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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

AlertMe.com Ltd

Button

dated

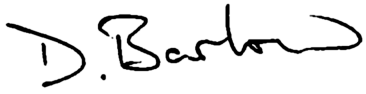
9th May 2012

Document History

Issue	Date	Affected page(s)	Description of modifications	Revised by	Approved by
1	07/02/12		Initial release		
2	09/05/12	New version	Application of 558074 DOS DTS Meas Guidance V01	DS	DB
3	11/05/12	All	FCC ID corrected	DS	DB
4	15/05/12	12-14,20-28	Conducted antenna measurements repeated with EBW interpreted as -26dB points	DS	DB

Based on report template:
v090319

Equipment Under Test (EUT):	Button
Test Commissioned by:	AlertMe.com Ltd Compass House 80 Newmarket Road Cambridge CB5 8DZ
Representative:	Bruce Benson
Test Started:	4th January 2012
Test Completed:	9th May 2012
Test Engineer:	Dave Smith
Date of Report:	9th May 2012

Written by:	Dave Smith	Checked by:	Derek Barlow
Signature:		Signature:	
Date:	9th May 2012	Date:	9th May 2012

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

CFR 47	*Code of Federal Regulations: Pt 15 Subpart C - Radio Frequency Devices - Intentional Radiators*

In particular, the rules of part 15.247 were applied.

Device operating in the 2400-2483.5 MHz band.

FCC Part	Parameter	
15.207	Conducted Emissions	N/A #1
15.209	Radiated Emissions	PASS (for frequencies in the Restricted Bands list of 15.205 only - all other parts of 15.209 are not applicable - 15.247 takes precedence.)
15.247(a)(2)	Minumum 6dB bandwidth (must be >500kHz)	PASS
15.247(b)(3)	Peak power (must be <1W)	PASS
15.247(b)(4)	Antenna gain (must be <6dBi)	Manufacturer data states a gain of 1dBi. Only integral antenna.
15.247(b)(5)	Exposure to RF	See separate declaration based on calculation.
15.247(d)	Conducted Antenna Spurious (Must be at least 20dB below carrier in - 100kHz bw)	PASS
15.247(e)	Spectral Density (must not exceed 8dBm in any 3kHz band)	PASS

#1 Test not applicable because EUT is powered by internal battery - there is no ac power supply.

Contents

1 EUT Details

1.1 General

The EUT was an AlertMe.com Button. The Button incorporates an intentional radiator operating in the 2.4GHz to 2.4835GHz band. The device operates on 15 equally spaced channels starting at 2.405GHz (channel 11) and ending at 2.475GHz (channel 25).

The device is powered from an internal battery and has an integral antenna.

For some tests a modified version of the device was used which provided a direct SMA connection to the radio module RF port and a short data cable that could be connected to a PC for the purposes of setting the required test modes.

The device can operate on 15 channels (channels 11 to 25) in the range 2.405GHz to 2.480GHz. Tests were performed on:

Ch 11: 2.405 GHz
Ch 18: 2.440 GHz
Ch 25: 2.475 GHz

The modulation is O-QPSK which is considered a digital modulation technique.

The gain of the antenna was declared to be 1dBi.

Details of the EUT and associated peripherals used during the tests are listed below. Figure 1 shows the interconnections between the EUT and peripherals.

Item	Manufacturer	Model	Description	Serial No:	Notes
1	AlertMe.com	Button	EUT with integral antenna	sample 1	
2	AlertMe.com	Button	EUT with temporary sma connection instead of antenna to allow conducted measurements	sample 2	

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 unit No modifications were made during the course of testing.	

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	Continuously transmitting constant packet stream. The transmit channel was set to either Channel 11, 18 or 25. Individual test results show the actual operating channel. In normal usage packets are intermittently sent in short pulses with no more than 10 msec ON duration in any 100msec period.

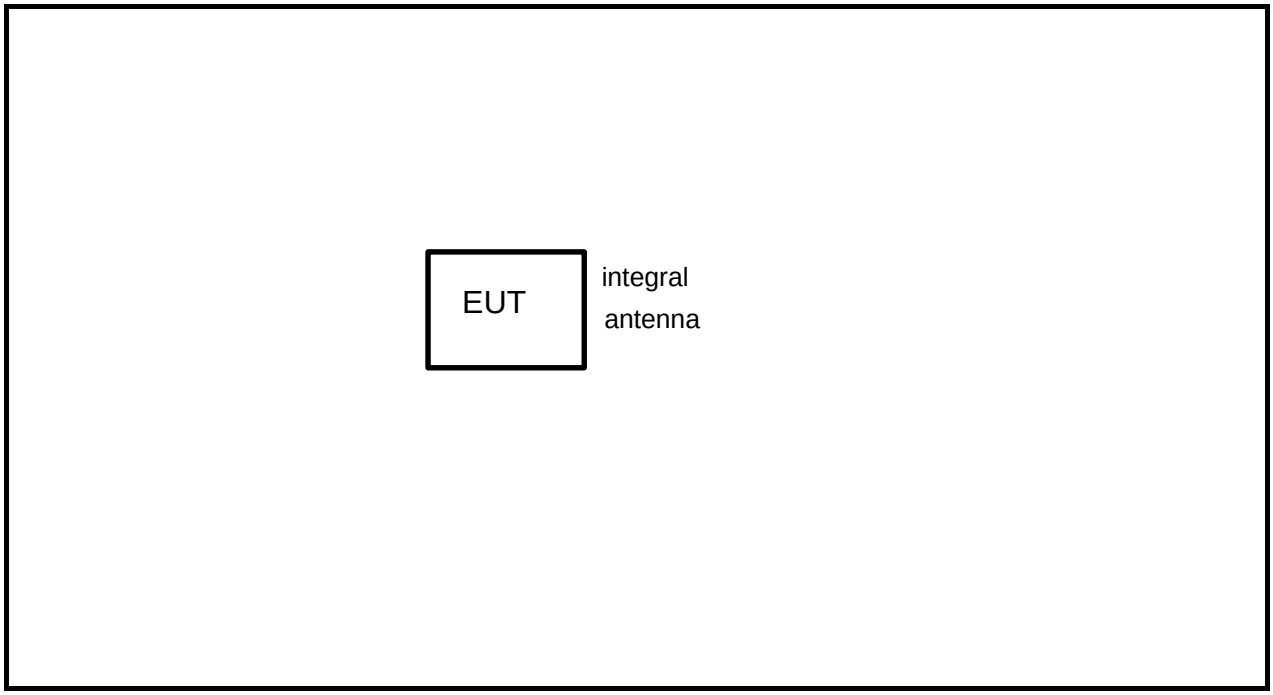
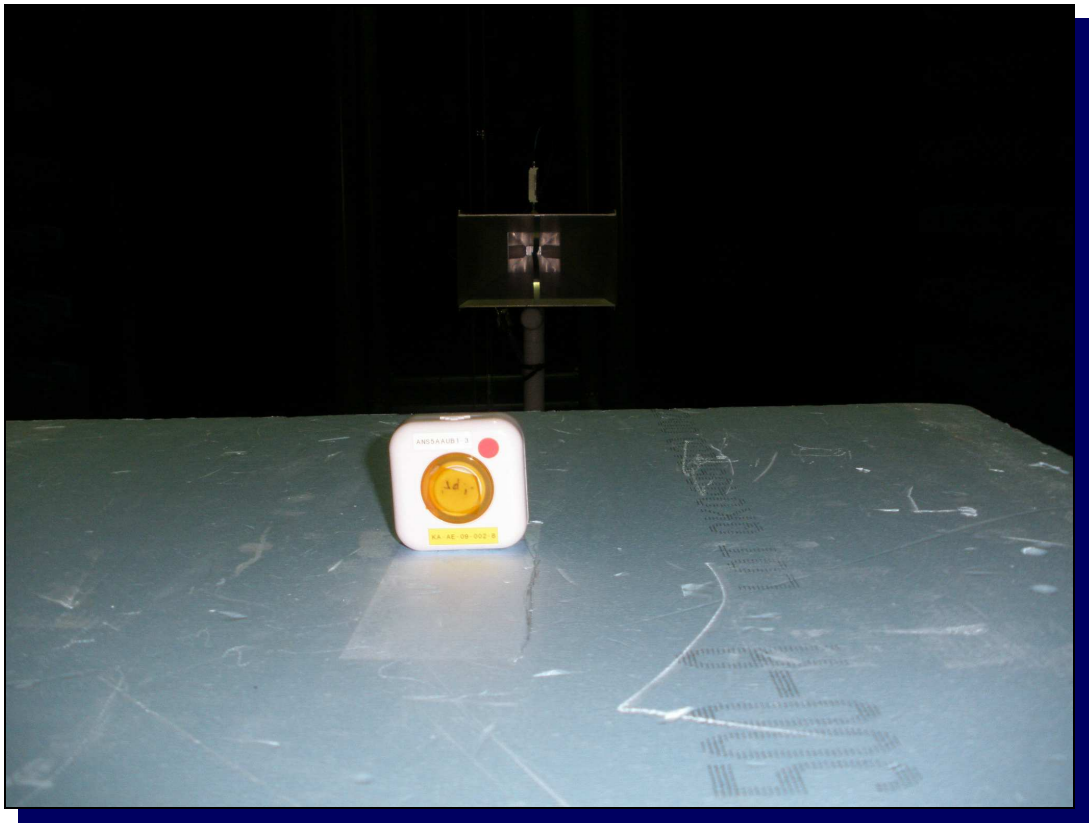
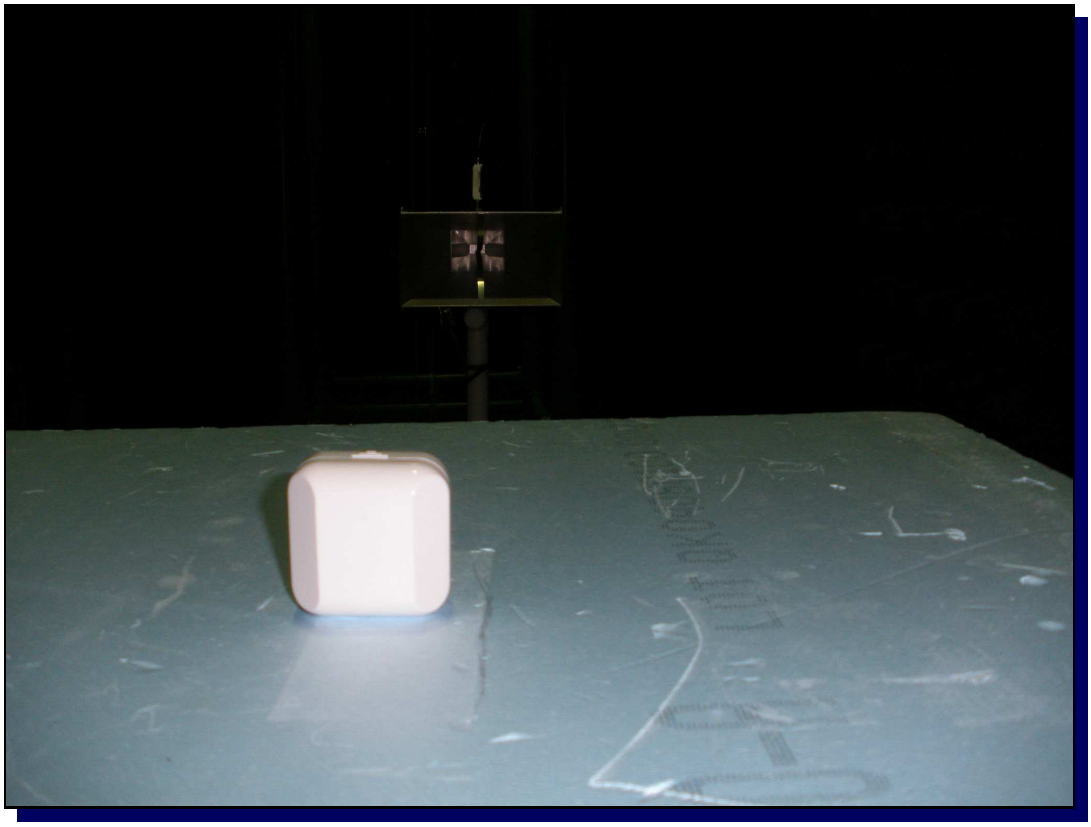


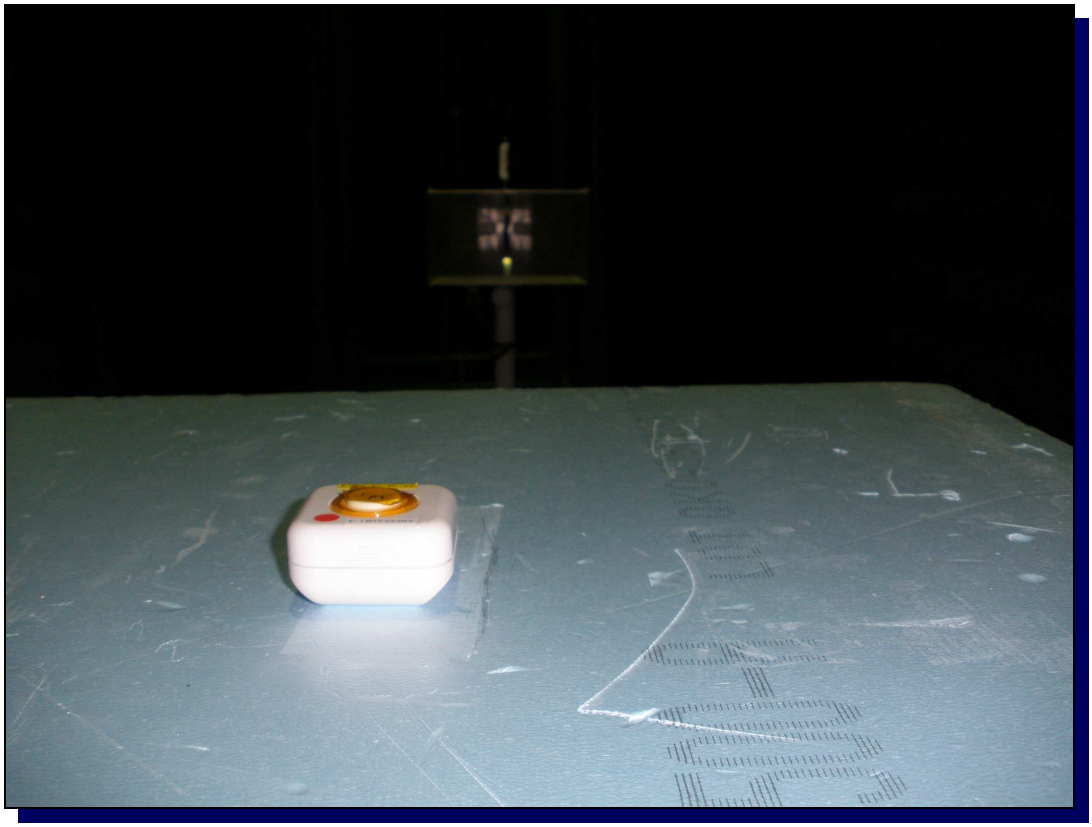
Figure 1 EUT and Peripherals: Emissions Measurements



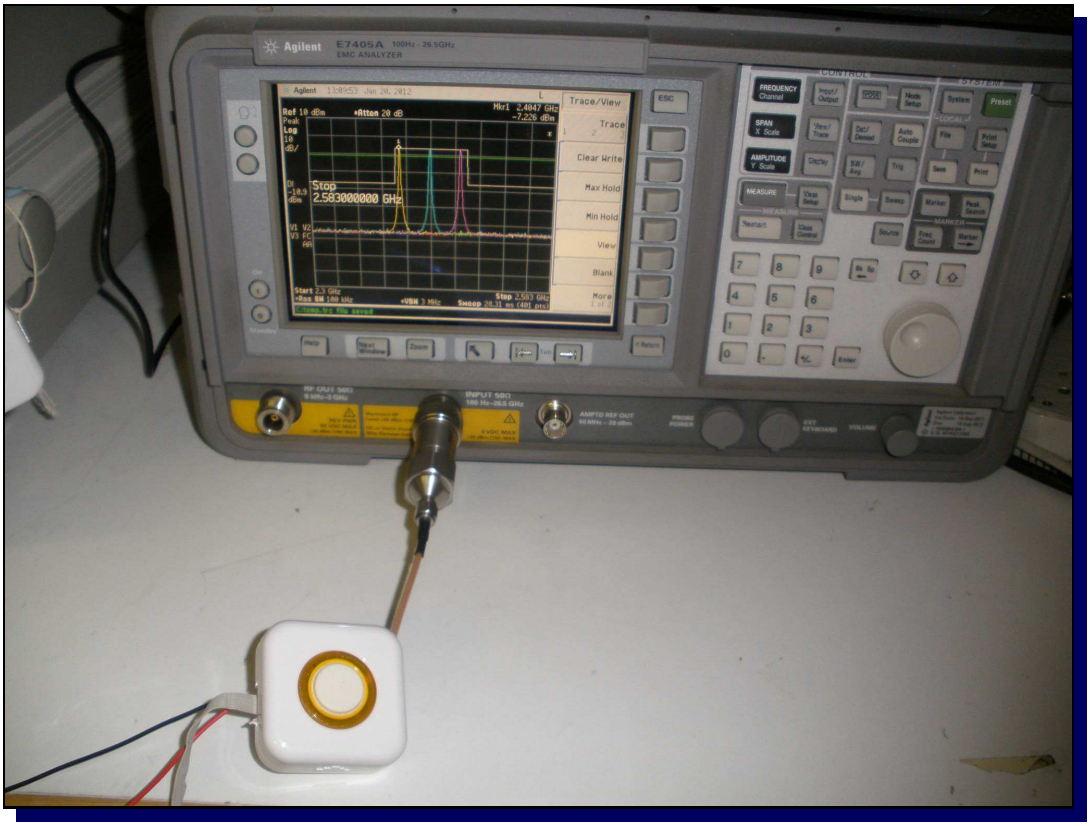
Photograph 1 Radiated Emissions - Upright - Front



