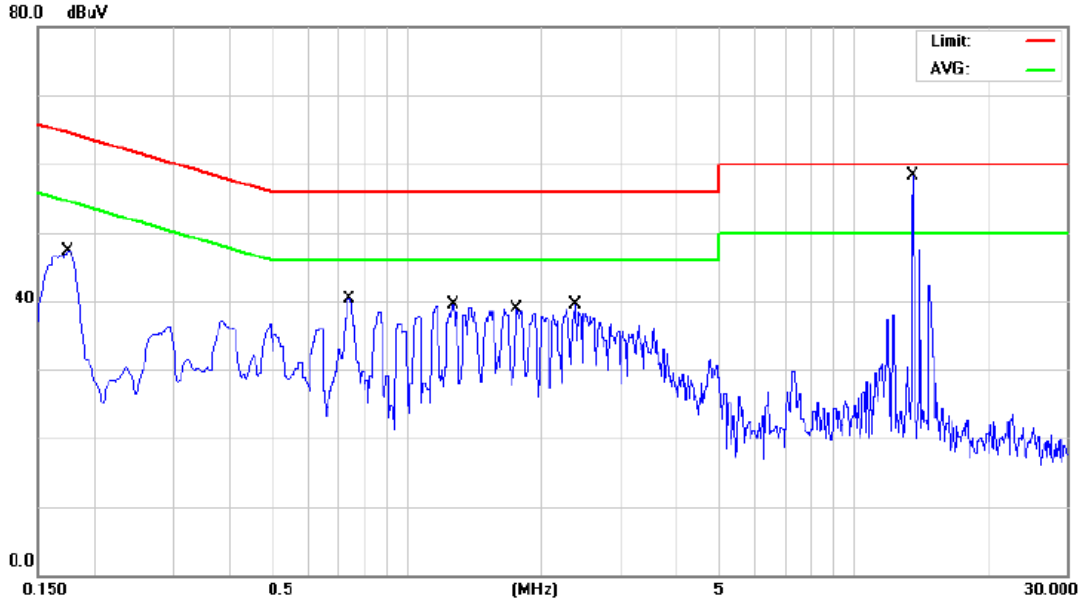
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1766	37.40	9.68	47.08	64.64	-17.56	QP	
2		0.1766	32.50	9.68	42.18	54.64	-12.46	AVG	
3		0.7340	25.60	9.70	35.30	56.00	-20.70	QP	
4		0.7340	18.50	9.70	28.20	46.00	-17.80	AVG	
5		1.2830	25.20	9.72	34.92	56.00	-21.08	QP	
6		1.2830	14.40	9.72	24.12	46.00	-21.88	AVG	
7		1.5170	25.30	9.75	35.05	56.00	-20.95	QP	
8		1.5170	11.30	9.75	21.05	46.00	-24.95	AVG	
9		2.1920	23.80	9.78	33.58	56.00	-22.42	QP	
10		2.1920	10.70	9.78	20.48	46.00	-25.52	AVG	
11	*	13.5500	48.10	9.89	57.99	60.00	-2.01	QP	
12		13.5500	38.00	9.89	47.89	50.00	-2.11	AVG	

Test Mode :	13.56MHz Transmit_MP90AH

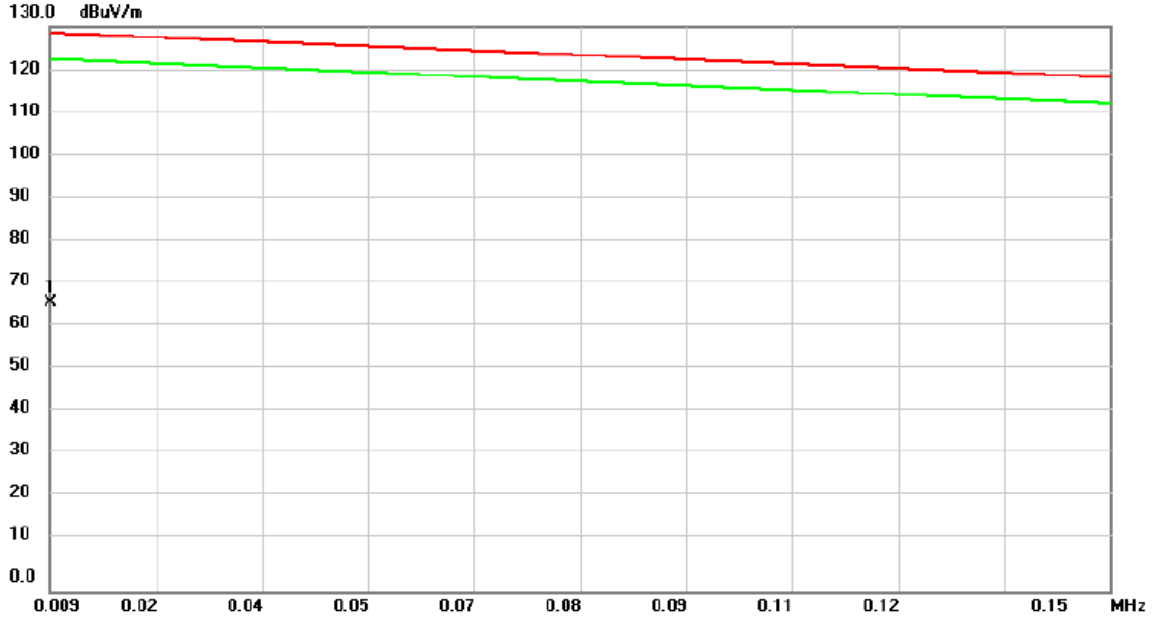
Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1751	38.00	9.68	47.68	64.71	-17.03	QP	
2		0.1751	32.90	9.68	42.58	54.71	-12.13	AVG	
3		0.7430	25.30	9.71	35.01	56.00	-20.99	QP	
4		0.7430	18.00	9.71	27.71	46.00	-18.29	AVG	
5		1.2650	25.00	9.73	34.73	56.00	-21.27	QP	
6		1.2650	14.60	9.73	24.33	46.00	-21.67	AVG	
7		1.7600	25.90	9.77	35.67	56.00	-20.33	QP	
8		1.7600	16.10	9.77	25.87	46.00	-20.13	AVG	
9		2.3809	25.70	9.79	35.49	56.00	-20.51	QP	
10		2.3809	16.50	9.79	26.29	46.00	-19.71	AVG	
11	*	13.5500	48.10	9.89	57.99	60.00	-2.01	QP	
12		13.5500	38.00	9.89	47.89	50.00	-2.11	AVG	

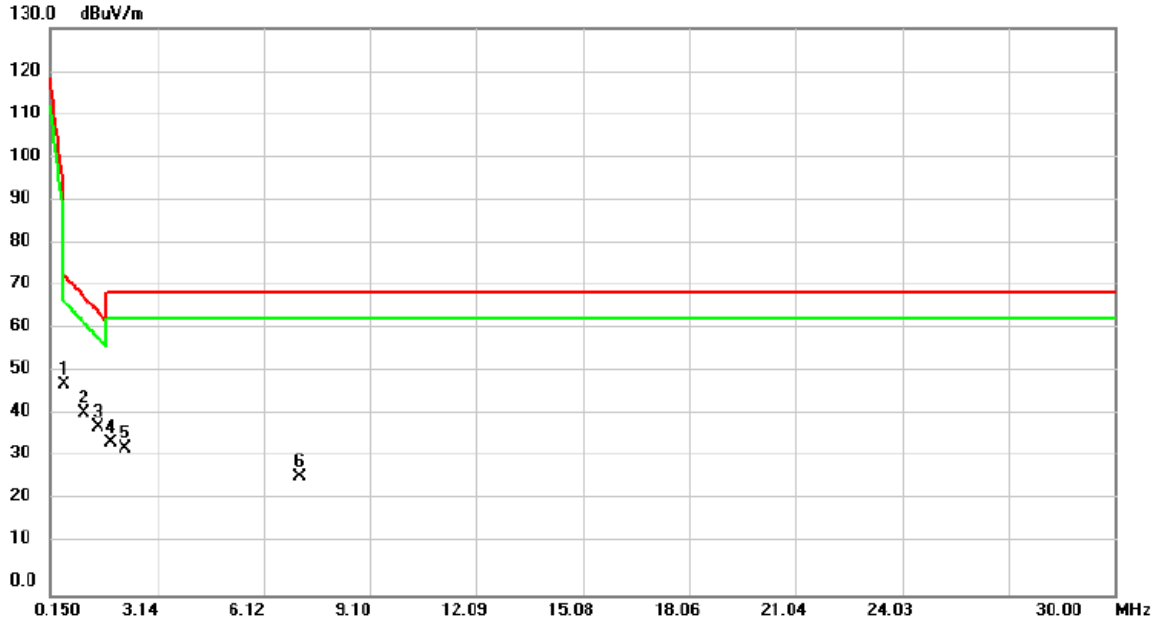
ATTACHMENT B - RADIATED EMISSION (9KHZ-30MHZ)

Test Mode:	13.56MHz Transmit – Open_MP90AR



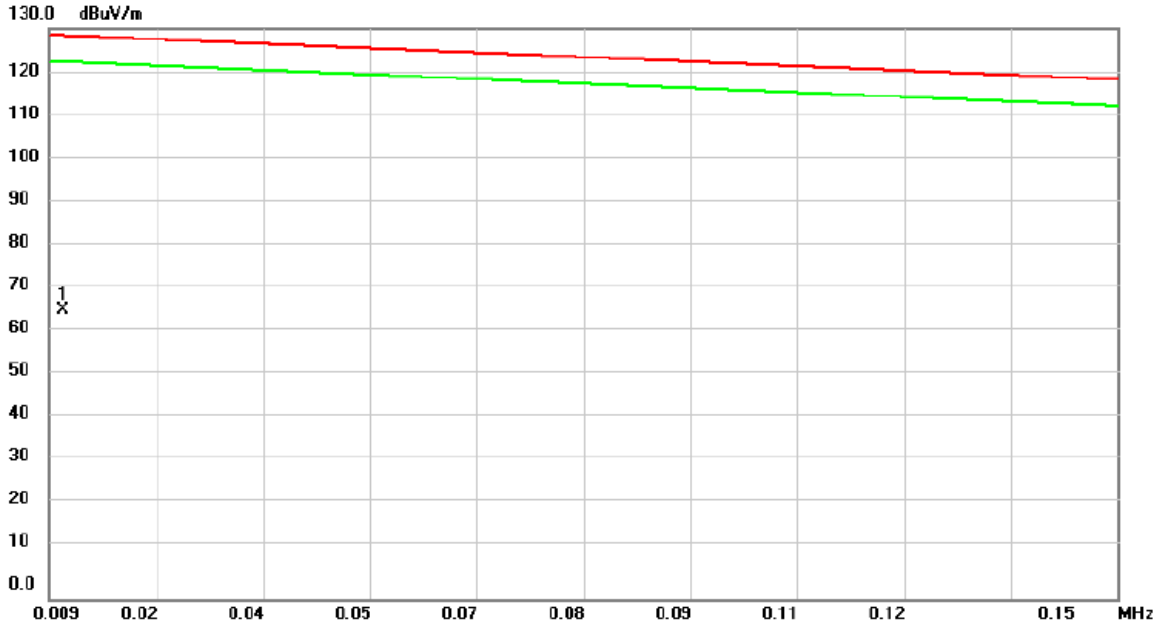
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0091	45.83	20.50	66.33	128.51	-62.18	peak	

