

Report on the Radio Testing

For

Navtech Radar Ltd

on

CIR-F-J

Report no. TRA-051938-45-00A

19th April 2023

Report Number: TRA-051938-45-00A
Issue: A

REPORT ON THE RADIO TESTING OF A
Navtech Radar Ltd
CIR-F-J
WITH RESPECT TO SPECIFICATION
FCC 47CFR 95 Subpart M & ISED RSS-251

TEST DATE: 2022-08-09 to 2022-08-11

Tested by: D Garvey

Written by: 

D Garvey
Radio Test Engineer

Approved by:

J Charters
Lab Manager

Date: 19th April 2023

Disclaimers:

- [1] THIS DOCUMENT MAY BE REPRODUCED ONLY IN ITS ENTIRETY AND WITHOUT CHANGE
[2] THE RESULTS CONTAINED IN THIS DOCUMENT RELATE ONLY TO THE ITEM(S) TESTED

1 Revision Record

<i>Issue Number</i>	<i>Issue Date</i>	<i>Revision History</i>
A	19th April 2023	Original

2 Summary

TEST REPORT NUMBER: TRA-051938-45-00A

WORKS ORDER NUMBER: TRA-051938-14

PURPOSE OF TEST: FCC: Class 2 Permissive Change
ISED Class 2 Permissive Change

TEST SPECIFICATIONS: 47CFR95 Subpart M & RSS-251

EQUIPMENT UNDER TEST (EUT): CIR-F-J

FCC IDENTIFIER: S7Y-MV1

ISED IDENTIFIER: 10942A-MV1

EUT SERIAL NUMBER: 3306

MANUFACTURER/AGENT: Navtech Radar Ltd

ADDRESS: 16 Home Farm
Ardington
Wantage
Oxfordshire
OX12 8PD
United Kingdom

CLIENT CONTACT: Rick Poulton
☎ 01235 433592
✉ richard.poulton@navtechradar.com

ORDER NUMBER: 28237

TEST DATE: 2022-08-09 to 2022-08-11

TESTED BY: D Garvey
Element

2.1 Test Summary

<i>Test Method and Description</i>	<i>Requirement Clause 47CFR95</i>	<i>Requirement Clause RSS</i>	<i>Applicable to this equipment</i>	<i>Result / Note</i>
Radiated spurious emissions	95.3379(a)	251,10	☒	Pass Note 2
Field strength of fundamental	95.3367 (a) 95.3367 (b)	251, 9	☒	Pass

Specific Note:

1. Limited testing to support the permissive change requirements, measurement of Fundamental power and spurious emissions only, all other requirements are covered under the original filing
2. Note 1: Emission only performed to 110 GHz. The radiated spurious emissions above 110 GHz was performed by 7layers GmbH. The report numbers by 7layers GmbH are MDE_ELEM_2201_FCC_01_REV01 and MDE_ELEM_2201_IC_01_REV01.

General Notes:

The results contained in this report relate only to the items tested, in the condition at time of test, and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

The apparatus was set up and exercised using the configurations, modes of operation and arrangements defined in this report only. Any modifications made are identified in Section 8 of this report.

Particular operating modes, apparatus monitoring methods and performance criteria required by the standards tested to have been performed except where identified in Section 5.2 of this test report (Deviations from Test Standards).

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4 Introduction

This report TRA-051938-45-00A presents the results of the Radio testing on a Navtech Radar Ltd, CIR-F-J to specifications 47CFR95 Personal Radio Services and RSS-251 Vehicular Radar and Airport Fixed or Mobile Radar in the 76-81 GHz Frequency Band .

The testing was carried out for Navtech Radar Ltd by Element, at the address detailed below.

<input checked="" type="checkbox"/>	Element Hull Unit E South Orbital Trading Park Hedon Road Hull HU9 1NJ UK	<input type="checkbox"/>	Element Skelmersdale Unit 1 Pendle Place Skemersdale West Lancashire WN8 9PN UK
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This report details the configuration of the equipment, the test methods used and any relevant modifications where appropriate.

All test and measurement equipment under the control of the laboratory and requiring calibration is subject to an established programme and procedures to control and maintain measurement standards. The quality management system meets the principles of ISO 9001, and has quality control procedures for monitoring the validity of tests undertaken. Records and sufficient detail are retained to establish an audit trail of calibration records relating to its test results for a defined period. Under control of the established calibration programme, key quantities or values of the test & measurement instrumentation are within specification and comply with the relevant traceable internationally recognised and appropriate standard specifications, which are UKAS calibrated as such where these properties have a significant effect on results. Participation in inter-laboratory comparisons and proficiency testing ensures satisfactory correlation of results conform to Elements own procedures, as well as statistical techniques for analysis of test data providing the appropriate confidence in measurements.

Throughout this report EUT denotes equipment under test.

FCC Site Listing:

The test laboratory is accredited for the above sites under the following US-UK MRA,

Designation numbers.

Element Hull UK2007

ISED Registration Numbers.

Element Hull 3483A

The test site requirements of ANSI C63.4-2014 are met up to 1GHz.

The test site SVSWR requirements of CISPR 16-1-4:2010 are met over the frequency range 1 GHz to 18 GHz.

5 Test Specifications

5.1 Normative References

- FCC 47 CFR Ch. I – Part 95 – Personal Radio Services.
- ANSI C63.26-2015 – American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services.
- ANSI C63.10-2013 – American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.
- ANSI C63.4-2014 – American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
- ISED RSS-251, Issue 2, July 2018 – Vehicular Radar and Airport Fixed or Mobile Radar in the 76-81 GHz Frequency Band.
- ISED RSS-Gen, Issue 5, March 2019 – General Requirements for Compliance of Radio Apparatus.
- KDB996369 178919 D01 Permissive Change Policy v06
- RSP-100, Issue 12, August 2019 – Certification of Radio Apparatus and Broadcasting Equipment.

5.2 Deviations from Test Standards

This test report only covers emission up to 110 GHz.

