

## ANNEXE 1: Code de ATreader

```
/* Connier Jean, Joseph Adrien, ISIMA1 - projet - 2012-2013 */
/* ATreader : extrait les AT commandes d'un fichier de capture reseau */
/* Fichier ATreader.c */

#include <string.h>
#include <stdio.h>

#define NARGS 2

int main (int argc, char *argv[])
{
    char c;
    char caractere;
    FILE * entree = NULL;
    FILE * sortie = NULL;
    int flag1 = 0;
    int flag2 = 0;
    int stop=0;

    if(argc == NARGS + 1)
    {
        /* Ouverture des deux fichiers */
        entree = fopen(argv[1], "rb");
        sortie = fopen(argv[2], "wb");

        if(entree != NULL)
        {
            if(sortie != NULL)
            {
                while(! stop)
                {
                    while(fread(&caractere, 1, 1, entree) > 0)
                    {
                        if(caractere == 'A')
                        {
                            flag1 = 1;
                        }
                        else if(caractere == 'T' && flag1 == 1)
                        {
                            flag2 = 1;
                        }
                        else if(caractere == '*' && flag2 == 1)
                        {
                            /* Correspond au cas ou on a lu "AT*" */
                            /* On ecrit "AT*" */
                            c = 'A';
                            fwrite(&c, 1, 1, sortie);
                            c = 'T';
                            fwrite(&c, 1, 1, sortie);
                            fwrite(&caractere, 1, 1, sortie);
                        }
                    }
                }
            }
        }
    }
}
```

```

        flag1 = flag2 = 0;
        /* On ecrit ensuite la fin de la ligne */
        while(caractere != 0x0D && caractere != '\n' &&
fread(&caractere, 1, 1, entree))
        {
            fwrite(&caractere, 1, 1, sortie);
        }
        c = '\n';
        fwrite(&c, 1, 1, sortie);
    }
    else
    {
        flag1 = flag2 = 0;
    }
}
if(feof(entree))
{
    stop = 1;
}
}
fclose(sortie);

}
else
{
    fprintf(stderr, "Impossible d'ouvrir %s.\n", argv[2]);
}
fclose(entree);
}
else
{
    fprintf(stderr, "Impossible d'ouvrir %s.\n", argv[1]);
}
}
else
{
    fprintf(stderr, "Mauvais nombre d'arguments.\n");
}

return 0;
}

```

## ANNEXE 2: Code de listAT

```
/* Connier Jean, Joseph Adrien, ISIMA1 - projet - 2012-2013 */
/* listAT - liste les differentes AT commandes a partir d'un fichier */
/* Fichier main.c */

#include "outils.h"
#include "table.h"

#include <stdio.h>
#include <stdlib.h>

int main(int argc, char *argv[])
{
    table_maj_t *tete = NULL;
    FILE * fichier = NULL;
    if(argc == 3)
    {
        tete = malloc(sizeof(table_maj_t));
        if(tete != NULL)
        {
            /* On alloue la zone contenant les elements de la table */
            tete->elements = malloc(64*sizeof(elt_table_t));
            if(tete->elements != NULL)
            {
                tete->nb_elements = 0;
                fichier = construireTable(argv[1], tete);
                if(fichier != NULL)
                {
                    afficherTable(tete);
                    ecrireTable(argv[2], tete);
                    fclose(fichier);
                }
                libererTable(tete);
            }
            free(tete);
        }
    }
    else
    {
        usage();
    }
    return 0;
}
```

```

/* Connier Jean, Joseph Adrien, ISIMA1 - projet - 2012-2013 */
/* listAT - liste les differentes AT commandes a partir d'un fichier */
/* Fichier table.c gestion de la table (creation, liberation, affichage) */

#include "table.h"
#include "outils.h"

#include <string.h>
#include <stdlib.h>

FILE * construireTable(char *nom_fichier, table_maj_t *table)
{
    FILE * fichier = NULL;
    char info[256];

    fichier = fopen(nom_fichier, "r");

    if(fichier != NULL)
    {
        while(fgets(info, 256, fichier))
        {
            /* On ne conserve que la premiere partie des commandes (AT*REF,
AT*CTRL)*/
            insererInfo(filtreAlpha(info), table);
        }
    }
    else
    {
        fprintf(stderr, "Erreur a l'ouverture du fichier d'entree.\n");
    }

    return fichier;
}

void afficherTable(table_maj_t *tete)
{
    int i = 0;

    for(i=0; i<tete->nb_elements; i++)
    {
        printf("%d:%d:%s\n", tete->elements[i].hash, tete->elements[i].hash2, tete->elements[i].info);
    }
}

void libererTable(table_maj_t *tete)
{
    int i = 0;

    for(i=0; i<tete->nb_elements; i++)
    {