Test Mode:	13.56MHz Transmit - Open_MP90AR



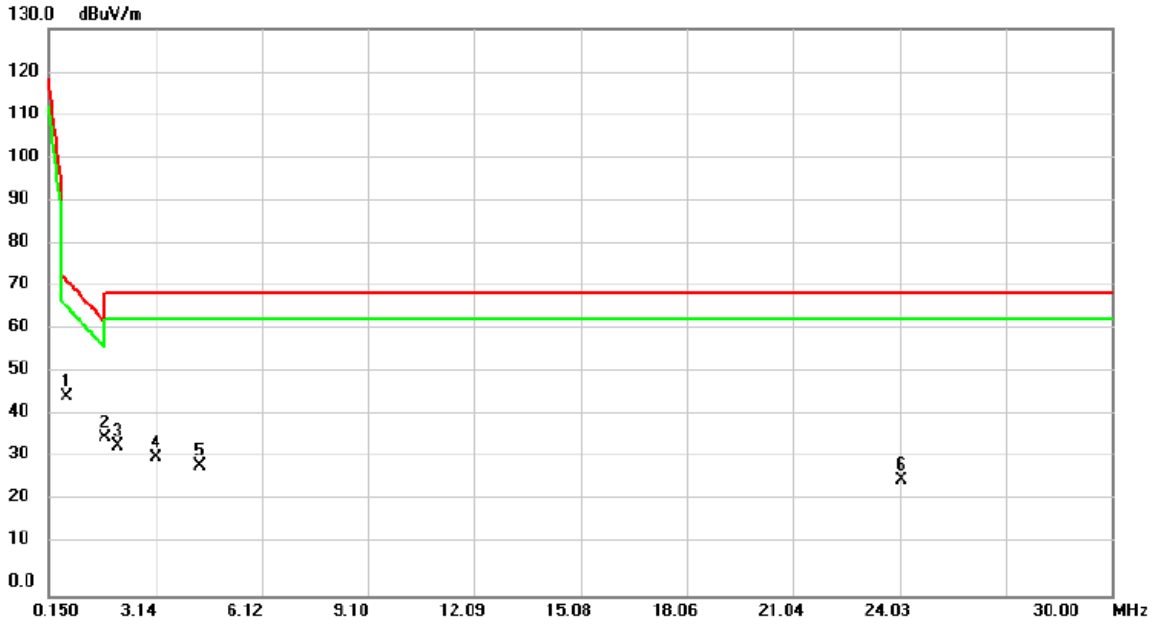
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.5082	36.59	11.80	48.39	73.64	-25.25	peak	
2		1.0754	29.64	11.97	41.61	68.58	-26.97	peak	
3		1.4932	26.89	11.78	38.67	64.86	-26.19	peak	
4		1.8515	23.46	11.62	35.08	69.54	-34.46	peak	
5		2.2395	22.28	11.44	33.72	69.54	-35.82	peak	
6		7.1350	15.84	11.36	27.20	69.54	-42.34	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AR



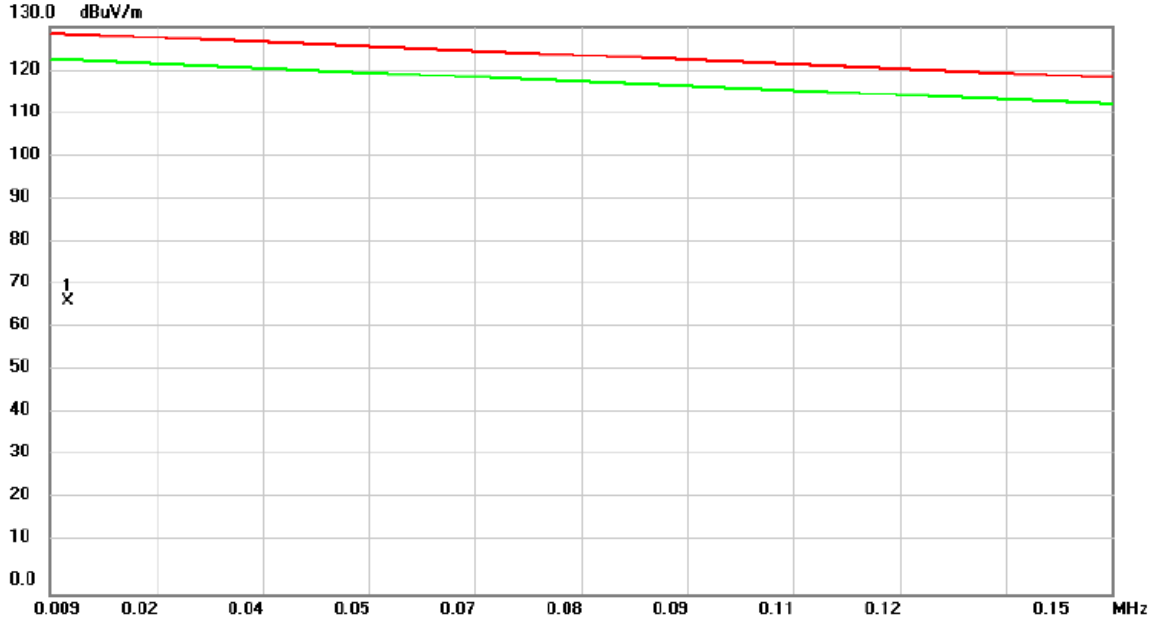
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0108	45.56	20.28	65.84	128.39	-62.55	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AR



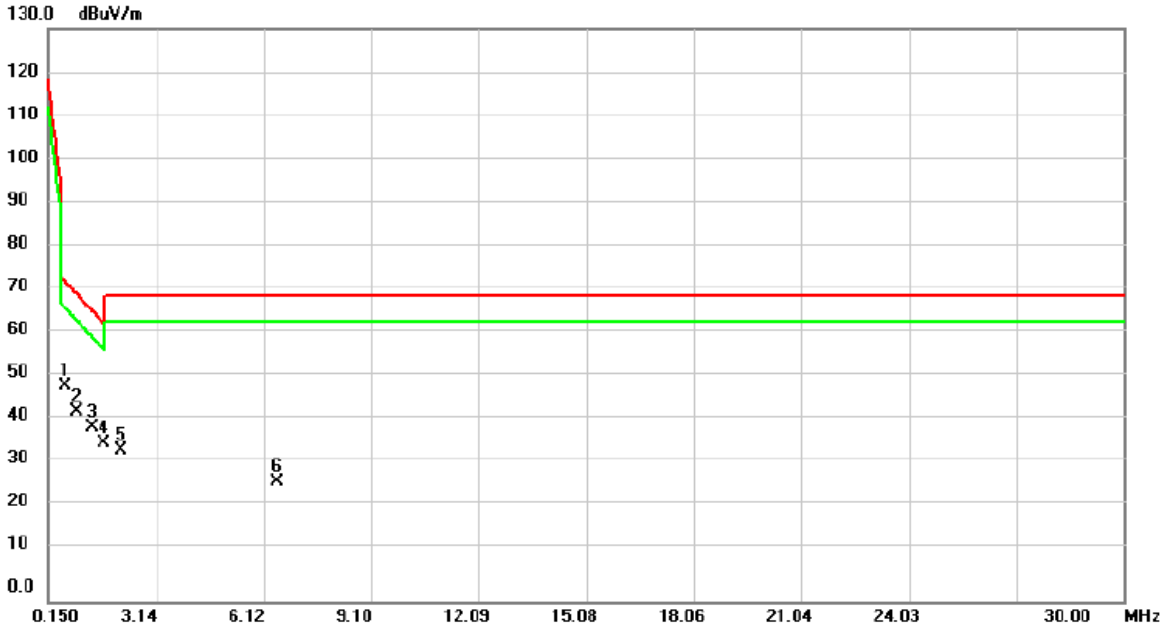
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.6276	33.68	11.85	45.53	72.57	-27.04	peak	
2	*	1.7022	24.60	11.68	36.28	62.99	-26.71	peak	
3		2.0604	22.75	11.52	34.27	69.54	-35.27	peak	
4		3.1648	20.51	11.12	31.63	69.54	-37.91	peak	
5		4.3887	18.32	11.31	29.63	69.54	-39.91	peak	
6		24.0897	16.33	10.26	26.59	69.54	-42.95	peak	

Test Mode:	13.56MHz Transmit – Open_MP90AL



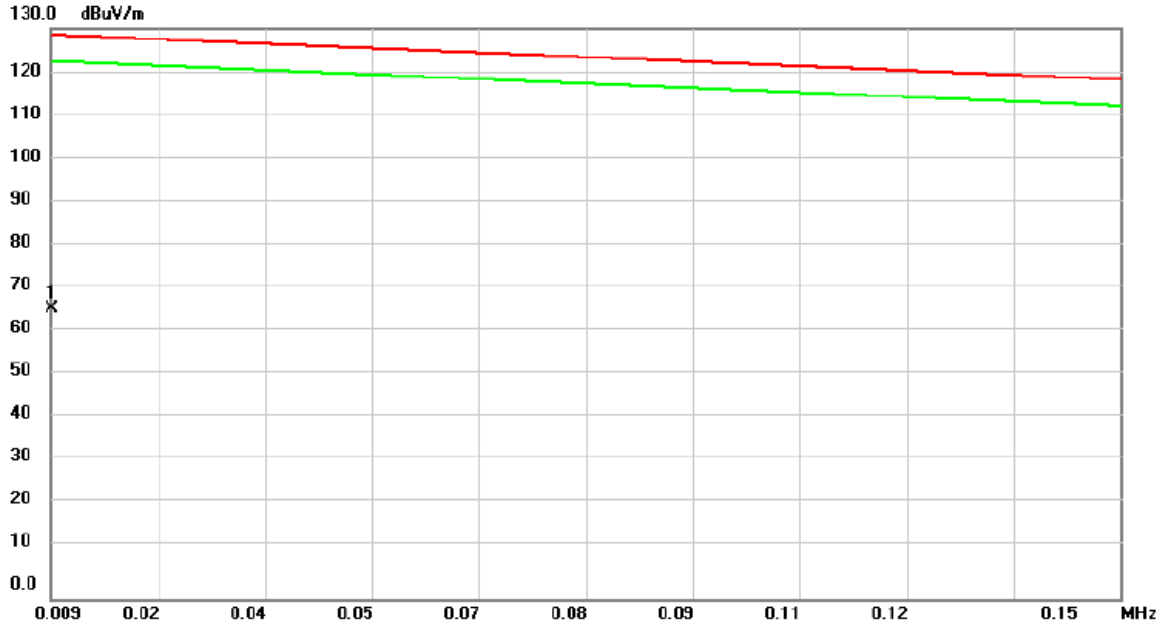
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0113	47.07	20.14	67.21	128.35	-61.14	peak	