Photograph 2 Radiated Emissions - Upright - Back



Photograph 3 Radiated Emissions - Flat



Photograph 4 Conducted Antenna

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 Dat	Cal Interval
A19	EMCO 3115 DR Guide (1-18GHz)	2431	25/01/2011	1 year
A20	Alpha 61932500 Horn Antenna (18-26GHz)	050	#1	
A22	Alpha 61932400 Horn Antenna (12.4-18GHz)	055	#1	
A24	Chase X-wing Bilog CBL6144 26MHz-3GHz	27590	18/11/2011	1 year
PRE7	LUCIX 0.1GHz to 20GHz	24485	11/01/2011	1 year
PRE8	LUCIX 18GHz to 26.5GHz	24486	11/01/2011	1 year
R8	Agilent E7405A Spectrum Analyser	MY44212494	19/09/2011	1 year
R9	Agilent E7405A Spectrum Analyser	MY45110758	21/11/2011	1 year
RFF01	High Pass RF Filter 3GHz to 12.75GHz	01	11/01/2011	1 year
RFF04	Low Pass RF Filter 0MHz to 2GHz	04	11/01/2011	1 year

#1 Standard Gain Horns - Factors derived by calculation from dimensions.

3 Test Methods

3.1 Radiated Emissions

This section describes the general method of performing this test. The specific method used and any deviations from this general method are listed in the appropriate results section.

Initial scans are performed in a semi-anechoic screened room at a distance of up to 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 results of the scans are shown in the plots included at the end of the report. Attempts are made to identify the layout of cables that give highest readings.

Significant emissions identified by the scans are measured on an open area test site at the appropriate test distance using the specified detector function. 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:

if at 434.478MHz receiver reading was 58.8dBuV and combined correction factor = 20.4 (dB/m).

Total field strength = 57.8 + 20.4 = 78.2dBuV/m.

3.2 Conducted Antenna Emissions

This section describes the general method of performing this test. The specific method used and any deviations from this general method are listed in the appropriate results section.

The antenna port of the EUT was connected directly to the input of a spectrum analyser. Sweeps were made over the required frequency ranges with the specified detectors applied.

4 Test Results

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

4.1 Peak Power - 15.247(b)(3)

Test Equipment: R8

Peak Power

Company:	AlertMe.com Ltd	*Product:*	Button
Date:	15/05/2012	*Test Eng:*	Dave Smith
Ports:	Antenna		
Test:	15.247(b)(3		
Ports:			
Test:			

Notes	Comments and Observations

This was performed as a conducted measurement on sample 2.

Results of scans shown in plots 1 to 3.

The method of 558074 D01 DTS Meas Guidance v01 section 5.2.1.2 was applied. The spectrum analysers "band power" measurement was used with a peak detector selected.

Results were as follows:

Channel	Level (dBm)	Limit (dBm)	
11	-0.13	30	PASS
18	0.20	30	PASS
25	0.88	30	PASS

The plots show no significant deviation when the dc power supply is varied between 2.55V and 3.45V.

PASS

Note: these measurements include correction for measurement cable and declared antenna gain.

4.2 Bandwidth - 15.247(a)(2)

Test Equipment: R8

Bandwidth

Company:	AlertMe.com Ltd	*Product:*	Button
Date:	15/05/2012	*Test Eng:*	Dave Smith
Ports:	Antenna		
Test:	15.247(a)(2)		
Ports:			
Test:			

Notes	Comments and Observations

This was performed as a conducted measurement on sample 2.

The method of 558074 D01 DTS Meas Guidance v01 section 5.1.1 was applied.

Results of scans shown in plots 4 to 6.

The results are as follows:

Channel	Measured Bandwidth (MHz)	Limit	
11	1.640	>500kHz	PASS
18	1.610	>500kHz	PASS
25	1.570	>500kHz	PASS

PASS

4.3 Power Spectral Density in 3kHz bw - 15.247(e)

Test Equipment: R8

Spectral Density

Company:	AlertMe.com Ltd	*Product:*	Button
Date:	15/05/2012	*Test Eng:*	Dave Smith
Ports:	Antenna		
Test:	15.247(e)		
Ports:			
Test:			

Notes	Comments and Observations
	This was performed as a conducted measurement on sample 2. The method of 558074 D01 DTS Meas Guidance v01 section 5.3.1 was applied. As specified, measurements were made with a RBW of 100kHz and an additional CF of -15.2dB applied to convert to dBm/3kHz. Results of scans shown in plots 7 to 9. In all cases the spectral density is below 8dBm/3kHz. **PASS**

4.4 Antenna Conducted Spurious Emissions using 100kHz bw - 15.247(d)

Test Equipment: R8

Conducted Emissions (Signal)

Company:	AlertMe.com Ltd	*Product:*	Button
Date:	19/01/2012	*Test Eng:*	Dave Smith
Ports:	Antenna		
Test:	15.247(d)		
Ports:			
Test:			

Notes	Comments and Observations

This was performed as a conducted measurement on sample 2.

The method of 558074 D01 DTS Meas Guidance v01 section 5.4.1 was applied.

Results of scans shown in plots 10 to 14

Frequency	Tx Ch	Level	Level w.r.t Fundamental	Limit	Margin	
MHz		*dBm*	*dB*	*dB*	*dB*	
2.4050	*Ch 11*	*-7.4*				
2.4000	Ch 11	-46.7	-39.3	-20	19.3	PASS
4.8094	Ch 11	-24.6	-17.2	-20	-2.8	N/A *
2.4400	*Ch 18*	*-5.5*				
4.8794	Ch 18	-25.1	-19.6	-20	-0.4	N/A *
2.4750	*Ch 25*	*-5.3*				
2.4835	Ch 25	-50.1	-44.7	-20	24.7	PASS
4.9494	Ch 25	-27.8	-22.5	-20	2.5	N/A *

* This emission falls within a restricted band and was therefore also measured as a radiated test using the limits of 15.209. Providing an emission meets the radiated limits of 15.209 there is no requirement to additionally meet -20dBc conducted limit.

PASS

4.5 Radiated Emissions - Channel 11 - 15.209

Factor Set 1: A19_3m_11A PRE7_CBL052_CBL093_11A RFF01_11A -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A19 PRE8 PRE7 RFF01 RFF04 A20 A22 A24

Radiated Emissions

Company: AlertMe.com Ltd *Product:* Button
Date: 11/01/2012 *Test Eng:* Dave Smith
Ports:
Test: ANSI C63.4:2003 using limits of 15.209
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 15.209 dBuV/m	Margin 15.209 dB	Notes
18	1	0	1.5	1	4809.375	V	69.4	-5.4		64.0	80.0	16.0	pk
18	1	0	1.5	1	4809.375	V	61.0	-5.4		55.6	60.0	4.4	avg
18	1	0	1.5	1	4809.375	H	69.6	-5.4		64.2	80.0	15.8	pk
18	1	0	1.5	1	4809.375	H	61.2	-5.4		55.8	60.0	4.2	avg
19	1	0	1.5	1	7214.200	V	55.8	-1.4		54.4	80.0	25.6	pk
19	1	0	1.5	1	7214.200	V	46.8	-1.4		45.4	60.0	14.6	avg
19	1	0	1.5	1	7214.200	H	56.2	-1.4		54.8	80.0	25.2	pk
19	1	0	1.5	1	7214.200	H	46.8	-1.4		45.4	60.0	14.7	avg

Results	**Minimum Margin**	**4.2 dB**	
	PASS/FAIL	**PASS**	

Notes	Comments and Observations
	Results of scans shown in plots 15 to 25. Measurements made using 1MHz RBW. VBW set to 3MHz for peak measurements and 30Hz for average measurements. Because in normal use the transmission is pulsed, with a total on period of no more than 10msec in a 100msec period, the average measurements could be reduced further by a factor of 20dB (20*log(0.1)) to give an increased margin against the average limits.

4.6 Radiated Emissions - Channel 18 - 15.209

Factor Set 1: A19_3m_11A PRE7_CBL052_CBL093_11A RFF01_11A -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A19 PRE8 PRE7 RFF01 RFF04 A20 A22 A24

Radiated Emissions

Company: AlertMe.com Ltd *Product:* Button
Date: 11/01/2012 *Test Eng:* Dave Smith
Ports:
Test: ANSI C63.4:2003 using limits of 15.209
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 15.209 dBuV/m	Margin 15.209 dB	Notes
18	1	0	1.5	1	4879.439	V	69.9	-5.1		64.8	80.0	15.2	pk
18	1	0	1.5	1	4879.439	V	61.5	-5.1		56.4	60.0	3.6	avg
18	1	0	1.5	1	4879.439	H	69.6	-5.1		64.5	80.0	15.5	pk
18	1	0	1.5	1	4879.439	H	61.2	-5.1		56.1	60.0	3.9	avg
19	1	0	1.5	1	7319.125	V	59.5	-0.6		58.9	80.0	21.1	pk
19	1	0	1.5	1	7319.125	V	50.3	-0.6		49.7	60.0	10.3	avg
19	1	0	1.5	1	7319.125	H	59.6	-0.6		59.0	80.0	21.0	pk
19	1	0	1.5	1	7319.125	H	50.4	-0.6		49.8	60.0	10.2	avg

Results **Minimum Margin** **3.6 dB**
PASS/FAIL **PASS**

Notes	Comments and Observations

Results of scans shown in plots 15 to 25.

Measurements made using 1MHz RBW. VBW set to 3MHz for peak measurements and 30Hz for average measurements.

Because in normal use the transmission is pulsed, with a total on period of no more than 10msec in a 100msec period, the average measurements could be reduced further by a factor of 20dB (20*log(0.1)) to give an increased margin against the average limits.

4.7 Radiated Emissions - Channel 25 - 15.209

Factor Set 1: A19_3m_11A PRE7_CBL052_CBL093_11A RFF01_11A -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A19 PRE8 PRE7 RFF01 RFF04 A20 A22 A24

Radiated Emissions

Company: AlertMe.com Ltd *Product:* Button
Date: 11/01/2012 *Test Eng:* Dave Smith
Ports:
Test: ANSI C63.4:2003 using limits of 15.209
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 15.209 dBuV/m	Margin 15.209 dB	Notes
18	1	0	1.5	1	4949.410	V	69.8	-5.1		64.7	80.0	15.3	pk
18	1	0	1.5	1	4949.410	V	60.9	-5.1		55.8	60.0	4.2	avg
18	1	0	1.5	1	4949.410	H	67.8	-5.1		62.7	80.0	17.3	pk
18	1	0	1.5	1	4949.410	H	59.1	-5.1		53.9	60.0	6.1	avg
19	1	0	1.5	1	7427.142	V	63.7	0.0		63.7	80.0	16.3	pk
19	1	0	1.5	1	7427.142	V	54.3	0.0		54.4	60.0	5.6	avg
19	1	0	1.5	1	7427.142	H	62.3	0.0		62.4	80.0	17.6	pk
19	1	0	1.5	1	7427.142	H	52.2	0.0		52.2	60.0	7.8	avg

Results **Minimum Margin** **4.2 dB**
PASS/FAIL **PASS**

Notes	Comments and Observations

Results of scans shown in plots 15 to 25.

Measurements made using 1MHz RBW. VBW set to 3MHz for peak measurements and 30Hz for average measurements.

Because in normal use the transmission is pulsed, with a total on period of no more than 10msec in a 100msec period, the average measurements could be reduced further by a factor of 20dB (20*log(0.1)) to give an increased margin against the average limits.

4.8 Radiated Emissions - Band Edge - Channel 25 - 15.209

Factor Set 1: A19_3m_11A CBL059_CBL018_CBL065_CBL060_10A - -
Factor Set 2: - - - -
Factor Set 3: - - - -
Test Equipment: R8 A19

Radiated Emissions

Company: AlertMe.com Ltd *Product:* Button
Date: 11/01/2012 *Test Eng:* Dave Smith
Ports:
Test: ANSI C63.4:2003 using limits of 15.209
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 15.209 dBuV/m	Margin 15.209 dB	Notes
	Fundamental - channel 18												
17	1	0	1.5	1	2440.250	V	59.7	32.4		92.1	-		
17	1	0	1.5	1	2440.250	H	64.6	32.4		97.0	-		
	Spurious at band edge - channel 25												
25	1	0	1.5	1	2483.500	V	21.2	32.6		53.8	80.0	26.2	pk
25	1	0	1.5	1	2483.500	V	10.7	32.6		43.2	60.0	16.8	avg
25	1	0	1.5	1	2483.500	H	21.6	32.6		54.2	80.0	25.8	pk
25	1	0	1.5	1	2483.500	H	12.8	32.6		45.3	60.0	14.7	avg

Results	**Minimum Margin**	**14.7 dB**	
	PASS/FAIL	**PASS**	

Notes	Comments and Observations

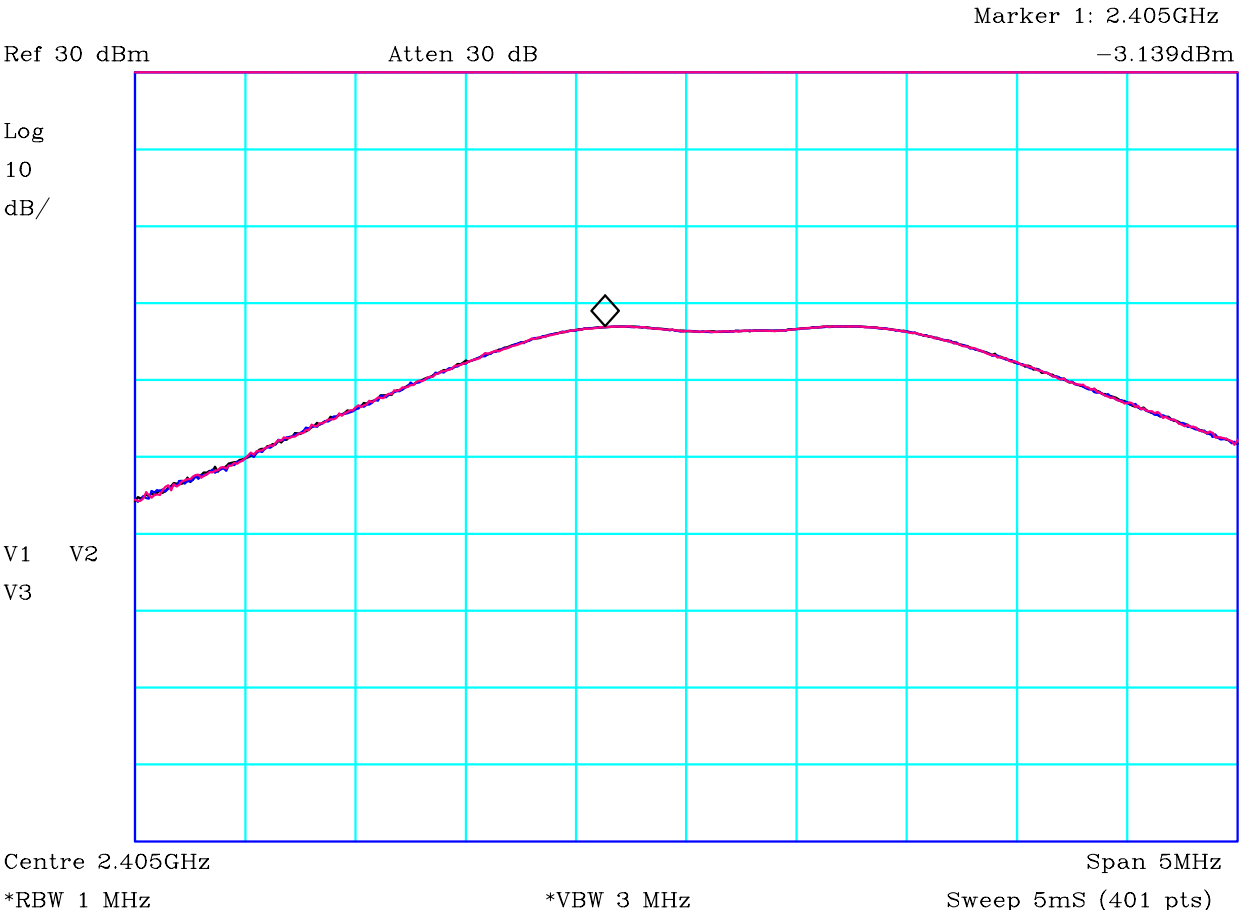
Results of scans shown in plots 17 and 25.

