RADIO TEST REPORT

COMPANY: **PARK AIR SYSTEMS LTD**
PRODUCT: **M7X TRANSCEIVER**

REPORT NO. **07029814**

WRITTEN BY:	**D A Legge**	_____
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Opinions and interpretations based on test results are outside our scope of UKAS Accreditation.

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TABLES

PLOTS

1. JOB DESCRIPTION

Equipment:	VHF Multimode ground to air Transceiver operating in the band 118 to 136.975MHz
Equipment Model No.:	M7X
Equipment Serial No.:	1N2014
Phase:	Compliance
Customer:	Park Air Systems Northfields Market Deeping Peterborough PE6 8UE
Test Plan Reference:	TP-131-054v2.0 15 August 2007
Test Standards:	CFR 47 Part 15 CFR 47 Part 87
FCC Ident	FRN 0003-7782-63
Test Location:	Intertek ETL Semko (Leatherhead)
Test Work Started:	06/11/2007
Test Work Completed:	23/11/2007

2. TEST SUMMARY

2.1. CFR 47 Part 2 and 87

TEST STANDARD	TEST	COMMENT
CFR47:2. 1046a, 87:131	Transmitter Power Output	Pass
CFR47:2. 1047a, 87.141a CFR47:2. 1047b 87. 141b	Modulation characteristics	Pass
CFR47:2. 1049c, 87.135,87.137	Occupied Bandwidth	Pass
CFR47:2. 1051, 2.1057, 87.139c	Transmitter Spurious emissions	Pass
CFR47:2 1053, 87.139	Radiated emissions – Transmit mode	Pass
CFR47:2 1055(a&b),87.133a CFR47:2 1055d, 87.133a	Frequency Stability	Pass

2.2. CFR47 Part 15

Product Specific Standard: CFR47 Part 15B

TEST STANDARD	TEST	COMMENT
CFR47 15: 107	Conducted Emissions	Pass
CFR47 15: 109	Radiated Emissions (Note 1)	Pass

Note 1: This test was carried out in a FCC registered semi lined chamber, which complies with FCC limits for Radiated Emissions over the frequency range 9 KHz - 1000MHz.

3. EQUIPMENT UNDER TEST (EUT)

3.1. Description of the EUT

The Park Air Systems Limited M7X transceiver is a multi-mode VHF/UHF digital ground station operating in the frequency band 118–399.975MHz with 25kHz/8.33kHz channel spacing.

For the equipment to be exported to the united states the product will be hardware configured to limit the radio capabilities to the following requirements:

Only AM(6K00A3E) operation shall be possible

Only 25kHz channel spacing shall be possible

Transmission shall be disabled in the bands 100-117.975MHz and 328.6 – 335.4MHz.

The M7C controller falls under the CFR47 part 15 rules as an unintentional radiator and only requires a Declaration of Conformity.Itis only used as part of a licensed station employing Park Air M7 radios. For this report emission testing has been carried out for Part 15B.

All tests shall be performed at the following frquencies unless stated otherwise.

118.000MHz

127.5MHz

136.975MHz

The EUT was tested as received with no external visible signs of damage and was of production quality.

3.2. EUT's Modes of Operation

All tests are performed in AM mode with 25kHz spacing producing 50W carrier power unless stated otherwise.

Standard test mode waveform profile is AM voice.

3.3. EUT Configuration Diagram

See test set up photographs.

3.4. EUT Support Equipment

Software control computer
30dB attenuator
100W 50 ohm load
Audio generator

3.5. Cables Associated With the EUT

EUT PORT	TYPE	LENGTH (m)	TERMINATION/LOAD
EUT	120vac 60Hz	2	13amp Plugtop

4. TESTS

4.1. Transmitter Output Power

The testing was performed in accordance with FCC CFR47:2 1046(a) and CFR47:87.131.

The RF power output was set to 50watts ± 1dB (unmodulated signal) and was measured at the antenna port via an attenuator using a Gigatronics RF Power meter and sensor head at the standard test frequencies.

4.2. Transmitter Output Power Test Results

Table 1 Transmitter Output Power

Frequency MHz	Power dBm	Power Watts	Limit Watts 50w ± 1dB
118.00	47.178	52.21	40 - 63
127.50	47.141	51.77	40 – 63
136.975	47.314	53.87	40 - 63

4.3. Modifications Performed During Testing

None.

4.4. Transmitter Output Power Tests

The EUT complied with CFR47:2.1046(a), CFR47 Part 87.131 and TP131-054v2.0

5. MODULATION CHARACTERISTICS

5.1. TEST PROCEDURE

The testing was performed as required by CFR47:2 1047(a) and CFR47: 7.141(a).

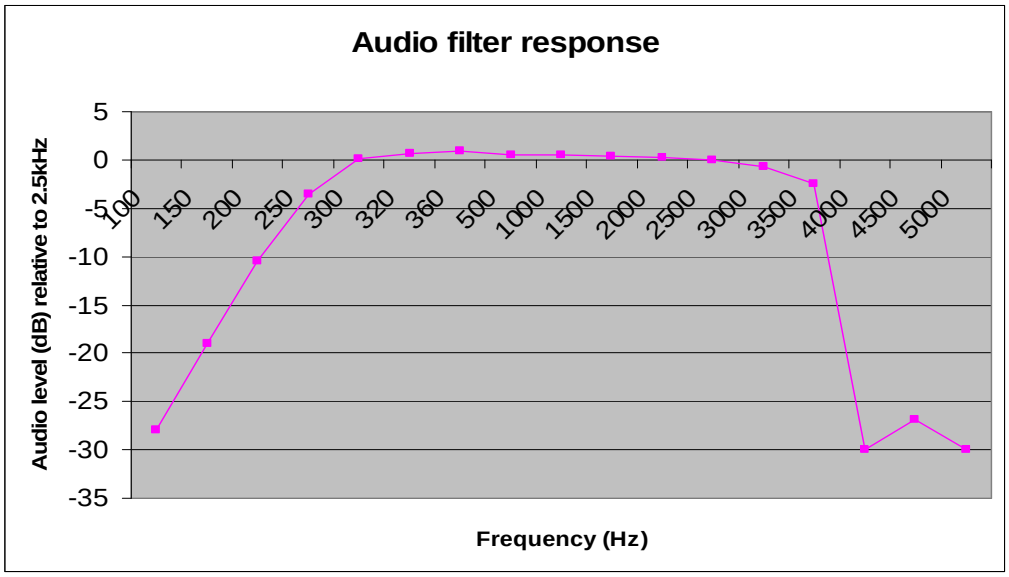
The transmitter is set to its mid band frequency of 127.5MHz and an audio test signal of 2.5kHz is applied to the line input of the transmitter. The audio input level is adjusted to 6.05volts to give a modulation depth of 50% at 2.5kHz. The audio frequency was then varied between 100Hz and 5kHz and the demodulated amplitude levels are recorded and presentented as a characteristic curve based on the 2.5kHz reference level. The test was then repeated using reference tones of 300 Hz and 3.4 kHz

Table 2 gives the demodulated amplitude levels in dB with reference to 0dB reference level for 2.5kHz. Plot 1 shows the characteristic curve.

Table 2 Audio Filter Response

Frequency Hz	Level dB	Frequency Hz	Level dB
100	-28	2500	0
250	-3.6	3000	-0.65
300	-1.5	3500	-2.4
500	-0.55	4000	-3.0
1000	-0.55	4500	-26.8
1500	-0.34	5000	-30.0
2000	-0.2		

Maximum modulation depth occurred at 360Hz. The input level to give 50% modulation was 0.9v.



Plot 1 Audio Filter Response

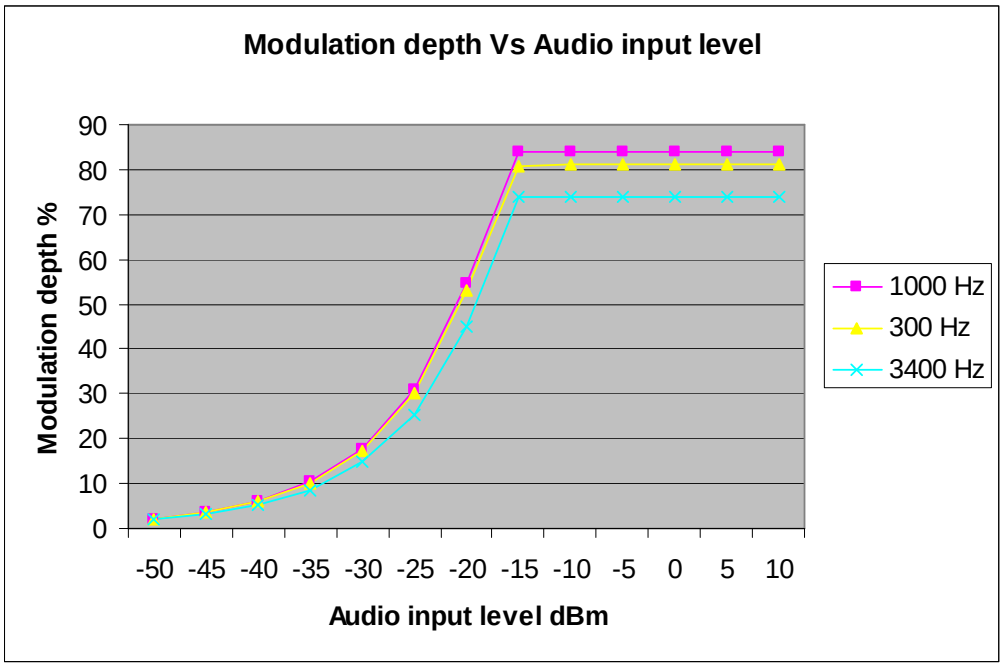
5.2. Modulation Depth Characteristics

5.2.1 Test Procedure

The transmitter was set to its mid band channel of 127.5MHz and a test signal of 1kHz is applied to the line input of the transmitter.
The audio input level is then varied from -50dBm + 10dBm and the variation in the % depth of modulation is observed and recorded. The test is then to be repeated for a 300Hz tone and a 3.4kHz tone.
The results are presented in table 3 and as a set of characteristic curves in plot 2.

Table 3 Modulation Depth Characteristics

300 Hz Tone		1000 Hz Tone		3400 Hz Tone	
Audio dBml	Mod Depth	Audio Level	Mod Depth	Audio Level	Mod Depth
-50	2.2	-50	2.2	-50	2.2
-45	3.5	-45	3.8	-45	3.2
-40	5.9	-40	6.1	-40	5.2
-35	9.9	-35	10.3	-35	8.6
-30	17.2	-30	17.8	-30	14.7
-25	30.0	-25	31.1	-25	25.5
-20	53.0	-20	54.8	-20	45.0
-15	80.8	-15	83.8	-15	74.0
-10	81.0	-10	84.0	-10	74.0
-5	81.1	-5	84.0	-5	74.0
0	81.2	0	84.0	0	74.1
+5	81.2	+5	84.0	+5	74.1
+10	81.2	+10	84.0	+10	74.1



Plot 2 Modulation Depth Response

6. OCCUPIED BANDWIDTH

6.1. Test Procedure

The transmitter is set to its mid band channel of 127.5MHz in a 25kHz channel. The audio input to the transmitter was connected to an audio generator with an output frequency of 2.5kHz. The RF output from the transmitter was monitored using a spectrum analyser with a frequency span of 50kHz and a resolution bandwidth of 500 Hz using a peak detector.

