

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 1 of 57           |

## TEST REPORT

**FCC ID:** **PBWB187R26** (for Base)  
**PBWB187R26H** (for Handset)  
**IC:** **3842A-B187** (Base & Handset)

**Equipment Under Test:** **VoIP321XY/ZZ** (Base & Handset)  
**(EUT)** **VoIP321C** (Handset Charger)

S/N: MS000608010010 (TS05036610) (Conducted measurement)  
S/N: MS000608010008 (TS05036602) (Radiated measurement)  
S/N: MS000608010009 (TS05036615) (Radiated measurement)  
S/N: MS000608010008 (TS05036602) (Charger)  
S/N: MS000608010009 (TS05036615) (Charger)  
S/N: MS000608010011 (B187060210001) (SAR)  
S/N: MS000608010012 (B187060210002) (SAR)

**In Accordance With:** **FCC Part 15, Subparts B, C & D / IC RSS-213 & ICES-003**  
UPCS / LE-PCS Isochronous Device  
Base & Handset: **1921.536 – 1928.448 MHz**  
Charger: Unintentional radiator

**ANSI C63.17 – 1998** (or 2005 Draft where applicable)

**Tested By:** **Frank Ma / Jeffrey Yang**

**Date:** **Feb15, 2006**

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 2 of 57           |

**TABLE OF CONTENTS**

|           |                                                |           |
|-----------|------------------------------------------------|-----------|
| <b>1</b>  | <b>CHANNEL FREQUENCIES .....</b>               | <b>3</b>  |
| <b>2</b>  | <b>ANTENNA REQUIREMENT .....</b>               | <b>3</b>  |
| <b>3</b>  | <b>EMISSION BANDWIDTH .....</b>                | <b>7</b>  |
| 3.1       | Base.....                                      | 7         |
| 3.2       | Handset.....                                   | 7         |
| <b>4</b>  | <b>CONDUCTED PEAK TRANSMIT POWER.....</b>      | <b>9</b>  |
| 4.1       | Base.....                                      | 9         |
| 4.2       | Handset.....                                   | 10        |
| <b>5</b>  | <b>RADIATED PEAK POWER.....</b>                | <b>11</b> |
| 5.1       | Base.....                                      | 11        |
| 5.2       | Handset.....                                   | 12        |
| <b>6</b>  | <b>RF EXPOSURE .....</b>                       | <b>13</b> |
| 6.1       | Base MPE.....                                  | 13        |
| 6.2       | Handset SAR .....                              | 13        |
| <b>7</b>  | <b>DUTY CYCLE CORRECTION FACTOR.....</b>       | <b>14</b> |
| 7.1       | Base.....                                      | 14        |
| 7.2       | Handset.....                                   | 14        |
| 7.3       | Single-Handset Operation .....                 | 15        |
| <b>8</b>  | <b>POWER SPECTRAL DENSITY .....</b>            | <b>16</b> |
| 8.1       | Base.....                                      | 16        |
| 8.2       | Handset.....                                   | 16        |
| <b>9</b>  | <b>EMISSIONS AT BAND EDGE AND BEYOND .....</b> | <b>18</b> |
| 9.1       | Base Near Band Edge.....                       | 19        |
| 9.2       | Base Tx Harmonics.....                         | 23        |
| 9.3       | Handset Near Band Edge .....                   | 24        |
| 9.4       | Handset Tx Harmonics .....                     | 28        |
| <b>10</b> | <b>RADIATED SPURIOUS EMISSIONS.....</b>        | <b>29</b> |
| 10.1      | Base.....                                      | 30        |
| 10.2      | Handset.....                                   | 32        |
| <b>11</b> | <b>FREQUENCY STABILITY AND JITTER.....</b>     | <b>34</b> |
| 11.1      | Base.....                                      | 34        |
| 11.2      | Handset.....                                   | 39        |
| <b>12</b> | <b>MONITORING THRESHOLD .....</b>              | <b>45</b> |
| 12.1      | Standby .....                                  | 45        |
| 12.2      | Talk .....                                     | 46        |
| <b>13</b> | <b>POWER LINE CONDUCTED EMISSIONS .....</b>    | <b>47</b> |
| 13.1      | Charger stand-alone .....                      | 47        |
| 13.2      | Charger with Handset in standby.....           | 49        |
| 13.3      | Base in phone-on .....                         | 51        |
| <b>14</b> | <b>CHARGER RADIATED EMISSIONS .....</b>        | <b>53</b> |
| 14.1      | Charger Stand-alone.....                       | 53        |
| 14.2      | Charger with Handset in standby.....           | 55        |

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>3 of 57</b>           |

## 1 CHANNEL FREQUENCIES

**Clause:** 15.303 (d) & (g) / 8.0

**Requirement:** Within 1920 – 1930 MHz band for isochronous devices

| UPCS CHANNEL    | FREQUENCY (MHz) |
|-----------------|-----------------|
| Band Edge       | 1930.000        |
| <b>1 (High)</b> | 1928.448        |
| 4               | 1926.720        |
| <b>3 (Mid)</b>  | 1924.992        |
| 2               | 1923.264        |
| <b>5 (Low)</b>  | 1921.536        |
| Band Edge       | 1920.000        |

**Test Condition:** Refer to RF Communication Protocol or Test Mode Procedure for the selection of channel in normal and test modes of operation.

## 2 ANTENNA REQUIREMENT

**Clause:** 15.317 (15.203) / 5.5

**Requirement:** No antenna other than that furnished by the responsible party shall be used with the device

**Observation:** Base and Handset have each a pre-formed wire antenna permanently attached on the PCB; it is not user replaceable. Base has an additional internal antenna for diversity configuration. There is no external antenna or connector provided on the base or handset for the user to use antenna other than that furnished originally.

**Spec of Antenna:** As follows  
Antenna transmit gain = 1.6 – 2.0 dBi (1.446 – 1.585 numeric) across the band

**Result:** As antenna gain < 3 dBi, no correction factor necessary to be applied to subsequent radiation measurement readings.

GAIN

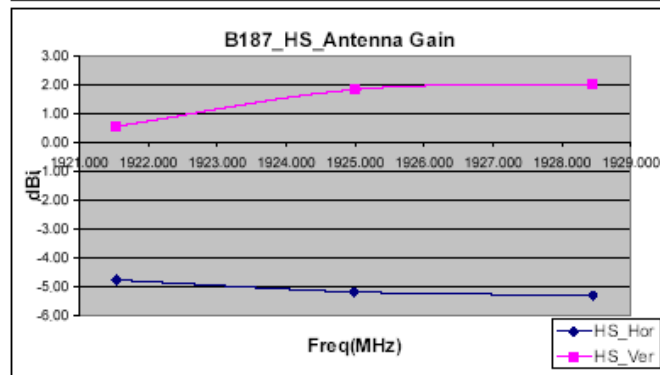
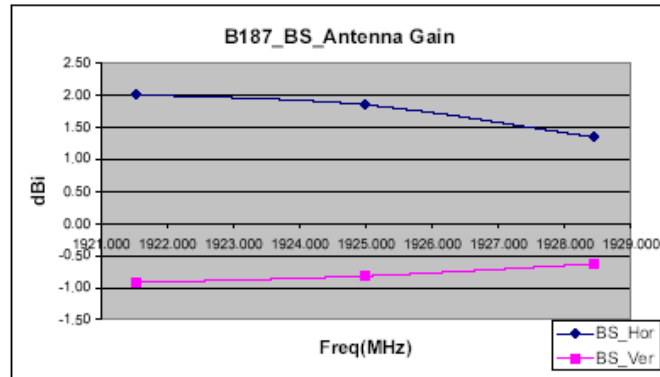
Doc Title     FCC / IC Application Report  
Doc Sec.     Test Data – B187 RF  
Dept./Proj.   1.9 GHz DECT USB Telephone

Doc No.     B187-RP11-X-YY-TA  
Revision     1.2  
Page(s)     4 of 57

**B187 Antenna Gain for FCC Approval Sample**

Ascalade Technologies Inc.  
Date: Jan 31, 2006

|    | Channel   | Ch 0     | Ch 2     | Ch 4     |
|----|-----------|----------|----------|----------|
|    | Freq(MHz) | 1928.448 | 1924.992 | 1921.536 |
| BS | Hor       | 1.34     | 1.84     | 2.00     |
|    | Ver       | -0.63    | -0.82    | -0.92    |
| HS | Hor       | -5.28    | -5.16    | -4.74    |
|    | Ver       | 2.00     | 1.82     | 0.55     |



Doc Title     FCC / IC Application Report  
Doc Sec.     Test Data – B187 RF  
Dept./Proj.   1.9 GHz DECT USB Telephone

Doc No.     B187-RP11-X-YY-TA  
Revision     1.2  
Page(s)     5 of 57

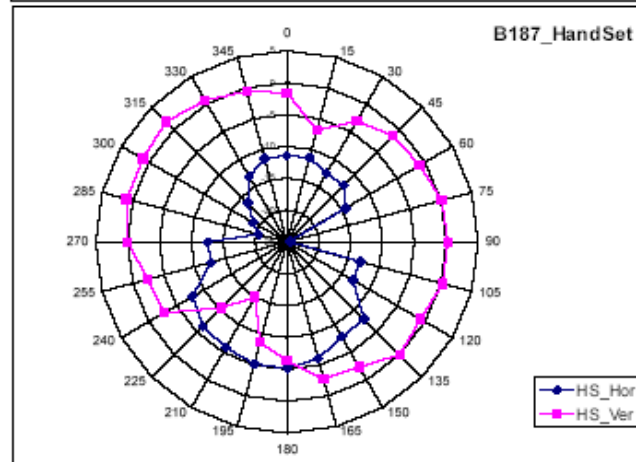
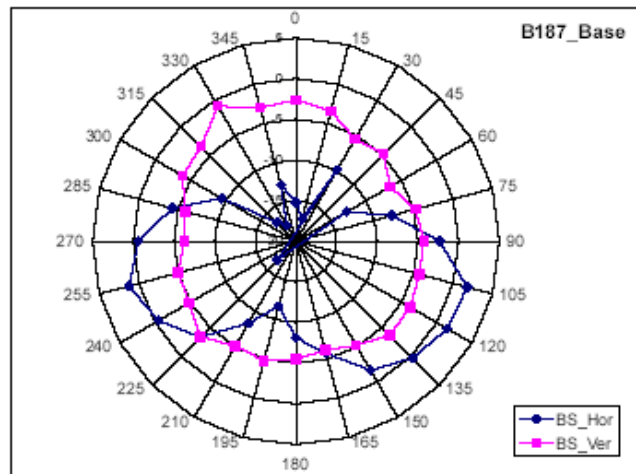
**B187 Antenna Pattern for FCC Approval Sample**

Ascalade Technologies Inc.

Date: Jan 31, 2006

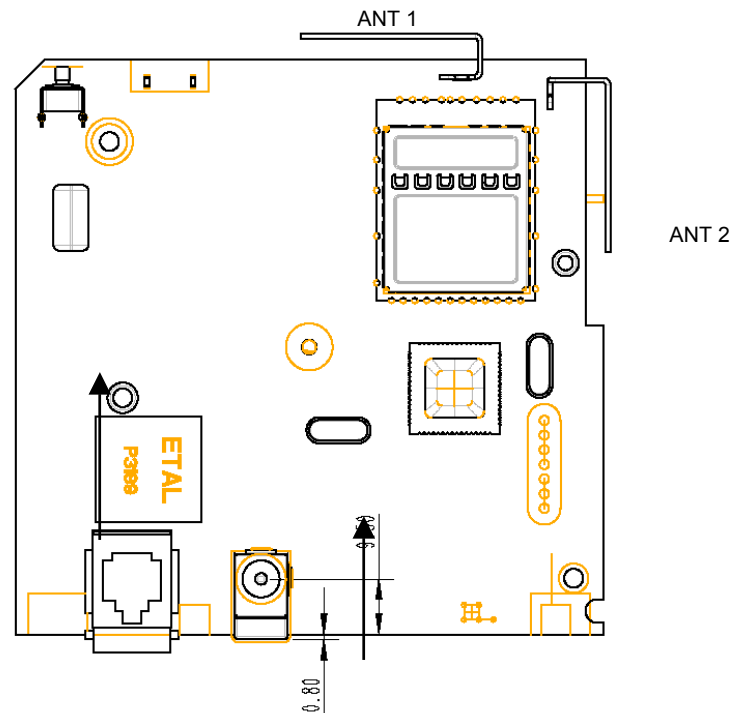
| Degree | BS_Hor<br>(dBi) | BS_Ver<br>(dBi) | HS_Hor<br>(dBi) | HS_Ver<br>(dBi) |
|--------|-----------------|-----------------|-----------------|-----------------|
| 0      | -15.2           | -2.61           | -11.45          | -1.61           |
| 15     | -17.14          | -3.43           | -11.34          | -6.91           |
| 30     | -9.84           | -5.46           | -12.62          | -3.1            |
| 45     | -23.27          | -4.8            | -12.46          | -1.46           |
| 60     | -12.77          | -6.64           | -14.38          | -0.95           |
| 75     | -7.79           | -4.8            | -24.47          | 0.17            |
| 90     | -2.33           | -4.28           | -24.46          | 0.21            |
| 105    | 1.81            | -4.28           | -13.03          | 0.27            |
| 120    | 1.49            | -3.78           | -13.06          | -0.79           |
| 135    | 0.31            | -3.71           | -7.86           | -0.02           |
| 150    | -1.7            | -5.2            | -7.82           | -2.34           |
| 165    | -5.7            | -6.13           | -6.05           | -2.78           |
| 180    | -8.14           | -5.46           | -5.16           | -6.35           |
| 195    | -11.73          | -4.78           | -5.19           | -8.73           |
| 210    | -8.31           | -5.13           | -5.86           | -15             |
| 225    | -3.35           | -3.36           | -6.35           | -10.34          |
| 240    | -0.49           | -4.83           | -7.92           | -2.79           |
| 255    | 1.26            | -5.01           | -12.66          | -2.36           |
| 270    | -0.63           | -6.29           | -12.55          | -0.07           |
| 285    | -4.25           | -5.89           | -20.36          | 1.03            |
| 300    | -9.47           | -3.89           | -18.9           | 1.07            |
| 315    | -16.7           | -3.5            | -16.3           | 1.72            |
| 330    | -17.77          | -0.82           | -13.15          | 0.61            |
| 345    | -12.82          | -3.03           | -11.45          | -0.54           |
| 360    | -15.58          | -2.65           | -12.26          | -1.45           |

|          |        |       |        |        |
|----------|--------|-------|--------|--------|
| Max(dBi) | 1.81   | -0.82 | -5.16  | 1.72   |
| Min(dBi) | -23.27 | -6.64 | -24.47 | -15.00 |
| Diff(dB) | 25.08  | 5.82  | 19.31  | 16.72  |

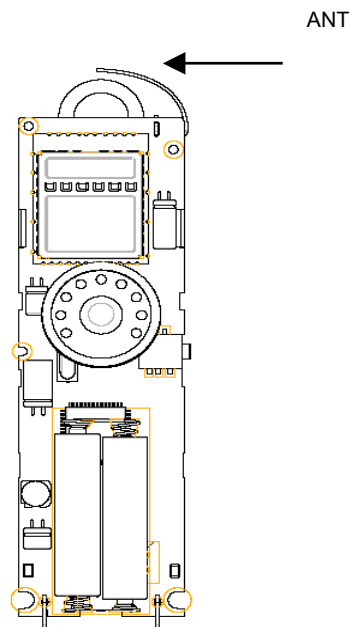


|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 6 of 57           |

### BASE ANTENNA ASSEMBLY



### HANDSET ANTENNA ASSEMBLY



|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>7 of 57</b>           |

## EMISSION BANDWIDTH

**Clause:** 15.323 (a) / 8.2**Requirement:** 50 kHz < B < 2.5 MHz**SA Setting:** RBW  $\approx$  1 % of Emission BW (or 0.5 % < RBW < 2 % for fixed setting)**ANSI 6.1.3** VBW  $\geq$  3 x RBWSpan  $\geq$  2 x B

Sweep: Sufficient to stabilize trace

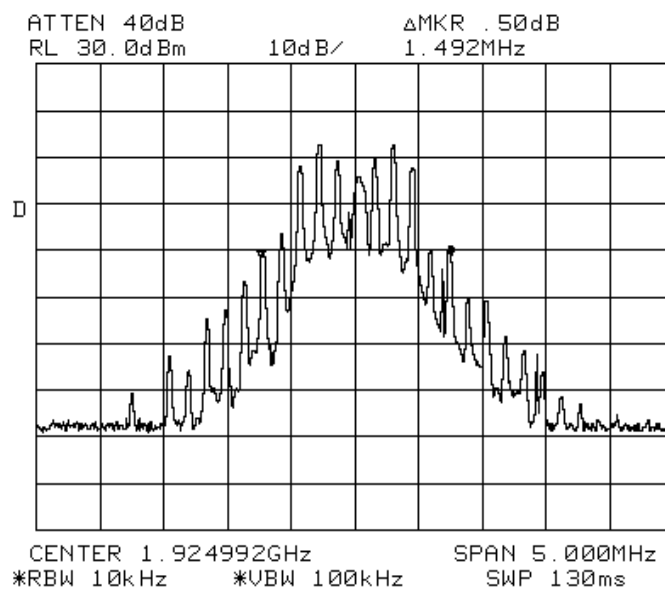
Detection: Peak hold

**Test Result:** Base: 1.492 MHz < Limit 2.5 MHz  
Handset: 1.492 MHz < Limit 2.5 MHz

**3.1 Base**

| Test Mode | Channel No. | Frequency (MHz) | 26 dB Bandwidth (kHz) |
|-----------|-------------|-----------------|-----------------------|
| 4         | 1           | 1928.448        | 1483                  |
| 5         | 3           | 1924.992        | <b>1492</b>           |
| 6         | 5           | 1921.536        | 1467                  |

Worst-case plot follows:



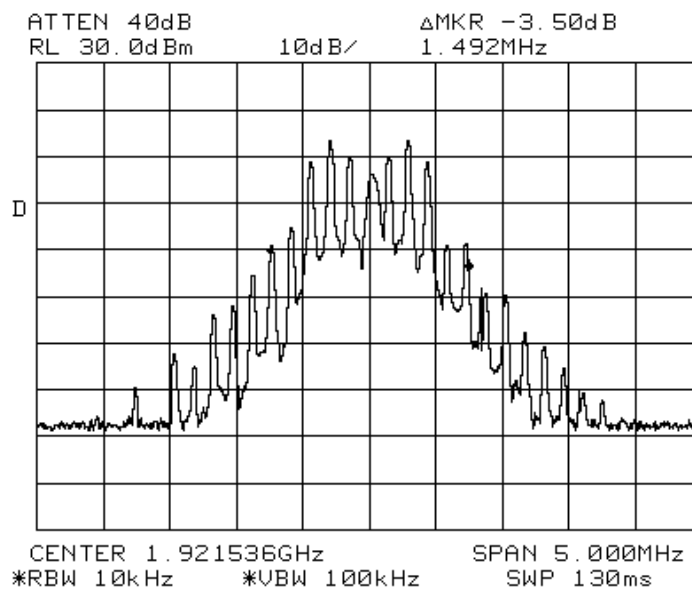
Base emission BW at Middle Channel

**3.2 Handset**

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 8 of 57           |

| Test Mode             | Channel No. | Frequency (MHz) | 26 dB Bandwidth (kHz) |
|-----------------------|-------------|-----------------|-----------------------|
| 1 (Mod ON), 2 (Ch 01) | 1           | 1928.448        | 1475                  |
| 1 (Mod ON), 2 (Ch 03) | 3           | 1924.992        | 1483                  |
| 1 (Mod ON), 2 (Ch 05) | 5           | 1921.536        | <b>1492</b>           |