Test Mode:	13.56MHz Transmit - Open_MP90AL



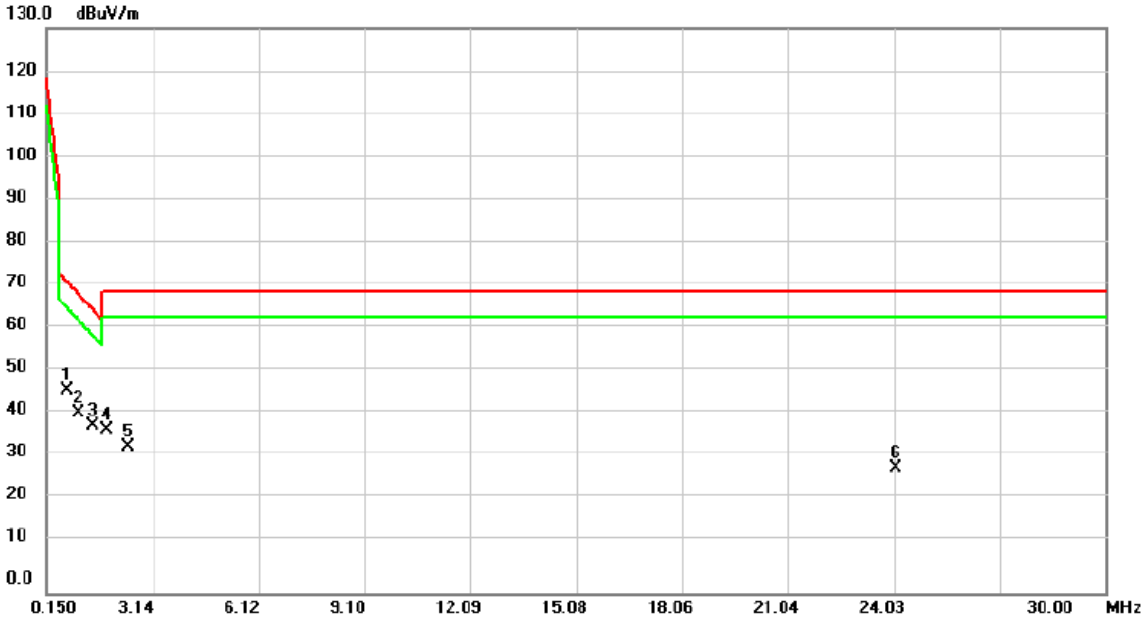
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.5978	37.12	11.84	48.96	72.84	-23.88	peak	
2		0.9261	31.17	11.97	43.14	69.91	-26.77	peak	
3		1.3440	27.72	11.85	39.57	66.19	-26.62	peak	
4		1.6724	24.28	11.70	35.98	63.26	-27.28	peak	
5		2.1500	22.74	11.48	34.22	69.54	-35.32	peak	
6		6.4782	15.82	11.37	27.19	69.54	-42.35	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AL



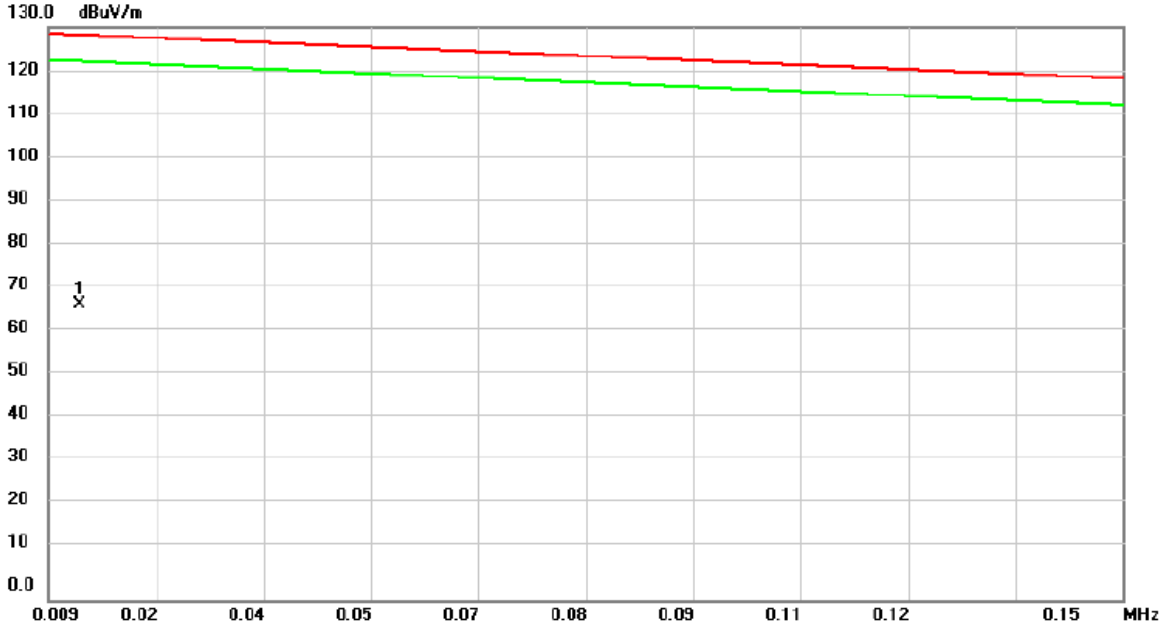
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0090	45.72	20.50	66.22	128.52	-62.30	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AL



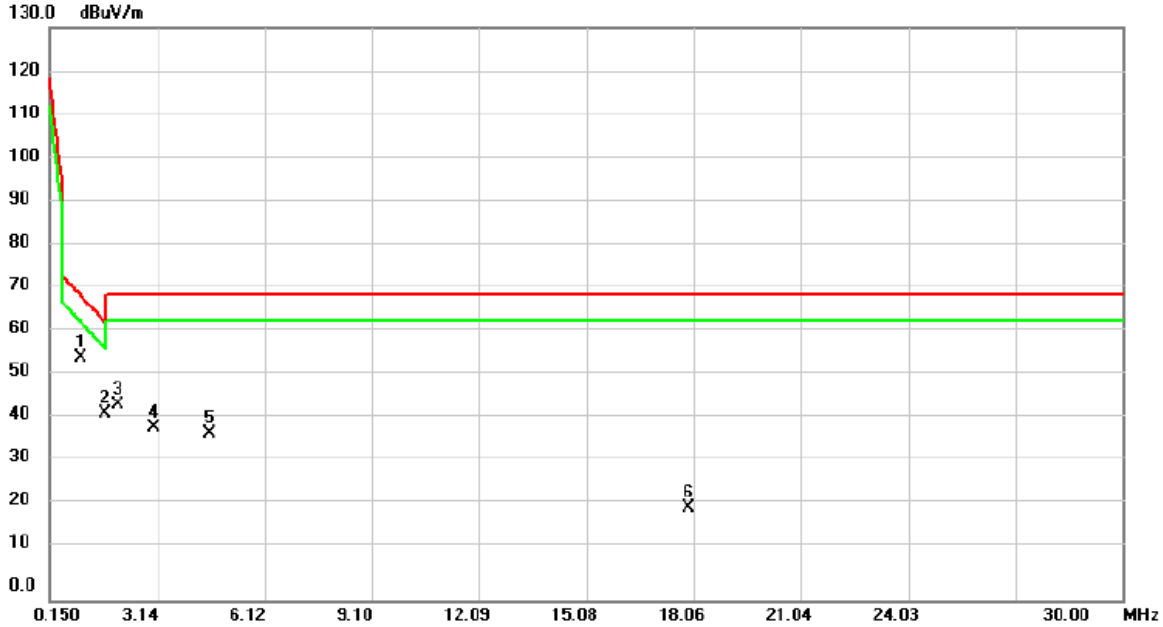
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.7171	34.80	11.89	46.69	71.78	-25.09	peak	
2		1.0455	29.56	11.98	41.54	68.85	-27.31	peak	
3		1.4633	26.68	11.79	38.47	65.12	-26.65	peak	
4		1.8515	25.85	11.62	37.47	69.54	-32.07	peak	
5		2.4484	22.36	11.35	33.71	69.54	-35.83	peak	
6		24.0897	18.61	10.26	28.87	69.54	-40.67	peak	

Test Mode:	13.56MHz Transmit – Open_MP90AU



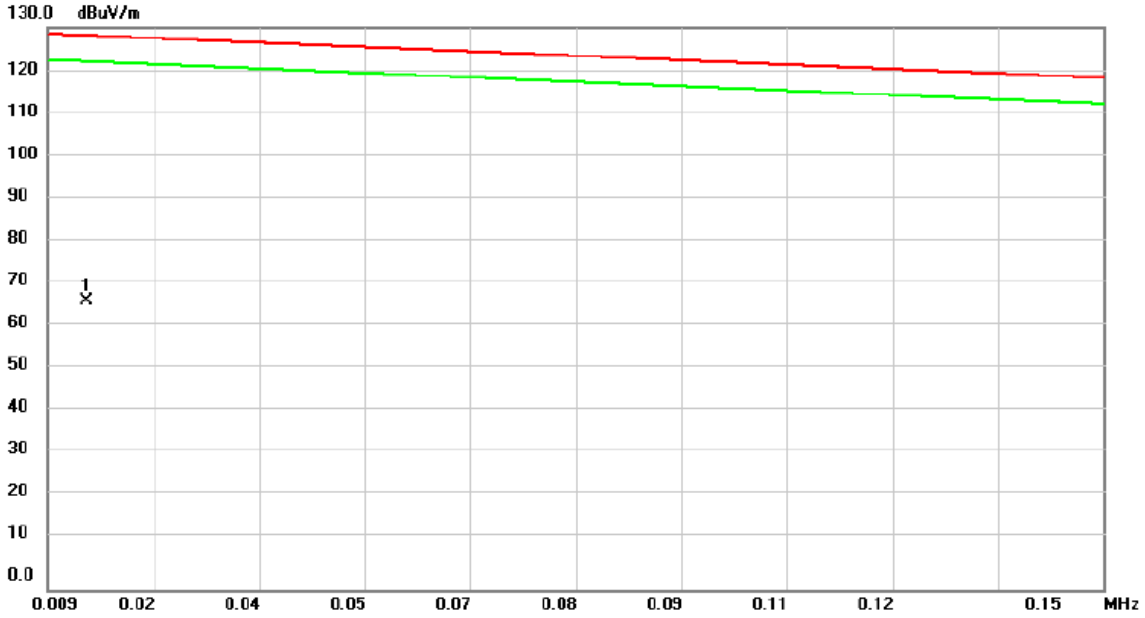
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0130	47.47	19.68	67.15	128.23	-61.08	peak	

Test Mode:	13.56MHz Transmit - Open_MP90AU



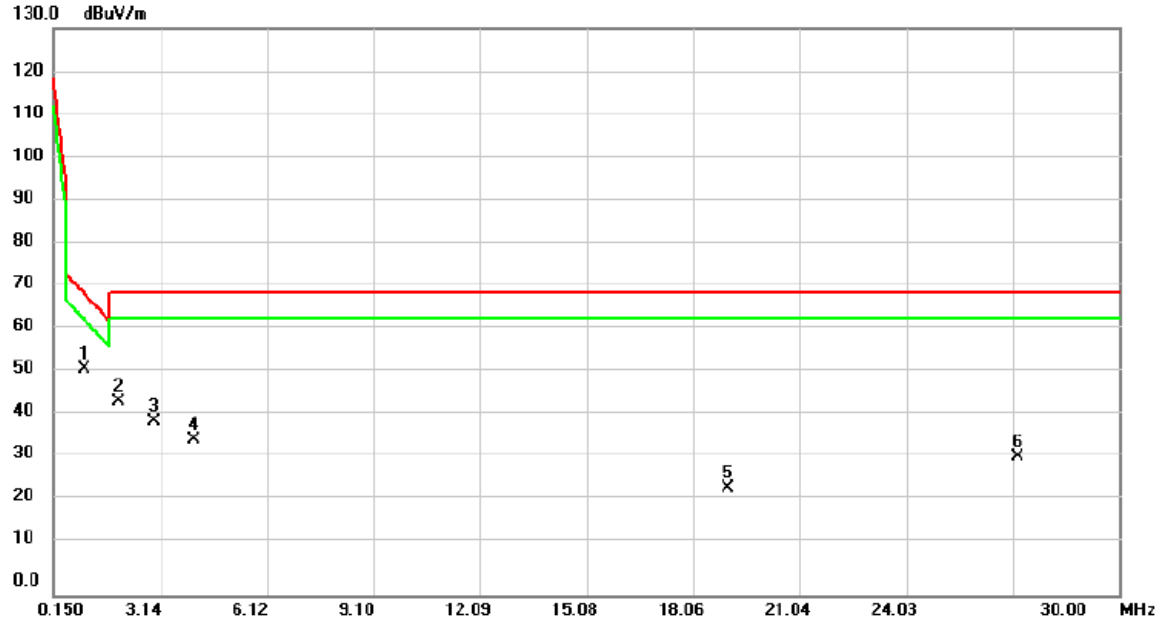
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	1.0156	43.08	11.99	55.07	69.11	-14.04	peak	
2		1.6724	30.70	11.70	42.40	63.26	-20.86	peak	
3		2.0305	32.87	11.54	44.41	69.54	-25.13	peak	
4		3.0455	28.00	11.11	39.11	69.54	-30.43	peak	
5		4.5678	26.43	11.34	37.77	69.54	-31.77	peak	
6		17.9108	10.00	11.06	21.06	69.54	-48.48	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AU



