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REPORT ON ELECTROMAGNETIC COMPATIBILITY TESTS

Performed at:
TWENTY PENCE TEST SITE

Twenty Pence Road,
Cottenham,
Cambridge
U.K.
CB24 8PS

on

Sepura PLC

STP9080/STP9280

dated

4th November 2014

Document History

Issue	Date	Affected page(s)	Description of modifications	Revised by	Approved by
1	04/11/14		Initial release		

Based on report template:
v090319

Equipment Under Test (EUT):	STP9080/STP9280
Test Commissioned by:	Sepura PLC Radio House St Andrews Road Cambridge Cambridgeshire CB4 1GR
Representative:	Steve Wood
Test Started:	27th August 2014
Test Completed:	30th October 2014
Test Engineer:	Dave Smith
Date of Report:	4th November 2014
Written by: Dave Smith	Checked by: Derek Barlow
Signature: 	Signature: 
Date: 4th November 2014	Date: 4th November 2014

dB Technology can only report on the specific unit(s) tested at its site. The responsibility for extrapolating this data to a product line lies solely with the manufacturer.

Test Standards Applied

Part 90 of CFR47	*Private Land Mobile Radio Services*

CFR 47 Class B	*Code of Federal Regulations: Pt 15 Subpart B- Radio Frequency Devices - Unintentional Radiators*

Emissions Test Results Summary

Part 90 **PASS**

Test	Port	Method	Limit	PASS/FAIL	*Notes*
Output Power Radiated		90.205	90.205(h)	No Limit	#1
Output Power Conducted	antenna	90.205 2.1046	90.205(h)	No Limit	#1
Types of Emissions	antenna	90.207 2.1047	Specified by manufacturer		
Bandwidth	antenna	90.209 2.1049	90.209(b)(5)	PASS	#2
Emissions Masks Radiated		90.210 2.1051	90.221(d)	PASS	#3
Emissions Masks Conducted	antenna	90.210 2.1051	90.221(d)	PASS	#3
Frequency Stability	antenna	90.213 2.1055	90.213	PASS	
Frequency Transient Behaviour	antenna	90.214	90.214	N/A	#4
Adjacent Channel Power		90.221	90.221(b)	PASS	

specs_canadav111211

CFR 47 **PASS**

Test	Port	Method	Limit	PASS/FAIL	*Notes*
Conducted Emissions	ac power	ANSI C63.4:2003	FCC(B)	N/A	#5
Radiated Emissions		ANSI C63.4:2003	FCC(B)	PASS	

specs_fccv100412

#1 There is no specific limit on output power.
#2 The additional note 6 was applied which allows a bandwidth of up to 22kHz providing the additional Adjacent Channel Power requirements are met.
#3 The additional note 5 was applied which only stipulates limits 75kHz from the carrier providing the additional Adjacent Channel Power requirements are met.
#4 Not applicable for devices operating in the 809MHz to 824MHz and 854MHz to 869MHz bands.
#5 Not applicable as the EUT is not mains powered.

This Report shows that the EUT met all of the requirements for the tests performed - as shown above.

Contents

1 EUT Details

1.1 General

The EUT was a TETRA Voice + Data Hand Portable. The transmitter can operate over the following frequency bands:

809MHz to 824MHz - in Trunked-Mode Operation (TMO)
854MHz to 869MHz - in Direct-Mode Operation (DMO)

The receiver can operate over the following frequency bands:

854MHz to 869MHz

Measurements were made at the top, near middle and bottom of the appropriate frequency ranges:

Bottom: 809 MHz
Middle: 816.5 MHz
Top: 824 MHz

and

Bottom: 854 MHz
Middle: 861.5 MHz
Top: 869 MHz

The nominal output power is 32.5dBm (1.8W).

The product can be used on a standalone basis in which case it is powered from an internal battery. It can also be used in conjunction with a Car Kit in which case it is powered from a lead acid vehicle battery with nominal voltage of 13.2V.

This report additionally includes radiated emissions measurements:

- o with a Remote Speaker Microphone (RSM) connected;
- o in a Car Kit configuration.

All tests were performed on the STP9080 which is the fully featured unit. For the STP9280 variant it was only considered necessary to perform receiver mode radiated emissions measurements.

Unless otherwise stated, tests were performed with nominal power supply voltage.

The product is intended to comply with the FCC part 90 requirements - specifically the sections applicable to Tetra devices.

Radiated field strength tests were performed at the dB Technology Test Site Registered with the FCC: Registration number: 90528.

Output Stage Settings:

With reference to the requirements of **2.1046(a)** and **2.1033(c)(8),** the DC voltages and currents in the elements of the final radio are regulated within the product and not user variable.

Modulation Characteristics:

With reference to the requirements of **2.1047,** the device uses digital modulation which is not proportional in any way to the level or frequency of the audio signal. We consider that compliance with the relevant Mask of Part 90 using pseudo random digital data is sufficient to adequately demonstrate the Modulation Characteristics as per Section 2.1047.

1.2 Modifications to EUT and Peripherals

Details of any modifications that were required to achieve compliance are listed below. The modification numbers are referred to in the results sections as appropriate.

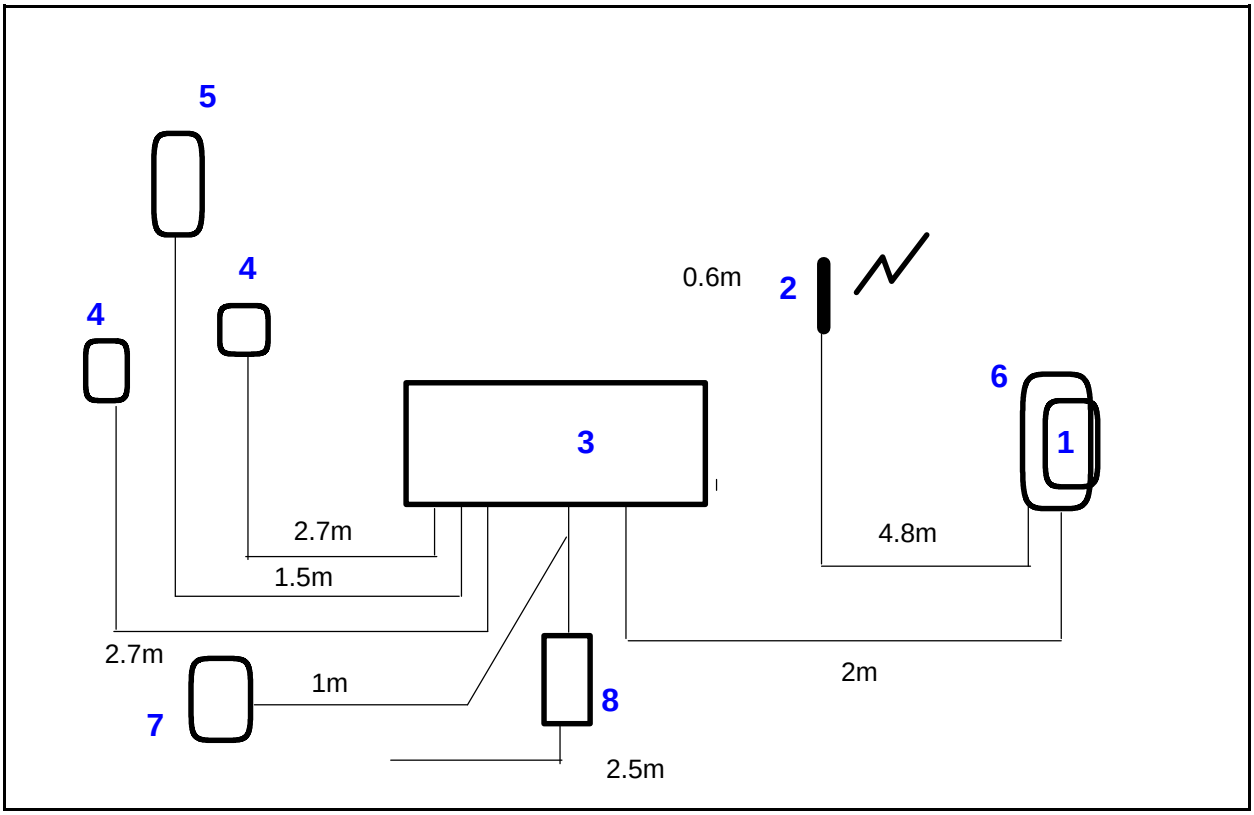
Mod No:	Details	Implemented for
0	Original sample as supplied.	
1	R104 changed from 82R to 1K. This resistor change adjusts the bias of the temperature compensation diodes.	

1.3 EUT Operating Modes

The EUT was tested in the following operating mode or modes. Generally, operating modes are chosen that will exercise the functions of the EUT as fully as possible and in a manner likely to produce maximum emission levels or susceptibility. Individual test result sheets reference the operating mode of the EUT.

Operating Mode	Details
1	Transmitting on selected channel.
2	Receiving on selected channel.

Figure 1 Car Kit Configuration



Item	Manufacturer	Model	Description	Serial No:	Notes
1	Sepura	STP9080	TETRA Hand Portable	2PN701424G875ZI	
2	Sepura	300 00390	Antenna		
3	Sepura	300 00797	CarKit		
4	Sepura	300 00657	Hands Free Kit		
5	Sepura	300 00492	Handset		
6	Sepura	300 00796	Cradle		
7	Sepura	300 00719	Speaker		
8	Kingshill	18V10CA	Bench Power Supply	566	

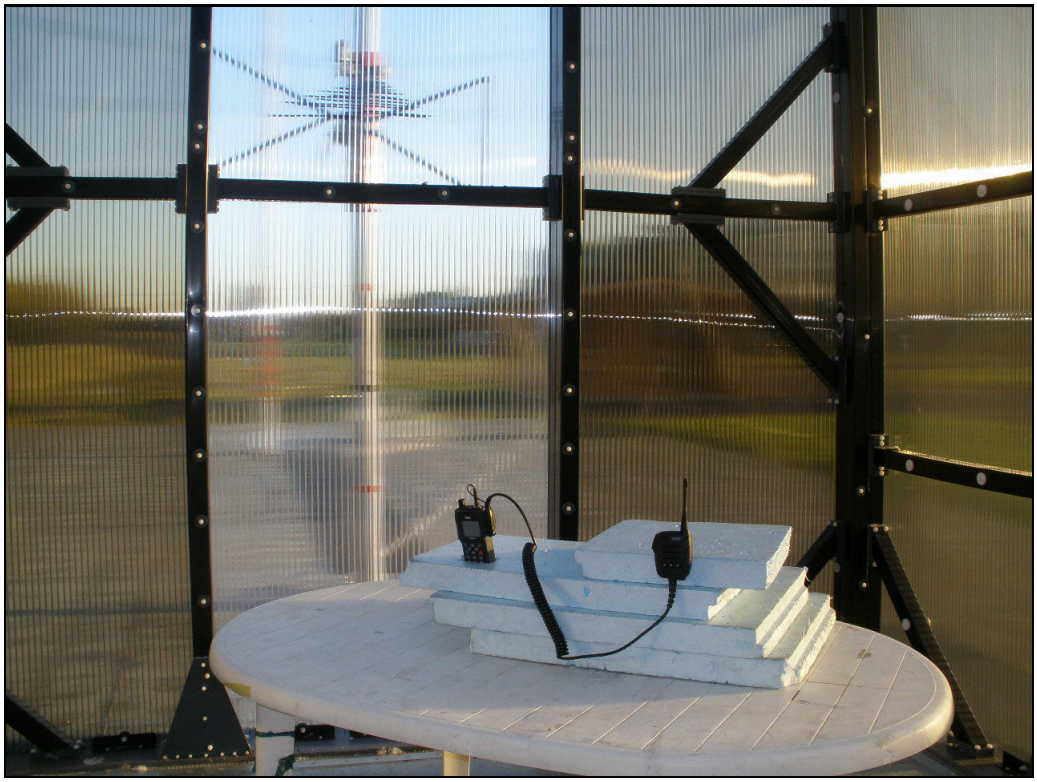
The same sample of Tetra Hand Portable was used for the conducted antenna tests.

The serial number of the STP9280 was 2PN701424G875Z0.

Photograph 1 STP9080: Connected to Analyser

Photograph 2 Standalone: Radiated Emissions - Upright

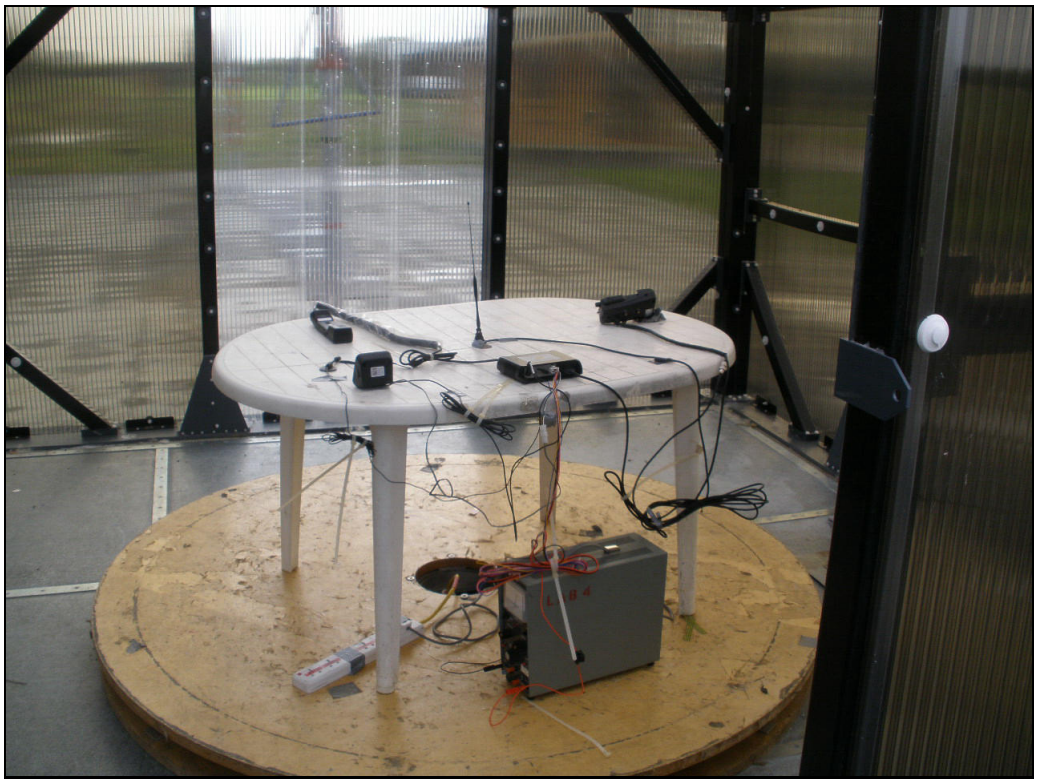
Photograph 3 Standalone: Radiated Emissions - Flat



Photograph 4 With RSM: Radiated Emissions - Upright

Photograph 5 With RSM: Radiated Emissions - Flat

Photograph 6 Car Kit: Radiated Emissions - Front



Photograph 7 Car Kit: Radiated Emissions - Back

Photograph 8 STP9280: Radiated Emissions - Front

Photograph 9 STP9280: Radiated Emissions - Back

2 Test Equipment

The test equipment used during the tests was one or more of the items listed below. Individual test result sheets indicate which items were used.

Ref No:	Details	Serial Number	Cal Date	Cal Interval
A19	EMCO 3115 DR Guide (1-18GHz)	2431	06/02/2014	1 year
A24	Chase X-wing Bilog CBL6144 26MHz-3GHz	27590	28/10/2013	1 year
A30	Schwarzbeck MiniBicon (30MHz to 1GHz)	9115-180	21/01/2013	3 years
A5	Chase Bilog CBL6111A	1760	03/03/2014	1 year
A8	EMCO 3115 DR Guide	6070	11/03/2014	1 year
PM6	Marconi 6960B RF Power Meter	236923/003	17/12/2013	1 year
PRE10	LUCIX 100M-20G pre-amp	10	19/08/2014	1 year
PS10	Marconi 6910 RF Power Sensor (-30dBm / +20dBm) 10MHz to 20GHz	5009	17/12/2013	1 year
PS9	Marconi 6912 RF Power Sensor (-30dBm / +20dBm) 30kHz to 4.2 GHz	973	17/12/2013	1 year
R13	Anritsu MS2830A	6201180830	30/01/2014	1 year
R4	R&S ESVS10	843744/002	13/12/2013	1 year
R8	Agilent E7405A Spectrum Analyser	MY44212494	22/05/2014	1 year
R9	Agilent E7405A Spectrum Analyser	MY45110758	19/11/2013	1 year
RFF15	Band Pass Filter 1GHz to 2GHz	15	13/08/2014	1 year
RFF17	Low Pass RF Filter 550MHz	17	13/08/2014	1 year
RFF22	High Pass Filter - 1.35GHz (10GHz) MicroTronics HPM13017	033	13/08/2014	1 year
SG13	HP 8648C 150kHz-3.2GHz Signal Generator	3426A01238	01/07/2014	1 year
SG16	Marconi 6203 Microwave Test Set (10MHz - 26.5GHz)	236252/025	01/08/2013	2 years
FSU	R&S FSU Spectrum Analyser	200088	14/06/2012	3 years
TTS	IFR 2968 Tetra Test Set	296501/061	19/12/2013	2 years

The Tetra Test Set and FSU are owned by Sepura.

3 Test Methods

3.1 Antenna Conducted Carrier Power

The antenna output is connected to a spectrum analyser via a suitable PAD. The bandwidth on the spectrum analyser is set to greater than the EUT occupied bandwidth. A peak measurement is recorded. Additional measurements are made with antenna output connected to a power meter providing average measurements.

3.2 Antenna Conducted Transmitter Unwanted Emissions

Measurements are made with the antenna output connected to a spectrum analyser via a suitable PAD. Sweeps are made over the specified frequency ranges . The limit is set relative to the measured carrier power. A peak detector is used.

3.3 Antenna Conducted Occupied Bandwidth

Measurements are made with the antenna output connected to a spectrum analyser via a suitable PAD. Sweeps are made with a 300Hz Resolution Bandwidth and a 1kHz Video Bandwidth. A peak detector is used. Markers are used to determine the 99% power bandwidth.

3.4 Antenna Conducted Adjacent Channel Power

Measurements are made with the antenna output connected to an Tetra Test Set via a suitable PAD. The Analyser is set to make adjacent channel power measurements using the pre-configured settings for Tetra with 25 kHz channel spacing amd 18kHz channel bandwidth.

3.5 Frequency Stability

The EUT is placed in an environmental chamber. The temperature inside the chamber is set to the required level and allowed to stabilise.

For DMO mode the antenna output is connected to a spectrum analyser via a suitable PAD. The EUT is set to transmit with constant carrier (at a frequency 2.25kHz above channel centre frequency). The frequency is measured using the frequency counter function of the spectrum analyser.

For TMO mode the antenna output is connected to a Tetra Test Set. The EUT is set to transmit using normal burst operation. the frequency error, as indicated by the Tetra Test Set, is recorded.

Measurements are made at the specified temperature and over the required voltage supply range of the EUT.

3.6 Radiated Transmitter Emissions (Substitution Method)

Initial scans are performed in a semi-anechoic screened room at a distance of 3m. Scans are performed over the frequency range specified in the test standard with the antenna both horizontally and vertically polarised. During these scans the EUT and peripherals are rotated through 360°. Bench top EUTs are placed on a non-conducting bench at a height of 0.8m above the ground plane. Floor standing EUTs are placed 0.1m above the ground plane. The EUT cables were manipulated in an attempt to produce maximum emissions. The results of the scans are shown in the plots included at the end of the report.

Significant emissions identified by the scans are measured using a substitution method. Maximised emission readings are obtained by rotating the EUT through 360° and adjusting the height of the antenna from 1m to 4m. Measurements are made with the antenna both horizontally and vertically polarised and the results tabulated.

The EUT is then replaced with a calibrated reference antenna fed from a signal generator. The level fed into the reference antenna is measured with a power meter. Measurements are made to determine the power output of the signal generator required to give the same emission levels as were observed from the EUT.

The radiated power from the EUT is calculated as:

Signal Level fed into Reference Antenna	+ Gain of Reference Antenna	+ Radiated Level From EUT	- Radiated Level From Reference Antenna

For example, assuming following measurements:

Signal Level fed into Reference Antenna	=	-14.3dBm
Gain of Reference Antenna	=	7.1 dBi
Radiated Level from EUT (i.e. Level at Measuring Receiver)	=	37 dBuV
Radiated Level from Reference Antenna (i.e. Level at Measuring Receiver)	=	61.5 dBuV

Then the Radiated Power from the EUT = -14.3 + 7.1 +37 - 61.5 dBm (isotropic)
= - 31.7 dBm (isotropic)

3.7 Receiver Radiated Emissions

Initial scans are performed in a semi-anechoic screened room at a distance of 3m. Scans are performed over the frequency range specified in the test standard with the antenna both horizontally and vertically polarised. During these scans the EUT and peripherals are rotated through 360°. Bench top EUTs are placed on a non-conducting bench at a height of 0.8m above the ground plane. Floor standing EUTs are placed 0.1m above the ground plane. The EUT cables were manipulated in an attempt to produce maximum emissions. The results of the scans are shown in the plots included at the end of the report.

Significant emissions identified by the scans are measured on an open area test site at the appropriate test distance using a CISPR16 quasi-peak receiver. Maximised readings are obtained by rotating the EUT through 360° and adjusting the height of the antenna from 1m to 4m. Measurements are made with the antenna both horizontally and vertically polarised and the results tabulated.

Tabulated results show levels based on the following calculation:

Field Strength (dBuV) = receiver reading (dBuV) + CF (dB/m)

CF is the correction factor for the antenna and cable.

For example:

at 114MHz receiver reading was 17.9 dBuV, combined correction factor = 13.1 (dB/m).

Total field strength = 17.9 + 13.1 = 31.0 dBuV/m.

4 Test Results

The following sections contain tabulated test results. Plots of various scans are included at the back of this section.

4.1 Conducted Antenna Output Power

Factor Set 1:
Factor Set 2:
Factor Set 3:
Test Equipment: R13 PS10 PM6

Conducted Emissions (Signal)

Company:	Sepura PLC	*Product:*	STP9080/STP9280
Date:	24/09/2014	*Test Eng:*	Dave Smith
Ports:	antenna		
Test:	90.205	using limits of	90.205(h)
Ports:			
Test:		using limits of	

Notes	Comments and Observations

Spectrum anlayser results using a peak detector are shown in plots 1 to 6.

Measurements were also made using a power meter with an average detector.

Measurements were made with continuous modulation.

Taking into account the loss of the cable and attenuators the following measurements were made:

Channel	Peak dBm	Average dBm
809 MHz	36.5	33.8
816.5 MHz	36.4	33.7
824 MHz	36.6	33.7
854 MHz	36.4	33.6
861.5 MHz	36.4	33.7
869 MHz	36.5	33.7

4.2 Conducted Antenna Occupied Bandwidth

Factor Set 1:
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R9

Conducted Emissions (Signal)

Company:	Sepura PLC	*Product:*	STP9080/STP9280
Date:	24/09/2014	*Test Eng:*	Dave Smith
Ports:	antenna		
Test:	90.209	using limits of	90.209(b)(5)
Ports:			
Test:		using limits of	

Notes	Comments and Observations

Measurements were made with continuous modulation applied.
Spectrum analyser results are shown in plots 7 to 12.

Using the 99% Bandpower function of the spectrum analyser, the following measurements were recorded:

809 MHz 20.76 kHz

816.5 MHz 20.76 kHz

824 MHz 20.72 kHz

854 MHz 20.76 kHz

861.5 MHz 20.76 kHz

869 MHz 20.76 kHz

Limit:

Using note 6 of Part 90.209, the limit is 22kHz
(providing Adjacent Channel Power requirements are met).

PASS

4.3 Frequency Stability - DMO Mode - Absolute Frequency Measurements

Factor Set 1:
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R13

FrequencyStability

Company:	Sepura PLC	*Product:*	STP9080/STP9280
Date:	09/10/2014	*Test Eng:*	Dave Smith
Ports:	antenna		
Test:	90.213	using limits of	90.213
Ports:			
Test:		using limits of	

Notes	Comments and Observations

DMO Frequency (as recorded from Spectrum Analyser Frequency Counter)

		854MHz Channel	861.5MHz Channel	869MHz Channel
-30.0°C	6.4V	854.002144	861.502161	869.002171
	7.4V	854.002150	861.502155	869.002170
-20.0°C	6.4V	854.002114	861.502116	869.002119
	7.4V	854.002110	861.502107	869.002106
-10.0°C	6.4V	854.002150	861.502144	869.002138
	7.4V	854.002129	861.502127	869.002124
0.0°C	6.4V	854.002203	861.502208	869.002209
	7.4V	854.002192	861.502204	869.002210
10.0°C	6.4V	854.002099	861.502118	869.002130
	7.4V	854.002207	861.502208	869.002212
20.0°C	6.4V	854.002093	861.502101	869.002117
	7.4V	854.002051	861.502071	869.002046
30.0°C	6.4V	854.001985	861.501990	869.001992
	7.4V	854.002017	861.502008	869.002005
40.0°C	6.4V	854.002033	861.502031	869.002026
	7.4V	854.002031	861.502039	869.002036
50.0°C	6.4V	854.001906	861.501921	869.001930
	7.4V	854.001992	861.502016	869.001996
55.0°C	6.4V	854.001906	861.501899	869.001910
	7.4V	854.001906	861.501899	869.001910

These tests performed in Mod State 1
See next page for deviation from nominal voltage/temperature.

4.4 Frequency Stability - DMO Mode - Deviations from Nominal Volt/Temp - ppm

Factor Set 1:
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R13

FrequencyStability

Company:	Sepura PLC	*Product:*	STP9080/STP9280
Date:	09/10/2014	*Test Eng:*	Dave Smith
Ports:	antenna		
Test:	90.213	using limits of	90.213
Ports:			
Test:		using limits of	

Notes	Comments and Observations

DMO Frequency deviation from nominal voltage/temperature - ppm

		854MHz Channel	861.5MHz Channel	869MHz Channel
-30.0°C	6.4V	0.109	0.104	0.143
	7.4V	0.116	0.098	0.142
-20.0°C	6.4V	0.074	0.052	0.083
	7.4V	0.069	0.042	0.069
-10.0°C	6.4V	0.115	0.085	0.105
	7.4V	0.091	0.065	0.089
0.0°C	6.4V	0.177	0.159	0.187
	7.4V	0.165	0.154	0.188
10.0°C	6.4V	0.057	0.055	0.096
	7.4V	0.183	0.159	0.190
20.0°C	6.4V	0.049	0.035	0.081
	7.4V	0.000	0.000	0.000
30.0°C	6.4V	-0.077	-0.094	-0.062
	7.4V	-0.040	-0.073	-0.048
40.0°C	6.4V	-0.021	-0.047	-0.024
	7.4V	-0.023	-0.037	-0.012
50.0°C	6.4V	-0.170	-0.174	-0.134
	7.4V	-0.069	-0.064	-0.058
55.0°C	6.4V	-0.170	-0.200	-0.158
	7.4V	-0.170	-0.200	-0.158

The results refer to Mod State 1
The part 90 Limit for the 854MHz to 869MHz band mobiles is 2.5ppm **PASS**

4.5 Frequency Stability - TMO Mode - Frequency Error Hz

Factor Set 1:
Factor Set 2:
Factor Set 3:
Test Equipment: TTS

FrequencyStability

Company:	Sepura PLC	*Product:*	STP9080/STP9280
Date:	09/10/2014	*Test Eng:*	Dave Smith
Ports:	antenna		
Test:	90.213	using limits of	90.213
Ports:			
Test:		using limits of	

Notes	Comments and Observations

TMO Frequency Error (as recorded from Tetra Test Set) (Hz)

		809MHz Channel	816.5MHz Channel	824MHz Channel
-30.0°C	6.4V	-17.4	-5.9	-15.2
	7.4V	-13.4	-18.5	-14.2
-20.0°C	6.4V	-15.2	-12.7	-20.5
	7.4V	-27.3	-12.6	-13.4
-10.0°C	6.4V	-28.8	-21.8	-28.7
	7.4V	-26.0	-16.4	-24.2
0.0°C	6.4V	-26.3	-22.8	-23.6
	7.4V	-27.6	-29.2	-26.7
10.0°C	6.4V	-28.0	-23.0	-36.3
	7.4V	-15.7	-24.7	-24.4
20.0°C	6.4V	-25.4	-26.3	-26.7
	7.4V	-33.0	-34.1	-34.4
30.0°C	6.4V	-23.6	-28.1	-27.2
	7.4V	-34.4	-31.4	-40.0
40.0°C	6.4V	-27.5	-34.7	-36.0
	7.4V	-31.9	-32.4	-31.3
50.0°C	6.4V	-33.0	-26.5	-35.2
	7.4V	-32.0	-36.5	-29.5
55.0°C	6.4V	-30.3	-25.0	-17.3
	7.4V	-22.5	-24.4	-33.3

These tests were performed in Mod State 1
See next page for deviation in ppm.

4.6 Frequency Stability - TMO Mode - Deviation from nominal volt/temp - ppm

Factor Set 1:
Factor Set 2:
Factor Set 3:
Test Equipment: TTS

FrequencyStability

Company:	Sepura PLC	*Product:*	STP9080/STP9280
Date:	09/10/2014	*Test Eng:*	Dave Smith
Ports:	antenna		
Test:	90.213	using limits of	90.213
Ports:			
Test:		using limits of	

Notes	Comments and Observations

TMO Frequency deviation - ppm

		809MHz Channel	816.5MHz Channel	824MHz Channel
-30.0°C	6.4V	0.019	0.035	0.023
	7.4V	0.024	0.019	0.025
-20.0°C	6.4V	0.022	0.026	0.017
	7.4V	0.007	0.026	0.025
-10.0°C	6.4V	0.005	0.015	0.007
	7.4V	0.009	0.022	0.012
0.0°C	6.4V	0.008	0.014	0.013
	7.4V	0.007	0.006	0.009
10.0°C	6.4V	0.006	0.014	-0.002
	7.4V	0.021	0.012	0.012
20.0°C	6.4V	0.009	0.010	0.009
	7.4V	0.000	0.000	0.000
30.0°C	6.4V	0.012	0.007	0.009
	7.4V	-0.002	0.003	-0.007
40.0°C	6.4V	0.007	-0.001	-0.002
	7.4V	0.001	0.002	0.004
50.0°C	6.4V	0.000	0.009	-0.001
	7.4V	0.001	-0.003	0.006
55.0°C	6.4V	0.003	0.011	0.021
	7.4V	0.013	0.012	0.001

These results refer to Mod State 1
The part 90 Limit for the 809MHz to 824MHz band mobiles is 2.5ppm **PASS**

4.7 Conducted Emission Antenna Adjacent Channel Power

Factor Set 1:
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: FSU

Conducted Emissions (Signal)

Company: Sepura PLC		*Product:*	STP9080/STP9280
Date: 14/10/2014		*Test Eng:*	Dave Smith
Ports:			
Test: 90.221	using limits of	90.221(b)	
Ports:			
Test:	using limits of		

Notes	Comments and Observations

Using a spectrum analyser with the appropriate Tetra adjacent channel power settings. Captured results are shown in plots 13 to 18.

Readings in dBc

Channel

	-75kHz	-50kHz	-25kHz	+25kHz	+50kHz	+75kHz
809MHz	-79.66	-73.96	-63.33	-60.86	-73.70	-79.55
816.5MHz	-80.48	-74.01	-64.31	-61.74	-73.56	-80.05
824MHz	-79.29	-73.68	-64.22	-61.50	-73.43	-79.59
854MHz	-79.39	-73.460	-63.06	-60.53	-73.53	-78.92
861.5MHz	-78.79	-73.680	-63.05	-61.62	-72.77	-78.74
869MHz	-79.75	-73.400	-62.2	-61.69	-73.18	-79.55
Limit (dBc)	-65	-65	-55	-55	-65	-65
	PASS	PASS	PASS	PASS	PASS	PASS

Limit shown is the maximum allowed level (dBc) for a product with output power less than 15 W and operating in the 809MHz to 869MHz bands (Part 90.221(c)

These tests were performed in Mod State 1

PASS

4.8 Conducted Emission Antenna Spurious Emissions

Factor Set 1:
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R13 RFF17 RFF15 RFF22

Conducted Emissions (Signal)

Company:	Sepura PLC	*Product:*	STP9080/STP9280
Date:	24/09/2014	*Test Eng:*	Dave Smith
Ports:	antenna		
Test:	90.210	using limits of	90.221(d)
Ports:			
Test:		using limits of	

Notes	Comments and Observations

Results of scans shown in plots 19 to 26.

The limit line shown on the plots is at -13dBm.

All spurious emissions were below this limit.

The limit of -13dBm was derived as follows:

The applicable Mask is taken from part 90.221(d) which specifies an attenuation of:

43 + 10 log (P)

If the output is P Watts, the absolute limit is given by:

10 log (P) - (43 + 10 log (P)) = -43dBW

converting to dBm:

-43dBW = -13 dBm

This absolute limit is therefore the same (-13dBm) regardless of the actual measured output power P.

PASS

4.9 Radiated Emissions - Transmit Carrier ERP - Standalone

Factor Set 1: A30_dBi_14A - - -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A24 A30 SG13 PM6 PRE10 PS9 RFF22

Substitution Emissions

Company: Sepura PLC *Product:* STP9080/STP9280
Date: 02/09/2014 *Test Eng:* Dave Smith
Ports:
Test: 90.205 using limits of 90.205(h)
Ports:
Test: using limits of

Op Mode	Mod State	CF Set	Freq. MHz	Cable Loss Sig Gen Level Cable dBm	Cable Loss Rec'vr Level Cable dBm	Ant Pol	Rec'vr Level EUT dBm	Sig Gen Level Sub'n Ant dBm	Rec'vr Level Sub'n Ant dBm	Sub'n Ant Gain dBi	**ERP dBm**	Limit dBm	Margin dB	Note
1	0	1	809.000	0.0	0.0	V	4.0	-9.9	-49.9	-6.2	**37.9**			
1	0	1	816.500	0.0	0.0	V	4.3	-9.9	-49.4	-6.5	**37.4**			
1	0	1	824.000	0.0	0.0	V	4.2	-9.9	-49.4	-6.4	**37.2**			
1	0	1	809.000	0.0	0.0	H	6.2	-9.9	-47.3	-6.2	**37.4**			
1	0	1	816.500	0.0	0.0	H	6.1	-9.9	-47.7	-6.5	**37.3**			
1	0	1	824.000	0.0	0.0	H	5.6	-9.9	-47.8	-6.4	**37.0**			
1	0	1	854.000	0.0	0.0	V	3.8	-10.2	-49.5	-5.9	**37.2**			
1	0	1	861.500	0.0	0.0	V	4.5	-10.2	-49.4	-5.9	**37.8**			
1	0	1	869.000	0.0	0.0	V	3.8	-10.2	-49.6	-6.3	**37.0**			
1	0	1	854.000	0.0	0.0	H	6.5	-10.2	-47.3	-5.9	**37.8**			
1	0	1	861.500	0.0	0.0	H	6.7	-10.2	-47.6	-5.9	**38.2**			
1	0	1	869.000	0.0	0.0	H	6.9	-10.2	-47.5	-6.3	**37.9**			

Results	Minimum Margin PASS/FAIL	**N/A**			

Notes

Standalone. Upright and flat.
The results above are radiated measurements using the substitution method.
There are no specific limits in the standard for this test.