Worst-case plot follows:



Handset emission BW at Low Channel

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>9 of 57</b>           |

### 3 CONDUCTED PEAK TRANSMIT POWER

**Clause:** 15.319 (c) / 8.1

**Requirement:**  $\leq 100 \mu\text{W} \times \sqrt{B} = 5 \log B - 10 \text{ dBm} = 20.8 \text{ dBm}$ , where B rated 1.5 MHz maximum

**SA Setting:** RBW  $\geq$  Emission BW (or increased until no more than 0.5 dB change in power)

**ANSI 6.1.2** VBW  $\geq 3 \times$  RBW

Span = zero, centered on channel center

Sweep: fast enough to resolve transmit pulse

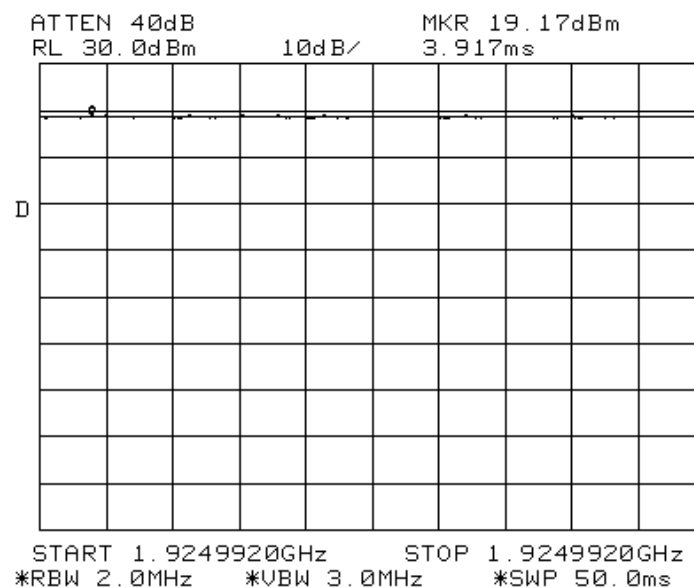
Detection: Peak

**Test Result:** Base: 19.30 dBm (worst case)  
Handset: 18.97 dBm (worst case)

#### 4.1 Base

| Test Mode | Chan. No. | Freq. (MHz) | Reading (dBm) | Cable (dB) | Peak Power (dBm) | Limit (dBm) | Margin (dB) |
|-----------|-----------|-------------|---------------|------------|------------------|-------------|-------------|
| 4         | 1         | 1928.448    | 19.00         | 0.8        | 19.80            | 20.8        | 1.00        |
| 5         | 3         | 1924.992    | <b>19.17</b>  | 0.8        | <b>19.97</b>     | 20.8        | 0.83        |
| 6         | 5         | 1921.536    | 19.00         | 0.8        | 19.80            | 20.8        | 1.00        |

Worst-case plot follows:



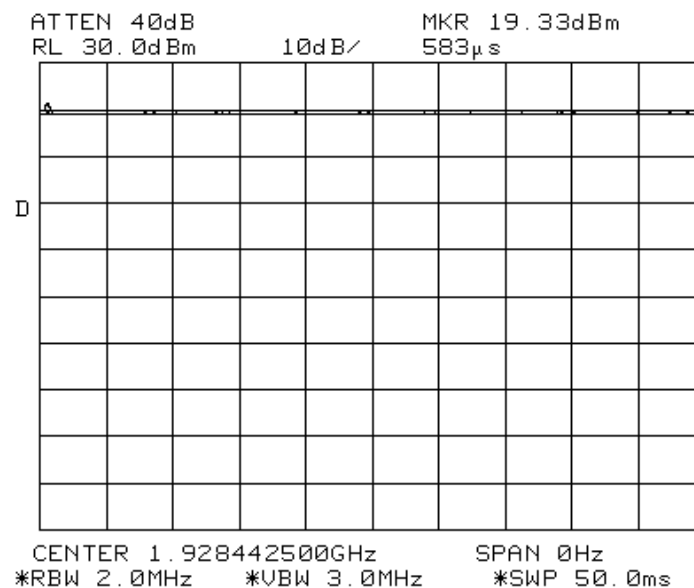
Base peak power at middle Channel

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 10 of 57          |

## 4.2 Handset

| Test Mode | Chan. No. | Freq. (MHz) | Reading (dBm) | Cable (dB) | Peak Power (dBm) | Limit (dBm) | Margin (dB) |
|-----------|-----------|-------------|---------------|------------|------------------|-------------|-------------|
| 1, 2      | 1         | 1928.448    | 19.33         | 0.8        | 20.13            | 20.8        | 0.67        |
| 1, 2      | 3         | 1924.992    | 19.33         | 0.8        | 20.13            | 20.8        | 0.67        |
| 1, 2      | 5         | 1921.536    | 19.33         | 0.8        | 20.13            | 20.8        | 0.67        |

Worst-case plot follows:



Handset peak power at High Channel

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>11 of 57</b>          |

#### 4 RADIATED PEAK POWER

**Clause:** 15.319 (c) / 8.1

**Requirement:**  $\leq 100 \mu\text{W} \times \sqrt{B} = 5 \log B - 10 \text{ dBm} = 20.8 \text{ dBm}$  for  $B = 1.5 \text{ MHz}$  max.  
 $\leq 118 \text{ dB}\mu\text{V/m}$  at 3m by radiated measurement derived from Friis formula as follows

$$\text{Field Strength } E = \frac{\sqrt{30PG}}{d} = \frac{\sqrt{30 * 0.122 * 1.585}}{3} \text{ V/m} = 97.2 + P \text{ dBm} = 118 \text{ dB}\mu\text{V/m}$$

where  $P = 0.122 \text{ W}$  (20.8 dBm from Sec. 4)  
 $G = \text{Numeric gain of TX antenna} = 1.585$  (2.0 dBi) worst-case across band  
 $d = 3 \text{ m}$

**SA Setting:** RBW  $\geq$  Emission BW (or increased until no more than 0.5 dB change in power)  
**ANSI 6.1.2** VBW  $\geq 3 \times$  RBW  
Span = zero, centered on channel center  
Sweep: fast enough to resolve transmit pulse  
Detection: Peak

**Test Result:** Base: 18.48 dBm (worst case)  
Handset: 14.37 dBm (worst case)

#### 5.1 Base

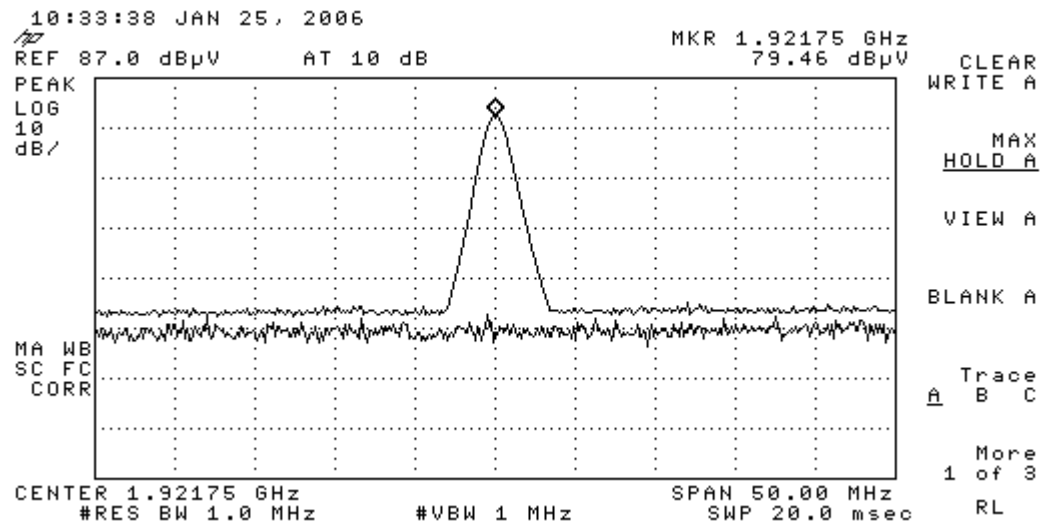
| Chan.<br>No. | Frequency<br>(MHz) | Meter<br>Peak<br>Reading<br>(dB $\mu$ V) | Coax<br>Loss<br>(dB) | Antenna<br>Factor<br>(Note 2)<br>(dB) | Pre-<br>amp<br>Gain<br>(dB) | Field<br>Strength<br>at 3m<br>(dB $\mu$ V/m) | Radiated<br>Power<br>(Note 3)<br>(dBm) | EIRP<br>(mW) |
|--------------|--------------------|------------------------------------------|----------------------|---------------------------------------|-----------------------------|----------------------------------------------|----------------------------------------|--------------|
| 1<br>(HIGH)  | 1928.63            | 77.52                                    | 7.52                 | 28.7 V                                | 0                           | 113.74                                       | 16.54                                  | 45.08        |
| 3<br>(MID)   | 1925.13            | 78.24                                    | 7.52                 | 28.7 V                                | 0                           | 114.46                                       | 17.26                                  | 53.21        |
| 5<br>(LOW)   | 1921.75            | <b>79.46</b>                             | 7.52                 | 28.7 V                                | 0                           | <b>115.68</b>                                | <b>18.48</b>                           | <b>70.46</b> |

Note 2: Horn antenna in Horizontal (H) or Vertical (V) polarization

Note 3: 97.2 dB taken as factor to convert Field Strength to Radiated Power in numerical value

Worst-case plot follows.

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 12 of 57          |



Radiated Field Strength at Mid Channel

## 5.2 Handset

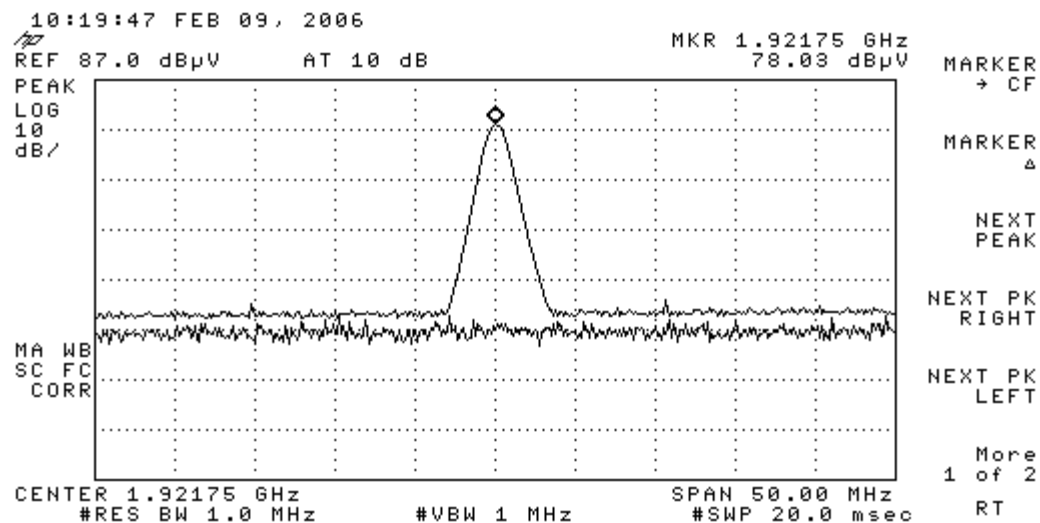
| Chan.    | Frequency | Meter Peak Reading | Coax Loss | Antenna Factor | Pre-amp Gain | Field Strength at 3m | Radiated Power | EIRP         |
|----------|-----------|--------------------|-----------|----------------|--------------|----------------------|----------------|--------------|
| No.      | (MHz)     | (dBμV)             | (dB)      | (dB)           | (dB)         | (dBμV/m)             | (dBm)          | (mW)         |
| 1 (HIGH) | 1928.63   | 77.36              | 7.52      | 28.7 V         | 0            | 113.58               | 16.38          | 43.45        |
| 3 (MID)  | 1925.13   | 76.92              | 7.52      | 28.7 V         | 0            | 113.14               | 15.94          | 39.26        |
| 5 (LOW)  | 1921.75   | <b>78.03</b>       | 7.52      | 28.7 V         | 0            | <b>114.25</b>        | <b>17.05</b>   | <b>50.69</b> |

Note 2: Horn antenna in Horizontal (H) or Vertical (V) polarization

Note 3: 97.2 dB taken as factor to convert Field Strength to Radiated Power in numerical value

Worst-case plot follows.

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 13 of 57          |



Radiated Field Strength at High Channel

## 5 RF EXPOSURE

Clause: 15.319 (i) / 12.0

Requirement: 1.1307(b), 2.1091 and 2.1093 / RSS-102 as appropriate

MPE ≤ 1 mW/cm<sup>2</sup> at 20 cm

SAR ≤ 1.6 W/kg over any 1 g of tissue

Reference: OET Bulletin 65 for General Population / Uncontrolled Exposure

Test Result: Base: Compliant  
Handset: Compliant

### 6.1 Base MPE

$$\text{Power density } S = \text{EIRP} / 4\pi R^2, \text{ where } R \text{ is distance } 20 \text{ cm}$$

$$= 79.5 / 4\pi(20)^2 = 0.016 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2 \text{ limit}$$

### 6.2 Handset SAR

Refer to separate SAR testing report by Celltech

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 14 of 57          |

## 6 DUTY CYCLE CORRECTION FACTOR

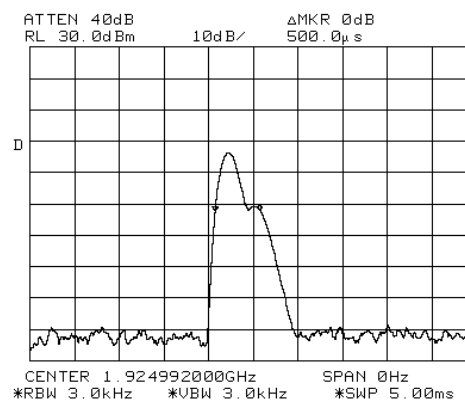
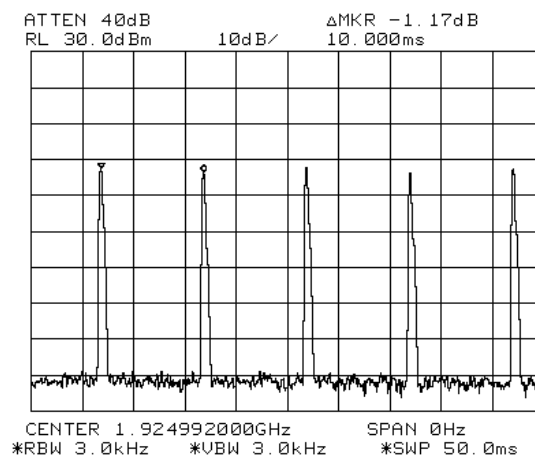
Clause: N/A

Max. Allowed: 6 dB per IC clause 8.2.3

SA Setting: RBW = 3 kHz  
 VBW = RBW  
 Sweep = 100 ms (or less for better resolution)  
 Span = zero, centered on channel center  
 Detection: Peak

### 7.1 Base

DCF\_BS = 10 log (TX-on Time/10 ms) for power in dBm  
 = 10 log (0.5 ms x 5 /10 ms) from timing plots below  
 = -6.02 dB => -6 dB maximum allowed



Base TX pulse width in 10 ms for 1time slot operation

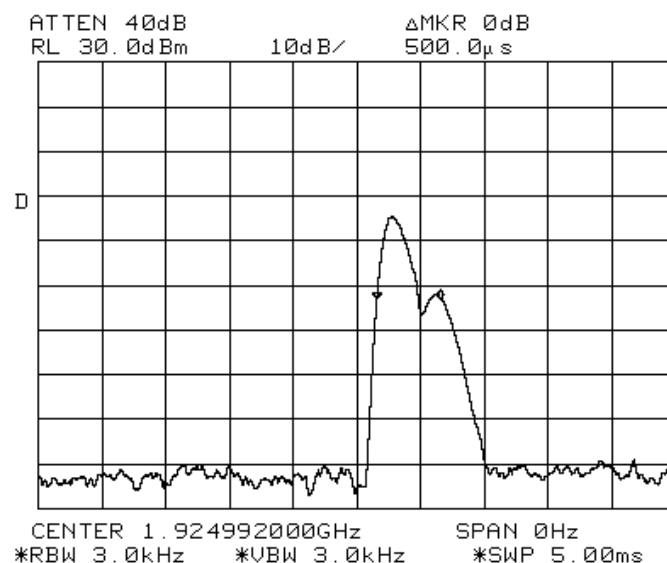
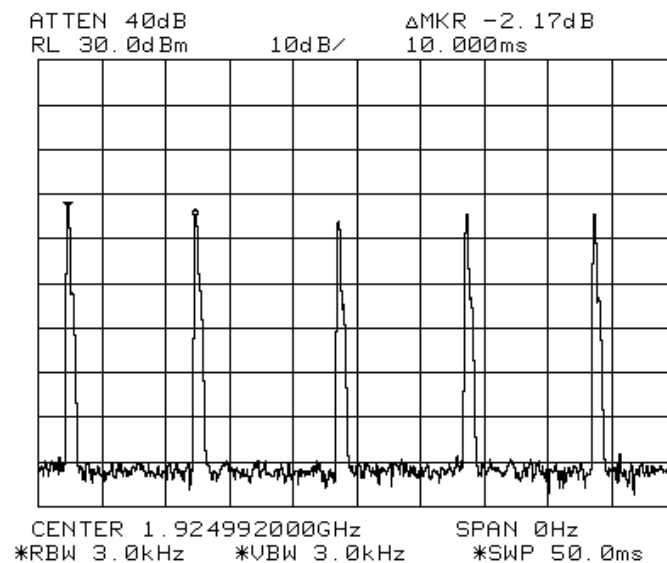
### 7.2 Handset

DCF\_HS = -6 dB maximum allowed (same pulse operation in TDMA as base)

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 15 of 57          |

### 7.3 Single-Handset Operation

DCF =  $10 \log (\text{TX-on Time}/100 \text{ ms})$  for power in dBm  
=  $10 \log (500 \mu\text{s}/10 \text{ ms})$  from timing plots below  
= -13 dB => -6 dB maximum allowed



TX pulse width in 10 ms for 1 time slot in single-handset operation

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>16 of 57</b>          |

## 7 POWER SPECTRAL DENSITY

**Clause:** 15.319 (d) / 8.2

**Requirement:**  $\leq 3$  mW (4.77 dBm) by average detection or 12 mW (10.8 dBm) by peak-hold detection

**SA Setting:** RBW = 3 kHz

**ANSI 6.1.5** VBW = RBW

Span = B first to locate peak, then 10 kHz to read power within 3 kHz

Sweep: slow enough for at least 2 bursts to occur in each 3 kHz of span swept; e.g. 10 s sweep captures 1000 bursts of 10 ms-burst-rate signal while sweeping across 1.5 MHz, for 2 bursts per 3 kHz interval

Detection: Average or Peak (see applicable limit above)