There is no radiated emissions requirement for the fundamental because a conducted antenna measurement was made. The measurement above is for information only.

The lower band edge is not at a restricted band and so was measured as a conducted antenna test.

Measurements made using 1MHz RBW. VBW set to 3MHz for peak measurements and 30Hz for average measurements.

Because in normal use the transmission is pulsed, with a total on period of no more than 10msec in a 100msec period, the average measurements could be reduced further by a factor of 20dB (20*log(0.1)) to give an increased margin against the average limits.

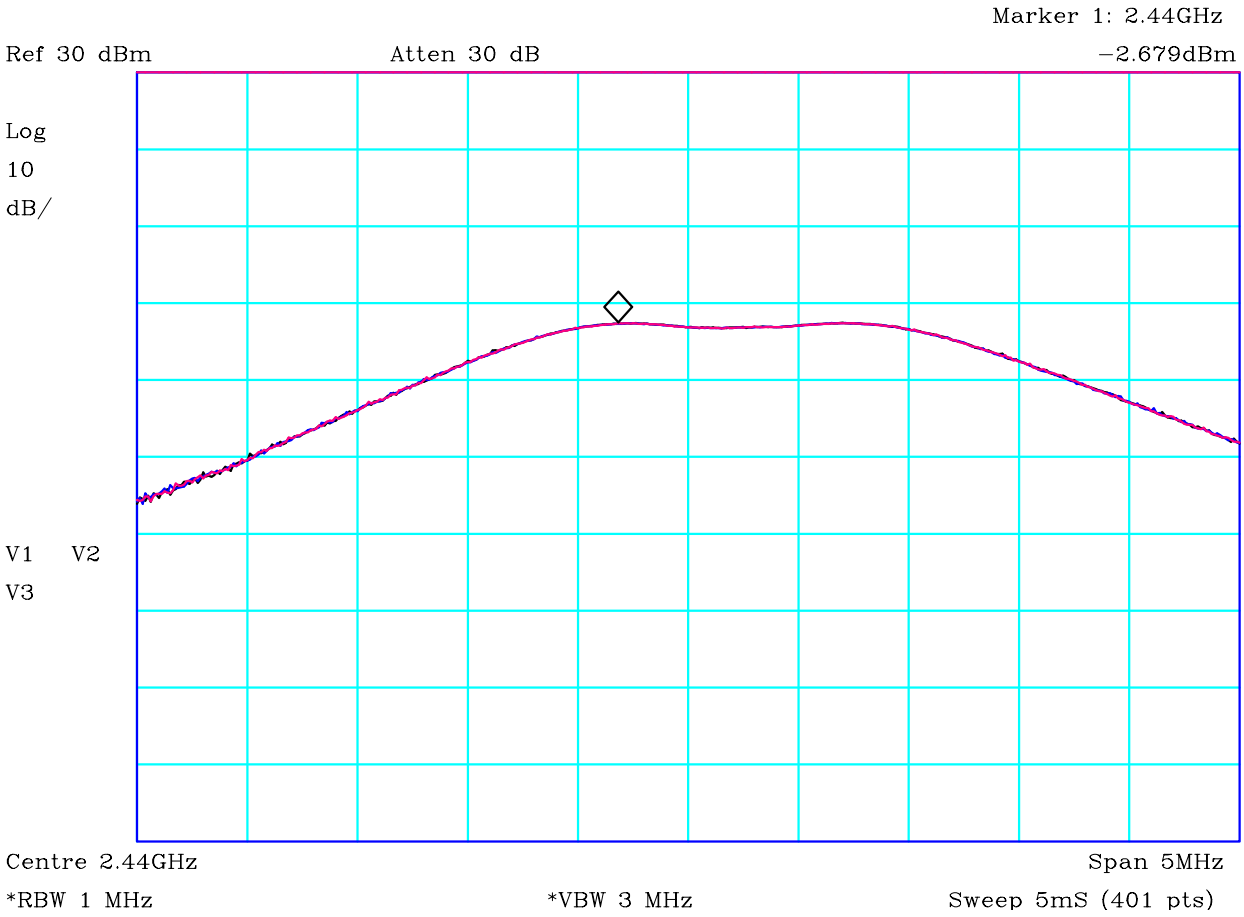


PLOT 1 Peak Power - Channel 11

Company:	Alertme	Product:	Button
Date:	15/05/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	30dBm	Limit2:	
Limit3:		Limit4:	

Channel 11
Band power measured over EBW (-26dB point) using peak detector.
Level = -0.126 dBm which therefore complies with the upper limit of Part 15.247(b)(3) of 30dBm (1W).
Black: 2.55V, Blue: 3.0V, Red: 3.45V

Facility:	GTEM_1	Mode:	1
		Modification State:	0
	File: H2416737		

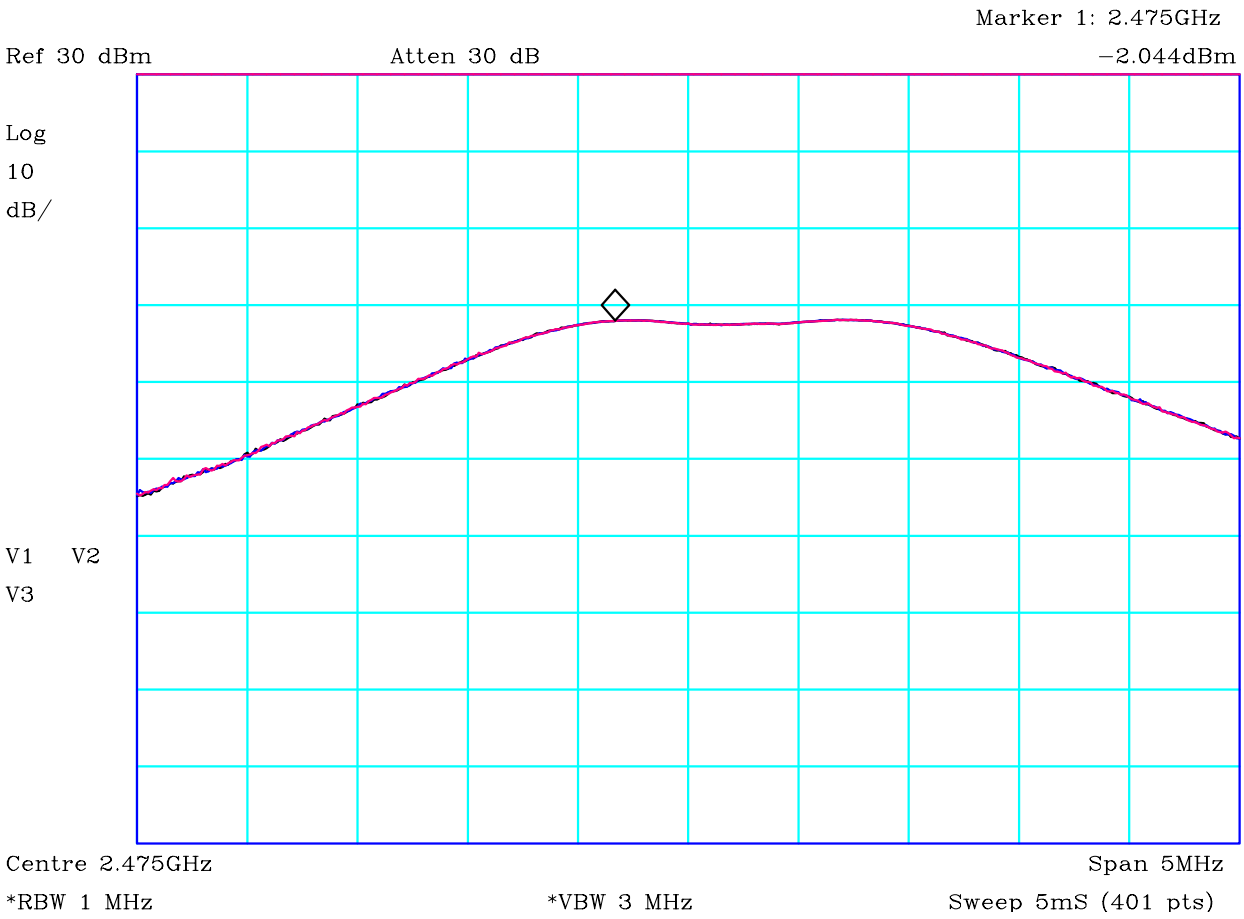


PLOT 2 Peak Power - Channel 18

Company:	Alertme	Product:	Button
Date:	15/05/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	30dBm	Limit2:	
Limit3:		Limit4:	

Channel 18
Band power measured over EBW (-26dB point) using peak detector.
Level = 0.195 dBm which therefore complies with the upper limit of
Part 15.247(b)(3) of 30dBm (1W).
Black: 2.55V, Blue: 3.0V, Red: 3.45V

Facility:	GTEM_1	Mode:	1
		Modification State:	0
	File: H241672E		

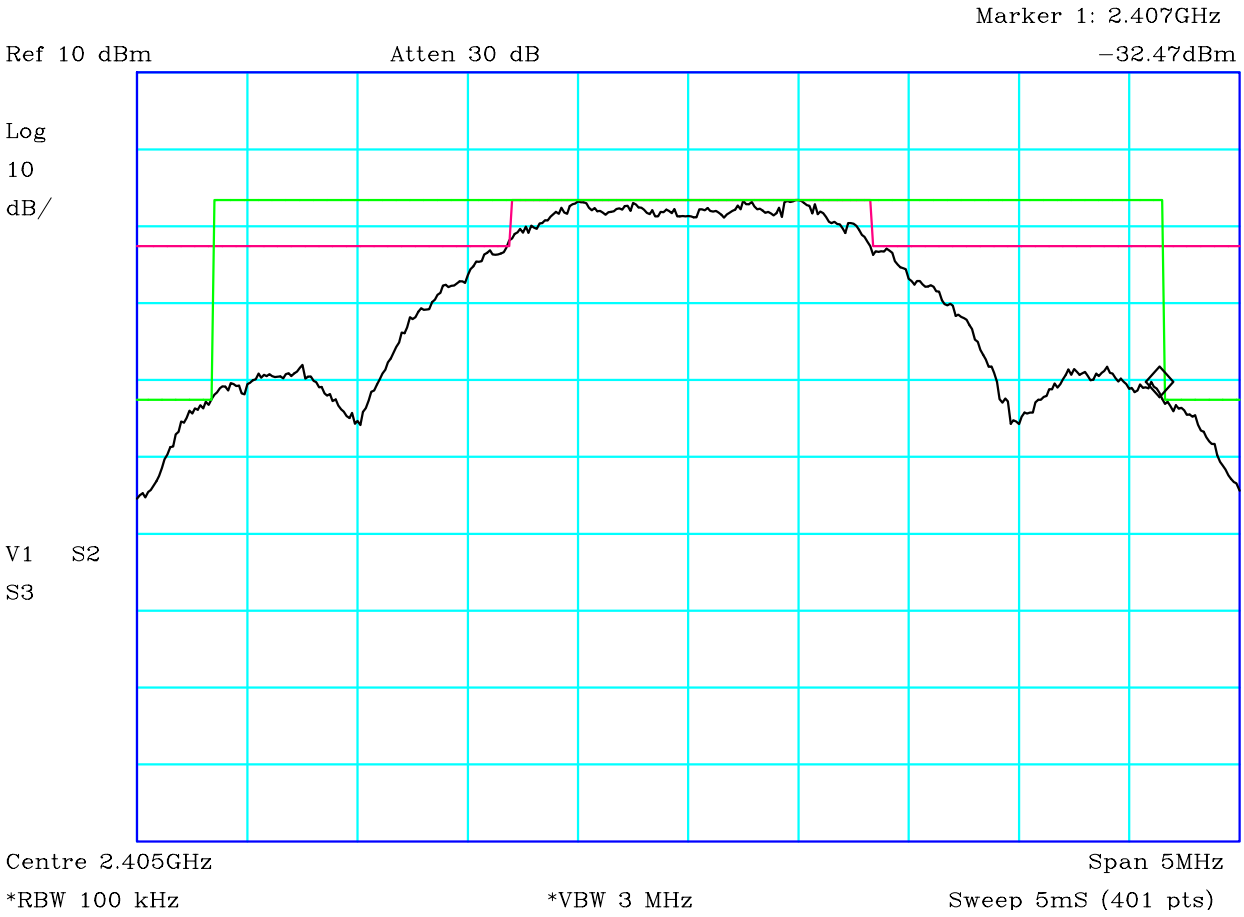


PLOT 3 Peak Power - Channel 25

Company:	Alertme	Product:	Button
Date:	15/05/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	30dBm	Limit2:	
Limit3:		Limit4:	

Channel 25
Band power measured over EBW (-26dB point) using peak detector.
Level = 0.883 dBm which therefore complies with the upper limit of
Part 15.247(b)(3) of 30dBm (1W).
Black: 2.55V, Blue: 3.0V, Red: 3.45V

Facility:	GTEM_1	Mode:	1
		Modification State:	0
	File: H2416734		



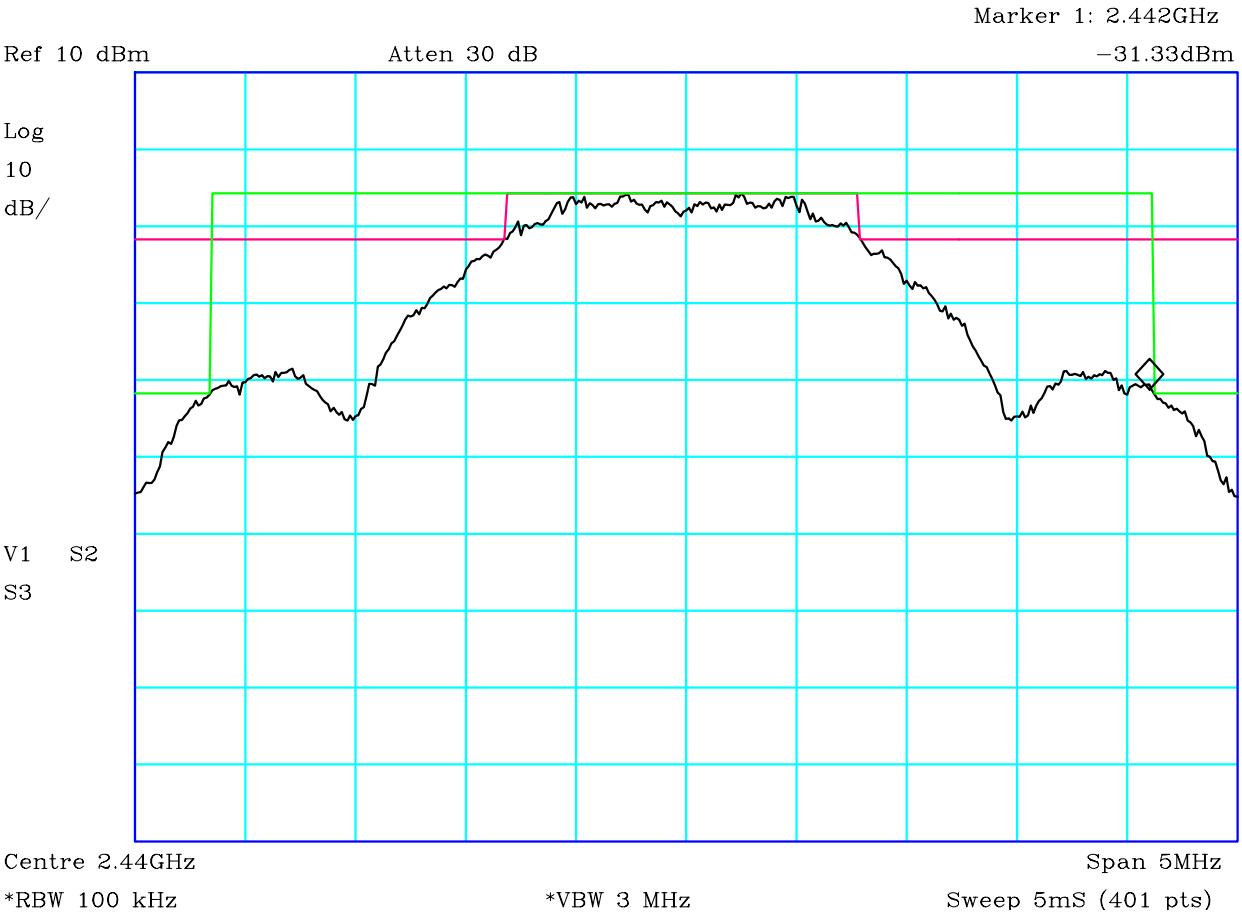
PLOT 4 6dB Bandwidth - Channel 11

Company:	Alertme	Product:	Button
Date:	15/05/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	>500kHz	Limit2:(GRN)	-26dB
Limit3:		Limit4:	

Channel 11

6dB Bandwidth lies between 2.4043875 GHz and 2.4060250GHz.
6dB Bandwidth = 1.64MHz.
26dB Bandwidth = 4.31MHz.
Part 15.247(a)(2) requires the 6dB bandwidth to be more than 500kHz.