```

```

        if(tete->elements[i].info != NULL)
        {
            free(tete->elements[i].info);
            tete->elements[i].info = NULL;
        }
    }
    free(tete->elements);
    tete->elements = NULL;
}

void ecrireTable(char *nom_fichier, table_maj_t *tete)
{
    FILE *fichier = NULL;
    int i = 0;

    fichier = fopen(nom_fichier, "w");
    if(fichier != NULL)
    {
        for(i=0; i<tete->nb_elements; i++)
        {
            fprintf(fichier, "%s\n", tete->elements[i].info);
        }
        fclose(fichier);
    }
}

void insererInfo(char * info, table_maj_t * table)
{
    int emplacement = 0;
    int hash = 0, hash2 = 0;
    int trouve = 0;

    hash = hachage(info);
    hash2 = hachage2(info);
    emplacement = rechercherHash(hash, hash2, table, &trouve);

    if(!trouve)
    {
        /* On utilise deux hash et deux fonctions de hachage pour eviter
les collisions */
        table->elements[table->nb_elements].hash = hash;
        table->elements[table->nb_elements].hash2 = hash2;
        table->elements[table->nb_elements].info = malloc(strlen(info)+1);

        if(table->elements[table->nb_elements].info != NULL)
        {
            strcpy(table->elements[table->nb_elements].info, info);
        }
        else
        {
            fprintf(stderr, "Erreur d'allocation.\n");
        }
        table->nb_elements++;
    }
}

```

```
    }  
}  
  
int rechercherHash(int hash, int hash2, table_maj_t *table, int *trouve)  
{  
    int i = 0;  
    int emplacement = 0;  
  
    for(i=0; i<table->nb_elements; i++)  
    {  
        if(hash == table->elements[i].hash && hash2 == table->elements[i].hash2)  
        {  
            emplacement = i;  
            *trouve = 1;  
        }  
    }  
  
    return emplacement;  
}
```

```

/* Connier Jean, Joseph Adrien, ISIMA1 - projet - 2012-2013          */
/* listAT - liste les differentes AT commandes a partir d'un fichier */
/* Fichier table.h                                                */

#ifndef TABLE_H
#define TABLE_H

#include <stdio.h>

struct elt_table
{
    int hash;
    int hash2;
    char *info;
};
typedef struct elt_table elt_table_t;

struct table_maj
{
    int nb_elements;
    elt_table_t *elements;
};
typedef struct table_maj table_maj_t;

FILE * construireTable(char *nom_fichier, table_maj_t *table);
void insererInfo(char *info, table_maj_t *table);
int rechercherHash(int hash, int hash2, table_maj_t *table, int *trouve);
void afficherTable(table_maj_t *tete);
void ecrireTable(char *nom_fichier, table_maj_t *tete);
void libererTable(table_maj_t *tete);

#endif

```

```

/* Connier Jean, Joseph Adrien, ISIMA1 - projet - 2012-2013 */
/* listAT - liste les differentes AT commandes a partir d'un fichier */
/* Fichier outils.c - fonctions diverses */

#include "outils.h"

int hachage(char * chaine)
{
    int hash = 0;
    int a=1, b=1, c=1, i=0;

    while(chaine[i] != '\0')
    {
        c = chaine[i];
        b = c;
        a = b;
        hash += ((a<<3) + (b<<2) + (c<<1) + i);
        i++;
    }
    return hash;
}
int hachage2(char * chaine)
{
    int hash = 0;
    int i = 0;

    while(chaine[i] != '\0')
    {
        hash += (chaine[i] << i) & 0xFFFF;
        i++;
    }
    return hash;
}
/* filtreAlpha garde la premiere partie, explicite, avant le signe =
d'une AT commande. Par exemple AT*REF ou AT*CMD */
char * filtreAlpha(char * chaine)
{
    int i = 0;

    while(chaine[i] != '\0' && chaine[i] != '=')
    {
        i++;
    }
    chaine[i] = '\0';

    return chaine;
}

void usage(void)
{
    fprintf(stderr, "Usage : listAT(.exe) [entree] [sortie]");
}

```



```
/* Connier Jean, Joseph Adrien, ISIMA1 - projet - 2012-2013 */
/* listAT - liste les differentes AT commandes a partir d'un fichier */
/* Fichier outils.h */

#ifdef OUTILS_H
#define OUTILS_H

#include <stdio.h>

int hachage(char * chaine);
int hachage2(char * chaine);
char * filtreAlpha(char * chaine);
void usage(void);

#endif
```