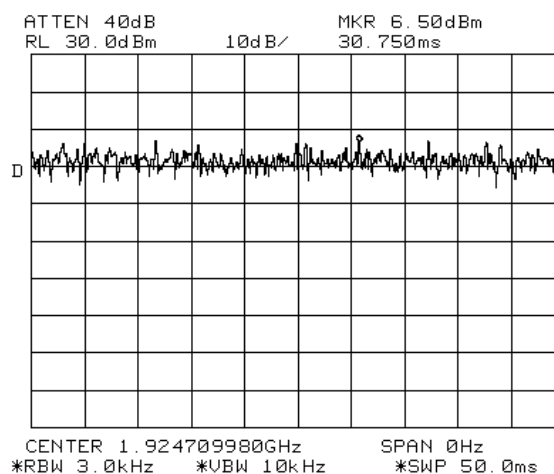
**Test Result:** Base: 0.13 dBm (worst case)

Handset: 0.63 dBm (worst case)

### 8.1 Base

| Test Mode | Chan. No. | Freq. (MHz) | Reading (dBm) | Cable (dB) | DC Factor | PSD (dBm)   | Limit (dBm) | Margin (dB) |
|-----------|-----------|-------------|---------------|------------|-----------|-------------|-------------|-------------|
| 4         | 1         | 1928.448    | 6.33          | 0.8        | -6.0      | 1.13        | 4.77        | 3.64        |
| 5         | 3         | 1924.992    | <b>6.50</b>   | 0.8        | -6.0      | <b>1.30</b> | 4.77        | 3.47        |
| 6         | 5         | 1921.536    | 6.33          | 0.8        | -6.0      | 1.13        | 4.77        | 3.64        |

Worst-case plot follows:



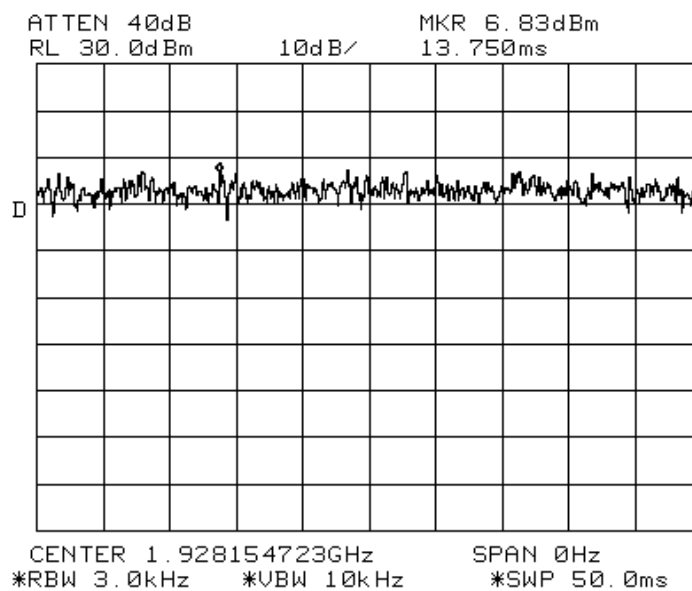
Base PSD at middle Channel

### 8.2 Handset

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 17 of 57          |

| Test Mode | Chan. No. | Freq. (MHz) | Reading (dBm) | Cable (dB) | DC Factor | PSD (dBm) | Limit (dBm) | Margin (dB) |
|-----------|-----------|-------------|---------------|------------|-----------|-----------|-------------|-------------|
| 1, 2      | 1         | 1928.448    | 6.83          | 0.8        | -6.0      | 1.63      | 4.77        | 3.14        |
| 1, 2      | 3         | 1924.992    | 6.00          | 0.8        | -6.0      | 0.80      | 4.77        | 3.97        |
| 1, 2      | 5         | 1921.536    | 6.67          | 0.8        | -6.0      | 1.47      | 4.77        | 3.30        |

Worst-case plot follows:



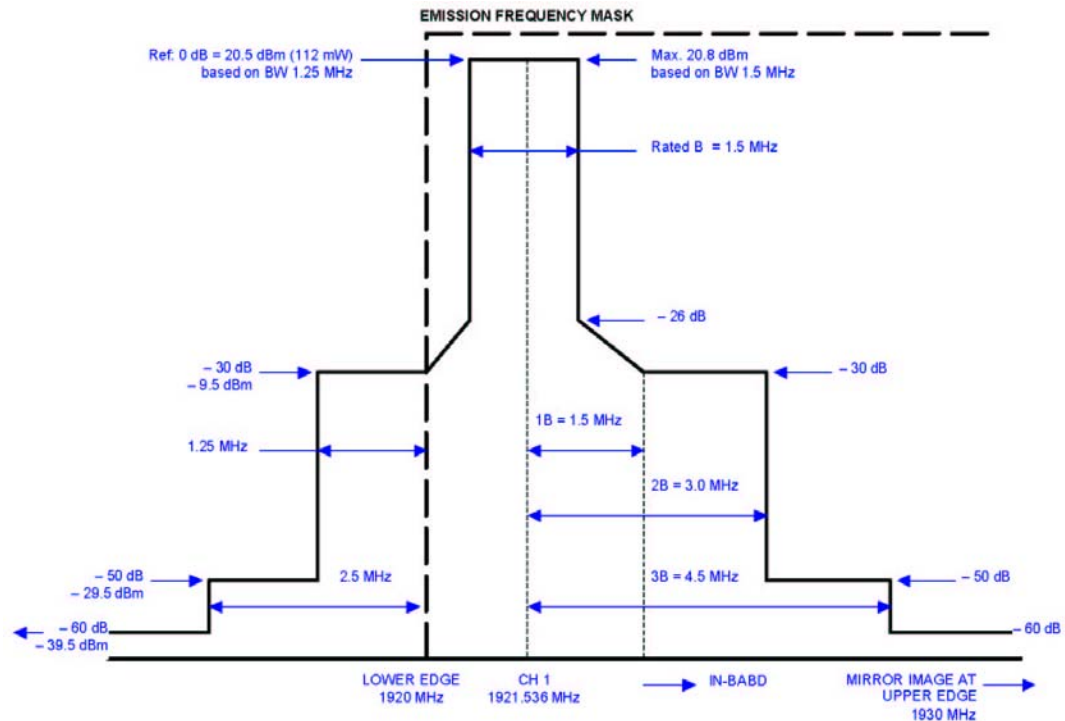
Handset PSD at High Channel

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 18 of 57          |

## 8 EMISSIONS AT BAND EDGE AND BEYOND

**Clause:** 15.323 (d) / 8.3.1

**Requirement:** As shown in diagram of Emission Mask



**SA Setting:** RBW  $\approx$  1 % of Emission BW (or 0.5 % < RBW < 2 % for fixed setting)  
**ANSI 6.1.6.2** VBW = 3 x RBW  
Span  $\geq$  3.5 x B  
Sweep: Sufficient to stabilize trace ( $\geq$  pulse repetitive interval x no. of trace elements)  
Detection: Peak hold

**Test Result:** Base: -65.6 dBc (worst case at lower band edge)  
Handset: -66.0 dBc (worst case at upper band edge)

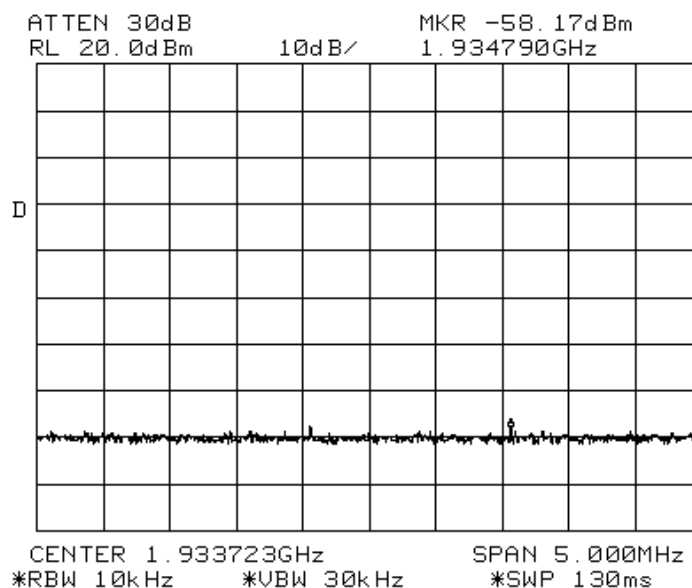
For in-band out-of-channel emissions, since emission bandwidth B is greater than out-band step bandwidth 1.25 MHz and occupied bandwidth is symmetrical about channel center, compliance in out-band emissions will automatically lead to compliance in in-band out-of-channel.

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 19 of 57          |

### 9.1 Base Near Band Edge

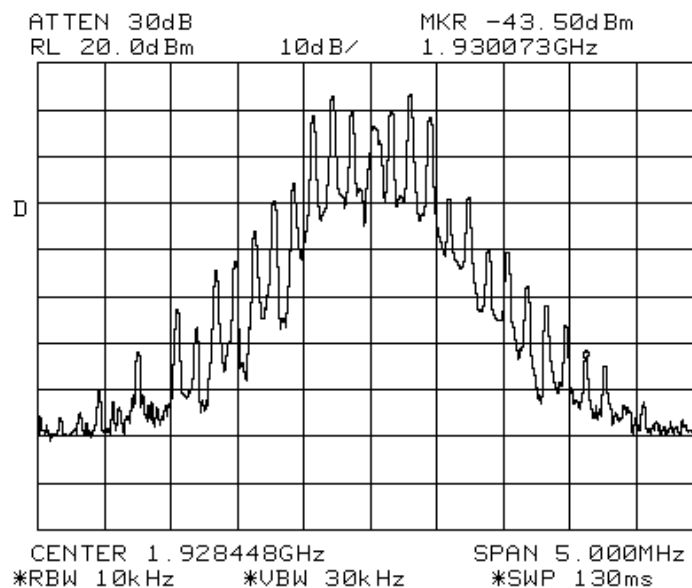
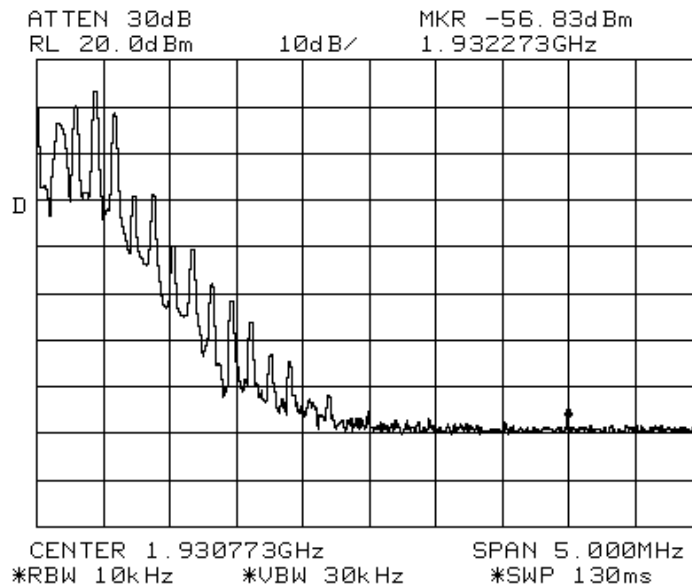
| Test Mode | Chan. No. | Freq. (MHz) | Freq. Range (MHz) | Reading (dBm) | Rel. Att. (dBc) | Limit (dBc) | Margin (dB)  |
|-----------|-----------|-------------|-------------------|---------------|-----------------|-------------|--------------|
| 4         | 1         | 1928.448    | Upper edge        | 18.00         | 0.00            | ---         | ---          |
|           |           | 1930.073    | 1930 ~1931.25     | -43.50        | -61.50          | -30         | 31.5         |
|           |           | 1932.273    | 1931.25 ~1932.5   | -56.83        | -74.83          | -50         | 24.83        |
|           |           | 1934.790    | 1932.5 ~ up       | <b>-58.17</b> | -76.17          | -60         | <b>16.17</b> |
| 6         | 5         | 1921.536    | Lower Edge        | 18.50         | 0.00            | ---         | ---          |
|           |           | 1919.786    | 1918.75 ~1920     | -42.00        | -60.50          | -30         | 30.50        |
|           |           | 1918.378    | 1917.5 ~1918.75   | -57.83        | -76.33          | -50         | 26.33        |
|           |           | 1916.819    | Down ~1917.5      | <b>-58.67</b> | -77.17          | -60         | <b>17.17</b> |

Upper out-band plots follow:



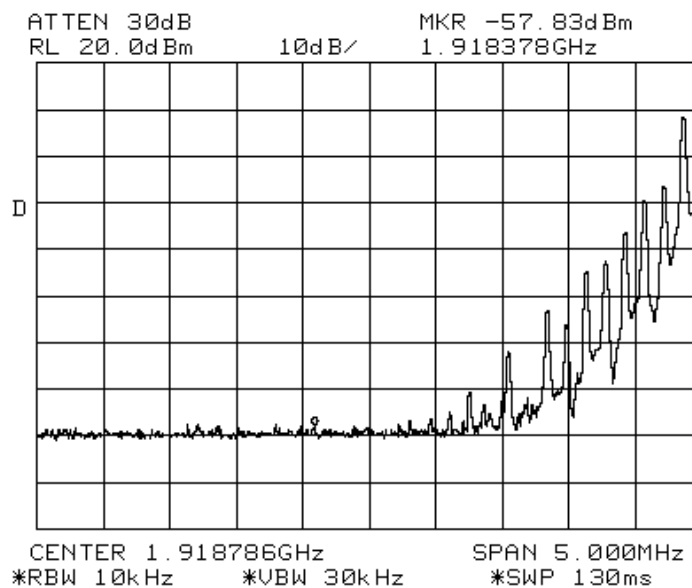
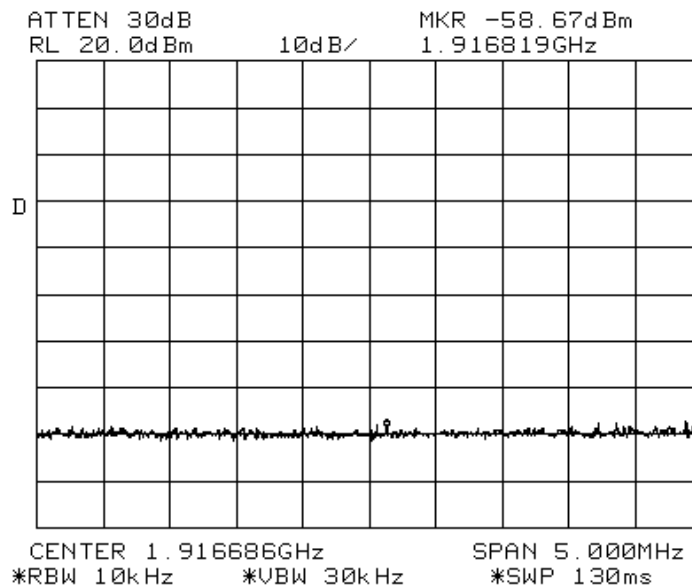
**Doc Title** FCC / IC Application Report  
**Doc Sec.** Test Data – B187 RF  
**Dept./Proj.** 1.9 GHz DECT USB Telephone

**Doc No.** B187-RP11-X-YY-TA  
**Revision** 1.2  
**Page(s)** 20 of 57

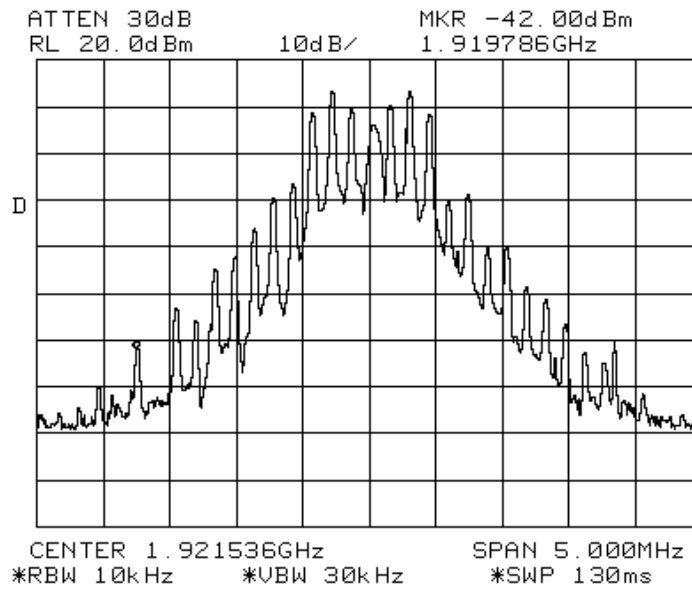


|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 21 of 57          |

Lower out-band plots follow:



|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 22 of 57          |



|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>23 of 57</b>          |

## 9.2 Base Tx Harmonics

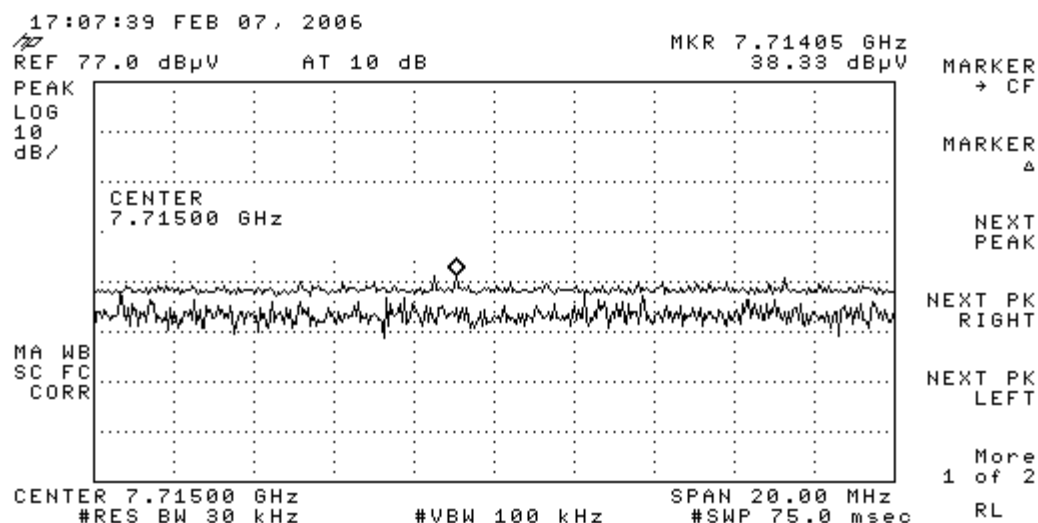
| Chan.<br>No. | Frequency<br>(MHz) | Meter<br>Peak<br>Reading<br>(dBμV) | Coax<br>Loss<br>(dB) | Antenna<br>Factor<br>(Note 2)<br>(dB) | Pre-<br>amp<br>Gain<br>(dB) | Field<br>Strength<br>at 3m<br>(dBμV/m) | Rel.<br>Level<br>(dBc) | Rule<br>Limit<br>(dBc) | Margin<br>from<br>Limit<br>(dB) |
|--------------|--------------------|------------------------------------|----------------------|---------------------------------------|-----------------------------|----------------------------------------|------------------------|------------------------|---------------------------------|
| 1<br>(HIGH)  | 1928.448           |                                    |                      |                                       |                             | 115.68<br>(Note 4)                     | 0.00                   | ---                    | ---                             |
| 2 x fc       | 3857.71            | 40.65                              | 10.5                 | 33 V                                  | -35                         | 49.15                                  | -66.53                 | -60                    | 6.53                            |
| 3 x          | 5785.65            | 40.04                              | 11.7                 | 35 V                                  | -35                         | 51.74                                  | -63.94                 | -60                    | 3.94                            |
| 4 x          | 7714.05            | <b>38.33</b>                       | 15.2                 | 37 H                                  | -35                         | <b>55.53</b>                           | <b>-60.15</b>          | -60                    | <b>0.15</b>                     |
| 3<br>(MID)   | 1924.992           |                                    |                      |                                       |                             | 115.68<br>(Note 4)                     | 0.00                   | ---                    | ---                             |
| 2 x fc       | 3850.05            | 39.97                              | 10.5                 | 33 V                                  | -35                         | 48.47                                  | -67.21                 | -60                    | 7.21                            |
| 3 x          | 5775.15            | 40.61                              | 11.7                 | 35 V                                  | -35                         | 52.31                                  | 63.37                  | -60                    | 3.37                            |
| 4 x          | 7700.25            | 38.15                              | 15.2                 | 37 H                                  | -35                         | 55.15                                  | -60.53                 | -60                    | 0.53                            |
| 5<br>(LOW)   | 1921.536           |                                    |                      |                                       |                             | 115.68<br>(Note 4)                     | 0.00                   | ---                    | ---                             |
| 2 x fc       | 3843.30            | 41.34                              | 10.5                 | 33 V                                  | -35                         | 49.84                                  | -65.84                 | -60                    | 5.84                            |
| 3 x          | 5765.69            | 40.85                              | 11.7                 | 35 V                                  | -35                         | 52.55                                  | -63.13                 | -60                    | 3.13                            |
| 4 x          | 7686.45            | 37.75                              | 15.2                 | 37 H                                  | -35                         | 54.95                                  | -60.73                 | -60                    | 0.73                            |