4.10 Radiated Emissions - Transmit Carrier ERP - RSM

Factor Set 1: A30_dBi_14A - - -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A24 A30 SG13 PM6 PRE10 PS9 RFF22

Substitution Emissions

Company: Sepura PLC *Product:* STP9080/STP9280
Date: 02/09/2014 *Test Eng:* Dave Smith
Ports:
Test: 90.205 using limits of 90.205(h)
Ports:
Test: using limits of

Op Mode	Mod State	CF Set	Freq. MHz	Cable Loss Sig Gen Level Cable dBm	Cable Loss Rec'vr Level Cable dBm	Ant Pol	Rec'vr Level EUT dBm	Sig Gen Level Sub'n Ant dBm	Rec'vr Level Sub'n Ant dBm	Sub'n Ant Gain dBi	**ERP dBm**	Limit dBm	Margin dB	Note
1	0	1	809.000	0.0	0.0	V	-3.6	-9.9	-49.9	-6.2	**30.2**			
1	0	1	816.500	0.0	0.0	V	-3.8	-9.9	-49.4	-6.5	**29.3**			
1	0	1	824.000	0.0	0.0	V	-3.8	-9.9	-49.4	-6.4	**29.3**			
1	0	1	809.000	0.0	0.0	H	-1.0	-9.9	-47.3	-6.2	**30.3**			
1	0	1	816.500	0.0	0.0	H	-0.3	-9.9	-47.7	-6.5	**31.0**			
1	0	1	824.000	0.0	0.0	H	-1.4	-9.9	-47.8	-6.4	**30.1**			
1	0	1	854.000	0.0	0.0	V	-3.8	-10.2	-49.5	-5.9	**29.6**			
1	0	1	861.500	0.0	0.0	V	-2.6	-10.2	-49.4	-5.9	**30.6**			
1	0	1	869.000	0.0	0.0	V	-3.0	-10.2	-49.6	-6.3	**30.1**			
1	0	1	854.000	0.0	0.0	H	-1.7	-10.2	-47.3	-5.9	**29.6**			
1	0	1	861.500	0.0	0.0	H	-2.1	-10.2	-47.6	-5.9	**29.4**			
1	0	1	869.000	0.0	0.0	H	-2.1	-10.2	-47.5	-6.3	**28.9**			

Results	Minimum Margin PASS/FAIL	**N/A**			

Notes

RSM. Upright and flat.
The results above are radiated measurements using the substitution method.
There are no specific limits in the standard for this test.

4.11 Radiated Emissions - Transmit Carrier ERP - Car kit

Factor Set 1: A30_dBi_14A - - -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A24 A30 SG13 PM6 PRE10 PS9 RFF22

Substitution Emissions

Company: Sepura PLC *Product:* STP9080/STP9280
Date: 02/09/2014 *Test Eng:* Dave Smith
Ports:
Test: 90.205 using limits of 90.205(h)
Ports:
Test: using limits of

Op Mode	Mod State	CF Set	Freq. MHz	Cable Loss Sig Gen Level Cable dBm	Cable Loss Rec'vr Level Cable dBm	Ant Pol	Rec'vr Level EUT dBm	Sig Gen Level Sub'n Ant dBm	Rec'vr Level Sub'n Ant dBm	Sub'n Ant Gain dBi	**ERP dBm**	Limit dBm	Margin dB	Note
1	0	1	809.000	0.0	0.0	V	-1.2	-9.9	-49.9	-6.2	**32.7**			
1	0	1	816.500	0.0	0.0	V	-1.8	-9.9	-49.4	-6.5	**31.2**			
1	0	1	824.000	0.0	0.0	V	-0.4	-9.9	-49.4	-6.4	**32.7**			
1	0	1	809.000	0.0	0.0	H	1.1	-9.9	-47.3	-6.2	**32.3**			
1	0	1	816.500	0.0	0.0	H	-1.4	-9.9	-47.7	-6.5	**29.9**			
1	0	1	824.000	0.0	0.0	H	0.5	-9.9	-47.8	-6.4	**31.9**			
1	0	1	854.000	0.0	0.0	V	-2.0	-10.2	-49.5	-5.9	**31.4**			
1	0	1	861.500	0.0	0.0	V	-1.0	-10.2	-49.4	-5.9	**32.3**			
1	0	1	869.000	0.0	0.0	V	-1.3	-10.2	-49.6	-6.3	**31.8**			
1	0	1	854.000	0.0	0.0	H	-5.4	-10.2	-47.3	-5.9	**25.9**			
1	0	1	861.500	0.0	0.0	H	-3.2	-10.2	-47.6	-5.9	**28.3**			
1	0	1	869.000	0.0	0.0	H	-4.4	-10.2	-47.5	-6.3	**26.6**			

Results	Minimum Margin PASS/FAIL	**N/A**		

Notes

Car Kit.
The results above are radiated measurements using the substitution method.
There are no specific limits in the standard for this test.

4.12 Radiated Emissions - Transmit Spurious RSM - Low Band

Factor Set 1: A19_dBi_14A - - -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A8 A19 SG16 PM6 PRE10 PS10 RFF22

Substitution Emissions

Company: Sepura PLC *Product:* STP9080/STP9280
Date: 02/09/2014 *Test Eng:* Dave Smith
Ports:
Test: 90.210 using limits of 90.221(d)
Ports:
Test: using limits of

Op Mode	Mod State	CF Set	Freq. MHz	Cable Loss Sig Gen Level Cable dBm	Cable Loss Rec'vr Level Cable dBm	Ant Pol	Rec'vr Level EUT dBm	Sig Gen Level Sub'n Ant dBm	Rec'vr Level Sub'n Ant dBm	Sub'n Ant Gain dBi	**ERP dBm**	Limit dBm	Margin dB	Note
809MHz to 824MHz band														
1	0	1	1618.000	0.0	0.0	V	-44.1	-12.4	-8.3	8.9	**-39.3**	-13.0	26.3	Lo
1	0	1	1633.000	0.0	0.0	V	-42.1	-12.4	-7.8	8.9	**-37.7**	-13.0	24.7	Mid
1	0	1	1648.000	0.0	0.0	V	-41.9	-12.4	-7.7	8.9	**-37.6**	-13.0	24.6	Hi
1	0	1	1618.000	0.0	0.0	H	-46.0	-12.4	-8.3	8.9	**-41.1**	-13.0	28.1	Lo
1	0	1	1633.000	0.0	0.0	H	-45.3	-12.4	-8.5	8.9	**-40.2**	-13.0	27.2	Mid
1	0	1	1648.000	0.0	0.0	H	-44.8	-12.4	-7.9	8.9	**-40.4**	-13.0	27.4	Hi
1	0	1	2427.000	0.0	0.0	V	-44.7	-12.4	-10.6	9.7	**-36.8**	-13.0	23.8	Lo
1	0	1	2449.500	0.0	0.0	V	-44.4	-12.4	-11.0	9.8	**-36.0**	-13.0	23.0	Mid
1	0	1	2472.000	0.0	0.0	V	-43.9	-12.4	-11.0	9.8	**-35.5**	-13.0	22.5	Hi
1	0	1	2427.000	0.0	0.0	H	-45.5	-12.4	-10.8	9.7	**-37.4**	-13.0	24.4	Lo
1	0	1	2449.500	0.0	0.0	H	-44.0	-12.4	-10.9	9.8	**-35.8**	-13.0	22.8	Mid
1	0	1	2472.000	0.0	0.0	H	-44.5	-12.4	-10.8	9.8	**-36.3**	-13.0	23.3	Hi
1	0	1	4854.000	0.0	0.0	V	-52.9	-13.5	-17.2	11.1	**-38.2**	-13.0	25.2	Lo
1	0	1	4899.000	0.0	0.0	V	-52.9	-13.6	-17.2	11.1	**-38.2**	-13.0	25.2	Mid
1	0	1	4944.000	0.0	0.0	V	-52.4	-13.6	-17.3	11.1	**-37.6**	-13.0	24.6	Hi
1	0	1	4854.000	0.0	0.0	H	-53.4	-13.5	-17.2	11.1	**-38.6**	-13.0	25.6	Lo
1	0	1	4899.000	0.0	0.0	H	-53.5	-13.6	-17.2	11.1	**-38.8**	-13.0	25.8	Mid
1	0	1	4944.000	0.0	0.0	H	-52.9	-13.6	-17.4	11.1	**-38.0**	-13.0	25.0	Hi

Results	Minimum Margin PASS/FAIL	**22.5** dB **PASS**			

Notes

RSM. Maximum of upright and flat. Maximum rotation and height. Measured with 1MHz RBW detector. Limit set at -13dBm.
Results of prescans shown in plots 31 to 34.

4.13 Radiated Emissions - Transmit Spurious RSM - High Band

Factor Set 1: A19_dBi_14A - - -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A8 A19 SG16 PM6 PS10 PRE10 RFF22

Substitution Emissions

Company: Sepura PLC *Product:* STP9080/STP9280
Date: 02/09/2014 *Test Eng:* Dave Smith
Ports:
Test: 90.210 using limits of 90.221(d)
Ports:
Test: using limits of

Op Mode	Mod State	CF Set	Freq. MHz	Cable Loss Sig Gen Level Cable dBm	Cable Loss Rec'vr Level Cable dBm	Ant Pol	Rec'vr Level EUT dBm	Sig Gen Level Sub'n Ant dBm	Rec'vr Level Sub'n Ant dBm	Sub'n Ant Gain dBi	**ERP dBm**	Limit dBm	Margin dB	Note
854MHz to 869MHz band														
1	0	1	1708.000	0.0	0.0	V	-41.3	-13.5	-8.9	8.9	**-37.0**	-13.0	24.0	Lo
1	0	1	1723.000	0.0	0.0	V	-40.3	-13.6	-9.2	8.9	**-35.7**	-13.0	22.7	Mid
1	0	1	1738.000	0.0	0.0	V	-39.2	-13.7	-9.7	8.9	**-34.2**	-13.0	21.2	Hi
1	0	1	1708.000	0.0	0.0	H	-40.1	-13.5	-9.1	8.9	**-35.6**	-13.0	22.6	Lo
1	0	1	1723.000	0.0	0.0	H	-39.0	-13.6	-9.4	8.9	**-34.2**	-13.0	21.2	Mid
1	0	1	1738.000	0.0	0.0	H	-39.3	-13.7	-9.7	8.9	**-34.3**	-13.0	21.3	Hi
1	0	1	2562.000	0.0	0.0	V	-47.7	-12.4	-11.5	9.8	**-38.8**	-13.0	25.8	Lo
1	0	1	2584.500	0.0	0.0	V	-48.5	-12.4	-11.7	9.9	**-39.2**	-13.0	26.2	Mid
1	0	1	2607.000	0.0	0.0	V	-47.5	-12.4	-11.5	9.9	**-38.5**	-13.0	25.5	Hi
1	0	1	2562.000	0.0	0.0	H	-47.7	-12.4	-11.4	9.8	**-38.8**	-13.0	25.8	Lo
1	0	1	2584.500	0.0	0.0	H	-48.0	-12.4	-11.7	9.9	**-38.9**	-13.0	25.9	Mid
1	0	1	2607.000	0.0	0.0	H	-47.2	-12.4	-11.7	9.9	**-38.0**	-13.0	25.0	Hi
1	0	1	5124.000	0.0	0.0	V	-49.9	-13.5	-17.8	11.1	**-34.6**	-13.0	21.6	Lo
1	0	1	5169.000	0.0	0.0	V	-50.4	-13.6	-18.0	11.0	**-35.0**	-13.0	22.0	Mid
1	0	1	5214.000	0.0	0.0	V	-50.9	-13.7	-18.0	11.0	**-35.6**	-13.0	22.6	Hi
1	0	1	5124.000	0.0	0.0	H	-51.4	-13.5	-17.8	11.1	**-36.1**	-13.0	23.1	Lo
1	0	1	5169.000	0.0	0.0	H	-49.5	-13.6	-17.9	11.0	**-34.1**	-13.0	21.1	Mid
1	0	1	5214.000	0.0	0.0	H	-52.3	-13.7	-17.9	11.0	**-37.1**	-13.0	24.1	Hi

Results	Minimum Margin	**21.1** dB			
	PASS/FAIL	**PASS**			

Notes

RSM. Maximum of upright and flat. Maximum rotation and height. Measured with 1MHz RBW detector. Limit set at -13dBm.
Results of prescans shown in plots 35 to 39.

4.14 Radiated Emissions - Transmit Spur - Car Kit

Factor Set 1: A19_dBi_14A - - -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A8 A19 SG16 PM6 PS10 PRE10 RFF22

Substitution Emissions

Company: Sepura PLC *Product:* STP9080/STP9280
Date: 02/09/2014 *Test Eng:* Dave Smith
Ports:
Test: 90.210 using limits of 90.221(d)
Ports:
Test: using limits of

Op Mode	Mod State	CF Set	Freq. MHz	Cable Loss Sig Gen Level Cable dBm	Cable Loss Rec'vr Level Cable dBm	Ant Pol	Rec'vr Level EUT dBm	Sig Gen Level Sub'n Ant dBm	Rec'vr Level Sub'n Ant dBm	Sub'n Ant Gain dBi	**ERP dBm**	Limit dBm	Margin dB	Note
Mid Channel (809MHz to 824MHz band)														
1	0	1	1633.000	0.0	0.0	V	-47.5	-12.4	-7.8	8.9	**-43.0**	-13.0	30.0	
1	0	1	2449.500	0.0	0.0	V	-47.5	-12.4	-11.0	9.8	**-39.1**	-13.0	26.1	
1	0	1	4899.000	0.0	0.0	V	-52.4	-13.6	-17.2	11.1	**-37.7**	-13.0	24.7	
1	0	1	1633.000	0.0	0.0	H	-43.2	-12.4	-8.5	8.9	**-38.1**	-13.0	25.1	
1	0	1	2449.500	0.0	0.0	H	-42.9	-12.4	-10.9	9.8	**-34.7**	-13.0	21.7	
1	0	1	4899.000	0.0	0.0	H	-51.8	-13.6	-17.2	11.1	**-37.1**	-13.0	24.1	
Mid Channel (854MHz to 869MHz band)														
1	0	1	1723.000	0.0	0.0	V	-43.9	-13.6	-9.2	8.9	**-39.3**	-13.0	26.3	
1	0	1	2584.500	0.0	0.0	V	-47.0	-12.4	-11.7	9.9	**-37.8**	-13.0	24.8	
1	0	1	5169.000	0.0	0.0	V	-49.9	-13.6	-18.0	11.0	**-34.5**	-13.0	21.5	
1	0	1	1723.000	0.0	0.0	H	-46.1	-13.6	-9.4	8.9	**-41.3**	-13.0	28.3	
1	0	1	2584.500	0.0	0.0	H	-47.0	-12.4	-11.7	9.9	**-37.9**	-13.0	24.9	
1	0	1	5169.000	0.0	0.0	H	-51.5	-13.6	-17.9	11.0	**-36.0**	-13.0	23.0	

Results	Minimum Margin PASS/FAIL	**21.5** dB **PASS**

Notes

Car Kit. Maximum rotation and height. Measured with 1MHz RBW detector. Limit set at -13dBm.
Results of prescans shown in plots 39 to 42.

4.15 Radiated Emissions - Receive Mode - Below 1GHz

Factor Set 1: A5_14A - - CBL015_11A 1 m cable
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R4 A5 R8 A24 PRE10

Radiated Emissions

Company: Sepura PLC *Product:* STP9080/STP9280
Date: 28/10/2014 *Test Eng:* Dave Smith
Ports:
Test: ANSI C63.4:2003 using limits of FCC(B)
Ports:
Test: using limits of

Plot	Op Mode	Mod State	Dist m	Fact Set	Freq. MHz	Ant Pol	Rec. Level dBuV	Corr'n Factor dB/m	Corr'n Factor dB	Total Level dBuV/m	Limit FCC_B dBuV/m	Margin FCC_B dB	Notes
	RSM												
47	2	1	3	1	923.250	V	5.6	30.9	1.0	37.5	46.0	8.5	#1
47	2	1	3	1	923.250	H	7.3	30.9	1.0	39.2	46.0	6.8	#1
47	2	1	3	1	930.750	V	5.9	31.5	1.0	38.4	46.0	7.6	#1
47	2	1	3	1	930.750	H	6.7	31.5	1.0	39.1	46.0	6.9	#1
47	2	1	3	1	938.250	V	4.8	32.0	1.0	37.8	46.0	8.2	#1
47	2	1	3	1	938.250	H	8.3	32.0	1.0	41.3	46.0	4.7	#1
	Car Kit												
52	2	1	3	1	923.250	V	7.0	30.9	1.0	38.9	46.0	7.1	#1
52	2	1	3	1	923.250	H	8.4	30.9	1.0	40.2	46.0	5.8	#1
52	2	1	3	1	930.750	V	6.3	31.5	1.0	38.7	46.0	7.3	#1
52	2	1	3	1	930.750	H	7.2	31.5	1.0	39.6	46.0	6.4	#1
52	2	1	3	1	938.250	V	4.8	32.0	1.0	37.8	46.0	8.2	#1
52	2	1	3	1	938.250	H	5.8	32.0	1.0	38.8	46.0	7.2	#1
	Standalone												
43	2	1	3	1	930.750	V	-0.9	31.5	1.0	31.6	46.0	14.4	#1
43	2	1	3	1	930.750	H	-1.9	31.5	1.0	30.6	46.0	15.4	#1
	STP9240												
56	2	1	3	1	444.300	V	3.8	20.7		24.6	46.0	21.4	#2
56	2	1	3	1	444.300	H	4.5	20.7		25.2	46.0	20.8	#2
56	2	1	3	1	930.750	V	0.5	31.5	1.0	32.9	46.0	13.1	#1
56	2	1	3	1	930.750	H	1.8	31.5	1.0	34.3	46.0	11.7	#1

Results	**Minimum Margin**	**4.7 dB**	
	PASS/FAIL	**PASS**	

Notes	Comments and Observations
#1	Results of scans shown in plots 43,47,51,52 and 56. During prescans in screened room these emissions were identified as narrow band. Measurements with a 30Hz RBW/30Hz VBW peak detector were no more than 1 dB lower than a measurement with a 120kH QP detector. Because of ambients/noise floor, a 30Hz RBW/30Hz VBW peak detector was used on the open area test site and an additional 1dB added to the correction factor.
#2	Measured with 120kHz QP detector.

4.16 Radiated Emissions - Receive Mode - Above 1GHz - RSM

Factor Set 1:	A19_14A RFF22_14A PRE10_14B BlueCables_14B	1 m cable
Factor Set 2:	- - - -	
Factor Set 3:	- - - -	
Test Equipment:	R8 A19 PRE10	

Radiated Emissions

Company:	Sepura PLC	*Product:*	STP9080/STP9280
Date:	29/08/2014	*Test Eng:*	Dave Smith
Ports:			
Test:	ANSI C63.4:2003 using limits of	FCC(B)	=FCC B
Ports:			
Test:	using limits of		

Plot	Op Mode	Mod State	Dist m	Fact Set	Freq. MHz	Ant Pol	Det. Type	Rec. Level dBuV	Corr'n Factor dB	Total Level dBuV/m	Limit FCC_B dBuV/m	Margin FCC_B dB	Notes
50	2	0	3	1	5539.500	V	Pk	44.7	6.0	50.7	74.0	23.3	Lo
50	2	0	3	1	5539.500	V	Avg	39.3	6.0	45.3	54.0	8.7	Lo
50	2	0	3	1	5539.500	H	Pk	43.5	6.0	49.5	74.0	24.5	Lo
50	2	0	3	1	5539.500	H	Avg	36.7	6.0	42.8	54.0	11.2	Lo
50	2	0	3	1	6462.750	V	Pk	46.4	6.0	52.4	74.0	21.6	Lo
50	2	0	3	1	6462.750	V	Avg	42.2	6.0	48.2	54.0	5.8	Lo
50	2	0	3	1	6462.750	H	Pk	45.6	6.0	51.6	74.0	22.4	Lo
50	2	0	3	1	6462.750	H	Avg	40.5	6.0	46.5	54.0	7.5	Lo
50	2	0	3	1	5584.500	V	Pk	46.0	6.0	52.0	74.0	22.0	Mid
50	2	0	3	1	5584.500	V	Avg	41.5	6.0	47.5	54.0	6.5	Mid
50	2	0	3	1	5584.500	H	Pk	44.7	6.0	50.7	74.0	23.3	Mid
50	2	0	3	1	5584.500	H	Avg	39.2	6.0	45.3	54.0	8.7	Mid
50	2	0	3	1	6515.250	V	Pk	47.5	6.1	53.5	74.0	20.5	Mid
50	2	0	3	1	6515.250	V	Avg	43.8	6.1	49.9	54.0	4.1	Mid
50	2	0	3	1	6515.250	H	Pk	45.6	6.1	51.6	74.0	22.4	Mid
50	2	0	3	1	6515.250	H	Avg	40.8	6.1	46.8	54.0	7.2	Mid
50	2	0	3	1	5629.500	V	Pk	45.6	6.0	51.7	74.0	22.3	Hi
50	2	0	3	1	5629.500	V	Avg	41.2	6.0	47.3	54.0	6.7	Hi
50	2	0	3	1	5629.500	H	Pk	45.2	6.0	51.3	74.0	22.7	Hi
50	2	0	3	1	5629.500	H	Avg	39.6	6.0	45.6	54.0	8.4	Hi
50	2	0	3	1	6567.750	V	Pk	46.6	6.2	52.8	74.0	21.2	Hi
50	2	0	3	1	6567.750	V	Avg	42.2	6.2	48.3	54.0	5.7	Hi
50	2	0	3	1	6567.750	H	Pk	46.5	6.2	52.7	74.0	21.3	Hi
50	2	0	3	1	6567.750	H	Avg	41.8	6.2	48.0	54.0	6.0	Hi

Results	**Minimum Margin**	**4.1**	**dB**
	PASS/FAIL	**PASS**	

Notes	Comments and Observations
	Results of scans shown in plots 48 to 50. RSM. Upright and flat. Measured with 1MHz RBW detector.
Key:	qp - quasi-peak, av - average, pk - peak

4.17 Radiated Emissions - Receive Mode - Above 1GHz - Car Kit

Factor Set 1:	A19_14A RFF22_14A PRE10_14B BlueCables_14B	1 m cable
Factor Set 2:	- - - -	
Factor Set 3:	- - - -	
Test Equipment:	R8 A19 PRE10	

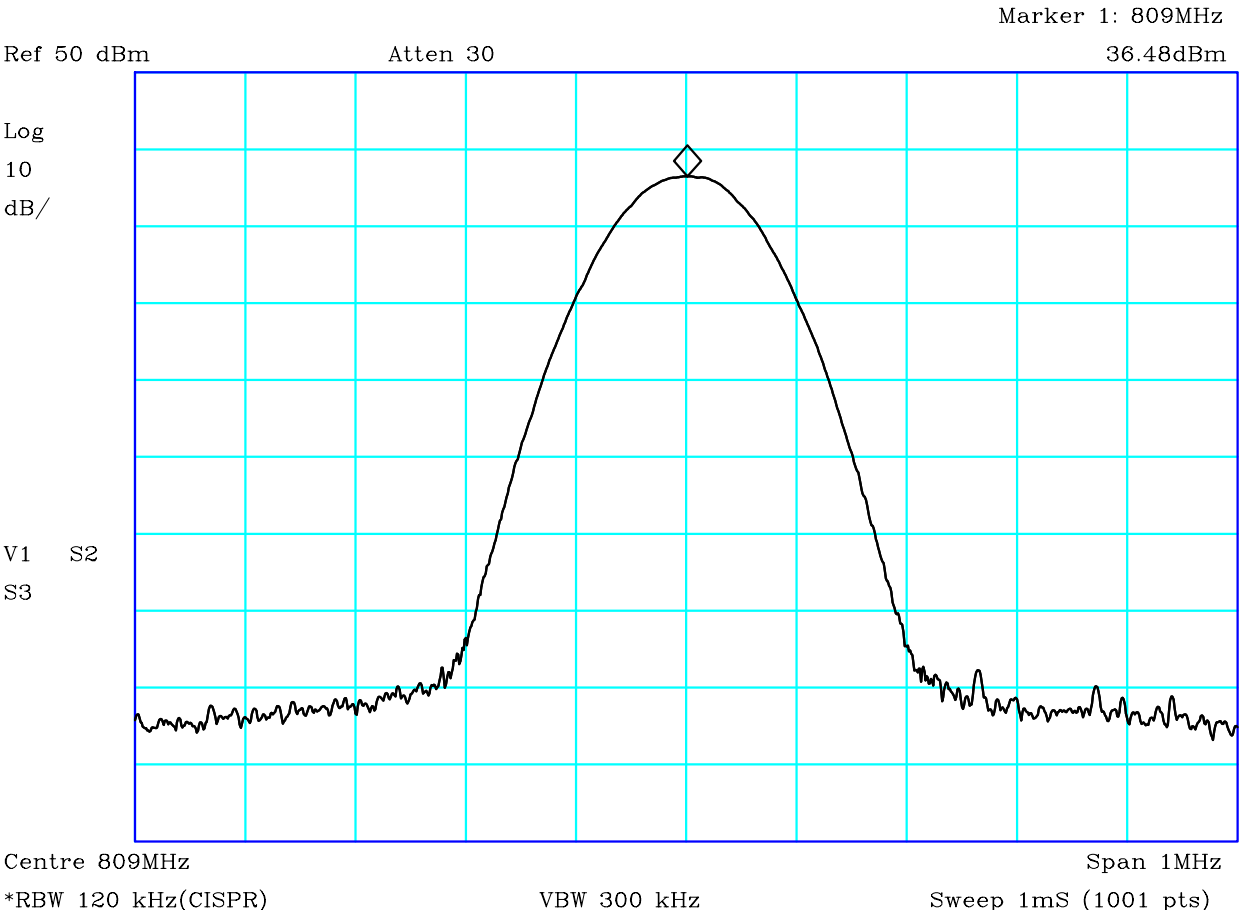
Radiated Emissions

Company:	Sepura PLC	*Product:*	STP9080/STP9280
Date:	29/08/2014	*Test Eng:*	Dave Smith
Ports:			
Test:	ANSI C63.4:2003 using limits of	FCC(B)	=FCC B
Ports:			
Test:	using limits of		

Plot	Op Mode	Mod State	Dist m	Fact Set	Freq. MHz	Ant Pol	Det. Type	Rec. Level dBuV	Corr'n Factor dB	Total Level dBuV/m	Limit FCC_B dBuV/m	Margin FCC_B dB	Notes
55	2	0	3	1	5539.500	V	Pk	40.3	6.0	46.3	74.0	27.7	Lo
55	2	0	3	1	5539.500	V	Avg	37.1	6.0	43.1	54.0	10.9	Lo
55	2	0	3	1	5539.500	H	Pk	42.7	6.0	48.7	74.0	25.3	Lo
55	2	0	3	1	5539.500	H	Avg	40.6	6.0	46.6	54.0	7.4	Lo
55	2	0	3	1	6462.750	V	Pk	45.4	6.0	51.4	74.0	22.6	Lo
55	2	0	3	1	6462.750	V	Avg	40.7	6.0	46.8	54.0	7.2	Lo
55	2	0	3	1	6462.750	H	Pk	45.0	6.0	51.0	74.0	23.0	Lo
55	2	0	3	1	6462.750	H	Avg	40.2	6.0	46.2	54.0	7.8	Lo
55	2	0	3	1	5584.500	V	Pk	43.6	6.0	49.6	74.0	24.4	Mid
55	2	0	3	1	5584.500	V	Avg	37.5	6.0	43.5	54.0	10.5	Mid
55	2	0	3	1	5584.500	H	Pk	44.3	6.0	50.3	74.0	23.7	Mid
55	2	0	3	1	5584.500	H	Avg	38.6	6.0	44.6	54.0	9.4	Mid
55	2	0	3	1	6515.250	V	Pk	45.4	6.1	51.4	74.0	22.6	Mid
55	2	0	3	1	6515.250	V	Avg	40.8	6.1	46.9	54.0	7.1	Mid
55	2	0	3	1	6515.250	H	Pk	46.3	6.1	52.4	74.0	21.6	Mid
55	2	0	3	1	6515.250	H	Avg	42.2	6.1	48.3	54.0	5.7	Mid
55	2	0	3	1	5629.500	V	Pk	43.7	6.0	49.7	74.0	24.3	Hi
55	2	0	3	1	5629.500	V	Avg	37.7	6.0	43.8	54.0	10.2	Hi
55	2	0	3	1	5629.500	H	Pk	46.1	6.0	52.1	74.0	21.9	Hi
55	2	0	3	1	5629.500	H	Avg	41.2	6.0	47.2	54.0	6.8	Hi
55	2	0	3	1	6567.750	V	Pk	45.9	6.2	52.0	74.0	22.0	Hi
55	2	0	3	1	6567.750	V	Avg	40.3	6.2	46.5	54.0	7.5	Hi
55	2	0	3	1	6567.750	H	Pk	45.5	6.2	51.7	74.0	22.3	Hi
55	2	0	3	1	6567.750	H	Avg	41.1	6.2	47.3	54.0	6.7	Hi

Results	**Minimum Margin**	**5.7**	**dB**
	PASS/FAIL	**PASS**	

Notes	Comments and Observations
	Results of scans shown in plots 53 to 55. Car Kit. Measured with 1MHz RBW detector.
Key:	qp - quasi-peak, av - average, pk - peak



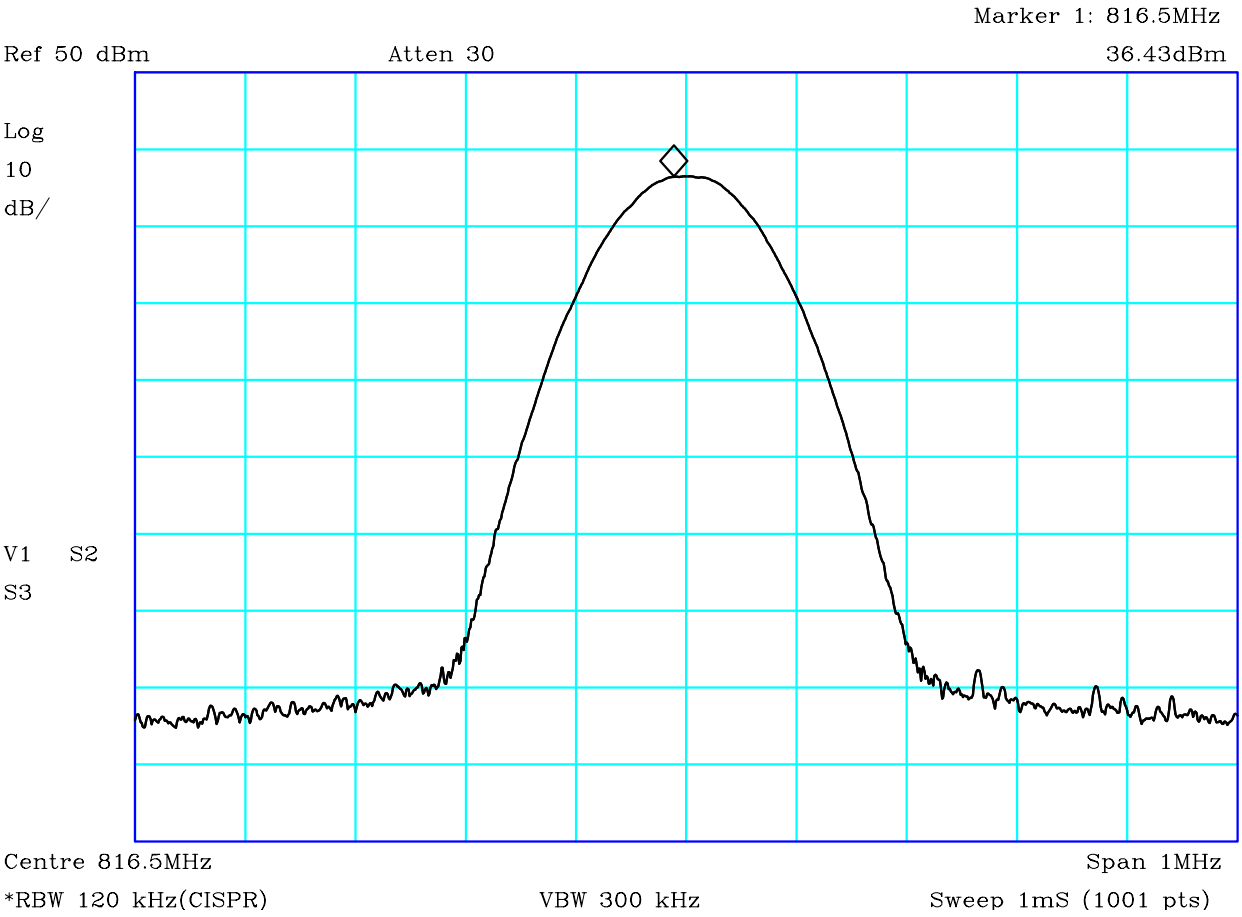
CF1:30dB PAD

PLOT 1 Conducted Antenna Power - 809MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 809MHz
Peak = 36.48 dBm
Average (measured with power meter) = 33.75 dBm

Facility:	Env. Chamber			Mode:	1
				Modification State:	0
		File:	H48244EB.txt	Analyser:	R13



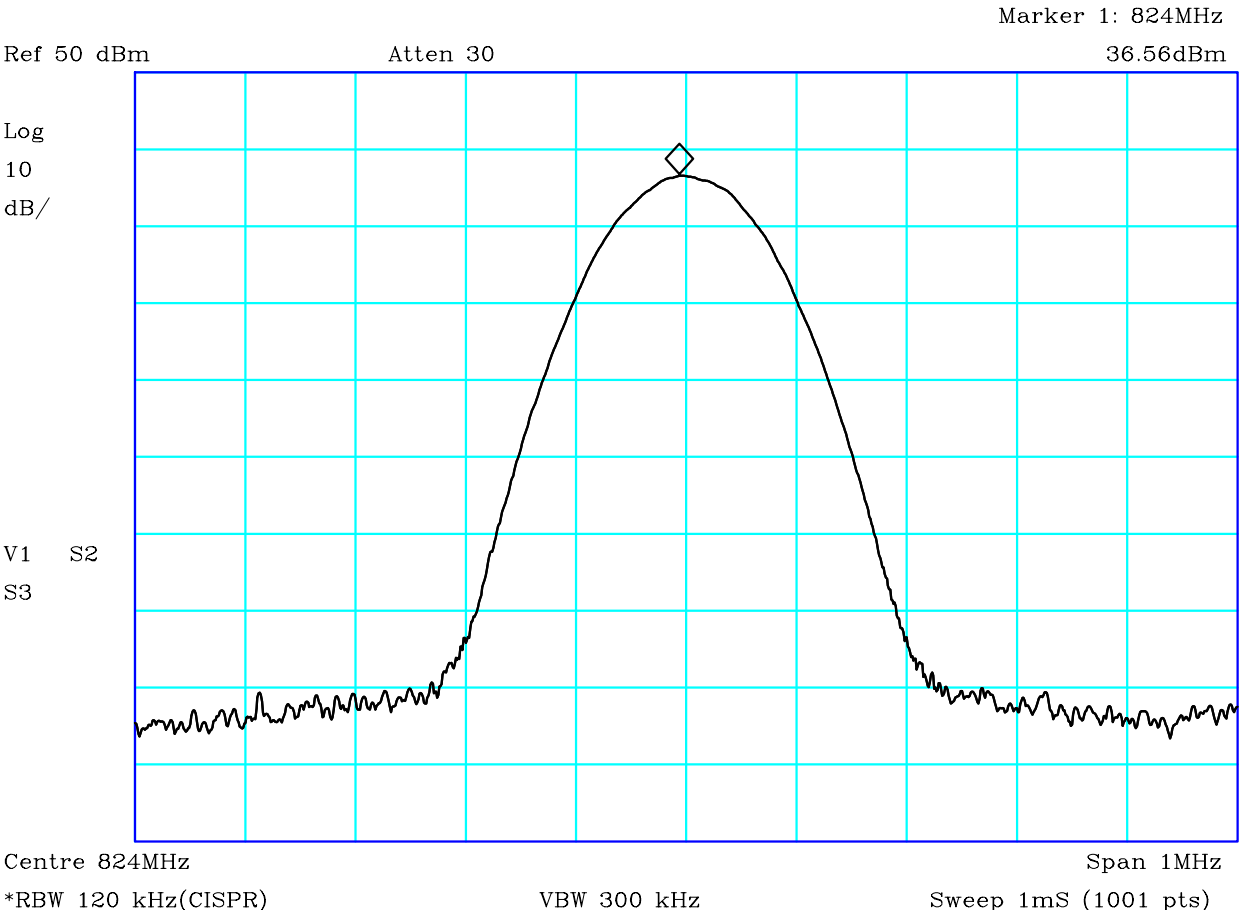
CF1:30dB PAD

PLOT 2 Conducted Antenna Power - 816.5MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 816.5MHz
Peak = 36.43 dBm
Average (measured with power meter) = 33.72 dBm