## ANNEXE 3: jeux d'essais

SDK \ Firmware	1.4.7	1.7.4
1.6	1.cap	2.cap
1.8	3.cap	4.cap

La sortie de ATreader (on ne présente que les 150 premières commandes, ce qui représente environ 1.5s; le bug y a lieu):

### 1.cap

```

AT*CONFIG=1,"general:navdat_a_demo","FALSE"
AT*PMODE=2,2
AT*MISC=3,2,20,2000,3000
AT*PCMD=4,1,0,0,0,0
AT*REF=5,290717696
AT*PCMD=6,1,0,0,0,0
AT*REF=7,290717696
AT*PCMD=8,1,0,0,0,0
AT*REF=9,290717696
AT*COMWDG=10
AT*PCMD=11,1,0,0,0,0
AT*REF=12,290717696
AT*COMWDG=13
AT*PCMD=14,1,0,0,0,0
AT*REF=15,290717696
AT*PCMD=16,1,0,0,0,0
AT*REF=17,290717696
AT*COMWDG=18
AT*PCMD=19,1,0,0,0,0
AT*REF=20,290717696
AT*CTRL=21,5,0
AT*PCMD=22,1,0,0,0,0
AT*REF=23,290717696
AT*COMWDG=24
AT*CTRL=25,5,0
AT*CTRL=26,5,0
AT*CTRL=27,5,0
AT*CTRL=28,5,0
AT*PCMD=29,1,0,0,0,0
AT*REF=30,290717696
AT*PCMD=31,1,0,0,0,0
AT*REF=32,290717696
AT*PCMD=33,1,0,0,0,0
AT*REF=34,290717696
AT*PCMD=35,1,0,0,0,0
AT*REF=36,290717696
AT*CTRL=37,5,0
AT*CTRL=38,5,0
AT*CTRL=39,5,0
AT*CTRL=40,5,0
AT*CTRL=41,5,0
AT*CTRL=42,5,0
AT*PCMD=43,1,0,0,0,0
AT*CTRL=44,5,0
AT*CTRL=45,5,0
AT*CTRL=46,5,0
AT*CTRL=47,5,0
AT*CTRL=48,5,0
AT*CTRL=49,5,0
AT*REF=50,290717696
AT*CTRL=51,5,0
AT*CTRL=52,5,0
AT*CONFIG=53,"video:bitrate_control_mode","1"
AT*PCMD=54,1,0,0,0,0
AT*REF=55,290717696
AT*CTRL=56,5,0
AT*CTRL=57,5,0
AT*PCMD=58,1,0,0,0,0
AT*REF=59,290717696
AT*CTRL=60,5,0
AT*CTRL=61,5,0
AT*PCMD=62,1,0,0,0,0
AT*REF=63,290717696
AT*PCMD=64,1,0,0,0,0
AT*REF=65,290717696
AT*PCMD=66,1,0,0,0,0
AT*REF=67,290717696
AT*PCMD=68,1,0,0,0,0
AT*REF=69,290717696
AT*PCMD=70,1,0,0,0,0
AT*REF=71,290717696
AT*PCMD=72,1,0,0,0,0
AT*REF=73,290717696
AT*PCMD=74,1,0,0,0,0
AT*REF=75,290717696
AT*PCMD=76,1,0,0,0,0
AT*REF=77,290717696
AT*PCMD=78,1,0,0,0,0
AT*REF=79,290717696
AT*PCMD=80,1,0,0,0,0
AT*REF=81,290717696
AT*PCMD=82,1,0,0,0,0
AT*REF=83,290717696
AT*PCMD=84,1,0,0,0,0
AT*REF=85,290717696
AT*PCMD=86,1,0,0,0,0
AT*REF=87,290717696
AT*PCMD=88,1,0,0,0,0
AT*REF=89,290717696
AT*PCMD=90,1,0,0,0,0
AT*REF=91,290717696
AT*PCMD=92,1,0,0,0,0
AT*REF=93,290717696
AT*PCMD=94,1,0,0,0,0
AT*REF=95,290717696
AT*PCMD=96,1,0,0,0,0
AT*REF=97,290717696
AT*PCMD=98,1,0,0,0,0
AT*REF=99,290717696
AT*PCMD=100,1,0,0,0,0

```

AT\*REF=101,290717696  
AT\*PCMD=102,1,0,0,0,0  
AT\*REF=103,290717696  
AT\*PCMD=104,1,0,0,0,0  
AT\*REF=105,290717696  
AT\*PCMD=106,1,0,0,0,0  
AT\*REF=107,290717696  
AT\*PCMD=108,1,0,0,0,0  
AT\*REF=109,290717696  
AT\*PCMD=110,1,0,0,0,0  
AT\*REF=111,290717696  
AT\*PCMD=112,1,0,0,0,0  
AT\*REF=113,290717696  
AT\*PCMD=114,1,0,0,0,0  
AT\*REF=115,290717696  
AT\*PCMD=116,1,0,0,0,0  
AT\*REF=117,290717696