Note 2: Horn antenna in Horizontal (H) or Vertical (V) polarization

Note 4: Referenced to the maximum power measured above

Worst-case plot follows:

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 24 of 57          |



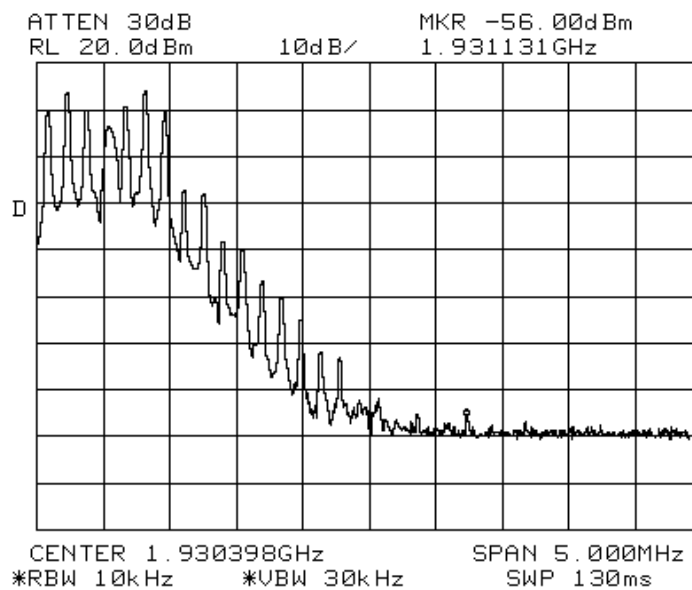
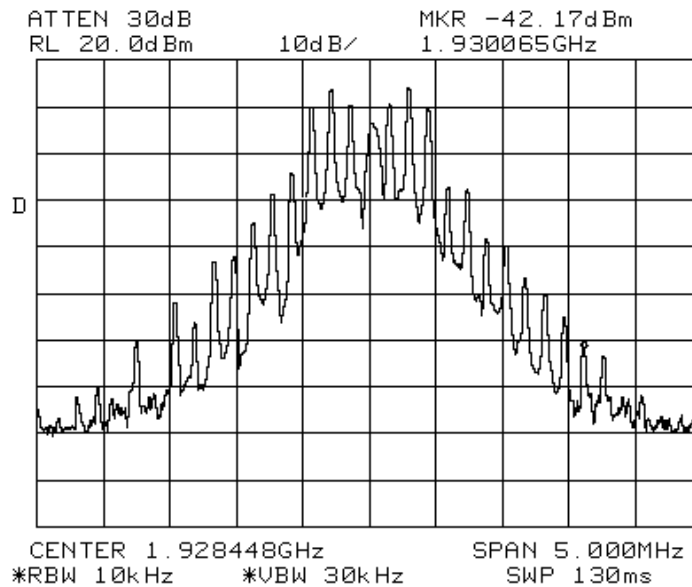
Base 4<sup>th</sup> Harmonic at High Channel

## 9.3 Handset Near Band Edge

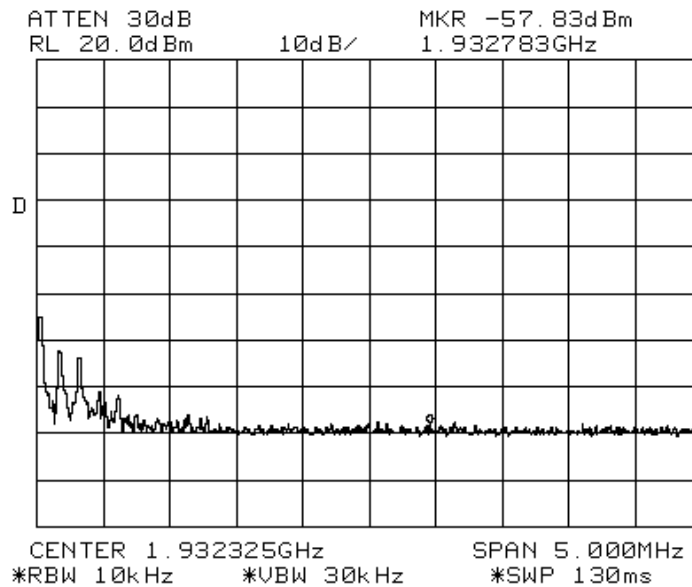
| Test Mode | Chan. No. | Freq. (MHz) | Freq. Range (MHz) | Reading (dBm) | Rel. Att. (dBc) | Limit (dBc) | Margin (dB)  |
|-----------|-----------|-------------|-------------------|---------------|-----------------|-------------|--------------|
| 1, 2      | 1         | 1928.448    | Upper edge        | 18.17         | 0.0             | ---         | ---          |
|           |           | 1930.065    | 1930 ~1931.25     | -42.17        | -60.34          | -30         | 30.34        |
|           |           | 1931.131    | 1931.25 ~1932.5   | -56           | -74.17          | -50         | 24.17        |
|           |           | 1932.783    | 1932.5 ~ up       | <b>-57.83</b> | -76.00          | -60         | <b>16.00</b> |
| 1, 2      | 5         | 1921.536    | Lower Edge        | 18.17         | 0.0             | ---         | ---          |
|           |           | 1919.786    | 1918.75 ~1920     | -40.50        | -58.67          | -30         | 28.67        |
|           |           | 1917.528    | 1917.5 ~1918.75   | -55.83        | -74             | -50         | 24           |
|           |           | 1917.203    | Down ~1917.5      | <b>-57.5</b>  | -75.67          | -60         | <b>15.67</b> |

Upper out-band plots follow:

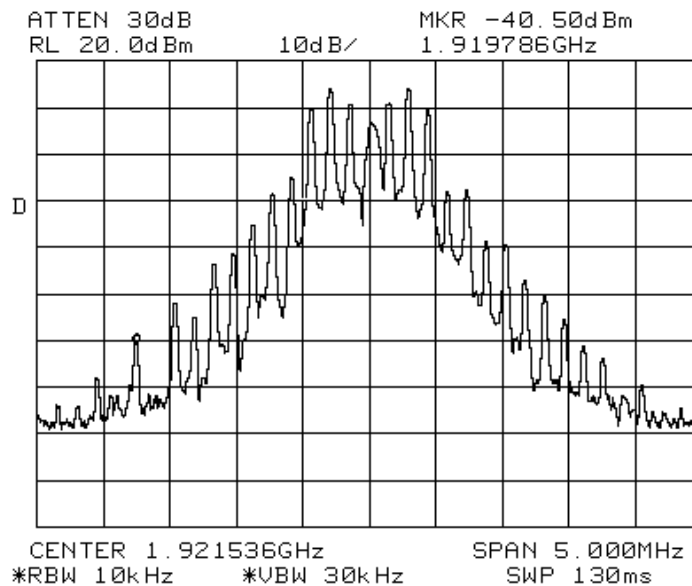
|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 25 of 57          |



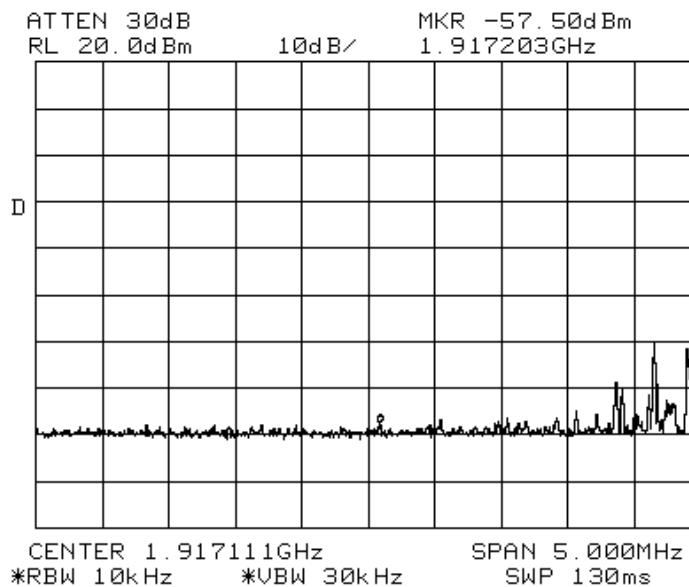
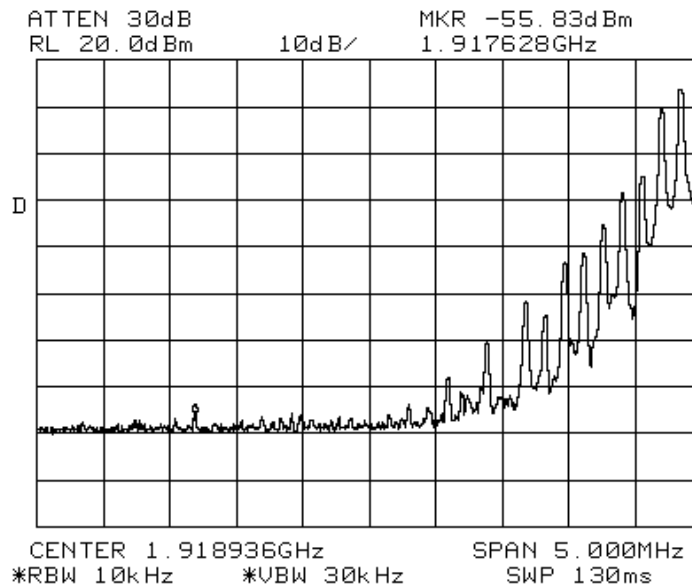
|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 26 of 57          |



Lower out-band plots follow:



|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 27 of 57          |



|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>28 of 57</b>          |

**9.4 Handset Tx Harmonics**

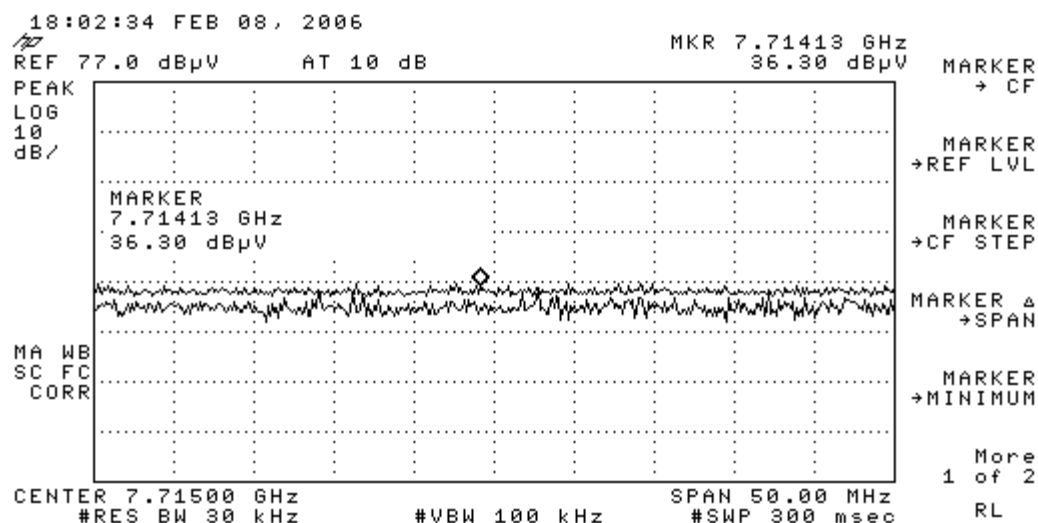
| <b>Chan.<br/>No.</b> | <b>Frequency<br/>(MHz)</b> | <b>Meter<br/>Peak<br/>Reading<br/>(dBμV)</b> | <b>Coax<br/>Loss<br/>(dB)</b> | <b>Antenna<br/>Factor<br/>(Note 2)<br/>(dB)</b> | <b>Pre-<br/>amp<br/>Gain<br/>(dB)</b> | <b>Field<br/>Strength<br/>at 3m<br/>(dBμV/m)</b> | <b>Rel.<br/>Level<br/>(dBc)</b> | <b>Rule<br/>Limit<br/>(dBc)</b> | <b>Margin<br/>from<br/>Limit<br/>(dB)</b> |
|----------------------|----------------------------|----------------------------------------------|-------------------------------|-------------------------------------------------|---------------------------------------|--------------------------------------------------|---------------------------------|---------------------------------|-------------------------------------------|
| 1<br>(HIGH)          | 1928.448                   |                                              |                               |                                                 |                                       | 114.25<br>(Note 4)                               | 0.00                            | ---                             | ---                                       |
| 2 x fc               | 3856.90                    | 37.32                                        | 10.5                          | 33 V                                            | -35                                   | 45.82                                            | -68.43                          | -60                             | 8.43                                      |
| 3 x                  | 5785.75                    | 39.15                                        | 11.7                          | 35 V                                            | -35                                   | 50.85                                            | -63.40                          | -60                             | 3.40                                      |
| 4 x                  | 7714.13                    | <b>36.30</b>                                 | 15.2                          | 37 V                                            | -35                                   | <b>53.50</b>                                     | <b>-60.75</b>                   | -60                             | <b>0.75</b>                               |
| 3<br>(MID)           | 1924.992                   |                                              |                               |                                                 |                                       | 114.25<br>(Note 4)                               | 0.00                            | ---                             | ---                                       |
| 2 x fc               | 3850.08                    | 38.29                                        | 10.5                          | 33 V                                            | -35                                   | 46.79                                            | -67.46                          | -60                             | 7.46                                      |
| 3 x                  | 5775.50                    | 38.61                                        | 11.7                          | 35 V                                            | -35                                   | 50.31                                            | -63.94                          | -60                             | 3.94                                      |
| 4 x                  | 7700.38                    | 36.12                                        | 15.2                          | 37 V                                            | -35                                   | 53.32                                            | -60.93                          | -60                             | 0.93                                      |
| 5<br>(LOW)           | 1921.536                   |                                              |                               |                                                 |                                       | 114.25<br>(Note 4)                               | 0.00                            | ---                             | ---                                       |
| 2 x fc               | 3843.07                    | 38.79                                        | 10.5                          | 33 V                                            | -35                                   | 47.29                                            | -66.96                          | -60                             | 6.96                                      |
| 3 x                  | 5765.00                    | 37.20                                        | 11.7                          | 35 V                                            | -35                                   | 48.90                                            | -65.35                          | -60                             | 5.35                                      |
| 4 x                  | 7687.88                    | 35.75                                        | 15.2                          | 37 V                                            | -35                                   | 52.95                                            | -61.30                          | -60                             | 1.30                                      |

Note 2: Horn antenna in Horizontal (H) or Vertical (V) polarization

Note 4: Referenced to the maximum power measured above

Worst-case plot follows:

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 29 of 57          |



Handset 4<sup>th</sup> Harmonic at Mid Channel

## 9 RADIATED SPURIOUS EMISSIONS

Clause: 15.205 (a), 15.205 (c), 15.209 (a) / 11.0

Limits:

| Emission Frequency<br>(MHz) | Field Strength |            | At Distance<br>(m) | Detector<br>Type                             |
|-----------------------------|----------------|------------|--------------------|----------------------------------------------|
|                             | (μV/m)         | (dBμV/m)   |                    |                                              |
| 0.009 – 0.490               | 2400/f (kHz)   | 67.6 / kHz | 300                | AV (9-90 kHz,<br>110-490 kHz)<br>QP (others) |
| 0.490 – 1.705               | 24000/f (kHz)  | 87.6 / kHz | 30                 | QP                                           |
| 1.705 – 30.0                | 30             | 29.5       | 30                 | QP                                           |
| 30 – 88                     | 100            | 40         | 3                  | QP                                           |
| 88 – 216                    | 150            | 43.5       | 3                  | QP                                           |
| 216 – 960                   | 200            | 46         | 3                  | QP                                           |
| > 960                       | 500            | 54         | 3                  | AV (> 1 GHz)                                 |

SA Setting: RBW ≥ 100 kHz for f < 1 GHz, 1 MHz for f ≥ 1 GHz

DA 00-705 VBW ≥ RBW

Span = to fully capture emission being measured

Sweep = auto

Test Result: Worst-case in each band (See separate section for band edge emission)

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>30 of 57</b>          |

## 10.1 Base

10.1.1 Band 9 kHz – 30 MHz

10.1.2 Band 30 – 88 MHz

10.1.3 Band 88 – 216 MHz

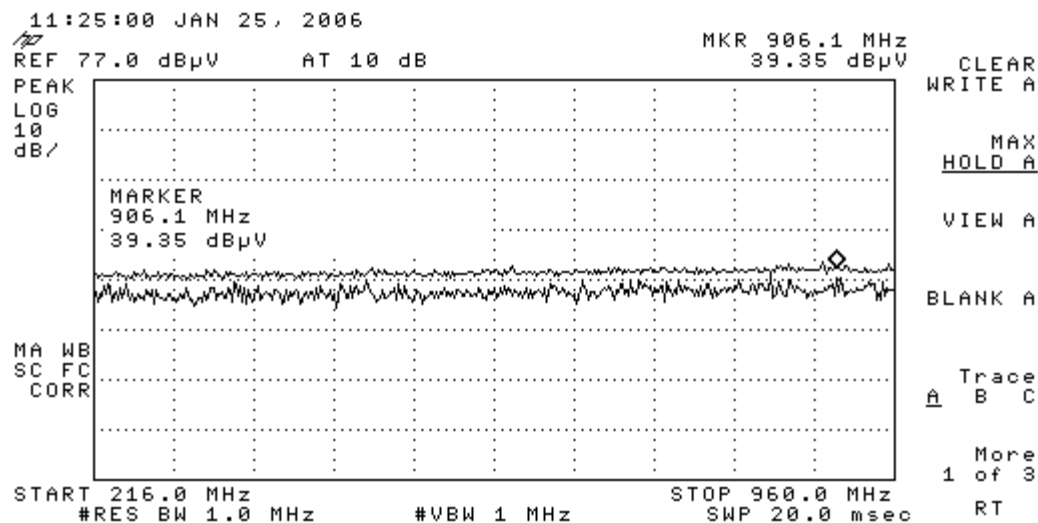
10.1.4 Band 216 – 960 MHz

| <b>Band<br/>(MHz)</b> | <b>Freq.<br/>(MHz)</b> | <b>Meter<br/>Peak<br/>Reading<br/>(dB<math>\mu</math>V)</b> | <b>Coax<br/>Loss<br/>(dB)</b> | <b>Antenna<br/>Factor<br/>(Note 1)<br/>(dB)</b> | <b>Pre-<br/>amp<br/>Gain<br/>(dB)</b> | <b>Field<br/>Strength<br/>at 3m<br/>(dB<math>\mu</math>V/m)</b> | <b>Rule<br/>Limit<br/>(dB<math>\mu</math>V/m)</b> | <b>Margin<br/>from<br/>Limit<br/>(dB)</b> |
|-----------------------|------------------------|-------------------------------------------------------------|-------------------------------|-------------------------------------------------|---------------------------------------|-----------------------------------------------------------------|---------------------------------------------------|-------------------------------------------|
| 0.009–30              |                        | N/A                                                         |                               |                                                 |                                       |                                                                 |                                                   | N/A                                       |
| 30 – 88               | 80.02                  | 39.55                                                       | 2.0                           | 10.0 BV                                         | -23.5                                 | 28.05                                                           | 40                                                | 11.95                                     |
| 88–216                | 168.30                 | 40.06                                                       | 2.5                           | 10.3 BV                                         | -23.5                                 | 29.36                                                           | 43.5                                              | 14.14                                     |
| 216–960               | 906.10                 | <b>39.35</b>                                                | 5.23                          | 21.7 BH                                         | -23.5                                 | <b>44.78</b>                                                    | 46                                                | <b>3.22</b>                               |