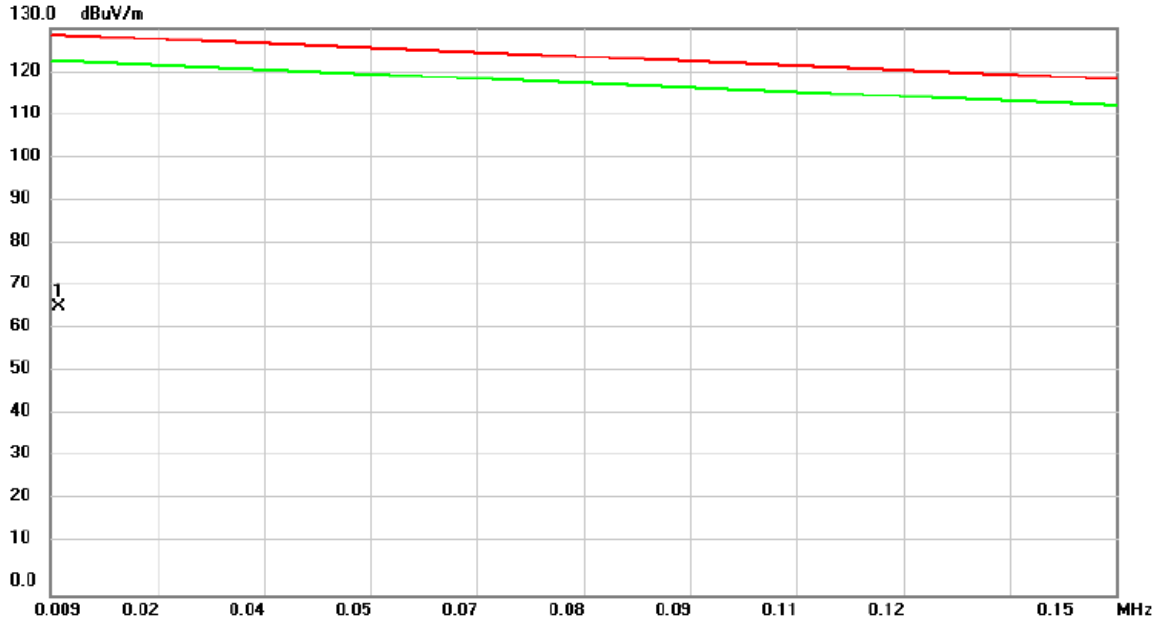
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0141	47.36	19.37	66.73	128.15	-61.42	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AU



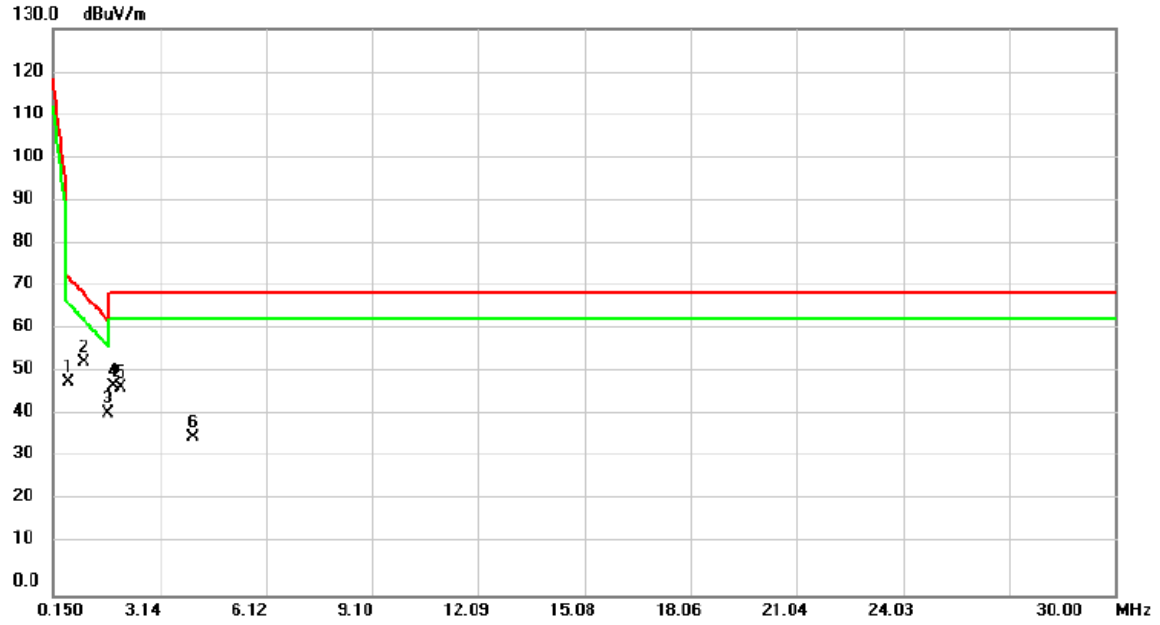
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	1.0156	39.80	11.99	51.79	69.11	-17.32	peak	
2		1.9708	32.81	11.56	44.37	69.54	-25.17	peak	
3		2.9558	28.83	11.12	39.95	69.54	-29.59	peak	
4		4.0901	24.44	11.26	35.70	69.54	-33.84	peak	
5		19.0450	13.61	11.03	24.64	69.54	-44.90	peak	
6		27.1344	22.02	9.72	31.74	69.54	-37.80	peak	

Test Mode:	13.56MHz Transmit – Open_MP90AH



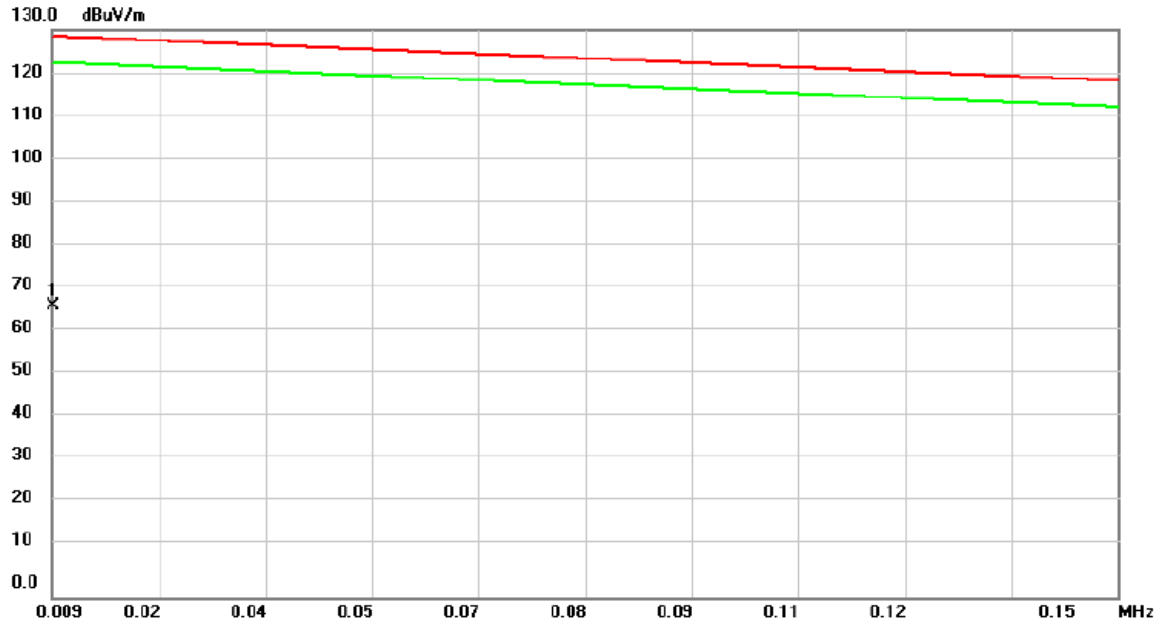
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0101	45.68	20.47	66.15	128.44	-62.29	peak	

Test Mode:	13.56MHz Transmit - Open_MP90AH



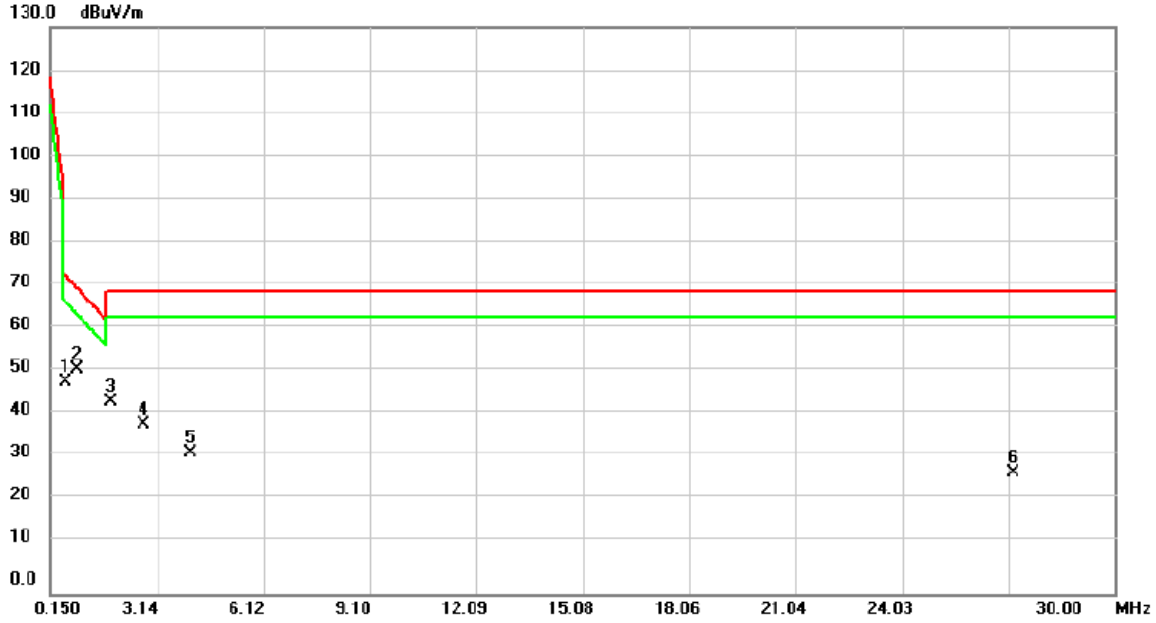
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.5680	37.24	11.83	49.07	73.10	-24.03	peak	
2	*	1.0156	41.62	11.99	53.61	69.11	-15.50	peak	
3		1.6724	30.12	11.70	41.82	63.26	-21.44	peak	
4		1.8216	36.23	11.63	47.86	69.54	-21.68	peak	
5		2.0305	35.91	11.54	47.45	69.54	-22.09	peak	
6		4.0603	25.04	11.26	36.30	69.54	-33.24	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AH