Facility:	GTEM_1	Mode:	1
		Modification State:	0
	File: H2416614		



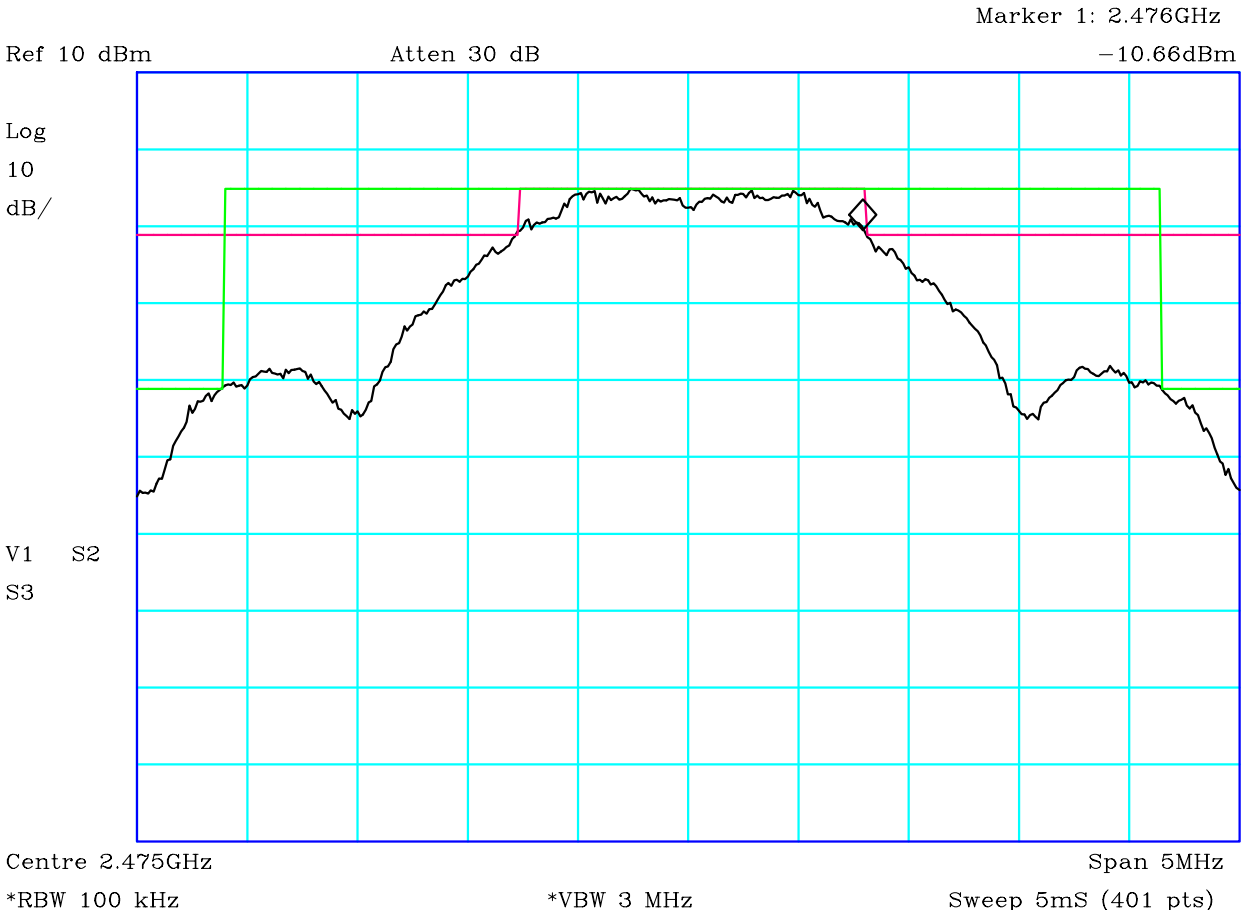
PLOT 5 6dB Bandwidth - Channel 18

Company:	Alertme	Product:	Button
Date:	15/05/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	>500kHz	Limit2:(GRN)	-26dB
Limit3:		Limit4:	

Channel 18

6dB Bandwidth lies between 2.4394000 GHz and 2.4410125GHz.
6dB Bandwidth = 1.61MHz.
26dB Bandwidth = 4.26MHz.
Part 15.247(a)(2) requires the 6dB bandwidth to be more than 500kHz.

Facility:	GTEM_1	Height		Mode:	1
Distance		Polarisation		Modification State:	0
Angle		File:	H2416698		



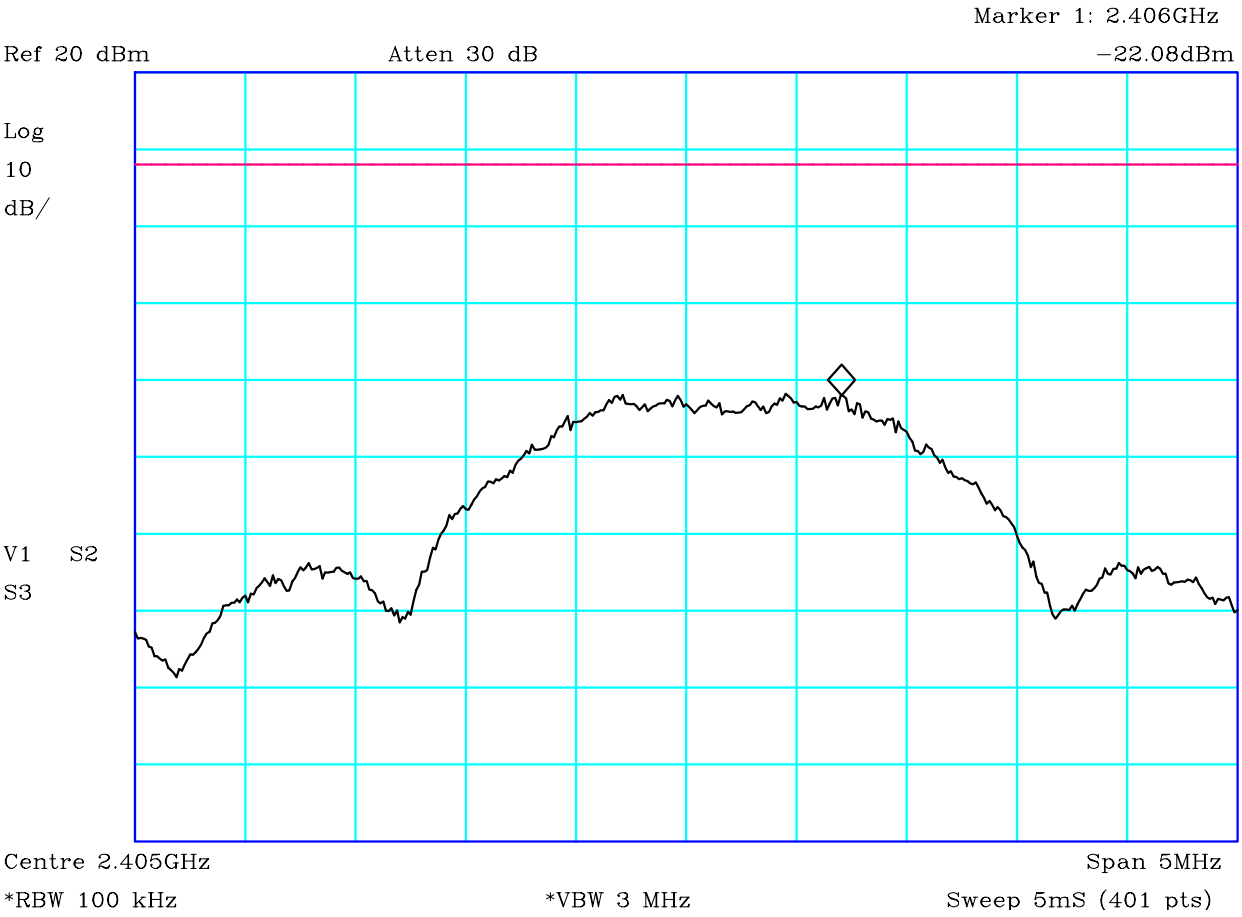
PLOT 6 6dB Bandwidth - Channel 25

Company:	Alertme	Product:	Button
Date:	15/05/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	>500kHz	Limit2:(GRN)	-26dB
Limit3:		Limit4:	

Channel 25

6dB Bandwidth lies between 2.4744250 GHz and 2.4760000GHz.
6dB Bandwidth = 1.57MHz.
26dB Bandwidth = 4.25MHz.
Part 15.247(a)(2) requires the 6dB bandwidth to be more than 500kHz.

Facility:	GTEM_1	Mode:	1
		Modification State:	0
	File: H24166A2		



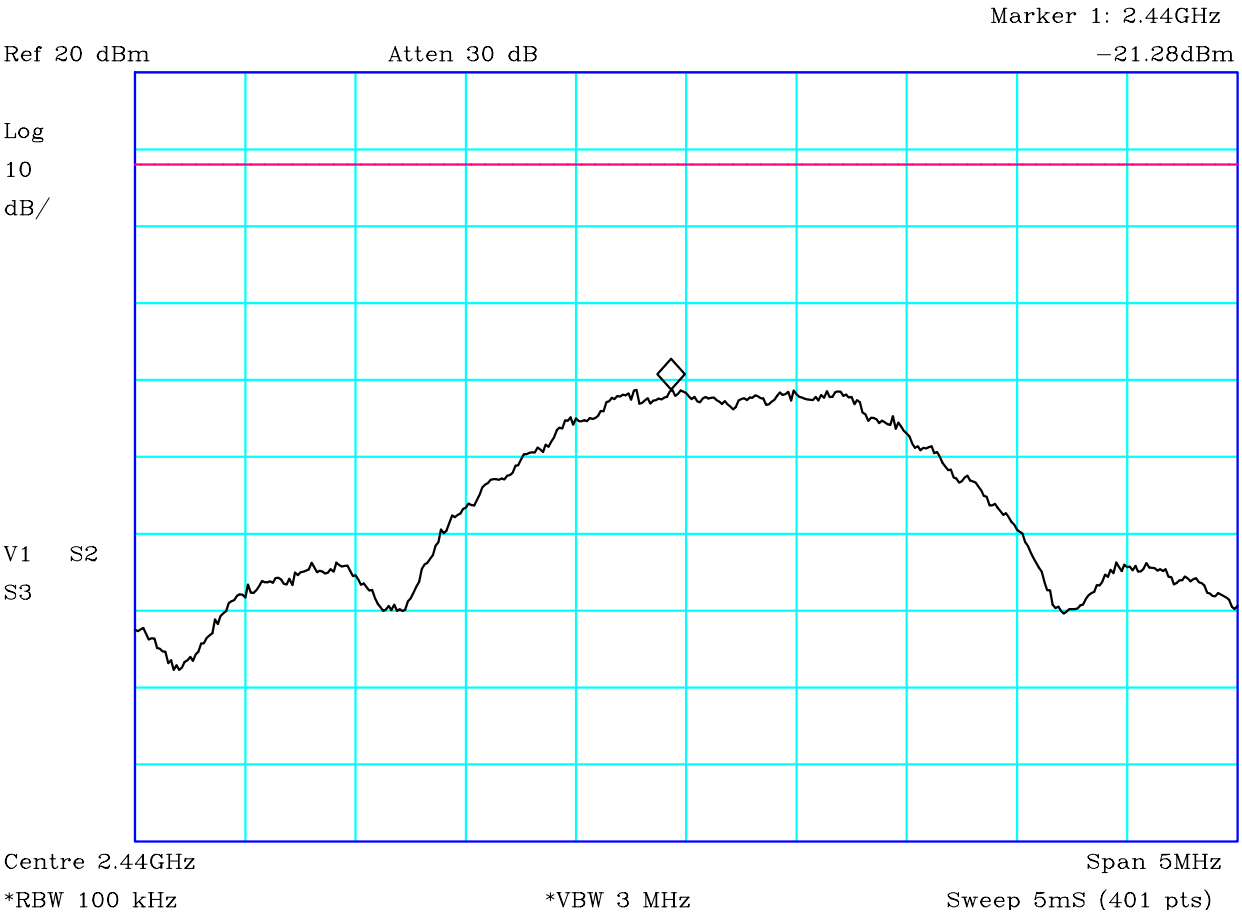
CF1:-15.2

PLOT 7 Spectral Density - Channel 11

Company:	Alertme	Product:	Button
Date:	15/05/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	8dBm/3kHz	Limit2:	
Limit3:		Limit4:	

Channel 11
Maximum spectral density = -22.08 dBm/3kHz
Includes correction factor to convert from 100kHz to 3kHz bandwidth (-15.2dB)
Part 15 Subpart (c) 15.247(e) requires the spectral density to be below 8dBm/3kHz

Facility:	GTEM_1	Mode:	1
		Modification State:	0
	File: H2416742		



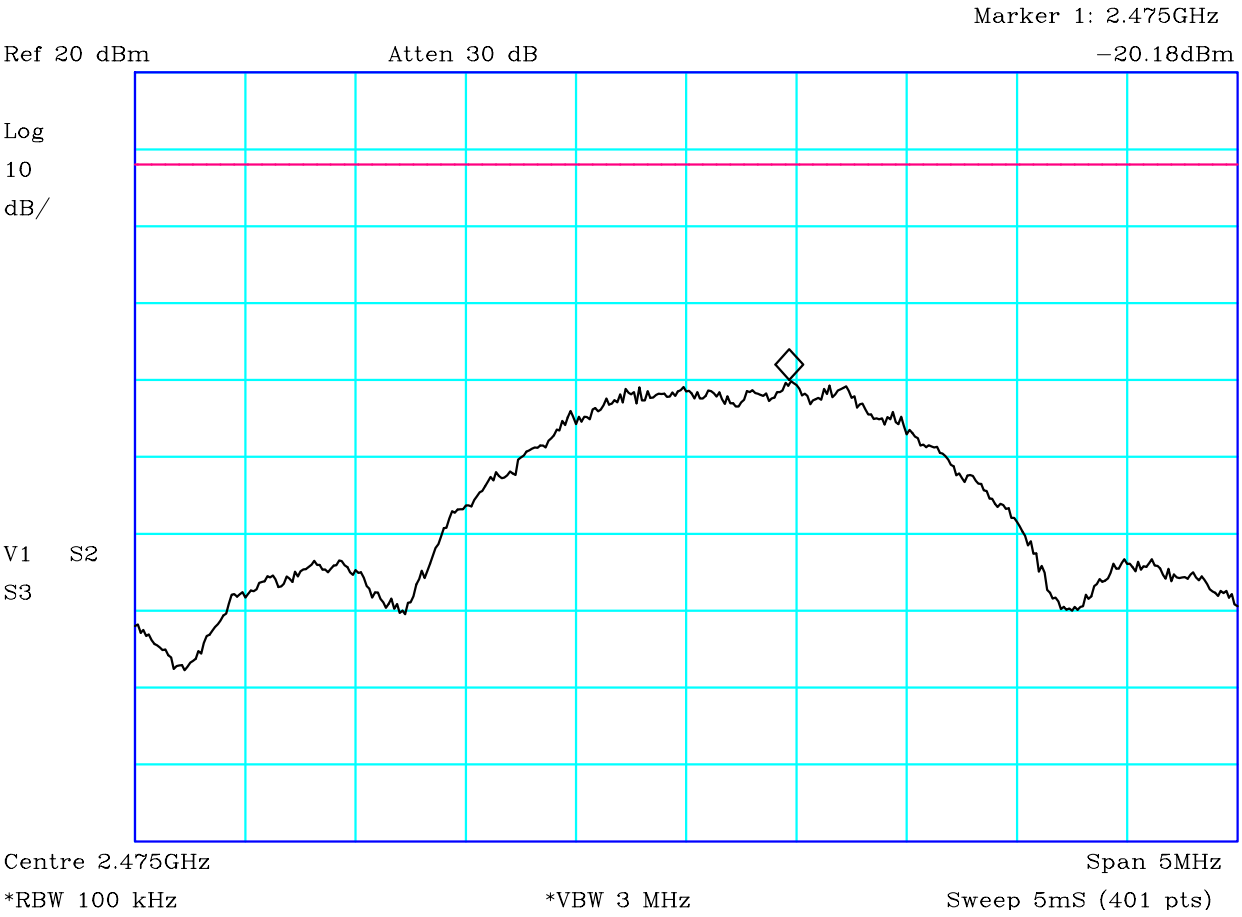
CF1:-15.2

PLOT 8 Spectral Density - Channel 18

Company:	Alertme	Product:	Button
Date:	15/05/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	8dBm/3kHz	Limit2:	
Limit3:		Limit4:	