Note 1: Biconical (B) or Log-periodic (L) antenna in Horizontal (H) or Vertical (V) polarization

Worst-case plot follows:

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 31 of 57          |



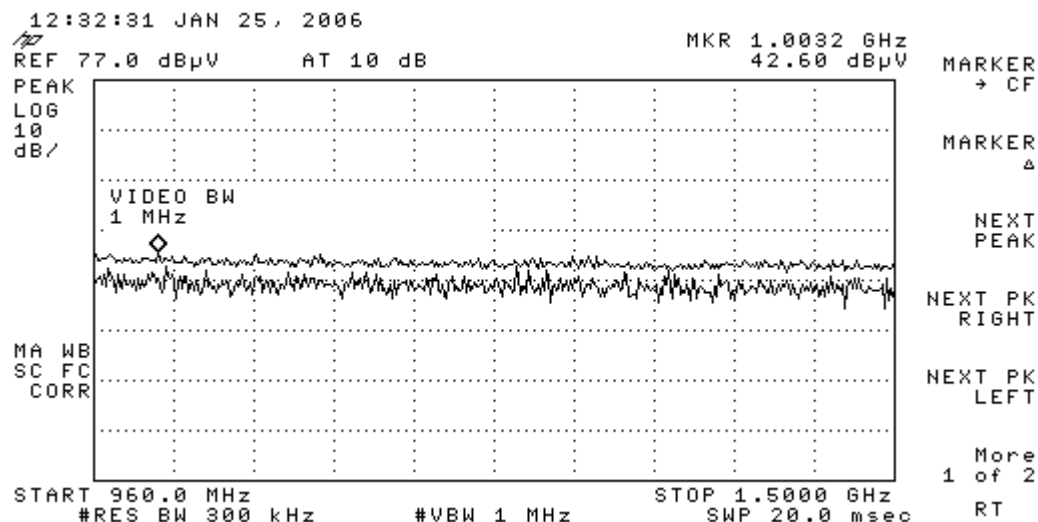
Base spurious emission  $\leq$  960 MHz

## 10.1.5 Band above 960 MHz

| Test Mode & Chan. | Frequency (MHz) | Meter Peak Reading (dBμV) | Coax Loss (dB) | Antenna Factor (Note 2) (dB) | Pre-amp Gain (dB) | Duty Cycle Factor (dB) | Field Strength at 3m (dBμV/m) | Rule Limit (dBμV/m) | Margin from Limit (dB) |
|-------------------|-----------------|---------------------------|----------------|------------------------------|-------------------|------------------------|-------------------------------|---------------------|------------------------|
| TM 4, 5, 6        | 1003.20         | 42.60                     | 5.71           | 25.7 H                       | -35               | N/A                    | 39.01                         | 54                  | 14.99                  |

Note 2: Horn antenna in Horizontal (H) or Vertical (V) polarization

Worst-case plot follows:



|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 32 of 57          |

Base spurious emission > 960 MHz

## 10.2 Handset

10.2.1 Band 9 kHz – 30 MHz

10.2.2 Band 30 – 88 MHz

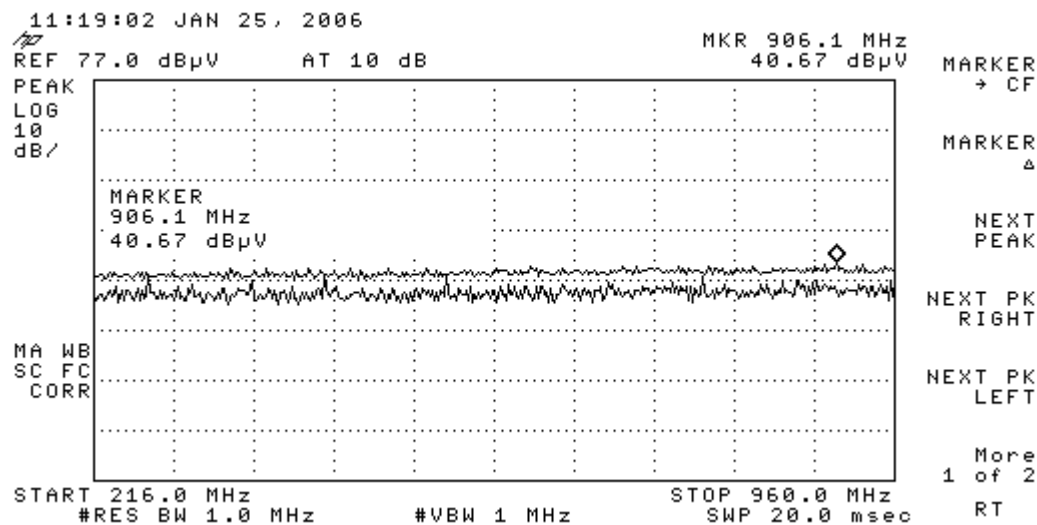
10.2.3 Band 88 – 216 MHz

10.2.4 Band 216 – 960 MHz

| Band<br>(MHz) | Freq.<br>(MHz) | Meter<br>Peak<br>Reading<br>(dB $\mu$ V) | Coax<br>Loss<br>(dB) | Antenna<br>Factor<br>(Note 1)<br>(dB) | Pre-<br>amp<br>Gain<br>(dB) | Field<br>Strength<br>at 3m<br>(dB $\mu$ V/m) | Rule<br>Limit<br>(dB $\mu$ V/m) | Margin<br>from<br>Limit<br>(dB) |
|---------------|----------------|------------------------------------------|----------------------|---------------------------------------|-----------------------------|----------------------------------------------|---------------------------------|---------------------------------|
| 0.009–30      |                | N/A                                      |                      |                                       |                             |                                              |                                 | N/A                             |
| 30 – 88       | 86.40          | 39.36                                    | 2.0                  | 9.6 BV                                | -23.5                       | 27.46                                        | 40                              | 12.54                           |
| 88–216        | 139.80         | 39.26                                    | 2.5                  | 12.6 BV                               | -23.5                       | 30.86                                        | 43.5                            | 12.64                           |
| 216–960       | 906.1          | <b>40.67</b>                             | 5.23                 | 21.7 BH                               | -23.5                       | <b>44.10</b>                                 | 46                              | <b>1.90</b>                     |

Note 1: Biconical (B) or Log-periodic (L) antenna in Horizontal (H) or Vertical (V) polarization

Worst-case plot follows:



Handset spurious emission  $\leq$  960 MHz

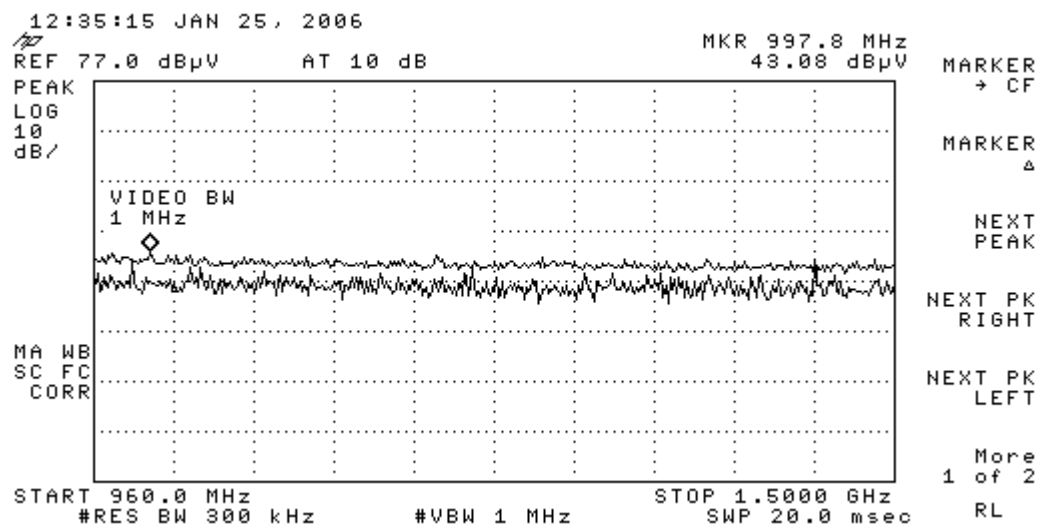
|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 33 of 57          |

## 10.2.5 Band above 960 MHz

| Test Mode & Chan. | Frequency (MHz) | Meter Peak Reading (dB $\mu$ V) | Coax Loss (dB) | Antenna Factor (Note 2) (dB) | Pre-amp Gain (dB) | Duty Cycle Factor (dB) | Field Strength at 3m (dB $\mu$ V/m) | Rule Limit (dB $\mu$ V/m) | Margin from Limit (dB) |
|-------------------|-----------------|---------------------------------|----------------|------------------------------|-------------------|------------------------|-------------------------------------|---------------------------|------------------------|
| TM                |                 |                                 |                |                              |                   |                        |                                     |                           |                        |
| 1, 2              | 997.80          | <b>43.00</b>                    | 5.71           | 25.7 V                       | -35               | N/A                    | 39.41                               | 54                        | <b>14.59</b>           |
|                   |                 |                                 |                |                              |                   |                        |                                     |                           |                        |

Note 2: Horn antenna in Horizontal (H) or Vertical (V) polarization

Worst-case plot follows:



Base spurious emission &gt; 960 MHz

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>34 of 57</b>          |

## 10 FREQUENCY STABILITY AND JITTER

**Clause:** 15.323 (e), 15.323(f) / 9.0

**Requirement:**

- Frame frequency stability  $\leq 50$  ppm
- TDMA frame frequency stability  $\leq 10$  ppm over 1 hour or interval between channel access monitoring, whichever is shorter  
(That translates to frequency drift of 19.2 kHz for 1920 MHz carrier)
- Frame jitter  $\leq 25$   $\mu$ s
- Carrier frequency stability over  $-20$  to  $+50$   $^{\circ}$ C at normal supply voltage, and over 85% to 115% of rated supply voltage (voltage variation not required for battery operated device)

**Equipment:** ROHDE & SCHWARZ Digital Radio Tester MODEL CTS60  
S/N 100407  
Last calibrated 2004-7-20

**Eq. Setting:** Offset  $-18$  (for UPCS frequency band)  
Data Pattern = Fig 31 (specific for frequency drift and jitter tests), or  
0000111100001111 for other stability tests  
Attenuation 1 dB (to compensate for cable loss to antenna connector)

**Test Result:** Complies with requirements

### 11.1 Base

#### 11.1.1 Frame Frequency Drift and Jitter

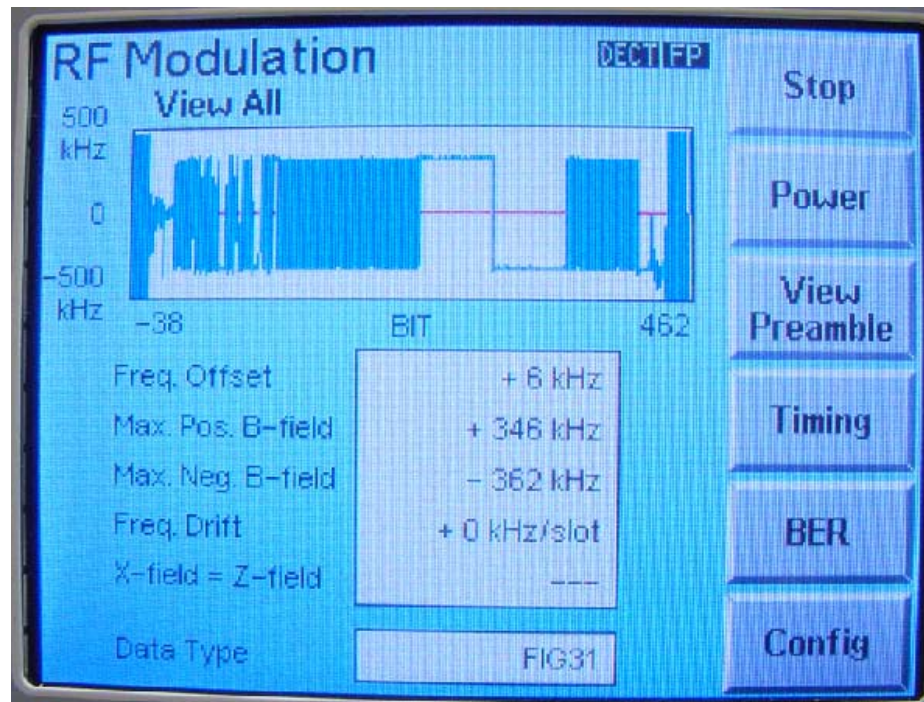
| Test Mode | Channel No. | Frequency (kHz / slot) |       | Jitter ( $\mu$ s) |       |
|-----------|-------------|------------------------|-------|-------------------|-------|
|           |             | Drift                  | Limit | Meas.             | Limit |
| TBR6      | 5           | 0.00                   | 19.2  | 0.00              | 25    |
| TBR6      | 3           | <b>0.00</b>            | 19.2  | <b>0.00</b>       | 25    |
| TBR6      | 1           | 0.00                   | 19.2  | 0.00              | 25    |

Note: Test Mode TBR6 is built-in per ETSI standard and resides in firmware preceding the FCC test mode in Test Mode Menu.

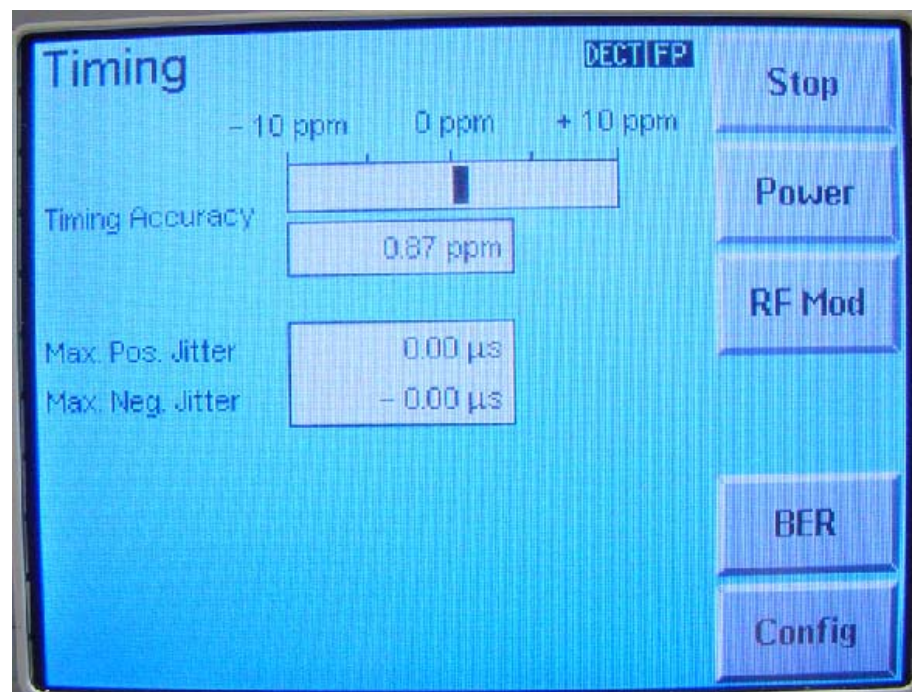
Photos of worst-case display follow:

Doc Title FCC / IC Application Report  
Doc Sec. Test Data – B187 RF  
Dept./Proj. 1.9 GHz DECT USB Telephone

Doc No. B187-RP11-X-YY-TA  
Revision 1.2  
Page(s) 35 of 57



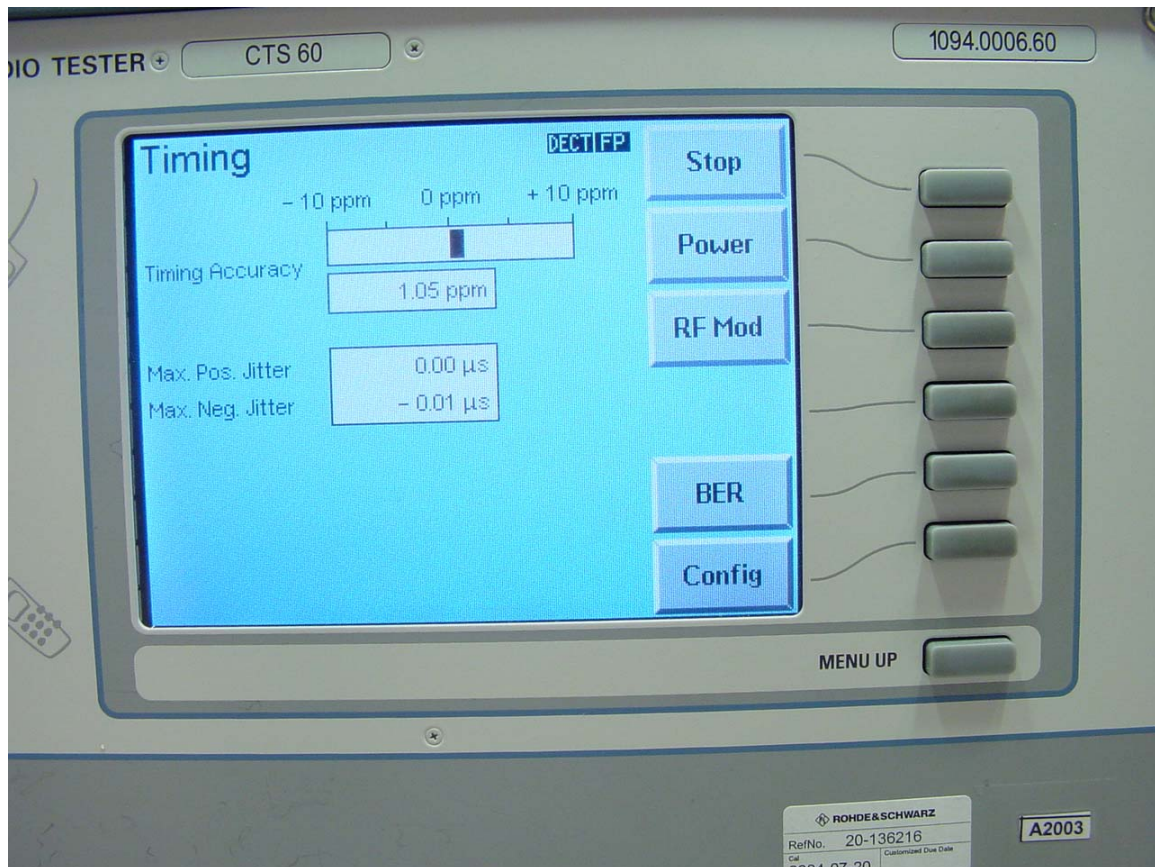
Base Frequency Drift at Mid Channel



Base TDMA Frame Jitter at Mid Channel

Doc Title    FCC / IC Application Report  
Doc Sec.     Test Data – B187 RF  
Dept./Proj.   1.9 GHz DECT USB Telephone