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0091	46.16	20.50	66.66	128.51	-61.85	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AH

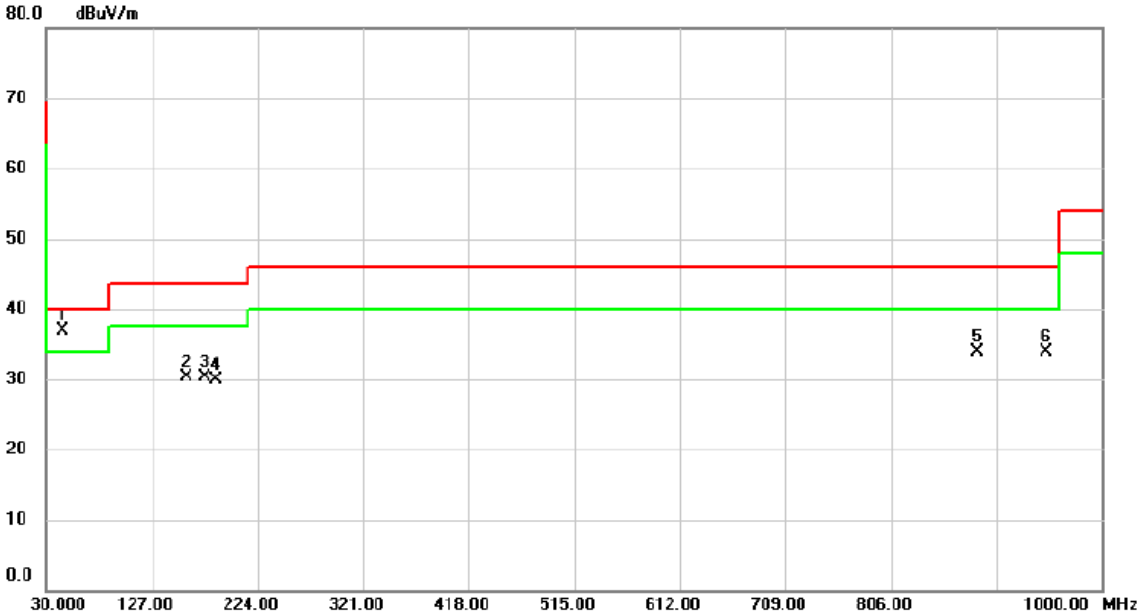


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.5680	36.62	11.83	48.45	73.10	-24.65	peak	
2	*	0.8962	39.65	11.96	51.61	70.18	-18.57	peak	
3		1.8216	32.48	11.63	44.11	69.54	-25.43	peak	
4		2.7470	27.57	11.21	38.78	69.54	-30.76	peak	
5		4.0603	20.97	11.26	32.23	69.54	-37.31	peak	
6		27.1344	17.93	9.72	27.65	69.54	-41.89	peak	

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

Test Mode:	13.56MHz Transmit_MP90AR

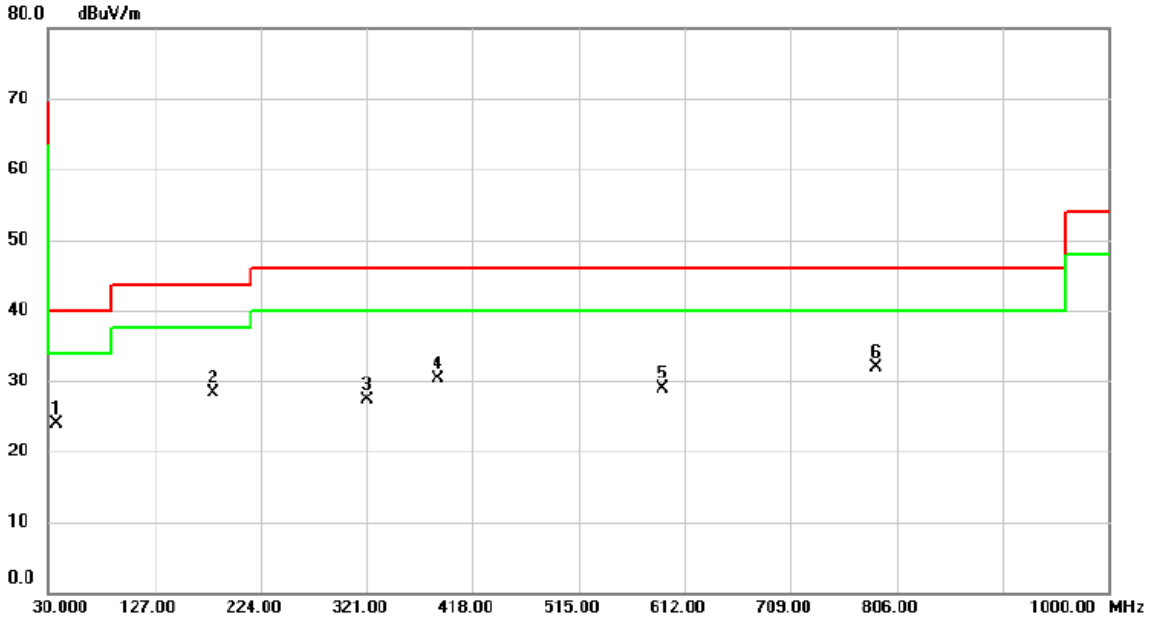
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	44.5500	45.12	-8.29	36.83	40.00	-3.17	peak	
2		158.0400	38.94	-8.59	30.35	43.50	-13.15	peak	
3		175.5000	39.76	-9.42	30.34	43.50	-13.16	peak	
4		186.1700	40.30	-10.32	29.98	43.50	-13.52	peak	
5		885.5400	29.49	4.32	33.81	46.00	-12.19	peak	
6		948.5900	28.44	5.45	33.89	46.00	-12.11	peak	

Test Mode:	13.56MHz Transmit_MP90AR

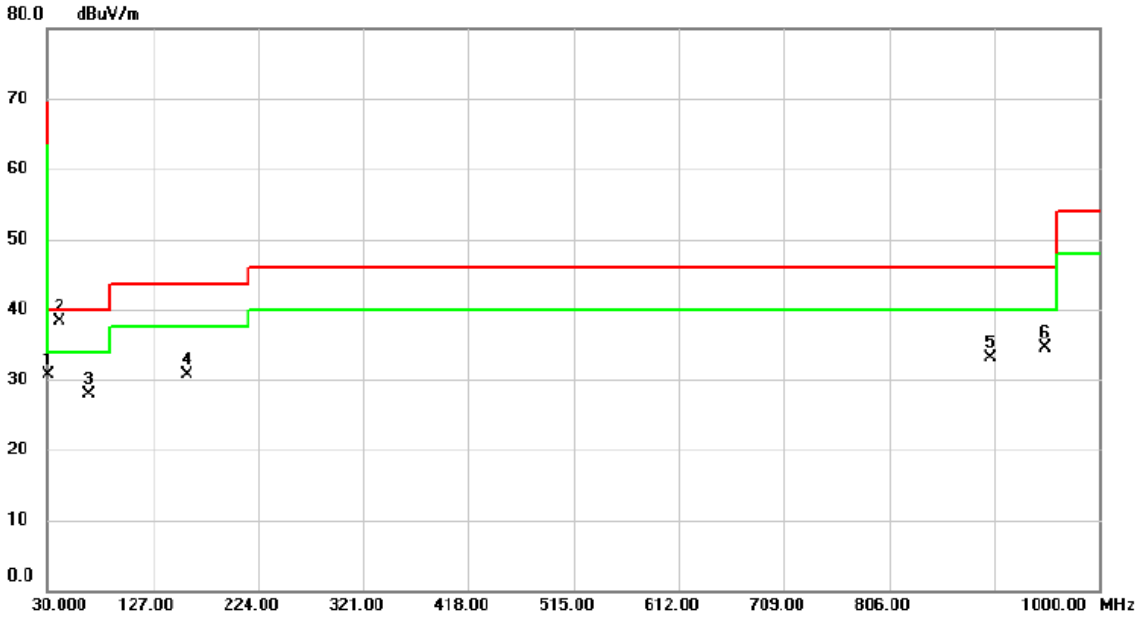
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		36.7900	32.77	-8.87	23.90	40.00	-16.10	peak	
2		180.3500	38.18	-9.90	28.28	43.50	-15.22	peak	
3		321.0000	34.26	-6.87	27.39	46.00	-18.61	peak	
4		385.9900	35.51	-5.22	30.29	46.00	-15.71	peak	
5		591.6300	29.39	-0.44	28.95	46.00	-17.05	peak	
6	*	787.5700	29.20	2.75	31.95	46.00	-14.05	peak	

Test Mode:	13.56MHz Transmit_MP90AL

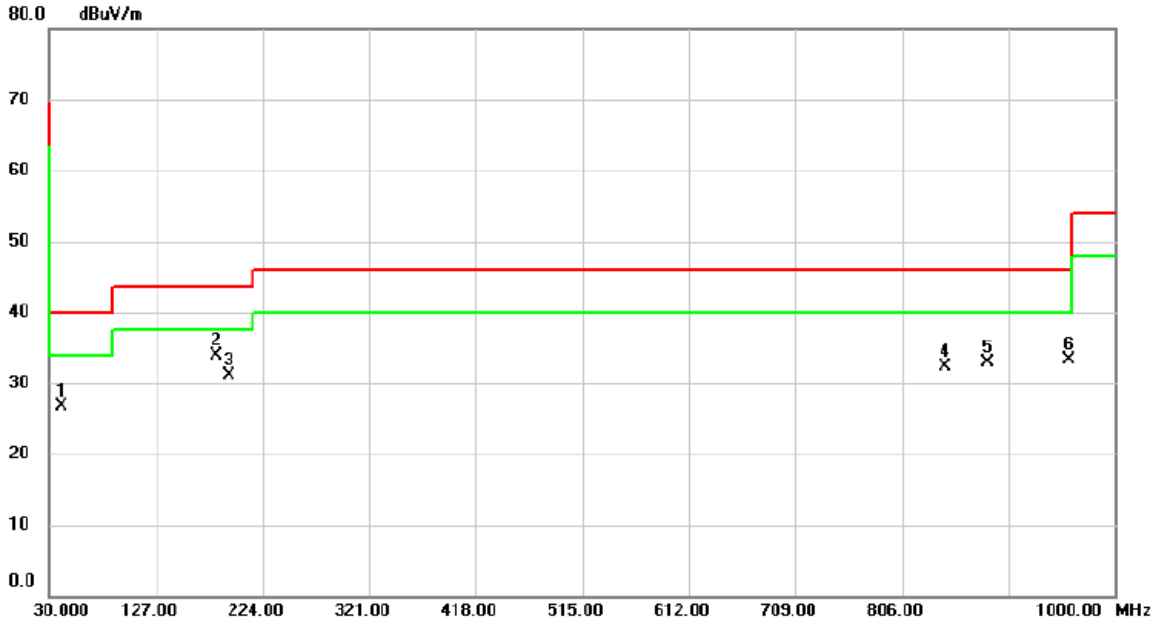
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		30.0000	39.61	-8.91	30.70	40.00	-9.30	peak	
2	*	40.6700	46.82	-8.61	38.21	40.00	-1.79	peak	
3		67.8300	37.97	-10.13	27.84	40.00	-12.16	peak	
4		159.0100	39.19	-8.58	30.61	43.50	-12.89	peak	
5		900.0900	28.44	4.61	33.05	46.00	-12.95	peak	
6		949.5600	28.99	5.47	34.46	46.00	-11.54	peak	