Channel 18
Maximum spectral density = -21.28 dBm/3kHz
Includes correction factor to convert from 100kHz to 3kHz bandwidth (-15.2dB)
Part 15 Subpart (c) 15.247(e) requires the spectral density to be below
8dBm/3kHz

Facility:	GTEM_1	Mode:	1
		Modification State:	0
	File: H2416744		



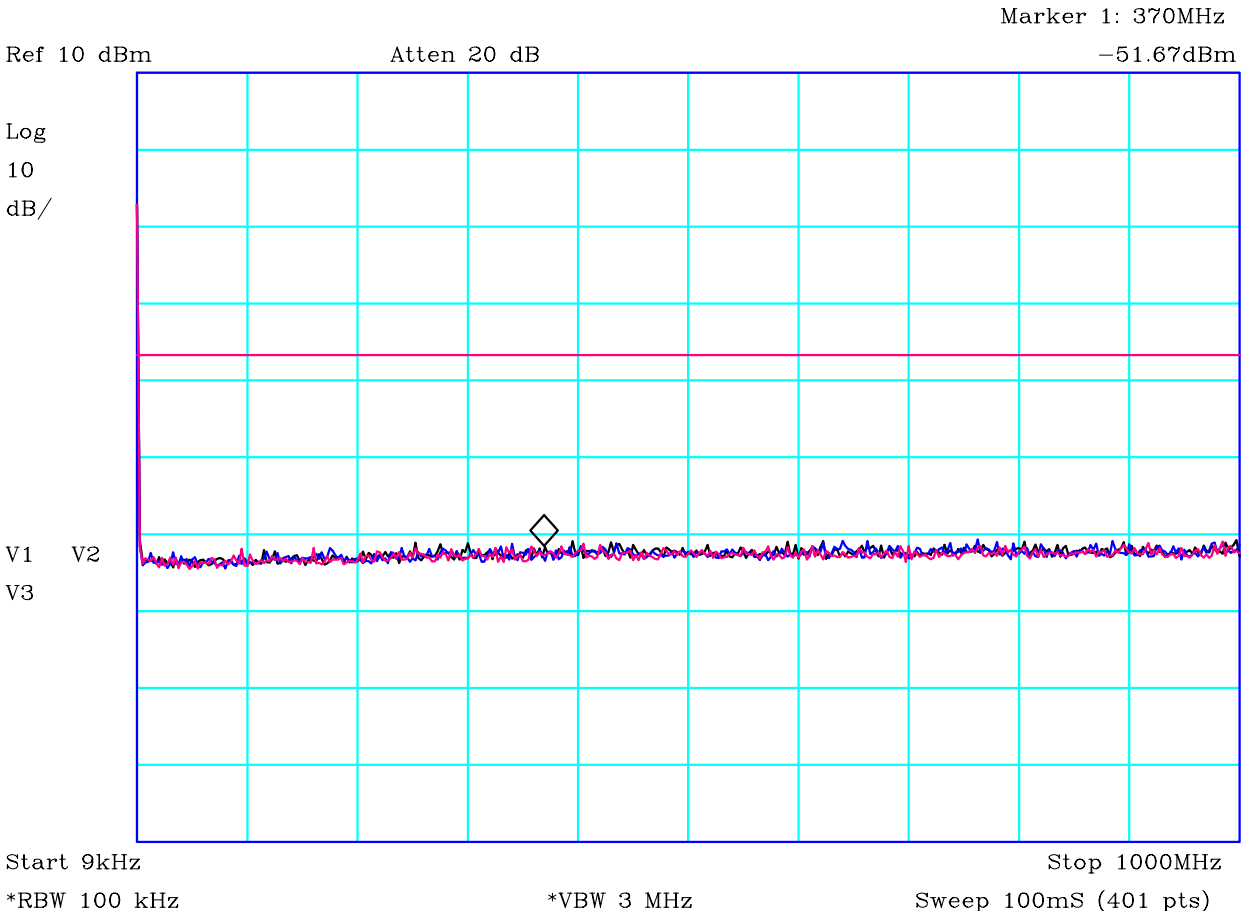
CF1:-15.2

PLOT 9 Spectral Density - Channel 25

Company:	Alertme	Product:	Button
Date:	15/05/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	8dBm/3kHz	Limit2:	
Limit3:		Limit4:	

Channel 25
Maximum spectral density = -20.18 dBm/3kHz
Includes correction factor to convert from 100kHz to 3kHz bandwidth (-15.2dB)
Part 15 Subpart (c) 15.247(e) requires the spectral density to be below 8dBm/3kHz

Facility:	GTEM_1	Mode:	1
		Modification State:	0
	File: H2416746		



CF2:Antenna_dBI

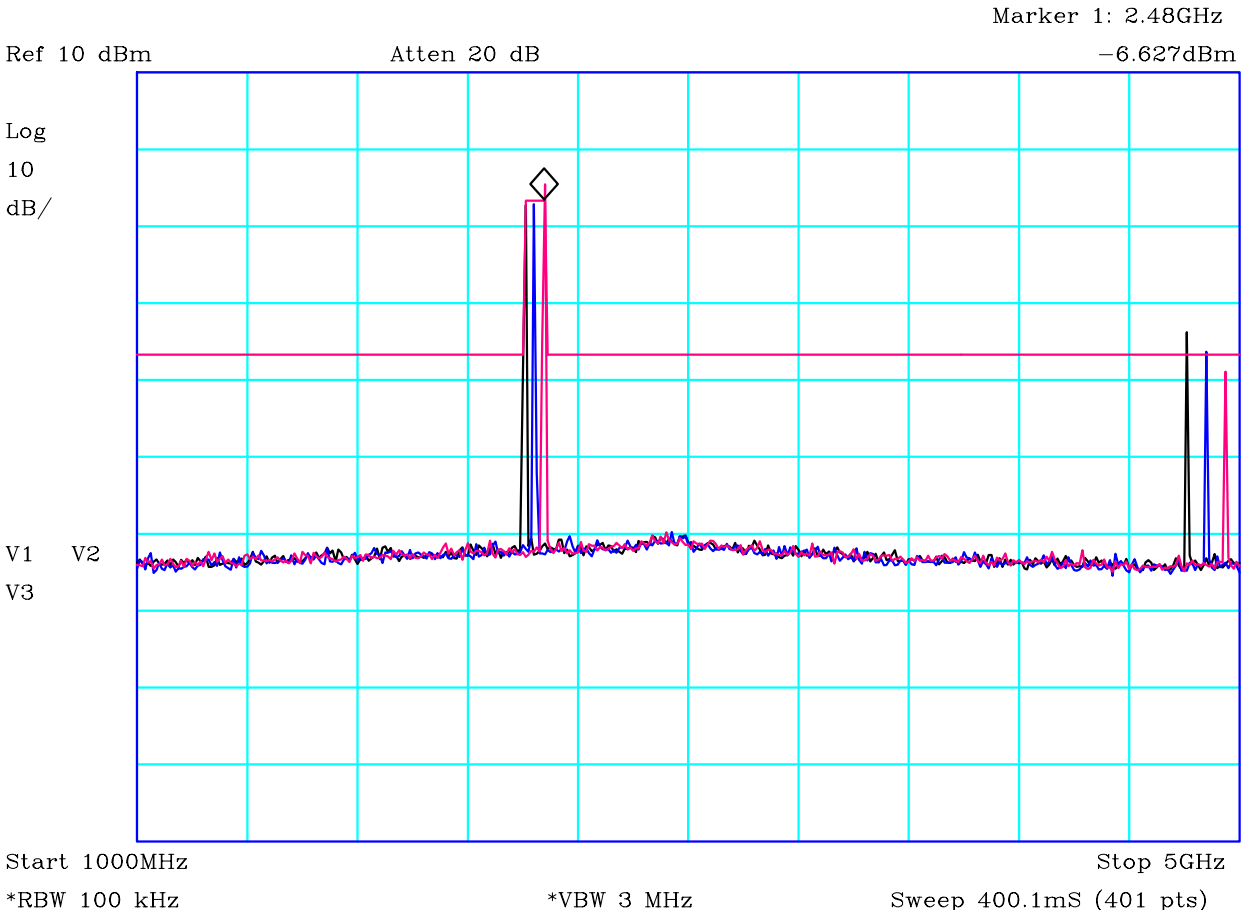
PLOT 10 Antenna Conducted Spurious - 9kHz to 1GHz

Company:	Alertme	Product:	Button
Date:	20/01/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	-20dBc	Limit2:	
Limit3:		Limit4:	

Black = Channel 11
Blue = Channel 18
Red = Channel 25

Part 15 Subpart (c) 15.247(d) requires spurious conducted emissions to be at least 20dB below carrier.

Facility:	ENVIR	Mode:	1
		Modification State:	0
	File: H20205C8		



CF2:Antenna_dBI

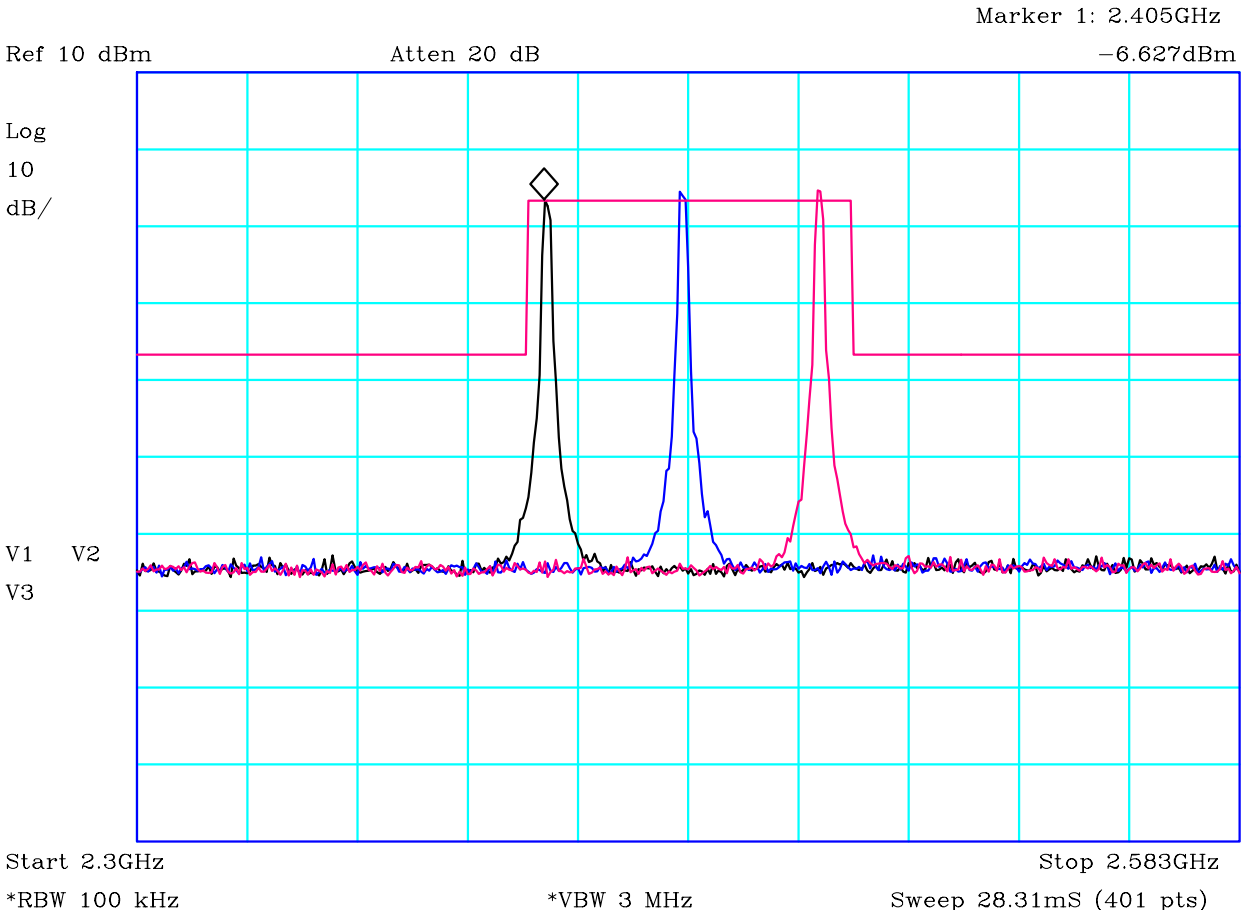
PLOT 11 Antenna Conducted Spurious - 1GHz to 5GHz

Company:	Alertme	Product:	Button
Date:	20/01/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	-20dBc	Limit2:	
Limit3:		Limit4:	

Black = Channel 11
Blue = Channel 18
Red = Channel 25

Part 15 Subpart (c) 15.247(d) requires spurious conducted emissions to be at least 20dB below carrier.
4.8094 GHz: -24.57 dBm, 4.8794375 GHz -25.07 dBm, 4.9494125 GHz: -27.83 dBm

Facility:	ENVIR	Mode:	1
		Modification State:	0
	File: H20205BB		



CF2:Antenna_dBI

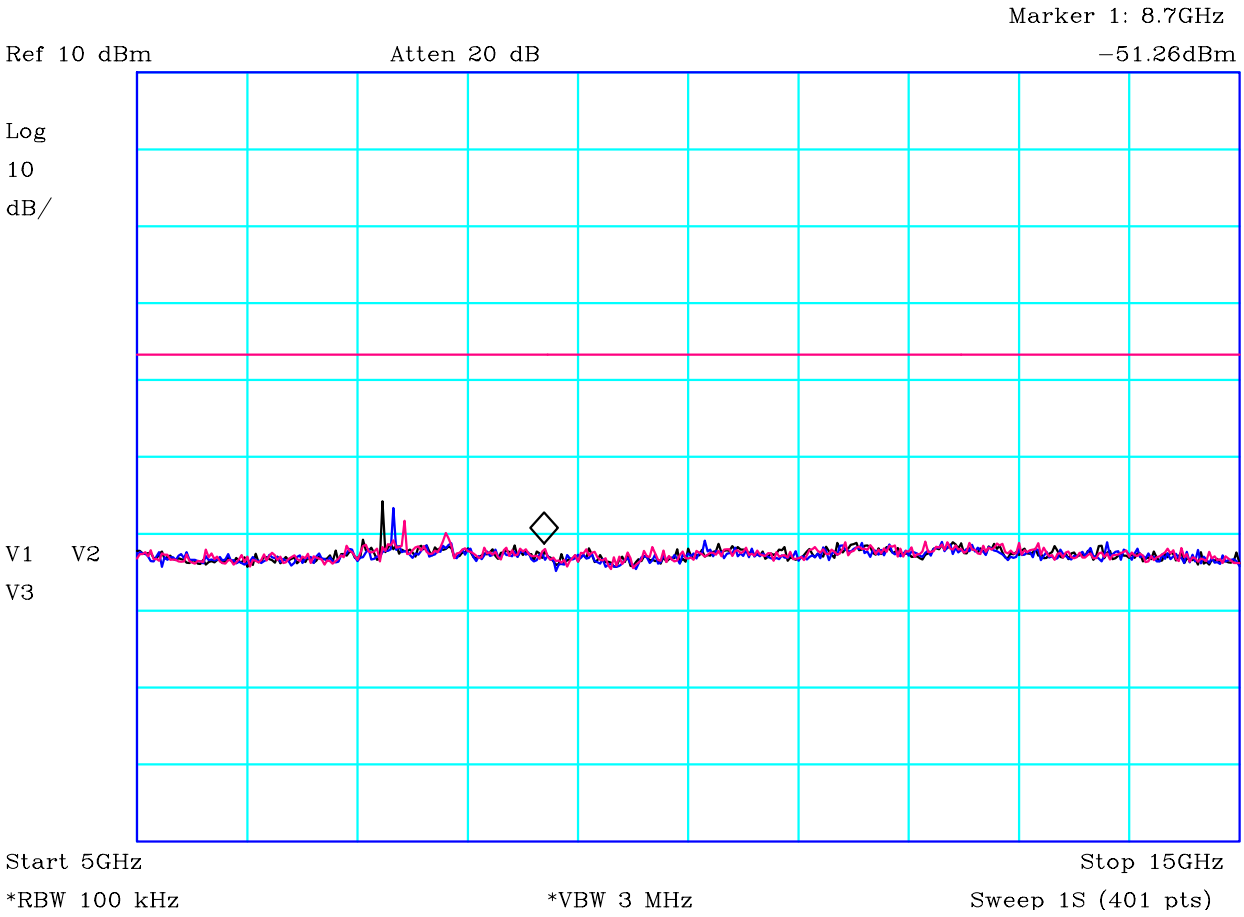
PLOT 12 Antenna Conducted Spurious - 2.3GHz to 2.583GHz

Company:	Alertme	Product:	Button
Date:	20/01/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	-20dBc	Limit2:	
Limit3:		Limit4:	

Black = Channel 11
Blue = Channel 18
Red = Channel 25

Part 15 Subpart (c) 15.247(d) requires spurious conducted emissions to be at least 20dB below carrier.