AT\*PCMD=118,1,0,0,0,0  
AT\*REF=119,290717696  
AT\*PCMD=120,1,0,0,0,0  
AT\*REF=121,290717696  
AT\*PCMD=122,1,0,0,0,0  
AT\*REF=123,290717696  
AT\*PCMD=124,1,0,0,0,0  
AT\*REF=125,290717696  
AT\*PCMD=126,1,0,0,0,0  
AT\*REF=127,290717696  
AT\*PCMD=128,1,0,0,0,0  
AT\*REF=129,290717696  
AT\*PCMD=130,1,0,0,0,0  
AT\*REF=131,290717696  
AT\*PCMD=132,1,0,0,0,0  
AT\*REF=133,290717696  
AT\*PCMD=134,1,0,0,0,0

AT\*REF=135,290717696  
AT\*PCMD=136,1,0,0,0,0  
AT\*REF=137,290717696  
AT\*PCMD=138,1,0,0,0,0  
AT\*REF=139,290717696  
AT\*PCMD=140,1,0,0,0,0  
AT\*REF=141,290717696  
AT\*PCMD=142,1,0,0,0,0  
AT\*REF=143,290717696  
AT\*PCMD=144,1,0,0,0,0  
AT\*REF=145,290717696  
AT\*PCMD=146,1,0,0,0,0  
AT\*REF=147,290717696  
AT\*PCMD=148,1,0,0,0,0  
AT\*REF=149,290717696  
AT\*PCMD=150,1,0,0,0,0

## 2.cap

AT\*CONFIG=1,"general:navdat  
a\_demo","FALSE"  
AT\*PMODE=2,2  
AT\*MISC=3,2,20,2000,3000  
AT\*PCMD=4,1,0,0,0,0  
AT\*REF=5,290717696  
AT\*PCMD=6,1,0,0,0,0  
AT\*REF=7,290717696  
AT\*PCMD=8,1,0,0,0,0  
AT\*REF=9,290717696  
AT\*COMWDG=10  
AT\*PCMD=11,1,0,0,0,0  
AT\*REF=12,290717696  
AT\*COMWDG=13  
AT\*PCMD=14,1,0,0,0,0  
AT\*REF=15,290717696  
AT\*PCMD=16,1,0,0,0,0  
AT\*REF=17,290717696  
AT\*COMWDG=18  
AT\*PCMD=19,1,0,0,0,0  
AT\*REF=20,290717696  
AT\*CTRL=21,5,0  
AT\*PCMD=22,1,0,0,0,0  
AT\*REF=23,290717696  
AT\*COMWDG=24  
AT\*CTRL=25,5,0  
AT\*CTRL=26,5,0  
AT\*CTRL=27,5,0  
AT\*CTRL=28,5,0

AT\*PCMD=29,1,0,0,0,0  
AT\*REF=30,290717696  
AT\*PCMD=31,1,0,0,0,0  
AT\*REF=32,290717696  
AT\*PCMD=33,1,0,0,0,0  
AT\*REF=34,290717696  
AT\*PCMD=35,1,0,0,0,0  
AT\*REF=36,290717696  
AT\*CTRL=37,5,0  
AT\*CTRL=38,5,0  
AT\*CTRL=39,5,0  
AT\*CTRL=40,5,0  
AT\*CTRL=41,5,0  
AT\*CTRL=42,5,0  
AT\*PCMD=43,1,0,0,0,0  
AT\*CTRL=44,5,0  
AT\*CTRL=45,5,0  
AT\*CTRL=46,5,0  
AT\*CTRL=47,5,0  
AT\*CTRL=48,5,0  
AT\*CTRL=49,5,0  
AT\*REF=50,290717696  
AT\*CTRL=51,5,0  
AT\*CTRL=52,5,0  
AT\*CONFIG=53,"video:bitrate\_  
control\_mode","1"  
AT\*PCMD=54,1,0,0,0,0  
AT\*REF=55,290717696  
AT\*CTRL=56,5,0