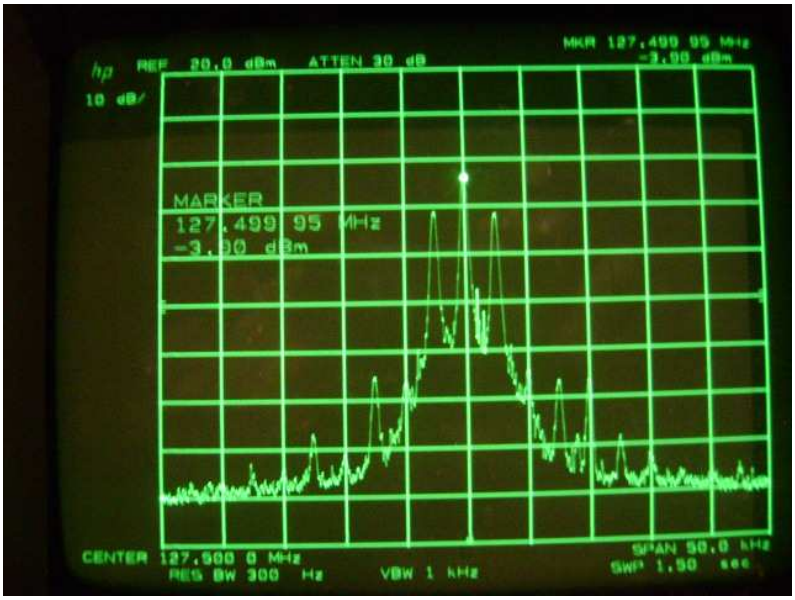
The audio input to the transmitter was connected to an audio generator with an output frequency of 2.5kHz The audio input level was adjusted to be +16dB higher than the level required for the reference level for the modulation characteristic test (6.05volts). The transmitter was set to transmit and the levels were recorded within the 25kHz (Fc ± 12.5kHz).

6.2. Occupied Power Bandwidths Test Results

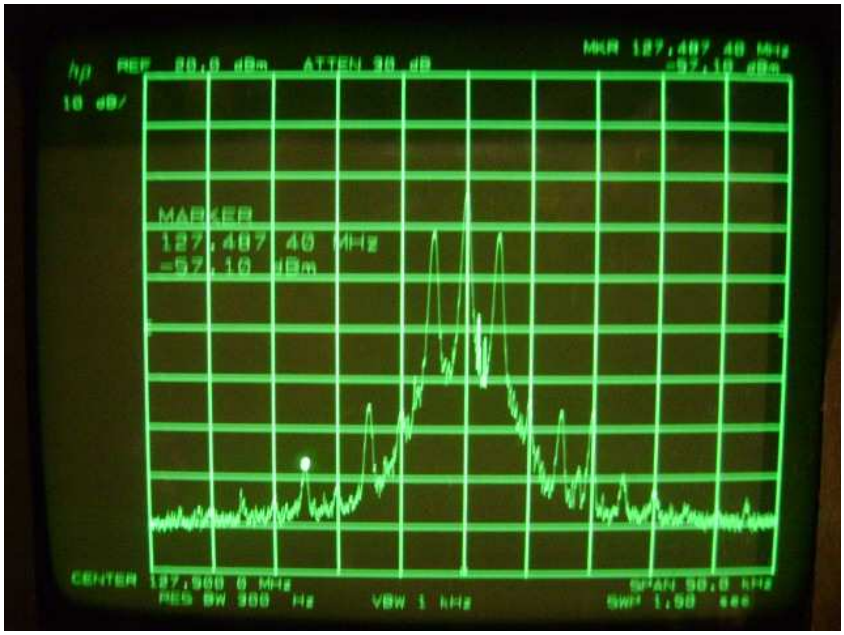
The test results are given in Table 4 and plots 3, 4 and 5.

Table 4 Occupied Power Bandwidth

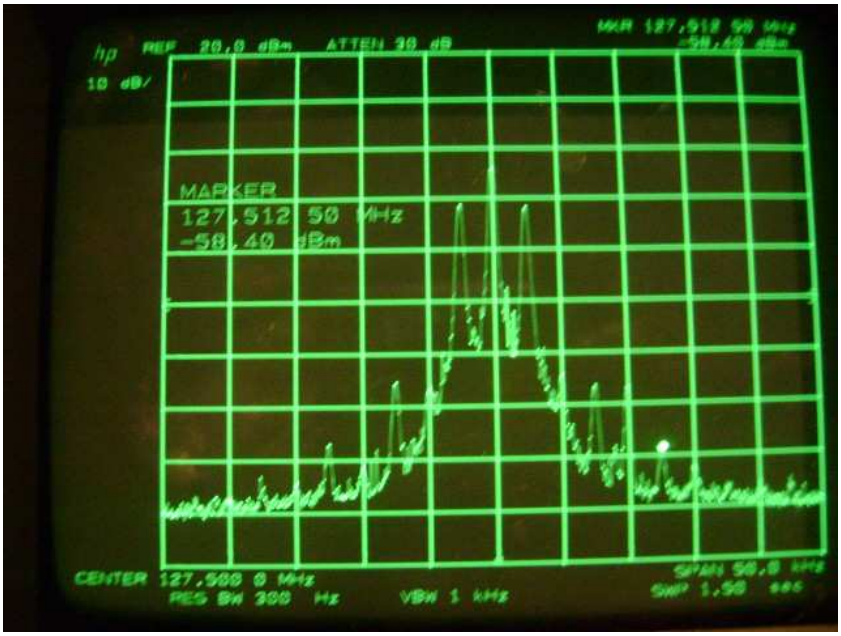
Frequency MHz	Power dBm	Power nWatts
127.49995 (cf)	-3.9	4073.80
127.48744 (lower)	-57.6	1.737
127.51250 (upper)	-58.4	1.44



Plot 3 Occupied Bandwidth



Plot 4 Occupied Bandwidth



Plot 5 Occupied Bandwidth

6.3. Modifications Performed During Testing

None.

6.4. Conclusions

The EUT complied with CFR47 87.139(c)

7. TRANSMITTER SPURIOUS EMISSIONS (ANTENNA PORT)

7.1. Test Procedure

The transmitter is set to its mid band channel of 127.5MHz transmitting at maximum power. The audio input to the transmitter was 2.5kHz at a level of 6.05volts to give 50% modulation + 16dB (vref +16). The RF output from the transmitter via a attenuator was connected too and monitored using a spectrum analyser with a frequency span of 200kHz and a resolution bandwidth of 3kHz using a peak detector.
All harmonics and spurious emissions must be less than:-

-25dBc 12.5 – 25.0 kHz from Fc

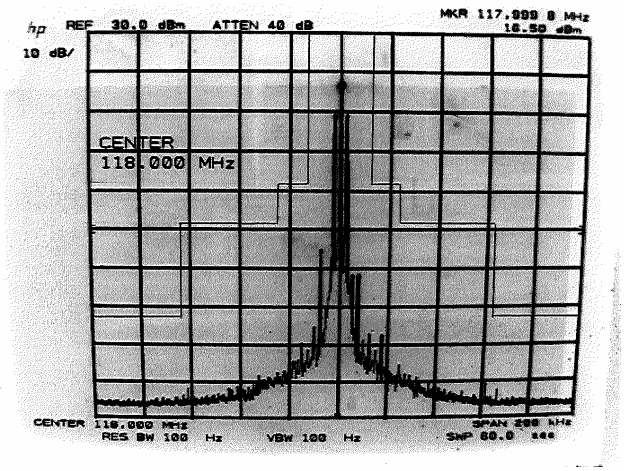
-35dBc 25.0 – 62.5 kHz from Fc

-60dBc 60.0 from Fc

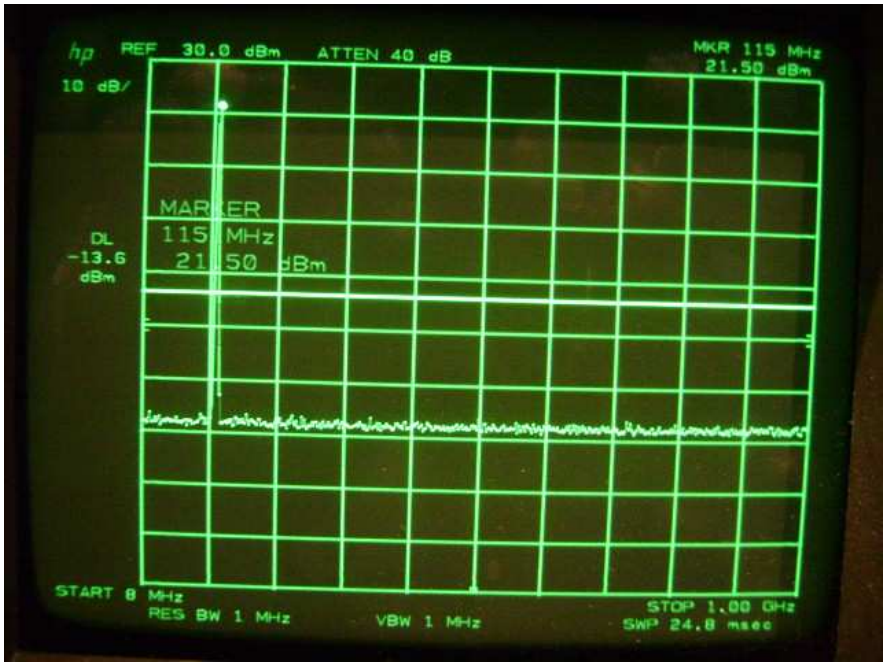
The test was then repeated for 118.0MHz and 136.975MHz

7.2. Test Results

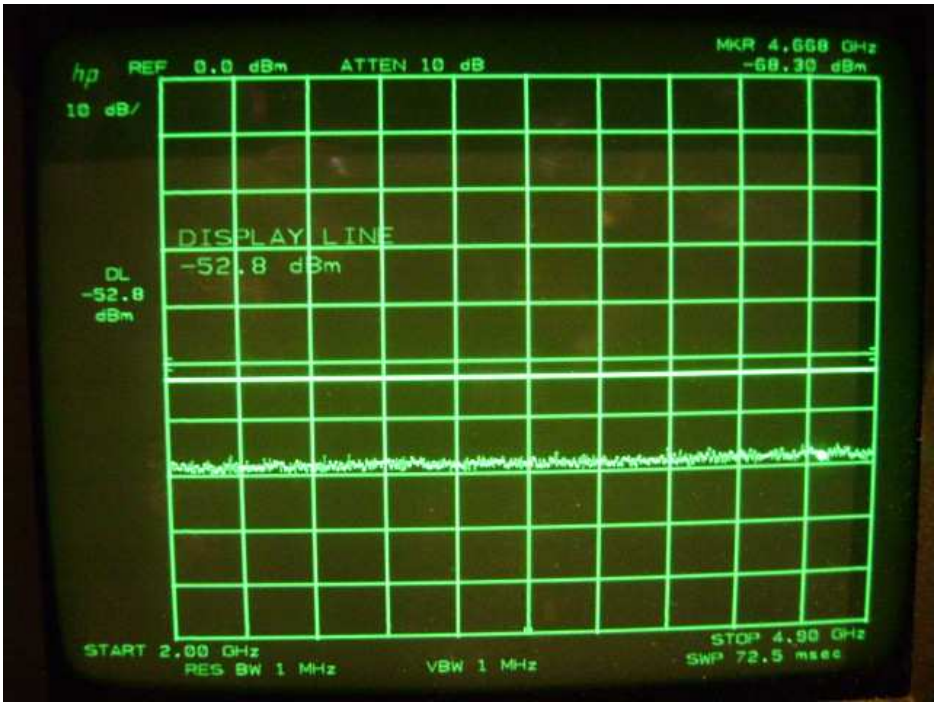
The test results are for the three test frequencies are presented in plots 6 to 22.