6 Glossary of Terms

§	denotes a section reference from the standard, not this document
AC	Alternating Current
ANSI	American National Standards Institute
BW	bandwidth
C	Celsius
CFR	Code of Federal Regulations
CW	Continuous Wave
dB	decibel
dBm	dB relative to 1 milliwatt
DC	Direct Current
DSSS	Direct Sequence Spread Spectrum
EIRP	Equivalent Isotropically Radiated Power
ERP	Effective Radiated Power
EUT	Equipment under Test
FCC	Federal Communications Commission
FHSS	Frequency Hopping Spread Spectrum
Hz	hertz
IC	Industry Canada
ITU	International Telecommunication Union
LBT	Listen before Talk
m	metre
max	maximum
MIMO	Multiple Input and Multiple Output
min	minimum
MRA	Mutual Recognition Agreement
N/A	Not Applicable
PCB	Printed Circuit Board
PDF	Portable Document Format
Pt-mpt	Point-to-multipoint
Pt-pt	Point-to-point
RF	Radio Frequency
RH	Relative Humidity
RMS	Root Mean Square
Rx	receiver
s	second
SVSWR	Site Voltage Standing Wave Ratio
Tx	transmitter
UKAS	United Kingdom Accreditation Service
V	volt
W	watt
Ω	ohm

7 Equipment under Test

7.1 EUT Identification

- Name: CIR-F-J
- Serial Number: 3306
- Model Number: CIR-F-J
- Software Revision: Not Applicable
- Build Level / Revision Number: Not Applicable

This variant tested is a Class 2 change because the antenna configuration was changed. The product model number covered by this testing is CIR-F-J.

7.2 System Equipment

Equipment listed below forms part of the overall test setup and is required for equipment functionality and/or monitoring during testing. The compliance levels achieved in this report relate only to the EUT and not items given in the following list.

Navtech Test Laptop was used to ensure the EUT was transmitting.

7.3 EUT Mode of Operation

The EUT was operating with a swept frequency transmission. For radiated spurious measurements, the EUT was operating in normal mode with a rotating antenna assembly. For Output power test, the EUT was operating in staring mode with a stationary antenna assembly lined up with the measurement antenna.

7.4 EUT Radio Parameters

7.4.1 General

Frequency of operation:	76 GHz – 77 GHz
Modulation type(s):	FMCW
Channel spacing:	N/A (Swept RADAR signal)
ITU emission designator:	1G00F0N
Declared output power:	43 dBm
Warning against use of alternative antennas in user manual:	N/A Not possible to use other antennas
Nominal Supply Voltage:	24 Vdc
Method of prevention of use on non-US / non-Canadian frequencies:	N/A
Duty cycle:	1% when rotating

7.4.2 Antennas

Type:	Custom pseudo optical horn lens assembly
Frequency range:	76 GHz to 77 GHz
Impedance:	N/A
SWR:	N/A
Gain:	33 dBi
Polarisation:	Horizontal
Beam width:	3.6°
Connector type:	N/A (not customer accessible)
Length:	N/A
Weight:	N/A
Environmental limits:	-20 °C to 60 °C
Mounting:	Internally mounted to a rotating assembly

7.5 EUT Description

The EUT is a Radar Unit for a variety of functions, including vehicle automation, localisation and navigation as well as ground based applications for detecting ground targets such as vehicles, debris and pedestrians.

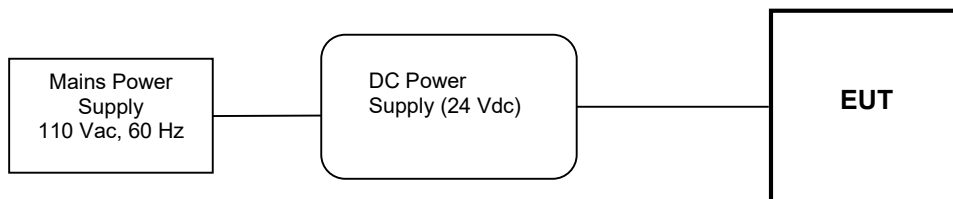
8 Modifications

No modifications were performed during this assessment.

9 EUT Test Setup

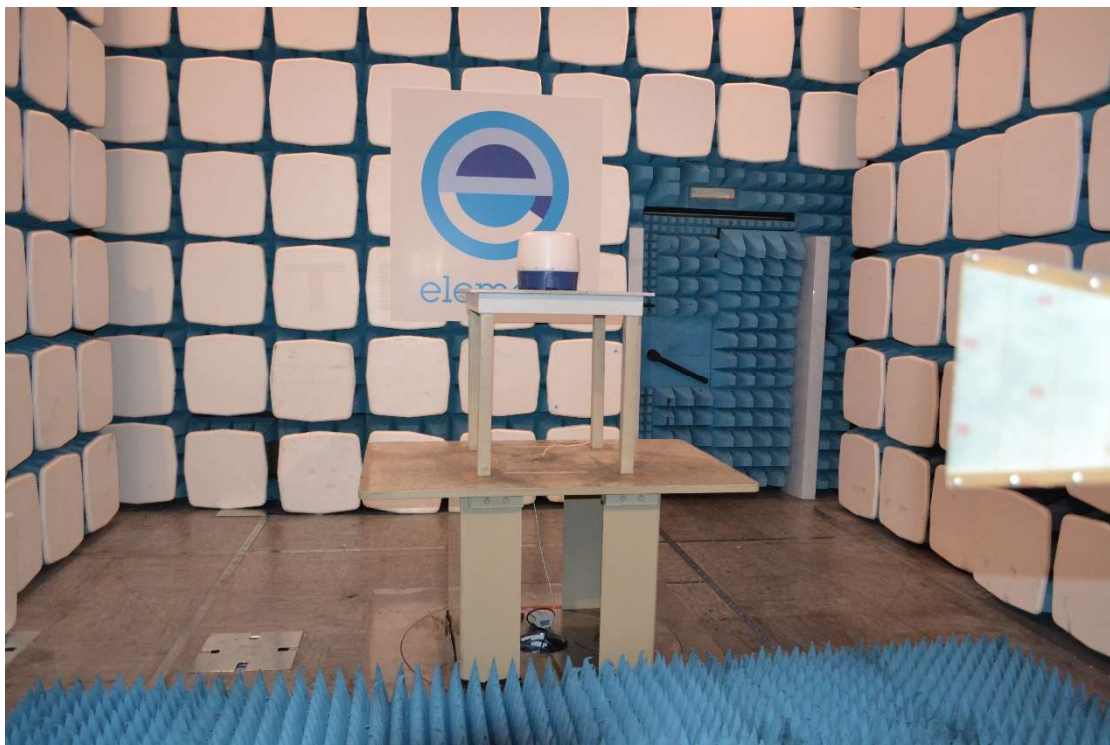
9.1 Block Diagram

The following diagram shows basic EUT interconnections:



9.2 General Set-up Photograph

The following photograph shows basic EUT set-up:



9.3 Measurement Software

Where applicable, the following software was used to perform measurements contained within this report.

Element Emissions R5

10 General Technical Parameters

10.1 Normal Conditions

The EUT was tested under the normal environmental conditions of the test laboratory, except where otherwise stated. The normal power source applied was 24 Vdc from the provided adaptor, which was powered from 110 Vac, 60 Hz, from the mains.