Facility:	Env. Chamber			Mode:	1
				Modification State:	0
		File:	H48244EE.txt	Analyser:	R13



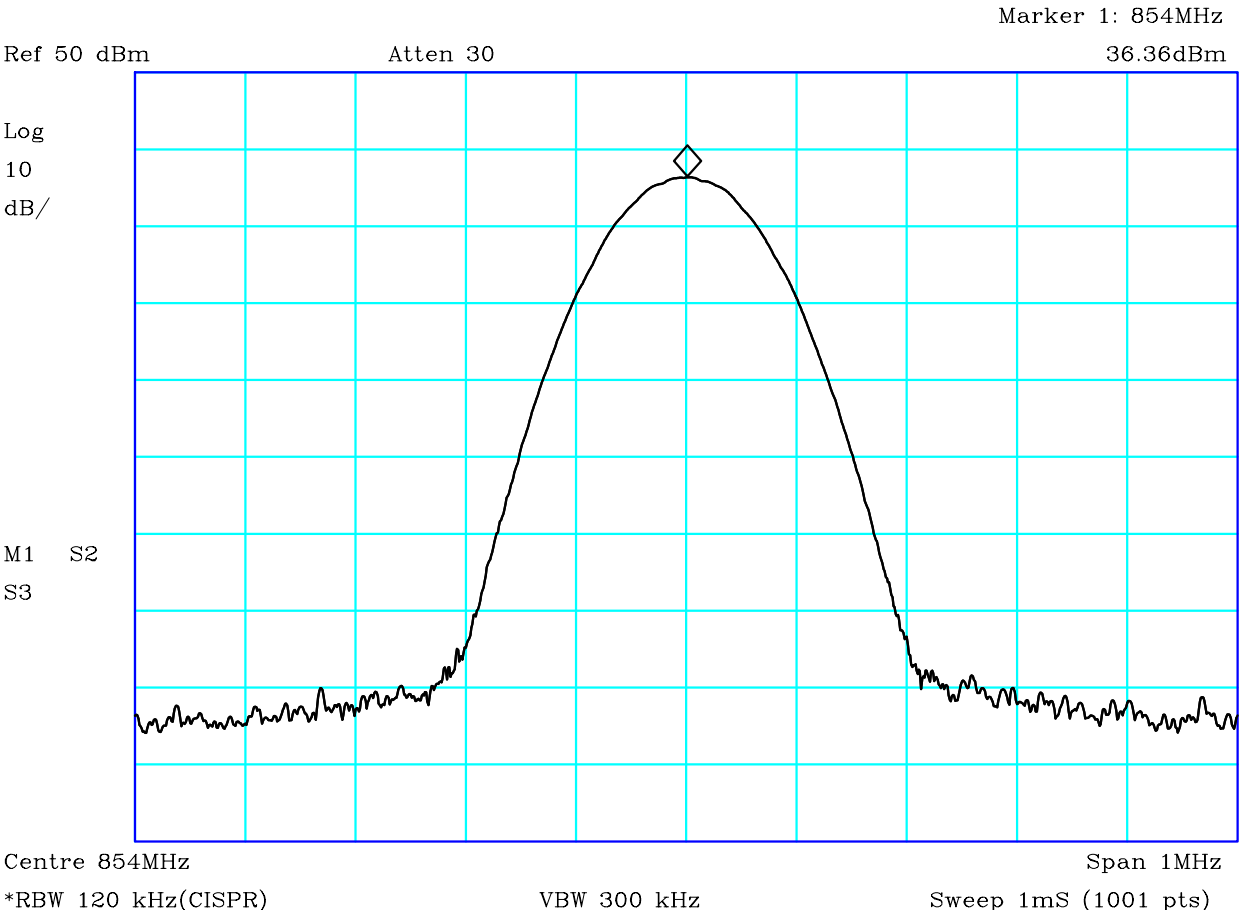
CF1:30dB PAD

PLOT 3 Conducted Antenna Power - 824MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 824MHz
Peak = 36.56 dBm
Average (measured with power meter) = 33.68 dBm

Facility:	Env. Chamber			Mode:	1
				Modification State:	0
		File:	H48244F1.txt	Analyser:	R13



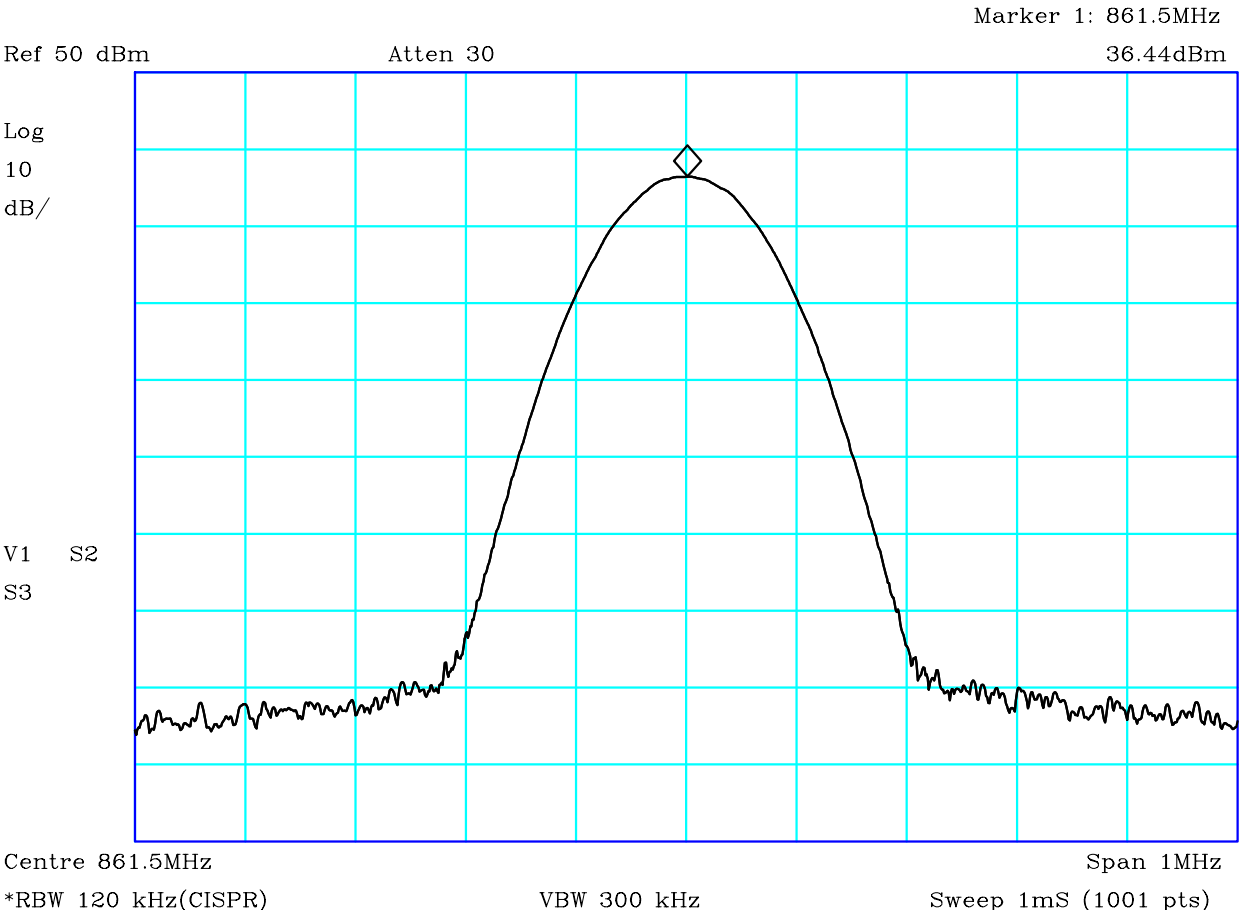
CF1:30dB PAD

PLOT 4 Conducted Antenna Power - 854MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 854MHz
Peak = 36.36 dBm
Average (measured with power meter) = 33.6 dBm

Facility:	Env. Chamber			Mode:	1
				Modification State:	0
		File:	H48244F8.txt	Analyser:	R13



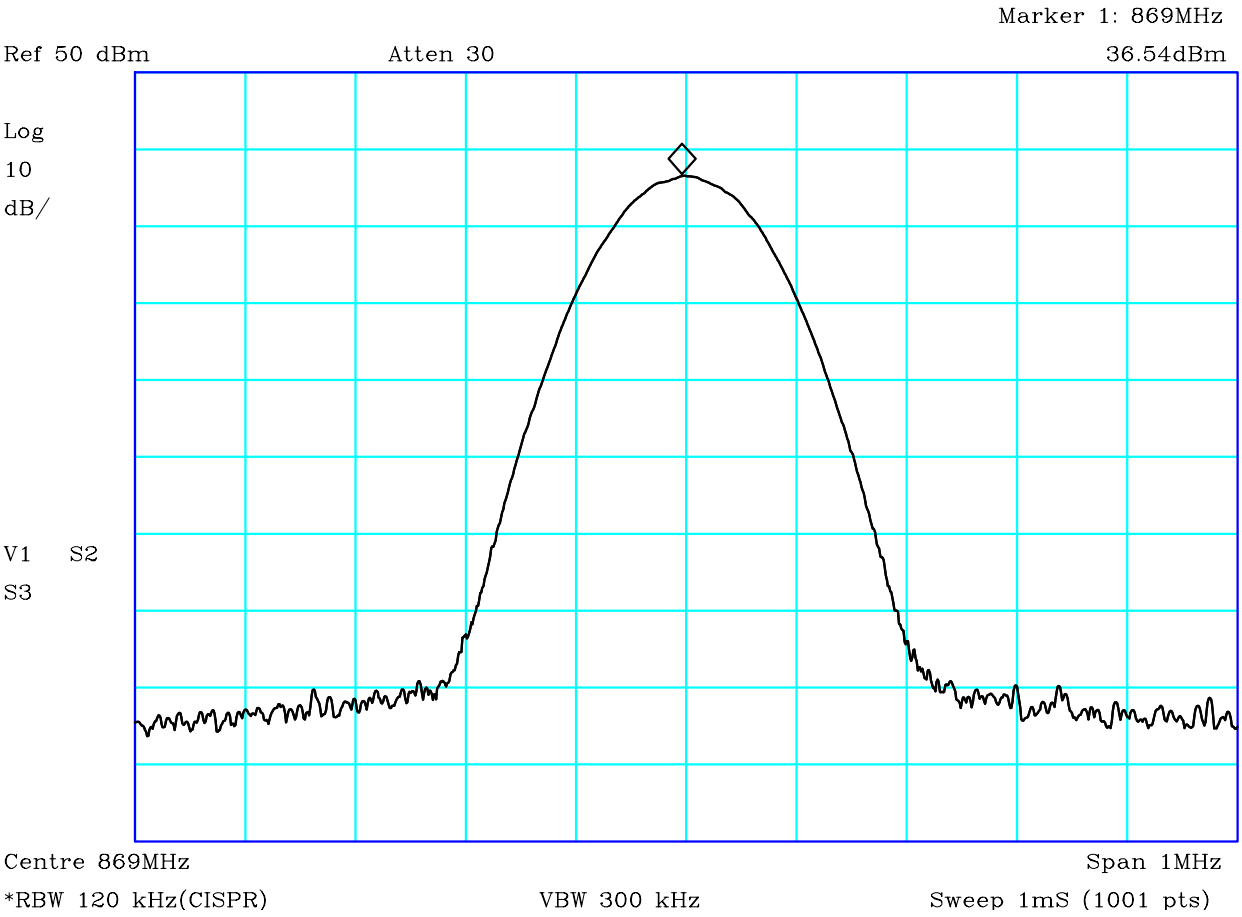
CF1:30dB PAD

PLOT 5 Conducted Antenna Power - 861.5MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 861.5MHz
Peak = 36.44 dBm
Average (measured with power meter) = 33.72 dBm

Facility:	Env. Chamber			Mode:	1
				Modification State:	0
		File:	H48244FA.txt	Analyser:	R13



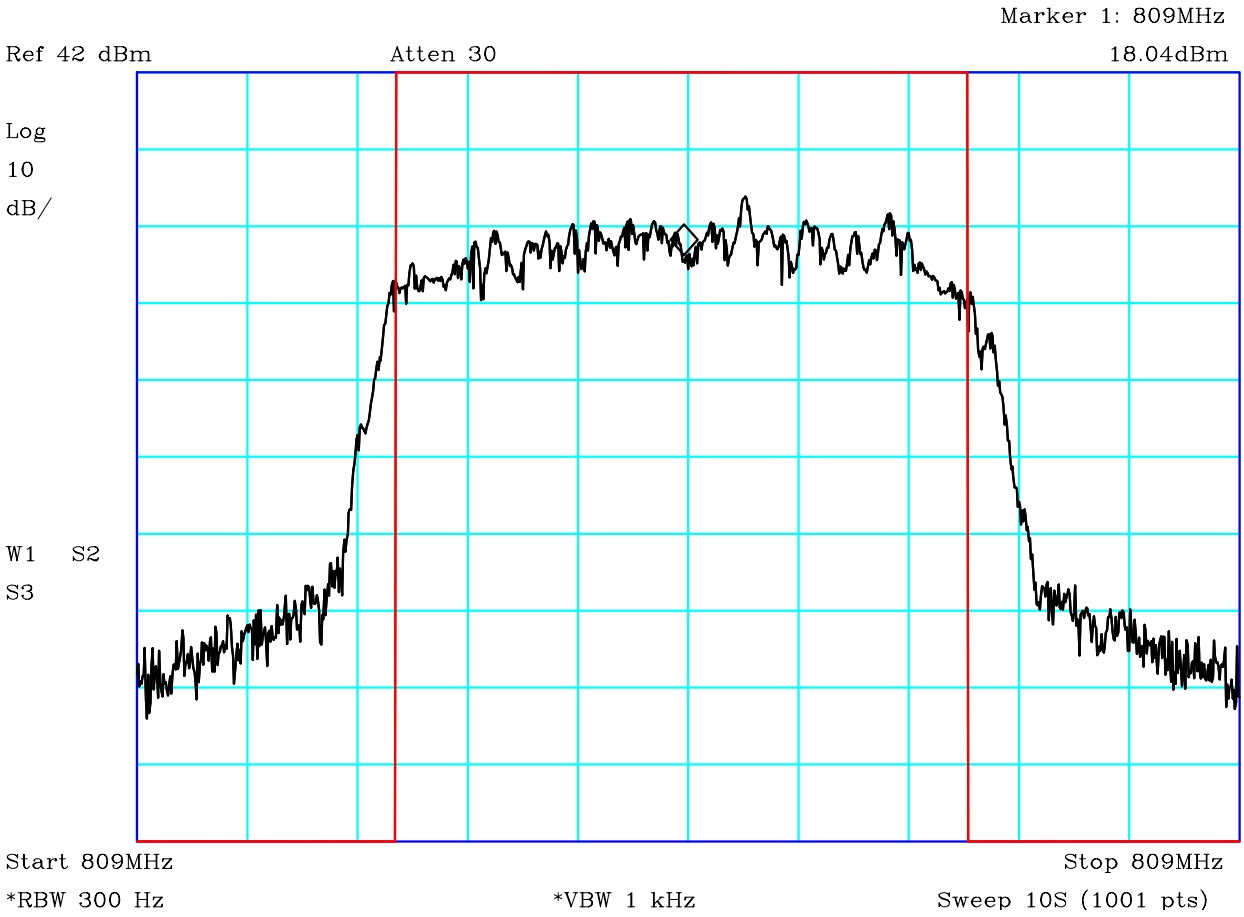
CF1:30dB PAD

PLOT 6 Conducted Antenna Power - 869MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 869MHz
Peak = 36.54 dBm
Average (measured with power meter) = 33.7 dBm

Facility:	Env. Chamber			Mode:	1
				Modification State:	0
		File:	H48244FD.txt	Analyser:	R13



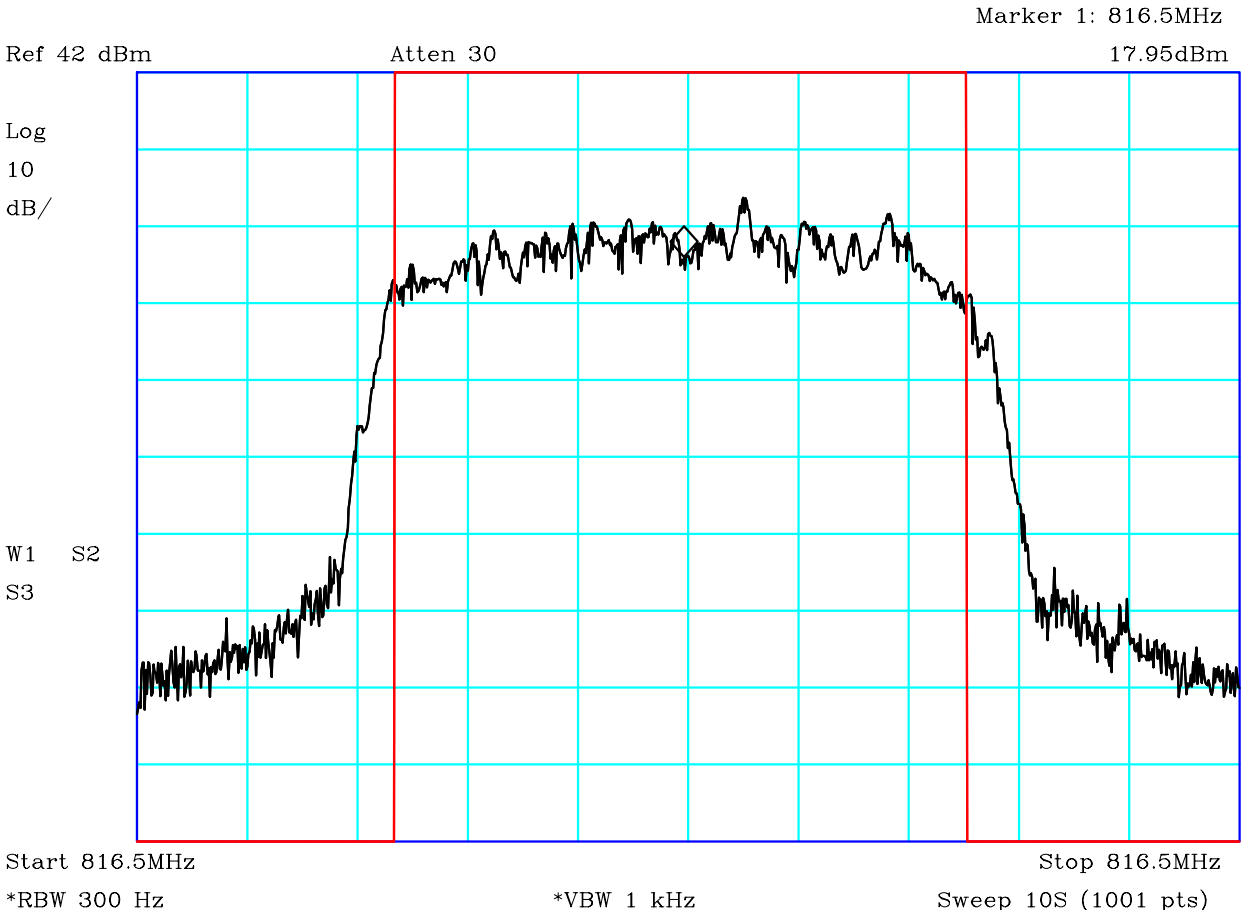
CF1:30dB PAD

PLOT 7 Occupied Bandwidth - 809MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 809MHz
99% Occupied Bandwidth Measurement = 20.76kHz

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H482457E.txt	Analyser:	R13



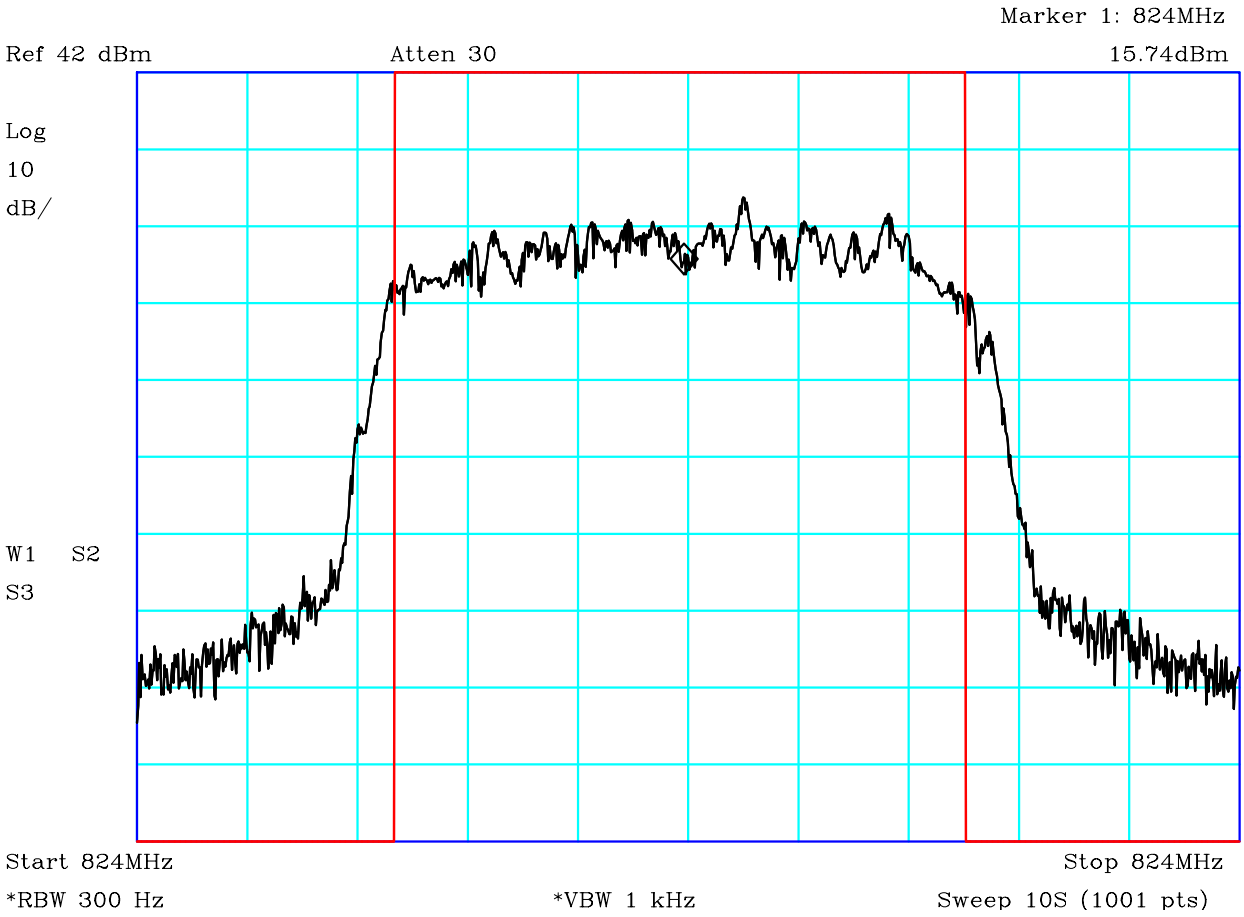
CF1:30dB PAD

PLOT 8 Occupied Bandwidth - 816.5MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 816.5MHz
99% Occupied Bandwidth Measurement = 20.76kHz

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H4824586.txt	Analyser:	R13



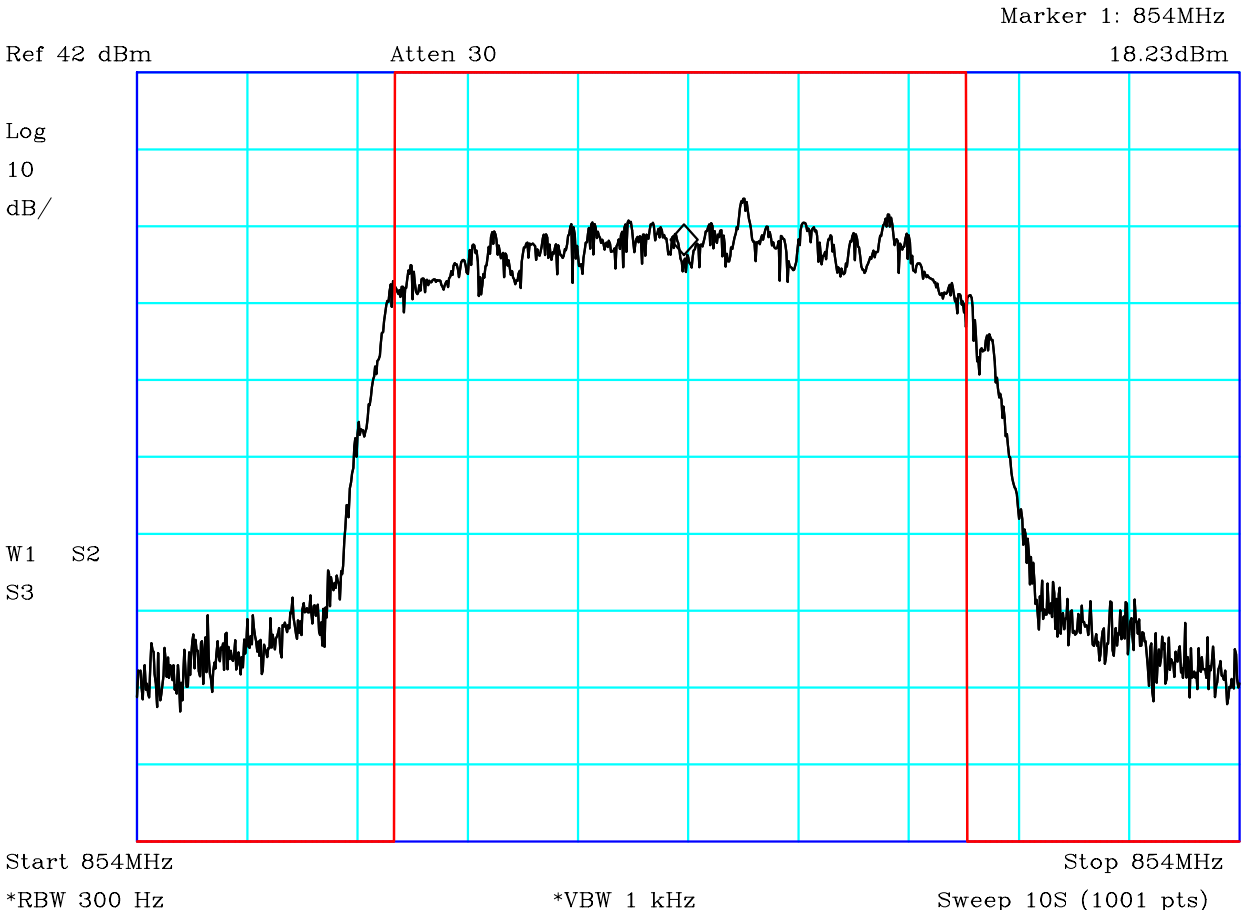
CF1:30dB PAD

PLOT 9 Occupied Bandwidth - 824MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 824MHz
99% Occupied Bandwidth Measurement = 20.72kHz

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H482458C.txt	Analyser:	R13



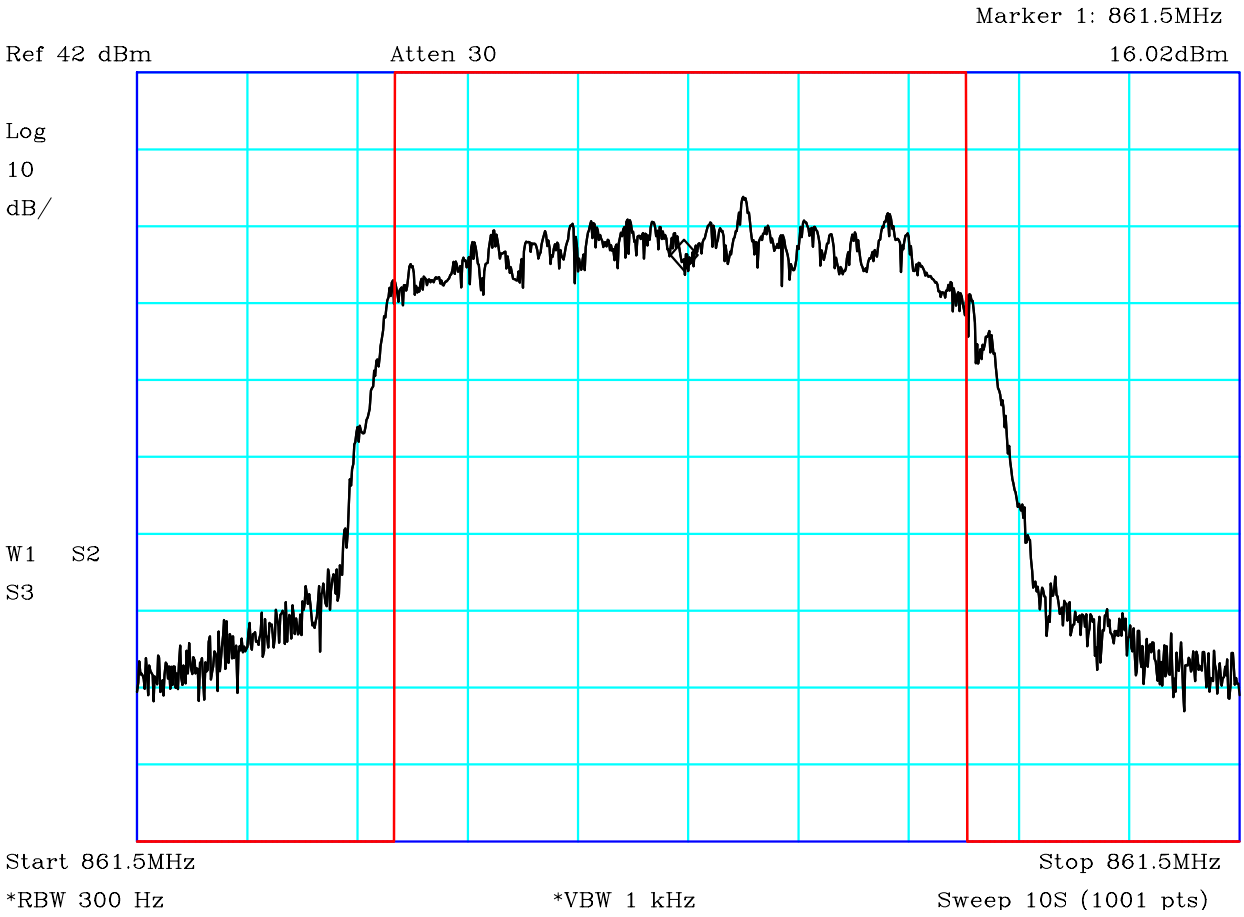
CF1:30dB PAD

PLOT 10 Occupied Bandwidth - 854MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 854MHz
99% Occupied Bandwidth Measurement = 20.76kHz

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H4824596.txt	Analyser:	R13



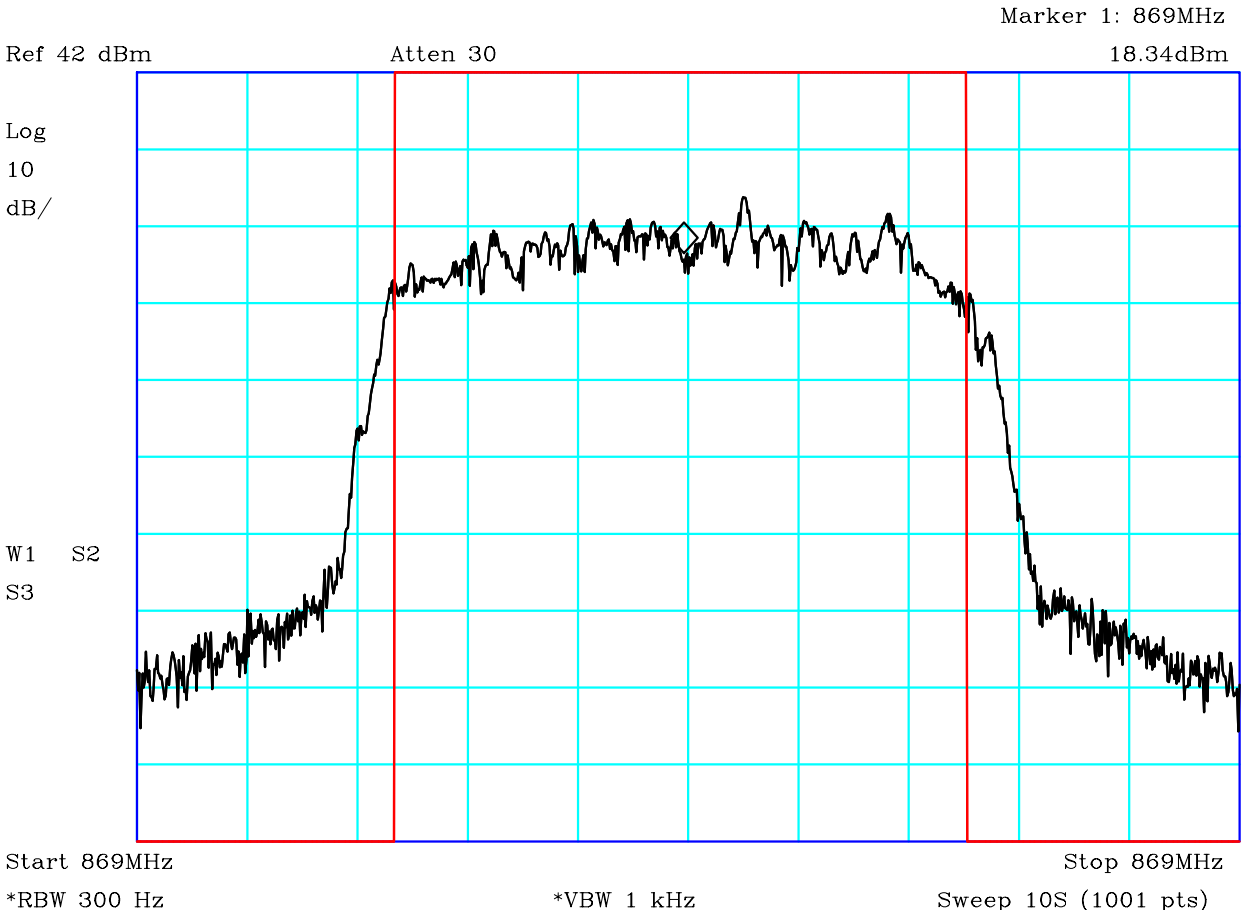
CF1:30dB PAD

PLOT 11 Occupied Bandwidth - 861.5MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 861.5MHz
99% Occupied Bandwidth Measurement = 20.76kHz