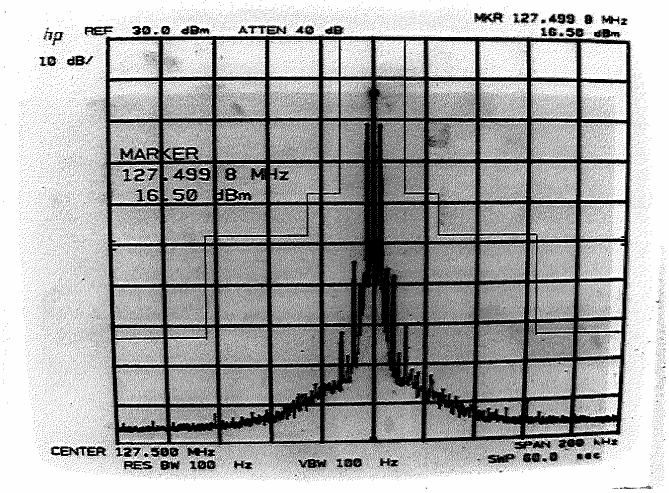
Plot 6 Transmitter Spurious Emissions (Antenna Port)



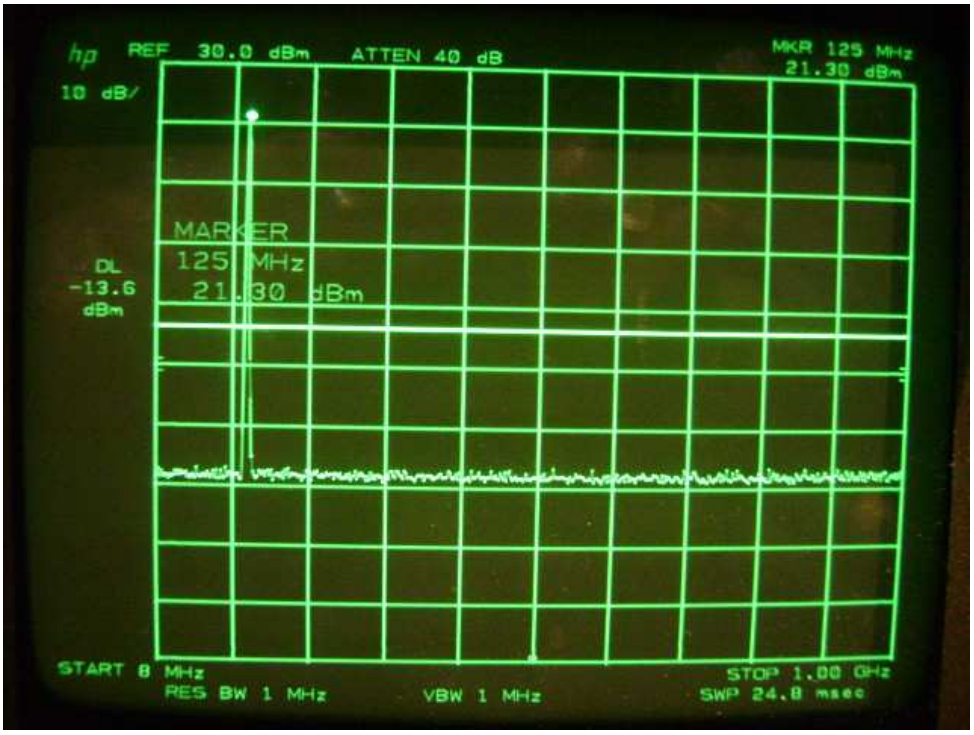
Plot 7 Transmitter Spurious Emissions (Antenna Port)



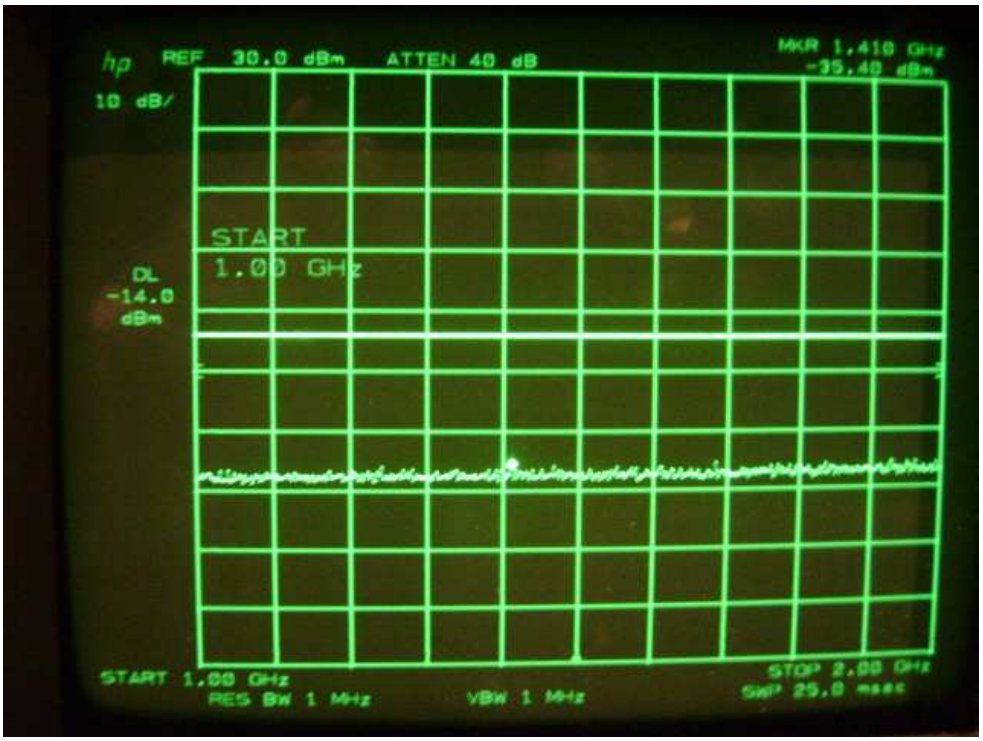
Plot 8 Transmitter Spurious Emissions (Antenna Port)



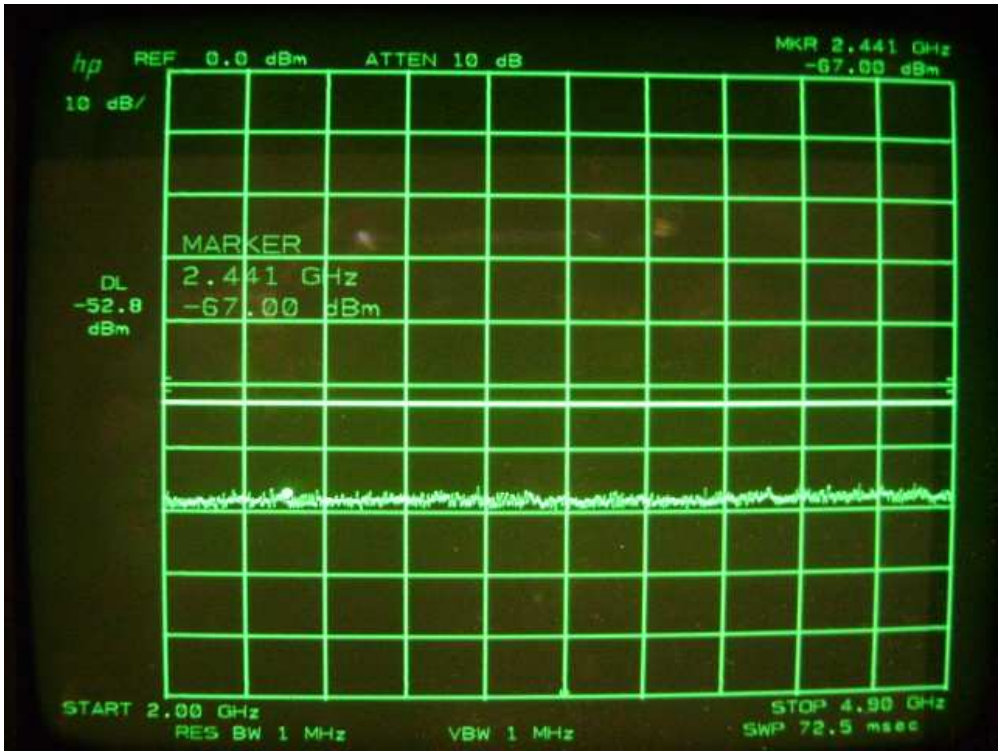
Plot 9 Transmitter Spurious Emissions (Antenna Port)



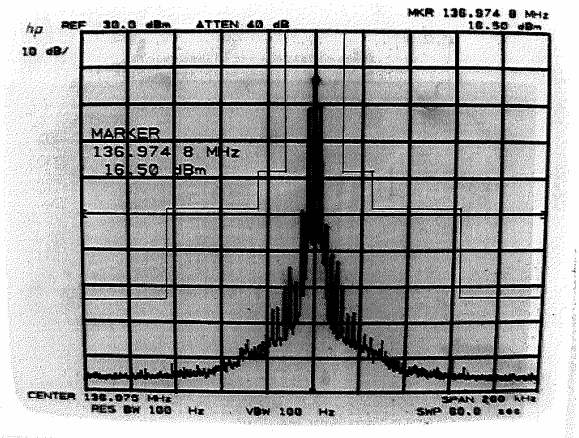
Plot 10 Transmitter Spurious Emissions (Antenna Port)