Test Mode:	13.56MHz Transmit_MP90AL

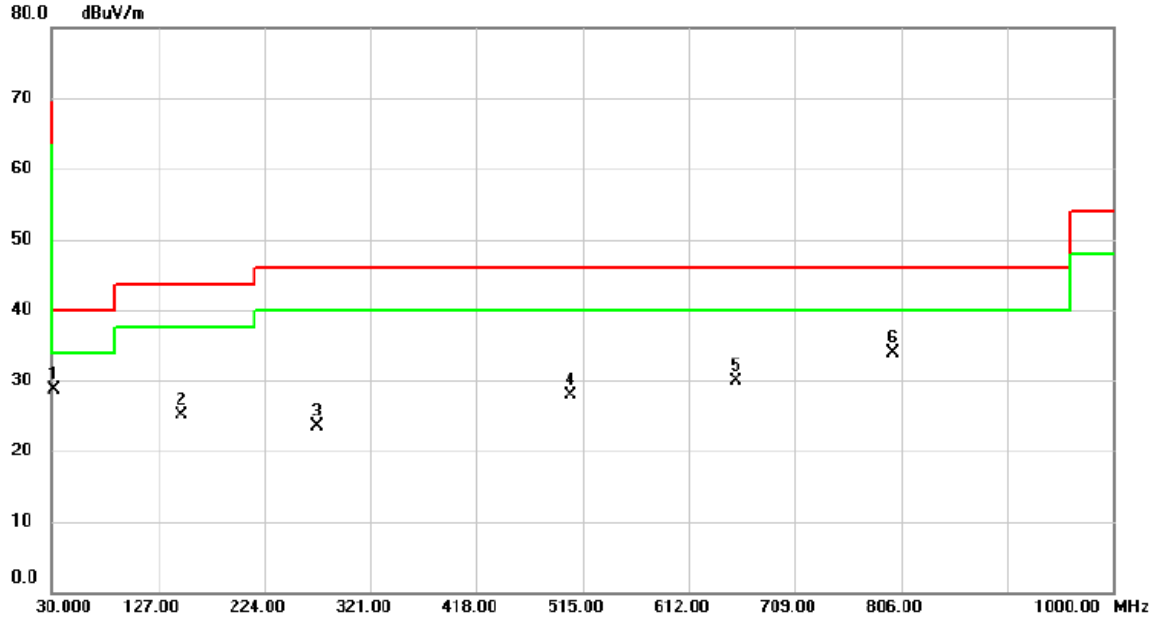
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		40.6700	35.40	-8.61	26.79	40.00	-13.21	peak	
2	*	182.2900	44.01	-10.05	33.96	43.50	-9.54	peak	
3		192.9600	41.75	-10.66	31.09	43.50	-12.41	peak	
4		845.7700	28.78	3.54	32.32	46.00	-13.68	peak	
5		883.6000	28.61	4.28	32.89	46.00	-13.11	peak	
6		958.2900	27.76	5.60	33.36	46.00	-12.64	peak	

Test Mode:	13.56MHz Transmit_MP90AU

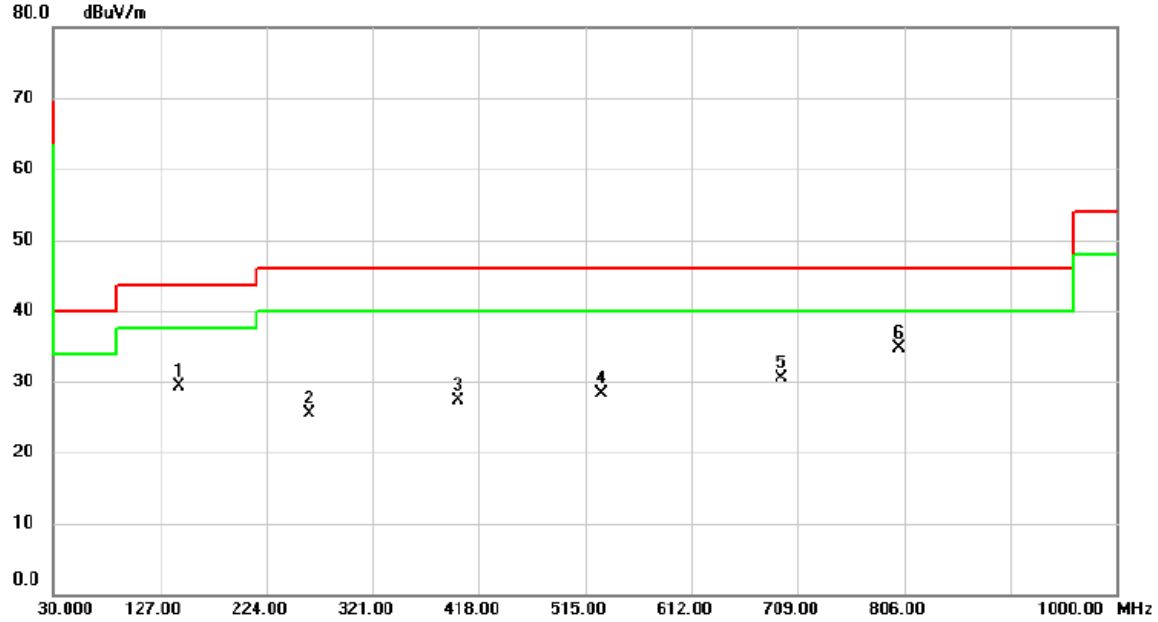
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	31.9400	37.57	-8.93	28.64	40.00	-11.36	peak	
2		148.3400	33.90	-8.72	25.18	43.50	-18.32	peak	
3		272.5000	31.77	-8.26	23.51	46.00	-22.49	peak	
4		503.3600	30.55	-2.57	27.98	46.00	-18.02	peak	
5		655.6500	29.68	0.31	29.99	46.00	-16.01	peak	
6		799.2100	30.95	2.88	33.83	46.00	-12.17	peak	

Test Mode:	13.56MHz Transmit_MP90AU

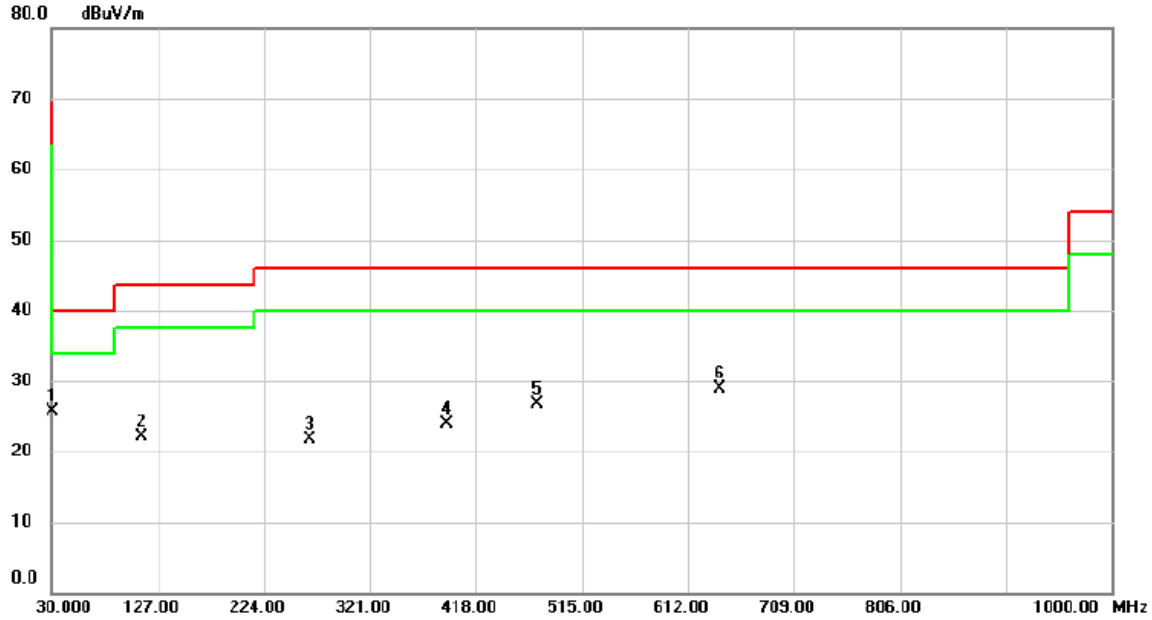
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		144.4600	37.90	-8.69	29.21	43.50	-14.29	peak	
2		263.7700	34.17	-8.63	25.54	46.00	-20.46	peak	
3		399.5700	32.20	-4.92	27.28	46.00	-18.72	peak	
4		529.5500	30.23	-1.99	28.24	46.00	-17.76	peak	
5		694.4500	29.41	1.17	30.58	46.00	-15.42	peak	
6	*	801.1500	31.86	2.89	34.75	46.00	-11.25	peak	

Test Mode:	13.56MHz Transmit_MP90AH

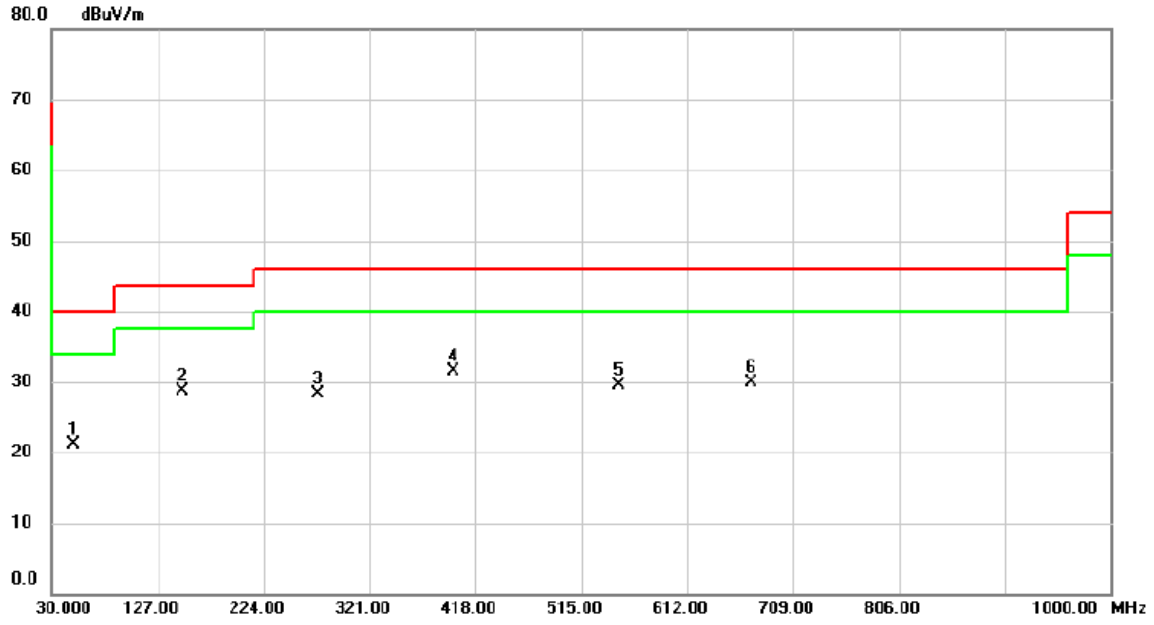
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	30.0000	34.62	-8.91	25.71	40.00	-14.29	peak	
2		111.4800	33.02	-10.99	22.03	43.50	-21.47	peak	
3		265.7100	30.18	-8.55	21.63	46.00	-24.37	peak	
4		390.8400	29.06	-5.10	23.96	46.00	-22.04	peak	
5		474.2600	29.86	-3.10	26.76	46.00	-19.24	peak	
6		641.1000	28.85	0.11	28.96	46.00	-17.04	peak	