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H482459A.txt	Analyser:	R13



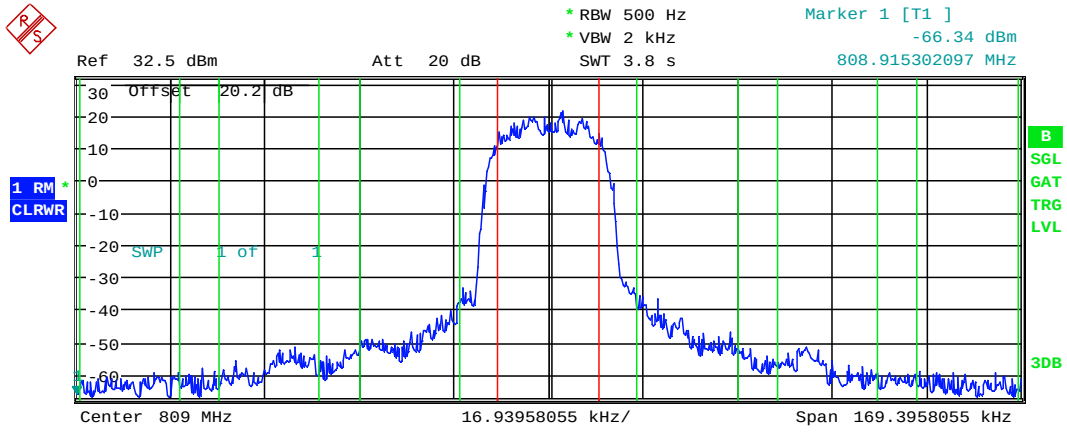
CF1:30dB PAD

PLOT 12 Occupied Bandwidth - 869MHz

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Tx on 869MHz
99% Occupied Bandwidth Measurement = 20.76kHz

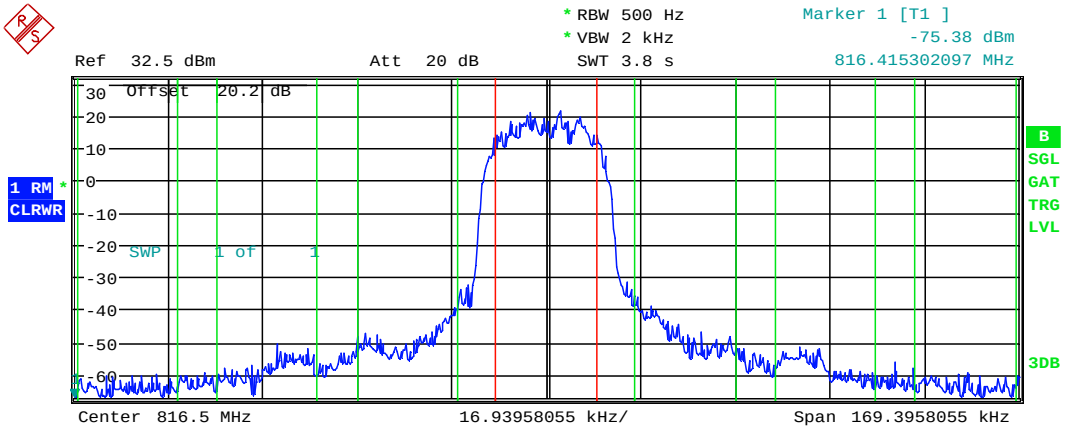
Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H482459E.txt	Analyser:	R13



Tx Channel			
Bandwidth	18 kHz	Power	32.05 dBm
Adjacent Channel			
Bandwidth	18 kHz	Lower	-63.33 dB
Spacing	25 kHz	Upper	-60.86 dB
Alternate Channel			
Bandwidth	18 kHz	Lower	-73.96 dB
Spacing	50 kHz	Upper	-73.70 dB
2nd Alternate Channel			
Bandwidth	18 kHz	Lower	-79.66 dB
Spacing	75 kHz	Upper	-79.55 dB

Date: 14.OCT.2014 11:57:35

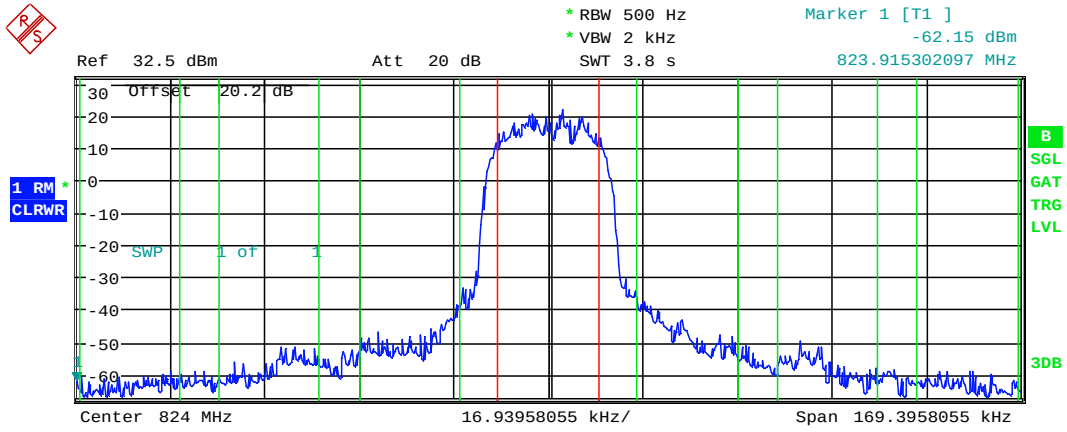
PLOT 13 Adjacent Channel Power 809MHz - as an alternative to Masks of 90.210



Tx Channel			
Bandwidth	18 kHz	Power	32.04 dBm
Adjacent Channel			
Bandwidth	18 kHz	Lower	-64.31 dB
Spacing	25 kHz	Upper	-61.74 dB
Alternate Channel			
Bandwidth	18 kHz	Lower	-74.01 dB
Spacing	50 kHz	Upper	-73.56 dB
2nd Alternate Channel			
Bandwidth	18 kHz	Lower	-80.48 dB
Spacing	75 kHz	Upper	-80.05 dB

Date: 14.OCT.2014 11:58:15

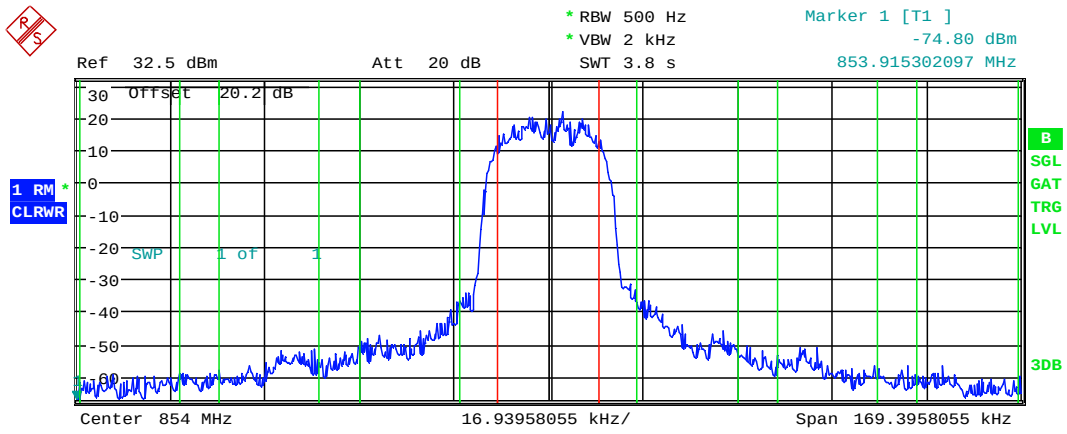
PLOT 14 Adjacent Channel Power 816.5MHz - as an alternative to Masks of 90.210



Tx Channel			
Bandwidth	18 kHz	Power	31.99 dBm
Adjacent Channel			
Bandwidth	18 kHz	Lower	-64.22 dB
Spacing	25 kHz	Upper	-61.50 dB
Alternate Channel			
Bandwidth	18 kHz	Lower	-73.68 dB
Spacing	50 kHz	Upper	-73.43 dB
2nd Alternate Channel			
Bandwidth	18 kHz	Lower	-79.92 dB
Spacing	75 kHz	Upper	-79.59 dB

Date: 14.OCT.2014 11:58:48

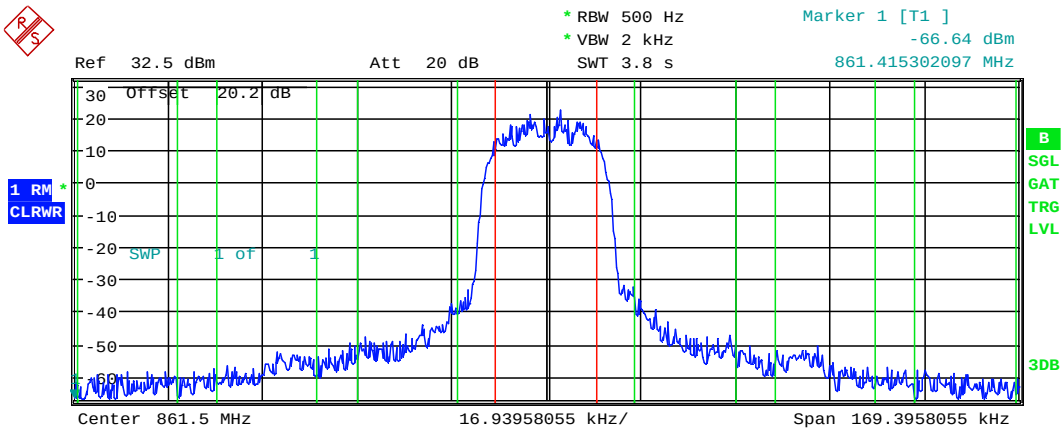
PLOT 15 Adjacent Channel Power 824MHz - as an alternative to Masks of 90.210



Tx Channel			
Bandwidth	18 kHz	Power	31.87 dBm
Adjacent Channel			
Bandwidth	18 kHz	Lower	-63.06 dB
Spacing	25 kHz	Upper	-60.53 dB
Alternate Channel			
Bandwidth	18 kHz	Lower	-73.46 dB
Spacing	50 kHz	Upper	-73.53 dB
2nd Alternate Channel			
Bandwidth	18 kHz	Lower	-79.39 dB
Spacing	75 kHz	Upper	-78.92 dB

Date: 14.OCT.2014 11:59:46

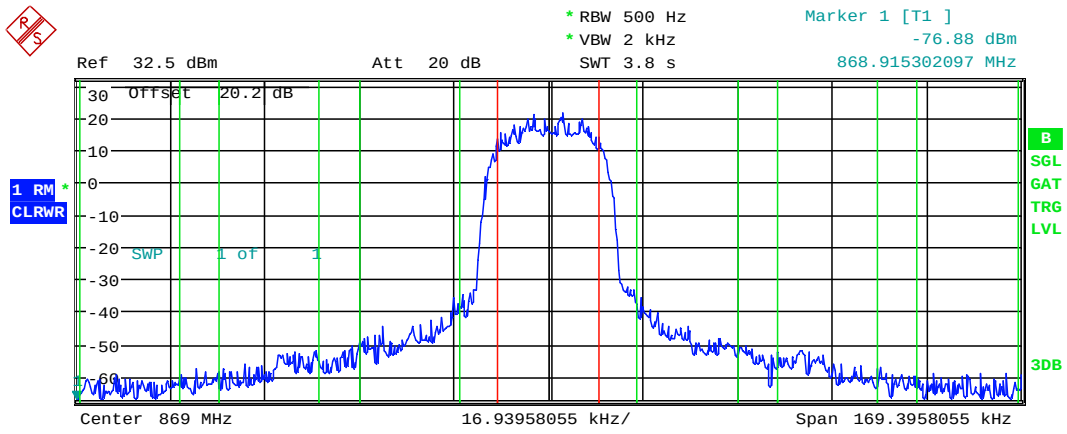
PLOT 16 Adjacent Channel Power 854MHz - as an alternative to Masks of 90.210



Tx Channel			
Bandwidth	18 kHz	Power	31.83 dBm
Adjacent Channel			
Bandwidth	18 kHz	Lower	-63.05 dB
Spacing	25 kHz	Upper	-61.62 dB
Alternate Channel			
Bandwidth	18 kHz	Lower	-73.68 dB
Spacing	50 kHz	Upper	-72.77 dB
2nd Alternate Channel			
Bandwidth	18 kHz	Lower	-78.79 dB
Spacing	75 kHz	Upper	-78.74 dB

Date: 14.OCT.2014 12:00:15

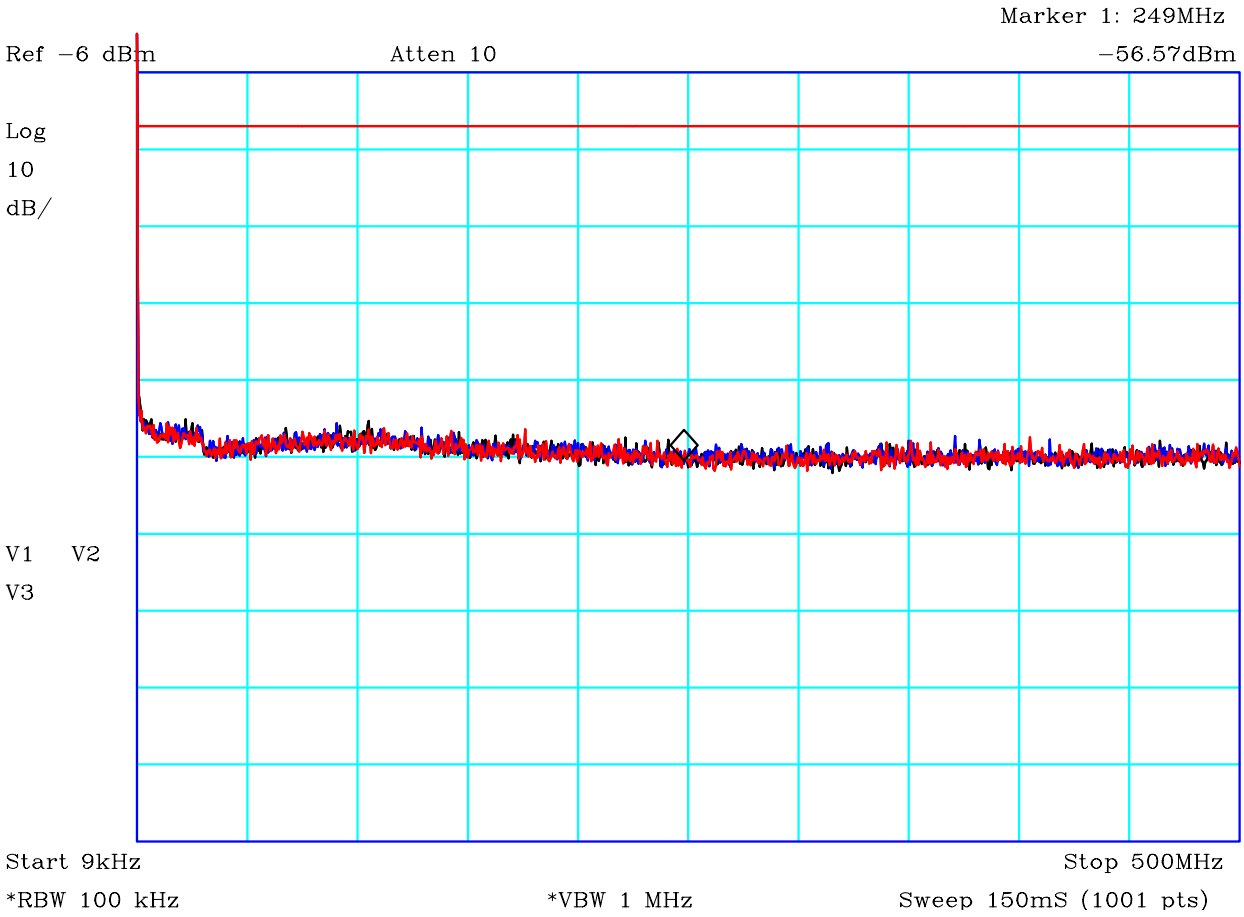
PLOT 17 Adjacent Channel Power 861.5MHz - as an alternative to Masks of 90.210



Tx Channel			
Bandwidth	18 kHz	Power	31.81 dBm
Adjacent Channel			
Bandwidth	18 kHz	Lower	-62.20 dB
Spacing	25 kHz	Upper	-61.69 dB
Alternate Channel			
Bandwidth	18 kHz	Lower	-73.40 dB
Spacing	50 kHz	Upper	-73.18 dB
2nd Alternate Channel			
Bandwidth	18 kHz	Lower	-79.75 dB
Spacing	75 kHz	Upper	-79.55 dB

Date: 14.OCT.2014 12:00:43

PLOT 18 Adjacent Channel Power 869MHz - as an alternative to Masks of 90.210



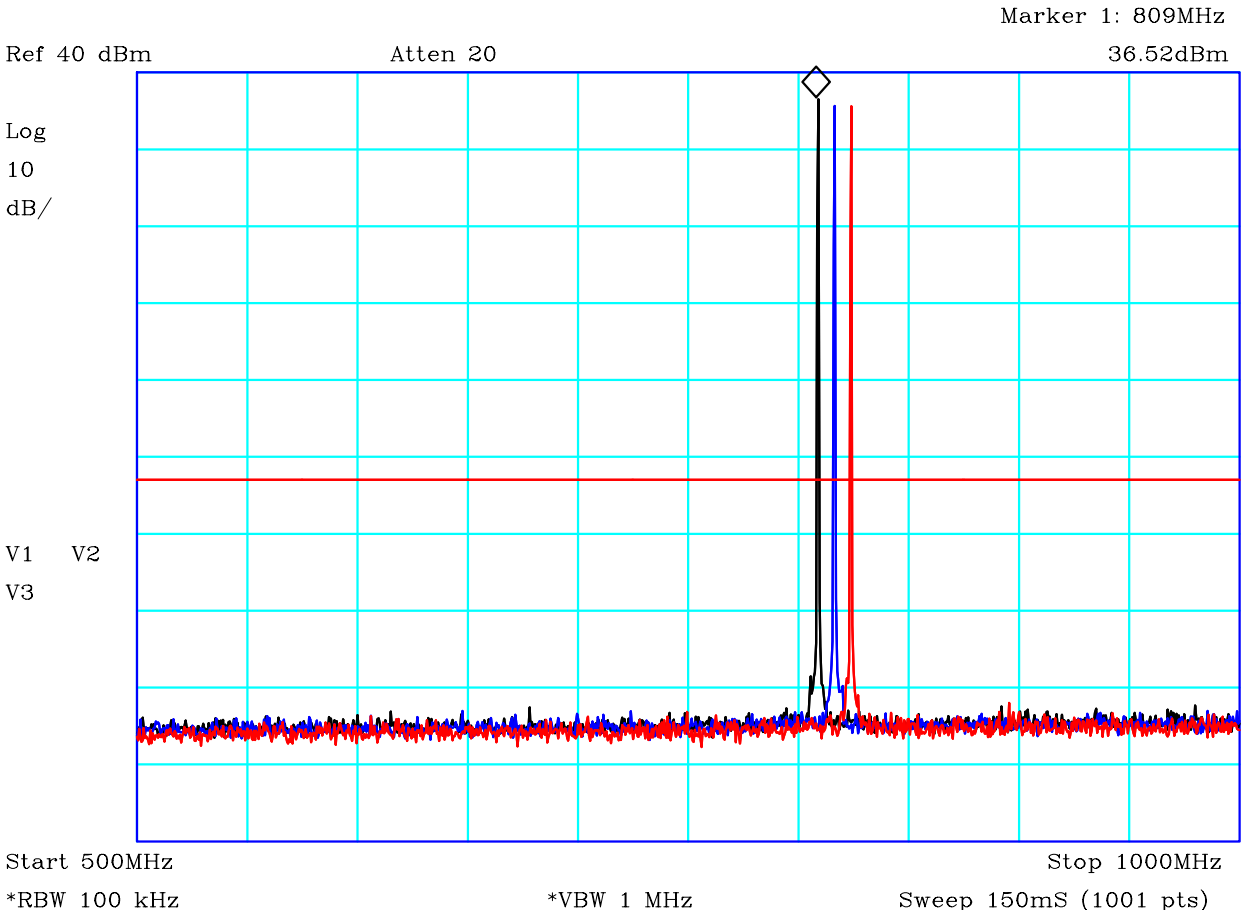
CF1:30dB PAD CF2:RFF17_140528

PLOT 19 Antenna Conducted Spurious - LF Band - 9kHz to 500MHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:	-13dBm	Limit2:	
Limit3:		Limit4:	

Black: Tx 809MHz
Blue: Tx 816.5MHz
Red: Tx 824MHz
Limit = -13dBm
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H4824690.txt	Analyser:	R13



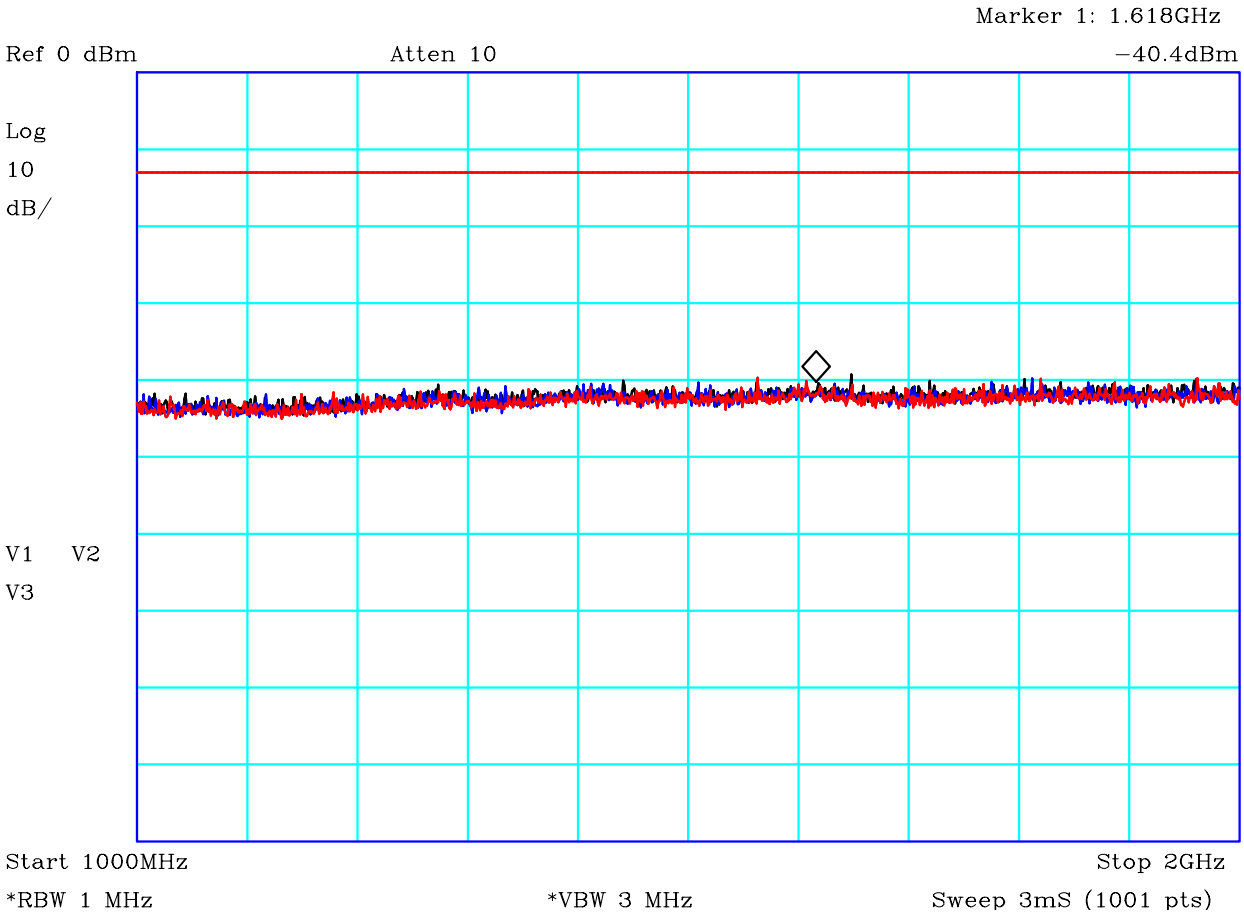
CF1:30dB PAD

PLOT 20 Antenna Conducted Spurious - LF Band - 500MHz to 1GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:	-13dBm	Limit2:	
Limit3:		Limit4:	

Black: Tx 809MHz
Blue: Tx 816.5MHz
Red: Tx 824MHz
Limit = -13dBm
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H48246A2.txt	Analyser:	R13



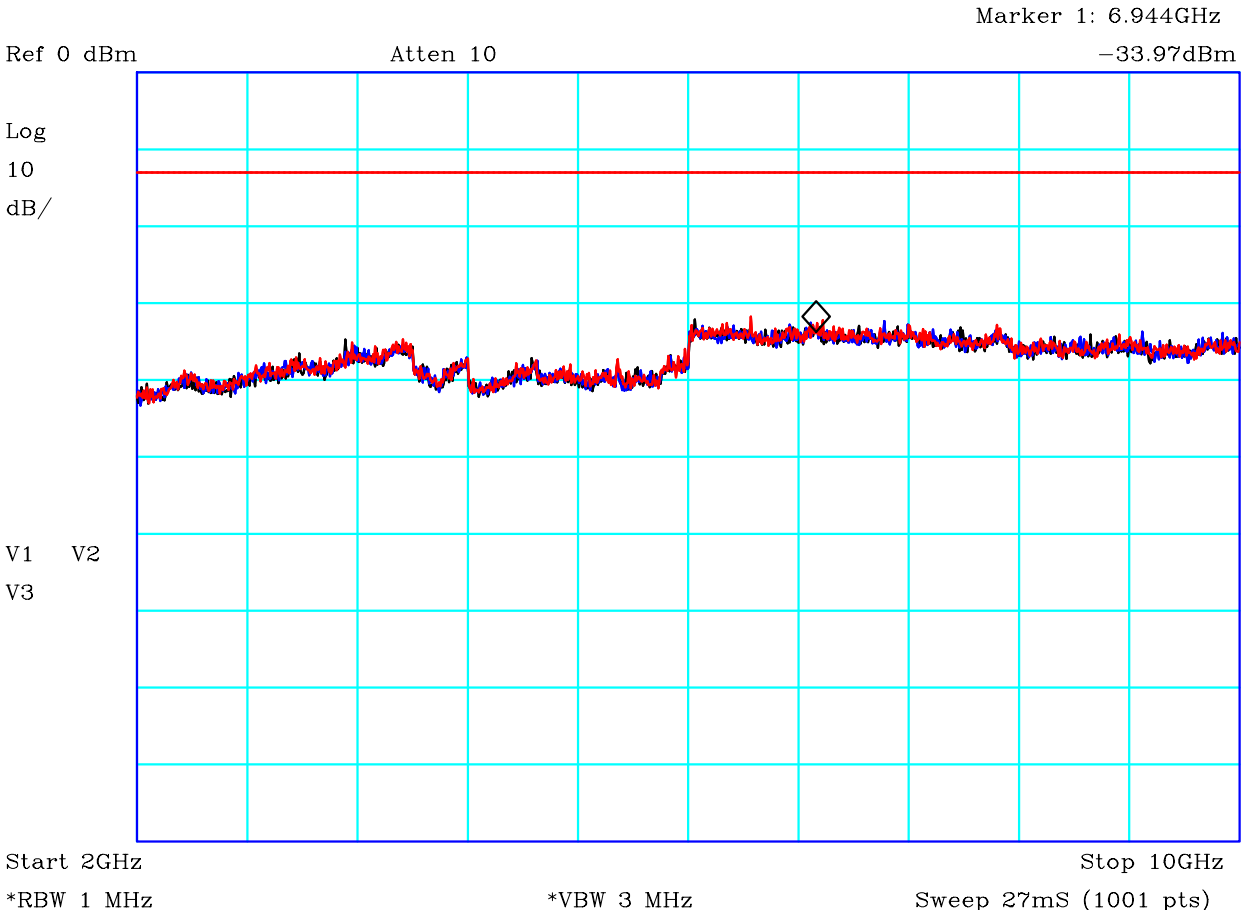
CF1:30dB PAD CF2:RFF15_140528

PLOT 21 Antenna Conducted Spurious - LF Band - 1GHz to 2GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:	-13dBm	Limit2:	
Limit3:		Limit4:	

Black: Tx 809MHz
Blue: Tx 816.5MHz
Red: Tx 824MHz
Limit = -13dBm.
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H48246CE.txt	Analyser:	R13



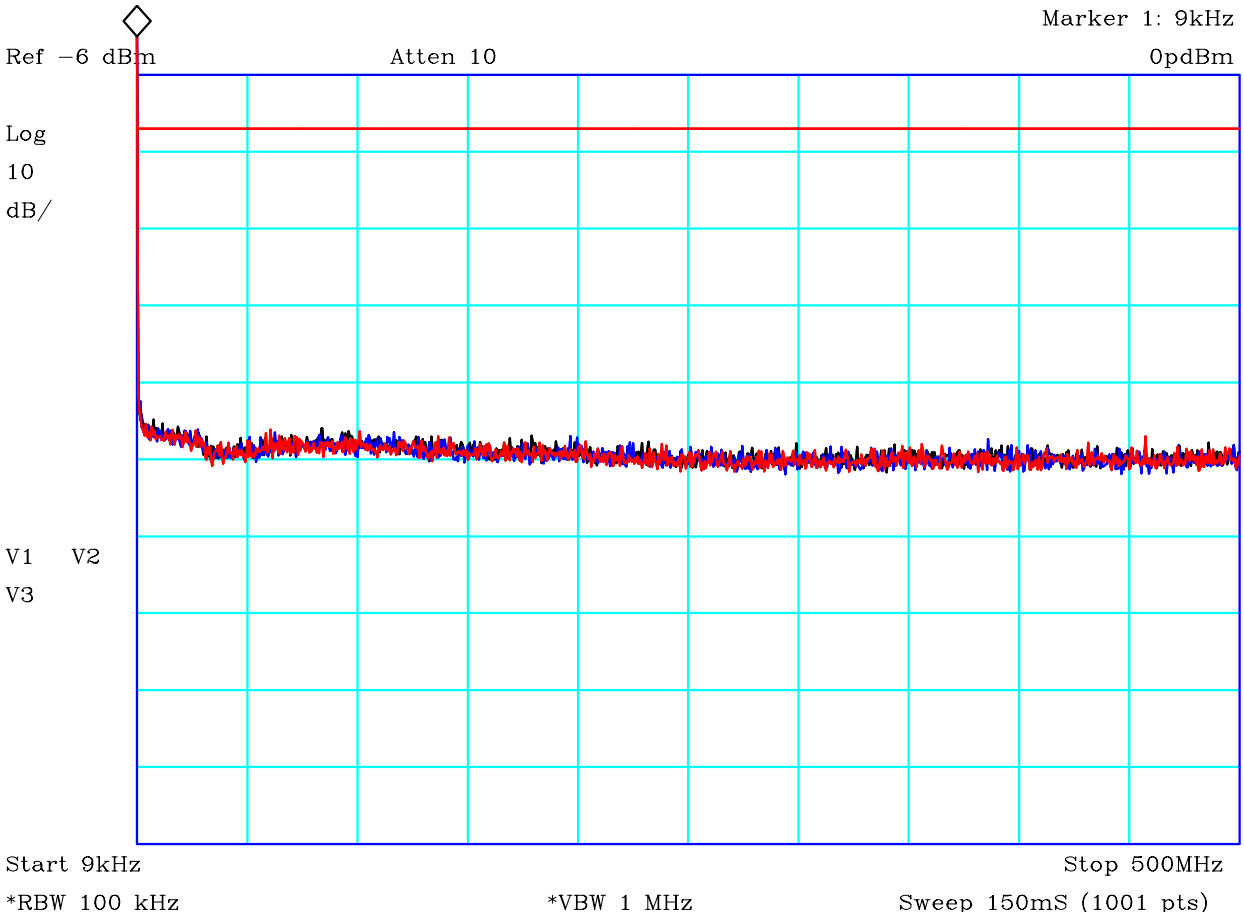
CF1:30dB PAD CF2:RFF22_140528

PLOT 22 Antenna Conducted Spurious - LF Band - 2GHz to 10GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:	-13dBm	Limit2:	
Limit3:		Limit4:	

Black: Tx 809MHz
Blue: Tx 816.5MHz
Red: Tx 824MHz
Limit = -13dBm.
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H48246D8.txt	Analyser:	R13



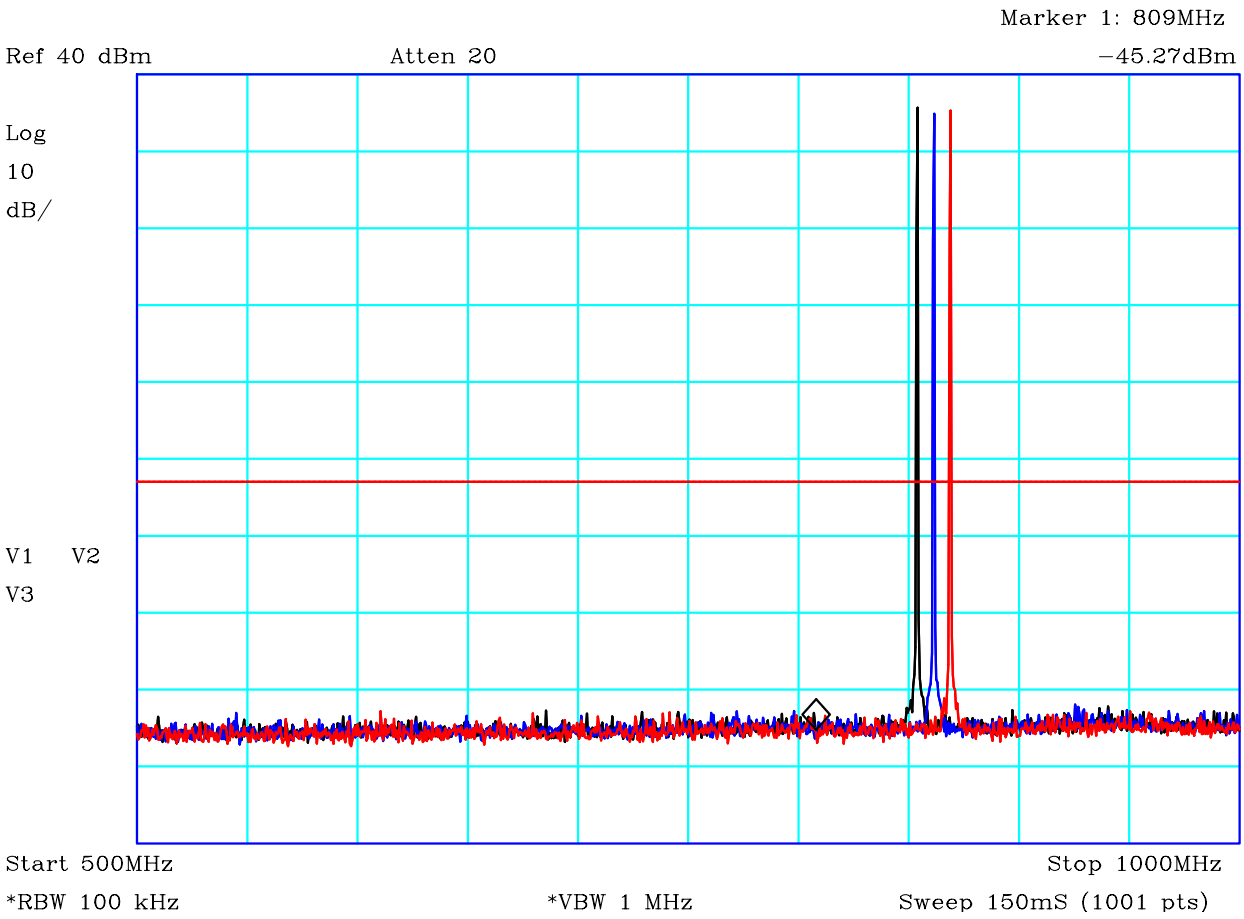
CF1:30dB PAD CF2:RFF17_140528

PLOT 23 Antenna Conducted Spurious - HF Band - 9kHz to 500MHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:	-13dBm	Limit2:	
Limit3:		Limit4:	