Facility:	ENVIR	Mode:	1
		Modification State:	0
	File: H20205B7		



CF2:Antenna_dBI

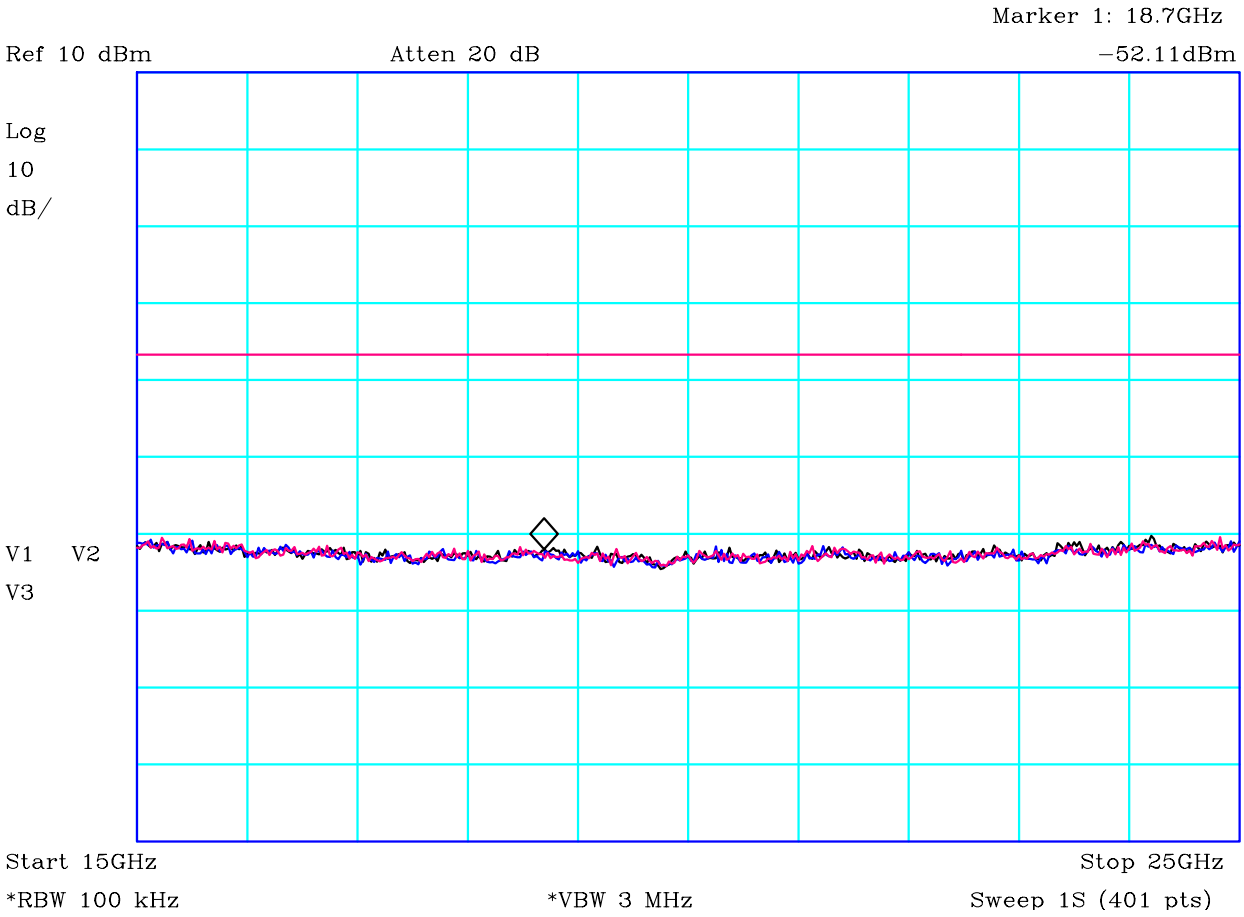
PLOT 13 Antenna Conducted Spurious - 5GHz to 15GHz

Company:	Alertme	Product:	Button
Date:	20/01/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	-20dBc	Limit2:	
Limit3:		Limit4:	

Black = Channel 11
Blue = Channel 18
Red = Channel 25

Part 15 Subpart (c) 15.247(d) requires spurious conducted emissions to be at least 20dB below carrier.

Facility:	ENVIR	Mode:	1
		Modification State:	0
	File: H20205BF		



CF2:Antenna_dBI

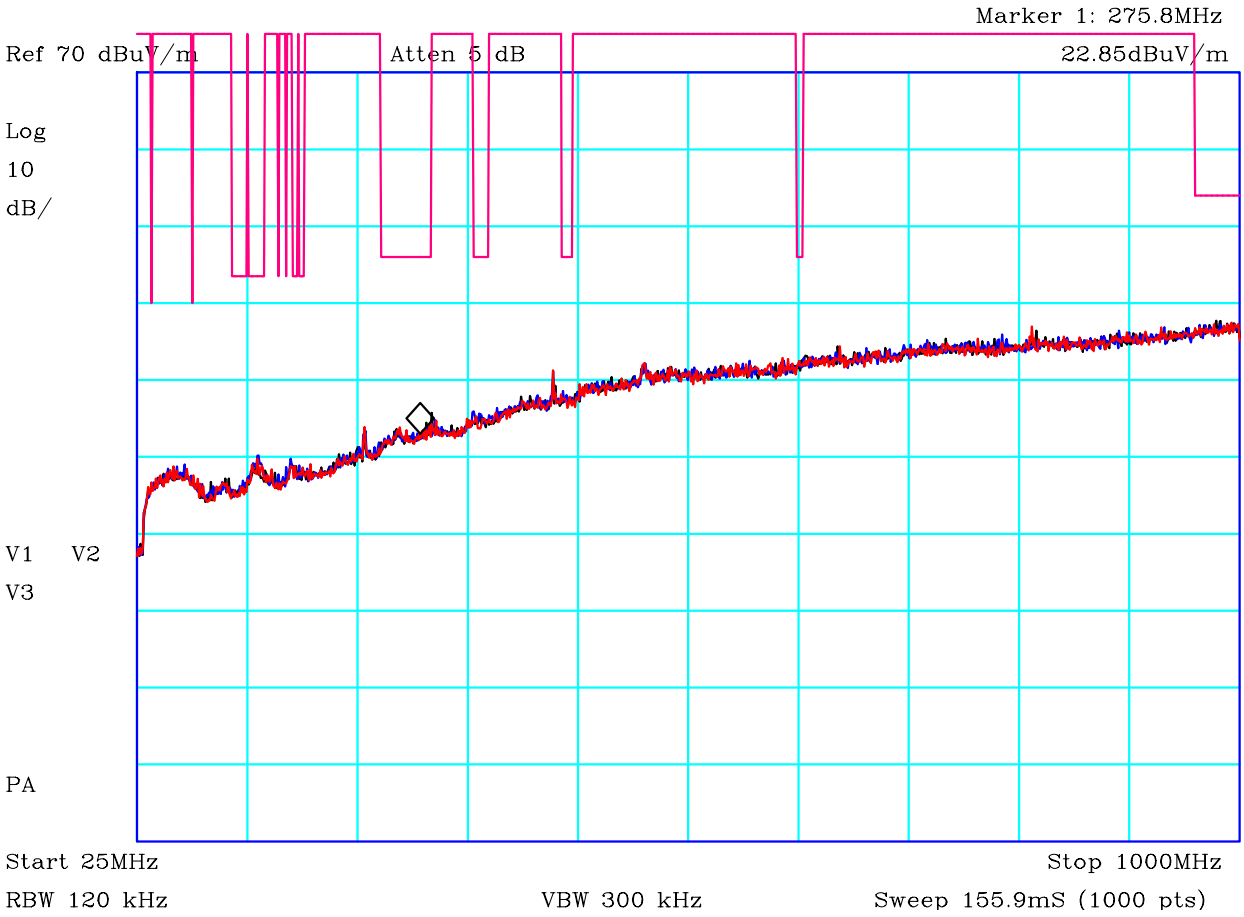
PLOT 14 Antenna Conducted Spurious - 15GHz to 25GHz

Company:	Alertme	Product:	Button
Date:	20/01/2012	Test Eng:	Dave Smith
Method:	D01 DTS Meas Guidance v01	Method:	
Limit1:(VIO)	-20dBc	Limit2:	
Limit3:		Limit4:	

Black = Channel 11
Blue = Channel 18
Red = Channel 25

Part 15 Subpart (c) 15.247(d) requires spurious conducted emissions to be at least 20dB below carrier.

Facility:	ENVIR	Mode:	1
		Modification State:	0
	File: H20205C3		



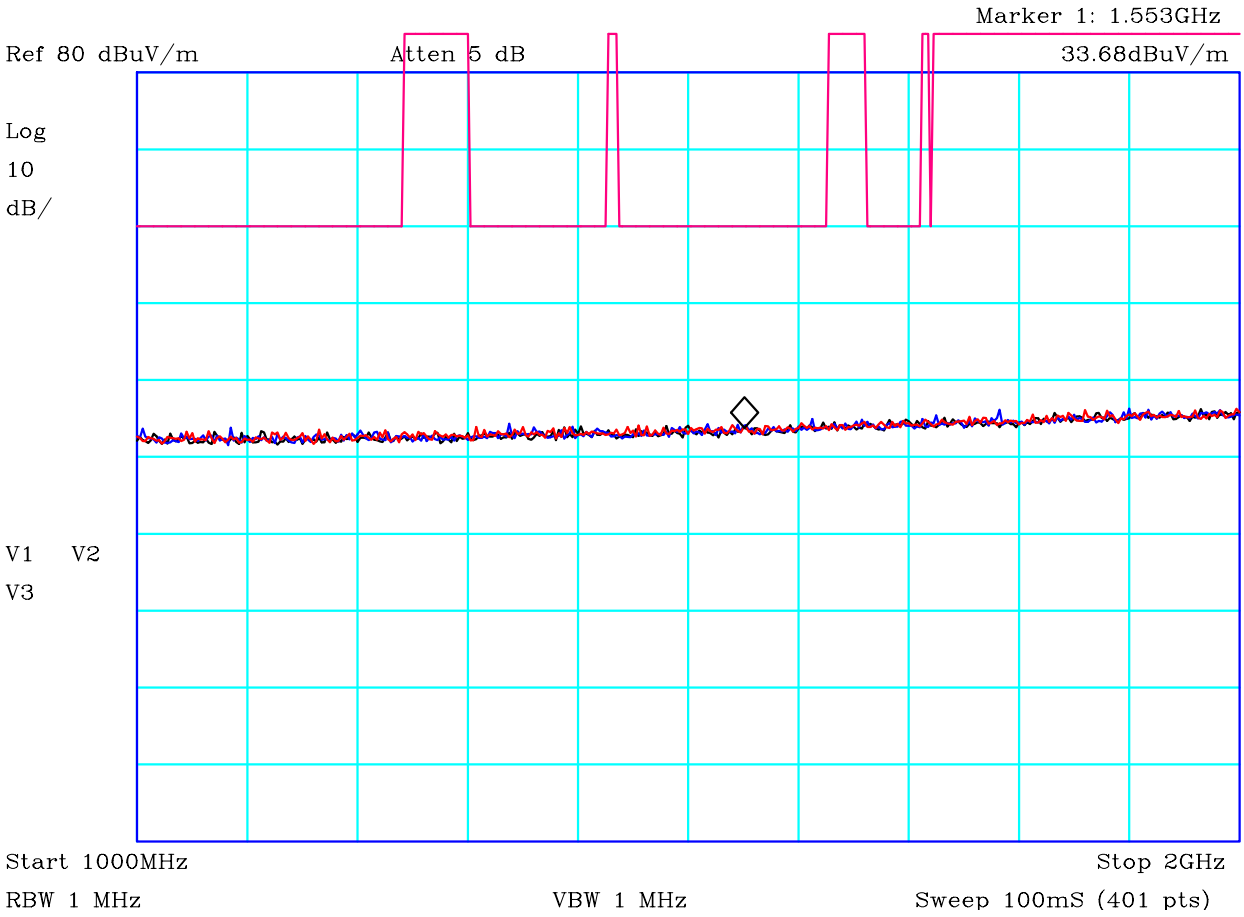
CF1:A24_3m_101116 CF2:CBL059_CBL018_CBL065_CBL060_100806 CF3:RFF01_110112

PLOT 15 Radiated Emissions - 25MHz to 1GHz

Company:	Alertme	Product:	Button
Date:	13/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat

Facility:	Anech_2	Height	1m	Mode:	1
Distance	3m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H201366B		



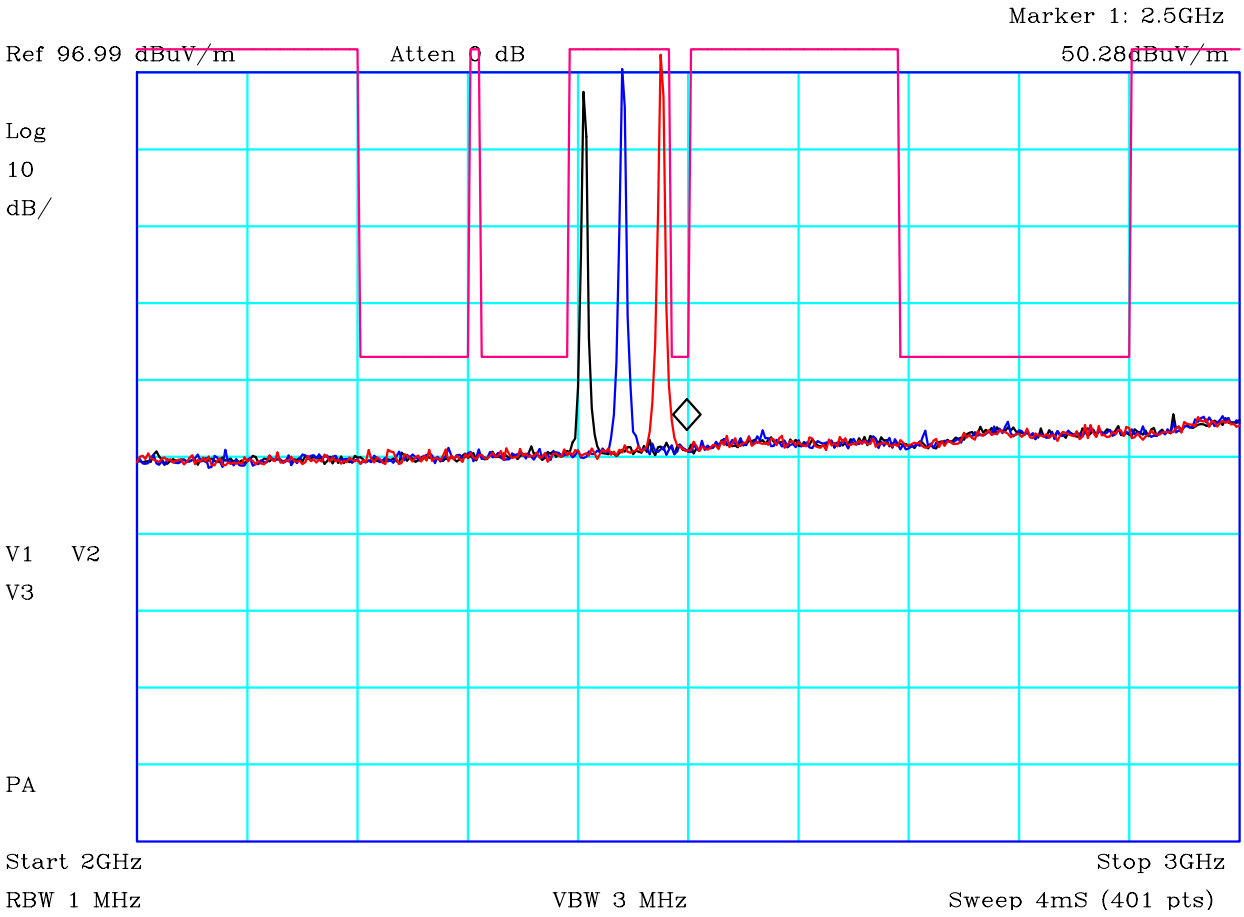
CF1:A19_3m_090306 CF2:PRE7_CBL052_CBL093_110112 CF3:RFF04_110112