AT\*CTRL=57,5,0  
AT\*PCMD=58,1,0,0,0,0  
AT\*REF=59,290717696  
AT\*CTRL=60,5,0  
AT\*CTRL=61,5,0  
AT\*PCMD=62,1,0,0,0,0  
AT\*REF=63,290717696  
AT\*PCMD=64,1,0,0,0,0  
AT\*REF=65,290717696  
AT\*PCMD=66,1,0,0,0,0  
AT\*REF=67,290717696  
AT\*PCMD=68,1,0,0,0,0  
AT\*REF=69,290717696  
AT\*PCMD=70,1,0,0,0,0  
AT\*REF=71,290717696  
AT\*PCMD=72,1,0,0,0,0  
AT\*REF=73,290717696  
AT\*PCMD=74,1,0,0,0,0  
AT\*REF=75,290717696  
AT\*PCMD=76,1,0,0,0,0  
AT\*REF=77,290717696  
AT\*PCMD=78,1,0,0,0,0  
AT\*REF=79,290717696  
AT\*PCMD=80,1,0,0,0,0  
AT\*REF=81,290717696  
AT\*PCMD=82,1,0,0,0,0  
AT\*REF=83,290717696  
AT\*PCMD=84,1,0,0,0,0  
AT\*REF=85,290717696

AT*PCMD=86,1,0,0,0,0	AT*PCMD=108,1,0,0,0,0	AT*PCMD=130,1,0,0,0,0
AT*REF=87,290717696	AT*REF=109,290717696	AT*REF=131,290717696
AT*PCMD=88,1,0,0,0,0	AT*PCMD=110,1,0,0,0,0	AT*PCMD=132,1,0,0,0,0
AT*REF=89,290717696	AT*REF=111,290717696	AT*REF=133,290717696
AT*PCMD=90,1,0,0,0,0	AT*PCMD=112,1,0,0,0,0	AT*PCMD=134,1,0,0,0,0
AT*REF=91,290717696	AT*REF=113,290717696	AT*REF=135,290717696
AT*PCMD=92,1,0,0,0,0	AT*PCMD=114,1,0,0,0,0	AT*PCMD=136,1,0,0,0,0
AT*REF=93,290717696	AT*REF=115,290717696	AT*REF=137,290717696
AT*PCMD=94,1,0,0,0,0	AT*PCMD=116,1,0,0,0,0	AT*PCMD=138,1,0,0,0,0
AT*REF=95,290717696	AT*REF=117,290717696	AT*REF=139,290717696
AT*PCMD=96,1,0,0,0,0	AT*PCMD=118,1,0,0,0,0	AT*PCMD=140,1,0,0,0,0
AT*REF=97,290717696	AT*REF=119,290717696	AT*REF=141,290717696
AT*PCMD=98,1,0,0,0,0	AT*PCMD=120,1,0,0,0,0	AT*PCMD=142,1,0,0,0,0
AT*REF=99,290717696	AT*REF=121,290717696	AT*REF=143,290717696
AT*PCMD=100,1,0,0,0,0	AT*PCMD=122,1,0,0,0,0	AT*PCMD=144,1,0,0,0,0
AT*REF=101,290717696	AT*REF=123,290717696	AT*REF=145,290717696
AT*PCMD=102,1,0,0,0,0	AT*PCMD=124,1,0,0,0,0	AT*PCMD=146,1,0,0,0,0
AT*REF=103,290717696	AT*REF=125,290717696	AT*REF=147,290717696
AT*PCMD=104,1,0,0,0,0	AT*PCMD=126,1,0,0,0,0	AT*PCMD=148,1,0,0,0,0
AT*REF=105,290717696	AT*REF=127,290717696	AT*REF=149,290717696
AT*PCMD=106,1,0,0,0,0	AT*PCMD=128,1,0,0,0,0	AT*PCMD=150,1,0,0,0,0
AT*REF=107,290717696	AT*REF=129,290717696	