Black: Tx 854MHz
Blue: Tx 861.5MHz
Red: Tx 869MHz
Limit = -13dBm.
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H4824680.txt	Analyser:	R13



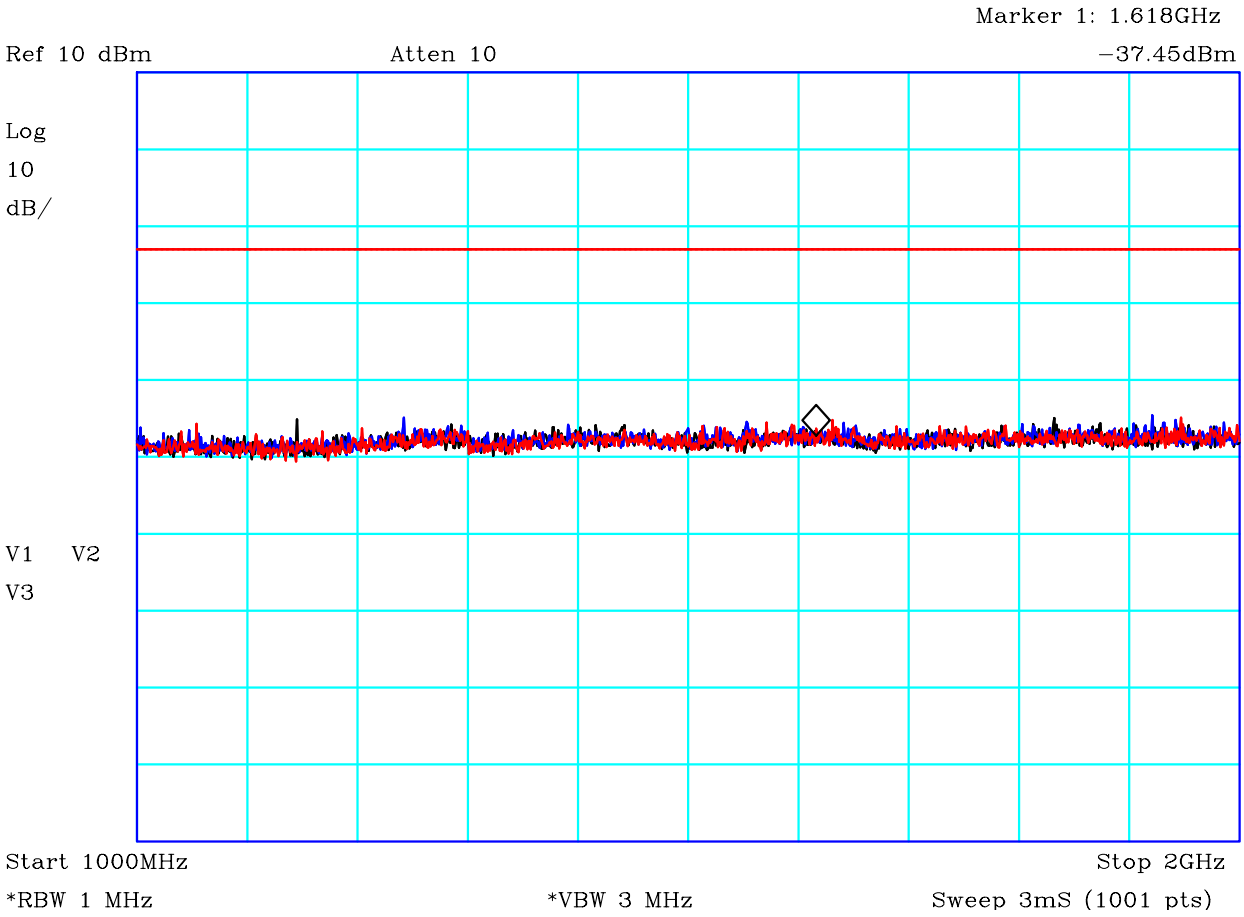
CF1:30dB PAD

PLOT 24 Antenna Conducted Spurious - HF Band - 500MHz to 1GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:		Limit2:	
Limit3:		Limit4:	

Black: Tx 854MHz
Blue: Tx 861.5MHz
Red: Tx 869MHz
Limit = -13dBm.
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H48246B4.txt	Analyser:	R13



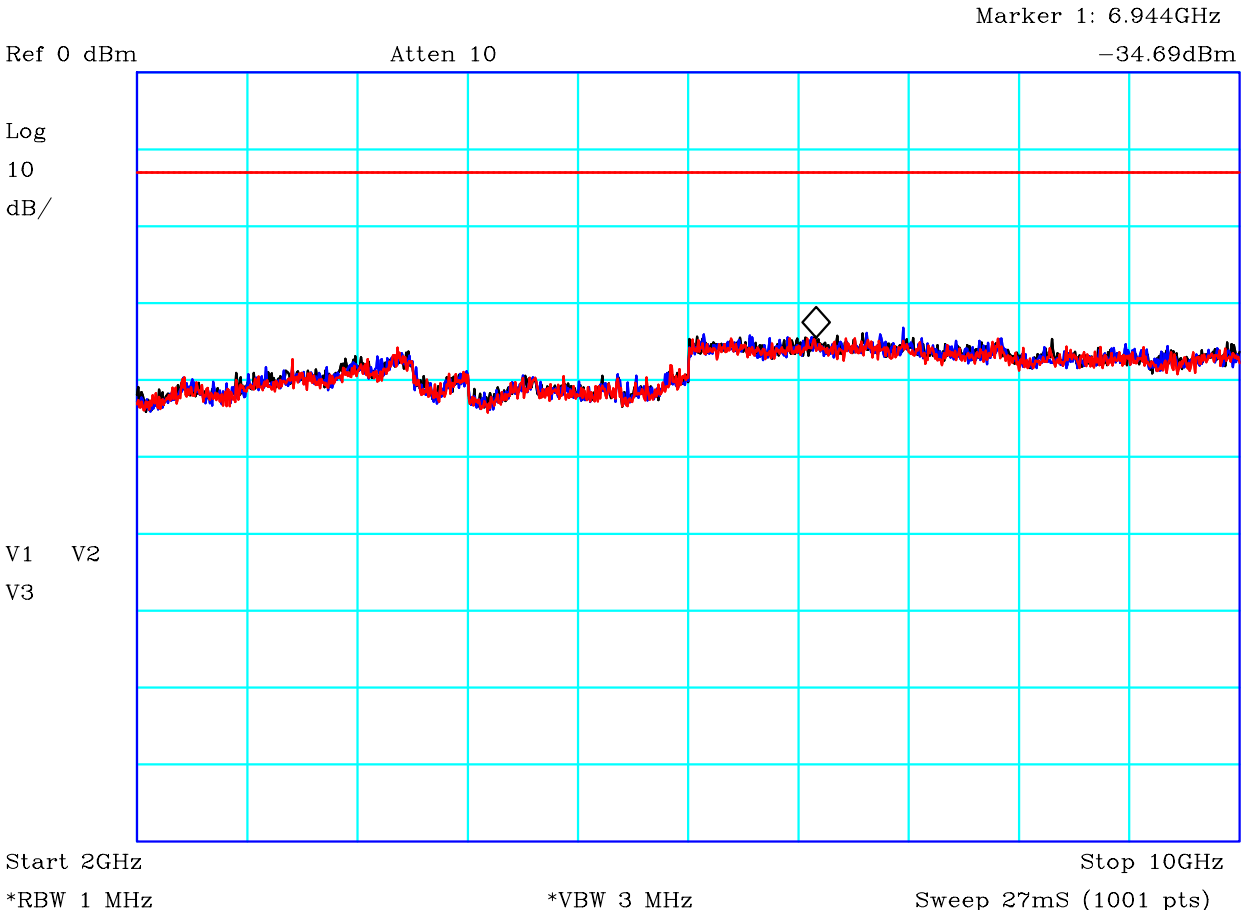
CF1:30dB PAD CF2:RFF15_140528

PLOT 25 Antenna Conducted Spurious - HF Band - 1GHz to 2GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:	-13dBm	Limit2:	
Limit3:		Limit4:	

Black: Tx 854MHz
Blue: Tx 861.5MHz
Red: Tx 869MHz
Limit = -13dBm.
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H48246BD.txt	Analyser:	R13



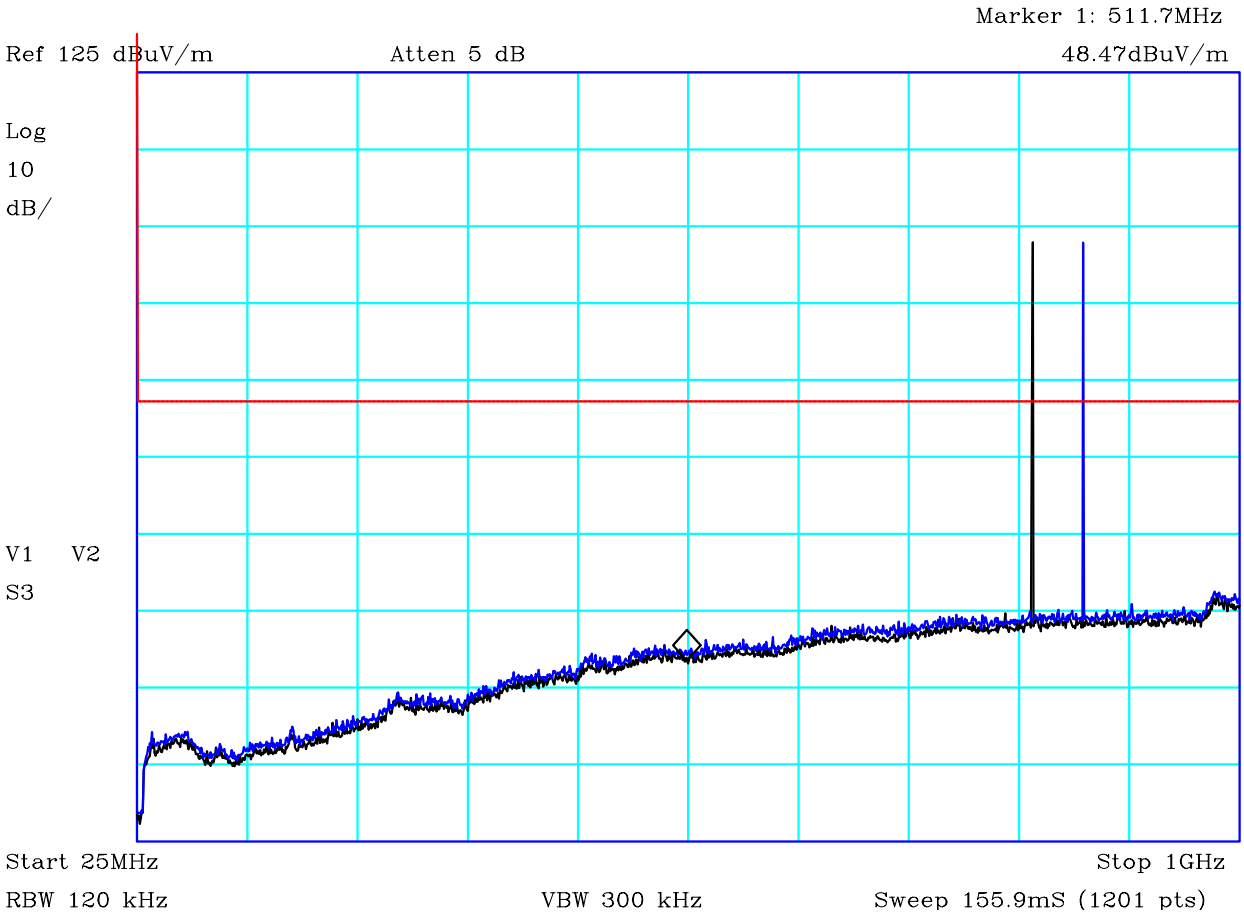
CF1:30dB PAD

PLOT 26 Antenna Conducted Spurious - HF Band - 2GHz to 10GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	24/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:	-13dBm	Limit2:	
Limit3:		Limit4:	

Black: Tx 854MHz
Blue: Tx 861.5MHz
Red: Tx 869MHz
Limit = -13dBm.
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Env. Chamber	Height		Mode:	Tx
Distance		Polarisation		Modification State:	0
Angle		File:	H48246E3.txt	Analyser:	R13



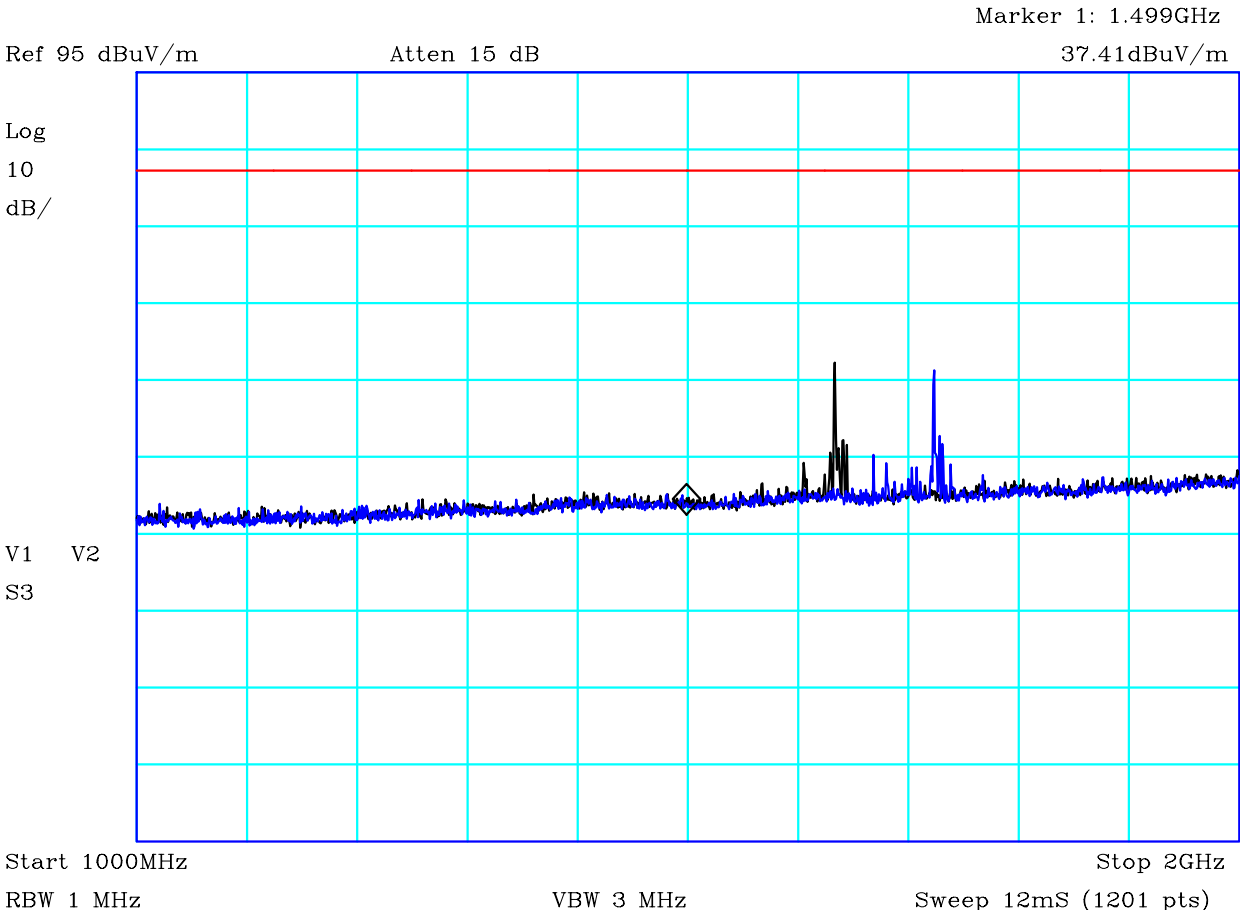
CF1:A24_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528

PLOT 27 Radiated Emissions - Standalone - Tx - 25MHz to 1GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

Standalone (with 50R load)
Black: 816.5MHz Tx
Blue: 861.5MHz Tx
Maximum of Vertical and Horizontal Upright and Vertical
Limit = approximate field strength @ 3m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4A025F8.txt	Analyser	R8



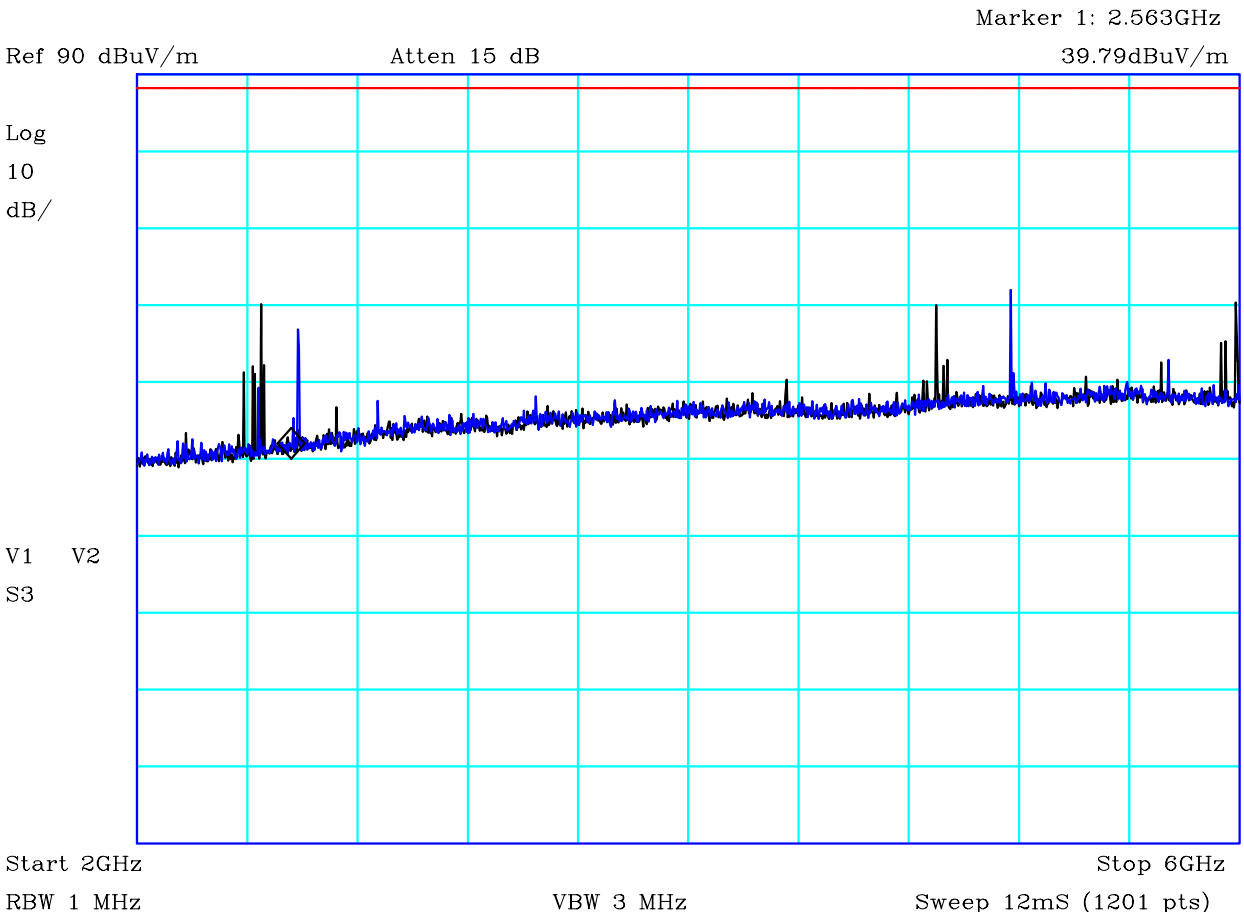
CF1:A19_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:RFF15_140528 CF4:PRE10_140918

PLOT 28 Radiated Emissions - Standalone - Tx - 1GHz to 2GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

Standalone (with 50R load)
Black: 816.5MHz Tx
Blue: 861.5MHz Tx
Maximum of Vertical and Horizontal Upright and Vertical
Limit = approximate field strength @ 3m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4A025FA.txt	Analyser	R8



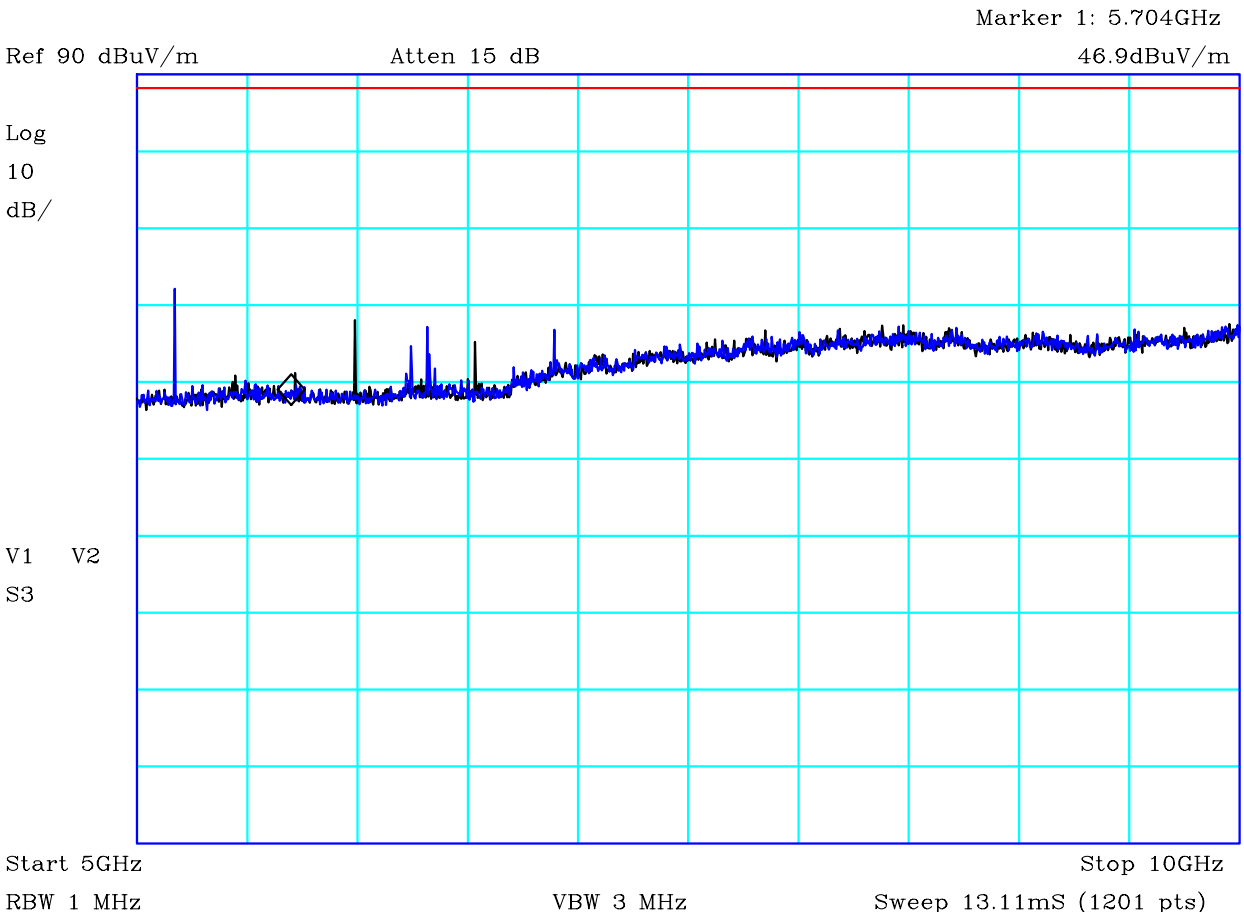
CF1:A19_140528 CF2:Bluecables_140918 CF3:RFF22_140528 CF4:PRE10_120627

PLOT 29 Radiated Emissions - Standalone - Tx - 2GHz to 6GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	03/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

Standalone (with 50R load)
Black: 816.5MHz Tx
Blue: 861.5MHz Tx
Maximum of Vertical and Horizontal Upright and Vertical
Limit = approximate field strength @ 1.5m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4A02603.txt	Analyser	R8



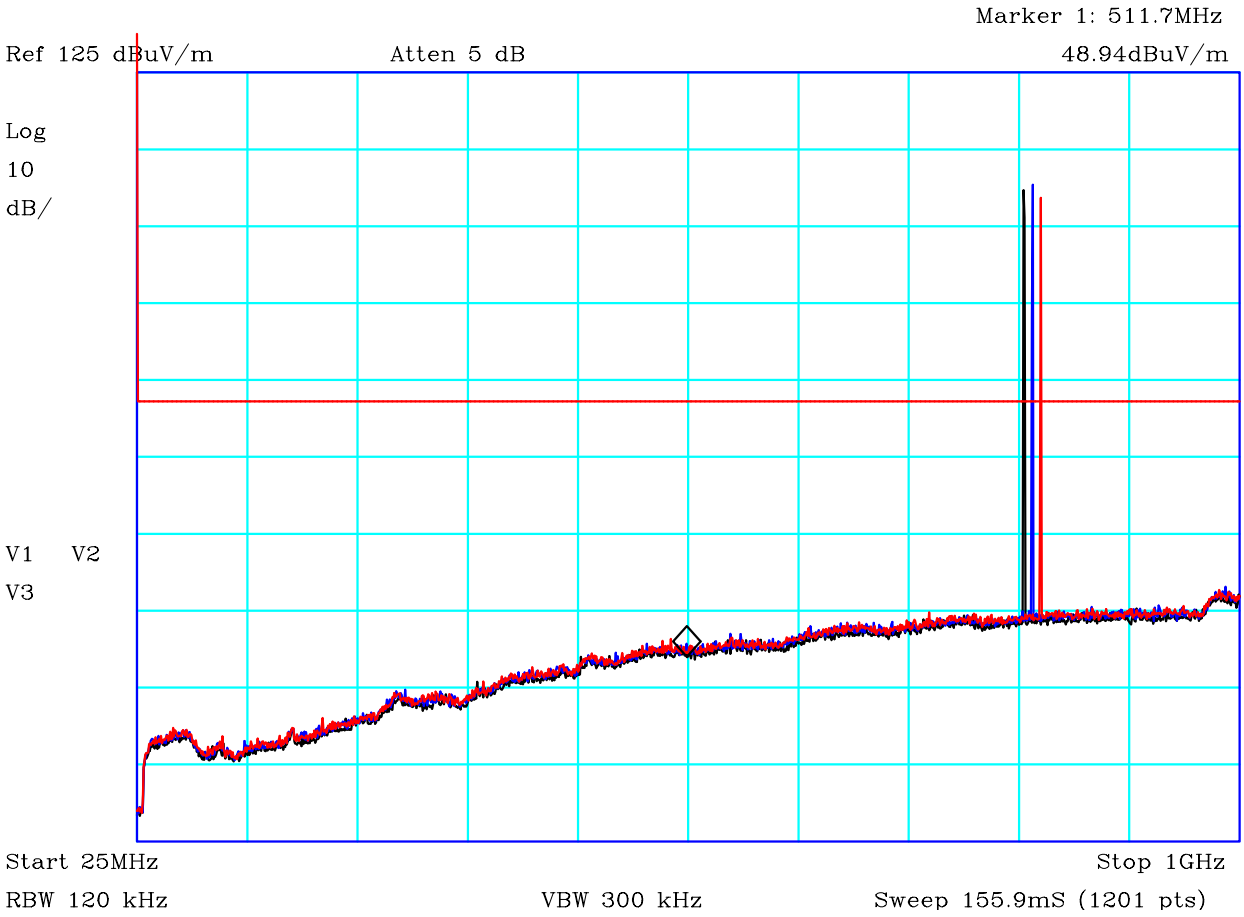
CF1:A19_140528 CF2:Bluecables_140918 CF3:RFF22_140528 CF4:PRE10_140918

PLOT 30 Radiated Emissions - Standalone - Tx - 6Hz to 10GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	03/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10 log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

Standalone (with 50R load)
Black: 816.5MHz Tx
Blue: 861.5MHz Tx
Maximum of Vertical and Horizontal Upright and Vertical
Limit = approximate field strength @ 1.5m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4A02601.txt	Analyser	R8



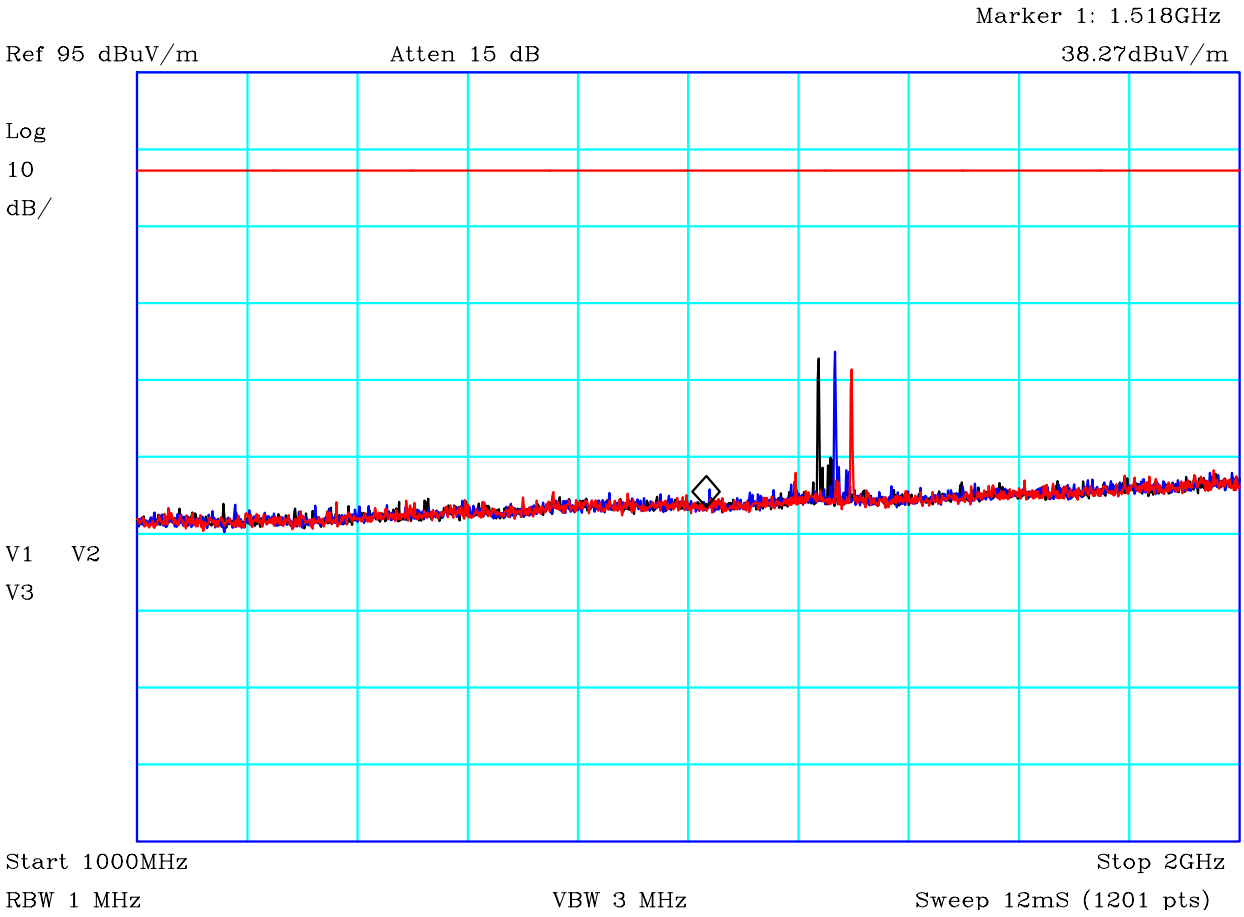
CF1:A24_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528

PLOT 31 Radiated Emissions - RSM - Tx - LF band - 25MHz to 1GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

RSM (with 50R load)
Black: Tx 809MHz
Blue: Tx 816.5MHz
Red: Tx 824MHz
Maximum of Vertical and Horizontal Upright and Vertical
Limit = approximate field strength @ 3m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H480475F	Analyser:	R8



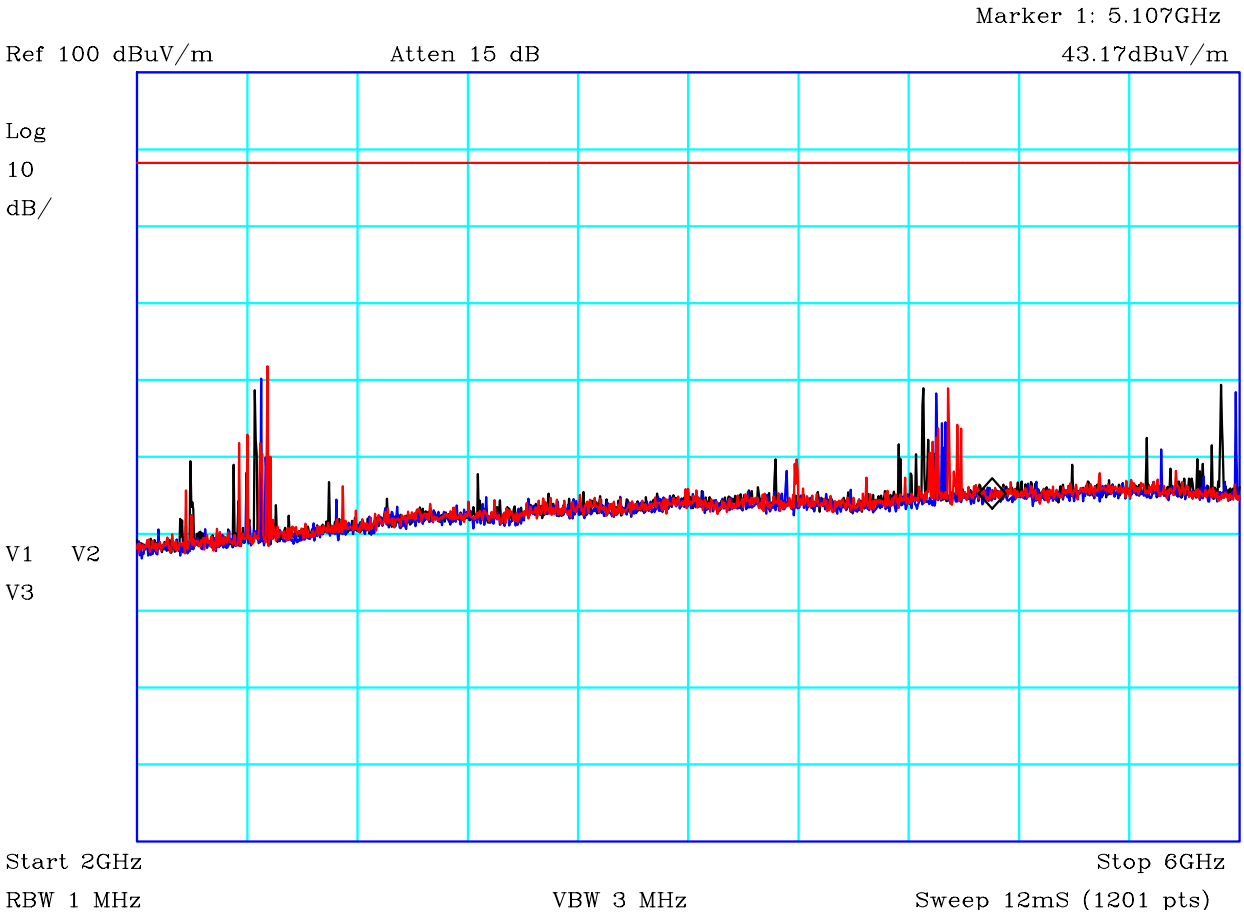
CF1:A19_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:RFF15_140528 CF4:PRE10_140918