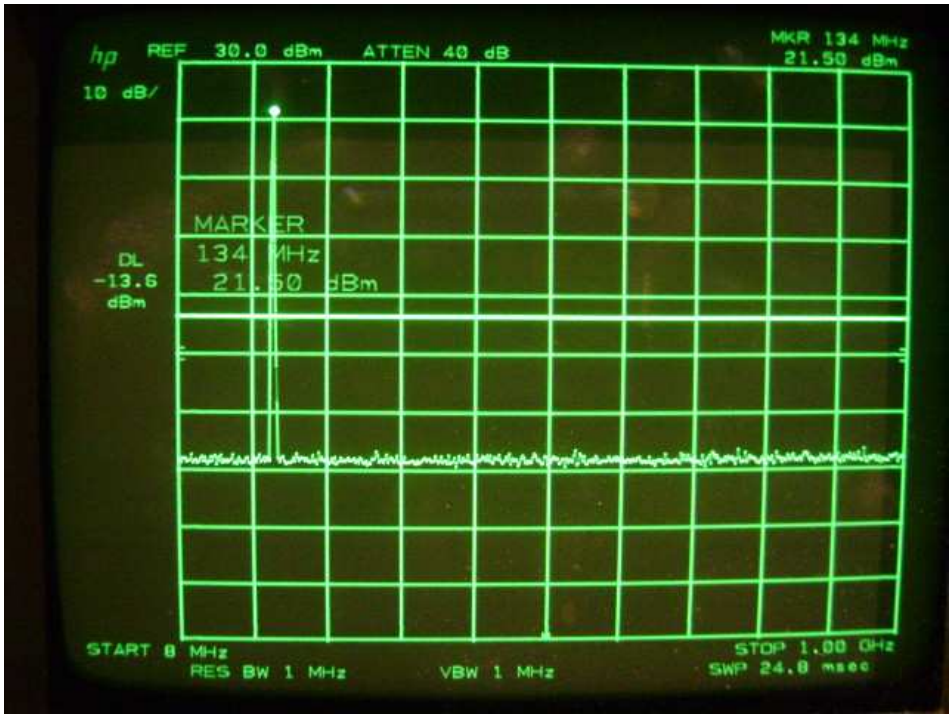
Plot 11 Transmitter Spurious Emissions (Antenna Port)



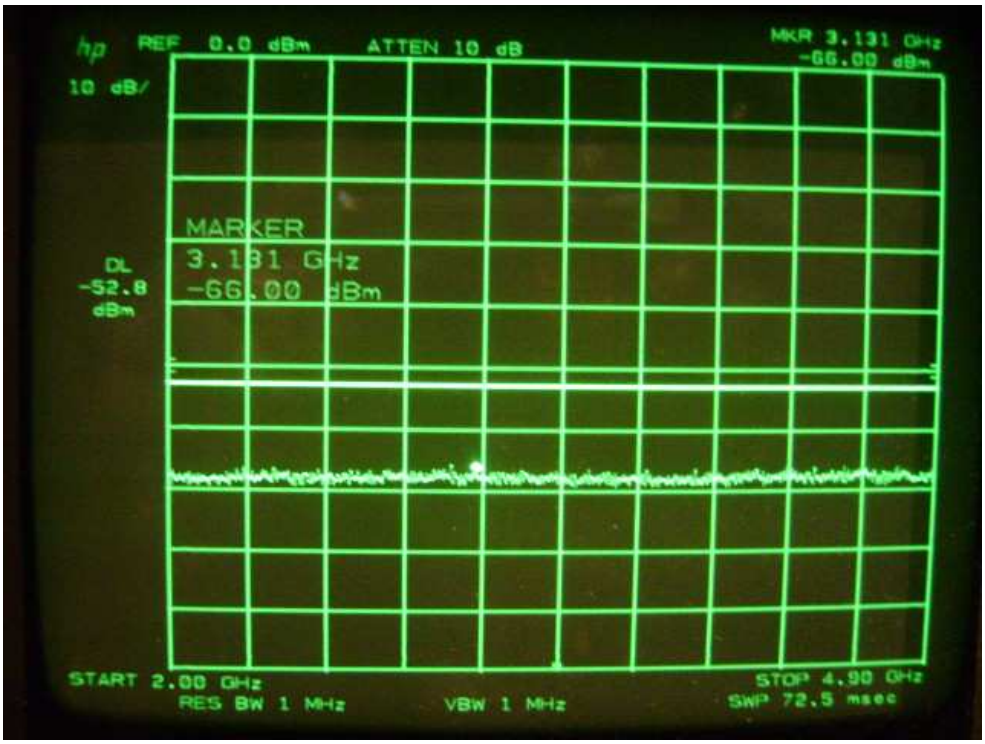
Plot 12 Transmitter Spurious Emissions (Antenna Port)



Plot 13 Transmitter Spurious Emissions (Antenna Port)



Plot 14 Transmitter Spurious Emissions (Antenna Port)



Plot 15 Transmitter Spurious Emissions (Antenna Port)

7.3. Conclusions

The EUT complied with CFR47 Part 87.139(c).

8. RADIATED EMISSIONS (TRANSMIT MODE)

8.1. Test Method

The testing was performed in a semi lined anechoic chamber which is listed with the FCC.The test site was of 3m distance with a turntable and a antenna support mast which could traverse 1- 4m.
The test sample was placed on a 0.8m non conductive support table with the non radiating load adjacent to it. The sample was powered by 120vac 60Hz. The initial pre-scan testing was carried out using a peak detector and recorded frequencies at which further investigation was required. The final measurements were carried out using a quasi peak detector and the levels optimised for height and orientation. Any levels found with 20dB of the test limit would be further investigated using the substitution method.
These tests were carried out for all three test frequencies from 8MHz to 3GHz.

8.2. Test Results

There were no spurious emissions within 20dB of the test limit.

The test results are given in tables 5 - and plots 17 – 22.

Table 5 Radiated Emission – Transmit Mode

EUT M7X+ C7X
Manufacturer Park Air
Operating Mode Transmitting 50W Modulated
standard FCC Part15B:109B
temp 24.5
humidity 42
operator DAL
Scan Tx Prescan

PEAK Horizontal

Frequency(Hz)	Level(dBuV/m)	Height(m)	Polar	Angle(Deg)	Limit(dBuV/m)	Margin(dBuV/m)	Comment	Detector	RBW(Hz)
127.495 M	52.49	2.09	--	69.00	43.50	8.99		PEAK	120.0 k
196.354 M	19.43	3.12	|	238.00	43.50	-24.07		PEAK	120.0 k
221.191 M	18.69	2.36	|	330.00	46.00	-27.31		PEAK	120.0 k
229.505 M	18.45	3.86	|	132.00	46.00	-27.55		PEAK	120.0 k

PEAK Vertical

Frequency(Hz)	Level(dBuV/m)	Height(m)	Polar	Angle(Deg)	Limit(dBuV/m)	Margin(dBuV/m)	Comment	Detector	RBW(Hz)
32.866 M	26.06	3.35	|	204.00	40.00	-13.94		PEAK	120.0 k
33.506 M	22.96	3.60	|	37.00	40.00	-17.04		PEAK	120.0 k
34.572 M	23.18	1.60	|	320.00	40.00	-16.82		PEAK	120.0 k
36.312 M	23.53	3.10	|	338.00	40.00	-16.47		PEAK	120.0 k
38.278 M	20.96	2.35	|	287.00	40.00	-19.04		PEAK	120.0 k
127.497 M	57.00	1.09	|	105.00	43.50	13.50		PEAK	120.0 k
229.397 M	33.15	1.09	|	304.00	46.00	-12.85		PEAK	120.0 k
262.173 M	29.39	1.34	|	53.00	46.00	-16.61		PEAK	120.0 k
311.331 M	23.14	1.09	|	283.00	46.00	-22.86		PEAK	120.0 k

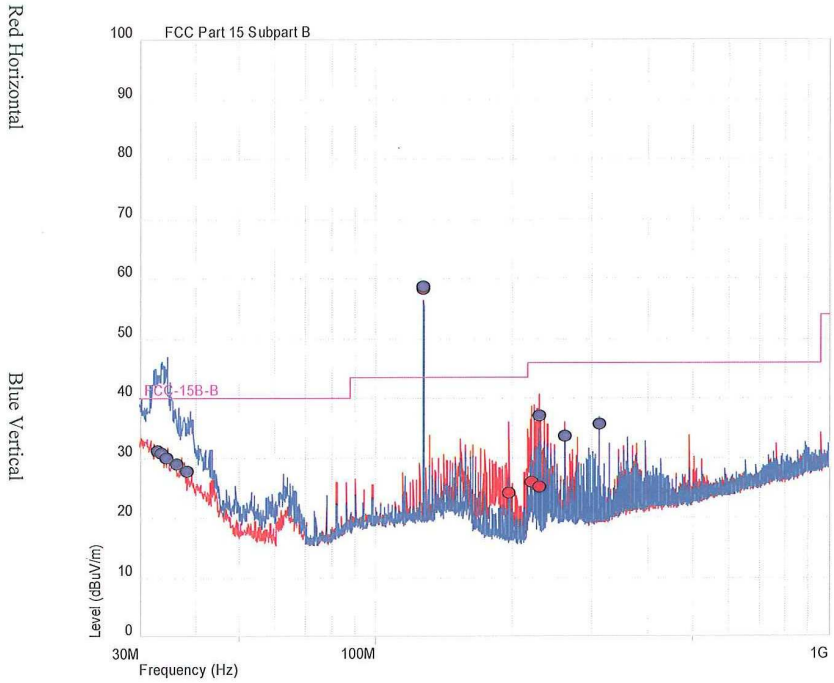
EUT M7X+ C7X
Manufacturer Park Air
Operating Mode Transmitting 50W Modulated
standard FCC Part15B:109B
temp 24.5
humidity 42
operator DAL
Scan Tx Final