### 3.cap

AT*PMODE=1,2	6","00000000","00000000"	AT*PCMD=39,1,0,0,0,0
AT*MISC=2,2,20,2000,3000	AT*CONFIG=22,"general:navda	AT*REF=40,290717696
AT*REF=3,290717696	ta_demo","FALSE"	AT*PCMD=41,1,0,0,0,0
AT*CONFIG_IDS=4,"00002f76	AT*PCMD=23,1,0,0,0,0	AT*REF=42,290717696
","00000000","00000000"	AT*REF=24,290717696	AT*CONFIG_IDS=43,"00002f7
AT*CONFIG=5,"custom:session	AT*PCMD=25,1,0,0,0,0	6","00000000","00000000"
_id","-all"	AT*REF=26,290717696	AT*CONFIG=44,"general:navda
AT*PCMD=6,1,0,0,0,0	AT*CONFIG_IDS=27,"00002f7	ta_demo","FALSE"
AT*REF=7,290717696	6","00000000","00000000"	AT*PCMD=45,1,0,0,0,0
AT*CTRL=8,5,0	AT*CONFIG=28,"general:navda	AT*REF=46,290717696
AT*CTRL=9,5,0	ta_demo","FALSE"	AT*PCMD=47,1,0,0,0,0
AT*PCMD=10,1,0,0,0,0	AT*PCMD=29,1,0,0,0,0	AT*REF=48,290717696
AT*CTRL=11,5,0	AT*REF=30,290717696	AT*PCMD=49,1,0,0,0,0
AT*REF=12,290717696	AT*PCMD=31,1,0,0,0,0	AT*REF=50,290717696
AT*CTRL=13,5,0	AT*REF=32,290717696	AT*CONFIG_IDS=51,"00002f7
AT*CTRL=14,5,0	AT*PCMD=33,1,0,0,0,0	6","00000000","00000000"
AT*CTRL=15,4,0	AT*REF=34,290717696	AT*CONFIG=52,"general:navda
AT*PCMD=16,1,0,0,0,0	AT*CONFIG_IDS=35,"00002f7	ta_demo","FALSE"
AT*REF=17,290717696	6","00000000","00000000"	AT*PCMD=53,1,0,0,0,0
AT*PCMD=18,1,0,0,0,0	AT*CONFIG=36,"general:navda	AT*REF=54,290717696
AT*REF=19,290717696	ta_demo","FALSE"	AT*PCMD=55,1,0,0,0,0
AT*CTRL=20,5,0	AT*PCMD=37,1,0,0,0,0	AT*REF=56,290717696
AT*CONFIG_IDS=21,"00002f7	AT*REF=38,290717696	AT*PCMD=57,1,0,0,0,0

AT\*CONFIG\_IDS=58,"00002f76","00000000","00000000"  
AT\*CONFIG=59,"general:navdata\_demo","FALSE"  
AT\*REF=60,290717696  
AT\*PCMD=61,1,0,0,0,0  
AT\*REF=62,290717696  
AT\*PCMD=63,1,0,0,0,0  
AT\*REF=64,290717696  
AT\*CONFIG\_IDS=65,"00002f76","00000000","00000000"  
AT\*CONFIG=66,"general:navdata\_demo","FALSE"  
AT\*PCMD=67,1,0,0,0,0  
AT\*REF=68,290717696  
AT\*PCMD=69,1,0,0,0,0  
AT\*REF=70,290717696  
AT\*PCMD=71,1,0,0,0,0  
AT\*REF=72,290717696  
AT\*CONFIG\_IDS=73,"00002f76","00000000","00000000"  
AT\*CONFIG=74,"general:navdata\_demo","FALSE"  
AT\*PCMD=75,1,0,0,0,0  
AT\*REF=76,290717696  
AT\*PCMD=77,1,0,0,0,0  
AT\*REF=78,290717696  
AT\*CONFIG\_IDS=79,"00002f76","00000000","00000000"  
AT\*CONFIG=80,"general:navdata\_demo","FALSE"  