11 Radiated emissions

11.1 Definitions

Out-of-band emissions

Emissions on a frequency or frequencies immediately outside the necessary bandwidth which result from the modulation process, but exclude spurious emissions.

Spurious emissions

Emissions on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions.

Restricted bands

A frequency band in which intentional radiators are permitted to radiate only spurious emissions but not fundamental signals.

11.2 Test Parameters

Test Location:	Element Hull
Test Chamber:	Wireless Lab 2
Test Standard and Clause:	ANSI C63.26-2015, Clause 5.5
EUT Frequencies Measured:	Full Band
EUT Channel Bandwidths:	1 GHz
Deviations from Standard:	None
Measurement BW:	30 MHz to 1 GHz: 120 kHz; Above 1 GHz: 1 MHz
Measurement Detector:	Up to 1 GHz: quasi-peak; Above 1 GHz: CISPR average and Peak

Environmental Conditions (Normal Environment)

Temperature: 21 °C	+15 °C to +35 °C (as declared)
Humidity: 45 %RH	20 %RH to 75 %RH (as declared)
Supply: 24 Vdc	As declared

11.3 Test Limit

Radiated emissions below 40 GHz shall not exceed the general field strength limits listed in FCC 47CFR95.3379 (a) (1) {see table below}.

General Field Strength Limits for License-Exempt Transmitters at Frequencies above 30 MHz

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$ at 3 m)
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

n.b. per FCC 47CFR15.35(b), peak limit is 20 dB above average.

Radiated emissions outside of the operating band and between 40 GHz and 200 GHz shall not exceed 600pW/cm² at a distance of 3 meters from the exterior surface of the radiating structure.

Radiated emissions above 200 GHz shall not exceed 1000 pW/cm² at a distance of 3 meters from the exterior surface of the radiating structure.

The spectrum shall be investigated up to 231 GHz.

11.4 Test Method

With the EUT setup as per section 9 of this report and connected as per Figure i, the emissions from the EUT were measured on a spectrum analyzer / EMI receiver.

Radiated electromagnetic emissions from the EUT are checked first by preview scans. Preview scans for all spectrum and modulation characteristics are checked, using a peak detector and where applicable worst-case determined for function, operation, orientation, etc. for both vertical and horizontal polarisations. Pre-scan plots are shown with a peak detector and 100 kHz RBW.

If the EUT connects to auxiliary equipment and is table or floor standing, the configurations prescribed in ANSI C63.10 are followed. Alternatively, a layout closest to normal use (as declared by the provider) is employed, (see EUT setup photographs for more detail).

Emissions between 30 MHz and 1 GHz are measured using calibrated broadband antennas. Emissions above 1 GHz are characterized using standard gain horn antennas. Pre-amplifiers and filters are used where required. Care is taken to ensure that test receiver resolution bandwidth, video bandwidth and detector type(s) meet the regulatory requirements.

For both horizontal and vertical polarizations, the EUT is then rotated through 360 degrees in azimuth until the highest emission is detected. At the previously determined azimuth the test antenna is raised and lowered from 1 to 4 m in height until a maximum emission level is detected, this maximum value is recorded.

Power values measured on the test receiver / analyzer are converted to field strength, FS, in dBμV/m at the regulatory distance, using:

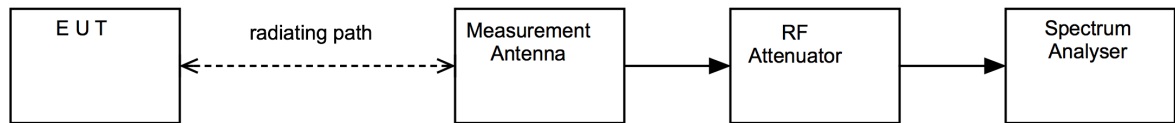
$$FS = PR + CL + AF - PA + DC - CF$$

Where,

- PR is the power recorded on the receiver / spectrum analyzer in dBμV;
- CL is the cable loss in dB;
- AF is the test antenna factor in dB/m;
- PA is the pre-amplifier gain in dB (where used);
- DC is the duty correction factor in dB (where used, e.g. harmonics of pulsed fundamental);
- CF is the distance factor in dB (where measurement distance different to limit distance);

$$\text{Factor} = CL + AF - PA$$

This field strength value is then compared with the regulatory limit.

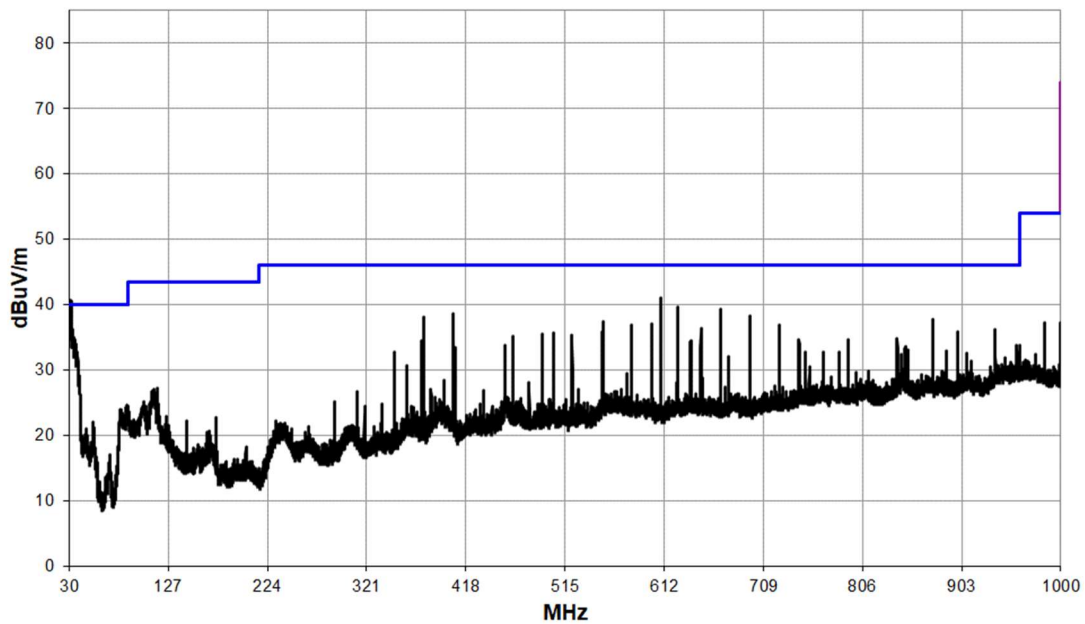
Figure i Test Setup**11.5 Test Equipment**