QP Horizontal

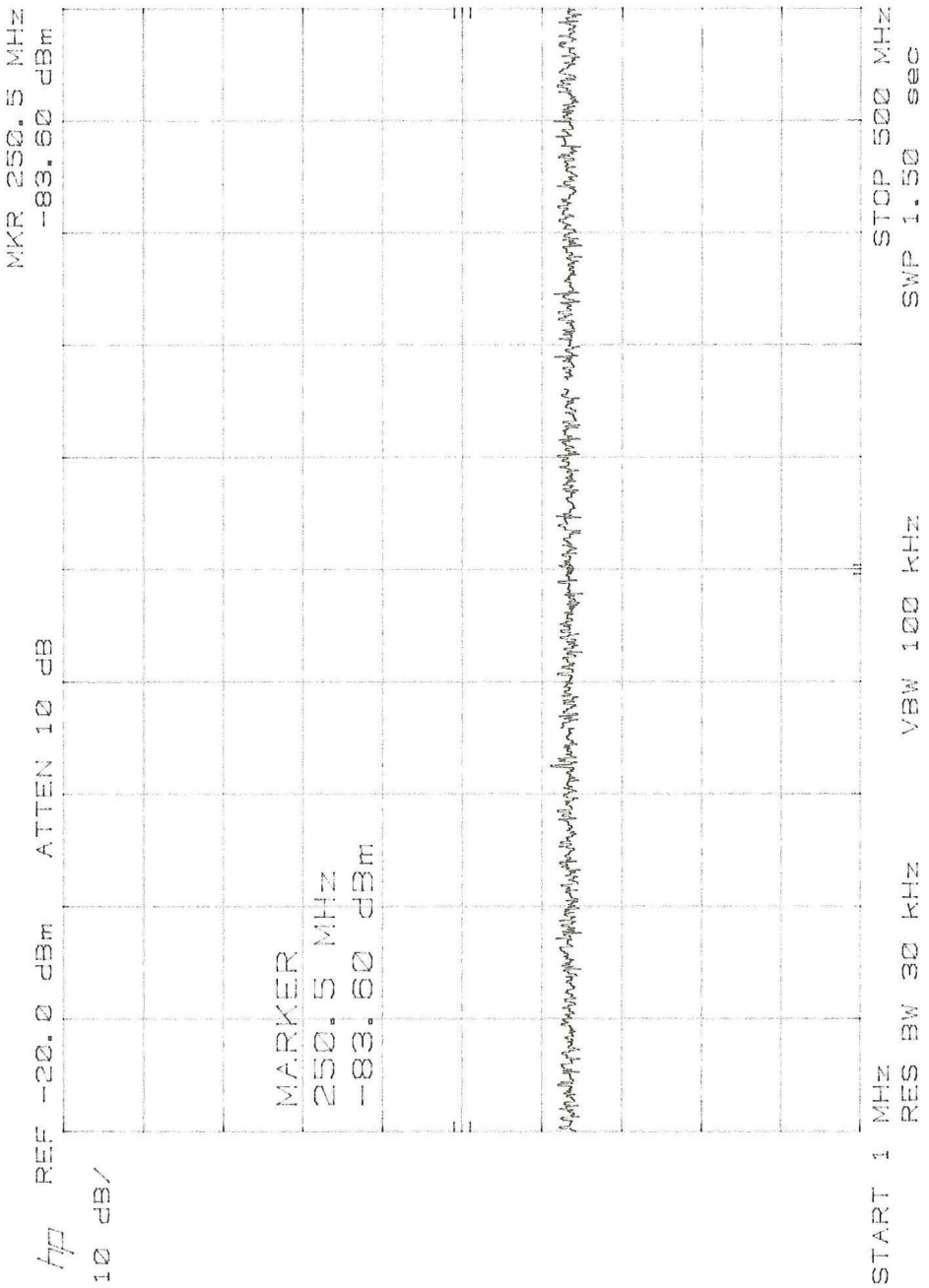
Frequency(Hz)	Level(dBuV/m)	Height(m)	Polar	Angle(Deg)	Limit(dBuV/m)	Margin(dBuV/m)	Comment	Detector	RBW(Hz)
127.495 M	58.27	2.09	--	69.00	43.50	14.77		QP	120.0 k
196.354 M	24.13	3.12	|	238.00	43.50	-19.37		QP	120.0 k
221.191 M	26.04	2.36	|	330.00	46.00	-19.96		QP	120.0 k
229.505 M	25.25	3.86	|	132.00	46.00	-20.75		QP	120.0 k

QP Vertical

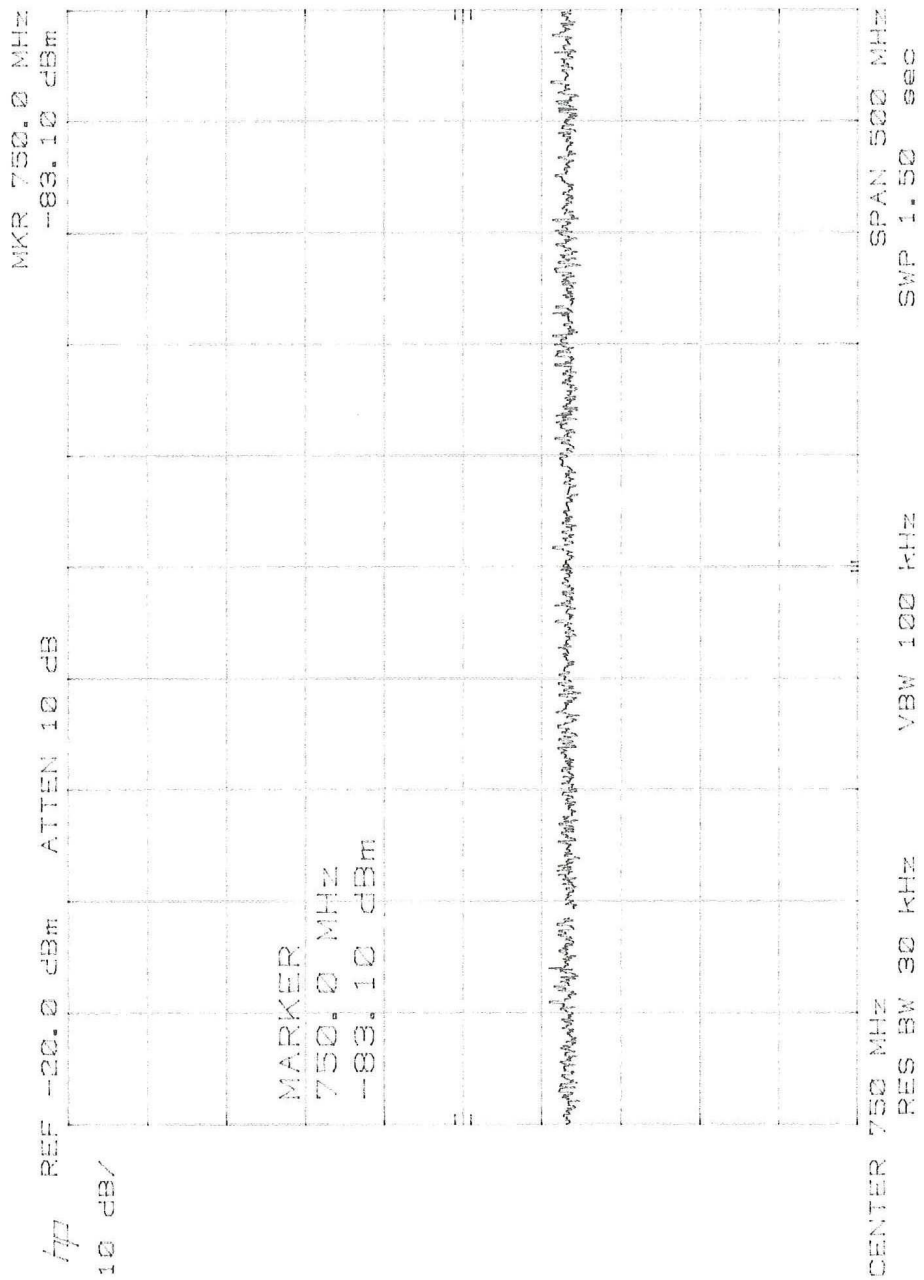
Frequency(Hz)	Level(dBuV/m)	Height(m)	Polar	Angle(Deg)	Limit(dBuV/m)	Margin(dBuV/m)	Comment	Detector	RBW(Hz)
32.866 M	31.28	3.35	|	204.00	40.00	-8.72		QP	120.0 k
33.506 M	30.71	3.60	|	37.00	40.00	-9.29		QP	120.0 k
34.572 M	30.03	1.60	|	320.00	40.00	-9.97		QP	120.0 k
36.312 M	28.91	3.10	|	338.00	40.00	-11.09		QP	120.0 k
38.278 M	27.87	2.35	|	287.00	40.00	-12.13		QP	120.0 k
127.497 M	58.71	1.09	|	105.00	43.50	15.21		QP	120.0 k
229.397 M	37.08	1.09	|	304.00	46.00	-8.92		QP	120.0 k
262.173 M	33.59	1.34	|	53.00	46.00	-12.41		QP	120.0 k
311.331 M	35.56	1.09	|	283.00	46.00	-10.44		QP	120.0 k



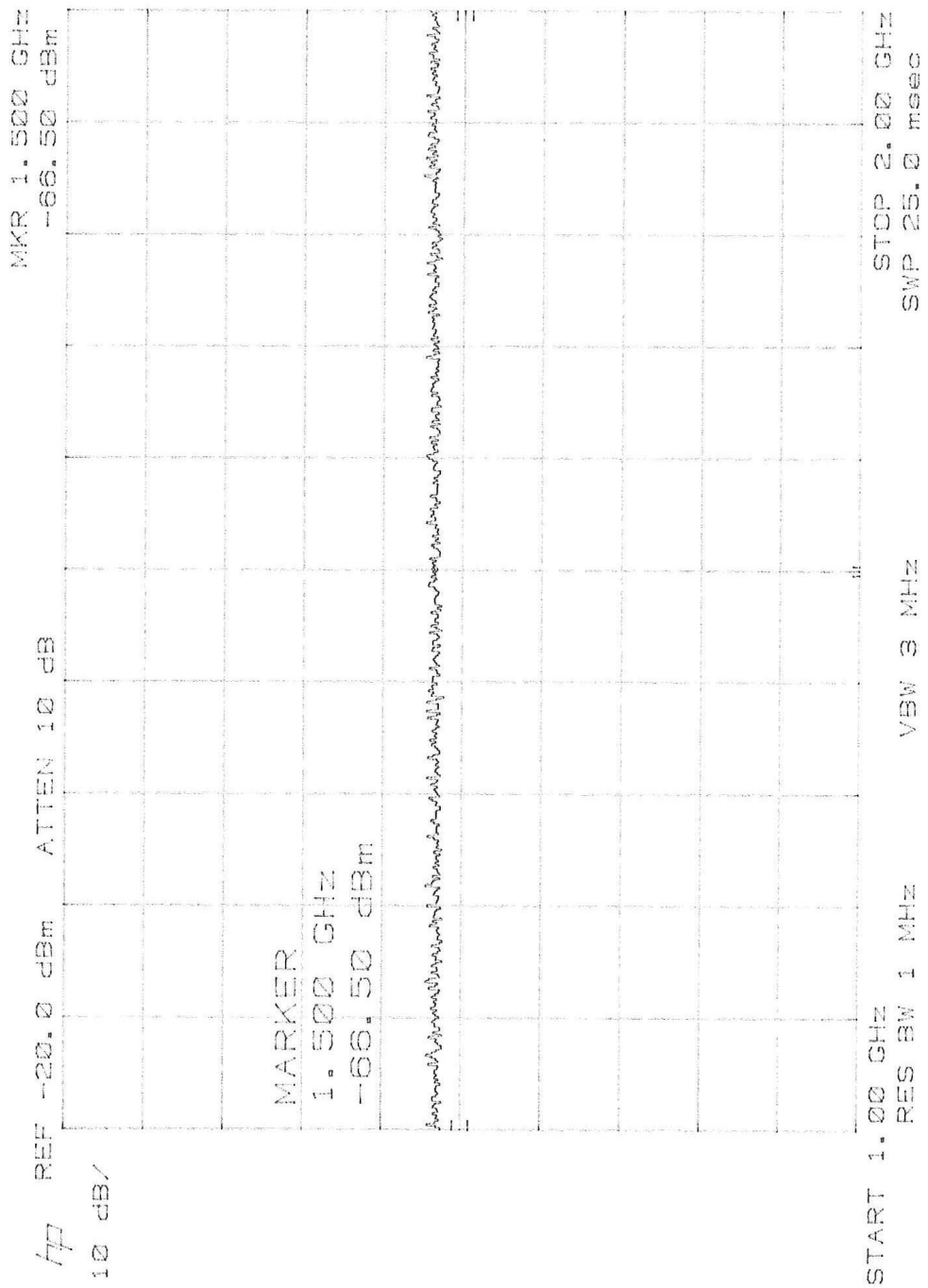
Plot 16 Transmitter Spurious Emissions (Antenna Port)