AT\*PCMD=81,1,0,0,0,0  
AT\*REF=82,290717696  
AT\*PCMD=83,1,0,0,0,0  
AT\*REF=84,290717696  
AT\*PCMD=85,1,0,0,0,0  
AT\*CONFIG\_IDS=86,"00002f76","00000000","00000000"  
AT\*CONFIG=87,"general:navdata\_demo","FALSE"  
AT\*REF=88,290717696  
AT\*PCMD=89,1,0,0,0,0  
AT\*REF=90,290717696  
AT\*PCMD=91,1,0,0,0,0  
AT\*REF=92,290717696  
AT\*CONFIG\_IDS=93,"00002f76","00000000","00000000"  
AT\*CONFIG=94,"general:navdata\_demo","FALSE"  
AT\*PCMD=95,1,0,0,0,0  
AT\*REF=96,290717696  
AT\*PCMD=97,1,0,0,0,0  
AT\*REF=98,290717696  
AT\*PCMD=99,1,0,0,0,0  
AT\*REF=100,290717696  
AT\*CONFIG\_IDS=101,"00002f76","00000000","00000000"  
AT\*CONFIG=102,"general:navdata\_demo","FALSE"  
AT\*PCMD=103,1,0,0,0,0  
AT\*REF=104,290717696  
AT\*PCMD=105,1,0,0,0,0  
AT\*REF=106,290717696  
AT\*PCMD=107,1,0,0,0,0  
AT\*REF=108,290717696  
AT\*CONFIG\_IDS=109,"00002f76","00000000","00000000"  
AT\*CONFIG=110,"general:navdata\_demo","FALSE"  
AT\*PCMD=111,1,0,0,0,0  
AT\*REF=112,290717696  
AT\*PCMD=113,1,0,0,0,0  
AT\*REF=114,290717696  
AT\*PCMD=115,1,0,0,0,0  
AT\*CONFIG\_IDS=116,"00002f76","00000000","00000000"  
AT\*CONFIG=117,"general:navdata\_demo","FALSE"  
AT\*REF=118,290717696  
AT\*PCMD=119,1,0,0,0,0  
AT\*REF=120,290717696  
AT\*PCMD=121,1,0,0,0,0  
AT\*REF=122,290717696  
AT\*CONFIG\_IDS=123,"00002f76","00000000","00000000"  
AT\*CONFIG=124,"general:navdata\_demo","FALSE"  
AT\*PCMD=125,1,0,0,0,0  
AT\*REF=126,290717696  
AT\*PCMD=127,1,0,0,0,0  
AT\*REF=128,290717696  
AT\*PCMD=129,1,0,0,0,0  
AT\*REF=130,290717696  
AT\*CONFIG\_IDS=131,"00002f76","00000000","00000000"  
AT\*CONFIG=132,"general:navdata\_demo","FALSE"  
AT\*PCMD=133,1,0,0,0,0  
AT\*REF=134,290717696  
AT\*PCMD=135,1,0,0,0,0  
AT\*REF=136,290717696  
AT\*PCMD=137,1,0,0,0,0  
AT\*REF=138,290717696  
AT\*CONFIG\_IDS=139,"00002f76","00000000","00000000"  
AT\*CONFIG=140,"general:navdata\_demo","FALSE"  
AT\*PCMD=141,1,0,0,0,0  
AT\*REF=142,290717696  
AT\*PCMD=143,1,0,0,0,0  
AT\*REF=144,290717696  
AT\*CONFIG\_IDS=145,"00002f76","00000000","00000000"  
AT\*CONFIG=146,"general:navdata\_demo","FALSE"  
AT\*PCMD=147,1,0,0,0,0  
AT\*REF=148,290717696  
AT\*PCMD=149,1,0,0,0,0  
AT\*REF=150,290717696