Doc No.     B187-RP11-X-YY-TA  
Revision     1.2  
Page(s)     36 of 57



(Enlarged View)

Base TDMA Frame Jitter

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>37 of 57</b>          |

### 11.1.2 Carrier Frequency Stability with Supply voltage

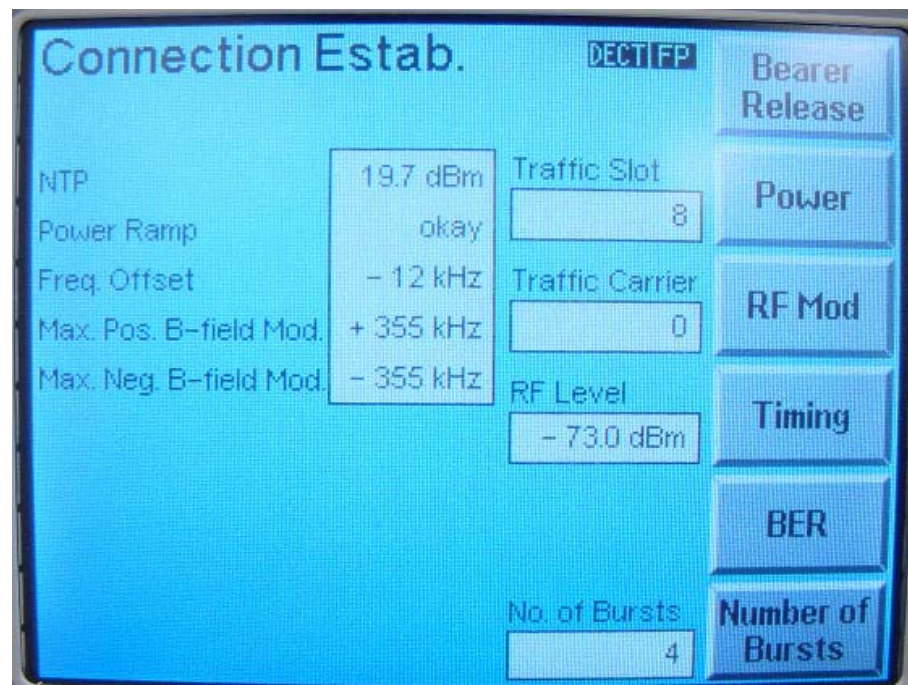
| Test Mode | Channel No. | Frequency (kHz / slot) |             |      | Limit No. |
|-----------|-------------|------------------------|-------------|------|-----------|
|           |             | 4.25 V (85%)           | 5 V (Norm.) | Mode |           |
| TBR6      | 5           | -10                    | -11         | TBR6 | 5         |
| TBR6      | 3           | -12                    | -11         | TBR6 | 3         |
| TBR6      | 1           | -9                     | -8          | TBR6 | 1         |

Note: Test Mode TBR6 is built-in per ETSI standard and resides in firmware preceding the FCC test mode in Test Mode Menu.

### 11.1.3 Carrier Frequency Stability with Temperature and Time

| Test Mode | Channel No. | Frequency Offset (kHz) |       |      | Limit No. |
|-----------|-------------|------------------------|-------|------|-----------|
|           |             | -20 °C                 | 25 °C | Mode |           |
| TBR6      | 5           | -12.0                  | 6.0   | TBR6 | 5         |
| TBR6      | 3           | -3.0                   | 5.0   | TBR6 | 3         |
| TBR6      | 1           | -9.0                   | 4.0   | TBR6 | 1         |

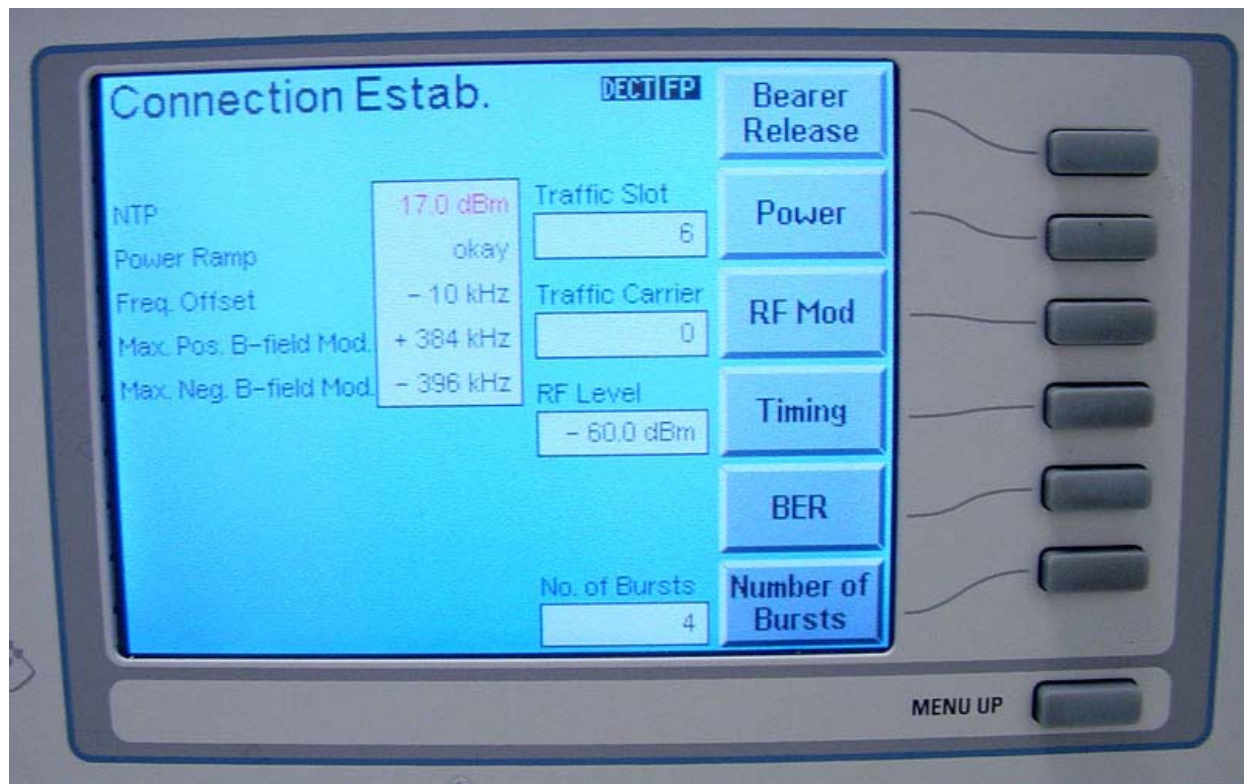
Test was conducted for duration longer than 1 hour. Photos of worst-case display follow:



**Doc Title** FCC / IC Application Report  
**Doc Sec.** Test Data – B187 RF  
**Dept./Proj.** 1.9 GHz DECT USB Telephone

**Doc No.** B187-RP11-X-YY-TA  
**Revision** 1.2  
**Page(s)** 38 of 57

Base Carrier Frequency Offset with Temperature



(Enlarged View)

Base Carrier Frequency Offset with Temperature

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>39 of 57</b>          |

## 11.2 Handset

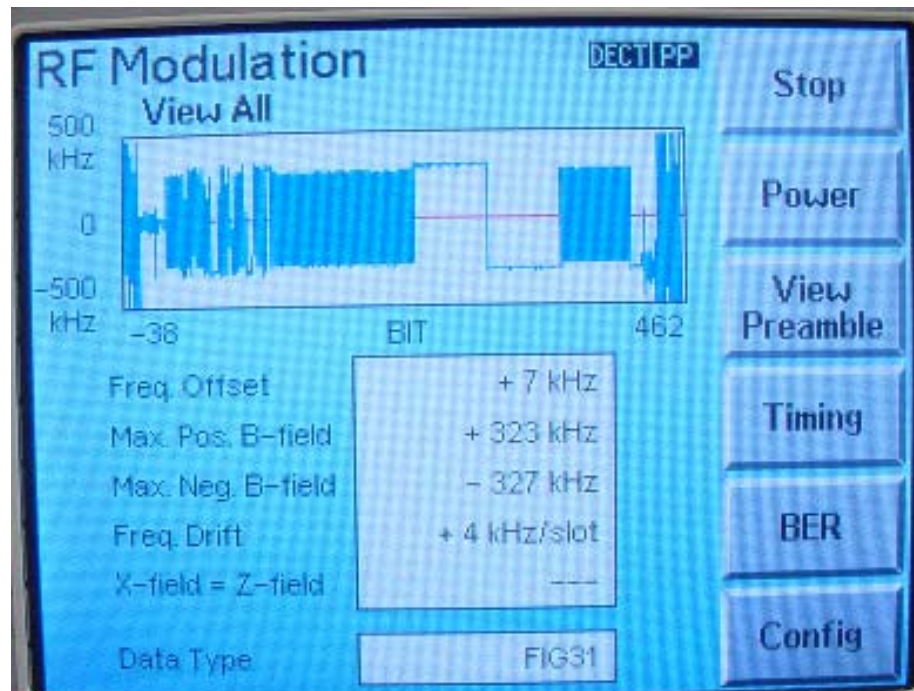
### 11.2.1 Frame Frequency Drift and Jitter

| <b>Test<br/>Mode</b> | <b>Channel<br/>No.</b> | <b>Frequency<br/>(kHz / slot)</b> |              | <b>Jitter<br/>(<math>\mu</math>s)</b> |            |
|----------------------|------------------------|-----------------------------------|--------------|---------------------------------------|------------|
|                      |                        | <b>Drift</b>                      | <b>Limit</b> | <b>Mode</b>                           | <b>No.</b> |
| TBR6                 | 5                      | 4.00                              | 19.2         | TBR6                                  | 1          |
| TBR6                 | 3                      | <b>4.00</b>                       | 19.2         | TBR6                                  | 3          |
| TBR6                 | 1                      | 3.00                              | 19.2         | TBR6                                  | 5          |

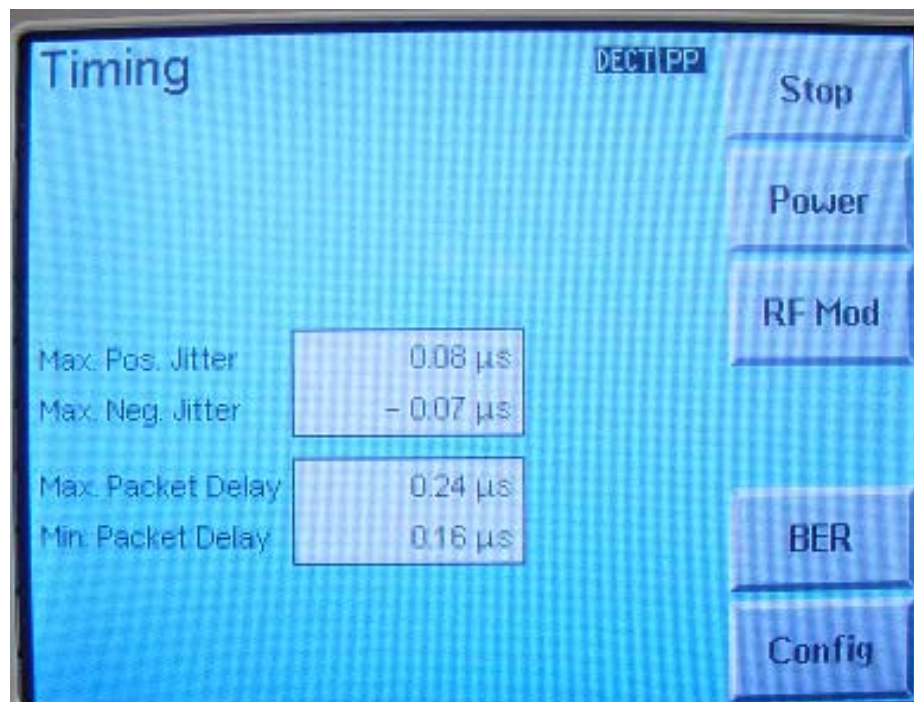
Note: Test Mode TBR6 is built-in per ETSI standard and resides in firmware preceding the FCC test mode in Test Mode Menu.

Photos of worst-case display follow:

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 40 of 57          |



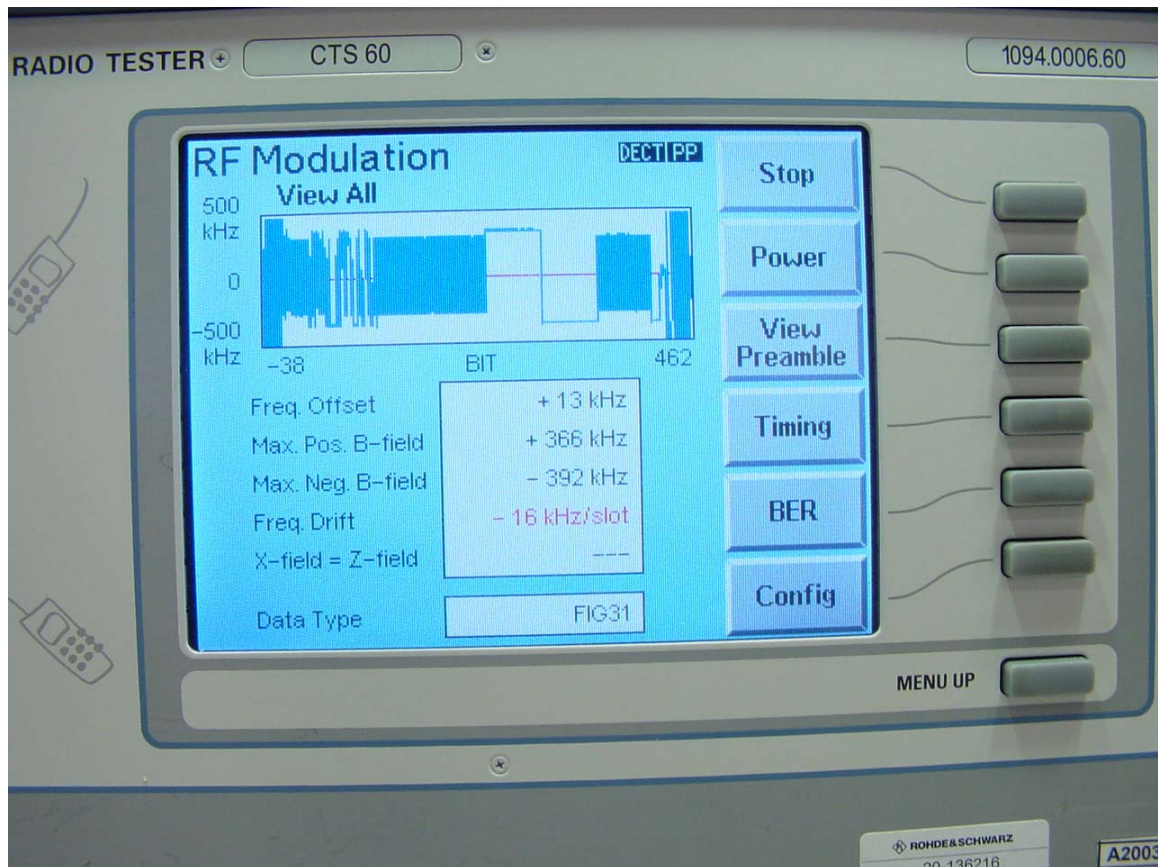
Handset Frequency Drift at Mid Channel



Handset TDMA Frame Jitter

Doc Title    FCC / IC Application Report  
Doc Sec.     Test Data – B187 RF  
Dept./Proj.   1.9 GHz DECT USB Telephone

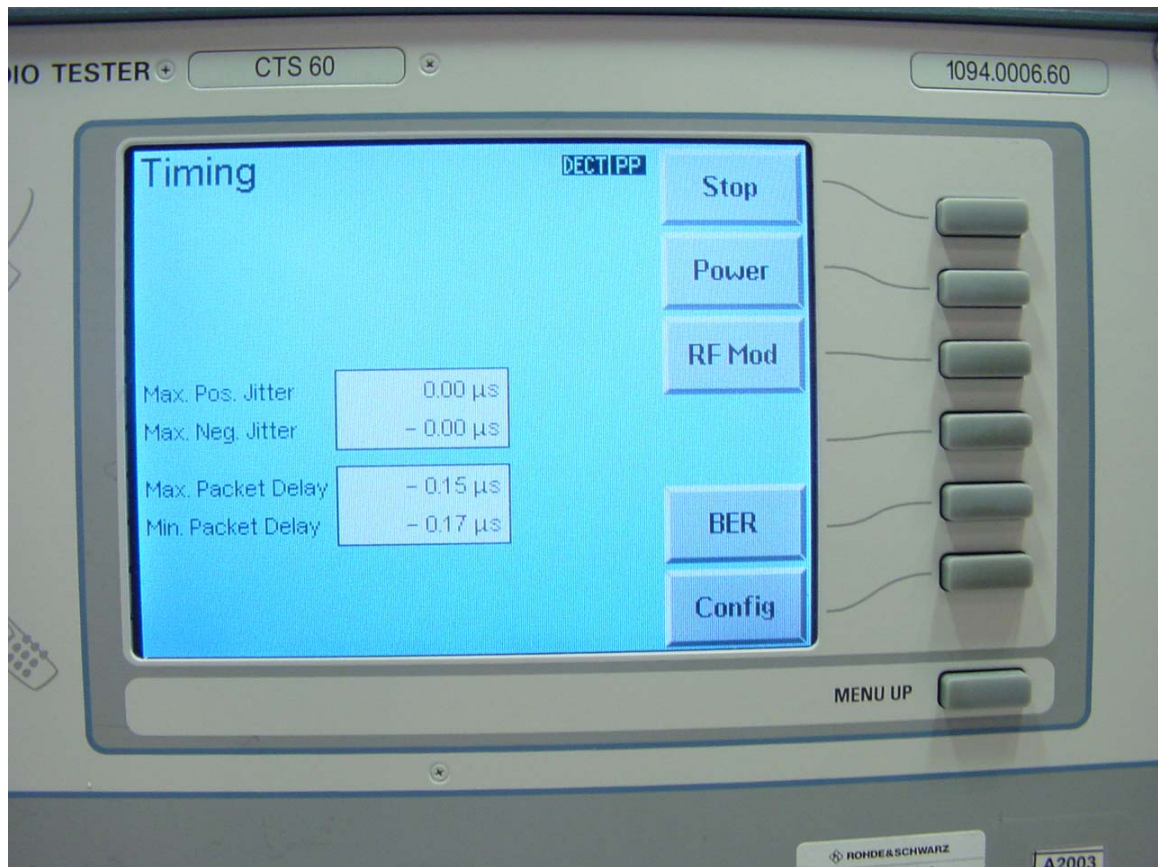
Doc No.     B187-RP11-X-YY-TA  
Revision     1.2  
Page(s)     41 of 57



(Enlarged View)

Handset Frequency Drift at Mid Channel

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 42 of 57          |



(Enlarged View)