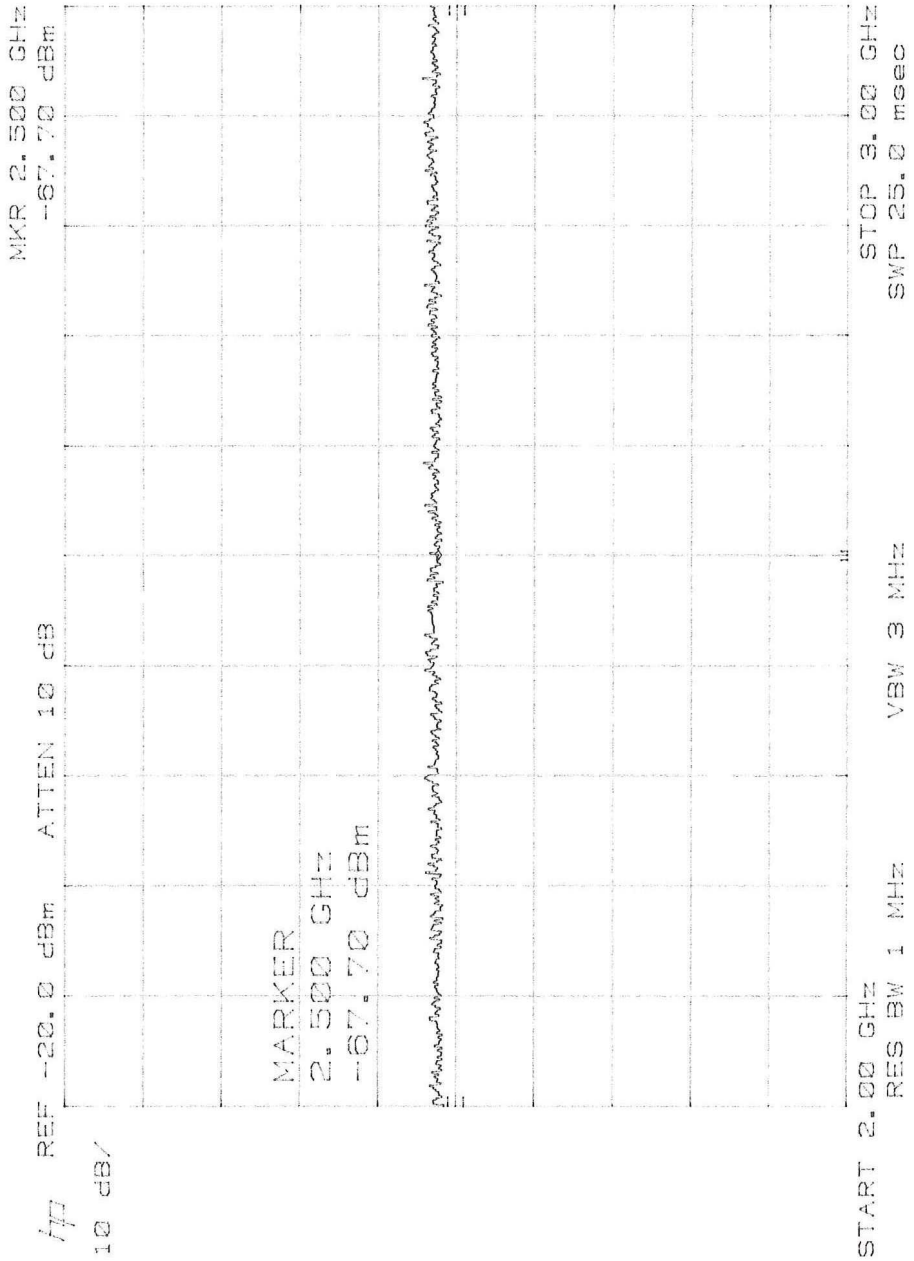
Plot 17 Radiated Emissions (Transmit Mode)



Plot 18 Radiated Emissions (Transmit Mode)



Plot 19 Radiated Emissions (Transmit Mode)



Plot 20 Radiated Emissions (Transmit Mode)

8.3. Conclusions

The EUT complied with CFR47 Part 87.139

FREQUENCY STABILITY

8.4. Test Method

The testing was carried out in two parts, one section performed whilst varying the mains voltage by ± 15% of the nominal voltage of 120vac. The second section whilst varying the temperature from -30ºc to +50ºc in an environmental chamber with a nominal humidity level of 50%.

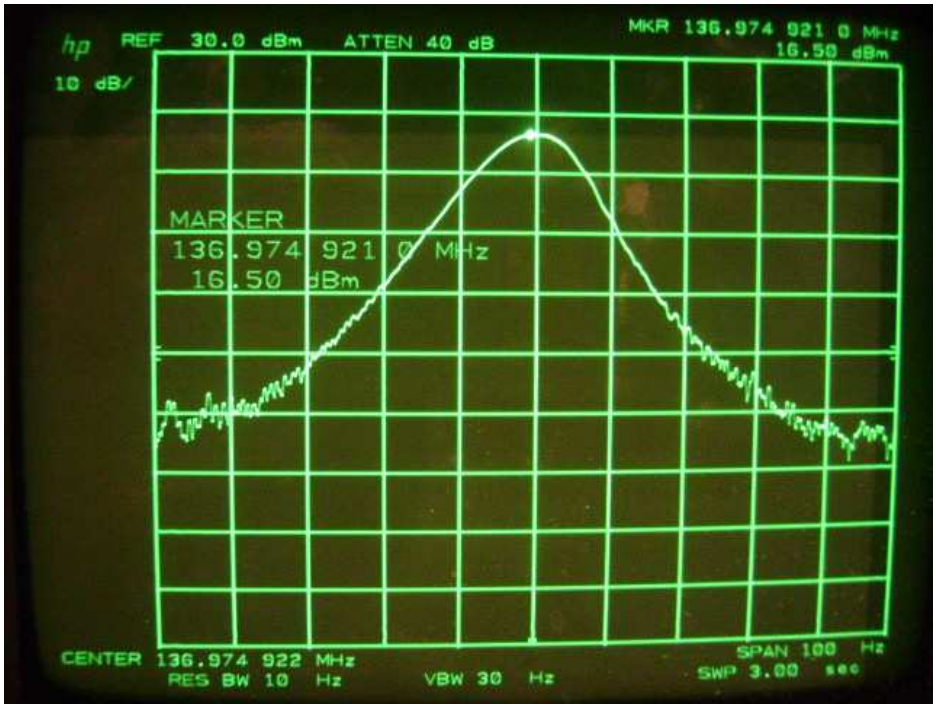
1) The mains voltage was varied using a variac with EUT voltage monitored by a digital voltmeter.

The Transceiver was set 136.975MHz and connected via an attenuator to a spectrum analyser. The EUT voltage was adjusted to 102vac and the frequency was recorded. The EUT voltage was then adjusted to 138vac and the frequency recorded. The EUT was then tested using a secondary DC supply of 28vdc ± 4.2vdc. The results are presented in table 6.

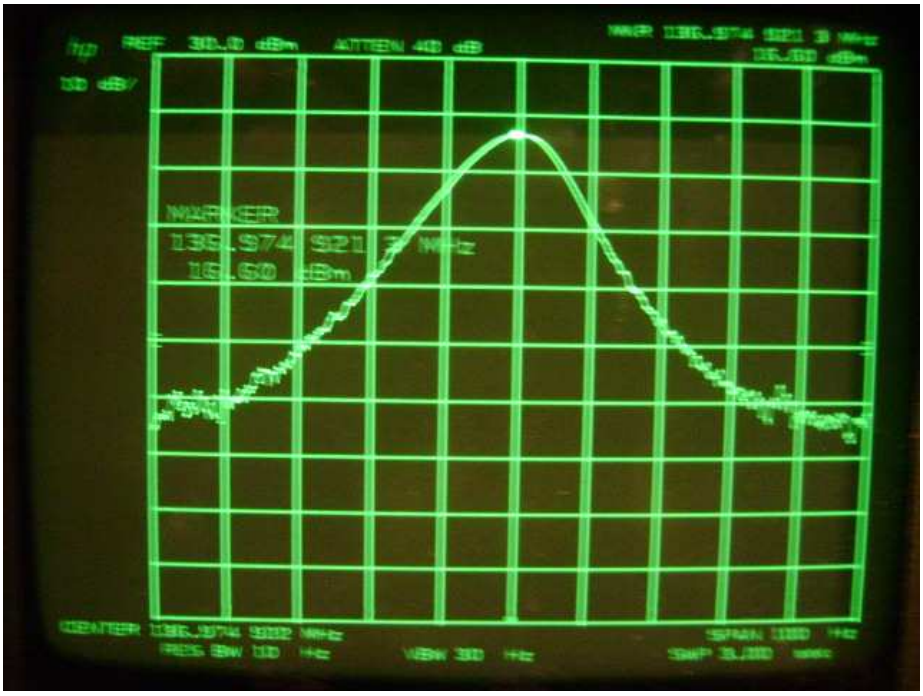
Table 6 Frequency Stability (Voltage)

Test Voltage	Frequency MHz	Error ppm
120vac(nominal)	136.974921	0
102	136.974921	0
138	136.974921	0
28.0dc(nominal)	136.974923	0
23.8	136.974923	0
32.2	136.974925	2

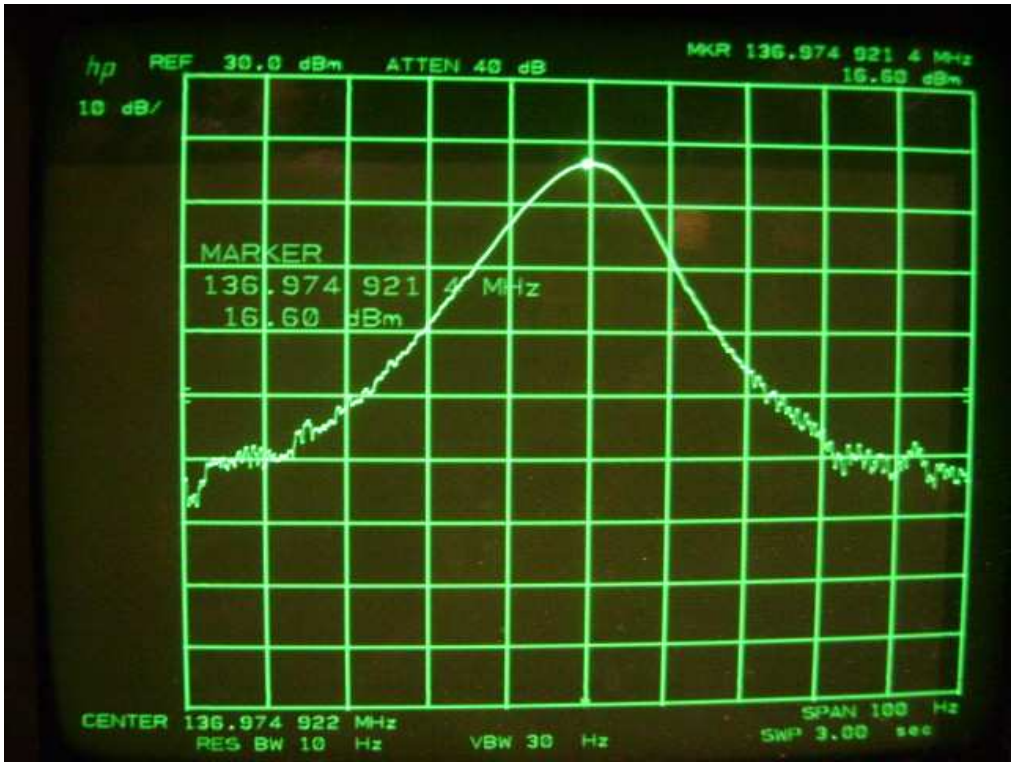
Note: Measurement Uncertainty ± 10Hz



Plot 21 Freqency Stability – 102vac



Plot 22 Frequency Stability – 120vac(nominal)



Plot 23 Frequency Stability – 132vac

2) The EUT was positioned inside an environmental chamber with all connections passing through the chamber access tube. The EUT was powered at nominal voltage of 120vac with the Transceiver RF output connected via an attenuator to the monitor spectrum analyser outside the chamber. The environmental chamber temperature and humidity were remotely controlled by computer.