## 4.cap

```
AT*PMODE=1,2
AT*MISC=2,2,20,2000,3000
AT*REF=3,290717696
AT*CONFIG_IDS=4,"00002182
","00000000","00000000"
AT*CONFIG=5,"custom:session
_id","-all"
AT*CTRL=6,5,0
AT*PCMD=7,1,0,0,0,0
AT*CTRL=8,5,0
AT*REF=9,290717696
AT*CTRL=10,5,0
AT*CTRL=11,5,0
AT*CTRL=12,5,0
AT*CTRL=13,5,0
AT*CTRL=14,5,0
AT*CTRL=15,5,0
AT*CTRL=16,5,0
AT*CTRL=17,4,0
AT*PCMD=18,1,0,0,0,0
AT*REF=19,290717696
AT*PCMD=20,1,0,0,0,0
AT*REF=21,290717696
AT*PCMD=22,1,0,0,0,0
AT*REF=23,290717696
AT*88NF86\BF\AE\B2X\DAc
~\A4\85=>E\C7\D2%.\8A\DFh\
D46\C2Kd\89\82\F1\A4\D9\EC
w\8FYE
3U)0u\8A\9C[\C3O\C1\88G#\
AC\A2\8F\8D\88h#B\AFj\F2#w\
92\84\F5\85##\ys\D0\DB#\D2\E
B\AF\00\00\84#\92\F1\EE##J:\
A1\C3%\D21B[#\CFD\C5%\9E;.\
EA#\97\F0\B9\C5~.\98\82\93T\
E4\95#\f\BE\99\CB\E5\D5\EA\E
2#<I\C7g]\89\CAT\8D
AT*PCMD=24,1,0,0,0,0
AT*REF=25,290717696
AT*PCMD=26,1,0,0,0,0
AT*REF=27,290717696
AT*PCMD=28,1,0,0,0,0
AT*REF=29,290717696
AT*PCMD=30,1,0,0,0,0
AT*REF=31,290717696
AT*PCMD=32,1,0,0,0,0
AT*REF=33,290717696
AT*PCMD=34,1,0,0,0,0
AT*REF=35,290717696
AT*PCMD=36,1,0,0,0,0
AT*REF=37,290717696
AT*PCMD=38,1,0,0,0,0
AT*REF=39,290717696
AT*CTRL=40,5,0
AT*PCMD=41,1,0,0,0,0
AT*REF=42,290717696
AT*CTRL=43,5,0
AT*CTRL=44,5,0
AT*CTRL=45,6,0
AT*PCMD=46,1,0,0,0,0
AT*REF=47,290717696
AT*PCMD=48,1,0,0,0,0
AT*REF=49,290717696
AT*PCMD=50,1,0,0,0,0
AT*REF=51,290717696
AT*PCMD=52,1,0,0,0,0
AT*REF=53,290717696
AT*PCMD=54,1,0,0,0,0
AT*REF=55,290717696
AT*PCMD=56,1,0,0,0,0
AT*REF=57,290717696
AT*PCMD=58,1,0,0,0,0
AT*REF=59,290717696
AT*PCMD=60,1,0,0,0,0
AT*REF=61,290717696
AT*PCMD=62,1,0,0,0,0
AT*CTRL=63,5,0
AT*CTRL=64,5,0
AT*REF=65,290717696
AT*PCMD=66,1,0,0,0,0
AT*CTRL=67,5,0
AT*REF=68,290717696
AT*CTRL=69,5,0
AT*CTRL=70,5,0
AT*CTRL=71,5,0
AT*CTRL=72,5,0
AT*CTRL=73,5,0
AT*CONFIG_IDS=74,"0000218
2","00000000","00000000"
AT*CONFIG=75,"custom:sessio
n_id","00002182"
AT*PCMD=76,1,0,0,0,0
AT*REF=77,290717696
AT*PCMD=78,1,0,0,0,0
AT*REF=79,290717696
AT*PCMD=80,1,0,0,0,0
AT*REF=81,290717696
AT*CONFIG_IDS=82,"0000218
2","00000000","00000000"
AT*CONFIG=83,"custom:sessio
n_id","00002182"
AT*PCMD=84,1,0,0,0,0
AT*REF=85,290717696
AT*PCMD=86,1,0,0,0,0
AT*REF=87,290717696
AT*CTRL=88,5,0
AT*CTRL=89,5,0
AT*PCMD=90,1,0,0,0,0
AT*CTRL=91,5,0
AT*REF=92,290717696
AT*CTRL=93,5,0
AT*CONFIG_IDS=94,"0000218
2","00000000","00000000"
AT*CONFIG=95,"custom:sessio
n_desc","Session 00002182"
AT*PCMD=96,1,0,0,0,0
AT*REF=97,290717696
AT*CTRL=98,5,0
AT*CTRL=99,5,0
AT*PCMD=100,1,0,0,0,0
AT*CTRL=101,5,0
AT*REF=102,290717696
AT*CTRL=103,5,0
AT*CTRL=104,4,0
AT*PCMD=105,1,0,0,0,0
AT*REF=106,290717696
AT*CTRL=107,5,0
AT*PCMD=108,1,0,0,0,0
AT*CTRL=109,5,0
AT*REF=110,290717696
AT*CTRL=111,5,0
AT*CTRL=112,5,0
AT*PCMD=113,1,0,0,0,0
AT*CTRL=114,5,0
AT*REF=115,290717696
AT*CTRL=116,5,0
AT*CTRL=117,5,0
AT*CTRL=118,5,0
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AT\*PCMD=119,1,0,0,0,0  
 AT\*CTRL=120,5,0  
 AT\*REF=121,290717696  
 AT\*CTRL=122,5,0  
 AT\*CTRL=123,5,0  
 AT\*CTRL=124,5,0  
 AT\*PCMD=125,1,0,0,0,0  
 AT\*CTRL=126,5,0  
 AT\*REF=127,290717696  
 AT\*CTRL=128,5,0  
 AT\*CTRL=129,5,0

AT\*CTRL=130,5,0  
 AT\*PCMD=131,1,0,0,0,0  
 AT\*CTRL=132,5,0  
 AT\*REF=133,290717696  
 AT\*CTRL=134,5,0  
 AT\*CTRL=135,5,0  
 AT\*CTRL=136,5,0  
 AT\*PCMD=137,1,0,0,0,0  
 AT\*CTRL=138,5,0  
 AT\*REF=139,290717696  
 AT\*CTRL=140,5,0

AT\*CTRL=141,6,0  
 AT\*PCMD=142,1,0,0,0,0  
 AT\*REF=143,290717696  
 AT\*PCMD=144,1,0,0,0,0  
 AT\*REF=145,290717696  
 AT\*PCMD=146,1,0,0,0,0  
 AT\*REF=147,290717696  
 AT\*PCMD=148,1,0,0,0,0  
 AT\*REF=149,290717696

La sortie de listAT :

SDK \ Firmware	1.4.7	1.7.4
1.6	AT*CONFIG AT*PMODE AT*MISC AT*PCMD AT*REF AT*COMWDG AT*CTRL	AT*CONFIG AT*PMODE AT*MISC AT*PCMD AT*REF AT*COMWDG AT*&#3CR <sup>o</sup> +
1.8	AT*PMODE AT*MISC AT*REF AT*CONFIG_IDS AT*CONFIG AT*PCMD AT*CTRL AT*COMWDG	AT*PMODE AT*MISC AT*REF AT*CONFIG_IDS AT*CONFIG AT*CTRL AT*PCMD AT* Nø6ç®²XÚc ~€ AT*COMWDG