PLOT 16 Radiated Emissions - 1GHz to 2GHz

Company:	Alertme	Product:	Button
Date:	13/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H20135B9		



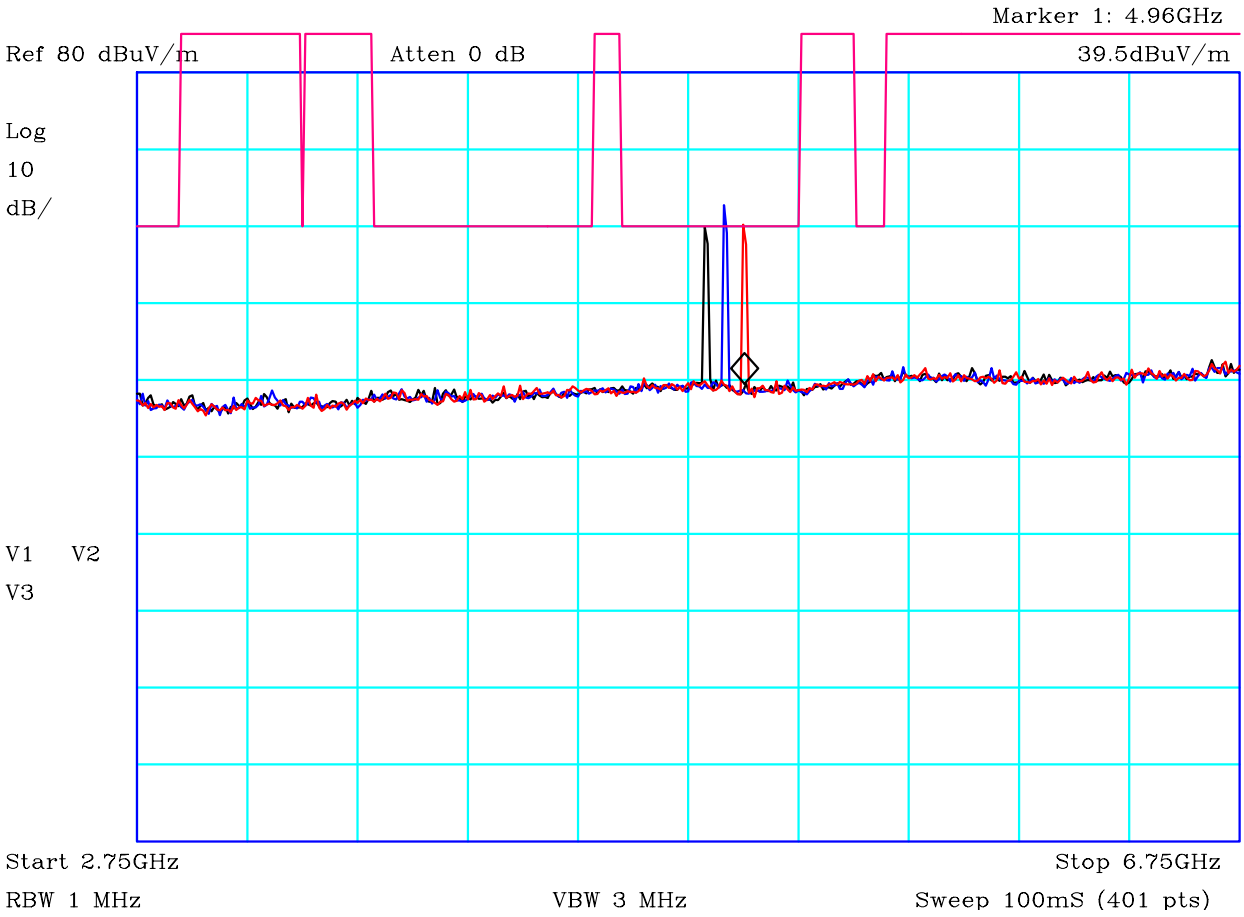
CF1:A19_3m_090306 CF2:CBL050_110107

PLOT 17 Radiated Emissions - 2GHz to 3GHz

Company:	Alertme	Product:	Button
Date:	04/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H2004638		



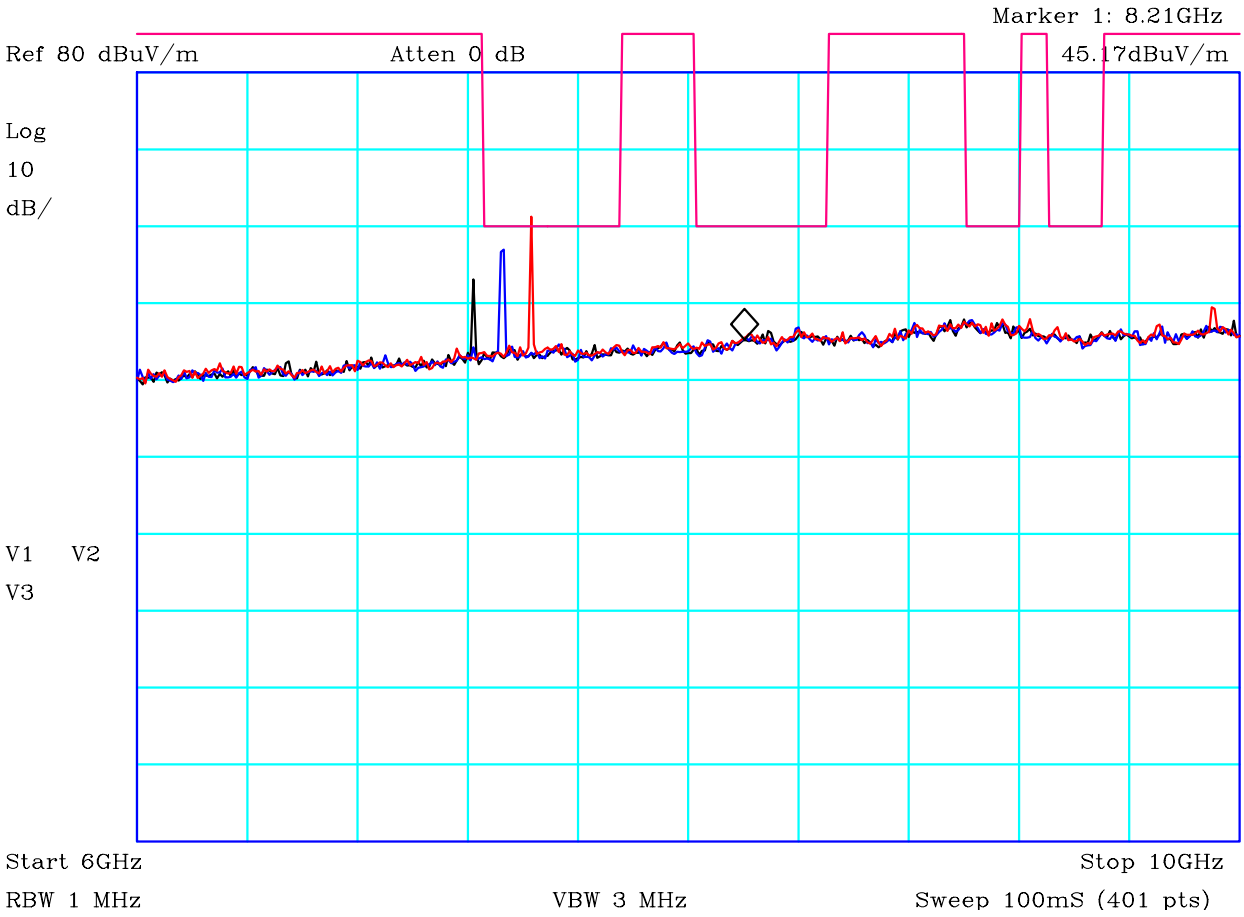
CF1:A19_3m_090306 CF2:PRE7_CBL052_CBL093_110112 CF3:RFF01_110112

PLOT 18 Radiated Emissions - 2.75GHz to 6.75GHz

Company:	Alertme	Product:	Button
Date:	04/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H2004721		



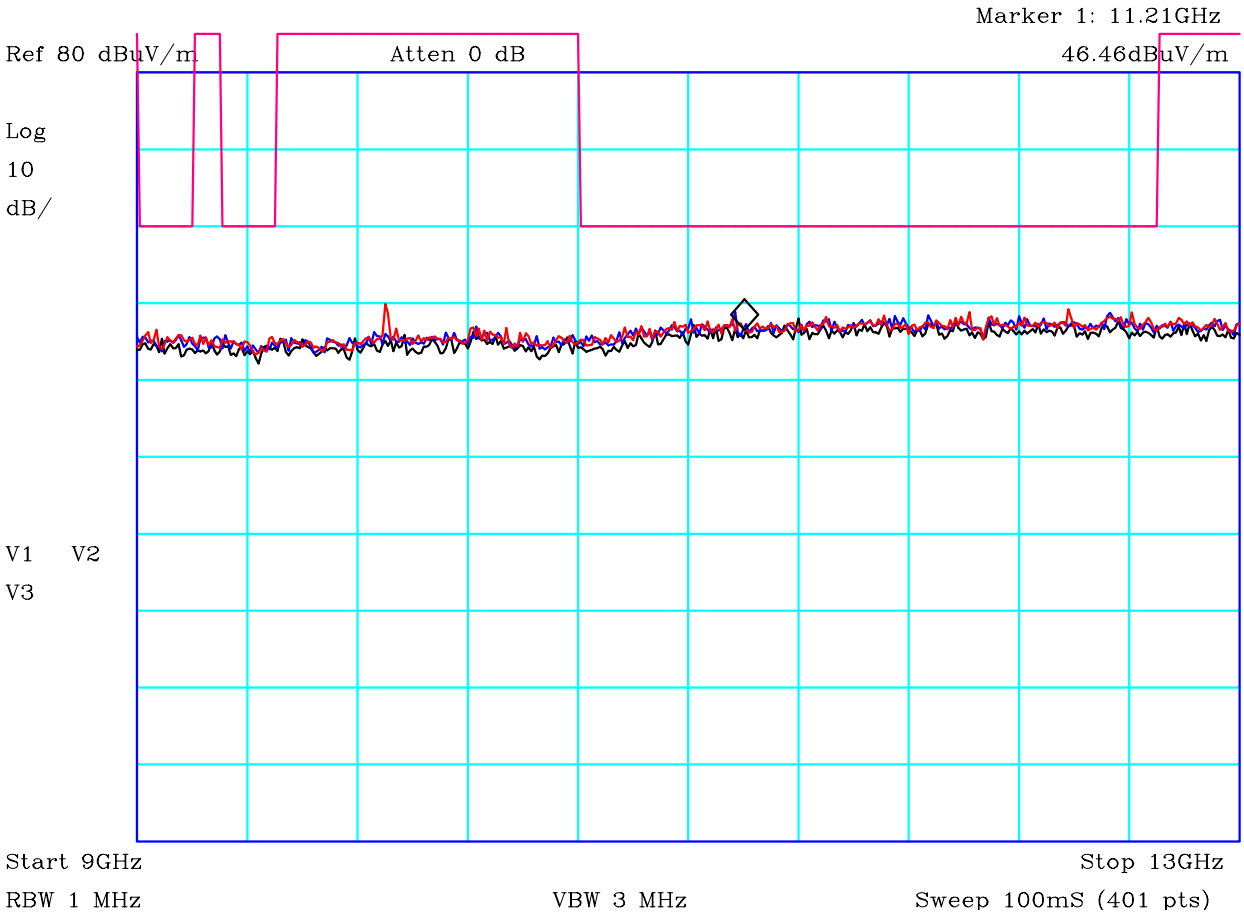
CF1:A19_3m_090306 CF2:PRE7_CBL052_CBL093_110112 CF3:RFF01_110112

PLOT 19 Radiated Emissions - 6GHz to 10GHz

Company:	Alertme	Product:	Button
Date:	04/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H2004742		



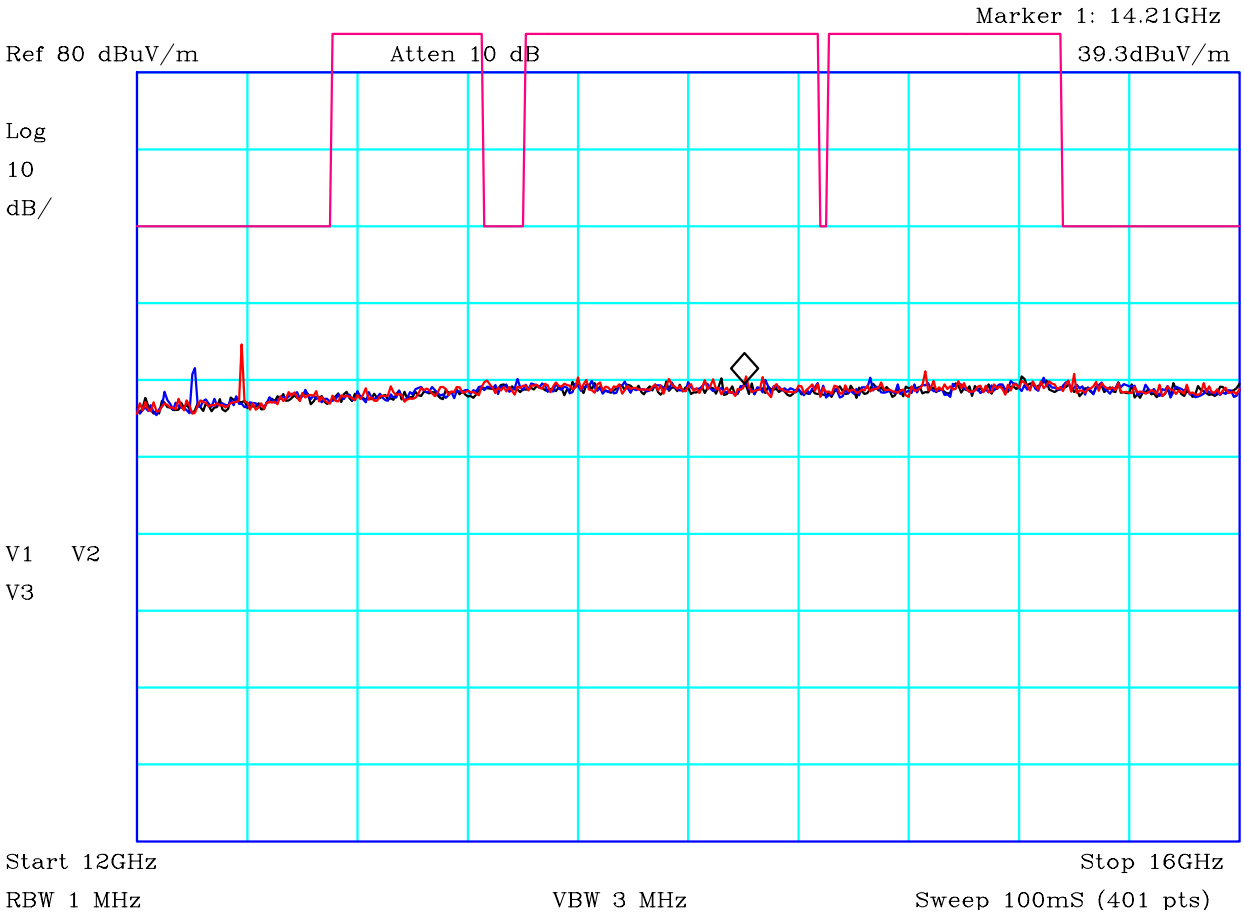
CF1:A19_3m_090306 CF2:PRE7_CBL052_CBL093_110112 CF3:RFF01_110112