The chamber was initially stabilised at 22ºc for ambient temperature measurement. The chamber was then set to +55º and allowed to stabilise for 30 minutes before the frequency measurement was taken. This procedure was carried out for all the temperature changes between +55º and - 30º. The RF powers were also recorded to monitor amplitude variation.

Table 7 Frequency Stability (Temperature)

Temperature ºc	Frequency MHz	Limits ± 27Hz	Power dBm
-30	136.974937	-2	26.1
-20	136.974937	-2	26.1
-10	136.974938	-1	26.4
0	136.974939	0	26.6
+10	136.974939	0	26.7
+20	136.974938	-1	26.4
+22(ambient)	136.974939	0	26.7
+30	136.974938	-1	26.5
+40	136.974939	0	26.6
+50	136.974938	-1	26.9

Note:- Measurement Uncertainty ± 10Hz

8.5. Conclusions

The EUT complied with CFR47 Part 15.109.

9. RADIATED EMISSIONS (RECEIVE MODE)

9.1. Test Method

The testing was performed in accordance with CFR47: Part 15:109 in an FCC registered test site.
The M7X transceiver and the M7C controller were positioned on a 0.8m high non conductive support table with the measuring antenna positioned at 3m distance. The transceiver was set to 127.5MHz (receive mode). Initially a frequency prescan was carried out covering the frequency range 30 to 1000MHz using a spectrum analyser in peak detector mode to determine frequencies of interest. A final measurement was carried out with a measuring receiver using a quasi peak detector.
For each frequency of interest the EUT was rotated for 360º the antenna height was traversed from 1 to 4m height to give optimised amplitude levels.

9.2. Test Results

The test results are given in Table 8 and plot 26.

Table 8 Radiated Emissions (Receive Mode)

EUT : M7X Transceiver
Manufacturer : Park Air Systems
Operating Mode : Receiving
Standard: FCC CFR 47 Part 15 B : 109
Temp : 4.5° C
humidity : 42%
Scan Pre-scan

PEAK Horizontal

Frequency(Hz)	Level(dBuV/m)	Height(m)	Polar	Angle(Deg)	Limit(dBuV/m)	Margin(dBuV/m)	Comment	Detector	RBW(Hz)
31.497 M	24.49	3.35	|	44.00	40.00	-15.51		PEAK	120.0 k
34.536 M	23.53	1.34	|	103.00	40.00	-16.47		PEAK	120.0 k
59.066 M	12.96	3.11	--	212.00	40.00	-27.04		PEAK	120.0 k
76.762 M	15.11	2.86	|	324.00	40.00	-24.89		PEAK	120.0 k
104.654 M	19.05	1.09	|	249.00	43.50	-24.45		PEAK	120.0 k
171.799 M	17.36	2.85	--	44.00	43.50	-26.14		PEAK	120.0 k
229.497 M	18.71	2.09	|	124.00	46.00	-27.29		PEAK	120.0 k

PEAK Vertical

Frequency(Hz)	Level(dBuV/m)	Height(m)	Polar	Angle(Deg)	Limit(dBuV/m)	Margin(dBuV/m)	Comment	Detector	RBW(Hz)
33.163 M	24.98	4.00	|	133.00	40.00	-15.02		PEAK	120.0 k
37.224 M	22.30	1.34	|	36.00	40.00	-17.70		PEAK	120.0 k
43.207 M	17.78	3.08	|	171.00	40.00	-22.22		PEAK	120.0 k
49.958 M	13.95	3.36	|	215.00	40.00	-26.05		PEAK	120.0 k
67.618 M	13.19	3.62	|	170.00	40.00	-26.81		PEAK	120.0 k
101.654 M	19.16	1.85	|	295.00	43.50	-24.34		PEAK	120.0 k
115.377 M	19.82	3.12	|	138.00	43.50	-23.68		PEAK	120.0 k
229.457 M	18.15	1.84	|	360.00	46.00	-27.85		PEAK	120.0 k

EUT : M7X Transceiver
Manufacturer : Park Air Systems
Operating Mode : Receiving
Standard: FCC CFR 47 Part 15 B : 109
Temp : 24.5° C
humidity : 42%
Scan : Final

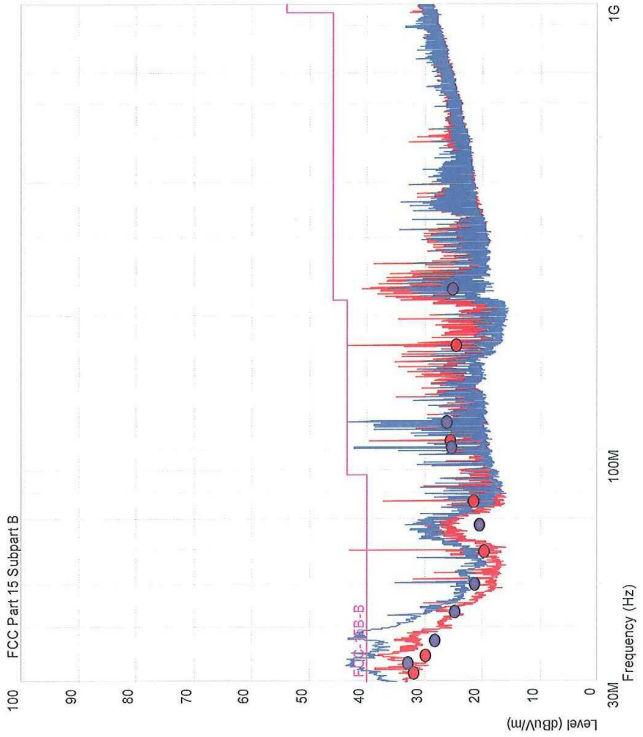
QP Horizontal

Frequency(Hz)	Level(dBuV/m)	Height(m)	Polar	Angle(Deg)	Limit(dBuV/m)	Margin(dBuV/m)	Comment	Detector	RBW(Hz)
31.497 M	31.85	3.35	|	44.00	40.00	-8.15		QP	120.0 k
34.536 M	29.73	1.34	|	103.00	40.00	-10.27		QP	120.0 k
59.066 M	19.65	3.11	--	212.00	40.00	-20.35		QP	120.0 k
76.762 M	21.42	2.86	|	324.00	40.00	-18.58		QP	120.0 k
104.654 M	25.49	1.09	|	249.00	43.50	-18.01		QP	120.0 k
171.799 M	24.47	2.85	--	44.00	43.50	-19.03		QP	120.0 k
229.497 M	25.17	2.09	|	124.00	46.00	-20.83		QP	120.0 k

QP Vertical

Frequency(Hz)	Level(dBuV/m)	Height(m)	Polar	Angle(Deg)	Limit(dBuV/m)	Margin(dBuV/m)	Comment	Detector	RBW(Hz)
33.163 M	32.77	4.00	|	133.00	40.00	-7.23		QP	120.0 k
37.224 M	28.27	1.34	|	36.00	40.00	-11.73		QP	120.0 k
43.207 M	24.84	3.08	|	171.00	40.00	-15.16		QP	120.0 k
49.958 M	21.27	3.36	|	215.00	40.00	-18.73		QP	120.0 k
67.618 M	20.43	3.62	|	170.00	40.00	-19.57		QP	120.0 k
101.654 M	25.41	1.85	|	295.00	43.50	-18.09		QP	120.0 k
115.377 M	26.25	3.12	|	138.00	43.50	-17.25		QP	120.0 k
229.457 M	25.17	1.84	|	360.00	46.00	-20.83		QP	120.0 k

EUT : M7X Transceiver
Manufacturer : Park Air Systems
Operating Mode : Receiving
Standard: FCC CFR 47 Part 15 B : 109
Temp : 24.5° C
humidity : 42%



Red Horizontal Blue Vertical

Plot 24 Radiated Emissions (Transmit Mode)

9.3. Conclusions

The EUT(s) complied with CFR47 Part15.109.

10. CONDUCTED EMISSIONS

10.1. Test Method

The testing was performed in accordance with CFR47: Part 15B:107 in a screened enclosure.The M7X transceiver was positioned on a 0.8m high non conductive support table and 0.4m from the reference groundplane upright. The EUT was set to 127.5 MHz(receive mode) with a power supply of 120vac 60Hz via an Artificial Mains Network.
The frequency range tested was 0.15MHz to 30MHz using a measuring receiver with a quasi peak detector.

10.2. Test Results

The test results are given in Table 9 and plot 26.

Table 9 Conducted Emissions (Receive Mode)

EM07028142 23 Nov 2007 09:53

Conducted Emissions

EUT:	M7X Transceiver
Manuf:	Park Air Systems
Op Cond:	115vac 60 Hz
Operator:	DALegge
Test Spec:	FCC CFR47 Part 15B:107
Comment:	L&N - Modified mains input Receive mode
Result File:	28142l.dat : Park Air Full TX mode 115V 60Hz

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	5kHz	10kHz	PK+AV	20msec	Auto	OFF	60dB

Transducer	No.	Start	Stop	Name
1	21	9kHz	30MHz	8157
	22	9kHz	30MHz	LISN7473

Prescan Measurement:		
	Detectors:	X PK / + AV
	Meas Time:	see scan settings
	Subranges:	50
	Acc Margin:	10 dB

Peak Search Results

Frequency	PK Level	PK Limit	PK Delta	Ref. Offset	Phase	PE
MHz	dBµV	dBµV	dB	dB	-	-