PLOT 32 Radiated Emissions - RSM - Tx - LF band - 1GHz to 2GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

With RSM (50R load)
Black: Tx 809MHz
Blue: Tx 816.5MHz
Red: Tx 824MHz
Limit = approximate field strength @ 3m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H480452F	Analyser:	R8



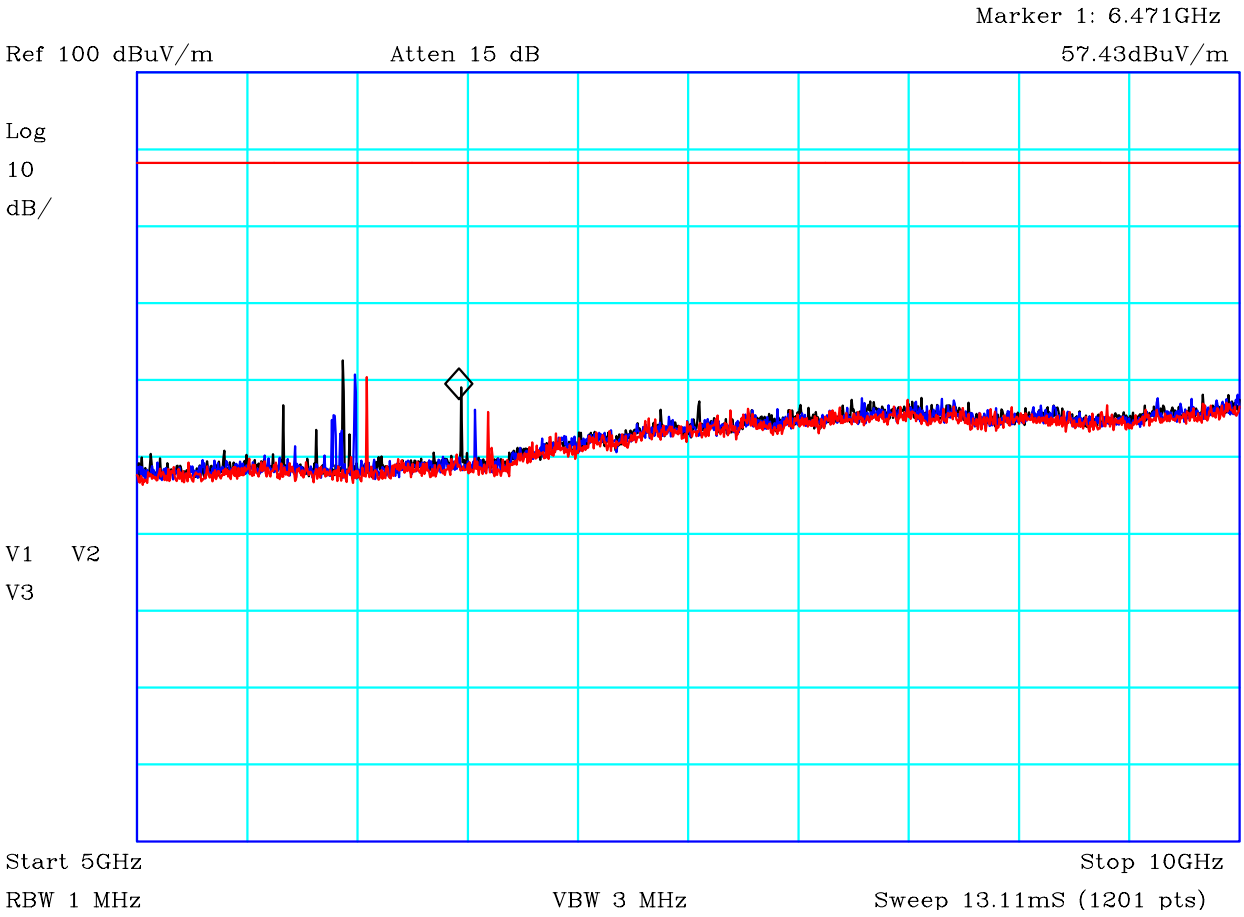
CF1:A19_140528 CF2:Bluecables_140918 CF3:RFF22_140528 CF4:PRE10_140918

PLOT 33 Radiated Emissions - RSM - Tx - LF band - 2GHz to 6GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

With RSM
Black: Tx 809MHz
Blue: Tx 816.5MHz
Red: Tx 824MHz
Limit = approximate field strength @ 1.5m for a -13dBm Txr (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4A2050F	Analyser:	R8



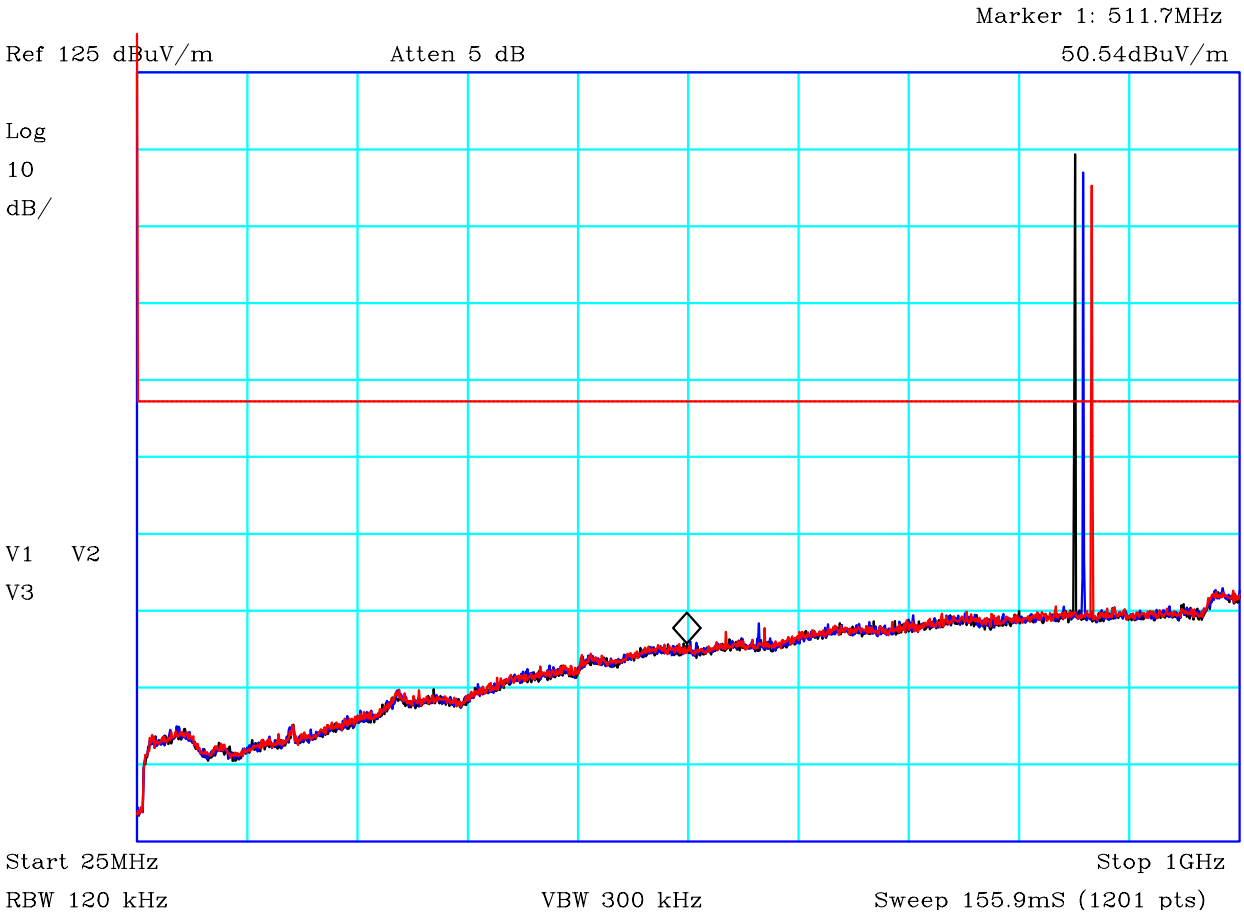
CF1:A19_140528 CF2:Bluecables_140918 CF3:RFF22_140528 CF4:PRE10_140918

PLOT 34 Radiated Emissions - RSM - Tx - LF band - 5GHz to 10GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

With RSM
Black: Tx 809MHz
Blue: Tx 816.5MHz
Red: Tx 824MHz
Limit = approximate field strength @ 1.5m for a -13dBm Tx (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H472970A	Analyser:	R8



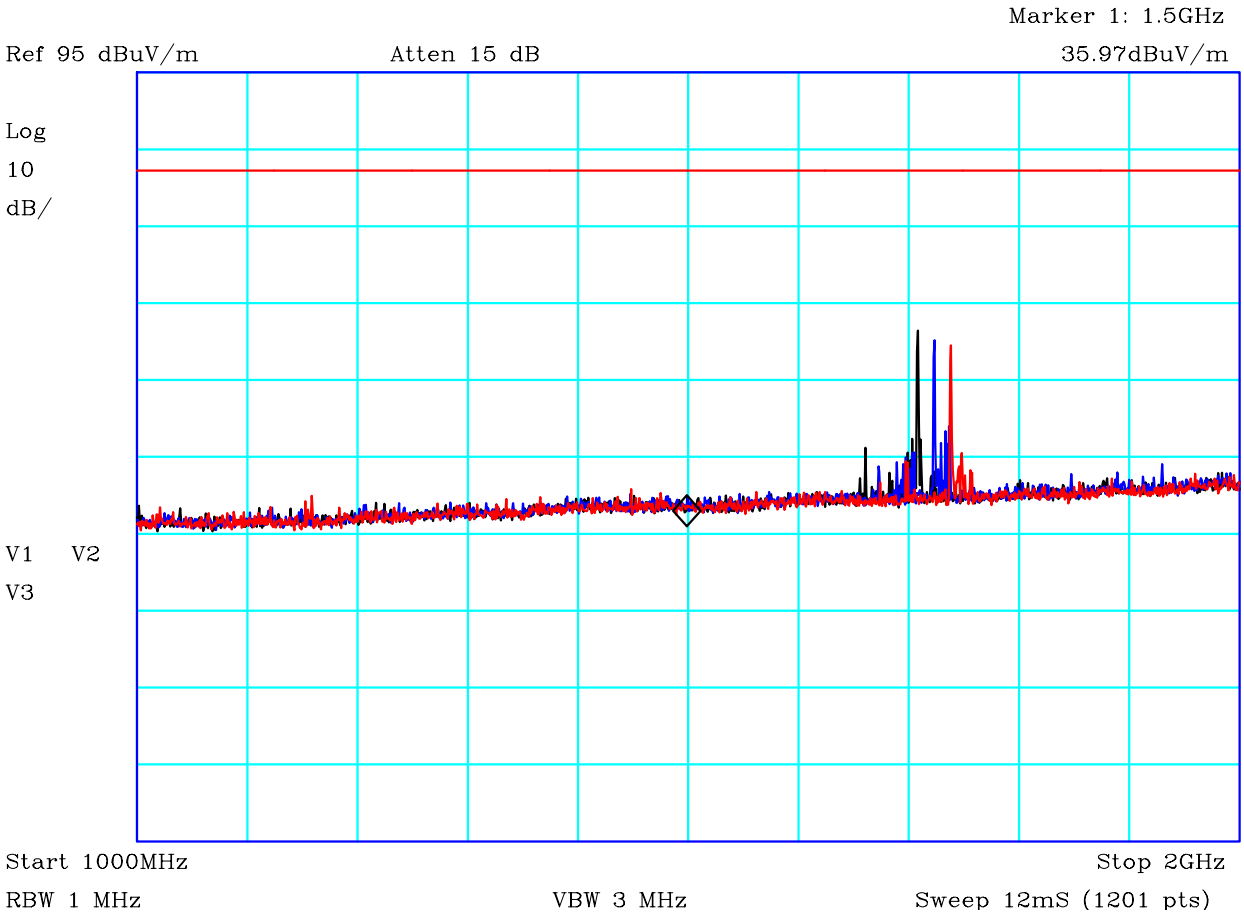
CF1:A24_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528

PLOT 35 Radiated Emissions - RSM - Tx - HF band - 25MHz to 1GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

RSM (with 50R load)
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Vertical and Horizontal Upright and Vertical
Limit = approximate field strength @ 3m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4804756	Analyser:	R8



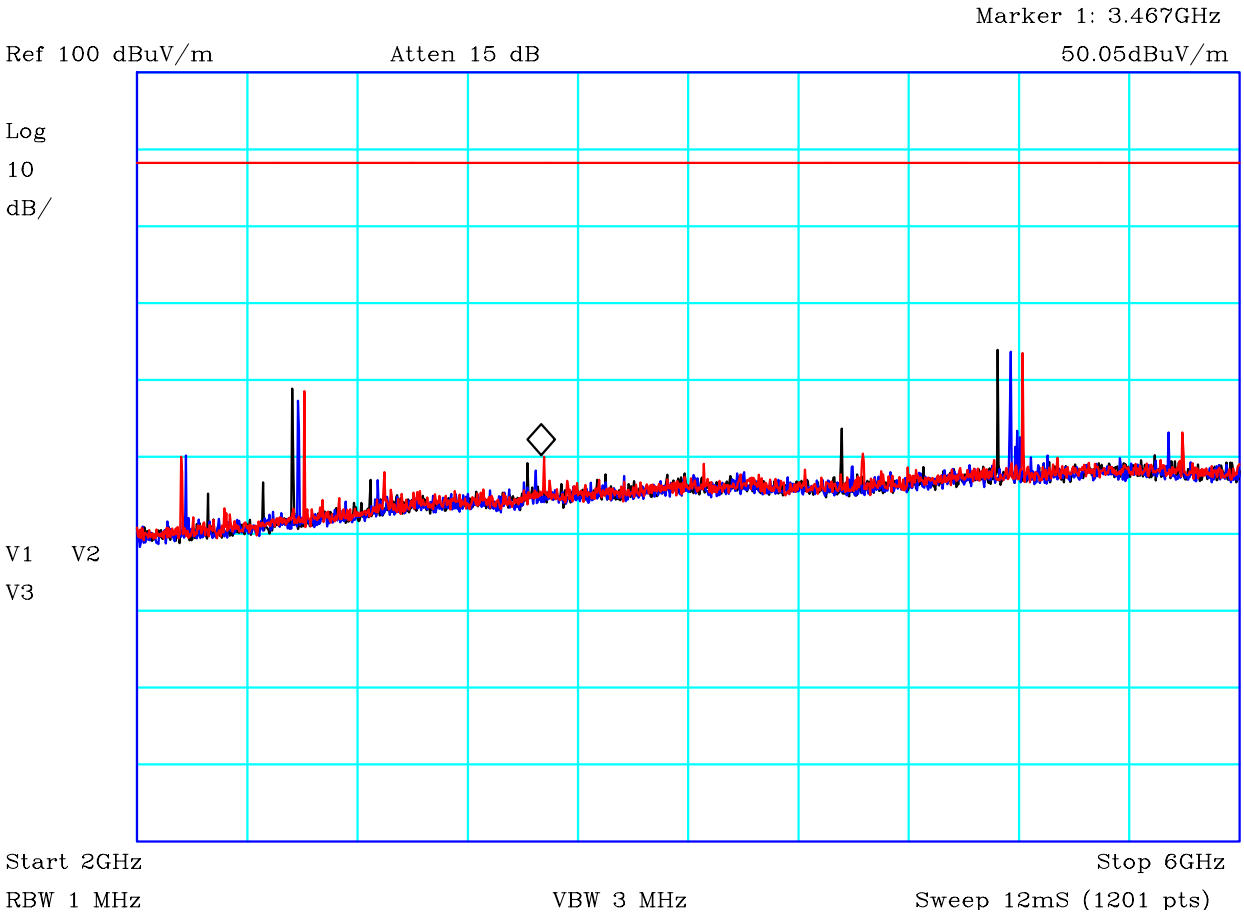
CF1:A19_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:RFF15_140528 CF4:PRE10_140918

PLOT 36 Radiated Emissions - RSM - Tx - HF band - 1GHz to 2GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

With RSM (50R load)
Black: Tx 854MHz
Blue: Tx 861.5MHz
Red: Tx 869MHz
Limit = approximate field strength @ 3m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H480450F	Analyser:	R8



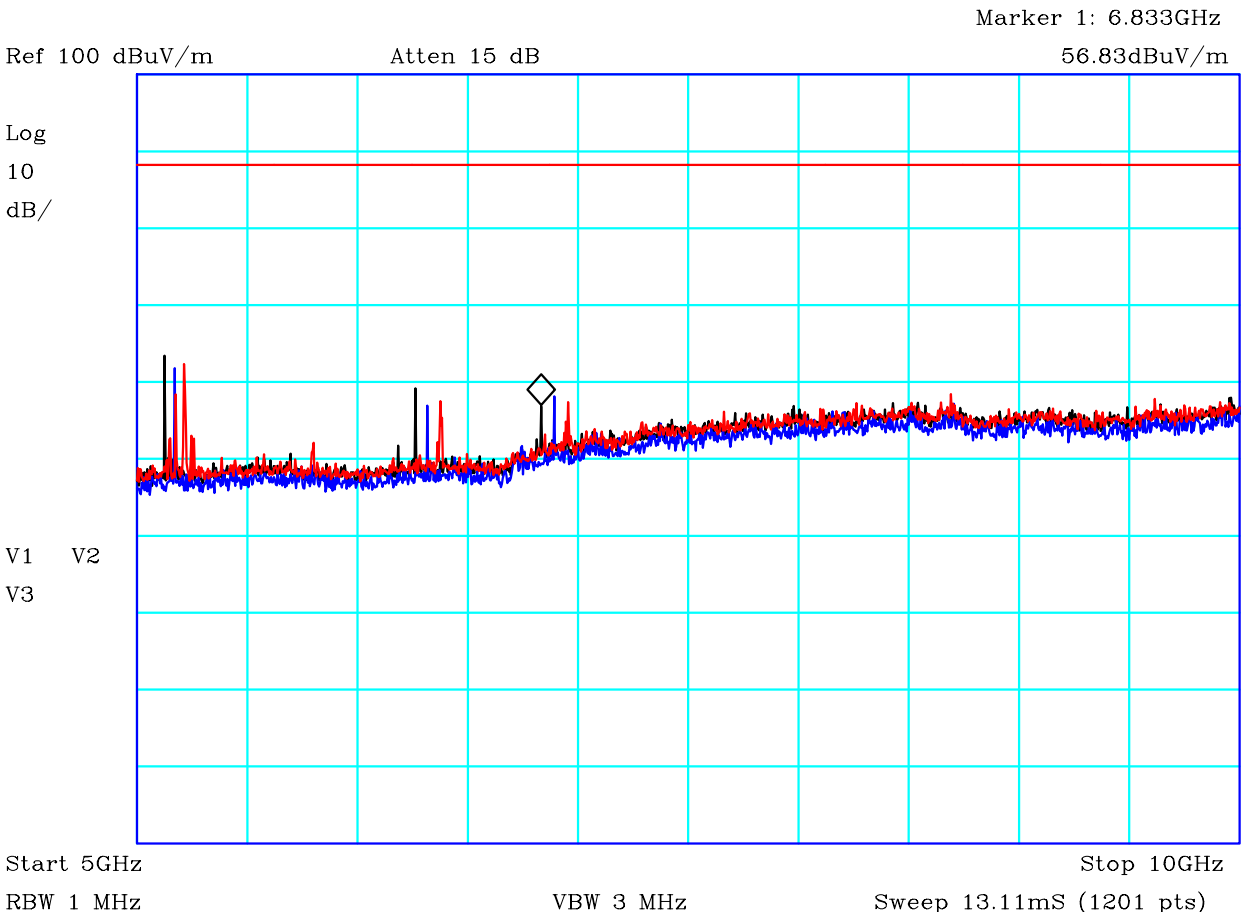
CF1:A19_140528 CF2:Bluecables_140918 CF3:RFF22_140528 CF4:PRE10_140918

PLOT 37 Radiated Emissions - RSM - Tx - HF band - 2GHz to 6GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

With RSM
Black: Tx 854MHz
Blue: Tx 861.5MHz
Red: Tx 869MHz
Limit = approximate field strength @ 1.5m for a -13dBm Tx (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H47296D6	Analyser:	R8



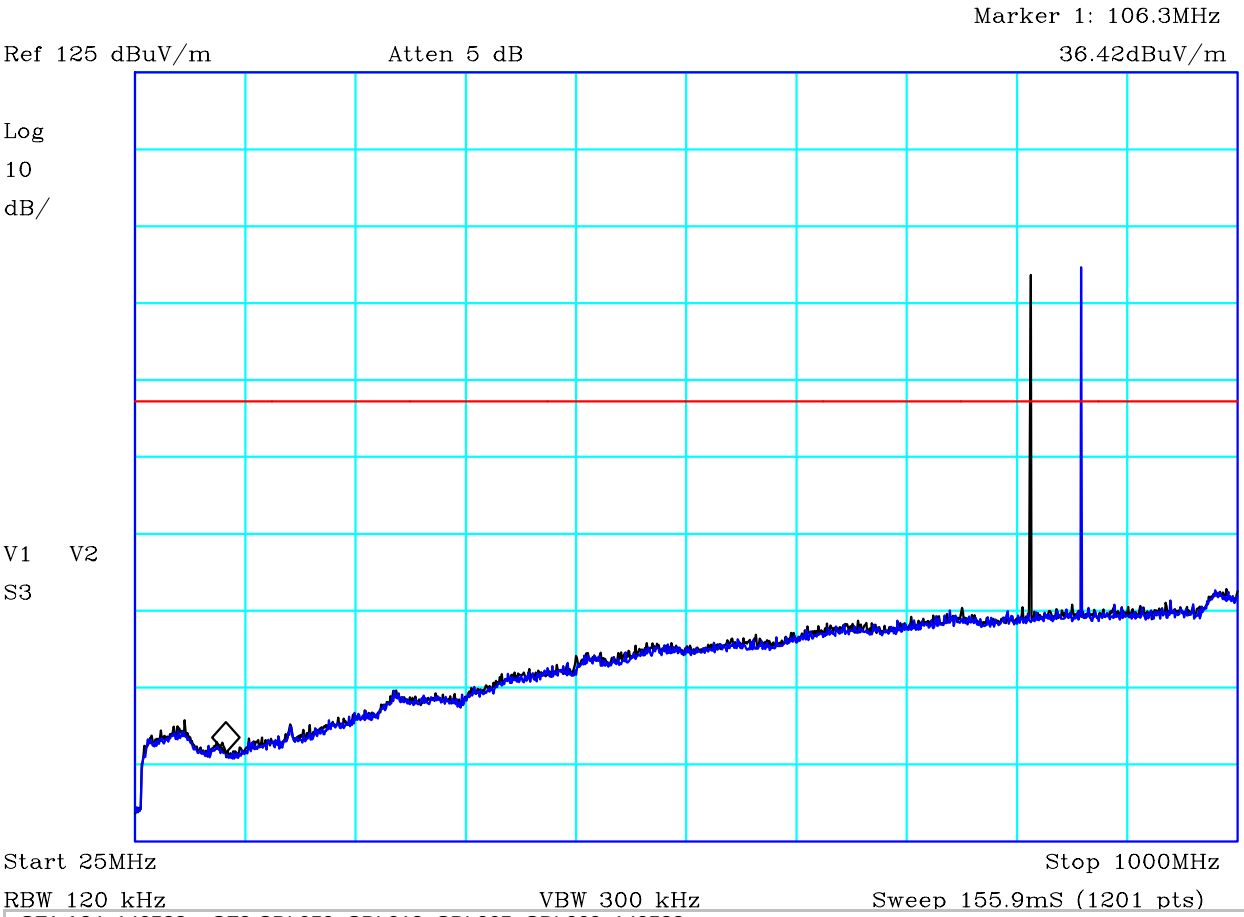
CF1:A19_140528 CF2:Bluecables_140918 CF3:RFF22_140528 CF4:PRE10_140918

PLOT 38 Radiated Emissions - RSM - Tx - HF band - 5GHz to 10GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

With RSM
Black: Tx 854MHz
Blue: Tx 861.5MHz
Red: Tx 869MHz
Limit = approximate field strength @ 1.5m for a -13dBm Txr (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H47296DA	Analyser:	R8

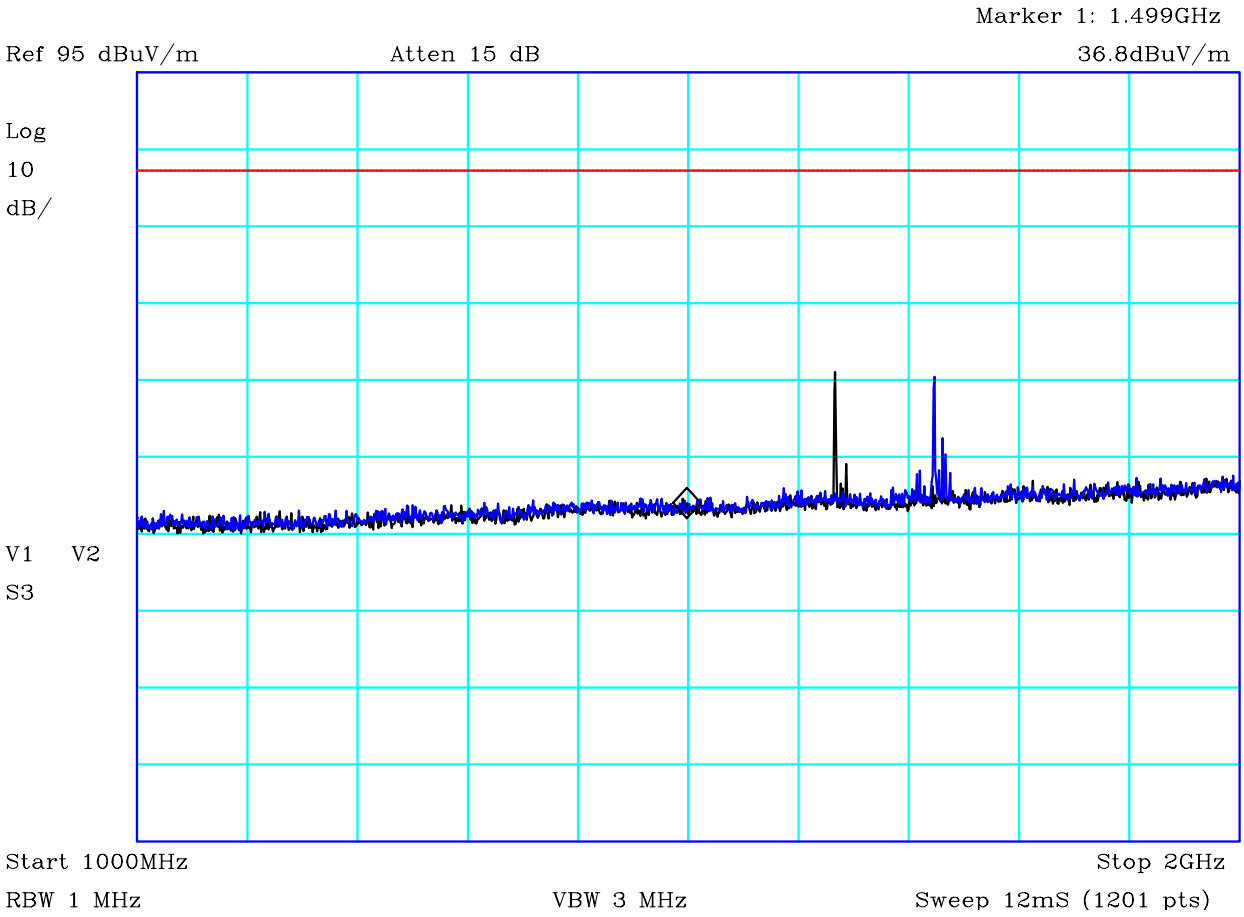


PLOT 39 Radiated Emissions - Car Kit - Transmit - 25MHz to 1GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

Car Kit (with 50R load)
Black: 816.5MHz Tx
Blue: 861.5MHz Tx
Maximum of Vertical and Horizontal
Transmit mode. Transmit Frequency 854MHz. 50R load on antenna port.
Limit = approximate field strength @ 3m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4A1449C	Analyser:	R8



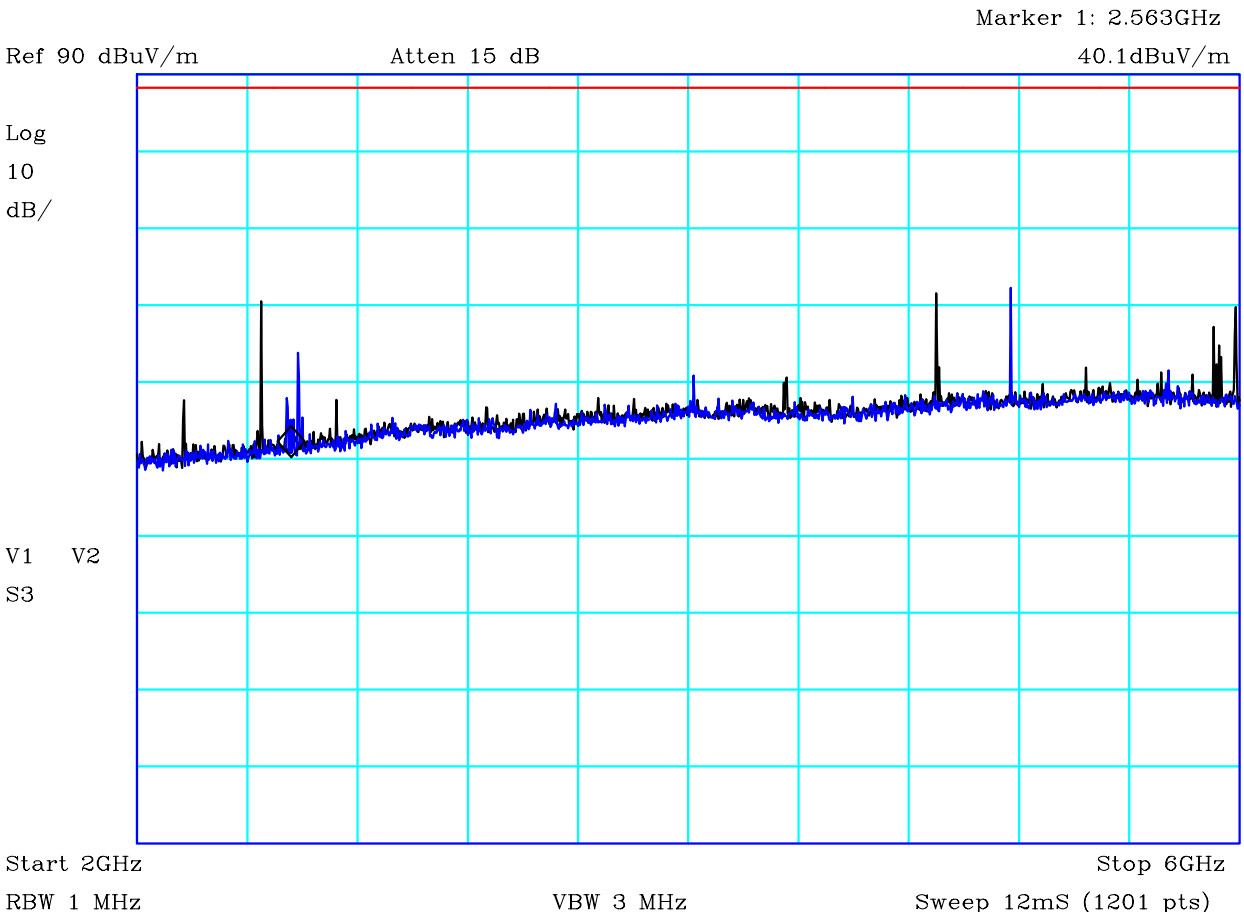
CF1:A19_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:RFF15_140528 CF4:PRE10_140918

PLOT 40 Radiated Emissions - Car Kit - Transmit - 1GHz to 2GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10 log(P)@3m	Limit2:	
Limit3:		Limit4:	

Car Kit (with 50R load)
Black: 816.5MHz Tx
Blue: 861.5MHz Tx
Maximum of Vertical and Horizontal
Transmit mode. Limit = approximate field strength @ 3m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4A1449E	Analyser:	R8



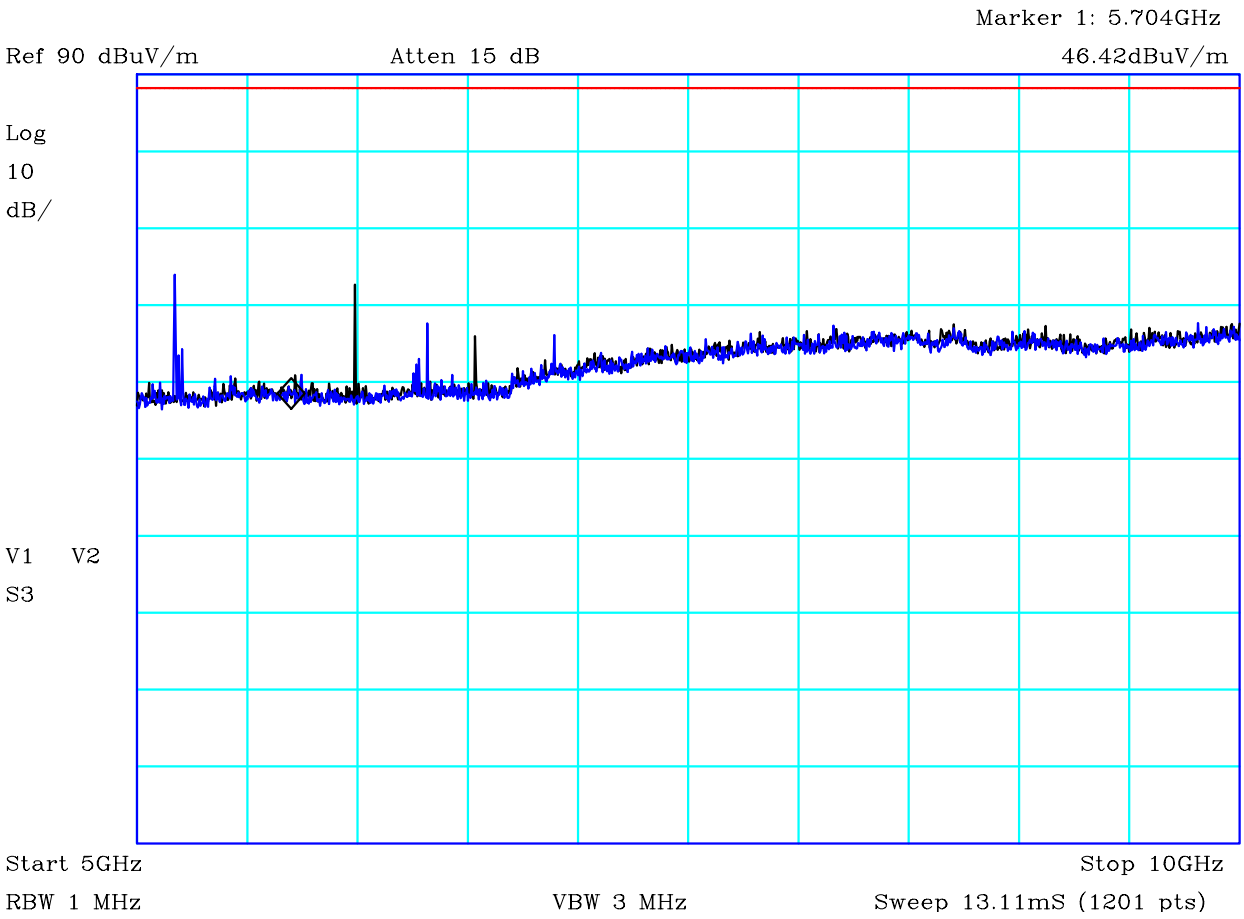
CF1:A19_140528 CF2:Bluecables_140918 CF3:RFF22_140528 CF4:PRE10_140918