Handset TDMA Frame Jitter

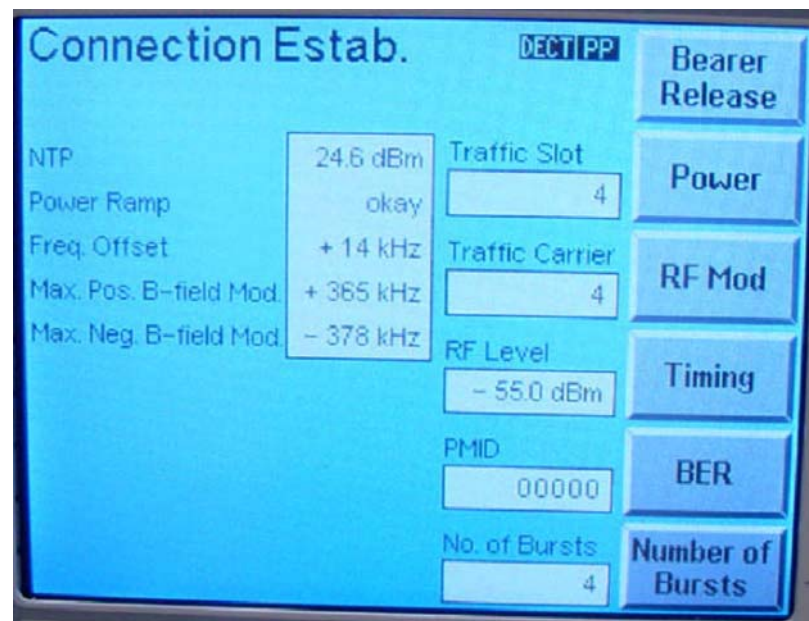
|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>43 of 57</b>          |

### 11.2.2 Carrier Frequency Stability with Temperature and Time

| Test Mode | Channel No. | Frequency Offset (kHz) |       |      | Limit No. |
|-----------|-------------|------------------------|-------|------|-----------|
|           |             | -20 °C                 | 25 °C | Mode |           |
| TBR6      | 5           | 10.0                   | 3.0   | TBR6 | 5         |
| TBR6      | 3           | <b>16.0</b>            | 7.0   | TBR6 | 3         |
| TBR6      | 1           | 11.0                   | 6.0   | TBR6 | 1         |

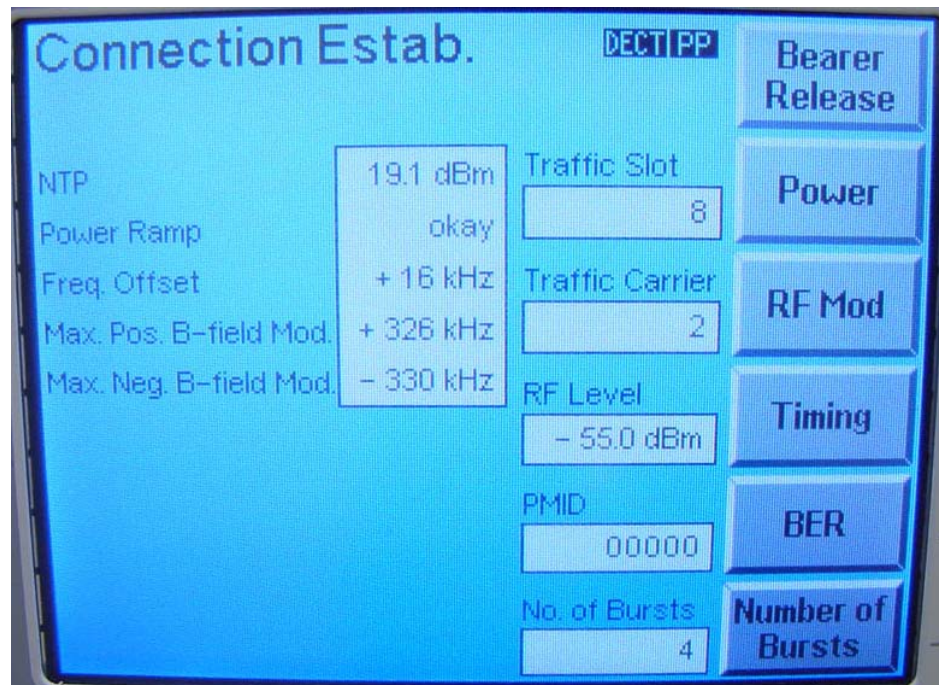
Note: Test Mode TBR6 is built-in per ETSI standard and resides in firmware preceding the FCC test mode in Test Mode Menu.

Test was conducted for duration longer than 1 hour. Photos of worst-case display follow:



Handset Carrier Frequency Offset with Temperature

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 44 of 57          |



(Enlarged View)

Handset Carrier Frequency Offset with Temperature

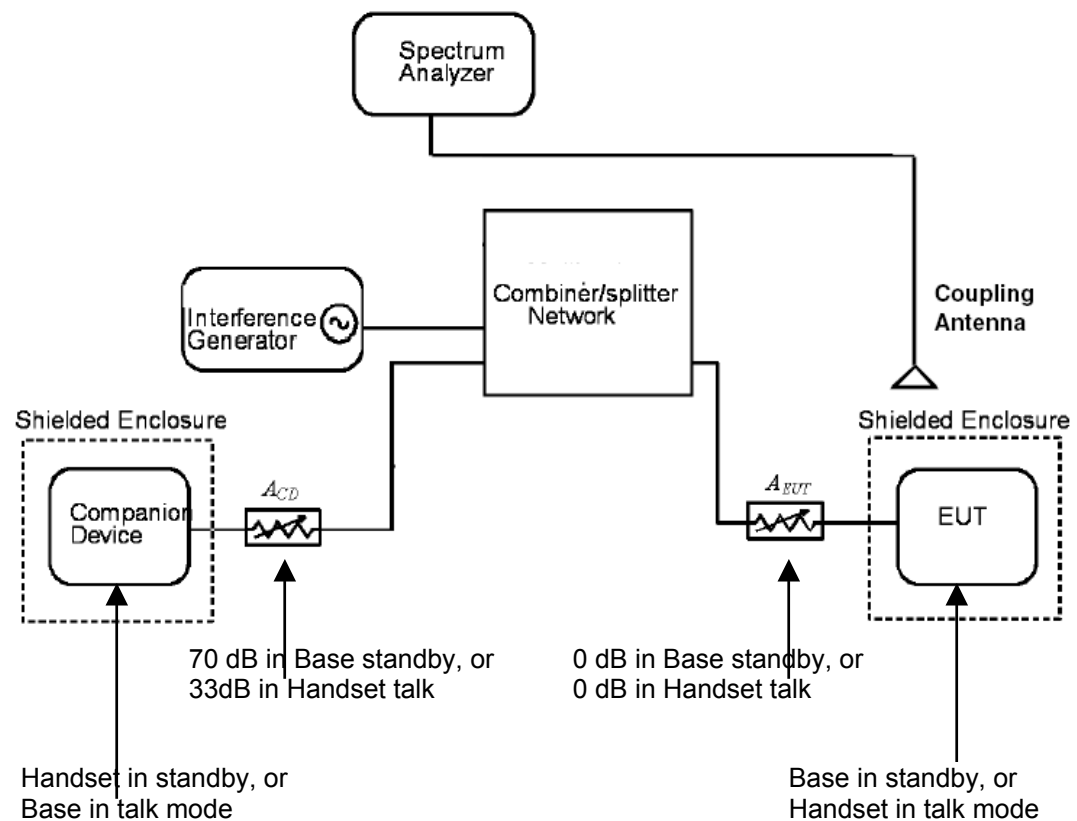
|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 45 of 57          |

## 11 MONITORING THRESHOLD

**Clause:** 15.323 (c)(5) / 8.4 (c)(5)

**Requirement:**  $\leq -61$  dBm for 1.5 MHz BW and 20.5 dBm Tx power derived from formula as follows:  
Upper limit =  $15 \log B - 184 + 50 - P$  as per ANSI 63.17 Sec. 7.2.1

**Test Setup:** As shown below per Fig. 8 of 7.1.1 in ANSI C63.17 – 1998



EUT (Base and Handset) modified in

- Tx power purposely reduced by about 10 dB to reduce requirement on external attenuators  $A_{EUT}$  and  $A_{CD}$
- Limited 2-channel operation by EEPROM setting

| Mode    | EUT     | $A_{EUT}$ (dB) | Companion Device | $A_{CD}$ (dB) |
|---------|---------|----------------|------------------|---------------|
| Standby | Base    | 0              | Handset          | 70            |
| Talk    | Handset | 0              | Base             | 33            |

**Test Result:** Threshold  $< -61$  dBm

### 12.1 Standby

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>46 of 57</b>          |

Note:

- Base is the initiator; handset the responding device.
- Main deciding factor in protocol is signal strength RSSI.

Combiner / Coupler insertion loss = 4 dB

Cable loss 1 = 0.8 dB

Cable loss 2 = 1.6 dB

Total insertion loss = 6.4 dB

Measured threshold = Sig Gen reading – Insertion loss  
=  $-65 - 6.4 = -71.4$  dBm

## 12.2 Talk

Note:

- Handset is the initiator; base the responding device.
- Main deciding factors in protocol are CRC (or BER), sync pulse and clock jitter besides signal strength RSSI.
- Base conveys information on channel conditions to add to that detected by handset before handset decides on initiating channel change.

Measured threshold =  $-64.0 - 6.4 = -70.4$  dBm

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>47 of 57</b>          |

**12 POWER LINE CONDUCTED EMISSIONS****Clause:** 15.315, 15.207 (a), 15.107 (a) / 10.0**Limits:** FCC

| Emission Frequency<br>(MHz) | Conducted Limit (dB $\mu$ V) |              |
|-----------------------------|------------------------------|--------------|
|                             | Quasi-peak (QP)              | Average (AV) |
| 0.15 - 0.5                  | 66 to 56 *                   | 56 to 46 *   |
| 0.5 - 5                     | 56                           | 46           |
| 5 - 30                      | 60                           | 50           |

\* Decreases with the logarithm of the frequency.

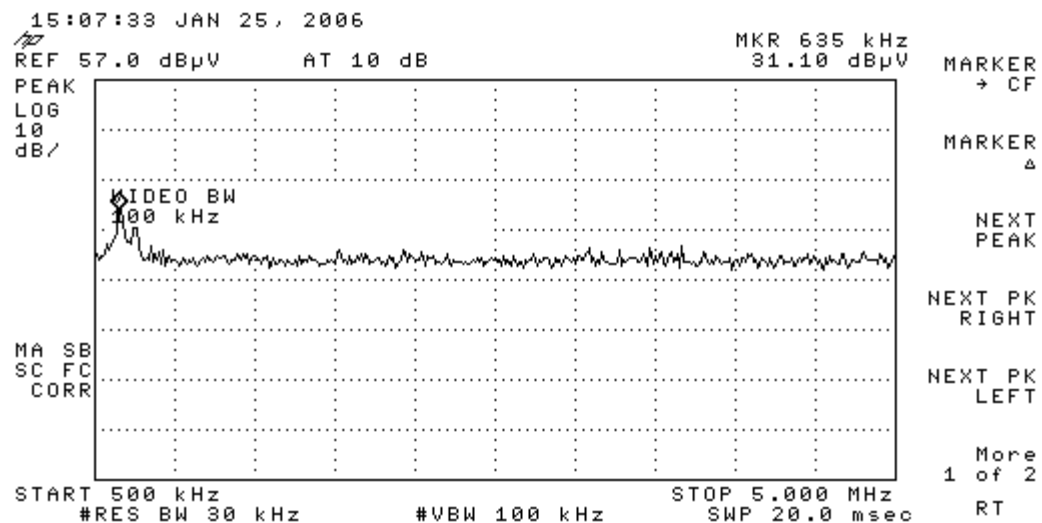
**IC**250  $\mu$ V (48 dB $\mu$ V) across 50  $\Omega$  at any frequency or within 0.45-30 MHz by CISPR measurement**SA Setting:** RBW = 10 kHz**Test Result:** Worst-case in each band**13.1 Charger stand-alone**

| Line    | Band<br>(MHz) | Freq.<br>(MHz) | Reading<br>QP (dB $\mu$ V) | Loss<br>(dB) | Emission<br>(dB $\mu$ V) | Limit<br>(dB $\mu$ V) | Margin<br>(dB) |
|---------|---------------|----------------|----------------------------|--------------|--------------------------|-----------------------|----------------|
| Live    | 0.15 - 0.5    | 0.157          | 23.16                      | 20           | 43.16                    | 66                    | 22.84          |
|         | 0.5 - 5       | 0.635          | <b>31.10</b>               | 20           | 51.10                    | 56                    | <b>4.90</b>    |
|         | 5 - 30        | 11.75          | 26.35                      | 20           | 46.35                    | 60                    | 13.65          |
| Neutral | 0.15 - 0.5    | 0.171          | 24.99                      | 20           | 44.99                    | 64                    | 19.01          |
|         | 0.5 - 5       | 0.635          | <b>26.95</b>               | 20           | 46.95                    | 56                    | <b>9.05</b>    |
|         | 5 - 30        | 11.75          | 30.33                      | 20           | 50.33                    | 60                    | 9.67           |

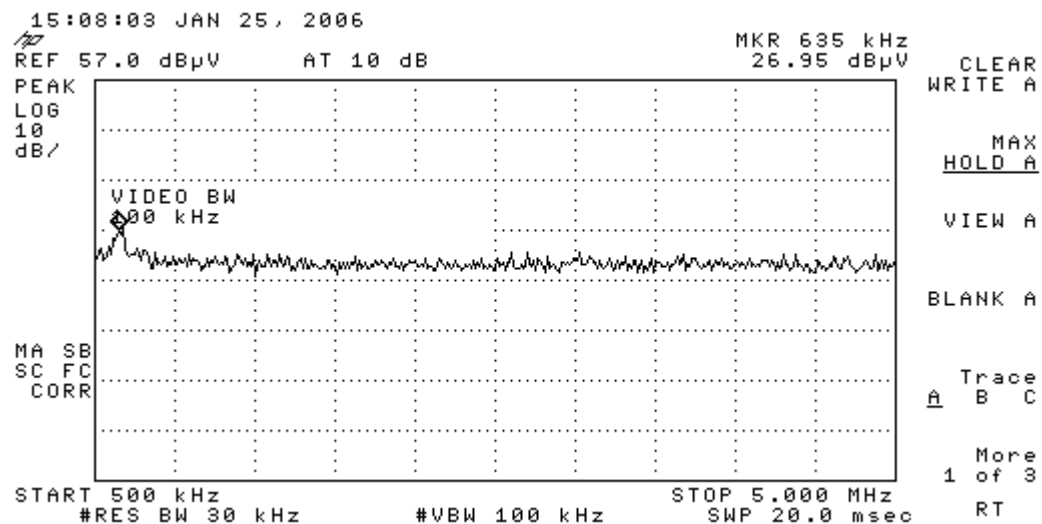
Plots follow.

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 48 of 57          |

## Emission from LIVE conductor



## Emission from NEUTRAL conductor

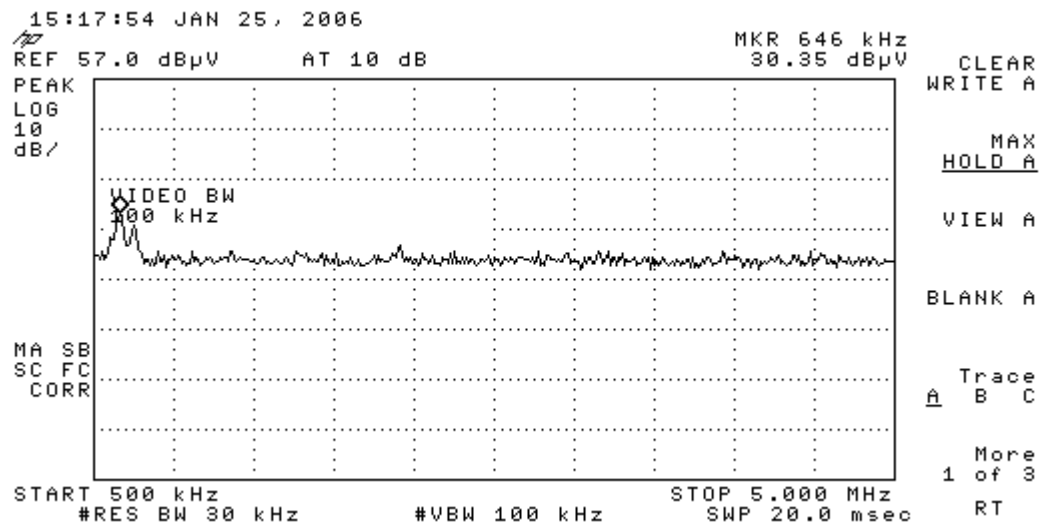


|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 49 of 57          |

**13.2 Charger with Handset in standby**

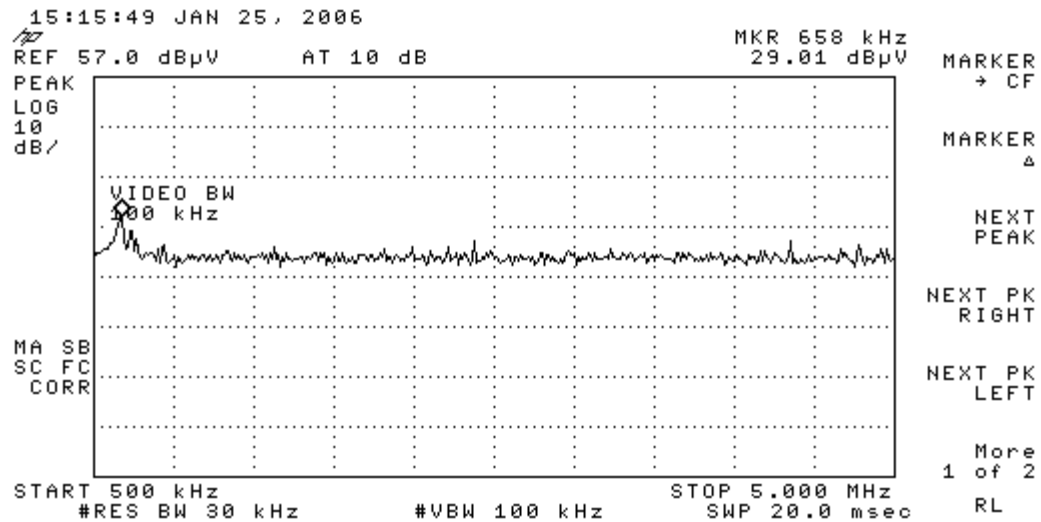
| Line    | Band (MHz) | Freq. (MHz) | Reading QP (dBμV) | Loss (dB) | Emission (dBμV) | Limit (dBμV) | Margin (dB) |
|---------|------------|-------------|-------------------|-----------|-----------------|--------------|-------------|
| Live    | 0.15 - 0.5 | 0.160       | 22.97             | 20        | 42.97           | 64           | 21.03       |
|         | 0.5 - 5    | 0.646       | <b>30.35</b>      | 20        | 50.35           | 56           | <b>5.65</b> |
|         | 5 - 30     | 9.50        | 29.87             | 20        | 49.87           | 60           | 10.13       |
| Neutral | 0.15 - 0.5 | 0.159       | 22.92             | 20        | 42.92           | 64           | 21.08       |
|         | 0.5 - 5    | 0.658       | <b>29.01</b>      | 20        | 49.01           | 56           | <b>6.99</b> |
|         | 5 - 30     | 8.12        | 29.35             | 20        | 49.35           | 60           | 10.65       |

Worst-case plot follows.