Equipment Type	Manufacturer	Equipment Description	Element No	Due For Calibration
Ferrite Lined Chamber	Rainford	Chamber	REF886	2024-06-15
N9030A	Agilent	Spectrum Analyser	REF2167	2022-08-25
ESU40	R&S	Receiver	RFG701	2023-06-08
CBL6111D	TESEQ	Bilog Antenna	REF2385	2024-06-24
3115	EMCO	Horn Antenna	RFG129	2024-01-24
LB-62-25-C-SF	A Info Inc	Horn Antenna	REF2244	2024-07-11
LB-180400-25-C-KF	A Info Inc	Horn Antenna	REF2246	2022-07-28
Pre-Amp (9 kHz – 1 GHz)	Sonoma	310	REF927	2023-07-18
Pre-Amp (1 – 26.5 GHz)	Agilent	8449B	REF913	2023-03-24
11970Q	Agilent	Harmonic Mixer (33-50 GHz)	U365	2025-05-30
11970V	Agilent	Harmonic Mixer (50-75 GHz)	U366	2025-06-23
11970W	Agilent	Harmonic Mixer (75-110 GHz)	U367	2025-06-25
Emissions R5	Element	Radiated Test Software	REF9000	Cal not required

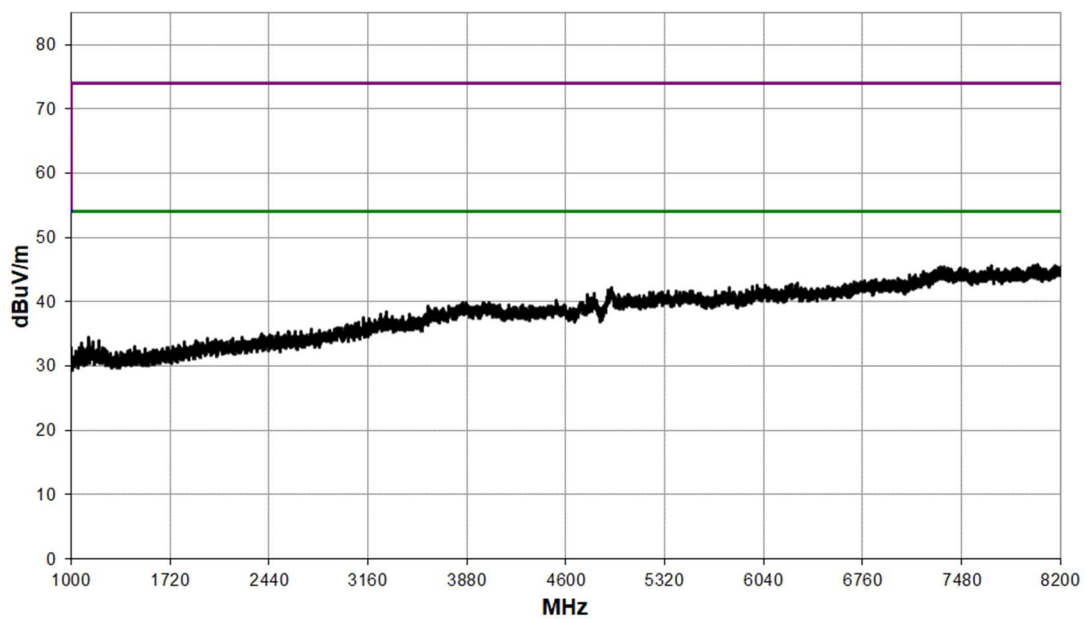
11.6 Test Results

77 GHz Radar; FMCW;								
Detector	Freq. (MHz)	Meas'd Emission (dBμV)	Factor (dB)	Duty Cycle Corr'n (dB)	Distance Extrap'n Factor (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)
QP	30.0	40.7	-7.2	0.0	0.0	33.5	40.0	-6.5
QP	348.0	46.6	-10.8	0.0	0.0	35.8	46.0	-10.2
QP	360.0	42.9	-10.4	0.0	0.0	32.5	46.0	-13.5
QP	377.0	48.6	-10.2	0.0	0.0	38.4	46.0	-7.6
QP	456.0	40.7	-8.0	0.0	0.0	32.7	46.0	-13.3
QP	464.0	41.2	-7.7	0.0	0.0	33.5	46.0	-12.5
QP	493.0	41.8	-7.2	0.0	0.0	34.6	46.0	-11.4
QP	504.0	40.8	-6.9	0.0	0.0	33.9	46.0	-12.1
QP	522.0	41.1	-6.7	0.0	0.0	34.4	46.0	-11.6
QP	552.0	42.2	-5.5	0.0	0.0	36.7	46.0	-9.3
QP	580.0	40.2	-5.0	0.0	0.0	35.2	46.0	-10.8
QP	600.0	42.1	-5.2	0.0	0.0	36.9	46.0	-9.1
QP	609.0	45.8	-5.5	0.0	0.0	40.3	46.0	-5.7
QP	625.0	45.9	-4.7	0.0	0.0	41.2	46.0	-4.8
QP	648.0	41.2	-4.6	0.0	0.0	36.6	46.0	-9.4
QP	667.0	45.2	-4.7	0.0	0.0	40.5	46.0	-5.5
QP	675.0	35.6	-4.5	0.0	0.0	31.1	46.0	-14.9
QP	696.0	43.9	-4.6	0.0	0.0	39.3	46.0	-6.7
QP	725.0	42.8	-3.7	0.0	0.0	39.1	46.0	-6.9
QP	744.0	40.5	-2.8	0.0	0.0	37.7	46.0	-8.3
QP	754.0	34.7	-2.6	0.0	0.0	32.1	46.0	-13.9
QP	768.0	37.4	-2.4	0.0	0.0	35	46.0	-11
QP	783.0	35.2	-2.5	0.0	0.0	32.7	46.0	-13.3
QP	792.0	36.4	-2.5	0.0	0.0	33.9	46.0	-12.1
QP	812.0	29.1	-2.6	0.0	0.0	26.5	46.0	-19.5
QP	875.0	37.7	-1.0	0.0	0.0	36.7	46.0	-9.3
QP	899.0	33.9	-0.6	0.0	0.0	33.3	46.0	-12.7
QP	912.0	26.8	-0.4	0.0	0.0	26.4	46.0	-19.6
QP	936.0	33.9	0.8	0.0	0.0	34.7	46.0	-11.3
QP	960.0	28.4	2.1	0.0	0.0	30.5	46.0	-15.5
QP	984.0	33.6	1.7	0.0	0.0	35.3	54.0	-18.7
PK	9588.9	53.0	10.8	0.0	-9.5	54.3	74.0	-19.7
AV	14264.4	29.2	15.6	0.0	-9.5	35.3	54.0	-18.7