PLOT 41 Radiated Emissions - Car Kit - Transmit - 2GHz to 6GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	03/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

Car Kit (with 50R load)
Black: 816.5MHz Tx
Blue: 861.5MHz Tx
Maximum of Vertical and Horizontal
Transmit mode. Limit = approximate field strength @ 1.5m for a -13dBm transmitter (43+10log(P)). Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4A144A1	Analyser:	R8



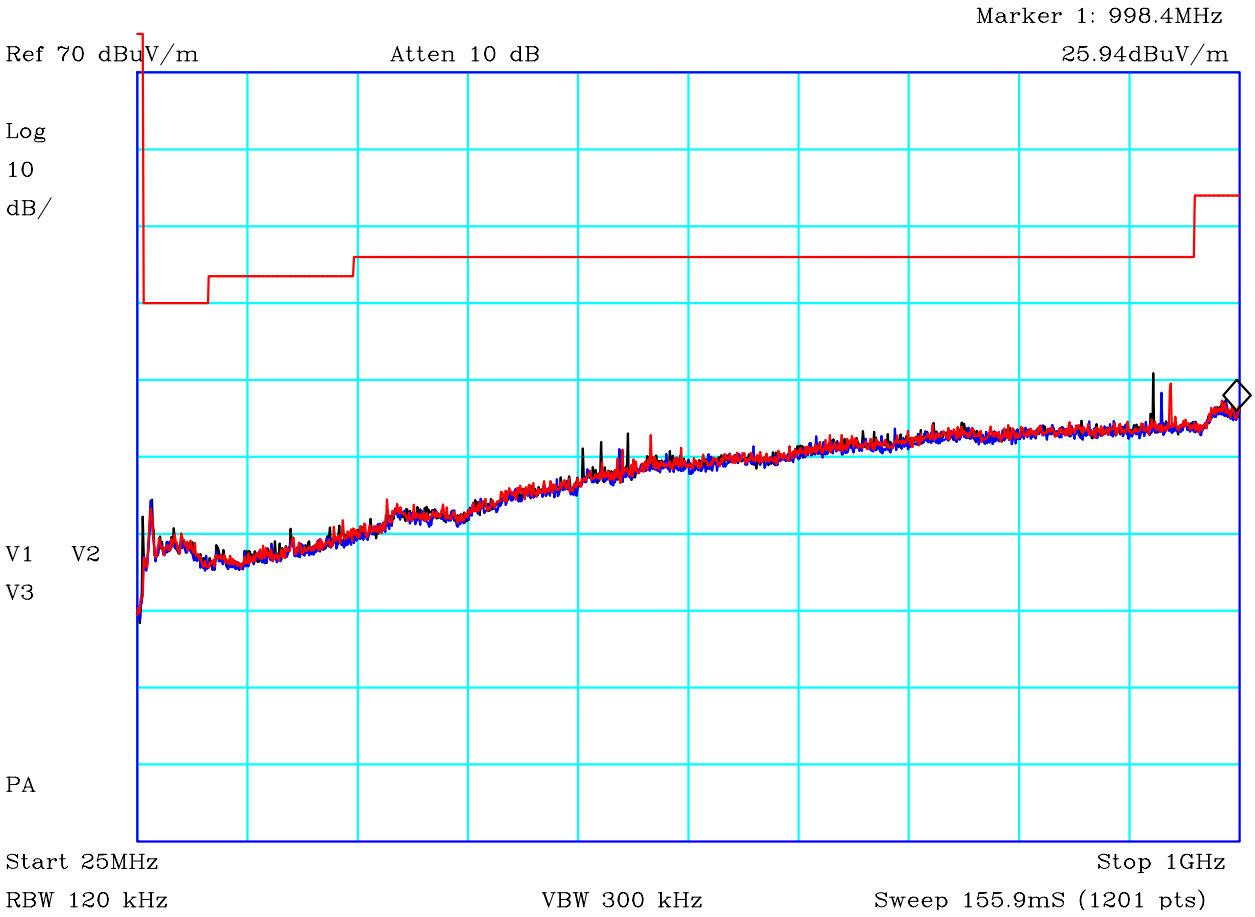
CF1:A19_140528 CF2:Bluecables_140918 CF3:RFF22_140528 CF4:PRE10_140918

PLOT 42 Radiated Emissions - Car Kit - Transmit - 5GHz to 10GHz - Mask of 90.221(d)

Company:	Sepura	Product:	STP9080
Date:	03/09/2014	Test Eng:	Dave Smith
Method:	FCC Part 90	Method:	
Limit1:(RED)	43+10log(P)@1.5m	Limit2:	
Limit3:		Limit4:	

Car Kit (with 50R load)
Black: 816.5MHz Tx
Blue: 861.5MHz Tx
Maximum of Vertical and Horizontal
Transmit mode. Limit = approximate field strength @ 1.5m for a -13dBm transmitter (43+10log(P)).
Calculation of limit shown in section 4.8. Mask of 90.221(d) used as an alternative to 90.210 as permitted in note 5.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4A144A2	Analyser:	R8



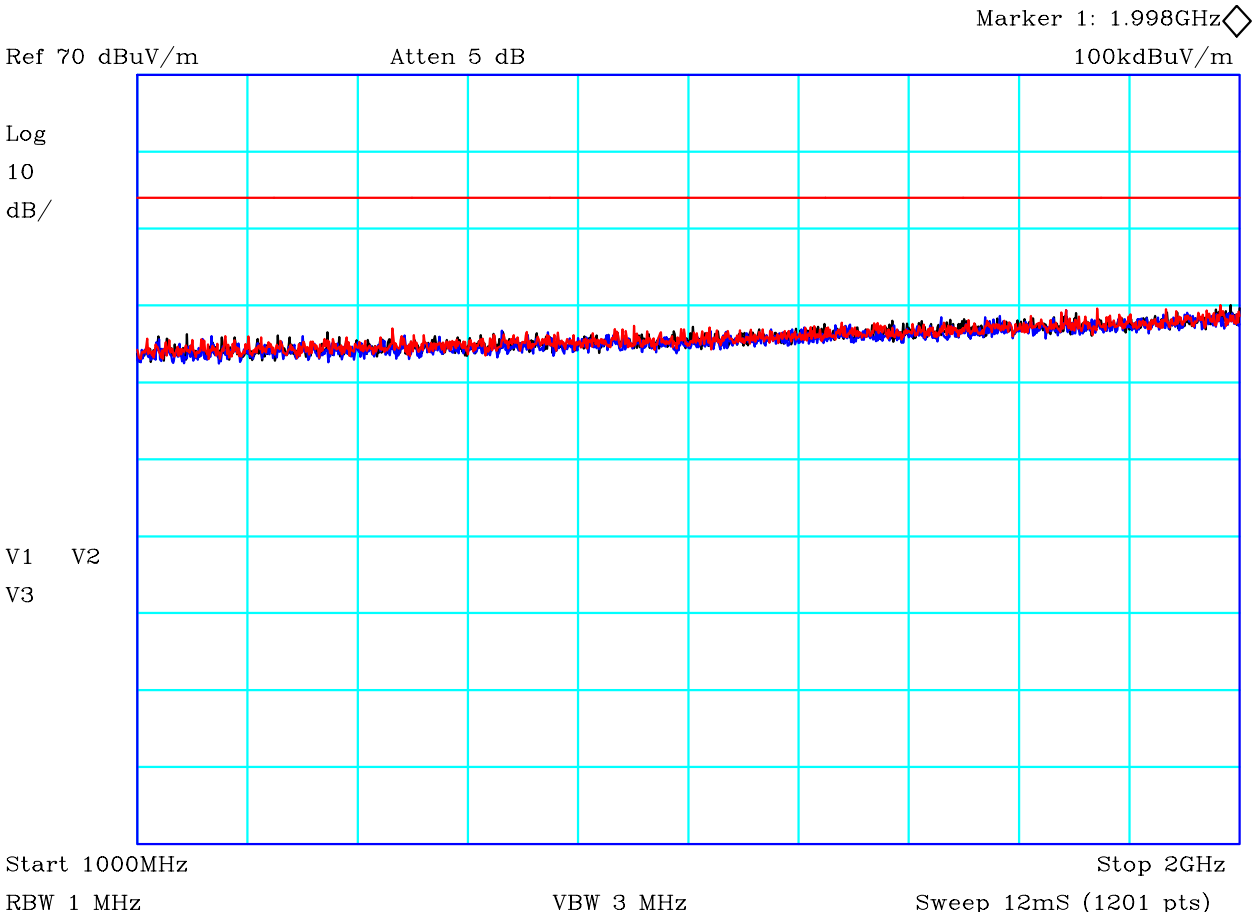
CF1:A24_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:PRE5_140528

PLOT 43 Radiated Emissions - Standalone - Receive - Antenna fitted - 25MHz to 1GHz

Company:	Sepura	Product:	STP9080
Date:	09/09/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@3m	Limit2:	
Limit3:		Limit4:	

Standalone
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHzl

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4809702	Analyser:	R8



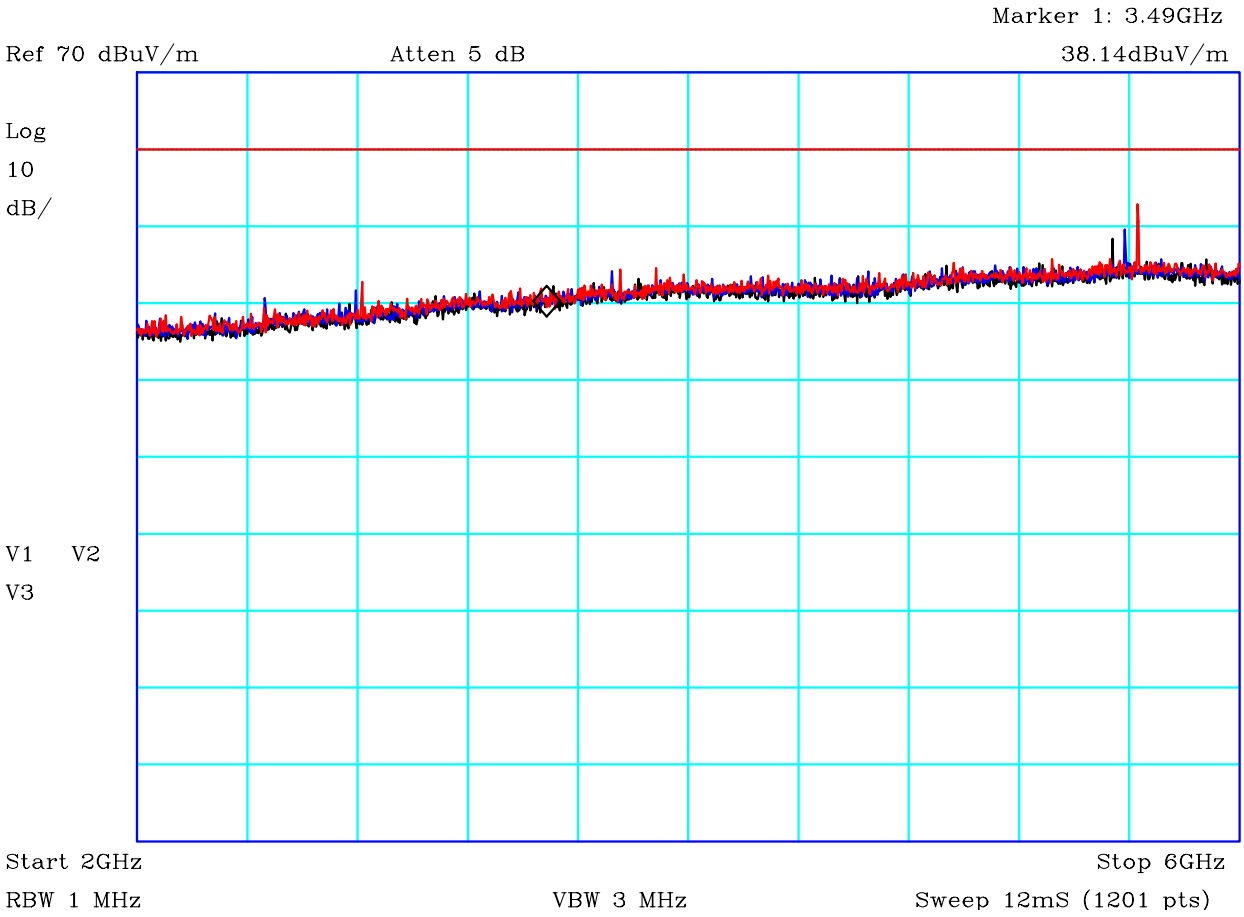
CF1:A19_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:PRE10_140918

PLOT 44 Radiated Emissions - Standalone - Receive - Antenna fitted - 1GHz to 2GHz

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@3m	Limit2:	
Limit3:		Limit4:	

Standalaone
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical, Upright and Flat

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H48044A0	Analyser:	R8



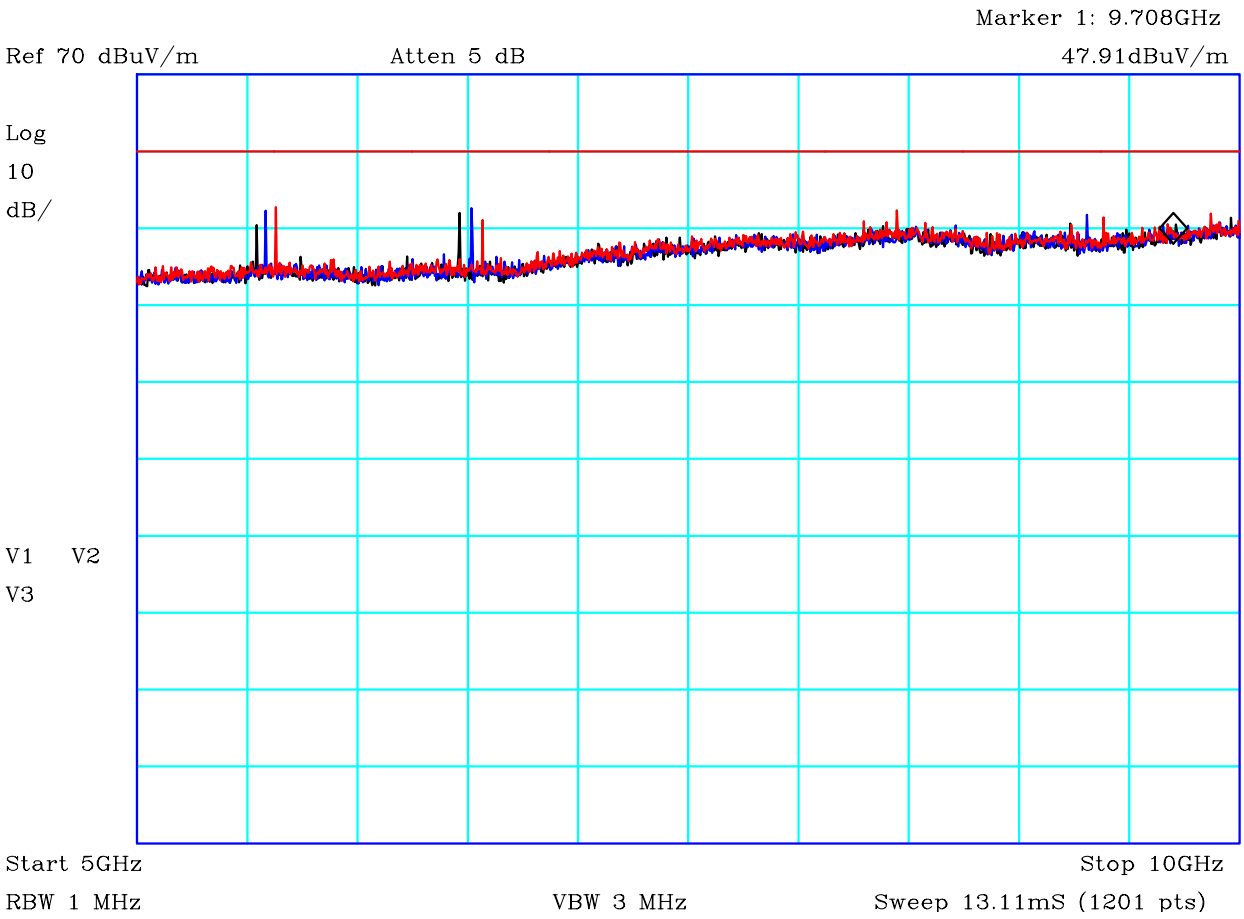
CF1:A19_140528 CF2:Bluecables_140918 CF3:PRE10_140918 CF4:RFF22_140528

PLOT 45 Radiated Emissions - Standalone - Receive - Antenna fitted - 2GHz to 6GHz

Company:	Sepura	Product:	STP9080
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@1.5m	Limit2:	
Limit3:		Limit4:	

Standalone
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H472972B	Analyser:	R8



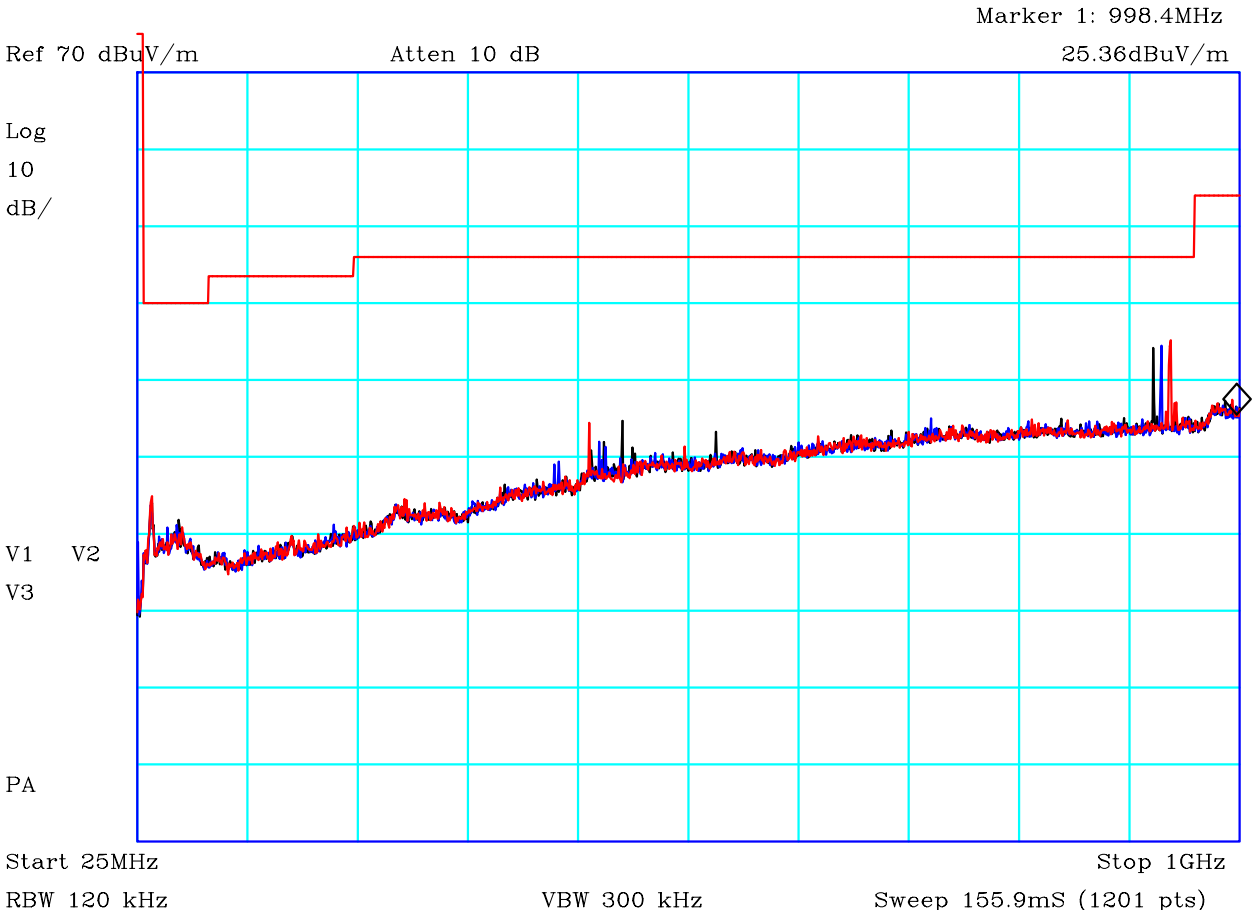
CF1:A19_140528 CF2:Bluecables_140918 CF3:PRE10_140918 CF4:RFF22_140528

PLOT 46 Radiated Emissions - Standalone - Receive - Antenna fitted - 5GHz to 10GHz

Company:	Sepura	Product:	STP9080
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@1.5m	Limit2:	
Limit3:		Limit4:	

Standalone
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4729729	Analyser:	R8



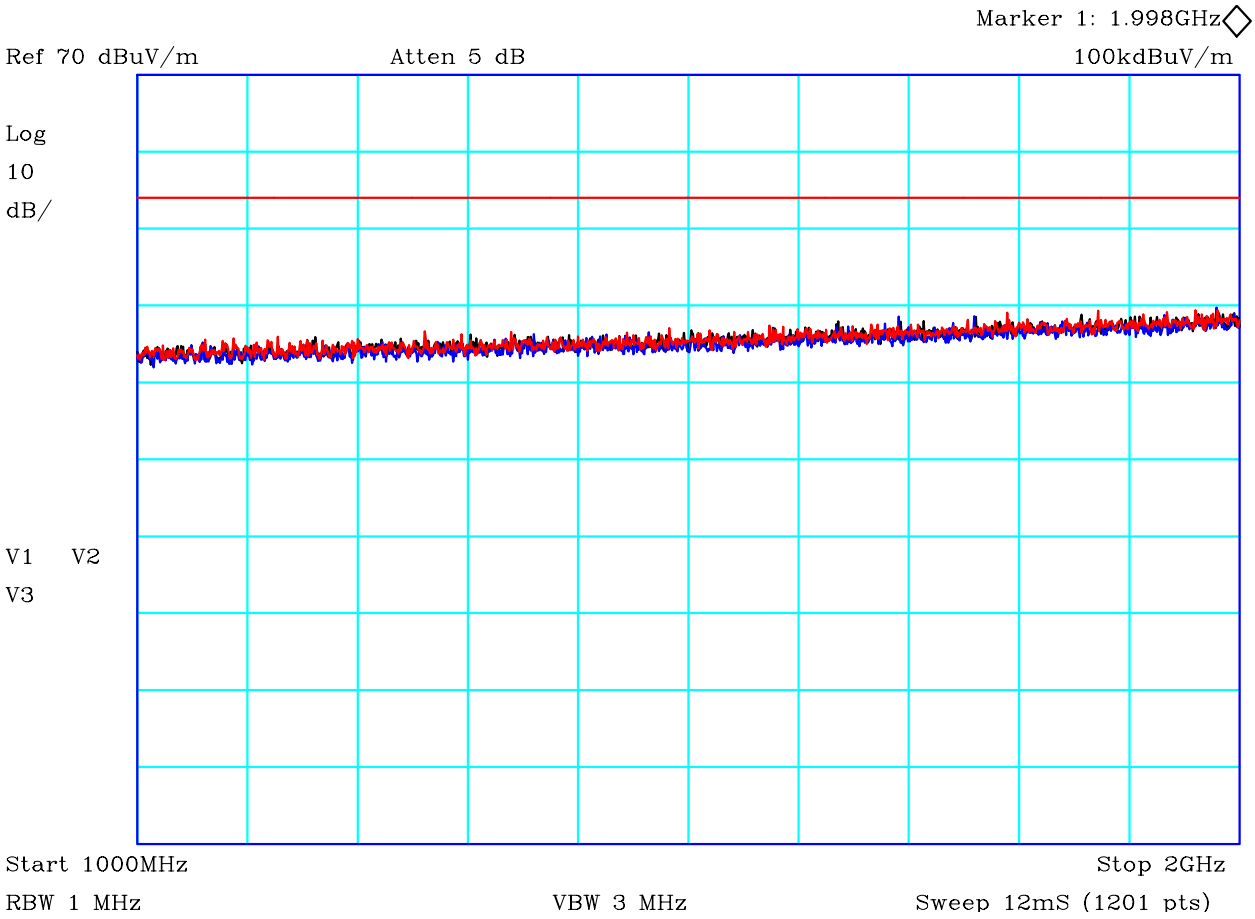
CF1:A24_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:PRE5_140528

PLOT 47 Radiated Emissions - RSM - Receive - Antenna fitted - 25MHz to 1GHz

Company:	Sepura	Product:	STP9080
Date:	09/09/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@3m	Limit2:	
Limit3:		Limit4:	

RSM
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHzl

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4809739	Analyser:	R8



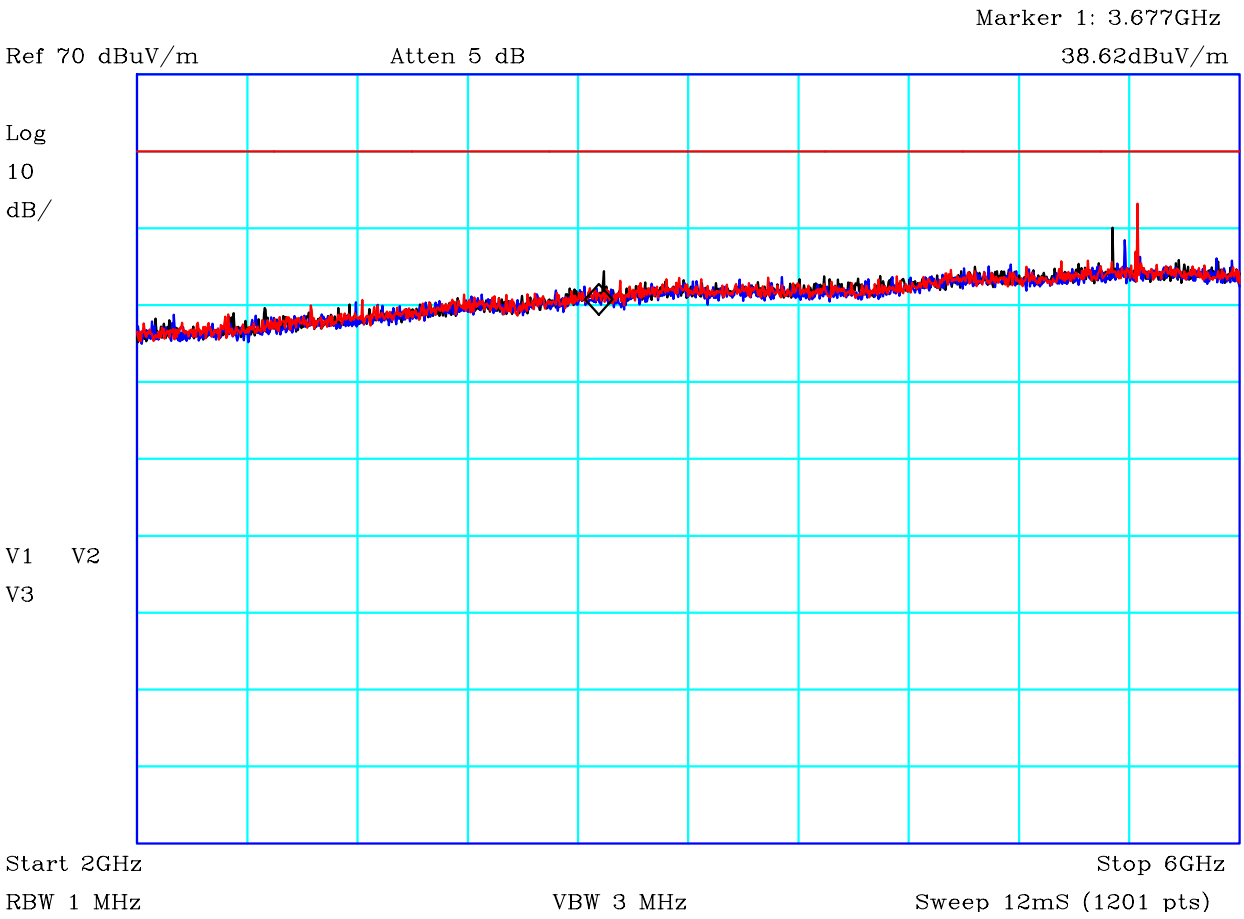
CF1:A19_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:PRE10_140918

PLOT 48 Radiated Emissions - RSM - Receive - Antenna fitted - 1GHz to 2GHz

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@3m	Limit2:	
Limit3:		Limit4:	

RSM
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical, Upright and Flat

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4804565	Analyser:	R8



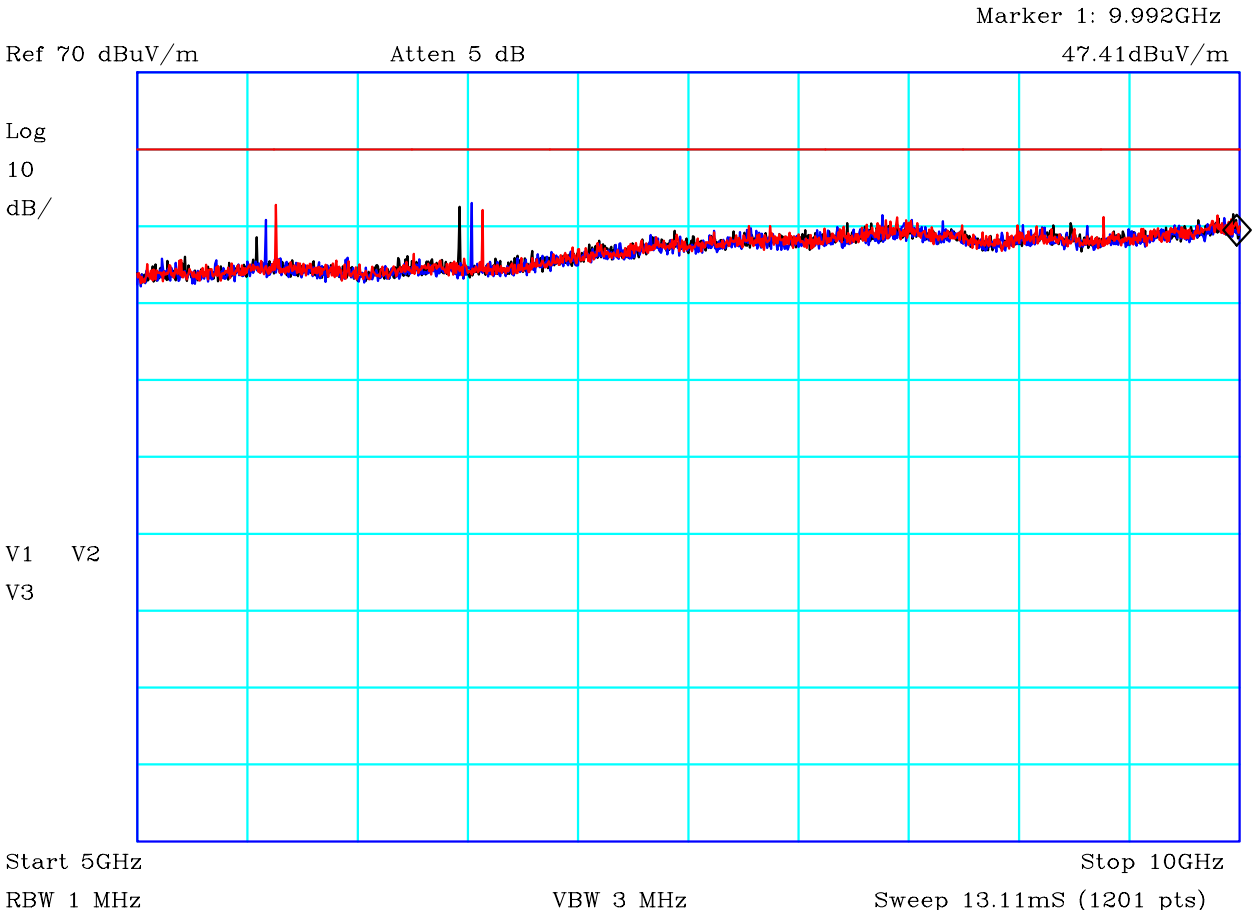
CF1:A19_140528 CF2:Bluecables_140918 CF3:PRE10_140918 CF4:RFF22_140528

PLOT 49 Radiated Emissions - RSM - Receive - Antenna fitted - 2GHz to 5GHz

Company:	Sepura	Product:	STP9080
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@1.5m	Limit2:	
Limit3:		Limit4:	

With RSM
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4729725	Analyser:	R8