Test Mode:	13.56MHz Transmit_MP90AH

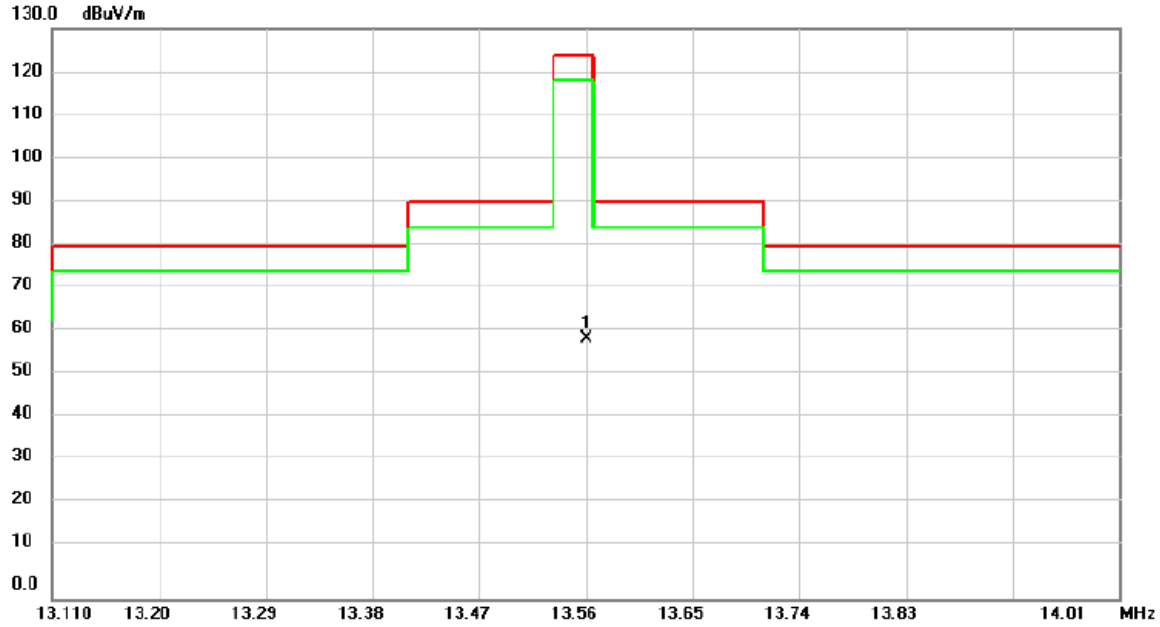
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		50.3700	29.46	-8.28	21.18	40.00	-18.82	peak	
2		149.3100	37.37	-8.73	28.64	43.50	-14.86	peak	
3		273.4700	36.61	-8.21	28.40	46.00	-17.60	peak	
4	*	397.6300	36.41	-4.97	31.44	46.00	-14.56	peak	
5		548.9500	31.06	-1.56	29.50	46.00	-16.50	peak	
6		670.2000	29.21	0.63	29.84	46.00	-16.16	peak	

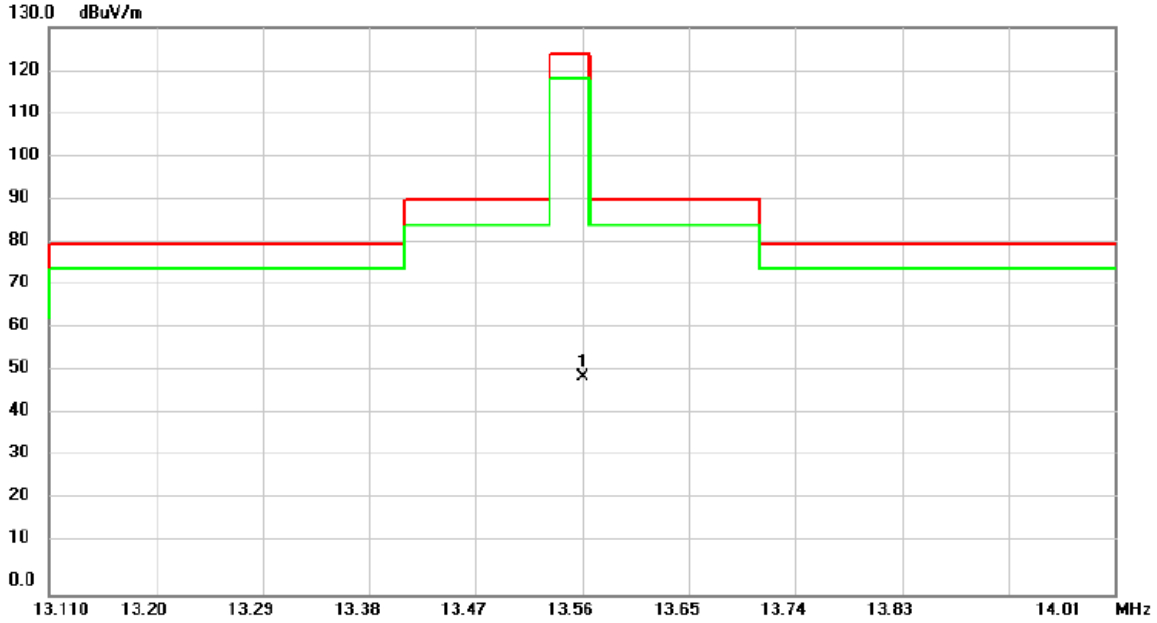
ATTACHMENT D - RADIATED EMISSION (FCC PART 15.225)

Test Mode:	13.56MHz Transmit – Open_MP90AR



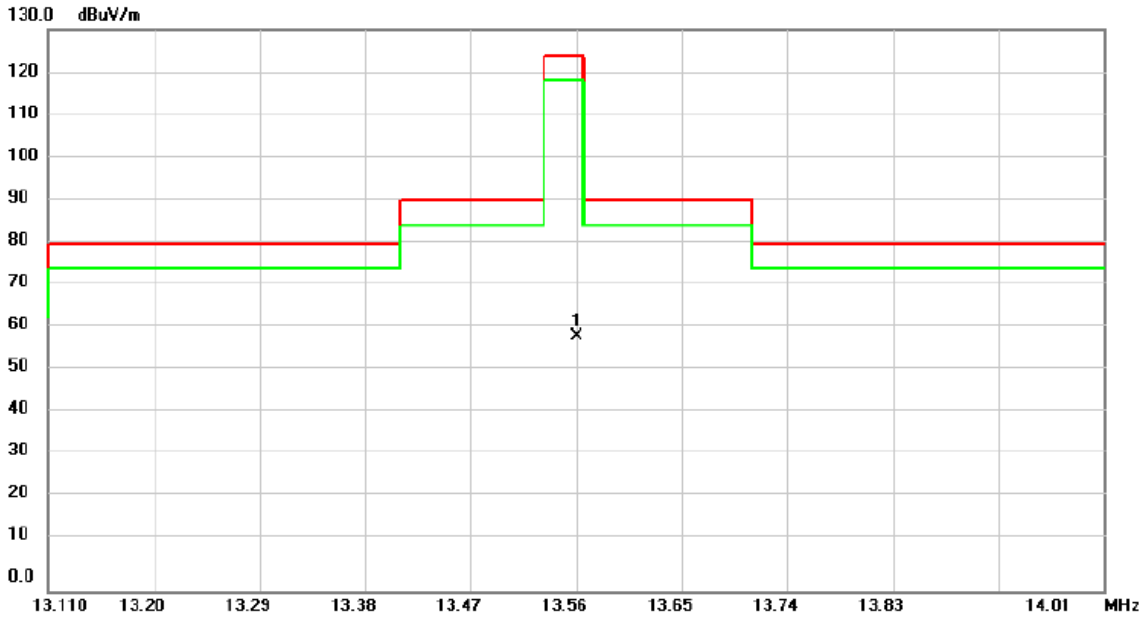
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5610	48.21	11.19	59.40	124.00	-64.60	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AR



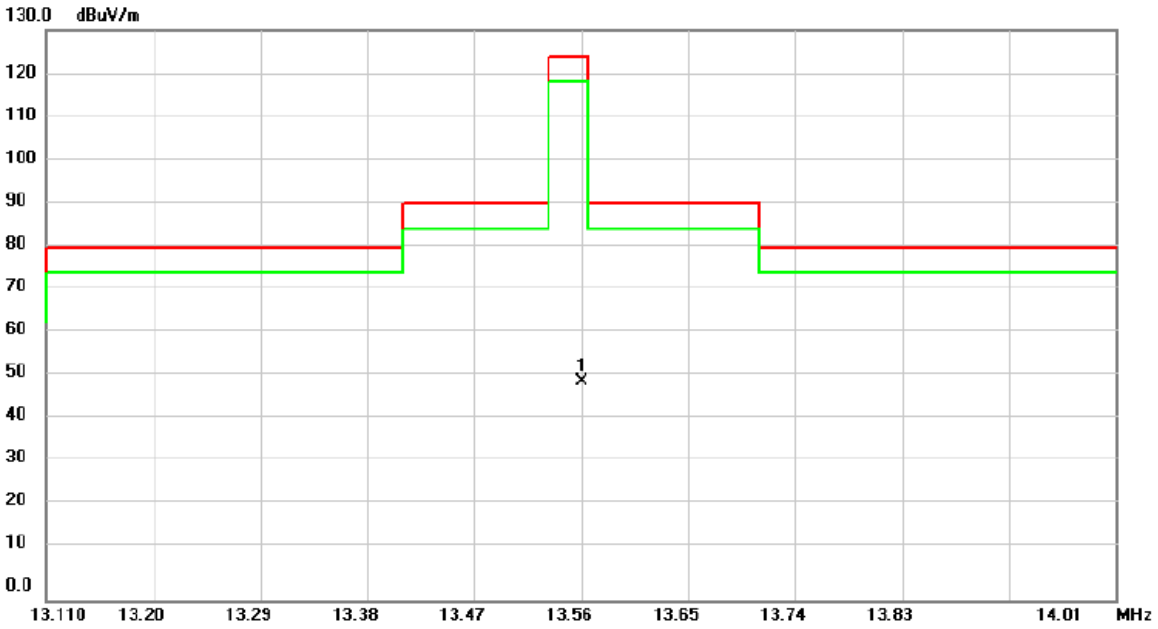
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5610	38.54	11.19	49.73	124.00	-74.27	peak	