Emission from LIVE conductor

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 50 of 57          |



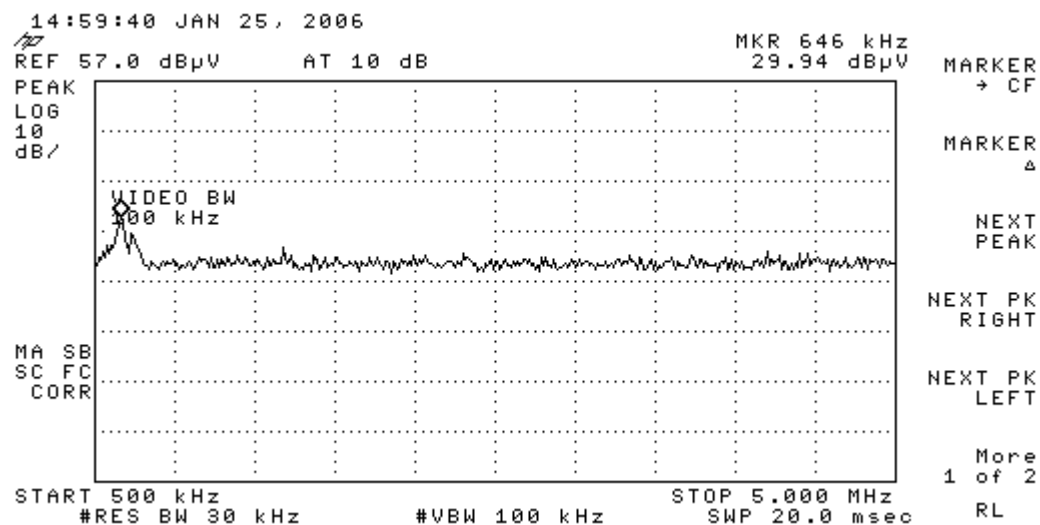
|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 51 of 57          |

### 13.3 Base in phone-on

Handset Tx on Low, Mid or High channel set by Test Mode

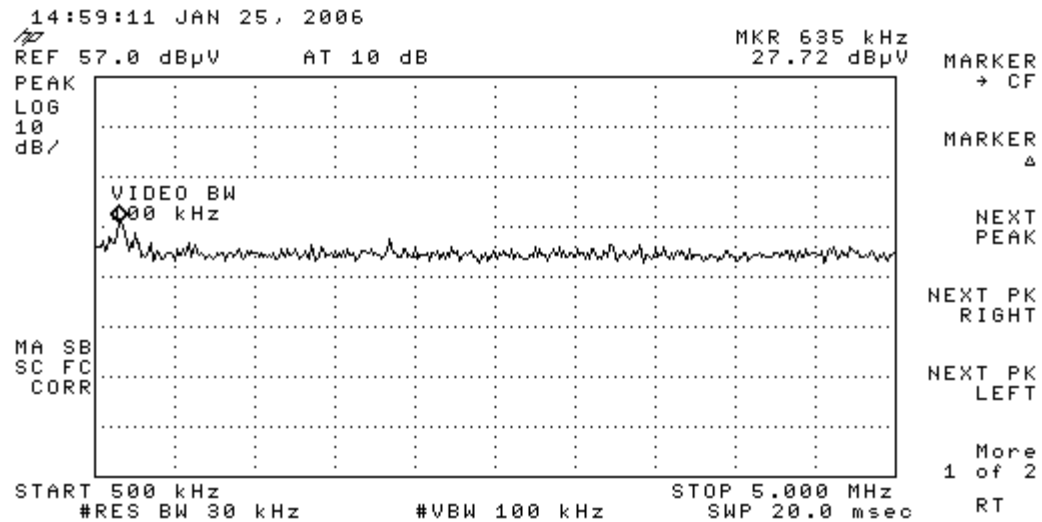
| Line    | Band (MHz) | Freq. (MHz)  | Reading QP (dBμV) | Loss (dB) | Emission (dBμV) | Limit (dBμV) | Margin (dB) |
|---------|------------|--------------|-------------------|-----------|-----------------|--------------|-------------|
| Live    | 0.15 - 0.5 | 0.170        | 23.44             | 20        | 43.44           | 64           | 20.56       |
|         | 0.5 - 5    | <b>0.646</b> | <b>29.94</b>      | 20        | 49.94           | 56           | <b>6.06</b> |
|         | 5 - 30     | 24.00        | 29.68             | 20        | 49.68           | 60           | 10.32       |
| Neutral | 0.15 - 0.5 | 0.163        | 23.96             | 20        | 43.96           | 64           | 20.04       |
|         | 0.5 - 5    | <b>0.635</b> | <b>27.72</b>      | 20        | 47.72           | 56           | <b>8.28</b> |
|         | 5 - 30     | 20.54        | 20.31             | 20        | 40.31           | 60           | 19.69       |

Worst-case plot follows.



Emission from LIVE conductor  
(Base on Tx Mid Channel)

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 52 of 57          |



Emission from NEUTRAL conductor  
(Base on Tx Mid Channel)

|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>53 of 57</b>          |

### 13 CHARGER RADIATED EMISSIONS

**SA Setting:** RBW  $\geq$  100 kHz for  $f < 1$  GHz, 1 MHz for  $f \geq 1$  GHz  
**DA 00-705** VBW  $\geq$  RBW  
Span = to fully capture emission being measured  
Sweep = auto

#### 13.1 Charger Stand-alone

**Clause:** 15.109 (a) / 5.0 ICES-003

**Limits:**

| Emission Frequency<br>(MHz) | Class B Field Strength at 3 m |                |
|-----------------------------|-------------------------------|----------------|
|                             | ( $\mu$ V/m)                  | (dB $\mu$ V/m) |
| 30 – 88                     | 100                           | 40             |
| 88 – 216                    | 150                           | 43.5           |
| 216 – 960                   | 200                           | 46             |
| > 960                       | 500                           | 54             |

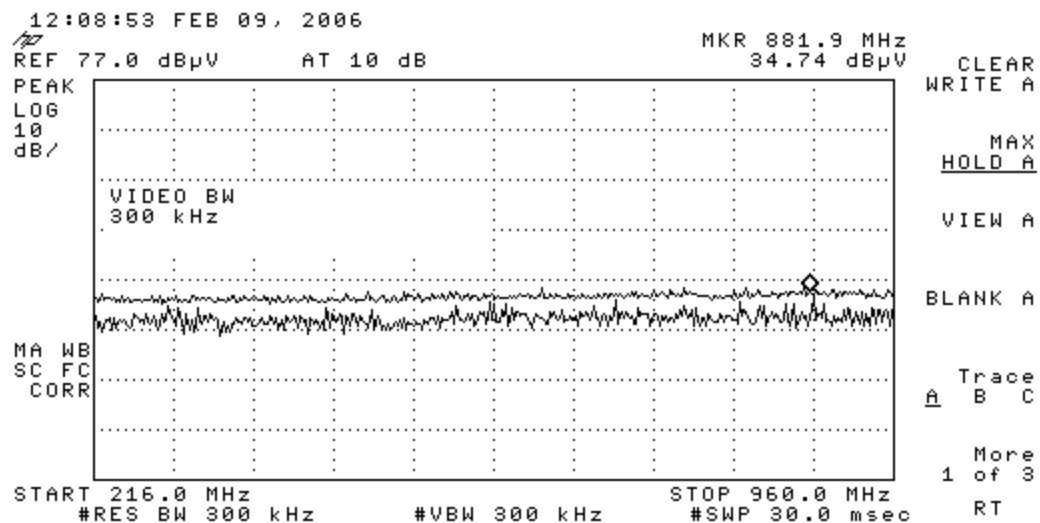
**Test Result:** Worst-case in each band

- 14.1.1 Band 30 – 88 MHz
- 14.1.2 Band 88 – 216 MHz
- 14.1.3 Band 216 – 960 MHz

| Band<br>(MHz) | Freq.<br>(MHz) | Meter<br>Peak<br>Reading<br>(dB $\mu$ V) | Coax<br>Loss<br>(dB) | Antenna<br>Factor<br>(Note 1)<br>(dB) | Pre-<br>amp<br>Gain<br>(dB) | Field<br>Strength<br>at 3m<br>(dB $\mu$ V/m) | Rule<br>Limit<br>(dB $\mu$ V/m) | Margin<br>from<br>Limit<br>(dB) |
|---------------|----------------|------------------------------------------|----------------------|---------------------------------------|-----------------------------|----------------------------------------------|---------------------------------|---------------------------------|
| 30 – 88       | 33.48          | 31.81                                    | 2.0                  | 14.5                                  | -23.5                       | 24.81                                        | 40                              | 15.19                           |
| 88–216        | 168.60         | 40.75                                    | 3                    | 13.5                                  | -23.5                       | 33.75                                        | 43.5                            | 9.75                            |
| 216–960       | 881.90         | <b>34.74</b>                             | 5                    | 23.3                                  | -23.5                       | <b>39.54</b>                                 | 46                              | <b>6.46</b>                     |

Note 1: Biconical (B) or Log-periodic (L) antenna in Horizontal (H) or Vertical (V) polarization

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 54 of 57          |

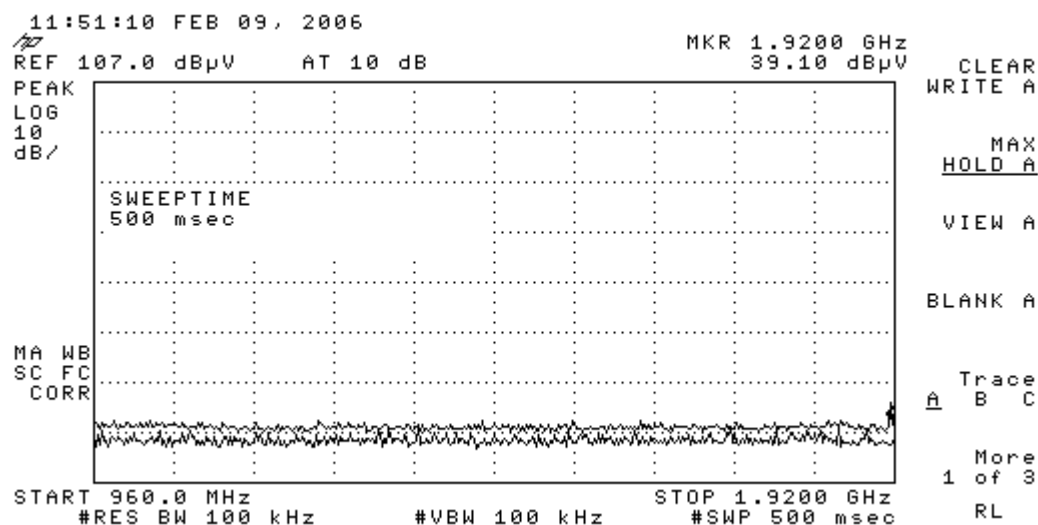


Spurious emission ≤ 960 MHz

## 14.1.4 Band above 960 MHz

| Freq.<br>(MHz) | Meter Peak Reading<br>(dBμV) | Coax Loss<br>(dB) | Antenna Factor<br>(Note 2)<br>(dB) | Pre-amp Gain<br>(dB) | Field Strength at 3m<br>(dBμV/m) | Rule Limit<br>(dBμV/m) | Margin from Limit<br>(dB) |
|----------------|------------------------------|-------------------|------------------------------------|----------------------|----------------------------------|------------------------|---------------------------|
| 1920           | 39.10                        | 7.52              | 28.7H                              | -35                  | 40.32                            | 54                     | 13.68                     |

Note 2: Horn antenna in Horizontal (H) or Vertical (V) polarization



|                    |                                    |                 |                          |
|--------------------|------------------------------------|-----------------|--------------------------|
| <b>Doc Title</b>   | <b>FCC / IC Application Report</b> | <b>Doc No.</b>  | <b>B187-RP11-X-YY-TA</b> |
| <b>Doc Sec.</b>    | <b>Test Data – B187 RF</b>         | <b>Revision</b> | <b>1.2</b>               |
| <b>Dept./Proj.</b> | <b>1.9 GHz DECT USB Telephone</b>  | <b>Page(s)</b>  | <b>55 of 57</b>          |

Spurious emission > 960 MHz

## 14.2 Charger with Handset in standby

**Clause:** 15.205(a), 15.205(c), 15.209 (a) / 11.0

**Limits:**

| Emission Frequency<br>(MHz) | Field Strength |                | At Distance | Detector<br>Type                             |
|-----------------------------|----------------|----------------|-------------|----------------------------------------------|
|                             | ( $\mu$ V/m)   | (dB $\mu$ V/m) | (m)         |                                              |
| 0.009 - 0.490               | 2400/F(kHz)    | 67.6 / kHz     | 300         | AV (9-90 kHz,<br>110-490 kHz)<br>QP (others) |
| 0.490 - 1.705               | 24000/F(kHz)   | 87.6 / kHz     | 30          | QP                                           |
| 1.705 - 30.0                | 30             | 29.5           | 30          | QP                                           |
| 30 – 88                     | 100            | 40             | 3           | QP                                           |
| 88 – 216                    | 150            | 43.5           | 3           | QP                                           |
| 216 – 960                   | 200            | 46             | 3           | QP                                           |
| > 960                       | 500            | 54             | 3           | AV (> 1 GHz)                                 |

**Test Result:** Worst-case in each band

14.2.1 Band 9 kHz – 30 MHz

14.2.2 Band 30 – 88 MHz

14.2.3 Band 88 – 216 MHz

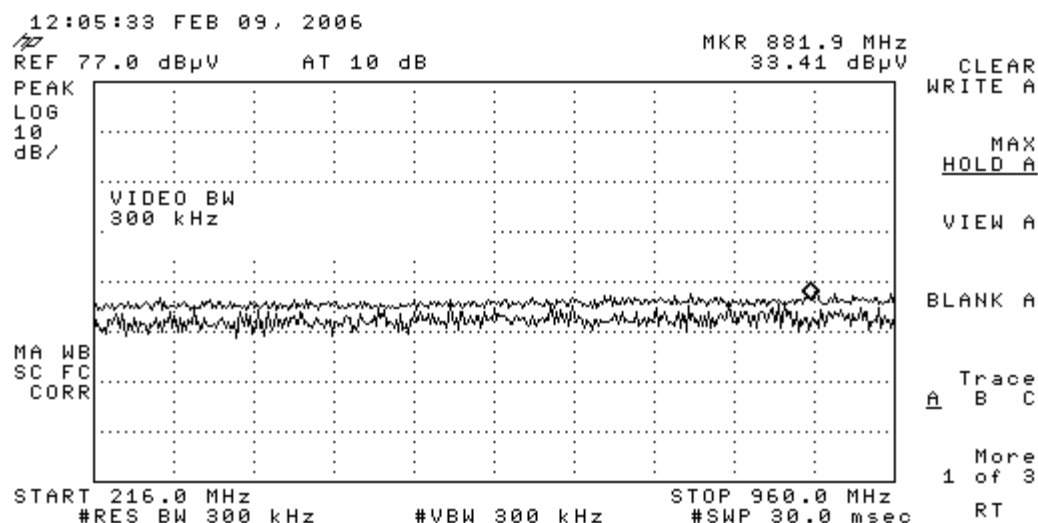
14.2.4 Band 216 – 960 MHz

| Band<br>(MHz) | Freq.<br>(MHz) | Meter<br>Peak<br>Reading<br>(dB $\mu$ V) | Coax<br>Loss<br>(dB) | Antenna<br>Factor<br>(Note 1)<br>(dB) | Pre-<br>amp<br>Gain<br>(dB) | Field<br>Strength<br>at 3m<br>(dB $\mu$ V/m) | Rule<br>Limit<br>(dB $\mu$ V/m) | Margin<br>from<br>Limit<br>(dB) |
|---------------|----------------|------------------------------------------|----------------------|---------------------------------------|-----------------------------|----------------------------------------------|---------------------------------|---------------------------------|
| 0.009–30      |                | N/A                                      |                      |                                       |                             |                                              |                                 | N/A                             |
| 30 – 88       | 32.61          | 39.09                                    | 2                    | 14.5 BV                               | -23.5                       | 32.09                                        | 40                              | 7.90                            |
| 88–216        | 168.6          | 36.30                                    | 3                    | 13.5 BV                               | -23.5                       | 29.30                                        | 43.5                            | 14.20                           |
| 216–960       | 881.9          | <b>33.41</b>                             | 5                    | 23.3 LV                               | -23.5                       | 38.21                                        | 46                              | <b>7.79</b>                     |

Note 1: Biconical (B) or Log-periodic (L) antenna in Horizontal (H) or Vertical (V) polarization

Worst-case plot follows:

|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 56 of 57          |



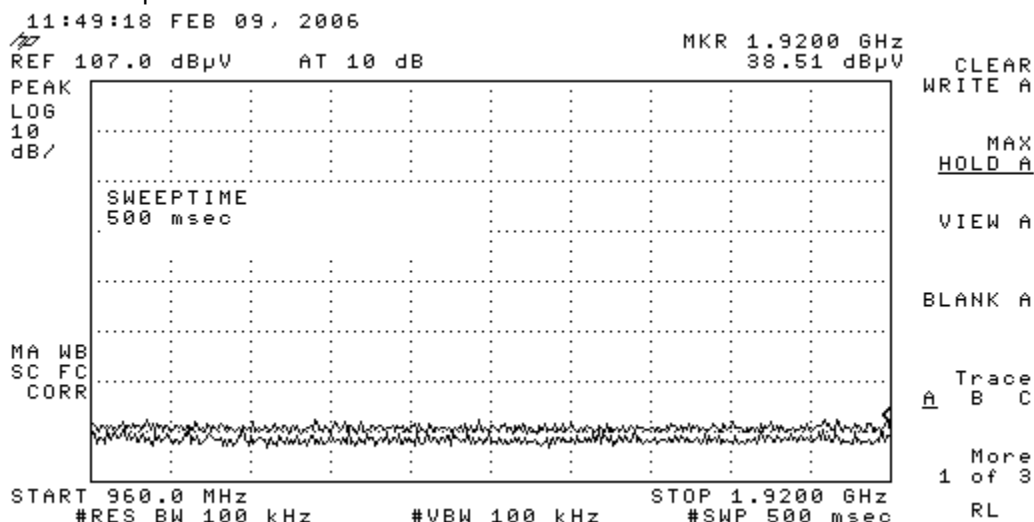
Spurious emission  $\leq$  960 MHz

## 14.2.5 Band above 960 MHz

| Freq.<br>(MHz) | Meter Peak Reading<br>(dBμV) | Coax Loss<br>(dB) | Antenna Factor<br>(Note 2)<br>(dB) | Pre-amp Gain<br>(dB) | Field Strength at 3m<br>(dBμV/m) | Rule Limit<br>(dBμV/m) | Margin from Limit<br>(dB) |
|----------------|------------------------------|-------------------|------------------------------------|----------------------|----------------------------------|------------------------|---------------------------|
| 1920.00        | 38.51                        | 7.52              | 28.5 V                             | -35                  | 39.53                            | 54                     | 14.47                     |

Note 2: Horn antenna in Horizontal (H) or Vertical (V) polarization

Worst-case plot follows:



|             |                             |          |                   |
|-------------|-----------------------------|----------|-------------------|
| Doc Title   | FCC / IC Application Report | Doc No.  | B187-RP11-X-YY-TA |
| Doc Sec.    | Test Data – B187 RF         | Revision | 1.2               |
| Dept./Proj. | 1.9 GHz DECT USB Telephone  | Page(s)  | 57 of 57          |

Spurious emission > 960 MHz