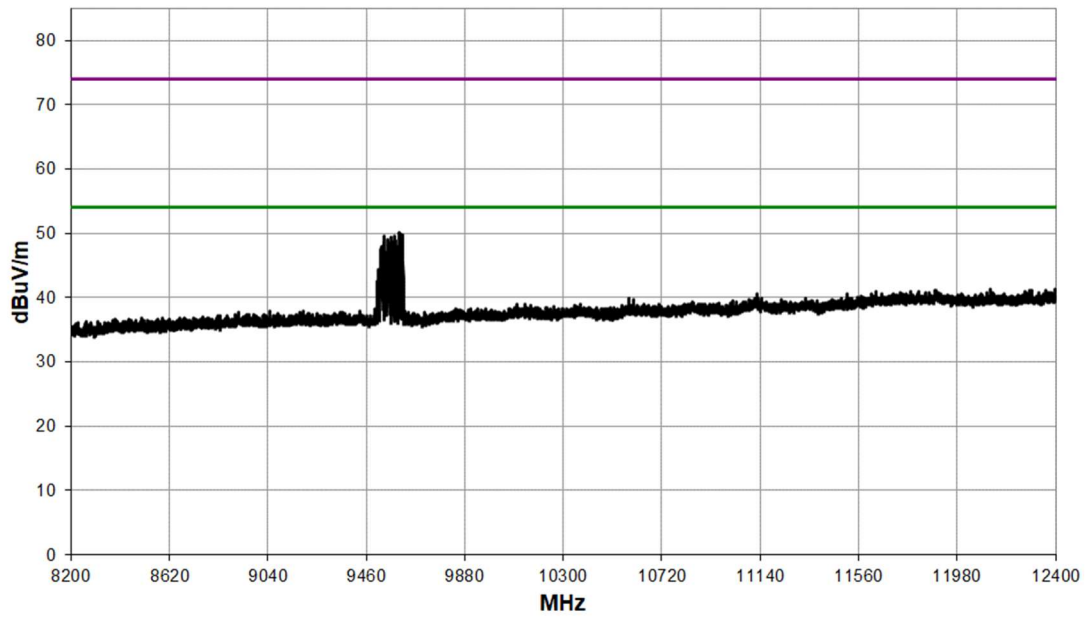
30 MHz to 1 GHz



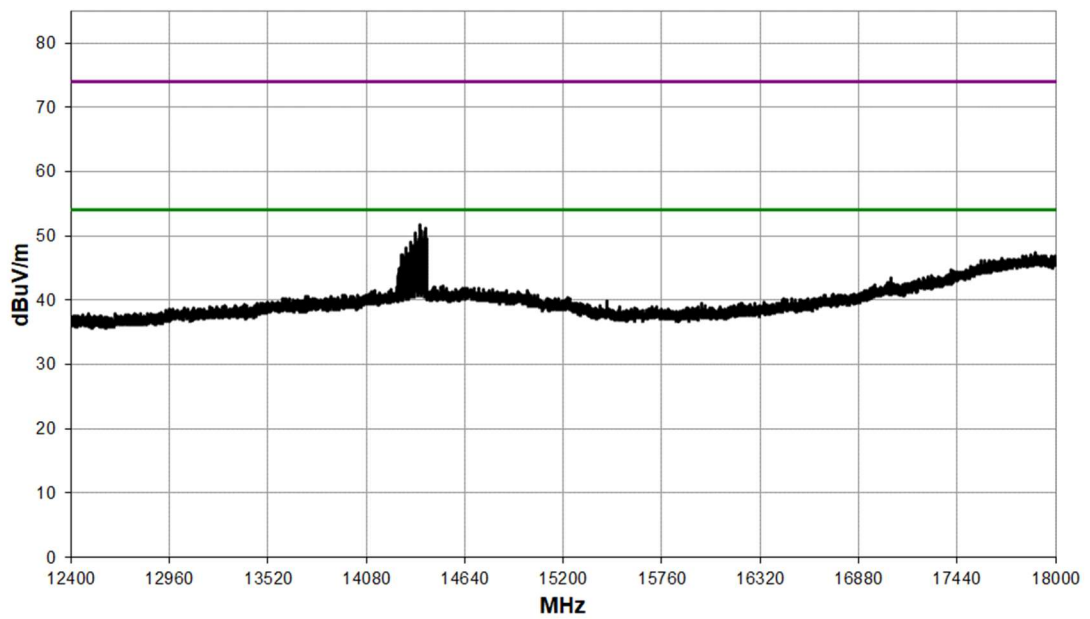
1 GHz to 8.2 GHz



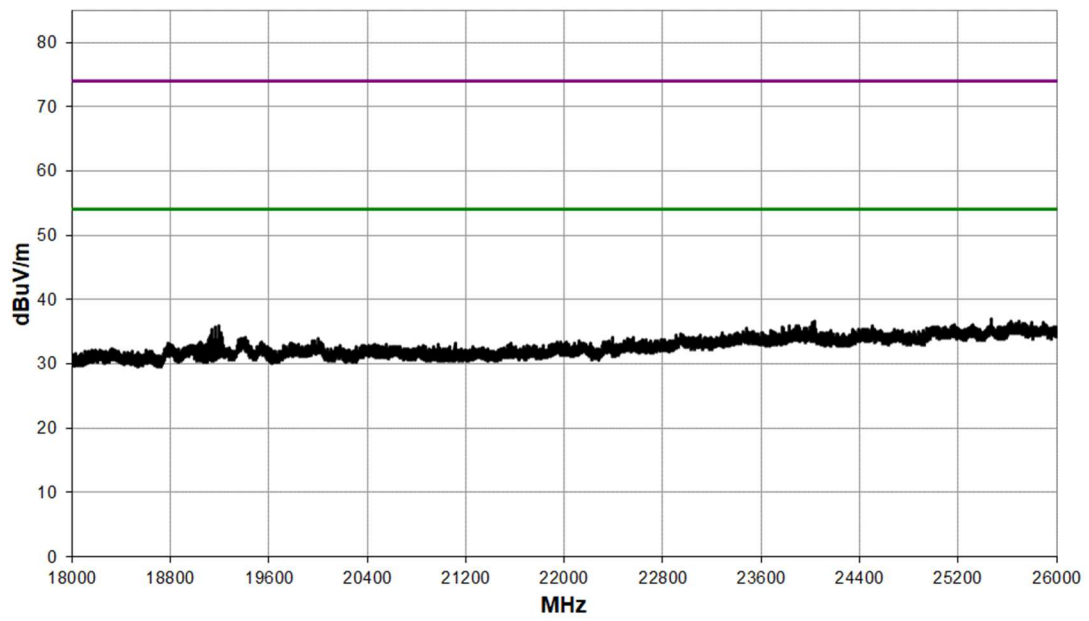
8.2 GHz to 12.4 GHz



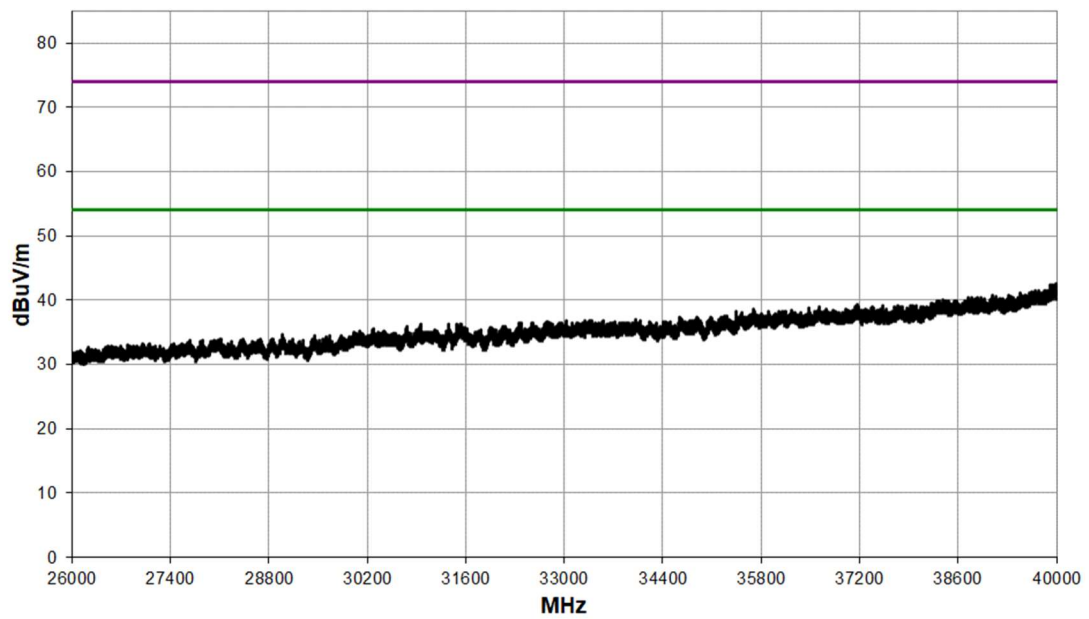
12.4 GHz to 18 GHz