Test Mode:	13.56MHz Transmit – Open_MP90AL



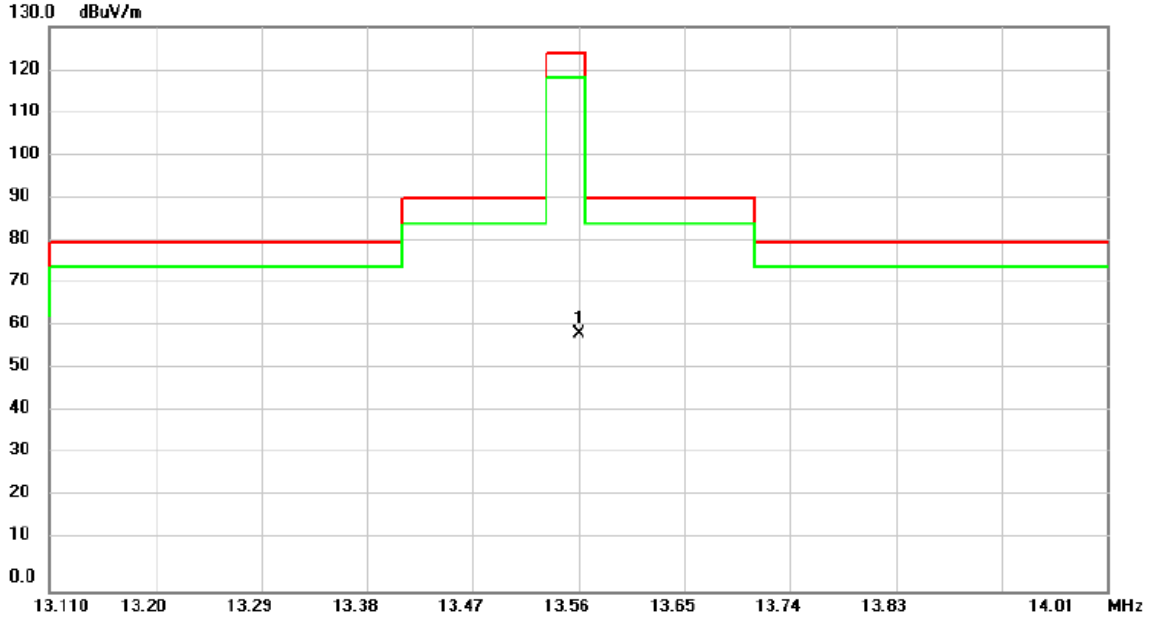
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5610	47.65	11.19	58.84	124.00	-65.16	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AL



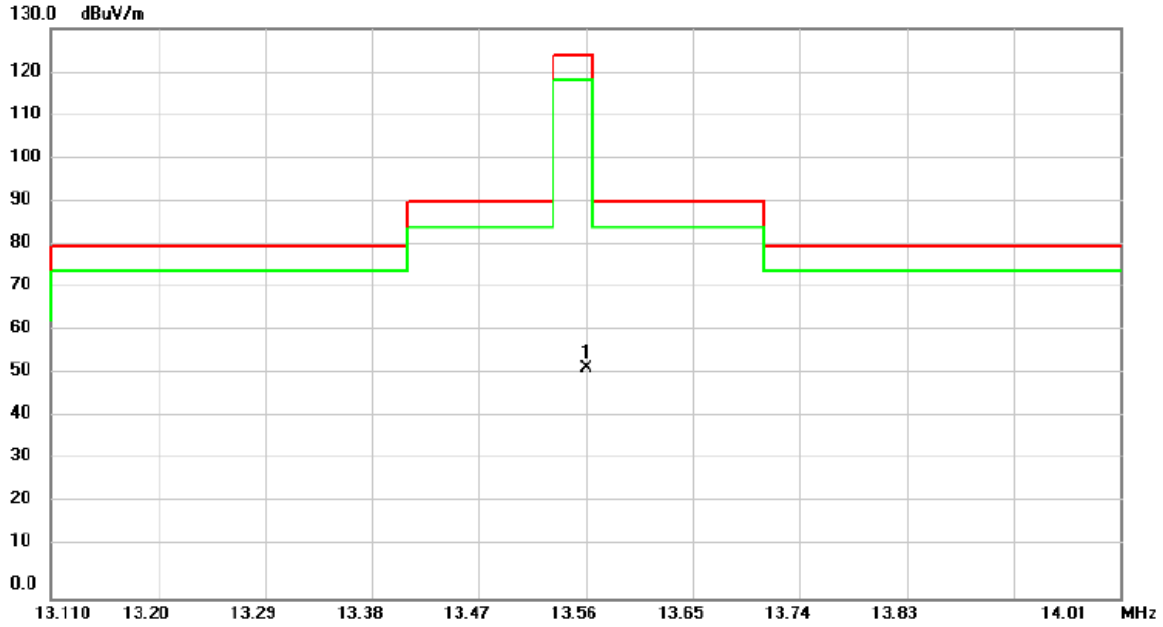
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5610	38.81	11.19	50.00	124.00	-74.00	peak	

Test Mode:	13.56MHz Transmit – Open_MP90AU



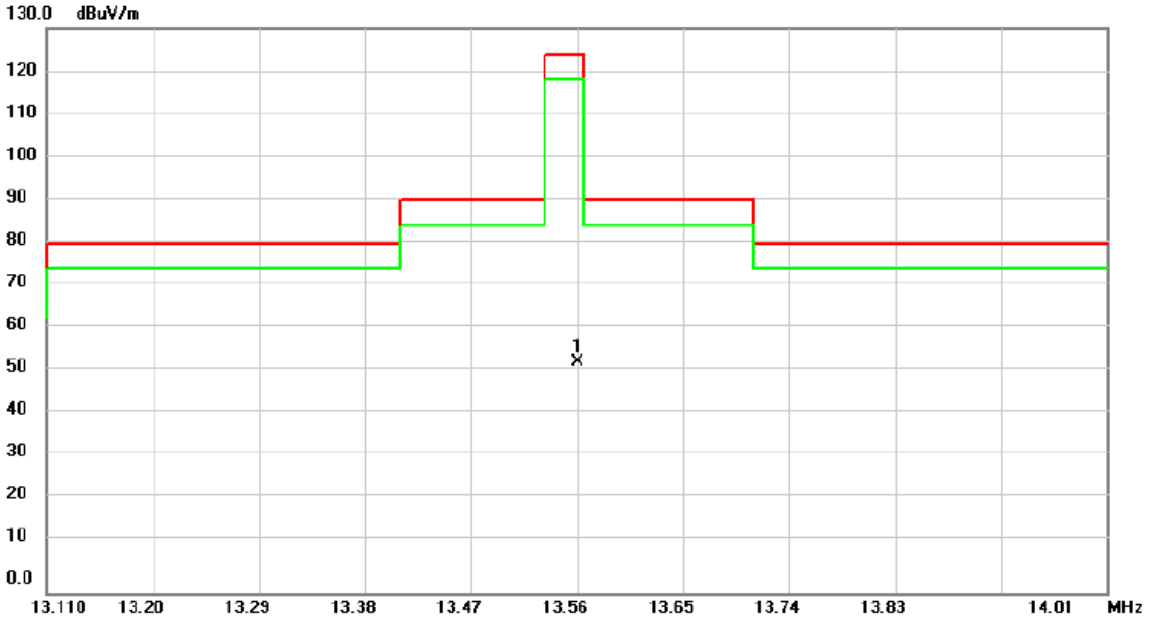
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5610	48.05	11.19	59.24	124.00	-64.76	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AU



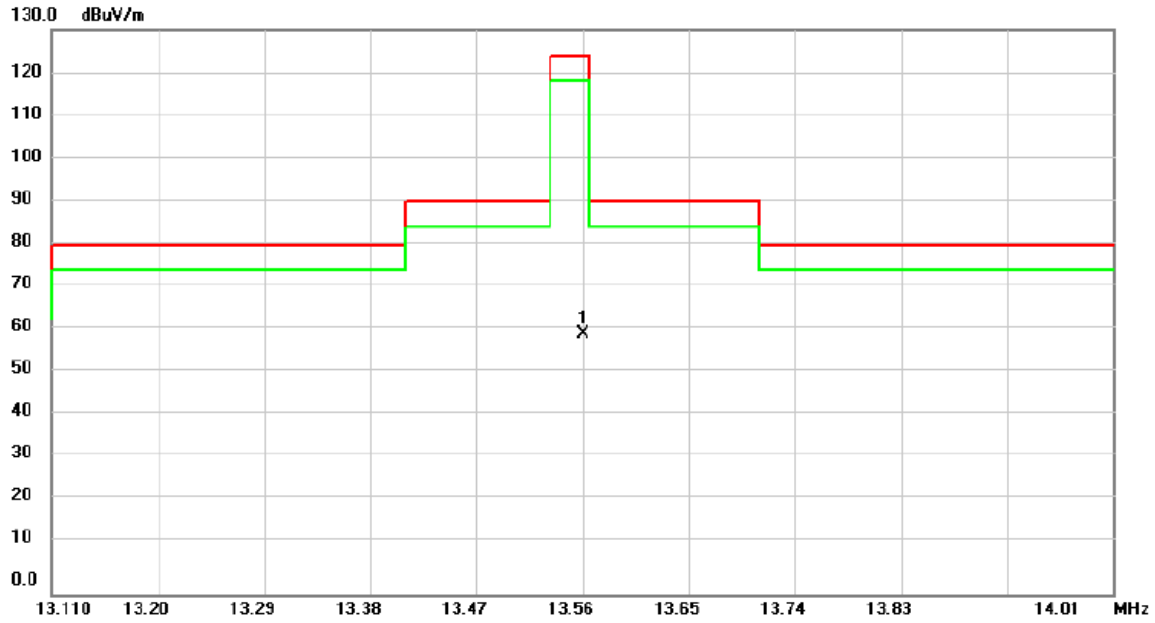
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5610	41.14	11.19	52.33	124.00	-71.67	peak	

Test Mode:	13.56MHz Transmit – Open_MP90AH



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5610	41.87	11.19	53.06	124.00	-70.94	peak	

Test Mode:	13.56MHz Transmit - Close_MP90AH



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5610	48.87	11.19	60.06	124.00	-63.94	peak	

ATTACHMENT E - FREQUENCY STABILITY MEASUREMENT

Test Mode:	13.56MHz Transmit

Frequency Stability Versus Environmental Temperature						
	Temperature (°C)	Voltage (AC)	Frequency (MHz)	Frequency Error (kHz)	Limit (kHz)	Result
	20	5V	13.56076	-	-	-
0 min	50	5V	13.56076	0.000	+/- 1.356	PASS
	-20	5V	13.56088	0.120	+/- 1.356	PASS
2 min	50	5V	13.56088	0.120	+/- 1.356	PASS
	-20	5V	13.56096	0.200	+/- 1.356	PASS
5 min	50	5V	13.56096	0.200	+/- 1.356	PASS
	-20	5V	13.56092	0.160	+/- 1.356	PASS
10 min	50	5V	13.56088	0.120	+/- 1.356	PASS
	-20	5V	13.56096	0.200	+/- 1.356	PASS

Fuequency Stability Versus Input Voltage						
Temperature (°C)	Voltage (AC)		Frequency (MHz)	Frequency Error (kHz)	Limit (kHz)	Result
20	V-nom	5	13.56092	-	+/- 1.356	PASS
20	V-min	4	13.56088	-0.04	+/- 1.356	PASS
20	V-max	6	13.56084	-0.08	+/- 1.356	PASS