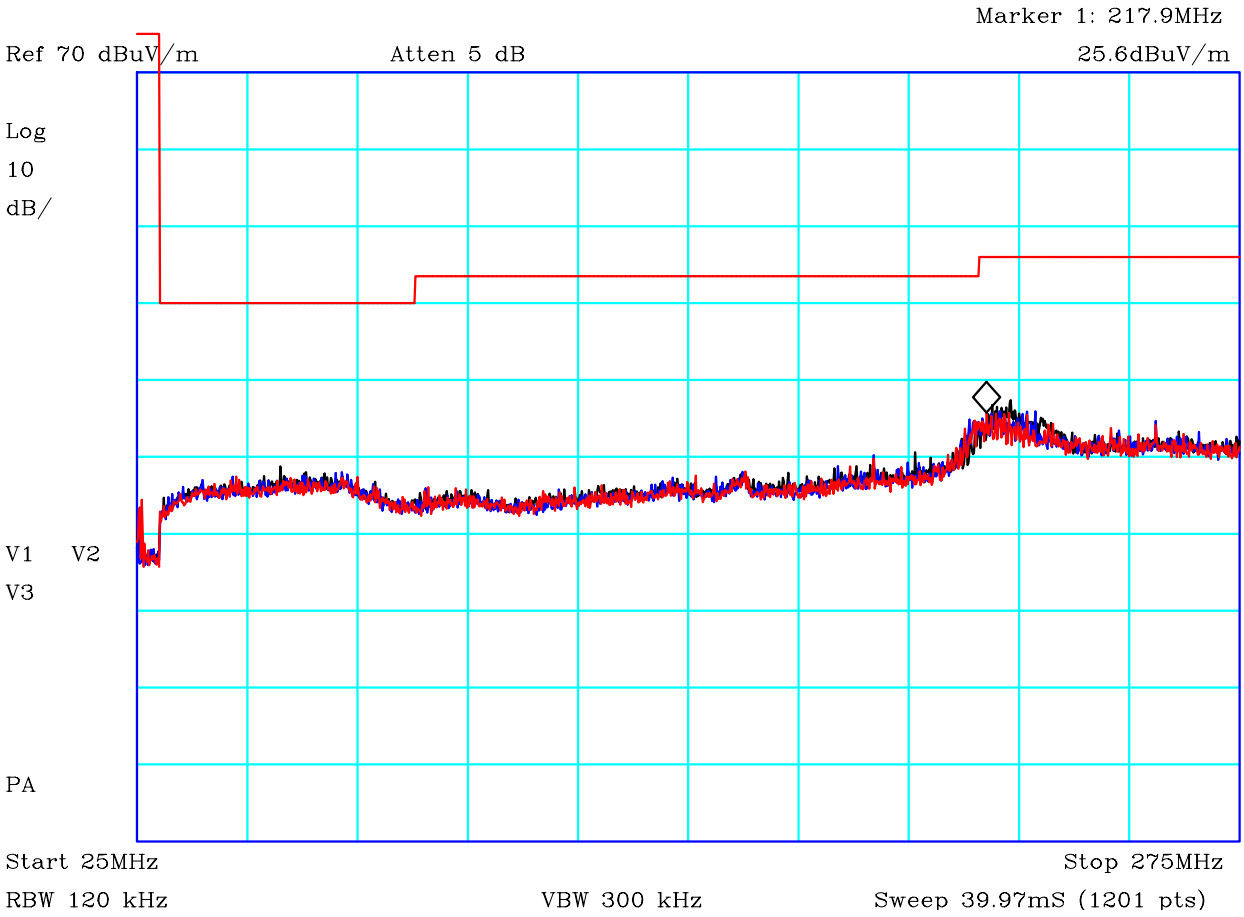
CF1:A19_140528 CF2:Bluecables_140918 CF3:PRE10_140918 CF4:RFF22_140528

PLOT 50 Radiated Emissions - RSM - Receive - Antenna fitted - 5GHz to 10GHz

Company:	Sepura	Product:	STP9080
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@1.5m	Limit2:	
Limit3:		Limit4:	

With RSM
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4729723	Analyser:	R8



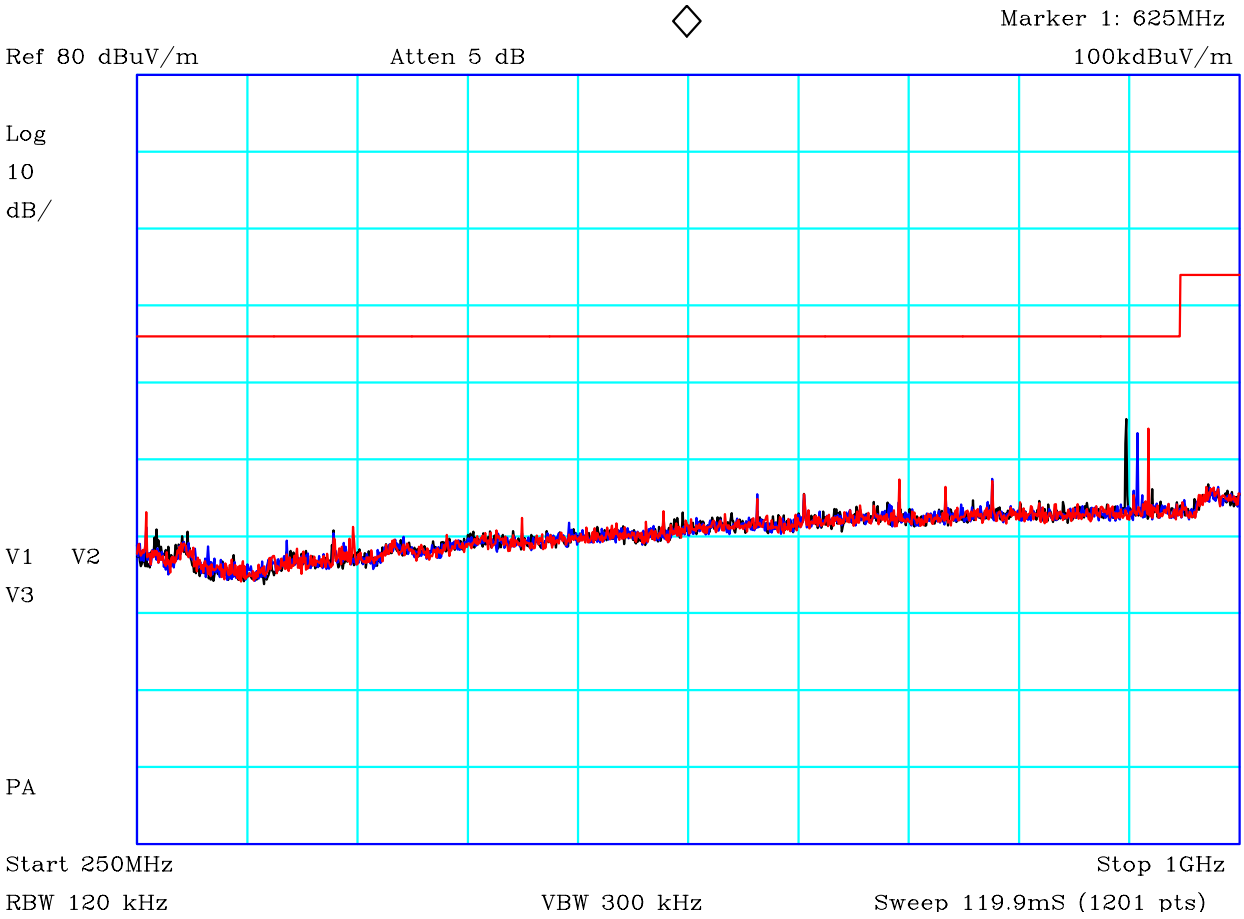
CF1:A24_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528

PLOT 51 Radiated Emissions - Car Kit - Receive - Antenna fitted - 25MHz to 275MHz

Company:	Sepura	Product:	STP9080
Date:	27/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@3m	Limit2:	
Limit3:		Limit4:	

With Car Kit.
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H480468C	Analyser:	R8



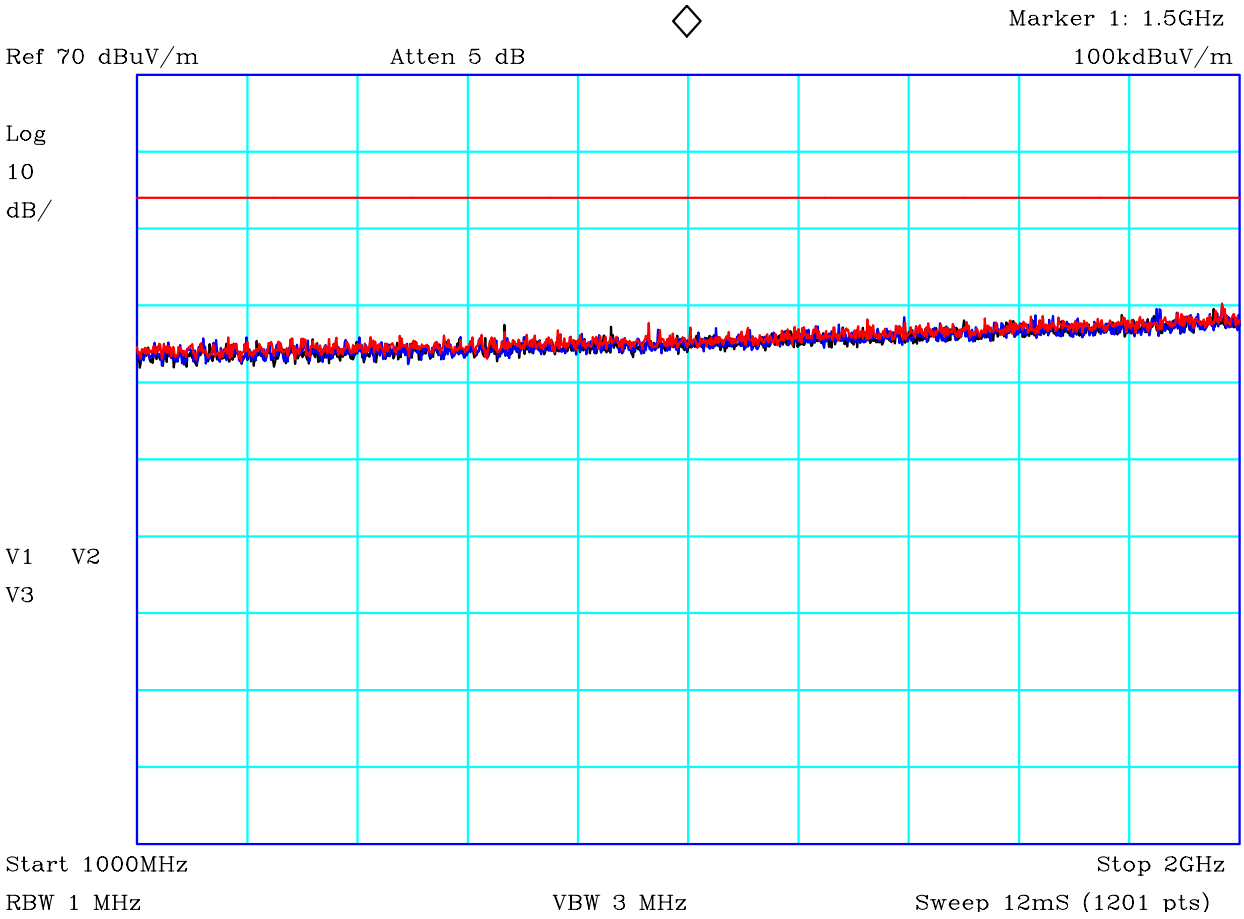
CF1:A24_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:PRE10_140918

PLOT 52 Radiated Emissions - Car Kit - Receive - Antenna fitted - 250MHz to 1GHz

Company:	Sepura	Product:	STP9080
Date:	27/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@3m	Limit2:	
Limit3:		Limit4:	

With Car Kit.
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4804696	Analyser:	R8



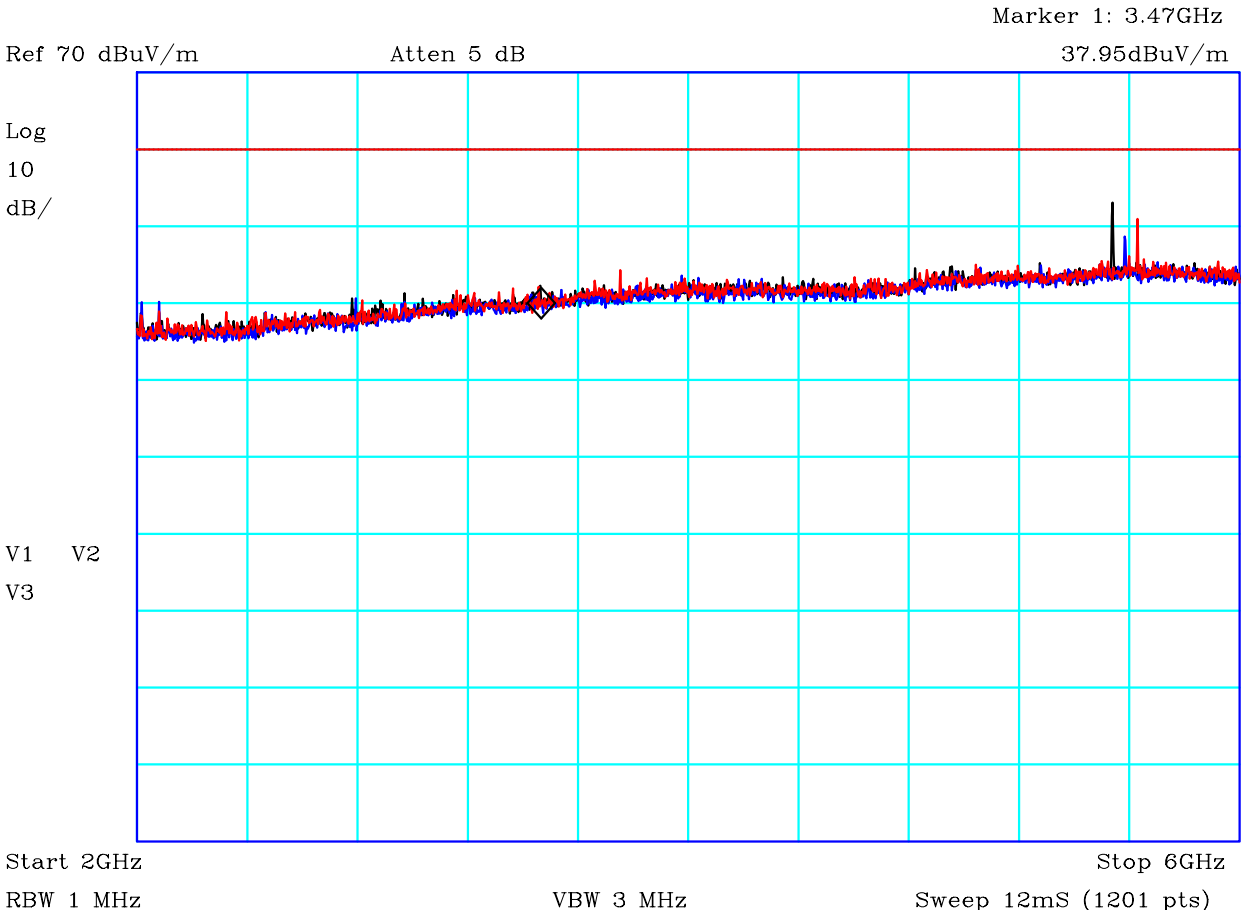
CF1:A19_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:PRE10_140918

PLOT 53 Radiated Emissions - Car Kit - Receive - Antenna fitted - 1GHz to 2GHz

Company:	Sepura	Product:	STP9080
Date:	27/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@3m	Limit2:	
Limit3:		Limit4:	

With Car Kit.
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H48045A4	Analyser:	R8



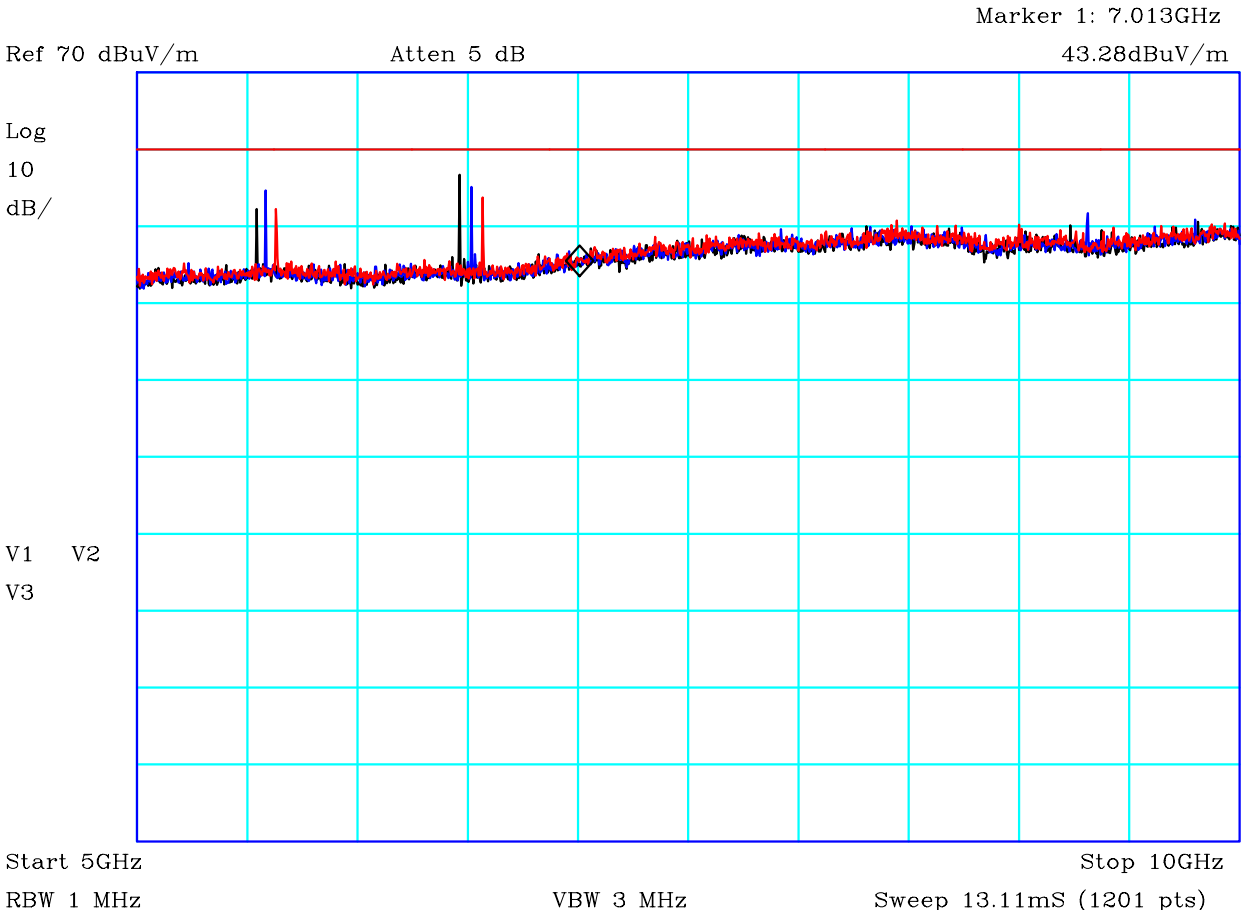
CF1:A19_140528 CF2:Bluecables_140918 CF3:PRE10_140918 CF4:RFF22_140528

PLOT 54 Radiated Emissions - Car Kit - Receive - Antenna fitted - 2GHz to 5GHz

Company:	Sepura	Product:	STP9080
Date:	27/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@1.5m	Limit2:	
Limit3:		Limit4:	

With Car Kit.
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H472971E	Analyser:	R8



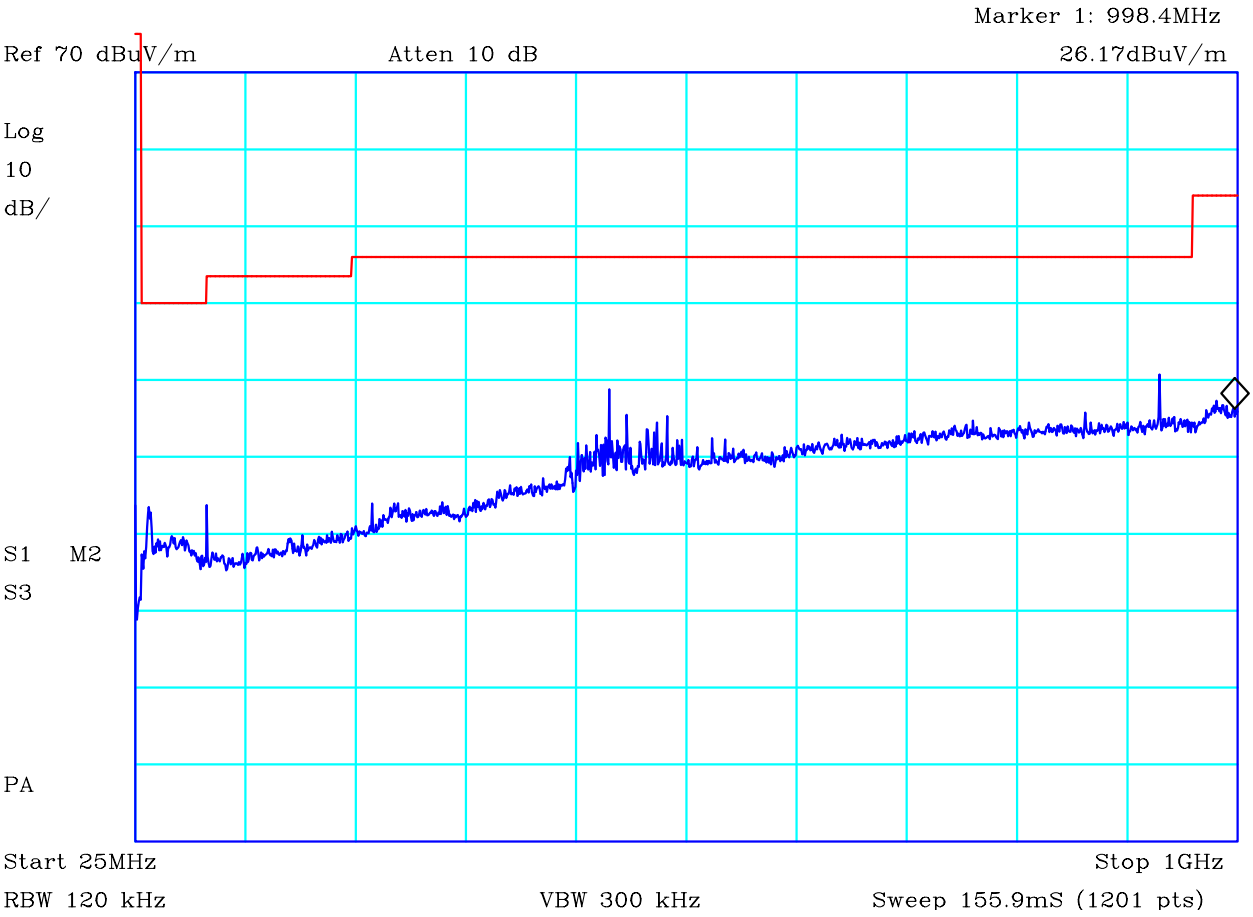
CF1:A19_140528 CF2:Bluecables_140918 CF3:PRE10_140918 CF4:RFF22_140528

PLOT 55 Radiated Emissions - Car Kit - Receive - Antenna fitted - 5GHz to 10GHz

Company:	Sepura	Product:	STP9080
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@1.5m	Limit2:	
Limit3:		Limit4:	

With Car Kit.
Receive mode. Antenna Fitted
Black: 854MHz
Blue: 861.5MHz
Red: 869MHz
Maximum of Horizontal and Vertical

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4729720	Analyser:	R8



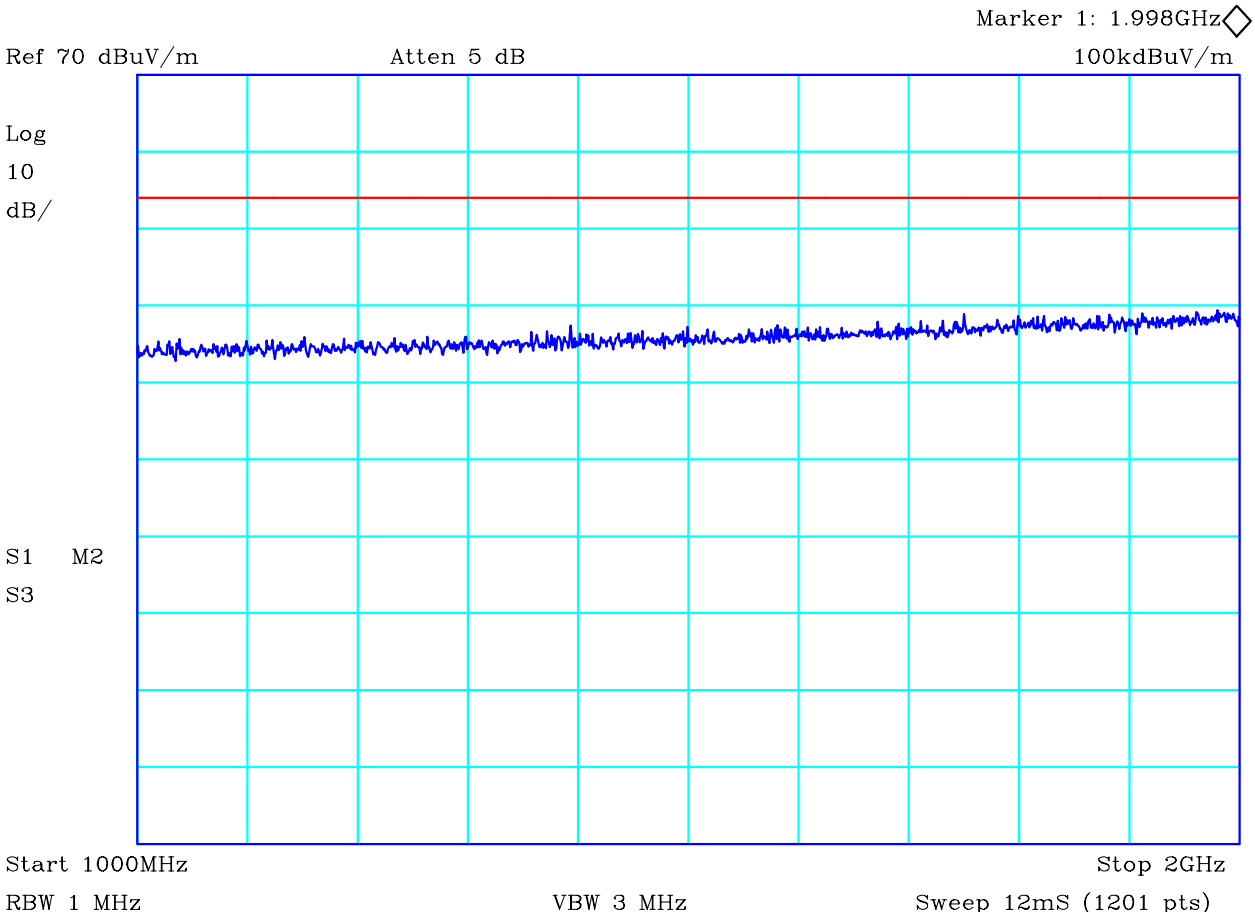
CF1:A24_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:PRE5_140528

PLOT 56 Radiated Emissions - STP9280 - Receive - Antenna fitted - 25MHz to 1GHz

Company:	Sepura	Product:	STP9080
Date:	09/09/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@3m	Limit2:	
Limit3:		Limit4:	

STP9280
Receive mode. Antenna Fitted
Blue: 861.5MHz
Maximum of Horizontal and Vertical - upright and flat.
930.75025MHz

Facility:	Anech_2	Height	1m,1.5m,2m	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H480974F	Analyser:	R8



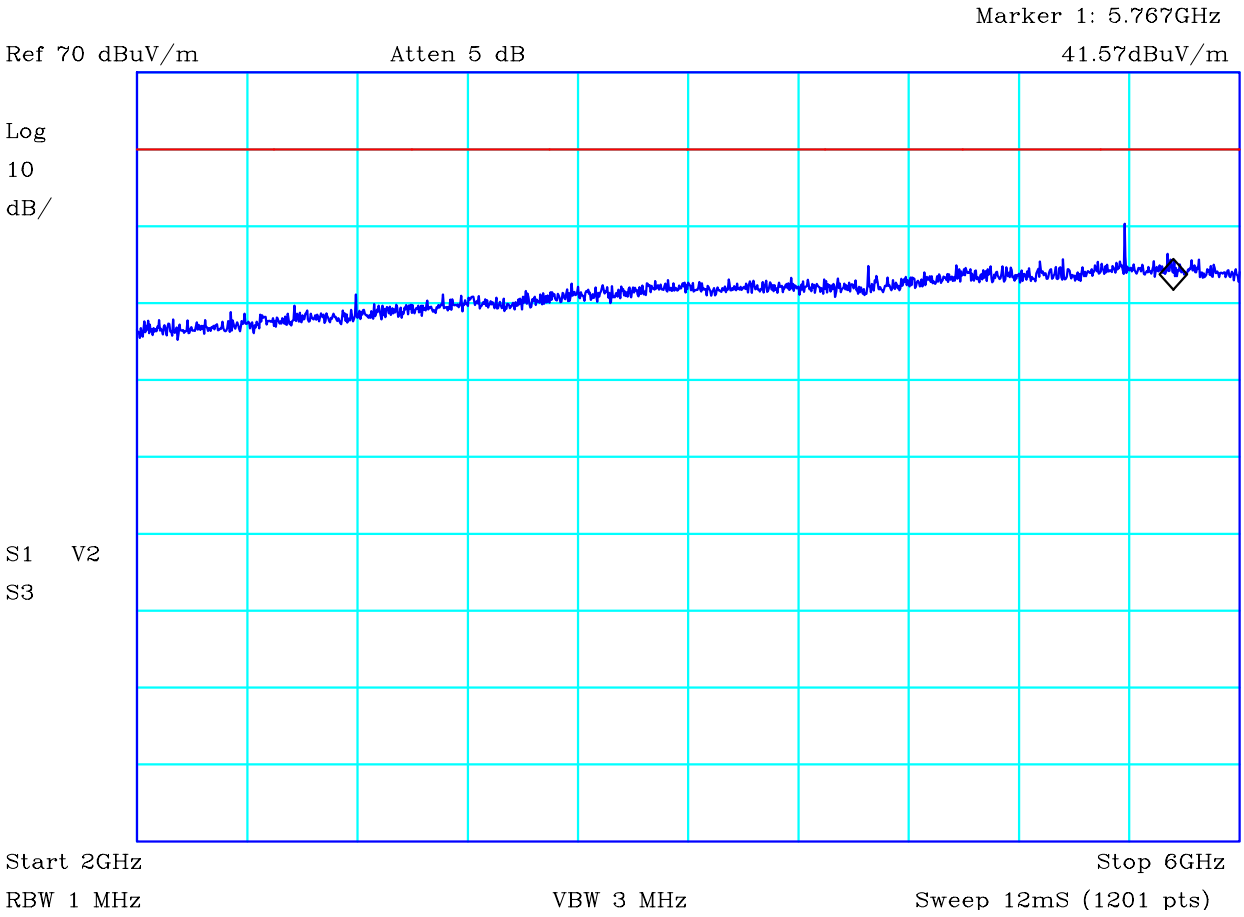
CF1:A19_140528 CF2:CBL059_CBL018_CBL065_CBL060_140528 CF3:PRE10_140918

PLOT 57 Radiated Emissions - STP9280 - Receive - Antenna fitted - 1GHz to 2GHz

Company:	Sepura	Product:	STP9080
Date:	04/09/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@3m	Limit2:	
Limit3:		Limit4:	

STP9280
Receive mode. Antenna Fitted
Blue: 861.5MHz
Maximum of Horizontal and Vertical - upright and flat

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H4804584	Analyser:	R8



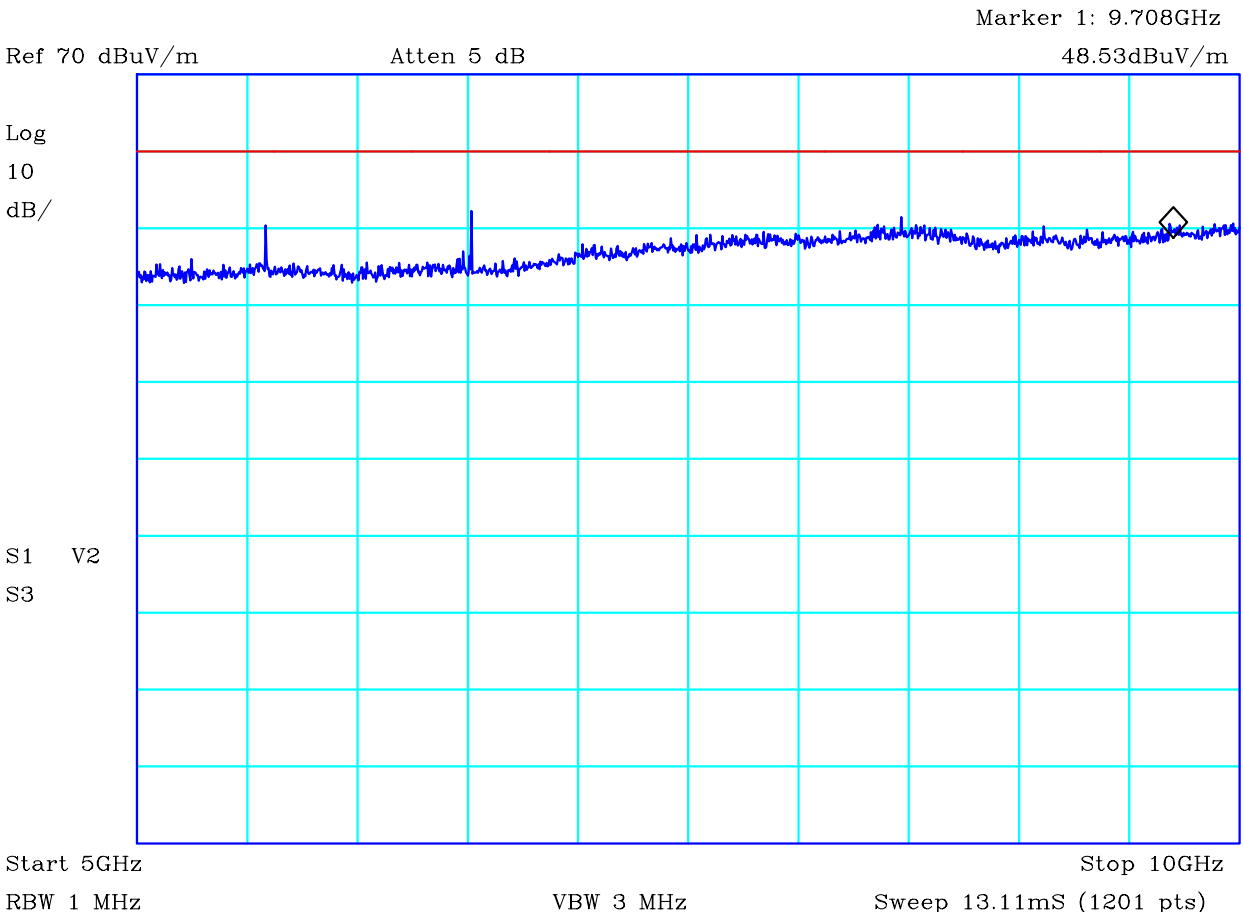
CF1:A19_140528 CF2:Bluecables_140918 CF3:PRE10_140918 CF4:RFF22_140528

PLOT 58 Radiated Emissions - STP9280 - Receive - Antenna fitted - 2GHz to 6GHz

Company:	Sepura	Product:	STP9280
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@1.5m	Limit2:	
Limit3:		Limit4:	

STP9280
Receive mode. Antenna Fitted
Blue: 861.5MHz
Maximum of Horizontal and Vertical - upright and flat.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H47296C2	Analyser:	R8



CF1:A19_140528 CF2:Bluecables_140918 CF3:PRE10_140918 CF4:RFF22_140528

PLOT 59 Radiated Emissions - STP9280 - Receive - Antenna fitted - 5GHz to 10GHz

Company:	Sepura	Product:	STP9280
Date:	28/08/2014	Test Eng:	Dave Smith
Method:	Ansi C63.4	Method:	
Limit1:(RED)	FCC(B)@1.5m	Limit2:	
Limit3:		Limit4:	

STP9280
Receive mode. Antenna Fitted
Blue: 861.5MHz
Maximum of Horizontal and Vertical - upright and flat.

Facility:	Anech_2	Height	1.1m,1.3m,1.6m	Mode:	2
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H47296C4	Analyser:	R8