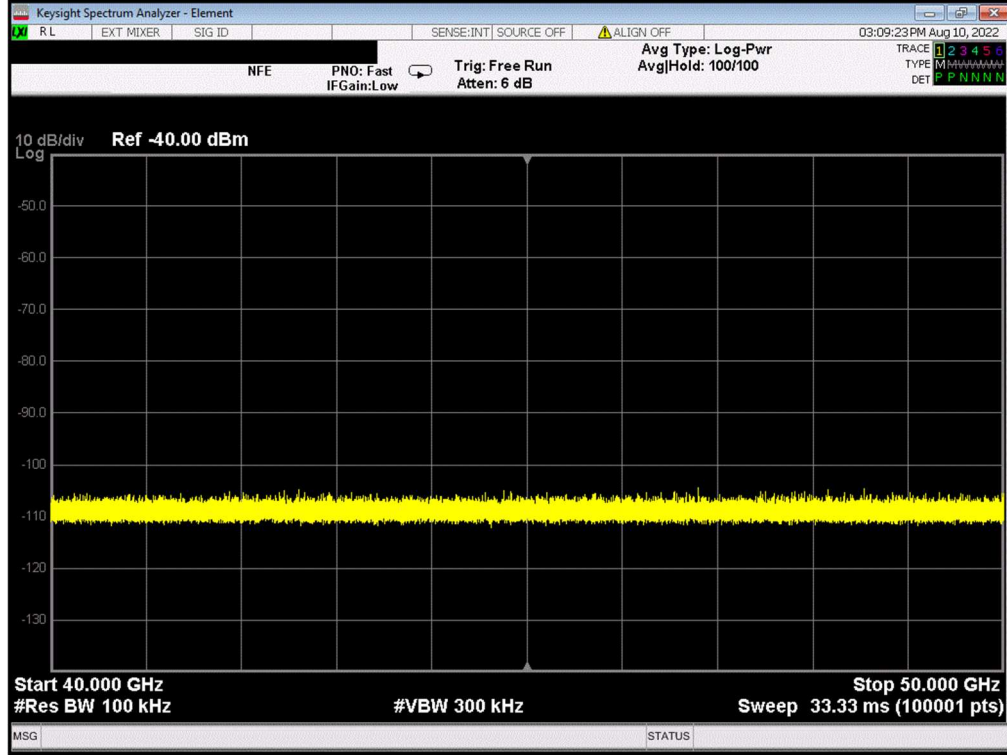
18 GHz to 26 GHz



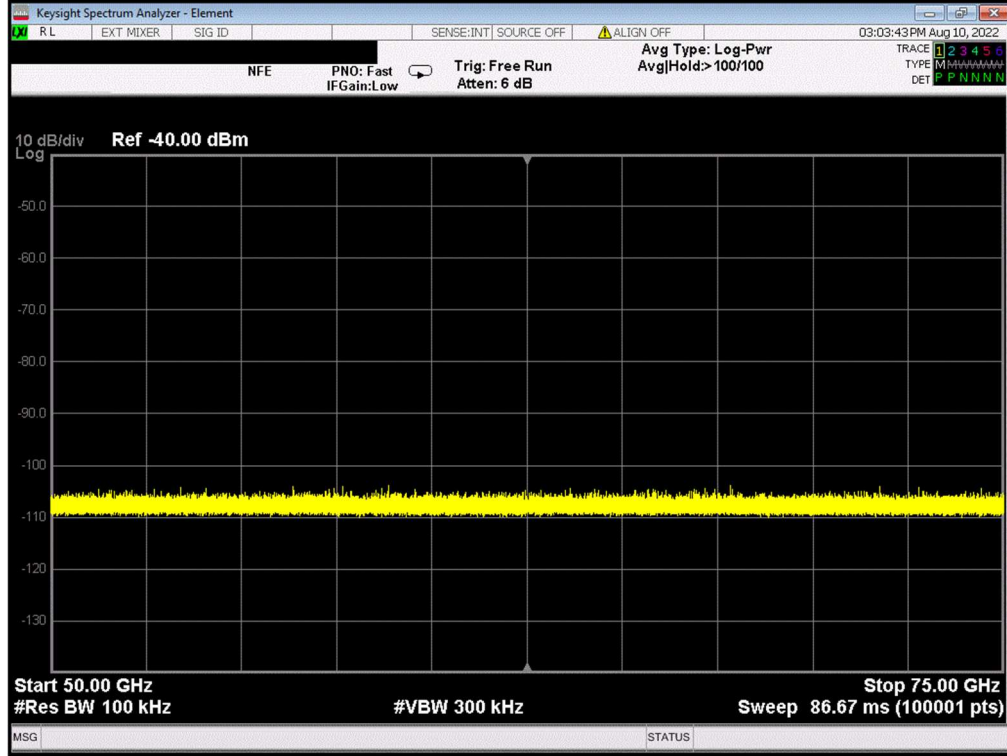
26 GHz to 40 GHz



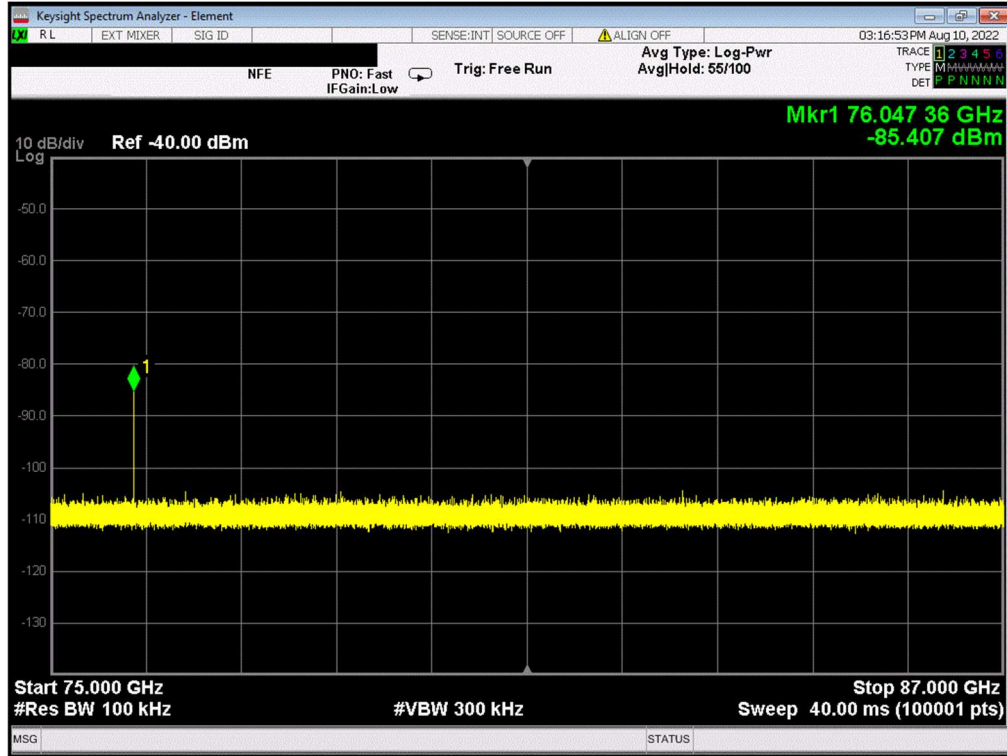
40 GHz to 50 GHz



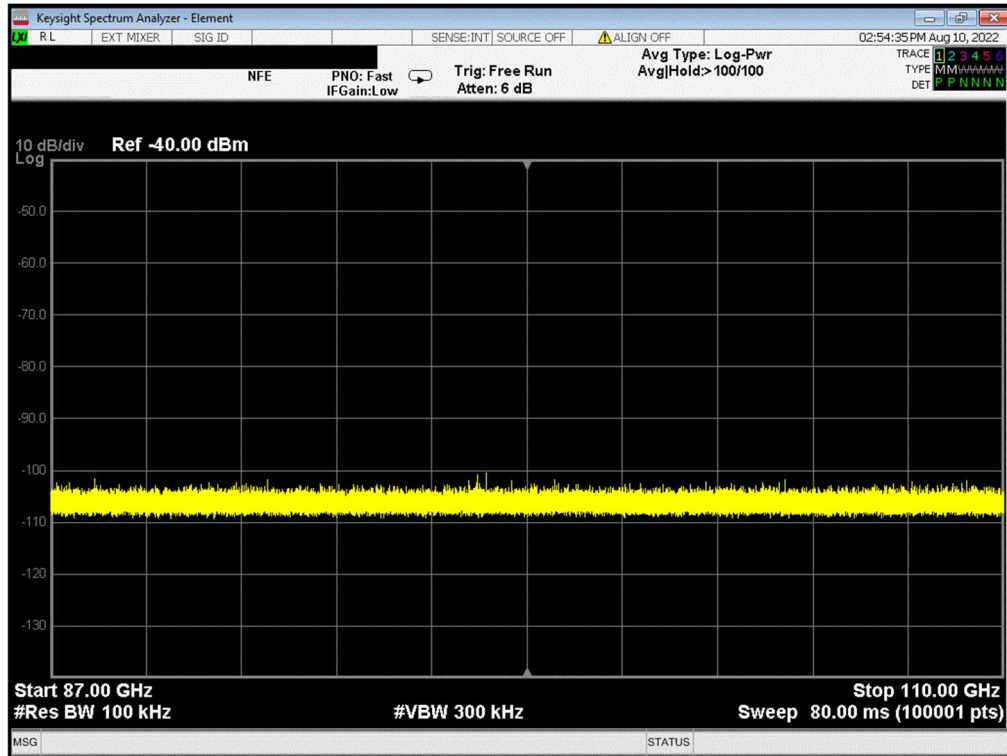
50 GHz to 75 GHz



75 GHz to 87 GHz



87 GHz to 110 GHz



12 Transmitter output power (fundamental radiated emission)

12.1 Definition

The RF power dissipated in the standard output termination when operating under the rated duty cycle selected by the applicant for approval.