No results

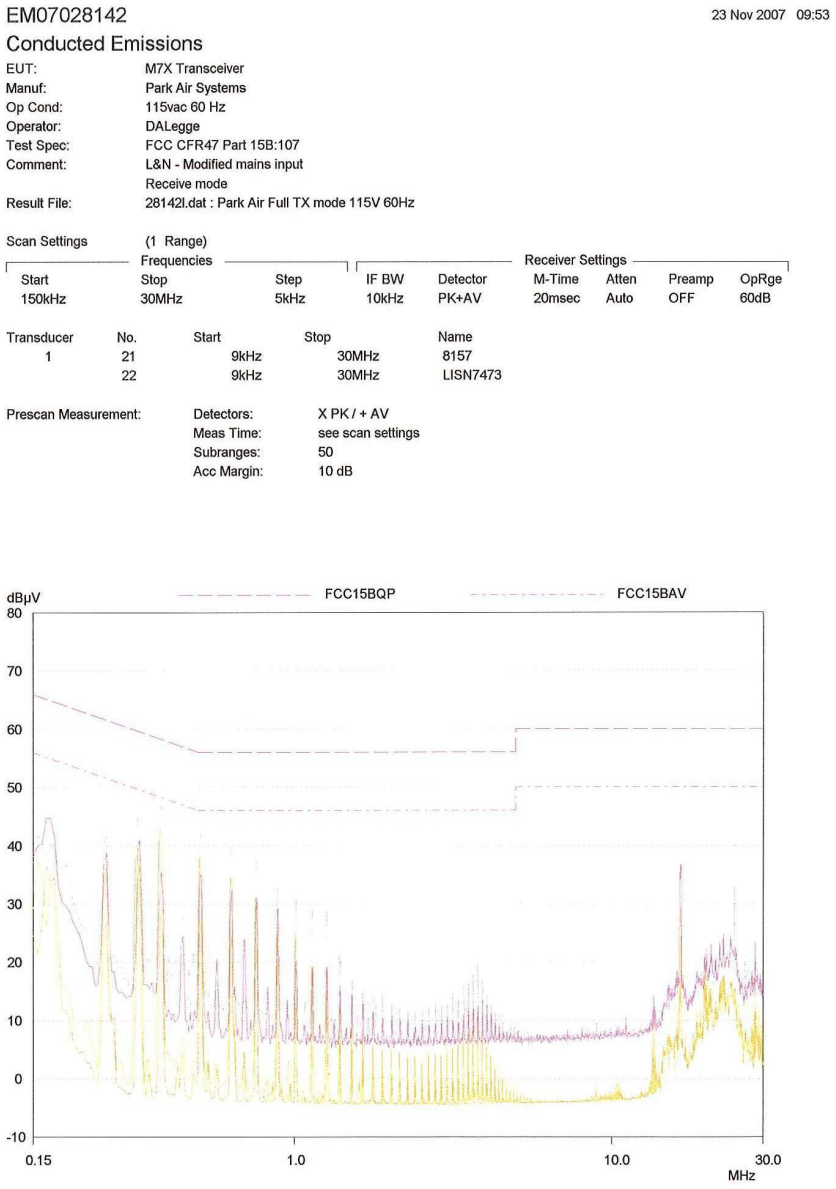
Frequency	AV Level	AV Limit	AV Delta	Ref. Offset	Phase	PE
MHz	dBµV	dBµV	dB	dB	-	-

No results

* limit exceeded

Indicated Phase/PE shows Configuration of max. Emission

PAGE 2

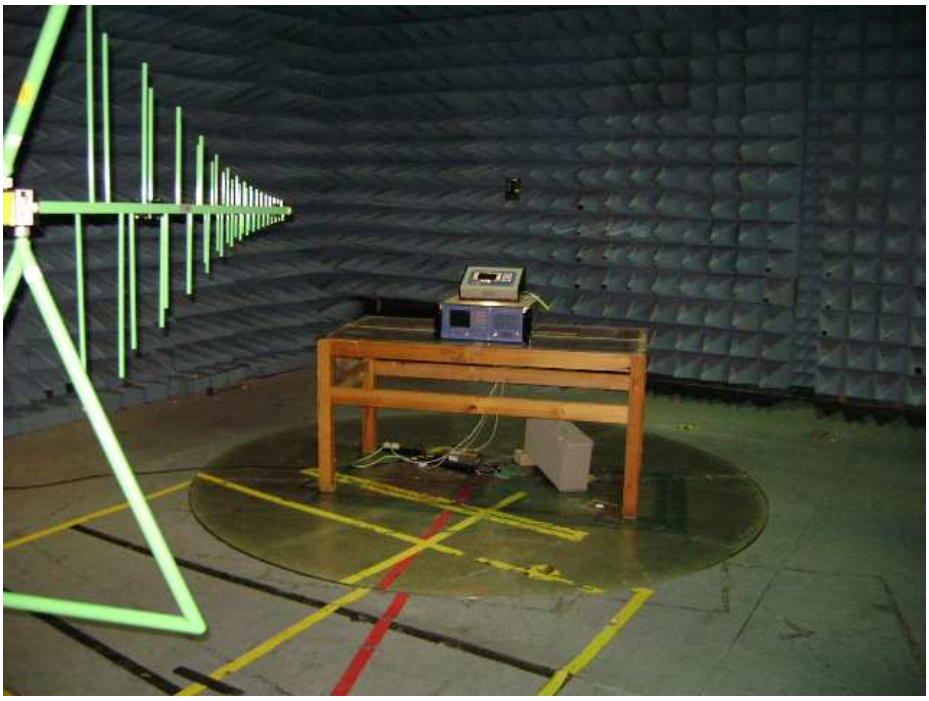


Plot 25 Radiated Emissions (Transmit Mode)

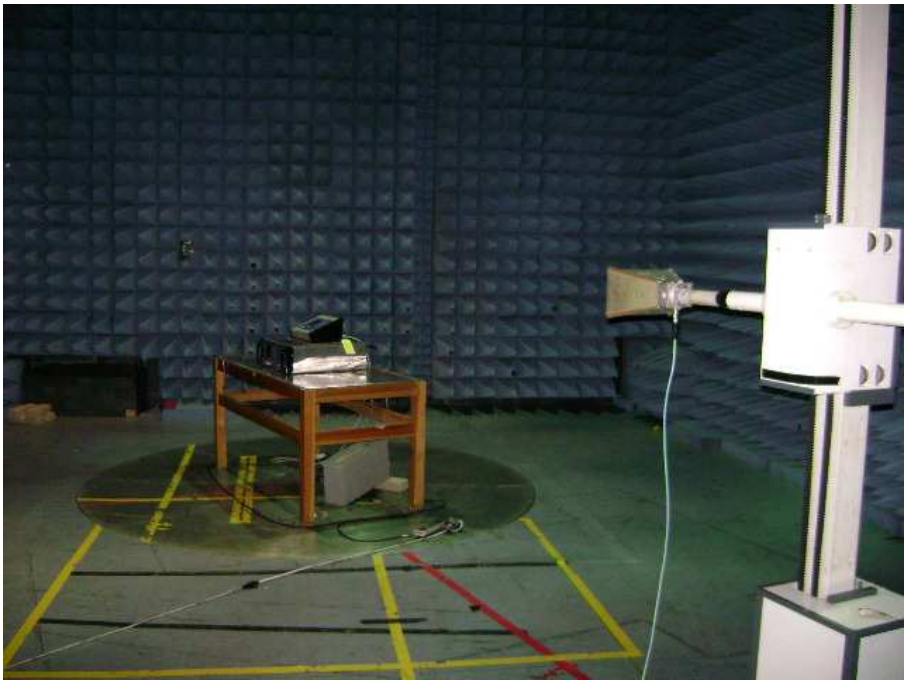
10.3. Conclusions

The EUT(s) complied with CFR47 Part15.107 class B.

11. PHOTOGRAPHS OF TEST SETUPS



Radiated Emissions

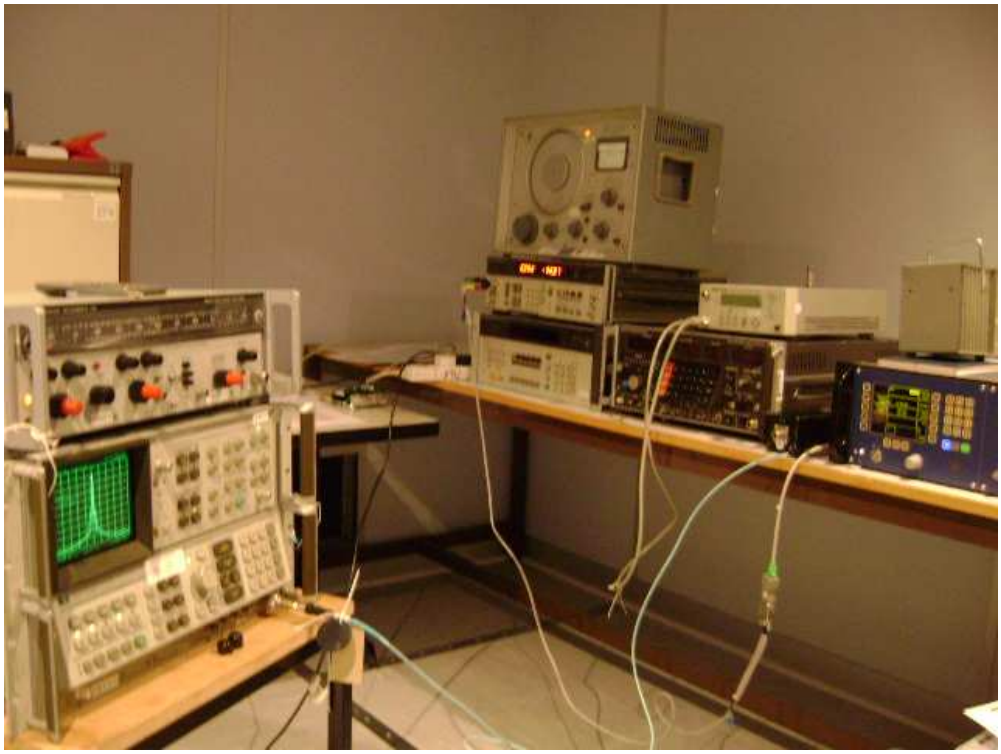


Radiated Emissions

Conducted Emissons – M7X

Conducted Emissions – M7C

Transmitter Output Power



Transmitter Spurious Emissions (Antenna Port)

Frequency Stability - Environmental Chamber

Frequency Stability – Environmental Chamber

12. TEST EQUIPMENT

Equipment	Type	ID
Test Bay 1	Environment	7400
Test Bay 5	Environment	7404
Chase Bilog	Antenna	8164
EMCO Double Ridge Horn	Antenna	7512
Advantest R3361	Spectrum Analyser	7461
HP 8566B	Spectrum Analyser	7811
HP 8910B	Modulation Analyser	7810
HP 8903B	Audio Analyser	7472
Schlumberger 2720	Frequency Counter	7955
Marconi 1370	Audio Generator	
Rhode & Schwarz Receiver	ESS	7700
Rhode & Schwarz Receiver	Eshs10	7463
Rhode & Schwarz AMN	ESH3-Z5	7473
Marconi Pre-amp	54432-010A	7772
ERA Microwave Pre-amp	WBA3-4	7534
Gigatronics Power meter	8541C	7211
Gigatronics Power Sensor	80401A	7212
Angelantoni Industrie	Environmental Chamber	7385
Oregon Scientific	Environmental Sensor	7916
Oregon Scientific	Environmental Sensor	7516
Oregon Scientific	Environmental Sensor	7519
Cable N Type	10m	7063
Cable N Type	4m	7968
Cable N Type	1m	8185
Cable N Type	1m	8186
Cable microwave	5m	8247
Cable microwave	4m	7177
Cable microwave	2m	7405