PLOT 20 Radiated Emissions - 9GHz to 13GHz

Company:	Alertme	Product:	Button
Date:	05/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H20054EF		



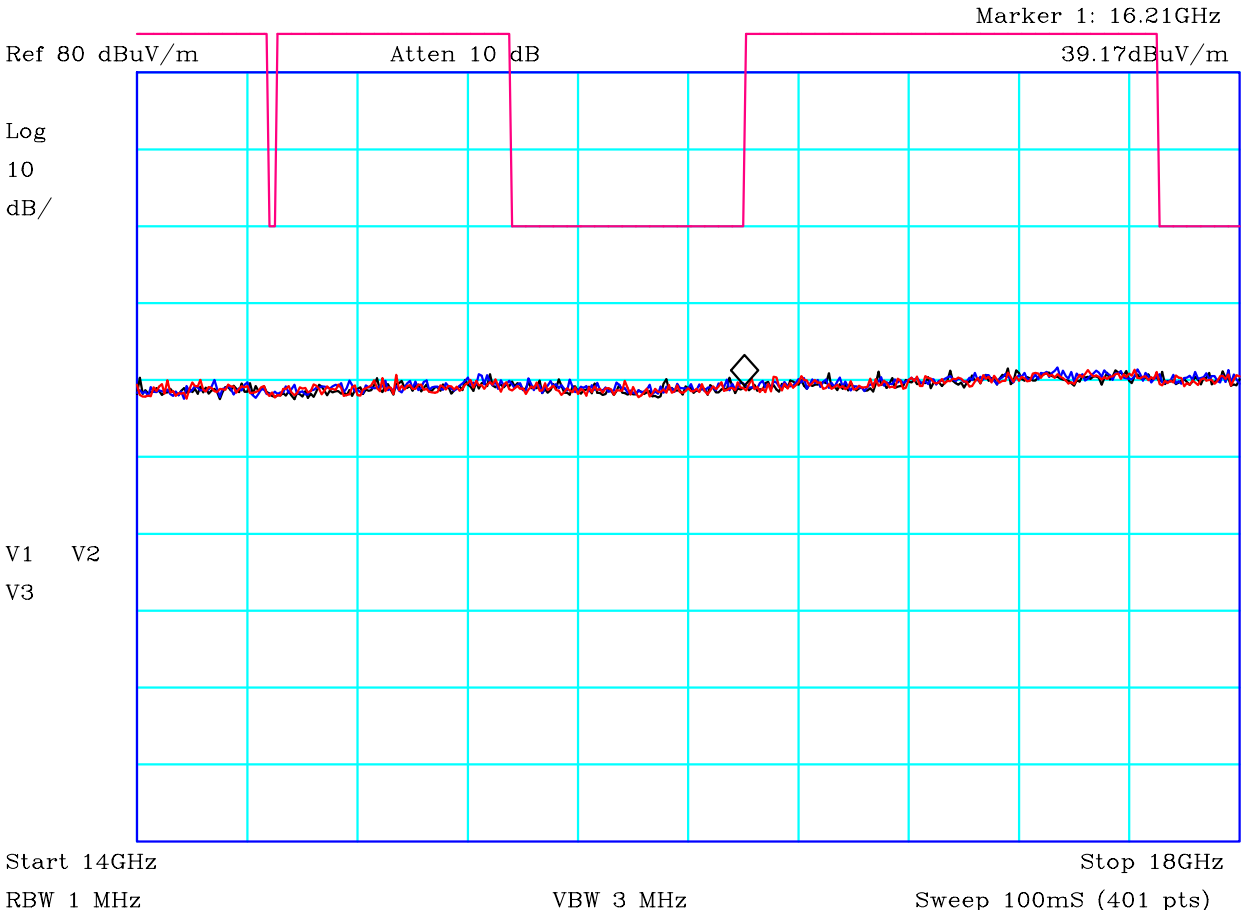
CF1:A22_3m_100201 CF2:PRE7_CBL052_CBL093_110112

PLOT 21 Radiated Emissions - 12GHz to 16GHz

Company:	Alertme	Product:	Button
Date:	05/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H20055E2		



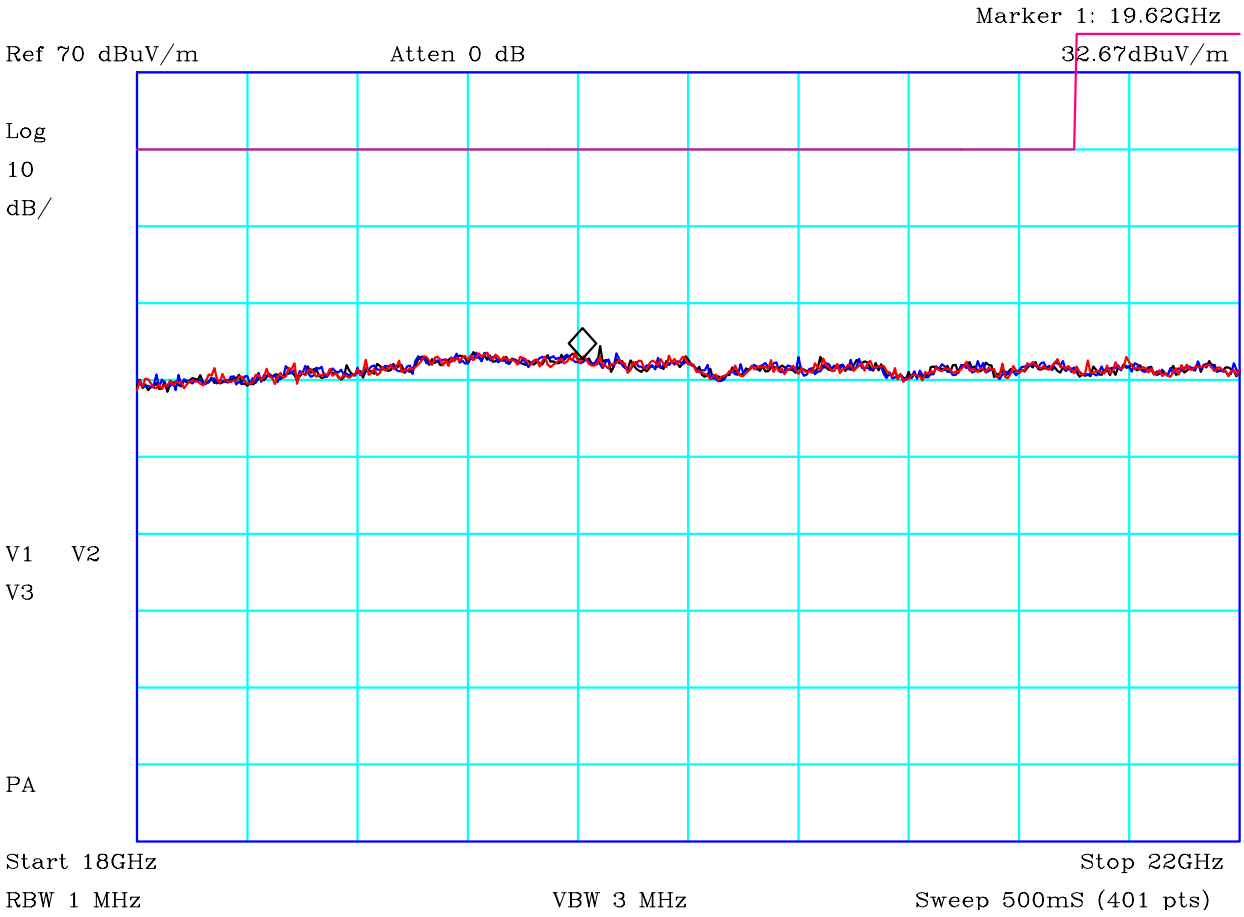
CF1:A22_3m_100201 CF2:PRE7_CBL052_CBL093_110112

PLOT 22 Radiated Emissions - 14GHz to 18GHz

Company:	Alertme	Product:	Button
Date:	05/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H20055E8		



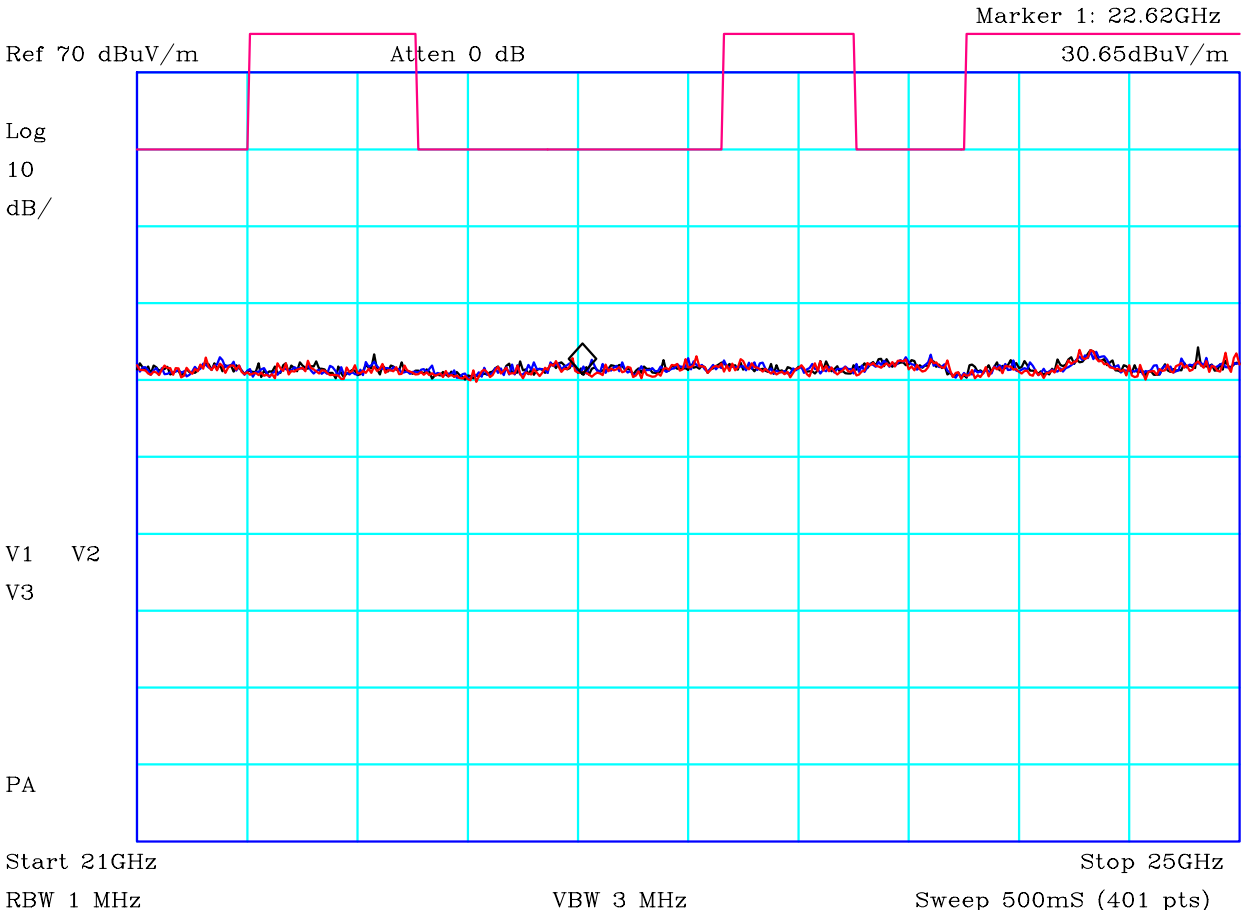
CF1:A20_3m_100201 CF2:PRE8_CBL052_CBL092_110112

PLOT 23 Radiated Emissions - 18GHz to 22GHz

Company:	Alertme	Product:	Button
Date:	12/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H20125E3		



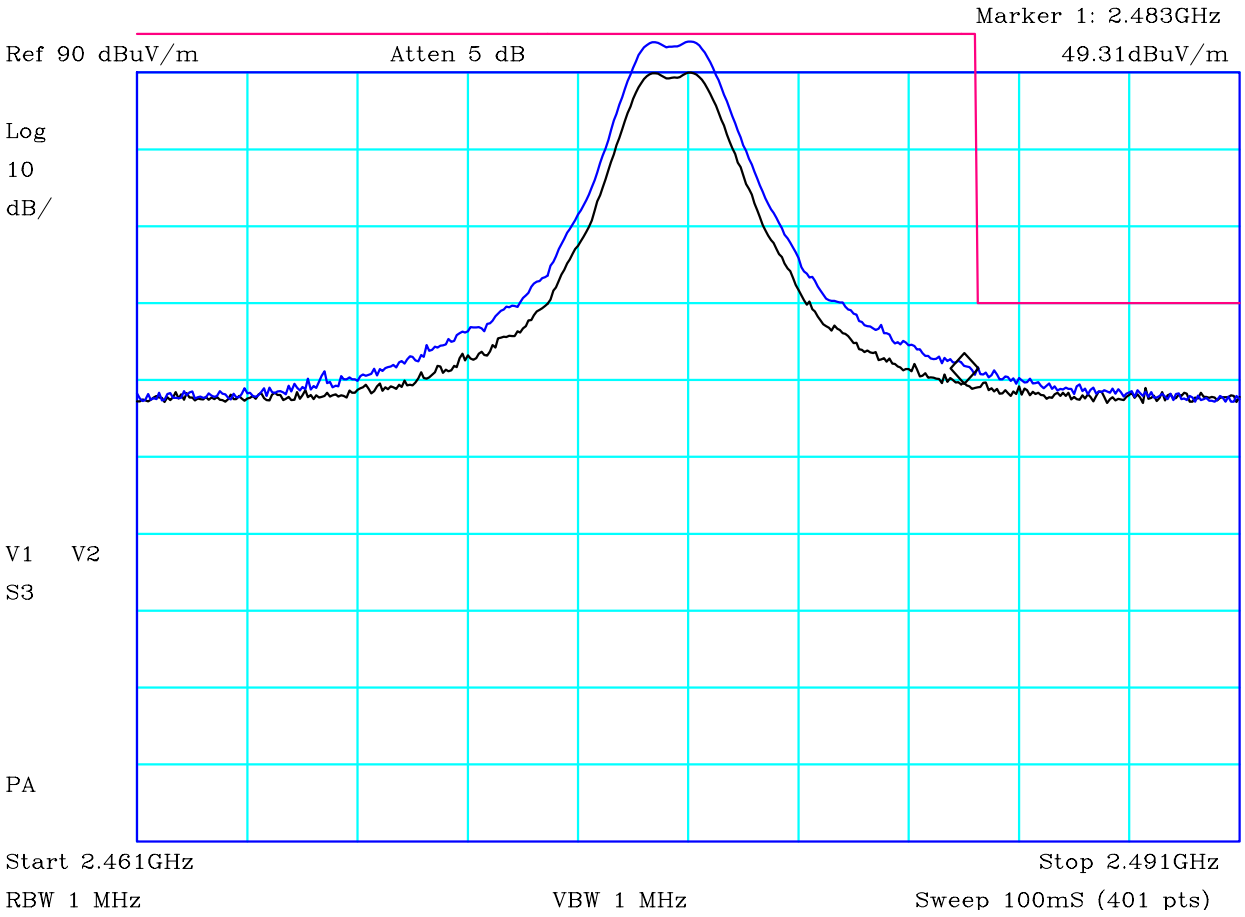
CF1:A20_3m_100201 CF2:PRE8_CBL052_CBL092_110112

PLOT 24 Radiated Emissions - 21GHz to 25GHz

Company:	Alertme	Product:	Button
Date:	12/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode
Black: Channel 11
Blue: Channel 18
Red: Channel 25
Max hold on both vertical and horizontal and with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H20125E8		



CF1:A19_3m_090306

PLOT 25 Radiated Emissions - Band Edge - Channel 25

Company:	Alertme	Product:	Button
Date:	13/01/2012	Test Eng:	Dave Smith
Method:	ANSI C63.4	Method:	
Limit1:(VIO)	FCC Restricted Bands@1.5m	Limit2:	
Limit3:		Limit4:	

Transmit Mode Channel 25
Black: Vetical
Blue: Horizontal
Max hold with EUT upright and flat.

Facility:	Anech_2	Height	1m	Mode:	1
Distance	1.5m	Polarisation	V+H	Modification State:	0
Angle	0-360	File:	H201356B		