12.2 Test Parameters

Test Location:	Element Hull
Test Chamber:	Wireless Lab 2
Test Standard and Clause:	ANSI C63.26-2015, Clause 5.1 / 5.2
EUT Channels Measured:	Full band with FMCW
EUT Channel Bandwidths:	1 GHz
Deviations From Standard:	None
Measurement BW:	1 MHz
Spectrum Analyzer Video BW:	3 MHz
Measurement Detector:	Average RMS and Peak

Environmental Conditions (Normal Environment)

Temperature: 21 °C	+15 °C to +35 °C (as declared)
Humidity: 45 %RH	20 %RH to 75 %RH (as declared)

12.3 Test Limit

The average power of any emission within the bands specified shall not exceed an EIRP of 50 dBm.

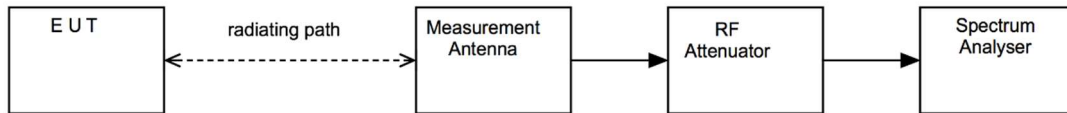
The peak power of any emission within the band 76-77 GHz shall not exceed an EIRP of 55 dBm.

12.4 Test Method

With the EUT setup as per section 9 of this report and connected as per Figure iv, the resolution bandwidth of the spectrum analyser was increased above the EUT occupied bandwidth and the peak emission data noted.

The measurements were performed with EUT set at its maximum duty. All modulation schemes, data rates and power settings were used to observe the worst-case configuration in each bandwidth.

Figure iv Test Setup



12.5 Test Equipment

Equipment Type	Manufacturer	Equipment Description	Element No	Due For Calibration
Ferrite Lined Chamber	Rainford	Chamber	REF2259	2024-06-15
11970W	Agilent	Harmonic Mixer (75-110 GHz)	U367	2025-06-25
N9030A	Agilent	Spectrum Analyser	REF2167	2022-08-25
PSG E8257D	Agilent	Signal Generator	REF2168	2023-02-26

12.6 Test Results

Model	Radome	Frequency (GHz)	Peak EIRP (dBm)	Peak Limit (dBm)	Average EIRP (dBm)	Average Limit (dBm)
CIR-F-J	No	76.07	43.8	55.0	38.9	50.0
CIR-F-J	Yes	76.07	43.0	55.0	38.8	50.0

Measurements were initially made with the Radome removed to facilitate maximising the signal by lining up the EUT antenna with the measurement antenna. Measurements were then carried out with the Radome fitted to represent actual conditions of use.

13 Measurement Uncertainty

Radio Testing – General Uncertainty Schedule

All statements of uncertainty are expanded standard uncertainty using a coverage factor of 1.96 to give a 95 % confidence where no required test level exists.

Test/Measurement	Budget Number	MU
Conducted RF Power, Power Spectral Density, Adjacent Channel Power and Spurious emissions		
Absolute RF power (via antenna connector) Dare RPR3006W Power Head	MU4001	0.9 dB
Carrier Power and PSD - Spectrum Analysers	MU4004	0.9 dB
Adjacent Channel Power	MU4002	1.9 dB
Transmitter conducted spurious emissions	MU4041	0.9 dB
Conducted power and spurious emissions 40 GHz to 50 GHz	MU4042	2.4 dB
Conducted power and spurious emissions 50 GHz to 75 GHz	MU4043	2.5 dB
Conducted power and spurious emissions 75 GHz to 110 GHz	MU4044	2.4 dB
Radiated RF Power and Spurious emissions ERP and EIRP		
Effective Radiated Power Reverb Chamber	MU4020	3.7 dB
Effective Radiated Power	MU4021	4.7 dB
TRP Emissions 30 MHz to 1 GHz using CBL6111 or CBL6112 Bilog Antenna	MU4046	5.3 dB
TRP Emissions 1 GHz to 18 GHz using HL050 Log Periodic Antenna	MU4047	5.1 dB
TRP Emissions 18 GHz to 26.5 GHz using Standard Gain Horn	MU4048	2.7 dB
TRP Emissions 26.5 GHz to 40 GHz using Standard Gain Horn	MU4049	2.7 dB
Spurious Emissions Electric and Magnetic Field		
Radiated Spurious Emissions 30 MHz to 1 GHz	MU4037	4.7 dB
Radiated Spurious Emissions 1-18 GHz	MU4032	4.5 dB
E Field Emissions 18GHz to 26 GHz	MU4024	3.2 dB
E Field Emissions 26GHz to 40 GHz	MU4025	3.3 dB
E Field Emissions 40GHz to 50 GHz	MU4026	3.5 dB
E Field Emissions 50GHz to 75 GHz	MU4027	3.6 dB
E Field Emissions 75GHz to 110 GHz	MU4028	3.6 dB
Radiated Magnetic Field Emissions	MU4031	2.3 dB
Frequency Measurements		
Frequency Deviation	MU4022	0.316 kHz
Frequency error using CMTA test set	MU4023	113.441 Hz
Frequency error using GPS locked frequency source	MU4045	0.0413 ppm
Bandwidth/Spectral Mask Measurements		
Channel Bandwidth	MU4005	3.87 %
Transmitter Mask Amplitude	MU4039	1.3 dB
Transmitter Mask Frequency	MU4040	2.59 %
Time Domain Measurements		
Transmission Time	MU4038	4.40 %
Dynamic Frequency Selection (DFS) Parameters		
DFS Analyser - Measurement Time	MU4006	679 μ s
DFS Generator - Frequency Error	MU4007	92 Hz
DFS Threshold Conducted	MU4008	1.3 dB
DFS Threshold Radiated	MU4009	3.2 dB

Test/Measurement	Budget Number	MU
Receiver Parameters		
EN300328 Receiver Blocking	MU4010	1.1 dB
EN301893 Receiver Blocking	MU4011	1.1 dB
EN303340 Adjacent Channel Selectivity	MU4012	1.1 dB
EN303340 Overloading	MU4013	1.1 dB
EN303340 Receiver Blocking	MU4014	1.1 dB
EN303340 Receiver Sensitivity	MU4015	0.9 dB
EN303372-1 Image Rejection	MU4016	1.4 dB
EN303372-1 Receiver Blocking	MU4017	1.1 dB
EN303372-2 Adjacent Channel Selectivity	MU4018	1.1 dB
EN303372-2 Dynamic Range	MU4019	0.9 dB
Receiver Blocking Talk Mode Conducted	MU4033	1.2 dB
Receiver Blocking Talk Mode- radiated	MU4034	3.4 dB
Rx Blocking, listen mode, blocking level	MU4035	3.2 dB
Rx Blocking, listen mode, radiated Threshold Measurement	MU4036	3.4 dB
Adjacent Sub Band Selectivity	MU4003	4.2 dB